

December 1, 2015

Jim Hodges
City of Camas
616 NE Fourth Avenue
Camas, Washington 98607

Subject: Scope of Services for the NW Pacific Rim Roadway Illumination Design

Dear Jim:

GTEng is pleased to present you this proposal to provide roadway lighting design services for NW Pacific Rim Boulevard between SE Payne Road and SE Brady Road in the City of Camas, Washington. It is our understanding the City will be using LED roadway lighting for the application and that a roadway lighting analysis and design will be required.

SCOPE OF SERVICES

Task 1: Project Management

GTEng will provide project management and coordinate with the City. GTEng will prepare a written summary of activities completed over the billing cycle and in progress. These progress reports will be provided with each invoice for the billing cycle.

GTEng will prepare a project schedule and present it at the Kickoff Meeting. The schedule will be prepared in Microsoft Project. Up to two updates to the schedule will be provided.

Assumptions:

- This Scope of Services is estimated to be completed in a four month period.
- Four billing cycles are assumed.

Deliverables:

- *Progress report with summary of activities during the billing period (four invoices)*
- *Project schedule with up to two updates.*

Task 2 – Meetings

This task identifies the meetings to be attended under this Scope of Services. Each meeting will be attended at the City of Camas by a minimum of two GTEng staff members and one of the other team members as identified in the following:

- **Kick-off Meeting** – up to one kick-off meeting will be attended by all project team members. This meeting will be held to ensure all members of the team have a clear understanding of the tasks and deliverables required by the City.
- **Lighting Analysis Review Meeting** – up to one lighting analysis review meeting will be attended under this scope of services. This meeting will be held to go over the results of the lighting analysis prior to proceeding with the lighting plans, specifications, and estimates (PS&E).

- **Progress/Submittal Review Meetings** – up to two progress/submittal review meetings will be attended under this scope of services. These meetings will be held after the 60% and 90% submittals reviews and will be used to review comments received by the City and discuss project progress.

For each meeting, GTEng will provide an agenda two days in advance. Should the City have any edits to the agenda, those will be addressed and a final agenda provided a day in advance of the meeting. GTEng will summarize each meeting in draft meeting minutes and provided those to the City for review within five working days of the meeting. Based on review comments from the City, GTEng will finalize the meeting minutes and provide those to the City for their records.

Deliverables:

- *Draft Meeting Agendas (up to four)*
- *Final Meeting Agendas (up to four)*
- *Draft Meeting Minutes (up to four)*
- *Final Meeting Minutes (up to four)*

Task 3 – Lighting Analysis

GTEng will conduct a detailed lighting analysis using the AGI32 software package to determine light levels for the proposed roadway lighting along NW Pacific Rim Boulevard. The lighting will be designed to achieve average maintained illuminance and uniformity values per the Illumination Engineering Society of North America's RP-8-14 requirements. GTEng will determine the appropriate luminaire mounting heights, pole setback, spacing, and pole configuration along the alignment. It is our understanding through discussion with City Engineers that the lighting analysis will use the Autobahn luminaire that has already been chosen by the City. No luminaire selection process other than the appropriate wattage luminaire will be required as part of this scope of services.

Base mapping for the lighting analysis will be GIS mapping in AutoCAD format obtained from the City of Camas. IES files for the luminaire(s) used in the analysis will be obtained by GTEng from the manufacturer.

The results of the lighting analysis will be summarized in a graphical output of the obtained light levels along with a brief memorandum documenting lighting standards, methodology followed and results. Based on review comments received from the City, GTEng will update the lighting analysis and provide a final graphical output and memorandum.

Deliverables:

- *Draft Graphical Lighting Output and Lighting Summary Memorandum.*
- *Final Graphical Lighting Output and Lighting Summary Memorandum.*

Task 4 – Roadway Illumination Design

GTEng will prepare roadway illumination plans along Pacific Rim Boulevard from SE Payne Road to SE Brady Road (the length of the project). The plans will be based on the outcome of the approved lighting analysis from Task 3. The plans shall identify pole types, conduit, junction boxes, wiring, and power sources. GTEng will coordinate with Clark Public Utilities to locate and confirm power service locations. Once power service locations have been identified, GTEng will perform voltage drop calculations to determine required lighting circuits, wire sizes, and conduit sizes. The roadway lighting design will be closely coordinated with City of Camas Staff and the design team. Up to two field visits have been included under this task.

GTEng will work with local utilities to resolve possible conflicts with the roadway lighting systems. One utility meeting has been included under this Task. The final submittal will consist of the following plan sheets:

- Cover Sheet (one sheet) – not to scale.
- Roadway Illumination Plans (six sheets) - layout sheet showing the project area, conduit, wiring, junction boxes, light pole locations, light pole schedule power connections – (1"=20')
- Wiring Schematic (one sheet) – not to scale.
- Standard Drawings (three sheets) – not to scale.

Base plans showing curbs, sidewalks, right-of-way, and existing utilities will be based on GIS mapping obtained from the City in AutoCAD format. GTEng will use the most current version of the City of Camas Specifications for roadway lighting in preparing special provisions for this project. Cost estimates will be provided for each submittal. All submittals will be provided in electronic format. The final submittal will be provided in hardcopy format.

GTEng anticipates three formal review cycles will be required through the course of the project. Submittals will be provided at the 60%, 90%, and Final (100%) design levels. For each review cycle, GTEng will provide the City with plans in electronic half size (11"x 17") pdf format. GTEng will address and incorporate comments received for each of the review cycles into each subsequent submittals. It is assumed that GTEng will be responsible for distribution of the PS&E to each of the reviewers at the City. For the Final PS&E submittal, GTEng will provide full size (22" x 24") signed plans, special provisions, and cost estimate.

Assumptions:

- The City of Camas will be responsible for the development of Division 1 of the Contract Documents.
- The City of Camas will provide the GIS mapping in AutoCAD format.

Deliverables:

- *Voltage Drop Calculations – to be included with 60% submittal.*
- *Special Provisions – to be included with 90% and Final (100%) submittals.*
- *Cost Estimate – to be provided at the 60%, 90% and final submittals.*
- *Six roadway illumination plan sheets prepared at 1"=20' scale – to be included with all submittals.*
- *Detail sheet(s) showing light poles, foundations, pull boxes and other details as necessary – to be included with all submittals.*

Task 5 - Construction Services

GTEng will be available to address questions on the lighting system components during the bidding process. All questions will be routed through the City. Up to 10 hours have been allocated to addressing questions during bidding.

During Construction, GTENG will be available for review submittals from the contractor related to lighting elements of the project. It is assumed the contractor will submit a single submittal package for review. GTENG will provide review and comments on the review package until all is accepted.

GTEng will respond to RFI's Submitted by the contractor. All RFI's are expected to come through City staff. GTENG will keep a record of responses to pertaining to each RFI. It has been estimated that up to

five RFI's will be received during the course of construction. Responses to RFI's will be via email to expedite

Up to one addendum has been estimated to the final plans during construction. GTEng will coordinate design all addendum changes with the City of Camas staff. All plan addenda will be submitted electronically to the City.

Two field visits has been included under this Task. Each field visit will be made at the discretion of the City of Camas.

GTEng will prepare "As-Built" drawings related to the roadway lighting along Pacific Rim Boulevard at the completion of construction. As-built drawings will be based on the final electronic drawings for the project. The plans will be updated with red-line markups provided by the contractor.

Assumptions:

- All responses to questions during the bidding process will be routed through the City.
- All submittals and RFI's from the contractor submitted for review will come through the City. All responses will be provided to the City for submittal back to the contractor.
- One submittal on roadway illumination elements from the contractor.
- Day to day construction inspection will be completed by the City of Camas staff.
- "As-built" drawings will be based on contractor markups

Deliverables:

- *Up to one submittal review.*
- *Documentation and response on up to five RFI's.*
- *Up to one plan addendum.*
- *"As-built" drawings based on contractor markups.*

BUDGET

In consideration of the performance of these services, GTEng will be compensated on a time and materials basis in accordance with the hourly billing rates set forth in the attached Table 1 for a maximum fee of \$35,655.00. This fee is based upon the scope of services and level of effort presented above.

Sincerely,
Global Transportation Engineering

Dana M. Beckwith, P.E., P.T.O.E.
Principal