



**EARTH  
ENGINEERING  
INCORPORATED**  
*Geotechnical Engineers & Geologists*

May 2, 2023  
EEI Proposal No.: LV7107

Mr. Jonathan Bleemer  
Upper Dublin Township  
370 Commerce Drive  
Fort Washington, Pennsylvania 19034  
TEL #: 215.643.1600, X3222

✉ [JBleemer@UpperDublin.Net](mailto:JBleemer@UpperDublin.Net)

c/o

Mr. Zachary Zazo, PMP, CDT, LEED AP  
Senior Project Manager  
D'HUY Engineering  
One East Broad Street  
Bethlehem, Pennsylvania 18018  
TEL #: 610.865.3000

✉ [ZSZ@DHUY.com](mailto:ZSZ@DHUY.com)

Re: **Consulting & Inspection Services  
Public Works Renovation  
Upper Dublin Municipal Building  
Upper Dublin, Pennsylvania**

Dear Mr. Bleemer:

Earth Engineering Incorporated (EEI) is pleased to submit this proposal for performing consulting and inspection services.

Earth Engineering Incorporated is a full service geotechnical and environmental engineering consulting firm specializing in subsurface investigations, environmental site assessments, consulting, geostructural design, and construction inspection and testing services. EEI is composed of a proven staff of qualified engineers, geologists and scientists experienced in meeting the needs of our clients on a timely, results oriented, and cost-effective basis. Issues such as cost-effective design alternatives are evaluated along with site development issues. This approach has enabled EEI to contribute to the successful development of a wide range of projects.

The services outlined in this proposal include the following:

- ◆ Geotechnical consulting
- ◆ Subgrade preparation
- ◆ Proof-rolling and compaction control
- ◆ Foundations
- ◆ Concrete and reinforcing steel
- ◆ Masonry
- ◆ Structural steel
- ◆ Asphalt
- ◆ Fire Proofing

For each day on site, EEI will prepare a typewritten *Daily Field Report* documenting the inspections performed. Prior to the beginning of EEI's involvement at the site, it will be necessary that the project Site Plan(s) and/or a Structural Plan(s) and specifications be provided. Relevant information obtained from these plans will be incorporated into the *Daily Field Reports*.

### **Geotechnical Consulting**

Earth Engineering Incorporated will provide qualified professionals to evaluate specific conditions encountered during construction and to provide professional recommendations, if required. This consulting is conducted under the supervision of a Professional Engineer/Professional Geologist registered in the state in which the work is performed and qualified in the field of geotechnical and foundation engineering. *This service will be provided only at the request of the client, should the need arise.* This service is offered to allow for swift remediation of problem conditions, therefore increasing productivity of construction operations.

### **Subgrade Preparation**

EEI will monitor the proof-rolling operations of slab and pavement subgrades. Areas exhibiting instabilities will be delineated and recommendations for remediation and stabilization will be provided. The compaction of the subgrade will be monitored in accordance with the project drawings and specifications. The results of the subgrade preparation inspections will be included in the typed daily field reports.

### **Compaction Control**

Earth Engineering Incorporated will provide qualified personnel to test the compaction of backfill material in accordance with contract drawings and specifications. The details of this service are outlined below.

- ◆ Evaluate the structural fill materials through visual inspection or laboratory testing, if required for suitability and compliance with specifications.
- ◆ Laboratory testing to determine the moisture-density relationship of the structural fill material for subsequent use in compaction control.
- ◆ Inspect and document the fill and compaction procedures and perform in-place density tests to verify specified percent compaction. The in-place density testing will be conducted with state-of-the-art nuclear testing gauges with the information entered into a computer-generated table for printed presentation. The results will be reviewed internally prior to distribution.
- ◆ Laboratory soils testing and field compaction testing will be performed in accordance with the specifications supplied to EEI.



## Foundations

Footing bottoms will be inspected by qualified personnel for suitable bearing and construction practices as outlined in the project specifications. Typed daily footing bottom inspection reports will be prepared by EEI, reviewed, and provided to the client. These footing bottom reports will include the following:

- ◆ The suitability of the subgrade encountered at the footing bottom elevation prior to pouring.
- ◆ Confirmation of soil type and correlation to bearing capacity as per project drawings and specifications.
- ◆ Presence and methods of control of groundwater, if encountered.

EEI staff is highly experienced in field consulting and inspections, and, therefore, will provide remediation solutions to daily earthwork related problems should the need arise. These recommendations will provide increased efficiency in the earthwork and foundation installation operations.

## Concrete and Reinforcing Steel

EEI will provide qualified personnel to inspect and document the placement of concrete during construction. This service will include:

- ◆ Inspect and document type, size, and spacing of reinforcing steel, to confirm compliance with project specifications.
- ◆ Inspect form work in accordance with specifications and accepted construction procedures.
- ◆ Documentation of temperature and slump of the concrete, as well as preparation of compressive strength test cylinders using ASTM and ACI guidelines.
- ◆ Coordinate the sample pick-up and subsequent testing on the 7<sup>th</sup> and 28<sup>th</sup> day after sample preparation for compressive strength by a subcontracted local testing laboratory. The results from this testing will be presented by EEI in final printed reports documenting the concrete construction.

EEI will work in cooperation with the contractor to ensure that quality samples are prepared and properly stored. According to ACI standards, *“To facilitate testing and inspection, the contractor shall: Furnish any necessary labor to assist the designated testing agency in obtaining and handling samples at the project or other sources of materials. Advise the designated testing agency sufficiently in advance of operations to allow for completion of quality tests and for the assignment of personnel. Provide and maintain for the sole use of the testing agency adequate facilities for safe storage and proper curing of concrete test specimens on the project site for the first 24 hours as required by ASTM C31.”* EEI cannot be responsible for test specimens prepared or additional testing which may be required if appropriate cooperation and facilities are not provided by the concrete or general contractor.



## **Masonry**

EEI will provide qualified personnel to inspect and document the masonry construction concurrently with the inspection services outlined above. This service will include:

- ◆ Documentation of masonry mortar and/or grout preparation
- ◆ EEI will prepare cube an/or prism specimens as required for subsequent compressive strength testing
- ◆ Coordinate the sample pick up and subsequent testing for compressive strength by a subcontracted local testing laboratory. The results from the testing will be presented by EEI in final printed reports documenting the masonry construction.

## **Structural Steel**

EEI will provide qualified personnel to inspect and document the various phases of Structural Steel Construction. EEI will manage and coordinate the inspection services outlined below with our in-house personnel and/or with an independent inspection firm. EEI will be responsible for the coordination of the performance of these inspections as well as technical review. The services to be provided include the following:

- ◆ Field inspection of all phases of steel erection in accordance with specifications, drawings, and accepted standard practices.
- ◆ Inspect bolted connections and document tightening procedure.
- ◆ Inspect welding operations for location, fit up procedures, use of proper electrodes, and quality and size of welds by visual and/or appropriate non-destructive test methods, if required.
- ◆ Inspect the installation of metal deck for compliance with specifications and approved contract drawings.
- ◆ Inspect and document shear stud installation.
- ◆ Review mill test reports of structural steel.
- ◆ Review welder qualifications (shop and field).

Upon completion and approval of the work, a certification can be provided that the structural steel construction inspected on the project was accomplished in accordance with AWS requirements and the contract documents.



## **Asphalt**

EEI will provide qualified personnel to inspect and document the type and thickness of the various asphalt components as they are being placed. In-place density testing will be conducted with a portable nuclear density gauge provided that the material's Marshall Value is supplied by the producer. The percent Marshall and density results will be displayed in a computer-generated table included with the daily field report.

It is emphasized that the testing is intended to provide only relative compaction values of the material. Unless specifically agreed upon by both parties, passing compaction results obtained from the portable gauge do not necessarily mean that the asphalt core samples will meet density requirements. There are inherent variations between the density results from the nuclear density gauge and laboratory tested core samples. Therefore, EEI cannot and will not be held responsible for the performance of the compacted asphalt or as the means to provide data as a method of release of payment. The actual density of the compacted asphalt materials is conducted by obtaining cores with subsequent asphalt density testing of the core samples. If requested, EEI can conduct the coring operation to measure the actual thickness and density of the cores after the paving operation is completed.

## **Fireproofing**

EEI will provide qualified personnel to visually inspect the condition of surfaces of structural steel to receive fireproofing. This service will include the following:

- ◆ Observe the contractor's method of mixing and application.
- ◆ Perform thickness testing, density testing, and adhesion tests in accordance with applicable codes and project specifications.



**UNIT RATES**

<b>Proof-rolling and Compaction Control</b>	
Geologist/Scientist .....	\$ 68.00/hr.
<b>Foundation Inspection</b>	
Engineer/Geologist/Scientist .....	\$ 68.00/hr.
<b>Concrete and Reinforcing Steel</b>	
Field Inspector .....	\$ 68.00/hr.
<b>Masonry Inspection</b>	
Field Inspector .....	\$ 68.00/hr.
<b>Structural Steel Inspection</b>	
Engineer/Inspector .....	\$ 120.00/hr.
<b>Fireproofing Inspection</b>	
Engineer/Inspector .....	\$ 120.00/hr.
<b>Floor Flatness Testing</b>	
Engineer/Geologist/Scientist .....	\$ 120.00/hr.
<b>Asphalt Testing</b>	
Field Inspector .....	\$ 68.00/hr.
<b>Laboratory Testing</b>	
Moisture-Density Relationship (ASTM D698 or D1557).....	\$ 225.00/test
Classification Testing (ASTM D2487).....	\$ 225.00/test
Direct Shear Testing (ASTM D3080).....	\$ 775.00/test
<b>Expenses</b>	
Concrete/Mortar Testing .....	\$ 18.00/specimen
Grout Testing .....	\$ 45.00/specimen
Concrete Sample Retrieval .....	\$ 90.00/pour day
Soils Compaction Testing Equipment.....	\$ 35.00/day
Mileage .....	\$ 0.70/mile

The above referenced hourly rates will include travel time (portal to portal), site time performing field services, and preparation of *Daily Field Reports*. Night work (6:00PM – 6:00AM) and/or Sunday work will be billed at \$135.00 per hour for standard inspections and \$175.00 ~ \$250.00 per hour for specialized inspections. Travel time and mileage will be invoiced from EEI's Lehigh Valley office.

EEI operates with no requirements for full or half day scheduling. To offer this service, a notification period of 24 hours is required prior to the start of our inspection services. EEI does not charge for review of the inspection reports. EEI will also provide copies of the reports directly to other project members as directed by the client.



The Client will be notified prior to the beginning of the field investigation and will be updated on work progress and any unexpected conditions encountered. EEI will remain available to discuss the findings of the report after it is submitted to the client. If requested, the time for supplemental reports, evaluations, or meetings will be billed at the following hourly rates.

**ADDITIONAL SERVICES PROVIDED ONLY AT THE REQUEST OF THE CLIENT**

Principal Professional Engineer .....	\$ 250.00/hr.
Senior Professional Engineer.....	\$ 220.00/hr.
Professional Engineer.....	\$ 175.00/hr.
Engineer II .....	\$ 95.00/hr.
Engineer I .....	\$ 90.00/hr.
Professional Geologist .....	\$ 175.00/hr.
Senior Geologist/Scientist.....	\$ 110.00/hr.
Geologist/Scientist .....	\$ 95.00/hr.
Administration Costs. ....	\$ 68.00/hr.

Administration costs include time for administering items such as payment applications, lien waivers, third party credit vendors, and maintenance of vendor portal websites.

The above hourly rates and Lump Sum Proposal are valid for a period of twelve (12) months after the date of this proposal. After twelve (12) months, hourly rates, laboratory testing rates and expenses are subject to change.

EEI will require a certificate of insurance to satisfy requirements from EEI's insurance carrier.



This proposal is based on an agreement to payment upon receipt of the Earth Engineering Incorporated invoice. EEI will be due interest of 1½ percent per month for all unpaid balances beyond 30 days of the invoice date.

EEI will require a certificate of insurance to satisfy requirements from EEI's insurance carrier.

Earth Engineering Incorporated appreciates the opportunity to prepare and submit this proposal. If you have any questions regarding this proposal, please call.

**EARTH ENGINEERING INCORPORATED**



Michael J. Carmosky, S.E.O.  
Assistant Director ~ Lehigh Valley Division



Paul J. Creneti, P.G.  
Director ~ Lehigh Valley Division

*Please indicate the acceptance of the foregoing terms and conditions by affixing your signature in the space provided and returning the original to our office.*

**EEI CONTRACT AMOUNT: Time and Materials**

ACCEPTED BY: \_\_\_\_\_  
*(Sign Name Here)*

\_\_\_\_\_  
*(Print Name & Title Here)*

DATE: \_\_\_\_\_

**Accounts Payable Information (if different than addressee):**

Purchase Order Number (if applicable): \_\_\_\_\_

Remit Invoices to: \_\_\_\_\_

Address: \_\_\_\_\_

\_\_\_\_\_

Phone Number: \_\_\_\_\_

Email: \_\_\_\_\_

Please check the preferred:



Mail Invoice



Email Invoice

