



Scope of Work (SOW) Basic Contract

Contract Type

- ☐ Specific Rate Of Pay
- ☒ Cost Plus Fixed Fee
- ☐ Other

SOW Date: 1/5/2026

Project Number: 26664

Project Location: N/A

Project Code: _____

The complete SOW includes this document (attached to the contract for Consultant Services).

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Comments regarding this scope may be directed to:

Contracts And Market Analysis Branch

Engineering Contracts Unit

Pehle Colletta, Professional Services Contract Manager
pehle.colletta@state.co.us

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Introduction

This Scope of Work (SOW) outlines the requirements for a qualified consultant team (the "Consultant") to provide specialized advisory, project management, technical expertise, and training services related to the implementation of CDOT's Low Carbon Transportation Materials (LCTM) Grant program.

Section 1: Project Specific Information

1. Project Background

Construction materials such as concrete, cement, asphalt, and steel contribute significantly to greenhouse gas (GHG) emissions of transportation projects, including those overseen by the Colorado Department of Transportation (CDOT). In 2021, the Colorado Legislature passed House Bill (HB) 1303 that requires the agency to collect Environmental Product Declarations (EPDs) for eligible materials on eligible projects with the intent of gradually reducing GHG emissions over time.

In 2024, CDOT applied for and was awarded funding under the Low-Carbon Transportation Materials (LCTM) grant administered by the Federal Highway Administration (FHWA). The LCTM program provides funding for the process development and use of construction materials that have substantially lower levels of GHG emissions. The LCTM Program is compatible with CDOT's implementation of HB 1303 and will expand opportunities to institutionalize the use of Low-Carbon Materials (LCMs) in CDOT's construction program.

2. Project Goals

The goals of the LCTM Program are to:

1. Increase the use of low-carbon materials in projects funded under Title 23 U.S.C;
2. Facilitate the use of low-carbon materials while ensuring appropriateness for use in projects funded under Title 23 U.S.C.;
3. Support state transportation departments to develop low-carbon material identification frameworks that include EPDs;
4. Provide technology transfer and workforce development for the agency personnel and the transportation construction workforce in general;
5. Support state transportation departments in updating or developing specifications to allow for the use of low-carbon materials in eligible construction projects.

The primary goals of engaging the Consultant(s) are to:

- A. Provide Successful Program Management: Provide dedicated project management support, including oversight and coordination of external technical contractors as well as ensuring the program adheres to all grant requirements.
- B. Establish Additional GWP Benchmarking and Thresholds and Maintain/Update Current Thresholds: Systematically analyze data to formally establish, implement, and maintain the GWP benchmarks and recommended thresholds for eligible transportation materials.
- C. Facilitate Implementation Process Reporting and Compliance: Draft and maintain all necessary Implementation Process Reports (IPRs) and annual reports to ensure continuous compliance with Federal Highway Administration (FHWA) rules and guidelines.
- D. Build Internal and External Capacity and Define Policy: Develop and deliver comprehensive training to staff, manage external industry engagement, and inform the development of policies for the use of low carbon materials on CDOT projects.

CDOT will be utilizing LCTM funding to establish a comprehensive program that achieves the goals listed above. CDOT expects to contract with one or more consultants under this solicitation to assist the agency in achieving the LCTM program goals listed above.

5. Work Duration

The time for the work described in this scope is approximately from the time of the Notice to Proceed (NTP) through September 25, 2031.

6. Consultant Responsibility and Duties

The Consultant shall be responsible for performing, but not limited to, the following duties:

Project Management and Coordination

- Develop a detailed, comprehensive Project Management Plan (PMP) including a timeline, key milestones, and communication plan.
- Act as the primary coordination hub, managing the collaboration between internal CDOT teams, the Digital Systems Consultants(s), and the Materials R&D Consultant(s) (intend to be procured under individual Task Orders).
- Conduct regular program management team meetings (weekly or bi-weekly as determined by the Agency) to review progress and ensure strategic alignment across all contractors. Provide meeting agendas prior to the meeting and meeting minutes following the meeting.
- Deliver monthly progress reports highlighting completed work, delays, and challenges with implementation. Document successes, challenges, and lessons learned related to the program rollout.
- Provide a summary report on an annual basis that identifies any progress related to Greenhouse Gas (GHG) emissions reductions, lessons learned on how to identify and quantify embodied carbon in construction materials, including life cycle costs, and any obstacles CDOT and/or contractors have faced in identifying and quantifying embodied carbon in construction materials.

Implementation Process Reporting (IPRs) and FHWA Documentation Compliance

- Manage all grant-related documentation and ensure compliance with federal and state reporting timelines and requirements.
- Assist with the drafting and maintenance of CDOT's IPRs for all grant factors, ensuring full compliance with FHWA rules and guidelines.
- Assist in preparation of the semi-annual reports required by FHWA (*Factor 4, Task 1 of CDOT's LCTM Application*) for submittal. Semi-annual reports are due January 15th and July 15th each year of the grant timeline. Drafts shall be submitted to CDOT for review and feedback a minimum of 45 days prior to the due date.

Identification of Eligible Construction Materials, Benchmarking and Threshold Setting, and Energy Star Performance Score Process

- Identification of eligible materials within the categories of concrete, asphalt, steel, and composite materials including possible additional or new eligible materials under this category to include in the LCTM program (*Factor 1, Task 1 of CDOT's LCTM Application*).
- Develop and implement a process for collecting Energy Star Performance Scores (*Factor 1, Task 2 of CDOT's LCTM Application*) from contractors, with annual reviews and updates.
- Assist the program in conducting detailed environmental product declaration (EPD) analyses for construction materials, identifying trends, impact category hotspots, lifecycle performance opportunities, and providing recommendations for improving material selection with annual updates (*Factor 1, Task 3 of CDOT's LCTM Application*).
- Analyze EPD data to recommend CDOT GWP benchmarks and thresholds for LCTM eligible materials. This includes evaluation of current thresholds, the development of thresholds for new materials or material categories not currently covered by CDOT's GWP limits, and updates either annually or as needed. The benchmarks shall be ISO-compliant and incorporate regional data. Provide a comprehensive report including assumptions, outliers, data sources, methodology, and results (*Factor 1, Task 4 of CDOT's LCTM Application*).
- Monitor all relevant laws and regulations related to low carbon materials and EPDs, including those from the Environmental Protection Agency (EPA), and monitor the development of new Product Category Rules (PCRs). Advise CDOT on necessary policy changes.

Pace of Industry Change Evaluation

- Research and report on the rate at which the construction industry that bids on CDOT projects is adopting low-carbon materials. Review market trends, conduct interviews with industry representatives, and identify readiness indicators to help CDOT anticipate timelines and develop a program that brings everyone along. Deliverables must reflect industries for each eligible LCTM material (concrete, asphalt, steel, and precast) and include variation across regions in the state, including suppliers outside of the state as applicable.

Research Cost Comparisons of Conventional vs. Low-Carbon Materials

- Conduct a comparative cost analysis of conventional and low-carbon materials, accounting for variables such as project type, geography, and scale. This supports cost-effective material selection and may be used to pay an incentive for the use of LCMs as allowed in the FHWA program. Provide a report with the findings.
- Develop the approach and methodology for calculating potential LCTM Program incentive or incremental payment amounts for construction projects (*Factor 3, Task 3 of CDOT's LCTM Application*).

Quality Assurance, Quality Control, Performance Monitoring, and EPD Verification

- Collaborate with CDOT to develop quality assurance (QA) and quality control (QC) plans for EPD submittals tailored to concrete, asphalt, steel, and precast. This includes drafting templates, implementation guidance, and developing performance indicators. Develop guidelines for field teams to comply with the QA/QC plans. (*Factor 2, Task 1 of CDOT's LCTM Application*).
- Create a standardized verification process for low carbon materials using Environmental Product Declarations (EPDs) including procedures, tools, and reviewer guidance. (*Factor 2, Task 2 of CDOT's LCTM Application*).
- Develop performance monitoring plans for use of LCMs on CDOT projects that are specific to the eligible construction materials. (*Factor 2, Task 3 of CDOT's LCTM Application*).

Staff and Stakeholder Training and Outreach

- Develop and administer customized training modules and curriculum (e.g., for interpreting EPDs, understanding GWP benchmarks) for internal CDOT staff and industry/consultant partners. The training shall prepare CDOT and stakeholders to manage and maintain the developed EPD program and provide resources to train future staff. Training materials should also be provided to post on the CDOT EPD webpage.
- Provide a stakeholder engagement plan. Lead the coordination and outreach to industry partners (*Factor 3, Task 2 of CDOT's LCTM Application*) to gather input, communicate program goals, and develop capacity to provide EPDs meeting the program requirements. Gather input on barriers, opportunities, implementation costs, and recommendations for LCTM implementation. This includes organizing and facilitating meetings or workshops, documenting feedback, and synthesizing findings into actionable strategies.
- Provide technical assistance to material suppliers and contractors to include, but not limited to, how to prepare environmental product declarations and how to identify strategies to reduce global warming potential of their products.

Technical Consultation, Program Integration, and Process Enhancement

- Provide ongoing strategic and policy consultation to internal teams and other consultants throughout the project.
- Assess CDOT's current Standard Specifications and Standard Special Provisions for feasibility in utilizing low carbon materials. Assist CDOT in developing new or updated standard specifications or special provisions to allow and institutionalize the use of LCMs on CDOT projects (*Factor 2, Task 1 of CDOT's LCTM Application*).
- If authorized, provide strategic guidance to CDOT on how to integrate components of the LCTM program into CDOT's existing asset management systems. This includes conducting gap analysis and preparing policy and procedural alignment documents and presentations.

7. Work Products

The Consultant work products are:

- A. Reports (hard copy and/or digital, as required)
- B. Project Management Plan (PMP)
- C. Monthly Progress Reports
- D. Annual Summary Reports
- E. Meeting Agendas and Minutes
- F. Updates/Improvements to the EPD Policy/Protocol
- G. Stakeholder Engagement Plan
- H. Industry Engagement Reports
- I. Training Materials Development and Execution
- J. GWP Benchmarks and Threshold Recommendations
- K. Benchmarking Report on Methodology, Assumptions, etc.
- L. Cost of Change/Benefit to Cost Report
- M. Industry Trends and Pace of Change Report
- N. Implementation Process Reports (IPRs) for all grant factors
- O. QA/QC Plans for Each Eligible Material
- P. Implementation Guidelines for Field Teams
- Q. Performance Monitoring Plan
- R. EPD Verification Protocol and EPD Review Checklists
- S. Comparative Cost Analysis Report
- T. If authorized, Strategy Document for LCM Integration into Asset Management System(s)

All deliverables shall be accessible and comply with WCAG 2.2 Level A and AA, the State of Colorado Technical Standard TS-OEA-002, House Bill 21-1110, and 8 CCR 1501-11.

All work required to complete this Scope of Work requires the use of English Units.

8. Work Product Completion

Agency comments and feedback shall be incorporated into all final deliverables. All submittals must be accepted by the CDOT Contract Administrator or designee.

9. Additional Project Information

Additional information regarding this project is included in the following documents:

- A. CDOT LCTM Grant Application
- B. Current CDOT EPD Standard Special Provision
- C. CDOT EPD Webpage link

Copies of these documents may be requested from CDOT. A moderate fee may be required for copies.

Section 2: Project Management and Coordination

1. CDOT Contact

The Contract Administrator for this project is: Craig Wieden, HQ Materials and Geotechnical Services Manager.

Active day-to-day administration of the contract will be delegated to the CDOT/PM:

- A. Name: Hailey Goodale
- B. Title: Sustainable Materials Engineer
- C. Address: 4670 Holly Street, Denver, CO, 80216
- D. Office phone: N/A
- E. Cell phone: 918-346-5009
- F. Fax: N/A
- G. Email: Hailey.Goodale@state.co.us

2. Project Coordination

Coordination will be required with the following:

- A. Cities – Varies depending on city interest and motivation to utilize or test Low Carbon Materials (LCMs)
- B. Counties – Varies depending on county interest and motivation to utilize or test LCMs
- C. Other Government Agencies (to include, but not limited to):
 - a. State agencies
 - b. Federal Highway Administration (FHWA)
- D. Industry associations (to include, but not limited to):
 - a. Colorado Asphalt Pavement Association (CAPA)
 - b. National Asphalt Pavement Association (NAPA)
 - c. Asphalt Institute (AI)
 - d. American Concrete Pavement Association (ACPA) – CO/WY Chapter
 - e. American Concrete Pavement Association (ACPA)
 - f. Colorado Ready Mixed Concrete Association (CRMCA)
 - g. National Ready Mixed Concrete Association (NRMCA)
 - h. American Cement Association (ACA)
 - i. Colorado Contractors Association (CCA)
 - j. American Concrete Pipe Association (ACPA)
 - k. National Precast Concrete Association (NPCA)
 - l. Precast/Prestressed Institute (PCI)
 - m. American Institute of Steel Construction (AISC)
 - n. Concrete Reinforcing Steel Institute (CRSI)
 - o. National Stone, Sand, and Gravel Association (NSSGA)
- E. Material suppliers
- F. Contractors
- G. Sub-contractors
- H. Consultants
- I. CDOT staff
- J. Academia
- K. Others, as applicable

Section 3: Existing Features

Not applicable.

Section 4: General Information

1. Notice to Proceed

Work shall not commence until the written Notice-to-Proceed is issued by CDOT. Work may be required, night or day, and/or weekends, and/or holidays, and/or split shifts. CDOT must concur in time lost reports prior to the time lost delays being subtracted from time charges. Subject to CDOT prior approval, the time charged may exclude time lost for:

- A. Reviews and Approvals
- B. Response and Direction

2. Project Coordination

- A. Routine Working Contact: Routine working contact shall be between the CDOT/PM and the Consultant Project Manager (C/PM) as defined in Appendix C.
- B. Project Manager Requirements: Each Project Manager shall provide the others with the following:
 - 1. A written synopsis or copy of their respective contacts by telephone and in person with others
 - 2. Copies of pertinent written communications

3. Routine Reporting and Billing

The Consultant shall provide the following on a routine basis:

- A. Coordination: Coordination of all contract activities by the C/PM
- B. Periodic Reports and Billings: The periodic reports and billings required by CDOT.
- C. General Reports and Submittals: In general, all reports and submittals must be approved by CDOT prior to their content being utilized in follow-up work effort.

4. Personnel Qualifications

The C/PM must be approved by the CDOT Contract Administrator. Certain tasks must be done by Licensed Professional Engineers (PE) or Professional Land Surveyors (PLS) who are registered with the Colorado State Board of Registration for Professional Engineers and Land Surveyors. Other certifications may be required for project inspectors and testers.

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

This contract requires that the prime firm or any member of its team be pre-qualified in the following disciplines for the entire length of the contract: Civil Engineering, Management (Contract Admin), Materials Testing

- **Project Lead/Manager:** Must have experience managing complex public sector or grant-funded projects, including coordinating multiple sub-contractors or technical teams. Must demonstrate extensive understanding of the FHWA LCTM grant program and IPR development. Requires exceptional technical writing and communication skills.
- **Embodied Carbon/Policy Subject Matter Expert (SME):** Must have eight (8) years of experience in Life Cycle Assessment (LCA), Product Category Rules (PCRs), and Environmental Product Declarations (EPDs) for construction materials (concrete, asphalt, steel, and precast/prestressed products). Must possess extensive technical expertise in sustainable materials, embodied carbon calculation, and policy integration. Must demonstrate experience and understanding in the development and implementation of Buy Clean policies and procedures at an agency level. Must possess the ability to understand and interpret LCA reports. Must have knowledge of relevant standards including, but not limited to, ISO 14040, ISO 14044, ISO 14025, and ISO 21930.

- **Data Analyst:** Must demonstrate proficiency in data and statistical analyses to analyze EPDs and determine benchmarks.
- **Trainer/Educator and Facilitator:** Must have proven experience in developing and administering adult professional education and training programs in technical or policy environments, with a focus on environmental science and engineering-related materials. Effective written and oral communication skills are mandatory.
- **Materials Subject Matter Expert(s) (SMEs):** Must have proven technical expertise in construction materials including concrete, asphalt, steel, and precast concrete. Must have the ability to recommend LCMs that may be viable for use on construction projects. Must have experience reviewing and developing material specifications for use on Agency projects. Must have experience in reviewing materials test data and providing recommendations.

5. CDOT Computer/Software Information

The consultant shall utilize the most recent CDOT adopted software. The primary software anticipated to be utilized is as follows:

- A. Microsoft Office Suite
- B. Microsoft Project
- C. Google Suite
- D. ArcGIS w/CDOT's geodatabase, formatting configurations & standards

6. Computer Data Compatibility

The data format for submitting design computer files shall be compatible with the latest version of the adopted CDOT software as of Notice to Proceed for the contract. The Consultant shall immediately notify the CDOT/PM if the firm is unable to produce the desired format for any reason and cease work until the problem is resolved. Refer to Section 8, Table 1 - Submittals, for additional information regarding current formats and the acceptable transmittal media.

7. Project Design Data and Standards

- A. General:
Appendix A provides a comprehensive list of state and federal reference material. However, Appendix A does not contain local agency reference material that may be pertinent to some projects. The consultant is responsible for obtaining and ensuring compliance with the most recent CDOT-adopted version of the listed references including standards and specifications, manuals, and software, or as directed by the CDOT/PM. Conflicts in criteria shall be resolved by the CDOT/PM.
- B. Specific Design Criteria:
Appendix B is a list of specific project criteria. The list is comprehensive and may include items that are not required for tasks defined in this scope. The Consultant shall submit any proposed changes to the pertinent criteria to the CDOT/PM at one of the periodic progress meetings prior to initiating design.

Section 5: Project Initiation and Continuing Requirements

Project Initiation and Continuing Requirements	CDOT (C)	Consultant	Not Applicable
Project Meetings The types and numbers of meetings shall be flexible and determined by an interactive process as approved by the CDOT/PM.	C	X	
Initial Project Kick-Off Meeting Schedule and facilitate initial project kick-off meeting. All appropriate disciplines should be included in the scoping meeting. Create an invitation list, send notices with a draft agenda prior to the meeting, and provide meeting minutes to all those invited. The scoping meeting will also be used to clearly identify scope elements, responsibilities and coordination necessary to complete the work.	C	X	
Progress Meetings CDOT and Consultant team will meet periodically as required (typically every two weeks). The meetings will review activities required to be completed since the last meeting, problems encountered/anticipated and potential solutions, project schedule update, action items, and coordination required with other agencies.	C	X	
Meeting Minutes Project meeting minutes shall be completed by the Consultant and provided to the CDOT/PM within one week of the actual meeting. When a definable task is discussed during a meeting, the minutes will identify the “Action Item”, the party responsible for accomplishing it, and the proposed completion date.		X	
Contact List Establish and maintain a computerized list of all appropriate interested parties for the communication process. The information on the list shall include as a minimum: Name Firm (if any) Mailing/Email address Phone		X	
Communication Aids		X	
Graphics Support – provide graphics for presentations and project documents. This may include slides, computerized presentations and other displays for visual presentations at meetings.		X	
Newsletter – a newsletter which will contain project progress information and announcements will be published at the specified interval and will be distributed to those on the “contact list” specified by the CDOT/PM.		X	
Internet web pages – All external CDOT-related Web sites shall be hosted on CDOT’s server and developed in-house with assistance from the Web Team and CDOT Communications. The use of all Web 2.0 and similar social marketing applications on behalf of CDOT (including all regions, divisions and offices) is strictly prohibited unless authorized by the Communications Director. No CDOT employee, contractor or consultant working for CDOT will post material on behalf of the agency on such applications without expressed written consent of the Communications Director.		X	
Accessibility Ensure the Work Product provided is in compliance with all applicable provisions of §§24-85-101, et seq., C.R.S., and the Accessibility Standards.		X	

Project Initiation and Continuing Requirements	CDOT (C)	Consultant	Not Applicable
Ensure compliance with all State of Colorado technology standards related to technology accessibility and with Level AA of the most current version of the Web Content Accessibility Guidelines (WCAG), incorporated in the State of Colorado technology standards.		X	
The State may require Consultant's compliance to the State's Accessibility Standards to be determined by a third party selected by the State to attest to Consultant's Work Product and software is in compliance with §§24-85-101, et seq., C.R.S., and the Accessibility Standards for Individuals with a Disability as established by the Office of Information Technology pursuant to Section §24-85-103 (2.5), C.R.S.		X	
Project Management At the kick-off meeting, or shortly thereafter, create and provide an approach for managing the project (i.e. involved staff, key team positions), including task orders, a schedule, document and agency reviews and other project needs. The Consultant shall coordinate all the work tasks being accomplished by all parties to ensure project work completion stages are on schedule.		X	
Develop a Project Schedule and Assign Tasks The Consultant is responsible for coordinating the required work schedule for tasks accomplished by CDOT and other agencies. Prepare the initial project schedule for review by the CDOT/PM and consultant team, and refine to provide detail as requested. Modifications will be made as necessary in collaboration with CDOT and appropriate justification.		X	

Section 6: Environmental Work Task Descriptions

Not applicable.

Section 7: Preconstruction Work Task Descriptions

Note: The following activities of communication, consensus building, project team reviews, conceptual design, data gathering, documentation, and formal public notice shall be planned by the Consultant and coordinated with the CDOT PM. The time of their accomplishment may overlap and parallel paths of activity that should be planned to finish the development phase in accordance with the shortest possible schedule. A project plan shall be developed by the Consultant that satisfies the requirements of the project development. This plan must be approved by the Contract Administrator (see Section 2.01) before starting the work. Deliverables can be static reports and products, digital reports and products, and/or GIS data layers. The scope should be specific as to what type of deliverable is expected.

This list establishes the individual task responsibility. Those tasks identified as CDOT/Other should utilize an abbreviation system to indicate whether the task will be completed by CDOT or another agency (i.e. “C” for CDOT and abbreviations as provided below). The consultant shall maintain the ability to perform all work tasks indicated below by an ‘X’ in the consultant column, in accordance with the forms and conditions contained herein, and the applicable CDOT standards. Where appropriate, mark “N/A” for not applicable items.

Preconstruction Work Task Descriptions	CDOT (C)	Consultant	Not Applicable
Conduct periodic progress meetings at an interval acceptable to the CDOT/PM. The following shall be reviewed:		X	
Activities completed since the last meeting		X	
Problems encountered		X	
Late activities		X	
Activities required by the next progress meeting		X	
Solutions for unresolved and anticipated problems		X	
Information or items required from other agencies		X	
Information Services			
Provide a management information system to monitor and report progress. This system will:		X	
Provide access to current project data and status (e.g., progress versus schedules and cost estimates versus budgeted funds)		X	
Include the project schedules for submittals and key events		X	
Identify progress with respect to the schedules		X	
Identify critical path activities		X	
Provide upon demand the scheduled submittals/key events for designated time periods		X	

Section 8: Continuing Support

Note: The Consultant shall appoint a responsible member of the firm to be the contact person for all support services. That person should be available until the end of the contract to coordinate the following services.

Deliverables can be static reports and products, digital reports and products, and/or GIS data layers. The scope should be specific as to what type of deliverable is expected.

This list establishes the individual task responsibility. Those tasks identified as CDOT/Other should utilize an abbreviation system to indicate whether the task will be completed by CDOT or another agency (i.e. "C" for CDOT and abbreviations as provided below). The consultant shall maintain the ability to perform all work tasks which are indicated below by an 'X' in the consultant column, in accordance with the forms and conditions contained herein, and the applicable CDOT standards. Where appropriate, mark "N/A" for not applicable items.

Continuing Support	CDOT (C)	Consultant	Not Applicable
Technical Assistance Provide technical assistance to CDOT project personnel on an as-needed basis. This service shall include, but not be limited to, the following:		X	
Respond to questions that arise relative to the plans, details or special provisions		X	
Report Submittal The following reports/submittals shall be maintained and submitted:		X	
Documentation/justification - Changes/revisions/documentation justifying changes and/or revisions to plans and specifications		X	
Progress reports - Monthly progress reports will be submitted for the Consultant's activities.		X	
Calculations, drawings, and specifications as needed.		X	

Section 9: Contract Conclusion (Checklist)

1. Supplemental Work

Not applicable.

2. Contract Completion

This Contract will be satisfied upon acceptance of the following items if applicable:

- A. Project Schedule
- B. Project Progress Meeting Minutes
- C. Traffic Control Plan(s)
- D. All documents found In Research
- E. All Permission to Enter Property forms
- F. Monumented & Surveyed Ground Control Diagram(s)
- G. Legally Deposited Control Survey Diagram(s)
- H. Digital TMOSS Data
- I. Photography Products
- J. Ownership Map
- K. Survey Report (including monument recovery forms)
- L. Monumented and Sealed ROW Plans
- M. Legally Deposited Survey Plans
- N. Legal Descriptions (Signed and Sealed)
- O. NOAA-NGS Blue Book
- P. Completion of review of contract submittals
- Q. Design Plans, Specifications, and Final Estimate
- R. All Environmental Permits
- S. All Environmental, Utility, and ROW Clearances
- T. Floodplain Report
- U. Hydraulic Design Report, including PWQ design (signed and sealed)
- V. Structural Report (signed and sealed)
- W. Geotechnical Report (signed and sealed)
- X. Materials Report
- Y. Environmental Technical Resource Reports
- Z. Environmental NEPA Documents
- AA. Floodplain Development Permit & No Rise Documents
- BB. GIS shape files
- CC. Other items as applicable

Table 1: Submittals

Note: This list establishes the individual task responsibility. Those tasks identified as CDOT/Other should utilize an abbreviation system to indicate whether the task will be completed by CDOT or another agency (i.e. “C” for CDOT and abbreviations as provided below). The consultant shall maintain the ability to perform all work tasks which are indicated below by an ‘X’ in the consultant column, in accordance with the forms and conditions contained herein, and the applicable CDOT standards. Where appropriate, mark “N/A” for not applicable items.

Hard Copy	Electronic Copy (PDF)	Electronic Copy (Original)	Work Tasks	CDOT (C)	Consultant	Not Applicable
		X	Periodic Reports		X	
	X		Billings		X	
		X	Meeting Minutes		X	
	X		Project Schedule		X	
		X	Completed Specific Design Criteria		X	
		X	Public Communication Contact List		X	
	X		Correspondence with Agencies, Entities, and Public		X	

Appendix A: References

1. American Association of State Highway and Transportation Officials (AASHTO) Publications (using latest approved versions):

- A. A Policy on Design Standards-Interstate System
- B. A Policy on Geometric Design of Highways and Streets
- C. Guide for Design of Pavement Structures
- D. Standard Specifications for Highway Bridges
- E. Guide for the Design of High Occupancy Vehicle and Public Transfer Facilities
- F. Guide for the Development of Bicycle Facilities
- G. Standard Specifications for Transportation Materials and Methods of Sampling and Testing – Part 1, Specifications and Part II, Tests
- H. Highway Design and Operational Practices Related to Highway Safety
- I. Roadside Design Guide
- J. Load Resistance Factor Design (LRFD) Specifications

2. Colorado Department of Transportation Publications (using latest approved versions):

- A. Design Guide (all volumes)
- B. Bridge Design Guide
- C. Bridge Detailing Manual
- D. Bridge Rating Manual
- E. Project Development Manual
- F. Erosion Control and Stormwater Quality Guide
- G. Field Log of Structures
- H. Cost Data Book
- I. CDOT Traffic Analysis and Forecasting Guidelines
- J. Drainage Design Manual
- K. Landscape Architecture Manual
- L. NEPA Manual
- M. Environmental Stewardship Guide
- N. Various CDOT Environmental Resource Guidance (i.e Air Quality, Hazardous Materials, Noise, Visual)
- O. Quality Manual
- P. Survey Manual
- Q. Field Materials Manual
- R. Standard Plans, M & S Standards
- S. Standard Specifications for Road and Bridge Construction and Supplemental Specifications
- T. Item Description and Abbreviations (with code number) compiled by Engineering Estimates and Market Analysis Unit (“Item Book”)

- U. Right-of-Way Manual
- V. The State Highway Access Code
- W. Utility Manual
- X. TMOSS Generic Format
- Y. Field TMOSS Topography Coding
- Z. Topography Modeling Survey System User Manual
- AA. Interactive Graphics System Symbol Table

3. CDOT Procedural Directives (using latest approved versions):

- A. No. 27.1 Social Marketing – Use of Web 2.0 and Similar Applications
- B. No. 31.1 Website Development
- C. No. 501.1 Requirements for Storm Drainage Facilities and Municipal Separate Storm Sewer System Facilities
- D. No. 503.1 Landscaping with CO Native Plant Species and Managing the CO Pollinator Highway
- E. No. 1050.1 Contracts with Local Agencies for Maintenance of State Highways
- F. No. 1601 Interchange Approval Process

4. Federal Publications (using latest approved versions):

- A. Manual on Uniform Traffic Control Devices
- B. Highway Capacity Manual
- C. Urban Transportation Operations Training – Design of Urban Streets, Student Workbook
- D. Reference Guide Outline – Specifications for Aerial Surveys and Mapping by Photogrammetric Methods for Highways
- E. Executive Order 12898
- F. Executive Order 11988 & 13690 FHWA Federal-Aid Policy Guide
- G. FHWA NHI Hydraulic Circular (HEC) and Hydraulic Design Series (HDS) Reports
- H. Technical Advisory T6640.8A
- I. U.S. Department of Transportation Order 5610.1E
- J. Geometric Geodetic Accuracy Standards and Specifications for Using GPS Relative Positioning Techniques
- K. ADAAG Americans With Disabilities Act Accessibility Guidelines
- L. 23 CFR 771, the FHWA Technical Advisory T6640.8A

- M. 44 CFR 59-72, standards of the National Flood Insurance Program (NFIP)
- N. U.S. Army Corps of Engineers Wetlands Delineation Manual of 1987 and appropriate regional supplements
- O. Code of Federal Regulations

Appendix B: Specific Design Criteria

Not applicable.

Appendix C: Definitions

Note: For other definitions and terms, refer to Section 101 of the CDOT Standard Specifications for Road and Bridge Construction and the CDOT Design Guide.

Acronym	Description/Meaning
AASHTO	American Association of State Highway & Transportation Officials
ADT	Average two-way 24-hour Traffic in Number of Vehicles
AREA	American Railway Engineering Association
ATSSA	American Traffic Safety Services Association
AT&SF	Atchison, Topeka & Santa Fe Railway Company
ADAAG	Americans with Disabilities Accessibility Act Guidelines
BAMS	Bid Analysis and Management Systems
BFE	Base Flood Elevation
BLM	Bureau of Land Management
BNRR	Burlington Northern Railroad
CA	Contract Administrator – The CDOT Manager responsible for the satisfactory completion of the contract by the consultant
CAP	CDOT's Action Plan
CBC	Concrete Box Culvert
CDOT	Colorado Department of Transportation
CDOT/PM	Colorado Department of Transportation Project Manager – The CDOT Engineer responsible for the day-to-day direction and CDOT Consultant coordination of the design effort (as defined in Section 2 of this document)
CDOT/STR	Colorado Department of Transportation Structure Reviewer – The CDOT Engineer responsible for reviewing and coordinating major structural design
CDPHE	Colorado Department of Public Health and Environment
CEQ	Council on Environmental Quality
COG	Council of Governments
COGO	Coordinate Geometry Output
CONSULTANT	Consultant for the project
CONTRACT ADMINISTRATOR	Typically, a Region Engineer or Branch Head. The CDOT employee directly responsible for the satisfactory completion of the contract by the Consultant. The contract administration is usually delegated to a CDOT Project Manager (as defined in Section 2 of this document).
C/PM	Consultant Project Manager – The Consultant Engineer responsible for combining the various inputs in the process of completing the project plans and managing the Consultant design effort.
CWCB	Colorado Water Conservation Board
DDM	Drainage Design Manual
DEIS	Draft Environmental Impact Statement
DHV	Future Design Hourly Volume (two-way unless specified otherwise)
DRCOG	Denver Regional Council of Governments
D&RGW	Denver & Rio Grande Western Railroad
EA	Environmental Assessment
EIS	Environmental Impact Statement
ESAL	Equivalent Single Axle Load
ESE	Economic, Social and Environmental
FEIS	Final Environmental Impact Statement

Acronym	Description/Meaning
FEMA	Federal Emergency Management Agency
FHPG	Federal Aid Highway Policy Guide
FHWA	Federal Highway Administration
FIPI	Finding In Public Interest
FIR	Field Inspection Review
FONSI	Finding of No Significant Impact
FOR	Final Office Review
GIS	Geographic Information Systems
GPS	Global Positioning System
LA	Professional Landscape Architect registered in Colorado
MAJOR STRUCTURES	Bridges and culverts with a total clear span length greater than twenty feet. This length is measured along the centerline of roadway for bridges and culverts, from abutment face to abutment face. Retaining structures are measured along the horizontal distance along the top of the wall. Structures with exposed heights at any section over five feet and total lengths greater than a hundred feet as well as overhead structures including (bridge signs, cantilevers and butterflies extending over traffic) are also considered major structures.
MHFD	Mile High Flood District (formerly UDFCD)
MPO	Metropolitan Planning Organization (i.e. Denver Regional Council of Governments, Pikes Peak Area Council of Governments, Grand Junction MPO, Pueblo MPO, and North Front Range Council of Governments).
MS4	Municipal Separate Storm Sewer System
NEPA	National Environmental Policy Act
NFIP	National Flood Insurance Program
NGS	National Geodetic Survey
NICET	National Institute for Certification in Technology
NOAA	National Oceanic and Atmospheric Administration
PAPER SIZES	See Computer-Aided Drafting Manual (CDOT); Table 6-13 and Table 8-1
PE	Professional Engineer registered in Colorado
PM	Program Manager
PLS	Professional Land Surveyor registered in Colorado
PRT	Project Review Team
PS&E	Plans, Specifications and Estimate
PROJECT	The work defined by this scope
PWQ CM	Permanent Water Quality Control Measure
ROR	Region Office Review
ROW	Right-of-Way: A general term denoting land, property, or interest therein, usually in a strip acquired for or devoted to a highway
ROWPR	Right-of-Way Plan Review
RTD	Regional Transportation Director
T/E	Threatened and/or Endangered Species
SFHA	Special Flood Hazard Area
SH	State Highway Numbers
TMOSS	Terrain Modeling Survey System
TOPOGRAPHY	In the context of CDOT plans, topography normally refers to existing cultural or manmade details.
USACE	United States Army Corp of Engineers