Ivins City Staff Report
City Council Meeting 7/7/16

Agenda Item: Approval of work agreement with Washington County for NRCS Emergency Watershed Protection funding for the Kayenta Debris Basin project and approval of expenditure for engineering services

Submitted by: Thomas Jorgensen, P.E., Assistant Public Works Director

Recommended City Council Action:
Approve work agreement with Washington County for NRCS Emergency Watershed Protection funding and approve expenditure for engineering services to construct Kayenta Debris Basin not to exceed the NRCS funding limit of $90,625.

BACKGROUND:
In 2014, two major storm events caused severe flooding in the Coyote Gulch Wash, resulting in major property damage. Ivins City requested assistance and has received Emergency Watershed Program (EWP) funding from the Natural Resources Conservation Service (NRCS) to construct a debris basin on the Coyote Gulch Wash. The project would consist of one large or two smaller basins to help alleviate future flooding within this drainage basin.

The NRCS will reimburse 100% of technical and administrative costs associated with project design and development of construction drawings up to $90,625 and will reimburse 75% of total construction costs up to $937,500. Ivins City must pay for the remaining 25% of construction costs, however, it may be possible to obtain donations such as rock material that may count as the City match to reduce actual cash contributions. The NRCS has requested that Washington County act as an intermediary to deliver funding to Ivins City. Washington County has therefore signed the agreement with the NRCS for the project and the County requires Ivins City to sign the attached work agreement to pass through the responsibilities of the contract.

Staff has submitted a request for proposals (RFP) for engineering services to prepare the design. Additional details are identified in the attached RFP.

FINDINGS AND ANALYSIS:
Staff has reviewed the work agreement and recommends that the agreement be approved. Staff has also received proposals from engineering companies. The selection process was based on qualifications, with scoring based on criteria identified in the RFP. The rankings are summarized below:

	NRCS Kayenta Debris Basin Ranking
Jones & DeMille Engineering	1
Bowen Collins & Associates	2
Alpha Engineering	3
Entellus	4
Wilson & Company	5

Staff has evaluated the proposals and determined Jones & DeMille Engineering (J&DE) to be the most qualified. Staff is currently in negotiations with J&DE regarding scope and compensation. If terms between staff and the consultant cannot be agreed upon, we may recommend moving forward with negotiations with the consultant with the second highest qualification. Details regarding negotiated scope and compensation will be provided to Council for review before Council Meeting.

SUPPORT MATERIALS:

- Work Agreement between Washington County and Ivins City
- Request for Proposals
- Jones and DeMille Engineering Proposal

FINANCIAL IMPACT:

The expense has been budgeted.
GL 53-42-878: Not to exceed $90,625 (100% of this expense to be reimbursed by NRCS funding)

Respectfully Submitted:

Thomas Jorgensen, P.E., Assistant Public Works Director

Content Review:

Dale Coulam, City Manager

STATEMENT OF WORK AGREEMENT

BETWEEN
WASHINGTON COUNTY
AND
IVINS CITY

PROJECT: Washington County, Utah, Emergency Watershed Protection ("EWP") FY16 Project #5102 Ivins. Locally Led with Technical and Financial Assistance

This Agreement is entered into by and between Washington County, Utah, hereinafter referred to as the "Sponsor", and Ivins City, hereinafter referred to as "City".

I. PURPOSE

The purpose of this Agreement is to provide financial and/or technical assistance to implement recovery measures that, if left undone, pose a risk to life and/or property.

II. AUTHORITY

Under the provisions of Section 216 of Public Law 81-516, Emergency Watershed Protection Program, and Title IV of the Agricultural Credit Act of 1978, Public Law 95-334, Natural Resources Conservation Service (NRCS) is authorized to assist the Sponsor in relieving hazards created by natural disasters that cause a sudden impairment of a watershed.

III. OBJECTIVES

The objective of this Agreement is to remove watershed impairments caused by the previous storm events (as described in the Damage Survey Reports) that are creating a serious threat to life and property through a locally awarded and administered construction contract. The design and installation of EWP measures are detailed in the individual Damage Survey Report (DSRs) and listed below:

Damage Survey Report (DSR) No.	Description	Estimated Construction Cost
	Ivins	$1,424,620
Total Estimated Construction Cost		$1,424,620

A. The individual Damage Survey Report(s) ("DSR") is established through discussions between the Sponsor, City and NRCS. It defines the site(s), work to be completed, and estimated construction costs for this project.

B. It is agreed that the total estimated construction costs are: $1,250,000. Based on this estimate:

1. Sponsor will contribute Financial Assistance Funds ("FA") in the amount of $937,500 (up to 75 percent of total construction costs) as reimbursement to the City for approved on-the-ground construction costs. Construction costs are associated with the installation of the project measures including labor, equipment, and materials.

2. Sponsor will contribute Technical Assistance Funds ("TA") in the amount of $90,625 (up to 7.25 percent of total construction costs) as reimbursement for technical and administrative costs directly charged to the Project. Technical and administrative costs are associated with project design and development of construction drawings and specifications; soliciting, evaluating, awarding and administering a contract, including verifying invoices and record keeping; development of operations and maintenance plans; development and implementation of quality assurance and inspection plans. While Sponsor can reimburse 100 percent of these costs (no City required cost share) up to 7.25 percent of the total construction costs, it is possible that technical and administrative costs will exceed this amount, requiring the City to contribute resources to complete technical and administrative work.

3. The City will contribute funds in the amount of $312,500 (25 percent of the total construction costs) in either direct cash expenditures, the value of non-cash materials or services, or in-kind contributions. The value of any in-kind contribution shall be agreed to in writing prior to implementation.

IV. RESPONSIBILITIES OF THE PARTIES

A. THE CITY WILL:

1. Accomplish construction of the EWP project measures by contracting, in-kind construction services, or a combination of both.

2. Provide the following individuals as contacts:

	Technical Contact	Administrative Contact
Name:	Chuck Gillette	Wally Ritchie
Address:	55 North Main Ivins, Utah 84738	55 North Main Ivins, Utah 84738
Telephone No.	435-634-0689	435-628-0606
Email Address:	cgillette@ivins.com	writchie@ivins.com

City contacts will work closely with the Sponsor and NRCS in carrying out the terms and conditions of the Agreement. They will complete proper documents to ensure payment of funds by NRCS as requested to complete the objectives

of the Agreement and will be the representative for the City in all matters concerning this Agreement.

3. Comply with the applicable requirements in Attachment B, "General Terms and Conditions," of this Agreement.

4. Comply with all laws, regulations, Executive Orders, and other applicable terms and conditions referenced and incorporated as attachments to this Agreement.

5. Acquire and provide certification to Sponsor that real property rights (land and water), permits and licenses in accordance with local, state, and Federal laws necessary for the installation of EWP project measures have been obtained at no cost to Sponsor or NRCS prior to construction. This includes any rights associated with required environmental mitigation. City shall provide such certification on Form NRCS-ADS-78, Assurances Relating to Real Property Acquisition. City shall also provide an Attorney's Opinion supporting this certification. Costs related to land rights and permits are the City's responsibility and ineligible for reimbursement.

6. Accept all financial and other responsibility for excess costs resulting from their failure to obtain, or their delay in obtaining, adequate land and water rights, permits and licenses needed for the Project.

7. Provide 25% of the actual, eligible and approved construction cost, as outlined in Section III.B. These costs may be in the form of cash, in-kind construction services, or a combination of both.

   Eligible construction costs are described in the approved Damage Survey Report (DSR) listed in Section III. Final construction items that are eligible construction costs will be agreed upon during the pre-design conference. These costs consist of costs from contracts awarded to contractors, and eligible City in-kind construction costs for materials, labor, and equipment. The City shall provide Sponsor documentation to support all eligible construction costs.

   Construction costs incurred prior to the City and Sponsor signing this Agreement are ineligible and will not be reimbursed.

8. Be responsible for 100 percent of all ineligible construction costs, and 100 percent of any unapproved upgrade to increase the level of protection over and above that described in the DSR.

9. Account for and report FA and TA expenditures separately in order for expenses to be eligible for reimbursement. NRCS funding for this project is provided to the Sponsor in two (2) separate NRCS funding accounts, one for TA and one for FA, requiring this separation.

10. For contracts, provide Sponsor and NRCS a copy of solicitation notice, bid abstract, and notice of contract award, or other basis of cost and accomplishment.

11. For in-kind construction services (materials, labor, and/or equipment supplied by the City), develop a Plan of Operations describing the construction services to be performed including estimated quantities and values. The Plan of Operations shall be concurred by Sponsor and NRCS at the pre-design conference. In-kind construction services for equipment shall not exceed published FEMA equipment rates unless otherwise documented and concurred in advance by NRCS.

    The following documentation is required to support the City's request for reimbursement of in-kind construction services:

    a. Invoices covering actual costs of materials used in constructing the eligible EWP project measures.
    b. Records documenting the type, quality, and quantities of materials actually used in constructing the eligible EWP project measures.
    c. Daily time records for each employee showing name, classification, wage rate, hours, and dates actually employed for constructing the eligible EWP project measures.
    d. Equipment operating records showing the type and size of equipment, hourly rate, actual hours of operation and dates used to install the eligible EWP project measures. Equipment idle time is not eligible in-kind construction services, even if on the job site, and should not be included in the equipment operating records.

12. Provide all technical and administrative services necessary for contract solicitation, award, and administration; engineering design services; construction management and inspections, and other services. Reimbursement amount for eligible City technical and administrative services will be as described in Section III.B.2. The City will retain records to support costs incurred.

    a. Prepare all contractual documents and contract for the project measures in accordance with 2 CFR § 200.317-326 (Attachment) and clauses referenced in Appendix II, Part 200, (Attachment), applicable state requirements, and the City's procurement regulations.
    b. Prepare design and construction specifications, and drawings in accordance with standard engineering principles and in compliance with NRCS programmatic requirements. The construction plans shall be reviewed and approved by the City before submittal to Sponsor and NRCS. The construction plans shall be reviewed and approved by a Professional Engineer (PE) registered in the State of Utah before submittal to Sponsor and NRCS.
    c. The contracts for design services and construction described in this Agreement shall not be awarded to the City's or to any firm in which any

City's official or any member of such official's immediate family has direct or indirect interest in the pecuniary profits or contracts of such firms. Reference 2 CFR § 200.318 regarding standards of conduct covering conflicts of interest and governing the performance of its employees engaged in the selection, award, and administration of contracts.

Costs for technical and administrative services incurred prior to the City and Sponsor signing this Agreement are ineligible and will not be reimbursed.

13. Within thirty (30) calendar days of signing the project Agreement, hold a pre-design conference with the City, City's design engineer, Sponsor and NRCS. The design conference shall set forth design parameters concurred by the City, Sponsor and NRCS. During the pre-design conference, NRCS will determine the eligible construction costs.

14. Within fourteen (14) calendar days of the pre-design conference submit to Sponsor and NRCS a schedule with time lines of major items to be completed. Milestones shall include, but not limited to, obtaining land rights, obtaining permits, completing any necessary surveys, completing draft engineering plans and specifications for NRCS review, completing final engineering plans and specifications, completing quality assurance plan, solicit bids, award contract, issue notice to proceed, and complete construction.

15. Prior to commencement of work and/or solicitation of bids, submit for NRCS review, the preliminary design, construction specifications, and engineering drawings prepared in accordance with standard engineering principles and design parameters set forth in the pre-design conference.

16. Upon receiving comments from NRCS, prepare the final design, construction specifications, and engineering drawings in accordance with standard engineering principles, design parameters set forth in the pre-design conference. One set of the final plans and specifications shall be submitted to NRCS for final review and concurrence prior to solicitation of bids and/or commencement of work. The final construction plans and specifications shall be signed and sealed by a licensed Professional Engineer registered in the State of Utah. A copy of the signed and sealed plans and specifications shall be provided to Sponsor and NRCS.

17. Prior to commencement of work and/or solicitation of bids, submit for NRCS review and concurrence a Quality Assurance Plan (QAP). The QAP shall outline technical and administrative expertise required to ensure the EWP project measures are installed in accordance with the plans and specifications, identify individuals with the expertise, describe items to be inspected, list equipment required for inspection, outline the frequency and timing of inspection (continuous or periodic), outline inspection procedures, and record keeping requirements. A copy of the final QAP shall be provided to Sponsor and NRCS prior to commencement of construction.

18. Provide construction inspection in accordance with the QAP.

19. Prepare and submit for Sponsor and NRCS concurrence an Operation and Maintenance (O&M) Plan, if applicable, prior to commence of work. The O&M Plan shall describe the activities the City will do to ensure the Project performs as designed. Upon completion of the project measures, the City shall assume responsibility for O&M.

20. Provide copies of site maps to appropriate Federal and State agencies for environmental review. City will notify Sponsor and NRCS of environmental clearance, modification of construction plans, or any unresolved concerns as well as copies of all permits, licenses, and other documents required by Federal, state, and local statutes and ordinances prior to solicitation for installation of the EWP project measures. All modifications to the plans and specifications shall be reviewed and concurred on by Sponsor and NRCS.

21. Ensure that any special requirements for compliance with environmental and/or cultural resource laws are incorporated into the Project.

22. Will arrange and pay for any necessary location, removal, or relocation of utilities. EWP program regulations prohibit NRCS from reimbursing the City or otherwise paying for any such costs; nor do the costs qualify as a City cost-share contribution.

23. Ensure that technical and engineering standards and specifications of NRCS are adhered to during construction of the Project, as interpreted by NRCS Technical Contact. Provide Sponsor and NRCS Technical Contact progress reports as necessary and agreed to. Progress reports should include technical on-site inspections of work accomplished for the period, work planned, results of material tests, deficient work products and/or tests with corrective actions taken, modifications anticipated, technical problems encountered, contractual issues and other relevant information.

24. Ensure that all contractors on NRCS assisted projects are performing their work in accordance with OSHA regulations, NRCS Supplement to OSHA Parts 1910 and 1926 (Attachment), and the Contract Work Hours and Safety Standards Act (40 USC 327-330) as supplemented by Department of Labor regulations (29 CFR Part 5). The City is responsible for periodically checking the contractor's compliance with safety requirements.

25. Complete and submit accrual information to the Sponsor Technical Contact no later than twenty (20) days prior to the end of the quarter (submit by March 10, June 10, September 10, and December 10). NRCS requires quarterly accrual information on the value of the work that has been performed or will be performed in cooperation with NRCS, but for which an SF 270 has not yet been submitted. The U.S. Congress relies on audits of financial statements, including

accrual information, to determine future funding amounts for NRCS on-going and new projects and programs.

26. Arrange for and conduct final inspection of completed project with Sponsor and NRCS to determine whether all work has been performed in accordance with contractual requirements. Provide a PE certification that the Project was installed in accordance with approved plans and specifications.

27. Provide PE-certified as-built drawings and quantities for the Project. A copy of the as-built drawings will be submitted to the Sponsor and NRCS Technical Contacts.

28. Pay the contractor(s) as provided in the contract(s).

29. Submit copies of billings for reimbursement to Sponsor on a monthly, but not less than quarterly (March, June, September, and December) basis. Final payment request shall be submitted within thirty (30) calendar days of completion of the EWP project measures. All requests for reimbursement shall include all appropriate and complete documentation to support the reimbursement request. Payments will be withheld until all required documentation is submitted and complete.

    The required supporting documentation for reimbursement of construction costs include invoices and proof of payment to the contractor showing the items and quantities installed and certified by the engineer of record along with any supporting documentation such as quantity calculations, rock weight tickets, etc.

    The required supporting documentation for reimbursement of in-kind construction expenses will include employee time sheets, employee hourly rate, equipment operating logs, equipment hourly rate, and material quantities and invoices.

    The required documentation for reimbursement of technical and administrative services will be invoices and proof of payment to consultants and/or employee time sheets along with the employee's hourly rate, hours worked, and date work was performed.

30. Be responsible for ensuring their System for Award Management (SAM) registration is active throughout the life of the Agreement so that reimbursements are not delayed. NRCS cannot process a reimbursement unless the City is registered in SAM.

31. Take reasonable and necessary actions to dispose of all contractual and administrative issues arising out of the construction contract awarded under this Agreement. This includes, but is not limited to disputes, claims, protests of award, source evaluation, and litigation that may result from the Project. Such actions will be at the expense of the City, including any legal expenses.

32. Receive payment under this Agreement by check from Sponsor.

33. Be responsible, without recourse to Sponsor for the settlement and satisfaction of all contractual and legal issues arising out of arrangements entered into between the City and third parties to carry out the approved Project. Matters concerning violation of law should be referred to the Federal, State, or local authority having proper jurisdiction.

34. Hold and save Sponsor free from any and all claims or causes of action whatsoever resulting from the obligations undertaken by the City under this Agreement or resulting from the work provided for in this Agreement.

35. Retain all records dealing with the award and administration of contract(s) for three (3) years from the date of the City's submission of the final Request for Reimbursement or until final audit findings have been resolved, whichever is longer. If any litigation is started before the expiration of the three (3) year period, the records are to be retained until the litigation is resolved or the end of the three (3) year period, whichever is longer. Make such records available to the Comptroller General of the United States or his or her duly authorized representative and accredited representatives of the U.S. Department of Agriculture or cognizant audit agency for the purpose of making audit, examination, excerpts, and transcripts.

36. Be responsible for all administrative expenses (including but shall not be limited to facilities, clerical expenses), and legal counsel necessary including the fees of such attorney or attorneys deemed necessary by Sponsor to resolve any legal matters.

37. By signing the Agreement, the City assures the Sponsor that the program or activities provided for under this Agreement will be conducted in compliance with all applicable Federal civil rights laws, rules, regulations, and policies.

B. THE SPONSOR WILL:

1. Provide the following individuals as contacts:

	Technical Contact	Administrative Contact
Name:	Ron Whitehead	Trevor Coombs
Address:	Washington County Public Works Director 197 East Tabernacle Street St. George, Utah 84770	Washington County Senior Accountant/Auditor 197 East Tabernacle Street St. George, Utah 84770
Telephone No.	435-634-5780	435-634-5712
Email Address:	ron.whitehead@washco.utah.gov	Trevor.coombs@washco.utah.gov

2. Reimburse the City up to 75 percent of the actual cost of construction as Financial Assistance and up to 7.25 percent of the actual cost of construction as Technical Assistance. Funds will be expended as explained in Section III.

3. Not be substantially involved with the technical or contractual administration of this Agreement, but will provide advice and counsel as needed.

4. Make periodic site visits during the installation of the EWP project measures to review construction progress, document conformance to engineering plans and specifications, and provide any necessary clarification on the City's responsibilities.

5. Upon notification of the completion of the EWP project measures, Sponsor will promptly review the performance of the City to determine if the requirements of this Agreement and fund expenditures as agreed have been met.

C. IT IS MUTUALLY AGREED:

1. This Agreement may become null and void 120 calendar days after the date Sponsor has signed and executed this Agreement if a solicitation for bids has not been publicly advertised or a contract has not been awarded.

2. The furnishing of financial, administrative and/or technical assistance above the original funding amount by NRCS is contingent on there being sufficient unobligated and/or uncommitted funding in the EWP Program that is available for obligation in the year in which the assistance will be provided. NRCS cannot make commitments in excess of funds authorized by law or made administratively available. Congress may impose obligational limits on program funding that constrains NRCS' ability to provide such assistance.

3. The furnishing of the administrative services by Sponsor is contingent upon the continuing availability of appropriations by the Congress from which payment may be made and shall not obligate Sponsor if the Congress fails to so appropriate.

4. In the event of default of a construction contract awarded pursuant to this Agreement, any additional funds properly allocable as construction costs required to ensure completion of the job are to be provided in the same ratio as construction funds are contributed by the parties under the terms of this Agreement. Any excess costs including interest resulting from a judgment collected from the defaulting contractor, or his or her surety, will be prorated between the City and Sponsor in the same ratio as construction funds are contributed under the terms of the Agreement.

5. Additional funds, including interest properly allocable as construction costs as determined by Sponsor, required as a result of decision of the Sponsor or a court judgment in favor of a claimant will be provided in the same ratio as construction

funds are contributed under the terms of this Agreement. Sponsor will not be obligated to contribute funds under any Agreement or commitment made by the City without prior concurrence of Sponsor.

6. The Sponsor may make adjustments in the estimated cost to Sponsor for constructing the EWP project measures. Such adjustments may increase or decrease the amount of estimated funds that are related to differences between such estimated cost and the amount of the awarded contract or to changes, differing site conditions, quantity variations, or other actions taken under the provisions of the contract. No adjustment will be made to change the cost sharing assistance provided by Sponsor nor reduce funds below the amount required to carry out Sponsor's share of the contract.

7. That once the Project is completed and all requests for reimbursement submitted, any excess funding remaining in the Agreement (over and above the Sponsor commitment of up to 75 percent of actual construction costs and within the not-to-exceed amount) will be de-obligated from the Agreement.

8. Sponsor, at its sole discretion, may refuse to cost share should the City, in administering the contract, elect to proceed without complying with their responsibilities as set out in this Agreement.

9. If inconsistencies arise between the language in Attachment A – Statement of Work and other attachments in this Agreement, the language in the Statement of Work takes precedence.

V. EXPECTED ACCOMPLISHMENTS AND DELIVERABLES

The following accomplishments and deliverables will be provided to Sponsor and NRCS.

1. One copy of the final engineering plans, specifications signed and sealed by a licensed professional engineer, including engineer's cost estimate, and approved Plan of Operations (if applicable).
2. Signed NRCS-ADS-78 supported by an attorney's opinion.
3. One copy of the quality assurance plan.
4. One copy of the operation and maintenance plan.
5. One copy of the notice of solicitation, bid abstract, and notice of award.
6. Certification that the Project was installed in accordance with the plans and specifications.
7. As-built drawings of final construction signed by a licensed professional engineer within thirty (30) days of completion of construction.
8. Quantities of the units of work applied for each site within 30 days of completion of construction.

VI. PERIOD OF PERFORMANCE

This Agreement is effective as of the date of final signature by USDA/NRCS on NRCS-ADS-093 form, Notice of Grant and Agreement Award, and continues in full force and effect through **December 17, 2016**. The Agreement may be amended to extend the date. Requests from the City

to the Sponsor to extend the term of the Agreement must be submitted in writing forty-five (45) calendar days prior to the expiration date of the Agreement and include a detailed description of circumstances that created the need for the extension. The City must be vigilant in tracking the expiration date(s) of the Agreement and subsequent amendments.

VII. RESOURCES REQUIRED

A. City:

- Technical personnel to develop technically sound and feasible solutions to restore the sites and develop engineering plans and specifications and equipment and personnel to provide construction inspection.
- Administrative personnel to provided contracting services and/or procurement of items/services needed to implement the Agreement, obtain land rights, and other administrative requirements identified in the Agreement.
- Office space and associated office equipment to prepare reports, prepare payments requests, etc.
- Equipment and personnel if identified in a Plan of Operations for force accounts.

B. Sponsor:

- Administrative personnel to provide assistance to support the implementation of the Agreement.

VIII. MILESTONES

Milestones shall include, but not limited to, the following items:

1. Pre-construction design conference within thirty (30) days of signing Agreement.
2. Submit to NRCS a schedule with time lines of major items to be completed within fourteen (14 days) of the pre-design conference.
3. Acquire needed real property rights and permits (signed NRCS-ADS-78 supported by an Attorney's Opinion) prior to start of construction.
4. Obtaining permits.
5. Completing any necessary surveys.
6. Completing draft engineering plans and specifications for NRCS review.
7. Completing final engineering plans and specifications.
8. Completing quality assurance plan.
9. Solicit bids.
10. Award contract.
11. Issue notice to proceed.
12. Complete construction and submit as-built drawings/quantities by the date as specified in Section VI.

Chris G. Hart, Mayor (Date)

Alan D. Gardner, Chair (Date)
Washington County Commission

ATTEST:

ATTEST:

Kari Jimenez (Date)
Ivins City Recorder

Kim Hafen (Date)
Washington County Clerk-Auditor

Ivins City
Request for Proposals for

Engineering Services to Design Storm Water Improvement Projects

Ivins City, Utah is soliciting competitive sealed proposals from qualified engineers to provide services as outlined in the **SCOPE OF SERVICES SECTION** of this request.

I. Information:

This request for proposals (RFP) consists of three separate projects: 2016 Storm Drain Master Plan Improvements Projects, NRCS Debris Basin Rehabilitation Project, and NRCS Kayenta Debris Basin(s) Project.

Although this RFP includes a suggested scope of work for each project, the City is requesting if an item has been omitted by the City or if you feel an item would enhance or better the project, please include these types of items in your proposal. The City will be reviewing the proposals for innovative ideas, approaches to the work, and suggestions on additional work, which may be considered.

The City is requesting the consultant prepare a Technical Proposal for this work. Part of the Technical Proposal will be a section demonstrating the Consultant's qualifications. As a minimum, the Consultant will demonstrate past experience in storm drain design, dam rehab design, and debris basin dam design. The experience description will include the size of the project. Provide a contact name and phone number for each client. It may be possible that the City will award these projects to more than one consultant.

II. Background:

2016 Storm Drain Master Plan Improvement Projects

In 2016, a Storm Water Master Plan was prepared by Bowen Collins and Associates. This master plan identified and recommended several high priority facilities be constructed to help alleviate some of the storm water issues within the City. These facilities have been divided into 5 separate projects: P1, P3-P5, P6, P16, and P21. The following table outlines what each of the project entails.

Project	Pipe Length (ft)	Diameter (in)	Detention Basin (ac-ft)
P1	1230	24	2.7
P3-P5	3710	24, 30 & 36	1.8
P6	3270	24 & 30	N.A.
P16	670	36	N.A.
P21	1110	30	N.A.

It should be noted that these pipe lengths, pipe diameters, and detention basins sizes are preliminary and should be used for reference/planning purposes only. The master plan will be available on Ivins City's website for more information regarding the locations of the projects and other various details.

It should also be noted that the City has budgetary constraints and will likely not be able to design or have all these projects constructed, but will work with the Consultant to help decide priorities and phasing. It's anticipated that the consultant will also provide recommendations regarding how the budget can be stretched.

NRCS Debris Basin Rehabilitation Project

The NRCS, in cooperation with Ivins City, is working to rehabilitate Ivins Debris Basins 1-6. These basins are currently not meeting the NRCS and Utah dam Safety regulations and current engineering standards for a high hazard class dam. An Environmental Assessment (EA) and a Biological Assessment (BA) has already been prepared for this project. Each of the six basins require some or all of the following modifications: rock facing of the dam, crest grading, sediment removal, trash rack replacement, slip-lining principal spillway pipe, new auxiliary spillway, and rill erosion areas filled and compacted. Detailed descriptions and maps showing the proposed project action for each basin have already been prepared. Since the BA has already been approved according to these descriptions and maps, the design will be limited to the actions described therein. A copy of the EA and the BA will be made available by the City.

NRCS Kayenta Debris Basin(s) Project

In September of 2014, two major storm events caused severe flooding in the Coyote Gulch Wash, resulting in major property damage. The City requested assistance under the Emergency Watershed Program and has obtained assistance to help fund the project. It is the opinion of the City that either one large or two smaller basins would significantly help alleviate future flooding within this drainage basin. The project would generally consist of a hydrologic analysis to determine the required size of the basin(s), alternative analysis to determine the proper location of the basin(s), and preparing a final design for the basin and all appurtenances. Since this is an NRCS project, the specific scope of work requirements have been outlined in the Scope of Services section below.

The following information will be provided by the City:

- 2016 Storm Water Master Plan
- Environmental Assessment for the Rehabilitation of Ivins Debris Basins 1-6
- Biological Assessment for the Rehabilitation of Ivins Debris Basins 1-6
- 2006 Aerial Photogrammetry, 1" = 100', 2' contours
- 2012 LiDAR Aerial Topography, 1 meter point cloud and processed 2' contours
- March 2014 Aerial Photography by Pictometry, 3-inch pixels (2016 Pictometry Photography should be available by August)

III. Scope of Services:

The City has compiled an anticipated scope of work for the three projects, but once a consultant has been selected we will rely on the consultant to prepare a scope of work for these projects. Since a scope of work is not required for the proposal, the consultant should indicate their understanding of the work required through their experience on previous, similar projects.

2016 STORM DRAIN MASTER PLAN IMPROVEMENT PROJECTS

A. Project Schedule
    1. The City has proposed a timeline for the first phase of the project. The City is proposing 4 months (June-Sept) for engineering and final design, and 6 months (Oct-Mar) for construction.
B. Coordination Meetings
    1. The Consultant shall plan on a kickoff meeting and regular progress meetings to review project progress, to coordinate design efforts, to address issues that arise, and to keep the City informed.
C. Collect and Review Existing Information
    1. The Consultant shall be responsible to determine the information required to complete the project. The City will provide copies of relevant previous studies and planning information and digital copies of aerial photography.
D. Site and Utilities Investigation
    1. The Consultant shall be responsible for visiting the site and conducting investigations to identify existing utilities and other site information pertinent to the design.
    2. The Consultant shall be responsible for the design/topographic survey for the project.
E. Project Prioritization and Budgeting
    1. Work with the City to prioritize project and develop recommendations to maximize budget.
F. Hydrologic and Hydraulic Analysis
    1. The Consultant shall conduct a hydrologic and hydraulic analysis. This analysis shall be detailed enough that it can be used by the Consultant to size pipes, catch basins, detention basins, and other storm water infrastructure as part of the design. A hydrologic and a limited hydraulic analysis has already been conducted as part of the 2016 Master Plan, but the findings of that analysis shall only be used as a reference in the preparation of a more detailed analysis.
    2. The Consultant shall develop alternatives based on the hydrologic and hydraulic analysis that evaluate the size of the storm drain pipes pipe versus the size of the detention basin. The City should be consulted during this process to help make the decisions for the pipe sizes with respect to the detention sizes.
G. Storm Water Pollution Prevention Plan
    1. Prepare a storm water pollution prevention plan for the project.

H. Design Drawings
    1. The Consultant shall provide 60% and 100% design sets for review by the City. Review comments will be addressed in a final design drawing set.

I. Technical Specifications
    1. The Consultant shall provide technical specifications for the project for review at the 100% design stages. Review comments will be addressed in final technical specifications.

J. Contract Documents
    1. The Consultant shall prepare final bid documents for the project, including final design drawings, technical specifications, and standard City bid documents and contract conditions.

K. Construction Cost Estimate
    1. The Consultant shall prepare an engineer's opinion of probable cost for the construction of the project.

L. Easements and ROW Support
    1. The Consultant shall assist the City in preparing legal descriptions and easement deeds.

M. Permits
    1. The Consultant shall be responsible to identify and obtain all necessary permits to complete the project as outlined. Any permit directly associated with construction will be the responsibility of the construction contractor.

N. Bid Period Services
    1. The Consultant shall assist the City in preparing a bid advertisement for the project, providing bid documents, holding a pre-bid meeting, and providing any needed addenda during the bid period.
    2. The Consultant shall assist the City in evaluating the bids received for the project and recommending award of the project.

O. Pre-construction Meeting
    1. The Consultant shall prepare for and attend a pre-construction meeting with the City and the Contractor.

P. Construction Progress Meetings and Support Services
    1. The Consultant shall provide submittal review, response to Contractor Requests for Information, review of and make recommendations regarding change order requests, review of pay applications for the duration of the construction period, and conduct project closeout at completion of the work.
    2. The Consultant will prepare for and attend weekly construction progress meetings.

Q. Construction Inspection
    1. The Consultant shall provide a recommended number of hours of inspection services during construction of the project. The inspector will provide reports and photographic logs of construction as necessary. A public works inspector from Ivins City will be available daily to assist the consultant with the inspection services.

2. The Consultant shall provide a comprehensive inspection with the contractor and the City at substantial completion, final completion, and just prior to warranty expiration. Prepare and deliver to Ivins a written list of observed deficiencies.

R. Project Documentation
   1. The Consultant will use redlined drawings provided by the Contractor to develop as-built construction drawings for the project.
   2. The Consultant shall assist the City in closing out the project.

NRCS DEBRIS BASIN REHABILITATION PROJECT

A. Project Schedule
   1. The timeline for design of this project is flexible, anticipated construction to begin during the summer of 2017 or winter months of 2017-2018. The City anticipates that the design may need to be completed before the end of the 2016 calendar year.

B. Coordination Meetings
   1. The Consultant shall plan on a kickoff meeting and regular progress meetings to review project progress, to coordinate design efforts, to address issues that arise, and to keep the City informed.

C. Collect and Review Existing Information
   1. The Consultant shall be responsible to determine the information required to complete the project. The majority of the existing information will likely be gleaned from the Environmental Assessment and the Biological Assessment document prepared for the project. The City will provide copies of relevant previous studies and planning information and digital copies of aerial photography.

D. Site and Utilities Investigation
   1. The Consultant shall be responsible for visiting the site and conducting investigations to identify site information pertinent to the design.
   2. The Consultant shall be responsible for the design/topographic survey for the project, if required.

E. Design Analysis
   1. Perform the appropriate engineering analysis to provide a design that will meet the objections and criteria established for the project. The analysis shall address but is not limited to the following:
      i. Geology and Soil Mechanics Analysis
      ii. Hydrology/Hydraulics Analysis
      iii. Structural Analysis
      iv. Vegetative Considerations
      v. Safety Considerations
   2. Provide all supporting documentation of the engineering analysis performed to provide design, this includes but is not limited to surveys, computer model files, calculations and computations, sketches, etc.

F. Design Report

1. Summarize in narrative form the objectives, data, criteria, assumptions, procedures, and decisions used in the design. The design report shall address the topics in the following list, as appropriate.
2. Design summary - a concise statement of the history and status of design, previous reviews, disposition of applicable policy items, justification for departure from standards, receipt of waivers, etc.
3. Description of the job - a brief description of the major features, hazard classification, drainage area, storm frequencies, landscape resources, capacities, etc. It includes any variance from project plans.
4. Design objective - a brief, clear statement that may be a summary from a project plan. Differences identified from plans must be supported by proper approvals.
5. Basis for design - a listing of reference documents used in the design such as handbooks, codes, reports, studies, and criteria.
6. General basic data - includes hazard analyses, seismic assessment, and limiting conditions or restraints that may influence design, construction, or facility operation.
7. Location and layout - Documents considerations of site configuration or landscape conditions that had an effect.
8. Hydrology - The data, procedures, determination of spillway operation frequency, reservoir operational studies, and summary of precipitation depth, duration, and distribution. It properly describes the characteristics of the contributing watershed and provides the necessary basis for the hydraulic design.
9. Hydraulic design - Documents the shape and proportioning selected for selected features, adequacy of sediment and flood storage, adequacy of channel stability, and sediment transport considerations.
10. Embankment and foundation design - A summary of data, site conditions, assumptions, treatments selected, and design analysis used to:
    i. Make seepage analysis and design control measures.
    ii. Make stability analyses and determine material quality and quantity.
    iii. Make foundation design analyses.
    iv. Make embankment materials selections.
    v. Permit planning instrumentation systems.
    vi. Includes unique, or critical issues, or issues which have a significant impact on the function of the structure, or cost or duration of construction.
11. Structural design - Documents the assumptions, loading conditions, and design procedures used.
12. Environmental considerations – Summarize considerations given to features or practices to provide for conservation of visual, biological, and surface and ground water resources that may be affected by the planned measures, both during and after construction. Included features or practices used to meet criteria established in the FEIS.
13. Construction Drawings - Describes standard detail drawings or any use of previously prepared special drawings.
14. Specifications - Mentions use of special specifications and why they were needed. Explains special conditions or the need for special provisions in the construction contract.
15. Bid Schedule - Give the rationale for selection of lump sum or subsidiary items.
16. Cost Estimate - Explain the effects of the season, changes in size of contract

17. Construction Schedule - Explanation of any critical starting, delay, or completion dates.
18. Operation and Maintenance (O&M) - Explanation of conditions in which design assumptions depend on proper O&M and significant O&M activities are anticipated (for example, grasses in the emergency spillway to protect against erosion during flow). Items identified and evaluated during the design that are planned for replacement during the evaluation period must be noted and described.
19. Construction Review - A summary of those items, conditions, or features encountered during construction that require a field review by the designer, geologist, soil engineer, or other specialist to ensure that conditions anticipated during the design are verified and consistent with the design assumptions. Include the request for timely notification. Note whether a preconstruction conference is needed.
20. Authority - The name (with signature), title, and seal of the designer must appear on the title sheet of the design report along with this statement "To the best of my professional knowledge and judgment the design summarized by this report meets applicable NRCS standards." The consultant shall provide at the time of 50%, 90%, and 100% design submittal.

G. Construction Drawings
    1. Document the construction drawings to illustrate the work. Drawings shall contain the detail needed to:
        i. Access the site.
        ii. Ensure avoidance of both underground and above ground utilities.
        iii. Establish construction operations including material storage, staging areas, equipment storage, servicing areas, construction office, etc.
        iv. Layout and construct the work as specified.
    2. Ensure where the specifications include "as shown on the drawings" or similar language, the information is included on the drawings and the work illustrated on the drawings can be safely constructed as shown.
    3. Certify on the drawings that "to the best of my professional knowledge, judgment, and belief, these plans meet applicable NRCS standards." The above statement shall be included on the title sheet near the engineer's signature and seal. The Consultant shall provide at the time of 50%, 90%, and 100% design submittal.

H. Specifications
    1. Document the specifications to describe the work. To adequately describe the work, the specifications shall contain the detail needed to:
        i. Define the scope of the work.
        ii. Specify the materials to be incorporated into the work.
        iii. Specify all ancillary work such as foundation preparation, borrowing of earth materials, etc.
        iv. Specify tests and activities necessary to control the quality of the work.
        v. Describe the method of compensation for the work including, if applicable, items that are subsidiary as defined in NEH Part 642, Specifications for Construction Contracts.
    2. Ensure the information is consistent between the specifications and the drawings and between the specifications and the bid schedule.

3. Consultant shall use NRCS National Construction Specifications. Construction specification may be modified to be more restrictive based on the judgement of the Consultant, but may not be modified to reduce the requirements. The Consultant shall provide at the time of 50%, 90% and 100% design submittal.

I. Bid Schedule
   1. Consultant shall create the bid schedule that lists all bid items included in the specifications in a logical sequence commensurate with the work, the method of payment (i.e. lump sum or quantity basis) is consistent with that specified, and the units for bid items are consistent with the method of payment. Shall be provided at the time of 100% design submittal.

J. Cost Estimate
   1. The Consultant shall create a cost estimate and adjust for reasonableness of the values assigned to each bid item. The Consultant shall provide at the time 100% design submittal

K. Performance Schedule
   1. The Consultant shall prepare a construction performance schedule. The construction performance schedule shall give the estimated duration and sequence for activates necessary to construct the design. The Consultant shall provide at the time 100% design submittal.

L. Inspection/quality Assurance Plan (QA Plan)
   1. The Consultant shall create a QA plan and ensure that it is adequate to provide the construction oversight needed to ensure the desired construction quality is attained. The Consultant shall also ensure the plan contains provisions for timely notification of specialists such as the designer, geologist, soil mechanics engineer, or other specialist to ensure that conditions anticipated during design are verified and are consistent with the design assumptions.
   2. As part of the QA plan the contactor shall develop of sheet pile driving plan. The plan shall detail possible conditions encountered during pile driving the appropriate actions to follow. The Consultant shall provide at the time 100% design submittal.

M. Operation and Maintenance Plan (O&M plan)
   1. The Consultant shall prepare an Operation and Maintained Plan for the designed structure. The plan shall detail the actions that need to be performed for the structure to function as designed for the design life of the structure. The O&M plan must include but is not limited to the proper gate operations that will provide water to all users and meets the requirements established in the FEIS and associated documents. The O&M plan shall also include all maintenance actives such as trash and debris removal and repairs of gates, screens, and other appurtenances. The Consultant shall provide at the time 100% design submittal.

N. As-Built Drawings
   1. The Consultant will provide stamped as-built drawings at the end of the project. As-built drawings shall record the materials, dimensions, elevations, and construction methods used during construction. They shall specifically note revisions and

adjustments made during construction and document the process follow to approve these design changes.

O. Reference Materials

1. The following NRCS reference materials are available through the internet, except as otherwise noted, at http://directives.sc.egov.usda.gov/, http://www.nrcs.usda.gov/programs/watershed/NWSM.html, and http://www.economics.nrcs.usda.gov/technical/technotes/index.html. The Consultant shall obtain the reference through internet access unless otherwise noted. Non-NRCS documents will be obtained by the Consultant. The Consultant will identify other applicable reference documentation considered appropriate and applicable to the design. The basis for selecting and using such references in the design shall be included in the design report and references included in the report documentation submitted.

P. Bid Period and Construction Period Services

1. The Consultant shall assist the City in preparing a bid advertisement for the project, providing bid documents, holding a pre-bid meeting, and providing any needed addenda during the bid period.
3. The Consultant shall assist the City in evaluating the bids received for the project and recommending award of the project.
4. The Consultant shall prepare for and attend a pre-construction meeting with the City and the Contractor.
5. The Consultant shall provide submittal review, response to Contractor Requests for Information, review of and make recommendations regarding change order requests, review of pay applications for the duration of the construction period, and conduct project closeout at completion of the work.
6. The Consultant will prepare for and attend weekly construction progress meetings.
7. The Consultant shall plan on providing construction inspection. The inspector will provide reports and photographic logs of construction as necessary. A public works inspector from Ivins City will be available daily to assist the consultant with the inspection services.
8. The Consultant shall provide a comprehensive inspection with the contractor and the City at substantial completion, final completion, and just prior to warranty expiration. Prepare and deliver to Ivins a written list of observed deficiencies.
9. The Consultant will use redlined drawings provided by the Contractor to develop as-built construction drawings for the project.
10. The Consultant shall assist the City in closing out the project.

NRCS KAYENTA DEBRIS BASIN(S) PROJECT

A. Project Schedule
    1. The City has proposed a timeline for the project. The City is proposing 4 months (July-Oct) for engineering and final design, and 5 months (Nov-Mar) for construction. It will be incumbent upon the selected Consultant to propose a project schedule, including major milestones and deliverable dates.

B. Coordination Meetings
    1. The Consultant shall include a kickoff meeting and regular progress meetings to review project progress, to coordinate design efforts, to address issues that arise, and to keep the City informed.

C. Design Analysis
    1. Perform the appropriate engineering analysis to provide a design that will meet the objections and criteria established for the project. The analysis shall address but is not limited to the following:
        i. Geology and Soil Mechanics Analysis
        ii. Hydrology/Hydraulics Analysis
        iii. Structural Analysis
        iv. Vegetative Considerations
        v. Safety Considerations
    2. Provide all supporting documentation of the engineering analysis performed to provide design, this includes but is not limited to surveys, computer model files, calculations and computations, sketches, etc.

D. Design Report
    1. Summarize in narrative form the objectives, data, criteria, assumptions, procedures, and decisions used in the design. The design report shall address the topics in the following list, as appropriate.
    2. Design summary - a concise statement of the history and status of design, previous reviews, disposition of applicable policy items, justification for departure from standards, receipt of waivers, etc.
    3. Description of the job - a brief description of the major features, hazard classification, drainage area, storm frequencies, landscape resources, capacities, etc. It includes any variance from project plans.
    4. Design objective - a brief, clear statement that may be a summary from a project plan. Differences identified from plans must be supported by proper approvals.
    5. Basis for design - a listing of reference documents used in the design such as handbooks, codes, reports, studies, and criteria.
    6. General basic data - includes hazard analyses, seismic assessment, and limiting conditions or restraints that may influence design, construction, or facility operation.
    7. Location and layout - Documents considerations of site configuration or landscape conditions that had an effect.
    8. Hydrology - The data, procedures, determination of spillway operation frequency, reservoir operational studies, and summary of precipitation depth, duration, and

distribution. It properly describes the characteristics of the contributing watershed and provides the necessary basis for the hydraulic design.

9. Hydraulic design - Documents the shape and proportioning selected for selected features, adequacy of sediment and flood storage, adequacy of channel stability, and sediment transport considerations.
10. Embankment and foundation design - A summary of data, site conditions, assumptions, treatments selected, and design analysis used to:
    i. Make seepage analysis and design control measures.
    ii. Make stability analyses and determine material quality and quantity.
    iii. Make foundation design analyses.
    iv. Make embankment materials selections.
    v. Permit planning instrumentation systems.
    vi. Includes unique, or critical issues, or issues which have a significant impact on the function of the structure, or cost or duration of construction.
11. Structural design - Documents the assumptions, loading conditions, and design procedures used.
12. Environmental considerations – Summarize considerations given to features or practices to provide for conservation of visual, biological, and surface and ground water resources that may be affected by the planned measures, both during and after construction. Included features or practices used to meet criteria established in the FEIS.
13. Construction Drawings - Describes standard detail drawings or any use of previously prepared special drawings.
14. Specifications - Mentions use of special specifications and why they were needed. Explains special conditions or the need for special provisions in the construction contract.
15. Bid Schedule - Give the rationale for selection of lump sum or subsidiary items.
16. Cost Estimate - Explain the effects of the season, changes in size of contract
17. Construction Schedule - Explanation of any critical starting, delay, or completion dates.
18. Operation and Maintenance (O&M) - Explanation of conditions in which design assumptions depend on proper O&M and significant O&M activities are anticipated (for example, grasses in the emergency spillway to protect against erosion during flow). Items identified and evaluated during the design that are planned for replacement during the evaluation period must be noted and described.
19. Construction Review - A summary of those items, conditions, or features encountered during construction that require a field review by the designer, geologist, soil engineer, or other specialist to ensure that conditions anticipated during the design are verified and consistent with the design assumptions. Include the request for timely notification. Note whether a preconstruction conference is needed.
20. Authority - The name (with signature), title, and seal of the designer must appear on the title sheet of the design report along with this statement "To the best of my professional knowledge and judgment the design summarized by this report meets applicable NRCS standards." The consultant shall provide at the time of 50%, 90%, and 100% design submittal.

E. Construction Drawings
    1. Document the construction drawings to illustrate the work. Drawings shall contain the detail needed to:

i. Access the site.
ii. Ensure avoidance of both underground and above ground utilities.
iii. Establish construction operations including material storage, staging areas, equipment storage, servicing areas, construction office, etc.
iv. Layout and construct the work as specified.

2. Ensure where the specifications include "as shown on the drawings" or similar language, the information is included on the drawings and the work illustrated on the drawings can be safely constructed as shown.
3. Certify on the drawings that "to the best of my professional knowledge, judgment, and belief, these plans meet applicable NRCS standards." The above statement shall be included on the title sheet near the engineer's signature and seal. The Consultant shall provide at the time of 50%, 90%, and 100% design submittal.

F. Specifications
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iv. Specify tests and activities necessary to control the quality of the work.
v. Describe the method of compensation for the work including, if applicable, items that are subsidiary as defined in NEH Part 642, Specifications for Construction Contracts.
2. Ensure the information is consistent between the specifications and the drawings and between the specifications and the bid schedule.
3. Consultant shall use NRCS National Construction Specifications. Construction specification may be modified to be more restrictive based on the judgement of the Consultant, but may not be modified to reduce the requirements. The Consultant shall provide at the time of 50%, 90% and 100% design submittal.

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I. Performance Schedule
1. The Consultant shall prepare a construction performance schedule. The construction performance schedule shall give the estimated duration and sequence

for activates necessary to construct the design. The Consultant shall provide at the time 100% design submittal.

J. Inspection/quality Assurance Plan (QA Plan)
    1. The Consultant shall create a QA plan and ensure that it is adequate to provide the construction oversight needed to ensure the desired construction quality is attained. The Consultant shall also ensure the plan contains provisions for timely notification of specialists such as the designer, geologist, soil mechanics engineer, or other specialist to ensure that conditions anticipated during design are verified and are consistent with the design assumptions.
    2. As part of the QA plan the contactor shall develop of sheet pile driving plan. The plan shall detail possible conditions encountered during pile driving the appropriate actions to follow. The Consultant shall provide at the time 100% design submittal.

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    1. The Consultant shall prepare an Operation and Maintained Plan for the designed structure. The plan shall detail the actions that need to be performed for the structure to function as designed for the design life of the structure. The O&M plan must include but is not limited to the proper gate operations that will provide water to all users and meets the requirements established in the FEIS and associated documents. The O&M plan shall also include all maintenance actives such as trash and debris removal and repairs of gates, screens, and other appurtenances. The Consultant shall provide at the time 100% design submittal.

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Q. Bid Period and Construction Period Services
    1. The Consultant shall assist the City in preparing a bid advertisement for the project, providing bid documents, holding a pre-bid meeting, and providing any needed addenda during the bid period.

2. The Consultant shall assist the City in evaluating the bids received for the project and recommending award of the project.
3. The Consultant shall prepare for and attend a pre-construction meeting with the City and the Contractor.
4. The Consultant shall provide submittal review, response to Contractor Requests for Information, review of and make recommendations regarding change order requests, review of pay applications for the duration of the construction period, and conduct project closeout at completion of the work.
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7. The Consultant shall provide a comprehensive inspection with the contractor and the City at substantial completion, final completion, and just prior to warranty expiration. Prepare and deliver to Ivins a written list of observed deficiencies.
8. The Consultant will use redlined drawings provided by the Contractor to develop as-built construction drawings for the project.
9. The Consultant shall assist the City in closing out the project.

IV. Compensation for Services:

Ivins City intends to enter into a professional services contract with the Consultant that's chosen by the selection committee based on the selection process below. **The selection of the engineer or engineering firm will be based mainly on qualifications and other criteria as described in the selection process below.** Following the selection of a Consultant, the City and the Consultant will negotiate scope and compensation. If terms between the City and the Consultant regarding scope and/or compensation cannot be agreed upon, the City reserves the right to forgo negotiations with the selected Consultant and begin negotiations with the Consultant with the second highest point total from the selection process.

IV. Evaluation Criteria and Selection Process

Selection of the successful Engineer will be based upon a matrix giving a predetermined value to each of the submissions required in this section. The award of contract will go to the engineer receiving the most points based on the following:

A. Qualifications of the firm, project management and design teams, and key project personnel (40 POINTS AVAILABLE)
B. Design approach and methodology, understanding of work required, proposal presentation (30 POINTS AVAILABLE)
C. Past performance and references, communication skills, local knowledge and experience (30 POINTS AVAILABLE)

V. Proposal Format and Content

Proposals are to follow the format and are to contain information listed in this section. In order to be considered, proposals must address all the items listed in this section and adhere to page limitations.

TECHNICAL PROPOSAL FORMAT

A. Letter of transmittal introducing firm, the office location where the project team will be located, the firm's capabilities, and nature of proposal.
B. Project Team, Approach, and Project Understanding. Sub-contractors need to be listed in this section as well. (Two pages maximum for each project, 6 pages maximum total) If needed, complete resumes can be included as an appendix.
C. Firm Experience, Qualifications, and References (Two pages maximum for each project, 6 pages maximum total)
    1. List projects similar in size and complexity completed by firm (minimum two per project) (include projects that have been done for the NRCS).
    2. Provide names and telephone numbers for each of the projects listed.

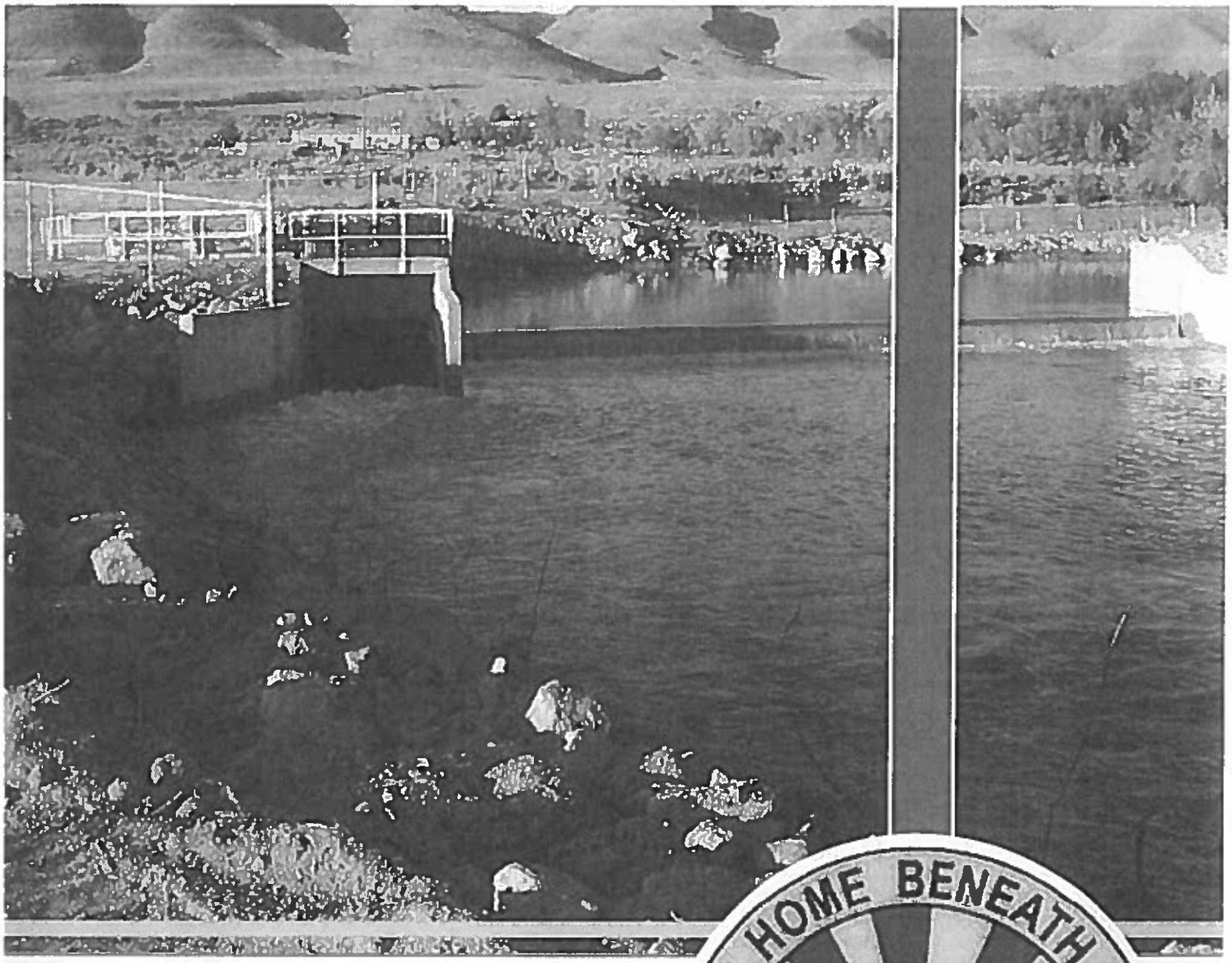
The Technical proposal is to be submitted electronically, see the submittal requirements section for more information.

VII Submittal Requirements

Proposals are due on Wednesday, June 22st by 3:00 p.m.

The proposal should be submitted electronically in a PDF format to jchapman@ivins.com. Large files may be transmitted by including a link to an FTP site on the email. Hard copies will not be accepted.

Inquiries regarding the RFP should be directed to Chuck Gillette, P.E., Public Works Director or Tom Jorgensen, P.E., Assistant Public Works Director of Administration at (435) 634-0689, or by inquiry to the address above. The City reserves the right to award the contract to the highest ranked firm without further consideration or discussion. **The City reserves the right to reject any and all proposals received.** The City also reserves the right to waive any irregularity, informality, or technicality in the proposals in its best interest. If terms cannot be mutually agreed upon, The City will enter into negotiations with the secondary engineer/firm.



Proposal for

Design Storm Water Improvement Projects

Engineering Services

OUR HOME BENEATH THE BIG RED MOUNTAIN

IVINS UTAH

Submitted by

Jones & DeMille Engineering

435 East Tabernacle, Suite 302 | St. George, Utah 84770

Jones & DeMille Engineering

800.748.5275
www.jonesanddemille.com

infrastructure professionals

CORPORATE
1535 South 100 West
Richfield, UT 84701
435.896.8266

50 South Main, Suite 4
Manti, UT 84642
435.835.4540

1675 South Highway 10
Price, UT 84501
435.637.8266

45 South 200 West (45-43)
Roosevelt, UT 84066
435.722.8267

775 West 1200 North
Suites A&D
Springville, UT 84663
801.692.0219

435 East Tabernacle, Suite 302
St. George, UT 84770
435.986.3622

316 South Main
Monticello, UT 84535
1.800.748.5275

June 22, 2016

Jennifer Chapman
jchapman@ivins.com
Ivins City
55 North Main
Ivins, UT 84738

RE: Statement of Interest and Qualifications ▪ Professional Engineering Services to Design Storm Water Improvement Projects for the City of Ivins

To Whom It May Concern:

Our team of Jones & DeMille Engineering (J&DE) and AECOM appreciates the opportunity to submit our Statement of Qualifications and Capabilities to demonstrate our interest in providing professional engineering services to the City of Ivins. Improving the quality of life in the City of Ivins is extremely important to our Team. We would love to assist Ivins in their effort to protect their citizens by completing NRCS Debris Basins and the Dam Rehab projects.

Our Statement details our qualifications, capabilities, and reasons why our team would like to work with the City on their anticipated storm water projects. Highlights include:

- ***Our team specializes in EWP and Dam Rehab projects.*** We have helped dozens of other communities alleviate their storm water problems through successful management of more than $30M of storm water projects in the region over the past 5 years. We understand the NRCS EWP and the NRCS Dam Rehabilitation programs.

- ***Location!*** J&DE's St. George office is only miles from the City of Ivins. We are close enough to offer our award-winning services and work together to help you shape the quality of life. J&DE has found the key to delivering high-quality projects in Southern Utah is having an established local presence committed to delivering quality projects.

I will be J&DE's authorized representative and will bring a strong team of professionals to work with the City. I can always be reached by phone at 435.979.0403, or by email at ryanj@jonesanddemille.com. Additionally, Kayde Roberts can also be reached by phone at 435.668.6324, or by email at kayde.r@jonesanddemille.com.

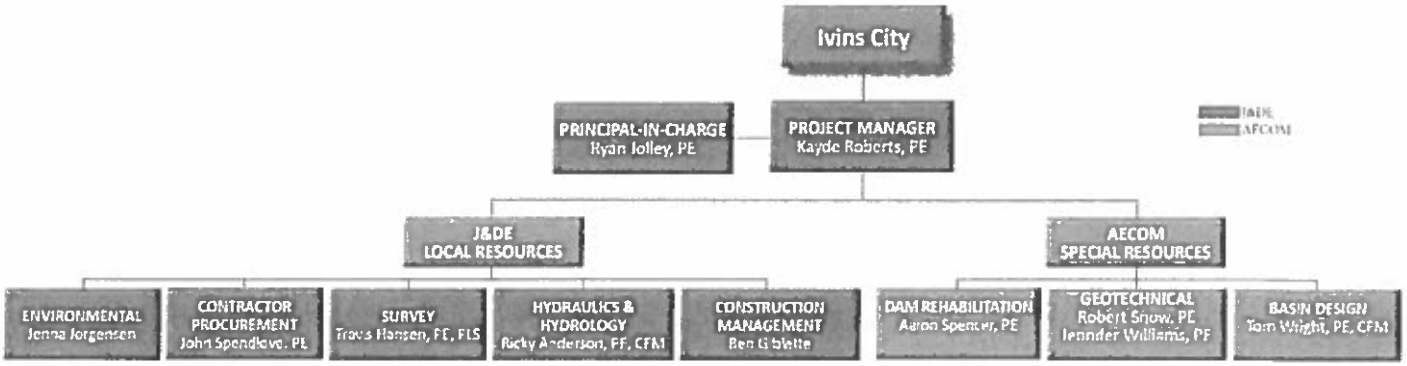
We look forward to working with the City of Ivins and welcome an opportunity to review our capabilities and services in greater detail. Please let us know if we can provide additional information.

Sincerely,

JONES & DeMILLE ENGINEERING, INC.

Ryan Jolley, P.E.
Principal | Project Manager

PROJECT TEAM | APPROACH | PROJECT UNDERSTANDING



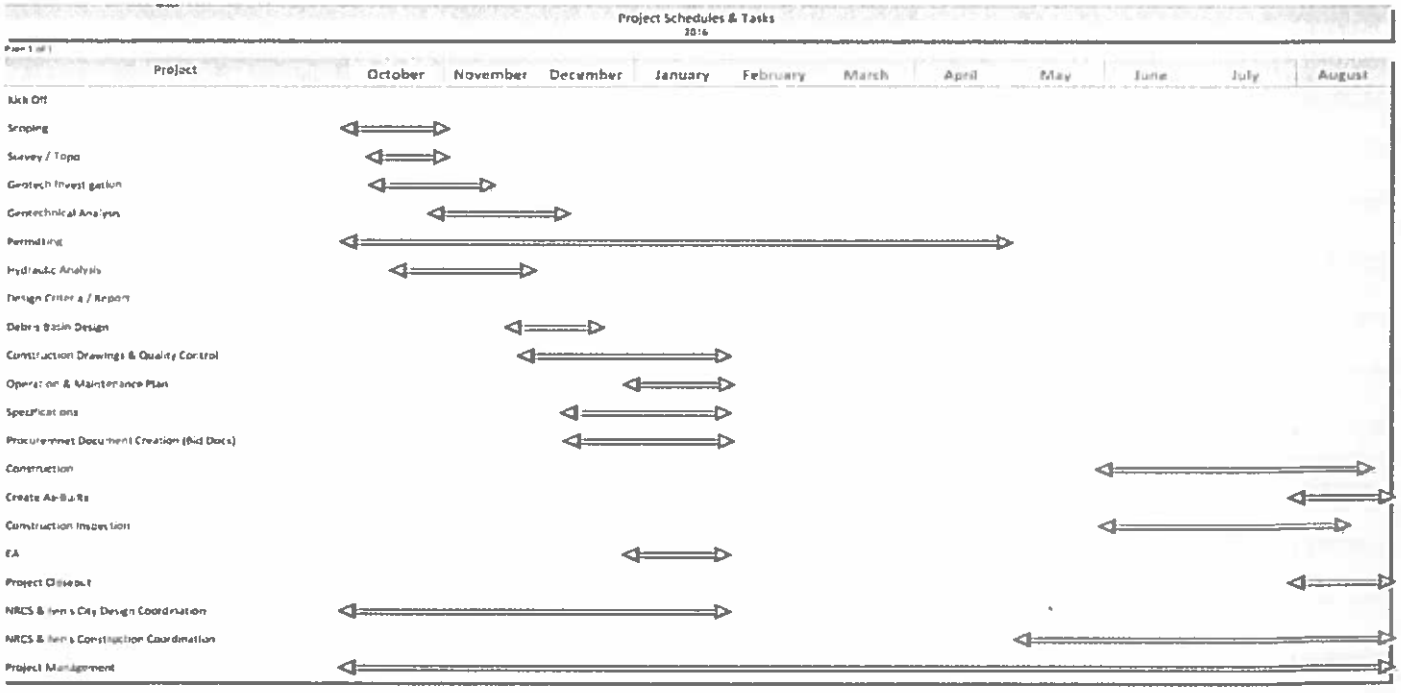
Executive Summary

Jones & DeMille and AECOM Technical Services, Inc. propose to use their combined expertise and capabilities to provide an efficient and successful dam rehabilitation project for Ivins City. The City can rely on prompt, informed, and capable local representation and engineering from Jones & DeMille combined with the broad technical expertise of AECOM as a leading national engineering firm with extensive experience in dam and debris basin design, geotechnical design and investigations, flood hydrology and hydraulics, sediment yield studies, and an extensive working history with the NRCS nationwide. This team brings complimentary services that combine local expertise with technical depth tailored as needed for this dam rehabilitation.

Project Understanding

The six debris basins, commonly known as Ivin's Debris Basins #1 through #6, were completed in 1977 to reduce flood damage for a 100-year, 1-hour rainfall event with a design life of 100 years. While the dams currently require rehabilitation to meet current USDA-NRCS and Utah State Dam Safety regulations (USDA-NRCS TR-60), recent residential development below these embankments will likely change the hazard classification from moderate to high, thereby requiring additional analysis and trigger additional requirements.

Multiple deficiencies have been identified in the Draft Supplemental Watershed Plan No. 5 and Environmental Assessment dated February 2015. The deficiencies include deteriorated spillways of uneven grades, which have fallen into disrepair, been altered, or otherwise encumbered and in need of erosion protection. The dam crests require regrading and erosion protection. Sediment has built up on the principal spillways and should be removed to restore design capacity. The outlet pipes and trash racks should be replaced or upgraded to extend design life of the outlet works. Funding for the project to correct these deficiencies is being provided by the Small Watershed Rehabilitation Program through the USDA-NRCS.



Existing Preliminary Work on Project

Significant preliminary investigations have been performed by the NRCS, McMillen, LLC, and Rosenberg Associates. These include the Environmental Assessment which is nearing completion, a final Biological Assessment reviewed by the USFWS, cultural research, hydrologic and hydraulic analysis, dam breach and flood mapping, seismic hazard, geologic, and geotechnical investigation, and slope stability analysis. From this work, we know the following key aspects:

- The desert tortoise is the primary environmental concern on the site. Proper protection and mitigation measures must be incorporated into the project as outlined in the EA.
- No known cultural sites exist within the project footprint, as confirmed by correspondence with SHPO.
- The USACE will not require the submittal of any permits for the proposed project and there are no mapped wetlands on the project site.
- The spillway for debris basin #2 is undersized for the required design flood. A new spillway is required with capacity to pass the combined flows of Basins #2, #3, and #4 from the probable maximum flood event.
- A seismic evaluation has determined the earthquake loading hazard classification to be low because the normal pool is dry.
- The reported factors of safety for slope stability are within required factors of safety.
- Preliminary dam breach analysis confirms that the six embankments should be classified as high hazard dams.

Approach to Work

The project team will provide local project management, inspection, and quality assurance during construction. The local project manager will serve as the initial contact in all interactions with the contractor, review and verify all change applications and pay requests, and respond to other requests and correspondence with the contractor. The team will provide full support though bidding, contract award, and construction as outlined in the RFP. All reports and correspondence will be made available to the city and weekly meetings will be held. Project engineers will be present for key inspections.

Dam modifications to meet State of Utah Dam safety standards are eligible for dam safety funding. Multiple funding options are available in this program including reimbursement of project costs or low-interest loan through the Division of Water Resources for later reimbursement when state funding becomes available. The team is experienced obtaining funding for other entities and proposes to help the city apply for and obtain State of Utah Dam Safety funding for this project to reduce the cost impact to residents of the City of Ivins.

The team proposes to perform a thorough review of the analysis and data that support the conclusions reached in the Watershed Plan / Environmental Assessment Report, Biological Report, and other existing documentation. Data gaps, if any will be identified and investigation performed to support the rehabilitation design to comply with NRCS and Utah Dam Safety regulations. This project Team will engage local subcontractors to fill any data gaps.

Since the majority of permitting requirements have been addressed, efforts in this regard will be limited to verifying the final design documents address those requirements and that there are no unresolved issues or outstanding documentation.

The team has extensive experience in all aspect of the construction methods needed to make this a successful and cost effective project including the geometric embankment modifications and trenchless rehabilitation methods for pipelines, including outlet works.

FIRM EXPERIENCE | QUALIFICATIONS | REFERENCES

Jones & DeMille Engineering (J&DE) is ranked as one of the top design firms in the Intermountain Region by "Engineering News Record" magazine. Moreover, J&DE was recently selected to PSMJ's 2015 exclusive Circle of Excellence—***the only Utah firm to be selected***. The Circle of Excellence honors the top 20% of engineering firms throughout the United States and Canada. **This distinction reflects our high standard of excellence employed on each and every project as we help our clients improve the quality of life.** We offer this standard of excellence to Ivins City for their anticipated projects.

AECOM AECOM Technical Services, Inc. (AECOM), recently merged with URS Corporation (URS), is one of the prime engineering companies the world over, providing services in every discipline, including civil, geotechnical, hydrology, hydraulics, structural, electrical, environmental, seismology, stream sedimentation and geomorphology, and other specialties. But most importantly, our local Salt Lake City office, located in Murray, has a well-trained, experienced staff in all of the core disciplines necessary to provide a thorough, in-depth, and expert analysis and design of the Ivins's debris basins rehabilitation and Kayenta debris basin(s), and have the resources required to execute the work a timely fashion. Our discipline experts in Colorado will provide support as needed to support the local staff. URS can provide any discipline required due to our extensive network of industry experts directly employed by the company.

The AECOM team has extensive experience in the analysis of dams, debris basins, flood hydrology, sedimentation, stream channel modeling and stabilization, and other directly relevant work. The work will be managed and executed by individuals in our local office who are readily accessible and familiar with the state, and familiar with the Utah Division of Water Resources, the Utah Dam Safety Section and its design standards, the State Office of the NRCS, which will aid in an efficient and effective review process.

PROJECT EXPERIENCE

Emery County ▪ A&E Independent Design Review (2016) ▪ $64,000



Independent design review of draft rehabilitation construction documents including the draft design report, specifications, drawings, and final geologic evaluation report. The scope included performing all activities to complete an independent design review of the rehabilitation design to verify conformance to NRCS policy and technical guidelines, determine if all potential safety deficiencies have been identified and addressed by the design, verify the design components do not diminish dam safety, confirm the design meets the stated objectives and addresses unique site conditions, evaluate the adequacy of available data (geotechnical, geologic, project history, and basic data), verify that design assumptions and methods of analysis are valid, determine that the design is consistent with sound engineering practice, evaluate the clarity of design documents for bidding and construction, evaluate the reasonableness of the cost estimate and construction schedule, evaluate the adequacy of the contractor control requirements, instructions to construction oversight engineer, the operations and maintenance plan, and the quality assurance plan. The modifications to the Millsite Dam included a raise of the dam crest, new spillway, outlet works extension, and stability improvements consisting of an improved internal drain system, flattened downstream slope, and downstream toe berm. Project challenges include an unfiltered large internal drain and toe drain composed of coarse-grained material, liquefiable foundation soils, 30,000 cfs labyrinth spillway, and proposed complex drain that will be difficult to construct.

Dennis Clute, Construction Engineer | National NRCS | 817.509.3765

Nationwide ▪ Multiple Projects Nationwide (2009 to Present) ▪ $40,000,000



URS was awarded the NRCS five-year nationwide IDIQ in 2009 for a full range of architectural/engineering services for assessment of dams, rehabilitation design, design review, and construction management services. Services included site inspections, conceptual designs, risk review, cost estimates, subsurface investigations, design, preparation of technical reports, plans and specifications, drawing review, technical analysis, engineering evaluations, construction management, and surveys associated with evaluation, modification, replacement, or upgrade of existing USDA, NRCS facilities throughout the US.

Representative projects under this contract include the following:

- A&E Design Services, East Locust Creek, RW-1, Sullivan County, MO. Geologic investigations, surveying, environmental assessments, soil mechanics testing and evaluations, alternatives analysis, and preliminary design for a new 80-foot high dam and 50,000 acre-foot reservoir.
- Dam Assessments, Dams PA-413, PA-415, PA-416, PA-419, PA-220, PA-221, PA-445, and PA-446, PA. Dam safety assessments to evaluate issues and rehabilitation/modification options for multiple flood detention dams. Dam inspection, engineering analyses, alternatives analysis, and conceptual design.
- Dam Assessments, Sebastian Martin -Black Mesa Watershed, Dams 2, 3, 4, 5, 6, and 18, NM. Dam safety assessments to evaluate issues and rehabilitation/modification options for multiple flood detention dams. Services include dam inspection, engineering analyses, alternatives analysis, and conceptual design.
- Dam Assessments, Upper Hocking Structures 4 and R-42, OH. Dam safety assessments to evaluate issues and rehabilitation/modification options for flood detention dams. Services include dam inspection, engineering analyses, alternatives analysis, and conceptual design.
- Final Rehabilitation Design, Lower Wakarusa FRD No. 24, KS. Engineering analyses and final design evaluations including SITES erodibility modeling, water surface profile development, HEC-RAS tailwater studies, and filter and stability analyses. The rehabilitation

included a new principal spillway, embankment raise, widened auxiliary spillway with articulated block armoring, and a new embankment drainage system.

- Final Decommissioning Design, Aston Township Dam, PA. Final design, permitting, assistance with contractor selection, and construction oversight for the removal of a rock masonry dam. The project design included the installation of four in-stream rock arches to provide grade control.
- Independent Design Review, Lost Creek Structure B-1, MO. Technical review of a rehabilitation design on behalf of NRCS Fort Worth Center. The dam modifications included changes to the structural principal spillway and earthcut auxiliary spillway.
- Independent Design Review, Sandy Creek Watershed, No 15 & 23 and South River Watershed, Site 4, GA. Provided an independent technical review of the rehabilitation designs for the NRCS Fort Worth Center. The dam modifications included labyrinth spillways, internal drains, and embankment raises.
- Surveying, Santa Cruz River Watershed, Site 1, Rio Arriba County, NM. Part of an assessment for an existing floodwater retarding structure.
- Easement Boundary Surveys for Land Owner Tracts in Various Counties, OK. Nine easement boundary surveys and plat maps.

Mike Sears and Hosea Latshaw | NRCS (MO & PA) | 573.876.9395 (Sears) 717.237.2212 (Latshaw)

Oklahoma ▪ Multiple Projects Statewide (2007 to Present) ▪ $5,000,000



AECOM/URS has performed 13 task orders under this contract from 2007 to present, with $2.8M committed to a LiDAR data collection task. Most task orders average less than $200K. Services included developing construction drawings and specifications, design reports, cost estimates, and design folders. Projects were completed using NRCS design guidelines and criteria with particular emphasis on the requirements of TR60. Hydraulic analyses and design included SITES modeling, water surface profile development, and HEC-RAS tailwater studies.

Representative projects under this contract include the following:

- Final Rehabilitation Evaluation, IDA, and Decommission Design of Cottonwood FWRS 15, OK. Detailed design alternatives and construction cost estimates for re-evaluation of economic viability. URS led an incremental damage assessment (IDA) for the dam and downstream hazards to determine if the inflow design flood could be reduced. The IDA study results led NRCS and the project sponsors to select decommissioning as the preferred alternative and URS provided final design.
- Final Rehabilitation Design of Cottonwood FWRS 16, Canadian County, OK. Final design services including a 48-inch diameter RCP conduit, an inlet structure, a 500-ft wide RCC auxiliary spillway over the center section of the dam, 3.5-ft dam raise, and a foundation/embankment drain system. URS performed a three-dimensional hydro-dynamic model (FLOW-3D) of the RCC spillway to evaluate the improved efficiency of the modified crest design and reduce the overtopping spillway from 600 ft. to 500 ft. URS worked with the Lincoln NDCSMC to complete embankment stability evaluations.
- Final Rehabilitation Design, Cottonwood FWRS 17, Canadian County, OK. Final design services including a 42-inch-diameter RCP conduit, new inlet structure, an impact basin, widening the existing earthcut auxiliary spillway, grading a new 300-ft wide vegetative auxiliary spillway, a 2.6-ft dam raise, and a foundation/embankment drain system.
- Final Rehabilitation Design, Sallisaw Creek FWRS 18M, Adair County, OK. Field investigations included auger drilling, rock coring, test pitting, and laboratory testing. Final design included a 48-inch-diameter RCP conduit, inlet structure, impact basin, widening the existing vegetative auxiliary spillway, a 4.2-ft dam raise, and a foundation/embankment drain system.
- Final Rehabilitation Design of Sallisaw FWRS 26, Adair County, OK. Final design services including a 48-inch-diameter RCP conduit, inlet structure, impact basin, RCC barriers and auxiliary spillway liners, and a dam raise.
- Final Rehabilitation Design of Upper Clear Boggy 33, Pontotoc County, OK. Final design services including a 30-inch-diameter RCP conduit, inlet structure, impact basin, widened earthcut auxiliary spillway, and a nominal dam raise.
- Final Rehabilitation Design of Upper Clear Boggy 34, Pontotoc County, OK. Final design services including a 48-inch-diameter RCP conduit, inlet structure, impact basin, widened earthcut auxiliary spillways, and a dam raise.

Anril Bass and Heath Sand | NRCS (OK) | 785.823.4500 (Anril) 405.742.1262 (Heath)

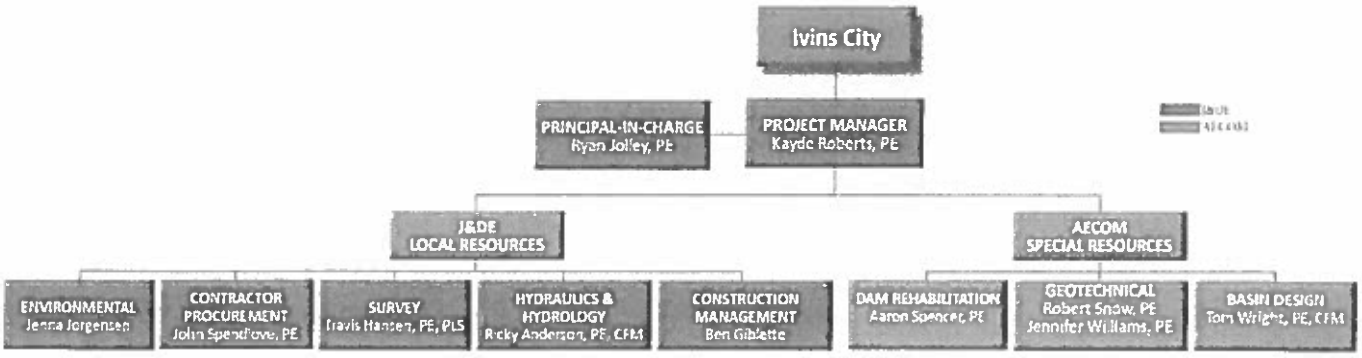
San Juan Water Conservancy District ▪ Dry Wash Dam (2015) ▪ $2,195,000



Design and construction management services. Scope of work included removal of existing undersized and outdated dam and construction of a new 60' tall dam and 500-acre-foot reservoir. The removal process included dewatering and excavating the existing dam embankment down to the outlet works and removing outlet works piping and structures. The dam construction consisted of a new 24" dual level outlet works, toe drain, chimney drain, blanket filter systems, overflow spillway and dam embankment. The new dam was constructed primarily with onsite materials in order to reduce construction costs.

Norman Johnson | San Juan Water Conservancy District | 435.678.2596

PROJECT TEAM | APPROACH | PROJECT UNDERSTANDING

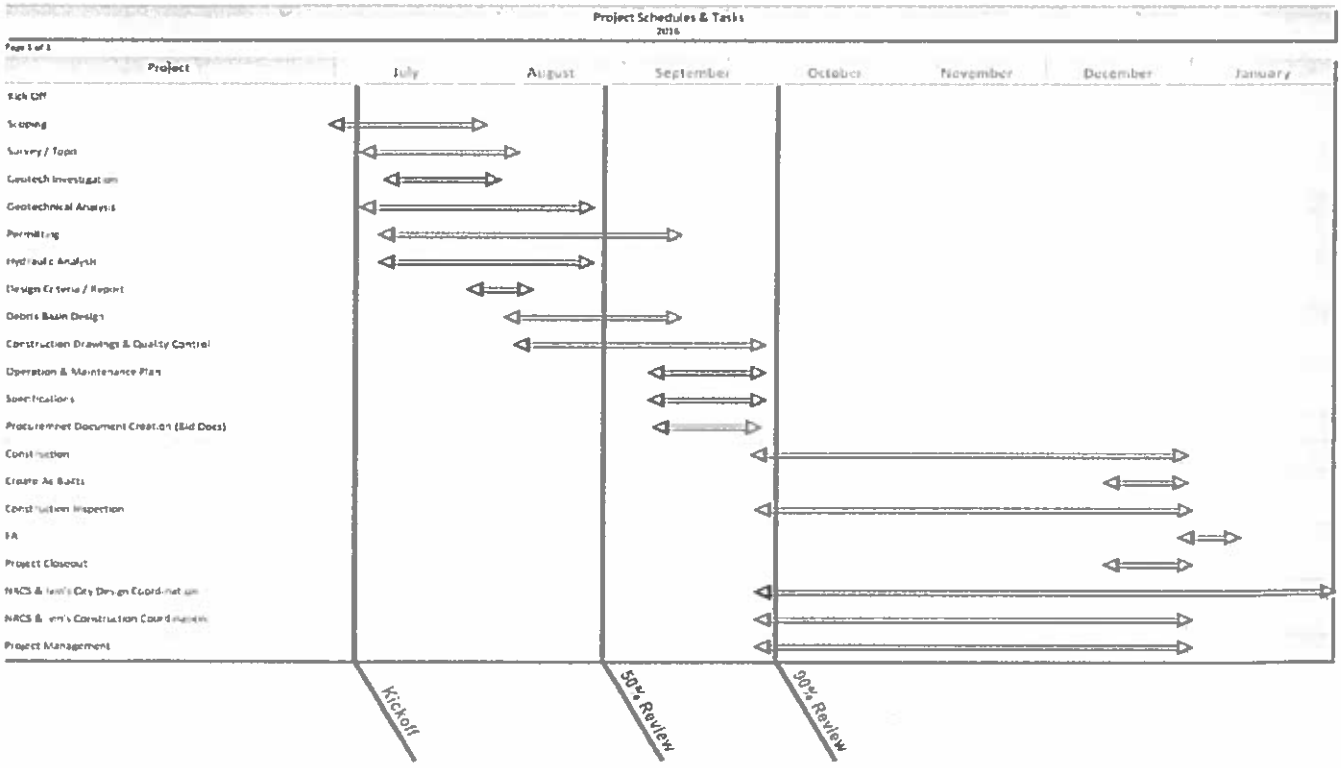


Executive Summary

Jones & DeMille and AECOM Technical Services, Inc. propose to use their combined expertise and capabilities to provide an efficient and successful debris basin project for the City of Ivins. The City of Ivins can rely on prompt, informed, and capable local representation and engineering from Jones & DeMille combined with the broad technical expertise of AECOM with extensive experience in dam and debris basin design, geotechnical design and investigations, flood hydrology and hydraulics, sediment yield studies, and an extensive working history with the NRCS nationwide. This teaming arrangement allows for complimentary services that combine local expertise with technical depth tailored to the EWP process and the debris basin design.

Project Understanding

Jones and DeMille Engineering understands that the debris basins project in Kayenta, stemmed from a flood event in 2014 where a 50-year storm event caused significant damage to Ivins City's infrastructure and flooded nearby residences and businesses. The basins will be funded utilizing Emergency Watershed Protection (EWP) program funds administered through the NRCS. The NRCS requires all portions of the project, including construction to be complete within the 220 days. The contract time began on June 1st 2016 which requires the project to be complete on January 6th 2016. J&DE has coordinated with Lance Smith (NRCS – St. George) and have discussed a 60 day extension that can be granted on the local level with ease. Asking for additional extensions will require approval from the federal level, which will be much more difficult to obtain. J&DE has identified the critical paths and have focused our efforts on accelerating this project schedule. The proposed draft schedule is shown below.



Project Cost

The DSR breaks down the cost for this project and totals to over $1.4 million. J&DE understands that's the City is responsible for 25% of that cost. From previous EWP projects, our team has helped our clients provide this portion of the cost with approved soft matches. These matches have

included City supplied rip-rap, barrow, labor and other material. Carefully accounting for these materials and services, as this team has done on other EWP projects, can go a long way to minimizing the financial burden on the City of Ivins

Environmental

There are known sensitive cultural, biological, and environmental resources within the project area. Our team has exceptional working relationships with the U.S. Fish and Wildlife Service and U.S. Army Corps of Engineers, and will work closely with agency staff to expedite the permitting process and meet crucial timelines for Ivins City. We select reputable, qualified consultants to complete the field work necessary to meet the agency requirements and avoid delays. We are currently working closely with NRCS staff on additional EWP projects throughout the state; this ongoing coordination will result in increased efficiency for Ivins City's EWP project.

Permits

All necessary permits must be obtained before construction. J&DE will provide and submit the proper documentation to the various governing agency to receive the required permits. These permits include a 404 stream alt permit, a dam safety permit, special use permit (USFS) and possibly a USFS permit.

Design Process

The project team will provide local project management, inspection, and quality assurance during the project. The local project manager will serve as the initial contact in all interactions with the contractor, review and verify all change applications and pay requests, and respond to other requests and correspondence with the contractor. The team will provide full support though bidding, contract award, and construction as outlined in the RFP. All reports and correspondence will be made available to the city and weekly meetings will be held. Project engineers will be present for key inspections.

J&DE will hold a kickoff/scoping period and break the design process up into two milestone reviews (50% and 90%). The following is a list of items that will be accomplished or addressed during the kickoff/scoping period immediately following notice to proceed.

- Data Review
  - DSR
  - Ivins City Storm Water Master Plan
  - Preliminary topography
  - Identify potential alternative sites
  - Identify data gaps
- Site walk of primary and alternative sites with Ivins Public Works Director, Engineer and local NRCS representative.
  - Discuss past hydraulic considerations
  - Observe exiting watersheds and contributing drainage channels
  - Discuss environmental mitigation needs
  - Detail permitting needs
  - Determine preliminary basin(s) locations
  - Discuss impacts to Ivins City Storm Water Master Plan
  - Prepare investigation plan to address data gaps
- Site Topo Survey
  - Proposed Basin(s) locations
  - Drainage channels
- Cultural, Environmental, and Geotechnical Investigations

Following the thorough scoping phase the J&DE team will provide project plans and specifications for review at the 50% and 90% milestone meetings. It is proposed that the 50% review meeting be held as an all-day working review meeting with the project stake holders to expedite the review process rather than a traditional review with an extending commenting period. If an alternate procurement method is selected by the owner, the project team will include the selected contractor in the design review meetings for design coordination. The project team will provide project plans in PDF and CAD formats, project specifications in PDF formats, an extensive basis of design report, and fulfill any other requirements set forth in the RFP.

Advertising

Our team proposes to perform all tasks necessary during the advertising and procurement phase of the project. Project funding for the EWP project is contingent on complying with the challenging schedule set forth by NRCS. The project can be completed using the traditional design-bid-build contracting method as seen in the schedule above; however, to save schedule the project team recommends an alternate procurement to shorten the advertisement and award time. One such method includes hiring a contractor during the design period (hybrid of CM/GC). This reducing the schedule by eliminating the bidding period following completion of the design and also on-boards the contractor early in the design process where project saving measures can be implemented or constructability issues can be identified and resolved in timely manner. Our team can discuss this further with the City if desired.

Ultimately, our team is committed to provide a great, seamless project within the allotted time schedule. We will do this by using the experts within our team to understand, analyze, design and produce construction documents of the highest quality. We understand that along with the importance of expertise, being local and available is also important and necessary to create a more fluid process.

Project Inspection and Closeout

The project team will contract with a local firm to perform quality control during construction and perform quality assurance services to verify that the project was built in accordance with the project plans and specifications. The team will document all design changes and prepare as-build construction plans. All design records will be turned over to the city in an organized and timely manner.

FIRM EXPERIENCE | QUALIFICATIONS | REFERENCES

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The AECOM team has extensive experience in the analysis of dams, debris basins, flood hydrology, sedimentation, stream channel modeling and stabilization, and other directly relevant work. The work will be managed and executed by individuals in our local office who are readily accessible and familiar with the state, and familiar with the Utah Division of Water Resources, the Utah Dam Safety Section and its design standards, the State Office of the NRCS, which will aid in an efficient and effective review process.

Project Experience

Annabella Town ▪ Flood Protection and Drainage Project (2016) ▪ $1,706,000



Services provided include design, construction engineering, permitting, right-of-way, easements. Scope included two earthen flood detention basins with controlled flow concrete outlet structures. Embankment heights varied from 19 to 26 feet tall and capacities varied from 23.8 acre feet to 53.7 acre feet. Construction quantities were approximately 102,600 cubic yards of compacted embankment, 3,600 cubic yards of bank armor and 4,750 cubic yards of grouted riprap through spillway (screened onsite and quarried), 11,100 linear feet of earthen channel, 1060 cy channel bank armor, multiple reinforced concrete cross gutters, 300 linear feet of surface ditch, 700 linear feet ditch cleaning, 6,450 linear feet shoulder grading, 1,500 cubic yards 3" shoulder armor, 450 cubic yards ¾" crushed rock shoulder armor, and a concrete emergency canal spillway structure. Scope also included replacement of Annabella irrigation diversion structures, and sluice structure channel bank armor, 400 linear feet HDPE irrigation pipe along with 1,300 linear feet of CPE storm drain pipe. Coordination of multiple agencies including the CIB, NRCS, BLM, Utah Division of Water Rights, USACE, Annabella Town, and property owners.

Brent Christensen, Mayor | Annabella Town | 435.896.6571

Millard County ▪ Emergency Watershed Protection (2014) ▪ $3,500,000



Services provided include design, construction engineering, permitting, right-of-way, easements. Scope included three earthen flood detention basins with precast concrete pass-through culverts. Embankment heights varied from 20 to 25 feet tall and capacities varied from 11 acre feet to 20 acre feet. Construction quantities were approximately 70,000 cubic yards of compacted embankment, 15,000 cubic yards of bank armor and spillway riprap (screened onsite and quarried), multiple reinforced concrete low water crossings, grouted riprap, and stacked riprap retaining walls. Scope also included modifications for two Oak Creek irrigation diversion structures, channel bank armor, spillway and emergency bypass riprap protection, and approximately 4,200 cubic yards bank armor riprap protection for Leamington Town and Fool Creek culinary mountain springs and transmission pipelines. Coordination of multiple agencies including the NRCS, USFS, BLM, UDOGM, Utah Division of Water Rights, USACE, Millard County, Oak City, Leamington Town, public utility system owners and property owners.

Jim Withers, Commissioner | Millard County | 435.743.6223

Kane County ▪ Virgin River Emergency Watershed Protection (2014) ▪ $1,175,000



Design and construction engineering services. Scope of work included environmental permitting, over 22,500 cubic yards of riprap bank armoring, critical utility and infrastructure protection structures, flood debris removal, grouted riprap, pipe installation, irrigation diversion reconstruction and repairs, willow plantings, cottonwood pole plantings, seeding, and agency coordination.

Lou Pratt | Kane County | 435.644.4968

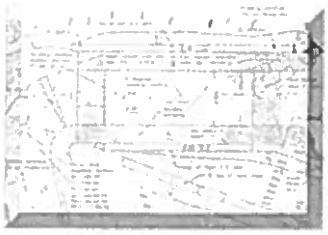
Duchesne County ▪ Emergency Watershed Protection (2013) ▪ $5,300,000



Funding acquisition, design and engineering services including 6,000 linear feet of bank armor; repair of Yellowstone diversion; removal and reconstruction of C. Canal diversion structure; protection measures; permitting; right-of-way and easement acquisition; coordination with NRCS, Duchesne County, Moon Lake Water Users, Hicken Ditch Company, UIIP, and the USFWS.

Ron Winterton, Commissioner | Duchesne County | 435.738.1100

Douglas County, Kansas ▪ Lower Wakarusa Floodwater Retarding Dam No. 24 (2011) ▪ $260,000



Engineering analyses, final design evaluations, and preparation of final design documents including project plans, specifications, cost estimate, and project bid documents. The project included geotechnical investigations of the dam (including abutments and underlying foundation soils), ground survey, advanced design analyses, preparation of final design and construction drawings, specifications, cost estimate, and supporting documentation for the design. The engineering analyses included SITES erodibility modeling, water surface profile development, HEC-RAS tailwater studies, filter analysis, and stability analyses. Design features include a new principal spillway, embankment raise, widened auxiliary spillway with articulated block armoring, and a new embankment drainage system. Project feedback from the client, "I sincerely appreciate the professionalism, high level of quality, and attention to detail that you and your team put into the design of rehabilitation for Lower Wakarusa FRD 24. It has truly been a pleasure working with you on this project." – NRCS-KS

Mike Sears and Hosea Latshaw | NRCS (MO & PA) | 573.876.9395 (Sears) 717.237.2212 (Latshaw)

Sevier County ▪ Emergency Watershed Protection (2008) ▪ $5,500,000



Design and construction engineering, permitting, right-of-way, easements. Scope of work included 6,400 linear feet of bank armor, Sevier Valley Canal diversion repairs and modifications, complete removal and reconstruction of the Elsinore Canal diversion structure and a secondary spillway for the Annabella Canal diversion. Also included diversion modifications for the Annabella Canal and Vermillion Canal, protective measures. Coordination of multiple agencies: NRCS, BLM, US Army Corps of Engineers, Sevier County, Elsinore Canal Company, Sevier Valley Canal Company, Annabella Canal Company, Vermillion Canal Company, utilities, and property owners.

Gary Mason, Commissioner | Sevier County | 435.896.0400

J&DE offers a highly-qualified professional team and experience to complete public infrastructure projects. J&DE staff is knowledgeable of NRCS directives. We have the experience working with NRCS and have established a great working relationship.

We recognize the most important element for any successful project is the people selected to do the work. Our **LOCAL** top-notch team is best positioned to maximize efficiency and to be immediately responsive. J&DE provides a technically sound, productive and professional project team which has successfully completed multiple storm water improvement projects throughout Utah. Our employee turnover rate is extremely low, allowing us to maintain a high level of experience, judgment and develop enduring relationships with our clients as well as long-standing system understanding.

IDEAL TEAM

50+ Combined Years of
Water Resource Experience
Funding Specialists
Proactive Management
Schedule and Cost Control
Communication
Innovative & Committed

Ryan Jolley, P.E.—Utah License #5252823 | Principal-in-Charge

BS—Civil & Environmental Engineering, Utah State University



Ryan has over 13 years of experience in project design and management engineering. Ryan is J&DE's Region Director for Southern Utah. He has a broad range of experience in local government projects specializing in water resources planning, municipal infrastructure planning, design, and construction management services. Ryan has completed numerous Natural Resource Conservation Service (NRCS) Emergency Watershed Protection (EWP) projects and has overseen and managed the implementation, design and construction of storm drain, culinary water, and wastewater improvement projects identified through coordinated master planning efforts. Ryan currently serves as project manager for multiple projects throughout Southern Utah.

Project Experience:

- *Duchesne County Emergency Watershed Protection*
- *Summit County EWP*
- *Millard County EWP*
- *Carbon County Seeley Fire EWP*
- *Monticello Culinary Water Improvements*
- *San Juan County Water Conservancy District Dry Wash Reservoir Expansion*
- *Bluff Water Works Culinary Water Study and System Improvements*

Kayde Roberts, P.E.—Utah License #5815772 | Project Manager

MS – Civil Engineering, Utah State University



Kayde is our team's local engineer as well as leads our office in the St. George area. Kayde is experienced in many facets of civil engineering but most importantly project management. Kayde began his career at UDOT, developing a thorough understanding of the design process. Kayde served as part of a UDOT selected committee to improve its Project Manager program and helped develop UDOT's MS Project and SharePoint templates and processes to increase the efficiencies of project managers. UDOT still uses these tools today. Kayde left UDOT to expand his career further and joined the J&DE team. Kayde began his career at J&DE by designing numerous culverts, bridges, hydraulic structures and roadway drainage. J&DE now utilizes Kayde's communicative and project organization/management expertise to manage its projects in Washington County, Northern Arizona region and Southern Nevada Region. Kayde is dedicated to provide the necessary communication, coordination and local needs to make this project successful.

Project Experience

- *Gray Mountain Canal Diversion Structure (EWP)*
- *Gypsum Wash Four-Celled Box Culvert*
- *UDOT: SR-63 Culvert Headwall*
- *San Juan County - Mormon Tank Wash Culvert*
- *UDOT: US-6 MP 262.5 to 297.0 Storm Water Culvert Headwalls*
- *San Juan County - Hatch Trading Post Road Storm Water*
- *UDOT: SR-143 Culvert and Headwall Design*

Ricky Anderson, P.E., C.F.M.—Utah License #9302972 | Hydrology & Storm Water Modeling

MS – Civil Engineering (Emphasis in Hydraulics & Fluid Mechanics), Utah State University



Ricky's experience includes hydrology and storm water modeling. He has served as a staff engineer on storm water master plans, county-wide FEMA projects, roadway drainage design projects, dam hydrologic studies, dam breach emergency action plan studies, and flood inundation studies. This has required an in-depth understanding of hydrology methodology, and the ability to perform modeling using variety of software. Ricky expertise includes automation of modeling processes via ArcGIS analysis, AutoCAD, and computer programming. As a staff engineer on several storm water master plans, this has become critical due to the large size amount of data included as part of these studies. These experiences have provided Ricky with an in-depth understanding of hydrology and modeling best practice techniques in a variety of applications.

Project Experience

- *Duchesne County WCD Victory Pipeline*
- *Weber County Storm Water Master Plan*
- *Casper (WY) Storm Water Master Plan*
- *Annabella Storm Water Master Plan*
- *West Erda I.D. Culinary Water System Study*
- *Cache County Blacksmith Fork River NRCS EWP*
- *Lake Roberts Spillway Alternatives Analysis*
- *Upper/Lower Weber Watershed FEMA Study*

Dan Hawley, E.I.T. | Project Engineer
BS – Civil Engineering, University of Utah



Dan is located in our Richfield office and has experience in water resources engineering. He has expertise in the modeling and design of hydraulic structures, wastewater treatment and collection systems, culinary water distribution systems, pump design, hydrology, dams, and storm water. His project experience has developed his skills in working with the public as well as coordination with government agencies such as the Utah Division of Water Quality (DWQ), Division of Drinking Water (DDW), and Dam Safety.

Dan's experience includes the design and construction management of wastewater treatment facilities, culinary water distribution systems, storm water systems, and pump design. He has helped in the design of large total containment lagoons and wastewater collection system improvements, culinary water spring redevelopment, chlorination facilities, and distribution piping as well as the design of sediment and debris basins located in mountainous areas to catch large debris during storm events. Dan will apply the skills and knowledge he has acquired to serve Tropic Town and provide the desired product.

Project Experience
- *Long Valley Sewer Improvement District System Improvements*
- *Dry Wash Reservoir Expansion*
- *Millard County Emergency Watershed Plan*
- *Boulder Farmstead Culinary Water System Improvements*
- *Monticello Culinary Water Wells*

Jenna Jorgensen | Environmental Specialist
MS – Integrative Biology, Brigham Young University



Jenna brings over 13 years of experience with federal agencies involving NEPA, project management, environmental policy compliance, and environmental document preparation. Her responsibilities have included completion of all necessary NEPA documents required for federal permits, preparation of permit applications, and project management. Jenna has served as a team leader for numerous projects, including those documented in categorical exclusions, environmental assessments (EAs), and environmental impact statements (EISs). Jenna has prepared numerous environmental documents ranging in size from $2,000 to $6 billion in total project costs.

Project Experience:
- *San Juan County Dry Wash Reservoir Environmental Assessment (EA)*
- *Fremont Waterworks Culinary Improvements EA*
- *Long Valley Sewer Improvement District Section 404 permitting*
- *Duchesne County/UDOT Tabiona Bridges*

Tom Wright, P.E., CFM —Utah License #6664434 | Water Resources Engineer – Hydrology and Hydraulics
BS—Civil Engineering, University of Wyoming



Tom has over 17 years of experience on a large number of hydrologic and hydraulic designs, studies and reviews including PMP and PMF analysis, watershed modeling, dam break analysis, sediment yield and transport studies, FEMA floodplain mapping, and civil based public works projects. He is the Salt Lake City Water Resources Department Manager with AECOM. He has extensive hydrology and hydraulic design and modeling experience throughout the western United States. Tom has performed analysis and site selection for debris basins, sedimentation basins, and storm water detention facilities including work for the NRCS EWP program. He has developed hydrology based on regional data and guidelines for federal state and local government agencies to determine peak flows, volumes, channel stabilization design, and better identify risks related to surface water hazards.

Project Experience:
- *NRCS Millsite Dam Design Peer Review*
- *NRCS Blacksmith Fork River EWP Project*
- *PMP/PMF Flood Routing*
- *FEMA Floodplain Mapping Statewide*
- *Sediment Transport Studies*
- *Debris Basin site selection and design*
- *PacifiCorp Electric Lake Dam Breach Analysis*
- *Kennecott Detention/Debris Basin Design*
- *River Realignment and Stable Channel Design*
- *Scour Analysis*

Robert Snow, P.E.—Utah License #7718142-2202 | Geotechnical Engineer
MS—Civil Engineering, University of Utah



Robert Snow has over ten years of experience in the State of Utah as a geotechnical engineer. His experience includes project management, engineering, and design of dams for industrial, commercial, and mining specific applications. His work has included site investigations, dam and impoundment design and instrumentation, liquefaction triggering, seismic hazard investigation and mitigation, stability analysis, and soft ground engineering. He has managed and collaborated on projects including ash and tailings dams, water dams, and various other earthen structures. His expertise includes site characterization for general geotechnical engineering as well as other mining and landfill applications. In addition to his excellent geotechnical engineering skill, his experience includes construction oversite and monitoring, quality assurance, and on-site consulting.

Project Experience:
- *Freeport-McMoRan Heap Leach and Borrow Source Investigation*
- *High-Elevation Dam Investigation (Undisclosed Client)*
- *Dynegy Ash Impoundment Investigation*
- *Belews Creek Liquefaction and Stability Analysis*
- *Mayo Liquefaction and Stability Analysis*
- *Riverbend Liquefaction and Stability Analysis*
- *KUC Tailings Expansion Project*
- *KUC Southeast Corner Stability Analyses*

Jennifer Williams, P.E.—AZ, CO, OK License | Geotechnical Engineer
MS—Civil Engineering, University of Colorado at Denver



Jennifer Williams has over 19 years of experience throughout the United States as a geotechnical engineer. She has served as a project manager for a broad range of dam safety projects, ranging from less than $50k to over $4M. She served in various staff and leadership roles. Her experience includes project management, engineering, and design of dams for industrial, commercial, and various mining-specific applications. She has participated as manager for potential failure mode analysis (PFMA) and risk assessment projects. She has served as deputy program manager for dam safety contracts and project manager for Safety Evaluation of Existing Dams (SEED) inspections of high and significant hazard earthfill dams including site inspections, periodic tests, and hazard classification studies and evaluations.

Project Experience:
- *IDIQ A-E Services*
- *IDIQ Rehabilitation and Floodwater Retarding Structures Design*
- *IDIQ A-E Services for Bureau of Reclamation*
- *IDIQ A-E Services for Safety of Dams and Other Hydraulic Structures*
- *IDIQ for A-E Services for Risk Management Supporting Sam Safety*

Aaron C. Spencer, P.E.—Utah License #7426128-2202 | Dam and Water Resources Engineer
BS—Civil & Environmental Engineering, Brigham Young University



Aaron has over 10 years of experience in project design and construction management in dams and water resources projects throughout Utah. As a private consultant and as a previous employee of the Utah Divisions of Water Resources and Water Rights, he has inspected and overseen design and construction on dams and regulating reservoirs for irrigation, industrial, and municipal clients. He has performed dam safety retrofits of embankments utilizing funds from Utah Dam Safety and Water Resources, NRCS, and other federal sources. He has managed the reconstruction and sliplining of outlet works, reconstruction of spillways and water control structures, construction of diversion structures, supply and distribution pipelines, and settling ponds, and overseen environmental assessments, permitting and applications, bidding, and is experienced in construction inspection and management, and contract administration.

Project Experience:
- *NRCS Millsite Dam Design Peer Review*
- *NRCS Millsite Dam Spillway Design*
- *PacifiCorp Electric Lake Dam Breach Analysis*
- *Red Creek Irrigation Dam Safety Rehabilitation*
- *DWR Anderson Meadow Dam Safety Upgrades*
- *Upper Pond Irrigation Regulating Reservoir*
- *Huntington-Cleveland Settling Pond and Diversion Structure*
- *DWR and USFS Silver Lake Dam Safety and Reservoir Stabilization Project*
- *Santaquin City Secondary Regulating Reservoir*