Clement Avenue Safety Improvement Project
Final Plans, Specifications, and Estimates (PS&E)

Task 1 – Project Management and Coordination

Project management activities will continue through the final design phase and include general coordination of design activities; clear lines of communication; and timely and accurate invoices with progress reports. Changes in conditions that may result in impacts to the project budget or schedule will be reported immediately upon identification so that corrective actions may be made in a timely manner.

This task also includes preparation for, attendance at, and facilitation of a variety of project related meetings. Monthly Management Team meetings will be held to provide project status updates and discuss any potential contractual issues. Monthly technical meetings with the design team will be conducted to provide status updates, share information and coordinate technical design tasks. Meetings and coordination with Caltrans, the City Transportation Commission, and the City Council are also included in this task.

CDM Smith will perform the following specific project management activities:

Task 1.1 Project Initiation and Kickoff Meeting

Project initiation and Kick-off Meeting are completed and no change is needed to this subtask.

Task 1.2 Project Management

The CDM Smith Project Manager will serve as the primary point of contact through the final design phase. Responsibilities include identifying and providing the necessary staffing and other resources to complete the work, and for coordination with City staff to obtain required information and communicate any problems or unanticipated conditions. Project management also includes tracking project budget and completion status, monthly progress reports, project invoice preparation, filing and general project administration.

CDM Smith will coordinate, schedule, prepare for, and facilitate the following meetings:

- Monthly Management Team Meetings
- Monthly Technical Coordination meetings
- Up to three property owner's meetings, and
- One Transportation Commission and one City Council meeting.
- Up to three Caltrans Project Design Team meetings.

For each meeting, prepare an agenda, appropriate presentation materials, invitation notices, sign-in sheets, and meeting notes.

Implement an effective quality assurance program for the project with pre-defined QA/QC milestones and schedules for completion that includes: A technical review committee will be assembled to provide an independent design review, and an on-site plan check/site review at the 65 percent design milestone.

Assumption(s):

- The duration of the final design services is 12 months from receiving Notice to Proceed.
- Up to ten Management Team Meetings will be conducted. Attendees will include key CDM Smith Team, City staff, and others as deemed appropriate by the City.
- Up to ten Technical Coordination Meetings will be conducted. Attendees will include key CDM Smith Team, City staff, and others as deemed appropriate by the City.
- Coordination with regulatory agencies will occur via up to 2 conference calls.
- One Transportation Commission meeting, and one City Council meetings are included.

Deliverables

- Monthly invoices with progress reports.
- Agendas and meeting notes will be prepared for the meetings identified above. Draft agendas will be distributed one week prior to the meeting and meeting notes will be distributed within one week of the meeting.
- Presentations, sign-in sheets, plan sheets, materials samples, and other materials will be provided as appropriate for the specific meeting.

Tasks 2 through 5

No changes are needed to these tasks.

Task 6 – Final Plans, Specifications, and Cost Estimates (PS&E)

This task involves the continued development of the City approved 30 percent design through the 65 percent, 95 percent, 100 percent, and final construction bid document design milestones.

Task 6.1 – 65 Percent Plan Development

Based on the input from the City, CDM Smith will develop 65 percent design plans, including the Park Street traffic signal modifications. CDM Smith will incorporate consolidated and non-conflicting comments on the draft 30 percent submittal and provide written responses documenting the resolution of each comment in the 65 percent design. The following drawing sheets are anticipated to be developed as described below:

Title Sheet and Sheet Index, General Notes, Survey Legend, and Abbreviations

CDM Smith will update the Title Sheet and Sheet Index, General Notes, Survey Legend, and Abbreviations.

Survey Control, Monumentation, and Centerline Alignment Plan

CDM Smith will update the survey control, monumentation, and centerline alignments.

Key Map

CDM Smith will update the key map.

Typical Roadway Sections
CDM Smith will update the typical roadway structural section designs. Pavement structural sections will be designed based on the results of a site specific geotechnical investigation in areas were the full-depth of the structural roadway section is to be constructed (e.g. areas of railroad track removal). Mill and overlay areas will be designed to match existing grades to maintain slopes and drainage, based on the topographic survey data and field verification of local conditions. .

A geotechnical investigation will be completed to profile soil characteristics for full-depth pavement structural design, and to determine groundwater elevations for stormwater facilities.

Typical Roadway Striping Sections
CDM Smith will update the typical roadway striping sections.

Typical Accessible Parking Space Detail
CDM Smith will update the typical accessible parking space detail.

Demolition Plans
CDM Smith will update the demolition plans.

Construction Plan & Profiles, Surfacing Plans
CDM Smith will revise and update the plan and profile sheets showing profile grades, geometric data, and proposed surfacing information. Note: the 30 percent plan and profiles also included proposed channelization information that will be moved to dedicated signing and striping plans at the 65 percent stage.

Signing and Striping
CDM Smith will create dedicated signing and striping plans reflecting the updated proposed striping delineation and pavement markings; including curb colors for color-specified parking, lane lines, bikeway marking, and pedestrian crosswalk markings. The limits of striping delineation are assumed to match the roadway improvement limits. Proposed roadway and bikeway signing plans will be developed at this time.

Traffic Signal and Rectangular Rapid Flashing Beacon (RRFB) Plans
CDM Smith will prepare 65 percent design plans for the traffic signal modification at the intersection of Clement Avenue and Park Street and for the proposed RRFB improvements at the intersection of Clement Avenue and Broadway. The plans will include but not be limited to the location of poles, signal heads, vehicle detection, pull boxes, conduit, signal phasing, and signal cabling.

Utility Plan
CDM Smith will prepare a draft utility conflict report to document the identified utility conflicts throughout the project corridor based on the proposed improvements and the available utility mapping and survey information.

CDM Smith will arrange and facilitate one (1) meeting with each of the potentially impacted utility companies to review the proposed project and potential impacts to their facilities and confirm existing utility locations shown in the 30 percent plans. Each utility company will be provided with a PDF version of the draft utility conflict report and the 30 percent plans prior to the coordination meeting(s) that will be held via conference call.

CDM Smith will update the utility plans and utility conflict report based on the feedback received at the utility coordination meetings and incorporate this into the 65 percent plans. Based on the updated conflict information, CDM Smith will arrange for a subcontractor to pothole up to eight (8) of the highest risk utility facilities to confirm their locations and conflicts with the proposed improvements. The horizontal and vertical utility locations will be determined using GPS and the utility type and pipe material and size documented for incorporation into the design drawings.

CDM Smith will coordinate with utility owners to plan for the relocation of the conflicting utility facilities. It is assumed that the relocation of all privately-owned utilities will be designed and completed by their respective owners. It is assumed that publicly owned utilities will support the relocation design by providing applicable standards, design reviews and approval of the final relocation plans, and these relocations will be completed by the City contractor hired to construct the project.

Right-of-Way Plans & Existing Conditions
CDM Smith will update the right-of-way & existing conditions plans.

Intersection Details
CDM Smith will prepare intersection detail plans showing geometric data, including station/offsets, elevations, and curve data for proposed intersection improvements.

Curb Ramp Details
CDM Smith will prepare curb ramp details showing station/offsets, elevation, and ramp grades complying with the requirements of the United States Access Board's Public Rights-of-Way Accessibility Guidelines (PROWAG) and accepted construction tolerances.

Sidewalk Bulb-out Details
CDM Smith will prepare sidewalk bulb-out details showing station/offsets, elevation, associated drainage elements, and sidewalk grades complying with the United States Access Board's PROWAG and accepted construction tolerances.

Driveway Details
CDM Smith will prepare driveway details showing station/offsets, elevation, associated drainage elements, and sidewalk/ramp grades complying with the United States Access Board's PROWAG and accepted construction tolerances.

Drainage Plans and Details
CDM Smith will prepare a drainage design including conveyance routing, sizing and inlet type selection for modifications to existing drainage systems and for new facilities in accordance with City drainage standards. It is assumed that no off-site drainage facilities are affected and no off-site drainage design for increased conveyance capacity or stormwater treatment will be performed.

CDM Smith will prepare drainage plans depicting the horizontal and vertical layout of the drainage improvements and their sizing. These plans will include existing and proposed stormwater facilities shown in plan and profile views, cross-sections, and details. The 65 percent plans will include sufficient details to provide a basis for the 65 percent cost estimates and will not include final design level construction details.

Water Quality Improvements and Green Stormwater Infrastructure

As a roadway reconstruction project that does not add one or more new lanes, this project is excluded from the numerically sized treatment requirements of Provision C.3 of the Municipal Regional Stormwater Permit (MRP). Although numerically sized treatment facilities will not be required, Site Design and Source Control Measures are required to be implemented to the maximum extent practicable. Additionally, TMDL programs are in place and may require incorporation of additional BMPs to control sediment and trash discharges. Green stormwater infrastructure such as bioretention cells, vegetated swales, pervious pavement, etc. can be effective in controlling these types of pollutants and will be considered in the design. Existing water quality controls such as trash screen inlet inserts will be protected in place in inlets that are not modified by the project and new trash inserts will be specified for all new or modified inlets. The geotechnical investigation results will be used to support the design of any infiltration facilities, or other improvements anticipated to be constructed below the elevation of the water table.

Construction Staging

CDM Smith will prepare construction staging area plans to depict approved locations for storage of construction equipment and materials. The Construction Contractor will be responsible for preparing their own phasing and traffic control plans based on these approved staging locations. Maintenance of traffic will conform to the requirements of the California Manual on Uniform Traffic Control Devices (CA MUTCD).

Temporary Water Pollution Control during Construction

CDM Smith will begin identification of temporary construction site best management practices (BMPs) and compile the required information to support the development of the project Stormwater Pollution Prevention Plan (SWPPP) and water pollution control drawings in accordance with the California Construction General Permit. CDM Smith will update temporary construction site BMPs and quantities as required. A CDM Smith Qualified SWPPP Developer (QSD) will develop the draft SWPPP. It is assumed that the Construction Contractor will be responsible for the finalization of the document by adding contact information, identifying the Qualified SWPPP Practitioner (QSP), and signing the final version. The Construction Contractor will be responsible for implementation of the SWPPP.

Landscape and Urban Design

CDM Smith will prepare landscaping plans for new street trees and other landscaping, and for changes to existing trees that may be impacted or require protection. The plans will include hardscape elements, plant palette, legend, notes, tree locations, and defined planting areas. CDM Smith will identify hardscape elements of medians, pedestrian crossing refuges and sidewalks at curb bulb-outs including recommendations for types, colors, finishes and materials. It is assumed that the final detailed irrigation design will be completed by a licensed landscaping contractor.

CDM Smith evaluate existing street trees and include provisions for tree preservation in the design drawings.

Assumption(s):

1. 65 Percent Plans will be developed based on the base map completed under Task 2.1.
2. 65 Percent Plans will use CDM Smith CAD Standards.
3. It is assumed that the use of standard details for sidewalk bulb-outs and driveway modifications will be limited. These features will require individual design detailing due to the variation in conditions

such as curb height, slopes, and locations of physical features such as power poles, driveways, curb ramps, drainage inlets, buildings, and other constraints.

4. 65 Percent Plans will consist of:
    a. Title Sheet and Sheet Index (1)
    b. General Notes (1)
    c. Survey Legend (1)
    d. Legend (1)
    e. Abbreviations (1)
    f. Survey Control, Monumentation, and Centerline Alignment (2, 1" = 100')
    g. Key Map (1, 1" = 100')
    h. Typical Roadway Sections (3)
    i. Typical Roadway Striping Sections (3)
    j. Typical Accessible Parking Space Detail (1)
    k. Demolition Plans (10, 1" = 20')
    l. Construction Plan & Profiles, Surfacing Plans (10, 1" = 20')
    m. Signing and Striping Plans (10, 1" = 20')
    n. Signing and Striping Details (5)
    o. Traffic Signal and RRFB Plans (7)
    p. Utility Plans (10, 1" = 20')
    q. Right-of-Way Plans & Existing Conditions (10, 1" = 20')
    r. Intersection Details (7)
    s. Curb Ramp Details (7)
    t. Sidewalk Bulb-out Details (5)
    u. Driveway Details (10)
    v. Civil Details (3)
    w. Drainage Plans, Profiles, and Details (7)
    x. Green Stormwater Infrastructure (3)
    y. Construction Staging Areas (1, 1"=100')
    z. Water Pollution Control (5)
    aa. Landscaping and Urban Design (6)
5. The City is responsible for right-of-way acquisitions needed to construct the project, including parcels, permanent easements, and temporary construction easements.
6. The City will provide one round of consolidated and non-conflicting comments.
7. The relocation of all privately-owned utilities will be designed and carried out by their respective owners.
8. The SWPPP will be developed from the most recent version of the California Stormwater Quality Association (CASQA) template.

Deliverable(s):

1. 65 Percent Plans (half-size PDF)
2. Responses to City comments on the 30 Percent plans (MS Excel)
3. Draft Utility Conflict Report (PDF)
4. 65 Percent SWPPP

Task 6.2 – 65 Percent Specifications

CDM Smith will identify specifications and special provisions necessary for construction of the project. CDM Smith will assemble data and prepare drafts of (1) necessary modifications to the Caltrans Standard Special Provisions, (2) necessary technical specifications not included in Caltrans or City standard specifications, and (3) incorporate the standard "boilerplate" upfront language to be provided by the City.

Assumptions:

1. The Caltrans Standard Special Provisions anticipated to be included with the project and those that do not require modification will be provided in list format at the 65 percent stage.

Deliverable(s):

1. 65 Percent Specifications (PDF)

Task 6.3 – 65 Percent Engineer's Opinion of Probable Construction Costs

CDM Smith will update the Engineer's Opinion of Probable Construction Costs using the 65 percent design plans as the basis for quantity estimates. Unit costs will be updated from recent bid information and in conjunction with City staff. Allowances will be included for any items not completely defined and measurable for construction cost.

Assumptions:

1. In providing opinions of cost, financial analyses, economic feasibility projections, and schedules for the project, CDM Smith will have no control over cost or price of labor and materials, unknown or latent conditions of existing equipment or structures that might affect operation or maintenance costs, competitive bidding procedures and market conditions, time or quality of performance by operating personnel or third parties, and other economic and operational factors that might materially affect the ultimate project cost or schedule. CDM Smith, therefore, will not warranty that the actual project costs, financial aspects, economic feasibility, or schedules will not vary from CDM Smith's opinions, analyses, projections, or estimates.
2. Budget-level cost estimates will include appropriate contingency factors to account for project uncertainties that cannot be explicitly accounted for at the project's various engineering stages. Risks that have been identified will be listed along with potential cost and schedule impacts.
3. The effort to prepare quantities for the estimate unit cost items and lump sums will be provided under the respective design discipline task using the Caltrans standard measurements.
4. All "soft costs" to be included within the cost estimate, such as City procured items and City self-performed work will be provided to CDM Smith two weeks before the estimate due date.
5. Quantities will be developed from the 65 percent design drawings to the maximum extent feasible.
6. Quantities will be developed and broken out by project stationing.

Deliverable(s):

1. 65 Percent Engineer's Opinion of Probable Construction Costs (PDF)

Task 6.4 – 95 Percent Plan Development

Upon review and approval of the 65 percent design by the City, the design process will continue with the development of the 95 percent PS&E. The 95 percent design documents will be developed incorporating consolidated and non-conflicting 65 percent design review comments provided by the City

and other appropriate parties as determined by the City. The 95 percent PS&E will be developed by adding details and refinements to the 65 percent design sheets, as listed under Task 6.1 above and supplemented based on comments received, and will include plans, elevations, sections, and details. A meeting will be held to discuss the comments to the 65 percent design prior to proceeding with the 95 percent design phase. CDM Smith will provide written responses as to how the 65 percent comments are addressed in the 95 percent design.

Assumption(s):

1. 95 Percent Plans will consist of the sheets identified under the Task 6.1 assumptions.
2. The same assumptions that are listed under Task 6.1 apply.

Deliverable(s):

1. 95 Percent Plans (half-size PDF)
2. Responses to City comments on the 65 Percent plans (MS Excel)
3. Final Utility Conflict Report (PDF)
4. 95 percent SWPPP

Task 6.5 – 95 Percent Specifications

CDM Smith will update the specifications and special provisions necessary for construction of the project. Technical specifications will be refined and will be consistent with City and Caltrans standards or as approved by the City for submittal during project review and discussion.

Assumptions:

1. The full text for all specifications and special provisions will be included in at the 95 percent stage.

Deliverable(s):

1. 95 Percent Specifications (PDF)

Task 6.6 – 95 Percent Engineer's Opinion of Probable Construction Costs

CDM Smith will update the Engineer's Opinion of Probable Construction Costs at 95 percent using the design plans as a basis for the quantity estimates. Unit costs will be updated from recent bid information and in conjunction with City staff. Allowances will be included for any items not completely defined and measurable for construction cost.

Assumptions:

1. The same assumptions that are listed under Task 6.3 apply.

Deliverable(s):

1. 95 Percent Engineer's Opinion of Probable Construction Costs (PDF)

Task 6.7 – 100 Percent Plan Development

CDM Smith will prepare the 100 percent plans based on comments received at the 95 percent design stage. CDM Smith will incorporate consolidated and non-conflicting comments from the City on the 95 percent submittal. A meeting will be held to discuss the comments to the 95 percent design prior to proceeding with the 100 percent design phase. CDM Smith will provide written responses as to how the 95 percent comments are to be addressed in the 100 percent design, and will provide written responses as to how those comments have been addressed in the 100 percent design.

Assumption(s):

1. 100 Percent Plans to include the same sheets that were provided with the 95 percent.
2. The same assumptions that are listed under Task 6.1 apply.

Deliverable(s):

1. 100 Percent Plans (half-size PDF)
2. Responses to City comments on the 95 Percent plans (MS Excel)
3. 100 Percent SWPPP

Task 6.8 – 100 Percent Specifications

CDM Smith will update the specifications and special provisions necessary for construction of the project.

Assumptions:

1. The full text for all specifications and special provisions will be included in at the 100 percent stage.

Deliverable(s):

1. 100 Percent Specifications (PDF)

Task 6.9 – 100 Percent Engineer's Opinion of Probable Construction Costs

CDM Smith will update the Engineer's Opinion of Probable Construction Costs at 100 percent using the design plans as a basis for the quantity estimates. Unit costs will be updated from recent bid information and in conjunction with City staff. Allowances will be included for any items not completely defined and measurable for construction cost.

Assumptions:

1. The same assumptions that are listed under Task 6.3 apply.

Deliverable(s):

1. 100 Percent Engineer's Opinion of Probable Construction Costs (PDF)

Task 6.10 – Issue for Bid (IFB) Plans Specifications & Estimate (PS&E)

Based on comments from City staff from the 100 percent review, CDM Smith will revise the PS&E and produce and the Issue for Bid (IFB) package for construction bidding.

Assumption(s):

1. IFB plans, specifications, and estimate to include the same elements as the 100 percent submittal, supplemented as needed based on comments received.
2. The same assumptions that are listed under Task 6.1 apply.

Deliverable(s):

1. IFB Plans (half-size PDF)
2. IFB Specifications (PDF)
3. IFB Engineer's Opinion of Probable Construction Costs (PDF)
4. Responses to City comments on the 100 Percent plans (MS Excel)
5. IFB SWPPP

Task 6.11 – Permit Coordination

CDM Smith will compile the required information and complete compliance documentation for the NPDES Municipal Regional Permit (MRP) and the General Construction Permit (CGP) Notice of Intent (NOI) and Storm Water Pollution Prevention Plan (SWPPP) submitted through Stormwater Multiple Application and Report Tracking System (SMARTS).

Assumption(s):

1. Required permits include the NPDES MS4 MRP and the CGP

Deliverable(s):

1. MRP compliant water quality controls incorporated in final PS&E
2. Draft SWPPP and NOI for submission to SMARTS

Task 7 – Construction Bid Support

Task 7.1 – Construction Bid Support

CDM Smith will provide bidding support to the City during the construction contract procurement process. Services will include responding to bidders' questions and providing information and clarification regarding the project design and technical specifications. Design addenda will be produced if necessary to clarify design issues. The development of addenda to address unforeseen or new conditions outside the control of CDM Smith, is not included.

Following the bidding process, changes to the design resulting from bidding questions/clarifications and addenda will be incorporated into the design to produce a conformed set of final construction documents. The final construction documents will be reviewed and sealed by a California registered civil engineer and will provide necessary plans, specifications, and quantity estimates, for use by the selected contractor for construction of the project.

Activities may include:

- Providing input to City staff to answer up to twenty (20) questions from potential bidders during the advertisement period.
- Preparing revised documents associated with addenda packages.
- Preparing up to two (2) addenda to the final bid package
- Attend a pre-bid meeting and assist the City with responses to prospective bidder questions during the bid process.
- Attend a pre-construction meeting, if the City determines one is needed.

Assumption(s):

1. Bidding period will be four (4) weeks for less.
2. The City will produce the necessary hard copies and manage distribution to potential contractors for bidding purposes.

3. The City is responsible for all bidding services required for procurement of a project construction contractor. Bidding support such as advertisement, bid tabulation and review, award recommendations, etc., is not included in this scope of work.
4. Bidder questions during the advertisement permit for the construction contract will be addressed and documented.
5. Design addenda, due to unforeseen or changed conditions identified during the bidding process, are not included in this scope of work.

Deliverable(s):

1. Input to answer up to twenty (20) bid questions
2. Addenda to the final bid package (PDF, 2)
3. Conformed Plans (half-size signed hardcopy sealed and signed by a professional engineer licensed in the State of California)
4. Conformed Plans (half-size PDF)
5. Conformed Engineer's Opinion of Probable Construction Costs (PDF)
6. Conformed Specifications (PDF)