
DEPARTMENT OF TRANSPORTATION

Eagle Residency

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EDWARDS INTERCHANGE UPGRADE CONSTRUCTION ADMINISTRATION SCOPE OF WORK

Estimated Start Date: April 2010
Region 3

Project:
EDWARDS INTERCHANGE UPGRADE CONSTRUCTION
ES3 0702-297
17303

The Contract Administrator for this Task Order will be:

Martha Miller, Resident Engineer
Region 3

Office: (970) 328-6385
Mobile: (970) 471-9385
Fax: (970) 328-2368

Active Day to Day administration and monitoring of this contract will be delegated to the following CDOT employee:

Martha Miller, Resident Engineer
Region 3

Office: (970) 328-6385
Mobile: (970) 471-9385
Fax: (970) 328-2368

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General Scope of Work

The scope of work is to provide construction administration support (Project Engineer, inspection, and materials testing services) required for the construction of the Edwards Interchange Upgrade project. The Edwards Interchange is located in the heart of Eagle County and has the highest density of residents. The Edwards area is also a local hub for retail shops, restaurants, numerous schools (high, middle and elementary) and recreational facilities as well as the last rest stop before Vail Pass. The interchange is currently nearing its maximum vehicular capacity.

The project will construct four roundabouts. One at the eastbound and westbound ramp termini, one at the intersection of two County roads (Berry Creek and Beard Creek) north of the interchange, and one at Miller Ranch Road south of the eastbound ramps. Miller Ranch road is a major arterial to the schools and recreational facilities in Edwards. The County roundabout will require the relocation of a major drainage feature with high quality wetlands.

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 all Consultants and Contractors.

CDOT Assistant Project Engineer - The CDOT employee on the project who assists the Consultant Project Engineer in administering the project. The individual is in responsible charge when the Consultant Project Engineer is not on the project.

Consultant - The firm or corporation providing personnel under this agreement to perform construction services as outlined herein.

Consultant Project Engineer - The Consultant professional engineer assigned to the project to be in direct charge of the project work and is responsible for the administration and satisfactory completion of the project under contract.

Consultant Inspector or Materials Testing Technician (MTT) - Consultant employee who performs construction materials testing services, construction inspection, and other project-related services under the responsible charge of the Consultant Project Engineer, and at the direction of the CDOT Project Engineer.

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

CDOT Region Materials Engineer – The CDOT Region Materials Engineer (RME) assists the Resident Engineer and Project Engineer on this project with materials related issues including concrete, asphalt and steel.

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CDOT Assistant Materials Engineer – The CDOT Assistant Materials Engineer is responsible to the Region Materials Engineer.

Work Duration

The time period for the work described in this scope of work covers the period from approximately January 2010 to March 2011. Work may be required at night and/or day, on weekends and holidays.

Authorization to Proceed

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

Routine Billing & Reporting

The Consultant shall provide the following on a regular basis:

- 1) Monthly billing formats, suitable to the Project Engineer, for all contract activities performed by the Inspection Consultant.
- 2) Periodic reports and billings required by CDOT Procedural Directive 400.2.
- 3) Weekly time cards for consultant personnel. The Project Engineer, prior to billing, must sign these time cards.

Status of Contract

The Consultant shall monitor the fiscal status of the contract, and advise the CDOT Project Engineer of any potential for supplementing their contract or negotiating an additional task order. Failure to monitor contract status and provide timely notification may result in discontinuation of the Consultant's services on the project until a supplemental agreement can be effected.

Project Standards

All documentation shall be in accordance with the latest versions of the Colorado Department of Transportation's Construction Manual, Field Materials Manual, CDOT Laboratory Manual of Test Procedures, Colorado Department of Transportation Inspector's Checklist, Standard Specifications for Road and Bridge Construction, the Supplemental Specifications, applicable 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 Special Provisions, and project plans and specifications.

Proposed work procedures shall be coordinated with the Project Engineer prior to the start of work.

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Labor, Materials, Vehicles & Equipment

It is anticipated that CDOT will require at one consultant professional engineer as the lead Project Engineer (PE), one lead inspector, 1 additional inspector (if deemed necessary) and one Materials Testing Technician (if deemed necessary).

The Consultant shall furnish all personnel, equipment and transportation required to perform the work. Consultant personnel shall have appropriate vehicles (equipped with flashing amber beacon), cell phone, computers, and miscellaneous equipment (calculator, office and lab supplies, safety equipment, etc.) required for performing the work.

Each consultant staff shall be supplied with a state of the art computer w/modem (phone, ISDN or cable as required), a writeable CD, a color printer (that can be networked for all staff or black/white for other staff) and loaded with the most current version of MS Office software (& Site Manager or QA/QC program if applicable).

The Consultant shall have a digital camera available to staff at all times and document the project accordingly submitting CD's with relevant photos to the CDOT Project Engineer or Resident Engineer on a regular basis.

Personnel qualifications, staffing level, and number and types of vehicles shall be subject to the approval of the Project Engineer. The Consultant shall assign personnel for the duration of the project unless otherwise approved by the Project Engineer.

The following equipment shall be furnished by the consultant tester for each project in sufficient quantity and in good working order (with current calibration) to ensure accurate performance of all work required in a timely manner:

- Nuclear Asphalt Content Gauge
- Nuclear Moisture-Density Gauge
- Concrete air meter, slump cone, and other concrete testing equipment.
- Sieves for aggregates and soil gradations
- Electronic scales
- Asphalt & A/C sample containers and small tools
- Proctor equipment for soil curves and one point tests
- Atterburg, Rice value, and Sand Equivalent equipment
- Sample drying equipment
- Concrete cylinder molds which meet AASHTO requirements except that paper molds shall not be used, and plastic molds shall not be reused
- Miscellaneous equipment for performing the required soils, asphalt and concrete tests

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Engineer's Certification

The Resident Engineer shall be the final authority regarding acceptance of work performed by the Consultant. The Resident Engineer will review and sign the CDOT form 250 as it relates to the testing and acceptance of materials. The CDOT Resident Engineer shall be the final authority regarding acceptance of work not conforming to the plans and specifications.

Project Meetings

The Consultant personnel shall be present at all project meetings as required. The Head Tester shall be required to attend Project Preconstruction Meeting, Project Partnering Meeting, and other meetings prior to commencement of the project as directed by the CDOT Project Engineer.

Documentation

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

The Consultant personnel shall be capable of preparing CMO's, justifications for CMO's and MCR's; price justification (force account analysis); review of MHT's, construction quantity calculations required for this type of project; inspection reports; daily diaries; site manager; review of 205's; and other construction administration documentation required per CDOT construction manual.

Each of the Consultant's personnel shall maintain a daily diary for each day they perform work on the project. They shall use CDOT's Automated Form 103a - Project Diary unless otherwise approved by the 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.

Personnel Qualifications

CDOT is seeking a project engineer and inspector to manage the construction of the Edwards Interchange Upgrade project. If deemed necessary, the team may also include a material tester. The project will be advertised for construction December 17, 2009. It is anticipated the project will have both day and night work. The Consultant shall provide personnel to work both shifts as required by the Contractor's schedule. The exact personnel requirements will be determined upon receipt of the successful bidder's construction schedule.

The selected Consultant will be expected to have strong experience in critical path scheduling, innovative contracting, public relations, roundabout construction, utilities, environmental work and compliance, and retaining walls. The lead Project Engineer will be expected to handle the schedule and daily public relations issues. The Consultant will be expected to work in Site Manager.

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Personnel qualifications and staffing levels for the project shall be subject to the approval of Resident Engineer. CDOT will reserve the right to review the resume and interview any new proposed staff to the project. The Consultant shall be certified as defined by the requirements set.

One lead Project Engineer (PE) will work on the project at the level of Project Engineer shall have at least 4 years experience as a project engineer either with CDOT or as a consultant. They will be in responsible charge when the CDOT project engineer is not on the project. They will provide administrative support as a project engineer. Either the lead Project Engineer or the assistant Project Engineer will be required to work night shifts if necessary.

The lead Project Engineer shall have the following experience or skills:

- Reviewing construction schedules and methods statements
- Preparing Contract Modification Orders
- Force account analysis
- Public relations (working with local communities and agencies)
- Roundabout work
- Preparing and transmitting updates of construction activities to the CDOT's Public Information Office.
- Periodic reports and billings required by CDOT Procedural Directive 400.2.
- Monitoring contractor payroll compliance.
- Participation in weekly progress meetings with contractor, subcontractors, utilities and other interested parties.
- Securing project documentation from the contractor.
- Anticipating project problems and determining solutions
- Reviewing drawings and data submitted by the construction contractor and suppliers for conformance with the intent of the specifications. Keep relative documentation for project records.
- Maintaining accurate notes reflecting actual construction details to be used in preparation of as-constructed plans.
- Communicating with adjacent landowners as required to resolve issues that arise due to construction.
- Monitoring compliance with and taking appropriate action to preserve safety on the project for all workers and traveling public in accordance with Method of Handling Traffic (MHT).
- Initial, follow up, and final inspections of work in progress including interim and final measurements.
- Notifying contractors of non-compliance with the contract plans and specifications
- Performance of special tests, investigations, or monitoring which are required to fulfill the intent of the CDOT inspection program
- Ensure compliance with permits such as 404 and NPDES.

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- Preparation of inspection documentation for development of progress payments for the contractor in accordance with prescribed procedures
- Submittal of standard documentation reports no later than the following working day,
- Aiding in the preparation of correspondence to the contractor, CDOT Staff, local agencies, etc.
- Providing liaison and communication to contractor field crews
- Preparation of final “As Constructed” plans upon project completion
- Miscellaneous related duties as requested by the CDOT Project Engineer
- Assist in preparing punch lists of uncompleted work, non-conformance reports, and deficiency notices.
- Assist in preparing responses to contractors' and suppliers' requests for information, submittals, change notices, claims, and correspondence

At least one inspector to primarily perform daytime roadway and roundabout inspection work will be required on the project as needed with a second required to either perform nighttime inspection or other inspection or paperwork activities.

Other inspectors shall also have the following experience in:

- Reviewing and approving Method of Handling Traffic and have taken the Traffic Control Supervision class.
- At least one of the inspectors shall have CDOT experience with the federal project requirements such as OJT, review of 205's, have done interviews to complete CDOT form 280, and have reviewed Davis-Bacon wages.

Other skills to be highly considered for all personnel:

- Utility coordination
- Wide load coordination
- Working with CDOT Public relations representative for periodic and timely press releases for construction activities
- Wetlands (404 Permit)
- Survey experience

All the Consultant staff (except the testers) shall be familiar with and experience using the Site Manager program to enter CMO's, 266 inspection forms, and other areas if needed. The Consultants shall be thoroughly familiar with CDOT forms and documentation requirements.

The consultant shall also provide any other services as requested by the Project Engineer.

The MTT (Materials Testing Technician) shall sample, test, and document all materials incorporated into the project. This includes materials delivered to the project that are listed in the Summary of

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Approximate Quantities or referred to in the Design/Build Plans and Specifications. The number of tests required shall be in accordance with the Schedule in the Field Materials Manual. Additional quantities may be added by Contract Modification Order, or plan approximate quantities may be increased or decreased. The MTT and CDOT's Project Engineer shall review project quantities on a weekly basis to ensure that sufficient tests have been performed for all material placed to date. The consultant shall also provide any other services such as inspection as requested by the CDOT Project Engineer.

Testing of materials that are specifically designated to be pre-inspected or pre-tested by this or any other Department of Transportation shall remain the responsibility of CDOT. The MTT shall document and transport samples of any and all materials to the CDOT Region or Central Laboratory that are required to be tested by CDOT, regardless of pre-inspection or pre-testing responsibilities.

The items and test frequencies of CDOT tested materials shall be in accordance with the column titled "Central Laboratory" in the Schedule in the Field Materials Manual.

The MTT shall have experience in cast in place concrete, asphalt, earthwork, and certifications accordingly. The MTT shall review project plans, specifications, and the current version of the CDOT Field Materials Manual and the project specific CDOT Form 250 to determine the number of testers required to complete the project and the number and type of test that will need to be performed on the project. The MTT and the Project Engineer shall meet on a regular basis prior to start of project to address any questions or issues involving testing procedures, frequency, or documentation. Additional testing may be required if requested by the Project Engineer. The MTT's shall be thoroughly familiar with CDOT forms and documentation requirements. The consultant supplied materials testing technician (MTT) shall be permanently assigned to a project and shall have the following qualifications:

- National Institute for Certification in Engineering Technology (NICET) Level II Certification in Construction Materials Testing and Inspection for the types of work being performed, e.g. aggregates, asphalt, concrete, and soils. NICET Certification shall be provided to the CDOT Project Engineer or equivalent.
- The MTT performing concrete tests shall be certified by The American Concrete Institute (ACI).
- The MTT performing hot bituminous pavement tests shall be Level II, A&B certified by The Colorado Asphalt Technician Certification Program (LabCAT).
- WAQTC, Soils Certification

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, shall be removed from the project when determined and directed by the Project Engineer or Resident Engineer.

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