

Scope of Services Design and Surveying Services

Mercer Road Improvements at Greendale

The Lexington-Fayette Urban County Government (LFUCG), the Local Public Agency (LPA), plans to enter into an Engineering Service Agreement with a consulting firm for professional engineering and registered land surveying services (Consultant) for the *Mercer Road Improvements at Greendale project*. The project will be funded through a Federal Highway Administration, Congestion Mitigation and Air Quality (CMAQ) grant, administered through the Kentucky Transportation Cabinet Office of Local Programs (KYTC OLP).

The project entails widening the westbound Mercer Road approach at Greendale Road (SR 1978), and adding bike lanes, new sidewalk, associated signal modifications, and curb and gutter with related drainage infrastructure. The Scope of Services includes topographic and cadastral surveying; preparation of preliminary and final design plans, bid documents, easement descriptions and right-of-way plats (if required); and completion of paperwork to satisfy the requirements of the Kentucky Transportation Cabinet's LPA Project Guide.

Utilizing descriptions and plats prepared by the consultant, the LFUCG will conduct negotiations for acquisition of rights of way and easements as needed.

Project Background

Mercer Road is an urban collector street serving an industrial area with an AADT of about 9300. The westbound approach at Greendale Road is a single lane serving all traffic movements at the intersection. This project will entail widening both sides of Mercer Road from the intersection with Greendale to about 450 feet east, sufficient to provide separate lanes for left, right and through movements at Greendale. The project will also include curbs and gutters with related storm drainage, bike lanes and along both sides of Mercer Road within the above stated limits, and a sidewalk on the north side of Mercer Road from Greendale to the first driveway entrance encountered to the east. Traffic signals and their support poles will be replaced, adjusted and modified for the new lane configuration. The project will also include striping and signage appropriate for the new lanes and crosswalks at the intersection, and the addition of pedestrian signals on the eastern side of the intersection. Portions of the existing rock wall at the intersection of Greendale and Mercer Road will be removed and replaced.

Scope of Services

1. Pre-Design Conference and Review of Existing Information

- 1.1. Meet with DOE and KYTC staff for a Project Team Meeting to discuss the project requirements and proposed Scope of Work. The meeting shall include a project site visit with the DOE.

- 1.2. Review all project related information as provided by DOE. Obtain available LFUCG GIS data for the area, mapping including parcel lines, aerial photography, and existing infrastructure. The most recent aerial photography for the project area licensed by LFUCG will be made available to the Consultant.

2. Field Survey and Related Research

- 2.1. The Consultant shall perform sufficient field survey to be confident in his design. Sufficient field survey should be done to confirm, at a minimum:
 - a) Topography;
 - b) Existing edge of roadway, entrances, turn lane configurations, etc.
 - c) Storm and sanitary sewers, and related structures (horizontal and vertical)
Note: Based on existing GIS data, no sanitary sewers are in the project area;
 - d) Location and ownership information of overhead and underground utilities, including poles or towers;
 - e) Significant site improvements, such as fences, retaining walls, etc.;
 - f) Location and identification of significant trees and vegetation;
 - g) Cross sections taken at 50-foot intervals, at driveways, steps, retaining walls and as otherwise needed;
 - h) Location of existing corner monuments and R/W markers;
 - i) Temporary benchmarks for use during construction, set outside of construction limits (minimum of 3);
 - j) Location of all existing easements in the project area; and
 - k) Staking associated with easement acquisition and establishing street centerline prior to bidding for construction.

The elevations of utilities, sewers, and other critical items shall be verified during the field survey. Such verification shall be carefully coordinated with the appropriate parties (e.g., utility companies and LFUCG). If digging operations, permission, etc. are necessary in certain instances it shall be the responsibility of the Consultant to see to it that they are performed properly and to get appropriate approvals. All surveyed data will conform to the LFUCG's Policy for Digital Submission using State Planes coordinates and NAD-83 KY N 1601 and NAVD 1988.

- 2.2. Research all deeds, plats and other property records to identify property lines, right-of-ways and easements.
- 2.3. Perform boundary surveys and set corner pins (or offsets) as necessary to define the physical limits of properties for which fee simple purchase for right-of-way must be acquired.

3. Preliminary Design

- 3.1. Develop an updated set of Preliminary Plans to fully convey the intent of the construction. The plans may include, but are not limited to the following items:
- a) Plan and profile depicting existing and proposed conditions (all features identified in the survey shall be shown on the plans);
 - b) Existing and proposed topography;
 - c) Typical roadway/sidewalk sections depicting existing and proposed conditions;
 - d) Alignments and grades for approach roads and turn lanes as needed;
 - e) Proposed limits of disturbance;
 - f) Location of property lines with all owners/lessees and street addresses shown;
 - g) Existing and proposed right-of-way lines and easements;
 - h) Sanitary and storm sewer plan and profile as needed if project will impact these features;
 - i) Stream sections, situation survey and necessary channel changes; culvert sizing and inlet/outlet design, as required;
 - j) Quantities Table (to be consistent with the bid schedule);
 - k) A Traffic Management Plan, consistent with KYTC guidelines;
 - l) A plan for lighting, signalization, signage and striping; (LFUCG Traffic Engineering Department will provide extensive technical guidance (drawing markups, technical specifications, etc.) for these features) and;
 - m) A plan for erosion control.

Preliminary Plans shall be so identified. The Consultant shall deliver two paper copies to the DOE and one paper copy to each utility company.

- 3.2. Prepare a Preliminary Design Technical Memorandum documenting the following:
- a) Preliminary Plans;
 - b) Identification of all known utility conflicts and proposed solutions;
 - c) List of impacted properties and property owners;
 - d) List of required easements and road right-of-way taking and apparent encroachments (Determination of land rights shall be limited to recorded easements and right-of-way; prescriptive easements will not be considered.);
 - e) List of required permits and respective agencies from which the permit(s) will be secured;
 - f) List of agencies that will require notifications and/or approvals; and
 - g) Preliminary Opinion of Construction Costs.
- 3.3. Meet with the DOE., to review the Preliminary Design Technical Memorandum. Consultant shall be responsible for meeting agendas, handouts, and meeting summaries.

4. Final Plans, Specifications, and Bid Documents

4.1 Upon completion of the Preliminary Plans, the Consultant shall incorporate all significant comments into a revised (Final) plan set and submit three paper copies to the LFUCG DOE.

Final Plans shall build upon the completed and approved information in the Preliminary Plans. In addition to the components of the Preliminary Plans, Final Plans shall also include but not be limited to:

- a) Cross sections at 50-foot stationing, all driveways, all step locations, and all retaining walls. Cross sections shall generally extend 30 feet from proposed curb face or to the front of a structure, whichever is closer; however, longer coverage may be needed in some locations (for example to address regrading);
- b) Right-of-Way strip maps and summary sheets;
- c) Coordinate Control Plan; and
- d) Site-specific Detail Sheets as needed.

5. Design Criteria

Drawing Scales, Units, and Unit Conversion

All quantities measured, calculated, and specified shall be in English units (e.g., feet, pounds).

All drawings and sheets shall conform to the follow scales:

- a. Plan Sheets 1" = 20'

- b. Profile sheets 1" = 20' horizontal
1" = 2' vertical

- c. Cross sections sheets 1" = 5' horizontal
1" = 5' vertical

Note: Combined Plan/Profile sheets are preferred.

All designs and plans must be approved by the LFUCG DOE. The following shall apply:

- a. Drawing files shall be prepared using or shall be converted to AutoCAD and will be transmitted to the Urban County Government upon request. The formatting specifics shall be determined during the contract negotiation process.
- b. Unless otherwise stated, design shall incorporate LFUCG 2017 Standard Drawings, and KYTC 2012 Standard Drawings in that order of preference.

- c. Intersection improvements are to be ADA compliant. Design shall comply with the AASHTO green book, the Manual of Uniform Traffic Control Devices and, to the extent practicable, the AASHTO Roadside Design Guide.
- d. The preparation of an Erosion and Sediment Control (ESC) Plan including a Storm Water Pollution Prevention Plan (SWPPP) integrating the non-structural and structural practices and procedures of the Stormwater Manual is a requirement for all construction projects and is the responsibility of the Contractor. However, Consultant shall prepare a generalized plan. The ESC Plan as developed through preliminary and final plans, as well as the SWPPP will be reviewed and approved by LFUCG DOE.
- e. Where applicable, consultant shall prepare a Traffic Management Plan consistent with KYTC guidelines.

6. Detailed Cost Opinions

The Consultant shall prepare a detailed opinion of probable construction cost at completion of the preliminary and final design stages of the project. Line items for construction costs shall be consistent with the Quantities Table in the drawing set and the Bid Schedule in the Form of Proposal. The construction cost opinion shall also be accompanied by separate cost opinions for utility relocation, and total right-of-way/easement acquisition.

7. Easement and Right-of-Way Acquisition

Plat(s) and a Right of Way Strip Map shall be prepared as required for acquisition of right-of-way, and they shall meet all requirements of the Lexington-Fayette Urban County Government Subdivision Regulations, Department of Law; the LFUCG DOE Digital Submission Policy; and the requirements of the *KYTC Highway Design Manual*.

Permanent and temporary easements shall be drawn to sufficient scale to be clear and distinguishable, and such drawings shall meet the requirements of the Lexington-Fayette Urban County Government DOE.

The Consultant shall set corner pins (or offsets) as necessary to define the physical limits of all properties which must be acquired in fee simple. Consultant shall provide a legal description for each right-of-way and easement taking.

LFUCG will conduct negotiations with property owners for acquisitions of easements and right-of-way.

8. Environmental Assessment

The KYTC Office of Local Programs will take primary responsibility for obtaining the environmental clearances for these projects. However, the Consultant shall prepare

supporting documentation, such as maps, plans, etc., as needed. Any environmental subconsultant, if required, will not be the responsibility of the Consultant.

9. Public Interface

The Consultant shall meet with elected officials, affected owners and businesses. No public meetings are anticipated for this project. If requested to do so, the Consultant will lead the meetings. The Consultant shall provide all necessary exhibits and prepare minutes of all meetings they attend.

10. Utility Company Coordination

There are numerous utilities within the limits of these projects. The Consultant will meet and coordinate with all affected utility companies as necessary, with the goal of minimizing disturbance to utilities and underground lines. Consultant shall obtain utility location data for purposes of mapping, and shall determine which parcel easements/acquisitions if any should be expedited to facilitate timely relocation of utilities.

11. Bid Phase

The Consultant shall provide all bid documents to a private planroom/printing service (to be identified) for distribution to potential bidders. The Consultant shall be responsible for keeping a permanent record of all individuals or companies that purchase bid documents through the private printer.

The Consultant's scope shall include assisting with Bid Administration. At minimum, this includes responding to technical questions during the bid period, preparing addenda, reviewing and approving alternates, attending pre-bid meeting, attending bid opening, preparing and certifying a tabulation of bid prices, evaluating bids received, and submitting a recommendation of award.

12. Construction Phase

The Lexington-Fayette Urban County Government will provide construction inspection. However, the Consultant shall be available to advise in matters of intent during construction. The Consultant shall also review and approve shop drawings.

13. Schedule and Completion

The Consultant shall meet deadlines as provided in the following schedule. Calendar days are counted from the date that a written Notice to Proceed is received by the Consultant. Exact times of meetings shall be arranged by the Consultant; locations of meetings shall be at either the site of proposed improvements or at the DOE office, as deemed appropriate.

Meeting to review design intent	20 days
Submit preliminary plans; provide to utilities	90 days
Meeting to review preliminary plans/contact utilities	100 days
Submission of final plans	120 days
Meeting to review final plans	130 days
Submission of completed final plans	140 days
Preparation of ROW/easement plats and descriptions	160 days

14. Miscellaneous

All preliminary plans and accompanying documents are subject to review by the Lexington-Fayette Urban County Government Division of Engineering, Division of Water Quality and Division of Traffic Engineering. Documents shall also be subject to review by the Kentucky Department of Highways and the Federal Highway Administration. The Consultant shall be responsible for addressing comments from and requirements of these agencies into all documents.

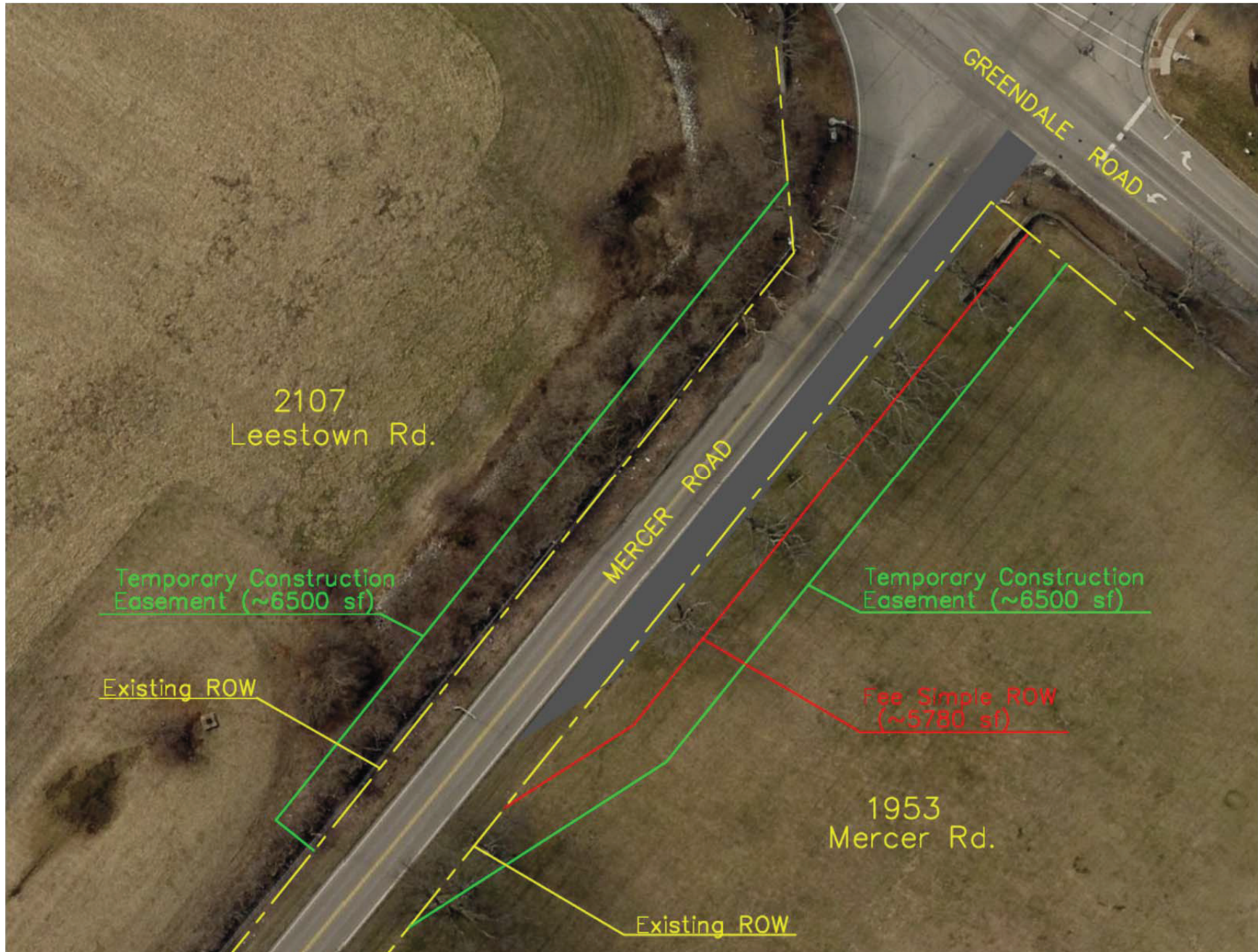
The Consultant shall also be responsible for preparing paperwork and documents as required for Local Public Agency (LPA) Project funding.

Consultant shall attend periodic progress meetings with the Division of Engineering and/or Kentucky Department of Highways and must submit a written monthly status report detailing work in the past month, and anticipated work in the upcoming month. This report must be submitted in written format as well as in an electronic format acceptable by the DOE.

15. Attachments

- A. Project Map Depicting Proposed Roadway Widening Extents
- B. Project Map Depicting Proposed Sidewalk Extents
- C. GIS Map of Storm Sewers

Attachment A – Mercer at Greendale



Attachment B



Attachment C
Existing Stormwater Collection System

