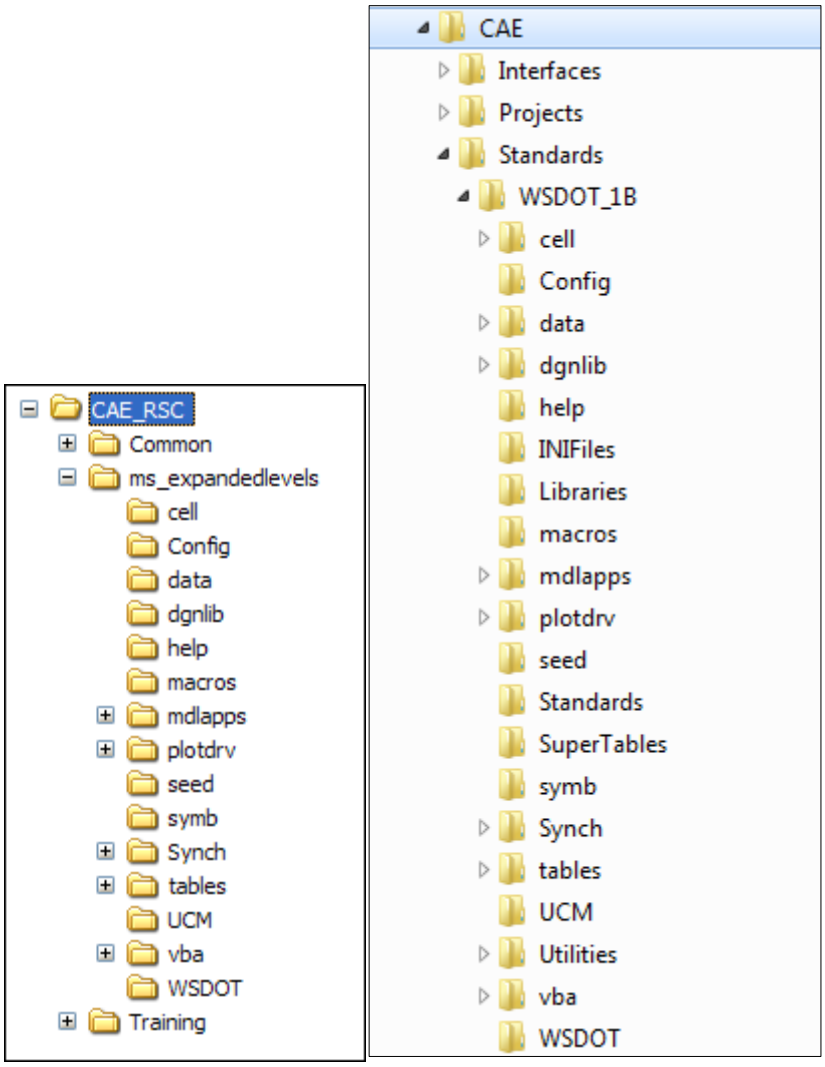
D7.01 General

This chapter defines the procedures for preparing electronic Computer Aided Drafting (CAD) data at major milestones including final delivery. These standards are intended to complement the WSDOT *Plans Preparation Manual* (PPM), but relate to the electronic files specifically. The PPM will supersede in the case of any conflicts with this manual. The designer is responsible for resolving all omissions, deficiencies, and errors in a timely manner to prevent any negative impacts on the project schedule.

D7.02 WSDOT Resources and Related Conventions

CAD operators will use the most current set of WSDOT resources for MicroStation, including levels, seed files, cell libraries, linestyle resource files, plot configuration files and pen tables.

The WSDOT CAE resource environment provides files and electronic resources organized under a master resource folder. The master resource folder contains all of the electronic resources necessary for WSDOT contract plan set (PS&E and R/W) development (see Figure 7-1).



Win XP **Win 7**

WSDOT Resource Folders
Figure 7-1

(1) CAD Libraries (DGNLib)Files

The WSDOT environment standard level scheme is defined by a MicroStation DGN library called **WSDOT.dgnlib**. This resource is maintained in the master resource structure. Refer to **Deliverables 1** for operating system-specific resource locations.

A secondary project level DGN library is stored in the project directory structure in the *CAD_Rsc\dgnlib* subfolder. *ProjectID*.dgnlib contains project specific levels and any user-defined filters for the project.

NOTE: In order for this file to be available in MicroStation, the *CAD_RSC\DGNLIB* folder must be added to the MicroStation environment variable MS_DGNLIST. MS-DGNLIST is modified automatically when the WSDOT Create Project macro is used and the MicroStation project is selected through the MicroStation Manager dialog box.

(2) Seed Files

WSDOT seed files shall be used when creating files for PS&E, PFA, and R/W plan sets.

The *...\SEED***PSE_BASE.DGN** file is the seed file to be used when creating PS&E and PFA baseplan design files.

The *...\SEED***PSE_SHEET.DGN** file is the file to be used when creating PS&E and PFA Sheet design files.

The *...\SEED***RW_BASE.DGN** file is the seed file to be used when creating R/W baseplan design files.

The*...\SEED***RW_SHEET.DGN** file is the file to be used when creating R/W Sheet design files.

Details on the WSDOT seed files are as follows:

Base seeds:

- Master Units: US Survey Feet – FT
- Sub Units Custom – th (1000 th per FT)
- Resolution: 1,000,000,000 per US Survey Foot (in the 1B environment)
- 2D workspace

Sheet seeds:

- Master Units: Inches – in
- Sub Units Custom – th (1000 th per in)
- Resolution: 1,000,000,000 per Inch (in the 1B environment)
- 2D workspace

(3) Text

All WSDOT standard fonts are stored in the *...\symb***Font.rsc** file. In most cases, font 164 (Arial Italic) will be used in conjunction with existing features and font 217 (Arial Bold) will be used in conjunction with new features. Right of Way also typically incorporates font 200 (Arial). Exceptions and more specific details can be found in Section 3 and 4 of this manual.

For Plans, Specifications, and Estimates (PS&E) and Plans for Approval (PFA) plan sheets, minimum text size is 0.07" on the 11" x 17" printed sheets.

For Right of Way (R/W) plan sheets, minimum text size for existing text is 0.10" and for 0.12" new text on 22" x 34" printed sheets.

Text at minimum sizes shall be all upper case. Text at larger sizes may be in upper and lower case.

The correct font and text size for each data item is specified in **Deliverables 2** and **4** of this manual.

When working in a baseplan, the relationship between printed text size in the **Deliverables 3** and **4** of this manual and the text size setting in MicroStation is:

MicroStation setting = final print size x plotting scale.

To place text that is to be .07 inches on a plotted scale of 1"=50', multiply .07 inches times 50 feet per inch to get 3.5 feet. Similarly, the text size setting in MicroStation to produce text at .075 inches on a 1"=100' scale drawing is .075 inches times 100 feet per inch or 7.5 feet.

When working in a sheet file, the text size should always be set to the true size desired on the final drawing which is the size that is specified in **Deliverables 3** and **4** of this manual. Text size is calculated automatically when using the WSDOT Menu based on the scale selected and the type of design file you are working in (baseplan or sheet).

(4) Cells

*...\CELL*__WAESTATE.CEL__ contains all WSDOT standard cells and symbology to be placed in baseplans and sheet files.

*...\CELL*__WAEDETAILS.CEL__ is a supplemental cell library containing additional template cells which can be used as starting point for roadway sections and other details.

Cells that are designed for placement in the sheet file are named with the **SH** parent code and have master units in inches. These cells are placed directly on the sheet at a scale of 1:1.

Baseplan cells are designed to be placed in the baseplan, have master units of feet and are placed according to their type-either **symbol cells** or **true-size cells**.

Base File Symbol cells are cells that appear on plan sheets that are always the same size regardless of the plan sheet scale. On the printed plan, symbol cells do not reflect the actual size of the object they represent, just the locations. Examples of symbol cells are catch basin and utility pole symbols. WSDOT symbol cells are stored in the cell library at the size they should appear on the printed sheet. When placing these cells in the baseplan, they must be scaled up by the same scale factor as the sheet. Thus when placing cells for a baseplan that will be plotted at 1"=100', the cell should be placed at an active scale of 100. This scale is set automatically when the WSDOT menu and scale tools are used.

Base File True-size cells are cells that are always the actual ground size of the objects they represent. Examples of non-scaling cell are many of the painted pavement markings such as the HOV symbol and RR crossing symbol. True-size cells are sized in the library so that they should always be placed at an active scale of 100 in the base to reflect the true ground size regardless of plotting scale. True-size cells are flagged as such in the **Deliverables 3** and **4** of this manual and on the WSDOT menu.

The correct cell size is calculated automatically when using the WSDOT Menu based on the scale selected, the type of design file you are working in (sheet or base) and the type of cell being placed.

Sheet cells can be manually placed in the base files by selecting the desired plotting scale and making sure that the True Scale option is turned off. Base cells can be manually placed in a sheet file by selecting a scale of 1 and making sure that the True Scale option is turned off.

(5) Linestyles

All WSDOT custom linear symbology or *Linestyles* are available via the **…***SYMB***ELSTYLE.RSC** file. These linestyles are stored in the RSC file at the true size they will appear on the printed sheet.

When placing custom linestyles in a base plan, they must be scaled up by the same scale factor as the sheet. Thus when placing a linestyle that will be plotted out at 1"=100', the linestyle should be placed at an active linestyle scale of 100.

If a custom linestyle needs to be placed in the sheet file (e.g., in a legend), it should be placed at an active linestyle scale of 1.

Custom linestyle scales are calculated automatically when using the WSDOT menu based on the scale selected and the type of design file you are working in (sheet or base).

(6) Color Table

By default, the color table located in the …*SYMB***COLOR.TBL** file should be attached to WSDOT design files. **COLOR.TBL** is configured to color all elements per their parent category so that each major group has its own color.

Optionally, **COLOR2.TBL** may be useful when working on a specific major category of features as it breaks up the set of elements having the same parent code into subgroups that show up with different colors.

For example with **COLOR.TBL** attached all new utilities display in the same color. With **COLOR2.TBL** attached, new utilities display with the different utility types (water, gas, telephone, etc.) in different colors.

Plot Configuration Files

When plotting WSDOT PS&E plan sets, the plot configuration files for the different versions of MicroStation are in the …*PLOTDRV* folder and should be referenced in accordance to the version of MicroStation.

Note that MicroStation V8 refers to 2004 or version v8.05.##.##, which has been retired.

These plot configuration files must be used to ensure the linestyles and weights plot per WSDOT standards. The major plot configuration files and their uses are shown in Figure 7-2.

MicroStation V8	MicroStation XM	Output
EngBWFull.plt	EngBWFull.pltcfg	Black and white, 34 x 22 plots
EngBWHalf.plt	EngBWHalf.pltcfg	Black and white, 11 x 17 plots
EngCFull.plt	EngCFull.pltcfg	Color, 34 x 22 plots
EngCHalf.plt	EngCHalf.pltcfg	Color, 11 x 17 plots
PDF_EngBWFull.plt	PDF_EngBWFull.pltcfg	PDF format, black and white, 34 x 22 plots
PDF_EngBWHalf.plt	PDF_EngBWHalf.pltcfg	PDF format, black and white, 11 x 17 plots
PDF_EngCFull.plt	PDF_EngCFull.pltcfg	PDF format, color, 34 x 22 plots
PDF_EngCHalf.plt	PDF_EngCHalf.pltcfg	PDF format, color, 11 x 17 plots

Plot Configuration Files
Figure 7-2

(7) Pen Table

Pen tables contain instructions for re-symbolizing the printed output of design files. At WSDOT, this typically takes the form of printing sequence.

When plotting WSDOT PS&E and PFA plan sets, the **WSDOT.TBL** pen table should be used. This pen table prints shapes first, then other vector elements so that the shape appears behind the other graphics regardless of the priorities assigned by MicroStation. **WSDOT_OrderByMS.TBL** prints the elements honoring the priority assigned in MicroStation.

D7.03 File Types and Requirements

Deliverable data for a MicroStation electronic plan set is stored in either a base or a sheet file. This section will define these two file types and their requirements.

(1) Base Files

The **_BaseFile**s folder stores all vector files that are referenced to ContractPlans sheet files. These could be a number of types of files.

Base Plans are 2D DGN files that contain coordinate (XY) based information for the plan set. This includes all survey data, Photogrammetry data, locations for all new data and all text related to those elements and features.

Base Maps are 3D DGN files that contain coordinate (XYZ) based information for the plan set. This typically includes survey data, Photogrammetry data, surface data, and volume graphics. These are not typically referenced directly to a sheet file.

Depending on the size and other factors of any specific project, there may be one or more base plans. For small projects where there is one primary designer it may make the most sense to keep all coordinate based data in one base plan. With more complicated projects

it will probably be more efficient to split the coordinate based information into multiple base plans. Typically these multiple base plans would contain data for different areas of the design (e.g., drainage, channelization, and site preparation). A multiple base plan organization allows more than one designer to access and work on base plan data simultaneously. Either configuration is acceptable.

File Naming for Base plans

Base plans will all have a file type code of BP. (See **Deliverables 4** for complete details).

Examples:

XL1234_BP_EX.DGN	Base plan containing all existing data
XL1234_BP_DR.DGN	Plan containing all new drainage data
XL1234_BP_ALRW.DGN	Plan containing all new alignment and R/W data
XL1234_BP_PFA.DGN	Base plan containing Plans for Approval (PFA) intersection/interchange data

Saved Views in Base Plan Files

The location, rotation, and level configuration for all associated sheets in the project must be stored in the base plan using one of two methods:

Method 1 – Generic Location Saved Views

This method requires a saved view be generated for each sheet location. All saved views in the base plan must be rotated so that the controlling alignment is horizontal across the saved view as it would be in the sheet (top and bottom borders at absolute East-West orientation). This rotation of the saved view is what controls the orientation of the reference file in the attachment to the sheet file. In this method, level display will be maintained through the sheet file references.

Method 2 – Plan Type Specific Saved Views

This method is similar to method 1 with the addition of displayed levels. Each sheet location will have a saved view for each plan type. Each saved view will maintain the level display scheme for that plan type. These sheet specific saved views will have names that correspond to the sheet reference number found in the lower right corner of the plan sheet above the sheet number—DR1, DR2, CH1, CH2, and so on.

Project Filters in Base Plan Files

It is recommended that project filters be set up to store the various level schemes for each type of plan sheet. The WSDOT environment contains a set of filters for standard plan types stored in the **WSDOT.DGNLib** file. These filters can then be used to adjust levels in the sheet files and in the base plans. Custom filters will be stored in the WSDOT resources.

If used in the base plan, custom filters will be documented in the *Base Plan Doc* tab of the **ID1234_CAD*Project*Doc.xlsx**.

Project Datum

The datum used in the base files shall match the datum and units used throughout the project. Typically this is a project datum in US Survey feet.

(2) Sheet Files

Sheet files contain sheet borders with associated title bar information and all elements that are placed in relation to the sheet border such as legends, scale bars, match lines and north arrows.

Sheet files are created from WSDOT seed files to ensure that their master units are inches.

Placing Sheet borders

Using the WSDOT Menu, sheet border cells are placed in the sheet file at an active scale of 1 in a matrix shown in Figure 7-3 below.

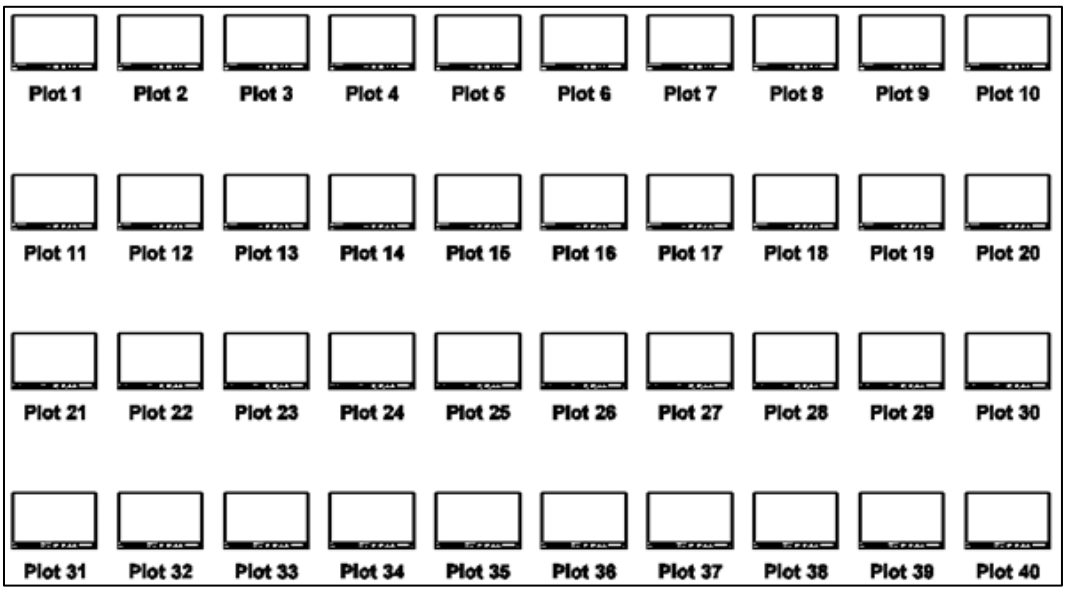
Each PS&E sheet border measures 10" x 15.75" and is positioned in a plot limit shape to provide the standard margins on 11" x 17" paper.

Each PFA sheet border measures 20" x 31.5" and is positioned in a plot limit shape to provide the standard margins on 22" x 34" paper.

Army Corps of Engineers sheet borders are placed in pairs of portrait 8" x 9.8" sheets centered on 11" x 17" paper with appropriate border spacing.

Each Right of Way sheet border measures 21" x 33". Standard margins are 0.5" on all sides on 22" x 34" paper.

Each Record of Survey sheet border measures 17" x 21.5". Standard margins are 2" Left, 0.5" all other sides on 18" x 24" paper.



WSDOT PS&E Sheet Matrix
Figure 7-3

The origin of the multi-sheet matrix is the lower left corner of the Plot 1 border and is at coordinates of 100000, 100000. PS&E rows are 20 inches apart and the columns are 30 inches apart, R/W rows are and columns are 37.45 inches apart. The matrix can contain up to 40 sheets, but borders should only be placed as needed. Final sheet files should not contain any empty borders.

Use of the WSDOT *Place Sheet* utility assures compliance in regard to sheet sizes and locations.

Saved Views in Sheet Files

A saved view should be created for each sheet location. The saved view name will be PLOT 1, PLOT 2, and so on. When the saved view is recalled, the entire sheet border should be displayed. The levels displayed by the saved view must match the levels that are to be plotted.

The WSDOT *Place Sheet* utility automatically creates the correct saved views when the sheet borders are placed.

Reference Attachments to Sheets

The WSDOT resources have been set up so that when a base file is referenced to a sheet border, it is referenced at the same scale as the desired final plot. Thus for a 1" = 50' plot the reference attachment scale is 1:50 (Master:Ref). Likewise for a 1" = 10' plot, the reference attachment scale is 1:10 (Master:Ref).

The levels displayed by the reference attachment and the levels stored in the base plan's saved view (and/or filter) used in the creation of that attachment must be kept in synch with one another.

While the draftsperson may use MicroStation nested referencing capabilities in the design phase to facilitate building sheet files, final files for submittal and archive should have only direct references attached to the sheets and not nested references.

There should be no references that are not displayed in the final contract plan set. Attachments that are not displayed should be detached.

There should be no broken references in the final contract plan set. Any broken references should be repaired or detached prior to transmittal to the customer.

D7.04 Drafting Deliverables

Contract plan sets shall be prepared in accordance with the WSDOT *Plans Preparation Manual* and this document. The *Plans Preparation Manual* contains guidance and requirements for content of final plotted R/W and PS&E plan sets. In contrast, this document contains guidance, appearance, and standards regarding the electronic version of the plan set and the requirements and attributes specific to the electronic version.

(1) General Requirements

Project-Level Resources

Potential project-level custom resources may include cell libraries, dgn libraries, color tables, and plotting resources. All project specific CAD resources must be stored in the **CAD_RSC** folder. These resources must also be documented in the CAD Plan Set

Documentation spreadsheet Project-level resources by definition are nonstandard which presents problems with exporting this data to other applications (such as InRoads) and their use should be minimized as much as possible.

ByLevel Symbology

In the WSDOT environment, only one feature type is drawn on any given level, typically. So, ***ByLevel*** is the standard attribute setting for color, weight and linestyle for all standard WSDOT features. ByLevel is activated automatically by the WSDOT menu for all standard levels, but is not activated for levels designated as user levels.

Project Filters

Users may create their own filters in specific design files or in the project-level DGNLIB. It is recommended that a filter be created at the project level that matches the level configuration for each type of plan in the plan set. For example, there should be project-level filters whose levels correspond to the baseplan levels referenced in the drainage plans, channelization plans and so on.

User Levels

The WSDOT work environment contains many levels designated as user levels that have no standard feature assigned to them. Since users aren't allowed to create new levels, these user levels have been provided for project-specific requirements that necessitate the drawing of elements of non-standard, project specific features. Because any items drawn on user levels is by definition non-standard, they will not translate and export to other WSDOT applications (such as InRoads) as easily as information drawn to WSDOT standards. For this reason, the use of nonstandard information on user levels should be kept to a minimum.

Each MicroStation level has a name and level number associated with it. Project specific custom level names and numbers must not conflict with those provided in the WSDOT.dgnlib file.

Referencing WSDOT Legacy 63 Level Data

If older MicroStation design files adhering to WSDOT's previous 63 level standards are to be used in conjunction with files in the current expanded level environment, the following guidelines should be observed:

- If the 63 level data is to be modified, it should be converted to the "1B" standards.
- If the 63 level data is to be referenced read-only, it may be left in the 63 level configuration. At the time of attachment, a 63 level design file referenced to an expanded level file must have reference settings of Coincident World, True Scale off and attachment scale of 2:2 *not* 1:1. This must be done to maintain coordinate accuracy of the data between the two environments.

(2) Data Organization

The _BaseFiles folder and deliverable folders are intended to initially provide a workspace location for appropriate sheet files. When a workflow milestone is reached, a copy of the folder will be stored in the CAD folder and appended with the milestone in

the *FolderName_**Milestone*** format. All applicable sheet files and all necessary, referenced base files will be copied into the new *FolderName_**Milestone*** folder.

The *FolderName_**Milestone*** folder will represent a complete, stand-alone, deliverable package of the indicated milestone.

(3) Contract Plans (PS&E)

The *ContractPlans* folder is the working location for contract sheet files. At the time a milestone is completed, the *ContractPlans* folder will be copied to the same location and the copy will be appended with ***_Milestone*** (where ***Milestone*** is replaced by a short description of the milestone). The *ContractPlans_**Milestone*** folder represents the PS&E related contract plan set at a completed deliverable or milestone in an archive state and should not be changed in any way.

This folder may also be used for delivery to the design team of a complete package by a support group.

All required referenced base files will be copied to the *ContractPlans_**Milestone**_ProductMasters* folder. All sheet files necessary for the deliverable will be stored in the *ContractPlans_**Milestone*** folder.

For projects that require more complex file sets, the alternate sub-folder structure shown in **Deliverables 3** is acceptable.

File naming conventions will comply with **Deliverables 4**.

Example Milestones include ***_PSE30***[percent], ***_PSE60***, ***_PSE90***, ***_ToBid***, ***_AdReady***, ***_Add[endum]1***, ***Add2***.

For delivery of support group deliverables to the design team, similar milestone indicators are acceptable. For example, *ContractPlans_**Traffic***, and *ContractPlans_**Landscape***.

At delivery, the *ContractPlans_**Milestone*** folder will represent a complete, stand-alone, deliverable package of the indicated milestone.

(4) Addendums

Addendum sheets are stored in the *ContractPlans_**Add[endum]#*** folder. At completion of the addendum, a copy will be made of the *ContractPlans* working folder and the copy will be appended with ***_Add#*** (where **#** is the addendum number). This folder will contain only the files relating to the current addendum. This includes all required referenced base files and only specifically applicable/revised sheet files. All other files will be deleted.

All required referenced base files will be copied to the *ContractPlans_**Milestone**_ProductMasters* folder. All sheet files necessary for the deliverable will be stored in the *ContractPlans_**Milestone*** folder.

File naming conventions will comply with **Deliverables 4**.

At delivery, the *ContractPlans_**Add#*** folder will represent a complete, stand-alone, deliverable package of the indicated addendum in an archive state and should not be changed in any way.

(5) Plans for Approval

The *PlansForApproval_**Milestone*** folder stores the intersection/interchange plan set for approval. At completion of the deliverable/milestone, a copy will be made of the *PlansForApproval* working folder and the copy will be appended with ***_Milestone*** (where ***Milestone*** is replaced by a short description of the milestone). This folder will contain only the files relating to the Plans for Approval.

All required referenced base files will be copied to the *PlansForApproval_**Milestone**_ProductMasters* folder. All sheet files necessary for the deliverable will be stored in the root *PlansForApproval_**Milestone*** folder.
Example Milestones include **_Submitted**, **_Approved**.

File naming conventions will comply with **Deliverables 4** of this manual.

At delivery, the *PlansForApproval_**Milestone*** folder will represent a complete, stand-alone, deliverable package of the indicated PFA milestone.

(6) Right of Way

The *RightOfWayPlans* folder stores Design team generated Right of Way (R/W) plans. Survey generated R/W plans will be stored the Survey workspace. At completion of the deliverable/milestone, a copy will be made of the *RightofWay* working folder and the copy will be appended with ***_Milestone*** (where ***Milestone*** is replaced by a short description of the milestone). This folder will contain only the files relating to the Right of Way plans in an archive state and should not be changed in any way.

All required referenced base files will be copied to the *RightOfWay_**Milestone**_ProductMasters* folder. All sheet files necessary for the deliverable will be stored in the root *RightOfWay_**Milestone*** folder.
File naming conventions will comply with **Deliverables 4**.

At delivery, the *RightOfWayPlans* folder will represent a complete, stand-alone, deliverable package of the indicated R/W plan set.

(7) CAD Documentation

CAD documentation is required on all deliverables. This documentation is available in the WSDOT standard CAE project structure under **CAD\ContractPlans** as a Microsoft Excel spreadsheet (*.xlsx) with six major component in separate worksheets/tabs. The six components are:

- CAD Project Info
- CAD Project Journal
- CAD Project Level Resources
- Base Plan Documentation
- Contract Plans – Multiple Sheets per file
- Contract Plans – Single Sheet per file

Each worksheet noted in this section is also available in **Forms 6**.

At each deliverable milestone for each CAD product, a **_Doc** subfolder will be added to the deliverable folder. The CAD documentation spreadsheet will be stored in the **_Doc** folder. If individual forms are used, each one will be stored in this folder. All documentation files will be pre-pended with the project ID followed by an underscore (_). For example; **XL1234_CADProjectDoc.xlsx**.

CAD Project Information Sheet

The *CAD Project Information work*sheet/tab contains general project and contact information. Entering information in this tab first will populate common fields in the other tabs. The following items should be documented:

- Project ID
- Project title
- Network location
- Mainline designation(s) and mile post limits
- Design project office and contact information
- Sheet border information

CAD Project Journal

The *Project Journal* worksheet/tab contains a log of events and decisions made at the CAD development level. This resource should include the name of the person making the entry, date, entry, and reference to associated or supporting files.

Project Level Resources Sheet

The *Project Level Custom Resources* worksheet/tab contains the following items and should be documented:

- Project ID
- Project title
- Custom cell library information
- Custom linestyle information
- Custom or Project DGN library information
- Any other project custom resources including plot drivers, pen tables, color tables, etc.

Base Plan Documentation Sheet

The *Base Plan Documentation* worksheet/tab at delivery, the Base Plan Documentation spreadsheet will be filled out for each Base Plan and stored in the deliverables folder along with the data files. For additional Base Plans, copy the form and paste it in the same tab, below the existing form. If not using the Excel spreadsheet, additional forms for each Base Plan will be stored in the deliverables folder.

The following items should be documented for each base plan file:

- Drawing Scale
- Units of Measure (US Feet standard for WSDOT)
- Units of Resolution (1,000,000,000 standard for WSDOT)
- Datum information
- Raster Reference information including origins
- Referenced DGN files
- Filters/saved views to be used to call up sheet views

Contract Plan File Documentation Sheet

The Contract Plan File Documentation sheet is the Fifth tab labeled *Contract Plans – Multi* in the **[*ID1234*]_CADProjectDoc.xlsx** spreadsheet. At delivery, the Contract Plan File Documentation spreadsheet will be filled out for each sheet file and stored in the deliverable folder along with the data files. For single sheets per DGN methodology, an additional tab is provided and labeled *Contract Plans - Single*.

The following items should be included in documentation for each sheet contained in a sheet file:

- Plan type(s) included
- Sheet ID
- Sheet saved views
- Referenced data files and raster images
- Custom filters

D7.05 Project Closure and Transition

After the supplier has prepared a complete MicroStation CAD package (such as PS&E contract plans) as described in this chapter by preparing all the appropriate electronic information the following requirements will apply.

(1) Project Cleanup

The deliverable contract plan set should contain the base plans, sheet files, and documentation **(CAD\ContractPlans_Milestone** folder or similar for PFA and R/W), backups of resources used (**CAD_rsc** folder) and any other supporting information necessary for the customer and/or future designers to understand and use the plan set in MicroStation. All data not necessary for production of the final plan set or of use to future designers or drafters should be removed from the deliverables folder.

(2) Preparation of PS&E Data within CAD-Folder

The following must be provided in the **CAD\ContractPlans** folder:

- Completed PS&E Plan set Checklist
- **_Rsc** subfolder– This subfolder is to be created at project finalization. The resource files needed to recreate the contract plan set must be copied to this location. Resource files that should be copied are all cell libraries, linestyle resource files, DGN libraries (both WSDOT standard and project specific, font resource files and color tables.
- All Base files used in contract plan set
- Documentation as described in previous section

(3) Delivery of Final Package

General requirements for the transfer, review and acceptance of the data are detailed in **Deliverables 2**.

A complete contract plan set (PS&E, PFA, or R/W) package will be prepared as described in this chapter by compiling all the appropriate electronic information and notifying the customer that the project has been finalized.

Delivery will be accomplished by providing the customer access to the project folder if both the designer and customer share a network resource that allows them both to reference the same folder structure. Access to the entire project folder is necessary when transferring interrelated survey, design and CAD data sets. However, if the InRoads design data is independent of other project data relating to CAD and survey, then access to just the Design subfolder is sufficient.

If a shared network location is not an option, the designer will provide the customer with a copy of the final data. This can be accomplished using any medium that can reliably contain the entire folder structure to be transferred (e.g., an e-mail, an FTP site, a compact disk, or a DVD).

(4) Data Archival

On projects where the supplier is internal to WSDOT, it is the supplier who is responsible for archival of the final electronic design data per the region's policy for archival of electronic project data. When an external supplier is providing data to WSDOT, it is the WSDOT customer who is responsible for archival of the final electronic data per the region's policy.

If no regional archival policy exists, the responsible party needs to ensure the data is appropriately archived for future reference.