

**[INSTRUCTIONS:**

- Yellow highlighted areas include instructions that should be deleted prior to release.
- Blue highlighted areas indicate text or fields that need information provided or revised.
- Delete any items marked as “[Optional]” if they are not used for your solicitation/WOC.

**Delete instructions throughout the document before executing Contract/WOC or amendment as follows:**

- From the “Edit” menu select “Replace”;
- With cursor in the “Find what” field, click “More” button, then “Format” then “Font”, then in the font field select “Arial” text ;
- Leave the “Replace with” field blank;
- Click “Replace All”. This will delete all yellow highlighted text.

**Not all subtasks are needed for each project. If a subtask is not needed, add the word RESERVED behind the subtask title. Delete all subtask narrative.]**

## **TASK 10 ROADWAY DESIGN**

Consultant shall provide roadway design Services under this SOW for delivery of Tasks and Deliverables according to the agreed upon delivery schedule.

[Include the following subsection if Consultant is requested to perform pre-DAP development of roadway design criteria, or to document for the DAP phase.]

### **10.1 Design Criteria**

Consultant shall prepare draft and final design criteria. Design criteria shall be consistent with **DESIGN STANDARD**. Consultant shall present the design criteria in a table or matrix format listing all conditions, assumptions and minimum standards for the roadway design elements of the Project. This includes the following:

[Add/delete items relevant to the project]

- Obtain functional classification facility based on current TSP
- Determine design vehicles
- Obtain existing and design year ADT from traffic report or Project Prospectus
- Determine design speed
- Obtain mobility requirements or level of service targets
- Confirm access control requirements or access management techniques
- Determine pedestrian design considerations
- Determine bicycle design considerations
- Determine transit design considerations
- Review crash data / history
- Determine roadside design requirements (clear zone)
- Determine sight distance considerations
- Determine cross slope, horizontal curves, and super-elevation
- Determine maximum grade, vertical curves
- Determine cross section elements:
  - Number and width of travel lanes
  - Shoulders
  - Curbs

- Sidewalks
- Curb ramps
- Side slopes
- Ditches or swales (drainage facilities)
- Parking
- Determine intersection design elements
  - [Define elements based on type of intersection]

### **10.1 Consultant Deliverables and Schedule:**

Consultant shall provide:

- Draft design criteria electronically/in hardcopy to APM within 6 weeks from Notice to Proceed (NTP).
- Final design criteria electronically/in hardcopy to APM within 2 weeks from receipt of Agency comments.

[Optional, if not needed, label: 10.2 Concept Plans/Alternative Analysis "Reserved"]

Use of this task is largely based on the needs of the Project and requirements of the Agency and/or LPA. Revise this task to allow for multiple deliverables if multiple iterations are expected.]

### **10.2 Concept Plans/Alternative Analysis**

The Consultant shall work with the Agency and LPA to develop up to 3 alternatives for the roadway alignment and cross section based on initial solutions from the scoping notes and project prospectus, suggestions from the LPA and Agency, and current LPA and AASHTO design standards.

Consultant shall develop each alternative to concept level design sufficient to establish construction limits, quantities and major construction activities. Each alternative shall have horizontal and vertical alignment developed that meets minimum design standards. Consultant shall prepare a conceptual drawing for each alternative. The drawing shall utilize a GIS or topographic survey base map or corridor roll plot on an aerial map at a scale of XX. Geometric design elements that do not meet design standards shall be identified as needing a design exception.

Consultant shall analyze each alternative and determine the potential benefits and impacts associated with construction of the proposed alternative. Potential benefits and impacts to be considered include, but are not limited to, right way, access, safety, utilities, permitting and environmental.

Consultant shall prepare a construction cost estimate for each alternative that includes the major construction items and quantities that can be identified at this level of design detail.

Consultant shall prepare an Alternative Analysis technical memorandum that summarizes the results of analysis for each alternative. The memo must include a summary of the identified impacts and cost estimate associated with each alternative to allow Agency and LPA to determine which alternative to move forward to DAP.

## **10.2 Consultant Deliverables and Schedule:**

Consultant shall provide:

- Alternatives Analysis technical memorandum and drawings to APM and LAPM electronically (PDF) within 10 weeks of NTP.

[Include the following subsection if Consultant is requested to perform pre-DAP development of roadway design exceptions, or as part of the DAP phase.]

## **10.3 Roadway Design Exceptions (Contingency Task)**

Consultant shall prepare up to 3 draft Roadway Design Exception Request(s) for the Project. The Design Exception Request(s) must be prepared using the standard Design Exception Request form defined in the Highway Design Manual. The final Design Exception Request(s) for the Project must be stamped and signed by the engineer of record. The Agency will coordinate final approval of the Design Exception Request(s).

## **10.3 Consultant Deliverables and Schedule:**

Consultant shall provide:

- 1 electronic copy in WORD format to APM of draft Design Exception Request(s) within 2 weeks of DAP or TS&L or Approved Alternative from Task 10.2
- 1 hard copy and 1 electronic copy in WORD and PDF format to APM of final Design Exception Request(s) no later than 2 weeks of receipt of comments from Agency.