



Construction Services Scope of Work

Date: August 10, 2022

Project Number: STU 0252-457

Project Code: 21556

Project Location: I-25:Alameda River Ph 2.0

Contract Type: Project Specific, SROP

Contract Subject: Construction Management, Construction Inspection, and Materials Testing Services

The Contract Administrator for this Contract will be:

Steve Sherman
Region 1 Central Engineering
2829 West Howard Place
Denver CO 80204
720 341-1895
steve.sherman@state.co.us

Active day-to-day administration and monitoring of this contract will be delegated to the assigned Project Engineer:

Zach Miller
Region 1 Central Engineering
2829 West Howard Place
Denver CO 80204
720 382-6381
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1.0 General Scope of Work

This scope of work is for providing construction administration support services for the referenced project. The scope of work requires:

- 1 full-time Consultant Assistant Project Engineer
- 1 full-time Consultant Senior Construction Inspector
- 2 full-time Consultant Construction Inspectors
- 1 full-time Consultant Construction Materials Tester
- 1 full-time Administrative Assistant, for two weeks during project setup and six weeks during finals



1.1 Project Description and Location

This project will replace the Alameda over South Platte River bridge, reconstruct a portion of Lipan Street, reconfigure the Alameda and Kalamath intersection, reconstruct a portion of the South Platte River Trail, and construct a water-quality pond.

1.2 Work Duration

The time period for the work described in this scope of work is approximately 500 working days for construction activities, and 40 days for administrative tasks (2 weeks before and 6 weeks after). It is anticipated the start date will be in fall 2022.

1.3 Definitions

CDOT Resident Engineer – The CDOT Resident Engineer is responsible to the Region Program Engineer for the quality and successful completion of a transportation project. The Resident Engineer authorizes interim and final payments, and all changes to contracts for both consultants and contractors.

CDOT Region Materials Engineer – The CDOT Region Materials Engineer assists the Resident Engineer on the project with materials-related issues including concrete, asphalt, soils and steel.

Consultant – The individual, firm, or corporation contracting with CDOT to perform services as described in this Scope of Work.

Consultant Assistant Project Engineer – The Consultant employee who performs project-related services under the responsible charge of the CDOT Project Engineer, and at the direction of the CDOT Resident Engineer or his designee.

Consultant Senior Construction Inspector – An individual with a minimum five years of documented CDOT bridge-construction experience. This individual shall have the skill set and experience similar to that of a CEPM I.

Consultant Construction Inspector – The Consultant’s authorized representative assigned to make detailed inspections of contract performance.

Consultant Construction Materials Tester – The Consultant’s authorized representative assigned to testing the material properties of various elements incorporated into the work.

Contractor – The individual, firm or corporation contracting with CDOT to construct a transportation project.

2.0 General Requirements

2.1 Authorization to Proceed

Work shall not commence until the written Notice to Proceed is received by the Consultant and shall be completed in the time specified.



2.2 Routine Billing and Reporting

The Consultant shall provide the following on a regular basis:

- Monthly billing in a format suitable to the Resident Engineer for all contract activities performed by Consultant personnel. Monthly billings shall include the contract status.



- Weekly time cards (Form 7) for Consultant personnel.
- Supporting documentation for all direct costs.

2.3 Labor, Materials, Vehicles and Equipment

The Field Office will be located in the building at 135 South Kalamath Street, which is owned by CDOT. The Consultant shall furnish all personnel, materials, equipment, and transportation required to perform the work. Consultant personnel shall have appropriate vehicles (equipped with flashing amber beacon), cellular phones, computers, tablets, and miscellaneous equipment and supplies (printers, calculators, manuals, office supplies, safety equipment, distance-measuring instrument (DMI), etc.) required to perform the work.

Personnel qualifications, staffing level, and number and types of vehicles shall be subject to the approval of the Resident Engineer. Each Consultant staff member shall be supplied with a state-of-the-art computer with wireless capability and the most current version of MS Office including Microsoft Project, Primavera, SiteManager, and/or a OA/PC program if applicable. The Consultant shall have a digital camera available to staff at all times and document the project accordingly, submitting flash drives with relevant photos to the CDOT Project Engineer on a regular basis. At least one Consultant vehicle shall be equipped with a DMI to facilitate inspection and measurement of materials placed on the project.

2.4 Personnel Qualifications

All tasks assigned to the Consultant must be conducted by a qualified person on the Consultant team. A qualified person is a professional with the necessary education, certifications (including registrations and licenses), skills, experience, qualities, or attributes to complete a particular task.

It is the intent of CDOT that all key personnel be engaged to perform their specialty for all services required by this contract, and that the Consultant's key personnel be retained for the duration of this contract to the extent practicable and to the extent that such services maximize the quality of work. If the Consultant or a subconsultant decides to replace any of its key personnel, the Consultant shall notify the CDOT Project Engineer in writing of the desired change. No such changes shall be made until at least two qualified replacement candidates are recommended by the Consultant and a replacement is approved in writing by the Project Engineer. The Project Engineer's approval will not be unreasonably withheld. Failure of the Consultant to comply with the requirements of this provision may be the basis for CDOT's termination of this contract.

The CDOT Project Engineer shall respond to the Consultant's written notice regarding replacement of key personnel within fifteen working days after receipt of the list of proposed changes. If the Project Engineer or designated representative does not respond within that time, the listed changes shall be deemed to be approved.

If, during the term of the contract, the CDOT Project Engineer determines that the performance of approved key personnel is not acceptable, he shall notify the Consultant and give the Consultant time which the Project Engineer considers reasonable to correct such performance. Thereafter he may require the Consultant to reassign or replace such key personnel. If the CDOT Project Engineer notifies the Consultant that certain of their key personnel or the key personnel of a subconsultant should be replaced,



the Consultant shall use its best efforts to replace such key personnel within a reasonable time, not to exceed thirty calendar days from the date of the Project Engineer's notice.

2.5 Engineer's Certification

The CDOT Resident Engineer is the final authority regarding acceptance of work not conforming to the plans and specifications.

2.6 Project Meetings

The Consultant and CDOT project personnel shall meet to coordinate and schedule the required work prior to active construction. The Consultant shall complete all work in accordance with the approved schedule or as approved by the Project Engineer. Consultant personnel shall be present at all project meetings as required and as directed by the CDOT Project Engineer.

2.7 Post-Construction Activities

The Consultant shall assist in preparing and submitting redline drawings that have been revised to reflect actual as-constructed details as recorded throughout the construction of the project, wage and payroll certification, and other closeout activities. Work shall include preparation of finals.

2.8 Project Standards

Inspection and documentation shall be in accordance with the latest versions of the CDOT Construction Manual, Field Materials Manual, Laboratory Manual of Test Procedures, Inspector's Checklist, Standard Specifications for Road and Bridge Construction, Supplemental Specifications, M&S Standards, and the plans and specifications currently in use when the construction project is advertised or revised under advertisement.

References to the specifications shall include all applicable CDOT Standard Specifications for Road and Bridge Construction including Supplemental Specifications, Project Standard Revisions and Project Plans and Specifications.

2.9 Documentation

The Consultant shall provide all correspondence and applicable CDOT forms to the CDOT Resident Engineer or designee for review and signature.

The Consultant personnel shall be capable of preparing CMOs, justifications for CMOs and MCRs; price justification (force-account analysis); review of MHTs, construction-quantity calculations; inspection reports; daily diaries; SiteManager; review of 205s; and other construction-administration documentation required by the CDOT Construction Manual.

Each of the Consultant personnel shall maintain a daily diary for each day they perform work on the project. They shall use CDOT's Automated 103a – Project Diary unless otherwise approved by the CDOT Project Engineer. The contents of the diary shall be brief and accurate statements of progress and conditions encountered during the prosecution of the work. Editorial comments are not to be incorporated in the diaries or on any written correspondence applicable to the project. A copy of the daily diary shall be given to the CDOT Project Engineer within one working day of its date.



3.0 Personnel Requirements

Personnel qualifications and staffing levels for the project shall be subject to the approval of the Resident Engineer or his designee. CDOT reserves the right to review the resume of and interview any proposed new staff to the project. CDOT may reject personnel to be added to the project as determined from either the resume or interview.

Personnel provided by the Consultant who do not meet all of the specified requirements or who fail to perform their work in an acceptable manner will be removed from the project when determined and directed by the Resident Engineer or his designee.

The Consultant shall provide any other services requested by the Resident Engineer within this scope of work.

Back-up Consultant resources shall be available in case of loss of staff, sickness, or vacations, or as required for the project.

3.1 Consultant Assistant Project Engineer

The Consultant Assistant Project Engineer is required to be experienced with road and bridge construction and have documented experience with CDOT procedures including construction schedule review, contract modifications preparation, force account analysis, and be proficient with SiteManager. The Consultant Assistant Project Engineer shall have extensive documented experience with CDOT procedures including structures, water quality, phasing, utilities, roadway paving and documentation.

The Consultant Assistant Project Engineer shall support the CDOT Project Engineer and CDOT Assistant Project Engineer in performing day-to-day activities and duties associated with CDOT contract administration, in coordination with the CDOT Resident Engineer. These responsibilities and duties include supervision of project staff, verbal and written correspondence with the prime and subcontractors, inspection of materials and methods of construction to verify compliance with CDOT and contract specifications, preparing monthly pay estimates, reviewing and approving Methods of Handling Traffic, preparing project change orders and minor contract revisions (including justification letters), monitoring the project schedule and financial status, reviewing certified payrolls in B2G and LCPtracker, resolving material and traffic-control issues, and coordination with local entities and businesses with respect to construction activities. The Consultant Assistant Project Engineer's responsibilities may include documentation and inspection of construction activities, preparing payments for items of work, preparing pay estimates in SiteManager, supervision and documentation of time and material of work, preparation of daily diaries documenting contractor activities and relevant observations, and Davis-Bacon wage review and certification.

Specific responsibilities may include, but are not limited, to the following:

1. Preparing and transmitting updates of construction activities to CDOT's Public Information Officer.
2. Monthly review of project schedule in coordination with CDOT Project Engineer.
3. Monitoring and documenting contractor payroll compliance.



4. Participation in weekly progress meetings with contractor, subcontractors, utilities, and other interested parties.
5. Securing project documentation from the contractor.
6. Anticipating project problems and directing solutions to the CDOT Project Engineer.
7. Reviewing drawings and data submitted by the construction contractor and suppliers for conformance with the specifications. Informing and obtaining concurrence as needed from the CDOT Project Engineer and maintaining relevant documentation for project records.
8. Maintaining accurate notes reflecting actual construction details to be used in preparation of as-constructed plans.
9. Communicating with adjacent landowners as required to resolve issues that arise during construction.
10. Reviewing and approving the contractor's Method of Handling Traffic.
11. Monitoring compliance with and taking appropriate action to maintain safety on the project for all workers and traveling public in accordance with the MHT and the Manual of Uniform Traffic Control Devices (MUTCD).
12. Initial follow up, and final inspections of work in progress including interim and final measurements.
13. Promptly notifying contractors and the CDOT Project Engineer of non-compliance with the contract plans and specifications.
14. Performing special tests, investigations, or monitoring required to fulfill the intent of the CDOT inspection program.
15. Preparing inspection documentation for development of progress payments for the contractor in accordance with prescribed procedures.
16. Submitting standard documentation reports no later than the following working day.
17. Preparing routine correspondence to the contractor, CDOT staff, local agencies, etc.
18. Providing liaison and communication to contractor field crews.
19. Assisting in preparation of final as-constructed plans.
20. Assisting in preparation of punch lists of uncompleted work, non-conformance reports, and deficiency notices.
21. Assisting in preparation of responses to contractors' and suppliers' requests for information, submittals, change notices, claims, and correspondence.
22. Preparing the project's finals package, and submittal to CDOT's Finals Engineer within 45 days of the project's acceptance letter (including materials finals). Working with the Finals Engineer to adjust or revise finals documentation until it is determined to be acceptable.
23. Ensuring all materials-testing documentation is entered into LIMS software system.

3.2 Consultant Senior Construction Inspector

The Consultant Senior Construction Inspector shall have all required CDOT inspector certifications and documented experience in bridge construction, understand risk management, understand construction scheduling, and be thoroughly familiar with CDOT Construction Specifications. Prior to construction, the Consultant Senior Construction Inspector is expected to review and comment when reviewing plans and specifications in order to proactively address possible problems which may occur during construction.



The individual's skills must include the ability to provide construction expertise, input on production rates and methodology, and suggest innovations. This person must have a minimum of five years of experience similar to that of a CEPM I and a history of performing preconstruction input and analysis.

3.3 Consultant Construction Inspectors

Consultant Inspectors shall have all required CDOT inspector certifications. The Consultant Construction Inspectors shall be able to inspect and document all work performed and produced by the CDOT construction contractor on the project. At least one of the Consultant Inspectors must be able to serve as a tester on an as-needed basis. Work shall include inspection and documentation of requirements set forth in the Standard Specifications for Road and Bridge Construction, the M&S Standards, and references. This work is to be accomplished in accordance with the CDOT Construction Manual. The individuals shall meet all the requirements as outlined in CDOT Policy Memo 25, Construction Inspector Qualification Program, including Traffic Control Supervisor training. The Consultant shall be familiar with the SiteManager Construction Management System, time counts, daily work reports, and other information as needed.

Inspection work shall conform to the CDOT Construction Manual and the Inspector Checklist. Each of the Consultant's field inspectors shall maintain a daily diary for each day the Consultant performs work on the project. They shall use CDOT's Form 103, automated 103a - Project Diary, or other form approved by the CDOT Project Engineer. The Contents of the diary shall be brief and accurate statements of progress and conditions encountered during the prosecution of the work. Editorial comments are not to be incorporated in the diaries or on any written correspondence applicable to the project. A copy of the diary shall become a part of the permanent project record.

Inspection responsibilities may include but are not limited to the following:

1. Periodic reports and billings required by CDOT Procedural Directive 400.2.
2. Monitoring and documenting contractor payroll compliance.
3. Participation in weekly progress meetings with contractor, subcontractors, utilities, and other interested parties.
4. Securing project documentation from the contractor.
5. Anticipating project problems and directing proposed solutions to the CDOT Project Engineer.
6. Reviewing drawings and data submitted by the construction contractor and suppliers for conformance with the specifications. Informing and obtaining concurrence as needed from the CDOT Project Engineer and keeping relevant documentation for project records.
7. Maintaining accurate notes reflecting actual construction details to be used in preparation of as-constructed plans.
8. Communicating with adjacent landowners as required toward resolving issues that arise due to construction.
9. Review and approve the contractor's Method of Handling Traffic if assigned by the CDOT Project Engineer.
10. Monitoring compliance with and taking appropriate action to preserve safety on the project for all workers and the traveling public in accordance with Method of Handling Traffic and the Manual of Uniform Traffic Control Devices (MUTCD).



11. Initial, follow up, and final inspections of work in progress, including interim and final measurements, and coordination with the Consultant Construction Materials Tester to ensure materials-testing requirements are met.
12. Promptly notifying contractors and the CDOT Project Engineer of non-compliance with the contract plans and specifications.
13. Performance of special tests, investigations, or monitoring required to fulfill the intent of the CDOT inspection program.
14. Preparation of inspection documentation for development of progress payments for the contractor in accordance with prescribed procedures.
15. Submittal of standard documentation reports no later than the following working day.
16. Preparation of routine correspondence to the contractor, CDOT staff, local agencies, etc.
17. Providing liaison and communication with contractor field crews.
18. Assist the CDOT Project Engineer with preparation of final as-constructed plans.
19. Assist in preparing punch lists of uncompleted work, non-conformance reports, and deficiency notices.
20. Assist in preparing responses to contractors' and suppliers' requests for information, submittals, change notices, claims, and correspondence.

3.4 Consultant Materials Testing Technician

The Consultant materials-testing technician shall sample, test, inspect, and document all materials generated on the project unless otherwise directed by the Project Engineer. This includes but is not limited to: materials delivered to the project that are listed in the Summary of Approximate Quantities in accordance with the schedule in the Field Materials Manual; materials that may be added to the project through contract modification orders; and altered material quantities whether increased or decreased. The testing technician and Project Engineer shall review project quantities on a weekly basis to ensure that sufficient tests have been performed for the material placed to date. The Consultant shall provide any other related testing services requested by the CDOT Project Engineer.

Testing of materials that are specifically designated to be pre-inspected or pre-tested shall remain the responsibility of CDOT. The Consultant shall document and obtain samples of any and all materials to be transported to the CDOT central laboratory that are required to be tested by CDOT, regardless of pre-inspection or pre-testing responsibilities. The items and test frequencies of Department-tested materials shall be in accordance with the Materials Manual under Schedule (Owner Acceptance), Central Laboratory.

The Consultant Construction Materials Testing Technician shall be under the direction of and be reviewed by the CDOT Project Engineer and CDOT testing personnel. A Consultant supervisor shall be available to review work, resolve problems, and make decisions in a timely manner as requested by the CDOT Project Engineer or his designee, and must be experienced and competent in road and bridge construction, materials testing, and inspections.

The materials testing technician shall be assigned to the project on a full-time basis and have a minimum of two years experience in each specialty field (soils, aggregates, asphalt paving, and concrete) that is being tested, and shall have had Traffic Control Supervisor training. The individual shall meet all the



requirements as outlined in CDOT Policy Memo 25, Construction Inspector Qualification Program. Nuclear Gauges must be calibrated using the Department's standard blocks. The materials testing technician shall be thoroughly familiar with CDOT forms and documentation requirements.

Equipment shall be furnished by the Consultant tester for each segment of the project in sufficient quantity and in good working order to ensure accurate performance of all work required in a timely manner. Equipment for this project may include, but not limited to following:

1. Nuclear Moisture/Density Gauge.
2. Sieves for aggregates and soils gradation.
3. Electronic scales, if not furnished by the Contractor.
4. AC gauge, Rice equipment, and hand tools for HMA Testing.
5. Sample containers including, but not limited to: quart-sized asphalt cement cans with lids, three-gallon metal containers and lids for HMA samples, sample bags, five-gallon buckets with rubber seal lids for moisture samples, and buckets for sampling concrete.
6. Proctor equipment for soil curves and one-point tests.
7. Atterberg equipment.
8. Sample-drying equipment.
9. Miscellaneous pans, tools, and equipment for performing required soils, concrete, and asphalt field tests.
10. Concrete cylinder molds which conform to AASHTO requirements.
11. Tape measure and various hand tools.
12. High/low and recording thermometers.
13. Various office supplies and calculators.
14. Computers with CDOT-approved programs.
15. CDOT M&S Standards, Construction Manual, and Inspector's Checklist.
16. Concrete testing equipment: air meter, slump cone, unit-weight scale, hand tools, and beam molds.

4.0 Technology

The Consultant shall provide tablets for each consulting staff member and CDOT staff member during the Project (preconstruction and construction), that meet or exceed the following Specifications: 16 GB of memory, 8 MP photos, 3G/Wi-Fi capability with service plan, 12.9 Inch (diagonal) screen, Bluetooth keyboard and protective cover, internal GPS, and the ability to install programs and applications that will be used on the project. This project will utilize electronic applications to perform construction oversight activities. All Consultant staff must have a Google Gmail email address. A Google shared drive will be used for document storage

5.0 Miscellaneous

A supplement to this task order may be necessary in the event the level of effort required increases beyond that described, including but not limited to extended construction duration and/or additional construction shifts.



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Direct costs will be expended as required for the proper performance of the work, and in accordance with CDOT requirements and approvals. Work may be required night and/or day, weekends, holidays, and/or on a split shift basis when requested by the Project Engineer. Workweeks may be in excess of or less than the standard 40-hour week. Workhour estimates will be based on **50 hours** maximum per week for field work and **40 hours** maximum per week for non-field work. Overtime hours are not allowable per state fiscal rules, labor hours shall be billed to CDOT as regular, non-overtime hours. Commuting mileage and time will not be paid for travel to and from the project. Mileage for travel while on the project site will be paid at the applicable state rate.