

**NB SHORELINE BOULEVARD AND 101  
OFF-RAMP REALIGNMENT**  
(PROJECT 19-59)

Preparation of  
**PLANS, SPECIFICATIONS AND ESTIMATES (PS&E)**  
**SCOPE OF WORK**  
May 20, 2019

Prepared for:



Prepared by:

**AECOM**

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## **ATTACHMENT 1**

### **SCOPE OF WORK**

#### **NB SHORELINE BLVD/101 OFF-RAMP REALIGNMENT PROJECT**

##### **1.0 INTRODUCTION**

This document summarizes the scope of work for the preparation of Plans, Specification and Estimates (PS&E) for the Shoreline Blvd/101 Off-ramp Realignment Project (Project) in the city of Mountain View, Santa Clara County.

AECOM will develop the PS&E for the Project consisting of the scope of work provided below. The development of the PS&E would be the continuation from the Project Approval & Environmental Document (PA&ED) phase of the project.

This proposal assumes the City will advertise, award, and administer the construction contract. The bid documents will be developed to Caltrans' standards and requirements, meet the requirements per Cooperative Agreement #04-2716 (Copy attached). 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 (65%, 95%, 100%, and Final) for review and input. Caltrans will provide Independent Quality Assurance. AECOM is ultimately responsible for the technical design, preparation of the final PS&E and bid documents including obtaining Caltrans Encroachment Permit for construction.

##### **2.0 GENERAL SCOPE OF WORK**

AECOM will perform Design Services for the Project, including:

###### **2.1 Project Elements to be Designed by AECOM include:**

The scope of services consists of designing the project elements contained in the approved Project Study Report/Project Report (PSR/PR) for the US 101 Northbound Ramps/Shoreline Blvd/La Avenida Ave Modifications Project prepared by AECOM.

The purpose of the Project is to improve traffic operations at the northbound US101/Shoreline Boulevard off-ramp intersection, improve local circulation and access to the area located east of Shoreline Boulevard, north of US 101, and west of Stevens Creek, and enhance transit operations accessing the project area from the freeway. The Project includes the following elements:

- Realign the existing northbound US 101 ramp to intersect with La Avenida Avenue with a new signalized intersection.
- Modify the existing five-legged intersection at the US 101 northbound off-ramp/Shoreline Boulevard/La Avenida Avenue to a four-legged intersection.
- Change the geometry of La Avenida Avenue at the intersection of Shoreline Boulevard from three lanes (one westbound right, two westbound left) to five lanes

- (four westbound (two left and two right) and one eastbound) and eliminating the existing NB off-ramp (eliminating two left and two right turn lanes)
- Construct a dedicated bus lane for the northbound off-ramp.
  - Install traffic signal at the new northbound off-ramp/La Avenida Avenue intersection with bus signal priority
  - Construct Class II bike lanes on both sides of La Avenida Avenue between Shoreline Boulevard and Inigo Way.
  - Conform to existing bicycle facilities at the Project conform points of existing streets.
  - Reconstruct driveway and visitor parking lot at VTA Bus Yard.
  - Underground approximately 700 linear feet of utilities (PG&E and Comcast) along south side of La Avenida Avenue.
  - Demolish and remove two sheds at the southwest corner of the VTA Bus Yard.
  - Provide protected intersection design at up to 3 intersections (Shoreline Blvd/La Avenida Ave, La Avenida Avenue/US 101 NB off-ramp, and La Avenida Ave/Inigo Way.)
  - Install new traffic signal and remove the existing traffic signal at the intersection of Shoreline Boulevard and La Avenida Avenue.
  - Install two overhead sign structures: one at the US 101 northbound off-ramp and one at La Avenida Avenue.
  - Install signal interconnect cable (SIC) between the signal at Shoreline Blvd/La Avenida Ave intersection and signal at the new NB US 101 off-ramp/La Avenida Ave intersection.

## **2.2 Services to be performed by AECOM include:**

AECOM will develop the final design of the Project for this main construction contract. Services to be performed will include:

- Prepare final plans, specifications, quantities, engineering estimates, and reports.
- Prepare traffic control plans and project phasing plans.
- Prepare permit documents required from permitting agencies. Prepare right-of-way certification documents, right-of-way maps, and plats and legal descriptions and provide right-of-way support.
- Prepare Design Cross Sections, Slope Stake Listings, and Resident Engineer's file in accordance with Caltrans' requirements.
- Prepare a construction contract package combining Highways and Structures PS&E documents.
- Participate in a Constructability Review and prepare a construction schedule.
- Provide coordination of Project design oversight activities with Caltrans Project Development (CTPD) and other Caltrans functional units by the CTPD.
- Provide coordination of Project activities with stakeholders including, but not limited to, the State, County, and the City.
- Provide coordination with adjacent projects including the Shoreline Boulevard Reversible Bus Lane Project and Water and Sewer Relocation Project.

- Establish a Program and Procedures for Quality Control/ Quality Assurance Plan and conduct independent Quality Review of documents.
- Conduct and document Quality Reviews, and make findings and corrective actions available for the City’s review.
- Provide utility coordination and potholing. Prepare Utility Report of Investigation (ROI), Utility Agreements, and Notices to Owners. Prepare utility conflict maps and relocation alignment maps.
- Prepare and coordinate application for PG&E new services.
- Prepare traffic signal timing plans including coordinating with Rhythm Engineering for InSync configuration timing parameters and implementing new timing plans in the controller/cabinet for traffic signal at Shoreline Blvd/La Avenida Ave to coordinate with the traffic signals at Shoreline Blvd/Pear Ave and Shoreline Blvd/US 101 SB off-ramp intersections, and with the new traffic signal at US 101 NB off-ramp/La Avenida Ave intersection.
- Prepare QMP in accordance with Caltrans’ co-op agreement.

### **2.3 Applicable Standards:**

- The plans, specifications and estimates (PS&E) will be prepared in accordance with Caltrans' regulations, policies, procedures, manuals and standards (2018 Standards) in place at the time of signing of the contract.
- Roadway design will be in accordance with the 6<sup>th</sup> edition (7/1/2018) of the Caltrans Highway Design Manual, the Manual of Uniform Traffic Control Devices (Revision 2, May 2012) and the California Supplement to the MUTCD 2014 Edition (Revision 4 dated March 29, 2019), and the City of Mountain View City Standard Details.
- Roadway plans will be prepared in conformance with the current editions of the Caltrans Plans Preparation Manual (February 2017) and the Caltrans CADD Users Manual (2/24/17).
- Plans, specifications and estimates will be prepared in conformance with the current editions of the Caltrans Plans, Specifications and Estimates Guide, Standard Plans and Standard Specifications (2018 Standards) and the Ready To List And Construction Contract Award Guide (RTL Guide) (January 2014). City “boilerplate” special provisions will be used in preparation of the project specifications. It is assumed that the Project will be advertised, awarded, and administered by the City.
- Surveys will conform to the current Caltrans Surveys Manual. Datum to be 1983 NAD (Horizontal) and 1988 NAVD (Vertical).
- Phases of design of improvements which impact existing or proposed underground utilities will conform to Caltrans’ Project Development Procedures Manual (PDPM) – Encroachments and Utilities (12/13/16).
- Right-of-way appraisal maps will conform to the current Caltrans Right of Way Manual.

- Any exceptions to applicable design standards (7/1/2018) will be approved by Caltrans via the process outlined in Caltrans Highway Design Manual and applicable memoranda and design bulletins published by Caltrans.

**Exclusions --** Any other services not specifically listed will be considered additional work for which a separate scope, fee and schedule will be prepared.

### **3.0 DETAILED SCOPE OF WORK**

The Detailed Scope of Work is divided into nine tasks, numbered 1 through 11, which are summarized below. Submittals will be made in the number and type specified in the Caltrans RTL Guide, and where applicable, the OSFP Information and Procedures Guide.

#### **SCOPE OF WORK**

TASK 1	Project Management
TASK 2	PS&E Support
TASK 3	65% PS&E Phase
TASK 4	95% PS&E Phase
TASK 5	100% PS&E Phase
TASK 6	Final PS&E Phase (Caltrans District 4 and HQ Review)
TASK 7	Right of Way Support
TASK 8	Bidding Assistance
TASK 9	Design Support During Construction
TASK 10	Right-of-way Close-out
TASK 11	Additional Services

A detailed description of these tasks, subtasks and list of deliverables are presented below.

#### **TASK 1 PROJECT MANAGEMENT**

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. Management activities will consist of administration, coordination, attending meetings, scheduling and quality control as stated in the following paragraphs. The scope includes the preparation of a project management plan for the project. This project management plan defines the roles and responsibilities of team members including subconsultants and subcontractors, task scopes, budgets, schedules, communications, and project staff contact information. The project management plan is organized into the following main sections: (1) Project Initiation, (2) Planning, (3) Executing, (4) Controlling and monitoring, and (5) Closing.



**Task 1.1 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 & management; task, schedule & 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 1.2 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 1.3 Agency/Subconsultant Coordination**

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.

- City of Mountain View (City)
- Caltrans (offices, departments, divisions and groups as directed by Caltrans Project Development)
- Santa Clara County Valley Transportation Authority (VTA)
- San Francisco Bay Regional Water Quality Control Board (RWQCB)
- Private property owners and developers (AECOM to prepare draft materials as appropriate)
- Affiliated utility companies within the project limits

**Task 1.4 Kick-Off, PDT And City Coordination Meetings**

Following Notice to Proceed, AECOM will conduct a Project Kick-Off meeting (Assume 2 meetings) with the City, Caltrans, and project stakeholders. Project scope, team organization, communication procedures, design schedule, critical activities, design data needs and project deliverables will be discussed.

AECOM will conduct monthly Project Development Team (PDT) meetings (Assume 12 meetings). This will include preparation and submittal of agenda, preparation and submittal of Data Request Logs, and preparation of meeting minutes for each PDT Meeting, distribution of meeting minutes and development of action items list. The agenda will be submitted at least one week prior to the meeting and the meeting minutes/action items will be submitted within two weeks after the meeting, allowing one week for comments to be received on the draft meeting minutes. Final meeting minutes will be prepared and distributed, incorporating any relevant comments received on the draft meeting minutes.

AECOM will attend up to 8 coordination/project status meetings with the City.

**Task 1.5 Technical Meetings**

AECOM will attend meetings (assume 4 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 1.6 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 Engineering Progress and Performance Report (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 1.7 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 1.8 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 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 1.9 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.

### ***Task 1 Deliverables***

- CPM Design Schedule
- Correspondence and memos
- Encroachment Permit Application
- Agendas, meeting minutes and meeting packages
- Invoice Packages, including Progress Reports
- Quality Control Plan
- Risk Management Plan
- Health & Safety Plan

## **TASK 2 PS&E SUPPORT**

Task 2 will consist of compiling and reviewing existing data pertinent to the Project. Also included are planning phase activities, identifying and requesting supplemental information such as surveys, conducting site visits/field review/field trips, coordination with adjacent projects, and obtaining information and requirements related to utilities, right-of-way, permits and geotechnical conditions. AECOM activities will include the following:

### **Task 2.1 Data Collection & 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 Field Surveys**

AECOM will provide supplemental field surveys for design, which will include additional surveys necessary to confirm mapping accuracy, , topographic surveys necessary to complete the design, including cross sections, verifying existing utilities and drainage facilities, pavement elevations and locations, pavement conforms, vertical clearances, obstructions, tree survey locations, lighting fixtures, fences, retaining walls, creeks, drainage swales and ditches and other features necessary to complete the design. Also perform field surveys to locate features such as curbs, walks, edge of traveled way and other critical existing features. This task includes AECOM obtaining permits from Caltrans, VTA and others for surveying and exploratory works as necessary.

## **Task 2.3 Geometric Refinements**

This task will refine the design files to serve as background and basis for developing the PS&E (Task 3.2). Master Geometric Electronic files will be refined based on the results of the ground survey work to establish the final vertical and horizontal alignment of the project and to identify additional design exceptions. The Project Report (PR) preliminary design will be checked for potential conflicts with existing facilities or deviations from the project design criteria and design standards. Structure location and limits, right of way requirements, coordination of above and below ground utilities, stage construction, traffic handling, and environmental constraints will be collectively considered in this effort.

The drawings will include the following information:

- Horizontal and vertical clearances
- Public roads, streets, creeks, channels, and major developments
- Right-of-way lines with access control and access locations
- Layout lines

## **Task 2.4 Geotechnical Investigation and Testing**

AECOM will evaluate the geotechnical conditions for the Project. The geotechnical investigation program will:

- Characterize the site-specific subsurface soil and groundwater conditions that can be expected at the foundation locations for the proposed retaining wall (MSE), overhead sign structures, and for the pavement sections.
- Characterize and provide recommendations for the mitigation of geologic hazards which might affect the proposed retaining wall.
- Provide geotechnical engineering recommendations for design of the foundations for two overhead sign structures and one non-standard retaining wall.

The specific scope of work for the geotechnical investigation program will be:

- Perform site reconnaissance to finalize the exploration locations and access routes.
- Prepare project-specific Geotechnical Investigation Work Plan.
- Obtain subsurface drilling permit from Santa Clara Valley Water District to conduct geotechnical explorations and sampling.

- Drill up to two exploratory borings and two Cone Penetration Tests (depths ranging from 30 to 80 feet) at the proposed foundation locations for the overhead sign structures and retaining wall.
- Collect bulk soil samples to a maximum depth of 5 feet to explore the subgrade of new structural pavement at up to four locations.
- Obtain representative soil samples from the explorations.
- Conduct geotechnical laboratory testing on representative soil samples.
- Perform geotechnical engineering analyses in order to develop recommendations for the design of foundations of the proposed two overhead sign structures and retaining wall, sections for new pavement, and for mitigation of geologic hazards; specific engineering analyses will include:
  - Prepare Foundation Report for retaining wall in accordance with current Caltrans guidelines (2017).
  - Prepare Geotechnical Design and Materials Report for overhead sign structures and pavements.
  - Document all findings and present recommendations in the geotechnical reports.

Borings will be sampled as the drilling progresses with the Standard Penetration Test, modified California, and/or Shelby tube samplers, at 5 feet intervals (or closer if changes in material type are observed). Below a depth of 50 feet, sampling may be increased to 10-foot intervals. All sampling and logging of the soils will be in accordance with Caltrans' Soil & Rock Logging Classification, and Presentation Manual. Traffic control pursuant to Caltrans standards will be provided during the exploration, where needed. 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, 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. 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 VTA, or City will sign the hazardous waste manifests for off-site disposal for the soil generated from their respective right-of-way. 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.

AECOM does not anticipate that potentially hazardous levels of contamination will be detected in the field. All explorations will be backfilled with neat cement grout as per Santa Clara Valley Water District requirements.

Geotechnical laboratory tests will be completed to evaluate the index and strength properties of the recovered samples and may 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 2.5 Utility Identification and Verification**

AECOM will verify that known utility information shown on plans and other documents prepared by AECOM are current and have been coordinated with the utility companies, the City, Caltrans' Right-of-Way Utility Coordinator and Caltrans Right-of-Way Project Coordinator.

Existing utilities will be located using the latest as-builts, visual inspection of surface features, and other available data. Where required, potholing will be conducted to positively identify utilities, including the high risk utilities. AECOM will locate and map existing utilities that potentially conflict with the proposed improvements, and prepare utility conflict maps identifying the accommodation, protection, relocation or removal of the existing facilities that conflict with the construction of the Project or that violate Caltrans encroachment policy including utility relocation design plans. These relocation plans will be submitted to affected utility owners for coordination, input, and to obtain their design for the facilities that they are responsible for relocation. AECOM will provide copies of the utility conflict maps, relocation plans, proposed notices to owners, report of investigations and agreements for Caltrans concurrence prior to issuing the notices to owners and executing utility agreements.

Utilities that are required to be positively located will be potholed, reference surveyed and plotted. Approximately 15 potholes and 30 electronic probing are planned.

AECOM will perform the following activities:

- Pothole and verify utility locations and provide horizontal and vertical surveying.
- Coordinate utility impacts and relocations caused by the proposed construction.
- Prepare utility agreements, including utility relocation claim letters, Notice to Owners, utility relocation design plans, and utility conflict maps.
- Develop utility plans (U- drawings) that indicate utilities to be relocated and utility envelope plans.
- Prepare Composite Utility (Joint Trench Plans) Drawings for the undergrounding of the joint utility poles along south side of La Avenida Avenue. It is assumed that utility companies would prepare their respective utility relocation plans.

## **Task 2.6 Design Reports**

AECOM will prepare Design Reports for highways and structures. The reports will utilize 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 following Design Reports, as indicated:

### **2.6.1 Storm Water Data Report**

AECOM will prepare a 65% PS&E-level Storm Water Data Report summarizing the Project impacts to water quality, general mitigation measures, and recommended Best Management Practices (BMPs) consistent with current Caltrans

requirements for PS&E phase. The study will address the impacts from roadway improvements, utilizing 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 BMP's within the project limits. This will include risk assessment to determine the combined sediment and receiving water risk.

Under this task, AECOM will prepare a conceptual stormwater pollution prevention plan (CSWPPP) for Caltrans and the City's review and approval.

### **2.6.2 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

### **2.6.3 Foundation Reports/Log Of Test Borings**

AECOM will prepare and submit one (1) Foundation Report for the non-standard retaining wall and the report will be stamped and signed by an Engineering Geologist or Geotechnical Engineer registered in California.

### **2.6.4 Geotechnical Design and Materials Report**

AECOM will prepare a Geotechnical Design and Materials Report to include the following information:

- Seismicity
- Geology
- Log of Test Borings
- Recommendations for overhead sign structures foundation design
- Characterization of subgrade based on geotechnical data obtained from shallow explorations samples and laboratory tests
- Pavement design in accordance with Caltrans Highway Design Manual
- Assessment of soil corrosion potential, consistent with Caltrans 2018 Guidelines

No pavement analysis will be performed on the freeway mainline or other sites on US101 that are unchanged due to this project. It is assumed a pavement deflection study is not required for the Project

### **2.6.5 Hazardous Materials Test Report**

AECOM conducted an Initial Site Assessment (ISA) for this Project for the City and Caltrans in March 2018. AECOM will implement a soil and limited groundwater investigation in the existing Caltrans right-of-way (ROW) and parcels coming into the Caltrans ROW that is focused on the contaminant issues specific to the portion of the Project to be investigated, as identified in the ISA as follows:

- Metals including Aerially Deposited Lead (ADL) from the former combustion of leaded gasoline.
- Petroleum hydrocarbons as gasoline, diesel, and motor oil.
- Chlorinated hydrocarbons including solvents typically used as degreasers and dry cleaning chemicals.
- HM-1 and HM-2 hazardous materials per the Cooperative Agreement 04-2716.

The purpose of the investigation will be to identify site contaminant concentrations in media that may require management and or mitigation measures, as follows:

- Media that may pose a risk to site workers and/or the public and may require: 40-hour HAZWOPER trained staff and a dust control plan and implementation.
- Media that will facilitate site grading to allow maximum use of ADL impacted soils on site in accordance with the 2016 version of the Caltrans/Department of Toxic Substances Control (DTSC) lead in soil agreement.
- Media that may require management of some soil as California or Resource and Recovery Act (RCRA) hazardous waste, if disposed of off-site.
- Media that may require HM-1 or HM-2 management per the Cooperative Agreement 04-2716.

AECOM will develop a detailed investigation workplan for review and approval by the City and Caltrans that will be based on a statistical sampling approach to accomplish the following:

- Investigate soils in the existing Caltrans ROW and any parcel coming into the Caltrans ROW within the proposed construction area to allow segregation of soils, to minimize hazardous waste soil disposal, and to maximize use of soils on-site in compliance with Caltrans/DTSC lead in soil agreement. Based on the review of geological maps as part of the ISA, naturally occurring asbestos will not be analyzed. Leachability testing with the California Waste Extraction Test (WET) and the Toxicity Characteristic Leaching Procedure (TCLP) will be conducted iteratively based on AECOM's review of the total metals data from the initial analyses. Additional leachate testing will be performed on any sample which exceeds the STLC/TCLP trigger criteria. This additional testing will extend our



analytical testing schedule by the normal lab turnaround time of 5-10 additional days, per request.

- Investigate groundwater in areas where deeper excavation may require groundwater dewatering and disposal. Developed groundwater disposal options include: using the water for dust control, discharging it to the local municipal sewer in compliance with the sewer discharge regulations, and/or discharging it to the local storm sewer in compliance with the applicable National Pollutant Discharge Elimination System permit requirements.
- Provide sufficient data to develop statistical Upper Confidence Limits (UCL) for site contaminants to view the Site soils holistically and to minimize development of hazardous wastes for to be disposed of off-site.
- All analyses will be conducted on a normal 5-10-day turnaround time.

AECOM's workplan will include the following elements:

- Review of the goals of the plan.
- Description and figures of the sampling locations, depths of samples to be collected, frequency of sampling, and other procedures, such as use of Terra Cores® for sampling for volatile compounds.
- Description of the analytical procedures to be used.
- Detailed sampling and analysis table to facilitate the field efforts and to minimize the potential for field errors.

AECOM will implement the approved workplan as follows:

- AECOM will use the Site-specific Project Health and Safety Plan for our fieldwork.
- AECOM and sub will develop a traffic control plan to be used during the field work for review and approval by Caltrans and the City.
- Soil and groundwater sampling will be conducted using a direct push rig, when accessible, to minimize field time and waste generation. Sampling equipment will be decontaminated between each sampling event.
- AECOM staff will use preprinted labels and chain-of-custody forms to minimize the potential for field errors.
- The samples will be maintained under AECOM chain of custody until transferred to the lab courier.
- AECOM will use a California-certified lab for the analyses.
- Analytical data will be reviewed by trained AECOM staff for QA/QC, and the data will be flagged in the data tables, if needed.
- Waste soil from our borings and decontamination water from the equipment cleaning will be drummed and left at a Caltrans-designated on-site location until sampled, analyzed, characterized and profiled for off-site disposal to a designated licensed landfill. AECOM assumes that Caltrans will provide a valid, active EPA ID number and sign hazardous waste manifests for off-site

soil disposal of hazardous soils in a hazardous waste landfill, if the soils are characterized as hazardous.

- Off-Site disposal of the investigation derived wastes and disposal loading oversight are included in our scope of work. AECOM will use a licensed hazardous waste transporter and will oversee the pick-up of all the drums by the subcontractor.

AECOM will develop a draft Project Hazardous Materials Report for the Field Investigation. The draft report will be internally peer reviewed by senior AECOM site investigation practitioners and their comments addressed. The draft report of our investigation findings for will be submitted for a 35% review, 65% review, 95% review, final review, and approval by the City and Caltrans. The report will include the following sections:

- Executive Summary.
- Introduction.
- Sampling Activities.
- Analytical Results.
- Tabulated Data and Comparison to Regulatory and ADL agreement criteria.
- UCL statistical evaluation of the Site's ADL.
- Figures showing the Site, sampling points, areas included in the UCL calculations, grading recommendations.
- Conclusions and recommendations for soil and dewatered groundwater management including any necessary HM-1 and/or HM-2 management per the Cooperative Agreement 04-2716.

AECOM will address the City's and Caltrans comments and issue the final report. The final report will be stamped by a California Professional Geologist or Professional Engineer.

This proposal assumes sampling at 4 locations, 5 soil samples each as long as groundwater is encountered, for a total of 20 soil samples. If groundwater is encountered, a total of up to 4 groundwater samples will be collected.

#### **2.6.6 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. The traffic data request will include the following locations as specified below:

- US 101 NB off ramp to Shoreline Boulevard
- SR 85 NB off ramp to Shoreline Boulevard
- US 101 NB off ramp to Rengstorff Avenue
- US 101 NB mainline between Shoreline Boulevard off ramp to Rengstorff Avenue off ramp
- La Avenida Avenue between Inigo way and Shoreline Boulevard
- Rengstorff Avenue between US 101 Charleston Road

- Charleston Road between Rengstorff Avenue and Shoreline Boulevard
- Shoreline Boulevard between Charleston Road and La Avenida Street
- Inigo Way between La Avenida Avenue and Pear Avenue
- Pear Avenue between Inigo Way and N Shoreline Boulevard

The lane closure report (LCR) is anticipated to require analysis of the following ramps and local streets:

- Full Closure of US 101 Northbound off ramp
- Partial Closure of US 101 Northbound off ramp
- Full Closure of SR 85 Northbound off ramp
- Partial Closure of SR 85 Northbound off ramp
- Full Closure of La Avenida Avenue between Inigo Way and Shoreline Boulevard
- Partial closure of N Shoreline Boulevard at the intersection of La Avenida Avenue.

AECOM will identify temporary detour routes, perform detour route capacity analysis and delay calculations for calculating Late Lane Pick-Up and Road User Cost (RUC). AECOM team will prepare and submit the LCR to Caltrans for review and comment.

AECOM will prepare the Lane Closure Charts for 65%, 95% and final Submittal.

#### **2.6.7 Transportation Management Plan Data Sheet**

AECOM will prepare the TMP data sheet to support the PS&E phase of the project.

#### **2.6.8 Landscape/Aesthetics Concept Plan**

AECOM will prepare a landscape/aesthetics concept for the project in coordination with the City, Caltrans and affected stakeholders. Proposed trees will be located individually and identified by name or graphically keyed. Proposed shrubs will be shown in massed formations, and ground covers will be identified with textured pattern. A plant list will be provided listing proposed plants and possible materials from which the final selection will be made. Irrigation crossovers for future use will also need to be identified and shown on the concept plan.

The task will include preparation of a CADD based landscape concept based upon goals determined through meetings with the stakeholders, based upon field work knowledge of Caltrans design criteria, and based upon previously approved concepts in the project area. Recycled water for irrigation supply is not available and will not be considered. The concept will be presented in graphic format and CADD line colored. With comments received, a final concept will be prepared and in CADD line color. A preliminary construction cost estimate will be prepared.

Work performed includes the following work activities:

- Develop Landscape Conceptual Design (Includes one landscape planting concept plan and one revised planting concept plan)
- Prepare two (2) photo-simulations

### ***Task 2 Deliverables***

- Updated Master Geometric Electronic Files
- Geotechnical Sample/Testing/Boring Work Plan
- Utility Agreement Input
- Draft Design Reports:
  - Storm Water Data Report
  - Drainage Report
  - Foundation Reports with Boring Records
  - Geotechnical Design and Materials Report
  - Project Hazardous Materials Test Report
  - Lane Closure Report
  - Transportation Management Plan Data Sheet
  - Landscape/Aesthetics Concept Plan

### **TASK 3 65% PS&E PHASE**

The purpose of Task 3 is to develop draft plans, specifications and quantities for the 65% PS&E design, and includes finalizing the right-of-way, utility relocations and proposed easements, and responding to comments received from the agencies reviewing Task 2 submittals and identifying and resolving conflicts. The submittal will consist of design documents that are required for the Project.

AECOM will coordinate the plans, specifications and estimates with those of other design disciplines of the Project team and ensure that highway design interfaces with other disciplines. AECOM's activities will include:

#### **Task 3.1 Design Exceptions**

AECOM will review the Project to assess the need for additional mandatory and advisory design exceptions that may be required prior to commencing detailed design work. Additional design exceptions, if discovered, will be submitted as a list at the 65% PS&E Phase.

#### **Task 3.2 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"= 50'. 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: horiz. 1"=50', vert. 1"=10') will be prepared for new realigned ramp. It is anticipated that mainline vertical design data will be detailed on pavement elevation sheets.
4. Utility Relocation/Occupation Plans (scale 1"=50') AECOM will identify and propose existing and final locations of known utilities that are affected by the Project, such as gas, electric, cable TV, telephone, sanitary sewer, and water. AECOM will prepare the composite utility plans for the undergrounding of the joint utility poles along southside of La Avenida Ave. The relocation design of utility facilities will be the responsibility of the utility owners.
5. Drainage Layout Sheets AECOM will prepare the preliminary Drainage Plans/Profiles and Detail Sheets. The design efforts will be coordinated with other design disciplines of the Project Team. Drainage plans will be prepared at a scale of 1"=50' showing existing and proposed drainage systems.
6. Pavement Delineation will be prepared at a scale of 1"=50'.
7. Sign Plan (scale 1"=50') A field survey will be conducted and used to develop inventory of existing roadway signs and will be confirmed with as-builts found. Sign plans will be developed depicting both existing and proposed signs within the project limits.

### **Task 3.3 Structure Type Selection**

This task will consist of preparing deliverables consistent with Caltrans Office of Special Funded Projects (OSFP) Information and Procedures Guide 4-2 which describes the items needed for the Pre-Type Selection Submittal, Type Selection Submittal and Post-Type Selection Submittal. The type selection report will be prepared in accordance with the requirements of the Caltrans' Memo to Designers (MTD) 1-29. It is assumed that a type selection meeting will not be required.

The Type Selection Report will include the following structures:

1. Special design retaining wall along the right side of the proposed realigned ramp. Total length is anticipated to be approximately 450'. The wall will be constructed in a fill with design heights in the range of 4' to 6'. The wall will be designed to accommodate a 6-foot-high fence atop the concrete barrier as requested by VTA.
2. Special design retaining wall along the left side of the proposed realigned ramp. Total length is anticipated to be approximately 150'. The wall will be constructed in a fill with design heights in the range of 4' to 6'.

It is assumed that the type selection report will not include the two tubular type overhead sign structures.

The Type Selection Report will include the following:

- General Description of the Project
- Design and Constructability Issues
- Foundation
- Speed of Construction
- Staged Construction of the Structures
- Preliminary Aesthetics
- General Plans
- Construction Costs
- Recommendations

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 upon Caltrans' Standard Items of Work and adding items as may be necessary. The cost estimate will identify construction work items, quantities, unit costs, and summarize the estimated total structures cost, including allowances for supplemental work, owner furnished materials, expenses, mobilization and contingencies.

#### **Task 3.4 Electrical Design**

AECOM will prepare the electrical plans. The scope of electrical plans will include design of a new traffic signal, installation of a new signal and removal of an existing signal, signal interconnect, roadway lighting, bus signal priority signal, temporary signals and temporary highway lighting, removal of signals and InSync Adaptive System.

Local Street Lighting: AECOM will assist the City to identify the appropriate light and fixture types. The level of effort assumes that the use of the City or Caltrans Standard Plans.. Roadway lighting photometric analysis will be calculated for the chosen light and fixture types to determine adequate lighting along the corridors in accordance with the City or Caltrans standard and requirement.

Plans will be developed using the applicable Caltrans Standard Plans and Specifications, the signal design will incorporate the latest Caltrans requirements for bicycle and motorcycle detection per Traffic Operations Policy Directive 09-06, dated September 10, 2009. Caltrans and the City will review this submittal and provide comments for incorporation into subsequent submittals. This scope assumes we will receive one set of comments from each agency at each review level.

Electrical Service for project elements: AECOM will prepare electrical load calculations and submit them to the utility company to verify service point locations and capabilities.

AECOM will coordinate with PG&E and prepare service applications. AECOM will coordinate with Rhythm Engineering for issues related to Adaptive System including developing traffic signal timing plans.

**Task 3.5 Design Plan Sheets**

AECOM will prepare all final Design Plan Sheets. Plans will be prepared in accordance with Caltrans' requirements.

**3.5.1 Highway Design Plans**

A set of highway design plans will be compiled with the following code letters and sheet names and arrange sheets in the order shown.

<u>ID Code</u>	<u>Sheet Name</u>
--	Title Sheet
X	Typical Cross Sections
PC	Project Control and Monumentation
K	Key Map and Line Index
L	Layout
PS	Profile and Superelevation Diagram
C	Construction Details
WPC	Temporary Water Pollution Control Details
EC	Erosion Control Plans
G	Contour Grading
D	Drainage Plans
DP	Drainage Profiles
DD	Drainage Details
DQ	Drainage Quantities
U	Utility Plans
UD	Utility Details
UQ	Utility Quantities
CS	Construction Area Signs
SC	Stage Construction Plans
TH	Traffic Handling Plans (that is not part of SC plans)
THQ	Traffic Handling Quantities
DE	Detour Plans, Details, and Quantities
CSD	Construction Area Sign Details
CSQ	Construction Area Sign Quantities
PD	Pavement Delineation Plans
PDD	Pavement Delineation Details
PDQ	Pavement Delineation Quantities
Q	Summary of Quantities
S	Sign Plans
SD	Sign Details
SQ	Sign Quantities
R	Retaining Wall Plan, Details, and Quantities
PL	Plant List

<u>ID Code</u>	<u>Sheet Name</u>
PR	Plant and Tree Removal Plan
PP	Planting Plan
IR	Irrigation Removal Plans
IP	Irrigation Plans
E	Signal, Lighting, Ramp Metering etc.
--	Structure Plans

### 3.5.2 Structure Design Plans/Calculations

Upon approval of the Type Selection Report, AECOM will proceed with the final nonstandard retaining walls design creating design calculations, details and construction documents according to Caltrans.

The structure plans, specifications and estimate will be prepared in accordance with the current editions of the following Caltrans manuals:

- Information and Procedures Guide
- Memo to Designers
- Seismic Design Criteria Version 1.7
- Caltrans 2018 Standard Plans
- Caltrans 2018 Standard Specifications
- Caltrans PS&E Guide

A standard set of Caltrans unedited contract structure specifications utilizing English units of measure will be prepared with standard structure special provisions utilized to the extent possible. Contract bid item list with quantities and unit prices updated from the Type Selection Report will be developed. A copy of the complete 65% PS&E package will be submitted for review and comment from the City, Caltrans and other reviewing agencies.

### 3.5.3 Utility Relocation/ Occupation Plans

AECOM will coordinate and follow up with the utility companies including providing the approximate relocation alignments and the project design input to utility companies which are affected by the Project. The respective owners will develop the design and conduct the respective relocation. AECOM will prepare utility plans by incorporating the utility owner's relocation plans for these public utilities affected by the project.

### Task 3.6 Specifications and Special Provisions

AECOM will prepare Special Provisions as follows:

- AECOM will review Caltrans' Standard Specifications dated 2018 or latest edition, and Caltrans' Standard Special Provisions (SSP) applicable thereto.
- For work items necessary for construction of the Project, AECOM will assemble data and prepare drafts of (1) necessary edits to the SSP, and (2)



modifications to the SSP or additional nonstandard specifications (NSSP) which may be necessary.

- The City will prepare and provide the “boiler plate” special provisions.
- AECOM will submit and work with Caltrans to gain approval of nonstandard special provisions, if any.
- Upon completion of the foregoing activities, AECOM will submit the SSP signature and seal sheet.
- AECOM will coordinate specifications with other design consultants to assist design interface activities. SSP will be submitted in MS Word format.

### **Task 3.7 Update Design Reports**

AECOM will update and submit the design reports that were not approved previously under Task 2.6. The updates will incorporate all the agreed upon comments from the City, Caltrans and other agencies.

### **Task 3.8 Quantities and Cost Estimate**

AECOM will develop the estimate of Construction Quantities and Cost Estimates. This will include back-up calculations. The estimate will follow the Caltrans format.

### **Task 3.9 Construction Schedule**

AECOM will prepare a Preliminary Construction Schedule for the Project based on the data developed in Task 3. The schedule will be prepared using Microsoft Project.

AECOM will coordinate mitigation, highway and structures construction schedule information to prepare the Project Construction Schedule.

### **Task 3.10 Draft PS&E Forms**

AECOM will prepare draft PS&E Forms in accordance with Caltrans' RTL Guide, latest edition. PS&E Forms include:

- Project Information Form
- District Circulation to DOE Checklist

### **Task 3.11 QC Review**

AECOM will perform an in-house Final Design 65% PS&E QC review.

### **Task 3.12 Constructability Review**

AECOM will participate in a Constructability Review at the 65% submittal. It is assumed that the City and Caltrans will provide a representative to conduct the Constructability Review. AECOM will coordinate the Constructability Review meetings. AECOM will prepare meeting notes summarizing the action items and will adequately address the comments generated by the review including providing explanation for comments not incorporated into the design.

**Task 3.13 Public Meeting/Outreach Support**

AECOM will provide support to the City in public outreach and community meeting. This proposal assumes two public meetings and the City will organize and facilitate the meeting.

**Task 3 Deliverables**

- Design Exception List (If required)
- Type Selection Report
- Right of Way Requirements Maps
- Design Plan Sheets (65%)
- Edits and Modifications to the Special Provisions and NSSP's (65%)
- Final Design Reports (Refer to Task 2 for complete list of reports)
- Construction Cost Estimate
- Construction Schedule
- Draft PS&E Forms
- Constructability Review Meeting Notes
- Public Meeting Exhibits (up to 4 boards)

**TASK 4 95% PS&E PHASE**

Prior to making submittals of the 95% PS&E documents, AECOM will address the comments received from the 65% submittal and incorporate them as appropriate. This will include resolving them with Caltrans and its functional units, Caltrans' Engineering Services, the City, and other reviewing agencies by attending up to 3 comment resolution meetings. AECOM will provide written response to the 65% PS&E review comments, with justification noted for each comment not incorporated.

AECOM will coordinate the plans, specifications and estimates with those of other design consultants and assure that highway design interfaces with structures design. AECOM will perform the following activities:

**Task 4.1 Supplemental Design Standard Decision Document**

AECOM will prepare one Supplemental Design Standard Decision Document, prepared as per design exceptions identified in Task 3.1, and coordinate with Caltrans' Project Development for approval.

**Task 4.2 Design Plan Sheets**

AECOM will incorporate agreed upon comments received from Caltrans, the City and other agencies into the design plan sheets submitted as directed in Task 3 and prepare complete highway and structure construction plans.

**Task 4.3 Specifications and Special Provisions**

AECOM will incorporate agreed upon comments into the Special Provisions and prepare Special Provisions which are specific to the Project for use with Caltrans' 2018 Standard Specifications or latest edition. SSP's will be submitted in MS Word format.

AECOM will ensure that 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 4.4 Update Design Reports**

AECOM will update and submit design reports not previously approved under Task 3. The updates will incorporate the agreed upon comments from the City, Caltrans and other agencies.

**Task 4.5 Quantities and Cost Estimate**

AECOM will update the Construction Quantities and Estimate submitted as described in Task 3.9. AECOM will submit quantity calculations showing all sketches, diagrams and dimensions necessary for their use by field inspectors.

**Task 4.6 Construction Schedule**

AECOM will update the Construction Schedule submitted as described in Task 3.10 and will notify Caltrans and the City of any difference between the update and the previous version.

AECOM will coordinate highway and structure construction schedule information to prepare the Project Construction Schedule.

**Task 4.7 Draft PS&E Forms**

AECOM will update the Draft PS&E Forms submitted in Task 3 and complete the documents for final review. AECOM will also prepare the following Draft Forms:

- Quality Control Certification of First Submittal to DOE
- First Submittal to DOE Checklist

**Task 4.8 QC Review**

AECOM will perform an in-house Final 95% PS&E QC review.

**Task 4.9 Independent Design Check - Structures**

An independent check of the non-standard retaining wall utilizing 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. The checker will be responsible for developing an independent set of quantity calculations.

Check calculations shall include analysis and computations that are necessary to independently check all aspects of the design shown on the unchecked details. Results from the check calculations shall be compared with the design. Discrepancies shall be

resolved between the designer and checker and the resolutions documented in the calculations.

#### ***Task 4 Deliverables***

- Design Standard Decision Document
- Design Plan Sheets
- Special Provisions
- Design Reports not previously approved
- Construction Cost Estimate
- Construction Schedule
- Draft PS&E Forms
- Final Geotechnical and Materials Report
- Final Foundation Report
- Independent Design Check Calculations (Structures)
- Independent Quantity Check Calculations (Structures)
- Response to 65% PS&E Comments
- Electronic files of plan sheets submitted

#### **TASK 5 100% PS&E PHASE**

Task 5 incorporates comments from Task 4 and produces Final 100% PS&E documents ready for Caltrans District 4 and Engineering Services review and City advertisement. AECOM will review comments received from the reviewing agencies on the Task 4 submittals and attend comment resolution meetings (up to 2) with the City, Caltrans and other agencies to resolve issues. AECOM will incorporate agreed upon comments and provide Bid Documents for finalizing before advertisement.

The following services and submittals are required from AECOM:

##### **Task 5.1 Plans, Specifications and Estimates**

AECOM will update the Plans, Special Provisions and Estimates submitted for Task 4 and incorporate the agreed upon comments received from the City, Caltrans and its units, and other agencies.

AECOM will submit the revised Quantities and Cost Estimate to the City and Caltrans.

AECOM will coordinate the plans, specifications and estimates with those of other design consultants and ensure that highway design interfaces with structures design when all documents are combined to form a single Project PS&E package. It is understood that the project will be Advertised, Awarded and Administered by City; therefore, approval by Caltrans for all nonstandard SSPs will not be required.

**Task 5.2 Update Design Reports**

AECOM will update and submit the design reports not previously approved under Task 4. The updates will incorporate the agreed upon comments from the City, Caltrans and other agencies.

**Task 5.3 Permit**

AECOM will prepare an encroachment permit application for construction for the City's signature to be submitted to Caltrans. Additionally, AECOM will assist the City in obtaining permit-to-enter to VTA and the Computer Museum properties, dewatering, and the other necessary permits for the construction of the Project.

**Task 5.4 Resident Engineer's File**

AECOM will prepare and submit a Resident Engineer's (RE) file in accordance with Caltrans' requirements and include project relevant items identified in the Resident Engineer's file check-off list.

The items that will be included in the RE file will be per Appendix GG – Project Data Checklist of the PDPM and Section 4-9 of the OSFP Information and Procedures Guide.

**Task 5.5 PS&E Forms and Approvals**

AECOM will update the Draft PS&E Forms submitted in Task 4 and complete the necessary Caltrans documents for final review. AECOM will also prepare the following PS&E Forms and obtain approvals:

- TMP Checklist
- Certification of Utility Facilities
- Risk Register Certification
- Survey File Delivery Form
- Storm Water Data Report Cover Sheet
- Maintaining Existing TMS Elements During Construction Form
- Pedestrian Facilities Compliance Form
- Damage Clause Recommendation for Late Lane Closure
- Constructability Review Certificate of Completion
- Cost Estimate Certification form
- Crumb Rubber Usage Reporting Form

**Task 5.6 QC Review**

AECOM will perform a Final 100% PS&E QC review.

***Task 5 Deliverables***

- Design Plan Sheets
- Special Provisions
- Construction Cost Estimates

- Encroachment Permit Application
- Resident Engineer's File
- Utility Certification Documents
- Lane Closure Charts
- Construction Schedule
- Design Reports not previously approved
- PS&E Forms/Approvals
- Response to 95% PS&E Comments

## **TASK 6 FINAL PS&E PHASE**

Task 6 consists of incorporating comments received from Caltrans' District 4 and the City final review on the Task 5 submittals and updating the Resident Engineer's file.

AECOM will coordinate with subconsultants and update the Project documents.

### **Task 6.1 Bid Documents**

AECOM will incorporate the comments received from the City and Caltrans' District 4 Final Review submittal.

**Task 6.1.1 Caltrans District Review** AECOM will incorporate responses to comments and changes as a result of the Caltrans District Engineer processing.

### **Task 6.2 Resident Engineer's File**

AECOM will update the Resident Engineer's File, to add items required for highway work and will update structure design information, if required.

### **Task 6.3 Survey File**

AECOM will prepare a survey file and submit it to Caltrans Project Development and the City. The Survey File submittal will conform to Caltrans' Project Development Activities Guide and include:

- Control traverses and bench circuits used to design the project
- Alignment traverses of all Control lines
- Other structures (i.e. retaining wall) traverses with coordinates on layout lines
- Grid grades with data for:
  - Slope stakes
  - Finish Grade stakes
  - Contour grading stakes
- Design Cross Sections
- Drainage notes including:
  - Coordinates of intersection of center of drainage structure and curb flowline.
  - Drainage structure system number, item letter, station and offset.

***Task 6 Deliverables***

- Bid Documents
- Resident Engineer's File Updates
- Survey File
- Final PS&E Forms, if changed
- Response to 100% PS&E Comments

**TASK 7 RIGHT OF WAY SUPPORT**

AECOM will provide Right of Way engineering support for the Project. Caltrans defines Right of Way as including utilities, roadway right of way, and railroad. AECOM will provide the following Right of Way support tasks.

**Task 7.1 Utility Coordination and Encroachment Permit Variance Request**

AECOM will be responsible for interfacing utility design coordination with Caltrans' Right-of-Way Utility Coordinator and Right-of-Way Project Coordinator, and the City. This will include the following activities:

- Communicate with Caltrans' Right-of-Way Utility Coordinator and Right-of-Way Project Coordinator to identify utility issues (relocation, notices, etc.).
- Communicate with Caltrans Right-of-Way Utility Coordinator and Right-of-Way Project Coordinator for R/W certification.
- Provide timely written reports to the City on communications between AECOM and Caltrans staff.

The Encroachment Policy Variance Request (EPVR) that was completed during the Project Approval/Environmental Document phase will be updated and resubmitted, for final approval.

**Task 7.2 Right of Way Needs**

AECOM will determine the right-of-way needs for the Project, including easements, temporary construction easements, full and partial acquisition information and other right-of-way information necessary to accomplish the Project. AECOM will perform the following Right-of-Way work activities:

- Attend Technical Meetings (up to two) to discuss right-of-way related issues.
- Communicate to Caltrans and the City in a timely manner any change in design which may have an impact on the right-of-way and acquisition process.
- Communicate with Caltrans and the City to insure inclusion of the proper dates into the certification for acquisitions, condemnations, clearances and other right-of-way related issues that may have an impact on the design schedule.
- Prepare Appraisal Maps for Caltrans review and approval to reflect the necessary right-of-way requirements.

- Prepare plats and legal descriptions of each acquisition, including fee takes, temporary construction easements, and permanent easements. Plats and legal descriptions shall be prepared and stamped by a qualified licensed land surveyor.
- Review draft right-of-way certification to verify that parcels which are required for the construction of the Project are included in the certification.
- Prepare final certification when the plans are complete and outstanding utility issues (notices, clearances, etc.) are complete.

### **Task 7.3 Boundary Surveys and Land Net**

Research will be performed at local public agencies, including Caltrans, County and the City offices, to gather available public record maps related to the right of way of the highway and parcels affected by the project. Preliminary Title Reports which are required for affected parcels (assumed to be 3 parcels) will be obtained by the City prior to start of 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. The backbone of this Land Net will be based on measurements to the existing Caltrans record boundary monumentation. Placement of this mathematized boundary information on the project datum will be determined by an analyzation of the measured locations of the record boundary monumentation. The Land Net will include resolved boundary for all parcels impacted by this project, the assessor's parcel number and ownership information, record easement information, and other pertinent information. This data will be compiled in a right of way data sheet in Microsoft Excel. The Land Net CADD drawing will be converted into a MicroStation V8 electronic deliverable and incorporated into the aerial mapping.

### **Task 7.4 Field Locate Right of Way**

AECOM will field locate the future right of way lines with temporary markings, to be used for appraisals, acquisition, utility relocation and estimating.

### **Task 7.5 Appraisal Mapping Sheets**

AECOM will prepare Right of Way appraisal maps for Caltrans review and approval and will develop them to Caltrans Standards for Right of Way certification. The appraisal maps will be developed for the parcels indicated in Section 6.0 List of Potentially Affected Properties. Right of Way Appraisal Mapping will be prepared at a scale of 1' = 50' per Caltrans Plans Preparation Manual, Right of Way Appraisal Mapping Standards. Up to three (3) parcels are assumed to require mapping. It is estimated that up to two (2) Appraisal Map Sheets, one (1) sheets for Appraisal Mapping details, and a Right of Way Appraisal Map Index sheet will be required. This will result in a total of twelve (4) map sheets for the project.

### **Task 7.6 Plats and Legal Descriptions**

Based on the PA&ED, we estimate that Plat Maps and Legal Descriptions will be prepared for a total of three (3) parcels, which are composed of two (2) "partial" takes, with temporary easements for construction and permanent maintenance easements and one parcel with access right acquisition. If additional plat maps and legal descriptions are



required, we will perform the work on a time and materials basis, if necessary. It is assumed that the City will obtain the Preliminary Title Reports for the parcels affected.

### **Task 7.7 Right-of-Way Certification**

AECOM will prepare draft and final Right-of-Way Certification documents, in accordance with forms and guidelines in Chapter 14 of Caltrans Right of Way Manual. AECOM will verify that all of the real property rights required for the project are included in this document.

### **Task 7.8 Utility Certification**

AECOM will provide Utility Certification that conforms to the forms and guidelines mentioned in Appendix LL of the Caltrans Project Development Procedures Manual.

### **Task 7.9 VTA - Right of Entry**

AECOM will assist the City in obtaining a Right of Entry from VTA for field survey work and geotechnical investigations.

#### ***Task 7 Deliverables***

- Encroachment Permit Variance Request
- Land Net in MicroStation V8i
- Right of Way Appraisal Map Sheet in MicroStation V8i
- Stamped and Signed Appraisal Maps
- Stamped and Signed Plats and Legal Descriptions
- Right of Way Certification Documents
- Utility Certification Documents
- Right of Entry Exhibits

## **TASK 8 BID ASSISTANCE**

Task 8 consists of providing design support throughout the duration of bidding period. Items expected to be performed as part of this task may include the following:

- Attending pre-bid meeting.
- Respond to bidders' inquiries
- Prepare Addenda
- Bid Analysis and Recommendation

## **TASK 9 DESIGN SUPPORT DURING CONSTRUCTION**

Task 9 consists of providing design support throughout the duration of construction. Items expected to be performed as part of this task may include the following:

- Attending pre-construction and construction meetings.
- Perform site visits and construction observations.
- Responding to Requests for Information (RFIs) from the Contractor
- Reviewing Material Submittals
- Prepare CCO
- Prepare as-builts drawings per Caltrans requirement.
- Prepare Traffic Signal Timing Plans. Further, AECOM will coordinate with Rhythm Engineering for issues related to InSync Adaptive System equipment, design and timing parameters. AECOM will use existing traffic volumes to develop the Adaptive timings for the three signal timing plans – one in the AM peak hour, one for the noon peak hour, and one in the PM peak hour. These timing plans will include the four traffic signals at La Avenida Ave/Shoreline Blvd, La Avenida Ave/NB US 101 off-ramp, Shoreline Blvd/Pear Ave, and Shoreline Blvd/US 101 SB Off-ramp intersections. Implementation of the timing plans will be performed by the City technicians or contractors.

#### **TASK 10 RIGHT-OF-WAY CLOSE-OUT**

Task 10 consists of the preparation and filing of a Record of Survey map (2 sheets maximum) and the preparation of the Caltrans Right-of-Way Record Map (2 sheet maximum) including preparing the necessary documents for transferring the VTA and the City right-of-way to Caltrans as appropriate. The record maps will be signed by a valid licensed land surveyor in the state of California. The task also includes the following field works:

- 1) Locate, recover, and verify survey control in compliance with Caltrans ABC process. Establish secondary survey control for GPS and Total Station survey.
- 2) Set monuments required for the Record of Survey map (assume 12 maximum.)

All other record maps including but not limited to Corner Records, Parcel or Final Maps, or Lot Line Adjustments are excluded. This estimate assumes that all deeds required of this project have been prepared and recorded. Title reports and all supporting documents are assumed to be provided by the City.

#### **TASK 11 ADDITIONAL SERVICES**

This task includes additional services that may be required during design or bidding and construction phases of the project, such as additional traffic analysis, additional traffic engineering design, additional civil engineering design, additional bid and construction support, additional data collection, additional potholing, or additional meeting with stakeholders, utilities, or public outreach meetings. AECOM will only provide such services if requested and authorized by the City in writing. Approved additional services

will be compensated on a time and material basis for an agreed-upon not-to exceed amount in accordance with the rate set forth in the submitted fee schedule.

#### **4.0 MILESTONE SCHEDULE**

AECOM will perform and complete the Work described in the Scope of Services in accordance with the Milestone Schedule provided in this Section.

<b><u>Tentative Project Milestones</u></b>	<b><u>Date</u></b>
Begin Design	07/19
Structure Type Selection	10/19
Right of Way Requirements (Initial)	10/19
CT Appraisal Map Approval	12/19
Plats and legal Description Approval	12/19
65% PS&E	12/19
95% PS&E	03/20
100% PS&E (Roadway)	06/20
Final PS&E	08/20
Right of Way Acquisition	06/20
Right of Way Certification	08/20
Caltrans Approval of PS&E	09/20
Encroachment Permit for Construction	10/20
Council Approval of PS&E	11/20
Advertisement	01/21

*This assumes Caltrans standard review times for the reviews, in accordance with Caltrans District 04 Standard Quality Assurance Submittal Requirements & Review Durations.*