

**SCOPE OF WORK**

**Region 3 Program Specific Construction Management, Inspection and Testing  
General Scope Terms for all Projects**

**Contract Administration**

The Contract Administrator for this Contract will be:

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

As designated by the Program Engineer

**Definitions: The following definitions are in addition to the base contract. Other definitions used herein are as defined by the Project Standards.**

CDOT Project Manager – The CDOT Employee that has active day-to-day administration and monitoring of this contract.

Consultant Testing Supervisor – The Consultant employee in responsible charge of the Consultant Project Tester. See additional requirements in Colorado Procedure 10 in the Field Materials Manual.

Consultant Professional Engineer - The Consultant employee in responsible charge of Consultant services performed as described in this Contract. The Consultant Professional Engineer administers the Consultant contract and must be licensed in the State of Colorado. The Consultant Project Engineer may be the Consultant Professional Engineer at the direction or approval of the CDOT Resident Engineer.

Construction Management, Construction Inspection, and Construction Testing - The activities associated with the roles assigned for the monitoring, testing, documentation and other administrative project-related services under the responsible charge of the Consultant Professional Engineer, and at the direction of the Project Engineer to ensure conformance with the Project Standards.

Consultant Project Engineer (CPE) – The Consultant Project Engineer is in direct charge of the Consultant’s work and is responsible for the administration and satisfactory completion of the Consultant’s work. The CPE shall be assigned full time on the project site. The Consultant Project Engineer works directly for the CDOT Resident Engineer. The duties of the CPE are limited to those duties in the scope of work and as delegated by CDOT Resident Engineer. The CPE shall be licensed in the State of Colorado, unless otherwise approved by the CDOT Resident Engineer, and is in responsible charge of construction.

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Consultant Assistant Project Engineer (CAPE) – The CAPE shall be assigned full time on the project site. The Consultant Assistant Project Engineer works directly for the CDOT Project Manager (ie Consultant or COT Project Engineer). The duties of the CAPE are limited to those duties in the scope of work and as delegated by CDOT Project Manager.

Consultant Inspector - The Consultant's employee(s) who perform(s) inspection services under the responsible charge of the Consultant's Professional/Project Engineer and at the direction of the CDOT Resident Engineer.

Consultant Tester - The Consultant's employee(s) who perform(s) materials testing and inspection services under the responsible charge of the Consultant's Professional/Project Engineer and at the direction of the CDOT Resident Engineer.

Junior Level Inspector – four (4) to six (6) years of experience in highway construction inspection.

Laboratory Tester – The Consultant employee who provides testing services to the region laboratory and works under the direct supervision of the Region Material Engineer or designee (Lab Manager). The Consultant Laboratory Tester shall possess valid certifications and demonstrable testing experience as stipulated in the contract.

Region I.A.T. Staff – Individual assigned by the State to be responsible for administering the Independent Assurance Program and the Independent Assurance Sampling-Testing and Witnessing of Testing Sampling as defined in Appendix D of the Field Materials Manual.

Region Material Engineer (RME) – The CDOT Employee that provides project support in areas relating to construction and materials issues. The RME is in responsible charge of the region laboratory units, and is required to review the Form 1324 (Consultant Tester Evaluation).

Region Head Tester – The CDOT Employee that is assigned to assist the Project Engineer with oversight of project testing, and testing and materials documentation.

Senior Level Inspector – more than six (6) years of experience in highway construction inspection

Work – The engineering and materials testing services that are the subject of this contract.

### **Work Duration and Project Staffing**

Actual staff required during the project may be modified by the Resident Engineer as required by the work load. Concurrent projects within the same proximity may be staffed with the same personnel as approved by CDOT Region 3.

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The Consultant's staff shall be composed of personnel experienced in Construction Management, Construction Inspection and Materials Testing, CDOT project procedures and methods, materials testing and inspection as well as concrete and HMA construction, schedule review and analysis, environmental compliance, and all types of roadway construction, as defined by the Project Scope (See Exhibit A-1 through A- 2)

All support construction staff will be either CDOT or Consultant personnel and shall remain assigned to the project site during the duration of the construction, unless otherwise directed by the Resident Engineer. CDOT reserves the right to replace consultant personnel with available CDOT personnel, or others.

Work may be required night and/or day, on weekends, holidays and/or on a split shift basis. Work weeks may be in excess of or less than the standard 40-hour week.

The consultant shall contact CDOT OIT to ensure access to all applicable software applications (LIMS, Site Manager, ProjectWise etc.) 2 weeks prior to commencement of work.

### **Personnel Qualifications**

**TABLE 1**

<b>Class/Certification</b>	<b>Consultant Project Engineer</b>	<b>Consultant Inspector</b>	<b>Consultant Tester</b>
Basic Highway Math	NA	X	X
Basic Highway Surveying	X	X	X
Basic Highway Plan Reading	X	X	X
Erosion Control Supervisor	X	X	X
Traffic Control Supervisor/Flagging Certifications	X	X	
<b>Specialty Certifications</b>	To be determined by the Resident Engineer and Consultant		
CAPA Asphalt Inspection	X	X	X
American Concrete Institute (ACI) Grade I Field Technician			X
ACI Concrete Strength Technician			
CRMCA PCCP Inspection Level I	X	X	
CAPA Level A			X
CAPA Level B			X
CAPA Level C			
CAPA Level E			X
WAQTC Embankment			X

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Base Testing Technician Certification			
WAQTC Inspection		X	
Major Structures (NHI)	X	X	
Site Manager Materials and LIMS	X		X
Site Manager	X	X	
Other Certifications as defined by the Resident Engineer or CP 10	X	X	X

The consultant staff must be certified by the CDOT Construction Inspector Qualification Program in the areas of inspection to be performed. A copy of work experience, references and/or proof of Licensing shall be provided before work begins to the Project Engineer, placed in the project file, and made available to the CDOT Resident Engineer. Personnel provided by the Consultant who do not meet 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 Resident Engineer.

### **Project Meetings**

The Consultant and CDOT project personnel shall meet weekly to coordinate and schedule the required work. The Consultant shall submit a schedule of the Consultant's required scope of work for the project to CDOT for approval. The Consultant shall complete all Consultant's work in accordance with the approved schedule or as approved by the CDOT Program Engineer or the CDOT Resident Engineer.

### **Routine Billing and Reporting**

The Consultant shall submit the following on a regular basis:

- Field and laboratory personnel shall submit a completed Form 10 on a weekly basis to CDOT for approval and supply a copy of the approved Form 10 for the Consultant's Professional Engineer file, as directed. Billings shall accurately reflect the hours and mileage on the approved Form 10's.
- Billing for vehicle mileage shall accurately represent vehicle miles driven in the performance of work on the project, or for travel authorized for reimbursement by the Engineer. A mileage log shall be kept for all travel subject to reimbursement.

Consultant is, or shall provide, the engineer in responsible charge (See Consultant Professional Engineer definition). Consultant is responsible for the management and workmanship of the sub-consultants. The Consultant Contract Administrator, or experienced designee, shall complete a minimum of one monthly site visit to review project documentation for quality and conformance (See Project Standards). The Consultant Contract Administrator, or experienced

designee, shall also complete and document a monthly traffic control review (See appendix B of the Construction Manual). Findings of the review shall be provided to the CDOT Contract Manager and CDOT Resident Engineer.

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### **Status of Contract**

The consultant shall monitor the financial status of the Contract and advise the CDOT Resident Engineer on a weekly basis of any need for supplementing their contract or negotiating an additional Modification. 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 affected.

The Consultant Contract Administrator shall report the status of the contract to the CDOT Contract Manager and CDOT Resident Engineer monthly on contract expenditure and time progress. Summary may include multiple tasks or may be project specific, but should include all relevant Contracts for the project (i.e. if Multiple Contracts written for the same project). Reporting shall include but shall not be limited to

- Expiration date
- Percent complete / percent remaining
- Contract duration used / remaining
- Contract schedule – work completed / work remaining
- Work completed to date / Work remaining (descriptive summary)
- Contract balance relative to expenditures
- Assessment of Contract status/condition

### **Project Standards**

Construction Management, Construction Inspection and testing shall be in accordance with the Colorado Department of Transportation's Procedures. All work shall be in accordance with the CDOT Construction Manual, Field Materials Manual (as stipulated on the Project Form 250), applicable AASHTO test procedures, Colorado Department of Transportation Inspector's Checklist, Standard Specifications for Road & Bridge Construction, applicable Project and Standard Special Provisions currently in use when a construction project is advertised, applicable M&S Standards, and the project plans. If the required method is not described in the CDOT Field Materials Manual, the required work shall be completed in accordance with the current AASHTO Standard Specifications for Transportation Materials and Methods of Sampling and Testing (as revised and supplemented) or the ASTM Standards and Tentatives. Proposed work procedures shall be coordinated with the Project Engineer prior to the start of work. All activities performed shall be as directed and authorized by the Project Engineer, as described herein, and as approved by the CDOT Resident Engineer.

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Consultant is responsible for documentation that is free from error. Failure to submit final documentation as required may result in withholding any and all consultant payments. Further, no payment shall be made for the correction of any final documentation for noted deficiencies.

### **Travel Reimbursement**

- Travel reimbursement shall follow the guidelines set forth in the Consultant Agreement. All costs anticipated for reimbursement must be approved by the CDOT Project Manager and CDOT Resident Engineer prior to commencement. All time and mileage shall be approved by the CDOT Engineer on the Form 10 for the same period in which the travel occurred.

### **Mileage**

Daily Commuting– Mileage shall commence from the closest equivalent distance from either the home office of the CDOT Residency, listed herein, the consultant staff's residence, or the consultant home office for consultant staff that intends to commute to the project on a daily basis. Actual mileage over 35 miles, one way, can be compensated (ex: 37 miles – 35 miles = 2 miles of compensation).

Out of Town Projects (Lodging paid) – As indicated in guidance, mileage is not paid for travel from main office or temporary residence to Project site.

No reimbursement for personal travel

### **Time**

Daily Commuting– Chargeable time shall commence from the closest equivalent distance from either the home office of the CDOT Residency, listed herein, the consultant staff's residence or the consultant home office for consultant staff that intends to commute to the project on a daily basis. Chargeable time shall be reduced by the time staff is not actively involved in a project function (e.g. lunch, breaks, etc).

Out of Town Projects (Lodging paid) – Allowed time to be charged includes one round trip to the staff's home office per week at a maximum of 4 hours per round trip.

### **Consultant Professional Engineer and Consultant Project Engineer**

In addition to the provisions found in the Consultant Agreement, the following requirements apply:

Consultant Project Engineer shall submit all project final documentation, including as-constructed plans, not included in the Form 250 and the final materials documentation file, to the CDOT Resident Engineer, CDOT Project Manager or CDOT Contract Manager within 30 Calendar days after the date of project acceptance.

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onsultant Project Engineer shall be responsible for overseeing and ensuring the completion of the Final Materials Documentation.

### **Consultant Inspector**

In addition to the provisions found in the Consultant Agreement, the following requirements apply: No Amendment to base contract.

### **Consultant Tester**

In addition to the provisions found in the Consultant Agreement, the following requirements apply:

Consultant Testing Supervisor shall maintain a 3-ring binder in the field testing lab that documents the supervisor's project visits. The visit may be documented on a Consultant or CDOT Diary Form and should note the purpose of the visit and any issues that were discussed, plan of action and resolution by the Consultant Tester.

Successfully complete LIMS training and maintain project documentation using LIMS in SiteManager and other CDOT software as needed. Paperwork for access to LIMS shall be submitted no later than 2 weeks prior to construction NTP.

The Project Engineer and field tester(s) shall be required to review project quantities on a weekly basis to ensure that sufficient tests have been performed for the material placed to date. The consultant shall use CDOT worksheets/forms unless otherwise approved by the Resident Engineer (Through the RME or Head Tester). The consultant testers shall use the CDOT Form 211 to notify the Project Engineer of outstanding documentation.

The consultant shall coordinate the schedule for Independent Assurance Tests for the project in accordance with CDOT Form 379, with the Region Head Tester, or directly with the Region IAT Staff. The Consultant Tester shall maintain a field lab copy of the CDOT Form 379 that shall be updated after each Independent Assurance Test.

Tester shall utilize the CDOT Field Materials Manual stipulated on the Project Form 250. The final materials documentation file, including the 473 draft, 1199, and the completed Form 250 shall be submitted to the Project Engineer within 30 Calendar days after the date of project acceptance.

The Form 1199 (Project Closure) is required to be completed, signed and submitted by the Consultant, unless otherwise approved.

## EXHIBIT A-1

**Project Name: I-70 West Vail Pass Basin**

**Date: September 1, 2016**

**Project No.: NHPP 0702-357**

**Project Code: 20901**

**Project Location: I-70 West Vail Pass Basin of Last Resort Settlement Basin on Black Gore Creek**

**Project Description / Scope of Work for:**

This Scope of Work will provide construction management services in the form of Construction Management, Construction Management and Materials Testing for the construction of a gravel access road from the existing bike path to the basin located in CDOT Region 3. Project is located at the Basin of Last Resort settlement basin on the Black Gore Creek east of Vail and adjacent to the north side of I-70 Westbound near mile marker 182.8. Project scope includes construction of a gravel access road from the existing bike path to the basin to enable future cleanout activities by CDOT Maintenance

The estimated time period for the work described in this scope of work covers the period from 12/2016 Through 2/28/2018. The Consultant shall provide the following staff. Resumes and three references are required for all personnel proposed for the project.

It is anticipated that the required consultant project staffing will be:

<b>Quantity</b>	<b>Position</b>	<b>Duration</b>
1	Consultant Project Engineer (CPE)	15 months
1	Junior Consultant Inspector	3 months
1	Part-Time Consultant Tester	7 months

General: Work may also be periodically required on weekends. Workweeks may be in excess of or less than the standard 40-hour week. Final documentation is expected to be submitted within 45 days of project acceptance. All support construction staff will be either CDOT or Consultant personnel and shall remain assigned to the project site during the duration of the construction, unless otherwise directed by the Resident Engineer. CDOT reserves the right to replace consultant personnel with available CDOT personnel, or others.

## EXHIBIT A-2

**Project Name: I-70 Wolcott East**  
**Date: September 1, 2016**  
**Project No.: NHPP 0702-358**  
**Project Code: 20902**  
**Project Location: I-70 Mile Post 159.5 to Mile Post 167**

### **Project Description / Scope of Work for:**

This Scope of Work will provide construction management services in the form of Construction Management, Construction Management and Materials Testing for the I-70 Wolcott East Resurfacing project located in CDOT Region 3. Project is located at I-70 Mile Post 159.5 to Mile Post 167. Project Scope includes I-70 resurfacing from Mile Post 159.5 to Mile Post 167 with bridge deck repair, extensive guardrail, bridge rail replacements, culvert slipline of an 84” culvert under I-70 with minor inlet and outlet improvements and ITS conduit.

The estimated time period for the work described in this scope of work covers the period from 12/2016 Through 2/28/2018. The Consultant shall provide the following staff. Resumes and three references are required for all personnel proposed for the project.

It is anticipated that the required consultant project staffing will be:

<b>Quantity</b>	<b>Position</b>	<b>Duration</b>
1	Consultant Project Engineer (CPE)	14 months
1	Consultant Assistant Project Engineer	14 months
1	Senior Consultant Inspector	7 months
1	Junior Consultant Inspector	7 months
1	Consultant Tester	14 months

General: Work may also be periodically required on weekends. Workweeks may be in excess of or less than the standard 40-hour week. Final documentation is expected to be submitted within 45 days of project acceptance. All support construction staff will be either CDOT or Consultant personnel and shall remain assigned to the project site during the duration of the construction, unless otherwise directed by the Resident Engineer. CDOT reserves the right to replace consultant personnel with available CDOT personnel, or others.