

EXHIBIT A – SCOPE OF WORK

21-0921

Hartwood Marsh Road Plans Update Design

LAKE COUNTY PUBLIC WORKS SCOPE OF WORK REQUIREMENTS

- A. General Requirements**
- B. Survey Requirements**
- C. Right of Way Plan Requirements:**
- D. Plan Deliverables:**
- E. Invoice Requirements:**
- F. Public Meeting Requirements:**

A. General Requirements:

- 1) Consultant shall refer to Lake County’s “Expected Deliverable Guidelines” for additional expectations for completion of project milestones and deliverables.
- 2) Consultant shall prepare a project schedule and present to the County project manager at the project kickoff meeting
- 3) Consultant shall create and prepare project deliverable Cad files utilizing AutoCAD. Microstation files converted to AutoCAD shall not be acceptable.
- 4) Consultant shall schedule, conduct, and present **all** public meetings according to the approved public meeting scope and public meeting checklist.
- 5) Consultant shall Advertise and Notify the public of the public meeting schedule and location according to the approved public meeting scope and public meeting checklist.
- 6) Consultant will attend monthly progress meetings for the life of the project at the Public Works Department facility. At the discretion of the County project manager, telephone conference calls may substitute for face to face meetings

B. Survey Update Requirements:

- 1) Consultant shall prepare the Record Survey under the direction and supervision of a Professional Surveyor and Mapper licensed in the State of Florida. The survey shall be in accordance with the adopted “Standards of Practice” for Land Surveying as required by Chapter 5J-17, Florida Administrative Code pursuant to Section 472.027, Florida State Statutes”.
- 2) Consultant shall submit all survey notes and computations to document the surveys. All field survey work shall be recorded and submitted to the County. Field notes shall include all sketches, bench level runs and instrument set up information that supports electronic data collection methodology. Computations shall include any adjustment reports for Horizontal and Vertical control.
- 3) Consultant shall establish or recover Horizontal Project Control (HPC) relative to Florida State Plane Coordinate System, Florida East Zone, 1983 North American Datum, and 1990 Adjustment (NAD83/90). All Primary Control values shall be established with independent, redundant measurement methods. A report depicting residual statistics shall be submitted with the computations portion of the project report.
- 4) Consultant shall establish or recover Vertical Project Control (VPC) relative to North American

EXHIBIT A – SCOPE OF WORK

21-0921

Hartwood Marsh Road Plans Update Design

Vertical Datum 1988 (NAVD88). Benchmarks shall be placed at intervals not to exceed 500 feet along the project route and in safe areas that minimize the possibility of the mark being lost or disturbed.

- 5) Prior to beginning survey, the consultant will request a copy of a Right of Way package from the Lake County Right of Way Supervisor. This package will include all the right of way information available in the Lake County Public Works Department.
- 6) Consultant shall recover monumentation along existing right of way lines according to all available recorded Public Records. Establish, recover or re-establish project alignment. Also includes analysis and processing of all field collected data, existing maps, and/or reports for identifying existing right of way lines per County maps, platted or dedicated rights of way. The Survey shall show existing recorded right of way with recording information for the dedication document clearly identified (deed, plat, court order, or recorded maintenance or right of way maps). This information shall include intersecting side street right of way shown on the survey. All other evidence of right of way that is shown on the survey shall be shown in different line type, with the source clearly identified (i.e. property line per deed, State Road Department (SRD)/FDOT monument found, RW per unrecorded plat, recorded plat, etc.)
- 7) Consultant shall file Certified Corner Records (CCR) to Florida Department of Environmental Protection unless one already exists in the state database. Included shall be Section Corners, $\frac{1}{4}$ Section Corners or other General Land Office (G.L.O.) recognized corners.
- 8) Consultant shall map existing conditions to include (but not limited to) location and identification of all constructed or fixed improvements and features within the survey area, identification and location of all relevant property information such as deed lines, plat lines, designated roads, right of way lines, easements and other matters of public record or information referenced in title report. In addition, a 2-dimension location of any Jurisdictional Wetlands that fall within the scope limits will be located. A notation of the environmental agency that performed the wetlands designation shall be depicted on the survey. When required, elevation data with sufficient density and coverage to develop a Digital Terrain Model supported by determining all existing break lines and high and low points. Ground elevations shall extend a minimum of 25 feet beyond survey limits. Survey limits may change due to certain conditions and any request for deviation from the original scope must be submitted in writing and approved by County staff.
- 9) Consultant shall comply with all Right of Way Engineering Project Requirements as set forth by Lake County Public Works / Engineering / Right of Way Section.
- 10) Consultant shall contact Sunshine One Call @ 811 for utility designation. Include 2-dimensional collection of existing utilities and selected 3-dimensional verification as needed for designation. Location includes non-destructive excavation to determine size, type and location of existing utility, as necessary for final 3-dimensional verification. Survey includes collection of data on points as needed for designates and locates. Includes analysis and processing of all field collected data, and delivery of all appropriate electronic files.
- 11) Consultant shall detail existing underground storm water and sanitary sewer structures including pipe size, type, condition, and flow direction. Included shall be at least one structure outside the scope limits and in some cases the extent of the system outfall shall be investigated and included in the mapping.
- 12) Consultant shall map any water bodies that fall within the scope limits. If available, the Base Flood Elevation should be determined and shown.

EXHIBIT A – SCOPE OF WORK

21-0921

Hartwood Marsh Road Plans Update Design

- 13) Contractors and subcontractors must have capability to work from plans in AutoCAD format. Lake County does not provide hard copy detailed plans for the purpose of survey stakeout.
- 14) The Final signed and sealed survey shall be provided to the Project Manager for review by the County Staff. Upon approval, three (3) signed and sealed copies of the survey, along with an electronic file in appropriate format shall be provided to the Project Manager for distribution to County Staff.

C. Right of Way Plan Requirements (If Required):

1) Right of Way Mapping (Right of Way Identification Maps) (If Required)

- a) The consultant shall prepare a Right of Way I.D. Map for the entire project area at a scale not to exceed 1" = 40' (1" = 40' or larger). The sheet view set up on detail sheets shall include only 2 match lines per page (with exceptions at the intersections), and only one alignment per sheet, with view being aligned with the direction of the road, trail or sidewalk. No Text below .10 times (x) the map scale. Lake County prefers the stationing shown on the RW ID Maps match the stationing shown on design plans. Situations where not possible should be discussed with the Lake County Survey Manager. Pond site detail sheet should be provided at the end of the map/survey. RW ID Maps shall also include the following:
 - i. Key Map, not to exceed 1" = 400', which provides full coverage of the project area and assists in defining the overall project limits.
 - ii. Table of Ownership, which provides present ownership and recording information in tabular form, on a separate tabulation sheet at the end of the map. The minimum parcel data required shall include parcel identification numbers or alternate key numbers; the sheet numbers on which each parcel appears; names of property owners; area of acquisition; interest of acquisition (RW- right of way; WRA-water retention area; PE-perpetual grading drainage and utility easement; DE-drainage easements; TCE-temporary construction easements; RE-right of entry agreement. Other interest types may be identified for project and should be coordinated with the RW Supervisor and Project Manager.
 - iii. Section & ¼ section lines should be shown and labeled within scope.
- b) All survey work shall be prepared under the direction and supervision of a Professional Surveyor and Mapper, licensed in the State of Florida. The Survey shall be in accordance with the adopted "Standards of Practice" for Land Surveying as required by Chapter 5J-17, Florida Administrative Code pursuant to Section 472.027, Florida state Statutes. The consultant shall analyze each proposed acquisition to identify the appropriate property interest to be acquired, including: RW – (Fee simple); WRA (Water Retention Areas); PE (Permanent Grading Drainage and Utility Easements); DE (Drainage Easements); TCE (Temporary Construction Easements); RE (Right of Entry Agreements). The consultant shall submit 60%, 90%, and 100% progress review submittals of the Right of Way I.D. Maps on D size (24" x 36") format in landscape view. Electronic copies of AutoCAD files (in format approved by Project Engineer) shall be submitted with final signed and sealed Right of Way I.D. Maps.
- c) Sufficient control data shall be shown on the final Right of Way Identification Map to allow for preparation of legal descriptions and parcel sketches for individual parcels with no additional field information needed.
- d) Consultant shall update and modify legal descriptions and parcel sketches, Right of Way I.D.

EXHIBIT A – SCOPE OF WORK

21-0921

Hartwood Marsh Road Plans Update Design

Maps as needed until final 100% submittal.

2) Review of Title Work (If Required)

- a) The consultant shall be responsible for all title work needed to provide an accurate Project Survey and Right of Way Identification Maps. Prior to initiating any title searches, the consultant shall meet with the Lake County Right of Way Supervisor to discuss title search parameters, and for approval of the title search company that will be used. The consultant shall provide the Right of Way Supervisor with a copy of the title work, and associated documents. Cost for each search should be included in the project scope.
- b) The consultant shall also review supplemental surveys and investigations performed by the consultant and/or other record information. Recorded and Unrecorded easements shall be shown to the extent they can be identified and located on the right of Way I.D. Map and parcel sketches.

3) Legal Descriptions and Parcel Sketches (If Required)

Consultant shall have a licensed Professional Surveyor and Mapper prepare legal descriptions and parcel sketches for each parcel, if requested as part of the project scope. All legal descriptions and sketches must reference the signed and sealed project Survey and must include the square footage and acreage for each parcel being acquired. A draft of each legal description and parcel sketch shall be submitted prior to the 90% right of way maps, if required. If any parcels are added or modified prior to the 100% right of way map submittal, the consultant shall submit the legal descriptions and sketches of the modified parcels with revisions to the Right of Way I.D. Map showing the modifications. The signed and sealed final legal descriptions and parcels sketches shall be submitted upon request by the County for use in parcel acquisitions, but not later than with the submittal of the final signed and sealed Right of Way I.D. Maps.

4) Right of Way Surveys, Alignment and Monumentation (If Required)

Consultant shall have a licensed Professional Surveyor and Mapper monument the centerline of construction/survey at stations that are not more than 600 feet apart and at all P. C's, P.T.'s, side street intersections, and changes in direction. Stationing shall be shown on the Right of Way I.D. Maps at all changes of direction, property lines, points of curvature and proposed parcel takes. Similar monumentation and markings shall be provided at all side streets to 150 ft. beyond the limits of the topographic survey or at other locations as approved by the Project Manager. The centerline of construction/survey shall be referenced to permanent monumentation (Section Corners, subdivision corners, roadway monumentation) located outside the limits of construction at the beginning and end of project, all P.C's and P.T.'s, all changes in direction, and intermediate points such that referenced points are spaced not more than 600 feet apart. Horizontal control, as stated above shall be tied to the Florida State Plane Coordinate System, North American Datum of 1983/1990 Adjustment East Zone and shall be shown on the final Right of Way I.D. Maps/miscellaneous surveys. Map dimensions shall be shown in U.S. feet.

EXHIBIT A – SCOPE OF WORK

21-0921

Hartwood Marsh Road Plans Update Design

D. Plan Deliverables:

- 1) Expected Plan sheet Divisions: (See previous plan – same sheets expected)
- 2) General Plan sheet requirements:
 - a) Plan production (e.g., size and scale) are to be provided in accordance with the FDOT Plans Preparation Manual.
 - b) Plans shall be printed to standard scale to size B (11"x17").
 - c) Plotting scales should typically be provided as follows:
 - Plan & Profile – horizontal scale of 1" = 40', vertical scale should typically be 10% of horizontal scale.
 - Roadway Cross Sections – horizontal scale of 1" = 20', but not smaller than 1" = 40', vertical scale should be 50% of horizontal scale.
 - Drainage Structure Sections – horizontal scale of 1" = 10', vertical scale 50% of horizontal scale
 - Signage & Marking – plot to scale such that details are clear and legible, but not smaller than 1" = 100'.
 - d) Plan & Profiles should typically be provided on the same sheet (i.e., plan over profile) unless right-of-way width or change in vertical elevation is too great, then separate plan and profile sheets will be acceptable.
- 3) Deliverables at the 30% design submittal level:
 - a) Three (3) signed and sealed copies of the project survey, an electronic signed copy of survey in pdf format, and an electronic file in an AutoCAD format identified by Lake County.
 - b) A letter from the Consultant to the County project manager listing **all** permits that will be required for the project and what agency the permit will be sought from
 - c) Submitted plans will include "line and grade" plan view and:
 - i. exceed the construction boundaries by 300 feet running longitudinally with the travelway and show existing conditions
 - ii. include a cover page acceptable to the County project manager
 - iii. include County typical sections
 - iv. include County general notes pages
 - v. Show centerline of proposed roadway as the baseline of project. The baseline of survey and centerline of project shall match.
 - vi. Show stationing with beginning and ending project station limits.
 - vii. show existing pavement striping (on additional sheet if necessary, for legibility)
 - viii. show existing conditions (grades, signalization, right-of-way, property lines, parcels, trees, driveways, fences, gates, utilities, everything relevant from the survey, etc.)
 - ix. Show proposed edge of pavement and preliminary proposed right-of-way on plans.
 - x. Show pond locations relative to roadways on plans.
 - xi. Signal plans are to be initiated with proposed Pole locations and ROW impacts provided on plans for review.
 - d) Submittal will include 3 sets of review plans (11" x 17" paper to proper legible scale) and a CD with an electronic copy of submitted plans in pdf format, and an electronic file in an AutoCAD format identified by Lake County of the submitted plans.
- 4) Deliverables at the 60% design submittal level:
 - a) A copy of the transmittals for the utility companies notified within the limits of the project for "red – brown – green" markups. All utilities within the project limits shall be notified.
 - b) A copy of **any and all** permit plans, permit package (including calculations if necessary)

EXHIBIT A – SCOPE OF WORK**Hartwood Marsh Road Plans Update Design**

that will be submitted to required permitting agencies or copy of a letter of request for exemption from needing a permit that will be sent to the permitting agency.

- c) Three copies of the preliminary Right of Way I.D. Maps showing existing and proposed right of way is to be provided. The existing right of way shown on the Right of Way ID Map shall include the recorded right of way, including the recording information for all public rights of ways and easements, and any other RW as approved by the Lake County Engineering Director or his designee. (if needed)
 - d) Two (2) signed and sealed copies of the Geotechnical Report with an electronic copy of submitted report in pdf format provided on the submittal CD. (if needed)
 - e) Submitted plans shall include the elements identified for a ‘Phase I’ submittal as defined in the FDOT Plans Preparation Manual, Vol 2, section 2.3.2.1 for the Drainage Map, Typical Sections, Project Layout, Plan and Profile, and Cross Sections sheets and include all items listed under the 30% submittal and:
 - i. all corrections made to the 30% reviewed plans addressing the comments made by the County project manager
 - ii. Failure to make corrections to the 30% plans as identified by the County Project Manager may result in the requirement of a resubmittal of 60% plans, when deemed necessary by County Project Manager.
 - iii. any problem areas that may exist with utilities noted on the plans
 - iv. plan views, profile views, and cross section views (interval to be set by the County project manager)
 - v. show proposed stormwater management system
 - vi. show the relevant Geotechnical information on the plans
 - vii. show approximate location of listed species and/or environmental impacts
 - viii. Provide preliminary signal plans.
 - f) Submittal will include 3 sets of review plans (11” x 17” paper to proper legible scale) and a CD with an electronic copy in pdf format and in an AutoCAD format identified by Lake County of the project and submitted plans
- 5) Deliverables at the 90% design submittal level:
- a) A copy of **all** needed permits for the project **approved** by the permitting agency with an electronic copy in pdf format provided on the submittal CD.
 - b) A copy of an exemption letter from needing a permit from a permitting agency (if applicable) with an electronic copy in pdf format provided on the submittal CD.
 - c) An **electronic** copy (AutoCAD, pdf, etc.) of the 60% plan submittal “red – brown – green” markups from **all** utilities within the limits of the project shall be included on the submittal CD
 - d) Copies of any correspondence between a utility and the Consultant shall be provided to the County project manager with an electronic copy in pdf format provided on the submittal CD.
 - e) Submitted plans shall include the elements identified for a ‘Phase II’ submittal as defined in the FDOT Plans Preparation Manual, Vol 2, section 2.3.2.2 for the Drainage Map, Typical Sections, Project Layout, Plan and Profile, Cross Sections, Retention/Detention Pond details, Signing and Pavement Marking Plans sheets and include all items listed under the 60% submittal and:
 - i. all corrections made to the 60% reviewed plans addressing the comments made by the County project manager
 - ii. all corrections made to the reviewed plans by the utilities (incorporate the information from the red – brown – green markups)

EXHIBIT A – SCOPE OF WORK

21-0921

Hartwood Marsh Road Plans Update Design

- iii. Failure to make corrections to the 60% plans as identified by the County Project Manager may result in the requirement of a resubmittal of 90% plans, when deemed necessary by County Project Manager.
 - iv. Proposed signing and pavement marking plans.
 - v. Signalization plans provided in accordance with the FDOT Plans Preparation Manual.
- f) Three (3) signed and sealed copies of the signal warrant (if applicable) with an electronic copy in pdf format provided on the submittal CD.
 - g) Three copies of the final Right of Way I.D. Maps showing existing and proposed right of way is to be provided addressing the comments made by the County project manager. (if needed)
 - h) Three copies of the preliminary legal descriptions and sketches (L&S) for proposed RW, easements and TCE. L&S for right of entry areas should be discussed with the RW Supervisor before preparation. (if needed)
 - i) Submittal will include 3 sets of review plans (11" x 17" paper to proper legible scale) and a CD with an electronic copy in pdf format and in an AutoCAD, format identified by Lake County of the project and submitted plans
- 6) Deliverables at the 100% design submittal level:
- a) Submitted plans will include all items listed under the 90% submittal and:
 - i. All corrections made to the 90% reviewed plans addressing the comments made by the County project manager
 - ii. All corrections made to the reviewed plans by the utilities (incorporate the information from the red – brown – green markups if any)
 - b) Three (3) copies Signed & Sealed of the Final Right of Way I.D. Maps showing existing and proposed right of way and addressing comments made by the County project manager with an electronic copy in pdf format provided on the submittal CD. (if needed)
 - c) Three (3) copies Signed & Sealed of the Final legal descriptions and sketches of proposed right of way and easements, addressing comments made by the County project manager with an electronic copy in pdf format provided on the submittal CD. (if needed)
 - d) Submittal will include 3 sets of review plans (11" x 17" paper to proper legible scale) and a CD in AutoCAD format of the submitted plans
- 7) Deliverables at the Final submittal level:
- a) 2 copies each of **all** permits with pdf copy provided on submittal DVD
 - b) 2 copies each of **any** agency permit exemption letter with pdf copy provided on submittal DVD
 - c) 2 copies each of **any** geotechnical reports with pdf copy provided on submittal DVD
 - d) Three (3) signed and sealed project plan record sets
 - e) One (1) Scanned pdf copy of the Original Signed and Sealed Set clearly showing the engineers signature, date, and seal provided on the submittal DVD.
 - f) Provide (1) GIS-ready electronic file (shapefile or file geodatabase) and (1) KMZ file on submittal DVD

E. Invoice Requirements:

- 1) The Consultant is free to submit required deliverable items **before** the listed submittal percentage level with the approval of the County project manager
- 2) Design submittals will not be considered complete until all items listed under the appropriate design submittal level are delivered and approved by the County

EXHIBIT A – SCOPE OF WORK

21-0921

Hartwood Marsh Road Plans Update Design

- 3) Invoices will be put thru for payment by the County project manager **only** when the County is in possession of all deliverables for the relevant submittal.
- 4) Advancement to the next design submittal level shall not take place until the previous submittal is approved by the County and considered complete.
- 5) Invoices should be submitted at monthly internals

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