REQUEST FOR PROPOSAL

LOWER FOURMILE CREEK STREAM RESTORATION PROJECT

RFP #6654-17

SUBMITTAL DUE DATE

May 17, 2017
10:00 a.m.

BOULDER COUNTY PURCHASING

2025 14TH STREET
BOULDER CO 80302

Purchasing@bouldercounty.org

REQUEST FOR PROPOSAL
LOWER FOURMILE CREEK STREAM RESTORATION PROJECT
RFP #6654-17

Boulder County is accepting proposals from qualified contractors to provide stream restoration services for Lower Fourmile Creek related to flood recovery from the September 2013 Flood.

Attachments

This Request for Proposals, RFP #6654-17, contains the following attachments:

Attachment A-1: Lower Fourmile Creek Stream Restoration Plans
(DROPBOX LINK TO ATTACHMENT A-1 LOWER FOURMILE CREEK STREAM RESTORATION PLANS)
https://www.dropbox.com/s/3v4l6ufrae3rczo/Attachment%20A-1%20-%20LFM_Stream_Plans.pdf?dl=0
Attachment A-2: Lower Fourmile Creek Specifications
Attachment B-1: Stream Restoration Project Form
Attachment B-2: Revegetation Project Form
Attachment C: Bid Schedule

Specifications and a sample contract with an NRCS/EWP specific addendum are attached. The successful proposer shall execute the attached addendum as part of any contract with the county, and comply with all NRCS/EWP requirements set forth in that addendum.

Mandatory Pre-Proposal Meeting

A mandatory pre-proposal meeting will be held on Friday, April 28, 2017 at 11:00 a.m. at the Boulder County Transportation Department, 2525 13th Street, Suite 203, Boulder, Colorado. Please allow time to park prior to the meeting. Boulder County highly recommends that potential bidders visit the project site prior to the pre-proposal meeting.

Proposals from firms not represented at the mandatory, pre-proposal meeting will not be accepted.

Written Inquiries

All inquiries regarding this RFP shall be submitted via email to the Boulder County Purchasing Office at purchasing@bouldercounty.org on or before **4:00 p.m. May 4, 2017**. A response from the County to all inquiries shall be posted and sent via email no later than **3:00 p.m. May 10, 2017**.

Submittal Instructions

Submittals are due at the Administrative Services Front Desk or the email box (preferred) listed below, for time and date recording on or before **10:00 a.m. Mountain Time on May 17, 2017**.

Your response can be submitted in the following ways. Please note that email responses to this solicitation are preferred, but are limited to a maximum of 25MB capacity. NO ZIP FILES ALLOWED. Electronic Submittals must be received in the e-mail box listed below. Submittals sent to any other box will NOT be forwarded or accepted. This e-mail box is only accessed on the due date of your questions or proposals. Please use the Delivery Receipt option to verify receipt of your email. It is the sole responsibility of the proposer to ensure their documents are received before the deadline specified above. Boulder County does not accept responsibility under any circumstance for delayed or failed email or mailed submittals.

E-Mail purchasing@bouldercounty.org; identified as **RFP #6654-17** in the subject line.

-OR-

US Mail **One (1)** unbound copy of your submittal, printed double-sided, 11 point, on at least 50% post-consumer, recycled paper must be submitted in a sealed envelope, clearly marked as **RFP #6654-17**, to the Administrative Services Front Desk at 2025 14th Street, Boulder, CO 80302.

All RFPs must be received and time and date recorded by authorized county staff by the above due date and time. Sole responsibility rests with the Offeror to see that their RFP response is received on time at the stated location(s). Any responses received after due date and time will be returned to the offeror.

The Board of County Commissioners reserves the right to reject any and all responses, to waive any informalities or irregularities therein, and to accept the proposal that, in the opinion of the Board, is in the best interest of the Board and of the County of Boulder, State of Colorado.

Americans with Disabilities Act (ADA): If you need special services provided for under the Americans with Disabilities Act, contact the ADA Coordinator or the Human Resources office at (303) 441-3525 at least 48 hours before the scheduled event.

TERMS AND CONDITIONS

1. Proposers are expected to examine the drawing, specifications, schedule of delivery, and all instructions. Failure to do so will be at the bidder's risk.

2. Each bidder shall furnish the information required in the Request for Proposals.

3. The Contract/Purchase Order will be awarded to that responsible bidder whose submittal, conforming to the Request for Proposals, will be most advantageous to the County of Boulder, price and other factors considered.

4. The County of Boulder reserves the right to reject any or all proposals and to waive informalities and minor irregularities in bids received, and to accept any portion of or all items proposed if deemed in the best interest of the County of Boulder to do so.

5. No submittal shall be withdrawn for a period of thirty (30) days subsequent to the opening of bids without the consent of the County Purchasing Agent or delegated representative.

6. A signed purchase order or contract furnished to the successful bidder results in a binding contract without further action by either party.

7. Late or unsigned proposals will not be accepted or considered. It is the responsibility of proposers to insure that the proposal arrives at the Administrative Services Front Desk or appropriate email box prior to the time indicated in the "Request for Proposals."

8. The proposed price shall be exclusive of any Federal or State taxes from which the County of Boulder is exempt by law.

9. Any interpretation, correction or change of the RFP documents will be made by Addendum. Interpretations, corrections and changes of the RFP documents made in any other manner will not be binding, and proposer shall not rely upon such interpretations, corrections and changes. The County's Representative will not be responsible for oral clarification.

10. Confidential/Proprietary Information: Proposals submitted in response to this "Request for Proposals" and any resulting contract are subject to the provisions of the Colorado Public (Open) Records Act, 24-72-201 et.seq., C.R.S., as amended. Any restrictions on the use or inspection of material contained within the proposal and any resulting contract shall be clearly stated in the proposal itself. Confidential/proprietary information must be readily identified, marked and separated/packaged from the rest of the proposal. **Co-mingling of confidential/proprietary and other information is NOT acceptable. Neither a proposal, in its entirety, nor bid price information will be considered confidential/proprietary. Any information that will be included in any resulting contract cannot be considered confidential.**

11. Boulder County promotes the purchase/leasing of energy efficient, materials efficient and reduced toxic level products where availability, quality and budget constraints allow. Bidders are expected whenever possible to provide products that earn the ENERGY STAR and meet the ENERGY STAR specifications for energy efficiency with power management features enabled. Bidders are encouraged to offer products and equipment with post-consumer recycled-content materials. Products should be packaged and delivered with a minimum amount of recycled packaging that adequately protects the product, but is not excessive.

SPECIFICATIONS
RFP #6654-17
LOWER FOURMILE CREEK STREAM RESTORATION

BID, PAYMENT & PERFORMANCE BONDS

The proposal guaranty shall be a certified check, cashier's check, or bid bond in the amount of 10% of the Contractor's total bid. In addition, a payment and a performance bond are required for this project and must equal 100% of the proposed cost. Please include the cost of this bonding into the total proposed cost.

INSURANCE REQUIREMENTS

General Liability

$1,000,000 Each Occurrence
$2,000,000 General Aggregate
$2,000,000 Products Completed Operations Aggregate
3 years Products/Completed Operations

Excess or Umbrella $3,000,000

Automobile Liability

$1,000,000 Each Accident
*Including Hired & Non-Owned auto

Worker's Compensation and Employer's Liability

Statutory limits

Pollution Liability

$1,000,000 Per Loss
$1,000,000 Aggregate
Coverage maintained or extended discovery period for 3 years

Note that the above insurance amounts are the minimum required for this project. **Proof of current insurance must be provided with your proposal in the form of a sample certificate or your proposal will be deemed non-responsive.** If you require a waiver of insurance requirements (e.g. Workers' Compensation and sole proprietorships) you may request one in your response with an explanation.

New certificates will be requested if the contract process takes more than 30 days after an award.

W-9 REQUIREMENT

Provide a copy of your business's W-9 with your proposal.

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SCOPE OF WORK

The contractor shall propose to furnish all labor, machinery, equipment, materials and supplies, and to sustain all the expense incurred in doing the work per the proposal schedule, and in pursuance of a certain advertisement of the County Commissioners, County of Boulder, of the State of Colorado, and in accordance with the full Plans, details, and Specifications as prescribed by the Boulder County Engineer. The Colorado Department of Transportation's Standard Specifications for Road and Bridge Construction - 2011, and as revised by the special provisions, shall be used to control work on this project. The items of work and unit prices contained in the Proposal Schedule are described in and are a part of the Standard Specifications and are to be the method of measurement of the project quantities and the basis of payment. The project plans and specifications are included in Attachment A-1 and Attachment A-2.

The plans provided in this bid package have been developed to a 30% design level. The Stream Restoration Design Engineer (Engineer) will work directly with the Contractor in a design-build approach, in accordance with Colorado Water Conservation Board (CWCB) guidelines, to complete the stream restoration. The plans have identified all major design components and provide sufficient detail for the Contractor and Engineer to begin construction working together daily, on-site to ensure plans are being interpreted correctly and make field-fit modifications as necessary.

The quantity of materials to be installed will be affected by the actual conditions that occur during the construction of the project. The quantity of materials may be increased, decreased, or eliminated entirely as directed by the Engineer. Such variations in quantity will not be considered as alterations in the details of construction or a change in the character of the work.

The Contractor shall submit a Stream Restoration Impacts Plan for approval to the Engineer prior to any construction work. The plan shall define the plan work limits for the stream restoration activities, including: Areas of disturbance, method of delineating work and staging areas in the field, access points and any other relevant information associated with stream restoration work.

Working with Property Owners

Stream restoration work for this project will occur primarily on private property. Property owners have given Boulder County permission to complete the project. The contractor shall communicate project status and progress with the property owners. The contractor will address all landowner requests and concerns through Boulder County Construction Management consultant or Boulder County staff. Under no circumstance will the contractor do work for a landowner that is not approved by the design engineer and coalition staff.

Revegetation

The project will include revegetation of the stream bank, lowland riparian areas, and upland riparian areas of the project limits. Boulder County has a supply of native wetland plants, shrubs and trees. The Contractor shall use this source of plants, if available.

For plant material supplied by the contractor, the source of seed or propagules must be from native ecotypes local to Boulder County and either originating from Boulder County or from

another pre- approved Colorado local source, such as a neighboring county. Collections shall be from native Colorado stands. Horticultural cultivars or varieties of listed species are prohibited.

While not exhaustive, the following is a preliminary list of nurseries that in the past have supplied Boulder County with plants that meet these criteria:

- AlpineEco Nursery, (303) 586-5014 (Buena Vista, CO)
- Aquatic & Wetland Nursery, LLC, (303) 442-4766 (Ft. Lupton, CO)
- Colorado State Forest Service Nursery, (970) 491-8429 (Fort Collins, CO)
- Fort Collins Wholesale Nursery, (970) 484-1289 (Fort Collins, CO)
- Lawyer Nursery, Inc., (406) 826-3881 (Plains, MT)
- Little Valley Wholesale Nursery, (303) 659-6708 (Brighton, CO)
- North Fork Native Plants, (208) 354-3691 (Rexburg, ID)

Project Schedule

This project is grant-funded and must adhere to strict deadlines. Boulder County estimates that a Notice-to-Proceed for this project will be issued no later than **July 14, 2017**.

All work on the project must be completed by **December 21, 2017**.

A final invoice must be submitted to Boulder County no later than **December 31, 2017.**

Funding Availability

This project is grant-funded and the budget is limited to the grant funding available. Boulder County reserves the right to revise the scope of work to meet funding amounts. Contractors will be paid the contracted per unit cost.

SUBMITTAL AND EVALUATION
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LOWER FOURMILE CREEK STREAM RESTORATION

Evaluation

Proposals will be evaluated based upon the criteria in Table 1.

Table 1. Evaluation Criteria and Maximum Evaluation Score

Evaluation Criteria	Maximum Evaluation Score
Responsive to RFP	**Pass/fail**
Experience and Qualifications	40
Project Understanding/ Mitigation of Potential Risks	15
Proposed Schedule and Work Capacity	20
Cost Proposal	25
Total Maximum Score	**100**

Experience and Qualifications

The Experience and Qualifications criteria will be judged based on the unique qualifications of the contractor and the proposed project team to do the proposed work. Areas of emphasis for qualifications include, but are not limited to, experience and success in the following areas:

- Constructing in the wet and mitigating construction-related erosion and sediment transport
- Refined stream grading in tight spaces
- Constructing in-stream and bank protection structures shown in the plans and specifications
- Working in similar ecological environments with species requirements similar to that of Boulder County.
- Conducting stream restoration work on sites owned by multiple private property owners with different needs and sensitivities
- Proven capacity to meet schedule requirements
- Procuring construction permits
- Revegetation contractor experience including:
    - Post-planting success rate
    - Knowledge of local native plant species
    - Experience on large-scale sites with installation of over 1,000 live plants
    - Experience planting in elevations exceeding 6,000 feet

Boulder County will consider previous experience by the construction team implementing stream channel modifications, stream bank stabilization, floodplain revegetation, previous flood recovery work, revegetation, understanding of the unique permitting requirements of river related construction projects, and previous experience working on Colorado watersheds. Boulder County will also consider prior experience with projects funded in whole or in part with federal funding.

Team experience and qualifications will be judged by the qualifications of the proposed key team members. This section of the proposal will include position responsibilities, the experience of each member of the team in areas of responsibility, and key team member's experience working together (continuity).

Project Understanding/Mitigation of Potential Risks
Project Understanding/Mitigation of Potential Risks criteria will be judged based on a demonstrated understanding of the project goals and objectives, potential project risks, and proposed approaches to mitigate those risks.

Proposed Work Schedule and Workload Capacity:
Proposed Work Schedule and Workload Capacity criteria will be judged based on the demonstrated capacity of the contractor to complete the work prior to December 21, 2017 and understanding of project components and scheduling.

Cost Proposal
The cost proposal criteria will be judged based on the reasonableness of the cost proposed in relation to the engineering cost estimate.

Submittal

Please submit the following information with your proposal:

I. Company Details

Include at a minimum:

- Company name
- Address
- Phone number
- Contact information
- Proof of insurance and licensing
- Overview of firm

II. Qualifications of Proposer

Specific qualifications related to the project shall be submitted as required below.

A. Experience and Qualifications

1. Provide a narrative of the company background and relevant experience. Provide between 3 and 6 relevant project examples using Attachment B-1: Stream Restoration Project Form. Describe project work performed on stream stabilization improvements, stream and floodplain restoration, flood recovery, and revegetation and note whether the project was federally funded. In addition, if your team includes a vegetation sub-contractor, please provide between 3 and 6 relevant revegetation project examples using Attachment B-2: Revegetation Project Form.
2. Include CVs or other language to describe key staff and indicate experience of individuals in terms of linear feet of stream restoration managed or performed, number of various in-stream structures constructed, and linear feet of various bank protection types constructed.

B. Project Understanding/Mitigation of Potential Risks

Provide a narrative discussing:

- Your understanding of project goals and objectives
- Potential risks that may directly affect cost, schedule, or project success
- Proposed contractor activities to mitigate the identified risk.

C. Proposed Work Schedule and Workload Capacity

Due to the time sensitive nature of the project grant, contractor workload capacity is a critical element of project success. Project construction must be completed by December 21, 2017 and the final project invoice must be received by Boulder County by December 31, 2017.

The proposal shall include:

- A proposed work schedule showing milestone deliverables and dates
- The team's workload capacity and commitments from July 1, 2017 to December 21, 2017
- A statement of the company's commitment to accomplish the project in the proposed timeline
- A narrative of alternative methods to achieve results should project challenges require additional or new team members or resources.

III. Cost Proposal

Complete Attachment C: Bid Schedule. **Please submit a PDF version AND an Excel version of the Bid Schedule.** Note that final quantities may change due to changes in the project scope and field conditions.

SIGNATURE PAGE

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Failure to complete, sign and return this signature page with your proposal may be cause for rejection.

Contact Information	Response
Company Name including DBA	
List Type of Organization (Corporation, Partnership, etc.)	
Name and Title of Person Authorized to Contract with Boulder County	
Name and Title of Person Submitting Bid	
Email Address for Person Submitting Bid	
Company Address	
Company Phone Number	
Company Website	
Company Fax Number	

By signing below I certify that:
I am authorized to bid on my company's behalf**.**
I am not currently an employee of Boulder County.
None of my employees or agents is currently an employee of Boulder County.
I am not related to any Boulder County employee or Elected Official.
I am not a Public Employees' Retirement Association (PERA) retiree.

_____ _____

Signature of Person Authorized to Bid on Company's Behalf **Date**

Note: If you cannot certify the above statements, please explain in a statement of explanation**.**

BOULDER COUNTY (name of service contracting for) CONTRACT

THIS CONTRACT ("Contract") is entered into between the County of Boulder, State of Colorado, acting by and through its Board of County Commissioners ("County") and (name of company) ("Contractor"), (collectively, the "Parties").

In consideration of the rights and obligations specified below, the County and the Contractor agree as follows:

1. Incorporation into Contract: The following documents (the "Contract Documents) are each expressly incorporated into this Contract by reference:
   a. *The Request for Proposals and Bid Specifications of Boulder County RFP No.* 6654-17 together with any alterations and/or modifications to these Specifications(the "Bid Documents");
   b. Contractor's proposal in response to the Bid Document (the "Proposal");
   c. National Resources Conservation Services (NRCS) Emergency Watershed Protection Program Requirements for Procurement Contracts, attached hereto as Addendum A.
   d. Natural Resources Conservation Service (NRCS) Supplement, attached hereto as Exhibit A.
   e. Lower Fourmile Creek EWP (Poorman) Stream Restoration Project Grant Agreement(CFDA#10.923) entered into between the State of Colorado and Boulder County.

2. Work to be Performed: The Contractor will, in a good and workmanlike manner and at its own cost and expense, furnish all labor and equipment and do all work necessary and incidental to performing (specify type of work) as specified in the Contract Documents and this Contract (the "Work"). The Contractor shall perform the Work in strict accordance with the Bid Documents and this Contract.

3. Term and Time: This Contract shall begin and become effective on and as of the date of execution by the parties which date is specified on the signature page of this Contract.

It is further agreed that time is of the essence, however, this project is contingent upon Boulder County receiving grant funding from the EWP program. Contractor shall not begin work until the County receives an executed grant agreement from the State of Colorado; a Notice to Proceed will be issued to Contractor after the County receives the grant agreement from the State of Colorado, until that time, all work is prohibited.

The Project mobilization will commence within ten (10) business days of approval of all permits, and when a Notice to Proceed has been issued by the County.

THE PROJECT IS TO BE COMPLETED ON OR BY THURSDAY, DECEMBER 21, 2017 UNLESS DETERMINED DIFFERENTLY BY THE COUNTY, IN ITS SOLE

DISCRETION, in writing. The Contract shall be in full force and effect, subject to the Termination provisions as set forth in paragraph 14 of this Contract.

Final pay estimates shall be submitted within 10 days of completion of work.

4. Payment for Work Performed: In consideration of the Work to be performed by the Contractor, and subject to paragraph 14, the County shall pay to the Contractor, in accordance with the Bid Documents, $ (contract price) .

5. Extension and/or Renewal of Contract Term:

a. The County, in its sole discretion, may elect to extend the term of this Contract. In the event the County elects to exercise this right, it shall send notice to Contractor, pursuant to paragraph 15, of its intent to extend the term of the Contract. The notice shall set forth the length of the extension.

b. Upon mutual agreement by the parties, this Contract may be renewed for four additional one-year periods through date during which time this Contract shall be in full force and effect, subject to the termination provisions of paragraph 14. If this option to renew is exercised, the parties shall execute a written agreement no later than thirty (30) days before the expiration of this Contract or any subsequent renewals.

c. All of the provisions of this Contract shall remain in full force and effect during any extension or renewed term except that the scope of services and compensation to be paid to Contractor during any extension or renewed term shall be mutually agreed upon prior to the commencement of any extension or renewed term. The agreed upon scope of services and compensation shall be reduced to writing, signed by both parties, and attached to this Contract.

d. **TEN CALENDAR DAYS BEFORE THE COMMENCEMENT OF ANY EXTENDED TERM THE CONTRACTOR SHALL SUBMIT TO THE COUNTY PROOF OF INSURANCE AS REQUIRED IN PARAGRAPH 9.**

e. Should the Parties fail to agree upon the scope of services or compensation to be paid to Contractor for any extension or renewed term, or should Contractor fail to submit the required documents within the time period specified in paragraph 5(d), then this Contract shall terminate at the end of the then current term and no extension or renewal of the term of the Contract shall occur.

6. Quality of Performance: The Contractor shall perform the Contract in a manner satisfactory and acceptable to the County. The County shall be the sole judge of the quality of performance.

7. Schedule of Work: The Contractor shall perform the Work during the hours designated by the County so as to avoid inconvenience to the County and its personnel and interference with the County's operations.

8. Indemnity: The Contractor shall be liable and responsible for any and all damages to persons or property caused by or arising out of the actions, obligations, or omissions of the Contractor, its employees, agents, representatives or other persons acting under the Contractor's direction or control in performing or failing to perform the Work under this Contract. The Contractor will indemnify and hold harmless the County, its elected and appointed officials, and its employees, agents and representatives (the "indemnified parties"), from any and all liability, claims, demands, actions, damages, losses, judgments, costs or expenses, including but not limited to attorneys' fees, which may be made or brought or which may result against any of the indemnified parties as a result or on account of the actions or omissions of the Contractor, its employees, agents or representatives, or other persons acting under the Contractor's direction or control.

9. Insurance Requirements: The Contractor shall procure and maintain at its own expense, and without cost to the County, the following kinds and minimum amounts of insurance for purposes of insuring the liability risks which the Contractor has assumed until this Contract has expired or is terminated:

a. Commercial General Liability.

Construction Contracts only – include the following paragraph:

Coverage should be provided on an Occurrence form, ISO CG0001 or equivalent. The policy shall be endorsed to include Additional Insured endorsements CG 2010 (or equivalent), Designated Construction Projects General Aggregate Endorsement CG2503 (or equivalent) and Additional Insured (for products/completed operations) CG 2037 (or equivalent). Minimum limits required of $1,000,000 Each Occurrence, $2,000,000 General Aggregate and $2,000,000 Products Completed Operations Aggregate". The County requires Products/Completed Operations coverage to be provided 3 years after completion of construction. An endorsement must be included with the certificate.

b. **Automobile Liability.**

Bodily Injury and Property Damage for any owned, hired, and non-owned vehicles used in the performance of the Contract. Minimum limits $1,000,000 Each Accident.

c. **Workers' Compensation and Employer's Liability**.

Workers' Compensation must be maintained with the statutory limits. Employer's Liability is required for minimum limits of $100,000 Each Accident/$500,000 Disease-Policy Limit/$100,000 Disease-Each Employee.

d. **Umbrella / Excess Insurance**

Umbrella/Excess Liability insurance in the amount $3,000,000.00, following form.

e. Pollution Liability.

Coverage shall cover the Contractor's completed operations. The coverage must also include sudden and gradual pollution conditions including clean-up costs when mandated by governmental authority, when required by law or as a result of a third party claim. Minimum limits required are $1,000,000 Per Loss and $1,000,000 Aggregate. If the coverage is written on a claims-made basis, the Contractor warrants that any retroactive date applicable to coverage under the policy precedes the effective date of this Contract; and that continuous coverage will be maintained or an extended discovery period will be exercised for a period of three (3) years beginning from the time that work under this contract is completed.

The Contractor shall provide a Certificate of Insurance to Boulder County demonstrating that the insurance requirements have been met prior to the commencement of Work under this Contract. Boulder County shall be named as an additional insured for General Liability and Pollution Liability, as designated in the contract. Additional insured shall be endorsed to the policy.

THE ADDITIONAL INSURED WORDING SHOULD BE AS FOLLOWS*: County of Boulder, State of Colorado, a body corporate and politic, is named as Additional Insured.*

Contractor shall forward certificates of insurance directly to **(_____) Agency / Department Representative's Name & Address)**.

Notice of Cancellation: Each insurance policy required by the insurance provisions of this Contract shall provide the required coverage and shall not be suspended, voided or canceled except after thirty (30) days prior written notice has been given to the County, except when cancellation is for non-payment of premium, then ten (10) days prior notice may be given. If any insurance company refuses to provide the required notice, the Contractor or its insurance broker shall notify the County of any cancellation, suspension, and/or nonrenewal of any insurance within seven (7) days of receipt of insurers' notification to that effect.

Please forward certificates to the county representative named above.

10. Nondiscrimination: The Contractor agrees to comply with the letter and spirit of the Colorado Anti-Discrimination Act, C.R.S. § 24-34-401, et seq., as amended, and all applicable local, state and federal laws respecting discrimination and unfair employment practices. Boulder County prohibits unlawful discrimination on the basis of race, color, religion, gender, gender identity, national origin, age 40 and over, disability, socio-economic status, sexual orientation, genetic information, or any other status protected by applicable federal, state or local law and the Boulder County Policy manual (of which is available upon request).

11. Nondiscrimination Provisions Binding on Subcontractors: In all solicitations by the Contractor for any Work related to this Contract to be performed under a subcontract, either by competitive bidding or negotiation, the Contractor shall notify each potential subcontractor of the Contractor's obligations under this Contract, and of all pertinent regulations relative to nondiscrimination and unfair employment practices.

12. Information and Reports: The Contractor will provide to authorized governmental representatives, including those of the County, State and Federal Government, all information and reports which they may require for any purpose authorized by law. The Contractor will permit such authorized governmental representatives access to the Contractor's facilities, books, records, accounts, and any other relevant sources of information. Where any information required by any such authorized government representative is in the exclusive possession of a person other than the Contractor, then such Contractor shall so certify to the County, and shall explain what efforts it has made to obtain the information.

13. Independent Contractor: The Parties recognize and agree that the Contractor is an independent contractor for all purposes, both legal and practical, in performing services under this Contract, and that the Contractor and its agents and employees are not agents or employees of Boulder County for any purpose. As an independent contractor, the Contractor shall be responsible for employing and directing such personnel and agents as it requires to perform the services purchased under this Contract, shall exercise complete authority over its personnel and agents, and shall be fully responsible for their actions.

Contractor acknowledges that it is not entitled to unemployment insurance benefits or workers' compensation benefits from Boulder County, its elected officials, agents, or any program administered or funded by Boulder County. Contractor shall be entitled to unemployment insurance or workers' compensation insurance only if unemployment compensation coverage or workers' compensation coverage is provided by Contractor, or some other entity that is not a party to this Contract. Contractor is obligated to pay federal and state income tax on any monies earned pursuant to this Contract.

14. Termination and Related Remedies:

a. The other provisions of this Contract notwithstanding, financial obligations of Boulder County payable after the current fiscal year are contingent upon funds for that purpose being appropriated, budgeted and otherwise made available. **Boulder County is prohibited by law from making financial commitments beyond the term of its current fiscal year.** The County has contracted for goods and/or services under this Contract and has reason to believe that sufficient funds will be available for the full term of the Contract. Where, however, for reasons beyond the control of the Board of County Commissioners as the funding entity, funds are not allocated for any fiscal period beyond the one in which this Contract is entered into, the County shall have the right to terminate this Contract by providing seven (7) days written notice to the Contractor pursuant to paragraph 15, and will be released from any and all obligations hereunder. If the County terminates the Contract for this reason, the County and the Contractor shall be released from all obligations to perform Work and make payments hereunder, except that the County shall be required to make payment for Work which has been performed by the Contractor prior to the effective date of termination under this provision; and, conversely, the Contractor shall be required to complete any Work for which the County has made payment prior to providing written notice to the Contractor of the termination.

b. The preceding provisions notwithstanding, the County may terminate this Contract,

either in whole or in part, for any reason, whenever the County determines that such termination is in the County's best interests. Such termination shall be effective after the County provides seven (7) days written notice to the Contractor pursuant to paragraph 15.

c. In the event the County exercises either of the termination rights specified in paragraphs 14(a) or 14(b), this Contract shall cease to be of any further force and effect, with the exception of all Contract remedies which are specified herein and may otherwise be available to the parties under the law, and with the exception of any rights or liabilities of the parties which may survive by virtue of this Contract.

15. Notices: For purposes of the notices required to be provided under paragraphs 5, 9, and 14, all such notices shall be in writing, and shall be either sent by Certified U.S. Mail - Return Receipt Requested, Electronic Mail, or hand-delivered to the following representatives of the parties at the following addresses:

For the County: (enter DH/EO's name, Department, Mailing and Email Address)
For the Contractor: (enter Contractor's name, Mailing and Email Address)

In the event a notice is mailed pursuant to the provisions of this paragraph, the time periods specified in paragraph 14 shall commence to run on the day after the postmarked date of mailing.

16. Statutory Requirements: This Contract is subject to all statutory requirements that are or may become applicable to counties or political subdivisions of the State of Colorado generally. Without limiting the scope of this provision, the Contract is specifically subject to the following statutory requirement:

Contract payments may be withheld pursuant to C.R.S. § 38-26-107 if the County receives a verified statement that the Contractor has not paid amounts due to any person who has supplied labor or materials for the project.

17. Prohibitions on Public Contract for Services:

Pursuant to Colorado Revised Statutes (C.R.S.), § 8-17.5-101, et seq., as amended, the Contractor shall meet the following requirements prior to signing this Contract (public contract for service) and for the duration thereof:

A. The Contractor shall not knowingly employ or contract with an illegal alien to perform work under this public contract for services.

B. The Contractor shall not enter into a contract with a subcontractor that fails to certify to the Contractor that the subcontractor shall not knowingly employ or contract with an illegal alien to perform work under this public contract for services.

C. At the time of signing this public contract for services, the Contractor has confirmed the employment eligibility of all employees who are newly hired for

employment to perform work under this public contract for services through participation in either the E-Verify Program or the Department Program.

D. The Contractor shall not use either the E-Verify Program or the Department Program procedures to undertake pre-employment screening of job applicants while this public contract for services is being performed.

E. If Contractor obtains actual knowledge that a subcontractor performing work under this public contract for services knowingly employs or contracts with an illegal alien, the Contractor shall: notify the subcontractor and the County within three days that the Contractor has actual knowledge that the subcontractor is employing or contracting with an illegal alien; and, terminate the subcontract with the subcontractor if within three days of receiving the notice required pursuant to the previous sentence, the subcontractor does not stop employing or contracting with the illegal alien; except that the contractor shall not terminate the contract with the subcontractor if during such three days the subcontractor provides information to establish that the subcontractor has not knowingly employed or contracted with an illegal alien.

F. Contractor shall comply with any reasonable requests by the Department of Labor and Employment (the Department) made in the course of an investigation that the Department is undertaking pursuant to the authority established in C.R.S. § 8-17.5-102(5).

G. If Contractor violates any provisions of this Section of this Contract the County may terminate this Contract for breach of contract. If the Contract is so terminated, the Contractor shall be liable for actual and consequential damages to the County.

18. Amendments: This Contract may be altered, amended or repealed only on the mutual agreement of the County and the Contractor by a duly executed written instrument.

19. Assignment: This Contract shall not be assigned or subcontracted by the Contractor without the prior written consent of the County.

20. Complete Agreement/Binding Effect: This agreement represents the complete agreement between the Parties hereto and shall be fully binding upon the successors, heirs, and assigns of the Parties, if any, during the term hereof.

21. Governing Law: The laws of the State of Colorado shall govern the interpretation and enforcement of this Contract. Any litigation that may arise between the parties involving the interpretation or enforcement of the terms of this Contract shall be initiated and pursued by the parties in the Courts of the 20th Judicial District of the State of Colorado and the applicable Colorado Appellate Courts.

22. Breach: Any waiver of a breach of this Contract shall not be held to be a waiver of any other or subsequent breach of this Contract. All remedies afforded in this Contract shall be taken and construed as cumulative, that is, in addition to every other remedy provided herein or by law.

23. Termination of Prior Agreements: This Contract cancels and terminates, as of its effective date, all prior agreements between the parties relating to the services covered by this Contract, whether written or oral or partly written and partly oral.

24. Invalidity Provision: Should any of the provisions of this Contract be held to be invalid or unenforceable, then the balance of the agreement shall be held to be in full force and effect as though the invalid portion was not included; provided, however, that should the invalidity or unenforceability go to the essence of the agreement or be of substantial nature, then the Party or Parties who would receive the benefit of the provision, were it not invalid or unenforceable, shall have the option to terminate this Contract, forthwith.

25. Third Party Beneficiary: The enforcement of the terms and conditions of this Contract and all rights of action relating to such enforcement shall be strictly reserved to the County and the Contractor, and nothing contained in this Contract shall give or allow any claim or right of action whatsoever by any other or third person. It is the express intent of the parties to this Contract that any person receiving services or benefits under this Contract shall be deemed an incidental beneficiary only.

26. Conflict of Provisions: In the event of any conflict between the terms of this Contract and the terms of any attachments or addenda, the terms of this Contract shall control.

27. Governmental Immunity: Nothing in this Contract shall be construed in any way to be a waiver of the County's immunity protection under the Colorado Governmental Immunity Act, C.R.S. § 24-10-101, et seq., as amended.

28. Execution by Counterparts; Electronic Signatures: This Contract may be executed in two or more counterparts, each of which shall be deemed an original, but all of which shall constitute one and the same instrument. The Parties approve the use of electronic signatures for execution of this Contract Only the following two forms of electronic signatures shall be permitted to bind the Parties to this Contract: (1) Electronic or facsimile delivery of a fully executed copy of a signature page; (2) The image of the signature of an authorized signer inserted onto PDF format documents. All use of electronic signatures shall be governed by the Uniform Electronic Transactions Act, C.R.S. §§ 24-71.3-101 to 121.

[Signature Page to Follow]

IN WITNESS WHEREOF, the Parties have executed and entered into this Contract as of the latter day and year indicated below.

Executed by Boulder County on _____.
(date)

COUNTY OF BOULDER
STATE OF COLORADO

ATTEST: _____

By: _____
Administrative Assistant
Clerk to the Board of Commissioners

(seal)

By: _____
Elise Jones, Chair,
Board of County Commissioners

Executed by Contractor on _____.
(date)

CONTRACTOR:

Signature: _____

Title: _____

Print Name: _____

CONTRACTOR'S CERTIFICATION OF COMPLIANCE

Pursuant to Colorado Revised Statutes, § 8-17.5-101,et seq., as amended, as a prerequisite to entering into a contract for services with Boulder County, Colorado, the undersigned Contractor hereby certifies that at the time of this certification, Contractor does not knowingly employ or contract with an illegal alien who will perform work under the attached contract for services and that the Contractor will participate in the E-Verify Program or Department program, as those terms are defined in C.R.S. § 8-17.5-101, et seq., in order to confirm the employment eligibility of all employees who are newly hired for employment to perform work under the attached contract for services.

CONTRACTOR:

_____ _____

Company Name Date

_____

Name (Print or Type)

_____

Signature

_____

Title

Note: Registration for the E-Verify Program can be completed at: https://e-verify.uscis.gov/enroll/.

ADDENDUM A TO CONTRACT

NATIONAL RESOURCES CONSERVATION SERVICES (NRCS)

EMERGENCY WATERSHED PROTECTION PROGRAM

REQUIREMENTS FOR PROCUREMENT CONTRACTS

This is an addendum to the **[CONTRACT NAME], RFP _____,** Agreement between **[CONTRACTOR]** ("Contractor"), and Boulder County, (the "County").

The parties acknowledge that the above-referenced contract is subject to the provisions of 7 CFR Part 624. This addendum is hereby expressly incorporated into the agreement between Boulder County and the Contractor. To the extent that the terms of the Agreement and this Addendum conflict, the terms of this Addendum shall control.

The following provisions are hereby added and incorporated into the above-referenced Agreement:

1. **EQUAL EMPLOYMENT OPPORTUNITY**
   Except as otherwise provided under 41 CFR Part 60, all contracts that meet the definition of "federally assisted construction contract" in 41 CFR Part 60-1.3 shall include the equal opportunity clause provided under 41 CFR 60-1.4(b), in accordance with Executive Order 11246, "Equal Employment Opportunity" (30 FR 12319, 12935, 3 CFR Part, 1964-1965 Comp., p. 339), as amended by Executive Order 11375, "Amending Executive Order 11246 Relating to Equal Employment Opportunity," and implementing regulations at 41 CFR part 60, "Office of Federal Contract Compliance Programs, Equal Employment Opportunity, Department of Labor."

   "During the performance of this contract, the contractor agrees as follows:

   (1) The contractor will not discriminate against any employee or applicant for employment because of race, color, religion, sex, or national origin. The contractor will take affirmative action to ensure that applicants are employed, and that employees are treated during employment, without regard to their race, color, religion, sex, or national origin. Such action shall include, but not be limited to the following: Employment, upgrading, demotion, or transfer, recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship. The contractor agrees to post in conspicuous places, available to employees and applicants for employment, notices to be provided by the contracting officer setting forth the provisions of this nondiscrimination clause.

   (2) The contractor will, in all solicitations or advertisements for employees placed by or on behalf of the contractor, state that all qualified applicants will receive consideration for employment without regard to race, color, religion, sex, or national origin.

   (3) The contractor will send to each labor union or representative of workers with which he has a collective bargaining agreement or other contract or understanding, a notice to be

provided by the agency contracting officer, advising the labor union or workers' representative of the contractor's commitments under section 202 of Executive Order 11246 of September 24, 1965, and shall post copies of the notice in conspicuous places available to employees and applicants for employment.

(4) The contractor will comply with all provisions of Executive Order 11246 of September 24, 1965, and of the rules, regulations, and relevant orders of the Secretary of Labor.

(5) The contractor will furnish all information and reports required by Executive Order 11246 of September 24, 1965, and by the rules, regulations, and orders of the Secretary of Labor, or pursuant thereto, and will permit access to his books, records, and accounts by the contracting agency and the Secretary of Labor for purposes of investigation to ascertain compliance with such rules, regulations, and orders.

(6) In the event of the contractor's non-compliance with the nondiscrimination clauses of this contract or with any of such rules, regulations, or orders, this contract may be canceled, terminated or suspended in whole or in part and the contractor may be declared ineligible for further Government contracts in accordance with procedures authorized in Executive Order 11246 of September 24, 1965, and such other sanctions may be imposed and remedies invoked as provided in Executive Order 11246 of September 24, 1965, or by rule, regulation, or order of the Secretary of Labor, or as otherwise provided by law.

(7) The contractor will include the provisions of paragraphs (1) through (7) in every subcontract or purchase order unless exempted by rules, regulations, or orders of the Secretary of Labor issued pursuant to section 204 of Executive Order 11246 of September 24, 1965, so that such provisions will be binding upon each subcontractor or vendor. The contractor will 24 take such action with respect to any subcontract or purchase order as may be directed by the Secretary of Labor as a means of enforcing such provisions including sanctions for noncompliance: *Provided, however*, that in the event the contractor becomes involved in, or is threatened with, litigation with a subcontractor or vendor as a result of such direction, the contractor may request the United States to enter into such litigation to protect the interests of the United States."

2. **Clean Air Act (42 U.S.C. 7401-7671q.) and the Federal Water Pollution Control Act (33 U.S.C. 1251-1387), as amended**. Contractor agrees to comply with all applicable standards, orders or regulations issued pursuant to the Clean Air Act (42 U.S.C. 7401-7671q) and the Federal Water Pollution Control Act as amended (33 U.S.C. 1251-1387). Violations must be reported to the Federal awarding agency and the Regional Office of the Environmental Protection Agency (EPA).

3. **Byrd Anti-Lobbying Amendment (31 U.S.C. 1352).** Contractors that apply or bid for an award exceeding $100,000 must file the required certification. Each tier certifies to the tier above that it will not and has not used Federal appropriated funds to pay any person or organization for influencing or attempting to influence an officer or employee of any agency, a member of Congress, officer or employee of Congress, or an employee of a member of Congress in connection with obtaining any Federal contract, grant or any other

award covered by 31 U.S.C. 25 1352. Each tier must also disclose any lobbying with non-Federal funds that takes place in connection.

4. **OSHA Compliance.** Contractors on NRCS assisted projects shall perform their work in accordance with OSHA regulations, NRCS Supplement to OSHA Parts 1910 and 1926, and the Contract Work Hours and Safety Standards Act (40 USC 327-330) as supplemented by Department of Labor regulations (29 CFR Part 5) as set forth in Attachment A.

Except as modified herein, all terms and conditions of the existing contract between the parties remain in full force and effect.

EXHIBIT A

NATURAL RESOURCES CONSERVATION SERVICE SUPPLEMENT TO OSHA PARTS 1910 AND 1926
CONSTRUCTION INDUSTRY STANDARDS AND INTERPRETATIONS

The Contractor shall comply with OSHA (Occupational Safety and Health Administration) Parts 1910 and 1926, Construction Industry Standards and Interpretations, and with this supplement.

Requests for variances or waiver from this supplement are to be made to the Contracting Officer in writing supported by evidence that every reasonable effort has been made to comply with the contractual requirements. A written request for a waiver or a variance shall include--

(1) Specific reference to the provision or standard in question;

(2) An explanation as to why the waiver is considered justified; and

(3) The Contractor's proposed alternative, including technical drawings, materials, or equipment specifications needed to enable the Contracting Officer to render a decision.

No waiver or variance will be approved if it endangers any person. The Contractor shall not proceed under any requested revision of provision until the Contracting Officer has given written approval. The Contractor is to hold and save harmless the Natural Resources Conservation Service free from any claims or causes of action whatsoever resulting from the Contractor or subcontractors proceeding under a waiver or approved variance.

Copies of OSHA Parts 1910 and 1926, Construction Industry Standards and Interpretations, may be obtained from:
Superintendent of Documents
U.S. Government Printing Office
Washington, D.C. 20402

1.0 GENERAL CONTRACTOR REQUIREMENTS:

1.1 SAFETY PROGRAM. Each Contractor is to demonstrate that he or she has facilities for conducting a safety program commensurate with the work under contract. The Contractor is to submit in writing a proposed comprehensive safety program to the Contracting Officer for approval before the start of construction operations. The program is to specifically state what provisions the Contractor proposes to take for the health and safety of all employees, including subcontractors and rental equipment operators. The program shall be site specific and provide details relevant to the work to be done, the hazards associated with the work, and the actions that will be necessary to minimize the identified hazards.

1.2 PRECONSTRUCTION SAFETY MEETING. Representatives for the Contractor are to meet with the Contracting Officer (CO) or the CO's representative before the start of construction to

discuss the safety program and the implementation of all health and safety standards pertinent to the work under this contract.

1.3 JOINT SAFETY POLICY COMMITTEE. The Contractor or designated on-site representative is to participate in monthly meetings of a joint Safety Policy Committee, composed of the Natural Resources Conservation Service (Contracting Local Organization in locally awarded contracts) and Contractor supervisory personnel. At these meetings the Contractor's project manager and the Contracting Officer will review the effectiveness of the Contractor's safety effort, resolve current health and safety problems, and coordinate safety activities for upcoming work.

1.4 SAFETY PERSONNEL. Each Contractor is to designate a competent supervisory employee satisfactory to the
Contracting Officer to administer the safety program.

1.5 SAFETY MEETINGS. A minimum of one "on-the-job" or "toolbox" safety meeting is to be conducted each week by all field supervisors or foremen and attended by mechanics and all construction personnel at the jobsite. The Contractor is to also conduct regularly scheduled supervisory safety meetings at least monthly for all levels of job supervision.

1.6 SAFETY INSPECTION. The Contractor shall perform frequent and regular safety inspections of the jobsite, materials, and equipment, and shall correct deficiencies.

1.7 FIRST AID TRAINING. Every Contractor foreman's work crew must include an employee who has a current first aid certificate from the Mine Safety and Health Administration, American Red Cross, or other state-approved organization.

1.8 REPORTS. Each Contractor is to maintain an accurate record of all job-related deaths, diseases, or disabling injuries. The records shall be maintained in a manner approved by the Contracting Officer. A copy of all reports is to be provided to the Contracting Officer. All fatal or serious injuries are to be reported immediately to the Contracting Officer, and every assistance is to be given in the investigation of the incident, including submission of a comprehensive narrative report to the Contracting Officer. Other occurrences with serious accident potential, such as equipment failures, slides, and cave-ins, must also be reported immediately. The Contractor is to assist and cooperate fully with the Contracting Officer in conducting accident investigations. The Contracting Officer is to be furnished all information and data pertinent to investigation of an accident.

1.9 CERTIFICATION OF INSURANCE. Contractors are to provide the Contracting Officer or his or her authorized representative with certificates of insurance before the start of operations indicating full compliance with State Worker's Compensation statutes, as well as other certificates of insurance required under the contract.

2.0 FIRST AID AND MEDICAL FACILITIES:

2.1 FIRST AID KITS. A 16-unit first aid kit approved by the American Red Cross is to be provided at accessible, well-identified, locations at the ratio of at least 1 kit for each 25

employees. The first aid kits are to be moisture proof and dust tight, and the contents of the kits are to be replenished as used or as they become ineffective or outdated.

2.2 EMERGENCY FIRST AID. At least one employee certified to administer emergency first aid must be available on each shift and duly designated by the Contractor to care for injured employees. The names of the certified employees shall be posted at the jobsite.

2.3 COMMUNICATION AND TRANSPORTATION. Prior to the start of work, the Contractor is to make necessary arrangements for prompt and dependable communications, transportation, and medical care for injured employees. At least one stretcher and two blankets shall be readily available for transporting injured employees.

2.4 FIRST AID AND MEDICAL REPORTS. The Contractor is to maintain a record system for first aid and medical treatment on the jobsite. Such records are to be readily available to the Contracting Officer and are to include--

(a) A daily treatment log listing chronologically all persons treated for occupational injuries and illnesses;
(b) Cumulative record of injury for each individual;
(c) Monthly statistical records of occupational injuries, classified by type and nature of injury; and
(d) Required records for worker's compensation.

2.5 SIGNS AND DIRECTIONAL MARKINGS. Adequate identification and directional markers are to be provided to readily denote the location of all first aid stations.

2.6 EMERGENCY LISTING. A listing of telephone numbers and addresses of doctor, rescue squad, hospital, police, and fire departments is to be provided at all first aid locations.

3.0 PHYSICAL QUALIFICATIONS OF EMPLOYEES:

3.1 GENERAL REQUIREMENTS. Persons employed throughout the contract are to be physically qualified to perform their assigned duties. Employees must not knowingly be permitted or required to work while their ability or alertness is impaired by fatigue, illness, or any other reason that may jeopardize themselves or others.

3.2 HOIST OPERATORS. Operators of cranes, cableways, and other hoisting equipment shall be examined annually by a physician and provided with a certification stating that they are physically qualified to safely operate hoisting equipment. The Contractor is to submit a copy of each certification to the Contracting Officer.

3.3 HEAVY EQUIPMENT OPERATORS. It is recommended that operators of trucks and heavy construction equipment be given physical examinations to determine if they are physically qualified to perform their assigned work without endangering themselves or others.

3.4 MOTOR VEHICLE OPERATORS. Operators of motor vehicles engaged primarily in the transportation of personnel are to be 18 years of age or older and have a valid state operator's

permit or license for the equipment being operated. The operators must have passed a physical examination administered by a licensed physician within the past year showing that they are physically qualified to operate vehicles safely.

4.0 PERSONAL PROTECTIVE EQUIPMENT:

4.1 HARDHAT AREAS. The entire jobsite, with the exception of offices, shall be considered a hardhat area. All persons entering the area are, without exception, required to wear hardhats. The Contractor shall provide hardhats for visitors entering hardhat areas.

4.1.1 LABELS. Hardhats shall bear a manufacturer's label indicating design compliance with the appropriate ANSI (American National Standards Institute) standard.

4.2 POSTING. Signs at least 3 by 4 feet worded as follows with red letters (minimum 6 inches high) and white background shall be erected at access points to designated hardhat areas:

CONSTRUCTION AREA - HARDHATS REQUIRED BEYOND THIS POINT

These signs are to be furnished and installed by the Contractor at entries to shops, construction yards, and job access points.

4.3 SAFETY GOGGLES (DRILLERS)

4.3.1 DRILLERS AND HELPERS. Drillers and helpers operating pneumatic rock drills must wear protective safety goggles.

5.0 MACHINERY AND MECHANIZED EQUIPMENT:

5.1 SAFE CONDITION. Before any machinery or mechanized equipment is initially used on the job, it must be inspected and tested by qualified personnel and determined to be in safe operating condition and appropriate for the intended use. Operators shall inspect their equipment prior to the beginning of each shift. Any deficiencies or defects shall be corrected prior to using the equipment. Safety equipment, such as seatbelts, installed on machinery is to be used by equipment operators.

5.2 TAGGING AND LOCKING. The controls of power-driven equipment under repair are to be locked. An effective lockout and tagging procedure is to be established, prescribing specific responsibilities and safety procedures to be followed by the person or persons performing repair work. Mixer barrels are to be securely locked out before permitting employees to enter them for cleaning or repair.

5.3 HAUL ROADS FOR EQUIPMENT

5.3.1 ROAD MAINTENANCE. The Contractor shall maintain all roadways, including haul roads and access roads, in a safe condition so as to eliminate or control dust and ice hazards. Wherever dust is a hazard, adequate dust-laying equipment shall be available at the jobsite and utilized to control the dust.

5.3.2 SINGLE-LANE HAUL ROADS. Single-lane haul roads with two-way traffic shall have adequate turnouts. Where turnouts are not practical, a traffic control system shall be provided to prevent accidents.

5.3.3 TWO-WAY HAUL ROADS. On two-way haul roads, arrangements are to be such that vehicles travel on the right side wherever possible. Signs and traffic control devices are to be employed to indicate clearly any variations from a right-hand traffic pattern. The road shall be wide enough to permit safe passage of opposing traffic, considering the type of hauling equipment used.

5.3.4 DESIGN AND CONSTRUCTION OF HAUL ROADS. Haul road design criteria and drawings, if requested by the Contracting Officer, are to be submitted for approval prior to road construction. Sustained grades shall not exceed 12 percent and all curves shall have open-sight line with as great a radius as practical. All roads shall be posted with curve signs and maximum speed limits that will permit the equipment to be stopped within one-half the minimum sight distance.

5.3.5 OPERATORS. Machinery and mechanized equipment shall be operated only by authorized qualified persons.

5.3.6 RIDING ON EQUIPMENT. Riding on equipment by unauthorized personnel is prohibited. Seating and safety belts shall be provided for the operator and all passengers.

5.3.7 GETTING ON OR OFF EQUIPMENT. Getting on or off equipment while the equipment is in motion is prohibited.

5.3.8 HOURS OF OPERATION. Except in emergencies, an equipment operator shall not operate any mobile or hoisting equipment for more than 12 hours without an 8-hour rest interval away from the job.

5.4 POWER CRANES AND HOISTS (TRUCK CRANES, CRAWLER CRANES, TOWER CRANES, GANTRY CRANES, HAMMERHEAD CRANES, DERRICKS, CABLEWAYS, AND HOISTS)

5.4.1 PERFORMANCE TEST. Before initial onsite operation, at 12-month intervals, and after major repairs or modification, power cranes, derricks, cableways, and hoists must satisfactorily complete a performance test to demonstrate the equipment’s ability to safely handle and maneuver the rated loads. The tests shall be conducted in the presence of a representative of the Contracting Officer. Test data shall be recorded and a copy furnished the Contracting Officer.

5.4.2 PERFORMANCE TEST—POWER CRANES (Crawler mounted, truck mounted and wheel mounted). The performance test is to be carried out as per ANSI requirements. The test is to consist of raising, lowering, and braking the load and rotating the test load through 360° degrees at the specified boom angle or radius. Cranes equipped with jibs or boom-tip extensions are to be tested using both the main boom and the jib, with an appropriate test load in each case.

5.4.3 PERFORMANCE TEST—DERRICKS, GANTRY CRANES, TOWER CRANES, CABLEWAYS, AND HOISTS, INCLUDING OVERHEAD CRANES. This equipment is to be performance tested as per ANSI requirements.

5.4.4 BOOM ANGLE INDICATOR. Power cranes (includes draglines) with booms capable of moving in the vertical plane shall be provided with a boom angle indicator in good working order.

5.4.5 CRANE TEST CERTIFICATION. The performance test required by 5.4.2 and 5.4.3 is fulfilled if the Contractor provides the Contracting Officer a copy of a certificate of inspection made within the past 12 months by a qualified person or by a government or private agency satisfactory to the Contracting Officer.

5.4.6 POSTING FOR HIGH VOLTAGE LINES. A notice of the 10-foot (or greater) clearance required by OSHA 1926.550, Subpart N, shall be posted in the operator's cab of cranes, shovels, boom-type concrete pumps, backhoes, and related equipment.

5.4.7 BOOM STOPS. Cranes or derricks with cable-supported booms, except draglines, shall have a device attached between the gantry of the A-frame and the boom chords to limit the elevation of the boom. The device shall control the vertical motions of the boom with increasing resistance from 83° or less, until completely stopping the boom at not over 87° above horizontal.

5.4.8 SAFETY HOOKS. Hooks used in hoisting personnel or hoisting loads over construction personnel or in the immediate vicinity of construction personnel shall be forged steel equipped with safety keepers. When shackles are used under these conditions, they shall be of the locking type or have the pin secured to prohibit turning.

5.5 ROLLOVER PROTECTIVE STRUCTURES (ROPS)

5.5.1 ROLLOVER PROTECTIVE STRUCTURES. OSHA 1926, Subpart W, Overhead Protection, Sections 1001 and 1002 are applicable regardless of the year in which the equipment was manufactured and regardless of the struck capacity of the equipment.

5.5.2 EQUIPMENT REQUIRING ROPS. The requirement for ROPS meeting 5.5.1 above applies to crawler and rubber-tired tractors such as dozers, push-and-pull tractors, winch tractors, tractors with backhoes, and mowers; off-highway, self-propelled, pneumatic-tired earthmovers, including scrapers, motor graders and loaders; and rollers, compactors, water tankers (excluding trucks with cabs). These requirements shall also apply to agricultural and industrial tractors and similar equipment.

5.5.3 EQUIPMENT REQUIRING SEATBELTS. The requirements for seatbelts as specified in OSHA Subpart 0, Motor Vehicles, Mechanized Equipment, and Marine Operations, Section 1926.602 shall also apply to self- propelled compactors and rollers, and rubber-tired skid-steer equipment.

6.0 LADDERS AND SCAFFOLDING:

6.1 LADDERS. OSHA 1926, Subpart L - Section 450. Ladders shall be used as work platforms only when use of small hand tools or handling of light material is involved. No work requiring lifting of heavy materials or substantial exertion shall be done from ladders.

6.2 SCAFFOLDING. OSHA 1926, Subpart L - Section 451. Scaffolds, platforms or temporary floors shall be provided for all work except that which can be done safely from the ground or similar footing.

6.3 SAFETY BELTS, LIFELINE, AND LANYARDS. OSHA 1926, Subpart E, Section 104. Lifelines, safety belts and lanyards independently attached or attended, shall be used when performing such work as the following when the requirements of 6.1 or 6.2 above cannot be met.

(a) Work on stored material in hoppers, bins, silos, tanks, or other confined spaces.

(b) Work on hazardous slopes, structural steel, or poles; erection or dismantling of safety nets, tying reinforcing bars; and work from Boatswain's chairs, swinging scaffolds, or other unguarded locations at elevations greater than 6 feet.

(c) Work on skips and platforms used in shafts by crews when the skip or cage does not block the opening to within 1 foot of the sides of the shaft, unless cages are provided.

RFP #6654-17
LOWER FOURMILE CREEK STREAM RESTORATION

DROPBOX LINK TO ATTACHMENT A-1 LOWER FOURMILE CREEK STREAM RESTORATION PLANS, cut and paste.

https://www.dropbox.com/s/3v4l6ufrae3rczo/Attachment%20A-1%20-%20LFM_Stream_Plans.pdf?dl=0

BOULDER COUNTY TRANSPORTATION DEPARTMENT
ENGINEERING DIVISION
SPECIAL PROVISIONS
LOWER FOURMILE CANYON DRIVE, BOULDER CANYON DRIVE TO SALINA JUNCTION

The Colorado Department of Transportation's 2011 Standard Specifications for Road and Bridge Construction control construction of this project. The following special provisions supplement or modify the Standard Specifications and take precedence over the Standard Specifications and plans.

PROJECT SPECIAL PROVISIONS – 100% Draft for Review, Not for Construction

BOULDER COUNTY TRANSPORTATION DEPARTMENT
ENGINEERING DIVISION
SPECIAL PROVISIONS
LOWER FOURMILE CANYON DRIVE, BOULDER CANYON DRIVE TO SALINA JUNCTION

STANDARD SPECIAL PROVISIONS – 100% DRAFT FOR REVIEW, NOT FOR CONSTRUCTION

	Date	No. of Pages
Revision of Sections 101, 508, 614, and 710 – Treated Timber	(July 31, 2014)	1
Revision of Section 101 and 630 – Construction Zone Traffic Control	(April 30, 2015)	2
Revision of Section 102 – Contents of Proposal Forms	(April 9, 2015)	1
Revision of Section 105 – Construction Surveying	(July 31, 2014)	1
Revision of Section 105 – Disputes and Claims for Contract Adjustments	(August 11, 2016)	33
Revision of Section 105 – Violation of Working Time Limitation	(February 3, 2011)	1
Revision of Section 106 – Buy America Requirements	(November 6, 2014)	1
Revision of Section 106 – Certificates of Compliance and Certified Test Reports	(February 3, 2011)	1
Revision of Section 106 – Material Sources	(October 31, 2013)	1
Revision of Section 106 – Supplier List	(January 30, 2014)	1
Revision of Section 107 – Responsibility for Damage Claims, Insurance Types, and Coverage Limits	(February 3, 2011)	1
Revision of Section 107 – Warning Lights for Work Vehicles and Equipment	(January 30, 2014)	1
Revision of Section 107 – Water Quality Control (Contractor Obtained Stormwater Permit)	(March 29, 2016)	6
Revision of Section 108 – Delay and Extension of Contract Time	(April 30, 2015)	2
Revision of Section 108 – Holiday Weekend	(February 18, 2016)	1
Revision of Section 108 – Liquidated Damages	(October 29, 2015)	1
Revision of Section 108 – Notice to Proceed	(July 31, 2014)	1
Revision of Section 108 – Project Schedule	(July 31, 2014)	6
Revision of Section 108 – Subletting of Contract	(January 31, 2013)	1
Revision of Section 109 – Compensation for Compensable Delays	(May 5, 2011)	1
Revision of Section 109 – Measurement of Quantities	(February 3, 2011)	1
Revision of Section 109 – Measurement of Water	(January 06, 2012)	1
Revision of Section 109 – Prompt Payment	(January 31, 2013)	1
Revision of Section 109 – Scales	(October 29, 2015)	1
Revision of Sections 201 – Clearing and Grubbing	(November 10, 2016)	1
Revision of Sections 203 – Excavation and Embankment	(November 10, 2016)	11
Revision of Sections 206, 304 and 613 – Compaction	(November 10, 2016)	1
Revision of Section 208 – Erosion Control	(September 22, 2016)	23
Revision of Section 212 – Seed	(April 26, 2012)	1
Revision of Section 213 – Mulching	(January 31, 2013)	4
Revision of Section 216 – Soil Retention Covering	(July 16, 2015)	6
Revision of Section 250 – Environmental, Health and Safety Management	(January 15, 2015)	14

NOTICE TO BIDDERS

The proposal guaranty shall be a certified check, cashier's check, or bid bond in the amount of 10% of the Contractor's total bid. A payment and performance bond on the part of the contractor for 100% of the contracted amount is required. The cost of the bond must be included in the proposed price.

Contractor hereby proposes to furnish all labor, machinery, equipment, materials (except onsite materials to be repurposed or materials provided by the County) and supplies, and to sustain all the expense incurred in doing the work per the proposal schedule, and in pursuance of a certain advertisement of the County Commissioners, County of Boulder, of the State of Colorado, and in accordance with the full details, Plans, and Specifications as prescribed by said County Engineer. The Colorado Department of Transportation's Standard Specifications for Road and Bridge Construction – 2011, and as revised by the special provisions, shall be used to control work on this project. Additionally, all Emergency Watershed Protection (EWP) projects are required to be built to NRCS specifications, or better (online at http://directives.sc.egov.usda.gov/, under Handbooks, Title 210, National Engineering Handbook, Part 642). The items of work and the unit prices contained in the Proposal Schedule are described in and are a part of the Standard Specifications and are to be the method of measurement of the project quantities and the basis of payment.

A mandatory pre bid conference will be held on April 28th beginning at 11:00am at the following location:

Boulder County Transportation Department
2525 13th Street, Suite 203
Boulder, Colorado.

Bids will be accepted only from pre-qualified bidders who attend the mandatory pre-bid conference.

COMMENCEMENT AND COMPLETION OF WORK

The Contractor shall commence work under the Contract on or before the earliest of the following dates, unless such time for beginning the work shall be changed by Boulder County Transportation in the "Notice to Proceed".

- The 5th day following Contract execution

All work for the Lower Fourmile Creek Stream Restoration project must be completed by **December 21, 2017**. However, the Contractor shall also be aware of seasonal limitations for weather/temperature sensitive work and plan accordingly.

Section 108 of the Standard Specifications is hereby revised for this project as follows:

Subsection 108.03 shall include the following:

The Contractor's progress schedule may be a Bar Chart Schedule.

Salient features to be shown on the Contractor's progress schedule are:

- Review of Tree Protection Plan
- Mobilization
- Construction Zone Traffic Control
- Erosion Control
- Fourmile Creek Stream Restoration
- Vegetation and Seeding
- Site Restoration and Cleaning

COOPERATION BETWEEN CONTRACTORS

Section 105 of the Standard Specifications is hereby revised for this project as follows:

Subsection 105.12 shall include the following:

It is anticipated that during construction of this project, there will be other roadway construction projects in the immediate vicinity of this project area that will require cooperation between contractors for coordination of road closures, construction phasing, delivery of materials, and emergency vehicle access.

Boulder County anticipates having multiple projects under construction in 2017 in Fourmile Canyon, specifically:

- Gold Run Road and Creek Habitat Restoration, 1602 Gold Run Road to Salina Junction
- Fourmile Canyon Drive and Fourmile Creek (Upper Fourmile), Sunset to Salina Junction
- Fourmile Canyon Drive (Lower Fourmile), Boulder Canyon Drive to Salina Junction
- Intersection at Fourmile Canyon Drive and Logan Mill Road
- Buy-out property demolitions
- Other public and private projects in Fourmile Canyon, and other surrounding canyons, may be possible

Additionally, Fourmile Watershed Coalition will be constructing several stream restoration projects including:

- Ingram Gulch Restoration
- Wallstreet Stream Restoration
- Black Swan Stream Restoration

Delays or impacts to the Contractor due to the requirements of this provision shall not be the basis for any claim for additional time or compensation, or both.

All costs incidental to the foregoing requirements will not be paid for separately, but shall be included in the work.

The Contractor will be required to attend weekly meetings, led by Boulder County, to discuss coordination and cooperation between the various projects.

1
GENERAL INFORMATION

1. The Colorado Department of Transportation "Standard Specifications for Road and Bridge Construction", 2011 (hereafter referred to as the "Standard Specifications") are made a part of this Contract by this reference, except as revised herein, and are hereby adopted as the minimum Standard Specifications of Compliance for this project. In those instances where the Standard Specifications conflict with any of the provisions of the preceding, the preceding Sections shall govern.

2. The Contractor shall have a copy of the Colorado Department of Transportation "Standard Specifications for Road and Bridge Construction", 2011 on the project site at all times.

3. The Contractor is responsible for obtaining a CDPS-SCP (Colorado Discharge Permit System - Stormwater Construction Permit) from the CDPHE (Colorado Department of Public Health) prior to construction.

4. If dewatering is required the Contractor is responsible for obtaining the required permits.

5. The Contractor is responsible to obtain any additional permits, license and/or certification required by County or State agencies required to complete the work included in the Contract Documents. The County will obtain the 404 Permit and the Floodplain Development Permit.

6. Stream restoration work will be field fit at the direction of the Stream Restoration Specialist or Stream Restoration Design Engineer (Design Engineer).

7. The Contractor will be responsible for obtaining a Boulder County Stream Restoration Permit. The Contractor must address remaining requirements including the grading permit, erosion control, traffic management, haul routes, and all other necessary information required by Boulder County to complete and obtain the permit approval.

8. The Contractor is responsible for determining access locations, staging areas, and refueling areas in accordance with Special Contact Provisions for Items 208 Erosion Control and 626 Mobilization for permit applications to perform the work.

9. The Contractor and other project team members will follow the guidelines/protocols outlined in the Fourmile Creek Restoration Quality Assurance Plan, included as part of the Contract Documents.

10. Prior to mobilization of construction equipment, Boulder County’s plant ecologist shall field mark critical stands of existing vegetation which are not to be disturbed. The Design Engineer shall review flagged areas with the Contractor prior to initiation of construction activities. Construction equipment shall not be mobilized before the Contractor has reviewed the flagged vegetation with the Design Engineer.

11. Final pay estimate for EWP-funded stream restoration work must be received within ten days of completion of EWP-funded work.

12. All EWP projects are required to be built to NRCS specifications or better. NRCS specifications are available online at http://directives.sc.egov.usda.gov/, under Handbooks, Title 210, National Engineering Handbook, Part 642.

13. The contractor is responsible for preparation of redline As-Built drawings. As-Built drawings will provide documentation of all as-built conditions at a level of detail and accuracy to the satisfaction of the Design Engineer. The As-Built drawings shall be provided to the county within 30 days of completion of the project.

14. The Contractor is responsible for performing a detailed post-construction survey of final conditions. The survey will be used to prepare of a Letter of Map Revision (LOMR). The contractor will provide the survey information in AutoCAD .dwg format and a hardcopy signed by a Professional Land Surveyor. The final survey shall be performed on the survey control provided in the construction documents. The contractor is not responsible for the LOMR beyond the final conditions survey.

15. Haul routes for this project will be Fourmile Canyon Drive, Boulder Canyon Drive, 28th Street, US 36.

16. The Contractor is advised that cell phone reception in Fourmile Canyon is limited. The Contractor shall provide an emergency communications plan to include alternative communication devices for the Contractor, CM&I and County staff.

17. The Boulder County Sherriff's Office will be informed of this project if additional patrol is needed.

18. The Stream Restoration Plans provided in this bid package have been developed to a 30% design level. Design Engineer will work directly with the Contractor in a design-build approach, in accordance with Colorado Water Conservation Board (CWCB) guidelines, to complete the stream restoration. The plans have identified all major design components and provide sufficient detail for the Contractor and Design Engineer to begin construction working together daily, on-site to ensure plans are being interpreted correctly and make field-fit modifications as necessary.

19. The Contractor shall submit a Stream Restoration Impacts Plan for approval to the Design Engineer prior to any construction work. The plan shall define the plan work limits for the stream restoration activities, including: Areas of disturbance, method of delineating work and staging areas in the field, access points and any other relevant information associated with stream restoration work.

20. The quantity of materials to be installed will be affected by the actual conditions that occur during the construction of the project. The quantity of materials may be increased, decreased, or eliminated entirely as directed by the Design Engineer. Such variations in quantity will not be considered as alterations in the details of construction or a change in the character of the work.

21. Quantities of all materials shall be field verified. Quantities of materials used shall be agreed upon between contractor and construction inspector at least once a week unless otherwise noted in the following specification sections. Earthwork quantities shall be verified by preconstruction and post construction surveys using a method approved by the Design Engineer.

22. The contractor shall carefully document existing stream conditions prior to installation of all work with photographs or other method approved by Design Engineer.

23. Weather Limitations: Proceed with installations only when existing weather conditions permit to be performed according to suppliers'/manufactures' written instructions and warranty requirements.

REVISION OF SECTION 101
DEFINITION AND TERMS

Section 101 of the Standard Specifications is hereby revised for this project as follows:

Technical Specifications related to construction materials and methods for the work embraced under this Contract shall consist of the Colorado Department of Transportation, *Standard Specifications for Road and Bridge Construction,* dated 2011.

Certain terms utilized in the Specifications referred to in the paragraph above shall be interpreted to have different meanings within the scope of the Contract. A summary of redefinitions follows:

The terms Project Engineer and Project Manager shall be interchangeable in this contract.

Stream Restoration Design Engineer (Design Engineer) shall be defined as the engineer responsible for the design of the stream restoration work proposed in the Stream Restoration Design Plans. Responsible for oversight or stream restoration work and review and approval of all deviations from proposed work.

Stream Restoration Specialist shall be defined as the representative designated by, and acting on behalf of, the Design Engineer responsible for oversight of stream restoration work.

Plant Ecologist shall be defined as the representative designated by, and acting on behalf of, the Design Engineer responsible for oversight of vegetation work.

Subsection 101.28 Department shall be replaced with Boulder County.

Subsection 101.29 Engineer shall be defined as the Boulder County Engineer acting directly or through an authorized representative, who is responsible for engineering and administrative supervision of the project.

Subsection 101.39 Laboratory shall be defined as the testing laboratory of Boulder County or other laboratory designated by Boulder County.

Subsection 101.58 Region Transportation Director shall be defined as Boulder County.

Subsection 101.76 State shall mean Boulder County, Colorado (where applicable).

REVISION OF SECTION 102
PROJECT PLANS AND OTHER DATA

Section 102 of the Standard Specifications is hereby revised for this project as follows:

Subsection 102.05 shall include the following:

Boulder County will provide the following electronic files in .PDF format, online at the designated internet bid advertisement site, and they will be considered as the official bid set and record set.

- Project Plans and Specifications
- Sample Contract Document
- Lower Fourmile Creek Restoration 30% Design Memorandum
- Lower Fourmile Creek Restoration Quality Assurance Plan
- Summary of Draft Right-of-Way Conditions Report (For Information Only, Relative to Separate Future Project)

REVISION OF SECTION 104
SCOPE OF WORK

Section 104 of the Standard Specifications is hereby revised for this project as follows:

Subsection 104.04 shall include the following:

During the course of the project, Fourmile Canyon Drive is to remain open to through traffic at all times with a minimum of one lane (minimum 11 feet wide) of traffic during working and non-working hours. Short-term road closures of these roadways will be permitted and on a case-by-case basis when unavoidable longer road closures may be approved through Boulder County prior to implementation in the field. Closures of these roadways will be in accordance with Revision of Section 630 – Traffic Control Plan – General in these Project Special Provisions.

Traffic signals, concrete barriers, warning signs, and other appropriate traffic control devices shall be utilized as appropriate for one directional sequence traffic and/or full closures.

The contractor will be responsible for maintaining a functional surface on the roadway during working and non-working hours throughout the duration of the project, including any maintenance item that ensures the safe flow of traffic through the construction site. Removing snow and sweeping sediment off the road surface will be included as incidental maintenance activities within active work zones, at no additional cost to the County.

Any damage to the roadway, embankment slopes, or other appurtenances as a result of this work shall be repaired by the contractor and costs borne by the contractor.

For lanes designated to remain open, wait time for the travelling public shall be kept to a minimum and not to exceed 30 minutes, unless approved otherwise by Boulder County.

Local access for residents, mail, delivery services, school and emergency vehicles must be maintained at all times. Emergency vehicles must be accommodated to pass through the construction site as needed.

1
REVISION OF SECTION 105
CONTROL OF WORK

Section 105 of the Standard Specifications is hereby revised for this project as follows:

Subsection 105.02 shall include the following:

Table 105-1 shall include:

Section No.	Description	Type	Contractor Colorado PE Seal Required?
General Information	Stream Restoration Impacts Plan	Other	No
Notice to Bidders	Tree Protection Plan	Other	No
208	Water Diversion Plan	Other	Yes

In Subsection 105.11 delete the first paragraph and replace with the following:

A utility locate has not been performed in advance of this project and any potential conflicts are not identified in the plans. It is the Contractor's responsibility to verify the location of all utilities within the project limits and coordinate conflicts as necessary.

Additional utilities may be identified by the Contractor during the utility locate process. The work described in these plans and specifications requires coordination between the Contractor and any utility company(s), it shall be the responsibility of the contractor to notify the respective utility company(s) and schedule the necessary adjustments. It is anticipated that utilities conflicting with construction will be moved or adjusted in coordination with the Contractor's activities by the respective utility company's forces at no charge to the project.
The Contractor shall keep the utility company(s) advised of any work being done to their facility, such that the utility company(s) can coordinate their inspections for final acceptance of the work by the Engineer.

The Contractor shall comply with Article 1.5 of Title 9, CRS ("Excavation Requirements") when excavation or grading is planned in the area of underground utility facilities. The Contractor shall notify all affected utilities at least two (2) business days, not including initial day of contact, prior to commencing such operations. The Contractor shall contact the Utility Notification Center of Colorado (UNCC) to have locations of UNCC registered lines marked by member companies. Calls originating within the Denver metro area use phone number 303-534-6700; calls originating outside the Denver area use 1-800-922-1987. All other underground facilities shall be located by contacting the respective company(s). Utility service laterals shall also be located prior to beginning work.

The Contractor shall perform potholing, as required, to locate utilities that may conflict with the construction. As stated in Section 105 of the Specifications, the Contractor shall consider in the bid proposal, all of the permanent utility facilities in their present positions as shown in the Contract and as revealed by site investigation. Additional compensation will not be allowed for foreseeable coordination from the utility facilities or the adjustment operations as indicated in the plans.

All costs incidental to the foregoing requirements will not be paid for separately but shall be included in the work.

2

REVISION OF SECTION 105
CONTROL OF WORK

Subsection 105.11 shall include the following:

Before beginning construction, the contractor must determine the location of all the existing approved Onsight Wastewater Treatment System (OWTS) components in the project area. The documents are scanned into septicmart.org. If there are unapproved OWTS, there may not be any information online. In this case, the owner should help with the general location of the system.

Unless otherwise shown in plans, all OWTS components shall be protected in place. Heavy equipment should be restricted from the surface of the absorption field during construction to avoid soil compaction, which could cause premature absorption field malfunction. Caution should be used in conducting trenching and excavation activities so that sewer lines and other OWTS components are not damaged.

The location of known wells have been identified in the plans, however it is the responsibility of the Contractor to confirm or determine the location of all wells in the project area that may be impacted by construction. The owner should help with the general location as needed. Caution should be used in conducting trenching and excavation activities so that well components are not damaged.

All costs incidental to the foregoing requirements will not be paid for separately but shall be included in the work

1

REVISION OF SECTION 107
LEGAL RELATIONS AND RESPONSIBILITY TO THE PUBLIC

Section 107 of the Standard Specifications is hereby revised for this project as follows:

Subsection 107.07 shall include the following:

- Prior to performing any work, the contractor shall review the Participant Agreements and Draft Right-of-Way Conditions Report.
- Prior to working in private property or adjacent to private driveways, the contractor shall confirm the work schedule with the property owner.
- Access to residences shall be maintained at all times unless arrangements are made with the property owner and a copy of the written agreement is provided to the Engineer.

Subsection 107.12 shall include the following:

Measures to minimize damage to existing trees have been incorporated into the design of this project. Due to the value of existing trees located within the project limits, the removal of trees has been minimized throughout the design.

The Contractor shall protect all existing vegetation (including trees, shrubs, ground covers, grasses) in this area, except for vegetation which must be removed to accommodate the construction of the project as identified in the plans. Per Revision of Section 201, Clearing and Grubbing and Section 202, Removal and Trimming of Trees, **removals beyond what is indicated in the plans must be approved by the Engineer prior to removal**.

The Contractor shall take all precautions necessary to protect all trees not approved for trimming or removal. Failure of the Contractor to protect existing trees, or removal of trees not approved for removal, will result in assessment of liquidated damages. This requirement applies to all trees with a breast height diameter of four inches or greater. Fines are per tree and as defined below:

- First occurrence of failure to protect tree or removal of a tree not approved for removal - $2,000 per tree
- Second occurrence of failure to protect tree or removal of a tree not approved for removal - $5,000 per tree
- Third occurrence of failure to protect tree or removal of a tree not approved for removal - $10,000 per tree

If the contractor knowingly harms any existing tree(s), he shall immediately notify the Engineer of the tree(s) location and damage.

The Contractor shall perform all the work in such a manner that the least environmental damage will result. All questionable areas or items shall be brought to the attention of the Engineer for approval prior to removal or any damaging activity.

Subsection 107.15 shall include the following:

The Contractor shall indemnify and hold harmless, all adjacent private property owners against all losses, claims, demands, liabilities, injuries, damages and expenses, including without limitation, attorneys' fees and court costs they may suffer or incur as a result of the work by the Contractor, it's agents, subcontractors, employees, or representatives which may arise from their negligent or wrongful acts or omissions while working on the project.

For this project, all insurance certificates in this section shall name Boulder County as an additionally insured party.

2

REVISION OF SECTION 107
LEGAL RELATIONS AND RESPONSIBILITY TO THE PUBLIC

Subsection 107.17 shall include the following:

- The Contractor shall be responsible for any damage to their work arising from running water from either a natural source or from landscape watering at no additional cost to the contract.
- The Contractor shall be responsible for any damages done by the contractor that is outside the scope of this work, including but not limited to irrigation facilities, landscaping, or private property.

1

REVISION OF SECTION 107
PERFORMANCE OF SAFETY CRITICAL WORK

Section 107 of the Standard Specifications is hereby revised as follows:

Add subsection 107.061 immediately following subsection 107.06 as follows:

107.061 Performance of Safety Critical Work. The following work elements are considered safety critical work for this project:

- Work requiring the use of cranes or other lifting equipment.
- Temporary works: excavation and shoring adjacent to roadways and/or infrastructure.
- Temporary works: excavation, boulder removal, and slope stabilization on hillsides above roadways and/or infrastructure.
- Boulder structures constructed at slopes steeper than 1.5:1 adjacent to homes and or roadway
- Boulder structures constructed to heights greater than 6 feet

The Contractor shall submit, for record purposes only, an initial detailed construction plan that addresses safe construction of each of the safety critical elements. When the specifications already require an erection plan or a bridge removal plan, it shall be included as a part of this plan. The detailed construction plan shall be submitted two weeks prior to the safety critical element conference described below. The construction plan shall be stamped "Approved for Construction" and signed by the Contractor. The construction plan will not be approved by the Engineer.

The Construction Plan shall include the following:

- Safety Critical Element for which the plan is being prepared and submitted.
- Contractor or subcontractor responsible for the plan preparation and the work.
- Schedule, procedures, equipment, and sequence of operations, that comply with the working hour limitations
- Temporary works required: safety fencing, falsework, bracing, shoring, etc.
- Additional actions that will be taken to ensure that the work will be performed safely.
- Names and qualifications of workers who will be in responsible charge of the work:
    - Years of experience performing similar work
    - Training taken in performing similar work
    - Certifications earned in performing similar work
- Names and qualifications of workers operating cranes or other lifting equipment
    - Years of experience performing similar work
    - Training taken in performing similar work
    - Certifications earned in performing similar work
- The construction plan shall address how the Contractor will handle contingencies such as:
    - Unplanned events (storms, traffic accidents, etc.)
    - Structural elements that don't fit or line up
    - Work that cannot be completed in time for the roadway to be reopened to traffic
    - Replacement of workers who don't perform the work safely
    - Equipment failure
    - Other potential difficulties inherent in the type of work being performed
- Name and qualifications of Contractor's person designated to determine and notify the Engineer in writing when it is safe to open a route to traffic after it has been closed for safety critical work.

2

REVISION OF SECTION 107
PERFORMANCE OF SAFETY CRITICAL WORK

A safety critical element conference shall be held two weeks prior to beginning construction on each safety critical element. The Engineer, the Contractor, the safety critical element subcontractors, and the Contractor's Engineer shall attend the conference. Required pre-erection conferences may be included as a part of this conference.

After the safety critical element conference, and prior to beginning work on the safety critical element, the Contractor shall submit a final construction plan to the Engineer for record purposes only. The final construction plan shall be stamped "Approved for Construction" and signed by the Contractor.

The Contractor shall perform safety critical work only when the Design Engineer is on the project site. The Contractor's Engineer shall be on site to inspect and provide written approval of safety critical work for which he provided stamped construction details. Unless otherwise directed or approved, the Contractor's Engineer need not be on site during the actual performance of safety critical work, but shall be present to conduct inspection for written approval of the safety critical work.

When ordered by the Design Engineer, the Contractor shall immediately stop safety critical work that is being performed in an unsafe manner or will result in an unsafe situation for the traveling public. Prior to stopping work, the Contractor shall make the situation safe for work stoppage. The Contractor shall submit an acceptable plan to correct the unsafe process before the Design Engineer will authorize resumption of the work.

When ordered by the Engineer, the Contractor shall remove workers from the project that are performing the safety critical work in a manner that creates an unsafe situation for the public in accordance with subsection 108.05.

Should an unplanned event occur or the safety critical operation deviate from the submitted plan, the Contractor shall immediately cease operations on the safety critical element, except for performing any work necessary to ensure worksite safety, and provide proper protection of the work and the traveling public. If the Contractor intends to modify the submitted plan, he shall submit a revised plan to the Engineer prior to resuming operations.

All costs associated with the preparation and implementation of each safety critical element construction plan will not be measured and paid for separately, but shall be included in the work. Temporary shoring, if required, shall be included in the cost of Removal of Structure.

Nothing in the section shall be construed to relieve the Contractor from ultimate liability for unsafe or negligent acts or to be a waiver of the Colorado Governmental Immunity Act on behalf of the Department.

REVISION OF SECTION 108
PROSECUTION AND PROGRESS

Section 108 of the Standard Specifications is hereby revised for this project as follows:

Subsection 108.03 shall include the following:

The Contractor shall present a preliminary bar chart to the Design Engineer at or prior to the preconstruction conference. This preliminary bar chart shall show the major features of the project for the entire project time frame.

In Subsection 108.03, page 136, delete the seventh paragraph and replace it with the following:

The Contractor shall participate in the Design Engineer's review and evaluation of the submittals. Meetings will be held weekly to review progress and planning. Additional meetings will be held when requested by the Design Engineer or Contractor. Meetings will be held at the Boulder County office, or as agreed upon otherwise.

Subsection 108.05 shall include the following:

All work performed by the Contractor or any of his agents shall be accomplished during the established working hours of 8:00 a.m. and 4:30 p.m., Mondays through Fridays. Neither the Contractor nor his agents shall work outside of the daily working hours without prior approval by the Engineer.

In the event that the Contractor receives approval and works additional hours for his convenience, the Contractor shall reimburse the County for the cost of providing additional engineering and inspection services. The reimbursement to the County will be at a rate of $100.00 per hour for each County employee or consultant required to be on the job site. This cost will be deducted from any money due the Contractor.

During working and non-working hours the Contractor will not leave any vertical drop-off adjacent to the traveled way unless protected by the proper traffic control devices.

Emergency vehicle access and school buses shall not be delayed at any time throughout the project duration.

Subsection 108.06 shall include the following:

The Contractor is responsible for reviewing and understanding the plans, specifications and standards. Contractor shall abide by said documents and complete the project accordingly. Additional work and/or materials required to bring work into conformance will be the responsibility of the contractor and shall not add to the cost of the project.

1

REVISION OF SECTION 201
CLEARING AND GRUBBING

Section 201 of the Standard Specifications is hereby revised for this project as follows:

Subsection 201.01 the first paragraph shall be replaced with the following:

This work consists of clearing, grubbing, removing and disposing of vegetation and debris, noxious weed management, and herbicide treatment within the limits of the right of way, easement areas, borrow pits, and other areas shown in the Contract or required by the work. Vegetation and objects designated to remain shall be preserved free from injury or defacement.

In Subsection 201.02, delete first paragraph and replace with the following:

Herbicide Treatment shall be applied according to Section 217 Herbicide Treatment.

Noxious Weed Management shall be performed according to Section 208 Noxious Weed Management

All trees and shrubs designated for removal, potential removal, and protection for the future roadway project (by others) are listed in the contract documents. Requirements for tree and shrub removals will be in accordance with Section 202, Removal and Trimming of Trees, of these Project Special Provisions. Trees and shrubs designated for removal by the stream restoration project are to be coordinated with the Design Engineer.

All activities for Clearing and Grubbing and Removal and Trimming of Trees shall be performed no more than one week prior to the corresponding construction activities. This requirement shall be included in the contractor's schedule and not considered justification for construction delays, unless otherwise approved by the Design Engineer.

For stream restoration activities, the following supplemental requirements are applicable:

(a) Sediment and debris removal shall be planned and performed according to: Colorado NRCS Conservation Practice Standard 326- Clearing and Snagging- (https://efotg.sc.egov.usda.gov/efotg_locator.aspx?map=US), and the following:

(b) The contractor must provide a disposal plan for clearing and snagging for review and approval by the NRCS/sponsor/owner's representative. The disposal plan for anthropogenic debris must be according to all applicable local regulations and Colorado Department of Health and Environment requirements titled: 2013 Floods - Guidance: Management and Disposal of Flood Debris.

(c) Excavation of sediment is limited to the quantity necessary to meet hydraulic requirements of design flows for the channel and floodplain. Where the extent of flood damage makes it difficult to identify the pre-flood channel capacity, excavation shall be limited to the quantity necessary to construct a stable channel and floodplain with capacity to safely pass the design flow. "Safely" refers to a flow depth and velocity that will not damage the property being protected.

(d) Sediment excavation must be planned to avoid leaving an unstable headcut at the upstream end of the excavated reach, and may include constructing grade control structures where necessary. When the streambed requires reconstruction, a low flow channel should be provided in the design to provide aquatic organism passage during low flow period as defined in stream restoration plans.

(e) Clearing and snagging should only remove as much large wood as needed to reestablish the pre-flood capacity of the channel and floodplain. Leave large wood in the riparian zone where it does not create a risk to life or

property, and where possible, consider using logs to construct channel and bank stabilization measures. The following are some additional guidelines with regard to large woody debris:

- To the extent possible, leave logs with a diameter greater than 1/3 the flow depth that are aligned or can be realigned at an angle less than 30 degrees with the direction of flow.
- Large wood with a diameter of less than 1/3 the flow depth left in the floodplain should be anchored by partial burial.
- All flood deposited woody debris within 20 channel bankfull widths upstream from a bridge, culvert, or other infrastructure at risk may be removed to reduce potential for damaging or impairing the functions of the structure.
- During mobilization to the construction site, minimize disturbance to the primary stream channel, side channels, and streambanks.
- Debris shall become property of the Contractor and incorporated into the project as permitted by these specifications or disposed of offsite.

Subsection 202.12 shall include the following:

Removal and Trimming of Trees will not be measured and paid for separately, but shall be included in the cost of 201 Clearing and Grubbing.

Herbicide Treatment and Noxious Weed Management will not be measured and paid for separately, but shall be included in the cost of 201 Clearing and Grubbing.

1

REVISION OF SECTION 202
REMOVAL AND TRIMMING OF TREES

Section 202 of the Standard Specifications is hereby revised for this project as follows:

Subsection 202.01 shall include the following:

It is the intent of this project to minimize any removal and trimming of trees where at-all possible. When removal or trimming of trees cannot be avoided, this provision shall apply.

This work consists of the removal and trimming of trees and shrubs (vegetation) as required to construct the project. This work also includes the protection and preservation from injury or defacement of all vegetation and objects designated to remain.

Subsection 202.02 shall include the following:

The ***Lower Fourmile Creek Stream Restoration Plans*** provided in this bid package have been developed to a 30% design level. Design Engineer will work directly with the Contractor in a design-build approach, in accordance with Colorado Water Conservation Board (CWCB) guidelines, to complete the creek improvements. The plans have identified all major design components and provide sufficient detail for the Contractor and Design Engineer to begin construction working together daily, on-site to ensure plans are being interpreted correctly and make field-fit modifications as necessary. No tree removals for stream restoration are identified in the plans. All tree and shrub removals for stream restoration work will be identified in the field and no trees shall be removed without approval of the Design Engineer. Contractor will be held responsible to protect all tree identified in the roadway project (by others) as defined below.

General. For reference purposes all trees and shrubs designated for removal, potential removal, and protection as part of the future roadway project (by others) are listed in the construction documents. The Contractor is responsible to verify these designations prior to any work, based upon review of the following documents and with the hierarchy as listed here:

Memorandum of Agreement (MOA) for each property as found in the Draft Right-of-Way Conditions Report. This document is absolute and must be followed. If the provisions of the MOA cannot be met for any reason, the contractor shall stop work and notify the Design Engineer for resolution.

Tree Inventory Plans. These plans are approximate and require verification against the MOA.

All trees and shrubs to be removed shall be clearly marked with water soluble paint by the Contractor for approval by the Design Engineer. The Contractor shall notify the Design Engineer that trees and shrubs have been marked at least five days prior to removal. Only trees and shrubs that have been approved by the Design Engineer may be trimmed or removed. All other trees must be protected in-place. For any tree marked with water soluble paint and not removed, the Contractor shall remove the paint in a manner not harmful to the tree. Further detail on the process for identifying trees approved for removal will be agreed upon during the Tree Protection Plan review.

Every tree or shrub that is designated to remain and is damaged shall be repaired or replaced as directed, at the Contractor's expense. Trees that are removed without approval are subject to the liquidated damages outlined in Section 107, Legal Relations and Responsibility to the Public.

The Contractor shall take precautions to protect all trees and shrubs not approved for removal during the course of construction. For any trees or shrubs that are not listed in the MOA but are designated to be removed in the plans, the contractor shall notify the Design Engineer in order to get approval from the property owner.

2

REVISION OF SECTION 202
REMOVAL AND TRIMMING OF TREES

Refer to Revision of Section 506, Stream Restoration (In-Stream Structures) and Revision of Section 506, Stream Restoration (Bank Protection) in these Project Special Provisions for the reuse of removed trees for stream restoration purposes.

Removal and Trimming Operations. Prior to beginning any construction, removal, trimming, cutting, or pruning of encroaching vegetation (as approved by the Design Engineer) shall be completed.

Once clearing, trimming, and pruning is completed and accepted, no additional clearing, trimming, cutting, or pruning will be allowed unless approved, in writing, by the Design Engineer.

This work shall be done by a Contractor or subcontractor who is a qualified tree surgeon and a member of the National Arborist Association. The firm's or individual's name and qualifications shall be submitted at the preconstruction conference for the Engineer's approval. A written description of work methods and time schedules shall be submitted and approved in writing by the Engineer prior to work commencing.

Access for the removal or pruning of trees will be extremely limited. Trees shall be felled at the risk of the Contractor. Strict limits of disturbance will be defined and shall be adhered to.

Branches on trees or shrubs shall be removed as directed by the Design Engineer. All trimming shall be done by skilled workmen. All work shall be done according to the following requirements:

(a) Pruning shall be done with proper, sharp, clean tools in such a manner as to preserve the natural character of the tree.
(b) All final cuts shall leave no projections on or off the branch and shall not be cut so close as to eliminate the branch collar.
(c) To avoid bark stripping, all branches 50 mm (2 inches) in diameter and larger shall be cut using the 3-cut method. These branches shall be lowered to the ground by proper ropes.
(d) Tools used on trees known or found to be diseased, shall be disinfected with alcohol before they are used on other trees.
(e) Structural weaknesses, decayed trunk or branches, or split crotches shall be reported to the Design Engineer.
(f) When cutting back or topping trees, the Contractor shall use the drop-crotch method and avoid cutting back to small suckers. Smaller limbs and twigs shall be removed in such a manner so as to leave the foliage pattern evenly distributed.
(g) When reducing size (cut back or topping) not more than one-third of the total area shall be reduced at a single operation.
(h) Climbing spikes shall not be used on trees not scheduled for removal.

Re-use of removed material for on-site stream restoration is advisable as permitted by these specifications and approved by the Design Engineer. Re-use on-site is a priority over mulching or disposing of material.

For materials that cannot be reused on-site the following procedures apply. All brush, branches, limbs, and foliage smaller than 3 inches in diameter shall be chipped into mulch and stockpiled at a designated site. The trunks and limbs 3 inches and larger that are not left in the floodplain shall be cut into less than 6 foot lengths and hauled to a designated site. Stumps shall be left no higher than 3 inches above the ground surface. Stump grinding is not required unless otherwise defined in the Memorandum of Agreements as included in the Right-Of-Way Conditions Report.

3

REVISION OF SECTION 202
REMOVAL AND TRIMMING OF TREES

Tree & Shrub Replacements. All riparian revegetation requirements for stream restoration work shall be completed in accordance with the Lower Fourmile Creek 30% Stream Restoration Revegetation plans.

At a minimum, tree and shrub replacements will adhere the following guidelines.

- Trees located in a riparian area will be replaced on a 1 to 1 ratio.
- The replacement tree or shrub shall be of a similar type, unless designated otherwise.
- The location of the planting shall be at the direction of the Design Engineer/Ecologist.

Subsection 202.11 shall include the following:

Trees that are removed without approval are subject to the liquidated damages outlined in Section 107, Legal Relations and Responsibility to the Public.

Subsection 202.12 shall include the following:

Chipping, stockpiling mulch, and hauling and stockpiling trunks and limbs will not be paid for separately but shall be included in the work. Trimming of trees and removal of trees will not be paid for separately but shall be included in the work.

All labor, equipment, materials and all other work required for removal and trimming of trees shall not be measured and paid for separately but shall be included in Section 201, Clearing and Grubbing.

All clearing and grubbing will be paid under Section 201, Clearing and Grubbing.

All plantings will be paid under Section 214, Planting.

1

REVISION OF SECTION 203
UNCLASSIFIED EXCAVATION (COMPLETE IN PLACE) – STREAM AND FLOODPLAIN

Section 203 of the Standard Specifications is hereby revised for this project to include the following:

DESCRIPTION

Subsection 203.01 shall include the following:

Field Measurements and surveys: Verify all excavation and grading is completed as specified in Stream Restoration Plans by field measurements and surveying prior to and during installations.

This work consists of excavation and fills within the stream channel and floodplain. This work includes larger-scale grading of the stream channel and floodplain, but excludes detailed stream channel shaping and installation of in-stream structures and bank protection (See Section 203 Stream and Floodplain Grading (Final), Section 506 Stream Restoration (Bank Protection) and Section 506 Stream Restoration (In-Stream Structures)). Included in the unclassified excavation is removal and placement of material to form the general channel shape and floodplain characteristics. This work also includes the sorting and stockpiling of native streambed material and boulder material located in the existing stream bottom and revetments, to be used in later stages of construction to form stream features including final channel grading (Section 203 Stream and Floodplain Grading (Final)), in-stream structures (Section 506 Stream Restoration (In-Stream Structures)), and bank protection (Section 506 Stream Restoration (Bank Protection)). This also includes the selective stripping, stockpiling and replacement of existing native streambed material as described herein.

CONSTRUCTION REQUIREMENTS

Subsection 203.04 shall include the following:

Existing stream conditions prior to installation of all work shall be carefully documented with photographs or other method approved by Design Engineer. The Contractor shall provide preconstruction and post construction survey to verify quantities. All existing in-situ embankment protection materials shall be sorted; alluvial material (native streambed material) and boulders (competent materials conforming to the boulder requirements of Section 506 Stream Restoration (In-Stream Structures) and Section 506 Stream Restoration (Bank Protection)) shall be retained for re-grading and re-use on the project. All cobbles and boulders suitable for use with in-stream structures (Section 506 Stream Restoration (In-Stream Structures)) or bank protection (Section 506 Stream Restoration (Bank Protection)), as shown on the stream restoration plans, shall be removed and stockpiled as close to the work area as possible. In addition, the existing native streambed material is to be scraped as directed by the Design Engineer, and stockpiled/salvaged, on-site if practicable. This material will be replaced as the surface layer of the design channel as directed by Design Engineer. The proposed channel and floodplain shall be formed according to the typical sections and grading contours as shown on the plans and as directed by the Design Engineer.

It is anticipated that some hard ground and/or bedrock will be encountered during excavation. For this work, it is expected that conventional heavy excavation equipment will be capable of completing excavation without the need for any rock blasting activities. No rock blasting will be allowed without prior approval from the Design Engineer. If rock blasting is required it will be deemed a change of condition.

Subsection 203.08 shall include the following:

Floodplain and stream channel material shall be placed in lifts as directed by Design Engineer and compacted by routing construction equipment (excavators, dozers, pneumatic tire equipment, etc.) as approved by Design Engineer until the Design Engineer is satisfied that adequate compaction has been obtained.

REVISION OF SECTION 203
UNCLASSIFIED EXCAVATION (COMPLETE IN PLACE) – STREAM AND FLOODPLAIN

METHOD OF MEASUREMENT

Subsection 203.13(a) shall include the following:

The Contractor shall provide preconstruction and post construction survey to verify quantities. Channel grading will be measured by the volume of material excavated in cubic yards. When grading is either partially or entirely complete and Design Engineer has approved grading, Contractor shall estimate the volume (CY) of excavation in a method approved by the Design Engineer.

BASIS OF PAYMENT

Subsection 203.14 shall include the following:

Payment includes the total volume excavated and reshaped into the rough dimensions of the channel and floodplain. Payment includes haul away of any excess material to an approved on-site or offsite location. Payment includes the detailed sorting, stripping, stockpiling and replacement of select existing stream materials as described above.

Pay Item	**Pay Unit**
Unclassified Excavation (Complete in Place) – Stream and Floodplain	Cubic Yards

1

REVISION OF SECTION 203
STREAM AND FLOODPLAIN GRADING (FINAL)

Section 203 of the Standard Specifications is hereby revised for this project to include the following:

DESCRIPTION

Subsection 203.01 shall include the following:

Field Measurements and surveys: Verify all excavation and grading is completed as specified in Stream Restoration Plans by field measurements and surveying prior to and during installations.

Subsection 203.02 shall include the following:

Native Streambed Material. Native alluvium existing in the project area shaped, deposited, and distributed over historic fluvial processes. Native streambed material excludes organics, construction debris (e.g. concrete, riprap, rebar, etc.), and other non-native material (e.g. trash, tires, etc.). Native streambed material shall be approved by Design Engineer, but is generally described as coarse sediment with round to sub-rounded shape with median grain size corresponding to Very Coarse Gravel. For guidance purposes only, the representative grain size distribution based on pebble counts is approximately: D15= 6.9 mm, D50= 50.5 mm, D84= 99.3 mm, D95= 142.6 mm. The Design Engineer may adjust the grain size distribution as appropriate to account for armoring of the streambed and to include boulders.

MATERIALS

Add the following subsection immediately following subsection 203.03 as follows:

203.031 Soil:

Soil placed in the lifts shall be free of debris and suitable for planting. The soil shall be onsite topsoil (if available) excavated from on site. If approved onsite topsoil is not available in sufficient quantity, the Contractor shall make up any deficient amount using imported topsoil.

Furnished topsoil shall be natural, friable surface soil uniform in color and texture and not supplied from the project site. It shall be of uniform composition, without mixture with subsoil materials. Furnished topsoil shall be free from species present on State and Federal noxious plant lists or invasive plant species. It shall be from a local well-drained site with a history of satisfactory vegetative growth.

Existing topsoil salvaged from the project shall be utilized if possible. If the salvaged topsoil does not meet the criteria described below, the Contractor shall provide furnished topsoil. Contractor shall submit to the Design Engineer for approval, certification indicating the proposed source of furnished topsoil prior to the placement of any furnished topsoil on site.

Topsoil shall meet the following criteria or as directed by the Design Engineer or Ecologist:

2

REVISION OF SECTION 203
STREAM AND FLOODPLAIN GRADING (FINAL)

Characteristic	Criteria
pH	From 6.0 to 7.5
Cation-exchange capacity (CEC)	From 5 to 25 cmol+ /kg (meq/100g)
Organic Matter (OM)	From 2 to 10 percent by weight
Nutrient Content	Normal contents of nitrogen, phosphorus, potassium, calcium, magnesium, sulfur, and proper micronutrient levels
Soluble Salts	Less than 200 ppm
Contaminants	Should contain no toxic substances

Grading analysis shall be as follows:

Sieve Size	Minimum Percent Passing by Weight
2 inches	100
No. 4	90
No. 10	80

Textural analysis shall be as follows:

Soil Particle Size (mm)	Minimum Percent Passing by Weight
Sand (2.0 – 0.05)	20-75
Silt (0.05 – 0.002)	10-60
Clay (less than 0.002)	5-30

Excess topsoil shall become the responsibility of the Contractor and shall be completely removed from the project site prior to final site inspection and approval of the project at no additional cost.

Topsoil shall be delivered to the stockpile areas adjacent to each work area where soil lifts will be installed. Material excavated from the site that is not immediately re-used may be stockpiled on site for use in areas where geolifts will be constructed on eroded banks that may require additional fill to attain grade. Material excavated from the site that is not re-used in construction shall become the property of the Contractor and shall be removed from the site for disposal at an appropriate disposal site.

3

REVISION OF SECTION 203
STREAM AND FLOODPLAIN GRADING (FINAL)

CONSTRUCTION REQUIREMENT

Subsection 203.05 shall include the following:

Detailed Stream Channel Shaping. Channel Grading is performed in multiple steps; the first steps are described in Revision of Section 203 Unclassified Excavation (Complete in Place) – Stream and Floodplain. After the mass grading surface is prepared, excavation will then occur in the final multi-stage channel which was created as part of mass grading. The channel will be reshaped by excavating riffle and pool cross sections, as shown on the plans. This excavated material shall be approved by the Design Engineer as native streambed material (generally described above) and will then be placed and graded into slightly elevated areas adjacent to the thalweg in the form of point bars and riffles as shown on the plans. The placed material is then track packed. This process is repeated until design depths and shape are achieved. This work is followed by (or concurrent) with the placement of in-stream structures (Section 506 Stream Restoration (In-Stream Structures)) and bank protection (Section 506 Stream Restoration (Bank Protection)). Most of this work is performed by utilizing an excavator equipped with a thumb and assisted by either a second excavator, loader, tracked skid steer or small dozer. Graded channel elements shall be inspected and approved by the Design Engineer. Contractor shall confirm existing conditions represent design plans prior to all road revetment and mass grading activity.

METHOD OF MEASUREMENT

Subsection 203.13(a) shall include the following:

Detailed Stream Channel Shaping. Channel grading is measured by the hour to perform final excavation and grading of the channel and form the riffle and pool cross sections. Channel Grading will be measured by the number of hours spent to grade the channel to the Design Engineer's satisfaction. Time involved in moving onto or off the project will not be measured and paid for under this item.

Construction Inspector and Contractor shall agree upon quantities for this work on a daily basis.

BASIS OF PAYMENT

Subsection 203.14 shall include the following:

Detailed stream channel shaping is measured by the hour to perform final excavation and grading of the channel and form the riffle and pool cross sections. Channel Grading will be measured by the number of hours spent to grade the channel to the Design Engineer's satisfaction. Time involved in moving onto or off the project will not be measured and paid for under this item.

Pay Item	**Pay Unit**
Stream and Floodplain Grading (Final)	Hour

REVISION OF SECTION 207
TOPSOIL

Section 207 of the Standard Specification is hereby revised as follows:

Subsection 207.01, shall include the following:

All topsoil shall be either secured from the site or imported and shall be approved by Boulder County at the source prior to import. It shall also include the placing of topsoil upon constructed cut and fill slopes after grading operations are completed and prior to seeding.

Subsection 207.03, paragraph two, shall include the following:

Topsoil Removal: After the construction area and its access have been delineated, the vegetation should be mowed to a maximum height of four (4) inches over the area to be disturbed. If the amount of vegetation exceeds what can be incorporated into the soil without interfering with establishing a proper seedbed, then excess vegetation shall be removed.

Topsoil should be removed by a front-end loader (preferred method) or grader. **Under no circumstances should upland topsoil be removed under wet soil moisture conditions**. The depth of the topsoil layer may vary. Topsoil may be delineated from the subsoil by a higher organic matter content (usually, but not always, indicated by a darker color) **and** a relatively loose and friable soil structure. Typically, topsoil is between four (4) and eight (8) inches in depth.

Under no circumstances shall subsoil be mixed with topsoil, and subsoil shall not be placed on top of the topsoil. If necessary, salvaged topsoil shall be cordoned off to delineate the topsoil from subsoil or other materials. The topsoil shall be protected from contamination by subsoil material, weeds, etc. and from compaction by construction equipment and vehicles.

Relieving Compaction: Areas to receive topsoil that have been compacted by heavy equipment shall be ripped or chiseled **prior to redistribution of topsoil.** Construction areas and other compacted areas will be chiseled to a minimum depth of 10 inches, with no more than a 10 inch interval between chiseled furrows. Two passes with a chiseler may be necessary, with the second pass chiseling between the first furrows, or perpendicular to original furrows.

Subsection 207.03, paragraph four, shall include the following:

Redistribution of Topsoil and Application of Soil Conditioning: The topsoil should be redistributed uniformly over the disturbed areas, minimizing compaction by equipment. **Topsoil redistribution shall not occur under wet soil conditions**. Topsoil shall be ripped again after it is placed as specified above in the paragraph "Relieving Compaction" if compaction has occurred during topsoil redistribution. See Specification 212 for Seeding, Fertilizer, Soil Conditioning, and Sodding application. Soil conditioning shall be incorporated evenly throughout the topsoil.

1

REVISION OF SECTION 208
EROSION CONTROL

Section 208 of the Standard Specification is hereby revised as follows:

Subsection 208.01 is hereby revised to include the following:

Water quality control during construction activity shall be in accordance with Section 107.25.

The contractor will be the Permittee of the Colorado Discharge Permit System – Stormwater Construction Permit (CDPS-SCP) during the entire period that it remains open and is also responsible for inactivation of the permit once final stabilization of the construction site has been achieved and accepted by Boulder County. No transfer of ownership or control will be permitted.

The Contractor shall provide a copy of the permit application submitted to CDPHE, as well as and a copy of the issued permits, once obtained, to Boulder County.

The contractor shall proceed with this permit activity as soon as he deems necessary following the Notice of Award. No contract delays or extensions will be granted to the contractor for failure to implement the required SWMP plan and obtain the required state permit in a timeframe necessary to begin the work as specified in the contract.

Once construction has been completed, the Boulder County Project Manager and the contractor will complete a walk-through of the project site. The purpose of which is to determine the areas where BMP's may be removed or maintained.

Subsection 208.02 (k) shall include the following:

Prior to the initial arrival onto the project site, all equipment shall be thoroughly steam cleaned including the undercarriages and tires. Equipment must be clean of mud, vegetative matter, and other debris to prevent importation of noxious weed seeds and aquatic nuisance species from other project sites. Equipment and gear that were previously used in another stream, river, lake, pond or wetland and that are to be used in or near the waters on the project shall be cleaned according to the Requirements of the 404 Permit included in these special provisions. The Contractor shall not move water from one body of water to another. Equipment must be dry before use.

The Contractor shall coordinate with the Design Engineer for inspection of all equipment at the cleaning facility and at the project site.

2

REVISION OF SECTION 208
EROSION CONTROL

Subsection 208.06 shall include the following:

Biodegradable hydraulic fluids shall be used for all heavy machinery.

Fueling areas should be at least 50 feet (preferably 100 feet) from the creek and must be located in upland sites, as far away from the stream edge as possible in areas without porous stream deposits such as sand or cobble. County road Right of Way can be used if approved by the Transportation Department. Appropriate BMPs must be utilized at fueling areas.

A spill kit, including absorbent socks and booms, shall be kept onsite during all work with machinery (emergency pollutant isolation and clean-up materials, with procedures). All crew members shall be trained on how to use the spill kit equipment and where the materials are kept onsite. The Design Engineer shall approve the Contractor's plan for leaking equipment extraction from the creek (spill plan information to be included in SWMP).

Subsection 208.11 shall include the following:

Construction Inspector and Contractor shall agree upon quantities for this work on a weekly basis.

REVISION OF SECTION 208
WATER CONTROL

Section 208 of the Standard Specifications is hereby revised for this project as follows:

DESCRIPTION

208.01 This work consists of controlling water for the construction of channel grading, boulder placement, and stream restoration elements as applicable. This item includes all work to divert Fourmile Creek, tributaries or any other surface flow encountered on the project.

MATERIALS

208.02 The Contractor shall be responsible for the quality and adequacy of all water control equipment.

CONSTRUCTION REQUIREMENTS

208.03 Water must be diverted such that all construction occurs "in the dry" with no water flowing through active construction area.

The Contractor's method of diverting Fourmile Creek must be approved by the Design Engineer prior to implementation. The Contractor shall submit a Water Diversion Plan for review and approval 10 calendar days prior to implementation in accordance with Subsection 105.02. The diversion plan shall include the following:

(a) Method statement addressing all requirements including copies of relevant permits required for stream diversion and,
(b) Plans and design calculations, sealed and signed by a Professional Engineer registered in the State of Colorado, supporting the diversion plan including but not limited to:
    1) Method for determining design flow,
    2) Surface water profiling and conveyance calculations,
    3) Phasing plans, and,
    4) Site restoration plans showing how to return the stream bed to its original configuration as it was prior to construction.

For dewatering, refer to Section 211, Dewatering for additional information.

For stream crossings that affect traffic control, refer to Section 621, Temporary Stream Crossing for additional information.

METHOD OF MEASUREMENT

208.11 Water Control shall be measured as a lump sum.

BASIS OF PAYMENT

240.12 Water control will be paid for as a lump sum.

Payment includes all labor, equipment, materials and all other work required to design, install, maintain, operate, troubleshoot, and remove water control measures.

Pay Item	**Pay Unit**
Water Control	Lump Sum

REVISION OF SECTION 209
DUST PALLIATIVES

Section 209 of the Standard Specifications is hereby revised for this project as follows:

Subsection 209.05 shall include the following:

Application of dust palliative may be required when work is in progress and not in progress, including weekends, holidays, and nighttime.

Delete subsections 209.07 and 209.08 and replace with the following:

All labor, equipment, materials and all other work required for dust palliatives shall not be measured and paid for separately but shall be included in Section 203, Unclassified Excavation (Complete in Place) – Stream and Floodplain.

REVISION OF SECTION 211
DEWATERING

Section 211 of the Standard Specifications is hereby added to the Standard Specifications for this project as follows:

DESCRIPTION

211.01 This work consists of dewatering excavations for the channel grading, riprap placement, and stream restoration elements as applicable.

MATERIALS

211.02 The Contractor shall be responsible for the quality and adequacy of all pumping and discharge equipment.

CONSTRUCTION REQUIREMENTS

211.03 The Contractor shall dewater, by pumping or by excavating trenches leading to a positive gravity outlet, to a depth of at least three feet below the lowest part of the in-stream feature or bank protection feature. The dewatering process shall be commenced a sufficient amount of time in advance of placing excavation equipment thereon to prevent undue disturbance of the foundation soil. If in the opinion of the Design Engineer, equipment is causing undue disturbance, the Design Engineer may require further drying of the bearing area or place limitations on the type of equipment permitted on the bearing area. The Design Engineer may require the Contractor to place (at its own expense) additional filter material beyond that shown on the plans to compensate for the loss of bearing capacity.

When working with concrete near flowing water, it is imperative that flowing water does not come into contact with wet concrete. For grouted structures, the water level shall be maintained below the level of placed concrete for at least three days before the water level is allowed to rise.

The Contractor's method of dewatering and of water disposal, including pumping and discharge equipment, must be approved by the Design Engineer prior to implementation.

For diverting Fourmile Creek, refer to Section 208, Water Control for additional information.

For stream crossings that affect traffic control, refer to Section 621, Temporary Stream Crossing for additional information.

METHOD OF MEASUREMENT

211.04 All labor, equipment, materials and all other work required for dewatering shall not be measured and paid for separately but shall be included in Section 208, Water Control.

1

REVISION OF SECTION 212
SEEDING, FERTILIZER, SOIL CONDITIONER AND SODDING

Section 212 of the Standard Specification is hereby revised as follows:

Subsection 212.02 (a) shall include the following:

Maximum crop and weed content shall follow the Colorado Seed Certification Standards for certified seed; prohibited noxious weeds - none, restricted noxious weeds less than 0.1%, total other crop seed less than 1.0%. Seed shall be free of prohibited noxious weeds including, but not limited to, Canada thistle, diffuse knapweed, spotted knapweed, Russian knapweed, field bindweed, hoary cress, jointed goat grass, leafy spurge, musk thistle, and yellow toadflax. In addition, seed shall be free from cheatgrass (Bromus japonicus and Bromus tectorum). The Design Engineer/Ecologist reserves the right to refuse any seed lot with excessive weed seeds and non-native contaminant seed for all native seed mixes, and to require the use of a different seed lot. The Contractor shall be responsible for replacing any refused seed at no additional cost to the project.

Subsection 212.02 (a) 1 shall include the following:

Super Triple Phosphate may be utilized, depending on project needs, and its chemical analysis shall be zero (0) percent nitrogen (N), 46 percent phosphoric acid (P_2O_5), zero (0) percent potassium (K_2O).

If a specified type or variety of seed is not available, substitutions must be approved by the Design Engineer/Ecologist.

Subsection 212.02 (b) 1, shall include the following.

Fertilizer will not be permitted in seeded areas or areas within 20 feet of streambanks. When allowed, one of the following fertilizers may be used:

Biosol® brand of fertilizer, or a similar product shall meet the following description; a slow release organic fertilizer composed of dried granulated fungal biomass. Chemical analysis shall be 6% nitrogen (N), 1% phosphoric acid (P205), 1% potassium (K20).
Biosol® Forte brand of fertilizer, or a similar product shall meet the following description; a slow release organic fertilizer composed of dried granulated fungal biomass. Chemical analysis shall be 7% nitrogen (N), 2% phosphoric acid (P205), 1% potassium (K20).
Super triple phosphate: Chemical analysis shall be 0% nitrogen (N), 46% phosphoric acid (P205), 0% potassium (K20).

Subsection 212.02 (b), last sentence, in paragraph four, shall be replaced with the following:

The Contractor shall provide a participation certificate and test data showing the lab analysis on a Compost Technical Data sheet that verifies that the compost meets the requirements. The Contractor shall submit documentation showing the feedstock amount by percentage in the final compost product. Compost feedstock may include, but is not limited to, leaves and yard trimmings, food scraps, food-processing residuals, manure or other agricultural residuals, forest residues, bark, and paper.

REVISION OF SECTION 212
SEEDING, FERTILIZER, SOIL CONDITIONER AND SODDING

Subsection 212.02 (b) 2, shall include the following:

Compost shall consist of a carbon to nitrogen ratio between 10:1 and 20:1. Compost may consist of one or more of the following, or include other appropriate composts:

- Well-aged dairy cattle manure,
- Well-aged municipal sludge, or
- Composted yard wastes.

Subsection 212.02 (b) 2, second paragraph shall be replaced with the following:

Humic acid based material (Humate) shall be mined from fresh water, sand matrix source and shall include the following:

pH 3.5 to 4.0
Maximum 15 percent inert ingredients
Minimum 85 percent organic material with 50 percent minimum humic acid.

Subsection 212.02 (b) 2, paragraph five; replace the pH Requirements in the Table for the physical properties of compost to 6.0 – 8.0.

Subsection 212.03, paragraph one, time table shall be replaced with the following:

Zone	**Spring Seeding**	**Fall Seeding**
Areas other than the Western Slope		
Below 6000’	Spring thaw to April 15th	September 1 until consistent ground freeze
6000’ – 7000’	Spring thaw to May 15th	September 1 until consistent ground freeze
Above 7000’	Spring thaw to May 30th	September 1 until consistent ground freeze

Subsection 212.06 shall include the following:

All riparian seeding requirements for stream restoration work shall be completed in accordance with the Lower Fourmile Creek 30% Stream Restoration Revegetation plans.

Subsection 212.06 (a) shall be replaced with the following:

Soil Preparation. Following redistribution of topsoil, the disturbed areas shall be chiseled again to a minimum depth of 12 inches, with no more than a 10 inch interval between chiseled furrows. Slopes flatter than 2:1, shall be tilled to a well settled, firm, and friable seedbed four (4) inches deep. Slopes 2:1 or steeper shall be left in a roughened condition. Slopes shall be free of soil clods, sticks, stones, and debris in excess of four (4) inches in any dimension, and be brought to the desired grade and line. Uneven grading of the soil surface is acceptable and encouraged to prevent further compaction from excess heavy machinery operation. All slopes shall be free of concrete and asphalt. In addition, in areas where erosion control blankets are used stones in excess of 6 inches in any dimension shall be removed. Slopes flatter than 2:1, shall be tilled into an even and loose seed bed 4 inches deep. Harrowing, disking, or other operation may be required to breakdown large soil clods greater than 4 inches in diameter and provide an acceptable seed bed. No soil preparation for seeding shall occur when soil is frozen or in an extreme wet or dry condition.

REVISION OF SECTION 212
SEEDING, FERTILIZER, SOIL CONDITIONER AND SODDING

Subsection 212.06 (b) shall be replaced with the following:

Fertilizing and Soil Conditioning. Prior to seeding, fertilizer, soil conditioner, or both shall be applied evenly throughout the topsoil.

- *Fertilizing.* Apply Biosol® or Biosol® Mix or a similar, approved product at 500 to 1,800 lbs. per acre. When Super Triple Phosphate is used, apply at 60 lbs. per acre. Fertilizers shall be incorporated into the top four (4) inches of soil before broadcasting seed.
- *Soil Conditioning.* Biological nutrient, culture or humic based material called for on the plans shall be uniformly applied at three (3) cubic yards per 1000 square feet onto the soil surface. Organic amendments shall be applied uniformly over the soil surface and incorporated into the top six (6) inches of soil. No measurable quantity of organic amendment shall be present on the surface after incorporation.

Subsection 212.06 (c) shall be replaced with the following:

Seeding. Seeding shall be accomplished within 24 hours of tilling or scarifying to make special seed bed preparation unnecessary. The seeding application rate shall be as designated in the Contract. All slopes flatter than 2:1 shall be seeded with grass or no-till drills followed by packer wheels. Drag chains are not allowed. Drills shall have depth bands set to maintain a planting depth between ½ and ¾ inch and shall be set to space the rows not more than seven (7) inches apart. Packer wheels that firm the soil over the drill row are required. Seed that is extremely small shall be sowed from a separate hopper adjusted to the proper rate of application. The Contractor shall notify the Design Engineer 24 hours in advance and request inspection of seeding areas prior to installation.
Seed must be applied with a grass or no-till drill that is specifically designed to accommodate variability in size and physical characteristic of native grass seeds.

Seed drills must be clean of seed from previous seeding jobs before any seeding begins.

If strips greater than 7 inches between the rows have been left unplanted or other areas skipped, the Design Engineer will require additional seeding at the Contractor's expense.

When requested by the Contractor and approved by the Design Engineer, seeding may be accomplished by broadcast or hydraulic type seeders at twice the rate specified in the Contract at no additional cost to the project.

All seed sown by broadcast-type seeders shall be "raked in" or covered with soil to a depth of at least ¼ inch. Broadcasting seed will be permitted only on small areas not accessible to machine methods. Broadcast seeding shall proceed on freshly disturbed (raked or harrowed) soil surface and broadcast seed shall be immediately raked or harrowed into the surface. Raking shall be accomplished using metal-tined garden or landscape rakes; no plastic leaf rakes shall be allowed. If harrowing is used, an English harrow or its equivalent shall be required.

Hydro seeding will not be accepted.

Seeded areas damaged due to circumstances beyond the Contractor's control shall be repaired and reseeded as ordered. Payment for this corrective work, when ordered, shall be at the contract prices.

Areas not requiring seeding that have been damaged due to the seeding operation shall be required to be seeded as ordered. Payment for this corrective work shall be included in the price of the item.

4

REVISION OF SECTION 212
SEEDING, FERTILIZER, SOIL CONDITIONER AND SODDING

Multiple seeding operations shall be anticipated as portions of job are completed to take advantage of growing conditions and to comply with Section 208 and subsection 212.03.

Subsection 212.07, paragraph four, shall include the following:

The Contractor shall furnish the Design Engineer with delivery tickets or bag weight tickets prior to placing any soil conditioner. Any soil conditioner placed by the Contractor without the Design Engineer's approval will not be paid for.

Tags attached to bags of seed will not be removed until the bag is opened on site at the time of seeding.

Construction Inspector and Contractor shall agree upon quantities for this work on a weekly basis.

Subsection 212.08 shall include the following:

Pay Item	**Pay Unit**
Revegetation – Riparian Seeding & Mulch	ACRE

Payment includes all labor, equipment, materials and all other work required to install all fertilizer, soil conditioner, and sodding.

1

REVISION OF SECTION 213
MULCHING

Section 213 of the Standard Specification is hereby revised as follows:

Subsection 213.01 shall include the following:

Mulching for riparian seeding relating to stream restoration work shall be completed in accordance with the Lower Fourmile Creek 30% Stream Restoration Revegetation plans.

Subsection 213.02 shall include the following:

All delivered and stored materials must be in in original, unopened and labeled containers.

Subsection 213.02, first paragraph, first sentence shall be deleted and replaced as follows:

Materials for mulching shall consist of Certified Weed Free field or marsh hay or straw of, wheat, sorghum, sorghum-sudan, milo, or millet certified under the Colorado Department of Agriculture Weed Free Forage Certification Program as "Weed Free Mulch" and inspected as regulated by the Weed Free Forage Act, Title 35, Article 27.5, CRS. Unacceptable straw mulch materials include: barley and rye. Preference will be given to straw from irrigated fields and to straw from current or previous year's harvest. Each certified weed free mulch bale shall be identified by one of the following:

One of the ties binding the bale shall consist of blue and orange twine, or
The bale shall have a regional Forage Certification Program tab indicating the "Regional Forage Certification Program Number."

In addition to the weed free requirements above, mulching containing cheatgrass (*Bromus tectorum and Bromus japonicas*), kochia (Bassia scoparia) or prickly lettuce (Lactuca serriola) will not be accepted.

Subsection 213.02, fourth paragraph shall be deleted and replaced as follows:

The Contractor shall provide a transit certificate for each truckload that has been filled out and signed by the grower and by the Department of Agriculture inspector. The transit certificate shall contain the inspection certificate number, the producer's name, the type of mulch, the origin, and the quantity purchased in number of bales and estimated weight.

Subsection 213.02, sixth paragraph shall include the following:

Wet, moldy, opened or broken packages or materials will not be accepted

Subsection 213.02 (b), the ground cover requirement for Bonded Fiber Matrices (BFM) shall be replaced with 100%.

Subsection 213.02 (b), the application rate shown in the second table for Bonded Fiber Matrices (BFM) shall be replaced with 3200 lbs/Acre.

Subsection 213.02 (b) shall include the following:

The bonded fiber matrix shall be applied in successive layers as to achieve 100% coverage of all soils, and the matrix shall have no holes greater than 1mm. Application must be applied in at least two angles to meet cover requirements. This application shall be strictly required.

Subsection 213.03 shall include the following:

No work shall occur when soil is extremely wet

2

REVISION OF SECTION 213
MULCHING

Subsection 213.03 (a) shall include the following:

Straw mulch or native hay shall be applied at a rate of 3000 pounds per acre.

Subsection 213.03 (b) delete the second paragraph and replace with the following:

Apply the hydromulch and tackifier mixture for native seeding at the following rate:

Wood Cellulose Fiber Mulch	**Tackifier**
3000 lbs./Acre	150 lbs./Acre

Subsection 213.04 shall include the following:

All labor, equipment, materials and all other work required for mulching shall not be measured and paid for separately but shall be included in Section 212, Seeding, Fertilizer, Soil Conditioner, and Sodding.

1

REVISION OF SECTION 214
LIVE PLANT CUTTINGS

Section 214 of the Standard Specifications is hereby revised for this project as follows:

Subsection 214.01 shall include the following:

This work consists of furnishing all plants, labor, materials and equipment and performing all work necessary and incidental to installing live willow and/or cottonwood cuttings or poles for the stabilization of streambanks and/or environmental mitigation in accordance with other contract documents, at the direction of the Design Engineer. These plants must be harvested in early spring while dormant and before the buds leaf out (usually before April 15th), unless otherwise approved by the Design Engineer. Where work is to be completed during the nesting season, migratory bird surveys will be required.

All live plant cuttings for stream restoration work shall be completed in accordance with these specifications and the Lower Fourmile Creek 30% Stream Restoration Revegetation plans.

Subsection 214.02 shall include the following:

- Live Willow and Cottonwood Stakes – Stakes shall be collected from sources that have been approved by the Design Engineer before beginning cutting operations. All stakes shall be collected on or near the site (within 1,000 vertical feet) whenever possible, as directed by a qualified ecologist. All stakes shall be harvested when dormant (before leaves emerge or after they are dropped) from live plants a minimum of 0.5 inches in diameter. Diseased or damaged stakes shall not be harvested. The stem shall be stripped of all branches before cutting and then trimmed to the desired length. The lower (rooting) end of the stem shall be cut at a 45 degree angle and the upper end shall be cut at a 90 degree angle. The cuttings shall be placed into water within two minutes of cutting and soaked—completely submerged—for at least 72 hours, but not more than 3 weeks, prior to planting. The stakes shall be kept wet until placed into the ground and will not be allowed out of water for more than 10 minutes during planting. All cuttings shall be trimmed after installation to ensure that no more than one-third of their length is left above ground.

A complete list of graminoids, forbs, shrubs and trees must be approved by the County before grading permit is issued. All species must include scientific names of plants. Rather than simply grasses, the use of plantings – containers and/or cuttings – is strongly encouraged.

2

REVISION OF SECTION 214
LIVE PLANT CUTTINGS

Subsection 214.03(h) shall be replaced with the following:

Live Willow/Cottonwood Stake Installation. Using a piece of rebar, stinger backhoe attachment, or other equipment, create a vertical hole deep enough to reach the water table throughout the growing season. Insert the cutting into the hole so that the rooting end of the cutting is in contact with the water table. At least 2/3 of the cutting length must be below ground. After proper installation, trim above ground length so that no more than 12 inches (with at least 2 live buds showing) is left above ground. Only dead blow hammers or rubber mallets shall be used to tamp the live poles into the soil. Care shall be taken to prevent splitting of the poles due to impact from the hammers. Sledgehammers, other hammering devices shall NOT be used to install the cuttings. Soil shall be placed in any spaces around the cuttings and tamped into place to remove any air pockets. The live cutting must have good soil contact with little to no air voids in order to grow. Water shall be applied immediately (within 5 minutes) to the planted cuttings/stakes until the soil around the plant is saturated. After the poles are fully tamped into the soil, the poles will be trimmed to 12 inches above the ground with at least 1 to 2 buds above ground. Stake shall be pruned to a clean, non-damaged cut.

REVISION OF SECTION 214
PLANTING

Section 214 of the Standard Specifications is hereby revised for this project as follows:

Subsection 214.01 shall include the following:

All riparian revegetation requirements for stream restoration work shall be completed in accordance with the Lower Fourmile Creek 30% Stream Restoration Revegetation plans.

Subsection 214.02 shall include the following:

Boulder County has a supply of native wetland plants, shrubs and trees. The Contractor shall use this source of plants, if available. The Contractor is advised quantity splits shown on the bid table for plant materials between furnishing and installing are estimates only and the County cannot guarantee it will be able to furnish any plants.

The Contractor shall notify Boulder County at least two months in advance of the requested quantities, species and delivery date. If Boulder County is unable to supply the plants, the Contractor is responsible for obtaining plant materials.

Upon delivery, plants must be inspected and accepted by a Boulder County Plant Ecologist.

Substitutions will not be permitted without written request and approval from the County. All substitutions must represent native species that occur naturally in Boulder County and surrounding watersheds and is appropriate for the elevation where the plant material will be planted, and do not represent horticultural cultivars or varieties.

The contractor shall be responsible for the establishment of seeding and plantings according to the establishment period in section 214.04. Any plantings or seeding requiring replacement during the establishment period shall be replaced according to section 213.04(a). Replacement of plantings and seeding during the establishment period will not be paid for separately but shall be included in the work.

Subsection 214.05 shall include the following:

Construction Inspector and Contractor shall agree upon quantities for this work on a weekly basis.

Subsection 214.06 shall include the following Payment Items:

Pay Item	**Pay Unit**	**Note**
Revegetation Zone A (10 CI, Furnish and Install)	Each	
Revegetation Zone A (10 CI, Install Only)	Each	County to provide plants
Revegetation Zone A (10 CI, Furnish Only)	Each	
Revegetation Zone B (40 CI, Furnish and Install)	Each	
Revegetation Zone B (40 CI, Install Only)	Each	County to provide plants
Revegetation Zone B (40 CI, Furnish Only)	Each	
Revegetation Zone B (3’ Cuttings, Furnish and Install)	Each	
Revegetation Zone B (3’ Cuttings, Install Only)	Each	County to provide plants
Revegetation Zone B (5’ Cuttings, Furnish Only)	Each	
Revegetation Zone C (40 CI, Furnish and Install)	Each	
Revegetation Zone C (40 CI, Install Only)	Each	County to provide plants

REVISION OF SECTION 214
LANDSCAPE MAINTENANCE

Section 214 of the Standard Specification is hereby revised as follows:

Subsection 214.05 shall include the following:

All labor, equipment, materials and all other work required for landscape maintenance shall not be measured and paid for separately but shall be included in Section 214 Planting.

1

REVISION OF SECTION 216
SOIL RETENTION COVERING

Section 216 of the Standard Specifications is hereby revised as follows:

Subsection 216.02 (1) shall include the following:

All soil retention coverings shall be biodegradable. Photodegradable will not be accepted.

Subsection 216.02 (a) 1 shall include the following:

The blanket shall be of consistent thickness with the straw and coconut fiber evenly distributed over the entire area of the mat.

The blanket shall be covered on the top side with jute or equivalent 100% biodegradable netting having an approximate 5/8 inch x 5/8 inch mesh and on the bottom with biodegradable netting with an approximate ¼ inch x ¼ inch to ½ inch x ½ inch mesh. The blanket shall be sewn together with cotton, biodegradable thread.
Subsection 216.02 (a) 3 shall include the following:

The blanket shall be of a 0.35 in (9 mm) thickness evenly distributed over the entire area of the mat. The open weave in the blanket shall be 0.5 in x 0.5 in.

Subsection 216.03 shall include the following:

When applicable, the heavyweight biodegradable netting shall be on top and the lightweight biodegradable netting shall be in contact with the soil

Subsection 216.03 (b) shall be replaced with the following:

Slope Application. Soil retention coverings shall be installed on slopes as follows:

The upslope end shall be buried in a trench 3 feet beyond the crest of the slope if possible. Trench depth shall be a minimum of six (6) inches and width shall be a minimum of six (6) inches wide unless required by the manufacture to be deeper or wider and width. Before backfilling begins, staples shall be placed across the width of the trench. The trench shall then be backfilled to grade with soil amended with soil conditioning or topsoil, compacted by foot tamping, and seeded. Fabric shall be brought back over trench and secured with staples or earth anchors at one (1) foot on center.

There shall be a six (6) inch overlap wherever one roll of fabric ends and another begins with the uphill covering placed on top of the downhill covering. Staples shall be installed in the overlap.

There shall be a four (4) inch overlap wherever two widths of covering are applied side by side. Staples shall be installed in the overlap per the manufacturer's recommendation.

Staple checks shall be installed on the slope length at a maximum of every 35 feet. Each staple check shall consist of two rows of staggered staples.

The down slope end shall be buried in a trench three (3) feet beyond the toe of slope. Before backfilling begins, staples shall be placed across the width of the trench. The trench shall then be backfilled to grade with soil amended with soil conditioning or topsoil, compacted by foot tamping, and seeded. Fabric shall be brought back over trench and secured with staples or earth anchors. If a slope runs into State waters or cannot be extended three (3) feet beyond the toe of slope, the end of covering shall be secured using a staple check as described above.

2

REVISION OF SECTION 216
SOIL RETENTION COVERING

Stream Bank Application. Soil retention coverings shall be installed on stream banks as follows:

Provide a smooth soil surface free from stones, clods, or debris that will prevent the contact of the matting with the soil. Place the matting immediately upon final grading. Take care to preserve the required line, grade, and cross-section of the area covered.

Unroll the matting and apply without stretching such that it will lie smoothly but loosely on the soil surface. Bury the top slope end of each piece of matting in a narrow trench at least 6 in. (150 mm) deep and tamp firmly. Where one roll of matting ends and a second roll begins, overlap the end of the upper roll over the buried end of the second roll so there is a 6 in. (150 mm) overlap. Construct check trenches at least 12 in. (0.3 m) deep every 50 ft. (16 m) longitudinally along the edges of the matting or as directed by the Designer. Fold over and bury matting to the full depth of the trench, close and tamp firmly. Overlap matting at least 6 in. (150 mm) where 2 or more widths of matting are installed side by side. Place stakes across the matting at ends, junctions, and check trenches approximately 1 ft. (90.3 m) apart with notch facing upslope.

Place stakes along the outer edges and down the center of each strip of matting 3 feet (1 meter) apart. Place stakes along all lapped edges 1 ft. (0.3 m) apart. Refer to details in the plan sheets.

The Designer may require adjustments in the trenching or staking requirements to fit individual site conditions.

Coverings shall be securely fastened to the soil by installing staples or earth anchors at the minimum rate shown on the Standard Plan M-216-1. Staple or earth anchor spacing shall be reduced where required due to soil type or steepness of slope.

Subsection 216.04 shall include the following:

Turf Reinforcement Mat, including staples, complete in place and accepted, will be measured by the square yard of finished surface. No allowance will be made for overlap.

Construction Inspector and Contractor shall agree upon quantities for this work on a weekly basis.

REVISION OF SECTION 217
HERBICIDE TREATMENT

Section 217 of the Standard Specification is hereby revised for this project as follows:

Subsection 217.03 shall include the following:

All herbicide applications will be performed and managed by a licensed commercial pesticide applicator with at least one Qualified Supervisor and Certified Operator in its employ. The Contractor shall provide Boulder County with current Commercial/Professional Applicator license upon request. Obtain licensing from the Colorado Department of Agriculture's Division of Plant Industry. The Contractor shall always read, understand and follow the label directions. The Qualified Supervisor shall be present at all times that herbicide is applied.

Herbicide product(s) and quantity shall be selected by the Contractor's Qualified Supervisor and must be approved by Boulder County. Contractor will treat noxious weeds included in Table 1 (Primary Invasive Plant Species Requiring Treatment) inventoried in the proposed construction disturbance limits at the onset of construction, including sensitive areas, with appropriately labeled herbicides or physically remove the weeds within construction-disturbed areas in accordance with the Integrated Weed Management Plan.

Table 1. Primary Invasive Plant Species Requiring Treatment

Scientific Name	**Common Name**	**Rhizomatous**
Acosta diffusa	Diffuse Knapweed	
Acosta maculosa	Spotted Knapweed	
Bromus tectorum	Cheatgrass	
Carduus nutans	Musk Thistle	
Chondrila juncea	Rush Skeletonweed	
Cirsium arvense	Canada Thistle	Yes
Cirsium vulgare	Bull Thistle	
Euphorbia cyparissias	Cypress Spurge	Yes
Euphorbia myrsinites	Myrtle Spurge	
Fallopia japonica	Japanese knotweed	Yes
Hesperis matronalis	Dame's Rocket	
Kochia scoparia	Kochia	
Linaria genistifolia var. dalmatica	Dalmatian Toadflax	
Onopordum acanthium	Scotch Thistle	
Salvia aethiopis	Mediterranean Sage	
Verbascum Thapsus	Mullein	

Use only an aquatic Glyphosate – based herbicide (Rodeo) within 35 feet of waterways. In addition to label directions, extra precaution should be directed to the Supervisor and Applicators about drift and harm to non-target aquatic organisms such as fish and aquatic insects, and aquatic vegetation, in the stream. Care should be taken during application to avoid drift into streams. Do not apply herbicide during precipitation or when precipitation is forecasted within 24 hours of expected application, or in winds exceeding 5 miles per hour.

Subsection 217.04 Shall be replaced with the following:

Herbicide Treatment will not be measured and paid for separately but shall be included in the cost of Item 201-00001 Clearing and Grubbing.

REVISION OF SECTION 218
NOXIOUS WEED MANAGEMENT

Section 218 is hereby added to the Standard Specifications for this project and shall include the following

DESCRIPTION

218.01 This work includes the prevention, control, and monitoring of noxious weeds through an Integrated Weed Management Plan using all methods that are available for the targeted weed species in the planting areas before staging, grading, construction, or planting occurs as specified in the Contract Documents or as directed by Boulder County. Contractor or persons familiar with invasive plant identification, will survey limits of construction prior to commencing work.

Noxious weed management will include the prevention and control of noxious weeds identified in the project area. Effective noxious weed management procedures shall use a combination of the four basic methods: chemical, mechanical, cultural, or biological techniques, including prevention and monitoring. Many of the species listed can be eradicated using hand tools and mechanical means. If required due to rhizomatous growth type and/or extent of invasive plant patch, use herbicides and associated chemical compounds that include a GLYPHOSATE (Rodeo), or other herbicide approved by Boulder County.

The Contractor shall control and prevent the spread of noxious weeds throughout construction to comply with Title CRS 35-5.5, Colorado Weed Management Act.

Prior to starting the Work, submit a proposed invasive species treatment schedule, including specific sequence and timing of control techniques, to Boulder County for review. Do not perform any Work until the schedule is approved by Boulder County.

MATERIALS

218.02 Chemical Treatment, Mechanical Control, Cultural Control and Biological Control.

The material for Noxious Weed Management shall conform to the following:

Chemical Control. Incorporate herbicide treatment in accordance to CDOT Standard Specification, Section 217, Herbicide Treatment. The pesticide applicator shall consult the most recent publication of the Colorado Weed Management Guide available on-line at http://www.cerc.colostate.edu/titles/XCM205.html through Colorado State University's Cooperative Extension Program. Changes by the Contractor to the provisions of the CWMG shall be pre-approved by the Design Engineer a minimum of 10 days prior to application.

Herbicides shall be labeled as described in Section 217, subsection 217.02 of the Standard Specifications, and labeling information shall be provided to the Design Engineer in accordance with subsection 217.03.

The contractor is required to follow federal, state, and local regulations regarding herbicide materials and use.

1. Targeted weeds will be spot sprayed with backpack sprayer or hand held nozzle. Broadcast spraying is not allowed unless approved by Boulder County representative.

2. Transport and handle all herbicide materials according to the label. Store all herbicide materials in a secure place in the original container.

3. Immediately respond to any leaks or spills according to the label.

4. Read and follow information on herbicide label for the "Environmental Hazards" section and, if available, any information under the "Endangered Species Protection Requirements" section.

5. Mix selected herbicide according to label.

6. Apply selected herbicides on visible invasive rhizomatous perennial plants in the planting area.

7. Dispose of any remaining herbicide mix according to the label.

Mechanical Control. Mechanical control shall consist of mowing and brush cutting, hand pulling, blading, grubbing, and the use of hand operated tools, such as power weeders, string trimmers, chain saws, brushhooks, or heavy equipment. Pull or sever 2 to 3 inches below plant crown all visible invasive plant species within construction areas.

Cultural Control. Cultural control to enhance the vigor of desirable plants shall consist of native seeding and plantings using the appropriate project seed mix(es), mulching, and fertilizing, as appropriate in accordance with CDOT Standard Specifications, Sections 212, 213, 214, 216, and as shown on the plans.

Biological Control. Biological control shall consist of the use of approved living organisms (insects, animals, or pathogens) with assistance provided by the Colorado Department of Agriculture's Division of Plant Industry or Colorado State University Cooperative Extension.

Final Cleanup: Remove all trash and materials incidental to the treatment and dispose of them off-site.

218.04 Noxious Weed Management

Certifications. All methods of seeding shall be in accordance with Section 212. All methods of mulching shall be in accordance with Section 213. All methods of herbicide application shall be in accordance with Section 217.

Procedures to Minimize Spread of Noxious Weeds. The Contractor shall treat the weeds in accordance with the Integrated Noxious Weed Management Plan. Noxious weed plants and plant parts, including seed heads, that have been mechanically removed, shall be placed in appropriate bags or other suitable containers that can be tightly closed or sealed and shall be disposed of at a solid waste disposal facility. Topsoil infested with List A and List B noxious weeds shall be disposed of at a solid waste disposal facility.

Noxious weed management, after earthwork operations and stabilizing has been completed, shall not result in non-target injury. Any non-target injury shall be reseeded and re-mulched in accordance with Section 212 and 213 at no cost to the project.

Weed management practices for staging areas are to be approved by the Design Engineer prior to their construction. Project stage areas will be cleared of noxious weeds prior to mobilizing construction equipment. Weed infested staging areas shall be mowed and cleared of noxious weeds as described in Section 201, and sprayed with the appropriate herbicide as described in the Integrated Noxious Weed Management Plan.
If borrow material is used for any part of the project, the borrow material shall be weed-free and shall be obtained from a site preapproved by the Design Engineer. If the borrow is stockpiled it shall be stabilized and remain weed free for the duration of the project.

3

REVISION OF SECTION 218
NOXIOUS WEED MANAGEMENT

CONSTRUCTION REQUIREMENTS

If imported topsoil is used for any part of the project, the topsoil shall be inspected by the Noxious Weed Management Supervisor and certified noxious weed free by the Noxious Weed Management Supervisor. If List A or List B noxious weeds are found in the topsoil, the material shall not be used on the project.

METHOD OF MEASUREMENT

218.05 Noxious Weed Management will not be measured separately but will be included in Section 201 Clearing and Grubbing. The Contractor shall provide the Noxious Weed Management Supervisor. Herbicide treatment will be paid for in accordance with Section 217. Stripping of topsoil infested with noxious weeds will be paid for in accordance to Section 207. Mechanical removal of noxious weeds will not be measured, but shall be included in the work. Solid waste disposal shall be paid for in accordance to Section 250.

BASIS OF PAYMENT

218.06 NOXIOUS WEED MANAGEMENT WILL NOT BE MEASURED AND PAID FOR SEPARATELY BUT SHALL BE INCLUDED IN THE COST OF ITEM 201-00001 CLEARING AND GRUBBING.

SECTION 240
PROTECTION OF MIGRATORY BIRDS
BIOLOGICAL WORK PERFORMED BY THE CONTRACTOR'S BIOLOGIST

Section 240 is hereby added to the Standard Specifications for this project as follows:

DESCRIPTION

240.01 This work consists of protecting migratory birds during construction.

MATERIALS AND CONSTRUCTION REQUIREMENTS

240.02 The Contractor shall schedule clearing and grubbing operations to avoid taking (pursue, hunt, take, capture or kill; attempt to take, capture, kill or possess) migratory birds protected by the Migratory Bird Treaty Act (MBTA). The Contractor shall retain a qualified wildlife biologist for this project. The wildlife biologist shall have a minimum of three years of experience conducting migratory bird surveys and implementing the requirements of the MBTA. The Contractor shall submit documentation of the biologist's education and experience to the Design Engineer for acceptance. A biologist with less experience may be used by the Contractor subject to the approval of the Design Engineer based on review of the biologist's qualifications.

The wildlife biologist shall record the location of each protected nest, bird species, the protection method used, and the date installed. A copy of these records shall be submitted to the Design Engineer.

Vegetation Removal. When possible, vegetation shall be cleared prior to the time when active nests are present. Vegetation removal activities shall be timed to avoid the migratory bird breeding season which begins on April 1 and runs to August 31. All areas scheduled for clearing and grubbing between April 1 and August 31 shall first be surveyed within the work limits for active migratory bird nests. The Contractor's wildlife biologist shall also survey for active migratory bird nests within 50 feet outside work limits. Contractor personnel shall enter areas outside the right of way only if a written, signed document granting permission to enter the property has been obtained from the property owner. The Contractor shall document all denials of permission to enter property. The Contractor shall avoid all active migratory bird nests. The Contractor shall avoid the area within 50 feet of the active nests or the area within the distance recommended by the biologist until all nests within that area have become inactive. Inactive nest removal and other necessary measures shall be incorporated into the work as follows:

Tree and Shrub Removal or Trimming. Tree and shrub removal or trimming shall occur before April 1 or after August 31 if possible. If tree and shrub removal or trimming will occur between April 1 and August 31, a survey for active nests shall be conducted by the wildlife biologist within the seven days immediately prior to the beginning of work in each area of tree and shrub removal or trimming. The survey shall be conducted for each phase of tree and shrub removal or trimming.

If an active nest containing eggs or young birds is found, the tree or shrub containing the active nest shall remain undisturbed and protected until the nest becomes inactive. The nest shall be protected by placing fence (plastic) a minimum distance of 50 feet from each nest to be undisturbed. This buffer dimension may be changed if determined appropriate by the wildlife biologist and approved by the Design Engineer. Work shall not proceed within the fenced buffer area until the young have fledged or the nests have become inactive.

If the fence is knocked down or destroyed by the Contractor, the Design Engineer will suspend the work, wholly or in part, until the fence is satisfactorily repaired at the Contractor’s expense. Time lost due to such suspension will not be considered a basis for adjustment of time charges, but will be charged as contract time.

Grasses and Other Vegetation Management. Due to the potential for encountering ground nesting birds' habitat, if work occurs between April 1 and August 31, the area shall be surveyed by a wildlife biologist within the seven days immediately prior to ground disturbing activities.

The undisturbed ground cover to 50 feet beyond the planned disturbance, or to the right of way line, whichever is less, shall be maintained at a height of 6 inches or less beginning April 1 and continuing until August 31 or until the end of ground disturbance work, whichever comes first.

If birds establish a nest within the survey area, an appropriate buffer of 50 feet will be established around the nest by the biologist. This buffer dimension may be changed if determined appropriate by the biologist and approved by the Design Engineer. The Contractor shall install fence (plastic) at the perimeter of the buffer. Work shall not proceed within the buffer until the young have fledged or the nests have become inactive.

The wildlife biologist shall conduct raptor nest surveys within 0.5 mile of the construction site prior to the start of construction and prior to each construction phase. This survey can be done with binoculars. If construction activities are located within the Colorado Division of Wildlife (CDOW) recommended buffer zone for specific raptors, "NO WORK" zones shall be established around active sites during construction according to the CDOW standards or as recommended by the wildlife biologist in consultation with the CDOW. The "NO WORK" zone shall be marked with either fencing or signing. Work shall not proceed within a "NO WORK" zone until the wildlife biologist has determined that the young have fledged or the nest is unoccupied.

Taking of a Migratory Bird. The taking of a migratory bird shall be reported to the Design Engineer. The Contractor shall be responsible for all penalties levied by the U. S. Fish and Wildlife Service (USFWS) for the taking of a migratory bird.

METHOD OF MEASUREMENT

240.03 Wildlife Biologist will be measured by the actual authorized number of hours a wildlife biologist is on site performing the required tasks.

Removal of nests will be measured by the actual number of man-hours spent removing inactive nests just prior to and during the breeding season, April 1 through August 31. During this period, the Contractor shall submit to the Design Engineer each week for approval a list of the workers who removed nests and the number of hours each one spent removing nests.

Construction Inspector and Contractor shall agree upon quantities for this work on a daily basis.

SECTION 240
PROTECTION OF MIGRATORY BIRDS
BIOLOGICAL WORK PERFORMED BY THE CONTRACTOR'S BIOLOGIST

BASIS OF PAYMENT

240.04 The accepted quantities measured as provided above will be paid for at the contract unit price for each of the pay items listed below that appear in the bid schedule.

Payment will be made under:

Pay Item	**Pay Unit**
Wildlife Biologist	Hour
Removal of Nests	Hour

Payment for Wildlife Biologist will be full compensation for all work and materials required to complete the item, including wildlife biologist, wildlife survey, and documentation (record of nest location and protection method).

Payment for Removal of Nests will be full compensation for all work and material required to complete the work.

Clearing and grubbing, including removal and trimming of trees will be measured and paid for in accordance with Section 201. Mowing will not be measured and paid for separately, but shall be included in the work.

Fence (Plastic) will not be paid for separately but shall be included in the cost of work.

1

REVISION OF SECTION 506
STREAM RESTORATION (IN-STREAM STRUCTURES)

Section 506 of the Standard Specifications is hereby revised for this project as follows:

DESCRIPTION

506.11 This work consists of furnishing, stockpiling, placing, and maintaining all in-stream structures as defined in the plans. In-stream structures include those features as listed below.

In-stream features include:

- Boulder J-Hook Vane
- Rock Cross Vane
- Converging Boulder Clusters
- Constructed Riffle / Cascade

The ***Lower Fourmile Creek Stream Restoration Plans*** provided in this bid package have been developed to a 30% design level. The Design Engineer will work directly with the Contractor in a design-build approach, in accordance with Colorado Water Conservation Board (CWCB) guidelines, to complete the creek improvements. The plans have identified all major design components and provide sufficient detail for the Contractor and Design Engineer to begin construction working together daily, on-site to ensure plans are being interpreted correctly and make field-fit modifications as necessary.

The quantity of materials to be installed will be affected by the actual conditions that occur during the construction of the project. The quantity of materials may be increased, decreased, or eliminated entirely as directed by the Design Engineer. Such variations in quantity will not be considered as alterations in the details of construction or a change in the character of the work.

Weather Limitations: Proceed with installations only when existing weather conditions permit to be performed according to manufactures' written instructions and warranty requirements.

Field Measurements and surveys: Verify each in-stream structure and bank protection type, size, orientation, location, and elevation by field measurements and surveying prior to and during installations.

MATERIALS

506.12 Boulders:
It is anticipated that approximately 25% of the boulders can be obtained on-site.

Boulders shall consist of hard, dense, sound rock indigenous to the area. It is anticipated that boulders will be harvested from the project site or from a nearby location as directed by the Design Engineer. Boulders shall be of a cubical, tabular, or rectangular shape so that they may be tightly placed. Boulders shall be without open fractures, foliation, or other planes of weakness and free of organic and spoil material and resistant to weathering and water action. Boulders should be free of machine-made scratches, mars, or other damage to the visible surface. If requested, submit a 12 inch sample of rock that is representative of the boulder color for approval by the Design Engineer.

If there is an inadequate supply of on-site materials, the Contractor shall furnish boulders which shall consist of blasted granite quarry boulders stockpiled on-site and approved by the Design Engineer. The boulders shall be sound, tough, dense, resistant to the action of air and water, of a natural color, and suitable in all other respects for the purpose intended. Boulders shall be relatively flat on either side in the same dimension, preferably the long dimension. Furnish rock that conforms to the following:

(a) Apparent specific gravity, AASHTO T 85: 2.50 min
(b) Absorption, AASHTO T 85: 4.2% max.
(c) Coarse durability index, AASHTO T 210: 52 min.
(d) Minimum boulder dimension corresponds with the size called out in the plans.

The Contractor shall submit a full-size sample of the boulder to the County for approval prior to installation. Upon approval by the County, the full-size sample can be used as part of the permanent in-stream or bank protection feature.

506.17 Non-Woven Geotextile:
Non-woven geotextile shall be US Fabrics US180NW or equal product approved by the Design Engineer. Geotextile will be cut to size based on the channel dimensions, as shown in the construction details, and as directed by the Design Engineer.

506.14 Plantings:
All plantings required for in-stream structures shall conform to planting specifications shown on the Revegetation Plan Sheets in the Stream Restoration Design Plans.

3
REVISION OF SECTION 506
STREAM RESTORATION (IN-STREAM STRUCTURES)

CONSTRUCTION REQUIREMENTS

506.15 The Contractor shall place in-stream structures in locations and orientations, and to the thickness, widths, and lengths as shown on the plans or as directed by the Design Engineer.

Contractor shall:

- Verify the suitability of substrates where the in-stream structures are to be installed.
- Verify with the Design Engineer that the in-stream structures are at the location and grade indicated on the plans and profiles.
- Verify that all materials required for construction of in-stream structures are on-site prior to beginning the construction of any in-stream structures.
- Identify and quantify, where feasible, the existing materials at the project site, if any prior to beginning construction, as well as throughout construction, that meet the requirements specified above and are otherwise suitable for use in the construction of in-stream structures.
- Use an excavator with a hydraulic thumb for the installation of the in-stream structures. The excavator and all appurtenances shall be of sufficient size and condition to perform the work.

Header and footer boulders shall be hand selected for each in-stream structure to provide the best possible fit as directed by Design Engineer.

Footer boulders shall be placed at the bottom and downstream side of the trench toward the thalweg (deepest portion) of the channel and shall abut one another. Footer boulders shall be firmly embedded into the stream bottom substrate.

Each in-stream structure is to be installed such that the top of the header boulder at the center of the channel is at an elevation equal to the proposed thalweg elevation for the station where that given in-stream structure is located, unless otherwise directed in the plans, construction details, or by the Design Engineer. Header boulders shall be placed directly on the footer boulders and fit snugly against each other. The header boulders shall be set back from their supporting footer boulders such that water flowing over the top of the header boulder splashes down onto the top of the exposed supporting footer boulders. The intent of this arrangement is to prevent scour at the toe of the footers. Care should be taken when placing header boulders such that the seams between the header boulders do not line up with the seams between the footer boulders.

If bedrock is present in the area of installation, footer boulders shall still be required unless approval for elimination of footer boulders is obtained from the Design Engineer. For example, where bedrock is friable and weathered and can be trenched with the excavator, footer boulders will be required. In areas where bedrock is resistant and blasting would be required, Design Engineer shall determine whether or not to eliminate footer boulders.

In the event where installation of the structure arm may damage tree roots, excavation shall be minimized. This may include reducing the length of the structure arm or eliminating trenching for footer boulders or stone. This decision shall be field determined and as directed by Design Engineer.

All in-stream structures shall have sills securely installed where they tie into the proposed streambank to prevent the possibility of water diverting around the structure's arm(s) unless otherwise noted on the plans. At the direction of Design Engineer, the structure arm(s) may be constructed up to and tied into an elevation less than bank full in order to achieve the correct structure arm slope(s).

REVISION OF SECTION 506
STREAM RESTORATION (IN-STREAM STRUCTURES)

At the direction of the Design Engineer, Contractor shall hand place small rocks or stones along the upstream face of the structure to plug (chink) the voids between the boulders prior to placing the stone backfill (except where gaps are called for in the construction details).

The installation of geotextile fabric shall always occur on the upstream side of a structure to create a "sealed" structure. This will prevent sediment loss and stream flow through the header and/or footer boulders that could otherwise compromise the structure.

Stone backfill shall be placed as shown in the construction details.

All disturbed or fill materials shall be compacted to a density comparable to the adjacent, undisturbed material unless otherwise directed by the Design Engineer.

METHOD OF MEASUREMENT

506.16 All in-stream structures shall be measured by the actual number installed in accordance with the construction details and at the locations shown in the stream restoration plans. Each item shall include all work required to place all materials, excavate and backfill.

BASIS OF PAYMENT

506.17 The accepted quantities of in-stream structures will be paid for at the contract unit price for each of the pay items listed below that appear in the bid schedule.

Stream restoration materials shall be paid for as individual pay items (boulders, geotextile, etc.) in accordance with the Standard Specifications and Project Special Provisions.

Payment will be made under:

Pay Item	**Pay Unit**
Features	
Boulder J-Hook (Install Only)	Each
Rock Cross Vane (Install Only)	Each
Converging Boulder Cluster (Install Only)	Each
Materials	
Boulder	CY
On-Site Boulder	CY
Geotextile Fabric	SY

Such price and payment will be full compensation for all work covered by this section, including, but not limited to furnishing all materials, labor, equipment, and incidentals necessary to construct the in-stream structures. Structure excavation and structure backfill required for the installation of the in-stream structures will not be measured and paid for separately but shall be included in the work.

All materials shall be measured by the actual quantity accepted and installed in accordance with the construction details and at the locations shown in the stream restoration plans. Each feature shall include all work required to construct the bank protection and place all materials and excavate and backfill.

Construction Inspector and Contractor shall agree upon quantities for this work on a weekly basis.

REVISION OF SECTION 506
STREAM RESTORATION (BANK PROTECTION)

Section 506 of the Standard Specifications is hereby revised for this project as follows:

DESCRIPTION

506.11 This work consists of furnishing, stockpiling, placing, and maintaining all bank protection features as defined in the plans. Bank protection features include those listed below.

Bank Protection features include:

- Boulder Toe Protection
- Stacked Boulder Wall
- Grouted Stacked Boulder Wall
- Toe Wood with Soil Wrapped Lift
- Root Wads

The ***Lower Fourmile Creek Stream Restoration Plans*** provided in this bid package have been developed to a 30% design level. The Design Engineer will work directly with the Contractor in a design-build approach, in accordance with Colorado Water Conservation Board (CWCB) guidelines, to complete the creek improvements. The plans have identified all major design components and provide sufficient detail for the Contractor and Design Engineer to begin construction working together daily, on-site to ensure plans are being interpreted correctly and make field-fit modifications as necessary.

The quantity of materials to be installed will be affected by the actual conditions that occur during the construction of the project. The quantity of materials may be increased, decreased, or eliminated entirely as directed by the Design Engineer. Such variations in quantity will not be considered as alterations in the details of construction or a change in the character of the work.

Weather Limitations: Proceed with installations only when existing weather conditions permit to be performed according to manufactures' written instructions and warranty requirements.

Field Measurements and surveys: Verify each in-stream structure and bank protection type, size, orientation, location, and elevation by field measurements and surveying prior to and during installations.

MATERIALS

506.12 Boulders:
It is anticipated that approximately 25% of the boulders can be obtained on-site.

Boulders shall consist of hard, dense, sound rock indigenous to the area. It is anticipated that boulders will be harvested from the project site or from a nearby location as directed by the Design Engineer. Boulders shall be of a cubical, tabular, or rectangular shape so that they may be tightly placed. Boulders shall be without open fractures, foliation, or other planes of weakness and free of organic and spoil material and resistant to weathering and water action. Boulders should be free of machine-made scratches, mars, or other damage to the visible surface. If requested, submit a 12 inch sample of rock that is representative of the boulder color for approval by the Design Engineer.

If there is an inadequate supply of on-site materials, the Contractor shall furnish boulders which shall consist of blasted granite quarry boulders stockpiled on-site and approved by the Design Engineer. The boulders shall be sound, tough, dense, resistant to the action of air and water, of a natural color, and suitable in all other respects for the purpose intended. Boulders shall be relatively flat on either side in the same dimension, preferably the long dimension.
Furnish rock that conforms to the following:

(a) Apparent specific gravity, AASHTO T 85: 2.50 min
(b) Absorption, AASHTO T 85: 4.2% max.
(c) Coarse durability index, AASHTO T 210: 52 min.
(d) Boulder size corresponds with dimensions noted in details and plans

The Contractor shall submit a full-size sample of the boulder to the County for approval prior to installation. Upon approval by the County, the full-size sample can be used as part of the permanent in-stream or bank protection feature.

506.13 Bedding and Riprap Stone:
Bedding stone and riprap shall comply with requirements in the Urban Drainage and Flood Control District Specifications Section 31 37 00. Type of stone used shall comply with that specified in the stream restoration details. Type VL void-filled riprap mix shall meet mix requirements in Table 3: Mix Requirements for Type VL and L Void-Filled Riprap without River Cobble in Urban Drainage and Flood Control District Specifications Section 31 37 00. All bedding and riprap shall be approved by the Design Engineer prior to use on site.

506.14 Grout:
Where grouted stacked boulder walls are used, grout shall comply with the requirements in the Urban Drainage and Flood Control District Specifications Section 31 37 19, part 2.01(B).

506.15 Logs and Root Wads:
Logs and root wads for bank protection construction will be harvested on-site when available and only native species will be utilized. Logs shall be dense, free from large splits, free of rot. On-site root wads will be selected by the Design Engineer. The tree shall have been recently alive when removed from the ground. Logs shall be cut to length based on the channel dimensions, as shown in the construction details, and as directed by the Design Engineer. Root wads shall consist of the root mass and length of trunk as shown in the construction detail. Logs and root wad tree basal diameters shall comply with minimum diameter as shown in construction details. Root mass shall be dense and at least 3 feet in diameter. All branches and limbs shall be pruned to and completely removed from the surface of the log and shall have all of the original bark intact except for that removed during the course of normal harvesting, handling, and installation activities. The ends of all logs and root wads shall have the ends cut off square and blunt. The supply of native trees removed from the project site that meet the proper specifications as outlined here, shall be exhausted for the construction of bank protection prior to using such logs from an off-site source. Once this requirement is satisfied, specified logs obtained from off site may be utilized as required to supplement those obtained on-site for the purpose of constructing bank protection. All materials from off-site source shall be approved by the Design Engineer.

506.16 Coir Fiber Matting :
Coir fiber matting shall be Nedia Koirwrap 1000 or equal product approved by the Design Engineer. Coir fiber matting will be cut to size based on the channel dimensions, as shown in the construction details, and as directed by the Design Engineer.

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REVISION OF SECTION 506
STREAM RESTORATION (BANK PROTECTION)

506.17 Non-Woven Geotextile:
Non-woven geotextile shall be US Fabrics US180NW or equal product approved by the Design Engineer. Geotextile will be cut to size based on the channel dimensions, as shown in the construction details, and as directed by the Design Engineer.

506.18 Soil:
Soil placed in the lifts shall be free of debris and suitable for planting. The soil shall be onsite topsoil (if available) excavated from on site. If approved onsite topsoil is not available in sufficient quantity, the Contractor shall make up any deficient amount using imported topsoil.

Furnished topsoil shall be natural, friable surface soil uniform in color and texture and not supplied from the project site. It shall be of uniform composition, without mixture with subsoil materials. Furnished topsoil shall be free from species present on State and Federal noxious plant lists or invasive plant species as defined in Section 207, Topsoil. It shall be from a local well-drained site with a history of satisfactory vegetative growth.

Existing topsoil salvaged from the project shall be utilized if possible. If the salvaged topsoil does not meet the criteria described below, the Contractor shall provide furnished topsoil. Contractor shall submit to the Design Engineer for approval, certification indicating the proposed source of furnished topsoil prior to the placement of any furnished topsoil on site.

Topsoil shall meet the following criteria:

Characteristic	Criteria
pH	From 6.0 to 7.5
Cation-exchange capacity	From 5 to 25 cmol+ /kg (meq/100g)
Organic Matter (OM)	From 2 to 10 percent by weight
Nutrient Content	Normal contents of nitrogen, phosphorus, potassium, calcium, magnesium, sulfur, and proper micronutrient levels
Soluble Salts	Less than 200 ppm
Contaminants	Should contain no toxic substances

Grading analysis shall be as follows:

Sieve Size	Minimum Percent Passing by Weight
2 inches	100
No. 4	90
No. 10	80

Textural analysis shall be as follows:

Soil Particle Size (mm)	Minimum Percent Passing by Weight
Sand (2.0 – 0.05)	20-75
Silt (0.05 – 0.002)	10-60
Clay (less than 0.002)	5-30

Excess topsoil shall become the responsibility of the Contractor and shall be completely removed from the project site prior to final site inspection and approval of the project at no additional cost.

Topsoil shall be delivered to the stockpile areas adjacent to each work area where soil lifts will be installed. Material excavated from the site that is not immediately re-used may be stockpiled on site for use in areas where geolifts will be constructed on eroded banks that may require additional fill to attain grade. Material excavated from the site that is not re-used in construction shall become the property of the Contractor and shall be removed from the site for disposal at an appropriate disposal site.

506.19 Plantings:
All plantings required for in-stream structures shall conform to planting specifications shown on the Revegetation Plan Sheets in the Stream Restoration Design Plans.

CONSTRUCTION REQUIREMENTS

506.20 The Contractor shall construct bank protection in locations and orientations, and to the thickness, widths, and lengths as shown on the plans or as directed by the Design Engineer.

Contractor shall:

- Verify the suitability of substrates where the bank protection is to be installed.
- Verify with the Design Engineer that the bank protection is at the location and dimensions on the plans.
- Verify that all materials required for construction of bank protection are on-site prior to beginning the construction of any bank protection.
- Identify and quantify, where feasible, the existing materials at the project site, if any prior to beginning construction, as well as throughout construction, including boulders, logs, and root wads, that meet the requirements specified above and are otherwise suitable for use in the construction of bank protection.
- Use an excavator with a hydraulic thumb for the installation of the bank protection. The excavator and all appurtenances shall be of sufficient size and condition to perform the work.

In the event where installation of the bank protection may damage tree roots, excavation shall be minimized. This may include reducing the length of the protection. This decision shall be field determined and as directed by Design Engineer.

Stone bedding for boulder toe protection, stacked boulder wall, and grouted boulder stacked wall shall be placed as shown in the construction details.

All disturbed or fill materials shall be compacted to a density comparable to the adjacent, undisturbed material unless otherwise directed by the Design Engineer.

METHOD OF MEASUREMENT

506.21 All bank protection shall be measured by the actual linear feet of protection installed in accordance with the construction details and at the locations shown in the stream restoration plans. Each item shall include all work required to place logs, boulders, geotextile, stone, excavate, and backfill.

Construction Inspector and Contractor shall agree upon quantities for this work on a weekly basis.

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REVISION OF SECTION 506
STREAM RESTORATION (BANK PROTECTION)

BASIS OF PAYMENT

506.22 The accepted quantities of bank protection will be paid for at the contract unit price for each of the pay items listed below that appear in the bid schedule.

Stream restoration features shall be paid for as individual pay items (boulders, geotextile, bedding material, etc.) in accordance with the Standard Specifications and Project Special Provisions.

Payment will be made under:

Pay Item	**Pay Unit**
Feature	
Root Wad Bank Protection (Install Only)	LF
Toe Wood with Soil Wrapped Lift (Install Only)	LF
Boulder Toe Protection (Install Only)	LF
Stacked Boulder Wall (Install Only)	LF
Grouted Boulder Stacked Wall (Install Only)	LF
Materials	
Log (20ft)	EA
On-Site Log (20ft)	EA
Log (15ft)	EA
On-Site Log (15ft)	EA
Boulder	CY
On-Site Boulder	CY
Root Wad	EA
On-Site Root Wad	EA
Soil Wrapped Lift	LF
Toe Wood	LF
Bed Course Material	CY
Geotextile Fabric	SY
Type VL Void-Filled Riprap	CY

Such price and payment will be full compensation for all work covered by this section, including, but not limited to furnishing all materials, labor, equipment, and incidentals necessary to construct the bank protection. Excavation and backfill required for the installation of the bank protection will not be measured and paid for separately but shall be included in the work.

All materials shall be measured by the actual quantity accepted and installed in accordance with the construction details and at the locations shown in the stream restoration plans. Each feature shall include all work required to construct the bank protection and place all materials and excavate and backfill.

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SECTION 621
TEMPORARY STREAM CROSSING

Section 621 is hereby added to the Standard Specifications for this project as follows:

DESCRIPTION

621.01 In the event that the contractor needs to create access across the stream to complete the proposed work, this section will be followed.

This item includes designing, installing, maintaining, and removing temporary stream crossings (TSC) for maintaining conveyance of Fourmile Creek flows during construction.

MATERIALS

621.02 The materials shall be in accordance with the appropriate sections of the Standard Specifications and Special Provisions.

CONSTRUCTION REQUIREMENTS

621.03. The Contractor is responsible for determining the number, location, layout, size, and material properties for the temporary stream crossing. The Contractor shall assume the risk for the design and implementation of the temporary stream crossing. The number, location, layout, and size should be determined such that it will pass the appropriate stream flows. The temporary stream crossing shall be appropriate to support both construction vehicles and emergency services vehicles.

The Contractor shall maintain emergency access through the project site at all times throughout the duration of the project. Maximum delays for any emergency or public access shall adhere to the provisions outlined in Project Special Provisions 104, Scope of Work, 108, Prosecution and Progress and 630, Construction Zone Traffic Control, unless approved otherwise from the Design Engineer.

The Contractor shall submit a TSC Plan to the Design Engineer, for record purposes only, at least 10 working days prior to the proposed start of detour operations. This Plan shall detail procedures, sequences, and all features required to operate traffic in a safe and controlled manner. The TSC Plan shall be stamped "Approved for Construction" and signed by a licensed Professional Engineer in the State of Colorado on behalf of the Contractor. The TSC Plan will not be approved by the Design Engineer.

The TSC Plan shall provide complete details of the TSC installation and maintenance process, including:

A written description that summarizes the following:

- Relevant and applicable design assumptions, including but not limited to: types of construction equipment and emergency vehicles to be accommodated and stream flows to be accommodated.
- The number, location, layout, size, and material properties of the temporary stream crossing method.
- Detailed methods for protection of live waterways including minimization of turbidity and sedimentation, and protection of existing wetlands.

SECTION 621
TEMPORARY STREAM CROSSING

Working drawings that define the following:

i. Number, location, layout, size, and material properties of the temporary stream crossing, as well as the temporary detour road.
ii. Construction methodology and sequence for installation of the TSC, including diversion and protection measures for waterway.

The plan must comply with the construction phasing and grading, erosion, and sediment control as detailed in the plans. Any modifications to the construction phasing and plans in order to accommodate the TSC must be approved by the Design Engineer. The cost to accommodate these changes will be borne by the Contractor.

A TSC preconstruction meeting shall be held at least seven days prior to the beginning of the detour. The TSC Plan shall be finalized at this meeting.

Submittal of the final TSC Plan to the Design Engineer, and field inspection performed by the Design Engineer, will in no way relieve the Contractor and the Contractor's Engineer of full responsibility for the performance and safety of the TSC.

The Contractor shall have all necessary workers, materials, and equipment at the site prior to closing any lanes to traffic to accommodate TSC installation.

The Contractor shall take all steps to avoid contaminating state waters, in accordance with subsection 107.25.

Should an unplanned event occur that jeopardizes the safety or integrity of the TSC or construction activity, the Contractor shall take immediate action to protect public and worker safety. The Contractor will restore the temporary stream crossing as soon as possible once safety issues have been alleviated.

For additional requirements associated with stream diversion, refer to Section 211, Dewatering.

METHOD OF MEASUREMENT

621.04 TSC will be measured and paid for on an each basis.

Construction Inspector and Contractor shall agree upon quantities for this work on a weekly basis.

BASIS OF PAYMENT

621.05 Payment for the TSC will be made for the completed and accepted work at the contract lump sum price. This price shall include all labor, equipment, and materials required to design, install, maintain, and remove the TSC, including, but not limited to excavation, embankment, and backfill. Material not reused on the project for final construction shall become the property of the Contractor.

Payment will be made under:

Pay Item	**Pay Unit**
Temporary Stream Crossing	Each

SECTION 625
CONSTRUCTION SURVEYING

Section 625 of the Standard Specifications is hereby revised for this project as follows:

Subsection 625.04 shall include the following:

The Contractor shall provide preconstruction and post-construction survey to verify earthwork quantities. Contractor shall provide documentation to the satisfaction of the Design Engineer to agree upon all quantities.

Subsection 625.11 shall include the following:

As-Builts. At the completion of construction, the contractor is responsible for preparation of redline As-Built drawings. The As-Built drawings shall be prepared and signed by a Colorado registered Professional Land Surveyor and provided to the county within 30 days of completion of the project.

In support of the As-Built redlines, the Contractor is responsible for performing a detailed post-construction survey of final conditions. The survey information shall be provided in AutoCAD .dwg format, consistent with the design CAD model, and in accordance with the established survey control provided in the construction documents. At a minimum, the following items will be required on the As-Built drawings:

- Profile elevation of stream thalweg and cross sections along areas of bankfull channel restoration.
- Location, elevations, and dimensions of in-stream and bank protection structures
- Aerial limits of stream revegetation zones
- Aerial limits of any areas disturbed for stream restoration activities

In addition, the contractor's survey shall provide detail and accuracy to the Design Engineer's satisfaction to prepare a Letter of Map Revision (LOMR). The contractor is not responsible for the LOMR beyond the final conditions survey.

Subsection 625.12 shall be replaced with the following:

Construction surveying shall be measured and paid for on a per mile basis

Construction Inspector and Contractor shall agree upon quantities for this work on a weekly basis.

Subsection 625.13 shall include the following:

Pay Item	**Pay Unit**
Construction Surveying (Creek)	Mile

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REVISION OF SECTION 626
PUBLIC INFORMATION SERVICES

Section 626 of the Standard Specifications is hereby revised for this project as follows:

Subsection 626.01 shall include the following:

The Boulder County Transportation Department Public Information Officer (PIO) will coordinate public information regarding the project and provide timely updates regarding construction to the public through a variety of established channels. The contractor is responsible for coordination with and supporting the PIO as needed. This work will not be paid for separately but shall be included in the work.

The PIO will send out a weekly email to project listserv subscribers and will maintain a project website where timely information can be found. The PIO will also maintain the construction hotline and field calls and answer incoming questions from the public. Other information dissemination tactics will be evaluated and used as needed over the course of the project.

It is likely that the PIO will attend construction meetings to stay abreast of construction activities and to report on public sentiment regarding the project. The contractor shall designate a representative with whom the PIO can confer with as needed to ensure that all pertinent construction-related information is conveyed to the public so that they can understand the work being undertaken and the associated travel impacts. The contractor-designated representative will maintain a direct line of contact with the PIO in order to assist with answering questions from the public. The County PIO will also conduct any media-related activities that may arise over the course of the project. All media inquiries will be directed to the County PIO for follow up. The contractor-designated representative may be called upon to assist with media related requests for information and photo or video content.

Prior to commencing construction, the contractor and Boulder County will host a public meeting to provide construction-related information to interested parties and answer questions. The County PIO will help secure a location for the meeting and provide meeting announcements to the public. The contractor will be responsible for the meeting format and presentation of information.

It shall be the contractor's responsibility to maintain adequate signage throughout the construction site. The Contractor shall erect construction traffic signs with the dates the Contractor expects to initiate and complete construction and with the County PIO's phone number at each major approach to the project. The signs shall conform to the requirements of Section 630 and shall be erected at least one week prior to the beginning of construction. These signs shall be updated if the project schedule changes, at no cost to the project.

The contractor should confer with the PIO and the County Engineering Project Manager on any messages that will appear on static or variable messaging boards. It will also be up to the contractor to maintain communications with area residents/property owners who will be directly impacted by daily construction activities. The contractor can do this as they so choose (door hangers, site visits, etc.) but they are to inform any resident at least 48-hours prior to work being conducted on or in front of a property so that they understand the impacts of the work and how they can access their home while work is taking place in their area.

Access for emergency vehicles must be provided to the best extent possible. It is anticipated that the Contractor, upon notification of an emergency response, will be able to immediately restore the travel lane during a majority of his operations. The contractor shall notify each emergency responder five days in advance and additionally as required, of all such operations, along with the anticipated time required to restore emergency access should the need arise.

REVISION OF SECTION 626
PUBLIC INFORMATION SERVICES

The Contractor superintendent or PIM shall submit weekly lane closure reports to the Engineer and the Boulder County Transportation Communications Specialist, using a template provided by the Engineer.

The Public Information Services Contact Sheet shall include the following:

Public Information Services Contact Sheet

Owners:

Boulder County Project Manager
Clarissa Hageman
2525 13th Street, Suite 203
Boulder, CO 80304
Phone: 303-441-1610 Fax: 303-441-4594 Email: chageman@bouldercounty.org

Boulder County Transportation Communications Specialist
Andrew Barth
2525 13th Street, Suite 203
Boulder, CO 80304
Phone: 303-441-1032 Fax: 303-441-4594 Email: abarth@bouldercounty.org

Other Contacts:

Boulder County Sheriff's Office
Kevin Parker
5600 Flatiron Parkway
Boulder, CO 80301
Phone: 303-441-3635 Fax: 303-441-4739 Email: kparker@bouldercounty.org

Four Mile Fire Protection District
Bret Gibson
87 Fourmile Canyon Drive
Boulder, CO 80302
Phone: 303-449-3333 E-mail: chiefbret@gmail.com

Boulder Valley School District:
Keith Putman
Transportation Supervisor
6500 Arapahoe Avenue
Boulder, CO 80303
Phone: 720-561-5124

REVISION OF SECTION 626
MOBILIZATION

Section 626 of the Standard Specifications is hereby revised for this project as follows:

Subsection 626.01 shall include the following:

Staging and refueling areas and stream access corridors must be approved by the County prior to issuance of the grading permit. Staging areas should be at least 50 feet from the creek (preferably 100 feet) and protected with BMPs according to Section 208 in these special provisions.

All equipment shall be cleaned according to Section 208 and the 404 Permit Requirements included in these special provisions.

For stream restoration work: Prior to mobilization of construction equipment, Boulder County's plant ecologist shall field flag critical stands of existing vegetation which are not to be disturbed. The Design Engineer shall review flagged areas with the Contractor prior to initiation of construction activities. Construction equipment shall not be mobilized before the Contractor has reviewed the flagged vegetation with the Design Engineer.

County Right of Way can be used for staging if approved by the Transportation Department.

REVISION OF SECTION 630
CONSTRUCTION ZONE TRAFFIC CONTROL

Section 630 of the Standard Specifications is hereby revised for this project as follows:

Subsection 630.04 is hereby revised to include the following:

Should the contractor elect to use temporary traffic signals as part of the maintenance of traffic, solar power signals will not be allowed. All signals shall utilize hard-wired electric power sources.

The contractor shall coordinate with the County Traffic Engineer to establish the appropriate signal timing.

Subsection 630.16 is hereby revised to include the following:

Refer to Section 630, Traffic Control Plan – General for payment definitions.

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REVISION OF SECTION 630
PORTABLE MESSAGE SIGN PANEL

Section 630 of the Standard Specifications is hereby revised for this project as follows:

Subsection 630.01 shall include the following:

This work includes furnishing, operating, and maintaining a portable message sign panel.

Add subsection 630.031 immediately following subsection 630.03 as follows:

630.031 Portable Message Sign Panel. Portable message sign panel shall be furnished as a device fully self-contained on a portable trailer, capable of being licensed for normal highway travel, and shall include leveling and stabilization jacks. The panel shall display a minimum of three - eight character lines. The panel shall be a dot-matrix type with an LED legend on a flat black background. LED signs shall have a pre-default message that activates before a power failure. The sign shall be solar powered with independent back-up battery power. The sign shall be capable of 360 degrees rotation and shall be able to be elevated to a height of at least five feet above the ground measured at the bottom of the sign. The sign shall be visible from one-half mile under both day and night conditions. The message shall be legible from a minimum of 750 feet. The sign shall automatically adjust its light source to meet the legibility requirements during the hours of darkness. The sign enclosure shall be weather tight and provide a clear polycarbonate front cover.

Solar powered message signs shall be capable of operating continuously for 10 days without any sun. All instrumentation and controls shall be contained in a lockable enclosure. The sign shall be capable of changing and displaying sign messages and other sign features such as flash rates, moving arrows, etc.

Each sign shall also conform to the following:

- In addition to the onboard solar power operation with battery back-up, each sign shall be capable of operating on a hard wire, 100-110 VAC, external power source.

All electrical wiring, including connectors and switch controls necessary to enable all required sign functions shall be provided with each sign.

Each sign shall be furnished with an operating and parts manual, wiring diagrams, and trouble-shooting guide.

The portable message sign shall be capable of maintaining all required operations under Colorado mountain-winter weather conditions.

Each sign shall be furnished with an attached license plate and mounting bracket.

Each sign shall be wired with a 7-prong male electric plug for the brake light wiring system.

Subsection 630.13 shall include the following:

The portable message sign panel shall be on the project site(s) at least 7 calendar days prior to the start of active roadway construction. Maintenance, storage, operation, relocation to different sites during the project, and all repairs of portable message sign panels shall be the responsibility of the Contractor.

Subsection 630.15 shall include the following:

Portable message sign panels will be measured by the maximum number of approved units in use on the project at any one time.

2

REVISION OF SECTION 630
PORTABLE MESSAGE SIGN PANEL

Subsection 630.16 shall include the following:

Pay Item	**Pay Unit**
Portable Message Sign Panel	Each

1

REVISION OF SECTION 630
TRAFFIC SIGNAL (TEMPORARY)

Section 630 of the Standard Specifications is hereby revised for projects as follows:

In subsection 630.01 shall include the following:

This work consists of furnishing and installing, temporary, portable traffic signals to control one lane alternating traffic as shown on the plans. The work includes all equipment, labor, and materials to install and maintain a complete and operational system that accommodates the variations in traffic flow and removal of the installation.

The Contractor shall develop a maximum of six traffic signal timing plans based on current traffic count data, for review and approval by the Engineer and shall be responsible for implementing the timing and maintaining the traffic signals. Timing plans shall include provisions for weekend and weekday traffic variations and provide sufficient clearance time for vehicles through the work zone.

Subsection 630.04 shall include the following:

The Traffic Signal (Temporary) shall consist of one system of **three (3)** portable traffic signals capable of radio communication, microwave or video vehicle detection for actuation, hardwire or CDOT approved interconnect method, multiple timing plans, manual operation and a paging system. The signals shall operate by connection to a local power line with a transfer switch connecting the load to the power line when energized and disconnecting from the power line when power fails and connecting to the solar or generator power operation with battery back-up that will provide a minimum of five days of continuous operation. All electrical wiring, including connectors and switch controls necessary to allow all signal functions required by the specification shall be provided with each system. The Contractor shall maintain one operating and parts manual, wiring diagrams, and trouble-shooting guide for each system. The portable traffic signal system shall be capable of maintaining operations at a temperature range of -60 degrees Celsius to 200 degrees Celsius.

The Traffic Signal (Temporary) shall be in satisfactory operating condition prior to installation. The Contractor shall demonstrate the satisfactory operating condition by operating the system prior to closing the road to one lane of traffic. The Contractor shall maintain and replace the Traffic Signal (Temporary) if the unit fails to operate satisfactorily to the Engineer and shall be retested until a satisfactorily operating Traffic Signal (Temporary) is obtained and installed. The unit shall be kept in satisfactory operating condition during the duration of its use. The unit shall remain in place or remain available until all the work is completed at each location that requires one-lane operation or as deemed necessary by the Engineer. The Traffic Signal (Temporary) shall include adequate spare parts and a source of replacement components such that the system is in operation continuously.

Subsection 630.10 shall include the following:

(9) MHT's detailing the portable traffic signals for one-lane alternating traffic, shall include provisions for the CDOT pre-qualified traffic signal contractor to be onsite during initial operation until traffic is serviced to the satisfaction of the Engineer. The signal systems shall also be checked a minimum of daily for proper operation. Vehicle queue lengths shall not exceed 500 feet and queued vehicles should clear the signal within two (2) cycles. The Contractor shall be on-site during Friday afternoons from 12 pm to 7 pm, or as directed by the Engineer, during the first month of one-lane alternating traffic for observation, maintenance and troubleshooting, including timing plan adjustments and queue dissipation by manual override. . If issues continue beyond the first month, the contractor shall be onsite as listed above, until the issues are resolved to the satisfaction of the Engineer. A sign (24 inches x 36 inches) shall be placed near each portable signal that provides a 7-day, 24 hour number that can be called if the signal malfunctions. The Contractor shall respond to signal malfunctions within 1 hour and arrive on-site within 2 hours of notification.

2

REVISION OF SECTION 630
TRAFFIC SIGNAL (TEMPORARY)

Flaggers shall control traffic during initial turn on of the signal. The flaggers shall remain on standby for 2 hours after the signal is turned on and operating properly.

Subsection 630.16 shall include the following:

Traffic Signal (Temporary) will be measured and paid for by the number of temporary traffic signal systems installed (one system is comprised of three portable signals), 24”x36” signs for malfunction notification and shall include all work necessary to provide and maintain, operate and troubleshoot a complete and operational system, as described herein, that accommodates the variations in traffic flow.

Pay Item	**Pay unit**
Traffic Signal (Temporary)	Each

Payment will be full compensation for all work and materials required to furnish, install, maintain, and remove the Traffic Signal (Temporary).

1

REVISION OF SECTION 630
TRAFFIC CONTROL PLAN - GENERAL

The key elements of the Contractor's method of handling traffic (MHT) are outlined in subsection 630.10(a).

GENERAL REQUIREMENTS

The components of the Traffic Control Plan (TCP) for this project are included in the following:

- Subsection 104.04 and Section 630 of the specifications.
- Standard Plan S-630-2.
- Schedule of Construction Traffic Control Devices.

Unless otherwise approved by the Engineer, the Contractor's equipment shall follow normal and legal traffic movements. The Contractor's ingress and egress of the work area shall be accomplished with as little disruption to traffic as possible. Traffic control devices shall be removed by picking up the devices in a reverse sequence to that used for installation. This may require moving backwards through the work zone. When located behind barrier or at other locations shown on approved traffic control plans, equipment may operate in a direction opposite to adjacent traffic.

The TCP shall accommodate all construction activities including stream restoration.

LANE AND ROAD CLOSURES

When conditions and construction activities will not allow for one way traffic operations, and with prior written approval of the Engineer, full closure of the roadway will be permitted. Full closures will be allowed between 8:30am and 3:30pm, except the roadway shall be opened to the general public from 11:30am to 12:30pm and more frequently if possible. The contractor shall request the full road closure in writing, to the Engineer, 14 calendar days in advance of the proposed closure. For any road closures, the TCP shall identify areas, construction activities, approximate durations, and provisions for accommodating emergency services and will detail advanced notice procedures coordinated with Public Information Services.

One-way alternating traffic operations shall limit traffic queuing to 30 minutes.

Boulder County may have entered into operating agreements with one or more law enforcement organizations for cooperative activities. Under such agreements, at the sole discretion of Boulder County, law enforcement personnel may enter the work zone for enforcement purposes and may participate in the Contractor's traffic control activities. The responsibility under the Contract for all traffic control resides with the Contractor and any such participation by law enforcement personnel in Contractor traffic control activities will be referenced in either the Special Provisions or General Notes of the plans depending on whether the Contractor is to hire local law enforcement or if Boulder County is contracting with uniformed traffic control. Nothing in this Contract is intended to create an entitlement, on the part of the Contractor, to the services or participation of the law enforcement organization.

Full road closures will also require the use of Uniformed Traffic Control. The Contractor shall contact the Boulder County Sheriff's Office (303-441-3635) at least 14 days in advance of the planned closure. Uniformed Traffic Control personnel shall be provided at each end of a full road closure and shall be paid for under Force Account Item – Uniformed Traffic Control.

2

REVISION OF SECTION 630
TRAFFIC CONTROL PLAN - GENERAL

SPECIAL TRAFFIC CONTROL REQUIREMENTS

During the construction of this project, traffic shall use the present traveled roadway unless identified on the plans or approved by the Engineer.

TCP must contain specifically defined and adequate parking areas for employee and construction related vehicles and equipment coordinated with Public Information Services.

The Contractor shall not have construction equipment or materials in the lanes open to traffic at any time, unless approved by the Engineer.

The Contractor shall include stream restoration access into the TCP and MHT with the requirement that the stream restoration work must be constructed from upstream to downstream, unless approved otherwise by the Engineer.

The Contractor must be prepared to provide transportation or emergency assistance to residents within the project limits that may be impacted by construction and road closures.

At least one week prior to starting construction, the Contractor shall notify the Boulder County Engineer of the date the Contractor intends to start construction.

All costs incidental to the foregoing requirements shall be included in the original contract prices for the project. No other increase in cost will be permitted unless there is a substantial change in scope.

Subsection 630.16 shall include the following:

Payment will be made under:

Pay Item	**Pay Unit**
Traffic Control	Lump Sum

Failure to adhere to the requirements of this Project Special Provision and the Contract Documents shall not constitute justification for additional compensation.

1
FORCE ACCOUNT ITEMS

DESCRIPTION

This special provision contains the Department's estimate for force account items included in the Contract. The estimated amounts marked with an asterisk will be added to the total bid to determine the amount of the performance and payment bonds. Force Account work shall be performed as directed by the Engineer.

BASIS OF PAYMENT

Payment will be made in accordance with subsection 109.04. Payment will constitute full compensation for all work necessary to complete the item.

Force account work valued at $5,000 or less, that must be performed by a licensed journeyman in order to comply with federal, state, or local codes, may be paid for after receipt of an itemized statement endorsed by the Contractor.

Force Account Item	Estimated Quantity	Amount
F/A Minor Contract Revisions	F.A.	$210,000*
F/A Erosion Control	F.A.	$20,000*
F/A Mine-Waste Management	F.A.	$20,000*
F/A Uniformed Traffic Control	F.A.	$10,000*

***** Item to be included in the bond amount

F/A Minor Contract Revisions – This item will cover the cost of unanticipated work (not shown or described in the Contract plans or specifications) that is determined to be necessary as work on the project progresses. There will be no payment for this force account item unless written authorization is provided to the Contractor from the Engineer.

F/A Erosion Control – This item will cover the cost of all necessary work and materials for erosion control items not identified in the plans and at the Engineer's direction. Payment will be made based on time and materials used to perform the work. Work must be performed in a workmanlike manner and properly scheduled to minimize cost and inconvenience to the County and/or adjacent property owners. The Force Account shall also be used to pay for any additional BMPs or testing which may become required by future changes to the current storm water regulations by either EPA or CDPHE and could include future effluent limits.

F/A Mine-Waste Management – This item will cover the cost of addressing any mine waste encountered during construction.

The project vicinity has a legacy of hard-rock mining, and there is a low potential that mine wastes used as roadway embankment could be encountered during subsurface excavation. Workers shall be alert during excavations for any visual or olfactory signs of contamination. Of particular emphasis is the potential that mine wastes could be discovered that that could be acidic (i.e., have a low pH) and contain heavy metals (e.g., arsenic, cadmium and lead). Workers should be alert for the presence of soil that oxidized, and is colored yellow, orange or red. If encountered, the procedures outlined in the Standard Specifications Section 250 and Section 107, Subsection 107.25.8 shall be followed. Further, the Design Engineer shall be notified immediately should these materials be encountered during construction, and work stopped immediately at that location.

F/A Uniformed Traffic Control – This item will cover the cost of providing uniformed traffic control for the project.

2

FORCE ACCOUNT ITEMS

F/A Utility Coordination Outside of ROW – This item will cover the cost of coordination and relocation of utilities located outside or the roadway Right-of-Way.

1
UTILITIES

Known utilities within the limits of this project are:

Utility Owner	Contact	Phone/email
Xcel Energy – Electric	Lori Dowell	303-245-2272 lori.l.dowell@xcelenergy.com
CenturyLink – Telephone/Fiber Optic	Kathy Dunbar	303-441-7113 office 303-746-4652 mobile kathy.dunbar@centurylink.com
Pine Brook Water District	TBD	303-443-5394 contact@pinebrookwater.com

The work described in these plans and specifications requires coordination between the Contractor and the utility companies in accordance with subsection 105.11 in conducting their respective operations as necessary to complete the utility work with minimum delay to the project.

The work listed below will be performed by the Contractor:
The work listed below shall be performed by the Contractor in accordance with the plans and specifications, and as directed by the Engineer. The Contractor shall coordinate the work with the owners of the utilities impacted by the work. Coordination with utility owners includes, but is not limited to, staking construction features, providing and periodically updating an accurate construction schedule which includes all utility work elements, providing written notification of upcoming required utility work elements as the construction schedule indicates, allowing the expected number of working days for utilities to complete necessary relocation work, conducting necessary utility coordination meetings, and all other necessary accommodations as directed by the Engineer. The Contractor shall keep each utility company advised of any work being done to its facility, so that the utility company can coordinate its inspections for final acceptance of the work with the Engineer.

A utility locate has not been performed in advance of this project and any potential conflicts are not identified in the plans. It is the Contractor's responsibility to verify the location of all utilities within the project limits and coordinate conflicts as necessary. Prior to excavating or performing any earthwork operations, the Contractor shall positively locate all potential conflicts with existing underground utilities and proposed construction, as determined by the Contractor according to proposed methods and schedule of construction. The Contractor shall modify construction plans or request relocation by the utility company to avoid facilities as needed, and as approved by the Engineer.

The Contractor shall provide traffic control for any utility work expected to be coordinated with construction, as directed by the Engineer.

All costs incidental to the foregoing requirements will not be paid for separately but shall be included in the work.

Contractor coordination with Xcel Energy – Overhead Electric
Contractor will protect the overhead power lines, poles and guy wires. Use caution when working around these lines.

Contractor shall provide the utility owner and affected homeowners written notice 2 weeks immediately prior to each utility work element expected to be coordinated with construction.

The above items of work are expected to be performed at no additional cost to the project.

UTILITIES

Contractor coordination with CenturyLink – Overhead & Underground Telephone
Contractor will protect the underground communication lines and overhead communication lines, poles and guy wires. Use caution when working around these lines.

Contractor shall provide the utility owner and affected homeowners written notice 2 weeks immediately prior to each utility work element expected to be coordinated with construction.

The above items of work are expected to be performed at no additional cost to the project.

Contractor coordination with Pine Brook Water District
Contractor will protect the Pine Brook Water Pond and associated appurtenances. Use caution when working around these items.

Contractor shall provide the utility owner and affected homeowners written notice 2 weeks immediately prior to each utility work element expected to be coordinated with construction.

The above items of work are expected to be performed at no additional cost to the project.

Contractor coordination with Boulder County Office of Emergency Management – Stream Gauge
Contractor will protect the stream gauge and associated appurtenances. Use caution when working around these items.

Contractor shall provide the utility owner and affected homeowners written notice 2 weeks immediately prior to each utility work element expected to be coordinated with construction.

The above items of work are expected to be performed at no additional cost to the project.

The work listed below will be performed by the utility owners or their agents:

All Utility Companies

Where applicable, each utility company shall relocate and adjust their facilities and appurtenances to avoid construction conflicts at no cost to the project when these facilities and appurtenances are within the roadway right-of-way (ROW).

Xcel Energy
Xcel Energy will be required to relocate several existing utility poles and related overhead facilities within the project limits as shown in the project plans. This work shall be coordinated with CenturyLink since their facilities share these poles. This relocation work is anticipated to be completed before project construction.

Xcel Energy may be required to relocate its facilities within the roadway right of way to avoid construction conflicts throughout the project or as otherwise directed by the Engineer. Insofar as the need and duration of time for relocation is currently unknown, this work will occur concurrent with project construction thereby creating restrictions on the Contractor's work progress, and the Contractor shall take the following work restrictions into account when bidding this project as it will impact the Contractor's ability to complete its work. Close coordination will be required as part of this project and the Contractor shall coordinate its construction activities accordingly in order to facilitate this work. If relocation work is necessary within the roadway ROW it will be performed by Xcel Energy at no cost to the project. The Contractor shall be responsible for coordinating this work.

3
UTILITIES

CenturyLink
CenturyLink will be required to relocate several existing utility poles and related overhead facilities within the project limits as shown in the project plans. This work shall be coordinated with Xcel Energy since their facilities share these poles. This relocation work is anticipated to be completed before project construction.

CenturyLink may be required to relocate its facilities within the roadway right of way to avoid construction conflicts throughout the project or as otherwise directed by the Engineer. Insofar as the need and duration of time for relocation is currently unknown, this work will occur concurrent with project construction thereby creating restrictions on the Contractor's work progress, and the Contractor shall take the following work restrictions into account when bidding this project as it will impact the Contractor's ability to complete its work. Close coordination will be required as part of this project and the Contractor shall coordinate its construction activities accordingly in order to facilitate this work. If relocation work is necessary within the roadway ROW it will be performed by CenturyLink at no cost to the project. The Contractor shall be responsible for coordinating this work.

GENERAL:

The Contractor shall comply with Article 1.5 of Title 9, CRS ("Excavation Requirements") when excavation or grading is planned in the area of underground utility facilities. The Contractor shall notify all affected utilities at least two (2) business days, not including the day of notification, prior to commencing such operations. The Contractor shall contact the Utility Notification Center of Colorado (UNCC) at (8-1-1) or 1-800-922-1987 to have locations of UNCC registered lines marked by member companies. All other underground facilities shall be located by contacting the respective company. Utility service laterals shall also be located prior to beginning excavating or grading.

The location of utility facilities as shown on the plan and profile sheets, and herein described, were obtained from the best available information. No warranty is made for the adequacy or accuracy of subsurface information provided. The Contractor shall cooperate with the utility owners in their relocation operations as provided in subsection 105.11 of the Standard Specifications for Road and Bridge Construction. No guarantee is made that utility conflicts will be resolved prior to construction activities and any delays resulting from utility relocation work shall be dealt with in accordance with subsection 108.08 of the Standard Specifications for Road and Bridge Construction as amended.

All costs incidental to the foregoing requirements will not be paid for separately but shall be included in the work.

Attachment B: Stream Restoration Project Form

Project Name:	
Contractor Name:	
In-house Field Project Manager:	
Still with your company?	
Construction Dates:	
Location:	
Client:	
Responsible Engineer (firm):	
Website (if available):	
Brief Project Description:	

Site Description

1. Location: _____ _____ _____ _____
   Stream Watershed County State
2. Drainage Area: _____ Bankfull Flow: _____ Bankfull Area: _____
3. Annual Precipitation: _____ Geology: _____ Soils: _____

   Vegetation Type & Density: _____
4. Land Cover (% each): Grasslands: _____ Forested: _____ Urban: _____
5. Rosgen Classifications of project reaches (if known): _____
6. Was the project in a confined mountain canyon? _____Yes _____No
7. Was the project adjacent to homes or other infrastructure? _____Yes _____No
   a. If so, describe the density and type of homes & infrastructure vulnerable to instability

8. Describe existing conditions of project prior to implementation:

Project Name: _____

Project Description

1. Contract Type:

☐ Design-Bid-Build ☐ Design-Build ☐ Full Delivery ☐ Other: _____

2. Was this project part of a flood recovery response? ____Yes _____No

3. Describe the project purpose, objectives, and approach:

4. Quantify Restoration Area:

_____ Stream (ft) _____ Wetlands (ac) _____ Riparian Buffer (ac)

5. Quantify Implemented Features:

Description	**Quantity**	**Units**
Floodplain		Acres
Wetland Grading		Acres
Floodplain/Channel Reconstruction		Acres

a. Type and Number of In-stream Structures Installed (each):

Description	**Quantity**	**Description**	**Quantity**
Converging Boulder Clusters		Cross Vanes	
Constructed Riffles		J-Hooks	
Constructed Pools		Log Vanes	
Other:			

b. Acres of native species revegetation & invasive species management process _____ ac

c. Type and Quantity of Bank Stabilization Features Installed:

Description	**Quantity**	**Unit**	**Description**	**Quantity**	**Unit**
Toe Wood			Rood Wads		
Soil Lifts			Boulder Walls		
Riprap			Other:		

6. Describe project area constraints:

Project Name: _____

7. Describe construction timing and sequencing constraints:

8. Describe revegetation techniques used, challenges encountered, & how they were addressed:

9. Was this project constructed in the wet? _____Yes _____No

10. Describe dewatering approach

11. Describe approach to managing sediment during construction

12. Include before and after photos for at least three distinct locations on this project.

13. Construction season:_____ Revegetation season:_____

14. Funding Agency (if known):_____

<u>Reference:</u>

Name & Title:_____

Organization:_____ Relationship:_____

Phone number:_____ Email:_____

Stream Restoration Revegetation Contractor Project Form – Qualifications

Project Name:	
In-house Field Project Manager:	
Still with your company?	
Implementation Dates:	
Location:	
Client:	
Responsible Engineer (firm):	
Website (if available):	
Brief Project Description:	

Site Description

1. Location: _____ _____ _____ _____
   Stream Watershed County State

2. Planting Area: ____ Wetlands Area: ____ Annual Precipitation: _____ Elevation: _____

3. Describe the existing ecosystem, including amount of wetlands

4. Describe the existing soils and vegetation

Project Description

1. Project Area: _____ Number of Live Plants planted: _____ Project Budget: _____

2. Describe the project purpose, objectives, and approach:

3. Quantify Restoration Area:

   a. _____Stream (ft) _____Wetlands (ac) _____Riparian Buffer (ac)

4. List the native plant requirements for this site and how those were met

Project Name: _____

5. List the plants used for this site, including species, approximate number of each, average size and spacing, and planting zones

6. Check all activities that apply for this project

	Install temporary fencing		Install permanent fencing
	Chemically treat noxious weeds		Mechanically treat noxious weeds
	Acquire, care for, & install native live plants		Acquire and install signage
	Acquire & install native seed, mulch, & crimping/tackifier		Harvest & care for existing on-site cottonwoods & willows
	Install temporary irrigation for over 10 acres with a water source up to 0.3 miles away		Remove trees and shrubs, including trees greater than 12 inches in diameter
	Haul & dispose of waste materials		Install & maintain standard best management practices for erosion control

7. Describe revegetation constraints, including non-optimal seasons & procurement of native plant species, and how challenges were addressed

8. Include before and after photos for three distinct locations on this project.

Reference:

Name & Title: _____

Organization: _____ Relationship: _____

Phone number: _____ Email: _____

Attachment C: Bid Schedule