NCDOT

LOCATION & SURVEYS UNIT

ORD GUIDELINES

AUGUST 18, 2023

Revised August 31, 2023:   Added Terrain Model & Null File Naming Conventions. Revised verbiage for Photogrammetry file location.

Revised October 26, 2023:   Added new 2D file for Best-Fit Alignments (ELN). No longer part of the PRL file.

Revised November 7, 2023:   Revised naming conventions to include Unit (LS) and replace underscore before DATE with hyphen. Revised Control & RW Sheets – C Series to have a DGN for Primary Control and different DGN for Secondary Control

Revised December 12, 2023: Removed PEF name from FS and ECTM files. Corrected FERC naming convention. Added AAM file type (Advanced Acquisition Maps). Added Level D for SUE file. Changed name for PSD file to start with PSD# (F) in place of TIP#. Added and Inverse to description for PSD file.

Revised January 4, 2024:   Added Jurisdictional Streams DGN.

Revised March 6, 2025:   Added info, naming conventions and sub-folder structure for the RWA process. Added logical names for all basemapping files. Added ECTM Model name. Added Appendix A – Non DGN File naming conventions.

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Workflow Documentation

FINAL SURVEY

- Survey projects using the ORD workflow will begin with a 3D file created in the Location Surveys/Working Files/Conventional folder on ProjectWise (PW). The naming convention for this file will be TIP#_LS_CON_PEF-#-DATE.DGN (i.e., R2500_LS_CON_MCK-3-230818.DGN). The # symbol matches the assignment number for the project. If the work is performed by Location & Surveys simply use LSDIVISION (i.e., LS05-2) in place of PEF in the naming convention. This file will contain all the 3D data on a project including but not limited to Control, DTM's, Storm Drain, Sanitary Sewer and Topography.

- A 2D file will need to be created in the Location Surveys/Working Files folder that will contain the Property data. The naming convention for this file will be TIP#_LS_PRL_PEF-#-DATE.DGN. If the work is performed by Location & Surveys simply use LSDIVISION (i.e., LS05-2) in place of PEF in the naming convention.

- A 2D file will need to be created in the Location Surveys/Working Files folder that will contain the Best-Fit Alignment data. The naming convention for this file will be TIP#_LS_ELN_PEF-#-DATE.DGN. If the work is performed by Location & Surveys simply use LSDIVISION (i.e., LS05-2) in place of PEF in the naming convention.

- A 2D file will need to be created in the Location Surveys/Working Files folder that will contain the SUE data. The naming convention for this file will be TIP#_LS_SUE_PEF-#-DATE.DGN.

- Typically, there is a 3D file provided by Photogrammetry. A copy of the photogrammetric file should be placed in the Location Surveys/Working Files folder. The naming convention for this file will be TIP#_LS_PHOTO_PEF-#-DATE.DGN. There may also be a QL2 file that should be named TIP#_LS_QL2_PEF-#-DATE.DGN. Edits to these copied files can now be performed as needed.

- A 3D file will be created in the Location Surveys/Working Files folder that will contain the Mobile Scanning and/or Static Scanning files. The naming convention for these files will be TIP#_LS_TML_PEF-#-DATE.DGN or TIP#_LS_TSL_PEF-#-DATE.DGN.

- Once satisfied with the above files, make a copy of them and place the copies in the Final Survey/Delivered References folder. Rename these copies by dropping the DATE so that we don't have duplicate file names in multiple folders. These copied files can now be edited as needed for completeness and clarity.

- Now create the Final Survey file for the project which will be a blank/container file. This file will be located in the Final Survey folder with a naming convention of TIP#_LS_FS.DGN. Reference the reference files located in the Delivered References folder and perform edits as needed to the reference files. You can take advantage of the Activate/Deactivate tools in the reference file dialog box to access/edit the reference file. Additional reference files can be added to the Delivered References folder and referenced to the FS file without making any changes to the actual FS file.

EXISTING COMPLEX TERRAIN

- Terrain models need to be made for the individual 3D files mentioned above. There may be terrain models for SURVEY, PHOTO, MOBILE SCANNING, STATIC SCANNING, UAS and/or SONAR. Individual terrain models can be created by Field Book or by a Graphical Filter.

- Create a new 3D file for the Existing Complex Terrain in the Final Survey folder. The naming convention for this file is TIP#_LS_ECTM.DGN. This file will be a blank/container file.

- Reference applicable 3D files in the Delivered References folder. Perform manual edits to individual reference files as needed to ensure that models combine together properly. You can take advantage of the Activate/Deactivate tools in the reference file dialog box to access/edit the reference file. Below are standard naming conventions for the individual Terrain Models.

FILE NAME	TERRAIN MODEL NAME
TIP_LS_CON_PEF-#-DATE.DGN	TIP_LS_CON_PEF-#
TIP_LS_TML_PEF-#-DATE.DGN	TIP_LS_TML_PEF-#
TIP_LS_TSL_PEF-#-DATE.DGN	TIP_LS_TSL_PEF-#
TIP_LS_SON_PEF-#-DATE.DGN	TIP_LS_SON_PEF-#
TIP_LS_UAS_PEF-#-DATE.DGN	TIP_LS_UAS_PEF-#
TIP_LS_PHOTO_PEF-#-DATE.DGN	TIP_LS_PHOTO_PEF-#
TIP_LS_QL2_PEF-#-DATE.DGN	TIP_LS_QL2_PEF-#
TIP_LS_ECTM.DGN	TIP_LS_ECTM_PEF-#

- Once all edits are complete, perform the creation of the Existing Complex Terrain Model following instructions from the ECTM SOP document and training video.

- The blank/container ECTM.DGN file will now contain the ECTM model to be used throughout the life of a project. Additional/revised data can be merged or appended into this model without making any changes to the actual ECTM DGN file.
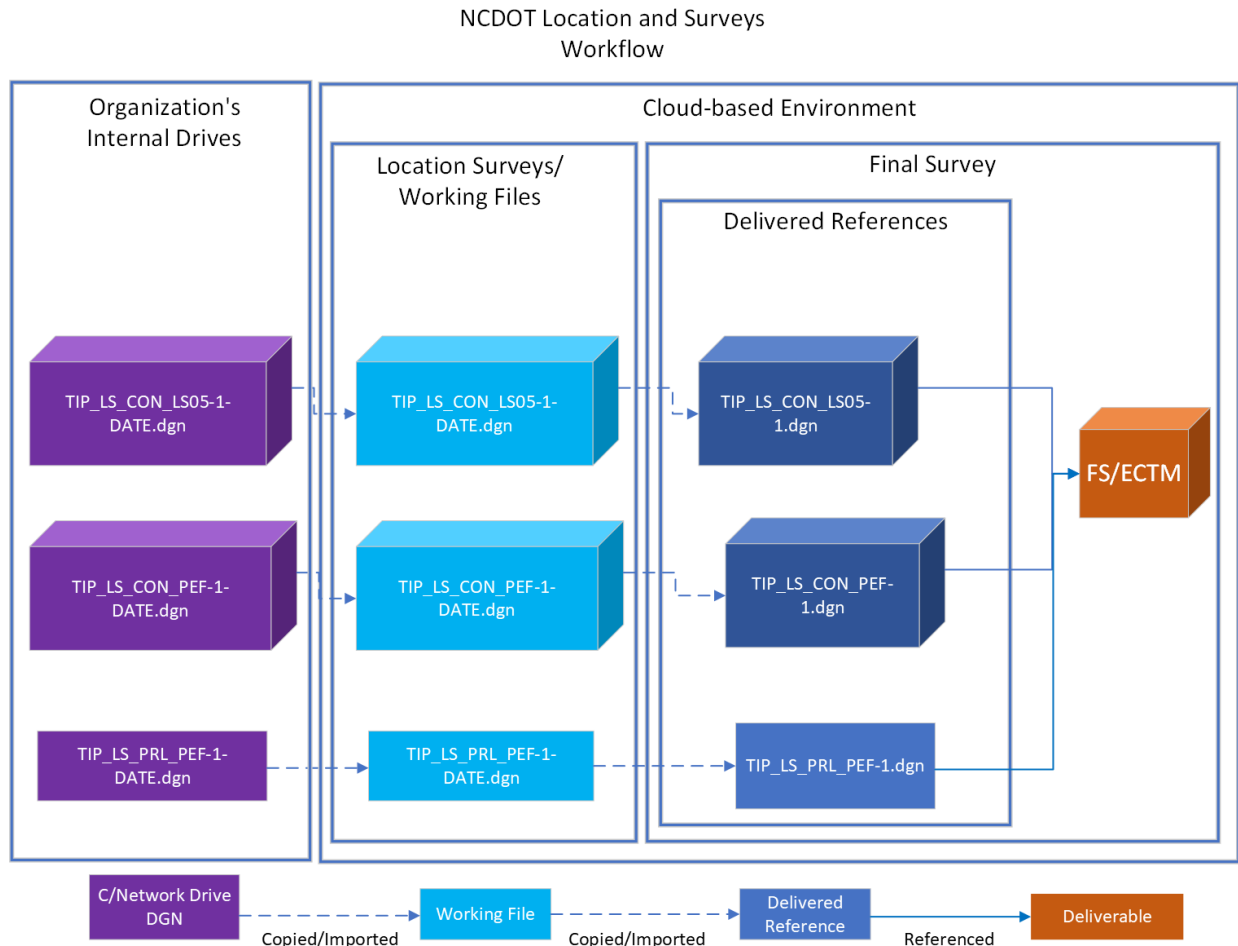

Figure 1 – NCDOT Location & Surveys Workflow
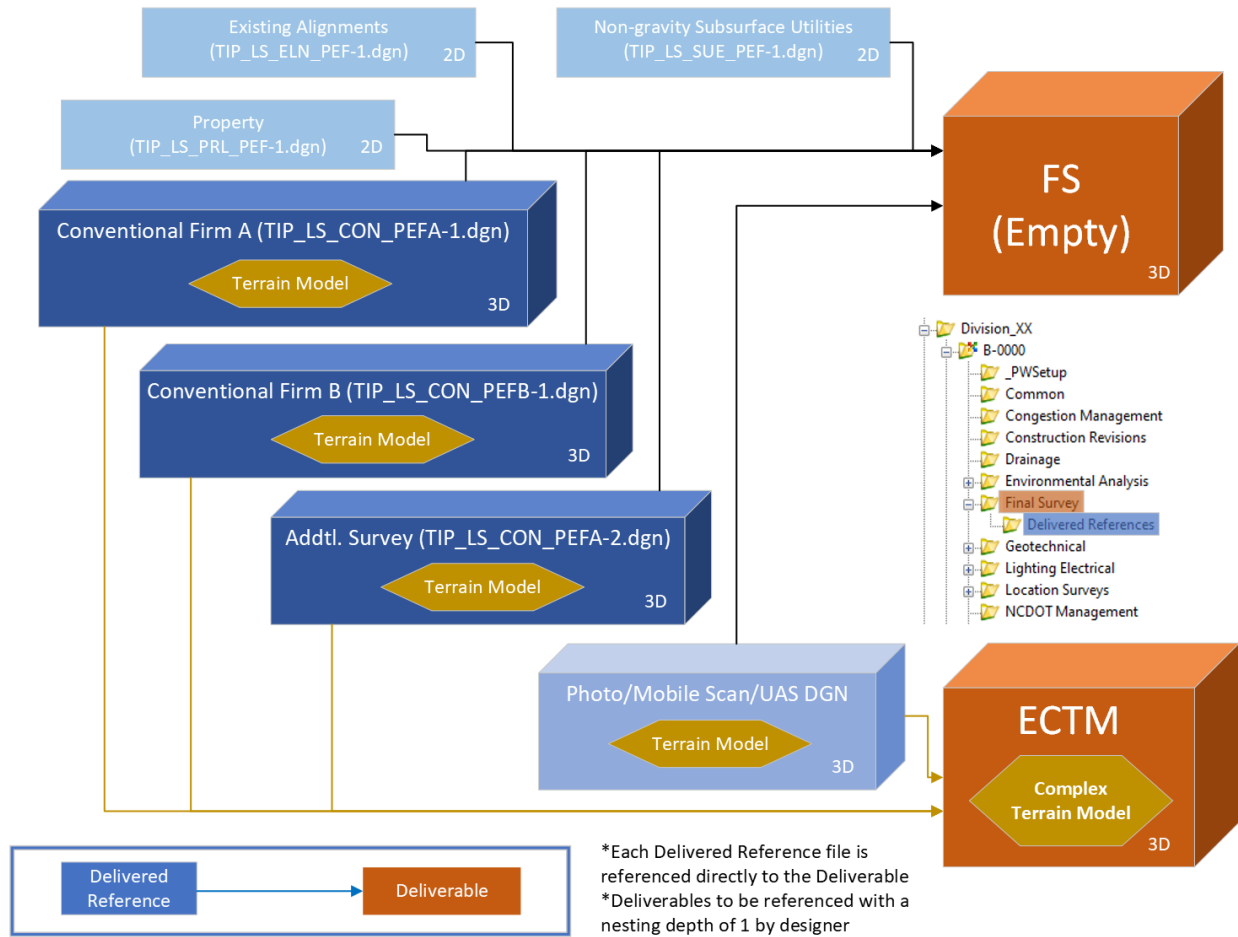
2023 NCDOT Survey Deliverable Update

Figure 2 – NCDOT Location & Surveys Deliverable Update

Folder Structure

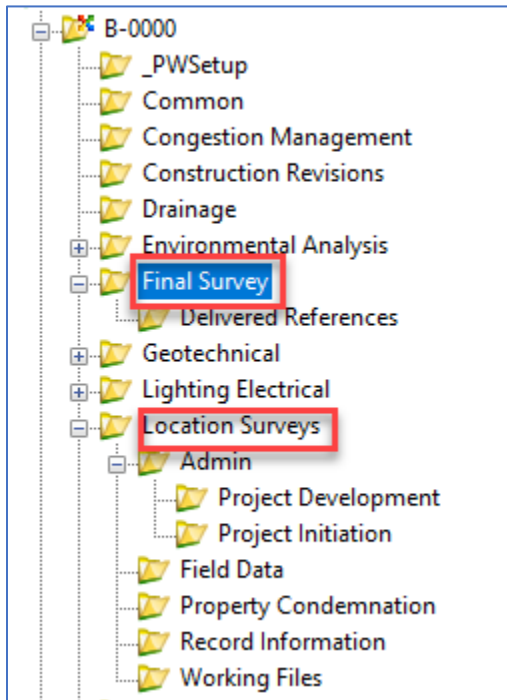*Figure 3 - View of Directory Structure on Local Drives*

Figure 4 - View of Directory Structure on ProjectWise

ReadMe Files

Final Survey

This directory is intended to house the Final Survey file (FS) and the Existing Complex Terrain Model file (ECTM) for the project. The FS file will be a 3D file and will be blank/container files with no actual data in it. You will need to reference all the applicable files located in the Delivered References directory making edits to reference files as needed for clarity and compatibility. The blank FS file with multiple reference files is needed so that all the feature definitions are kept intact throughout the life of the project and the linkages for downstream users will stay intact. **Merging files or models together (merge to master) will lose the feature definitions and are not recommended for our workflow**.

The ECTM file will also be a blank file referencing multiple terrain models from various sources (ie Airborne LiDAR, Mobile Scanning, Static Scanning Conventional Surveys, etc). There is a Standard Operating Procedure (SOP) and training video located in the NCDOT-Location and Surveys Teams site on how to generate and update the ECTM file.

The following files should be placed here:

- Final Survey File (3D): TIP#_LS_FS.DGN
- Existing Complex Terrain Model File (3D): TIP#_LS_ECTM.DGN

Delivered References

This directory is intended to house the Final Reference files for the project. Final Reference files will have been copied from the Working Files directories and renamed by dropping the date. Edits needed for clarity and compatibility can be made to these copied files. Files in the Working File directory will remain intact as delivered from the consultant.

Location Surveys/Admin/Project Development

This directory is intended to house any critical data that is generated throughout the life of a project. The following items should be stored here:

- Review/Comment documents
- Final Survey Report
- Project Check Lists
- Critical correspondence
- Evaluations
- Misc Project Information

Location Surveys/Admin/Project Initiation

This directory is intended to house any critical documents used throughout the project initiation phase. This will be very valuable data for anyone coming behind to check scopes of work, etc.

The following items should be stored here:

- Survey Limits files
- Approved Scope of Work document
- Misc Project Information

Location Surveys/Field Data

This directory is intended to house all critical field data that is generated throughout the life of a project. The following items should be stored here:

- Closure Reports
- Control Files
- Field Notes
- Raw Files
- Site Photos
- TBC Data
- RW Staking

Location Surveys/Property Condemnation

This directory is intended to house all critical data related to property condemnation surveys. The following items should be stored here:

- Various Property Condemnation Survey files
- Closure Reports
- Check Lists

Location Surveys/Record Information

This directory is intended to house all critical record information throughout the life of a project. The following items should be stored here:

- Deeds/Plats
- NCDOT Records
- Property Owner Data
- Utility Records
- Misc Record Information

Location Surveys/Working Files

This directory is intended to house all CAD files that are still in an unfinished state. The following files should be placed here. Once these files are in a finished state they will need to be copied and renamed to the Final Survey/Delivered References folder for downstream users.

WORKING DIRECTORIES	DELIVERED REFERENCES (DROP DATE)	LOCIGAL NAME	DESCRIPTION	3D/2D
		BASE MAPPING		
TIP_LS_CON_PEF-#-DATE.DGN	TIP_LS_CON_PEF-#.DGN	CON	CONVENTIONAL	3D
TIP_LS_PRL_PEF-#-DATE.DGN	TIP_LS_PRL_PEF-#.DGN	PRL	PROPERTY	2D
TIP_LS_ELN_PEF-#-DATE.DGN	TIP_LS_ELN_PEF-#.DGN	ELN	BEST-FIT ALIGNMENTS	2D
TIP_LS_SUE_PEF-#-DATE.DGN	TIP_LS_SUE_PEF-#.DGN	SUE	SUE UTILITY - LEVEL B,C,D	2D
TIP_LS_SUETH_PEF-#-DATE.DGN	TIP_LS_SUETH_PEF-#.DGN	SUETH	SUE UTILITY - LEVEL A - TEST HOLES	2D
TIP_LS_TML_PEF-#-DATE.DGN	TIP_LS_TML_PEF-#.DGN	TML	TERRESTRIAL MOBILE LIDAR	3D
TIP_LS_TSL_PEF-#-DATE.DGN	TIP_LS_TSL_PEF-#.DGN	TSL	TERRESTRIAL STATIC LIDAR	3D
TIP_LS_SON_PEF-#-DATE.DGN	TIP_LS_SON_PEF-#.DGN	SON	SONAR , BATHYMETRIC	3D
TIP_LS_UAS_PEF-#-DATE.DGN	TIP_LS_UAS_PEF-#.DGN	UAS	DRONE, UAS, UAV	2D/3D
TIP_LS_PHOTO_PEF-#-DATE.DGN	TIP_LS_PHOTO_PEF-#.DGN	PHOTO	COPY OF PHOTOGRAMMETRY FILE	3D
TIP_LS_QL2_PEF-#-DATE.DGN	TIP_LS_QL2_PEF-#.DGN	QL2	COPY OF QL2 FILE	3D
TIP_LS_REM_PEF-#-DATE.DGN	TIP_LS_REM_PEF-#.DGN	REM	REALITY MODEL FILE FROM UAS DATA	3D
TIP_LS_NULL_PEF-#-DATE.DGN	TIP_LS_NULL_PEF-#.DGN	NULL	NULL FILE FOR SINGLE SURVEY DATABASE (ECTM)	3D
		RIGHT OF WAY		
TIP_LS_RW01_PEF-#-DATE.DGN	SEE NOTE BELOW	RW01	TITLE SHEET	2D
TIP_LS_RW02C-P_PEF-#-DATE.DGN	SEE NOTE BELOW	RW02C-P	C SERIES CONTROL SHEETS - PRIMARY CONTROL	2D
TIP_LS_RW02C-S_PEF-#-DATE.DGN	SEE NOTE BELOW	RW02C-S	C SERIES CONTROL SHEETS - SECONDARY CONTROL	2D
TIP_LS_RW02D_PEF-#-DATE.DGN	SEE NOTE BELOW	RW02D	D SERIES RW SHEETS	2D
TIP_LS_RW03E_PEF-#-DATE.DGN	SEE NOTE BELOW	RW03E	E SERIES RW SHEETS	2D
TIP_LS_RWL_PEF-#-DATE.DGN	SEE NOTE BELOW	RWL	RW SHEETS (COPIED PPL FILE)	2D
		OTHER		
TIP_LS_AAM_PEF#-DATE.DGN	TIP_LS_AAM_PEF-#.DGN	AAM	ADVANCED ACQUISITION MAPS	2D
TIP_LS_JS_PEF-#-DATE.DGN	TIP_LS_JS_PEF-#.DGN	JS	JURISDICTIONAL STREAMS	2D
TIP_LS_WEX-M_PEF#-DATE.DGN	TIP_LS_WEX_M_PEF-#.DGN	WEXM	UNVERIFIED MAPPING GRADE WETLAND	2D
TIP_LS_WET-M_PEF-#-DATE.DGN	TIP_LS_WET_M_PEF-#.DGN	WETM	VERIFIED MAPPING GRADE WETLAND	2D
TIP_LS_WEX-S_PEF-#-DATE.DGN	TIP_LS_WEX_S_PEF-#.DGN	WEXS	UNVERIFIED SURVEY GRADE WETLAND	2D
TIP_LS_WET-S_PEF-#-DATE.DGN	TIP_LS_WET_S_PEF-#.DGN	WETS	VERIFIED SURVEY GRADE WETLAND	2D
TIP_LS_FERC_PEF-#-DATE.DGN	TIP_LS_FERC_PEF-#.DGN	FERC	FERC (FEDERAL ENERGY REGULATORY COMMISSION)	2D
TIP_LS_DOI_PEF-#-DATE.DGN	TIP_LS_DOI_PEF-#.DGN	DOI	DEPT OF INTERIOR	2D
TIP_LS_ALTA_PEF-#-DATE.DGN	TIP_LS_ALTA_PEF-#.DGN	ALTA	ALTA	3D
TIP_LS_RR_PEF-#-DATE.DGN	TIP_LS_RR_PEF-#.DGN	RR	RAILROAD	2D
TIP_LS_DOD_PEF-#-DATE.DGN	TIP_LS_DOD_PEF-#.DGN	DOD	DEPT OF DEFENSE	2D
TIP_LS_MLP_PEF-#-DATE.DGN	TIP_LS_MLP_PEF-#.DGN	MLP	MAPPING LIMITS POLYGON, PHOTO LIMITS	2D
TIP_LS_SLP_PEF-#-DATE.DGN	TIP_LS_SLP_PEF-#.DGN	SLP	SURVEY LIMITS POLYGON, TIN HULL	2D
TIP_LS_RWA_PEF-#-DATE.DGN	TIP_LS_RWA_PEF-#.DGN	RWA	PARCEL POLYGON FOR DEED DRAFT	2D
TIP_LS_ASB_PEF-#-DATE.DGN	TIP_LS_ASB_PEF-#.DGN	ASB	AS-BUILT	3D
PEF# MATCHES ASSIGNMENT#				
PEF = FIRM OR LS DIVISION				
DATE = SUBMITTAL DATE IN YEAR/MONTH/DAY FORMAT (i.e., 230818)				
EXAMPLES	*DESCRIPTION*			
U3633_LS_CON_JMT-3-230621.DGN	3RD ASSIGNMENT TO JMT			
U3633_LS_PRL_LS05-2-230621.DGN	2ND ASSIGNMENT TO LS DIVISION 5			

NOTE:
FINAL PDF'S OF CONTROL & RW SHEETS WILL CONTINUE TO RESIDE ON SHARE POINT.

Figure 5 – Typical Basemapping & ROW Sheeting Naming Conventions

TASK	PW/LOCAL DIRECTORY	FILE NAME
Property Owner Research (GIS, DB/PB compilation)	Location Surveys/Record Information	TIP_LS_DBPB_PEF-#-DATE.PDF
Property Owner Contact (Procom Database, POC.mdb)	Location Surveys/Record Information	TIP_LS_POC_PEF-#-DATE.XLS
Photogrammetric Control (Set/Tie Photo Points)	Location Surveys/Field Data	TIP_LS_PHOTO CONTROL_PEF-#-DATE.CSV
Project Control - Horz. & Vert. (GNSS/Static/VRS, etc.)	Location Surveys/Field Data	TIP_LS_PRIMARY CONTROL_PEF-#-DATE.CSV
Baseline (Set/Traverse/Elevate)	Location Surveys/Working Files	TIP_LS_CON_PEF-#-DATE.DGN
Benchmarks (Set/Tie/Elevate)	Location Surveys/Working Files	TIP_LS_CON_PEF-#-DATE.DGN
Compute Best-Fit Alignments (EL/EY alignments)	Location Surveys/Working Files	TIP_LS_ELN_PEF-#-DATE.DGN
Loc. of Pavement DTMs - Conventional	Location Surveys/Working Files	TIP_LS_CON_PEF-#-DATE.DGN
Loc. of Pavement DTMs - Mobile Scanning	Location Surveys/Working Files	TIP_LS_TML_PEF-#-DATE.DGN
Loc. of Pavement DTMs - Static Scanning	Location Surveys/Working Files	TIP_LS_STL_PEF-#-DATE.DGN
Loc. of Rail DTMs	Location Surveys/Working Files	TIP_LS_CON_PEF-#-DATE.DGN
Loc. of Earth DTMs (Including obscured areas)	Location Surveys/Working Files	TIP_LS_CON_PEF-#-DATE.DGN
Hydrographic - Conventional (Water Features)	Location Surveys/Working Files	TIP_LS_CON_PEF-#-DATE.DGN
Hydrographic - Sonar Surveys (Sonar)	Location Surveys/Working Files	TIP_LS_SON_PEF-#-DATE.DGN
Property Mapping	Location Surveys/Working Files	TIP_LS_PRL_PEF-#-DATE.DGN
Loc. of Planimetric Features	Location Surveys/Working Files	TIP_LS_CON_PEF-#-DATE.DGN

Figure 6 – PEF Tasks with Naming Conventions & Folder Structure (Page 1 of 2)

Loc. of Non-Gravity U/G Utilities (LOS-C 811)	Location Surveys/Working Files	TIP_LS_CON_PEF-#-DATE.DGN
Loc. of Non-Gravity U/G Utilities - SUE	Location Surveys/Working Files	TIP_LS_SUE_PEF-#-DATE.DGN
Loc. Of U/G Storm Utilities	Location Surveys/Working Files	TIP_LS_CON_PEF-#-DATE.DGN
Loc. Of Gravity Sanitary Sewer Utilities	Location Surveys/Working Files	TIP_LS_CON_PEF-#-DATE.DGN
R/W & Easements Staking	Location Surveys/Field Data	TIP_LS_RW STAKING_PEF-#-DATE.CSV
Control & RW Sheets - Title Sheet	Location Surveys/Working Files	TIP_LS_RW01_PEF-#-DATE.DGN
Control & RW Sheets - C-Series - Primary Control	Location Surveys/Working Files	TIP_LS_RW02C-P_PEF-#-DATE.DGN
Control & RW Sheets - C-Series - Secondary Control	Location Surveys/Working Files	TIP_LS_RW02C-S_PEF-#-DATE.DGN
Control & RW Sheets - D Series	Location Surveys/Working Files	TIP_LS_RW02D_PEF-#-DATE.DGN
Control & RW Sheets - E Sheets	Location Surveys/Working Files	TIP_LS_RW03E_PEF-#-DATE.DGN
Control & RW Sheets - Plan Sheets	Location Surveys/Working Files	TIP_LS_RWL_PEF-#-DATE.DGN
Final Survey	Final Survey	TIP_LS_FS.DGN
Existing Complex Terrain Model	Final Survey	TIP_LS_ECTM.DGN
Ground Truthing (Scan & Control Data)	Location Surveys/Field Data	TIP_LS_SCAN CONTROL_PEF-#-DATE.CSV
Photogrammetry Check Points	Location Surveys/Field Data	TIP_LS_PHOTO CHK_PEF-#-DATE.CSV
Project Review Checklist	Location Surveys/Admin/Project Development	TIP_LS_CHK LIST_PEF-#-DATE.CSV
Parcel File with Centroids	Location Surveys/Property Condemnation	TIP_LS_RWA_PEF-#-DATE.DGN
PEF# MATCHES ASSIGNMENT#		
PEF = FIRM OR LS DIVISION		
DATE = SUBMITTAL DATE IN YEAR/MONTH/DAY FORMAT (i.e., 230818)		
EXAMPLES	*DESCRIPTION*	
U3633_LS_CON_JMT-3-230621.DGN	3RD ASSIGNMENT TO JMT	
U3633_LS_PRL_LS05-2-230621.DGN	2ND ASSIGNMENT TO LS DIVISION 5	
NOTE:		
FINAL PDF'S OF CONTROL & RW SHEETS WILL CONTINUE TO RESIDE ON SHARE POINT.		

Figure 6 – PEF Tasks with Naming Conventions & Folder Structure (Page 2 of 2)

RIGHT OF WAY ACQUISITION (RWA) PROCESS

- The RWA process is our ORD methodology to create Parcels, Acquisition Exhibits, Metes & Bounds Descriptions and Condemnation Exhibits needed for the NCDOT Right of Way Department and the Attorney General's Office. The process builds on itself throughout the life of a project and consists of 4 stages. There is a detailed Standard Operating Procedure (SOP) and training videos for the RWA process located in the NCDOT-Location and Surveys Teams site.

FILE NAME	DESCRIPTION	FILE LOCATION
TIP#_LS_RWA_PEF-#-DATE.DGN	PARCEL FILE WITH CENTROIDS	PW/LOCATION SURVEYS/PROPERTY CONDEMNATION/1-PARCELPOLYGON
TIP#_RWA_CT.DGN	CAD/TAKE DGN FILE WITH MODELS FOR ALL TAKES	PW/LOCATION SURVEYS/PROPERTY CONDEMNATION/2-CT
TIP#_RWA_CT.PDF	CAD/TAKE PDF FILE WITH EXHIBITS FOR ALL TAKES	PW/LOCATION SURVEYS/PROPERTY CONDEMNATION/2-CT
TIP#_RWA_CAM.DGN	CADASTRAL ACQUISITION MAP DGN FILE FOR ALL CONDEMNED PARCELS	PW/LOCATION SURVEYS/PROPERTY CONDEMNATION/4-CAM
CAM#_RWA_Parcel_#.TXT	INDIVIDUAL TEXT FILE OF M&B DESCRIPTIONS	PW/LOCATION SURVEYS/PROPERTY CONDEMNATION/4-CAM/CAM#/DOCUMENTS
TIP#_RWA_CAM#_CVS#_PARCEL_#.PDF	INDIVIDUAL PDF FILE FOR CONDEMNED PARCELS	PW/LOCATION SURVEYS/PROPERTY CONDEMNATION/4-CAM/CAM#/MAP

Figure 7 – RWA/CAM (PSD) Naming Conventions

APPENDIX A

NON-CADD FILE NAMING CONVENTION

FILE NAME	DESCRIPTION	FILE LOCATION
TIP_LS_PCTL_PEF-#-DATE.CSV*	PRIMARY CONTROL CSV FILE (WITH LOCALIZATION INFO)	PW/TIP/LOCATION SURVEYS/FIELD DATA
TIP_LS_SCTL_PEF-#-DATE.CSV*	SECONDARY CONTROL CSV FILE (WITH LOCALIZATION INFO & BM'S)	PW/TIP/LOCATION SURVEYS/FIELD DATA
TIP_LS_DBPB_PEF-#-DATE.PDF	DEED/PLAT BOOK	PW/TIP/LOCATION SURVEYS/RECORD INFORMATION
TIP_LS_EDM_PEF-#-DATE.TXT*	EDM CALIBRATION REPORT	SP/TIP/LOCATION AND SURVEYS/QUALITY CONTROL TOPIC
TIP_LS_VERTCLOSURE_PEF-#-DATE.PDF	LEVEL CLOSURE REPORT	SP/TIP/LOCATION AND SURVEYS/QUALITY CONTROL TOPIC
TIP_LS_HORIZCLOSURE_PEF-#-DATE.PDF	TRAVERSE CLOSURE REPORT	SP/TIP/LOCATION AND SURVEYS/QUALITY CONTROL TOPIC
TIP_LS_PAN_PEF-#-DATE.CSV*	PHOTO CONTROL (WITH LOCALIZATION INFO FOR PANELS,HPT,VPT)	PW/TIP/LOCATION SURVEYS/FIELD DATA
TIP_LS_SUETH_PEF-#-DATE.PDF	TEST HOLE REPORT	PW/TIP/LOCATION SURVEYS/RECORD INFORMATION
TIP_LS_SR_PEF-#-DATE.PDF	SURVEY REPORT	PW/TIP/LOCATION SURVEYS/RECORD INFORMATION
TIP_LS_VERTCLEAR_PEF-#-DATE.PDF	VERTICAL CLEARANCE REPORT	PW/TIP/LOCATION SURVEYS/RECORD INFORMATION
TIP_LS_POC_PEF-#-DATE.PDF	PROPERTY OWNER CONTACT REPORT	PW/TIP/LOCATION SURVEYS/RECORD INFORMATION
TIP_LS_UOR_PEF-#-DATE.PDF	UTILITY OWNER REPORT	PW/TIP/LOCATION SURVEYS/RECORD INFORMATION
TIP_LS_WLL_PEF-#-DATE.PDF	CERTIFIED WETLAND SURVEY	PW/TIP/LOCATION SURVEYS/CONSULTANT ATTESTATIONS

*Note: These files must also have a PDF version to be signed and sealed.
All PEF deliverables must have a PDF version that is signed and sealed.

QUALITY MANAGEMENT FILES

FILE NAME	DESCRIPTION	FILE LOCATION
TIP_STAGE_QUALITY CHECK_PEF-#-DATE.PDF		
TIP_2LS1_PRC_PEF-#-DATE.PDF	PROJECT REVIEW CHECKLIST	SP/TIP/LOCATION AND SURVEYS/QUALITY CONTROL TOPIC
TIP_2LS1_QC_PEF-#-DATE.PDF	QUALITY CONTROL CHECKLIST	SP/TIP/LOCATION AND SURVEYS/QUALITY CONTROL TOPIC
TIP_2LS1_QA_PEF-#-DATE.PDF	QUALITY ASSURANCE CHECKLIST	SP/TIP/LOCATION AND SURVEYS/QUALITY CONTROL TOPIC

STAGE	DESCRIPTION
1LS1	STAGE 1 FIRST ACTIVITY
2LS1	STAGE 2 FIRST ACTIVITY
2LS2	STAGE 2 SECOND ACTIVITY
3LS1	STAGE 3 FIRST ACTIVITY
4LS1	STAGE 4 FIRST ACTIVITY

L&S PEF WORKFLOW (FIELD)

FILE NAME	DESCRIPTION	FILE LOCATION
TIP_TYPE_PEF	EMAIL SUBJECT LINE	
TIP_TYPE_REQ.XLS	REQUEST	PLACED ON THE S:DRIVE
TIP_TYPE_PEFEST.XLS	FINAL ESTIMATE	EMAILED TO THE LSPEF GROUP
TIP_TYPE_PEF_SASM	SIGNED APPROVED SCOPING MINUTES	EMAILED TO THE LSPEF GROUP
TIP_TYPE_PEF_SAMH	SIGNED APPROVED MANHOURS	EMAILED TO THE LSPEF GROUP

PEF	PEF NAME	SURVEY TYPE	DESCRIPTION
CES	CES GROUP ENGINEERS	CON	CONVENTIONAL
DEI	DEWBERRY ENGINEERS	SUE	SUE UTILITY (LEVEL B,C&D)
DRMP	DRMP, NC	SUETH	SUE UTILITY (LEVEL A)
ESP	ESP ASSOCIATES	TML	TERRESTRIAL MOBILE LIDAR
GEL	GEL ENGINEERING OF NC	TSL	TERRESTRIAL STATIC LIDAR
JKA	JOYNER KEENY	SON	SONAR
JMT	JOHNSON, MIRMIRAN & THOMPSON	UAS	DRONE, UAS, UAV
KCI	KCI ASSOCIATES OF NC		
MAC	MATTERN & CRAIG		
MCK	MCKIM & CREED		
NV5	NV5 ENGINEERS & CONSULTANTS		
SAM	SURVEYING AND MAPPING		
STA	STANTEC CONSULTING SERVICES		
TGS	TGS ENGINEERS		
WAD	WADELYNN GEOSPATIAL		
WET	WETHERILL ENGINEERING		

Figure 8 – Non-DGN File Naming Conventions