**VI. (Attachment B.) SPECIAL PROVISIONS**

**\_\_\_Firm Name\_\_\_ Survey Master Contract XXXX-XX-XX**

 **Work Order XX**

**Project ID XXXX-XX-XX**

**Route, Description,**

**Limits,**

**\_\_\_\_\_\_\_\_\_\_\_County**

**Author, Date**

**SCOPE:**

**Horizontal & Vertical Datums & Adjustment, Geoid, Coordinate Reference System, Units;**

All work to be performed in and referenced to NAD83 (2011), NAVD88 (2012), Geoid 18, Wisconsin Coordinate Reference System (WISCRS) XXXXX County Zone, US Survey Feet.

**General Standards;**

* Review and follow the direction and process of the WisDOT Facilities Development Manual (FDM) Chapter 9 and 12.
* Follow industry survey standards and procedures such as the ‘National Society of Professional Surveyors Model Standards of Practice’

**General Deliverables:**

* Keep track of all interim deliverables and subsequent revisions and provide a final complete set of deliverables at the conclusion of the work order.
* For all file names below, Road name = XXXXX & Proj ID = XXXX-XX-XX

Submit the following items to the DEPARTMENT:

1. Metadata-(Road name)\_(Proj ID).docx
2. All raw data collector files and office surveying software files created and used in the CONSULTANTS normal workflow under this contract. Said raw data collector files shall be in their native format as used onboard the data collector and contain raw GPS vectors and terrestrial surveying observation data. This may require simply copying the raw file off the data collector instead of using the onboard “export” routines which often strips these important details from the files. (e.g. JOB, VCE, DAT, JXL)
3. All files imported into the Survey Database. (e.g. TXT, CSV, LandXML, DWG)
4. Civil 3D Survey Database “SD-(Road name)\_(Proj ID)\_(Firm Name)” (includes .sdbx .sdxx .sdbx.info & .log files). The Civil 3D Survey Database is the main deliverable that the surface, topography and utility DWG’s will be generated from. All edits done to survey data inserted to the associated DWG files shall be saved back to the Civil 3D Survey Database. The Civil 3D Survey Database should contain the corrected and latest version of the survey data. Change Reporting Logging shall be enabled in the Survey Database Settings to log the changes made after the initial files were imported into the survey database.
5. Srvy-Cntrl-GPS-Cal-Report-(Road name)\_(Proj ID).pdf GPS Calibration/Localization report showing which points were calibrated to horizontally and vertically with residuals and coordinate system adjustments/translation values.
6. Field Notes & Sketches in PDF format
7. DWG files shall be in version 2022 or 2024 specify one
8. 2 (two) identical sets of final deliverables shall be submitted on 2 (two) USB 3.X external hard drives that will become the permanent property of the DEPARTMENT. Only include this deliverable if the data set includes LiDAR data or Diggers Hotline proof of marking videos/photos are included or if the data set is large and going to an outside consultant.

**Timeline of Work Order;**

All drawings, survey data base, field notes, project files being requested with this work order shall be to the DEPARTMENT by Month XX, 20XX.

**Work Order Objectives;**

Complete the following,

* Horizontal and Vertical Control
* PLSS Section Corner Survey
* Property Corner Search
* Existing Right of Way Survey
* Appraisal Staking of Right of Way & Easements
* Final Staking of Right of Way & Easements
* Alignments (Existing)
* Weak & Obscured Area
* Topo/DTM (including all methods of collection)
* Utility Survey
* Sanitary Sewer Survey
* Storm Sewer Survey
* Cross Culvert Survey
* Miscellaneous Facilities-Wells-Septic
* Separation Structure Survey Report – DT-1694
* Rehabilitation Structure Survey Report – DT-1696
* Stream Crossing Structure Survey Report – DT-1698
* Aerial Mapping Target Survey
* Aerial Photography or Lidar Mapping Checks
* LiDAR
* Transportation Project Plats and Traditional Plats
* Acquisition Exhibits

**Horizontal & Vertical Control;**

1. Set and determine 3D coordinates on approximately XX 1000 mm Berntsen FENO Markers with 2” aluminum caps with 60” Carsonite Thin Line witness posts (or other markers and posts approved by the DEPARTMENT) at approximately XXXX foot intervals throughout the project area including along any side roads.
2. Elevations on said Feno Markers shall be determined by differential leveling unless otherwise directed by the DEPARTMENT.
3. Said 2” aluminum cap shall be marked with a well defined center point and labeled “WisDOT Control” & “Company Name”. Caps shall be bonded into the Feno monument using epoxy.
4. Establish Primary Control 3D coordinates on any existing vertically stable survey markers or convenient vertically stable manmade features within the project corridor to provide long term vertical control free from the effects of frost heave.
5. If utilizing existing NGS HMOD stations with elevation only, the CONSULTANT shall obtain horizontal county coordinates equal in accuracy to the project control being set. The intent is to provide 3D county coordinates on all control points and benchmarks.
6. Control point deliverables including Control-Primary-Datasheets, shall also include all primary control points the survey is based on and show their published/held Latitude & Longitude and elevation values converted to county coordinates. If NGS only provided a survey grade elevation and a scaled or hand held GPS determined Latitude & Longitude on their datasheet, the Northing and Easting shall reflect what you measured. If the DEPARTMENT supplied a datasheet with complete county coordinates prepared by another firm you do not have to create new data sheets for those points, but those points should be included in your other primary control deliverables.
7. The source and method of bringing horizontal and vertical control to the project area shall be coordinated with the DEPARTMENT before commencing the field survey.
8. Provide intermediate delivery of backbone H & V control and discuss the results with the DEPARTMENT Survey Coordinator before production surveying commences.
9. Obtain digital photos of each primary control point as described below.
10. Obtain a digital photo of the typical marker post label used on the work order.

Limits/Extents:

Describe the limits/extents of the Horizontal & Vertical control survey either by description or referring to an exhibit map.

Deliverables:

1. Control point data separated into four categories (as needed) in .DWG, .KMZ, .XML & .TXT (w.metadata header) file formats using the following naming convention:
	1. “Srvy-Cntrl-Pri-(Road name)\_(Proj ID).XXX” which includes existing NGS HMOD points the survey is based on, Feno Markers, Bridge Caps, & other permanent control intended to be shown on project plan sets
	2. “Srvy-Cntrl-Second-(Road name)\_(Proj ID).XXX” which are temporary control points such as mag nails, spikes, iron pipes, rebar etc.
	3. “Srvy-Cntrl-Targ-Static-(Road name)\_(Proj ID). XXX” which are target points for static terrestrial Lidar.
	4. “Srvy-Cntrl-Targ-Mobile-(Road name)\_(Proj ID). XXX” which are target points for mobile terrestrial Lidar.
2. Srvy-Cntrl-Pri-Datasheets-(Road name)\_(Proj ID).pdf (showing project coordinates for all primary control including NGS & HMOD stations used)
3. Srvy-Cntrl-Dig-Level-Report-(Road name)\_(Proj ID).pdf (if digital level used)
4. Srvy-Cntrl-Optical-Level-Notes-(Road name)\_(Proj ID).pdf (if optical level used)
5. Srvy-Cntrl-Level-Route-(Road name)\_(ProjID).dwg & kmz (shows generalized routes of circuits/networks and connectivity of leveled control points and BM’s. Individual routes/circuits correlating with field notes or digital data files should be differentiated in some manner by representing them as separate entities or colors or some other means)
6. Srvy-Cntrl-Pt-Deriv-Report-(Road name)\_(Proj ID).pdf Point derivation report for all primary control points surveyed indicating point averaging delta statistics, and source measurement (GPS or Terrestrial) in PDF format
7. Srvy-Cntrl-GPS-Cal-Report-(Road name)\_(Proj ID).pdf GPS Calibration/Localization report showing which points were calibrated to horizontally and vertically with residuals and coordinate system adjustments/translation values.
8. Digital photos of each “primary” control point (one close up shot of monument cap and one overview of control point). Files shall utilize names matching subject point numbers or files with embedded geo-reference and method to view the files.
9. Digital photo showing the typical control point marker post label.

**PLSS Section Corner Survey;**

1. Survey the location of sufficient Public Land Survey System (PLSS) corners to support the determination of existing property lines, existing and proposed right of way and project alignments.
2. Use WisDOT point numbering conventions and point description codes.
3. Obtain digital photos of each corner as described below.

Limits/Extents:

Describe the limits/extents of the PLSS corner survey either by description or referring to an exhibit map.

Deliverables:

1. SEC-(Road name)\_(Proj ID).dwg, .TXT w/metadata header, .KMZ, & .XML formats.
2. SEC-Deriv-Report-(Road Name)\_(ProjID).pdf Point derivation report for all section corners surveyed indicating point averaging delta statistics, and source measurement (GPS or Terrestrial) in PDF format.
3. Digital copies of all Dossier sheets obtained
4. Digital photos of each corner. (one close up and one overview looking north) Files shall utilize names matching subject point numbers or files with embedded geo-reference and method to view the files.

**Property Corner Search;**

1. Search for and survey the location of any property corners found to support the determination of existing property lines, existing and proposed right of way and project alignments.
2. Resetting or establishing any missing corners is NOT expected by the CONSULTANT.
3. GIS parcel mapping for the work order will be provided by DEPARTMENT/CONSULTANT.
4. Subdivision plats, CSM’s, and plat of surveys within the project area will be acquired by DEPARTMENT/CONSULTANT.
5. The DEPARTMENT shall provide existing WisDOT right of way plat information.
6. The CONSULTANT shall use WisDOT point description codes.

Limits/Extents:

Describe the limits/extents of the property corner survey either by description or referring to an exhibit map.

Deliverables:

1. IP-(Road name)\_(Proj ID).dwg, .TXT w/metadata header, .KMZ, & .XML formats.
2. Digital copies of all Subdivision Plats, R/W Plats, CSM’s, Surveys, GIS maps associated with the project
3. Any maps marked up with property corners found.

**Existing Right of Way Survey**

Research and compile existing right of way information and produce a Civil 3D DWG containing existing right of way lines, all referenced to the PLSS and project existing alignments. Prepare a narrative report describing how each existing right of way line was developed and what source documents and evidence was used. The DEPARTMENT will provide existing WisDOT right of way plat information where available.

Limits/Extents:

Describe the limits/extents of the existing right of way survey either by description and/or referring to an exhibit map.

Deliverables:

* ERW-(Road name)\_(Proj ID).dwg - Description: A drawing with annotation where all Plats, CSMs, Surveys, and Documents were used in determining the R/W lines. All found PLSS monuments, R/W monuments, and property corners will be included in this drawing to support the determination of the existing R/W lines. The following statement will be visible in the drawing: “NO PROPERTY TITLES WERE USED IN THE DEVELOPMENT OF THESE EXISTING RW DELIVERABLES, VERIFY ACCURACY BEFORE USING FOR PLATTING PURPOSES”.
* ERW-(Road name)\_(Proj ID) Narritive.doc – Description: A word document describing all Plats, CSMs, Surveys, and Documents with references to the stationing of the alignment. The following statement will be in the document: “NO PROPERTY TITLES WERE USED IN THE DEVELOPMENT OF THESE EXISTING RW DELIVERABLES, VERIFY ACCURACY BEFORE USING FOR PLATTING PURPOSES”.
* Digital copies of all Plats, CSMs, Surveys, Documents, and GIS maps marked up with found corners obtained.

**Appraisal Staking of Right of Way & Easements;**

1. Coordinate directly with DEPARTMENT real estate personnel and appraisers and schedule staking activities with the goal of minimizing the need for restaking points.
2. Stake (and restake as needed) existing and proposed right of way and easements for viewing and use by appraisers and property owners.
3. Provide field surveyed locations of encroachments as requested by the DEPARTMENT and any previously unknown encroachments that come to light during the field staking.
4. Provide a filled out Encroachment Reporting Form and provide digital pictures of the encroachment.
5. Coordinate with DEPARTMENT Plat or Survey coordinator to insure proper control and datums/adjustments are used.
6. Digital data and hard copies of the subject right of way plat or TPP will be provided by the DEPARTMENT/CONSULTANT to the DEPARTMENT/CONSULTANT along with coordinates and Civil 3D files to facilitate setting the points in the field.

Limits/Extents:

Describe the approximate number of parcels and limits/extents of the appraisal staking either by description or referring to an exhibit map.

Deliverables:

* Digital copy of R/W plat or TPP marked up with notes showing what was staked and when.
* Civil 3D dwg file showing any encroachments located.
* Completed Encroachment Reporting Forms in PDF format.

**Final Staking of Right of Way & Easements;**

1. Monument the new and reestablished right-of-way and permanent easement points, as depicted on the transportation project plat(s) or traditional plat sheet(s) and set WisDOT R/W posts with R/W and Survey plaques at each location directed by the DEPARTMENT, prior to construction. Monumentation shall be set as soon as practicable after acquisition to facilitate the relocation of affected utilities.
2. Prepare an as-staked monumentation report showing the location(s) and type of monument(s) that were set in accordance with the manual. File a copy at the appropriate County Surveyors office or other applicable county office. Submit a copy of the report to the DEPARTMENT along with verification that the report was submitted to the county.
3. If acquisition documents are being prepared by others, the DEPARTMENT will provide digital data and hard copies of the subject Transportation Project Plat (TPP) or right of way plat to the CONSULTANT along with coordinates and Civil 3D files to facilitate setting the monuments in the field and preparation of an as-staked monumentation report. Coordinate with DEPARTMENT Plat or Survey Coordinator for the proper control and datums/adjustments to be used.
4. The DEPARTMENT will provide:
	1. Required Monuments
	2. Monument caps
	3. R/W posts
	4. R/W plaques
	5. Survey Marker Informative plaques
	6. Flexible Marker Post
	7. Supply the nuts and bolts for mounting plaques meeting DEPARTMENT standards.

Limits/Extents:

Describe the approximate number of parcels or corners and limits/extents of the final right of way staking either by description or referring to an exhibit map.

Deliverables:

Submit an As-Staked Monumentation Report which includes the following information to the Region office:

1. A letter or cover sheet with
	1. The project ID, title, limits, highway, and county
	2. The date(s) when the work was completed.
	3. The signature and PLS stamp of the surveyor who was responsible for the work.
2. A map / copy of the plat sheet or a spreadsheet indicating the location(s) and type of monument(s) that were set.

**Alignments (Existing);**

1. Establish existing alignments for the following roadway segments based on previous plan alignments, pavement splits, reference line monuments, section corners, property corners found and any other pertinent evidence.
2. The acquisition of any field evidence to support the creation of alignments outside the limits of topo/DTM required elsewhere in this contract, or where mapping supplied by the DEPARTMENT is insufficient to be used as evidence, is considered part of this contract and is included in the tasks required to establish any alignments requested.
3. Obtain said field evidence beyond the extents of the alignments as needed to support the establishment of accurate alignments within said extents.
4. Subdivision plats, CSM, plats of survey within the project area will be acquired by DEPARTMENT/CONSULTANT.
5. The DEPARTMENT will provide existing WisDOT right of way plat information.
6. Prepare a narrative report describing how each alignment was developed and what source documents and evidence was used.
7. Prepare an alignment Cogo report showing the alignment geometry for each alignment.
8. Prepare a station and offset report for each alignment showing the relationship of the alignment to adjacent evidence considered in establishing the alignment which is sorted by station values.
9. Prepare notes on utilized source documents and in working CAD files which will be delivered to the DEPARTMENT.

Limits/Extents:

Describe the roadway segments required either by description or referring to an exhibit map.

Deliverables:

1. AliProf-(Road name)\_(Proj ID).DWG & KMZ (all alignments in one DWG & KMZ)
2. Digital copies of all Plats, CSM’s, Surveys, Deeds obtained by CONSULTANT.
3. Digital PDF copy of any plans marked up with handwritten computation notes.
4. Alignment narrative report in MS Word format (all alignments in one document)
5. Alignment Cogo report showing Sta, Tan, Curve Data etc. for each individual alignment
6. Station and offset reports for each alignment listing values for evidence used (sort by STA).
7. Working Computation DWG including evidence used with computation notes on separate layer.

**Weak & Obscured Areas;**

1. Perform supplemental survey of select weak and obscure areas of aerial mapping delineated by the DEPARTMENT.
2. Describe method of providing delineation of which areas need survey (attached exhibit or digital file).
3. The supplemental survey shall provide enough detail including any necessary break lines to accurately depict drainage in those areas and facilitate fusing the supplemental survey with the surface developed from the aerial mapping.
4. Fusing the supplemental survey data with the aerial mapping derived surface to produce a seamless accurate Civil 3D surface file will be completed by DEPARTMENT/CONSULTANT.
5. Aerial mapping derived existing surface file in Civil 3D format by the DEPARTMENT to the CONSULTANT.
6. Provide a separate DWG file containing a Civil 3D surface of just the area the CONSULTANT surveyed and created before any data fusing.
7. Provide a surface data source drawing with line work depicting the boundaries between areas acquired by different field survey data collection methods (Total Station, GPS, Total Station & GPS, Static LiDAR, Mobile LiDAR, Aerial LiDAR, and Aerial Photogrammetry, etc.). The individual areas need to be clearly labeled so the user can easily identify the responsible firm name, date of survey, Work Order Number, and technology used to develop the surface information throughout the entire project. If no fusion was done, only areas of work done by the CONSULTANT need to be delineated.

Limits/Extents:

Describe the limits/extents of the Weak & Obscured Area survey either by description or referring to an exhibit map.

Deliverables:

1. Srfc-Ex-(Road name)\_(Proj ID).dwg (final fused data)
2. Srfc-Ex-Basis-(Firm Name-WO#)-(Road name)\_(Proj ID).dwg (just this work order)
3. Srfc-Data-Source-(Road name)\_(Proj ID).dwg

**Topo/DTM (including all methods of collection);**

1. Perform full Topo/DTM survey including planimetric features including tree groups and individual trees with a trunk diameter of X inches in diameter or gr**e**ater. Tree species shall / shall not be collected on individual trees.
2. If existing aerial mapping and surfaces exist add this sentence….The DEPARTMENT will provide the existing aerial mapping derived mapping and surface files in Civil 3D format to the CONSULTANT.
3. If we need data fusion to be done add this sentence……Fusing the supplemental survey data with the aerial mapping derived surface to produce seamless accurate Civil 3D surface will be completed by DEPARTMENT/CONSULTANT.
4. If we need data fusion to be done add this sentence……Provide a separate DWG file containing the Civil 3D surface of just the areas the CONSULTANT surveyed and created before any data fusing.
5. Provide a surface data source drawing with line work depicting the boundaries between areas acquired by different field survey data collection methods (Total Station, GPS, Total Station & GPS, Static LiDAR, Mobile LiDAR, Aerial LiDAR, and Aerial Photogrammetry, etc.). The individual areas need to be clearly labeled so the user can easily identify the responsible firm name, date of survey, Work Order Number, and technology used to develop the surface information throughout the entire project. If no fusion was done, only areas of work done by the CONSULTANT need to be delineated.
6. Provide a separate DWG file containing all of the elements that were used to build the surface. The elements included in this DWG file are the basis of the existing surface, and should include (but not limited to) all points, figures, breaklines, 3D polylines, and point groups that were used to build the surface. Note that figures are preferred over breaklines or 3D polylines. Any custom point groups you created to control the importation of data should be added to the “prospector” tab in the DWG. The resultant Civil 3D surface should also be in this DWG file. This file should only contain the area surveyed by the CONSULTANT for this work order.

Limits/Extents:

Describe the limits/extents of the Topo/DTM survey either by description or referring to an exhibit map.

Deliverables:

1. Srfc-Ex-(Road name)\_(Proj ID).dwg (final or fused data)
2. Srfc-Ex-Basis-(Firm Name-WO#)-(Road name)\_(Proj ID).dwg (just this work order)
3. Srfc-Data-Source-(Road name)\_(Proj ID).dwg
4. Topo-Ex-(Road name)\_(Proj ID).dwg

**Utility Survey;**

1. Collect all overhead and underground utilities within the utility survey limits. Utilities include but are not limited to; Gas, Telephone, Communications, Cable TV, Fiber Optic, Electric, Water, Sanitary Sewer, Sanitary Force Mains, Storm Sewer, Storm Sewer Pipe Outfalls, Traffic Signal Facilities, FTMS/ITS facilities.
2. During the field survey, the Utility Owners name shall be added to the survey points as a comment. The DEPARTMENT shall be able to get this information easily from this point data set.
3. All utilities shall be represented by unique connecting line work representing the facilities and utility structures such as manhole, inlets, pull boxes, poles, pedestals, valves, vent pipes, transformers etc shall be obtained and shown. If utility lines extend past the utility survey limits, the first facility/structure outside of the utility survey limits shall be surveyed. Line work shall be connected to the first facility/structure outside of the utility survey limits.
4. If any utilities are not marked and surveyed in the field, those utilities shall be shown in a separate .dwg file as listed below in the deliverables. Every effort must be made to minimize the amount of utilities not marked and surveyed in the field by submitting re-locate tickets, using on site meet tickets and using proactive communication with the utilities and their locators.
5. Storm Sewer “Measure Downs” are included in the “Storm Sewer Survey” portion of this work order if needed.
6. Complete Diggers Hotline Ticket(s) listing WISCONSIN DEPARTMENT OF TRANSPORTATION under the Working For, see attached sample ticket.
7. Submit one “Relo-No-Show” ticket specifying which utility locators/members notified that failed to completely mark their facility on the specified job site.

Limits/Extents:

Describe the limits/extents of the Utility survey either by description or referring to an exhibit map.

Deliverables:

1. Uti-Ex-(Road name)\_(Proj ID).dwg
2. Uti-APPROX-(Road name)\_(Proj ID).dwg
3. Digital copies of utility system maps
4. Digital copies of Diggers Hotline tickets.

**Sanitary Sewer Survey;**

1. Obtain “measure downs” on all sanitary sewer structures within the Sanitary Sewer Survey limits to obtain rim elevation, pipe size, shape, material, and invert elevation. Digital photos shall also be taken of the inside of each sanitary sewer structure to assist evaluating the condition.
2. Elevations provided shall support engineering design purposes.
3. Measure down information shall be shown in the Uti-(Road name)\_(Proj ID).dwg
4. Locate the first structure outside of the survey limits and obtain measure down information on that structure to define the direction and slope of the pipe crossing outside the survey limits

Limits/Extents:

Describe the limits/extents of the Sanitary Sewer survey either by description or referring to an exhibit map.

Deliverables:

1. Uti-Ex-(Road name)\_(Proj ID).dwg ( measure down info shown in DWG)
2. Digital Copies of measure down field notes and field data entry forms.

**Storm Sewer Survey;**

1. Obtain “measure downs” on all storm sewer structures and outfalls within the Storm Sewer Survey limits to obtain rim elevation, pipe size, shape, material, and invert elevation.
2. Take digital photos of all outfall/inlet pipe ends and inlet/CB structures (on and off pavement) and index said pictures. Digital photos shall also be taken of the inside of each storm sewer structure to assist evaluating the condition.
3. Elevations provided shall support engineering design purposes.
4. Measure down information shall be shown in the Uti-(Road name)\_(Proj ID).dwg
5. Locate the first structure outside of the survey limits and obtain measure down information on that structure to define the direction and slope of the pipe crossing outside the survey limits.

Limits/Extents:

Describe the limits/extents of the Storm Sewer survey either by description or referring to an exhibit map.

Deliverables:

1. Uti-Ex-(Road name)\_(Proj ID).dwg ( measure down info shown in DWG)
2. Digital Copies of measure down field notes and field data entry forms.
3. Photos of outfall/inlet pipe ends and inlet/CB structures (on and off pavement) with photo index or files shall utilize names matching subject point numbers or files with embedded geo-reference and method to view the files.

**Culvert Survey;**

1. Collect the following data on all culverts within the culvert survey limits; size, shape, material and invert elevations.
2. Take digital photos of all outfall/inlet pipe ends and index said pictures.
3. Elevations provided shall support engineering design purposes.
4. Invert and all other pipe information shall be shown in the Uti-(Road name)\_(Proj ID).dwg
5. Locate and obtain the invert information on the other end of any culvert extending outside of the survey limits to define the direction and slope of the culvert.

Limits/Extents:

Describe the limits/extents of the Cross Culvert survey either by description or referring to an exhibit map.

Deliverables:

1. Uti-Ex-(Road name)\_(Proj ID).dwg ( culvert info shown in DWG)
2. Digital Copies of field notes and field data entry forms.
3. Photos of Pipe ends with photo index or files shall utilize names matching subject point numbers or files with embedded geo-reference and method to view the files.

**Miscellaneous Facilities-Wells-Septic;**

1. Survey location of any visible mechanical, electrical, plumbing items such as septic facilities and wells within the described limits.

Limits/Extents:

Describe the limits/extents of the Miscellaneous Facilities-Wells-Septic survey either by description or referring to an exhibit map. Said limits shall be considered extended, for this portion of the survey, out to the adjacent buildings.

Deliverables:

1. Topo-Ex-(Road name)\_(Proj ID).dwg

**Separation Structure Survey B-XX-XXX**

Perform a survey to support structural replacement of a structure, or the construction of a new structure on a new alignment, per FDM Chapter 9 Section 60 collecting items specified below. The CONSULTANT is (required or not required) to fill out form DT1694.

1. Obtain the Latitude and Longitude of the new or replacement bridge. For replacement structures, this should be taken at the existing bridge name plate location.
2. A densified topo/DTM is also required on the adjacent roadway. The CONSULTANT shall obtain topo/DTM data off both ends of the deck for 300 feet at station intervals of 10 feet for the first 100 feet and at 50 foot station intervals thereafter or 25 feet station intervals if in a vertical or horizontal curve.
3. Identify and describe the benchmark used for the structure survey.

Limits/Extents:

Describe the limits/extents of the Structure survey and itemized items such as beam seat elevation etc. either by description or referring to an exhibit map or refer to description above.

Deliverables:

1. Srfc-Ex-(Road name)\_(Proj ID).dwg
2. Topo-Ex-(Road name)\_(Proj ID).dwg
3. AliProf-(Road name)\_(Proj ID).dwg (if applicable)
4. Structure Photos with photo index file or files shall utilize names matching subject point numbers or files with embedded geo-reference and method to view the files. Include zipped folder with all individual pictures in jpeg or tiff format.
5. Structure Sketches in PDF format
6. Separation Structure Survey Report DT1694 (if required)

**Rehabilitation Structure Survey B-XX-XXX**

Perform a survey to support structural rehabilitation of a structure per FDM Chapter 9 Section 60 collecting items specified below. The CONSULTANT is (required or not required) to fill out form DT1696.

1. Obtain the Latitude and Longitude of the existing bridge name plate.
2. For redeck projects only:
	1. Survey beam seat elevations at both abutments and on all pier caps. If access is significantly restricted, a minimum of surveying the exterior beam seat elevations at all substructure locations shall be obtained.
	2. A densified topo/DTM is required on the deck. The CONSULTANT shall obtain topo/DTM data at 10 foot station intervals across the bridge deck for structures less than 100 feet long and at 25 foot station intervals on bridges over 100 feet long.
	3. A densified topo/DTM is also required on the adjacent roadway. The CONSULTANT shall obtain topo/DTM data off both ends of the deck for 300 feet at station intervals of 10 feet for the first 100 feet and at 50 foot station intervals thereafter or 25 feet station intervals if in a vertical or horizontal curve.
	4. Survey centerline bottom of exterior girders.
	5. For grade separation rehabilitations, Survey the vertical clearance between existing roadway and bottom of girders at each intersection of each girder with each lane line and curb flange line of the roadway below. Collect top of water elevation on all stream crossing rehabilitations

 For redeck and overlay projects:

* 1. Locate and obtain elevations on all construction joints on the bridge deck.
	2. Locate and obtain elevations on all drain locations on the bridge deck.
	3. Locate and obtain elevations on each side of any expansion joints or any other joints at each end of the bridge deck or at other substructure locations, and provide a sketch or marked up photo indicating where the survey shots were taken on the joint.
	4. Locate the face of any wing walls and obtain the top and bottom elevations of the walls at the face and show the width of said walls.
1. Deliver the existing bridge deck DTM as a separate Civil3D surface.
2. Identify and describe the benchmark used for the structure survey.
3. Create separate 3D DWG showing bridge beam seat elevations, abutment face, pier cap top, dimensioned vertical clearances, C/L bottom of girders, and wing wall face locations using 3D polylines.

Limits/Extents:

Describe the limits/extents of the Structure survey and itemized items such as beam seat elevation etc. either by description or referring to an exhibit map or refer to description above.

Deliverables:

1. Srfc-Ex-(Road name)\_(Proj ID).dwg,
2. Topo-Ex-(Road name)\_(Proj ID).dwg
3. AliProf-(Road name)\_(Proj ID).dwg (if applicable)
4. Structure Photos with photo index file or files shall utilize names matching subject point numbers or files with embedded geo-reference and method to view the files. Include zipped folder with all individual pictures in jpeg or tiff format.
5. Structure Sketches in PDF format
6. Rehabilitation Structure Survey Report DT1696 (if required)

**Stream Crossing Structure Survey B-XX-XXX**

Stream Crossing Structure Survey for XX existing describe structures on Road Name at STA XXX+XX (B-XX-XXXX) and at STA XXX+XX (C-XX-XXXX)

1. Review and follow the direction and process of the FDM Chapter 9, including but not limited to a full topo/DTM of the Road Name roadway and existing structure features wide enough to include the right of way and the first stream cross section along the roadway embankment slope intercept and or ditch line extending 500 feet direction and 500 feet direction of the existing culverts/bridge, a roadway centerline profile of Road Name extending 1000 feet direction and 1000 feet direction of said culverts/bridge.
2. Complete a thalweg survey extending approximately xxx feet direction and approximately xxx feet direction of the proposed culvert/bridge ends with stream bed and water surface shots every xx feet within the xxx-foot-long study reach and 500’, 1000’ and 1500 feet downstream and 1500 feet upstream. Includes collection of data called for on page 3 & 4 of the DOT Stream Crossing Structure Survey Report for the first substantial structure upstream and downstream of the subject structures. Data for the drainage structure survey shall be delivered in both DWG format.

Limits/Extents:

Describe the limits/extents of the Steam Crossing Structure survey either by description or referring to an exhibit map or refer to description above.

Deliverables:

1. Srfc-Ex-(Road name)\_(Proj ID).dwg
2. Topo-Ex-(Road name)\_(Proj ID).dwg
3. Uti-Ex(Road name)\_(Proj ID). dwg
4. AliProf-(Road name)\_(Proj ID).dwg (if applicable)
5. Structure Photos with photo index file or files shall utilize names matching subject point numbers or files with embedded geo-reference and method to view the files. Include zipped folder with all individual pictures in jpeg or tiff format. Submit one photo that clearly calls out the high-water mark which includes the surveyed elevation.
6. Structure Sketches in PDF format
7. Stream Crossing Structure Survey Report - DT1698 (Pg 3 & 4 with survey data filled in)
8. Surveyed point file in DWG and CSV formats. DWG file should have labels turned on for each point (number, elevation, code) and sized appropriately so that points do not overlap on the screen. CSV file should include XYZ values and point codes for each point. Please provide coordinate system the points were surveyed in.

**Aerial Mapping Target Survey**

1. Project Coordination

Project coordination activities include the necessary interaction with DEPARTMENT

representatives through telephone conversation, written communications, and attendance of meetings to ensure a successful project. The services to be provided also include, but not limited to, the coordination and management of personnel, overseeing project work activities, setting up the project, planning, etc.

1. Aerial Target Placement
2. Approximately XXX aerial targets shall be placed on the ground or road surfaces as shown on the maps furnished by the DEPARTMENT. Values for the proposed aerial target points, as supplied by the DEPARTMENT, shall be downloaded into GPS equipment for placing the targets in the field. If a target cannot be placed within 100 feet of the designated location, the DEPARTMENT shall be notified for confirmation of the new location. The CONSULTANT shall provide cell phone numbers to the DEPARTMENT for each crew placing targets. The DEPARTMENT contact persons to approve target moves are Matt Bodden (608)246-5394 and Tiffany Novinska (608)246-5397. During the target placement process, the CONSULTANT shall report to the DEPARTMENT target placement status and field conditions before ceasing work prior to each weekend or substantial break in work via phone and email.

b. At the time of placement, the CONSULTANT shall take RTK GPS observations on the target with a minimum of two – 180 epoch observations with separate initializations. Targets shall have values that are consistent to the datum/adjustment as described herein.

c. Shoulder or lane closures are not anticipated for the placement of targets.

d. The XX hard targets set shall be spot checked to verify sustainability due to acts outside the control of the CONSULTANT. The focus of these checks will be on targets that are considered at high risk of being degraded. These higher risk locations will be identified and recorded by the CONSULTANT and provided to the DEPARTMENT as they are determined. High risk locations could be identified by observing heavy traffic areas, condition of environment, and landowner interaction at the time of target placement. If any of the targets checked are determined to have been degraded and cannot be used as a photo identifiable point, then the CONSULTANT shall re-establish them.

1. Prior to placing targets on private property, the consultant shall:

1) Draft a DEPARTMENT approved letter to the affected property owners stating the purpose of the project along with the CONSULTANT’s contact information.

2) Send the letters to the affected landowners prior to target placement.

3) Attempt to contact property owners at the time the target is placed.

 f. Hard Targets

1. Place targets with extra heavy pigmented traffic spray paint and panel forms created for painting hard surfaces and the placement of the panels. Cross shaped panels, "+" or "T" panels shall be used as appropriate for the area. "+" targets shall be 3'x 3' (1.5’ legs) and the striping shall be 6" wide. "T" targets shall be 3' wide across the top and 3' long on each perpendicular leg with the striping also being 6" wide. Please see the detail below for further direction. The panel materials for the hard targets shall be supplied by the CONSULTANT.
2. A mag nail or other type of survey nail shall be placed at the center of the target.
3. The vertical elevation of the Hard Targets is to be collected by use of a digital level / RTK GPS.

 g. Soft Targets

1) Place approximately XXX targets that will be on surfaces not suitable for paint. The CONSULTANT shall use a durable paneling material for soft surfaces. Cross shaped panels, "+" or "T" panels shall be used as appropriate for the area. "+" targets shall be 5 'x 5' (2.5’ legs) and the striping shall be 6" wide. "T" targets shall be 5' wide across the top and 5' long on each perpendicular leg with the striping also being 6" wide. A wooden hub with a tack shall be placed at the center of the targets. The panel materials for the soft targets shall be supplied by the CONSULTANT/DEPARTMENT.

h. Validation Points

1. Perform a field survey to stake out 20 Validation Points throughout the project limits and collect their horizontal and vertical location.
2. The horizontal locations will be provided by the DEPARTMENT in a file named “xxxx-xx-xx-validation.kmz”. These locations are to be marked as either a chiseled “X” or a survey nail flush with the surface.
3. The vertical elevation of the validation points is to be collected by use of a digital level / RTK GPS.

i. Photo Identifiable Objects

1. It will be considered an additional service if the DEPARTMENT deems it necessary that the CONSULTANT establishes horizontal and vertical positions of photo identifiable objects/points to replace or augment the targets set prior to the flight.

j. Limits/Extents of Targeting

1. The limits of the Areal flights are shown in the DEPARTMENT delivered “xxxx-xx-xx\_FLIGHT.kml” file. This shows the limits of the flight pattern of the proposed flight.

k. Aerial Target Removal

1. Retrieve all soft targets after the flight imagery has been approved by the DEPARTMENT. Said targets shall be removed within 1 (one) week after the flight imagery has been approved.

Deliverables

1. All Target Control data including the CSV & Target DWG files shall be delivered within 1 (one) week of control survey observation completion. The CONSULTANT shall keep track of all interim deliverables and subsequent revisions and provide a final complete set of deliverables at the conclusion of the work order. Provide the following deliverables:
* Cntrl-Targ-Aerial-(Road name)\_(Proj ID).kmz
* CSV file containing targets, calibration points (horizontal, vertical, H & V), HMOD along mapping, Control along mapping Cntrl-Targ-Aerial-(Road name)\_(Proj ID).csv
* 2 Digital Photos of each target, one close up overview photo with T number shown, one photo facing North showing target and horizon. Files shall utilize names matching subject point numbers or files with embedded geo-reference and method to view the files.
* Final deliverables shall be submitted to WisDOT BOX drive more specifically: enter location

Prosecution and Progress

1. Monitor the progress of the PROJECT as stipulated in the contract agreement. The tracking process shall include providing the DEPARTMENT with an updated version of the project network on a monthly basis to show the progress of the project. The report can be delivered in electronic format consistent with current WisDOT standards, or on paper.
2. Communicate with the DEPARTMENT regarding but not limited to project site field conditions relating to snow cover, standing water and tree leaf status. The CONSULTANT shall work with the DEPARTMENT to determine if field conditions are suitable to proceed with the flight(s).
3. Monitor weather conditions and spot check target condition and suitability for use as well-defined photo identifiable points. Any set target not suitable for use due to weather, traffic wear or vandalism shall be reset, and new positions determined if necessary.
4. After the flight, determine the horizontal and vertical positions of photo identifiable objects/points as deemed necessary by the DEPARTMENT to replace or augment the targets set prior to the flight.
5. Place all finished and edited files on the DEPARTMENT’s BOX site promptly after completion and shall contact the DEPARTMENT by e-mail or telephone when a group of files have been placed on the BOX site.
6. The CONSULTANT hereby acknowledges that due to the prevailing weather conditions present at the time they may not be able to set targets in a sequential geographic pattern and may need to set targets as weather and ground conditions permit.

**Aerial Photography or LIDAR Mapping Checks**

Complete horizontal and vertical map checks along the length of the project. Map check shots shall be taken with the area compiled or anticipated to be compiled. The DEPARTMENT will supply scaled maps showing the compilation area. These map checks are to consist of a pavement cross section (edge of pavement, centerline, edge of pavement) taken approximately *every* XXXX feet along the centerline of XXX. A single pavement cross section is also to be included at the following intersecting streets: XXX. These single pavement cross sections shall be located approximately XXX feet from STH XX. This data shall be submitted along with the GPS target data. The accuracy of the map checks will coincide with the measurements taken for the targets and validation points.

Limits/Extents:

Further describe the limits/extents of the Map Check survey either by description or referring to an exhibit map.

Deliverables:

* Map-Chk-(Road name)\_(Proj ID).dwg
* Map-Chk-(Road name)\_(Proj ID).xml
* Map-Chk-(Road name)\_(Proj ID).csv

All work shall be performed in accordance with the document “Map Check Field Guidance\_2023”.

**LiDAR: (If the CONSULTANT chooses to use LiDAR technology, the following additional general conditions shall be followed and deliverables provided.)**

1. The final working point clouds and resultant LAS files must be registered to the project coordinate system.
2. The final working point clouds and resultant LAS files must support extraction of the top and bottom surfaces of structures to a reasonable accuracy if scanned elevation data is provided for both the top and bottom of the structure. The CONSULTANT is encouraged to develop directly connected control at the top and bottom of structures.
3. Produce and deliver a scan setup control point residual report showing the residuals between measured and project control values for each scan setup for resections type setups or back sight and check points when the scanner is set up on a known point.
4. The density of the scan data shall be sufficient to support the extraction of the requested roadway and or structural elements.
5. The resultant LAS files shall be colorized using digital photos acquired during the scanning process.
6. The digital photos obtained during the scanning process shall be color photos of sufficient resolution to support the identification and extraction of the requested structural elements.
7. The digital photos acquired as part of the scanning process are to be considered additional to any digital photos required for WisDOT Structures Survey Reports.
8. Provide the LAS files and Digital Photos in an organized file and folder system.
9. Provide a convenient method of determining the location of each scan setup or mobile LiDAR drive trajectory and a way to retrieve and view the digital photos acquired during the scanning process. For example, a Google Earth KMZ file with hyperlinks to the photos which also shows the location of the scan setups, could be used to index and retrieve photos.
10. Confer with the DEPARTMENT Survey Unit personnel before relying on and delivering a scan setup/trajectory and photo indexing system that utilizes viewing software other than Google Earth to insure the viewer software works on DEPARTMENT computers.
11. If mobile LiDAR is utilized, develop and deliver accuracy reports detailing point cloud vs control point and point cloud vs validation point accuracy.
12. If Mobile LiDAR is used, divide the point cloud LAS files into tiles with manageable files sizes and provide tile index DWG and KMZ files showing the extent and LAS file name of each tile.
13. If Mobile LiDAR is used,provide a DWG and KMZ file version of the drive trajectories with each trajectory identifying and tied to a meaningful file name for each separate trajectory.

Deliverables: (if applicable)

1. LAS files (list LAS version number in project metadata)
2. Digital Images obtained during scanning process.
3. Scan Setup/Trajectory Index System/Files
4. Digital Image index system/files.
5. Static Scan Setup error reports.
6. Mobile LiDAR point cloud vs control and validation point error reports.
7. Mobile LiDAR point cloud tile index DWG & KMZ files.
8. Mobile LiDAR trajectory location DWG, KMZ files.

**Transportation Project Plats and Traditional Plats**

1. Prepare Transportation Project Plat (TPP) for up to *###* recorded TPP pages (excluding accompanying sheets) or *###* parcels for the PROJECT in accordance with Wis. Stat. § 84.095, the MANUALS and WisDOT Guide to Utility Coordination.

 *– OR –*

Prepare Traditional Plat for up to *###* traditional plat sheets or *###* parcels for the PROJECT in accordance with the MANUALS and WisDOT Guide to Utility Coordination.

a. Meet with the DEPARTMENT’S right of way plat unit to review the contract special provisions and MANUALS prior to starting the plat*s*.

b. Provide coordinate information in Wisconsin Coordinate Reference System Coordinates (WISCRS) \_\_\_\_\_\_County NAD 1983, (\_\_\_\_) adjustment, in US Survey Feet.

c. Locate and survey the necessary United States Public Land Survey System (USPLSS) section corners, quarter section corners, block corners and other corner monuments of record in platted areas for the preparation of acquisition plats, descriptions, or exhibits. An estimated *###* corners need to be located. Obtain digital photos of each corner. One close-up photo and one overview photo looking north. The limits/extents of the USPLSS corner and other corner monuments survey are *describe or attach an exhibit map*.

d. Locate and survey existing property monuments from prior plats and surveys of record to support the determination of existing property, existing right of way lines and project alignments. Resetting or re-establishing missing corners is not included.

e. Prepare TPPs and plat sheets in accordance with the MANUALS using WISDOT-provided Civil 3D file templates and related CAD components.

f. Multi-Use Path/Recreational Trail Acquisitions

No multi-use path/recreational trail acquisitions are anticipated.

*– OR –*

Multi-use path/recreational trail acquisitions are anticipated. Plat sheets will break out those acquisitions into separate parcel numbers.

*– OR –*

Multi-use path/recreational trail acquisitions are anticipated. Alternative plat sheets will be prepared.

g. Provide an electronic *CSV or LandXML* file with unique point IDs of right of way points, permanent easement points, found monuments, alignment PI’s and USPLSS corners on the project.

h. Provide an electronic report describing elements within the alignments and an electronic XML file, for each alignment.

i. Provide an electronic Coordinate Geometry (COGO) report of the exterior boundaries of the right of way as depicted on each TPP, right of way envelope or description, which specifies closure and precision of the traverse.

j. Submit a final full size, 22” x 34” portable document format (PDF), unless otherwise specified by the county or DEPARTMENT, in accordance with the MANUALS upon final approval of the DEPARTMENT.

k. Provide the DEPARTMENT with a utility exhibit in PDF format depicting utility facilities and interests in accordance with the MANUALS.

l. Submit the plat PROJECT DOCUMENTS in accordance with the MANUALS upon receiving final approval from the DEPARTMENT. Submit Civil 3D dwg and ACAD files in accordance with the data exchange and CADDS standards in accordance with the MANUALS.

2. Title Searches/Updates

*a. CONSULTANT Provides Title Work:* Obtain title searches and updates to determine property lines and current ownerships for the PROJECT. Contract with a title company to prepare the title searches and updates in accordance with the DEPARTMENT’s Specifications for Title Work available at <https://wisconsindot.gov/dtsdManuals/re/re-staffresources/Specifications%20for%20Title%20Work%20Orders.pdf>. Obtain updated title search reports when requested by the DEPARTMENT. Provide a copy of title work to the DEPARTMENT upon request. Estimates of the number of title work products required are shown in the table below:

|  |  |
| --- | --- |
| **Title Work Product** | **Estimated Number Req’d** |
| Title Search Report |  |
| Title Search Report w/ Mortgages |  |
| Updated Title Search Report (Title Updates) |  |
| Letter Report |  |
| Letter Report w/ Mortgages |  |
| Ownership Report |  |
| Ownership Report plus Easements |  |

*– OR –*

*DEPARTMENT Provides Title Work:* The DEPARTMENT will provide the CONSULTANT the title searches and updates to determine property lines and current ownerships for the PROJECT.

3. Acquisition Descriptions

*a. Transportation Project Plat:* Provide descriptions for individual parcels of land and interests to be acquired for the PROJECT. Write descriptions in accordance with Wis. Stat. § 84.095(7) and the MANUALS.

*b. Traditional Plat:* Provide descriptions for individual parcels of land and interests to be acquired for the PROJECT. Provide individual legal description*s* for each parcel and interests, or an envelope description that does not cover more than one page of the plat. Write descriptions in a metes and bounds format, or in the case of platted property by suitable reference to the platted data. Commence or begin unplatted property descriptions at a monumented USPLSS corner. The legal descriptions shall contain a basis of reference and shall describe the exterior boundaries of, and the interest being acquired.

4. Prepare the descriptions and relocation order, when applicable, in a format directed by the DEPARTMENT. The DEPARTMENT will be responsible for the recording of descriptions and filing the relocation order with the applicable county.

5. Provide relocation order, when applicable, preliminary plat and descriptions, excluding the recording information, in electronic format for DEPARTMENT review.

6. Plat Revisions

*a. Transportation Project Plat:* Revise the transportation project plat and descriptions, until the transportation project plat is recorded with the County Register of Deeds Office.

*– OR –*

*Traditional Plat:* Revise the plat sheets and descriptions, until the DEPARTMENT files the initial relocation order for plat sheets covered under that order. For plat sheets not covered under the initial relocation order, revise the plat sheets and descriptions until the DEPARTMENT files a revised relocation order that includes these additional plat sheets.

7. Submit the *Transportation Project Plat (TPP) or Traditional Plat* electronically to the DEPARTMENT for approval. The DEPARTMENT will be responsible for the recording of transportation project plats or filing the traditional plat with the applicable county.

8. Supply a PDF file of the plan/profile and cross sections for the DEPARTMENT’s use in real estate acquisition at the time required in the project schedule.

9. Upon request, field locate and temporarily mark the new right of way boundaries including temporary and permanent easements in a manner which will facilitate the appraisal of affected parcels and perform *###* partial survey efforts for the re-staking of *###* parcels per effort. Coordinate staking activities with the DEPARTMENT’s real estate section to provide at least two weeks lead time for the DEPARTMENT to notify property owners. Coordinate with DEPARTMENT Plat or Survey Coordinator for the proper control and datums/adjustments to be used.

10. Final Monumentation of Right of Way & Permanent Easements

a. Monument the new and reestablished right-of-way and permanent easement points, as depicted on *the transportation project plats or traditional plat sheets* and set WisDOT R/W posts with R/W and Survey plaques at each location directed by the DEPARTMENT, prior to construction. Monumentation shall be set as soon as practicable after acquisition to facilitate the relocation of affected utilities.

b. Prepare an as-staked monumentation report showing the location*s* and type of monument*s* that were set in accordance with the MANUAL. File a copy of the report at the appropriate County Surveyors office or other applicable County office. Submit a copy of the report to the DEPARTMENT along with verification that the report was submitted to the county.

c. If acquisition documents are being prepared by others, the DEPARTMENT will provide digital data and hard copies of the subject Transportation Project Plat (TPP) or right of way plat to the CONSULTANT along with coordinates and Civil 3D files to facilitate setting the monuments in the field and preparation of an as-staked monumentation report. Coordinate with DEPARTMENT Plat or Survey Coordinator for the proper control and datums/adjustments to be used.

d. The DEPARTMENT will provide:

(1) Required Monuments

(2) Monument caps

(3) R/W posts

(4) R/W plaques

(5) Survey Marker Informative plaques

(6) Flexible Marker Post

e. Supply the nuts and bolts for mounting plaques meeting DEPARTMENT standards.

**Acquisition Exhibits**

1. Prepare up to *###* Acquisition Exhibit*s* in accordance with the MANUALS and WisDOT Guide to Utility Coordination.
2. Meet with the DEPARTMENT’S right of way plat unit to review the special provisions and MANUALS prior to starting the acquisition exhibit*s*.
3. Locate and survey the necessary United States Public Land Survey System (USPLSS) section corners, quarter section corners, block corners and other corner monuments of record in platted areas for the preparation of acquisition plats, descriptions, or exhibits. It is estimated that *###* corners need to be located. Obtain digital photos of each corner. One close-up photo and one overview photo looking north. The limits/extents of the USPLSS corner and other corner monuments survey are *describe or attach an exhibit map*.
4. Locate and survey existing property monuments from prior plats and surveys of record to support the determination of existing property, existing right of way lines and project alignments. Resetting or re-establishing missing corners is not included.
5. Prepare exhibits in accordance with the MANUALS using WISDOT provided Civil 3D file templates and related CAD components.
6. Provide the DEPARTMENT an electronic *CSV or LandXML* file with unique point IDs of acquisition boundary points, found monuments, and USPLSS corners or monuments of record used to prepare the acquisition exhibit*s* and description*s*.
7. Submit an 8 ½” x 11” or 11” x 17” portable document format (PDF), unless otherwise specified by the DEPARTMENT, in accordance with the MANUALS upon final approval of the DEPARTMENT.
8. Provide the DEPARTMENT with a utility exhibit in PDF format depicting utility facilities and interests in accordance with the MANUALS.
9. Submit the exhibit PROJECT DOCUMENTS in accordance with the MANUALS upon receiving final approval from the DEPARTMENT. Submit Civil 3D dwg and ACAD files in accordance with the data exchange and CADDS standards and the MANUALS.
10. Title Searches/Updates
11. *CONSULTANT Provides Title Work*: Obtain title searches and updates to determine property lines and current ownerships for the PROJECT. Contract with a title company to prepare the title searches and updates in accordance with the DEPARTMENT’S Specifications for Title Work available at <https://wisconsindot.gov/dtsdManuals/re/re-staffresources/Specifications%20for%20Title%20Work%20Orders.pdf>. Obtain updated title search reports when requested by the DEPARTMENT. Provide a copy of title work to the DEPARTMENT upon request. Estimates of the number of title work products required are shown in the table below:

|  |  |
| --- | --- |
| **Title Work Product** | **Estimated Number Req’d** |
| Title Search Report |  |
| Title Search Report w/ Mortgages |  |
| Updated Title Search Report (Title Updates) |  |
| Letter Report |  |
| Letter Report w/ Mortgages |  |
| Ownership Report |  |
| Ownership Report plus Easements |  |

 *– OR –*

*DEPARTMENT Provides Title Work:* The DEPARTMENT will provide the CONSULTANT the title searches and updates to determine property lines and current ownerships for the PROJECT.

1. Provide individual descriptions for interests to be acquired. Write descriptions in a metes and bounds format, or in the case of platted property by suitable reference to the platted data. Commence or begin unplatted property descriptions at a monumented USPLSS corner or a located monument of record. Describe the exterior boundaries of the interest being acquired with a basis of reference.
2. Prepare the descriptions and relocation order using Microsoft Word or software compatible with the DEPARTMENT and provide a copy of the descriptions and relocation order in an electronic format. Contact the DEPARTMENT’s real estate unit for current formatting instructions. The DEPARTMENT will record the descriptions and file the relocation order with the applicable county.
3. Provide preliminary acquisition exhibit*s*, descriptions, and relocation orders. Prepare revisions to exhibits and descriptions until the DEPARTMENT files the initial relocation order for exhibits covered under that order. For exhibits not covered under the initial relocation order, prepare revisions to exhibits and descriptions until the DEPARTMENT files a revised relocation order that includes these additional exhibits.
4. Submit the exhibit*s* electronically. The DEPARTMENT will file the exhibit*s* with the applicable county.
5. Upon request, field locate and temporarily mark the new acquisition boundary points in a manner which will facilitate the appraisal of affected parcels and perform *###* partial survey efforts for the re-staking of *###* parcels per effort. Coordinate staking activities with the DEPARTMENT’s real estate section to provide at least two weeks lead time for the DEPARTMENT to notify property owners. Coordinate with the DEPARTMENT Plat or Survey Coordinator for the proper control and datums/adjustments to be used. Provide digital copy of exhibit*s* marked up with notes showing what was staked and when.