

**TOWN OF CASTLE ROCK
SERVICES AGREEMENT
(McMurdo Gulch Stream Reclamation Priority 2 Project)**

DATE: _____, 2019.

PARTIES: **TOWN OF CASTLE ROCK**, a Colorado municipal corporation, 100 N. Wilcox Street, Castle Rock, Colorado 80104 (“Town”).

MULLER ENGINEERING COMPANY, INC., a Colorado corporation, 777 South Wadsworth Boulevard, Suite 4-100, Lakewood, Colorado 80226 (“Consultant”).

RECITALS:

- A. The Town issued a Request for Proposals from qualified firms with expertise in design engineering and permitting services.
- B. Consultant timely submitted its proposal.
- C. Town wishes to engage Consultant to provide the services more fully described in the following Agreement and Exhibits.

TERMS:

Section 1. Scope of Services. Consultant shall provide design engineering and permitting services related to the McMurdo Gulch Stream Reclamation Priority 2 Project, in accordance with the scope of work and Consultant’s proposal attached as *Exhibit 1* (“Services”).

Section 2. Payment. Consultant shall invoice Town for the Services rendered upon the completion of each task in accordance with the rate and fee scheduled identified in *Exhibit 1*. Town shall pay such invoices within 30 days receipt of such invoice. In no event shall the cumulative payment to Consultant exceed \$299,365, unless authorized in writing by Town.

Section 3. Completion. Consultant shall commence the Services upon execution of this Agreement and complete the Services September 30, 2021. Consultant shall devote adequate resources to assure timely completion of the Services. Consultant shall perform the Services under this Agreement using a standard of care, skill and diligence ordinarily used by reputable professionals performing under circumstances similar to those required by this Agreement.

Town shall have the right to terminate this Agreement at any time with 30 days written notice to Consultant. In addition, this Agreement shall terminate December 31, 2020 in the event funds to support payment under this Agreement are not appropriated for calendar year

2021. The Town's only obligation in the event of termination shall be payment of fees and expenses incurred up to and including the effective date of termination. Consultant shall turn over all work product produced up to the date of termination.

Section 4. Subcontractors. Consultant may utilize subcontractors to assist with specialized works as necessary to complete the Services. Consultant will submit any proposed subcontractor and the description of their services to the Town for approval.

Section 5. Assignment. This Agreement shall not be assigned by Consultant without the written consent of the Town.

Section 6. Notice. Any notice required or permitted by this Agreement shall be in writing and shall be deemed to have been sufficiently given for all purposes if sent by certified mail or registered mail, postage and fees prepaid, addressed to the party to whom such notice is to be given at the address set forth on the first page of this Agreement, or at such other address as has been previously furnished in writing to the other party or parties. Such notice shall be deemed given when deposited in the United States mail.

Section 7. Prohibition Against Employing Illegal Aliens. Consultant shall not knowingly employ or contract with an illegal alien to perform work under this contract. Consultant shall not enter into a contract with a subcontractor that fails to certify to the Consultant that the subcontractor shall not knowingly employ or contract with an illegal alien to perform work under this contract.

Consultant has confirmed the employment eligibility of all employees who are newly hired for employment to perform work under the public contract for services through participation in either the E-verify program or the Department program, as defined in C.R.S. §§ 8-17.5-101(3.3) and 8-17.5-101(3.7), respectively. Consultant is prohibited from using the E-verify program or Department program procedures to undertake pre-employment screening of job applicants while this contract is being performed.

If Consultant obtains actual knowledge that a subcontractor performing work under this Agreement for services knowingly employs or contracts with an illegal alien, Consultant shall:

A. Notify the subcontractor and the Town within three days that the Consultant has actual knowledge that the subcontractor is employing or contracting with an illegal alien; and

B. Terminate the subcontract with the subcontractor if within three days of receiving notice required pursuant to this paragraph the subcontractor does not stop employee or contracting with the illegal alien; except that the Consultant 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.

Consultant shall comply with any reasonable request by the Department of Labor and Employment 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).

If Consultant violates a provision of this Agreement required pursuant to C.R.S. §8-17.5-102, Town may terminate the Agreement for breach of contract. If the Agreement is so terminated, the Consultant shall be liable for actual and consequential damages to the Town.

Section 8. Insurance. Consultant agrees to procure and maintain, at his own cost, the following policy or policies of insurance. Consultant shall not be relieved of any liability, claims, demands or other obligations assumed pursuant to this Agreement by reason of its failure to procure or maintain insurance, or by reason of its failure to procure or maintain insurance in sufficient amounts, durations, or types.

A. Consultant shall procure and maintain, and shall cause each subcontractor of the Consultant to procure and maintain a policy with the minimum insurance coverage listed below. Such coverage shall be procured and maintained with forms and insurers acceptable to the Town. All coverage shall be continuously maintained from the date of commencement of services hereunder. In the case of any claims-made policy, the necessary retroactive dates and extended reporting periods shall be procured to maintain such continuous coverage.

1. Workers Compensation insurance to cover obligations imposed by the Workers Compensation Act of Colorado and any other applicable laws for any employee engaged in the performance of Work under this contract, and Employer's Liability insurance with minimum limits of FIVE HUNDRED THOUSAND DOLLARS (\$500,000) each accident, FIVE HUNDRED THOUSAND DOLLARS (\$500,000) disease-policy limit, and FIVE HUNDRED THOUSAND DOLLARS (\$500,000) disease-each employee.

2. Comprehensive General Liability insurance with minimum combined single limits of ONE MILLION DOLLARS (\$1,000,000) each occurrence and ONE MILLION DOLLARS (\$1,000,000) aggregate. The policy shall be applicable to all premises and operations. The policy shall include coverage for bodily injury, broad form property damage (including for contractual and employee acts), blanket contractual, independent contractors, products, and completed operations. The policy shall contain a severability of interests provision.

3. Comprehensive Automobile Liability Insurance with minimum combined single limits for bodily injury and property damage of not less than ONE MILLION DOLLARS (\$1,000,000) each occurrence and ONE MILLION DOLLARS (\$1,000,000) aggregate with respect to each of Consultant's owned, hired and/or non-owned vehicles assigned to or used in performance of the services. The policy shall contain a severability of interests provision.

4. Professional Liability insurance with minimum limits of ONE MILLION DOLLARS (\$1,000,000) per claim and ONE MILLION DOLLARS (\$1,000,000) aggregate.

B. The policies required above, except Workers' Compensation insurance, Employers' Liability insurance and Professional Liability insurance shall be endorsed to include the Town, its officers and employees, as an additional insured. Every policy required

above, except Workers' Compensation and Professional Liability insurance, if applicable, shall be primary insurance, and any insurance carried by the Town, its officers, or its employees, shall be excess and not contributory insurance to that provided by Consultant. The additional insured endorsement for the Comprehensive General Liability insurance required above shall not contain any exclusion for bodily injury or property damage arising from completed operations. The Consultant shall be solely responsible for any deductible losses under each of the policies required above.

C. Certificates of insurance shall be completed by Consultant's insurance agent as evidence that policies providing the required coverage, conditions and minimum limits are in full force and effect, and shall be subject to review and approval by the Town. Each certificate shall identify the Project and shall provide that coverage afforded under the policies shall not be cancelled, terminated or materially changed until at least 30 days prior written notice has been given to the Town. If the words "endeavor to" appear in the portion of the certificate addressing cancellation, those words shall be stricken from the certificate by the agent(s) completing the certificate. The Town reserves the right to request and receive a certified copy of any policy and any endorsement thereto.

D. Failure on the part of Consultant to procure or maintain policies providing the required coverage, conditions, and minimum limits shall constitute a material breach of contract upon which at the Town's discretion may procure or renew any such policy or any extended connection therewith, and all monies so paid by the Town shall be repaid by Consultant to the Town upon demand, or the Town may offset the cost of the premiums against any monies due to Consultant from the Town.

E. The parties understand and agree that the Town is relying on, and does not waive or intend to waive by any provision of this contract, the monetary limitations (presently \$387,000 per person, \$1,093,000 for two or more persons, per occurrence) or any other rights, immunities, and protections provided by the Colorado Governmental Immunity Act, §24-10-101, *et seq.*, C.R.S., as from time to time amended, or otherwise available to Town, its officers, or its employees.

Section 9. Indemnification. Consultant expressly agrees to indemnify and hold harmless Town or any of its officers or employees from any and all claims, damages, liability, or court awards including attorney's fees that are or may be awarded as a result of any loss, injury or damage sustained or claimed to have been sustained by anyone, including, but not limited to, any person, firm, partnership, or corporation, to the extent caused by the negligent acts, errors or omissions of Consultant or any of their employees or agents in performing work pursuant to this Agreement. In the event that any such suit or action is brought against Town, Town will give notice within ten (10) days thereof to Consultant.

Section 10. Delays. Any delays in or failure of performance by any party of his or its obligations under this Agreement shall be excused if such delays or failure are a result of acts of God, fires, floods, strikes, labor disputes, accidents, regulations or orders of civil or military authorities, shortages of labor or materials, or other causes, similar or dissimilar, which are beyond the control of such party.

Section 11. Additional Documents. The parties agree to execute any additional documents or take any additional action that is necessary to carry out this Agreement.

Section 12. Entire Agreement. This Agreement represents the entire agreement between the parties and there are no oral or collateral agreements or understandings. This Agreement may be amended only by an instrument in writing signed by the parties. If any other provision of this Agreement is held invalid or unenforceable, no other provision shall be affected by such holding, and all of the remaining provisions of this Agreement shall continue in full force and effect.

Section 13. Time of the Essence. Time is of the essence. If any payment or any other condition, obligation, or duty is not timely made, tendered or performed by either party, then this Agreement, at the option of the party who is not in default, may be terminated by the non-defaulting party, in which case, the non-defaulting party may recover such damages as may be proper.

Section 14. Default and Remedies. In the event either party should default in performance of its obligations under this agreement, and such default shall remain uncured for more than 10 days after notice of default is given to the defaulting party, the non-defaulting party shall be entitled to pursue any and all legal remedies and recover its reasonable attorney's fees and costs in such legal action. In addition, no Party will be entitled to lost profits, economic damages, or actual, direct, incidental, consequential, punitive or exemplary damages in the event of a default.

Section 15. Waiver. A waiver by any party to this Agreement of the breach of any term or provision of this Agreement shall not operate or be construed as a waiver of any subsequent breach by either party.

Section 16. Governing Law. This Agreement shall be governed by the laws of the State of Colorado.

Section 17. Independent Contractor. Consultant and Town hereby represent that Consultant is an independent contractor for all purposes hereunder. As such, Consultant is not covered by any worker's compensation insurance or any other insurance maintained by Town except as would apply to members of the general public. Consultant shall not create any indebtedness on behalf of the Town.

Section 18. No Third Party Beneficiaries. It is expressly understood and agreed that enforcement of the terms and conditions of this Agreement, and all rights of action relating to such enforcement, shall be strictly reserved to Town and Consultant, and nothing contained in this Agreement shall give or allow any such claim or right of action by any other third party on such Agreement. It is the express intention of the parties that any person other than Town or Consultant receiving services or benefits under this Agreement shall be deemed to be an incidental beneficiary only.

ATTEST:

TOWN OF CASTLE ROCK

Lisa Anderson, Town Clerk

Jason Gray, Mayor

Approved as to form:

Approved as to content:

Robert J. Slentz, Town Attorney

Mark Marlowe, Director of Castle Rock Water

CONSULTANT:

MULLER ENGINEERING COMPANY, INC.
a Colorado corporation

By: _____

Its: _____



**REQUEST FOR PROPOSALS
TO PROVIDE
ENGINEERING DESIGN SERVICES
FOR THE**

**MCMURDO GULCH STREAM RECLAMATION
PRIORITY 2 PROJECT**

CASTLE ROCK WATER
CASTLE ROCK ENGINEERING (STORMWATER)
CASTLE ROCK ENGINEERING (WATER & WASTEWATER)
CASTLE ROCK PARKS & RECREATION (TRAILS)
CHERRY CREEK BASIN WATER QUALITY AUTHORITY (FUNDING PARTNER)

RFP NO. SW-2020-05

OCTOBER 4, 2019

GENERAL INFORMATION

Project Description

The Town of Castle Rock (Town) is seeking a Consultant Team to provide engineering design and permitting services for the **McMurdo Gulch Stream Reclamation Priority 2 Project**. This project includes design and construction of stream channel improvements to mitigate impacts and preserve the natural drainageway. The Town completed a McMurdo Gulch Stream Assessment in 2016 that identified high priority areas for incorporation into the Town's next phase of stream reclamation. This Priority 2 Project is located within five specific reaches along the drainageway where early signs of impact were observed including bank instabilities and head-cutting. The five reaches include:

- Sta. 125+00 to Sta. 132+00
- Sta. 137+00 to Sta. 140+00
- Sta. 152+00 to Sta. 165+00
- Sta. 255+00 to Sta. 260+00, and
- Tributary 5 and 6, Higher Priority.

The Cherry Creek Basin Water Quality Authority is a funding partner with the Town for design and construction of the project. (see Attachment 1 for Project Site Map).

Expertise for this project is solicited in surveying, geotechnical investigation, alternative analysis, natural stream drainage design, construction drawings, temporary erosion and sediment control, hydraulic modeling, technical specifications, construction cost estimation, ecological impacts and mitigation, environmental permitting, and subsurface utility engineering certification and relocations.

Project Objectives

The Town has multiple project objectives, including, but not limited to:

- Expand upon the successes of the 2011 and subsequent reclamation efforts and make appropriate modifications to the techniques and practices for achieving the project objectives.
- Preserve and enhance the floodplain and its natural environment to continue serving as a natural buffer.
- Protect existing infrastructure, utilities and property.
- Minimize the magnitude of impact to the system by maintaining the natural channel and preserve existing trees and vegetation.
- Reduce stream degradation and restore the incised stream thalweg to minimize vertical cuts and lateral bank erosion along the corridor.
- Incorporate softer and more natural approaches to stream reclamation measures where possible that enhance riparian and wetland habitat.
- Identify opportunities for maintenance access to improvements that fit the existing and constructed riparian corridor.
- Identify opportunities for incorporation of a regional trail connection, as proposed in the Town's master plan, with all applicable drainageway improvements.
- Identify land acquisition (ownership and/or easements) and permits necessary for the channel improvements and maintenance access routes.
- Secure federal approvals for floodplain and wetland impacts in a cost-effective manor while ensuring environmental compliance and reducing public hazards.
- Remap the floodplain within the project limits to reflect the proposed/constructed improvements and secure approval from FEMA.

Milestone Schedule

This project will generally follow the milestone schedule below.

- Consultant Selection: November 2019
- Consultant Contracting: December 2019

- Phase I: January 2020 – April 2020
- Phase II:
 - Preliminary Design May 2020 – July 2020
 - Permitting Coordination August 2020
 - SUE August 2020
- Phase III:
 - Final Design September 2020 – December 2020
 - Permitting October 2020 – June 2021
 - Utility Relocations October 2020 – June 2021
 - Easements October 2020 – June 2021
- Bidding: June 2020 – July 2020
- Construction Contracting: August 2020 – September 2020
- Construction: October 2020 – April 2021
- Planting: May 2021

Town Project Team

Project Manager – Castle Rock Water

Jim Swanson, Project Manager – Consultant Support, jim@jrsec.com

Stakeholders

Castle Rock Water

- David Van Dellen, Stormwater Manager, dvandellen@crgov.com
- Jeanne Stevens, Engineering Manager (Water & Wastewater), jstevens@crgov.com

Parks & Recreation Department

- Brian Peterson, Parks Planning & Construction Manager; bpeterson@crgov.com
- Rich Havel, Parks Trails Planner, rhavel@crgov.com

Public Works

- Aaron Monks, Project Manager – CIP, amonks@crgov.com

Development Services

- Keith Johnston, Developmental Services, kjohnston@crgov.com

External Agencies

- Cherry Creek Basin Water Quality Authority, Rich Borchardt, CIP Manager, rborchardt@r2engineers.com

Coordination and Meetings

The Consultant shall attend a design kick-off meeting and regular monthly progress meetings throughout the duration of the project and supply meeting agendas and minutes to the Town. Additional review meetings may be necessary as part of the alternatives analysis, 30% and 90% submittals. Monthly progress meetings and review meetings may be consolidated when applicable.

The Consultant shall coordinate and attend meetings, as needed, with respective stakeholders and agencies to achieve the project objectives and scope of work.

The Consultant shall attend up to two public meetings and provide applicable exhibits to communicate the project objectives and solicit public input.

PHASE I: SURVEYING, SITE INVESTIGATION & ALTERNATIVES ANALYSIS

Survey

The Consultant shall complete a topographic survey of the design project area as generally depicted on the project site map. The surveying shall include: existing improvements, property pins, underground utility locations, structures, trees, wetland delineation, topography including high and low points (one foot contours), and horizontal & vertical project control and any other information necessary to generate necessary easements and complete the scope of work as described herein. The Consultant shall be responsible for identifying limits of survey required for adequate design and upstream and downstream floodplain modeling tie-ins. It may be advantageous to postpone a portion of the surveying until the preliminary design phase, following selection of the preferred alternative. The Town will work with the selected Consultant to determine the appropriate timing of this task.

Vertical Datum: All elevations used shall be on the NAVD 88 Datum; no conversion equation is allowed.

Horizontal Benchmark and coordinates: The horizontal benchmark shall be specified. All surveys shall be in the State Plane NAD83, Colorado Central Zone coordinate system and include the coordinates of a known property corner on or adjacent to the site.

The Consultant shall be responsible for obtaining all dry utility mapping information from respective agencies in helping to determine potential conflicts with proposed improvements.

Geotechnical

The Consultant shall provide all geotechnical investigation services required to support the design and project objectives. This shall include soil borings and a geotechnical report as needed to support the project improvements.

There are no existing geotechnical reports available for this area.

Alternatives Analysis

The Consultant shall develop three design alternatives that include conceptual level design, schematic drawings and cost estimates for Town consideration. The Consultant shall provide a selection matrix that discusses pros and cons of each alternative along with the Consultant's recommended alternative selection. The Town will select a preferred alternative, or combination of alternatives, based on project objectives, opinion of probable cost, and physical constraints.

Alternatives should incorporate the following considerations: A review of master plan assumptions and recommendations; stakeholder input; environmental permit requirements, including hydraulic and ecological impacts; stream dynamics including geomorphology; project objectives; cost; water quality and other benefits; and other outside influences such as utility and transportation systems and adjacent land uses. Potential utility conflicts shall be identified and discussed in the Alternative Analysis.

In the event of delays on the survey and geotechnical investigation due to weather, the Consultant may be asked to prepare the alternatives analysis using best available data and other data made available through the Town.

Phase I Deliverables

- Alternatives Memorandum (PDF)
- Conceptual level plan and profile drawings included as an appendix to the Alternatives Memo (PDF & AutoCAD)
- Conceptual Level Opinion of Probable Costs included as an appendix to the Alternatives Memo (PDF & Excel)
- Topographic and property boundary survey plan sheet(s) (PDF & AutoCAD)

- Geotechnical Report (PDF)

Provided Resources & Data from the Town

- Town Boundary, Property Parcels, Right-of-Way and Trail Alignment (GIS shapefile & AutoCAD)
- Existing Water, Sewer and Storm Utility Mapping (GIS shapefile)
- Aerial Imagery (available to download)
- 2014 Topographic Data (1' contours available to download)
- Existing Hydrology & Hydraulic Modeling (CUHP/SWMM & HEC-RAS)
- Existing Record Drawings and Reports (PDF)

PHASE II: PRELIMINARY DESIGN

The Consultant shall provide a 30% progress submittal based on the selected alternative, or combination of alternatives, for Town review in accordance with Town Criteria.

30% Construction Drawings

The Consultant shall provide Preliminary Construction Drawings including:

- Cover Sheet
- Overall Site Improvements Sheet
- Project Control and Survey Sheet
- Plan & Profile Sheets
- Preliminary Hydraulic Design Detail Sheets
- Preliminary Planting/Revegetation Plan
- Preliminary Construction Access Plan

Preliminary Hydraulic Calculations

The Town will supply the necessary information to support the Hydrologic design. The Consultant is to review this information and discuss any concerns or gaps in the data that should be addressed prior to final design. In general, this information should be consistent with FEMA published flow rates.

The Consultant shall provide hydraulic analysis and calculations to support the preliminary design in accordance with the Town's Storm Drainage Design and Technical Criteria Manual. Preliminary calculations shall be sufficient to determine whether a CLOMR or No-Rise Certification is required and sufficient to support the preliminary hydraulic design of the proposed improvements.

Environmental Permitting Coordination

The Consultant shall coordinate with the U.S. Army Corps of Engineers and U.S. Fish and Wildlife Service as needed to determine the appropriate level of permitting and submittal application requirements necessary to obtain approval based on the selected alternative. Additionally, this coordination shall include an estimation of review timelines to ensure approval prior to the scheduled bid release date for construction.

30% Engineer's Opinion of Probable Cost Estimate

The Consultant shall provide preliminary construction cost estimates to the Town included with the 30% submittal.

Subsurface Utility Engineering (SUE)

The Consultant shall design improvements to avoid underground utility conflicts within proposed excavation areas to the maximum extent practicable.

The Consultant shall prepare a SUE Plan and Report in accordance with the requirements of ASCE 38-02, Standard Guideline for the Collection and Depiction of Existing Subsurface Utility Data, and Colorado Subsurface Utility Law (SB18-167). Potholing and/or other equivalent field investigation methods shall be employed, if necessary, to accurately locate existing utilities and potential conflicts within the project limits.

Phase II Deliverables

- 30% Construction Drawings (PDF & AutoCAD, 22"x34" printable on 11"x17")
- 30% Preliminary Hydraulic Calculations (PDF & working files)
- 30% preliminary floodplain work map (PDF & AutoCAD)
- 30% Engineer's Opinion of Probable Cost (PDF & working files)
- Certified SUE Plan and Report (PDF & AutoCAD)

PHASE III: FINAL DESIGN & FLOODPLAIN MODIFICATION APPROVAL

The Consultant shall provide a 90% progress submittal for Town review and 100% Bid Set submittal in accordance with Town Criteria.

Construction Drawings

The Consultant shall provide Construction Drawings including:

- Cover Sheet
- General Notes Sheet
- Project Control and Survey Sheet
- Overall Site Improvements Sheet, including: river stationing, property boundaries, easements, plan improvements, floodplain and RCZ
- Channel Plan & Profile Sheets
- Detailed Plan Sheet for each grade control structure or other improvement
- Detailed Cross-Sections, including: upstream, downstream and through each grade control structure, and through low flow realignment and bank protection as applicable
- Standard Detail Sheets
- Planting/Revegetation Plan
- Construction Access Plan
- Traffic and Pedestrian Control Plan

Temporary Erosion and Sediment Control (TESC)

The Consultant shall prepare a TESC Plan and Report for the project in accordance with the Town of Castle Rock TESC Manual. The TESC Plan and Report shall meet the requirements of a SWMP for use by the contractor in obtaining a Construction Discharge Permit with WQCD. The Consultant shall prepare a water control plan as part of the TESC Report.

The Consultant shall submit a 90% progress set for Town review and 100% Bid Set based on Town comments.

Drainage Calculations Memorandum

The Consultant shall prepare an engineering memorandum to document the proposed design and include all applicable engineering calculations. A 90% progress submittal shall be provided for Town review and a 100% final document for Town records.

Conditional Letter of Map Revision (CLOMR) or No-Rise Certification

The Consultant shall provide a CLOMR (or No-Rise Certification) Report and all applicable analysis, calculations, and details to support the final design in accordance with the Castle Rock's Storm

Drainage Design and Technical Criteria Manual and FEMA regulations. The CLOMR (or No-Rise Certification) Report and application are to be submitted with 90% and 100% Construction Drawings.

The Consultant shall submit the CLOMR application as required by FEMA and address comments as needed to obtain approval. The Consultant shall include a discussion of the alternatives evaluation in the CLOMR report (per 44 CFR 65.12) and documentation of Environmental Species Act (ESA) compliance. The CLOMR shall be prepared in final form for Town review, prior to issuance to FEMA, with the 90% submittal. If a “no-rise” condition is achieved, a CLOMR will not be required. The CLOMR review fee should be included as a separate line item in the proposal. It is expected that the Consultant will submit the CLOMR on behalf of the Town via FEMA’s online LOMC site.

Environmental Permitting

The Consultant shall prepare a U.S. Army Corps of Engineers (USACE) Section 404 Permit Application as required by the USACE. Application shall be routed through the Town for concurrence prior to submittal. Consultant shall address comments as needed to obtain approval.

The project is located within the limits of the Douglas County Habitat Conservation Plan (DCHCP). U.S. Fish and Wildlife Service (USFWS) approval will be required. The Consultant shall prepare the necessary letter and/or exhibits to obtain USFWS concurrence under applicable covered activities as authorized in the Douglas County Habitat Conservation Plan for the Preble’s Meadow Jumping Mouse (DCHCP).

Utility Relocations

The Consultant shall coordinate with applicable utility agencies and submit the necessary applications to implement the required utility relocations prior to the scheduled bid release date. Fees associated with utility permits and applications shall be paid for by the Town.

Technical Specifications

The Consultant shall prepare technical specifications. Consultant shall work with Town staff to select the appropriate standard specifications to meet the Town of Castle Rock’s objectives. Generally, this will include applicable Town and Mile High Flood District (MHFD) specifications.

The Consultant shall submit a 90% progress set for Town review and 100% Bid Set.

Technical Criteria Variance related to Water Quality Exclusion(s)

The Consultant shall prepare a Technical Criteria Variance (TCV) for exclusions to permanent water quality enhancements in accordance with the Town’s Storm Drainage Design and Technical Criteria Manual along with the 90% submittal for Town review and approval.

Engineer’s Opinion of Probable Cost Estimate

The Consultant shall submit a 90% construction cost estimate for Town review and 100% Bid Estimate.

Bid Schedule

The Consultant shall provide a bid schedule with the 100% submittal to be included in the bid and contract documents package prepared by the Town.

Easement Legal Descriptions and Exhibits

The Consultant shall provide permanent drainage, access and temporary construction easements, as needed, to support the proposed design including 90% progress set for Town review and 100% signed and sealed documents.

Phase III Deliverables

- Construction Drawings (PDF & AutoCAD, 22"x34" printable on 11"x17")
- TESC Plan and Report (PDF, AutoCAD & Word)
- Drainage Calculation Memorandum (PDF & working files)
- CLOMR (or No-Rise Certification) Report and Application (PDF & working files)
- 404 Permit Application (PDF)
- Memo and Exhibit(s) for USFWS Concurrence Request (PDF & working files)
- Utility Relocation Agreements, as applicable (PDF)
- Technical Specifications (PDF & Word Document)
- Technical Criteria Variance (PDF & Word Document)
- Engineer's Opinion of Probable Cost (PDF & working files)
- Bid Schedule (Excel or Word Document)
- Easement Legal Descriptions and Exhibits (PDF & AutoCAD)

PROPOSAL INSTRUCTIONS

Proposal Submittals

Relevant to the services requested, submittals shall be clear, accurate, and comprehensive. Submittals shall be limited to 10 pages, exclusive of section dividers, references and resumes. Minimum font size shall be 11 point. 11"x17" exhibits are allowable and will be counted as one (1) page each. Excessive or irrelevant material will not be favorably received.

The Consultant shall supply three (3) hard copies of the proposal in a sealed package and one (1) electronic copy (PDF) containing the following information:

Submittals shall be organized and numbered in the order presented below.

Section 1 Project Team Qualifications and Related Experience.

List all key personnel, define their specific roles, and provide brief resumes. If sub-consultants are included, identify their role, prior experience working with them as a team, and summarize their qualifications. The Town expects that key personnel identified in the proposal will remain on the project through its entire duration.

Section 2 Response to Scope of Work.

Provide a response to the primary objectives of the project, project description, key technical design issues, key tasks identified and other items of consideration for completing the scope of work.

Section 3 Action Plan and Schedule.

Develop a work breakdown structure (WBS) including person-hour estimates by task for all phases of the work, a detailed schedule showing how the tasks will be completed, and a draft drawing list.

Section 4 Summary of Similar Projects.

Include project description, consultant's personnel involved, tasks performed, budget/actual costs, schedule/completion date and client contact information.

Section 5 Request for Proposal Confidentiality

Please specify those portions of the proposal you request to remain confidential and provide a copy of the signed RFP Confidentiality Statement & Letter of Indemnification as provided herein.

Proposals submitted to the Town for consideration shall be subject to the Colorado Open Records Law, Section 24- 72-201, et seq., C.R.S. Any confidential information in the Submitter's proposal shall be identified as such. If any information is considered to be confidential, the Submitter shall agree to indemnify the Town for any and all attorney fees that the Town may incur in defending the

withholding of such information by signing and returning the letter found in the Appendix of this RFP. Should the Town receive a request for the release of any information in the consultant's proposal in accordance with the Open Records Law, the Town will release only that information which has not been identified as confidential so long as the Letter of Indemnification has been signed and returned by the Submitter along with the proposal. Should the Submitter choose not to sign and return Letter of Indemnification, all information in the Submitter's proposal shall be considered releasable by the Town. Submitter will be notified of any open records requests prior to the release of such information. If, in the opinion of Town's legal counsel, the Town is nonetheless compelled to disclose any portion of such information to anyone or else stand liable for contempt or suffer censure or penalty, the Town may disclose such information without liability.

Fee Schedule

In addition to the proposal, the Respondent shall submit one copy of their proposed fee schedule in a sealed envelope labeled "McMurdo Gulch Stream Reclamation – Priority 2 Project Proposal – Fee Schedule". At the completion of the proposal evaluation, the fee schedule will be opened and reviewed, not for 'low bid', but for a reasonable and appropriate level of effort from each team member.

The Consultant's fee schedule shall include the man-hour estimates, and labor and expense costs associated with each major task, with a sub-total for each phase, as outlined in the scope of work. The Bidding and Construction Engineering and Post-Construction support services will be identified and negotiated and awarded under a separate agreement and are not included in this request.

Pre-Proposal Meeting

A **MANDATORY** Pre-Proposal will be held on **Thursday, October 24, 2019 at 3:30 p.m.** at the address listed below.

Castle Rock Water
175 Kellogg Court
O&M Building 183
Castle Rock, Colorado 80109

Note: Please enter and exit the site through Gate C. Parking is available to the west and south of Building 183. The entrance to Building 183 is on the west side.

Request for Clarification

Requests for clarification concerning the RFP shall be submitted in writing, by **email**, and must be received by close of business Friday, November 1, 2019. Requests submitted via telephone will not be accepted. All requests for clarifications shall be directed by email to: Jim Swanson, jim@jrsec.com

Responses to requests for clarifications will be provided in writing and distributed by close of business on Thursday, November 7, 2019 to all Respondents in the form of an addendum, and without identification of the source of any inquiry.

Location, Date, and Time for Submittal of the Proposal

The proposals must be enclosed in a sealed package and received by the Town by **3:00 p.m. Thursday, November 14, 2019** at the address listed below. Each package must be legibly marked with the name and address of the respondent. No late proposals will be accepted. **Emailed and faxed submittals will not be accepted.**

Castle Rock Water
175 Kellogg Court
Castle Rock, Colorado 80109

Attention: Jim Swanson, Project Manager / David Van Dellen, Stormwater Manager

SELECTION PROCESS

Proposal Evaluation and Selection

The Town of Castle Rock reserves the right to reject any or all proposals, or accept any presented, which are deemed in the best interest of the Town of Castle Rock. The Town of Castle Rock is not bound to accept the low proposal. The Town has the sole authority in awarding this Project. The Town reserves the right to waive any formalities and reject any or all proposals, including and without limitation, the right to reject any or all nonconforming, nonresponsive, unbalanced or conditional proposals and to reject the proposal of any Consultant if the Town believes that it would not be in the best interest of the Town to make an award to that Consultant. The Town reserves the right to select the team or firms it feels are the most appropriate for this project. The Town further reserves the right to cancel this selection process, or select an alternate course of action. The Town of Castle Rock reserves the right to make an award based solely on the proposals received or to negotiate further with one or more of the respondents. Multiple awards will not be made.

The Consultant selected for the award will be chosen on the basis of greatest overall benefit to the Town of Castle Rock. The following factors will be used to evaluate proposals. The order of the listed criteria is not indicative of their priority, weighting, or importance.

- Team/Sub-consultant qualifications (as they relate to the scope of work);
- Understanding of objectives and completeness of project approach to satisfy scope of work, including constraints and concerns that are anticipated during performance of services, and suggested approaches to address these problems;
- Complete and reasonably thought out action plan, including work breakdown structure with person-hour estimates for all tasks, and ability to meet identified milestone schedule;
- Previous experience with similar projects, including ability to meet or exceed client expectations on similar projects within the past five years, and;
- Cost of services.

To receive consideration, all responses shall be received before the closing date and time specified in the Proposal Instruction portion of this RFP. Proposal evaluations will occur following the RFP closing date. The Town may elect to conduct interviews if there are two or more closely ranked proposals.

ATTACHMENT 1
PROJECT SITE MAP

**Channel Improvements,
Sta. 125+00 to Sta. 132+00
and Sta. 137+00 to Sta.
140+00**

**Channel Improvements,
Sta. 152+00 to Sta. 165+00**

**Channel Improvements,
Sta. 255+00 to Sta. 260+00**

**Channel Improvements,
Tributary 6 Higher Priority &
Tributary 7 Higher Priority**

McMurdo Gulch

State Highway 86

Attachment 1



**TOWN OF CASTLE ROCK, CASTLE ROCK WATER
McMurdo Gulch Stream Reclamation Priority 2 Project
RFP No. SW-2020-05
RFP Addendum No. 1
November 4, 2019**



To: All Pre-Proposal Meeting Attendees

Addendum No. 1 includes the Pre-Proposal Meeting Attendance Sign-in Sheet and other clarifications. These addenda items shall be incorporated into the Request for Proposal No. SW-2020-05, dated October 2019.

1. Pre-Proposal Meeting Attendance Sign-in Sheet.

The Pre-Proposal Attendance Sign-in Sheet is attached.

2. Milestone Schedule Update:

The Milestone Schedule shall be changed as follows:

- Bidding June 2021 – July 2021
- Construction Contracting August 2021 – September 2021
- Construction October 2021 – April 2022
- Planting May 2022

3. Letter of Indemnification:

The Letter of Indemnification doesn't count in the maximum RFP page limit criteria.

4. RFP Maximum Page Limit Requirement.

The maximum page limit is hereby changed from a maximum of ten (10) pages to maximum of fifteen (15) pages.

5. Subsurface Utility Engineering (SUE).

The SUE quality level for this project is anticipated to be either "B" and/or "A", depending on the utility type, relative location to the project improvements and other site conditions. Avoidance is recommended if possible. The Consultant should provide a discussion of their assumptions and findings in the RFP and propose an associated fee relative to that described level of effort. Review of proposals will weigh heavily on the Consultant's approach and scope of services for the SUE with the fee commensurate to the approach and scope. A Professional Engineer's seal is required on the utility plan. Existing water transmission lines, sanitary sewer lines and high (and lower) pressure gas lines are located within the McMurdo Gulch corridor in, and adjacent, to the various proposed improvements.

6. Alternative Analysis.

An alternative analysis will be required. The McMurdo Reach Assessment was performed in 2016. Since that time, areas of stream erosion and degradation have occurred. The Consultant shall provide alternatives to the stream assessment report recommendations where necessary to stabilize the channel and maintain the goals and objectives identified in the RFP.

7. CLOMR.

It is anticipated a CLOMR will be required. List the CLOMR as a separate line item in the fee proposal. Please note, the Consultant shall include the cost of the application fee in their proposal. Reimbursement of the application fee will be made to the Consultant by the Town.

8. Budget.

The total design, permitting and construction budget estimate totals \$2.46 M.

9. Cultural Resources.

Prehistoric sites have been found along McMurdo Gulch; assessment is required. It is anticipated the project will not be affected by the Preble's Mouse.

10. Questions Received / Responses.

- a. Q - Visiting all of these sites, all of them have a bike path or pedestrian path that runs along all or portions of each reach. During design, can these bike paths be relocated on a different alignment? *R – This concept, where proposed, will be addressed during the Alternative Analysis phase of the project design. The Town Parks and Recreation Department is a project stakeholder and will participate in the evaluation of alternatives and selection of the preferred alternative.*

End of Addendum No. 1

Pre-Proposal Meeting 10/24/19

2020 Stormwater Design Projects

Sign-In Name	Firm	Phone	email	6400 East	Omni	EPC	6400 South	McMurdo
David Van Dellen	Castle Rock Water	720-733-6029	dvandellen@crgov.com	x	x	x	x	x
Kate Malers	Water & Earth Tech	970 225-6080	kmalers@wetec.us	x	x	x	x	x
Melissa Brennan	Water & Earth Tech	970 237 0118	mbrennan@wetec.us	x	x	x	x	x
Chris Hodyl	Jacobs	720-557-9569	chris.hodyl@jacobs.com	x	x	x	x	x
Kiersten Hines	Jacobs	7196515230	kiersten.hines@jacobs.com	x	x	x	x	x
Jason Albert	Anderson Consulting	970-226-0120	jason.albert@acewater.com	x	x	x	x	x
Kristin Barnett	Watervation	720-273-9183	nicole.babbitt@water-vation.com	x	x	x	x	x
Jared Lee	Bohannon Huston	303-799-5103	jlee@bhinc.com	X	X	X		
Sarah Houghland	Enginuity	303-257-2423	shoughland@enginuity-es.com	X	X	X	X	
Deb Ohlinger	Olsson	303-237-2072	dohlinger@olsson.com	X	X	X	X	
Jennifer Green	ICON Engineering	303-221-0802	jgreen@iconeng.com	x	x	x	x	
Lee Riseb	RESPEC	720-775-6399	lee.rosen@respec.com	X	X	X	X	
Rifka Wine	Bohannon Huston	303-799-5103	rwine@bhinc.com	X	X			
Amanda Sparks	Kumar & Associates, Inc	303-742-9700	asparks@kumarusa.com	X	X	X	X	X
Danny Elsner	Dewberry	303.951.0639	eelsner@dewberry.com	x	x	x	x	
Haley Heinemann	Dewberry	720-308-0920	hheinemann@dewberry.com	x	x	x	x	
Chris Castelli	Kiowa Eng Corp	720-330-2553	ccastelli@kiowaengineering.com	x	x			
Brian Thomasen	NV5, Inc.	269-519-8390	brian.thomasen@nv5.com	x	x	x	x	x
Brent Kaslon	Valerian llc	303-656-8934	brent@valerianllc.com	X	X	X	X	X
Joe Allison	KLJ	303-522-0952	joe.allison@kljeng.com	x	x	x	x	x
Vanessa Brown	LT Environmental, Inc.	303-483-5588	vbrown@ltenv.com	x	x	x	x	x
Chris Tagert	Michael Baker	720-514-1128	ctagert@mbakerintl.com	x	x	x	x	x
Will Carrier	AECOM	719-426-1755	will.carrier@aecom.com	x	x	x	x	x
Adam Lacey	RESPEC	719-283-7672	adam.lacey@respec.com	x	x		x	
Karin Mcshea	Pinyon Environmental	720-441-9811	mcshea@pinyon-env.com	x			x	
John Yager	Muller Engineering	303-988-4939	jyager@mullereng.com			x		x
Rigel Rucker	AECOM	575-545-1107	rigel.rucker@aecom.com	x	x	x	x	x
Tristan Bonser	JR Engineering	303-267-6171	tbonser@jrengineering.com		x	x		
Emily Magnuson	Kimley Horn	719-216-4054	emily.magnuson@kimley-horn.com	x	x	x	x	x
Josh Root	Stanley Consultants	720-460-4740	rootjosh@stanleygroup.com				x	

November 14, 2019

David Van Dellen
Stormwater Manager
Town of Castle Rock
175 Kellogg Court
Castle Rock, CO 80104

RE: Proposal – 2019 McMurdo Gulch Stream Reclamation Priority 2 Project

Dear Mr. Van Dellen:

Muller Engineering Company looks forward to continuing our work with the Town of Castle Rock on McMurdo Gulch, which started in 2009. We have prepared our proposal in accordance with the Request for Proposal Number SW-2020-05, dated October, 2019.

We are extremely excited about this project because:

1. *We really value working with the Town.*
2. *This project falls perfectly in line with our past experience, capabilities, and the type of work that we are passionate about.*

We believe that our firm and the team that we have assembled are very well suited for the work lined out in the RFP for the following reasons:

- **Team Strength.** Our team has a strong and comprehensive background. Each individual is part of the team because they are been able to provide a positive contribution to their respective fields. We have the associated disciplines covered with very capable personnel that collaborate well and strive to produce innovative, sensible solutions.
- **Project Experience.** Our team's previous experience completing successful projects on McMurdo Gulch gives us a perfect background to undertake this next phase of work on McMurdo Gulch. We learn from each project as we work to push the science forward, and will look to apply this knowledge to this project.
- **Client Service.** Our team places a high value on our relationships with our clients. We focus on developing strong, lasting relationships with clients built on trust and mutual respect. We always strive to provide the highest level of client service to ensure that the process is positive and that it accomplishes your goals. It is our hope that we can further develop this relationship with you and your staff.

As a result of the above, we are confident that we can help deliver a successful project for the Town to be proud of, and we look forward to hearing from you regarding next steps.

Sincerely,

MULLER ENGINEERING COMPANY, INC.



Joseph P. Juergensen, PE
Project Principal



McMURDO GULCH STREAM RECLAMATION PRIORITY 2 PROJECT

SECTION 1—PROJECT TEAM QUALIFICATIONS AND RELATED EXPERIENCE

Muller Engineering Company, an employee-owned firm located in Lakewood, Colorado, provides civil engineering services for the planning and design of projects for drainage and flood control, stream and water quality improvements, water and wastewater systems, transportation, bridges and structures, primarily for the public sector. Muller staff have established long-standing relationships with many Colorado municipalities, counties, and state agencies over our 39-year history. Since 1980, Muller has grown to more than 120 employees who thrive on providing smart engineering solutions to the complex problems facing our clients and communities.



Muller Engineering Company is known and trusted for its strong client relationships, its excellence in design and innovations, and its delivery of project value.

STRONG CLIENT RELATIONSHIPS

Over the years, Muller has worked together with excellent clients with whom we have developed strong professional and personal relationships. We feel this is a major component of our success, and one that makes our work rewarding. These strong relationships help us understand our clients’ needs and expectations, promote efficient design processes, and foster positive interpersonal relationships which ultimately benefit the project.

Muller believes in developing lasting partnerships and implements this concept on all of our projects.

We encourage you to contact our current client partners and discuss with them how our long-term associations have been beneficial. Specifically, the following contacts can attest to our long-term relationships:

Organization	Reference	Phone
Mile High Flood District	Laura Kroeger	303-455-6277
Highlands Ranch Metro District	Forrest Dykstra	303-791-0430
Big Thompson Watershed Coalition	Shayna Jones	970-800-1126
Town of Parker	Tom Williams	303-840-9546
Chatfield Reallocation Mitigation Company	Charley Hoen	970-343-2079

EXCELLENCE IN DESIGN AND INNOVATIONS



Design, especially the design of capital stormwater and water resource projects, is Muller’s forte. Muller has been fortunate to design a variety of innovative solutions to engineering problems and has been recognized with a number of design awards for engineering excellence. An example is our development of new techniques for constructing stream grade control structures. Muller was first to design drop structures using soil-cement to resemble “sandstone-like” formations (Shop Creek, 1988), the first to design shaped and colored sculpted concrete drops (Grange Hall Creek, 1999), the first to emulate natural stream “riffles” using void-filled riprap (Cottonwood Creek, 2004), the first to use glass-fiber reinforced concrete panels to give drops the look of natural rock formations (Lakewood Gulch, 2005), and the first to design and construct boulder cascades using loose boulders and void-filled riprap (McMurdo Gulch, 2011).

McMURDO GULCH STREAM RECLAMATION PRIORITY 2 PROJECT

PROJECT VALUE

Muller prides itself on providing project value. We are especially pleased when we can develop a project concept that is at the same time better and less expensive than traditional approaches. It is always our goal to promote principles that encourage meaningful public involvement, innovative and cost-effective approaches to design of facilities, and reduction of environmental impacts.

KEY PERSONNEL

One page resumes for Muller's personnel and subconsultants are included in the Appendix to this proposal.



PROJECT PRINCIPAL

Joe Juergensen, PE brings extensive experience in innovative stormwater design, construction oversight, and exceptional communication skills with clients and contractors. Joe's professional experience encompasses stream restoration/open channel design, detention pond analysis and design, bridge hydraulic analysis, culvert and storm sewer analysis and design, and site design. He has served as Project Manager for numerous stormwater projects for multiple clients including the Towns of Castle Rock and Parker, Mile High Flood Control District (MHFD), the Southeast Metro Stormwater Authority, Douglas and Jefferson Counties, numerous Colorado cities, the Colorado Water Conservation Board (CWCB), and the Colorado Department of Transportation. Joe has managed the McMurdo Gulch Reclamation Plan and Stream Improvements projects from the beginning.



PROJECT MANAGER

John Yager, PE, CFM has more than 16 years of experience with a focus on stormwater planning and design. His experience consists of stream restoration, natural channel design, open channel hydraulics using both 1D and 2D methods, detention and water quality pond analysis and design, bridge hydraulics, culvert analysis and design, stormwater pump station design, and storm sewer analysis and design. His experience also includes construction observation services, erosion control and stormwater management, engineering field work, and surveying. Currently, John is serving as Project Manager for various channel restoration projects clients including Mile High Flood District, Highlands Ranch Metro District, and the Town of Castle Rock.



PROJECT ENGINEER

Sam Rogers, PE, CFM offers more than six years of experience in hydrologic and hydraulic analysis with a focus in stream stabilization and natural channel design using 1D and 2D flow models. He has a strong background in construction management and observation services, producing design plans and specifications, and preparing project cost estimates for a variety of stormwater facilities including open channels, bridge and culvert crossings, detention ponds, storm sewer systems, and erosion control measures.



DESIGN ENGINEER

Kelsey Czyzyk has two years of experience with a focus on channel design and is currently serving as a water resources engineer. Her experience consists of hydrologic modeling, open channel hydraulics using both 1D and 2D methods, stream restoration, rock sizing, floodplain modeling and mapping, sediment transport analysis, and bridge hydraulics.

McMURDO GULCH STREAM RECLAMATION PRIORITY 2 PROJECT

SUBCONSULTANTS AND KEY PERSONNEL

Great Ecology, Inc., founded in 2001, is a national ecological consulting firm specializing in the planning, design, permitting, restoration, and monitoring of riparian and upland habitats in Colorado and the mountain West. Great Ecology layers in an ecological approach to all our projects wherein ecology is the driver and basis for creating resilient and sustainable landscapes for the communities. Their projects in Colorado and the Front Range are extensive and includes developing and implementing a functional analysis of vegetation types, landscape typology, developing innovative soil amendment solutions that help create high functioning, low maintenance plant communities, ecologically focused redesign of urban waterways to improve flood control and stream functions, and environmental due diligence support including technical surveys and assisting with permitting compliance.

Esa Crumb is an ecologist with over ten years of experience in the fields of wetland and plant ecology, restoration planning, and environmental permitting. Esa is well-versed in the intricacies of Clean Water Act Section 404 permitting, Endangered Species Act consultation, and natural resource assessments. Esa has worked on numerous urban stream improvement projects in the Denver Metro region, providing multidisciplinary roles including conducting natural resource surveys and wetland delineations, providing regulatory support, and guiding development of site-specific revegetation plans. Esa manages development of project-specific environmental permit applications, which often involves working with multiple resource agencies and identifying opportunities to avoid or mitigate impacts to natural resources.

Kumar & Associates, Inc. (K+A), is a consulting engineering firm providing professional and technical services in the areas of geotechnical engineering, environmental sciences, engineering geology, and construction observation and materials testing. The firm was established in 1989 and has a current staff of more than 150 professional engineers and geologists, environmental scientists, engineering technicians, and support personnel. Their offices are located in Denver (HQ), Parker, Colorado Springs, Fort Collins, Glenwood Springs, and Summit County, Colorado. K+A has a solid history of providing geotechnical engineering and construction observation and materials testing services throughout the Town of Castle Rock and Douglas County.

Arben Kalaveshi, PE has over 16 years of experience in the geotechnical engineering and construction materials testing industry. He is responsible for the development and implementation of geotechnical investigations and providing analysis and recommendations for commercial, municipal, and residential projects, and has significant experience in the installation and measurement of geotechnical instrumentation including slope inclinometers, extensometers, and groundwater sampling wells as well as in slope stability analysis.

CORE Consultants (CORE) founded in 2014, is a professional services firm based in Littleton, Colorado offering development services, natural resources, permitting, civil engineering, and land surveying services. Specializing in land development, energy, and municipal projects throughout Colorado and the West, they have built a team that brings many decades of experience working in the Front Range and surrounding communities. CORE is proud to employ the very best people in the business. They strive to stay at the forefront of new technology and regulations. By focusing on building strong relationships with clients, they provide unparalleled responsiveness, exceptional service, and integrity.

Tom Girard, PLS has more than 25 years of technical production and project management experience in public and private land development and transportation arenas. During his career, he has been integral to the success of many complex, demanding, and high profile mapping and development projects in Colorado.

SurvWest founded in 2009, began with the mission to provide quality surveying services to a variety of industries. Today, SurvWest continues to provide surveying services nationwide and has expanded to include Subsurface Utility Engineering (SUE), utility coordination, and right-of-way services. With SurvWest offices in Denver, Colorado and Fort Worth, Texas, their experts serve clients in all built-environment industries across the US.

Deborah Snyder, PE, Leed AP is an award-winning professional with 20 years diversified civil and environmental engineering experience. She has led engineering teams in civil site engineering, public infrastructure design, utility coordination, stormwater management, and environmental remediation for local to federal agencies and private clients.



McMURDO GULCH STREAM RECLAMATION PRIORITY 2 PROJECT

SECTION 2—RESPONSE TO SCOPE OF WORK

The McMurdo Gulch scope of work requested by the Town is based on work that was previously performed by the Muller Engineering Company team. Along with this, we completely support the list of objectives identified in the RFP as they are very much in line with how we like to approach stream restoration work. Our past experience along McMurdo Gulch puts us in a great position to hit the ground running with this upcoming phase of work and our intimate knowledge of the McMurdo Gulch watershed will ensure that the Town's vision for the corridor can continue to be brought to life.

Since completing the watershed management template in 2011, we have been extremely encouraged with how committed the Town is to upholding the principles and values identified in the template document.

- Regular assessments of the stream followed by restorative efforts
- Retrofitting existing detention ponds to better control flows and water quality within the contributing basins
- Continual management of development to further control future flows and leave room for the Gulch
- Coordination with developers to seek cash-in-lieu opportunities to protect the stream
- Implementing nature-based, environmentally friendly stream improvements

The team that we have assembled is in a perfect position to continue supporting the Town's restoration and protection efforts along McMurdo Gulch, so it is our hope that we can continue to walk along side the Town to help achieve the overarching goals in the watershed.

Below are sections that discuss how we would respond to the tasks outlined for this latest scope of work:

KEY PROJECT ELEMENTS

Our team is very familiar with all of the steps required for this project. We are well aware that all aspects of a project are crucial to the success of the whole. We place a particular focus on the following tasks which are critical for delivering this project successfully:

- ✓ The first step for this project will require field reconnaissance to identify any deviations from the conditions listed in the 2016 channel assessment. This effort could, at the Town's direction, also include visits to other impaired areas identified in the channel assessment to ensure that the most critically impaired areas are being addressed with this effort.
- ✓ Next, we emphasize a very thorough field

reconnaissance of the areas identified for improvement at the conceptual level. A deep knowledge of the existing site is necessary to developing a context-sensitive solution. In addition to our team's observations and measurements, this will include new topographic survey of the improvement areas, a series of geotechnical borings to better understand the geology and groundwater level of the sites, environmental fieldwork, and SUE.

- ✓ We will perform a detailed hydraulic evaluation of both the existing and post-project stream to identify potential problem areas and implement our continually advancing set of natural channel design skills to counteract existing and potential degradation.
- ✓ Proposed improvement concepts and associated costs will be provided to the Town early and often throughout the project to ensure that Town input is being incorporated and that the design is fully supported by the Town. This will occur at regular design meetings and as part of conceptual, 30%, and final design review submittals.
- ✓ We will begin the environmental fieldwork/permitting and the floodplain analysis process early in the project development, to avoid delays at final design.
- ✓ Once the extents of the stream improvements are defined, we will determine how the regional trail and maintenance routes fit in to the improvements. CORE Consultants will assist with generating legal descriptions and exhibits for maintenance easements, as necessary, so the Town can work through the right-of-way process with the affected property owners.



McMURDO GULCH STREAM RECLAMATION PRIORITY 2 PROJECT

- ✓ All deliverables will provide thorough detail to ensure that the Town understands the design, the contractor can build the design, and so it can be effectively referenced as part of future phases. We have completed several design efforts for the Town and are very familiar with all of the products that are requested in the RFP.
- ✓ Finally, our experienced construction staff can work closely with our design staff to help inform construction erosion control and water control details and then work closely with the Town inspector and contractor to construct the improvements using environmentally sensitive techniques.

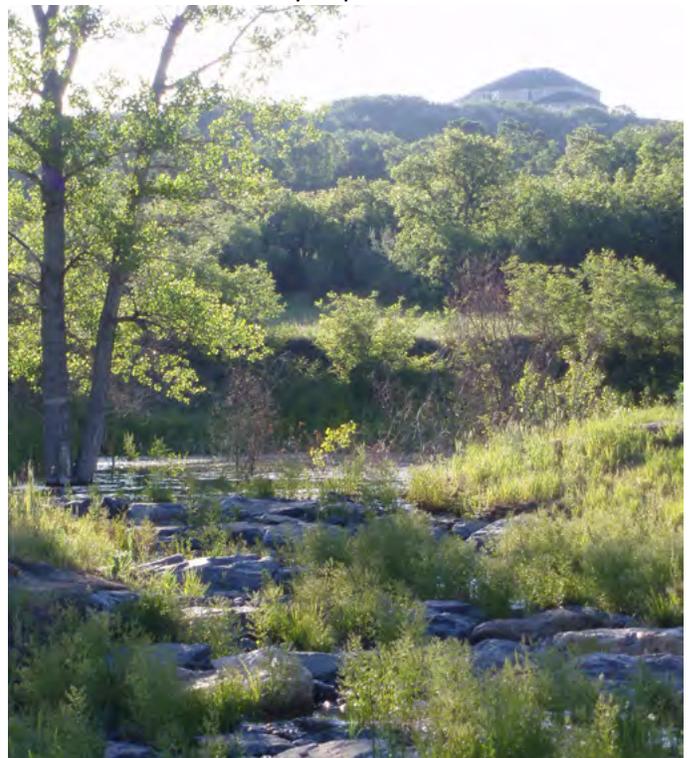
STREAM AND BANK RESTORATION DESIGN

Although we have developed a series of conceptual improvements as part of the latest stream assessment that we completed for the Town in 2016, we understand that the complexity of stream ecosystems and the dynamic nature of the channel in a developing basin demands that we examine every site in more detail. We will spend time to consider the existing site and find ways to best manage the multiple objectives of stream stability, aquatic and terrestrial habitat creation, riparian vegetation enhancement, and wetland preservation. The following are a few additional insights for the six priority improvement areas:

- Sta. 125+00 to Sta. 132+00. Bank erosion is present at this location with an incised channel leading up to an existing boulder cascade drop installed as part of the 2012 channel improvements. Bank erosion and the channel incision is a sign that the channel is looking to create a wider floodplain in this area. Channel improvements here are necessary to control bank erosion and prevent the channel from further downcutting which could compromise the integrity of the existing boulder cascade.
- Sta. 137+00 to Sta. 140+00. This area is experiencing some bank erosion along an outside bend as the channel here makes an approximate 90-degree turn. Additionally, there is a secondary overflow channel on the left overbank where a headcut has formed at the point where the overflow channel re-connects with the main channel. Channel improvements here will prevent the further bank erosion and will prevent the headcut from traveling up the secondary channel and possibly re-routing the main channel at some point in the future.
- Sta. 152+00 to Sta. 165+00. This reach of

McMurdo Gulch has been severely impaired by historic grazing in the area. There is a large headcut forming upstream of the Castle Oaks Drive bridge, vegetation along the overbanks has not recovered from the grazing and has suffered from a lowering of the water table due to downcutting. This reach will continue to down-cut and bank erosion will continue if improvements to this reach are not completed.

- Sta. 255+00 to Sta. 260+00. This area was initially identified to only require vegetative treatment to help transition the reach from upland vegetation to riparian vegetation as the basin develops and more water is running in the gulch. On a recent site visit during the Priority 1 final design effort, Muller Engineering documented an approximate 3-foot headcut forming in this reach. If left unchecked, this area will continue to down-cut, lowering the water table and further degrading the riparian vegetation along the banks of McMurdo Gulch and increasing the likelihood that bank erosion will occur.
- Tributaries 5 and 6 (Higher Priority). Culverts that route both Tributaries 5 and 6 under Castle Oaks drive have experienced severe erosion at the culvert outfalls. It is critical to protect the culvert outfalls at these locations to avoid undermining of Castle Oaks Drive, which could lead to more extensive roadway improvements.



McMURDO GULCH STREAM RECLAMATION PRIORITY 2 PROJECT

In the paragraphs below, we have detailed some of the restoration techniques that we will be thinking about as we refine the layout of each area.

Raising a Degraded Stream Invert. A fundamental concept to consider for restoring the creek – one that the Muller team has used successfully on a number of projects, including McMurdo Gulch, is to raise the channel invert back up to a prior historic elevation and reconnect the channel to the adjacent floodplain benches.

Grade Control. In order to maintain the raised channel invert discussed above, grade control will be required. For this project, a combination of riffles, boulder cascades, and if necessary, anchor drops could be considered.

Riffles/Boulder Cascades. A key element to consider for raising the invert and enhancing aquatic habitat is the implementation of low-height rock grade controls. Riffle-pool complexes are commonly found in gravel and cobble bed streams and are nature’s way of dissipating energy. They can also become “bug factories” useful for improving fish habitat. Muller is proud to have pioneered the development of boulder cascades – “Castle-cades” – with the Town as part of our first design and construction project along McMurdo Gulch. Since these first installations, we have implemented them on several other projects. On each project we learn a little more about how to design and construct them better and look forward to applying these advancements into the design during this phase of work.

Anchor Drops. Anchor drops provide a higher level of structural integrity to further protect the channel and surrounding infrastructure during large storm events. These structures make use of sheet pile or concrete cutoff walls that will span the entire length of the riparian corridor. A rigid material such as sculpted concrete or grouted boulders span the active channel, allowing for slightly higher drop heights. These structures will be used as a last resort in locations where we feel that the hydraulic forces are too large for loose rock structures.

Stream Geomorphology. A geomorphic analysis of project reach and proposed improvements will be completed. This is anticipated to include an assessment of geomorphic stream characteristics of the project reach in comparison to upstream and downstream reference reaches based on field reconnaissance and examination of current and historic aerial photography;

estimation of bankfull discharge, width, and depth; application of regime relationships between bankfull discharge and various stream parameters; determination of equilibrium slope; and if the budget supports, evaluation of sediment balance (supply versus capacity).

Bank Protection. Raising the channel invert will help to ease pressure along actively eroding banks. With the raised channel invert, larger storm flows will be able to spread out into the floodplain, thereby reducing velocities and shear stresses along banks at the outside of bends. However, these outside bends and banks in the vicinity of critical infrastructure will require stabilization. A palette of restoration concepts will be considered to lay out bank protection improvements along these areas. The palette will likely include biotechnical approaches that consist of a combination of woody and herbaceous vegetation, rock, and erosion control blanket (typically coir).



Before and after bank protection installation

Aquatic and Fish Habitat Improvements. Although it is not assumed that fish will be prevalent in this reach of McMurdo Gulch, the team will provide expertise on how to incorporate beneficial aquatic habitat elements into the restoration improvements. These elements will

McMURDO GULCH STREAM RECLAMATION PRIORITY 2 PROJECT

include the use of void-filled riprap as aquatic habitat structure, consideration of base flow depths, and placement of vegetation that will shade the creek to help reduce water temperatures and increase dissolved oxygen to improve aquatic habitat on McMurdo Gulch.

Vegetation and Plantings. Muller and Great Ecology have experience working together in and around streams and other sensitive environments. The existing project reaches are situated in a beautiful corridor with extremely valuable vegetation. The project will generally make use of the riparian benches that are adjacent to the active flow channel. As such, the project team will seek to reduce disturbance of the site during construction. Where disturbance occurs, the team will select appropriate vegetation that will help to improve stability and erosion resistance, improve native plant diversity, enhance aquatic and fish habitat, transition upland species to riparian cover in the proximity of wetter conditions, and provide long-term sustainability. Muller, and Great Ecology have successfully completed similar restoration work on numerous past projects.

Floodplain Management. We are very familiar with the current regulatory floodplain data along McMurdo Gulch and have used it as part of our past design and development review work. We will use this information to create existing and proposed conditions models in the area of the proposed improvements. If practical, the goal will be to avoid any rise in the regulatory floodplain. However, if a rise occurs as a result of designing the most appropriate improvements, Muller has extensive experience in preparing CLOMR applications to FEMA.

Environmental Permitting. Muller and Great Ecology will identify and begin communication with the appropriate permitting agencies early in the project design. Great Ecology will delineate and survey wetlands regulated by the US Army Corps of Engineers. With the natural character of the corridor and the past involvement of the CCC in this area, the existence of

threatened and endangered species as well as cultural resources may be possible – Great Ecology will also provide investigation and consultation in both of these areas. Ultimately, Great Ecology will assist in obtaining a 404 permit. It is assumed that this project may require an individual permit; however, applicable nationwide permits will be explored with the Corps and the Town prior to taking a course of action.

REGIONAL TRAIL DESIGN

The Town would like to ensure that the proposed regional trail is compatible with all applicable drainageway improvements associated with this phase of work. The Town's Trail Master Plan shows the future regional trail meandering along the majority of the McMurdo Gulch channel alignment where it eventually meets up with the Cherry Creek Regional Trail at the confluence. With the McMurdo Gulch valley as a backdrop, this trail has the potential to be one of the most beautiful trail experiences along the Colorado Front Range. Muller has intimate knowledge of the McMurdo Gulch valley and shares a vision for this beautiful open space. Muller will assist the Town to make sure that the stream reclamation project can sensibly accommodate this future regional trail.

SUBSURFACE UTILITY ENGINEERING (SUE)

Muller Engineering Company is very familiar with the requirements set forth in Senate Bill 18-167 and is committed to working with the Town to meet these requirements. Muller has teamed with SurvWest to complete the SUE in accordance with the ASCE 38-08, Standard Guideline for the Collection and Depiction of Existing Subsurface Utility Data, and Colorado Subsurface Utility Law (SB18-167). Muller and SurvWest will work closely to isolate excavation areas within the limits of construction. To minimize costs, SUE Quality Level B will be limited to only areas of excavation within the project limits and a lesser SUE quality level is anticipated outside of the excavation limits.



Cherry Creek Eco Park Splitter Drop



Cherry Creek Drop 14 from Naranjo

McMURDO GULCH STREAM RECLAMATION PRIORITY 2 PROJECT

SECTION 3—ACTION PLAN AND SCHEDULE

COMMITMENT

Our team is committed to providing the necessary staff and resources to complete project tasks for the Town of Castle Rock. Of utmost importance is our commitment to providing great service to the Town of Castle Rock – we will do what it takes to successfully accomplish the tasks that the Town entrusts us with.

Muller’s culture is to collaborate from principal to design engineer to ensure that all aspects of the project are being explored and the best ideas are on the table. Also in our culture, is our commitment to learning from each project that we do, so that we can do the next project better. With our continual advancement in natural channel design, we are excited to bring the latest technology and innovation to this project.

WILLINGNESS TO MEET CONTRACT, TIME, BUDGET, AND QUALITY REQUIREMENTS

As with all engineering projects, time, budget and quality are all important elements of the services we provide. We are committed to providing services on time, within budget, and at a level of quality to meet the Town’s expectations.

Schedule. For this contract, we will prepare a schedule to be maintained by the Muller Project Manager, John Yager. Muller Principal, Joe Juergensen, will assure that staff are available to our Project Manager, along with assisting with the administration of any subconsultant agreements and schedules required for the work. Our Project Manager is responsible for assigning work tasks to project staff and subconsultant team members in a manner consistent with the schedule’s critical path and desired milestones. Critical path items will include environmental clearances/investigations, CLOMR/LOMR reviews with FEMA, and right-of-way approval. To avoid project delays, the Project Manager will keep communications open to review agencies and project participants, so information required for decision-making is provided in advance of key dates.

We will utilize our electronic communications capabilities through e-mail and Muller’s ShareFile site to transmit information back and forth between project participants. We will provide schedule updates with monthly progress

reports. We find that we can provide services on a tight schedule because of the tenure of our staff, familiarity with project requirements, and the support of our subconsultants we work with so often. The Muller team will commit the resources necessary to meet contract schedule requirements of each individual project assignment. The Muller team will commit the resources necessary to meet contract schedule requirements of each individual project assignment.

Budget. The Project Manager will be responsible for project cost control, both for consulting fees and for construction cost control. We will keep project scope and goals in mind as project construction documents are prepared. On a monthly basis, we compute the “earned value” of Muller work efforts to date for Muller staff and each subconsultant before reviewing actual charges incurred. Then we compare the earned value to the actual costs to gain an unbiased report of project status. This allows the Project Manager to detect any design budget overrun trends early, when time remains to make corrective adjustments. It also allows us to monitor where overruns and under-runs are occurring on certain tasks and whether we can provide value-added services within the current contract budgets. In addition, **when work scope changes due to Town of Castle Rock decisions or unforeseen circumstances, Muller will advise the Town’s PM before proceeding with the out-of-scope work to allow the Town PM to evaluate the need and potential costs before the work is done.** This allows Castle Rock’s PM to determine the Town’s options to spending additional funds, using Town staff for some tasks or reconsidering the need for the work. Coming back for additional compensation after extra work is completed usually results in a bad experience for all project participants.

In addition to controlling design costs, our team will also refresh construction cost estimates early and often through the process to ensure the proposed improvements fit within the Town’s project budget. We roll out numerous projects to construction every year, so we have a great feel for the bidding climate and relevant unit costs for typical construction items. This being the case, we can ensure that our construction cost estimates are easy to follow and accurate.

Quality.

The Muller Project Manager is responsible to ensure that reports, plans, specifications, and estimates are free of errors and meet Town of Castle Rock design standards



McMURDO GULCH STREAM RECLAMATION PRIORITY 2 PROJECT

and criteria. To do this, the Project Manager will follow the Muller Quality Management Program (MQMP). This program requires a project-specific QA/QC plan, with review milestones and the type of review required



at each milestone clearly defined. Muller staff members at all levels then use this quality plan to assure that plans and reports are completed properly for Town of Castle Rock reviews. The Project Manager will also utilize the Project Principal and other senior staff to perform discipline-specific and technical reviews throughout the design process. Muller builds QA/QC review into the project schedule, employing internal QC deadlines for senior staff review prior to major submittals and milestones. After review of final design-level plans, Muller uses comment resolution forms to verify that all client comments have been incorporated into the final deliverable.

We are committed to project staff continuity, ensuring that staff members with project knowledge stay involved with the project throughout its duration. In addition, we choose subconsultants with a history of providing quality work, with long-standing relationships that add to the quality of services provided. Finally, our team will leverage their knowledge of Town of Castle Rock standards and design criteria gained through producing numerous project deliverables for Castle Rock for over 12 years.

While Muller often receives compliments from client review staff, contractors and others on the ease of interpretation and overall quality and constructability of our plans, **a true testament to our emphasis on quality is the fact that in more than 38 years of operation, Muller’s professional liability insurance has never paid a claim to a third party.** It is not the job of our clients to QA/QC our work products; rather, clients should be able to focus their review on the substance and content of the documents.

REPORTS AND PRESENTATIONS TO TOWN COUNCIL AND GENERAL PUBLIC

Public meetings were mentioned at the front end of the RFP but were not included in the scope of work section. As a result, we are assuming that meetings with the Town council or the general public are not included with this scope. If Town council or general public meetings

are necessary, this is an area where Muller excels. Muller has specialized graphics and GIS staff that regularly provide high quality graphics for presentations and meetings. In addition, the project team has extensive experience in preparing for and delivering presentations and meetings to Town Councils and the public. The combination of our quality communication skills and the functional, lower cost, and aesthetically pleasing project improvements results in these events being successful for the Town. Inclusion of such events into our project scope and fee will be at the Town’s direction.

WORK BREAKDOWN STRUCTURE AND SCHEDULE

The Town has identified three phases of work for this project as well as milestones to complete this work. The following page contains a breakdown of the tasks to be completed for each phase and the associated schedule to complete each task. Hours associated with each task are included in our fee submittal under separate cover. Muller is prepared to hit the ground running to meet this schedule.

CONSTRUCTION DRAWING LIST

Below is the anticipated sheet list to be assembled to construct the proposed improvements:

Sheet #	Construction Drawings Sheet Title
1	Title Sheet
2	General Notes and Legend
3	Site Plan
4-8	Grading Plans and Profiles (assume 5)
9-10	Culvert Outfall Plan and Profile
11	Culvert Outfall Details
12	Rifle Drop Structure Plan
13	Rifle Drop Structure Sections and Details
14	Boulder Cascade Structure Plan
15	Boulder Cascade Sections and Details
16	Bank Protection Sections and Details
17	Misc. Details
18-22	Landscape Plans
23-26	Landscape Notes and Details
27	TESC Title Sheet
28	TESC Control Notes
29-33	TESC Plans (assume 5 sheets)
34-38	TESC Details

McMURDO GULCH STREAM RECLAMATION PRIORITY 2 PROJECT

WORK BREAKDOWN STRUCTURE AND SCHEDULE

CLIENT: **Town of Castle Rock**

PROJECT: **2019 McMurdo Gulch Stream Reclamation Priority 2 Project**

Task Description	MULLER					SUB-CONSULTANTS				SCHEDULE																													
	Joe PRIN.	John P.M.	Sam P.E.	Kelsey D.E.	Matthew DRAFT.	Great Ecology	CORE	SurvWest	Kumar	2020					2021					2022																			
										Jan	Feb	Mar	April	May	June	July	Aug	Sept	Oct	Nov	Dec	Jan	Feb	Mar	April	May	June	July	Aug	Sept	Oct	Nov	Dec	Jan	Feb	Mar	April	May	
PHASE I: SURVEYING, SITE INVESTIGATION, & ALTERNATIVES ANALYSIS																																							
Site visit and data collection	X	X	X	X	X	X																																	
Reassess 2016 design concepts	X	X	X	X																																			
Prepare Alternatives Memorandum	X	X	X	X	X																																		
Site survey								X																															
Geotechnical investigation									X																														
PHASE II: PRELIMINARY DESIGN																																							
Site visit	X	X	X	X	X	X																																	
Preliminary stream improvements layout	X	X	X	X	X	X																																	
Hydraulic analysis	X	X	X	X																																			
Hydraulic Modeling	X	X	X	X																																			
Geomorphic analysis	X	X	X	X																																			
Develop preliminary planting plan	X	X	X	X	X	X																																	
Submit 30% Construction Drawings	X	X	X	X	X																																		
Submit 30% Preliminary Floodplain Work Map	X	X	X	X	X																																		
Submit 30% Opinion of Probable Cost	X	X	X	X																																			
SUE Investigation		X	X						X																														
Environmental permitting coordination		X	X			X																																	
PHASE III: FINAL DESIGN & FLOODPLAIN MODIFICATION APPROVAL																																							
Site visit	X	X	X	X																																			
Final construction drawings	X	X	X	X	X	X																																	
Final drainage memorandum	X	X	X	X																																			
TESC report		X	X	X	X				X																														
Technical specifications	X	X	X	X																																			
Final opinion of probable costs	X	X	X	X																																			
Submittal of 90% documents	X	X	X	X	X																																		
90% Review																																							
Revisions		X	X	X	X																																		
Submittal of 100% Documents		X	X	X	X																																		
404 permit submittal						X																																	
404 permit agency review																																							
CLOMR application submittal		X	X	X	X																																		
CLOMR FEMA review																																							
Legal descriptions and exhibits, if necessary								X																															
CONSTRUCTION																																							
Bidding																																							
Construction Contracting																																							
Construction																																							
Spring planting																																							

McMURDO GULCH STREAM RECLAMATION PRIORITY 2 PROJECT

SECTION 4—SUMMARY OF SIMILAR PROJECTS

Project Name	McMurdo Gulch Reclamation Plan and Stream Improvements 2010 - Present	Chatfield Storage Reallocation Project 2017 - 2019	Emergency Watershed Protection (EWP) Program - Big Thompson Flood Recovery Work 2016 - 2018	Left Hand Creek at US 36 (US 36 Lyons Structures) 2014 - 2016	West Big Dry Creek at The Links Golf Course 2016 -2017
Client Contact	Town of Castle Rock—David Van Dellen, 720-733-6029	Chatfield Reservoir Mitigation Company—Charly Hoen 970-343-2079	Big Thompson Watershed Coalition—Shayna Jones, 970-336-4122 and Tracy Wendt, 970-699-2906 CWCB—Chris Sturm, 303-866-3441 ext. 3236	CDOT Region 4—Daniel Marcucci, 303-546-565	Mile High Flood District—Barbara Chongtoua, 303-455-6277 Highlands Ranch Metropolitan District—Forrest Dykstra, 303-791-0403
Muller Staff	Project Principal—Jim Wulliman, PE Project Manager—Joe Juergensen, PE Project Engineer—John Yager, PE, CFM	Project Managers—Joe Juergensen, PE Derek Johns, PE Project Engineers—John Yager, PE, CFM Sam Rogers, PE, CFM	Project Manager—Joe Juergensen, PE Project Engineer—Spencer Wells, EI	Project Principal—Derek Johns, PE Project Manager—John Yager, PE, CFM Design Engineer—Sam Rogers, PE, CFM	Project Principal—Derek Johns, PE Project Manager—John Yager, PE, CFM Design Engineer—Sam Rogers, PE, CFM
Design-Budget/Billed	Ongoing	\$3.8 M/\$3.7 M	\$405,000/\$405,000	\$981,000/\$981,000	\$171,000/\$169,000
Project Scope	<p>A reclamation master plan for McMurdo Gulch, a major tributary to Cherry Creek in the upper watershed, was developed by Muller and has gone through multiple phases since that time. A second phase of final design is completed with construction scheduled to begin fall/winter 2019. This project has established a new directive to improve the health and water quality of Cherry Creek and its tributaries.</p> <p>At the beginning of this project, McMurdo Gulch watershed was at the onset of development with significant plans for future build-out. Development has steadily progressed with numerous residential and commercial projects. The timing of this project established a proactive approach to protect and preserve the Gulch prior to the impacts of urbanization. Stabilization measures along the three-mile reach of McMurdo Gulch include reinforcing high priority reaches along the stream that are weakest and most at risk for unraveling the stability and health of the system. Proactive implementation allowed the use of surgical bioengineered and natural channel design techniques that preserve the existing channel and vegetation in lieu of conventional solutions. Also, retrofit measures were designed in existing detention facilities to better control stormwater runoff and enhance water quality.</p>	<p>Muller completed final design and construction services and is currently completing post construction monitoring for the Chatfield Storage Reallocation project environmental mitigation in Chatfield State Park. The project involves reallocating a portion of the reservoir's flood control storage to water supply storage. The increased water supply storage entails capturing as much as 20,600 acre-feet of inflows and allowing the normal pool level to rise by up to 12-feet. Muller's role is to mitigate the impacts to riparian vegetation and habitat within the fluctuation zone along the perimeter of the reservoir and in the South Platte River and Plum Creek arms.</p> <p>Environmental mitigation includes extensive overbank grading and shaping to convert upland areas into riparian shrub and forest areas along the South Platte and Plum Creek corridors. Mitigation areas are planted with herbaceous wetlands, riparian shrubs, and trees using deep planting techniques. Mitigation improvements include restoring a severely eroded reach of Plum Creek by raising the degraded channel and restoring groundwater to levels that will sustain healthy riparian vegetation. Stream restoration improvements feature riffle structures, bioengineering bank protection, and reclamation of historic secondary channels. Eroded spillways into and out of an adjacent gravel pit lake along the South Platte River are stabilized using loose rock and boulder structures. The restoration of Willow Creek at the confluence with the South Platte is accomplished with a series of riffle-pools.</p>	<p>Muller worked with the Colorado Water Conservation Board on a series of flood recovery projects in the Big Thompson Canyon as part of the EWP Program. These projects involved design and construction of river improvements along five reaches of the Big Thompson River. The primary goal of the program was to protect life and property for private landowners along the river through grade control, bank protection, and riparian vegetative cover. The secondary goal of the program is to improve stream health and provide long-term stream resilience by incorporating natural channel design through bankfull geometry, riffle or step pool sequences, and habitat structures.</p> <p>Because this work was completed in the narrow and steep Big Thompson Canyon, all stabilization improvements must be robust enough to withstand the extreme hydraulic forces. At the same time, this canyon is known for its beauty and natural characteristics, so all engineered improvements were nature-based and cater to the environmental functions that the river provides. Variations of boulder cascades and riffle structures along with bioengineered bank protection were carefully designed to meet these objectives. Due to federal grant restrictions, this work had to be rolled out quickly. Coordination was necessary with CDOT's repairs along Highway 34, which were being constructed at the same time. This project is a good example of the Muller team's ability to move quickly, engage in extensive collaborations, and deliver a successful project.</p>	<p>One of these damaged locations was the culvert crossing of US 36 at Lefthand Creek where overtopping washed out the downstream wingwalls and created a large scour hole at the outlet end of the CBC. The undersized crossing also resulted in severe sediment deposition upstream of US 36. In this location, Muller designed a 155-foot single span bridge to increase the hydraulic capacity of the Left Hand Creek crossing and also designed channel improvements including a bankfull channel and extending the floodplain bench through the crossing and the project reach. The increased capacity of the bridge crossing, bankfull channel, and the floodplain bench will help to reduce erosive velocities through the bridge and to improve transport sediment through the crossing during flood events.</p> <p>Natural channel design techniques were used in the restoration of Lefthand Creek at this location. These techniques include creating a bankfull channel with floodplain benches, re-using natural channel bed materials found on-site to create constructed riffles and boulder cascade features. Riparian vegetation was incorporated into the channel design and is considered an important element to protect against overbank erosion. In addition to protecting the US 36 crossing from future flood events, the natural channel design elements helped to restore aquatic habitat in the creek and riparian habitat along the banks of the channel. The crossing also serves as a large mammal crossing providing safe passage for deer and elk that frequently cross US 36 at this location.</p>	<p>The Links Golf Course in Highlands Ranch had experienced severe channel degradation along the west fork of Big Dry Creek, exposing nearly 15' of vertically cut banks in some areas. With the erosion threatening golf course infrastructure, Muller designed a series of loose boulder cascade structures in concert with void-filled riprap lining set within a defined bankfull channel. The channel was aligned to limit disturbance to native vegetation and trees as well as develop scour pools at bends to help dissipate flow energy. Muller also designed retrofits for a detention pond at the downstream channel limits to help prevent sediment deposition and roadway overtopping. By raising the degraded channel invert, establishing flatter floodplain benches, and integrating a variety of plant species, the stream was transformed from an unstable canyon into a functional and aesthetic amenity for the course owners and patrons.</p> <p>Muller also led construction observation efforts which included extensive communication with contractors and golf course staff to ensure fairways and teeboxes could remain open during heavy work periods. Muller also worked with a contractor new to void-filled riprap and boulder cascade construction to ensure that channel improvements were built according to the project plans and specifications.</p>





Town of Castle Rock
Castle Rock Water Department
175 Kellogg Court
Castle Rock, CO 80109
720-733-6000

**LETTER OF INDEMNIFICATION
FOR WITHHOLDING CONFIDENTIAL INFORMATION**

Re: Request under the Colorado Open Records Act

Request for Proposal Number: SW-2020-05

Proposals submitted by consultants in response to the Town of Castle Rock's Request for Proposal are subject to the Colorado Open Records Act. Should the Town receive a request for the release of any information in the Submitter's proposal in accordance with the Open Records Law, the Town will review the Submitter's proposal, giving consideration to the portions that the Submitter indicated contained trade secrets, privileged information, or confidential commercial, financial, geological, or geophysical data, and may release only that information which has not been identified as confidential and/or proprietary in your proposal pursuant to C.R.S. 24-72-201. If in the opinion of the Town's legal counsel, the Town is nonetheless compelled to disclose any portion of such information to anyone or else stand liable for contempt or suffer censure or penalty, the Town may disclose such information without liability.

By having an authorized officer of the company sign below, Submitter agrees to the aforementioned waiver of liability and to indemnify the Town of Castle Rock for any and all attorney fees that the Town may incur in defending the withholding of such information.

Muller Engineering Company
Submitter (Vendor or Business Name)

By: James T Wallin
Signature

James T Wallin
Name (please print)

VP, Water Resources
Title

11/13/19
Date

TASK LIST AND FEE

CLIENT: **Town of Castle Rock** PROJECT NO.: PROPOSAL NO.: 919.56
 PREPARED BY: SAR/JAY DATE: 11/14/2019
 PROJECT: **2019 McMurdo Gulch Stream Reclamation Priority 2 Project** CHECKED BY: JPJ FEE: **\$299,365**

Task No.	Sheet No.	Task Description	TIME (HOURS)						EXPENSES (\$)				TOTALS			
			Joe PRIN. \$190	John P.M. \$166	Sam P.E. \$144	Kelsey D.E. \$112	Matthew DRAFT. \$100	SEC. \$72	O/C	T/L	REPRO	OTHER	(a)	(b)	(c)	(d)
PHASE I: SURVEYING, SITE INVESTIGATION, & ALTERNATIVES ANALYSIS															\$50,656	
Basic Services																
		Review of existing information/reports.		1	1	1							3	\$422	\$0	\$422
		Obtain project data and mapping from Town.		1	1			2					4	\$510	\$0	\$510
		Process survey data		1	2	4	4						11	\$1,302	\$0	\$1,302
		Site Visits (assume 1.5 days)	12	12	12	12				\$60			48	\$7,351	\$60	\$7,411
		Reassess 2016 design concepts.	4	8	8	8							28	\$4,139	\$0	\$4,139
		Update concept cost estimates	2	4	8	8							22	\$3,093	\$0	\$3,093
		Prepare Monthly Progress Reports.		2									2	\$333	\$0	\$333
		Progress meetings (assume 1)		4	4					\$30			8	\$1,240	\$30	\$1,270
																Subtotal = \$18,479
Deliverables																
		Alternatives Memorandum w/ Conceptual Level Cost Estimate	2	6	12	4					\$100		24	\$3,551	\$100	\$3,651
		Preparing Conceptual Level Plans and Profiles	2	4	8	8	8				\$100		30	\$3,892	\$100	\$3,992
																Subtotal = \$7,642
Special Services																
		Site Survey (CORE Consultants)		2	8					\$12,900			10	\$1,481	\$12,900	\$14,381
		Geotechnical Investigation (Kumar)		1	2					\$9,700			3	\$453	\$9,700	\$10,153
																Subtotal = \$24,534
PHASE II: PRELIMINARY DESIGN															\$82,434	
Project Management																
		Progress Meetings (assume 1)		4	4					\$30			8	\$1,240	\$30	\$1,270
		Prepare Monthly Progress Reports		3									3	\$499	\$0	\$499
																Subtotal = \$1,769
Stream Stabilization Design																
		Site Visits (assume 1)		6	6	6							18	\$2,533	\$0	\$2,533
		Layout of proposed channel stabilization measures	6	24	32	36	16						114	\$15,369	\$0	\$15,369
		Hydraulic analysis for proposed improvements (rock sizing and shear stresses)	2	4	4	8							18	\$2,519	\$0	\$2,519
		Hydraulic modeling (6 Reaches)	2	8	8	24							42	\$5,556	\$0	\$5,556
		Geomorphic analysis of project reach	2	4	8	8							22	\$3,093	\$0	\$3,093
		Preliminary Planting Plan		4	4	6	12						26	\$3,112	\$0	\$3,112
																Subtotal = \$32,182
Deliverables																
		30% Construction Drawings	4	8	16	20	24				\$100		72	\$9,031	\$100	\$9,131
		30% Preliminary Floodplain Work Map (Hours for this effort are included in CLOMR Task)											0	\$0	\$0	\$0
		30% Engineer's Opinion of Probable Cost	1	2	6	8							17	\$2,283	\$0	\$2,283
																Subtotal = \$11,414
Special Services																
		Subsurface Utility Engineering (SUE) (SurvWest)		2	4					\$15,000			6	\$907	\$15,000	\$15,907
		404 Permitting Coordination and Meeting with USACOE (Great Ecology)	1	6	4					\$5,660			11	\$1,763	\$5,660	\$7,423
		Preliminary Planting/Revegetation Plan (Great Ecology)	1	4	4					\$12,310			9	\$1,430	\$12,310	\$13,740
																Subtotal = \$37,070
PHASE III: FINAL DESIGN & FLOODPLAIN MODIFICATION APPROVAL															\$166,275	
Basic Services																
PROJECT MANAGEMENT																
		Prepare Monthly Progress Reports		4									4	\$666	\$0	\$666
		Progress Meetings (2)		8	8	8				\$60			24	\$3,378	\$60	\$3,438
		Site Visits (1)	6	6	6	6				\$30			24	\$3,675	\$30	\$3,705
CONSTRUCTION DRAWINGS																
1		Title Sheet		1	1	1	1						4	\$522	\$0	\$522
1		General Notes and Legend		1	2	1	1						5	\$666	\$0	\$666
1		Site Plan		1	1	2	2						6	\$734	\$0	\$734
5		Channel Plans and Profiles (assume 5)	2	8	16	16	16						58	\$7,403	\$0	\$7,403
2		Culvert Outfall Plan and Profile	1	4	8	8	8						29	\$3,701	\$0	\$3,701
1		Culvert Outfall Details		2	4	6	6						18	\$2,180	\$0	\$2,180
1		Riffle Drop Structure Plan	1	4	6	8	6						25	\$3,215	\$0	\$3,215
1		Riffle Drop Structure Sections and Details		2	4	8	6						20	\$2,404	\$0	\$2,404
1		Boulder Cascade Structure Plan	1	4	6	8	8						27	\$3,414	\$0	\$3,414
1		Boulder Cascade Sections and Details		2	4	8	8						22	\$2,604	\$0	\$2,604
1		Bank Protection Sections and Details	1	2	4	8	6						21	\$2,595	\$0	\$2,595
1		Misc. Details		4	4	8	6						22	\$2,737	\$0	\$2,737
5		Landscape Plans	1	2	2	2	8						15	\$1,834	\$0	\$1,834
4		Landscape Details		2	2	2	8						14	\$1,643	\$0	\$1,643
1		TESC Title Sheet		1	2	2	2						7	\$878	\$0	\$878
1		TESC Control Notes		2	2	2	2						8	\$1,044	\$0	\$1,044
5		TESC Plans	1	2	4	12	12						31	\$3,643	\$0	\$3,643
5		TESC Details		1	2	2	2						7	\$878	\$0	\$878
		38 Total Sheets Assumed														
REPORTS																
		Drainage Calculation Memorandum	1	4	16	6	2						29	\$4,026	\$0	\$4,026
		TESC Report		1	6	2							9	\$1,252	\$0	\$1,252
		Technical Criteria Variance Letter		4	2								6	\$953	\$0	\$953
SPECIFICATIONS																
		Technical Specifications	1	6	12								19	\$2,911	\$0	\$2,911
		Measurement and Payment	1	6	12								19	\$2,911	\$0	\$2,911
		ENGINEER'S COST OPINION AND BID SCHEDULE	2	6	12	12							32	\$4,449	\$0	\$4,449
SUBMITTALS																
		Internal Senior Review	8										8	\$1,523	\$0	\$1,523
		Submittal of 90% Documents		1	2	2	4			\$150			9	\$1,077	\$150	\$1,227
		90% Review and Revisions	2	8	8	16	16						50	\$6,255	\$0	\$6,255
		Submittal of 100% Documents		1	2	2	4			\$150			9	\$1,077	\$150	\$1,227
																Subtotal = \$76,638
Special Services																
		404 Permit Preparation (Great Ecology)		4	2					\$18,692			6	\$953	\$18,692	\$19,645
		Planting/Revegetation Consultation (Great Ecology)		4	2					\$11,897			6	\$953	\$11,897	\$12,850
		Cultural Resource Survey and Report (Great Ecology)		4	2					\$10,132			6	\$953	\$10,132	\$11,085
		CLOMR Application Submittal (6 Reaches)	20	32	48	68	32				\$100		200	\$26,853	\$100	\$26,953
		CLOMR FEMA Review Fee											0	\$0	\$6,750	\$6,750
		Address CLOMR Review Comments	8	18	24	24	16				\$100		90	\$12,255	\$100	\$12,355
																Subtotal = \$89,637
CONSTRUCTION ADMINISTRATION															\$0	
None included.																
		Total Hours	98	287	404	411	248	0					1448	-	-	-
		Fee, Billing Rate	\$18,651	\$47,757	\$57,982	\$46,164	\$24,760	\$0					-	\$195,314	-	-
		Total Expenses	-	-	-	-	-	-	\$96,291	\$210	\$800	\$6,750	-	-	\$104,051	-
		Total, Billing Rate(b+c)	-	-	-	-	-	-	-	-	-	-	-	-	-	\$299,365

- Assumptions for Scope and Fee:**
- Scope and fee assumes no legal descriptions and exhibits for easements.
 - Irrigation design services are not included.
 - The estimated level of effort to address CLOMR review comments is indicated in the fee above; this estimate will be re-assessed with the Town after comments are received.
 - All submittals include a PDF copy and 5 hardcopies.
 - Environmental permitting assumes: wetland delineation, T&E compliance, cultural resources investigation and Individual 404 Permit application.
 - Public meetings and Town Council meetings are not included in this scope and fee.
 - Site plan, TESC plan, survey, and permitting services for a potential stockpile location are not included in this scope and fee.
 - An SQT assessment as part of the 404 Permitting process is not included in this scope and fee.

November 13, 2019

JOHN YAGER

Muller Engineering
777 South Wadsworth Blvd #4-100
Lakewood, CO 80226

**Proposal to Provide Environmental Regulatory Support and Ecological Design Assistance for the
McMurdo Gulch – Priority 2 Project**

Dear Mr. Yager:

Thank you for the opportunity to present a proposal to provide environmental regulatory support and ecological design assistance for the McMurdo Gulch – Priority 2 project. In this scope we describe the tasks to support project environmental regulatory compliance and to assist with natural channel design.

PROPOSED SCOPE

PHASE I: SURVEYING, SITE INVESTIGATION, AND ALTERNATIVES ANALYSIS

TASK 1: INITIAL SITE ASSESSMENT

Under this task, Great Ecology will participate in two-full day site assessments in conjunction with Muller Engineering. The objective of the site visits will be to evaluate current conditions of the proposed five reaches along McMurdo Gulch that are the target of the Priority II improvement project. Initial assessments conducted by Muller Engineering in 2016 identified high priority areas for restoration. During the past three years since the assessment was completed, the condition of the target reaches, and other reaches may have changed. A Great Ecology staff member will attend the site walk with Muller to conduct an assessment of current conditions and identify opportunities and constraints relating to stream and riparian ecosystem functions and potential restoration.

Task 1 Deliverable:

Great Ecology will provide notes summarizing our field observations in an email format transmitted to Muller Engineering.

TASK 2: ALTERNATIVES ANALYSIS

Great Ecology will support the design team in developing channel and riparian corridor conceptual alternatives that increase ecological function, achieve a natural aesthetic, meet hydraulic and maintenance requirements, provide water quality treatment where feasible, and complement the project's other interrelated objectives. We will work iteratively by exchanging hand-drawn or CAD design ideas with the design team and will support the integration of ecological principles into the alternatives through regular communication and support. We will support development of the opinion of probable costs and assist Muller in developing ecological elements of the Alternatives Memorandum.



TASK 2 DELIVERABLES:

Task 2 deliverables include:

- Rough conceptual sketches of ecological design features and planting concepts to facilitate iterative design team collaboration:
 - Up to (3) hand-drawn plan view sketches;
 - Up to (6) hand-drawn section sketches;
 - Up to (6) hand-drawn detail sketches; and
- Conceptual-level cost estimating support for planting and ecological design elements.

TASK 3: WETLAND DELINEATION AND ECOLOGICAL SURVEYS

Under this task, Great Ecology will conduct wetland delineations at the reaches identified or confirmed under Task 1 – initial site assessment. For the purpose of this proposal, Great Ecology assumes that up to five reaches would require ecological surveys. Great Ecology would perform field-based wetland delineations to identify the location and extent of wetlands and/or waters within the project reach area in accordance with the USACE 1987 Wetland Delineation Manual and applicable Regional Supplement. We will collect data from up to six locations per reach to document the current conditions of soils, vegetation, and hydrology to characterize the location of aquatic resources and upland transitions. Great Ecology will also develop a list of plant species observed within each project reach, which will be used to inform the final planting plan.

Under this task, Great Ecology will also evaluate the project reaches for potential habitat for species protected under the Endangered Species Act (ESA) as well as for other state or locally significant natural resources or habitats. The project reaches are outside of the Riparian Conservation Zone (RCZ) and the block clearance zone for the federally listed species Preble's meadow jumping mouse (PMJM, *Zapus hudsonius preblei*). We anticipate that the project reaches may support habitat for PMJM; therefore, our habitat assessment surveys will be focused on characterizes potential habitat for this species to support development of reach specific habitat assessments for the U.S. Fish and Wildlife Service.

Lastly, under this task, Great Ecology will evaluate the plant community of each reach and develop a comprehensive list of the existing plant species to inform planting plan development. It should be noted that this evaluation is scheduled to take place outside of the growing season which will limit the completeness of the plant community assessment. There will be species present that will not be easily identifiable or missed completely due to the time of season. However, Great Ecology personnel should be able to identify the major plant types and will utilize other data sources for consideration in development of appropriate seed mixes and the planting plan. Great Ecology will also collect up to two composite soil samples per reach for soil testing analyses; the soil test results will describe the current condition of onsite topsoil and assist with development of appropriate soil amendments and treatments.

Task 3 Deliverables:

- Field report describing current ecological conditions, including species identified and soil test results for inclusion in the alternatives analysis; and
- Wetland delineation report for inclusion in the Section 404 permit application.

PHASE II: PRELIMINARY DESIGN

TASK 4: SECTION 404 PERMITTING

Wetlands and waters regulated under the Clean Water Act, would require authorization from the U.S. Army Corps of Engineers (USACE) through the Section 404 permitting process for activities that would result in dredging or filling. Under this task, Great Ecology will attend up to two onsite pre-application meetings with the USACE to determine the appropriate permitting approach for the project and/or reaches. Great Ecology will work with the USACE to determine the most appropriate permitting pathway, with the goal of identifying project actions that would fit under one or multiple Nationwide Permits (NWP). However, based on our preliminary understanding of the conditions of the project reaches and potential actions required for restoration, we anticipate that an Individual Permit (IP) may be required. Therefore, the estimated scope of work assumes that an alternatives analysis following the Section 404(b)(1) guidelines would be conducted to demonstrate that the proposed action is the most practicable and least environmentally damaging. This task includes preparation of the appropriate Section 404 permit application(s), development of a mitigation plan (if required), and coordination with the USACE. Additionally, should the USACE find that the project could fit under a NWP-27 for Aquatic Habitat Restoration, this task will include review of up to three reference reaches for development of reference criteria.

Task 4 Deliverables:

- Section 404 Permit Application; and
- One onsite meetings with the USACE.

TASK 5: ENDANGERED SPECIES ACT HABITAT ASSESSMENT

Under Task 1, Great Ecology will evaluate the project reaches for the potential to support species listed under the Endangered Species Act (ESA). Based on our understanding of the project vicinity, the project reaches may support suitable habitat for the federally listed species PMJM. McMurdo Gulch is outside of the RCZ; however, Castle Rock falls outside of the PMJM block clearance zone and is within the geographic area covered by the Douglas County Habitat Conservation Plan (DCHCP). Under this task, Great Ecology will prepare a habitat assessment (HA) for each project reach that will be included with the Section 404 permit application materials. The HA's will provide information on potentially suitable habitat within the project reach to inform the USFWS informal or formal consultation process. Should formal consultation be requested by the agencies, a Biological Assessment would be required, which is beyond this scope of work.

Task 5 Deliverables:

- ESA Species Habitat Assessments

TASK 6: CULTURAL RESOURCE SURVEY

The cultural resource studies will be completed by experienced staff from Metcalf Archaeology. Metcalf proposes to conduct a Class III pedestrian survey of the five reaches along McMurdo Gulch. The surveys would be conducted by walking the entirety of the identified reaches of McMurdo Gulch with pedestrian transects spaced no more than 20 meters apart. Field methodology and documentation will adhere to the Department of the Interior, USACE, and Colorado OAHP standards. Any cultural resources found during inventory will be recorded to professional standards, including completion of Colorado Cultural Resource Forms for archaeological sites, which are the standard documents used state-wide. Metcalf will work closely with Great Ecology and the Town of Castle Rock to meet all necessary reporting deadlines and ensure an efficient consultation process with the agencies. The results of the Class III inventory will be reported according to USACE and OAHP standards for review. Metcalf will include any edits or changes requested by all parties and send final hard and digital copies of the report and site forms.

Task 6 Deliverables

Task 6 deliverables will include:

- Cultural Resources Report
- OAHP site forms

TASK 7: PRELIMINARY DESIGN

Great Ecology will support refinement of the design alternatives into 30% construction documents. We will collaborate with Muller on ecological aspects of the design through iterative redline and written comments and provide preliminary plant recommendations. Planting and revegetation comments may address ecological function, habitat improvement opportunities, water quality treatment opportunities, erosion control, and bank stabilization. We will support development of the 30% opinion of probable costs.

TASK 7 DELIVERABLES:

Task 7 deliverables include:

- Redline and written comments on draft 30% design;
- Preliminary plant palette and seed mixes; and
- 30% design cost estimating support for planting and ecological design elements.

PHASE III: FINAL DESIGN AND FLOODPLAIN MODIFICATION APPROVAL

TASK 8: FINAL DESIGN

Great Ecology will support refinement of 30% design into final construction documents. We will collaborate with the team on ecological and aesthetic aspects throughout the design process. We will collaborate with Muller on grading and planting through iterative redline and written comments. We will support development of the 90% and 100% opinions of probable costs.

TASK 8 DELIVERABLES:

Task 8 deliverables include:

- Redline and written comments for each review submittal (90% and 100%);
- Site-specific plant palette and seed mixes;
- 90% and 100% technical specification modifications; and
- 90%, and 100% cost estimating support for planting and ecological design elements.

TASK 9: MEETINGS

Under this task, Great Ecology will attend up to three meetings with the Town of Castle Rock and the design team, and up to two additional meetings with the design team. During the project meetings, Great Ecology will provide updates on permitting and regulatory consultation and anticipated timelines and will contribute to discussions of the project design throughout the planning and development process.

COST ESTIMATE

The estimated total cost of this effort is a not-to-exceed \$58,691 on a time and materials basis. If the actual cost of the work reaches the estimated cost or if the scope of work changes, we will immediately inform you to request authorization to proceed. Great Ecology bills monthly and will initiate work immediately upon written authorization to proceed.

TABLE 1 summarizes the estimated costs associated with Phase I, II, and III.

TABLE 1: ESTIMATED TOTAL COST

Task	Description	Labor Hours	Cost (\$)
Phase I: Surveying, Site Assessment, and Alternatives Analysis			
Task 1	Initial Site Assessment	26	4,056
Task 2	Alternatives Analysis	18	2,808
Task 3	Wetland Delineation and Ecological Surveys	39	4,870
	Phase I Direct Expenses		860
	<i>Phase I Subtotal</i>	83	12,594
Phase II: Preliminary Design			
Task 4	Section 404 Permitting	101	12,755
Task 5	Endangered Species Act Habitat Assessment	45	5,897
Task 6	Cultural Resource Survey	112	10,132
Task 8	Conceptual/Preliminary Design	37	5,376
	Phase II Direct Expenses		40
	<i>Phase II Subtotal</i>	295	34,200
Phase III:			
Task 9	Final Design	28	4,194
Task 10	Meetings and Coordination	50	7,500
	Phase III Direct Expenses		203
	<i>Phase III Subtotal</i>	78	11,897
	Subtotal Direct Expenses		1,103
	Subtotal Labor		57,588
	Total		58,691

Additional services requested outside of, or in addition to, the described scope of work will be billed at the following rates depending on personnel required to perform the requested service. Any additional work will be requested in writing and have official notice to proceed before Great Ecology will perform the requested work.

Position Title	Hourly Rate
Senior Managing Ecologist	\$156
Senior Landscape Architect	\$156
Associate Ecologist	\$131
Ecologist	\$119

Sincerely,



Joshua D. Eldridge, MS
Mountain Regional Director

From: [Tom Girard](#)
To: [John A. Yager](#); [Lorna L. Dominguez](#)
Cc: [Sam A. Rogers](#)
Subject: RE: McMurdo Gulch Priority 2 RFP Final Design Survey Fee Estimate
Date: Wednesday, November 13, 2019 2:51:31 PM
Attachments: [image004.png](#)
[image005.png](#)
[image003.png](#)

Hi John,

For all (5) sites of varying size, based on the attached scope of (9) tasks for each site, I'm at **\$12,900**.

Breakdown:

Alphabetically from south to north, I named them A through E.

A & B – small, one day of field crew, one day of office processing, some of my time = 2460

C – 2.34 Ac. site, one long day in the field, one day in the office processing, some of my time = 2600

D – 15 acres, large, mostly wide open, 2-days in the field, 2 days in the office, my time, = 3900

E – 19.7 acres, complex with bridge and open areas, 2 days in the field, 2 days in the office, my time = 3900

\$12,860 – rounded up to **\$12,900**

Thank you,

Thomas M. Girard, PLS

Survey Manager

Associate

M 303.829.9005

O 303.730.5976



1950 W Littleton Blvd Suite 109
Littleton CO 80120
303.703.4444
CoreCivil.com

From: John A. Yager <JYager@mullereng.com>
Sent: Wednesday, November 13, 2019 1:33 PM
To: Tom Girard <girard@corecivil.com>; Lorna L. Dominguez <L Dominguez@mullereng.com>
Cc: Sam A. Rogers <srogers@MULLERENG.COM>
Subject: RE: McMurdo Gulch Priority 2 RFP Final Design Survey Fee Estimate

Hi Tom,

I wanted to check in on the status of your fee for the Priority 2 McMurdo Gulch work. Are you still on track to have this fee ready by the end of the day?

Please let me know if you have any questions.

I know this is a rush so thanks for all of your efforts in advance!

John A. Yager, PE, CFM

303.988.4939 (office) • 303.919.0048 (cell) • jyager@mullereng.com

From: Tom Girard <girard@corecivil.com>

Sent: Friday, November 08, 2019 11:23 AM

To: Lorna L. Dominguez <LDominguez@mullereng.com>; John A. Yager <JYager@mullereng.com>

Cc: Sam A. Rogers <srogers@MULLERENG.COM>

Subject: RE: McMurdo Gulch Priority 2 RFP Final Design Survey Fee Estimate

Prefect, I'll get after it.

Thanks Lorna and John!

Thank you,

Thomas M. Girard, PLS

Survey Manager

Associate

M 303.829.9005

O 303.730.5976



1950 W Littleton Blvd Suite 109
Littleton CO 80120
303.703.4444
CoreCivil.com

From: Lorna L. Dominguez <LDominguez@mullereng.com>

Sent: Friday, November 8, 2019 11:22 AM

To: Tom Girard <girard@corecivil.com>; John A. Yager <JYager@mullereng.com>

Cc: Sam A. Rogers <srogers@MULLERENG.COM>

Subject: RE: McMurdo Gulch Priority 2 RFP Final Design Survey Fee Estimate

Hi Tom,

Yes – a 1 page project lead resume, a one paragraph firm bio, and a couple sentences to add about your project lead that will go right under your firm bio. Your resume will go in the appendix.

Thanks!

Lorna Dominguez

MULLER *Engineering Company*

303.988.4939 x276 • 720.254.8005 (cell) • ldominguez@mullereng.com

From: Tom Girard <girard@corecivil.com>

Sent: Friday, November 8, 2019 11:17 AM
To: John A. Yager <JYager@mullereng.com>
Cc: Sam A. Rogers <srogers@MULLERENG.COM>; Lorna L. Dominguez <LDominguez@mullereng.com>
Subject: RE: McMurdo Gulch Priority 2 RFP Final Design Survey Fee Estimate

Hi John and Lorna,
To confirm, you would like a word.doc 1-page Project Lead resume including some bulleted project experience, together with a separate word.doc paragraph-length company Bio.
Is that correct?

I ask only because I saw this note in your Great Ecology example:
.....We also need a brief bio about you that is about this length. Again, please edit. I just copied the first two lines of your resume.

Would you please confirm?
If you need it then I can certainly provide a similarly brief, 3 sentence Bio, like Esa Crumb's.

Thank you,

Thomas M. Girard, PLS
Survey Manager
Associate
M 303.829.9005
O 303.730.5976



1950 W Littleton Blvd Suite 109
Littleton CO 80120
303.703.4444
CoreCivil.com

From: John A. Yager <JYager@mullereng.com>
Sent: Friday, November 8, 2019 10:22 AM
To: Tom Girard <girard@corecivil.com>
Cc: Sam A. Rogers <srogers@MULLERENG.COM>; Lorna L. Dominguez <LDominguez@mullereng.com>
Subject: RE: McMurdo Gulch Priority 2 RFP Final Design Survey Fee Estimate

Hi Tom,

For resumes, we are limited on pages in the RFP so we will only need a 1-page resume for the project lead (assuming this would be you) with some relevant project experience. As for the bio, this is a small paragraph describing your company experience with this type of work and a small statement about the project lead, see below as an example from another sub-consultant.

Great Ecology, Inc., founded in 2001, is a national ecological consulting firm specializing in the planning, design, permitting, restoration, and monitoring of riparian and upland habitats in Colorado and the mountain West. Great Ecology layers in an ecological approach to all our projects wherein ecology is the driver and basis for creating resilient and sustainable landscapes for the communities where we work. Our projects in Colorado and the Front Range are extensive—our work includes developing and implementing a functional analysis of vegetation types, landscape typology, in several Front Range municipalities; developing innovative soil amendment solutions that help create high functioning, low maintenance plant communities; and ecological redesign of several urban waterways to remove homes and businesses from the floodplain.

We also need a brief bio about you that is about this length. Again, please edit. I just copied the first two lines of your resume.

Esa Crumb is an ecologist with over ten years of experience in the fields of wetland and plant ecology, restoration planning, and environmental permitting. Esa is well-versed in the intricacies of Clean Water Act Section 404 permitting, Endangered Species Act consultation, and natural resource assessments. Thank you!

I hope this helps. Please let us know if you have any questions and thanks for getting on this so quickly!

John A. Yager, PE, CFM

303.988.4939 (office) • 303.919.0048 (cell) • jyager@mullereng.com

From: Tom Girard <girard@corecivil.com>

Sent: Friday, November 08, 2019 10:17 AM

To: John A. Yager <JYager@mullereng.com>

Cc: Sam A. Rogers <srogers@MULLERENG.COM>; Lorna L. Dominguez <LDominguez@mullereng.com>

Subject: RE: McMurdo Gulch Priority 2 RFP Final Design Survey Fee Estimate

Hi John and Lorna,

As far as company bio and resumes, I'd like to know as soon as possible to give our marketing staff time to assemble what they need.

The staff from Survey would really just be me, a field crew and one project surveyor.

Company Bio is no issue, just need to know limits on length for each, i.e. number of pages/paragraphs.

Thank you,

Thomas M. Girard, PLS

Survey Manager

Associate

M 303.829.9005

O 303.730.5976



1950 W Littleton Blvd Suite 109
Littleton CO 80120
303.703.4444
CoreCivil.com

From: John A. Yager <JYager@mullereng.com>
Sent: Friday, November 8, 2019 10:10 AM
To: Tom Girard <girard@corecivil.com>
Cc: Sam A. Rogers <srogers@MULLERENG.COM>; Lorna L. Dominguez <LDominguez@mullereng.com>
Subject: RE: McMurdo Gulch Priority 2 RFP Final Design Survey Fee Estimate

Hi Tom,

If it helps, I also made PDF's of the Google Earth Areas zoomed in. The file size is large so I placed in on ShareFile and they can be downloaded at your convenience from the link below.

Let me know if you need anything else.

<https://mullereng.sharefile.com/d-sd7007f3e9174975a>

Thanks,

John A. Yager, PE, CFM

303.988.4939 (office) • 303.919.0048 (cell) • jyager@mullereng.com

From: John A. Yager
Sent: Thursday, November 07, 2019 2:06 PM
To: Tom Girard <girard@corecivil.com>
Cc: Sam Rogers (srogers@mullereng.com) <srogers@mullereng.com>; Lorna L. Dominguez <ldominguez@mullereng.com>
Subject: McMurdo Gulch Priority 2 RFP Final Design Survey Fee Estimate

Hi Tom,

As I mentioned in my previous e-mail, we are submitting a proposal for channel design work along portions of McMurdo Gulch near Castle Rock, and we would like to team with you for the survey effort. As this is a proposal effort we will need a resume and company bio in addition to the scope and fee to include with our proposal. I have copied Lorna, our proposal lead, on this e-mail and she will follow up with more details on what is needed as far as the company bio and resumes. Please let us know if there is someone in your office that you would like Lorna to coordinate with for this information. As for the scope and fee for the survey effort, I have created a list of the items we would like to be included in the survey effort to help with your fee.

The proposal is being submitted next week on Thursday, November 14th, and if possible we would

th

like to have your scope and fee by next Tuesday November 12 . Attached is an aerial image from the RFP showing the general areas where we need survey. I also attached a google earth KMZ file that show the approximate limits of survey a the 4 areas marked for improvement along McMurdo Gulch. Timing for the survey, if we win the project, will be in January 2020 or as soon as possible after we receive the NTP from the Town of Castle Rock.

Below is a breakdown of the specific topographic elements we would like you to obtain for each site:

1. Set a minimum of 2 temporary control points at each of the sites that can be used during construction.
2. Any above ground utilities. **Underground utility locating shall not be a part of this scope.**
3. Ground and channel features such as stream inverts, edge of water, tops and toes of slope, waterfall/headcut features in the channel, eroded channel banks, existing structures, trails, fences, riprap, and shrub/vegetation delineations.
4. Pipe sizes, shapes, invert in and out elevations, and material types for the 2 culverts that pass under Castle Oaks Drive at the southern tributary site.
5. Shots along the crown of road and curb and gutter within the survey limits at Castle Oaks Drive at both the southern and northern sites.
6. Bridge survey under Castle Oaks Drive at the northern site including low-girder elevations, piers, wingwalls, top of deck, railing, roadway centerline, and cross sections at the upstream and downstream face of the bridge.
7. Diameter and location of all trees greater than 6" dia within the project limits.
8. Provide survey control points and/or benchmark information used to create the topographic survey.
9. Provide a complete AutoCAD 2018 (or later) file containing points, planimetrics, utilities, 1' contours, and surface files.

Let me know if you have any questions or if you have concerns with the proposed scope.

Thanks in advance,

John A. Yager, PE, CFM

Water Resources Project Manager

MULLER Engineering Company

777 S. Wadsworth Blvd. • Suite 4-100 • Lakewood, CO 80226

303.988.4939 (office) • 303.919.0048 (cell) • jyager@mullereng.com

An Employee Owned Company

Office Locations: Denver (HQ), Parker, Colorado Springs, Fort Collins, Glenwood Springs, and Summit County, Colorado

November 12, 2019

Muller Engineering Company
Attn: John A. Yager, PE, CFM
777 South Wadsworth Boulevard
Suite 4-100
Lakewood, Colorado 80226

JYager@mullereng.com



Subject: Proposal for Geotechnical Engineering Study, McMurdo Gulch Stream Reclamation
Priority 2 Project, Castle Rock, Colorado.

Proposal No. C19-313

Dear Mr. Yager:

Kumar & Associates, Inc., is pleased to submit this proposal for the subject project. It is our understanding that the improvements will be made in order to stabilize the channel and protect the adjacent property and infrastructure. We have assumed that an all-terrain rig would be required to access this project area.

Scope of Work: Based on the information provided, we propose the following:

1. Drill a total of 10 exploratory borings within the project area along the alignment of the channel at or near the proposed drop structures. The borings are anticipated to extend about 10 to 20 feet deep but if practical auger drilling refusal is encountered, the boring depths may be less. The final depth of the borings will be determined in the field as drilling progresses and as the subsurface profile becomes evident. The borings will be made to provide information on the subsurface profile, to obtain samples for laboratory testing, and to estimate the groundwater level and depth to bedrock, if encountered within the drilled depth. The groundwater level will be checked after drilling, and the borings will then be backfilled.

We will coordinate with the Utility Notification Center of Colorado to locate buried utilities prior to drilling. Utilities cleared through this service will not include privately owned on-site utility lines. The property owner should identify any privately-owned underground utilities that may be present within the project area and notify us of the locations prior to drilling. We will not be responsible for damage to utility lines that are not properly identified.

We will submit the necessary permit applications to the Town. The fee presented herein assumes no-cost permits.

2. Conduct a laboratory testing program on selected samples obtained from the borings to determine:
 - Moisture content,
 - Density of undisturbed fine-grained samples,
 - Gradation characteristics,
 - Atterberg limits,
 - Swell-consolidation of fine-grained samples (if appropriate), and
 - Water soluble sulfate concentrations.

3. Analyze the data obtained from the field and laboratory portions of the study to provide engineering recommendations for:
 - Subgrade preparation measures including swell mitigation, and stabilization requirements of soft/saturated areas, if applicable,
 - Foundation type or types, depths and allowable bearing pressures,
 - Lateral earth pressures for retaining walls,
 - Backfill soil type and degree of compaction,
 - Mitigation of sulfate attack, if any, on concrete,
 - Foundation construction criteria,
 - Seismic Site Class designation in accordance with Chapter 16 of IBC 2015,
 - Excavation and dewatering considerations.
4. Prepare a report summarizing the site exploration data and laboratory test results and providing our conclusions and recommendations. The field work and report preparation will be supervised by a registered professional engineer.

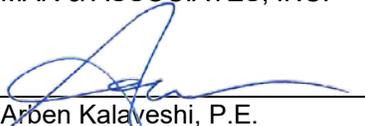
Fee: We propose to perform the above-described scope of work for a lump sum fee of **\$9,700** in accordance with the Terms and Conditions on the reverse side of the attached Fee Schedule. Please note the Terms and Conditions contain a limitation of Kumar & Associates, Inc.'s, liability. Modifications to the scope of work, if required, and associated fees will be discussed with you and approval obtained prior to exceeding the above lump sum fee.

Schedule: We propose to initiate the study immediately upon being given notice to proceed. The field work will be completed within 2 to 3 weeks of notice to proceed, and a final report will be available within 2 to 3 weeks after completion of the field program. Specific times may vary somewhat if weather conditions or other conditions beyond our control prevent access. In any event, we will notify you of our progress and any available information.

Please call if you have any questions about the scope of work. If this proposal meets your approval, please sign one copy and return it to this office. Thank you for considering us for the study of this project.

Sincerely,

KUMAR & ASSOCIATES, INC.

By 
Arben Kalaveshi, P.E.

AFK:bj
Rev: DPC
Attachment

Agreed to this _____ day of _____, 2019.

Organization

By _____
Printed Name



ENGINEERING, ENVIRONMENTAL AND FIELD TECHNICAL SERVICES

Principal Engineer	\$165.00 - \$200.00/hr.
Senior Project Engineer/Geologist/Manager	\$105.00 - \$145.00/hr.
Project Engineer/Geologist/Scientist	\$90.00 - \$120.00/hr.
Staff Engineer/Geologist/Scientist	\$75.00 - \$90.00/hr.
Project Supervisor	\$80.00 - \$125.00/hr.
Construction Inspector I	\$65.00 - \$75.00/hr.
Construction Inspector II	\$75.00 - \$90.00/hr.
Environmental Specialist/Scientist	\$90.00 - \$135.00/hr.
Environmental Field Technician/Geologist	\$70.00 - \$80.00/hr.
Safety Professional	\$110.00 - \$125.00/hr.
Project Administrator	\$100.00 - \$120.00/hr.
Staff Administrator	\$70.00 - \$80.00/hr.
Exploration Field Engineer/Technician/Geologist	\$55.00 - \$75.00/hr.
Construction Materials Testing Technicians:	
▪ Field Observation	\$65.00 - \$75.00/hr.
▪ Concrete	\$45.00 - \$55.00/hr.
▪ Soils, Reinforcing Steel, Asphalt	\$47.00 - \$57.00/hr.
▪ Piers, Masonry	\$55.00 - \$65.00/hr.
▪ Fireproofing	\$70.00 - \$80.00/hr.
▪ Structural Steel	\$70.00 - \$90.00/hr.
▪ Post-Tensioning	\$50.00 - \$60.00/hr.
▪ Floor Flatness	\$70.00 - \$80.00/hr.
Word Processing	\$45.00 - \$55.00/hr.
Drafting	\$65.00 - \$85.00/hr.
Laboratory Technician	\$45.00 - \$55.00/hr.
Litigation/Expert Witness/Deposition	\$175.00 - \$350.00/hr.

OTHER DIRECT CHARGES

Auto or Pickup Mileage	\$0.75/mile
Out of Town Expenses, Travel, Rental Etc.	Cost + 15%
Expedited Laboratory Services: 1.35 x Test Price (See No. 16 on Reverse Side)	

SUBSURFACE EXPLORATION, SAMPLING, MONITORING WELL INSTALLATION

Exploration Subcontractor Subconsultant's (4-Inch Solid Auger, Hollow Stem Auger, Rotary and Diamond Core Drilling, Exploratory Pit Excavation, ATV Drill Rig, Geophysical Exploration, Specialty Sampling, etc.)	Cost + 15%
Materials/Equipment Rental/Outsourced Laboratory Testing/Subconsultants	Cost + 15%
Falling Weight Deflectometer (Includes Operator)	\$200.00/hr.
Concrete/Asphalt Coring	\$75.00/hr.
Photoionization Detector	\$100.00/Day
LEL/CO/H ₂ S/O ₂ Meter	\$100.00/Day
Conductivity, Temperature, pH Tester	\$25.00/Day
Personal Protective Equipment	Rates Quoted on Project Basis

LABORATORY TESTING

<u>Soils</u>	
Moisture Content (ASTM D2216)	\$10.00 ea.
Moisture Content & Density (ASTM D2216)	\$15.00 ea.
Gradation (ASTM D6913)	\$80.00 ea.
Hydrometer (ASTM D7928)	\$85.00 ea.
Double Hydrometer (ASTM D4221)	\$225.00 ea.
Percent Less than #200 Sieve (ASTM D1140)	\$30.00 ea.
Atterberg Limits (ASTM D4318) Method A	\$75.00 ea.
Atterberg Limits (ASTM D4318) Method B	\$50.00 ea.
Standard Proctor (ASTM D698)	\$95.00 ea.
Modified Proctor (ASTM D1557)	\$110.00 ea.
Soil/Cement Proctor (ASTM D558)	\$135.00 ea.
Proctor Checkpoint (ASTM D698 or ASTM D1557)	\$50.00 ea.
Relative Density (ASTM D4253 and ASTM D4254)	\$175.00 ea.
Specific Gravity (ASTM D854)	\$75.00 ea.
Standard Swell-Consolidation (ASTM D4546)	\$70.00 ea.
Air-Dried Swell-Consolidation (ASTM D4546)	\$80.00 ea.
Remolded Swell-Consolidation (ASTM D4546)	\$100.00 ea.
Unconfined Compressive Strength (ASTM D2166)	\$60.00 ea.
Slake Durability (ASTM D4644)	\$100.00 ea.
Pinhole Dispersion (ASTM D4647)	\$150.00 ea.
Water Soluble Sulfates (AASHTO T290, CP-L 2103)	\$50.00 ea.
pH (ASTM E70)	\$40.00 ea.
Chloride (AASHTO T291, CP-L 2104)	\$50.00 ea.
Electrical Resistivity (ASTM G57)	\$150.00 ea.
Organics (AASHTO T267)	\$60.00 ea.
R-Value (ASTM D2844)	\$350.00 ea.
California Bearing Ratio (ASTM D1883) 1-Pt.	\$150.00 ea.
California Bearing Ratio (ASTM D1883) 3-Pt.	\$400.00 ea.
Soil/Lime, Soil/Cement Mix Analysis (Standard 3-Point Mix Analysis; Cost May Vary Depending On Specification Requirements)	\$2,000.00 ea.
Freeze/Thaw (ASTM D560)	\$350.00 ea.
Wet/Dry (ASTM D559)	\$350.00 ea.
Compressive Strength of Soil-Cement (ASTM D1633)	\$60.00 ea.
Direct Shear/per point (ASTM D3080)	
Unconsolidated-Undrained (Quick Test)	\$150.00 ea.
Residual Strength, Additional Per Carriage Reversal	\$50.00 ea.
Drained Tests Quoted on Project-Specific Basis	
Soil Suction (ASTM D6836 Method D)	\$50.00 ea.

Miscellaneous

Sample Preparation	\$50.00/hr.
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TERMS AND CONDITIONS
(Geotechnical and Environmental Engineering)

1. Invoices are due and payable upon presentation. Unpaid balance after 30 days shall be subject to a finance rate of 1.5% per month which is an annual rate of 18.00%. Client agrees to pay interest, all costs of collections, including attorney's fee and court costs.
2. Kumar & Associates, Inc., including officers, directors, owners, employees and agents, (Hereinafter referred to as Kumar) represents that the work will be performed with the care and skill ordinarily exercised by the members of the profession practicing in the locality where services were rendered under similar circumstances. NO WARRANTY, EXPRESSED OR IMPLIED, IS MADE BY THE RENDERING OF CONSULTING SERVICES.
3. Inherent in our dealings with clients is the confidentiality of all work performed for any client. All reports are submitted for the exclusive use of the client for whom it is addressed.
4. The significance of the report is subject to the adequacy and representative character of the samples tested as indicated in the report and the comprehensiveness of the tests and observations. Quotation from our reports or use of Kumar's name is not permitted except as authorized in writing by Kumar.
5. Kumar will take normal precautions during site exploration to avoid damage to underground pipes, wires or other objects, including utilizing utility location services. Due to limitations on locating such underground objects, particularly private service utilities, Kumar does not accept responsibility for damage to utilities or other underground objects. Client agrees to indemnify and hold Kumar harmless for any and all damage to underground utilities and structures. Cost of restoration, repairs or damage which results from field operations will be the client's responsibility.
6. This agreement may be terminated by either party upon ten (10) days written notice in the event of substantial failure to perform in accordance with the terms of this Agreement by the other party through no fault of the termination party. If this agreement is terminated during the performance of services, Kumar shall be paid for the total amount of any work which has been completed, and shall be paid for work in progress on the basis of Kumar's reasonable estimate of the portion completed prior to termination. Such payment shall constitute total payment for services rendered. Clauses 1, 2, 3 and 8 through 14 shall survive the termination of contract.
7. Unless otherwise stated, Kumar will have access to the site for activities necessary for the performance of the services. Kumar will take precautions to minimize damage due to these activities, but have not included in the fee the cost of restoration of any resulting damage.
8. Any claims or disputes made during design, construction or post-construction between the Client and Kumar shall be submitted to non-binding mediation for a period of 30 days. If the disputes are not resolved in 30 days, the matter may be submitted to arbitration or litigated in the court of law, as solely determined by Kumar.
9. The Client, shall, to the fullest extent permitted by law, indemnify and hold harmless Kumar's officers, directors, owners, employees, agents and subconsultant's from and against all damage, liability and cost, including reasonable attorney's fees and defense costs arising out of or in any way connected with the performance by any of the parties above named of the services under this agreement, except only those damages, liabilities or costs attributable to the sole negligence or willful misconduct of Kumar.
10. Kumar shall not be required to execute any documentation that would result in their certifying, guaranteeing or warranting the existence of conditions whose existence Kumar cannot ascertain.
11. **In recognition of the relative risks, rewards and benefits of the project to both the client and Kumar, the risks have been allocated such that the Client agrees that, to the fullest extent permitted by law, Kumar's liability, and the liability of its past and present officers, and employees, to the Client for any and all injuries, claims, losses, expenses, damages or claim expenses arising out of or relating to this agreement from any cause or causes, shall not exceed \$50,000 or Kumar's fee, whichever is greater. Such causes include, but are not limited to Kumar's negligence, errors, omissions, strict liability, breach of contract or breach of warranty. The limitation of liability of this provision shall apply to any other party who may rely on Kumar's work pursuant to this agreement.**
12. All documents produced by Kumar under this agreement shall remain the property of Kumar and may not be used by the Client for any other endeavor without the written consent of Kumar & Associates.
13. For geotechnical studies and observations and materials testing, Kumar assumes there are no hazardous materials on the project site, unless otherwise informed. Hazardous materials may exist at a site where there is no reason to believe they could or should be present. Kumar and Client agree that the discovery of unanticipated hazardous materials constitutes a changed condition mandating a renegotiation of the scope of work or termination of services. Kumar and Client also agree that the discovery of unanticipated hazardous materials may make it necessary for Kumar to take immediate measures to protect health and safety. Client agrees to compensate Kumar for extra work. Client also recognizes there is a risk that sampling through an unknown contaminated zone may result in spread of contamination and in turn spreading hazardous materials off-site. Client recognizes nothing can be done to prevent such an occurrence because such sampling is a necessary aspect of the work which Kumar will perform for Client's benefit. Client waives any claim against Kumar and agrees to defend, indemnify and save Kumar harmless from any claim or liability for injury or loss of any type arising from Kumar's discovery of unanticipated hazardous materials on site.
14. The Client agrees that Kumar has neither created nor contributed to the creation or existence of any hazardous substances at the site. Accordingly, Client agrees to indemnify Kumar against any injury or loss sustained by any party allegedly arising out of or related to Kumar's performance of services stated in this proposal.
15. Rates are subject to change **30 days** from proposal date.
16. Laboratory services are considered expedited when new testing is assigned a higher priority than other testing programs in progress.