

**CITY OF SOUTH SAN FRANCISCO  
UTAH AVENUE OVERCROSSING  
PROJECT**

**Preparation of  
PLANS, SPECIFICATIONS, AND ESTIMATES (PS&E)  
SCOPE OF WORK  
January 2024**

Prepared for:

**CITY OF SOUTH SAN FRANCISCO**

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**DETAILED SCOPE OF WORK  
CITY OF SOUTH SAN FRANCISCO  
UTAH AVENUE OVERCROSSING PROJECT**

**1.0 INTRODUCTION**

This document summarizes the scope of work for the preparation of Plans, Specifications, and Estimates (PS&E) for the Utah Avenue Overcrossing Project (Project) in the city of South San Francisco (City), San Mateo County.

AECOM will develop the PS&E for the Project consisting of the scope of work provided below. This scope of work assumes the City will advertise, award, and administer the construction contract. The bid documents will be developed to the California Department of Transportation's (Caltrans') standards and requirements. They will incorporate City standards and specifications for City-owned facilities or facilities within City jurisdiction.

AECOM will develop the PS&E for the Project and submit to Caltrans and the City in various stages (35%, 65%, 95%, 100%, and Final) for review and input. Caltrans will provide Independent Quality Assurance. AECOM is ultimately responsible for the technical design and preparation of the final PS&E and bid documents, including obtaining a Caltrans Encroachment Permit for construction.

**TASK 1 – PROJECT MANAGEMENT, COORDINATION, AND ADMINISTRATION**

AECOM will provide project management services for each task for the entire duration of the Project. The duration of the project is estimated to be 24 months. The scope includes the preparation of a Project Management Plan (PMP) that includes scope, budget, team member roles, contacts, production standards, project schedule, deliverables, document control procedures, and a health and safety plan. The PMP will also include a quality management plan (QMP) that addresses quality assurance and control procedures and documentation. She will also supervise, coordinate and monitor activities and the work for conformance with all applicable standards; confirm consistency of deliverables; coordinate the work of in-house design staff and subconsultants; prepare monthly invoices and progress reports; and update the design schedule.

**Task 1.1 Kick-Off, PDT, and City Coordination Meetings**

AECOM will conduct a Project Kick-Off meeting (assume two meetings) with the City and Caltrans. Project scope, team organization, communication procedures, design schedule, critical activities, design data needs and project deliverables will be discussed.

**Task 1.2 Project Development Team (PDT)**

Meetings AECOM will conduct monthly Project Development Team (PDT) meetings (assume 24 meetings). Final meeting minutes will be prepared and distributed, incorporating any relevant comments received on the draft meeting minutes.

AECOM will attend up to eight coordination/project status meetings with the City.

### **Task 1.3 Agency Coordination/Technical Workshop Meetings**

AECOM will coordinate with the design team, subconsultants and all involved agencies including, those shown below for timely flow of information. AECOM will prepare a Caltrans encroachment permit application for conducting design field activities for the City's signature. AECOM will attend meetings such as design coordination meetings, workshop meetings, utility meetings, comment review sessions, and safety review meetings with the City, Caltrans and other agencies to resolve issues. Meetings will be held during the performance of each task or as needed by AECOM, Caltrans, the City or other agencies. This will include preparation and submittal of agenda and meeting notes for each meeting.

### **Task 1.4 Land Development Coordination Meetings**

AECOM will attend and lead land development coordination meetings adjacent to the project site.

### **Task 1.5 Right-Of-Way Coordination Meetings**

AECOM will attend Right-of-Way (ROW) Coordination meetings before starting work between Consultant and Caltrans District 4 ROW Engineering.

### **Task 1.6 Public Meetings and City Council Meetings**

AECOM will assist the City in planning and lead four stakeholder meetings. Each meeting will be focused on a specific stakeholder group, such as: property owners,

developers, facility operators (produce market, park and fly parcels, hotel, restaurant, gas station, etc.) or business, bicycle or other stakeholder groups. The purpose of these meetings will be to provide stakeholders an opportunity to make a meaningful contribution to the detailed design and phased construction plan in order so that they may plan for their own development plans and business operations

during project construction. AECOM will prepare a meeting outline/agenda, facilitate up to two virtual prep meetings with the team per meeting cycle, facilitate the meeting, and prepare a meeting summary.

AECOM will prepare four separate PowerPoint presentations for the Public Works staff to use in updating the Council about the progress of the project. The presentations will use materials created for PS&E and the public meetings. One consultant staff will be available at the City Council Meeting to support Public Works staff in answering questions.

### **Task 1.7 Prepare Exhibits, Displays, and Handouts**

AECOM shall prepare appropriate meeting materials such as exhibits, displays, notices, agendas, handouts, minutes, progress plans, and special presentation materials.

### **Task 1.8 Project Administration**

AECOM will supervise, coordinate and monitor planning and design for conformance with Caltrans' standards and policies. This will include contract administration; subcontract procurement and management; task, schedule and cost monitoring; management of the project management plan; and weekly staff coordination. AECOM will submit project deliverables to City and/or Caltrans for review.

### **Task 1.9 Scheduling**

AECOM will prepare and maintain a detailed Critical Path Method (CPM) schedule for the project, in consultation with City and Caltrans. This will include a baseline schedule that will be referenced. The schedule will be submitted to the City and Caltrans and will be updated during the life of the project, typically once per month.

### **Task 1.10 Invoices/Progress Reports**

AECOM will prepare and submit monthly progress reports, updated CPM schedules, Engineering Progress and Performance Report (EPPR) and invoices in accordance with the City's requirements. Control of project costs will be accomplished by monitoring on a task level basis. Monthly invoices will consist of a cover letter, a monthly progress report, an EPPR, summarized at the major task level, providing budget, billed amount and balance, and Earned Value, an additional sheet detailing the costs per each subtask for the period, and a summary of the AECOM labor, ODCs and subconsultant/subcontractor expenses. In addition to the EPPR, each invoice will contain a detailed cost report of all labor and expenses, produced by AECOM's accounting system, subconsultant and subcontractor invoices, and receipts or other proof of expenditure for any other expenses.

### **Task 1.11 Project Filing and Quality Control**

AECOM will prepare a project specific quality control plan for design services. The plan will include performing in-house quality control reviews for each task and coordinating work for quality, accuracy and consistency of all documents. AECOM will develop and maintain a Project Filing system for hard copies and electronic copies per the City and Caltrans standard requirements.

### **Task 1.12 Risk Management Plan**

AECOM will prepare a Risk Management Plan (RMP) for the Project to address potential issues, such as potential delays to critical path studies or reviews and discovery of additional data needs or unforeseen site conditions. It will include risks determined during the Project Approval and Environmental Document (PA&ED) Phase of the Project and will be incorporated into the new Caltrans RMP format. Typical components of an RMP include: (a) identification of project risks, (b) analysis of risks by probability of occurrence and impact to cost and schedule, (c) prioritization of risk, (d) development of risk response strategies, and (e) execution of the RMP by closely monitoring project progress. The RMP will be reviewed, updated, and distributed typically on a quarterly basis.

### **Task 1.13 Health and Safety Plan**

The scope of work includes the preparation of a project- specific Health and Safety Plan (HASP) by AECOM, which summarizes health and safety hazard information for activities conducted by AECOM during environmental, asbestos/lead-based paint and geotechnical investigations, and other field work associated with the Project. The elements and requirements of the HASP will also apply to all AECOM subcontractor employees and AECOM-sponsored visitors. However, the HASP is not intended to encompass the scope of work that individual contractors are engaged in, nor is it designed to supply non-AECOM employees with all the information they need to perform their jobs safely. All AECOM

subcontractors are responsible for their own work, their own health and safety, and for ensuring that they and their employees obey all applicable laws, regulations, and requirements for operations at the site.

### *Assumptions*

- The project limits will be based on the limits shown on the PA&ED
- Four community public meetings will be provided.
- Project management activities are provided for a 24-month period starting from Notice to Proceed.
- The City will advertise, award and administer the project.
- This scope assumes a single construction bid package. Should it become necessary to split the PS&E package into two bid packages, AECOM will submit a separate scope and fee for the additional effort required.

### *Deliverables*

- Deliverable 1A: Draft and Final PMP including project schedule, risk management plan, project status reports, Encroachment Permit Application, Health and Safety Plan, and other documents as outlined under Task 1.

## **TASK 2 – PRELIMINARY ENGINEERING AND TECHNICAL REPORTS (GEOMETRIC APPROVAL DRAWINGS AND 35% PS&E)**

### **Task 2.1 Data Collection and Site Reconnaissance**

AECOM will obtain and review available data and information necessary for the final design of the Project. This information will be obtained from the city, Caltrans, local agencies, utility companies, or other organizations. Data to be collected and reviewed includes the following:

- City and Caltrans as-built plans for roadway and electrical plans
- City improvement plans
- Private and public utility information
- Sign inventory from Caltrans and the City
- Right-of-way information
- Pertinent historical correspondence
- Pavement Condition Report
- Traffic Accident Data, if needed
- Traffic Signal and Controller Data
- Traffic flow diagrams for the design year showing AM, PM, and ADT volumes

## **Task 2.2 Geotechnical Investigation and Testing**

AECOM will evaluate the geotechnical conditions for the Project. The geotechnical and geologic investigation program will include the following tasks:

- Characterize the site-specific subsurface soil and groundwater conditions that can be expected at the foundation locations for the proposed bridge structures and retaining walls, and for the embankments and pavement sections.
- Characterize and provide recommendations for the mitigation of geologic hazards that might affect the proposed bridge structures and retaining walls.
- Provide geotechnical engineering recommendations to support the final design of the foundations for the Utah Avenue Overcrossing and four associated approach embankment retaining walls.

The specific scope of work for the geotechnical and geologic investigation program will include the following tasks:

- Perform site reconnaissance to finalize the exploratory boring locations and access routes.
- Prepare project-specific Geotechnical Investigation Work Plan.
- Obtain a subsurface drilling permit from San Mateo County Environmental Health Services Division, a State encroachment permit from Caltrans, and street encroachment permits from the City to conduct geotechnical explorations and sampling; and coordinate with the City to notify affected public in advance of fieldwork (access to private properties is assumed to be provided by others).
- Select and implement the most appropriate best management practices (BMPs) to be used at each exploratory boring location to minimize impact to the environment and the public.
- Drill as many as 12 exploratory borings (depths ranging from 80 to 100 feet) at the proposed foundation locations for the bridge structures and retaining walls.
- Drill as many as eight borings to maximum depths of about 8 feet to explore the subgrade of new structural pavement.
- Obtain representative soil samples and gather other site-specific subsurface data, including groundwater levels when feasible.
- Conduct geotechnical laboratory testing on representative soil samples.
- Perform geotechnical engineering analyses to develop recommendations for the final design of foundations of the proposed bridge structure and retaining walls, sections for new pavement, and mitigation of geologic hazards. Specific engineering analyses will include the following:

- Update seismic design parameters in accordance with Seismic Design Criteria, version 2.0, Foundation Reports for Bridges (January 2021) and Foundation Reports for Earth Retaining Systems (ERS) (January 2021), based on supplemental geotechnical and geological data.
  - Recommend and develop foundation type, depth, and capacity for compression, tension, and lateral resistance.
  - Develop the lateral earth pressures for retaining wall design, including dynamic earth pressures due to seismic loading.
  - Recommend foundations for retaining walls, including evaluation of sliding, overturning, and bearing capacity.
  - Develop construction considerations for installation of foundations, such as pile driving, cast-in-drilled-hole installation, dewatering, footing excavations, and shoring requirements.
  - Evaluate slope stability of new embankment fills and mechanically stabilized earth (MSE) walls.
  - Evaluate embankment settlement with stage construction considerations.
- Document all findings, and present recommendations in the geotechnical reports.

As the drilling progresses, borings will be sampled with the Standard Penetration Test, modified California, and/or Shelby tube samplers, at 5-foot intervals (or closer if changes in material type are observed). All sampling and logging of the soils will be in accordance with Caltrans' Soil and Rock Logging Classification, and Presentation Manual. Traffic control pursuant to Caltrans standards will be provided during the drilling of all exploration sites. Clearance of underground utilities will be based on USA and private utility locate services where appropriate.

All soil cuttings generated during the drilling of the borings will be placed in drums or roll-off bins, sampled for possible contamination, and disposed of off site following reception of the analytical testing results and acceptance of the materials for disposal at a nearby Class 2 landfill. A photo ionizing detector (PID) will be on site during the exploration program to test the air around the bore hole and samples for possible volatile organic contamination. If analytical results indicate that the soil cuttings cannot be disposed of at a nearby Class 2 landfill, further testing and analysis may be required to dispose of the container of soil at an appropriate facility. This would be beyond the scope of work for this Project. AECOM assumes that Caltrans will provide an United States Environmental Protection Agency (EPA) ID number and sign any hazardous waste manifests for offsite soil disposal of hazardous soils in a hazardous waste landfill, if the soils are characterized as hazardous. AECOM will use a licensed hazardous waste transporter subcontractor and will oversee the pick-up of all the generated drums associated with the hazardous materials investigation.

Geotechnical laboratory tests will be completed to evaluate the index and strength properties of the recovered samples and will include moisture content/dry density, Atterberg limits, sieve analysis, hydrometer analysis, unconfined compressive strength, swell potential, consolidated undrained triaxial compression, consolidation on compressible clays, and "R" value for pavement design.

### **Task 2.3 Geometric Refinements and Geometric Approval Drawings**

AECOM will prepare the Geometric Approval Drawings (GADs) (which will serve as a basis for the 35% PS&E design) and update the Design Standard Decision Document (DSDD) as necessary with the agreed-upon geometry changes. AECOM will initiate the right-of-way acquisition process with AR/WS. AECOM will lead utility conflict maps updates and initiate the utility relocation process. We will update temporary and permanent impacts to the environmental footprint. AECOM will begin the type selection process for the bridge structures and retaining walls and will coordinate the updated design with Caltrans HQ Structures. The 35% PS&E submittal will include the 35%-level technical reports listed below, with unedited Standard Special Provisions (SSPs). Preliminary Foundation Reports will be prepared to support the Structure Type Selection for the overcrossing and retaining walls. Foundation Reports addressing the requirements for pile foundations, ground improvement methods and the use of lightweight expanded polystyrene blocks to mitigate total and differential settlement will be prepared following Caltrans Geotechnical Manuals and guidelines on Foundation Reports. The presence of corrosive soil and groundwater and shallow groundwater issues will also be addressed.

### **Task 2.4 Highway Plan Sheets**

AECOM will prepare, coordinate, and submit Design Plan Sheets in English units for all highway design and ensure that interface information is provided to the other design consultants. The drawings are to be in MicroStation CADD V8i format and must be in compliance with Caltrans' requirements. AECOM will prepare the necessary Design Plan Sheets:

1. Geometric base sheets will be prepared at a scale of 1 inch = 50 feet. Base sheets will include basic horizontal and vertical layout information and identify all major construction features. These sheets will include the topographic base mapping.
2. Typical cross sections (no scale) for the highway will be based on the approved standard sections, including pavement structural sections.
3. Profiles/superelevation diagrams (scale: horizontal 1 inch = 50 feet, vertical 1 inch = 10 feet) will be prepared. It is anticipated that mainline vertical design data will be detailed on pavement elevation sheets.
4. Utility relocation/occupation plans (scale 1 inch = 50 feet) prepared by AECOM will identify and propose existing and final locations of known utilities that are affected by the Project, such as gas, electric, cable television, telephone, sanitary sewer, and water. The relocation design of utility facilities will be the responsibility of the utility owners.
5. Preliminary drainage plans/profiles and layout sheets will be prepared by AECOM. The design efforts will be coordinated with other design disciplines of the Project Team. Drainage plans will be prepared at a scale of 1 inch = 50 feet, showing existing and proposed drainage systems.
6. Pavement delineation will be prepared at a scale of 1 inch = 50 feet.

7. A field survey will be conducted and used to develop an inventory of existing roadway signs and will be confirmed with as-builts found. Sign plans (at a scale of 1 inch = 50 feet) will be developed depicting both existing and proposed signs within the project limits.

### **Task 2.5 Structures Type Selection**

AECOM will prepare Bridge General Plans for the overcrossing structure and all special designed retaining walls in accordance with the requirements of the Caltrans' Memo to Designers (MTD) 1-29 and Office of Special Funded Projects (OSFP) Information and Procedures Guide 4-2. A single updated type selection report would include the following structures:

- Utah Avenue Overcrossing. A five-span structure, approximately 785 feet long and 76 feet wide, will be constructed over US 101. The bridge type is assumed to be cast-in-place prestressed concrete box girder.
- A total of six special designed retaining walls will be constructed. Use of MSE walls (four in total) and Caltrans Type 5 walls (two in total) is assumed.

This task will consist of preparing deliverables consistent with Caltrans Information and Procedures Guide Section 4-2, which describes the items needed for the Type Selection Submittal.

The Type Selection Report will include the following:

- General description of the project
- Design and constructability issues
- Structure type selection
- Foundation types
- Construction-related issues
- Preliminary aesthetics
- General plans
- Preliminary construction costs
- Recommendations of structure types

Preliminary Foundation Reports will be used in developing General Plan details. This includes performing preliminary analysis to aid development of structural elements such as depth and type of the superstructure, column shapes and sizes, footing sizes, abutment types, and wall types. The analysis will be consistent with the preliminary nature of design.

Preliminary Construction Structure Quantity and Cost Estimates in a Caltrans General Plan format will be developed for the project at this stage. The list of items of work will be prepared based on Caltrans' Standard Items of Work; additional items may be necessary. The cost estimate will identify construction work items, quantities, and unit costs; and summarize the estimated total structures cost, including allowances for supplemental work, owner furnished materials, expenses, mobilization, and contingencies.

## **Task 2.6 Engineering Reports**

AECOM will prepare Engineering Reports for highways and structures. The reports will use applicable existing information, including information generated from the PA&ED phase. The submittals will contain sufficient design calculations and information based on currently available Caltrans design criteria.

AECOM and/or their Subconsultant will prepare and submit with the reports described in the following subsections.

### ***Task 2.6.1 Drainage Report***

AECOM will review the available data and prepare design calculations to assess the capacity of the existing drainage systems. The Drainage Report will include design calculations to assess the need for drainage improvements. The results and design recommendations will be summarized in the Drainage Report.

The drainage report prepared by AECOM will include the following:

- Evaluation of the existing conditions
- Unusual and special conditions
- Drainage mapping
- Hydraulic analysis
- Proposed systems

### ***Task 2.6.2 Storm Water Data Report***

AECOM will prepare a 35% PS&E-level Storm Water Data Report summarizing the Project impacts to water quality, general mitigation measures, and recommended BMPs consistent with current Caltrans requirements for PS&E phase. The study will address the impacts from roadway improvements, using Caltrans standard checklists. The report will also address the need for erosion control measures and document the decision-making process relating to the implementation of treatment BMPs within the project limits. This will include risk assessment to determine the combined sediment and receiving water risk.

### ***Task 2.6.3 Hydromodification Plan (If Needed)***

AECOM will prepare a Hydromodification plan if it is required by Caltrans.

### ***Task 2.6.4 Foundation Reports/Log of Test Borings***

AECOM will prepare and submit two separate Foundation Reports for the overcrossing structure and the retaining walls which have been prepared and signed by an Engineering Geologist or Geotechnical Engineer, with deep foundation experience, registered in California. These reports will include a discussion of the site geology and subsurface conditions, geotechnical engineering analyses for the structures, results of laboratory testing, geologic hazards, site seismicity, corrosion evaluations, foundation recommendations and the new and previously completed Log of Test Boring sheets. The seismic evaluations will be completed in accordance with Caltrans' Seismic Design Criteria, Version 2.0 (April 2019) and the corrosion evaluations in accordance with Corrosion Evaluation (March 2022).

### ***Task 2.6.5 Geotechnical Design and Material Reports***

AECOM will prepare a Geotechnical Design Report in accordance with Geotechnical Design Reports, dated February 2021, and include the following information:

- Seismicity
- Geology
- Provide Boring Records and Log of Test Borings
- Provide geotechnical parameters for embankment and ground improvement

AECOM will prepare a Materials Report in accordance with Highway Design Manual to include the following topics:

- Characterization of subgrade based on geotechnical data obtained from shallow explorations samples and laboratory tests
- Geotechnical soil profile
- Pavement design
- Corrosiveness of soils
- Culvert and storm drain materials
- Project-specific technical specifications.

AECOM will evaluate corrosion potential of subsurface environment based on corrosion testing on selected soil samples and recommend appropriate foundation and culvert types.

No pavement analysis will be performed on the mainline road or other sites on U.S. Highway 101 (US 101) that are unchanged due to this project. It is assumed a pavement deflection study is not required.

### ***Task 2.6.6 Hazardous Materials Test Report***

AECOM will prepare a Hazardous Materials Test Report, in accordance with Caltrans guidelines, to evaluate potential contaminants of concern in soil, groundwater, and building materials. AECOM will prepare a work plan for review and approval by the City and Caltrans; and perform borings to collect soil samples for initial hazardous waste testing and groundwater samples. Soil and/or groundwater found to have environmental contaminants will be properly characterized and disposed of at an appropriate facility, in accordance with applicable regulations. A Draft and Final report will be prepared.

### ***Task 2.6.7 Lane Closure Report***

AECOM will contact the City and Caltrans staff to obtain the most current 7-day, 24-hour traffic counts to prepare the lane closures.

### ***Task 2.6.8 Traffic Management Plan***

AECOM will prepare a Transportation Management Plan (TMP) in accordance with current Caltrans requirements. The TMP is a specialized program tailored to prevent and mitigate the impacts of a construction project by applying a variety of techniques, including Motorist Information, Incident Management, Construction Strategies, and Public Information Strategies. The major objectives of the TMP

are to maintain efficient and safe movement of vehicles through the construction zone; and to provide intensive public awareness of potential impacts in the vicinity of the project site. Detour routes will also be identified and included in the TMP report.

### ***Assumptions***

- One mandatory and one advisory Fact Sheet will be prepared for as a supplemental design exception associated with the Build Alternative.
- All project deliverables will be prepared in English units.
- Pavement condition survey and development of pavement rehabilitation strategy is not included.
- No Fault Study or fault trenching is required.
- Consultant will submit technical reports in draft, revised drafts incorporating Caltrans and City comments, and in final form, unless otherwise specified.
- Relevant data from previous/ongoing studies in the project area to be provided by others.
- Utility record drawings to be provided by others.
- As-built construction plans to be provided by others.
- Log of Test Borings, Foundation Reports, Foundation Reviews, and field records of pile driving logs for the construction of existing structures to be provided by others.
- The In-Roads computer aided design software will be used by the CONSULTANT to aid in the design of the project.

### ***Deliverables***

- Deliverable 2A: GAD and DSDD
- Deliverable 2B: ROW and Utility Requirements for ROW Engineering
- Deliverable 2C: Environmental Footprints
- Deliverable 2D: 35% PS&E and reports: Structures Type Selection Report, Preliminary Foundation Reports, Preliminary Hydraulics Report, Drainage Report, Storm Water Data Report, Geotechnical Design and Materials Report, Site Investigation Report, Lane Closure Report, Hydromodification Plan (if needed), TMP, and Encroachment Policy Exception Request.

## **TASK 3– PREPARE 65% PS&E FOR CALTRANS REVIEW AND APPROVAL**

### **Task 3.1 65% Design Plan Sheets**

AECOM will respond to comments from Caltrans, City of SSF, and other stakeholders, and update the PS&E and reports to Caltrans' 65% level of completion. We will coordinate with reviewers, resolve comments and document responses in the comment/response matrix. The 65% PS&E submittal will include edited SSPs and a list of NSSPs. In coordination with the City and Caltrans, we will prepare the 65% landscape architecture and structures aesthetics plans and the project survey file in accordance with Appendix QQ of the Caltrans Project Development Procedures Manual.

This task is to develop the plans to Caltrans' 65% level of completion. The PS&E package must be prepared in accordance with Caltrans processes/procedures. This task involves transfer of 35% design data and preparing 65% level construction documents including all the relevant technical reports required. This task includes, but is not limited to, circulating 65% level construction documents (aka 65% PS&E) to participating agencies and other interested parties for review and comment, logging and indexing all comments received as a result of the circulation, and preparing a written response to each comment using a comment response matrix.

#### ***Assumptions***

- Same as Task 2

#### ***Deliverables***

- Deliverable 3A: 65% PS&E (includes Landscape Architecture and Structures Aesthetics concepts), Survey File and 65% reports (Drainage Report, Storm Water Data Report, Foundation Reports, Geotechnical Design and Materials Report, Site Investigation Report, Lane Closure Report, Hydromodification Plan [if needed], TMP, and Encroachment Policy Exception Request)

### **Task 3.2 Structures Unchecked 65% Plans**

Upon approval of the Type Selection Report, AECOM will proceed with the final bridge design creating design calculations, details and construction documents for the bridge structure and six (6) special designed retaining walls according to Caltrans procedures and the design criteria decided upon at the project onset. The bridge and non-standard retaining wall plans, and estimate will be prepared in accordance with the current edition of the following Caltrans' manuals:

- Caltrans Information and Procedures Guide
- AASHTO LRFD Bridge Design Specifications, 9th Edition
- Bridge Design Aids
- Bridge Design Details
- Seismic Design Criteria (currently version 2.0)
- Standard Plans 2023
- Standard Specifications 2023
- Caltrans PS&E Guide

A standard set of Caltrans unedited contract structure specifications using English units of measure will be prepared with standard structure special provisions used to the extent possible. Contract bid item list with quantities and unit prices updated from the Type Selection Re-report will be developed. A copy of the complete 65% package will be submitted for review and comment.

### ***Task 3.2.1 65% Structures Cost Estimate***

AECOM will develop 65%-level quantities, bid item list, and construction cost estimate for review by the City and Caltrans.

### ***Task 3.2.2 Structures 65% Deliverables***

- Unchecked Plans
- Construction Cost Estimates

## **TASK 4 – PREPARE AND OBTAIN ENVIRONMENTAL PERMITS AND PERFORM ENVIRONMENTAL REVALIDATION**

Based on the project’s Final EIR/EA, the project has limited involvement with regulatory permits. Four necessary approvals were identified: 1) An FHWA approval that the project conforms with the Clean Air Act conformity requirements (completed during PA&ED), 2) Section 106 consultation is complete with respect to the National Historic Preservation Act requirements (completed during PA&ED), 3) the project has a Regional Water Quality Control Board Section 401 Water Quality Certification or meets Waste Discharge Requirements, and 4) the project is in compliance with the National Pollution Discharge Elimination System (NPDES) Construction General Permit requirements. Items 1 and 2 are complete and no new work is proposed. Items 3 and 4 are addressed below.

### **Task 4.1 Waste Discharge Requirements Authorization**

There is only one surface water within the project limits at the crossing of Colma Creek. It is crossed by San Mateo Avenue, Produce Avenue, southbound and northbound US 101, and S. Airport Boulevard. The preliminary design did not require any work within Colma Creek or its banks, and it was therefore designated as an Environmentally Sensitive Area (ESA) to be avoided during project construction. This designation will be included in the PS&E project specifications and contractor requirements. With no work

in the creek a 401 Water Quality Certification is not needed because there is no need for a Section 404 permit.

In the absence of a Section 404 and Section 401 federal water quality permit requirement, the State RWQCB can require a Waste Discharge Requirements authorization. However, this is assumed only applicable for a discharge into state waters, which is limited within the project area to Colma Creek. To maintain the project’s compliance with these assumptions, the following scope of work is proposed:

- The ESA area at Colma Creek will be defined in the project plans and specifications as a resource that is excluded from construction work or discharges to the creek and its banks. This specification will be drafted and included in the PS&E package.

- Consultant regulatory specialist will coordinate with the project design team during development of the plans through 65%.
- For minor discharges, a Notice of Intent (NOI) can be filled out. This project may not require an NOI since it presumably avoids a discharge because of avoidance of any work in Colma Creek or any other water of the State. If necessary, the NOI form will be filled out summarizing the project information and environmental findings. Standard conditions and general compliance will be assumed. Consultant does not anticipate that a detailed assessment is necessary or will be required. Consultant assumes the permit application fees will be paid directly by the City, as the amount of fee is unknown at the time of preparing this proposal.

#### **Task 4.2 NPDES Authorization**

NPDES conditions are achieved through consistency or compliance with the Construction General Permit (CGP) requirements. The construction contractor is normally responsible for meeting these requirements, and it is assumed this responsibility will be specified as a contractor requirement. Therefore, no scope of work or deliverable is proposed for this regulatory requirement.

#### **Task 4.3 Environmental Revalidation**

A brief Environmental Revalidation will be provided. It will be limited to demonstrating that changes in the final design that differ from the preliminary design used for the Final EIR/EA are not substantially different, and/or do not introduce new significant impacts or new mitigation measures related to significant impacts.

#### ***Assumptions***

- A 401 Water Quality Certification or Section 404 permit is assumed not required because there is no work proposed within Colma Creek, which is the only jurisdictional water within or near the project. AECOM assumes that Colma Creek and its banks can be designated as an Environmentally Sensitive Area (ESA) in the project specifications and plans, and the contractor will be excluded from work within the creek.
- It is assumed the construction contractor will be required to meet the current GGP conditions. AECOM therefore assumes this will be the responsibility of the contractor and no work is proposed with respect to NPDES and GGP compliance.
- A summary NOI can be filled out if necessary, but is assumed the necessary information summarized from the approved environmental document and use of standard conditions and general compliance measures will be sufficient for the application.
- AECOM cannot predict the application fees at this time and assumes that the City will provide the application fees directly. If Consultant issues the application fee, a change order may be necessary to cover the fee.
- AECOM assumes the Revalidation document will not be longer than 5 to 15 pages, and that the changes in the project can be briefly described with respect to no substantial changes in the project that could introduce significant impacts or changes in impacts that require new mitigation.

Consultant assumes that any project changes will not require recirculation or any new CEQA/NEPA documentation, beyond the brief Revalidation.

***Deliverables***

- Notice of Intent (NOI) application for the Regional Water Quality Control Board (if necessary and limited to demonstrating no impacts to the Colma Canal or any other water body).
  
- Environmental Revalidation

**TASK 5 – RIGHT-OF-WAY ENGINEERING, UTILITY AGREEMENTS AND APPROPRIATE COORDINATION**

AECOM will research public record maps and parcels affected by the project. We will obtain preliminary Title Reports (PTRs) required for affected parcels prior to starting boundary resolution activities. Record boundary information will be mathematized and compiled into a Land Net of the project area. Field surveys will be performed to recover and measure record boundary monumentation.

Associated Right of Way Services, Inc. (AR/WS) will assist in appraisals and AECOM will develop ROW appraisal maps for the parcels of Potentially Affected Properties for Caltrans review and approval. These maps will be prepared at a scale of 1 inch = 50 feet, per Caltrans Plans Preparation Manual and ROW Appraisal Mapping Standards.

**Task 5.1 Survey Approach**

The primary surveying tasks for this complex interchange improvement project include Ground Control Surveys, Photogrammetric Surveys (Caltrans ABC process), Mobile Terrestrial Laser Scanning (MTLS) Surveys, Survey Control Report, ROW Engineering, Supplemental Topographic Design Surveys, and Underground Utility Surveys.

Horizontal and vertical datums will be NAD83 (2011) CCSZ3 Epoch 2017.50 and NAVD88, respectively. Caltrans standards contained in Chapters 2, 5, 6, 7, 8, and 9 of the Caltrans Survey Manual will be followed. The photogrammetrist subconsultant will perform the mapping to Caltrans ABC process protocols and standards. The MTLS subconsultant will follow standards contained in the Caltrans MTLS Guidelines dated July 27, 2018. Positional accuracy standards for all surveys will conform, at a minimum, to the requirements, specifications, and results of a Caltrans Order 2cm Local Accuracy survey, also known as Third Order. Caltrans data collection and mapping standards will be used. Conforming to current Caltrans mapping standards, the mapping products will be provided in AutoCAD Civil3D (C3D) 2018 format. Additionally, the native drawings will be converted to Microstation DGN format for use by the project team. A Caltrans Encroachment Permit will be obtained for work in the ROW, and all permit stipulations will be followed.

**Task 5.2 Ground Control Surveys**

A minimum four Project Control Monuments (PCMs) encompassing the project footprint will be established using static Global Navigation Satellite System techniques. PCMs will conform to the

requirements, specifications, and results of a Caltrans Order 1cm Network Accuracy survey. Static measurements to a minimum two passive monuments will be included. Static measurements from a minimum three and preferably four Continuous Global Positioning System stations will also be included in the ground control survey.

Following adjustment of the static control survey data to the project datums, additional control surveys will be performed. Using Total Station Survey System (TSSS) techniques, supplemental control points will be established throughout the project footprint. TSSS measurements will also be made to local first order vertical benchmarks.

Using conventional real time kinematic (RTK) double-baseline methods, measurements will be made to recovered ROW monuments to aid in land net development.

Using differential leveling techniques, a closed-loop level survey will be performed. This level survey will include measurements to the local first order vertical benchmarks, the minimum four PCMs, the supplemental control points, and selected ROW monuments. Additionally, level measurements will be taken to the 24 photopanel required for the photogrammetric survey and the 36 ground control points (GCPs) required for the MTLs survey, both discussed in following sections.

Twenty-eight field days for ground control surveys are included with this proposal.

### **Task 5.3 Photogrammetric Surveys (Caltrans ABC Process)**

#### ***Task 5.3.1 Photopanel Survey***

During the ground control survey phase, 24 photopanel will be installed and surveyed to Caltrans Third Order RTK specifications, using RTK double-baseline and differential level techniques.

#### ***Task 5.3.2 “A”, “B”, and “C” Letter Submittals***

AECOM will prepare the “A” letter submittal, the first requirement of the Caltrans ABC process. This letter details the mapping purpose, mapping units, control origin, datums and epoch, California State Plane Coordinate System Zone, intended map scale and contour interval, aerial camera calibration report, flight plan, control layout, proposed delivery schedule, contact information for the aerial and design consultants and the Caltrans Project Manager, and sheet and text orientation layouts.

As part of the “B” letter submittal, AECOM will prepare the “B1” Survey Control Report. This report is described in detail in a following section. Support for the remainder of the “B” letter submittal and the “C” letter submittal will also be provided.

#### ***Task 5.3.3 Photogrammetric Mapping***

Subconsultant GeoCADD will perform the photogrammetric mapping. The aerial data acquisition will be performed shortly after photopanel installation is complete. The Caltrans no-fly dates of November 27 through January 23 will be respected. The native mapping platform will be C3D 2018 format using Caltrans mapping standards. Additionally, the native mapping will be converted to Microstation DGN format for use by the project team. A map compilation scale of 1 inch = 30 feet, showing 1-foot contours is anticipated. Color digital orthophotos will be provided.

## **Task 5.4 Mobile Terrestrial Laser Scanning Surveys**

### ***Task 5.4.1 MTLS Ground Control Point Survey***

Due to the location of the conforms and the high traffic density at these locations, MTLS surveys rather than conventional on-the-ground surveys will be used for worker safety and to limit traffic impact. Prior to MTLS data collection, MTLS GCPs must be installed and surveyed. As provided by R.E.Y. Engineers (REY), the mobile LiDAR subconsultant, 36 GCPs are required for this project. In addition to the conform locations, the MTLS survey will include the location of the proposed bridge footings in the center median of US 101. For installation and survey of the GCPs required for the center median MTLS survey, Bess Testlabs, Inc. (Bess) will be mobilized to close the #1 northbound and #1 southbound lanes during night closure work. AECOM will facilitate Construction Zone Enhanced Enforcement Program support from the California Highway Patrol for all night closure work. AECOM will prepare and submit lane closure requests through the online Caltrans Lane Closure System. The GCP survey will consist of two separate surveys: 1) GCP installation and first RTK observation, and 2) differential level survey and second RTK observation from a different base station location.

### ***Task 5.4.2 MTLS Data Collection and Mapping***

REY will perform a Type A MTLS field survey and prepare the mapping product in C3D and Microstation DGN formats, using Caltrans mapping standards. MTLS data acquisition will be performed shortly after GCP installation is complete. A map compilation scale of 1 inch = 30 feet, showing 1-foot contours is anticipated. Due to equipment and accuracy limitations, the MTLS mapping limits will generally be the hard surface extents but may include areas outside of those extents, such as shoulders, earthen islands at intersections, driveways, and other similar features where bare ground is visible.

## **Task 5.3 Survey Control Report**

The raw control data will be reduced, compiled, and analyzed. A minimally constrained least squares adjustment of all raw survey measurement data will be prepared to determine the integrity of the survey measurements. Once analyzed and accepted, a fully constrained least squares adjustment will be prepared. Following completion of the fully constrained adjustment, a Survey Control Report will be prepared. This report is a narrative detailing the purpose of the survey, datums used, controlling monumentation, post-processing to include the minimally and fully constrained adjustments, and the results and conclusions. The report also includes final coordinates and elevations, project and control location maps, measurement metadata, and other required data. This report will be provided to District 4 personnel for review and approval, allowing the photogrammetric mapping, MTLS mapping, and supplemental topographic design survey and mapping to be performed.

## **Task 5.4 Right of Way Engineering**

### ***Task 5.4.1 Record Boundary Land Net***

Using current Caltrans Record Maps (R-maps) and Survey Maps (S-maps), the current US 101 ROW will be calculated and placed into the record boundary land net, based on the location of the recovered ROW monuments. Title reports and associated supporting documents for each of the 15 acquisition parent parcels will be obtained, cataloged, and organized. The record boundary and plottable easements for each parent

parcel will be calculated and placed into the record boundary land net. Selected Records of Survey, Parcel Maps, Final Maps, and other record documents will also be calculated and included in the record boundary land net. Following completion of the record boundary land net, a resolved boundary land net will be prepared, using the recovered ROW and boundary monuments to determine each resolved boundary and easement line.

#### ***Task 5.4.2 Base Mapping***

Upon completion of the resolved boundary land net, the Base Mapping deliverable will be prepared. This proposal assumes that 10 sheets will be required. The Base Mapping will show the applicable Caltrans ROW, all parent parcel boundaries, all plottable easements for each parent parcel, city ROWs, and other required data. The Base Mapping will be submitted to Caltrans District 4 personnel for review and acceptance. Title reports, supporting documents, and other applicable record documents will be provided to Caltrans District 4 with the Base Mapping deliverable.

#### ***Task 5.4.3 Appraisal Mapping***

Upon acceptance of the Base Mapping, preparation of the Appraisal Mapping will begin. This proposal assumes that 10 sheets will be required. As determined by the civil engineering team, linework representing the required acquisitions will be incorporated into the base mapping model. The Appraisal Mapping will include the sub-parcel identifier for each acquisition parcel, the acquisition type, and the area of each sub-parcel, with each sub-parcel uniquely color-coded per parent parcel. Additional Appraisal Mapping items include but are not limited to parent parcel boundaries and easements, adjacent owner parcel boundaries and easements, city ROWs, prior Caltrans acquisitions, existing topography, existing Caltrans ROW, proposed Caltrans ROW, and proposed design lines. Closure calculations for each acquisition sub-parcel, each design line, and the final proposed Caltrans ROW will be performed. The Appraisal Mapping and closure calculations will be submitted to Caltrans District 4 personnel for review and acceptance.

#### ***Task 5.4.4 Plat and Legal Packages***

Upon acceptance of the Appraisal Mapping, preparation of the plat and legal packages will begin. This proposal assumes that 38 plat and legal packages will be required from 15 parent parcels, including nine fee acquisitions, three permanent easements, four aerial easements, and 22 Temporary Construction Easements (TCEs). The plat and legal packages will be submitted to Caltrans District 4 personnel for review and acceptance.

#### ***Task 5.4.5 Pre-Construction Record of Survey Map***

As required by Caltrans and the California Land Surveyors' Act, a Pre-Construction Record of Survey map will be prepared and filed with San Mateo County to memorialize the Project Control Monuments, supplemental control, photopanel, MTLs GCPs, vertical benchmarks, and recovered ROW and other monuments from this survey.

#### ***Task 5.4.6 ROW Engineering Support***

Surveying services will be provided as needed in support of Project Control sheet preparation, ROW Sufficiency, and ROW Certification tasks.

## **Task 5.7 Supplemental Topographic Design Surveys**

Supplemental topographic design surveys will be performed using TSSS or RTK methods. Thirteen field days and associated mapping for supplemental topographic design surveys are included with this proposal. Supplemental topographic design surveys include 1) above-ground utility survey (5 field days), 2) storm drain and sanitary sewer system pipe and invert survey (3 field days), and 3) topographic surveys as directed by the civil engineering team (5 field days). Caltrans mapping standards for conventional surveying will be used. CAD-model only deliverables will be provided in both C3D and Microstation DGN format.

## **Task 5.8 Underground Utility Surveys**

### ***Task 5.8.1 Quality Level A (QL-A)***

Pothole locations will be determined by the AECOM team. A QL-A pothole survey will be performed at these locations using primarily vacuum pothole techniques. A maximum of 45 vacuum potholes are anticipated for this project. Pothole locations and elevations will be surveyed by AECOM and incorporated into the project mapping. A pothole tracking spreadsheet will also be prepared. Two field days and associated mapping for QL-A surveys are included with this proposal.

## **Assumptions/Notes/Inclusions/Exclusions**

1. Horizontal and Vertical Datums to be NAD83 (2011) CCSZ3 Epoch 2017.50 and NAVD88 using Geoid18, respectively.
2. Work shall be performed by or under the direction and responsible oversight of a California Licensed Land Surveyor.
3. The scope of work and the associated survey cost estimate is based on the assumption that the field program will not be delayed by inclement weather, access issues, or any other delay beyond our control. If a significant delay develops, the client will be notified promptly.
4. This scope of work and proposal includes only the preparation and filing of a Pre-Construction Record of Survey. All other record documents—including but not limited to other Records of Survey, Corner Records, Parcel or Final Maps, or Lot Line Adjustments—are excluded.
5. This proposal includes the installation and survey of a maximum of 24 photopanel.
6. This proposal includes the installation and survey of a maximum of 36 MTLs GCPs.
7. This proposal includes one night shift for the GCP survey and topographic surveys along the inside median barrier. Night shifts in excess of one will be charged as additional services.
8. This proposal includes an aggregate 28 field days for all control tasks. Field days in excess of 28 for control tasks will be charged as additional services.
9. This proposal includes an aggregate 19 days for the various topographic and utility surveys required for this project. Field days in excess of 19 for these tasks will be charged as additional services.

10. This proposal assumes 15 parent parcels containing nine fee acquisitions, three permanent easements, four aerial easements, and 21 TCEs.
11. This proposal assumes that 15 PTRs will be required, totaling \$30,000. Actual PTR costs will apply.
12. This proposal assumes five existing plottable easements per acquisition parcel, for an aggregate total of 75 plottable easements for the 15 parent parcels associated with this project. Calculation of plottable easements in excess of 75 will be charged as additional services.
13. This proposal includes 10 sheets for the Base Mapping and Appraisal Mapping deliverables. Sheets in excess of 10 will be charged at the calculated per sheet rate appropriate for each deliverable.
14. This proposal includes 38 Plat and Legal packages for nine fee acquisitions, three permanent easements, four aerial easements, and 21 TCEs.
15. This proposal includes the initial submittal and two subsequent submittals for the Base Mapping, Appraisal Mapping, Plat and Legal Packages, and Pre-Construction Record of Survey deliverables. Revisions and/or resubmittals due to client changes, engineer changes, landowner changes, or changes for any other reason beyond the surveyor's control will be billed as additional services.
16. For scheduling purposes, the start of office surveying services related to ROW Engineering tasks will begin once all PTRs have been received.

### **Task 5.3 Utility Coordination**

AECOM will coordinate utilities with Caltrans' ROW Utility Coordinator and ROW Project Coordinator, and the utility companies. Activities include:

Identifying utility issues (relocation, notices, etc.), right-of-way certification, potholing and verifying utility locations and providing horizontal and vertical surveying

- Coordinating utility impacts and relocations caused by construction, preparing input to City for utility agreements, including utility relocation claim letters and Notice to Owners
- Developing utility plans (U-drawings) that identify utilities to be relocated and utility envelope plans

Existing utilities will be located using the latest as-builts, visual inspection of surface features and other available data. Where required, we will conduct potholing to positively identify utilities, including high-priority utilities.

AECOM will locate and map existing utilities that potentially conflict with the proposed improvements, develop a proposed relocation alignment and prepare a preliminary utility relocation cost estimate. We will submit relocation plans to affected utility owners for coordination and input, and obtain their design for the facilities that they are responsible for relocating. Utility relocation design plans will not be developed.

***Assumptions***

- Encroachment permit applications to perform design activities within Caltrans and City right-of-way will be prepared by AECOM for City’s signature.
- Caltrans will provide existing survey control.
- The magnitude of design surveying work is estimated. The level of surveying included in this scope and cost estimate are as required to provide sufficient data necessary for the design of the project. If the scope of the project or limits of the project change during the completion of the PS&E, additional survey required due to these changes will be additional work.
- State ROW maps will be available from Caltrans.
- Does not include deposition, court appearances etc.
- ROW record maps to be provided by others.
- Fees may be required by utility companies and are not included.
- Design of water and sewer relocations are not included.

**Task 5.4 Right of Way Services**

The subject properties are identified as:

No.	APN	Owner	Address	Acquisition Type
1	015-142-080	Goodwill Industries of San Francisco	100 Utah Avenue	Partial
2	015-145-050	Hertz Realty Inc.	101 Utah Avenue	Partial
3	015-124-999 (S.B.E. 135-41-050)	PG&E	S. Airport Boulevard	Partial
4	015-141-999 (S.B.E. 135-41-050 Par. 3)	PG&E	S. Airport Boulevard	Partial
5	015-141-260	Ken Royce Inc.	316 S. Airport Boulevard	Full
6	015-141-030	International Inn Inc.	326 S. Airport Boulevard	Partial
7	015-113-240	Terminal Court Owner LLC	Terminal Court	Partial
8	015-113-210	Golden Gate Produce Terminal Ltd.	131 Terminal Court	Partial
9	015-114-370	IPT South San Francisco DC LP	1422 San Mateo Avenue	Full

No.	APN	Owner	Address	Acquisition Type
10	015-113-440	Poletti Grandchildrens Trust	San Mateo Avenue	Partial
11	015-113-290	Hanna Investments LLC	196 Produce Avenue	Partial
12	015-113-350	Hanna Investments LLC	120 Terminal Court	Partial
13	015-141-222	Grosvenor Airport Assocs.	380 S. Airport Boulevard	Partial
14	015-113-380	Icon SSF Apartments Owner LLC	100 Produce Avenue	Partial
15	015-126-050	Laxmi Hospitality LLC	10 Airport Boulevard	Partial
16	015-113-180	Icon SSF Apartments Owner LLC	124 S. Airport Boulevard	Partial

***Assumptions***

- Services will be conducted in conformance with the Caltrans ROW Manual.
- Up to 20 project management hours are assumed for coordination on the newly implemented Caltrans Real-Time Compliance Monitoring (RTCM). Because RTCM is newly implemented, the extent of hours required for this coordination is unknown at this time.
- The project may include two full acquisitions and partial acquisitions from 14 parcels with 12 to 13 property owners.
- It is assumed that a full acquisition may be required for Nos. 5 and 9. Each of these acquisitions will leave remainder parcels that may be considered remnants that are uneconomic in the market or to the owner. The appraisals are thus assumed to require a primary and alternate valuation; a full acquisition analysis, and a partial acquisition analysis that considers damages to the remainder/remnant parcel.
- Business relocation services will be required for up to three businesses, including an IHOP Restaurant (No. 5) and Bay Badminton Center and SF Elite (No. 9).
- Up to two parcels (Nos. 6 and 8) with personal property-only relocations are assumed. No. 6 will likely require personal property relocation due to the removal of the hotel reception area and the meeting and conference center buildings on the Travel Lodge property. No. 8 may require personal property relocation due to the extension of Utah Avenue. It is assumed that No. 7 will not require personal property relocation for temporary storage or relocation of personal property from kiosks, and that kiosks will remain operable and will not be removed during project construction.
- For No. 6, it is assumed that no long-term residents will be displaced and no impacts to rental of hotel units if the lobby/reception/conference center is impacted. Relocation for this parcel is limited to moving and reconnecting personal property.

- It is assumed that up to four fixtures and equipment (F&E) appraisals will be required on Nos. 5 (IHOP Restaurant), 6 (Travel Lodge), and 9 (Bay Badminton Center and SF Elite). F&E appraisals are assumed to be provided by a subcontractor. It is assumed that no F&E appraisal will be needed for kiosks on No. 7 (Park ‘N Fly).
- It is assumed that the project impacts will not result in a full acquisition and business relocation for No. 6. If the project acquisitions and design impacts result in a full acquisition and business relocation, the budget will require additional funds.
- The AR/WS appraiser will analyze damages during the course of the appraisal assignments for each parcel. Damages are anticipated for No. 4 due to two proposed permanent easements that may result in an uneconomic remnant between the easements. Damages are anticipated for No. 6 due to the removal of the hotel reception area, the pool facility, and the meeting and conference center buildings. Damages are also anticipated because portions of these facilities may potentially need to be reconstructed as a “cost to cure” damages, and because reconstruction of an entrance is anticipated, which may result in a portion of the remainder parcel becoming an uneconomic remnant. Because No. 5 and No. 9 are likely to require a primary and alternate appraisal, damages are anticipated for each of these parcels in the Alternate Valuation, which is anticipated to be a partial acquisition analysis with uneconomic remnants. Damages are anticipated for No. 11 due to loss of site utility caused by the extension of Utah Avenue, which may include an uneconomic remnant at the southwestern corner of the parcel. It is assumed that there will be no damages to No. 14 and no loss of parking.
- Except as previously noted, no damages are assumed to remainder parcels, including temporary damages caused by loss of access or parking impacts. It is assumed that no buildings or other significant structures will be acquired or impacted, other than as previously assumed. The initial appraisal budget assumes that there are no damages to the other subject remainder parcels due to the proposed acquisitions and/or the construction of the project. If during the damages/benefits analysis conducted as part of the appraisal process for other parcels, damages become apparent to the appraiser that result in a change to the anticipated level of effort, additional budget may be requested.
- It is assumed that the parcels are not contaminated and that appraisals will not require analysis of potential remediation costs provided by others.
- Appraisal services do not include business or goodwill analyses or conclusions. Any loss of goodwill valuations should be performed by others under direct contract with the City or the City’s legal counsel.
- Budget assumes a 2- to 4-month negotiating timeframe for acquisition, and approximately three to four property owner contacts/meetings or attempted contacts. If extended negotiations and/or condemnation support services are needed, additional budget may be requested.
- For Nos. 4, 5, 6, 8, 9, and 11, it is assumed that tenant consents, quitclaim deeds, or similar documentation may be needed to clear lessee interests/possessory rights from as many as seven tenants. Otherwise, negotiations are assumed to be with owners only (one on Parcel No. 4, one on No. 5, one on No. 6, one on No. 8, two on No. 9, and one on No. 11).

- It is assumed that a final appraisal map and signed Certificate of Sufficiency will be provided prior to initiation of appraisal services.
- The project duration from the beginning of appraisals to ROW Certification is assumed to be approximately 15 to 18 months. An extended or expedited project schedule may increase the estimated budget.

### **Task 5.5 Right of Way Consulting and Project Management**

- Establish work process with City and schedule, manage and coordinate all real estate and relocation assistance functions.
- Conduct ongoing consultation, meetings, and recurring project management duties.
- Coordinate with City, City, AR/WS team, subcontractors (independent review appraiser and fixtures and equipment appraiser), and City's legal counsel, as needed.
- Coordinate with Caltrans District 4 ROW staff, including up to 20 hours for the newly implemented RTCM.
- Assist with analyzing various courses of action. Work with City and City to resolve problems and recommend solutions.
- Perform contract management, budget monitoring and control, and project reporting.
- Oversee compliance with Uniform Act guidelines.
- Implement and comply with applicable state and federal laws and regulations.
- Maintain accurate records. Monitor work plan and work flow.

### ***Deliverables***

- Project status report spreadsheets.

### **Task 5.6 Appraisal**

- Appraisals to be provided to City and City staff as directed. If requested, provide appraisals to Caltrans, who may provide appraisal review comments to AR/WS pertaining to the draft appraisal reports. Budget assumes that timely review comments and reasonable edits will be requested by Caltrans, City and/or City.
- Appraisals are to be prepared in accordance with California Eminent Domain Law; California Government Code Section 7260 et seq.; Uniform Standards of Professional Appraisal Practice requirements, except as jurisdictionally exempt; the Caltrans ROW Manual; and 49 Code of Federal Regulations, Part 24.

- The owner or a designated representative will be invited by the appraiser to accompany him/her during the inspection of the property.
- Appraisals are to be prepared in an Appraisal Report format in accordance with Uniform Standards of Professional Appraisal Practice, Standard Rule 2-2.
- Appraisals are for the “Fair Market Value” of the properties, in accordance with California Code of Civil Procedure, Section 1263.320.
- In accordance with the California Code of Civil Procedure Section 1263.330, the market value of the property acquired will not include consideration of any increase or decrease in the value of the property that is attributable to any of the following:
  - The project for which the property is taken;
  - The eminent domain proceeding in which the property is taken; or
  - Any preliminary actions of the acquiring authority relating to the taking of the property.
- Appraiser will not give consideration to, nor include in their appraisal, any allowance for relocation benefits of personal property.
- The appraiser will work directly with the Review Appraiser.
- If revisions are made to the property or assignment requirements during the appraisal process or upon completion of the report, appraisal time to address these revisions will be billed on an hourly basis in accordance with the AR/WS Fee Schedule. (Optional Service)

### ***Deliverables***

- Draft Notice of Decision to Appraise for approval
- Appraisal Report

### ***City Obligations***

- Adequate appraisal maps and Certificate of Sufficiency
- Design information and construction plans
- Current title reports for each ownership
- Environmental site assessments, if applicable

### **Task 5.7 Appraisal Review**

Appraisal review will be required, and AR/WS proposes to subcontract with a qualified independent review appraiser for these services.

- Upon receiving appraisal reports, an office review of the reports using the various standards prescribed by the Federal and State Uniform Acts, Federal Highway Administration, Caltrans appraisal procedures, Uniform Standards of Professional Appraisal Practice, and the California Eminent Domain codes will be completed.

- Review appraiser will provide comments to the appraiser for discussion and will communicate with the appraiser to clarify potential issues and resolve problems.
- Upon satisfactory completion of the appraisal reports, an appraisal review report and certification will be prepared.

### ***Deliverables***

- Appraisal Review Report and Certification

### **Task 5.8 Negotiations/Acquisitions**

- AR/WS will prepare acquisition documents. Said documents include, but are not limited to: offer letter, summary statement pertaining to the acquisition of real property or an interest therein, purchase agreement, deed, and public acquisition brochure. AR/WS will initiate and maintain individual acquisition files. All acquisition documents are to receive City's written approval as to form prior to use in the field. In accordance with Section 102 of the California Streets and Highways Code, a copy of the appraisal report will be provided to the property owner.
- Upon receipt of a signed Certificate of Sufficiency and approval of acquisition documents by the City, AR/WS will present a written offer and initiate negotiations.
- AR/WS will negotiate to acquire up to two full and 14 partial property acquisitions identified by the City. It is assumed that there will be negotiations with between 12 and 14 property owners (Nos. 5 and 6 may be one unified ownership interest, as well as Nos. 11 and 12), and with seven lessees (one on Parcel No. 4, one on No. 5, one on No. 6, one on No. 8, two on No. 9, and one on No. 11).
- All discussions for the acquisition of property or an interest therein will be directed to result in the payment of just compensation.
- If settlement with owners and other required interests is reached pursuant to the City approved appraisal or City approved administrative settlement, AR/WS will prepare a Memorandum of Settlement for transmittal to City, reviewing the issues. This memorandum will require the City's written approval before implementation of any settlement agreement.
- AR/WS will make every reasonable effort to acquire property on behalf of the City expeditiously through agreement with its owner and to avoid litigation. This may necessitate greater levels of effort in the negotiations phase and, where appropriate, should continue after eminent domain has been initiated. City will provide ongoing feedback to AR/WS as to authorization for settlements.
- AR/WS will establish a process of coordinating escrow closings and reviewing escrow instructions. Where there are escrow closings, preparation of escrow instructions will be completed by title company. Approval of conditions of title and escrow instructions, including but not limited to, "subject to" title exceptions, will be performed by City.

- If agreement with all owners and other required interests cannot be reached, AR/WS will advise the City that negotiations have reached an impasse. The City will consider scheduling of an action in eminent domain, including the required public necessity hearing. AR/WS will provide condemnation support as needed and requested, budget allowing.

### ***Deliverables***

- Draft Acquisition Documents for approval
- Memorandum of Settlement and Signed Agreement (upon settlement)
- Notice that negotiations have reached an impasse (if needed)

### ***City Obligations***

- Written approval of all acquisition documents in a timely manner
- Direction as to administrative settlements, negotiating authority and condition of title acceptance
- Providing any formats to be used by AR/WS on the City's behalf
- Selection of title company
- Review and approval of title company prepared escrow instructions

### **Task 5.8 Business Relocation Assistance**

- Meet with the business representative to determine the business structure, market area, personal property, and replacement site needs.
- Provide business with the following documentation, when appropriate:
  - General Information Notice
  - Notice of Eligibility
  - 90-day Notice to Vacate (to be signed by City)
- Identify available replacement sites that might accommodate the affected business.
- Work closely with the business to secure estimated relocation costs.
- Prepare claims for payment and present them to the business owner for signature.
- Submit all signed claims and necessary documentation to the City for review and processing.
- Establish and maintain a detailed relocation file for the business to document specific relocation efforts, including a relocation diary to track all contact with occupant.
- Provide continuing information to City staff to keep staff apprised of relocation efforts and vacate status.

### ***Deliverables***

- Relocation Assistance Package
- Notice to Vacate
- Complete Claim Forms

### ***City Obligations***

- Approve and process documents and claims in a timely manner to avoid a hardship for the affected business.

### **Task 5.9 Personal Property Only Relocation Assistance**

Personal property only relocation assistance will be provided for up to two tenants (on Nos. 6 and 8). Personal property only relocation assistance services include:

- Appropriately notice two tenants.
- Manage the relocation of personal property of two tenants.
- Provide research on estimated moving costs, available locations, and costs, as needed.
- Prepare claim forms and provide claims processing.
- Provide ongoing consultation, coordination, and meetings participation.

### **Task 5.10 Fixtures and Equipment Appraisal**

If necessary, AR/WS proposes to subcontract with Desmond, Marcello & Amster to provide F&E appraisals. The F&E appraiser will work with the AR/WS appraiser, the property owner, and the tenants to identify and attempt to determine ownership of F&E. It is anticipated that F&E appraisals may be required for up to four businesses (one business each on Nos. 5 and 6, and two businesses on No. 9).

Work will include the following:

- Communicate with AR/WS, AECOM, and/or City.
- Coordinate with real estate appraisers, relocation agents, acquisition agents, and/or attorneys.
- Prepare a complete inventory of the assets at the subject business location. This inventory includes a description of the assets as well as observation of their age, condition, and method of installation, if any.
- Review any documentation pertaining to the assets provided by the business' owner or manager, such as invoices, depreciation schedules, and construction contracts.
- Interview business owners and/or managers.
- Research the marketplace for each of the assets identified on site. Such research includes reference to a variety of publications as well as discussions with individuals knowledgeable about the market for the assets.

- Coordinate with the real property appraiser to avoid duplication of compensation.
- Apply valuation methods, including the Market Approach and Cost Approach to the subject assets.
- Prepare the appraisal report for submission.
- Conduct any required meetings or conferences with AR/WS, AECOM, or the City regarding appraisal questions.

### **Task 5.11 Right of Way Certification**

- Coordinate with Project team members for preparation of the ROW Certification.
- Provide Draft ROW Certification for approval by City, in accordance with the Caltrans ROW Manual.
- Submit supporting documentation along with the ROW Certification. Supporting documentation may include ROW contracts, Orders for Prejudgment Possession, diary notes, ROW sufficiency forms, Agreements for Possession and Use, and deeds.
- Coordinate processing of the ROW Certification with Caltrans.

### ***Deliverables***

- Deliverable 5A: ROW Engineering Maps and supporting documentation
- Deliverable 5B: Property Appraisals
- Deliverable 5C: ROW Agreements
- Deliverable 5D: Utility Agreements and Plans
- Draft ROW Certification.

### ***Assumptions***

1. AR/WS' estimated budget assumes timely assignment by the City of all appraisals, acquisition parcels, and relocation cases. Deferring or piecemealing assignments adds to level of effort and costs.
2. The City is to provide written appraisal approval and sign Offers of Just Compensation as reflected in the Appraisal Summary Statement(s). City letterhead will be used for offers and significant correspondence, including Notices of Decision to Appraise and acquisition and relocation notices. Initiation of acquisition work assumes that the City has secured any required environmental certification as well as any federal or state approvals to begin ROW services.
3. All services are to be provided pursuant to the Uniform Relocation Assistance and Real Property Acquisition Policies Act and applicable state and federal laws, related guidelines, and regulations.

4. The City is to provide adequate appraisal maps, plat maps, construction plans, mitigation measures, PTRs, legal descriptions, and deed sheets (*for easements*).
5. Unless noted otherwise, pre-acquisition activities for soliciting Permits to Enter for soils/testing/contract work, Rights of Entry, and Agreements for Possession and Use are not included.
6. Except for appraisals, which are typically charged lump sum; this is a “time charged” contract in accordance with the AR/WS Fee Schedule. Material changes to the contracted Scope of Work after services begin will add to the original budget/contract amount. Material changes, for which AR/WS is not responsible, include but are not limited to addition of new parcels, schedule changes, new and revised legislation, regulations, statutes or ordinances by any public entity or legislature, extended negotiations, multiple vestings, title complications, relocation complications, hard to house households, unrecorded claims, extended site searches, eminent domain actions, design changes, and revised or updated appraisals. This Agreement is not a guarantee of property rights requested or displacements completed for a fixed budget amount. Unless otherwise agreed, preparation for or attendance at depositions, relocation appeals, expert witness testimony, or court appearances are not included in the budget.
7. The budget is to be reviewed periodically. AR/WS may reapportion budget allocations among categories. Team composition may be adjusted by AR/WS.
8. Escrow costs and title reports shall be paid by City. Escrow instructions are to be prepared by Title Company with AR/WS coordination. The City is to determine acceptable condition of title and what, if any, title exceptions to take “subject to.” AR/WS is to assist and consult as requested.
9. Upon written notice from City, AR/WS will suspend, delay, or interrupt all or a part of its services. In such event, AR/WS will resume services upon written notice from the City. An extension of time and added costs will be mutually agreed upon within a reasonable time following reinitiation of all or any part of services.
10. The City will give prompt notice to AR/WS whenever the City observes or becomes aware of any development that affects the scope or timing of AR/WS’ services, or any defect in the work of AR/WS.
11. Unless otherwise noted, preparation of Caltrans ROW Certification documents is not included in the Scope of Services.
12. AR/WS understands that construction and design plans are subject to some change. AR/WS will accommodate changes in the property requirements, including number or parcels, acquisitions, and relocations. Changes in proposed acquisitions after appraisals have begun or negotiations/relocations have commenced will add time and expense to assignments. The parties acknowledge that such revisions may add to costs.

## **TASK 6 – PREPARE 95% PS&E FOR CALTRANS REVIEW AND APPROVAL**

### **Task 6.1 Design Plan Sheets**

AECOM will respond to comments from Caltrans, City, and other stakeholders on the 65% deliverables as listed in Task 3 and update the PS&E and reports to Caltrans' 95% level of completion. We will coordinate with reviewers, resolve comments and document responses in the comment/response matrix. The 95% PS&E submittal will include edited SSPs and a list of NSSPs. We will prepare the 95% landscape architecture and structures aesthetics plans in coordination with the City and Caltrans. The Project Survey file will be updated to the 95% level of completion and submitted with the PS&E. The 95% PS&E will include all relevant forms and documents as per Caltrans District 4 PS&E Checklist.

#### *Assumptions*

- Same as Task 2

#### *Deliverables*

- Deliverable 6A: 95% PS&E (includes Landscape Architecture and Structures Aesthetics concepts), Survey File, 95% reports

### **Task 6.2 Structures 95% PS&E**

The AECOM team will revise the 65% plans based on comments from the City and Caltrans and its functional units. AECOM will provide written responses to 65% review comments, with justification noted for each comment not incorporated. After all comments have been addressed, AECOM will submit the revised (95%) plans to Caltrans for review.

### **Task 6.3 95% Structures Specifications and Special Provisions**

AECOM will incorporate all agreed upon comments from the 65% submittal into the Special Provisions and prepare Special Provisions which are specific to the Project for use with Caltrans' 2023 Standard Specifications or latest edition. SSPs will be submitted in MS Word format. AECOM will coordinate construction work items for the Project have a method of payment stated in the Specifications and are accounted for in the Construction Cost Estimate.

### **Task 6.4 95% Structures Cost Estimate**

AECOM will provide quantities and construction cost estimate for the overcrossing structure and the six special designed walls in Caltrans format. Two set of quantity calculations will be provided – design calculations and check calculations.

### **Task 6.5 95% Structures Construction Schedule**

AECOM will provide construction schedule related to structures work for review by the City and Caltrans.

### **Task 6.6 Structures Independent Design Check**

An independent check of the bridge structure and non- standard retaining walls using the unchecked details (65%), the design criteria, the Foundation Reports and other pertinent reports and information will be performed. An independent set of checker's calculations to verify the design of all the plan details will be developed. Any significant differences between the designer and checker will be resolved.

### **Task 6.7 Structures Resident Engineer's File**

AECOM will prepare and submit a Resident Engineer's file in accordance with Caltrans' Project Development Activities Guide, OSFP Information and Procedures Guide, Bridge Memo to Designers and include project relevant items identified in the Resident Engineer's file check-off list.

The following items, as a minimum, will be included for structures:

- Bridge deck contours, 4-scale plans in accordance with Caltrans Memo to Designers 2-2
- Final Foundation Report
- Joint Movement Rating Calculations

#### ***Structures 95% Deliverables:***

- Checked Plans
- Design Calculations
- Independent Design Check Calculations
- Structures Special Provisions/Specifications
- Quantity Calculations and Quantity Check Calculations
- Updated Construction Cost Estimates and Caltrans Quantity Summary Forms
- RE Pending File
- Responses to 65% Review Comments

## **TASK 7 – FINAL PS&E**

### **Task 7.1 Resolve 95% Comments**

AECOM will address comments from Caltrans, City, and other stakeholders on the 95% deliverables as listed in Task 6 and update the PS&E and reports to Caltrans' final level of completion. We will coordinate with reviewers, resolve comments, document responses, and provide a final comment/response matrix. Final NSSP approvals will be obtained, including the cost estimate certification, final project risk register, and risk register certification, right-of- way, utility certification and environmental certification. A supplemental project report will be prepared to document any needed design changes. Caltrans is to gain plan approval and apply for a construction encroachment permit.

#### ***Assumptions***

In accordance with the Cooperative Agreement between the City and Caltrans, the City is responsible to advertise, award, and administer the construction of this project.

### ***Deliverables***

- Deliverable 7A: Final PS&E and reports (Drainage Report, Storm Water Data Report, Foundation Reports, Geotechnical Design and Materials Report, Site Investigation Report, Lane Closure Report, Hydromodification Plan (if needed), and TMP, Encroachment Policy Exception Request, Survey File and Landscape Concept Plan, and relevant forms and documents per Caltrans PS&E Checklist
- Deliverable 7B: Draft ROW Certification
- Deliverable 7C: Utility certification
- Deliverable 7D: Risk register certification
- Deliverable 7E: Environmental Certification
- Deliverable 7F: Supplemental project report
- Deliverable 7G: Ready to List (RTL) Certification
- Deliverable 7H: Provide electronic copy of all project files to the City

### ***Structures Final Deliverables***

- Final Plans (pdf and dgn format)
- Final Structures Special Provisions/Specifications
- Final Construction Cost Estimates and Caltrans Quantity Summary Forms
- RE Pending File
- Responses to 95% Comments

## **TASK 8 – DESIGN SUPPORT SERVICES DURING ADVERTISEMENT AND AWARD**

### **Task 8.1 Response to Bidder Questions**

AECOM will provide post-RTL coordination in cooperation with Caltrans and help prepare the project for advertisement. When the project is advertised, AECOM will provide responses to bidder questions, analyze received bids and make an award recommendation.

### ***Assumptions***

- Design services during construction will be done under a separate contract

### ***Deliverables:***

- Deliverable 8A: Respond to bidder questions
- Deliverable 8B: Bid Award analysis and recommendations

## **OPTIONAL TASK 9 – DESIGN AND CONSTRUCTION MANAGEMENT SUPPORT SERVICES DURING CONSTRUCTION**

Consultant shall provide design and construction management support services during construction of the Project. This task shall include, but is not limited to, responding to construction inquiries, performing daily field inspections, change-orders administration, leading progress meetings, daily construction inspections, maintaining daily field inspection logs, and general construction management to ensure the successful completion of the Project.

### ***Assumptions***

- None.

### ***Deliverables***

- Deliverable 9A: Design and Construction Management
- Support Services during Construction

## **OPTIONAL TASK 10 – SUPPORT FOR GRANTS**

AECOM will provide advisory, technical and implementation assistance for the City’s grant funding applications. AECOM has provided these services to the City in the past. These efforts included preliminary 2017 TIGER grant Benefit-Cost Analysis, 2021 congressional earmark funding requests and 2023 San Mateo Transportation Authority Measure A/W grant application. As a result, our staff is well-aware of the challenges the City will face in its effort to obtaining funding for the project’s construction.

The type and level of AECOM support would be determined based on the specific grant program requirements and City’s identified needs. Potential support tasks could include (and may not be limited to):

- Identify project-specific grant funding opportunities, implementation recommendations, and information requirements for grant applications (e.g. simplified project descriptions/narratives, schedule and budgetary estimates);
- Perform Benefit-Cost Analysis as necessary to evaluate the project’s cost-effectiveness using USDOT or Caltrans methodologies and modelling tools;
- Create draft and final grant applications for the project. As needed, AECOM would assist the City to develop supplemental information such as reports, photos, and environmental approvals; and
- Coordinate with local stakeholders and representatives to identify and if possible develop greater support for the City’s grant submission. Support should be documented through letters of support that describe the project and highlight the project impacts and benefits.

The type and level of AECOM support would be determined based on the specific grant program requirements and City’s identified needs.

***Assumptions***

- None.

***Deliverables***

- Deliverable 10A: Provide grant support services