

SCOPE OF WORK

PROJECT NUMBER: #####
PROJECT CODE: 22547
CMS ID NUMBER:
PROJECT LOCATION: I-25 and CO 119
CONTRACT TYPE: Project Specific
CONTRACT SUBJECT: Construction Management, Inspection, Testing Services, and Public Information Services

Active day-to-day administration will be delegated to:

Joe Burrows
Project Engineer – Boulder Residency
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Boulder, CO 80302
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Description of Project:

This project consists of construction of the transit mobility hub on I-25 and CO 119 including:

- Concrete box culvert construction under I-25
- Mainline I-25 concrete paving
- Bridge widening on I-25
- Northbound center-loading transit stop
- Southbound ramp transit stop
- Park-n-ride construction including Electric vehicle charging and ITS
- Improvements to CO 119 and frontage road

The anticipated project start date is October 2022. The anticipated completion date is December 2023.

General Requirements

This Scope of Work (SOW) has been carefully reviewed by the Department and reflects a plan of approach based on the known goals. The Consultant's analysis of the project goals, its evaluation of the work elements, and its formulation of the work plan, coupled with its understanding of and sensitivity to the key issues may produce new approaches or modifications to the project's work elements. Therefore, the Final Scope of Work for the project may change in some details to incorporate the Consultant's input. This work is located in Region 4 of the Colorado Department of Transportation.

Definitions

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 the contracts for all Consultants and Contractors.

Engineer - The CDOT Project Engineer.

Consultant - The individual, firm, or corporation under contract by this agreement to perform construction services as outlined below.

Contractor - The individual, firm, or corporation under contract with CDOT to construct the facility.

Initial Project Meeting

The Consultant shall meet with CDOT project personnel 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 Engineer.

Work Duration

The time for the work described in this scope of work covers the period from Notice to Proceed to April 30, 2024, or 90 days after Final Acceptance of the construction project, whichever is later. For portions of the project, night work will be required. Work will also be required during the day, on weekends, holidays, and/or on a split-shift basis. Workweeks may be in excess of or less than the standard 40-hour week.

Anticipated Construction: October 2022 to December 2023.

During construction, CDOT anticipates utilizing approximately:

1 Assistant Project Engineer (Full Time through Project) (Bridge/structure emphasis)

1 Senior Inspector (Full Time through Project) (Certified in concrete and asphalt construction inspection)

1 Senior Inspector (Full Time through project) (Dedicated to Traffic Control)

1.5 Materials Testers (1 Full Time through Project, 1 Part Time as needed through Project)

1 Office Engineer (Full Time through Project)

1 CPM Schedule Expert (Part-time, as-needed)

1 Public Information Manager (PIM) (full-time communication professional)

CDOT staff will provide the Project Engineer and Junior Inspector

Conditions Applicable to all Consultant Personnel: Overtime / Travel Pay / Commute Miles

Overtime hours will be paid by CDOT at the same rate as regular, non-overtime hours. Travel time will not be paid. Commuting mileage (limited to 50 miles per day or actual round-trip commuting distance, whichever is less), will be paid.

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.

Routine Billing & Reporting

The consultant shall provide the following on a regular basis:

- Monthly billing reports in formats suitable to the Engineer for all contract activities performed by Consultant personnel authorized to perform work on the project. All personnel and their associated hours worked shall be shown on the billing month. Separate monthly billing reports will be required for work performed on each project.
- Periodic reports and billings required by CDOT Procedural Directive 400.2.

Consultant Professional Engineer Requirements:

The Consultant Professional Engineer shall be available during construction and will be utilized as needed to provide engineering guidance and oversight of the Consultant's employees. The number and types of personnel may be adjusted up or down to meet project workload and Contractor's schedule.

The Consultant Professional Engineer shall meet with the CDOT Project Engineer if it is anticipated that Consultant services may not be required for a period exceeding one week. A procedure will be agreed upon at the Initial Project meeting to address this issue.

Consultant Inspector and Consultant Tester Requirements:

Project Standards

All construction inspection shall be in accordance with the Colorado Department of Transportation's Construction Manual, Field Materials Manual, Standard Specifications for Road & Bridge Construction, Project Standard Provisions, Project Special Provisions, and the plans and specifications in use when the project is advertised. All Consultant construction inspection activities shall be as authorized by the Engineer. For the purposes of this document, construction inspection and materials testing shall be known as "the work" and references to "the specifications" shall include all applicable CDOT Standard Specifications for Road and Bridge Construction as amended by Project Standard Provisions, Project Special Provisions, and project plans and specifications.

If the required method is not described in the CDOT Field Materials Manual, the required work shall be completed in accordance with

- 1) AASHTO Standard Specifications for Transportation Materials and Methods of Sampling and Testing (as revised and supplemented), or
- 2) ASTM Standards and Procedures, in this order.

General Work Description

The Consultant Project Inspectors and Consultant Testers shall provide support to the CDOT project staff through assignment of personnel to assist with project management and inspection responsibilities.

Inspection responsibilities include:

Assist the CDOT Project Engineer in the following Construction activities:

- Prepare inspection documentation for development of progress payments for the contractor in accordance with prescribed procedures;
- Submit daily diary at the end of the working day;
- Submit payment-documentation reports (Form 266's) for each monthly payment;
- Prepare periodic reports and billings required by CDOT Procedural Directive 400.2;
- Monitor contractor payroll compliance;
- Participate in weekly progress meetings with contractor, subcontractors, utilities and other interested parties;
- Secure project documentation from the contractor;
- Anticipate project problems and propose solutions to CDOT Project Engineer;
- Review drawings and data submitted by the construction contractor and suppliers for conformance with the intent of the specifications;
- Obtain concurrence as needed from the CDOT Project Engineer and keep relevant documentation for project records;
- Maintain accurate notes reflecting actual construction details to be used in preparation of as-constructed plans;
- Monitor compliance with and take appropriate action to preserve safety on the project for all workers and traveling public in accordance with Method of Handling Traffic (MHT);
- Perform initial, follow-up, and final inspections of work in progress including interim and final measurements;
- Notify contractors and CDOT Project Engineer of non-compliance with the contract plans and specifications;
- Perform special tests, investigations, or monitoring to fulfill the intent of the CDOT inspection program;
- Aid in the preparation of correspondence to the contractor, CDOT Staff, local agencies, etc.
- Provide liaison and communication to contractor field crews;
- Prepare final "As-Constructed" plans upon project completion.
- Prepare punch lists of uncompleted work, non-conformance reports, and deficiency notices;
- Prepare responses to contractors' and suppliers' requests for information, submittals, change notices, claims, and correspondence;

- Deliver material samples to designated laboratories or locations;
- Perform miscellaneous project-related duties as requested by the CDOT Project Engineer.

Testing responsibilities include:

- Perform miscellaneous project-related duties as requested by the CDOT Project Engineer;
- Perform all sampling, testing, and documentation in accordance with the CDOT 2022 Field Materials Manual;
- Collect, post, and maintain current records of all project materials documentation within CDOT's SiteManager-LIMS software.
- Meet with the Project Engineer weekly to review all installed contract work items to ensure that corresponding material field test data, certified test reports, or Certificate of Compliance are on file;
- Participate in weekly progress meetings with contractor, subcontractors, utilities and other interested parties;
- Secure project documentation from the contractor;
- Maintain accurate notes reflecting actual construction details to be used in preparation of as-constructed plans;
- Monitor compliance with and take appropriate action to preserve safety on the project for all workers and traveling public in accordance with Method of Handling Traffic (MHT);
- Notify contractors and CDOT Project Engineer of non-compliance with the contract plans and specifications;
- Preparation of final "As-Constructed" plans upon project completion.
- Update daily test data for Voids Acceptance for HMA production into LIMS and CAR software.

Labor, Materials, Vehicles & Equipment

The Consultant shall provide the Consultant Inspectors and Consultant Tester with the following:

- Suitable vehicles equipped with at least one (1) flashing, oscillating, or rotating amber beacon that shall be visible a minimum of five hundred (500) feet in normal sunlight.
- Consultant Inspectors' vehicle shall each be equipped with an electronic distance-measuring device, accurate to within +/- 5 feet per mile.
- Effective canyon communication devices such as but not limited to: A cellular phone, cell phone booster, hand radio, etc.
- Each with a state-of-the-art computer with networking capability sufficient for accessing internet email through a project-supplied internet-service provider. Each computer shall be loaded with MS Office software (2016 version or later), including MS Word and MS Excel at a minimum. Computers shall be capable of running current CDOT software, including LIMS, CAR reporting, Site Manager, etc. All computers shall be connected or networked to a Consultant-supplied project printer/scanner, as follows:
 - Consultant shall provide a main project printer/scanner capable of making 11x17 color prints and 11x17 black-and-white scans. This printer/scanner shall be configured and connected or networked to all consultant-supplied computers on the project (except Consultant Materials Testing Technician may have a separate, stand-alone printer). Consultant shall maintain this main printer/scanner with ink and paper

in a serviceable condition for the duration of the project, at no additional cost to the project. Scans made by this main printer/scanner shall be available in PDF-format at all consultant-supplied project computers (except not required at Consultant MTT's computer).

- Miscellaneous equipment (calculator, office supplies, safety equipment, etc.) required to perform the work (ASTM Certified Work Boots, ANSI Certified Hardhat (Z89.1 stamp and be High Visibility), Safety Glasses (Z87 stamp on the glasses/goggles) and Approved Safety Vest. (Meeting or exceeding ISEA for Class 3), including all applicable manuals.
- CDOT will provide a field-office space.

The Consultant shall provide the Consultant Tester with the following in sufficient quantity, in good working order, and certified as defined by Colorado Procedure 10 (CP 10) to ensure accurate performance of all work required in a timely manner:

- Nuclear Moisture-Density Gauge (Calibrated on CDOT's blocks)
- Scales, circulator, temperature controlled water bath, and associated equipment for testing bulk specific gravity of asphalt cores
- Standard 10-lb. Rammer/18-in. drop and mold for production of Structural Backfill Class 1 (T-180).
- Atterburg equipment
- Sample drying equipment
- Sieves and rifle splitter for aggregates and Structure Backfill Class 1
- Sample containers and small tools
- Approximately 15- 4" x 8" Plastic Concrete Molds (Item 601, 608, 609, and 610)
- Concrete Air Meter (2) Must have a backup meter
- Slump Cone and base
- Field scale for concrete Yield measurements
- Thermometer for concrete temperature
- Misc. hand tools, buckets, and lab supplies
- Broom and cleaning supplies for lab cleanliness

The Consultant supplied materials testing technician shall be thoroughly familiar with the CDOT testing procedures, forms, and documentation requirements (LIMS). If oversight is necessary, the consultant shall provide supervision and guidance needed for completion of the work.

Personnel qualifications, staffing level, and number and types of vehicles shall be subject to the approval of the Engineer. The Consultant shall assign personnel for the duration of the Contract unless otherwise approved by the Engineer. Employees required to operate vehicles must possess and maintain a valid State of Colorado driver's license. The Consultant Project Manager(s) and Consultant Inspectors permanently assigned to a project shall be competent in road and bridge construction and be thoroughly familiar with CDOT specifications, manuals, forms, and documentation requirements including Site-Manager. The level of qualification provided shall be as requested and approved by the CDOT Project Engineer. The qualifications for the level(s) shall be commensurate to experience, and are as follows:

- Materials Testing Technician – four (4) or more years of experience in Materials testing and at least two (2) years of previous CDOT experience. At least 2 previous projects using LIMS.
- Inspector – four (4) or more years of experience in the Inspection of CDOT Bridge Construction and Highway construction inspection.
- Asst. Project Engineer – fifteen (15) or more years of experience in highway construction project management and supervision of consultant inspectors and testers. It is desirable that the Asst. Project Engineer has at least 10 years of experience working on CDOT roadway and bridge projects.
- Public Information Manager (PIM) – five (5) years of overall Public Relations experience and a minimum of 3 years of CDOT related experience.

A copy of work experience and proof of Certification and/or License shall be provided to the CDOT Project Engineer before work begins. 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 CDOT Project Engineer.

Personnel qualifications shall be subject to the approval of the CDOT Project Engineer. The Consultant shall assign personnel for the duration of the Contract, unless otherwise directed by the CDOT Project Engineer. Personnel shall have the following qualifications, or as approved by the CDOT Project Engineer:

Documentation

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 directed 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, and sketches as needed for clarification and documentation. 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 available to the CDOT Project Engineer at the end of each workday.

Additional Construction Inspection and Materials Testing Requirements:

In addition to the qualifications, requirements set forth above, the following certifications will also be required:

Class/Certification	Consultant Project Manager	Consultant Inspectors	Consultant Materials Testing Technician
Basic Highway Math	X *	X	X
Basic Construction Surveying	X *	X	X
Basic Highway Plan Reading	X *	X	X
Storm water Management and Erosion Control	X	X	
CCA Traffic Control Supervisor	X	X	
Specialty Certifications			
LabCAT Level A&B		Level A	X
Asphalt Paving Inspection LabCAT Level I		X	X
WAQTC		X	X
ACI Field Testing Tech I		X	X
ACI Concrete Strength			X
Sitemanager Materials and LIMS-Tester Training		X	X
Certified Nuclear Gauge Operator Certification			X

* Not required if the Consultant Project Manager or Assistant Project Manager is a licensed Professional Engineer.

Consultant CPM Schedule Expert Requirements:

Consultant CPM Schedule Expert:

1. Project Standards

All scheduling and schedule review will be done in accordance with the Construction Contract, the Colorado Department of Transportation Standard Specifications for Road and Bridge Construction, the Colorado Department of Transportation (CDOT) Construction Manual and Field Materials Manual and industry norms and standards. The applicable CDOT Manual shall be the one currently in use when the construction project is advertised.

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

2. General Work Description

The Consultant CPM Schedule Expert shall be responsible for analyzing the contractor's schedule in accordance with the requirements of the construction contract on CDOT's behalf. The Contractor's progress schedule along with the weekly three week "look ahead" schedule will be reviewed on a weekly basis. In addition the Consultant CPM Schedule Expert will provide scheduling support to the project and the CDOT PE as needed. At a minimum the Consultant CPM Schedule Expert will be expected to:

- a) Review the Contractor's accepted as-planned schedule, schedule updates and method statements for compliance with contract requirements.
- b) Attend work session with contractor to develop a Baseline Project schedule if needed
- c) Initial schedule review including durations, logic, sequencing, and methods statements. Provide written comments and recommendation to Project Engineer.
- d) Review complete project schedule submitted by contractor and provide written comments and recommendation to Project Engineer.
- e) Re-review complete project baseline schedule. Provide written comments and recommendation to Project Engineer.
- f) Review proposed activities, durations, and logic resulting from changes for the purposes of establishing a new baseline schedule.
- g) Review monthly project schedule updates
- h) Assemble and review as-built data and review as-built schedules.
- i) Provide ongoing schedule review and evaluation support through project completion.

3. Qualifications

The Consultant CPM Schedule Expert shall be permanently assigned to the project for the duration of the project and shall have the following qualifications:

The level of qualification provided shall be as requested and approved by the CDOT Resident Engineer. The qualifications for the level shall be commensurate to experience, and are as follows:

Consultant CPM Schedule Expert – ten (10) years of overall experience in highway construction, and a minimum of Three Major DOT projects performed in accordance

with 108.03 and a certified Planning & Scheduling Professional (AACE International PSP Certification).

4. Additional Software & Equipment Required:

The following equipment shall be furnished along with the Consultant CPM Schedule Expert for each project in sufficient quantity and in good working order:

- A cellular phone.
- A computer with networking capability sufficient for accessing internet email through a project-supplied internet-service provider. This computer shall be loaded with MS Office software (2003 version or later), including MS Word and MS Excel at a minimum, the latest version of MicroSoft Project and Primavera Professional Project Management Software. This computer shall be also be capable of running Micro-Station and Inroads. This computer shall be connected or networked to the Consultant-supplied main project printer/scanner described above, or shall be provided with a separate stand-alone printer.

Consultant Public Information Services Requirements:

Consultant Public Information Management

The Consultant shall provide a Public Information Manager (PIM) who will be the responsible charge for all activities associated with public information services. The PIM shall have professional experience in Public/Media Relations, Marketing or other related field and good verbal and written communications skills (note: administrative/business office skills are NOT considered a related field.) PIM may be a qualified sub-consultant and shall not have any other duties on the project. The Engineer will coordinate all aspects of the PIM's work, including all required submittals, with the Regional Communications Manager (RCM).

- (a) *Activities of the PIM.* Throughout the duration of the project, the PIM shall be responsible for the following:
- (1) *On Call.* The PIM shall be available or on call on every day there is work on the project and shall be available upon the Engineer's request at other than normal working hours.
 - (2) *Project Meetings.* The PIM shall be available, as requested by the Engineer, to participate in weekly project meetings held on-site. At the meetings, PIM will discuss communications issues and develop strategies to provide timely details for upcoming media advisories/press releases, lane closure reports, website updates and information line recordings.
 - (3) *Public Information Plan.* The PIM shall submit a Public Information Plan (PIP) for approval by the Engineer. The PIP shall include project milestones and planned public information strategies; primary stakeholder communications list; identification of any public information issues and proposed outreach and approach to crisis

communications. The PIP shall be updated if necessary based on project milestones and progress.

- (4) *Dialog Project Account.* The PIM shall submit a “Request for Dialog Account” as part of the on-boarding process for a Project. Dialog is a web-based communications support system provided by the Department. At this time, the PIM will provide all the project details that will appear on the Dialog Project Page. The PIM shall receive a login and password with which to access the Dialog Customer Service Program as well as the Lane Closures & Work Updates Program.
- (5) *Public Information Line/Communications.* The PIM shall establish a public information office equipped with a telephone, voicemail, computer and email address. The public information office may be located off-site or within the PIM’s field office, provided that the telephone line is a local call line. The voicemail greeting for the project information line shall provide an updated message each week (even if the work is continuous), or each day if necessary, concerning the project’s completion date and forthcoming activities on the project and allow the recording of a message from the caller. If unable to answer the public information line, the PIM shall check and respond to voicemail messages throughout each day of construction operations and lane closures are being carried out. The PIM shall track inquiries made by citizens and businesses, including names, addresses, phone numbers, and subsequent action taken during construction; these customer inquiries and follow-up action shall be entered into Dialog. The system shall provide an automated report to the Engineer and Regional Communications Manager each week. All inquiries and complaints shall be followed up with a return phone call or email from either the PIM and, when necessary, the Engineer or Regional Communications Manager.
- (6) *Photos/Video.* The PIM shall take and submit photos/videos with a description of the project work on regular intervals to the Engineer and Regional Communications Manager. A cell phone camera is permitted. Photographs/videos may include traffic control, paving, slope repair, erosion control, bridge deck and rail work, and other key areas of work as identified by the Contractor, Engineer or Regional Communications Manager for use in reports to interested agencies, social media, and flyers. A minimum of two digital photographs/videos with a description outlining (date and activity depicted) shall be submitted each month to the Engineer and the Regional communications Manager
- (7) *Media Relations.* At least two (2) weeks prior to the project start date, the PIM shall prepare a media release summarizing the project scope, construction phasing, potential traffic and construction, duration of project and summary of project benefits. The PIM shall develop additional media releases and traffic advisories based on major construction milestones such as major traffic shifts, key closures, to include detour maps or other visual aids, etc. or as requested by CDOT, using the CDOT template provided by the Department. The media releases and traffic advisories will be submitted for approval in accordance with Table 626-2. CDOT will distribute media releases, traffic advisories and other information.

The PIM or Contractor shall immediately notify the Engineer of any on-site situations involving the media. Should media call, the PIM will provide only the Regional Communications Manager’s contact information. CDOT will address all media inquiries and media requests.

(8) *Weekly Lane Closures & Work Updates.* The PIM shall assign a Lane Closure & Work Updates “Preparer” and a “Backup Preparer” who will be responsible for entering Lane Closures & Work Updates into the Dialog Program each week. The PIM, or the assigned Preparer, shall enter Weekly Lane Closures & Work Updates into the project through the Dialog Project Lane Closures & Work Updates Page each Thursday by 3pm for the following week’s activities) Sunday through Saturday.

(9) *Web Page Updates.* The PIM shall work with CDOT to develop internet web page content specifically for this project and provide consistent updates with the latest project information (web page development experience is not necessary as the PIM will simply supply information for the CDOT web page template). It shall contain all appropriate links to/from other sites if applicable, e.g., local city, county, bus service, etc. PIM will ensure the web page is updated at least weekly with pertinent schedule information, new photos, contact information, etc.

(b) *Response Protocol to CDOT and the Public.* The PIM shall conform to Table 626-1 in responding to correspondence from stakeholders and the public:

**Table 626-1
RESPONSE PROTOCOL**

TYPE OF COMMUNICATION	TIMING OF RESPONSE
Hotline Calls	Check messages throughout day Respond same day (initial call) or within 24 hours (including weekends if work is occurring)
Email	Same day (within two business days for high volume situations)
Webpage Inquiries	Same day (within two business days for high volume situations)
Public Meeting Inquiries	Within one week of the meeting

(c) *Deliverables Protocol to CDOT.* The PIM shall conform to Table 626-2 in submitting the following for Department review and approval prior to dissemination:

**Table 626-2
DELIVERABLES AND SUBMITTAL TIME TO CDOT ENGINEER**

Deliverable	When to be submitted
Emergency Response Telephone Tree (when required in the Contract)	Before works starts
Local Telephone Hotline Project Email Address	Before works starts
Stakeholder Distribution List (if required for non-work zone flyer recipients and emergency service providers)	At Pre-Construction Meeting
Lane Closure Reports Real-Time Lane Closures or Changes	Weekly, on Thursday by 3 pm. A minimum of 24 hours in advance if a change In real-time if in the field change
Traffic Advisories/Media Releases	48 hours prior to scheduled distribution date
Fliers, posters or other public material	5 Working Days prior to the scheduled distribution date In cases of rapid response, 48 hours prior to distribution
Photos/Video	Two a month or as requested.

(d) *Deliverable protocols to the public.* The PIM shall conform to Table 626-3 in providing the following information to the public:

**Table 626-3
DELIVERABLES AND SUBMITTAL TIME TO THE PUBLIC**

Deliverable	When to be published
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<p>Full road closures of impactful duration (e.g. weekend closure of interstate)</p> <p>Detours and major traffic impacts lasting seven days or longer</p>	<p>14 days prior to the beginning of activity in any area of the Project.</p>
<p>Major project activities (such as major lane shifts, bridge demolitions, etc.) lasting seven days or less</p>	<p>7 days prior to the beginning of the activity</p>
<p>Other remaining types of construction Activities in any area of the Project including:</p> <ul style="list-style-type: none"> ▪ Night Work ▪ Utilities ▪ Change of business/residential access 	<p>7 days prior to the beginning of activity in any area of the Project or as determined jointly by teams</p>
<p>Other construction updates (e.g., cancellation of planned closures, additional lane closures, closure removals, major traffic shifts, etc.) that directly impact the public.</p>	<p>As soon as known with at least 24 hours' notice</p>

(e) *Public Information Contact Sheet.* A Public Information Contact Sheet shall be completed by the PIM with the names of contact as appropriate to the project: