

SCOPE OF WORK

PROJECT SPECIFIC DESIGN ENGINEERING I-70B RIMROCK AVENUE GRAND AVENUE

CONTRACT TYPE: PROJECT SPECIFIC DESIGN ENGINEERING SERVICES

PROJECT NUMBER: NH 0701-166 PROJECT CODE: 14932

PROJECT LOCATION: I-70B PE CORRIDOR

I -70B RIMROCK AVENUE & GRAND AVENUE

**PROJECT SPECIFIC
PART 1
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SECTION 1 PROJECT SPECIFIC INFORMATION

1.01 Planned Improvements. The general planned improvement is:

Between Rimrock Avenue and Grand Avenue

Increase capacity of I-70B by creating 3 through travel lanes in each direction. Improve the safety and mobility of this stretch of I-70B by closing the median between the major intersections and providing a dedicated left turn/ U-turn signal phase at each major intersection.

Evaluate and determine the best option to improve safety, access and mobility to and from the businesses along I-70B. The possible options include acceleration/deceleration lanes outside of the three through lanes in each direction of travel; improved frontage road system.

Between Grand Avenue and 2nd Street

Increase capacity of I-70B where needed by creating 3 through travel lanes in each direction or improving intersections. Improve the safety and mobility of this stretch of I-70B by access control, revised lane configurations, signalization, or other means.

Evaluate and determine the best option to improve safety, access and mobility to and from the businesses along I-70B.

1.02 Project Goal. This project is intended to produce the following improvements:

- Maintain Access to Businesses
- Increased capacity
- Improved safety
- Higher level-of-service

1.03 Project Location. This project is located on I-70B from M.P. 4.2 to M.P. 5.4

1.04 Project Cost. The construction cost of this project is estimated at \$ 21 million.

1.05 Work Duration. The time period for the design work described in this scope is approximately 700 calendar days.

1.06 Consultant Responsibility. The Consultant is responsible for: Survey, Sitemap, Utility Plans, ROW Plans, Obtaining Title Services, Design of Stormwater Sewer System, Landscaping, Irrigation, Erosion Control and Design Services during Construction. See work activity assignments.

1.07 Work Product. The Consultant work products are:

- Field Inspection Review (FIR)Plans
- Final Office Review (FOR)Plans
- Right of Way Plans
- AD Plans, Specifications, Cost Estimate
- Construction Plan Package

1.08 Work Product Completion. All submittals must be accepted by the CDOT Contract Administrator or his designee.

SECTION 2 PROJECT MANAGEMENT AND COORDINATION

2.01 CDOT Contacts. The Contract Administrator for this project is:
Dave Eller, Regional Transportation Director Region 3.

General administration of this contract will be delegated to Peter Mertes, West Program Engineer. Active day to day administration and monitoring of contract task orders will be delegated to Regional Resident Engineers or CDOT PEs within each task order.

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

- Name Jason C. Smith
- Title Resident Engineer
- Address 606 S 9th Street, Grand Junction, CO 81501
- Telephone 970-683-6351
- Fax 970-683-6369

2.02 Project Coordination. Coordination will be required with the following:

- CDOT
- City of Grand Junction
- Mesa County

The Consultant should anticipate that a design which affects an agency will have to be accepted by that agency prior to its acceptance by the Colorado Department of Transportation. Submittals to affected agencies will be coordinated with CDOT.

SECTION 3 PROJECT DESCRIPTION

3.01 Background

This section of I-70B, which runs through a community consisting entirely of business and commercial enterprises, is congested under current traffic conditions and is projected to get much more congested in the future. One of the main conclusions of the I-70B West Environmental Assessment completed in March of 2008, was that I-70B have 3 through travel lanes in each direction. Therefore the goal of the design is to increase capacity, improve safety, improve aesthetics, and provide excellent access for customers to all the existing and future businesses along this section of I-70B.

3.02 Project Limits

The project lies within the milepoints 4.2 to 5.4 on I-70B.

3.03 Work Elements

The major work elements are Field Survey, Ownership mapping, Drainage Design, Landscaping Design, Irrigation Design, Coordination with the major entities: CDOT, City of Grand Junction, and Mesa County, Utility Plans, Right of Way Plans including contracting and obtaining title services if needed, and Design Services during Construction.

SECTION 4 KNOWN EXISTING FEATURES

4.01 Utilities

The consultant will coordinate with U.N.C.C. at 1-800-922-1987 to obtain utility information. Other existing features may exist and require additional coordination or data collection.

SECTION 5 ITEMS TO BE FURNISHED BY CDOT

5.01 Roadway Design files, CDOT Manuals, Specifications, Standards, etc. Electronic Files of applicable standards All CDOT forms specified in this document

5.02 Project Specific Items

- ✓ CDOT available accident history data
- ✓ CDOT available traffic data
- ✓ CDOT Roadway Design Model and Plans when developed
- ✓ Designs of previous projects
- ✓ As-constructed roadway, and existing ROW plans
- ✓ Soil Profile and Pavement Design
- ✓ CDOT Forms
- ✓ I-70B West Environmental Assessment
- ✓ I-70B West FONSI

SECTION 6 GENERAL INFORMATION

6.01 Authorization to Proceed. Work will not commence until the written Notice-to-Proceed is issued by the State with certification from the Consultant that the work will be completed within the allotted time.

6.02 Project Coordination. The routine working contact will be between the CDOT Project Manager (CDOT/PM) and the Consultant Project Manager (C/PM) as defined in Attachment C. Each Project Manager will provide the other with:

- a. Written synopses or copy of their respective contacts (both by telephone and in person) with others.
- b. Copies of pertinent written communications

6.03 Routine Reporting and Billing. The Consultant will provide the following on a routine basis:

- a. Coordination of all contract activities by the C/PM
- b. The periodic reports and billings required by CDOT Procedural Directive 400.2 (Monitoring Consultant Contracts).
- c. Minutes of all Meetings: The minutes will be completed and will be provided to the CDOT/PM within five (5) working days after the meeting. When a definable task is discussed during a meeting, the minutes will identify the "Action Item", the agency responsible for accomplishing it, and the proposed completion date.
- d. In general, all reports and submittals must be accepted by CDOT prior to their content being utilized in follow-up work effort.

6.04 Personnel Qualifications. The Consultant Project Manager (C/PM) must be approved by the CDOT Contract Administrator. Certain tasks must be done by Licensed Professional Engineers or Professional Land Surveyors (PLS) who are registered with the Colorado State Board of Registration for Professional Engineers and Land Surveyors.

6.05 CDOT Computer/Software Information.

Earthwork-	InRoads
Drafting-Auto-	MicroStation
Survey-	InRoads TMOSS
Estimating-	Transport, an ASHTO-sponsored software
Specifications-	Microsoft Word

Computer Data Compatibility.

The data format used by the Consultant to submit surveying and photogrammetric data shall be as determined by the CDOT/PM in coordination with the respective Region PLS. The data format for submitting design computer files shall be compatible with the CDOT InRoads program.

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 problems are resolved.

6.06 Project Design Data and Standards

- a. General. Attachment A is a list of technical references applicable to CDOT work. The Consultant is responsible for ensuring compliance with the listed references. Conflicts in criteria shall be resolved by the CDOT/PM.
- b. Specific Criteria. Attachment 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 the pertinent criteria to the CDOT/PM at one of the periodic progress meetings prior to initiating design.
- c. Construction Materials/Methods. The materials specified for construction and any indicated construction methods will be selected to minimize the initial construction and long-term maintenance cost to the State of Colorado. Non-typical construction materials and methods must be approved in writing by CDOT.

6.07 CDOT's Right Not to Have the Consultant Perform the work:

While it is anticipated that the Consultant will be asked to perform all the activities checked as performed by Consultant, CDOT reserves the right to perform any or all of these tasks, or to provide assistance to the Consultant on any or all such work.

SECTION 7 WORK ACTIVITY ASSIGNMENTS

7.01 Type of work may include all or parts of the following activities:

- A. General Engineering Services - The scope for general engineering and design services may include but shall not necessarily be limited to:
 - a. Provide conceptual drawings, graphs, data collection, or charts for the Region's planning, environmental, or other units as needed.
 - b. Conduct Studies - transportation, environmental, etc.
 - c. Provide support for region planning activities, including assistance with public meetings.
 - d. Provide design support for off systems or other modes of transportation alternatives.
 - e. Provide drafting support or CADD services. All CADD work for CDOT will be conducted using MicroStation and Inroads Software, latest versions used by CDOT.
 - f. Provide lighting plans and analysis.
 - g. Provide support research or search county, state or other areas for records or documents relevant to the project or task.
 - h. Provide or acquire design services as required to complete tasks not specifically defined in the outline, but that may be required by specific task order.

- B. Surveying - The scope of work for surveying activities may include:
 - a. Perform surveys related to the horizontal and vertical alignment of the project.
 - b. Perform GPS control survey.
 - c. Perform topographical surveys.
 - d. Perform cross section surveys.
 - e. ROW support for design.
 - f. Perform utility surveys (include potholing).
 - g. Perform wetland survey.
 - h. Prepare project control diagram.

- C. Photogrammetric Mapping

- D. Right-of-Way Plan Preparation - The scope for right-of-way plan preparation may include:
 - a. Determine parcels.
 - b. Write parcel legal descriptions.
 - c. Determine parcel size.
 - d. Prepare R.O.W. plan tabulation sheet.
 - e. Prepare R.O.W. plan sheets.
 - f. Prepare monument tabulation monumentation sheets.
 - g. Prepare land survey control diagram.
 - h. Prepare total ownership maps.
 - i. Title Research/Obtain Title Services.
 - j. Prepare Revisions to Legal Descriptions and R.O.W. Plan sheets.

- E. Bridge/Structural Design Activities - The scope of work for bridge design activities may include:
- a. Provide design services for various highway structures or portions of highway structures.
 - b. Furnish detailing services including drafting and quantity calculations for various highway structures or portions of highway structures.
 - c. Inspect and rate highway bridges.
 - d. Provide bridge design and detailed review of work performed by other designers.
 - e. Provide wall design and detailed review of work performed by other designers.
 - f. Provide structural selection reports and structure selection studies.
 - g. Provide a structure concept study.
 - h. Obtain structural data.
 - i. Provide foundation investigation report.
 - j. Coordinate with outside agencies; for example, railroad agencies.
- F. Roadway Design Activities - The scope of work for roadway design activities may include:
- a. Provide design services including quantity calculations for the various components of roadway construction, which could include intersection layout, interchanges, signals, structures, lighting, landscaping, irrigation design, ditch design, waterline, and sanitary sewer design.
 - b. Furnish detailing and drafting services utilizing MicroStation and Inroads Software, latest CDOT adopted versions utilizing CDOT format. Other software required for design services and communication of information are Microsoft office products such as word, excel, power point. In addition project wise or FTP sites may be required for file sharing. Other formats or software products may be required for specific tasks such as traffic modeling or truck turning movements.
 - c. Attend scoping reviews, design office reviews, field inspection reviews, and final office reviews and provide minutes as appropriate.
 - d. Prepare (PS&E Package) final plans, specifications and provide the CDOT project manager with detailed estimates that can be entered into CDOT Trns-port application system.
 - e. Prepare revisions under-advertisement to plans or specifications when necessary.
 - f. Design and layout of intersections and interchanges.
- G. Hydrology Activities - The scope of work for the hydrology activities may include:
- a. Collect historical drainage data.
 - b. Establish drainage basin data.
 - c. Select run-off parameters and predict peak flow.
- H. Hydraulics Design Activities - The scope of work for hydraulics design activities may include:
- a. Furnish the size and location of drainage structures.
 - b. Furnish storm sewer design.
 - c. Furnish erosion protection design and NPDES requirements.
 - d. Furnish quantity calculations for drainage structures including irrigation and permanent BMP's for surface drainage.
 - e. Design of water and waste water systems.
 - f. Irrigation system designs including, but not limited to, typical ditches, traveling gun irrigation systems and other center pivot systems.

- I. Traffic Engineering Activities - The scope of work for traffic engineering activities may include:
- a. Collect traffic data.
 - b. Perform traffic studies or analyses.
 - c. Perform in-field inventories of traffic control device locations and conditions.
 - d. Furnish design and quantity calculations necessary to prepare signal, signing or pavement marking plans.
 - e. Furnish detailing and drafting services.
 - f. Attend field inspection and final office review.
 - g. Prepare construction signing plans and schedules.
 - h. Prepare final plans and specifications.
 - i. Perform passing zone analysis to validate or update current striping logs or plans.
- J. Architectural Activities - The scope of work for architectural activities may include:
- a. Furnish design and quantity calculations of the various components of highway-related facilities.
 - b. Furnish detailing and drafting services.
 - c. Prepare final plans and specifications.
 - d. Evaluation and assistance in the resolution of problems encountered during construction of transportation-related facilities and/or state buildings.
- K. Landscape Architectural Activities - The scope of work for landscape architectural activities may include:
- a. Provide estimates of quantities of native seeding and mulching for the FIR plans.
 - b. Determine most economic landscape alternative, finalize concept, and complete the plan.
 - c. Verify that an acceptable safe recovery distance exists between traveled way and all trees to be planted.
 - d. Coordinate all special permits that may be required.
 - e. Coordinate ROW requirements.
 - f. Write Special Provisions and submit to the CDOT/PM with the completed roadside plans.
 - g. Submit the approved plan/special provisions to the Design Engineer for inclusion in the Project Plans.
 - h. Verify availability of plant materials and submit letter to the CDOT/PM certifying that designated plants are available.
 - i. Provide recommendations for alternative landscape designs and recommendations for Best Management Practices for temporary and permanent erosion protection.
 - j. Provide Storm Water Plan Sheets with BMP locations and quantity calculations.

- L. Noise Study - The scope of work for noise study activities may include:
- a. Predict or measure present noise levels.
 - b. Analyze noise levels for all alternatives, including the no-build. Noise level models will be made with at least CDOT's stamina noise computer model or better. Distances at which noise levels exceed acceptable levels will be determined for each alternate and plotted on corridor maps.
 - c. Identify locations where noise abatement measures are needed, determine which measure is feasible and cost effective, and estimate construction and maintenance costs.
 - d. Prepare a noise assessment report for acceptance by CDOT.
- M. Value Engineering (VE) - The scope of work for value engineering activities may include:
- a. Conduct VE meetings and provide minutes. The VE meetings should be considered for the following efforts:
 1. Brain Storming
 2. Evaluating alternatives upon meeting the project purposes and need
 3. Recommend alternatives based upon:
 - Most benefit to purpose and need
 - Minimal or mitigatable impacts
 - Constructability
 - Cost
 - Best overall response to constraints and concerns
 - b. Collect and compile VE cost and workhour data.
 - c. Provide Final VE Report.
- N. Geotechnical Services for Design - The scope of work for design services include:
- a. Provide field sampling and testing of existing pavements and soils necessary for proper pavement design as per the CDOT Pavement Design Manual.
 - b. Perform boring and subsurface geotechnical investigations for Structure Selection Reports.
 - c. Provide testing results used in the design process that are certified by a professional engineer.
 - d. Provide other geotechnical services as requested in writing, including but not limited to subsurface investigations, instrumentation, foundation reports, landslide evaluations, MSE wall designs, soil nail designs, and retaining wall designs.
- O. Environmental Services - The scope of work for environmental services may include:
- a. Review environmental conditions, determine required permits.
 - b. Delineation and mitigation recommendations of wetlands.
 - c. Prepare and/or review environmental documents for CDOT projects.
 - d. Conduct and prepare environmental surveys and clearance reports.

- P. Design Services Under Construction – the Scope of Work for design services under construction may include:
- a. Review of actual subsurface conditions to verify structural design.
 - b. Review and approval of shop drawings.
 - c. Changes in design based on field conditions.
 - d. Services as needed per PE stamp requirements on design drawings.
 - e. Claim and schedule analysis.
 - f. Analysis of VE proposals.
 - g. Analysis of construction phasing false work, shoring, methods statements, and CPM schedules (Microsoft Project and/or Primavera).
- Q. Other Services - As requested Design and/ or General Engineering SOW by the Regions and specified in the task orders for other services not specified above may be requested on an as needed basis.

The scope of work for these services will include the details of the SOW and General Engineering Requirements.

This following list establishes the consultant's individual responsibility for anticipated tasks. The consultant shall maintain the ability to perform all work tasks which are indicated below by an 'X' mark in the consultant column, in accordance with the applicable CDOT standards. Selected work tasks shall be assigned only after coordination and consultation with CDOT. The Consultant is also responsible for coordinating the required work schedule for those tasks accomplished by CDOT and other agencies. CDOT reserves the right to perform any or all tasks or to assist the Consultant in the tasks checked as Consultant tasks below.

PRECONSTRUCTION

	<u>CDOT/OTHER</u>	<u>CONSULTANT</u>
A. Project Initiation and Continuing Requirements:		
1. Initial Project Meeting	<u> X </u>	<u> </u>
2. Review Environmental Mitigation Requirements	<u> X </u>	<u> </u>
3. Independent Design Review	<u> X </u>	<u> </u>
4. Project Schedule	<u> X </u>	<u> </u>
5. Develop Design Criteria	<u> X </u>	<u> X </u>
6. Initiate Survey	<u> </u>	<u> X </u>
7. Right-of-Entry and Permits	<u> </u>	<u> X </u>
8. Traffic Control	<u> X </u>	<u> X </u>
9. Initial Submittals	<u> X </u>	<u> </u>
10. Progress Meetings	<u> X </u>	<u> X </u>
11. Structure Review Meetings	<u> X </u>	<u> X </u>

12. Project Management X _____

CDOT/OTHER CONSULTANT

B. Project Development:

1.	Communication and Consensus Building		
a.	Contact List	<u> X </u>	_____
b.	Public Notices/Advertisements	<u> X </u>	_____
c.	General Meetings	<u> X </u>	_____
	(1) Small Group	<u> X </u>	
	(2) General Public	<u> X </u>	_____
	(3) Project Review	<u> X </u>	
d.	Communication Aids	<u> X </u>	_____
	(1) Graphics Support	<u> X </u>	_____
	(2) Newsletter	<u> X </u>	_____
	(3) Wall Displays	<u> X </u>	_____
	(4) Study Model	<u> N/A </u>	<u> N/A </u>
	(5) Local Office	<u> X </u>	_____
2.	Project Review Team	<u> X </u>	_____
3.	Route Location Surveys	_____	<u> X </u>
a.	Presurvey Conference	_____	<u> X </u>
b.	Survey Data Research	_____	<u> X </u>
c.	Secure Rights of Entry	_____	<u> X </u>
d.	Project Control Survey		
	(1) Locate or establish HARN Stations	_____	<u> X </u>
	(2) Monumentation	_____	<u> X </u>
	(3) Project Control	_____	<u> X </u>
e.	Photogrammetry	_____	<u> X </u>
f.	Supplemental Surveying	_____	<u> X </u>
g.	Accuracy Tests	_____	<u> X </u>
h.	Review (by Registered Professional Land Surveyor)	_____	<u> X </u>
4.	Conceptual Design		
a.	Urban Planning and Esthetics	<u> X </u>	<u> X </u>
b.	System Feasibility for Interchanges	<u> N/A </u>	<u> N/A </u>
c.	Alternatives Analysis	<u> N/A </u>	<u> N/A </u>
d.	Final Alternatives Reports	<u> N/A </u>	<u> N/A </u>
e.	Interchange Approval Process	<u> N/A </u>	<u> N/A </u>
5.	Data Gathering Analysis, and Mitigation Development		
a.	Traffic Related		
	(1) Traffic Study	<u> X </u>	_____

	(2) Accident Study	<u> X </u>	<u> </u>
	(3) Noise Study	<u> N/A </u>	<u> N/A </u>
		<u> CDOT/OTHER </u>	<u> CONSULTANT </u>
	(4) Air Quality	<u> N/A </u>	<u> N/A </u>
	(a) Air Quality Monitoring	<u> N/A </u>	<u> N/A </u>
	(b) Air Quality Analysis	<u> N/A </u>	<u> N/A </u>
	(5) Alternate Transportation Sys.	<u> N/A </u>	<u> N/A </u>
b.	Archaeology		
	(1) Gather Data & Analysis	<u> X </u>	<u> </u>
	(2) Mitigation Implementation	<u> X </u>	<u> </u>
c.	Paleontology		
	(1) Gather Data & Analysis	<u> X </u>	<u> </u>
	(2) Mitigation Implementation	<u> X </u>	<u> </u>
d.	Initial Geology Investigation	<u> N/A </u>	<u> N/A </u>
e.	Water Quality		
	(1) Quality Analysis	<u> N/A </u>	<u> N/A </u>
	(2) Quality Monitoring	<u> N/A </u>	<u> N/A </u>
f.	Ecological Assessment	<u> X </u>	<u> </u>
g.	Historical		
	(1) Historical Bridge Clearance	<u> N/A </u>	<u> N/A </u>
	(2) Historical Study & Clearance	<u> X </u>	<u> </u>
h.	Floodplain and Drainage Assessment	<u> </u>	<u> X </u>
i.	Right-of-Way		
	(1) Early ROW	<u> </u>	<u> X </u>
	(2) ROW Review	<u> X </u>	<u> X </u>
	(3) Prepare Legal Description	<u> </u>	<u> X </u>
j.	4(f)/6(f) Activity		
	(1) Evaluation	<u> X </u>	<u> </u>
	(2) Clearance/Concurrence	<u> X </u>	<u> </u>
k.	Threatened and/or Endangered Species		
	(1) Determination of Presence	<u> X </u>	<u> </u>
	(2) Implement Mitigation	<u> X </u>	<u> </u>
l.	Wetlands		
	(1) Wetlands Determination	<u> X </u>	<u> </u>
	(2) Wetlands Findings Report	<u> X </u>	<u> </u>
m.	Hazardous Materials		
	(1) Field Search	<u> X </u>	<u> </u>
	(2) Research	<u> X </u>	<u> </u>

(3) Conduct in-situ tests	<u>X</u>	<u> </u>
(4) Analyze and Assess Impacts	<u>X</u>	<u> </u>

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n. Existing Roadway/Major Structure	<u>N/A</u>	<u>N/A</u>
o. Construction Requirements	<u>X</u>	<u>X</u>
p. Aesthetic Considerations	<u>X</u>	<u>X</u>
q. Utilities	<u>X</u>	<u>X</u>
r. Economics	<u>N/A</u>	<u>N/A</u>
s. Farmlands	<u>N/A</u>	<u>N/A</u>
t. Energy Usage	<u>N/A</u>	<u>N/A</u>
6. Environmental Assessment (EA) Process (if needed)	<u>N/A</u>	<u>N/A</u>
7. Environmental Impact Study (EIS) Process (if needed)	<u>N/A</u>	<u>N/A</u>
8. Design Report Process	<u>N/A</u>	<u>N/A</u>
9. Obtain Permits	<u>X</u>	<u> </u>

C. Preliminary Design:

1. Design Field Surveys		
a. Presurvey Conference	<u> </u>	<u>X</u>
b. Survey Data Research	<u> </u>	<u>X</u>
c. Secure Rights of Entry	<u> </u>	<u>X</u>
d. Project Control Survey		
(1) Locate or Establish HARN Stations	<u> </u>	<u>X</u>
(2) Monumentation	<u> </u>	<u>X</u>
(3) Local Project Control	<u> </u>	<u>X</u>
e. Inroads TMOSS Survey	<u> </u>	<u>X</u>
f. Terrain Survey	<u> </u>	<u>X</u>
g. Utility Survey	<u> </u>	<u>X</u>
h. Hydraulic Survey	<u> </u>	<u>X</u>
i. Material Survey	<u>X</u>	<u> </u>
j. Supplemental Surveying	<u> </u>	<u>X</u>
k. Survey Report	<u> </u>	<u>X</u>
l. Accuracy Tests	<u> </u>	<u>X</u>
m. Review (by Registered Professional Land Surveyor)	<u> </u>	<u>X</u>
2. Traffic Engineering	<u>X</u>	<u> </u>
3. Materials Engineering	<u>X</u>	<u> </u>
a. Preliminary Soil Investigation	<u>X</u>	<u> </u>
b. Pavement Rehabilitation	<u>X</u>	<u> </u>
c. New Pavement Structure	<u>X</u>	<u> </u>
d. Pavement Justification	<u>X</u>	<u> </u>
e. Pavement Design Report	<u>X</u>	<u> </u>

f.	Existing Bridge Investigation	<u> X </u>	<u> </u>
g.	Foundation Investigation	<u> X </u>	<u> </u>
		<u>CDOT/OTHER</u>	<u>CONSULTANT</u>
4.	Hydrology/Hydraulics Engineering		
a.	Hydrology	<u> </u>	<u> X </u>
b.	Hydraulics	<u> </u>	<u> X </u>
c.	Preliminary Hydraulics Report	<u> </u>	<u> X </u>
5.	Utility Coordination		
a.	Location Maps	<u> </u>	<u> X </u>
b.	Reviews and investigations	<u> </u>	<u> X </u>
	(1) "Potholing"-Excavation	<u> </u>	<u> X </u>
	(2) "Potholing"-Surveying Utility Locations	<u> </u>	<u> X </u>
c.	Relocation recommendations	<u> </u>	<u> X </u>
d.	Ditch Company coordination	<u> </u>	<u> X </u>
6.	Roadway Design and Roadside Development		
a.	Roadway Design	<u> </u>	<u> X </u>
b.	Roadside Development	<u> </u>	<u> X </u>
	<input type="checkbox"/> Guardrail and delineator	<u> X </u>	<u> </u>
	<input type="checkbox"/> Landscaping	<u> X </u>	<u> X </u>
	<input type="checkbox"/> Sprinkler Systems	<u> X </u>	<u> X </u>
	<input type="checkbox"/> Sound Barriers	<u> X </u>	<u> </u>
	<input type="checkbox"/> Bikepaths	<u> X </u>	<u> </u>
	<input type="checkbox"/> Truck Escape Ramps	<u> N/A </u>	<u> N/A </u>
	<input type="checkbox"/> Rest Areas	<u> N/A </u>	<u> N/A </u>
	<input type="checkbox"/> Safety analyses (CDOT to provide data)	<u> X </u>	<u> </u>
c.	Lighting Plan	<u> X </u>	<u> </u>
7.	Right-of-Way		
a.	Research	<u> </u>	<u> X </u>
b.	Ownership Map	<u> </u>	<u> X </u>
c.	Prepare Legal Description	<u> </u>	<u> X </u>
8.	Major Structural Design		
a.	Structural Data Collection	<u> X </u>	<u> </u>
b.	Structure concept study	<u> X </u>	<u> </u>
c.	Structure Selection Report	<u> X </u>	<u> </u>
d.	Foundation Investigation Request	<u> X </u>	<u> </u>
9.	Construction Phasing Plan	<u> X </u>	<u> </u>
10.	Preparation for the FIR	<u> X </u>	<u> </u>

11. Field Inspection Review	<u> X </u>	<u> </u>
12. Post FIR Revisions	<u> X </u>	<u> </u>

CDOT/OTHER CONSULTANT

D. Final Design:

1. Project Review	<u> X </u>	<u> </u>
2. Design Coordination	<u> X </u>	<u> </u>
3. Utility Coordination	<u> X </u>	<u> </u>
4. Hydraulic Design	<u> </u>	<u> X </u>
a. Data Review	<u> </u>	<u> X </u>
b. Storm Water Pollution Prevention Plan	<u> </u>	<u> X </u>
c. Major Structure Channel Design	<u> N/A </u>	<u> N/A </u>
d. Final Hydraulics Report	<u> </u>	<u> X </u>
5. Interim Plans		
a. Initiate ROW Authorization Process	<u> </u>	<u> X </u>
b. Final Utility Plans	<u> </u>	<u> X </u>
c. Final Railroad Plans	<u> N/A </u>	<u> N/A </u>
6. Right-of-Way		
a. ROW Plans Content	<u> </u>	<u> X </u>
b. Title Insurance and Closing Services	<u> </u>	<u> X </u>
c. Authorization Plan	<u> </u>	<u> X </u>
d. Appraisal Staking	<u> </u>	<u> X </u>
e. ROW Plan Revisions (During Negotiations)	<u> </u>	<u> X </u>
f. Prepare Legal Description	<u> </u>	<u> X </u>
g. Title Commitments	<u> </u>	<u> X </u>
7. Materials Engineering		
a. Materials Data	<u> X </u>	<u> </u>
b. Stabilization validity	<u> X </u>	<u> </u>
c. Stabilization Plan	<u> X </u>	<u> </u>
8. Traffic Engineering		
a. Permanent Signing/Pavement Marking Plans	<u> X </u>	<u> </u>
b. Signalized Intersections	<u> X </u>	<u> </u>
c. Traffic Control Plan	<u> X </u>	<u> </u>

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9.	Roadside Planning		
a.	Landscaping	<u> </u>	<u> X </u>
b.	Other	<u> </u>	<u> X </u>
	<input type="checkbox"/> Sprinkler systems	<u> </u>	<u> X </u>
	<input type="checkbox"/> Bikepaths	<u> X </u>	<u> </u>
	<input type="checkbox"/> Sound barriers	<u> X </u>	<u> </u>
	<input type="checkbox"/> Truck escape ramps	<u> N/A </u>	<u> N/A </u>
	<input type="checkbox"/> Rest Areas	<u> N/A </u>	<u> N/A </u>
	<input type="checkbox"/> Guardrail and delineator	<u> X </u>	<u> </u>
	<input type="checkbox"/> Safety analyses (CDOT help w/data)	<u> X </u>	<u> </u>
c.	Lighting Plans	<u> X </u>	<u> </u>
10.	Roadway Design	<u> X </u>	<u> </u>
11.	Final Major Structural Design		
a.	Structure Final Design	<u> X </u>	<u> </u>
b.	Preparation of Structure Plans and Specifications	<u> X </u>	<u> </u>
c.	Independent Design, Detail, and Quantity Check	<u> X </u>	<u> </u>
d.	Bridge Rating and Field Packages	<u> X </u>	<u> </u>
e.	Structure Final Review Plans and Specifications	<u> X </u>	<u> </u>
12.	Construction Phasing Plan	<u> X </u>	<u> </u>
13.	Plan Preparation for FOR	<u> X </u>	<u> X </u>
14.	Final Office Review	<u> X </u>	<u> X </u>
15.	Construction Plan Package	<u> X </u>	<u> X </u>
E.	Corridor Management Support		
1.	Design Control	<u> (N/A) </u>	<u> </u>
2.	Information Services	<u> (N/A) </u>	<u> </u>
3.	Budget Planning Support	<u> (N/A) </u>	<u> </u>

F. Value Engineering (N/A) _____

CDOT/OTHER CONSULTANT

SERVICES AFTER DESIGN

A. Review of Shop Drawings	<u>X</u>	<u>X</u>
B. Construction Services		
1. Coordinate Schedule	<u>X</u>	_____
2. Provide field observation		
a. Pile driving/caisson drilling	<u>X</u>	_____
b. Major concrete pours	<u>X</u>	_____
c. Placement of girders	<u>X</u>	_____
d. Splicing of girders	<u>X</u>	_____
e. Post-tensioning duct and anchorage placement	<u>X</u>	_____
f. Post-tensioning operations	<u>X</u>	_____
3. Technical assistance	<u>X</u>	<u>X</u>
4. Submittals		
a. Diary	<u>X</u>	_____
b. Documentation/justification	<u>X</u>	_____
c. Progress reports	<u>X</u>	_____
d. Calculations, drawings, and specifications	<u>X</u>	<u>X</u>
e. Daily time sheets	<u>X</u>	_____
C. Post Design Plan Modifications	<u>X</u>	<u>X</u>
D. Post Construction Services:		
1. Final earthwork determination	<u>X</u>	<u>X</u>
2. As-built plans	<u>X</u>	<u>X</u>
3. Revisions to Right-of-Way Plans (Excess Land)	_____	<u>X</u>
4. Monument ROW	_____	<u>X</u>
5. Set Property Corners (Remainders)	_____	<u>X</u>
6. Deposit ROW Plans	_____	<u>X</u>
E. Construction Engineering	<u>X</u>	_____

**SECTION 8
SUBMITTALS**

CDOT/OTHER CONSULTANT

A. Project Initiation and Continuing Requirements:

Part 1

A.1.	Periodic Reports & Billings	<u> </u>	<u> X </u>
A.2.	Meeting Minutes	<u> X </u>	<u> X </u>

Part 2

A.3	Project Schedule	<u> X </u>	<u> X </u>
A.4	Completed Specific Design Criteria (Attachment B)	<u> X </u>	<u> X </u>
A.5	Survey Plan	<u> </u>	<u> X </u>
A.6	Permissions to Enter (Form 730)	<u> </u>	<u> X </u>
A.7	Traffic Control Plan	<u> X </u>	<u> X </u>
A.8	Initial Submittal of Inroads TMOSS and/or InRoads Compatible Data	<u> </u>	<u> X </u>
A.9	Initial Submittal of an Original Plan Sheet	<u> X </u>	<u> X </u>

B. Project Development:

B.1.a.	Public Communication Contact List	<u> X </u>	<u> </u>
B.3.	Route Location Survey:		
	<input type="checkbox"/> Electronic Survey Files	<u> </u>	<u> X </u>
	<input type="checkbox"/> Survey Inroads TMOSS Data	<u> </u>	<u> X </u>
	<input type="checkbox"/> Monument Records	<u> </u>	<u> X </u>
	<input type="checkbox"/> Control & Monumentation Plan Sheets	<u> </u>	<u> X </u>
	<input type="checkbox"/> Aerial Photography Index Map Sheets	<u> N/A </u>	<u> N/A </u>
	<input type="checkbox"/> Aerial Photography Contact Prints	<u> N/A </u>	<u> N/A </u>
	<input type="checkbox"/> Aerial Photography Negatives	<u> N/A </u>	<u> N/A </u>
	<input type="checkbox"/> Photogrammetry Electronic Data	<u> </u>	<u> X </u>
	Base Map Sheets	<u> </u>	<u> X </u>
	Base Map Index Sheet(s)	<u> </u>	<u> X </u>

		<u>N/A</u>	<u>N/A</u>
	□ Rectified Photos with Mylar Originals	<u>N/A</u>	<u>N/A</u>
B.4.b.	System Feasibility Study	<u>N/A</u>	<u>N/A</u>
B.4.d.	Final Alternatives Report	<u>N/A</u>	<u>N/A</u>
B.5.a.(3)(d)	Noise Assessment Report	<u>N/A</u>	<u>N/A</u>
B.5.a.(4)(b)	Air Quality Report	<u>N/A</u>	<u>N/A</u>
		<u>CDOT/OTHER</u>	<u>CONSULTANT</u>
B.5.b.(2)	Archaeology Survey Report & Mitigation Plan	<u>X</u>	<u> </u>
B.5.c.(2)	Paleontology Preliminary Report & Mitigation Plan	<u>X</u>	<u> </u>
B.5.e.(1)	Water Quality Report	<u>N/A</u>	<u>N/A</u>
B.5.f.(5)	Ecology Report	<u>X</u>	<u> </u>
B.5.g.(1)	Historical Bridge Clearance or Mitigation Plan	<u>N/A</u>	<u>N/A</u>
B.5.g.(2)	Historical Cultural Resources Report	<u>X</u>	<u> </u>
B.5.h.(5)	Floodplain and Drainage Assessment Report & Mitigation Plan	<u> </u>	<u>X</u>
B.5.i.(2)(b)	ROW Report	<u> </u>	<u>X</u>
B.5.j.(2)(e)	4(f)/6(f) Mitigation Plan	<u>X</u>	<u> </u>
B.5.k.(1)(c)	Threatened and/or Endangered Species Assessment	<u>X</u>	<u> </u>
B.5.l.(2)(b)	Wetlands Findings Report	<u>X</u>	<u> </u>
B.5.m.(4)	Hazardous Materials Findings Environmental Assessment (EA)	<u>X</u>	<u> </u>
B.6.a.(3)	Preliminary EA	<u>N/A</u>	<u>N/A</u>
B.6.d.(3)	Certified Verbatim Transcript	<u>N/A</u>	<u>N/A</u>
B.6.e.	Finding of No Significant Impact (FONSI)	<u>N/A</u>	<u>N/A</u>
	Environmental Impact Statement		
B.7.a.(2)	Draft EIS	<u>N/A</u>	<u>N/A</u>
B.7.d.(3)	Certified Transcript of Meeting	<u>N/A</u>	<u>N/A</u>
B.7.e.	Final EIS	<u>N/A</u>	<u>N/A</u>
	Design Report Process		
B.8.b.	Preliminary Design Report	<u>X</u>	<u>X</u>
B.8.e.	Final Design Report	<u>X</u>	<u>X</u>

		<u>CDOT/OTHER</u>	<u>CONSULTANT</u>
Permits:			
B.9.a.	<input type="checkbox"/> 401 Permit	<u>X</u>	<u> </u>
B.9.b.	<input type="checkbox"/> 402 Permit	<u>X</u>	<u> </u>
B.9.c.	<input type="checkbox"/> 404 Permit	<u>X</u>	<u> </u>
B.9.d.	<input type="checkbox"/> Wildlife Certification	<u>X</u>	<u> </u>
B.9.e.	<input type="checkbox"/> NPDES Storm Water Permit	<u>X</u>	<u> </u>
C. Preliminary Design:			
C.1.	Electronic Survey	<u> </u>	<u>X</u>
C.2.g.	Traffic Data & Recommendations	<u>N/A</u>	<u>N/A</u>
C.3.a.(4)	Soils Investigation Report	<u>X</u>	<u> </u>
C.3.e.	Pavement Design Report	<u>X</u>	<u> </u>
C.3.f.	Existing Bridge Condition Report	<u>X</u>	<u> </u>
C.3.g.(6)	Foundation Investigation Report	<u>X</u>	<u> </u>
C.3.g.(7)	Engineering Geology Plan Sheet(s)	<u> </u>	<u> </u>
C.4.c.	Preliminary Hydraulics Report	<u> </u>	<u>X</u>
C.5.c.	Utility Relocation Recommendations	<u> </u>	<u>X</u>
C.5.d.	Ditch Structure Plans	<u> </u>	<u>X</u>
Part 2			
Right-of-Way:			
C.7.a.	Memoranda of Ownership	<u> </u>	<u>X</u>
C.7.b.	Preliminary Ownership Map (include in the FIR plan set)	<u> </u>	<u>X</u>
C.8.c.	Structural Selection Report	<u>X</u>	<u> </u>
C.8.d.	Foundation Investigation Request	<u>X</u>	<u> </u>
C.10.c	Preliminary Cost Estimate (CDOT run Transport)	<u>X</u>	<u> </u>
C.10.d.	FIR Plan Set	<u>X</u>	<u>X</u>
C.11.e.	List of Deviations from Standard Design Criteria	<u>X</u>	<u>X</u>
C.12.	Corrected FIR Plan Set	<u>X</u>	<u>X</u>

		<u>CDOT/OTHER</u>	<u>CONSULTANT</u>
D. Final Design:			
D.4.d.	Final Hydraulics Report	_____	<u> X </u>
D.5.a.	ROW Authorization Plans	_____	<u> X </u>
D.5.b.	Final Utility Plan Set	_____	<u> X </u>
D.5.c.(4)	Final Railroad Plan Set	_____	<u> N/A </u>
D.5.c.(5)	PUC Exhibit	_____	<u> N/A </u>
Right-of-Way:			
D.6.b.(4)	Area Calculations	_____	<u> X </u>
D.6.b.(5)	Authorization Plans	_____	<u> X </u>
D.6.b.(6)	Legal Descriptions	_____	<u> X </u>
Materials:			
D.7.c.	Stabilization Plan	<u> X </u>	_____
Traffic Engineering:			
D.8.a.	Signing/Pavement Marking Plans	<u> X </u>	_____
D.8.b.	Signal Warrants	<u> X </u>	_____
D.8.b.	Signalized Intersection Plans	<u> X </u>	_____
	and Specifications	<u> X </u>	_____
D.8.c.	Traffic Control Plan	<u> X </u>	_____
Roadside Planning:			
D.9.a.(6)	Landscaping Plans & Specs.	_____	<u> X </u>
D.9.a.(7)	Certification of plant	_____	_____
	Availability	_____	<u> X </u>
D.9.b.	Sprinkler System Plans & Specs.	_____	<u> X </u>
D.9.b.	Bikepath Plans & Specs.	<u> X </u>	_____
D.9.b.	Sound Barrier Plans & Specs.	<u> X </u>	_____
D.9.b.	Truck Escape Ramp Plans & Specs.	<u> N/A </u>	_____
D.9.b.	Rest Area Plans & Specs.	<u> N/A </u>	_____
D.9.c.	Lighting Plans	<u> X </u>	_____
D.11.c.	Structure Final Review Plans	_____	_____
	and Special Provisions	<u> X </u>	_____

D.12.	Construction Phasing Plan	<u> X </u>	<u> </u>
D.13.d.	FOR Plan Sheets and Special Provisions	<u> X </u>	<u> X </u>
D.13.e.	FOR Cost Estimate (CDOT runs Transport)	<u> X </u>	<u> X </u>
D.15.a.	FOR Revised Plans and Special Provisions	<u> X </u>	<u> X </u>
D.15.c.	Final Review Revisions	<u> X </u>	<u> X </u>

CDOT/OTHER CONSULTANT

Construction Plan Package:

D.15.d.(1)	Roadway Design Data Submittal	<u> X </u>	<u> </u>
D.15.d.(2)	Major Structure Design Final Submittal	<u> X </u>	<u> </u>
D.15.e.	Record Plan Sets	<u> X </u>	<u> X </u>

**SECTION 9
CONTRACT CONCLUSION**

9.02 Contract Completion.

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

- X Project Schedule
- X Project Progress Meeting Minutes
- X Traffic Control Plan(s)
- X All Documents Found In Research
- X All Permission to Enter Forms
- X Monumented & Surveyed Ground Control
- X Legally Deposited Control Survey Diagram(s)
- X Digital Inroads TMOSS Terrain and Topography Survey Data
- X Ownership Map
- X Original Field Notes
- X Survey Report (Including monument recovery forms)
- X Monumented and Sealed ROW Plans
- X Legally Deposited Survey Plans
- X Legal Descriptions (Signed and Sealed)
- X NOAA-NGS Blue Book
- X Final Record Set of Plans, Specifications, and Estimate
- X Construction Staking Data

and the completion of review of contract submittals.

**PROJECT SCOPE OF WORK
ATTACHMENTS**

- A. References
- B. Specific Design Criteria
- C. Definitions

ATTACHMENT A

ATTACHMENT A

References

REFERENCES

- A. AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS (AASHTO) PUBLICATIONS (using latest approved versions):
1. A Policy on Design Standards-Interstate System
 2. A Policy on Geometric Design of Highways and Streets
 3. Guide for Design of Pavement Structures
 4. Standard Specifications for Highway Bridges
 5. Guide for the Design of High Occupancy Vehicle and Public Transfer Facilities
 6. Guide for Development on New Bicycle Facilities
 7. Standard Specifications for Transportation Materials and Methods of Sampling and Testing - Part I, Specifications and Part II, Tests
 8. Highway Design and Operational Practices Related to Highway Safety
 9. Roadside Design Guide
- B. COLORADO DIVISION OF HIGHWAYS PUBLICATIONS (using latest approved versions):
1. Action Plan
 2. CDOT Design Guide (all volumes)
 3. CDOT Bridge Design Guide
 4. CDOT Bridge Detailing Manual
 5. Bridge Rating Manual
 6. Project Development Manual
 7. Wetlands and Water Quality
 8. Filed Log of Structures

ATTACHMENT A
References, Continued

9. Cost Data Book
10. Drainage Design Manual
11. CDOT Quality Manual (when updated)
12. Survey Manual
13. Field Materials Manual
14. CDOT Design Guide, Computer Aided Drafting (CAD)
15. Erosion Control and Storm water Quality Guide
16. Standard Plans, M & S Standards (also available on the Internet)
17. Standard Specifications for Road and Bridge Construction and CDOT Supplemental Specifications
18. Item Description and Abbreviations (with code numbers)" compiled by Cost Estimate Unit, CDOT (also available on the Internet)
19. Right-of-Way Manual, Chapter 2, Plans and Descriptions Procedures and General Information
20. The State Highway Access Code
21. Utility Manual
23. Inroads TMOSS Generic Format
24. Field Inroads TMOSS Topography Coding
25. Topography Modeling Survey System User Manual
26. Interactive Graphics System Symbol Table

C. CDOT PROCEDURAL DIRECTIVES (using latest approved versions):

- | | |
|------------|-----------------------------------|
| No. 400.2 | Monitoring Consultant Contracts |
| No. 501.2 | Cooperative Storm Drainage System |
| No. 514.1 | Field Inspection Review (FIR) |
| No. 516.1 | Final Office Review (FOR) |
| No. 1304.1 | Right-of-Way Plan Revisions |
| No. 1305.1 | Land Surveys |

ATTACHMENT A
References, Continued

No. 1601	Interchange Approval Process
No. 1700.3	Plans, Specifications and Estimates (PS & E) and Authorization to Advertise for Bids under Certification Acceptance (CA)
No. 1700.7	Plans and Specifications for Structure Plans under CA
No. 1700.8	Plans and Specifications for Traffic Engineering Plans under Certifications Acceptance
No. 1905.1	Preparation of Plans and Specifications for Structures prepared by Staff Bridge Branch

D. FEDERAL PUBLICATIONS (using latest approved versions):

1. Manual on Uniform Traffic Control Devices
2. Highway Capacity Manual
3. Urban Transportation Operations Training - Design of Urban Streets, Student Workbook
4. Reference Guide Outline - Specifications for Aerial Surveys and Mapping by Photogrammetric Methods for Highways
5. FHWA Federal-Aid Policy Guide
6. Technical Advisory T6640.8A
7. U.S. Department of Transportation Order 5610.1E
8. "Geometric Geodetic Accuracy Standards and Specifications for Using GPS Relative Positioning Techniques.

E. AREA:

1. Manual for Railway Engineering

ATTACHMENT B

ATTACHMENT B
Specific Design Criteria

SPECIFIC DESIGN CRITERIA

Note: The following criteria will be developed by the consultant and coordinated with the CDOT/PM prior to starting the design.

I. ROADWAY

1. BASIC DESIGN

The basis for design will be the data in CDOT Form 463, Design Data. A copy of the latest applicable Design Data form will be furnished to the consultant.

2. GEOMETRIC AND STRUCTURE STANDARDS:

a. Horizontal Curvature

- (1) Applicable Superelevation Standards:
- (2) Minimum radius of Curvature:
- (3) Use of Spirals:

b. Vertical Alignment:

- (1) Maximum gradient - 1990 CDOT Design Guide:
- (2) Length - 1990 CDOT Design Guide:

c. Sight Distance:

- (1) Stopping:
- (2) Passing:
- (3) Decision:

d. Superelevation

Applicable Standard:

e. Frontage Roads

Separation Width:

f. Access

1990 CDOT Design Guide and the latest Colorado State Highway Access Code

g. Airway - Highway Clearances

1990 CDOT Design Guide

h. Bridges and Grade Separation Structures

Clearances to Structures and Obstructions, CDOT 1990 Design Guide

i. Curbs and Gutters

Type:

ATTACHMENT B
Specific Design Criteria

3. GEOMETRIC CROSS SECTION
 - a. Travel Lane:
 - (1) Width:
 - (2) Crown Slope:
 - b. Shoulder:
 - (1) Width:
 - (2) Slope:
 - (3) Paved/Non-paved:
 - c. Side Ditches:
 - (1) 1996 CDOT Design Guide
 - (2) 1990 CDOT Design Guide
 - d. Side Slopes
 - (1) Cut-Less than 3:1
 - (2) 1990 CDOT Design Guide
 - e. Median:
 - (1) Width:
 - (2) Treatment:
4. INTERSECTIONS AT GRADE:
 - a. Type:
 - b. Special Considerations:
5. TRAFFIC INTERCHANGES:
 - a. Type:
 - b. Ramp Type:
 - c. Special Considerations:
6. 1990 CDOT Design Guide
7. ROADSIDE DEVELOPMENT:
 - a. Specifications for Revegetating Disturbed Areas to be provided by CDOT.
8. LIGHTING:
 - a. Type:

ATTACHMENT C

ATTACHMENT C
DEFINITIONS

DEFINITIONS

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
BAMS-	Bid Analysis and management Systems (now called Transport)
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
CDOT/STR-	Colorado Department of Transportation Structure Reviewer-The CDOT Engineer responsible for reviewing and coordinating major structural design.
CEA-	Council on Environmental Quality
COG-	Council of Governments
COGO-	CoOrdinate Geometry Output
CONSULTANT-	Consultant for this 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.

ATTACHMENT C
DEFINITIONS

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.
DEIS-	Draft Environmental Impact Statement
DHV-	Future Design Hourly Volume (two-way unless specified otherwise)
DOR-	Region Office Review
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
FEMA-	Federal Emergency Management Agency
FHPM-	Federal-Aid Highway Policy Guide
FHWA-	Federal Highway Administration
FIR-	Field Inspection Review
FONSI-	Finding of No Significant Impact
FOR-	Final Office Review
GPS-	Global Positioning System
MAJOR STRUCTURES-	Bridges and culverts with a total length greater than twenty feet (for walls 100 feet and maximum exposed height at any section of over five feet). This length is measured along the centerline of roadway for bridges and culverts, and is the horizontal distance along the top of wall for retaining walls. Overhead structures (sign bridges, cantilevers and butterflies extending over traffic) are also major structures.

ATTACHMENT C
DEFINITIONS

MPO-	Metropolitan Planning Organization Denver Regional Council of Governments Pikes Peak Area Council of Governments Grand Junction MPO Pueblo MPO North Front Range Council of Governments
NEPA-	National Environment Policy Act
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
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	Species-Threatened and/or Endangered Species
SH-	State Highway Numbers
Inroads TMOSS-	Terrain Modeling Survey System
TOPOGRAPHY-	In the context of CDOT plans, topography normally refers to existing cultural or man-made details.
UD & FCD-	Urban Drainage and Flood Control Region

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