FDM 15-5-1 General

January 13, 2017

This section contains the basic information required for preparing and submitting contract plans. If additional information is desired, contact the design supervisor or the Proposal Management Section in the Bureau of Project Development. The requirements for such plans using Computer Aided Design and Drafting Systems (CADDS) are contained in FDM 15-5-2.

Notice: Electronic plans are the only acceptable method of plan preparation.

1.1 Surveying and Mapping Section

All photogrammetric mapping and DTM data for plan preparation are provided by the Surveying & Mapping Section in the Bureau of Technical Services. Exact plan coverage is determined by the region and subsequently ordered from Surveying & Mapping. Refer to FDM 9-45-1 for information on how to order photogrammetric mapping and DTM data.

1.2 Plan Development

The following standards are based on the preparation of 11” x 17 plans.

Format: All contract plan sheets shall conform to the standards listed in FDM 15-5-5 for size and composition.

Lines and Artwork: Black ink shall be used and must appear continuously. Minimum pen width should be a zero weight ("0" - 0.014 in) rapidograph. Double zero weights ("00" - 0.012 in) are only acceptable for items such as crosshatching. Line weights shall be uniform with sufficient opacity to ensure acceptable reproduction.

Lettering: Lettering shall be placed by computers, or typewriter. It should be in a style and clarity consistent with accepted engineering drafting practice. Minimum acceptable height is 0.60" (60 LEROY, or equivalent), except that 0.050" (50 LEROY or equivalent) is permissible on R/W plats.

Stamping of plan notations is generally unacceptable due to poor reproductive quality. Professional seals affixed to the title sheet must be applied with even pressure, utilizing a fast drying, opaque ink.

Simplicity: Drawings should be kept simple. Eliminate repetitive details and unnecessary views, lines, and dimensioning.

1.3 Electronic Plans (E-Plans)

E-Plans are the only plan submittal format. E-Plans must be complete including signed & sealed title sheet, and sealed sheets where applicable. Not included are sign plates, SDD’s, and structures. Follow the standards set in FDM 15-5-10 and FDM 19-10-1 for the preparation and submittal of electronic plans.

FDM 15-5-2 CADDS Preparation Standards

November 15, 2021

This procedure describes the requirements for preparing and recording maps and plans for highways using Computer Aided Design and Drafting Systems (CADDS). Electronic copies of design files are available for download from the internet at the following location:

https://wisconsindot.gov/Pages/doing-bus/eng-consultants/cnslt-rsrces/tools/cad/default.aspx

Note: Photogrammetric mapping conforms to the Surveying and Mapping Photogrammetric Specifications for MicroStation version J/7. Photogrammetric mapping/DTM conforms to the FDM for MicroStation version 8.

The use of AutoCAD Civil 3D software and file formats native to it will be required on most highway projects. Further information is included in FDM 19-10-43

2.1 Design Files

2.1.1 File Format

The graphical data submitted shall be in accordance with digital data exchange standards.

Refer to FDM 19-10-43.

2.1.2 File Ownership

When CADDS are used by consultants or outside agencies to develop project plans and the development contract is completed or terminated, a digital copy of the files shall be delivered to and become the property of the Department of Transportation. Refer to FDM 19-10-43 for delivery methods and requirements.

2.2 Graphical Parameters

Graphic parameters such as level, color, weight, and line code (style) shall follow the standards as specified in the master template file found on the WisDOT internet site at:

https://wisconsindot.gov/Pages/doing-bus/eng-consultants/cnslt-rsrces/tools/cad/civil-3d.aspx

2.2.1 Weights

Line weights shall be similar to those required for manually prepared documents. For printing or plotting a 11”x 17” sheet, the line weight base of 0.01 inches is used for a 4 weight.

Weight	Inches (MicroStation /CAiCE	Inches (Civil 3D)
0	0.010	0.00
1	0.015	0.006
2	0.020	0.007
3	0.025	0.008
4	0.030	0.010
5	0.035	0.012
6	0.040	0.014
7	0.045	0.016
8	0.050	0.020

If reduced size plans are to be submitted, then the weight base and increment should be reduced proportionately.

2.2.2 Linetypes

Only linetypes referenced in the WisDOT templates will be accepted.

2.2.3 Lettering

Minimum size lettering shall be equal to a 60 Leroy (0.06”) size on an 11"x17' sheet. A 50 Leroy (0.05”) is permissible on R/W plats only.

English Text Sizes (inches)				
Leroy Guide	**Weight**	**200”=1’**	**100”=1’**	**40”=1’**
250	8	0.50	0.025	0.010
175	5	0.35	0.0175	0.007
100	3	0.20	0.010	0.004
87.5	2	0.175	0.0875	0.0035
70	1	0.14	0.07	0.0028
60	0	0.12	0.06	0.0024

Calibri Light or Arial shall be used for general drafting work. These fonts are designed to approximate the appearance of Leroy lettering. Graphical parameters such as level, color, weight and line code (style) specified in this chapter also apply to text elements.

2.2.4 Existing Data

Existing data shall be gray shaded and all information on a Transportation Project Plat shall be shown as black on white with no gray shading.

FDM 15-5-3 CADDS Directory and File Name Convention

August 17, 2020

CADDS files for highway project design documents are required to be maintained for up to twenty years.

Project documents stored in active or archived CADDS files should be readily retrievable without recourse to file names which require extra documentation or indexes for the CADDS highway project documents. The following directory and file naming conventions will satisfy the retrieval concerns while meeting the requirements of the department host-based filing system.

The requirements for the directory names shall apply to department staff developed CADDS projects. Outside organizations, such as consultants, who utilize CADDS to develop projects, are required to satisfy only the specifications for file names within the design project.

3.1 Project Directory Conventions

3.1.1 AutoCAD Civil 3D

Civil 3D projects contain all the geographic and CADDS files for a project. The standard WisDOT project structure included in the resource files at:

https://wisconsindot.gov/Pages/doing-bus/eng-consultants/cnslt-rsrces/tools/cad/default.aspx

The project directory shall be the design project I.D. number, eight characters long. The typical project directory structure is first organized by the functional area responsible for the files contained within. Further structure within the functional areas is categorized based on the needs of that functional area (i.e the folder structure for design is different than right-of-way).

Additional folders should not be created directly under the project ID folder. Additional folders can be created within the functional area folders to give more structure to content as determined by the needs of the project. Additional folder names shall be mixed case, alphanumeric. No special characters shall be used (including spaces and underscores) except for hyphens. Attachment 3.1 shows further description of the typical Civil 3D project folder structure.

3.2 File Naming Conventions

3.2.1 AutoCAD Civil 3D

File names within a given Civil 3D project directory shall be unique. Files are named based on the objects contained and a description. Terms should be mixed case and should be separated by hyphens. Attachment 3.2 shows some standard abbreviations and acronyms and describes how other abbreviations and acronyms should be created. Attachment 3.3 shows the naming standard for Civil 3D files.

See FDM 15-1-1 for a list of primary subject areas. The first 6 characters are required for sheet files and they must be numbers. The last two are an indication of what the file contains and are optional. This naming convention will arrange all sheet files in order for plan submittal. Attachment 3.3 shows the structure of the numbering system for primary subject areas and subsets.

Example: Based on the guidance in Attachment 3.3, the third sheet of construction details would be named 021003-cd

02 refers to the Typical Sections and Details (“2-point”) sheet subject area.

10 identifies the sheet as a construction detail sheet (a subset of the Details subject area).

03 identifies this as the third construction detail sheet.

cd is just an abbreviation for construction details. This is optional.

Attachment 3.3 shows the naming standard for the base files. Base files contain the graphical project data that is "referenced" to the sheet files. Each sheet file may use a combination of any number of base files to provide the data required on the sheet.

3.3 Object Naming Conventions

Civil 3D objects have names. Attachment 3.2 shows some standard abbreviations and acronyms and describes how other abbreviations and acronyms should be created. Attachment 3.4 shows the naming conventions for Civil 3D objects.

LIST OF ATTACHMENTS

Attachment 3.1 CADDS AutoCAD Civil 3D Project Folder Structure Standard

Attachment 3.2	CADDS AutoCAD Civil 3D File and Object Naming Abbreviation Standard
Attachment 3.3	CADDS AutoCAD Civil 3D File and Layout Naming Standard
Attachment 3.4	CADDS AutoCAD Civil 3D Object Naming Conventions
Attachment 3.5	Required PlatExp Folder Content

FDM 15-5-4 CADDS Block and Linetype Files

August 17, 2020

Block and linetype files for use in AutoCAD Civil 3D are located on the WisDOT internet site at:
https://wisconsindot.gov/Pages/doing-bus/eng-consultants/cnslt-rsrces/tools/cad/civil-3d.aspx

FDM 15-5-5 Plan Sheet Borders

February 15, 2022

This procedure contains a pictorial listing of WisDOT plan sheet borders acceptable for contract plan preparation. If other plan sheet borders are used, they shall conform to the size and composition shown herein.

5.1 Size

All plans submitted to central office shall use the dimensions listed in Table 5.1.

Table 5.1 Plan Sheet Dimensions

Item	Dimensions
Sheet size	11” x 17”
Lined Border	10” x 15 3/4”
Right/Left Margins	5/8” each
Top/Bottom Margins	1/2” each

Note: it is important to be consistent with the dimensions used to create all the sheets in a plan. Sheets that have irregular dimensions have to be given special handling in the printing process and this is very inefficient considering the large volume of plan printing done every month.

5.2 Electronic Documents

Many of the attachments included in this procedure can be downloaded as AutoCAD blocks at:

https://wisconsindot.gov/Pages/doing-bus/eng-consultants/cnslt-rsrces/tools/cad/default.aspx

5.3 Structure Plans and Details

The Bureau of Structures maintains standard drawings, standard insert sheets and cell files for structures. Inquiries should be directed to https://wisconsindot.gov/Pages/doing-bus/eng-consultants/cnslt-rsrces/strct/design-contacts.aspx.

The standard drawings, standard insert sheets, and cell files for structures are located at:
https://wisconsindot.gov/Pages/doing-bus/eng-consultants/cnslt-rsrces/strct/bridge-manual.aspx.

LIST OF DOCUMENTS

Title Sheet Plan Border – Construction/Traffic/Maintenance Operations

Title Sheet Plan Border Consultant – Construction/Traffic/Maintenance Operations

Title Sheet Plan Border – Rehabilitation

Plan Sheet Border for Typical Section Sheet and Detail Sheet

Storm Sewer Plan Sheet Border

Miscellaneous Quantities Sheet Border

Plan Sheet Border Without Profile

Dual Plan Sheet Border Without Profile

Plan Sheet Border for Plan and Profile Sheet

Dual Profile Sheet Border Without Plan

Plan and Profile Sheet Border - Dual Profile

Cross Section Sheet

Earthwork Sheet Border

Traditional Right-of-Way 34x22 Title Sheet Border

Traditional Right-of-Way 34x22 Schedule Sheet Border

Traditional Right-of-Way 34x22 Layout Sheet Border

Traditional Right-of-Way 34x22 Detail Sheet Border

Transportation Project Plat 30x22 Detail Sheet Border

Transportation Project Plat 30x22 Detail Sheet Border – rotated

Transportation Project Plat 34x22 Detail Sheet Border

Transportation Project Plat 34x22 Detail Sheet Border – rotated

Transportation Project Plat 30x22 Title Sheet Border

Transportation Project Plat 34x22 Title Sheet Border

Acquisition Exhibit 17x11 Border

FDM 15-5-7 Design Models

August 15, 2024

This procedure describes the requirements for preparing Design Model content for submittal to the Wisconsin Department of Transportation. Design model information includes: surface models, horizontal alignments, vertical alignments (profiles), superelevation transition information, right of way and easement 2D linework, proposed roadway features 2D linework, existing condition mapping, and metadata documentation. Design Model information is included in the Construction Data Packet (See FDM 19-10-43). This procedure will define:

- What portions of the design are required for design model delivery
- Which projects will require design models
- The specifications of design models (How detailed, which features of design)

7.1 General Requirements

Design models are required for projects that are required to be designed in AutoCAD Civil 3D. See FDM 19-10-43.1 for AutoCAD Civil 3D requirements. The surface model component of design models shall be delivered for each LET project that requires cross sections sheets be included in the plan. See FDM 15-1-45 for cross sections requirements.

7.1.1 Exceptions to Design Model Requirements

The surface model component of Design Models are not required in the following circumstances:

- Beamguard energy absorbing terminal (EAT) installation is the only reason cross sections are needed for a project. See FDM 11-45-30.4.1.3 for cross section requirements for beamguard EATs. Projects needing additional cross sections outside of beamguard EAT installations are not exempt from surface model delivery.

7.2 Surface Models

Surface Models are the principal component of the Design Model. They are a DTM surface representation of a feature or material of the proposed work of the project, and the supplemental data supporting the definition or use of the DTM surface.

7.2.1 Surface Model Types

Design models shall include the following proposed work surface model types. Provide a single surface model for each type per construction contract. For construction contracts where staged models are desired, provide a single surface model for each type per stage:

- Top (all earthwork and pavement features)
- Datum (finished earthwork)
- Rural Driveways (top of driveway surface)
- Subgrade Improvement (bottom of select materials)
- Excavation Below Subgrade (EBS) (bottom of excavation)
- Marsh Excavation (bottom of marsh excavation)
- Rock Excavation (bottom of excavation)

In addition to the proposed work surface model types listed above, an existing terrain surface model and existing condition top of rock surface model shall be included in the Design Model. An existing condition marsh bottom surface model is not required. Typical sections displaying surface model locations are in Attachment 7.1.

7.2.2 Surface Model Content

Proposed work surface models shall consist of the following items:

- DTM surface
- 2D or 3D outer boundary
- 3D longitudinal breaklines and points that defined the surface triangulation

Note: In areas of surface models developed by Civil 3D grading objects only, it is acceptable to use surface triangle graphics in place of longitudinal breaklines in the surface model's breakline file. Surface triangle graphics can be obtained in Civil 3D by twice exploding surfaces from gradings, triangle graphics can then be inserted into the longitudinal breakline DWG file.

The Civil 3D corridor surfaces used in development of proposed work surface models shall only be defined by corridor feature lines.

Existing terrain surface and subsurface models shall consist of the following items:

- DTM surface
- 2D or 3D outer boundary

7.2.2.1 Proposed Work Surface Model Definition Minimum Density

The proposed work surface model definition density is defined by the Department as the frequency spacing of corridors used to develop the surface model, the elevation point spacing of feature lines or 3D polylines in the areas where feature lines or 3D polylines are used to develop the surface model, and also the tessellation spacing where gradings are used to develop the surface model.

The proposed work surface model definition density requirements are shown in Table 7.1.

Table 7.1 Proposed Work Surface Model Definition Density Requirements

Location [1]	Roadway alignment and profile state	Design Speed, DS (mph)	Maximum Frequency Spacing (ft)
Outside Intersection Footprint	Tangent	All	50
	Horizontal Curve or Vertical Curve [2]	DS ≤ 30	12.5
		35 ≤ DS ≤ 55	25
		DS ≥ 60	50
Inside Intersection Footprint	All	All	2.5

Notes:

[1] Intersection footprint is the area within the intersection extending outward along all roadways to beginning taper points of intersection widening or auxiliary lanes.

[2] A 50 ft. frequency spacing may be used at any design speed if the horizontal curve superelevation is reverse crown or flatter. A 50 ft. frequency spacing may be used at any design speed if the vertical curve K≥151.

In addition to the frequency spacing requirements of Table 7.1, additional corridor frequency locations shall be added at all horizontal geometry points (PC, PT), superelevation transition points, profile geometry points (VPC, VPT), profile high/low points, corridor target object horizontal and vertical geometry points, at the intersection of side road alignments, typical section change locations, critical drainage locations, inlet locations, and all locations at which there is a cross section shown in the plan.

Interchange gore areas should be designed with a 2.5 ft corridor frequency spacing, or if using feature lines a 2.5 ft. elevation point spacing. When using feature lines to design earthwork around abutments and wingwalls, a 2.5 ft. elevation point spacing is appropriate.

Breaklines added to the surface definition for the sole purpose of forcing surface triangle orientation are exempt from the frequency spacing standards.

Model density and quality should also be increased in areas that are contextually sensitive. For example, an urban area does not require a higher corridor frequency spacing just because it is urban. However, if that urban area consists of residential front yards or a downtown commercial district, a frequency spacing should be selected that captures the variability of the adjacent properties.

7.2.2.2 Surface Model Detail Requirements

Table 7.2 contains a list of features and states which surface models types they should be developed within. Optional features may be desirable for inclusion into the surface model depending on the project scope and complexity but are not required.

Determining the required or necessary level of detail for surface models takes an understanding of their usage. Level of detail is defined as the number of components that are modeled in addition to the density and quality at which the components are modeled.

In general, two questions should be considered when determining the appropriate level of detail.

1. Will the item in question be utilized in contractor's AMG operations the way AMG is currently being used, or be used in contractor staking operations?
2. Will exclusion of the item in question introduce the possibility of misinterpretation of design intent?

The item in question does not need to be represented in surface models if the answer to #1 is NO, and the answer to #2 is NO. Any other response to the questions above indicates the item in question should be designed into the surface models for the project.

Datum surfaces are primarily used for automated machine guidance (AMG) operations. Therefore, the datum surface models must contain enough detail to be useful for an AMG operation. There are other uses for the datum surface model, such as for earthwork computations. If it is desired that the datum surface model account for all earthwork on a project, the level of detail is high. However, it is often sufficient to provide a datum surface with a lower level of detail that is still sufficient for AMG operations and the majority of the earthwork volume computations. The remaining earthwork volumes can then be obtained through other means, such as hand calculations. A good example of this approach is an urban driveway. Modeling the subgrade of an urban driveway for the datum surface does not add value for an AMG operation. However, this is still a volume of earthwork that must be accounted for. The designer can choose to either model the subgrade of an urban driveway or determine the additional volume through hand calculation.

Top surfaces are not commonly used for AMG operations. From a construction perspective, they are most useful for conveying design intent. They can also be useful for visualization. The designer should increase the level of detail for areas where the design intent will not be obvious during construction or where there is a risk that the contractor may interpret the plan incorrectly. For example, not all curb ramp configurations are complex enough to warrant a surface model. However, if the curb ramp is located in a tight urban corridor with little room for error to comply with ADA standards, the extra effort for creating the surface model will reduce the risk of constructing a non-compliant curb ramp.

Designers may also choose to increase the level of detail for the benefit of the design quality or to help in the design process. For example, including the rural driveway models can assure that culvert pipe lengths are sufficient for traversable slopes. The additional detail can also be used for quantification or visualization.

Table 7.2 Proposed Work Surface Model Feature Requirements

Feature	Surface Model Types (Y = Yes, it is required; O = Optional, should be considered when warranted; N = No, it is not needed)		
	Top	**Datum**	**Rural Driveway (Top of Driveway)**
Urban Driveway	Y	N	N
Rural Driveway	N	N	O
Slope Rounding	N	N	N
Curb Ramps [1]	O	N	N
Curb or barrier wall transition between barrier shape changes	O	N	N
Median Noses	O	N	N
Transition between curb section and shoulder	O	O	N
Exposed Shape of Retaining Wall [2]	O	N	N
Earthwork grade along retaining wall	Y	Y	N
Grading transition at retaining wall ends	O	O	N
Gore areas	Y	Y	N
Grading at culvert inlet/outlet	N	N	N
Beam Guard EAT grading	Y	Y	N
Minor grading alongside urban driveways	O	O	N
Minor intersection islands where subgrade is continuous with adjacent pavement	O	Y	N
Construction Stages [3]	O	O	N
Bridge Abutment Earthwork Cone (significant grade changes) [4]	Y	Y	N
Bridge Abutment Earthwork Cone (minor grade changes) [4]	O	O	N

NOTES:

[1] While modeling isn't required, curb ramps should be modeled at locations where elevations make challenging to comply with ADA requirements according to the designs shown in the Standard Detail Drawings.

[2] Meaning is the actual wall shape incorporated into the surface model

[3] Staged surface models are not required. However, temporary roadways requiring earthwork to construct shall be modeled.

[4] Minor changes to the earthwork cone for bridge replacement projects that can be accommodated through small adjustments to rip rap or topsoil do not require modeling. It is desirable to model the earthwork cone for new fills or other significant changes to the abutment horizontal/vertical location.

LIST OF ATTACHMENTS

Attachment 7.1 Surface Model Types

FDM 15-5-10 Electronic Plans

August 17, 2020

This procedure describes the requirements for preparing Adobe Portable Document Format (PDF) construction plans (EPlans) for submittal to the Wisconsin Department of Transportation.

1. All PDF files shall be compatible with PDF Version 1.7.
2. PDFs created from scanned hardcopy are generally not acceptable. One exception is sheets including an inked registration seal. These must be scanned in monochrome at 300 dots per inch (dpi). The JPEG image format should not be used when scanning title sheets.
3. Where linework is shaded gray as is the case with existing topography on plan sheets, or as with plan and profile and cross section sheet grids, use of a printer driver that supports grayscale is required.
4. If raster data (imagery) is included in the plan, observe the following requirements.

   File format

   - Use the JPEG format ONLY with photographic imagery, such as an aerial photo background. The JPEG format is NOT ACCEPTABLE for any non-photographic imagery.
   - Use the TIFF or GIF format for all text or linework that must be scanned and included in the plan (title sheets, old plat sheets, sieve analysis sheets, soil borings, etc.)

   Resolution

   - Image resolution higher than 300 dots per inch (dpi) is generally not acceptable.
   - Image resolution lower than 72 dpi is not recommended.

   Color depth

   - 256 shades of gray is the maximum acceptable color depth for imagery. 32 shades of gray is preferred. Color imagery is generally not acceptable.
   - Use monochrome (black and white only) whenever the source material is black and white only.
5. All PDF files shall be landscape oriented 11x17 inch documents.
6. All fonts utilized in the plan shall be embedded in the PDF file.
7. All plan sheets shall be combined to form a single PDF file.
8. The document initial view shall be set to Bookmarks and Page with magnification set to Fit in Window.
9. To facilitate navigation within the plan, bookmarks in the Navigation Pane for these major plan sections are required (when the plan contains these sections): Title Page, Typical Sections, Details, Miscellaneous Quantities, Plat, Plan and Profile, Special Signs, Structures, Earthwork Data and Cross Sections.
10. The following project information shall be included in the PDF Document Summary

Title:	Construction Project ID, Project Title
Subject:	Route name, County
Author:	Project Engineer
Keywords:	Structure numbers, tied Project IDs and other info as appropriate

11. Document Security shall be set to No Security.
12. There shall be no layers in the pdf.
13. All PDF files shall be optimized for web viewing.
14. All graphics shall adhere to the plan production standards as specified in Chapter 15, Plan Preparation.
15. An EPlan, as submitted to the Department, shall not include a list of Standard Detail Drawings (SDDs) in the plan. The SDDs are to be specified in the SDD Spreadsheet and copy of the spreadsheet must accompany the EPlan (see FDM 15-5-15). Department staff will include the SDD list in the plan at the appropriate time.
16. The plan preparer must ensure that the current state standard plan sheet borders and other applicable

standard files are used. The most current version can be found on the web at:

https://wisconsindot.gov/Pages/doing-bus/eng-consultants/cnslt-rsrces/tools/cad/default.aspx

17. All PDF files shall become the property of the Department.

FDM 15-5-15 Standard Detail Drawing Spreadsheet

December 22, 2011

This procedure describes the requirements for preparing the Standard Detail Drawing (SDD) spreadsheet that accompanies an Electronic Plan (EPlan).

An EPlan, as submitted to central office, should not include a list of required SDDs in the plan. The SDDs must be specified in the SDD spreadsheet and the spreadsheet must accompany the EPlan as an additional exhibit. Central office staff will include the SDD list in the plan at the appropriate time.

Designers may access the SDD Spreadsheet (MS Excel file 0-select-sdd.xls) at: https://wisconsindot.gov/Pages/doing-bus/eng-consultants/cnslt-rsrces/tools/cad/eplans.aspx (Right click on the file and select “Save target as”)

Below are the steps necessary to complete the SDD Spreadsheet.

1. Save a copy of the spreadsheet in the project folder.
2. Name it XXXXXXXX_sdd.xls (where XXXXXXXX is the project id).
3. Key the project id into appropriate cell near the top of the spreadsheet (red text).
4. Scroll through the spreadsheet and enter an “x” in the yellow box next to the SDDs that are required (press enter after keying in the last "x").
5. Once you have specified all of the required SDDs, select File → Save As and save the spreadsheet again.
6. Submit the completed SDD spreadsheet with the EPlan per FDM 19-10-1

When submitting an EPlan, check that SDD spreadsheet is still current. Do this by opening the standard SDD spreadsheet at the above site and comparing the Last Effective P.S. & E. Date (in red near the top-right of spreadsheet) with the date on the one saved in your project folder. If the standard spreadsheet has been updated, check if any of the SDDs you have specified were affected. Each SDD listed in the spreadsheet has an effective P.S. &E. date listed to the right of the name.

FDM 15-5-25 Standard Abbreviations

April 26, 2007

25.1 General

Abbreviations should be considered only in the following cases:

- When the complete spelling of a word or term obliterates other detail.
- When sufficient space is not available on a plan sheet.
- When confusion is not caused by the use of an abbreviation.
- When a term is excessively long.

The use of abbreviations in the plan should be kept to a minimum.

A list of abbreviations found within a plan that would not be readily recognized by the ordinary user of a highway plan shall be listed on the Typical Section Sheet as stated in FDM 15-1-15. Abbreviations as used within the Right of Way Plat shall be listed on the Right of Way Title Sheet as discussed in FDM 12-10-1 and FDM 12-15-1. The list of standard abbreviations is included as Attachment 25.1.

LIST OF ATTACHMENTS

Attachment 25.1 List of Standard Abbreviations

FDM 15-5-30 Conventional Signs and Symbols

February 15, 2022

30.1 General

Commonly used signs and symbols are preprinted on the Title Sheet. Additional ones may be added to the Title Sheet as indicated in FDM 15-1-10. Right-of-way signs and symbols not used in the construction plans should

not be included.

List signs and symbols used in the right-of-way plat on the Right-of-Way Title Sheet as indicated in FDM 12-15-1.

Signs and symbols may be tailored to fit each individual project.

The signs illustrated do not differentiate between existing and proposed. The designer may indicate the difference by using shading, screening, dashed lines, notations, or any other appropriate method.

Conventional signs and symbols that are suggested for use in the preparation of contract plans are available through the WisDOT Civil 3D template.