



June 3, 2022

Mr. John Nagel
Township Manager
East Whiteland Township
209 Conestoga Road
Frazer, PA 19355

**RE: Proposal for Topographic Survey and Preliminary Engineering
Route 30 Corridor Improvement Project**
East Whiteland Township, Chester County, PA
McMahon Project No. 822424.11

Dear Mr. Nagel:

McMahon Associates, Inc. (McMahon) is pleased to provide this proposal to perform topographic survey and preliminary engineering design services for the Lancaster Avenue (S.R. 0030) Corridor Improvement Project between Planebrook Road and Church Road. Since the Township is applying for State and/or Federal grant funding, the project must follow the PennDOT Project Delivery process. We are providing a scope and fee to complete the topographic survey and to initiate preliminary engineering as part of the PennDOT Project Delivery process.

SCOPE OF SERVICES

The specific tasks to be completed as part of this proposal are as follows:

Task 1: Topographic Survey

The services to be performed pursuant to this agreement are strictly limited to those expressly set forth herein. No additional services will be provided unless requested and agreed to in writing. The specific tasks to be completed as part of this proposal are as follows:

- 1) **Topographic Survey:** McMahon will obtain detailed topographic survey along Lancaster Avenue (SR 0030) for 9,000 feet between Prospect Avenue to 500' east of Church Road. McMahon will also need to perform topographic survey on the following approaches: 600 feet along Church Road, 600 feet along Sproul Road (SR 0352) and 200 feet along Planebrook Road. Survey will be conducted along the side of Lancaster Avenue to obtain survey for proposed roadside improvements, including site access, ADA and pedestrian improvements.
- 2) **Aerial mapping:** McMahon will utilize aerial mapping to supplement the ground-based data to form a more complete map to assist in planning and design.



- 3) **Right of Way Research:** Research will be completed to establish the Right-of-Way along Lancaster Avenue (SR 0030). Deed and plan research will be conducted on approximately 70 parcels within the limits outlined above: Right-of-way research will be performed utilizing the State, County and Township public records.

Procedures

- The horizontal and vertical datum will be State Plane Coordinate System.
- The topographic survey will be performed by ground-based measurement techniques.
- The Right-of-Way lines will be reconstructed utilizing public records and resources. AutoCAD Civil 3D will be used to prepare the survey. All drawing files will be in an AutoCAD Format (DWG) with a base point of 0,0,0 and a North Rotation of 0 degrees.

Requirements

- Roadway cross sections will be obtained on station at 50-foot intervals.
- Roadway alignment and topography.
- Traffic line patterns and the location of all roadway pavement markings.
- Traffic signs with a description of each sign.
- Utility poles and guy wires.
- Trees and landscaping along the proposed road.
- Guide rails, median barriers, and traffic separation islands.
- Curbs, sidewalks, and curb ramp locations
- Surface location of drainage inlets and end walls and manhole covers within the specified limits.
- Visible utilities including water and gas valves, junction boxes and any other utility structures on or near the roadway or proposed sidewalk area.
- Location of underground utilities which are identifiable from utility markings and/or plan information from the results of PA One Call inquiry. The locations of underground utilities are only approximate.
- Intersecting Streets and driveways, including widths and types.
- Any other topography within the specified limits which may interfere with grading, construction, or paving operations.
- Surface location of sanitary sewer manholes if structures are safe and accessible and access is not restricted by the governing sewer authority. Invert data will be obtained by existing plans if available.

Boundary

The survey will field locate property line and right-of-way monumentation associated with the right-of-way, existing easements.

Access

This access is limited to only the areas near the project scope and will occur during normal business hours. Intent to enter letters will be prepared and forwarded to the Township for mailing to the property owners in advance of the survey field work.



Research

Deed and plan research will be conducted within the limits outlined above: Right-of-way research will be performed utilizing PennDOT, County and local township public records and resources provided by the client.

Plan of Survey

Final mapping will include the required information. In addition, property owner names, block numbers, unit numbers and tax parcel numbers will be shown on the AutoCAD drawing.

Task 2 – Preliminary Engineering – Line and Grade Development

McMahon will layout the detailed horizontal and vertical geometry for the proposed roadway improvements the topographic survey completed in Task 1. McMahon will evaluate and identify the proposed curb, sidewalk, ADA ramps, crosswalks, pavement marking and signage, grading, roadside design, access management, drainage facilities, culvert structures, conceptual Post Construction Stormwater Management (PCSM) facilities, utility relocations, and approximate locations for easements and required right-of-way.

The following design guidelines and publications will be utilized for the project:

- a. *PennDOT Design Manual, Part 2 (DM-2): Highway Design, Publication 13M, March 2015 Edition*
- b. *A Policy on Geometric Design of Highways and Streets (Green Book), Seventh Edition (2018), American Association of State Highway and Transportation Officials (AASHTO)*
- c. *Guide for the Planning, Design and Operation of Pedestrian Facilities, (2004), American Association of State Highway and Transportation Officials (AASHTO)*
- d. *Pennsylvania's Traffic Calming Handbook (2012), PennDOT Publication 383*
- e. *Manual of Uniform Traffic Calming Devices, (2009), Federal Highway Administration*
- f. *PennDOT Publication 408, 2020 Edition*

The Line and Grade plan set will include the following:

Construction Plans

- Title Sheet
- Index Sheet
- Location Map and General Notes
- Typical Roadway Sections, indicating pavement structure type and depths
- Roadway Improvement (geometric) Plans, drawn to 1" = 25' scale
- Profile Sheets
- Grading Plans (including preliminary drainage and PCSM facilities)

Also Included Plans

- Signing and Pavement Marking Plans
- Conceptual Traffic Control Plan
- Truck Turning Plans



Opinion of Cost for Construction - The "Opinion of Cost" will reflect a rough approximation of material quantities from the preliminary Civil 3D CAD drawings, including mobilization, maintenance and protection of traffic, erosion and sediment control, and contingency. The unit costs for construction items will be based on PennDOT intersection projects and past projects.

Utility Coordination - McMahon will comply with PA Act 287 of 1974 as amended by Act 187 of 1996, commonly known as the "Underground Utility Protection Act" formerly known as Act 38. A "PA One Call" request will be completed, utilities will be marked-out in the field and representatives of McMahon will field verify the survey information with regard to utility location and size. McMahon will submit preliminary plans for utility notification and verification with all the utility companies by Pa One Call prior to the Safety Review submission. This is to identify utilities only within the project area to obtain existing utility information, relocation requirements and requirements for crossing those utilities with proposed features. Coordination will include mapping the facilities onto the base plans, forwarding to the utility companies for verification.

Preliminary Roadway Drainage Design – McMahon will design the preliminary drainage for the project. This work will include conventional drainage features such as shoulders, swales, ditches, inlets, and storm pipes. The drainage system will be designed by McMahon using very preliminary calculations and engineering judgment. The need for additional drainage pipes, swales and ditches will be analyzed by determining the approximate roadway drainage areas. All existing drainage restrictions will be determined and drainage structures that require permitting will be identified. The Design Field View plans will show proposed minor drainage features (inlets and pipes), major drainage crossings, drainage ditches, and PCSM facilities. The drainage design will be in accordance with all applicable sections of PennDOT Publication 13M, Design Manual, Part 2, Chapter 10 and PennDOT Publication 584, PennDOT Drainage Manual. These drainage facilities will be designed in conjunction with the PCSM facilities.

Conceptual PCSM Facilities – McMahon will coordinate with PADEP and the Conservation District for Post Construction Stormwater Management Plan (PCSM) that will be included in this project, including attendance at, and minutes preparation for the pre-application meeting with both agencies. The conceptual stormwater management design will be determined by McMahon in accordance with the local stormwater management plan. This task will provide only the conceptual development of the storm water design for potential stormwater BMP facility locations and preliminary sizing computations.

ADA Design – McMahon will layout the preliminary design of all new curb ramps at the appropriate locations in accordance with PennDOT's current ADA standards.

Conceptual Traffic Control – McMahon will develop a conceptual traffic control plan that will evaluate multiple traffic staging schemes as well as potential detours for the project.

Line and Grade Submission - McMahon will prepare the Line and Grade plan set in accordance with Publication 10X, Design Manual Part 1X for the Line and Grade submission, including all required District forms and Publication 10X checklists. The proposed roadway geometry and lane requirements will be reviewed to ensure compliance with the design criteria and environmental constraints. In addition, the



Line and Grade submission will include a Design Criteria Matrix, engineer’s preliminary opinion of construction cost, and all supporting documentation. Please note, the Line and Grade Submission cannot be made to PennDOT until a first PennDOT Project Manager has been assigned to the project and until the environmental process has been initiated, and more specifically the Scoping Field View.

SCHEDULE

We are prepared to initiate work on Task 1 Topographic Survey to be completed from July to August 2022. Task 2 Preliminary Engineering will commence in August 2022 immediately upon receipt of topographic survey.

FEE

The fee for the foregoing scope of work is as follows:

Task 1 – Topographic Survey.....	\$ 70,400
Task 2 – Preliminary Engineering – Line and Grade.....	\$ 158,600
Total Fee	\$ 229,000

The above fee is exclusive of reimbursable and out-of-pocket expenses including ATR rental, reproduction, overnight mail packages, plotting, graphics, reimbursement of personal automobile usage *Standard Provisions for Professional Services* at the current IRS-approved rate, tolls, permit fees, and other incidental expenses in accordance with. Additionally, meeting preparation and/or attendance, will be invoiced on a time-and-materials basis at the rates contained in the attached *Standard Provisions for Professional Services*, when requested and authorized and billed separately. If any of the additional services are required, we will prepare a fee proposal addendum for extra work authorization, as requested.

EXCLUSIONS

The following services have been excluded from this proposal, but will be provided as an addendum prior to the start of Preliminary Engineering (approx. August 2022):

- **Scoping Field View** - A Scoping Field View meeting will occur as part of this project, and a Scoping Field View form will be prepared. McMahon will coordinate with the Township and PennDOT staff on the Scoping Field View date. The SFV document will be prepared using PennDOT’s CE Expert System and will be submitted to PennDOT District 6-0 for review and comment. Attachments to the SFV document will include a project location map and PNDI receipt.
- **Threatened and Endangered Species** - McMahon will complete the PNDI Project Environmental Review to identify the potential T&E species that may exist within the project area.



- **Wetlands and Waterways** - Wetland delineations will be completed to determine the boundaries of each wetland area by identifying wetland soils, vegetation and hydrology that meet the criteria outlined in the manual. Soil investigations will be conducted to determine the presence of hydric soil indicators, an inventory of plant species will determine the presence of hydrophytic vegetation, and primary and secondary wetland hydrology indicators will be noted. Wetland boundaries and the waterway's ordinary high water mark (OHWM) will be flagged for survey as required for a permit application.
- **Cultural Resources** – A Project Review Form (PRF) needs to be submitted to the PA State Historical and Museum Commission (PHMC) for review and concurrence.
- **Hazardous Waste** - A review of the PA One Map to determine if there are any sensitive waste concerns in the project area. A Hazardous Waste Memo and an Environmental Due Diligence form will be prepared.
- **Section 4(f) Documentation** – Preparation of documentation based on results of cultural resources findings and adjacent parkland.

In addition to the exclusions listed above, this proposal does not include services related to addressing review comments, major design revisions, E&S plans, PCSWM plans, right-of-way plans, pavement design, soil borings, subsurface utility engineering, final highway and structure design, utility engineering, H&H analysis, environmental permitting, preparation of final plans and bid documents, construction stakeout, construction administration and inspection. The services to be performed pursuant to this agreement are strictly limited to those expressly set forth herein. No additional services will be provided unless requested and agreed to in writing.

TERMS AND CONDITIONS

The conditions of this agreement call for the execution of this contract with the understanding that **invoices for services will be submitted monthly and are payable within 30 days of issuance**. All projects with overdue invoices exceeding 60 days will be subject to a stoppage of all work. Any changes in the specific work program described above will result in an adjustment of the conditions and fees.

If the terms of this contract, as contained herein, and in the attached Standard Provisions for Professional Services are agreeable to you, please execute both copies of the agreement below in the space provided and return one signed copy to our office. If you have any questions, please feel free to contact me or Chris Williams, P.E.

Sincerely,

A handwritten signature in black ink that reads "Brian DiBiase".

Brian DiBiase, P.E., PTOE
Senior Project Manager & Design Lead – Exton

835 Springdale Drive, Suite 200, Exton, PA 19341
P: 610.594.9995

mcmahonassociates.com | bowman.com



Accepted by East Whiteland Township

I have reviewed all terms of this contract, and I am authorized to sign in the space below for execution of this contract.

By: John Nagel
(Signature of Authorized Representative)
John Nagel

Township Manager
(Printed Name of Authorized Representative)

Title: _____

Date: 6/13/2022

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McMAHON ASSOCIATES, INC.
STANDARD PROVISIONS FOR PROFESSIONAL SERVICES
JANUARY 2022

The following per hour rates will apply to actual time devoted by McMahan staff to this project. McMahan reserves the right to make adjustments for individuals within these classifications as may be desirable in its opinion by reason of promotion, demotion, or change in wage rates. Such adjustments will be limited to the manner in which charges are computed and billed and will not, unless so stated in writing, affect other terms of this Agreement, such as estimated total cost. The following ranges of rates will apply to actual time devoted by McMahan staff to this project computed to the nearest one-half hour.

<u>PERSONNEL</u>	<u>HOURLY RATES</u>
Field Personnel	\$ 50.00
Technician / Admin I - V	\$ 75.00 - \$105.00
Survey Technician	\$ 75.00 - \$85.00
Party Chief / Chief of Surveys	\$120.00 - \$160.00
Engineer / Planner I - VI	\$115.00 - \$165.00
Senior Engineer / Planner I - XI	\$165.00 - \$240.00
Associate / Sr. Associate	\$235.00 - \$250.00
Principal	\$260.00

TERMS

1. **Payment:** Payment is due upon receipt of invoices within 30 days. Client agrees to pay interest at the rate of 1 and 1/2% per month on invoices that are more than 30 days past due. After 30 days past due, McMahan may suspend services and refuse to release work until Client has paid all amounts due. If payment is not made in accordance with the Agreement, Client agrees to pay reasonable attorney's costs and fees incurred by McMahan to collect payment.
2. **Drawings, Sketches and Specifications:** All drawings, sketches, specifications and other documents in any form, including electronic, prepared by McMahan are instruments of McMahan's services, and as such are and shall remain McMahan's property. Upon payment in accordance with the Agreement, Client shall have the right to use and reproduce the documents solely for the purposes of constructing, remediating, using or maintaining the project contemplated by the Agreement. The documents are prepared for use on this project only and are not appropriate for use on other projects, any additions or alterations of the project, or completion of the project by others. Use of the documents in violation of this paragraph without the express written consent of McMahan is prohibited and shall be at Client's sole risk. Client agrees to indemnify, defend and hold harmless McMahan from any claims, damages, losses, liabilities and expenses arising from such prohibited use.
3. **Fees and Schedule:** Fees and schedule commitments will be subject to change for delays caused by Client's failure to provide specific facilities or information, or for delays caused by third parties, unpredictable occurrences or force majeure.
4. **Termination:** No termination of this Agreement by Client will be effective unless Client gives seven days prior written notice with the reasons and details, and McMahan is afforded an opportunity to respond. Where the method of payment is a lump sum, Client agrees that the final invoice will be based on services performed to the effective date of cancellation, plus an equitable adjustment to provide for costs McMahan incurred for commitments made prior to cancellation. Where the method of payment is time and materials, Client agrees that the final invoice will include all services and direct expenses up to the effective date of cancellation plus an equitable adjustment to provide for costs McMahan incurred for commitments made prior to cancellation.
5. **Confidentiality:** Technical and pricing information in this proposal is the confidential and proprietary property of McMahan and is not to be disclosed or made available to third parties without the written consent of McMahan.
6. **Insurance:** McMahan will maintain at its own expense Worker's Compensation insurance, comprehensive general liability insurance and professional liability insurance.
7. **Approvals:** McMahan does not represent or warrant that any permit or approval will be issued by any governmental or regulatory body.
8. **Professional Standards:** McMahan will perform its work in accordance with generally accepted professional standards. There are no other warranties, express or implied. This Agreement is solely for the benefit of the Client and its successors. There is no third-party beneficiary of this Agreement.
9. **Expert Witness Fees:** Client agrees to pay reasonable expert witness fees if McMahan or any of its employees are subpoenaed to testify as a fact or opinion witness in any court proceeding, arbitration or mediation to which Client is a party.
10. **Hazardous Waste:** Unless otherwise provided in this Agreement, McMahan shall have no responsibility for the discovery, presence, handling, removal or disposal of hazardous materials or underground structures at the project site.
11. **Assignment:** Neither the Client nor McMahan shall assign this Agreement without the written consent of the other.