

**CITY OF FLAGSTAFF
STAFF SUMMARY REPORT**

To: The Honorable Mayor and City Council

From: Bradley M. Hill – Water Resources Manager x.7247
Utilities Department – Administration Division

Date: May 22, 2008

Meeting Date: June 3, 2008



TITLE: Red Gap Ranch Pipeline Alignment Feasibility Study**RECOMMENDED ACTION:**

Approve the Contract for the Scope of Work and attached Fee Schedule from Jacobs Carter Burgess for engineering services to conduct the Red Gap Ranch Pipeline Alignment Feasibility Study in the sum of \$1,998,514.00.

ACTION SUMMARY:

This Pipeline Alignment Feasibility Study will permit the City to quantitatively evaluate the best alignment for the pipeline from Red Gap Ranch to the City of Flagstaff as well as develop a conceptual design of the pipeline, booster pump stations and reservoirs. The study will identify environmental and cultural resources along the preferred alignment, highlight what Federal, Tribal and State environmental laws and permits that must be addressed, and engage the public to obtain their input and suggestions. The conceptual design portion of the project will include identifying the City's operational and maintenance requirements, determine the appropriate sizing and phasing of the facilities, and develop reliable cost estimations for the acquisition of right-of-way, final design and construction components. The Final Report will conform to the U.S. Bureau of Reclamation's requirements for feasibility studies for the possible in-kind contribution to a North Central Arizona Water Supply Feasibility Study if it gets approved and funded by Congress.

DISCUSSION:**Background/History:**

The citizens of Flagstaff approved a bond election for \$15 million in 2004 to acquire future water resources to ensure a long-term, reliable, and redundant water supply. Subsequently, in 2005 the City of Flagstaff purchased Red Gap Ranch located 40 miles east of town in order to eventually transport its groundwater to Flagstaff within the next two decades.

A Request for Proposals was advertised and 10 (ten) statements of interest were received, from 10 (ten) of the largest and best qualified engineering firms in the United States. The top three rated firms (Jacobs, Kimberly Horn, and Stanley) were interviewed by a selection committee.

Jacobs Carter Burgess was selected by the selection committee from their proposal and project presentation during interviews.

Key Considerations:

N/A

Community Benefits and Considerations:

The results of this Study will provide a guideline on how the City of Flagstaff and its citizens will ultimately benefit from the additional water supply provided by Red Gap Ranch. Currently, the City relies upon locally derived surface water that is subject to drought and groundwater wells distributed around our community. The importation of this water supply will help the City diversify its water resource portfolio thereby providing its citizens with a more reliable water supply into the future.

Community Involvement:

Voters overwhelmingly approved the bond election for the development of a future water supply in the 2004 Bond Election after numerous public meetings discussing the need for the new water supply.

Financial Implications:


The Scope of Work and Fee Schedule provided by Jacobs Carter Burgess engineering is for \$1,998,514.00 and will be paid from CIP Account #201-52-40-771-41.01.

Options and Alternatives:

1. Wait for the Bureau of Reclamation to perform the work if approved and funded by Congress, which maybe 4 to 5 years in the future, possibly delaying the construction of the project. The cost of this portion of the project maybe less.
2. Negotiate a price with the second rated proposing engineering firm.
3. Repeat the process of Advertising for Proposals. (highly not recommended)

Attachments/Exhibits:

1. Contract
2. Scope of Work – Jacobs Carter Burgess
3. Fee Schedule – Jacobs Carter Burgess



Department Head

INITIALS	RESPONSIBILITY	DATE	INITIALS	RESPONSIBILITY	DATE
<u>RS</u>	BIDS/PURCHASES	<u>5/21/08</u>	_____	FINANCE/BUDGET	_____
_____	GRANTS/CONTRACTS	_____	_____	IGAS	_____
<u>KMM</u>	LEGAL	<u>5/21/08</u>	_____	_____	_____

DATE OF COUNCIL APPROVAL: _____

AGREEMENT FOR RED GAP RANCH PIPELINE PROJECT CONSULTANT SERVICES

**CITY OF FLAGSTAFF
and
JACOBS CARTER BURGESS**

This Agreement for Red Gap Ranch Pipeline Project Consultant Services ("Agreement") is made by and between the City of Flagstaff ("City"), a municipal corporation with offices at 211 W. Aspen Avenue, Flagstaff, Coconino County, Arizona, and Jacobs Carter Burgess, a consulting company, with offices at 2033 Howe Avenue, Suite 220, Sacramento, California ("Consultant"), effective as of the date written below.

RECITALS

- A. The City desires to enter into this Agreement in order to obtain professional consultant services pertaining to Red Gap Ranch Pipeline Project; and
- B. Consultant has available and offers to provide personnel and equipment necessary to provide said services within the required time in accordance with the Scope of Services included in this Agreement;

For the reasons recited above, and in consideration of the mutual covenants contained in this Agreement, the City and Consultant agree as follows:

1. SERVICES TO BE PERFORMED BY CONSULTANT

Consultant agrees to perform the following services:

- 1.1 Consultant agrees to provide the services as set forth in detail in Exhibit "A" attached hereto and hereby incorporated as part of this Agreement. All of the terms and conditions set forth in the Request for Statement of Qualifications ("RSOQ"), pertaining to the services in Exhibit "A", shall be incorporated in this Agreement as if fully set forth herein.

2. COMPENSATION OF CONSULTANT

- 2.1 Consultant agrees to provide all of the services set forth in Exhibit "A" for the not to exceed sum of one million nine hundred ninety-eight thousand five hundred fourteen dollars, (\$1,998,514.00).

3. RIGHTS AND OBLIGATIONS OF CONSULTANT

- 3.1 Independent Contractor. The parties agree that Consultant performs specialized services and that Consultant enters into this Agreement with the City as an independent contractor. Nothing in this Agreement shall be construed to constitute Consultant or any of Consultant's agents or employees as an agent, employee or representative of the City. As an independent contractor, Consultant is solely responsible for all labor and expenses in connection with this Agreement and for any and all damages arising out of Consultant's performance under this Agreement.
- 3.2 Consultant's Control of Work. All services to be provided by Consultant shall be performed

as determined by the City in accordance with the Scope of Services set forth in Exhibit "A." Consultant shall furnish the qualified personnel, materials, equipment and other items necessary to carry out the terms of this Agreement. Consultant shall be responsible for and in full control of the work of all such personnel.

3.3 Reports to the City. Although Consultant is responsible for control and supervision of work performed under this Agreement, the services provided shall be acceptable to the City and shall be subject to a general right of inspection and supervision to ensure satisfactory completion. This right of inspection and supervision shall include, but not be limited to, all reports to be provided by Consultant to the City and the right of the City, as set forth in the Scope of Services, and the right of the City to audit Consultant's records.

3.4 Compliance with All Laws. Consultant shall comply with all applicable laws, ordinances, rules, regulations and executive orders of the federal, state and local government, which may affect the performance of this Agreement. Any provision required by law, ordinances, rules, regulations, or executive orders to be inserted in this Agreement shall be deemed inserted, whether or not such provisions appear in this Agreement.

4. NOTICE PROVISIONS

Notice. Any notice concerning this Agreement shall be in writing and sent by certified or registered mail as follows:

To the City's Authorized Representative:

Patrick Brown, Buyer
City of Flagstaff
211 W. Aspen
Flagstaff, Arizona 86001

To Consultant:

Consultant's representative's name, title
Consultant's name, e.g. name of corporation
Address Line 1
Address Line 2
City, State Zip Code

5. INDEMNIFICATION

To the fullest extent permitted by law, Consultant shall indemnify, defend, save and hold harmless the City of Flagstaff and its officers, officials, agents, and employees (hereinafter referred to as "Indemnitee") from and against any and all claims, actions, liabilities, damages, losses, or expenses (including court costs, attorneys' fees, and costs of claim processing, investigation and litigation) (hereinafter referred to as "Claims") for bodily injury or personal injury (including death), or loss or damage to tangible or intangible property caused, or alleged to be caused, to the extent, by the negligent or willful acts or omissions of Consultant or any of its owners, officers, directors, agents, employees or subcontractors. This indemnity includes any claim or amount arising out of or recovered under the Workers' Compensation Law or arising out of the failure of such Consultant to conform to any federal, state or local law, statute, ordinance, rule, regulation or court decree. It is agreed that Consultant shall be responsible for primary loss investigation, defense and judgment costs where this indemnification is applicable. Consultant shall waive all rights of subrogation against the City, its officers, officials, agents and employees for losses arising from the work performed by Consultant for the City.

6. INSURANCE

Consultant and subcontractors shall procure and maintain until all of their obligations have been discharged, including any warranty periods under this Agreement are satisfied, insurance against claims for injury to persons or damage to property which may arise from or in connection with the performance of the work hereunder by Consultant, its agents, representatives, employees or subcontractors.

The insurance requirements herein are minimum requirements for this Agreement and in no way limit the indemnity covenants contained in this Agreement. The City in no way warrants that the minimum limits contained herein are sufficient to protect Consultant from liabilities that may arise out of the performance of the work under this Agreement by Consultant, its agents, representatives, employees or subcontractors and Consultant is free to purchase additional insurance as may be determined necessary.

A. Minimum Scope and Limits of Insurance. Consultant shall provide coverage at least as broad and with limits of liability not less than those stated below.

1. Commercial General Liability - Occurrence Form
(Form CG 0001, ed. 10/93 or any replacements thereof)

General Aggregate	\$2,000,000
Products-Completed Operations Aggregate	\$1,000,000
Personal & Advertising Injury	\$1,000,000
Each Occurrence	\$1,000,000
Fire Damage (Any one fire)	\$ 50,000
Medical Expense (Any one person)	Optional

2. Automobile Liability - Any Auto or Owned, Hired and Non-Owned Vehicles
(Form CA 0001, ed. 12/93 or any replacement thereof.)

Combined Single Limit Per Accident for Bodily Injury and Property Damage	\$1,000,000
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3. Workers' Compensation and Employer's Liability

Workers' Compensation	Statutory
Employer's Liability: Each Accident	\$ 500,000
Disease-Each Employee	\$ 500,000
Disease-Policy Limit	\$ 500,000

B. OTHER INSURANCE REQUIREMENTS: The policies are to contain, or be endorsed to contain, the following provisions:

1. Commercial General Liability and Automobile Liability Coverages:
 - a. The City of Flagstaff, its officers, officials, agents, and employees are additional insureds with respect to liability arising out of: activities performed by, or on behalf of, the Consultant; including the City's general supervision of the Consultant; products and completed operations of the Consultant; and automobiles owned, leased, hired or borrowed by the Consultant.

- b. The Consultant's insurance shall contain broad form contractual liability coverage.
 - c. The City, its, officers, officials, agents, employees and volunteers shall be additional insureds to the full limits of liability purchased by the Consultant even if those limits of liability are in excess of those required by this contract.
 - d. The Consultant's insurance coverage shall be primary insurance with respect to the City, its, officers, officials, agents, and employees. Any insurance or self-insurance maintained by the City, its officers, officials, agents, employees, or volunteers shall be in excess to the coverage of the Consultant's insurance and shall not contribute to it.
 - e. The Consultant's insurance shall apply separately to each insured against whom claim is made or suit is brought, except with respect to the limits of the insurer's liability.
 - f. Coverage provided by the Consultant shall not be limited to the liability assumed under the indemnification provisions of this contract.
 - g. The policies shall contain a waiver of subrogation against the City, its officers, officials, agents, and employees for losses arising from work performed by the Consultant for the City.
2. Workers' Compensation and Employer's Liability Coverage: The insurer shall agree to waive all rights of subrogation against the City, its officers, officials, agents, employees and volunteers for losses arising from work performed by the Consultant for the City.

Consultant shall maintain an employee faithful performance bond for the duration of the contract on all employees assigned to work at City facilities for a minimum amount of \$25,000. The employee faithful performance bond is a Fidelity bond that provides commercial crime coverage against employee dishonesty.

3. Professional Liability. Consultant shall maintain Professional Liability insurance covering negligent acts, errors, mistakes and omissions arising out of the work or services performed by Consultant, or any person employed by Consultant, with a limit of not less than \$1,000,000 each claim.
- 6.1 Notice of Cancellation. Each insurance policy required by the insurance provisions of this Agreement shall provide the required coverage and shall not be suspended, voided or canceled except after thirty (30) days prior written notice has been given to the City, except when cancellation is for non-payment of premium, then at least ten (10) days prior notice shall be given to the City. Such notice shall be sent directly to:
- Patrick Brown, Buyer
City of Flagstaff, Purchasing Division
211 W. Aspen Ave.
Flagstaff, Arizona 86001
- 6.2 Acceptability of Insurers. Insurance shall be placed with insurers duly licensed or authorized to do business in the State of Arizona and with an "A.M. Best" rating of not less than A- VII, or receiving prior approval by the City. The City in no way warrants that

the above-required minimum insurer rating is sufficient to protect Consultant from potential insurer insolvency.

- 6.3 Verification of Coverage. Prior to commencing work or services, Consultant shall furnish the City with certificates of insurance (ACORD form or equivalent approved by the City) as required by this Agreement. The certificates for each insurance policy shall be signed by a person authorized by that insurer to bind coverage on its behalf.

All certificates and any required endorsements shall be received and approved by the City before work commences. Each insurance policy required by this Agreement shall be in effect at or prior to commencement of work under this Agreement and remain in effect for the duration of this Agreement. Failure to maintain the insurance policies as required by this Agreement or to provide evidence of renewal shall constitute a material breach of contract.

All certificates required by this Agreement shall be sent directly to **Patrick Brown, Senior Procurement Specialist, City of Flagstaff, Purchasing Division, 211 W. Aspen Ave., Flagstaff, Arizona 86001.** The City project/contract number and project description shall be noted on the certificate of insurance. The City reserves the right to request and receive within ten (10) days, complete, certified copies of all insurance policies required by this Agreement at any time. The City shall not be obligated, however, to review same or to advise Consultant of any deficiencies in such policies and endorsements, and such receipt shall not relieve Consultant from, or be deemed a waiver of the City's right to insist on, strict fulfillment of Consultant's obligations under this Agreement.

- 6.4 Subcontractors. Consultants' certificate(s) shall include all subcontractors as additional insured's under its policies or Consultant shall furnish to the City separate certificates and endorsements for each subcontractor. All coverage for subcontractors shall be subject to the minimum requirements identified above.
- 6.5 Approval. Any modification or variation from the insurance requirements in this Agreement shall be made by the City Attorney's office, whose decision shall be final. Such action shall not require a formal amendment to this Agreement, but may be made by administrative action.

7. DEFAULT AND TERMINATION

- 7.1 Events of Default Defined. The following shall be Events of Default under this Agreement:

7.1.1 Any material misrepresentation made by Consultant to the City;

7.1.2 Any failure by Consultant to perform its obligations under this Agreement including, but not limited to, the following:

7.1.2.1 Failure to commence work at the time(s) specified in this Agreement due to a reason or circumstance within Consultant's reasonable control;

7.1.2.2 Failure to perform the work with sufficient personnel and equipment or with sufficient equipment to ensure completion of the work within the

specified time due to a reason or circumstance within Consultant's reasonable control;

- 7.1.2.3 Failure to perform the work in a manner reasonably satisfactory to the City;
- 7.1.2.4 Failure to promptly correct or re-perform within a reasonable time work that was rejected by the City as unsatisfactory or erroneous;
- 7.1.2.5 Discontinuance of the work for reasons not beyond Consultant's reasonable control;
- 7.1.2.6 Failure to comply with a material term of this Agreement, including, but not limited to, the provision of insurance; and
- 7.1.2.7 Any other acts specifically stated in this Agreement as constituting a default or a breach of this Agreement.

7.2 Remedies.

7.2.1 Upon the occurrence of any Event of Default, the City may declare Consultant in default under this Agreement. The City shall provide written notification of the Event of Default and any intention of the City to terminate this Agreement. Upon the giving of notice, the City may invoke any or all of the following remedies:

7.2.1.1 The right to cancel this Agreement as to any or all of the services yet to be performed;

7.2.1.2 The right of specific performance, an injunction or any other appropriate equitable remedy;

7.2.1.3 The right to monetary damages;

7.2.1.4 The right to withhold all or any part of Consultant's compensation under this Agreement;

7.2.1.5 The right to deem Consultant non-responsive in future contracts to be awarded by the City; and

7.2.1.6 The right to seek recoupment of public funds spent for impermissible purposes.

7.2.2 The City may elect not to declare an Event of Default or default under this Agreement or to terminate this Agreement upon the occurrence of an Event of Default. The parties acknowledge that this provision is solely for the benefit of the City, and that if the City allows Consultant to continue to provide the Services despite the occurrence of one or more Events of Default, Consultant shall in no way be relieved of any of its responsibilities or obligations under this Agreement, nor shall the City be deemed to waive or relinquish any of its rights under this Agreement.

7.3 Right to Offset. Any excess costs incurred by the City in the event of termination of this Agreement for default, or in the event the City exercises any of the remedies available to it under this Agreement, may be offset by use of any payment due for services completed before termination of this Agreement for default or the exercise of any remedies. If the offset amount is insufficient to cover excess costs, Consultant shall be liable for and shall remit promptly to the City the balance upon written demand from the City.

7.4 Consequential Damages & Limitation of Liability. The City and Consultant agree that in no event will either be liable to the other under this Agreement for any consequential, special, contingent, or penal damages, including but not limited to loss of revenue, loss of profit, operating costs or business interruption losses, regardless of cause, including breach of contract, tort (including sole or concurrent negligence), strict liability or otherwise.

8. GENERAL PROVISIONS

8.1 Headings. The article and section headings contained herein are for convenience in reference and are not intended to define or limit the scope of any provision of this Agreement.

8.2 Jurisdiction and Venue. This Agreement shall be administered and interpreted under the laws of the State of Arizona. Consultant hereby submits itself to the original jurisdiction of those courts located within Coconino County, Arizona.

8.3 Attorney's Fees. If suit or action is initiated in connection with any controversy arising out of this Agreement, the prevailing party shall be entitled to recover in addition to costs such sum as the court may adjudge reasonable as attorney fees, or in event of appeal as allowed by the appellate court.

8.4 Severability. If any part of this Agreement is determined by a court to be in conflict with any statute or constitution or to be unlawful for any reason, the parties intend that the remaining provisions of this Agreement shall remain in full force and effect unless the stricken provision leaves the remaining Agreement unenforceable.

8.5 Assignment. This Agreement is binding on the heirs, successors and assigns of the parties hereto. This Agreement may not be assigned by either the City or Consultant without prior written consent of the other.

8.6 Conflict of Interest. Consultant covenants that Consultant presently has no interest and shall not acquire any interest, direct or indirect, that would conflict in any manner or degree with the performance of services required to be performed under this Agreement. Consultant further covenants that in the performance of this Agreement, Consultant shall not engage any employee or apprentice having any such interest. The parties agree that this Agreement may be cancelled for conflict of interest in accordance with Arizona Revised Statutes § 38-511.

8.7 Authority to Contract. Each party represents and warrants that it has full power and authority to enter into this Agreement and perform its obligations hereunder, and that it has taken all actions necessary to authorize entering into this Agreement.

8.8 Integration. This Agreement represents the entire understanding of City and Consultant as to those matters contained in this Agreement, and no prior oral or written understanding shall be of

any force or effect with respect to those matters. This Agreement may not be modified or altered except in writing signed by duly authorized representatives of the parties.

8.9 Nonappropriation. In the event that no funds or insufficient funds are appropriated and budgeted in any fiscal period of the City for payments to be made under this Agreement, the City shall notify Consultant of such occurrence, and this Agreement shall terminate on the earlier of the last day of the fiscal period for which sufficient appropriation was made or whenever the funds appropriated for payment under this Agreement are exhausted. No payments shall be made or due to Consultant under this Agreement beyond these amounts appropriated and budgeted by the City to fund payments under this Agreement.

8.10 Mediation. If a dispute arises out of or relates to this Agreement, and if the dispute cannot be settled through negotiation, the parties agree first to try in good faith to resolve the dispute by mediation before resorting to litigation or some other dispute resolution procedure. Mediation shall take place in Flagstaff, Arizona, shall be self-administered, and shall be conducted under the CPR Mediation Procedures established by the CPR Institute for Dispute Resolution, 366 Madison Avenue, New York, NY 10017, (212) 949-6490, www.cpradr.org, with the exception of the mediator selection provisions, unless other procedures are agreed upon by the parties. Unless the parties agree otherwise, the mediator(s) shall be selected from panels of mediators trained under the Alternative Dispute Resolution Program of the Coconino County Superior Court. Each party agrees to bear its own costs in mediation. The parties shall not be obligated to mediate if an indispensable party is unwilling to join the mediation. This mediation provision shall not constitute a waiver of the parties' right to initiate legal action if a dispute is not resolved through good faith negotiation or mediation, or if a party seeks provisional relief under the Arizona Rules of Civil Procedure.

8.11 Subcontractors. This Agreement or any portion thereof shall not be sub-contracted without the prior written approval of the City. No Subcontractor shall, under any circumstances, relieve Consultant of its liability and obligation under this Agreement. The City shall deal through Consultant and any Subcontractor shall be dealt with as a worker and representative of Consultant. Consultant assumes responsibility to the City for the proper performance of the work of Subcontractors and any acts and omissions in connection with such performance. Nothing in the Contract Documents is intended or deemed to create any legal or contractual relationship between the City and any Subcontractor or Sub-Subcontractor, including but not limited to any third-party beneficiary rights.

8.12 Waiver. No failure to enforce any condition or covenant of this Agreement by the City shall imply or constitute a waiver of the right of the City to insist upon performance of the condition or covenant, or of any other provision of this Agreement, nor shall any waiver by the City of any breach of any one or more conditions or covenants of this Agreement constitute a waiver of any succeeding or other breach under this Agreement.

9. DURATION

This Agreement shall become effective on and from the day and year executed by the parties, indicated below, and shall continue in force for one year until _____, 200__, unless sooner terminated as provided above. Upon mutual agreement between the City and Consultant, this Agreement may be renewed for four (4) additional one (1) year terms.

City of Flagstaff

Jacobs Carter Burgess

Kevin Burke, City Manager

[Name and Official Title]

Attest:

City Clerk

Approved as to form:

City Attorney

Date of Execution: _____

EXHIBIT A
SCOPE OF WORK/FEE SCHEDULE

Red Gap Ranch Pipeline Alignment Feasibility Study

Scope of Work

General

The scope for this project involves developing a feasibility study in accordance with United States Bureau of Reclamation (USBR) standards for construction of a transmission main connecting the water supply at Red Gap Ranch to the City of Flagstaff existing distribution system.

The Red Gap Ranch, located approximately 40 miles east of the City and 2,100-ft lower in elevation, was purchased by the City of Flagstaff to augment water supply for years to come. At buildout, the proposed transmission main will provide 10,000 to 16,500 acre-feet per year (AFY) assured water supply, which along with the City's existing supply system will accommodate more than double the City's current water demand. The intent of the study is to determine the most feasible pipeline alignment, as well as identifying necessary storage and booster facilities and property ownership along the route. The study must provide conceptual design to a sufficient level of detail to identify any potential fatal flaws of the recommended alternative and to allow accurate estimation of capital and operational (O&M) costs.

The scope of work has been divided into three phases as described below:

Phase I will include analysis of up to four (4) alignment alternatives, as selected by the City at the project kickoff meeting. Phase I will conclude with production of a Pipeline Alignment Technical Memorandum and selection of a single pipeline alignment.

Phase II will build on the preferred alignment alternative selected during Phase I and will include more in-depth evaluation of right-of-way, geotechnical, biological, cultural, drainage, topographic, electrical and instrumentation accommodations for the single selected alignment. Phase II will conclude with production of a Preliminary Pipeline, Booster Pump and Reservoir Feasibility Technical Memorandum.

Phase III will consist of gathering all of the information and results of evaluations performed during the first two phases of the project into a draft Feasibility and Design Report. The report will conform to USBR feasibility guidelines and address all aspects of the conveyance system alignment, sizing, and materials selection as defined herein.

Throughout this scope of work, workshops and public outreach events are described, which signify several milestones of the project. A workshop is an event wherein the consultant team and City staff meet to discuss project progress, set criteria for upcoming analyses, share results, and exchange ideas. Specific workshops are identified at key milestones; however, it is anticipated informal consultant/City meetings will occur on an ongoing basis throughout the project duration. A public outreach event may take the form of an open-house to discuss project specifics with the public to increase awareness. Public outreach may also constitute meetings with the Flagstaff Water Commission and/or Flagstaff City Council to present report findings. The exact timing and discussion topics for each public outreach event will be defined with the City's input at project onset. This scope of work includes up to four (4) workshops and four (4) public outreach events.

Red Gap Ranch Pipeline Alignment Feasibility Study

Scope of Work

Scope of Work

Phase I - Pipeline Alignment

Task 1.1 Project Kickoff Meeting/Workshop #1

The Team will conduct a kickoff meeting with the City of Flagstaff. The following team members and subconsultant representatives will be present at the meeting:

- Project Manager
- Deputy Project Manager
- Pipelines Task Lead
- Pump Stations Task Lead
- WLB Group representative
- EnviroSystems Management representative
- RBS Consulting representative

The Team will provide a meeting agenda, aerial maps and proposed work plan for use, review and discussion at the meeting. At the kickoff meeting, all available information pertinent to selection of the conveyance alignment will be obtained from the City. It is anticipated the City will provide copies of all previous studies, mapping, GIS data, and property ownership. The kickoff meeting discussion will center on the City's goals for the project, including determination of preliminary alignment evaluation criteria and criterion importance rankings, operational requirements, anticipated agency coordination, and budgetary constraints.

The Team will present mapping of alternative alignments identified prior to the meeting in schematic format to prompt discussion and elicit the identification of any potential routes not previously considered. It is anticipated the meeting will result in a congealed definition of the Phase I project scope including selection of up to four (4) alternative alignments for study, as well as the City's goals and operational requirements. The Team will develop meeting minutes and distribute to all attendees.

Deliverables:

- Meeting agenda
- Preliminary alignment maps for use in kickoff meeting
- Meeting minutes

Client-provided Items/Assumptions:

- Previous studies/reports
- Previous mapping, GIS data, property ownership
- Input to evaluation criteria and importance rankings
- Preliminary operational requirements
- Selection of four (4) alignment alternatives for evaluation in Phase I

Task 1.2 Desktop Alignment Reconnaissance/Identify Issues of Concern

Working with the four alignments and criteria identified during the Kickoff Meeting, the Team will proceed with preliminary evaluation of each option. This task is intended to provide limited desktop evaluations of the four alignments in order to prepare the team for an aerial reconnaissance tour. It is anticipated available aerial mapping and studies will be reviewed, preliminary right-of-way (ROW) and property ownership information obtained, preliminary biological, geotechnical, drainage and cultural evaluations will be made in order to identify areas to be explored further during the helicopter tour and later

Red Gap Ranch Pipeline Alignment Feasibility Study Scope of Work

tasks. Major areas of concern identified during this task will be input to the geodatabase in order to provide mapping for use on the helicopter tour.

Deliverables:

- Updated mapping

Client-provided Items/Assumptions:

- None

Task 1.3 Helicopter Alignment Tour #1

After preliminary data has been gathered for the potential alignments, the team will perform an aerial reconnaissance tour (helicopter) of the alignments. It is anticipated up to three (3) City staff will attend one day with two members of the JCB team, and a second tour will be made the following day with five team members. Each tour will begin and end at the Flagstaff Airport and last between four and six hours.

Deliverables:

- Helicopter Charter

Client-provided Items/Assumptions:

- Attendance of up to three City staff for a single 4- to 6-hour helicopter tour

Task 1.4: Preliminary Pump Station Location Analysis

Following the helicopter alignment tour, desktop analysis of available data obtained during earlier tasks will be performed by the Pump Station Task Lead to determine preliminary pump station locations for each alignment. This task will include full desktop review (includes written and oral information sources) of cultural and biological areas of concern to determine the extent of potential significance of issues. Areas previously surveyed for cultural resources which identified potentially extensive or complex archaeological sites will be described but not field checked. Information pertaining to previous habitat evaluations of specific areas of concern will be obtained to aid in defining environmental compliance issues resulting from impacts to federally listed threatened or endangered species, as well as those listed as sensitive by the Coconino National Forest and/or the Navajo Nation.

Proposed pump station siting will be based on ROW, environmental, cultural and geotechnical data; head requirements based on allowable pipeline pressure class; availability of electrical power; ease of access and general suitability of the site for pump and forebay construction and maintenance.

Deliverables:

- None, results of analysis will be incorporated into Task 1.9 deliverable

Client-provided Items/Assumptions:

- Input to pump station operational requirements

Task 1.5: Pipeline Sizing/Phasing Analysis

The Pipeline Task Lead will analyze pipeline sizing to determine the most cost-effective approach. Our sizing process will take into consideration current and future demands based on anticipated City buildout, and the desired life cycle of the project as defined by City staff. Additional considerations will include up-front and life cycle capital costs as well as capital and operational cost constraints, ease of maintenance, and ease of implementation of future upgrades if a phased approach is selected. Consideration will

Red Gap Ranch Pipeline Alignment Feasibility Study Scope of Work

be given to alternative diurnal or seasonal pumping schedules to optimize pump and pipeline sizing; alternative deliveries of reclaimed water to Red Gap Ranch to generate power and recharge groundwater; and analysis of velocity/head loss versus pipeline size in relationship to balance of capital and O&M costs.

Although the selection of pipeline materials and pumps will be further refined in Phase II, a preliminary analysis of these items with respect to capital cost including costs to bring electrical power to the sites, operational concerns, and ability to upgrade the system in the future will be performed in Phase I to ensure sizing recommendations present the most viable phasing approach. It should be noted that cost analyses during this task will be general in nature, designed to produce order-of-magnitude comparison values between various options rather than to provide detailed construction and O&M cost estimates. Preliminary review of geotechnical analyses will be provided by our corrosion protection subconsultant to aid in determining cost differential between corrosion protection of facilities along the various alignments.

Deliverables:

- None, results of analysis will be incorporated into the Task 1.9 deliverable

Client-provided Items/Assumptions:

- Input to pipeline phasing needs and operational requirements
- Population projections for the life cycle of the project

Task 1.6: Cost Estimating

Once all aspects of pipeline routing and phasing have been fully explored, the Team will develop a preliminary construction cost estimate for each pipeline alignment. In order to protect against surprises as the feasibility analysis moves into Phase II, cost estimates provided during Phase I will include a contingency as deemed appropriate to adequately account for items that cannot be quantified at this stage in the feasibility process. The contingency percentage will be determined based on a risk analysis of potential unknown components for each alignment. As noted above, cost estimates developed at this early stage of the process will primarily be used to compare various alternatives. Greater level of detail will be provided in cost analyses performed on the selected alignment in Phase II.

Costs associated with achieving environmental compliance with federal regulations such as the Endangered Species Act and National Historic Preservation Act can vary extensively based on the amount and type of resources encountered. Intensive surveys for threatened and endangered species utilizing federal protocols may be required for some of the alignments considered and may result in Section 7 consultation with the U.S. Fish and Wildlife Service. Additionally, the magnitude of mitigation efforts for archaeological resources is expected to be a significant factor associated with this project and may vary widely based on the alternatives considered. Therefore, it is critical in this task to analyze and evaluate previously existing data and give due consideration to data that are likely to be produced from future field surveys in order to provide valid estimates of cost.

Red Gap Ranch Pipeline Alignment Feasibility Study Scope of Work

Compliance with the National Environmental Policy Act (NEPA) will almost assuredly be in the form of an Environmental Impact Statement (EIS), with coordination occurring between multiple land management agencies and the Bureau of the Reclamation. The cost of an EIS or Environmental Assessment will not be included in our estimates, however, since it is an implied cost that will be incurred regardless of which route is chosen.

Deliverables:

- None, results of analysis will be incorporated into the Task 1.9 deliverable

Client-provided Items/Assumptions:

- Input to anticipated construction timeline to better estimate escalation of construction costs

Task 1.7: Alignment Alternatives Evaluation

The Team will use a logical decision-based software program to analyze the various alignments. This program allows the user to define the alternatives and rank them based upon measures defined by input from the City and stakeholders. Jacobs Carter Burgess will develop the evaluation model utilizing information collected during phases 1.1 through 1.6. The team will enter goals and measures into the evaluation model, wherein each measure will have a priority value associated with it, as well as anticipated capital and O&M costs. The evaluation model will be run to determine the most advantageous alignment based on input from City staff.

To assist in the evaluation process, a geodatabase with all applicable information obtained to date will be developed. It is anticipated the GIS system will include the following data, as well as other applicable information as defined during Phase I:

- Existing ROW data and alignments
- Property ownership and parcel data
- Existing utility information
- Regulatory Agency jurisdictional areas
- Environmental issues
- Cultural resource areas
- Geotechnical issues with regards to how various soil conditions and slopes will impact constructability
- Political issues
- Major wash crossings including flow and scour depth estimates

The geotechnical evaluation of the alignments will include up to one week of field reconnaissance by a geologist or geotechnical engineer. Features such as rock outcroppings or adverse soil conditions observed in the field will be documented. Desktop analysis of existing subsurface conditions may include soils maps, boring data, and trenching conditions from other linear projects.

Identification of anticipated coordination required with each stakeholder is essential to selection of the transmission main alignment. The Deputy Project Manager will work closely with WLB to determine local government and tribal coordination needs and ensure all potential coordination efforts are brought to light. The alternatives evaluation model will include ranking each option from an environmental perspective, inputting anticipated easement acquisition cost and timelines for each alternative, geological concerns and cost impacts, and necessity for alternative methods of construction and associated cost.

Red Gap Ranch Pipeline Alignment Feasibility Study Scope of Work

The pipeline endpoints at Red Gap Ranch and the City of Flagstaff are currently unknown. The actual terminus points for the pipeline will be determined at a later date, as part of a separate project scope. However, Jacobs Carter Burgess understands that a larger US Bureau of Reclamation project exists and this pipeline study will become a component of the larger project. Consideration will be given to future connection needs between this project and the importation project from the north.

Deliverables:

- None, a summary of the evaluation methodology, input and results will be incorporated into the Task 1.9 deliverable

Client-provided Items/Assumptions:

- Input to evaluation measures, goals and ranking criteria

Task 1.8: Pipeline Alignment Workshop #2

Upon completion of the pipeline alignment, phasing, and cost evaluation, the Project Manager and applicable technical staff will conduct a second workshop with the City of Flagstaff. The primary objectives of the workshop will be presenting the results of our analysis to you and ensuring your goals have been met to the greatest extent possible with the recommended alignment. Mapping of each alternative presented at the workshop will include detailed information from the geodatabase as defined in Task 1.7; preliminary pump station and forebay siting, pipeline and major appurtenance sizing; and the location for use of any anticipated alternative trenching techniques. Identifying any flaws in the analysis and building consensus around the recommended alignment will be of prime importance at this Workshop.

All comments and action items will be assembled into meeting minutes, which will be distributed to the City and internal team members for review. Following the workshop, appropriate team members will conduct additional analysis to address any concerns identified by the City and modify or confirm the recommended alternative. Additional analysis is expected to be limited to desktop reconnaissance of available materials and/or slight modifications to ranking criteria in the evaluation model. Additional field investigations and major retooling of the evaluation matrix input data at this point in the process are excluded.

Deliverables:

- Meeting agenda
- Meeting minutes
- Evaluation model overview
- Updated mapping
- Alignment selection recommendation

Client-provided Items/Assumptions:

- Input to evaluation measures, goals and ranking criteria

Task 1.9: Prepare Draft Pipeline Alignment Technical Memorandum

Following Workshop #2 and any necessary subsequent analysis, the Team will prepare a Draft Pipeline Alignment Technical Memorandum to document the results of our evaluation. In addition to addressing all of the items in the Tasks above in narrative format, the Technical Memorandum will include maps of alignment alternatives with key areas of concern. The document will present a flowchart of our evaluation process, detailing each criterion and its ranking in relation to others, along with a narrative

Red Gap Ranch Pipeline Alignment Feasibility Study Scope of Work

description of the evaluation methodology. Preliminary, high-level construction cost estimates prepared for alignment comparison purposes will be presented in the report, as well as preliminary estimates of operational costs. Any assumptions made to complete the evaluation will be fully disclosed in the report to help ensure accuracy of the resulting recommendations for pipeline sizing, routing and component materials.

Deliverables:

- Up to ten (10) copies of the Draft Pipeline Alignment Technical Memorandum, including summary of all analyses performed in Tasks 1.1 to 1.8 and mapping

Client-provided Items/Assumptions:

- Review comments (Note the project schedule assumes comments will be provided within 3 weeks)
- Acceptance of the recommended alignment alternative

Task 1.10: Finalize Pipeline Alignment Technical Memorandum

Following review of the Draft Pipeline Alignment Technical Memorandum, City comments will be incorporated and the report will be finalized. The final Pipeline Alignment Technical Memorandum and the recommendations presented therein, as agreed to by City staff, will serve as the foundation for all work to be completed in Phase II.

Deliverables:

- Up to ten (10) copies of the Final Pipeline Alignment Technical Memorandum

Client-provided Items/Assumptions:

- None

Phase I Meetings and Coordination

It is anticipated that the Deputy Project Manager will conduct regular meetings with City staff throughout completion of Phase I tasks to obtain input as appropriate. Various technical team members will attend as deemed appropriate by the Project Management team. The Project Manager will attend up to twelve (12) one-day meetings with the City throughout Phase I. Conference calls will be conducted on an as-needed basis to ensure continued progress of the work.

Internal meetings and conference calls with technical staff will also be conducted on a weekly or biweekly basis as appropriate based on task. It is anticipated a maximum of two (2) in-person meetings with all subconsultants and task leads will be required at project kickoff and during the alignment evaluation model setup. All other coordination will be performed in person on a one-on-one basis or via conference calls with the entire team.

An internal website for file-sharing purposes has been set up for use throughout the project (www.sacccb.com/redgap). The Deputy Project Manager will be responsible for ensuring that file structure and uploads are kept up-to-date on a weekly basis. City staff and internal team members will be given rights to access applicable files. It is anticipated the latest information will be stored on the site, including:

- GIS files
- Meeting agendas
- Meeting minutes

Red Gap Ranch Pipeline Alignment Feasibility Study Scope of Work

- Project schedule with status
- Project budget with status
- Weekly schedule and budget analysis
- Project work plan with status

Project schedule and budget will be tracked with the assistance of Project Controls staff. Weekly output on schedule and budget progress will be provided to the project management team, along with a narrative describing any past or upcoming items of concern.

The team will work in conjunction with the City of Flagstaff Public Information Officer and Web Team during Phase I to develop a webpage. The webpage will be linked to the City's website and will serve as a conduit for disseminating project information to the public and for allowing public comments to be gathered electronically. The web page will be scalable and hold increasing amounts of information as the project moves through phases of design and construction. The web page containing project description and user-friendly graphics will "go live" at the end of Phase I/start of Phase II and will contain the Pipeline Alignment Technical Memorandum, if desired by the City. A press release will also be generated to initiate public awareness of the project.

All documents produced throughout Phase I will be scanned into pdf format and uploaded to the document library for ease of access by all team and City staff members. Meeting and coordination fees have been distributed amongst applicable Phase I tasks.

Phase II - Pipeline Conceptual Design and Facility Location

Utilizing the preferred alignment and sizing determined in Phase I, the Team will proceed with the following conceptual design tasks to further define the project and identify feasibility and constraints.

Task 2.1: Identify Property Ownership

Jacobs Carter Burgess' right-of-way consultant will work with local staff to further refine property ownership along the selected alignment. Research will include working with the Coconino County Recorder's Office to determine and verify land ownership; inputting gathered information in the GIS database; determining areas required for rights-of-way and easements for the required alignments. Information gained will be utilized to determine land acquisition costs. Also included in this task will be coordination meetings with landowners, utilities and regulatory agencies along the alignment.

Deliverables:

- None, all information will be input to the GIS database, with narrative descriptions and figures submitted at the completion of Phase II

Client-provided Items/Assumptions:

- Attendance at meetings, as needed

Task 2.2: Environmental/Geotechnical/Drainage Review

Environmental, drainage and geotechnical task leads will review existing studies and visit alignment areas of concern, if accessible, as identified during Phase I to ensure all items that could impact eventual construction and operation of the pipeline are identified and quantified. The scope for this task assumes that a portion of the recommended

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alignment alternative will be located in a corridor that has been previously analyzed for cultural and biological resources. Biological/cultural site reconnaissance of up to 20 miles of new analysis is included in this task to collect additional preliminary data for use in determination of potential impacts. Based upon EnviroSystems' experience of the expected preliminary alignments, the 20 miles of reconnaissance, in addition to their database of information and information available from other sources such as ADOT, will be adequate to quantify the cultural and biological resources present within any one of the alignments identified in the initial Response to Request for Qualifications.

The geotechnical investigation at this phase will include subsurface exploration using test pits. Up to two weeks of backhoe and operator time will be provided by the City to perform the excavations. The consultant Team will provide a field geologist or geotechnical engineer to record the digging conditions and soil/rock conditions observed during the test pit operation. Sampling and lab analysis of soils is not included. The goal of this combined effort is to sample the approximately 40-mile alignment at one-mile intervals. The consultant team will develop a map of the recommended test pit locations prior to the commencement of the digging. The consultant will coordinate rights of entry, permits, and Blue Stake utility marking associated with this effort. The intent of this effort is to quantify excavation conditions to the greatest extent possible based upon this level of effort, especially regarding hard rock, breccia, limestone, or loose soil; so that meaningful cost estimates can be prepared.

Drainage issues along the alignment will be studied, including providing estimates of flow and scour depth for major wash crossings.

Deliverables:

- None, all information will be input to the GIS database, with narrative description and figures submitted at the completion of Phase II

Client-provided Items/Assumptions:

- None

Task 2.3: Helicopter Alignment Tour #2

A second aerial reconnaissance tour will be conducted during Phase II to provide more detailed look at the selected alignment. As in Phase I, the tour will be conducted over two days with members of the management team attending with up to three (3) City staff on the first day, and various task leads attending on the second day. A maximum of six hours continuous flight time will be provided each day. It is anticipated the pump station, pipeline, and electrical task leads will attend this second aerial tour in order to assess accessibility, construction constraints, availability of electrical accommodations, and general pump station site appropriateness.

Deliverables:

- Summary of issues of concern discovered during the aerial tour, distributed to all Team members

Client-provided Items/Assumptions:

- Attendance of up to three (3) City staff on a 4- to 6-hour alignment tour

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Task 2.4: Workshop #3

A third workshop will be held with City staff to discuss constructability issues identified on site and to further develop the City's operational requirements for the conveyance system. During the workshop, the City staff (including maintenance staff) will provide input to the preliminary pipeline and booster station design including desired operating parameters, and discuss permitting needs. Electrical supply alternatives will also be discussed at this workshop (as detailed in Task 2.12). The results of the workshop will be documented in meeting minutes or a brief memorandum and distributed to attendees and the project team to elicit comments.

Deliverables:

- Meeting agenda
- Meeting minutes

Client-provided Items/Assumptions:

- Input to operational parameters for the system
- Feedback on preliminary pipeline and pump station layout

Task 2.5: Public Outreach Events

Two public meetings will be held during Phase II to allow the public to provide input, obtain information and build consensus around the selected alignment. The exact timing of the public meetings will be identified by the City at project onset. It is anticipated the public outreach meetings will be "open-house" events at which key members of the consultant team will be available to answer questions. If not already launched at the completion of Phase I, the project webpage will be launched at this time to serve as a portal to disseminate information to the public and increase community awareness and involvement.

ESMpr community relations professionals will work with the City of Flagstaff and project team to develop and implement a Community Relations Plan which meets the outreach goals of the project team and sets the tone for upcoming stages of the project. Development of this plan will allow the City of Flagstaff the opportunity to decide the exact nature of public participation that they would like to see throughout the feasibility study stage. Implementation of a plan of this nature has the added benefit of augmenting any future NEPA-related outreach.

Deliverables:

- Community relations plan
- Graphics, handouts for meeting
- Website launch (if not completed previously)
- Summary of public comments documented by team members

Client-provided Items/Assumptions:

- Attendance at Public Outreach meeting
- Input to website content
- Feedback on Community Relations Plan

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Task 2.6: Perform Preliminary Survey

The team will conduct preliminary onsite survey and set up targets for aerial mapping to be performed by Cooper Aerial. Cooper Aerial will fly and furnish a 1:20,000 color stereo photography of the selected alignment, providing a 1":400' scale map with a ten-foot contour interval. Collection of data will be in the digital terrain modeling (DTM) method. Using the stereo photography and digital terrain data, Cooper Aerial will create digital, ortho-rectified imagery. Aerial project limits include 40 linear miles and 1,000-foot corridor width for topographic mapping, planimetrics and ortho-rectified imagery. Based on preliminary discussions with USBR, all survey/mapping proposed herein will conform to the guidelines established by the City of Flagstaff. All deliverables will be on the City of Flagstaff GIS coordinate system (i.e., NAD83, state plane feet, Arizona Central), and will be submitted electronically upon completion of this Task in ESRI ArcGIS format with all applicable data files.

Survey will obtain the approximate location of section corners and quarter-section corners along the route alignment from either field measurements or from maps and survey information that are available from governmental agencies or private sources. Parcel and ROW information obtained during Task 2.1 will be input to the GIS database and referenced to the survey. It is anticipated the survey will provide sufficient detail to allow conceptual design of the pipeline and appurtenances. Detailed surveying of the parcels and ROW will be required before final design and land acquisition.

Deliverables:

- One 2D AutoCAD 2000 file of the contours and planimetrics
- One 3D AutoCAD 2000 file of the contours and planimetrics
- One 3D AutoCAD 2000 file of the DTM
- One set of ASCII format files of the DTM
- Updated GIS mapping and data in ArcGIS format

Client-provided Items/Assumptions:

- Any temporary access fees/forms required to facilitate site access to setup aerial targets and perform ground survey to corroborate aerial data, will be covered under the contingency.
- The parcel and ROW information proposed to be collected within this task is approximate only. A detailed survey will be required to accurately locate the parcel and ROW lines for land acquisition.

Task 2.7: Identify Permitting Requirements

Jacobs Carter Burgess will review existing jurisdictional washes and areas of cultural significance along the selected pipeline alignment to identify preliminary permitting requirements. The primary effort for the environmental field reconnaissance will take place in Task 2.2; therefore, while some additional field visits may be required under this task, the majority of the work is expected to involve desktop research and coordination with agencies and stakeholders. In addition to permitting through Arizona Department of Environmental Quality (ADEQ), wash crossings along the alignment may require 404 Permits to be obtained from the Army Corps of Engineers prior to construction. Future NEPA documentation is expected to be required to obtain federal funding for the pipeline. A full environmental impact study will likely be required to complete the USBR feasibility study guidelines; however development of an EIS/EA is excluded from this scope as per the City's direction. Further information on environmental concerns, both biological and cultural, will be obtained during this Task to supplement the information

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collected during Phase I. This task also includes coordination with local jurisdictional agencies to refine land acquisition timelines and costs.

Deliverables:

- None, all permitting requirements will be summarized in the Task 2.14 deliverable

Client-provided Items/Assumptions:

- Input to City/County building department or other permit requirements, as applicable

Task 2.8: Determine Pipeline, Forebay and Pump Station Sizing

During this Task, the Team will refine preliminary sizing and phasing developed during the first phase for the selected alignment. A conceptual design will be developed to include approximate spacing of pipeline appurtenances such as isolation valves, air/vacuum release valves and blowoff valves (this task does not include development of plan and profile pipeline drawings). Preliminary pump station and forebay schematic layouts will be developed to aid in defining site requirements with respect to size, location, and access. Preliminary construction cost estimates will be refined based on increased knowledge provided by survey and conceptual design documents.

Deliverables:

- None, all sizing and siting will be summarized in the Task 2.14 deliverable

Client-provided Items/Assumptions:

- Operational requirements input

Task 2.9: Identify Corrosion Protection Requirements

Schiff Associates will conduct spot electrical resistivity readings along the alignment using the Wenner Four Pin method. This procedure gives the average resistivity to depth equal to the spacing between the pins. Approximate pin spacings of 2.5, 5, 7.5, 10 and 15 feet will be used so that variations with depth can be evaluated. Strata resistivities will be calculated from resistance data using the Barnes Procedure. During the Four Pin survey, Schiff Associates will investigate for sources of stray and induced current that may increase corrosivity over that which is due to soil resistivity. In this manner, the project team can quickly determine preliminary requirements for corrosion protection of facilities. The corrosion protection subconsultant will also assist in developing cost estimates for cathodic protection.

Deliverables:

- None, all resistivity test results and cathodic protection recommendations will be summarized in the Task 2.14 deliverable

Client-provided Items/Assumptions:

- Any temporary access fees/forms required to facilitate site access to setup aerial targets and perform ground survey to corroborate aerial data, will be covered under the contingency

Task 2.10: Pipeline, Forebay and Pump Station Materials Selection

Requirements for pipeline materials and pressure class will be further developed in the conceptual design phase, once pump station location is determined. Pipe pressure class will be highest at the discharge of each pump station, and decrease along the pipeline length. Preliminary surge analysis will be completed to aid in appropriate materials

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selection. Additionally, the corrosion consultant, Schiff Associates, will assist in selection of materials to help ensure system longevity and protection against potentially corrosive components in both the soils and water.

Deliverables:

- None, all materials recommendations will be summarized in the Task 2.14 deliverable

Client-provided Items/Assumptions:

- Any City preferences regarding materials selection

Task 2.11: Identify Water Treatment and Disinfection Requirements

Existing water quality data for the groundwater basin to be developed at Red Gap Ranch has been provided by the City. The provided data will be analyzed in further detail to provide recommendations for the type and location of disinfection and/or treatment. These items will be important due to the length of the conveyance system, the potential for long residence times, and the possible formation of disinfection byproducts. Careful consideration will be given to ease of maintenance of the disinfection system, as well as any impacts integrating this system with the City's existing distribution system may have.

Although we will research available treatment options and provide a summary of alternatives to the City, the Team understands the treatment analysis for this project is limited to that needed to accommodate the pipeline and pump stations. Future supply-specific projects will address more specific potable treatment needs. Therefore, the scope of this task is limited to high-level preliminary determination of the need for and preliminary siting of treatment and disinfection so as to produce an order-of-magnitude estimate of construction and operational costs.

Deliverables:

- None, all treatment and/or disinfection recommendations and cost estimates will be summarized in the Task 2.14 deliverable

Client-provided Items/Assumptions:

- Information on the City's current treatment/disinfection processes, and preferences for this project
- Current operational costs for the City's treatment and disinfection systems

Task 2.12: Identify Electrical Alternatives

EIC Engineers will attend Workshop #3 in order to clarify the City's needs with regard to power and controls for the conveyance system. EIC Engineers will evaluate, present alternatives and options, and prepare comparison cost estimates for different approaches including using overhead pole-mounted power distribution system utilizing existing state and local power grids, using several pump station-based power generators, and using a combination of power grids and locally generated power.

In order to reduce future power costs, EIC will explore alternatives for local power generation to be augmented by green means of energy production. These sources can reduce impacts of the traditional methods of energy production. It is anticipated alternative sources of energy will be evaluated and cost comparisons presented to assist the City with selection. Our Team is prepared to investigate external sources of grants and low-interest funding to support alternative energy. Preliminary ideas for alternative power sources to be explored further include the use of solar energy (active and passive

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methods based on photovoltaic efficiency values), use of wind energy (feasibility will be determined based on generated kilo-watt levels), use of hydro-electric energy (based on available dynamic flow/kinetic energy), and use of the excess heat created by the locally generated power to heat the pump station.

EIC Engineers will also provide input to the pump station design to ensure the most energy efficient system possible is selected. We will evaluate, present alternatives and options, and prepare comparison cost estimates for the various approaches including using medium voltage induction and synchronous motors, utilizing efficient motors coordinated with their respective pumps, and providing soft starts to reduce the pump startup energy demands.

Deliverables:

- None, all electrical recommendations and costs will be summarized in the Task 2.14 deliverable

Client-provided Items/Assumptions:

- Any City preferences

Task 2.13: Develop SCADA/Instrumentation Needs

Pump station and forebay control options will be evaluated and presented to the City. Preliminary cost estimates will be prepared and presented for various approaches including using Programmable Logic Controllers (PLCs) for control of the pump stations, utilizing licensed or microwave radios for range and reliability, using redundant controllers for critical applications, and utilizing Uninterruptible Power Supplies (UPS) with battery back up for critical applications.

Up to one (1) additional workshop (subsequent to Workshop 3) may be arranged to present the findings of the electrical and instrumentation alternatives analysis with the City in detail to verify their suitability, constructability, and cost. Parallel to the technical aspects of this study, cost comparisons and value engineering efforts will be performed in order to lessen the construction cost while preserving the engineering integrity of the project. Your staff will be involved and take an active role in every aspect of this process. This approach will help the Team remain on track to produce a study that will lead to successful implementation of this project.

Deliverables:

- None, all instrumentation recommendations will be summarized in the Task 2.14 deliverable

Client-provided Items/Assumptions:

- Any City preferences

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Task 2.14: Prepare Draft Preliminary Pipeline, Booster Pump and Reservoir Feasibility Technical Memorandum

A Draft Technical Memorandum will be prepared to present all data and conceptual design documents obtained and developed during Phase II. It is anticipated the Memorandum will summarize recommendations and anticipated requirements for the following items, as well as any other issues brought forth during completion of the preceding tasks:

- Pipeline alignment, size, phasing (as appropriate), materials, pressure class
- Preliminary pipe trench sections and geotechnical data
- Inline valving including size, type, spacing intervals
- Preliminary pipeline transient analysis results
- Pipeline cathodic protection
- Anticipated locations of alternative construction methods
- Pump type, size, arrangement, location including preliminary schematic pump station layout
- Forebay/reservoir type, materials, size, location and corrosion protection
- Maps of adequate scale to show areas of drainage and environmental concerns along the alignment
- Summary of all identified potential constructability issues and utility/agency conflicts
- Electrical accommodations, including offsite and onsite routing, backup power and potential alternative power sources
- SCADA/instrumentation, including system type and communication method
- Preliminary control logic narrative detailing operations of the booster stations and forebays
- Discussion of viability of "green" options for operation of the conveyance system
- Treatment/disinfection needs, type, location, sizing and byproducts
- Property ownership along proposed alignment
- Anticipated agency coordination, along with a flowchart summarizing timelines for agency approval, as appropriate
- Permitting requirements including a flowchart showing typical permit preparation, application and approval process and timelines for each agency
- Feasibility level construction cost estimate including land acquisition cost
- Preliminary O&M cost estimate, including annual labor-hours and electrical costs

Deliverables:

- Up to ten (10) copies of the Draft Preliminary Pipeline, Booster Pump and Reservoir Feasibility Technical Memorandum

Client-provided Items/Assumptions:

- Review comments (Note the project schedule assumes comments will be provided within 3 weeks)

Task 2.15: Finalize Preliminary Pipeline, Booster Pump and Reservoir Feasibility Technical Memorandum

Upon completion of City review of the Draft Technical Memorandum, the Team will hold a comment resolution meeting to ensure complete understanding of all City review comments. The Team will then incorporate comments and finalize the document for resubmittal.

Red Gap Ranch Pipeline Alignment Feasibility Study Scope of Work

Deliverables:

- Up to ten (10) copies of the Final Preliminary Pipeline, Booster Pump and Reservoir Feasibility Technical Memorandum
- Meeting minutes documenting each City comment on the Draft submittal and the anticipated resolution

Client-provided Items/Assumptions:

- None

Phase II Meetings and Coordination

It is anticipated that the Deputy Project Manager will conduct regular meetings with City staff throughout completion of Phase II tasks to obtain input as appropriate. Various technical team members will attend as deemed appropriate by the Project Management team. The Project Manager will attend up to sixteen (16) one-day meetings with the City throughout Phase II. Conference calls will be conducted on an as-needed basis to ensure continued progress of the work.

Internal meetings and conference calls with technical staff will also be conducted on a weekly or biweekly basis as appropriate based on task. It is anticipated a maximum of three (3) meetings with all subconsultants and task leads in attendance will be required during Phase II. All other coordination will be performed in person on a one-on-one basis or via conference calls with the entire team.

An internal website for file-sharing purposes has been set up for use throughout the project (www.saccb.com/redgap). The Deputy Project Manager will be responsible for ensuring that file structure and uploads are kept up-to-date on a weekly basis. City staff and internal team members will be given rights to access applicable files. It is anticipated the latest information will be stored on the site, including:

- GIS files
- Meeting agendas
- Meeting minutes
- Project schedule with status
- Project budget with status
- Weekly schedule and budget analysis
- Project work plan with status

Project schedule and budget will be tracked with the assistance of Project Controls staff. Weekly output on schedule and budget progress will be provided to the project management team, along with a narrative describing any past or upcoming items of concern.

At the end of Phase II, ESMpr will work with the project team and City of Flagstaff Web Team to update the project website with the Preliminary Pipeline Booster Pump and Reservoir Feasibility Technical Memorandum. Unique hits to the website during Phase II will give the project team an idea of how involved the public is in the pipeline project. Public outreach meetings to be conducted during Phase III will be announced on the website.

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All documents produced throughout Phase II will be scanned into pdf format and uploaded to the document library for ease of access by all team and City staff members. Meeting and coordination fees have been distributed amongst applicable Phase II tasks.

Phase III - Final Feasibility and Design Report

Task 3.1: Prepare Draft Final Feasibility Study

Following acceptance of the Phase II Technical Memorandum by the City, Jacobs Carter Burgess will proceed with development of the Final Feasibility Study. The Feasibility Study will conform to USBR requirements and will present all findings of our Phase I and II evaluations as detailed above. Alternatives explored during each phase will be summarized along with the evaluation criteria for selection of alignment, materials and methods of construction. Recommendations, figures, conceptual/schematic level design documents and flowcharts for agency, permitting and utility coordination will be presented within the Feasibility Study.

Deliverables:

- Up to ten (10) copies of the Draft Final Feasibility Study

Client-provided Items/Assumptions:

- Review comments (Note the project schedule assumes comments will be provided within 3 weeks)

Task 3.2: Public Outreach Events

A meeting will be held with City staff after the review period to discuss and ensure complete understanding of City comments. The project manager will attend public meetings with the Flagstaff Water Commission and Flagstaff City Council to present draft findings of the Feasibility Study and elicit comments.

At the end of Phase III, ESMpr will work with the Team and City of Flagstaff Web Team to update the project website with the Complete Final Feasibility and Design Report. Through Phases II and III, comments will be received through the web and other traditional means (e.g., comment forms made available at any public meeting or public-attended council meetings). These comments will be compiled into a comprehensive public record of the project which will be available to City staff. Through sharing of information in both directions, Flagstaff citizens can become involved in a decision-making process which directly affects their future.

Deliverables:

- Comment resolution meeting minutes including a summary of City comments on the Draft Final Feasibility Study and anticipated resolution
- Summary of Public Comments received through website and other means through Phases II and III

Client-provided Items/Assumptions:

- Participation in Public Outreach meetings

Task 3.3: Finalize Final Feasibility Study

Once all meetings have been completed and comments documented, the Team will incorporate comments and finalize the Feasibility and Design Report. Ten hard copies of the report will be submitted to you, along with an electronic submittal of all files that comprise the final document.

Red Gap Ranch Pipeline Alignment Feasibility Study Scope of Work

Deliverables:

- Ten (10) copies of Final Feasibility Study
- Electronic submittal of all files, including geodatabase files in compatible format

Client-provided Items/Assumptions:

- Acceptance of Final Feasibility Study

Phase III Meetings and Coordination

It is anticipated that the Deputy Project Manager will conduct regular meetings with City staff throughout completion of Phase III tasks to obtain input as appropriate. Various technical team members will attend as deemed appropriate by the Project Management team. The Project Manager will attend up to ten (10) one-day meetings with the City throughout Phase III, excluding public outreach meetings as noted above. Conference calls will be conducted on an as-needed basis to ensure continued progress of the work.

Internal meetings and conference calls with technical staff will also be conducted on a weekly or biweekly basis, as appropriate. It is anticipated a maximum of two (2) meetings with all subconsultants and task leads in attendance will be required during Phase III. All other coordination will be performed in person on a one-on-one basis or via conference calls with the entire team.

The Deputy Project Manager will be responsible for ensuring that file structure and uploads to the website document library are kept up-to-date on a weekly basis. City staff and internal team members will be given rights to access applicable files. It is anticipated the latest information will be stored on the site, including:

- GIS files
- Meeting agendas
- Meeting minutes
- Project schedule with status
- Project budget with status
- Weekly schedule and budget analysis
- Project work plan with status

Project schedule and budget will be tracked with the assistance of our Project Controls staff. Weekly output on schedule and budget progress will be provided to the management team, along with a narrative describing any past or upcoming items of concern.

All documents produced throughout Phase III will be scanned into pdf format and uploaded to the document library for ease of access by all team and City staff members. At the completion of Phase III, all documents comprising the Final Feasibility Study, as well as any CAD/GIS files, will be transmitted to the City in a compatible format. Meeting and coordination fees have been distributed amongst applicable Phase III tasks.

Red Gap Ranch Pipeline Alignment Feasibility Study Scope of Work

Contingency:

The proposed fee schedule identifies an amount to be set aside for unforeseen scope items that may arise throughout the course of the project. Miscellaneous scope additions to be performed under the contingency fee amount may include permit application and processing fees, access fees, additional survey and/or other unforeseen tasks or reimbursables that may be required to successfully complete the work. The team will obtain written approval from the City prior to commencing any tasks under the contingency. It is anticipated that the access permits and right of entry fees may require up to \$5000 of the contingency account.

Scope Assumptions, Exceptions and Clarifications:

The following assumptions and exceptions were made in preparing the above Scope of Work:

1. The Team will have access to all lands that will need to be part of the survey and/or geotechnical/environmental/cultural assessments. Any required access forms, permits or fees will be covered under the contingency.
2. Preparation of legal descriptions and/or setting new property or section corners is excluded. If required, the cost associated with preparation and filing of a record with the County will be covered under the contingency.
3. Potholing/field locating existing underground utilities is excluded.
4. Geotechnical testing including laboratory services has been excluded from this scope of services.
5. A number of meetings with specific staff in attendance have been assumed during each Phase in order to limit labor and travel costs. Additional meetings may be held at the City's discretion, with labor and travel costs covered under the contingency.
6. Environmental sampling and laboratory testing are excluded. Should environmentally hazardous materials be discovered during field work, the area will be cleared and the City will be notified immediately.
7. Cost estimating services in Phase I will be on an order of magnitude basis in order to assess and develop comparative costs between four alternative alignments. Detailed cost estimating will be performed in Phase II for the selected alignment.
8. Value analysis will be performed by the cost estimating team on provided schematic level design documents. Recommendations for cost-effective measures will be provided to the technical team on an ongoing basis throughout Phase II. A formal value engineering task will not be completed, as conceptual design documents are not anticipated to contain sufficient data to facilitate this detailed review.
9. Phase I analysis is limited to a maximum of four (4) alignment alternatives.
10. It is anticipated three (3) City staff members will attend each helicopter alignment tour. Requests for additional City staff members' attendance may require additional charter hourly fees, labor hourly fees and reimbursable expenses.

Red Gap Ranch Pipeline Alignment Feasibility Study Scope of Work

11. The City and the consultant Team understand that setting up criteria and rankings for the evaluation model will be a collaborative and iterative process requiring ongoing input from City staff. In order to adhere to the proposed project schedule, maintaining progress throughout the evaluation phase will be essential. As a result, a series of meetings will be scheduled during this phase to ensure adequate input from City stakeholders and the consultant team will be achieved, while staying within a time frame agreed upon at project kickoff.
12. Ease of connection at Red Gap Ranch and within the City limits will be considered in our analysis of various alignment alternatives; however, study of various terminus points and final recommendations or determination of pipeline start/stop points is anticipated to be included in the scope of another study, and has therefore been excluded from this scope. Assumptions will be made, with the City's input, at the start of feasibility study services, with regard to general locations of pipeline terminus points.
13. Public outreach services are limited to organizing and conducting up to four (4) public meetings on City property throughout all phases of the feasibility study, developing and maintaining a website, collecting and documenting all public comments received throughout the project duration. Additional meetings or services are excluded.
14. Research, study, hydrogeological, electrical, or other services to determine the feasibility, location or cost of groundwater injection wells on Red Gap Ranch is excluded. The general feasibility of conjunctive use of the pipeline for groundwater recharge will be studied and discussed with permitting agencies, and the cost of turbines and other alternative power sources incorporated; however, the cost of recharge wells and operations on Red Gap Ranch are assumed to be part of another study.
15. Study of groundwater wells, pumps, electrical power, transmission lines, reservoirs and other accommodations on or within the Red Gap Ranch boundary are assumed to be part of another scope and have been excluded from this Scope of Work.
16. Resistivity testing for use in cathodic protection conceptual design will be performed on a spot basis at an interval of sufficient length to yield a reasonable level of comfort with the field conditions. This testing will be performed during Phase II on the selected alignment. More extensive testing and/or higher level of design effort may result in additional fees.
17. A general overview of current and anticipated future water treatment regulations will be provided in Phase II. This review is expected to be applicable to treatment and disinfection required to maintain the integrity of the conveyance system, and related site requirements and costs, and will not necessarily address requirements to accommodate distribution of potable water within the City of Flagstaff. Water quality testing, detailed treatment analysis to achieve EPA MCLs, conceptual design of treatment components, or treatment-related tasks not specifically included herein are excluded.

Red Gap Ranch Pipeline Alignment Feasibility Study Scope of Work

18. Jacobs' Trenchless Technology design group will provide general consulting services and oversight during selection of alternative methods of construction, and will assist in cost estimating for various pipeline construction methods. Services exclude preparation of project- and site-specific construction details; however, it is anticipated the reports will document the anticipated locations for use of various alternative methods of construction, general details for various trenchless construction, and the methodology for selection of trenchless technology, as appropriate.
19. A senior railroad engineer has been included in the labor hour estimate for limited time to provide guidance and insight regarding BNSF coordination and requirements. This scope assumes the BNSF alignment will not be selected in Phase I. If selected, additional fee may be required to accomplish coordination time for the senior railroad engineer during Phases II and III.
20. The scope of work and fees presented herein are based on the project schedule submitted with the initial SOQ. Delays in project schedule outside our control may result in additional fees and escalation of labor rates.
21. The Phase III scope of services is limited to reformatting existing information into USBR guidelines for feasibility studies. Additional analysis, collection of data, and technical study during Phase III is excluded.
22. It is anticipated based on USBR Feasibility Guidelines that NEPA compliance will be required. Based on the City's initial scope of work in the Request for Statement of Qualifications, it is assumed this work will be performed under a future scope and NEPA compliance has been excluded from this Scope of Work.
23. Services not specifically mentioned herein are excluded, and may be provided if pre-approved by the City under the contingency.

Estimated Fee

A breakdown of manhours, reimbursable expenses, and subconsultant fees by task is included on the attached spreadsheet.

City of Flagstaff Red Gap Ranch Pipeline Alignment Feasibility Study
 FEASIBILITY SCHEDULE
 DESIGN COST WORKSHEET (LABOR)

ITEM NO.	DESCRIPTION	LABOR CLASSIFICATION AND RATE										TOTALS			
		PA	FOUNDER	ANALYST	DESIGNER	ENGINEER	INSPECTOR	OPERATOR	DRIVER	OPERATOR	DRIVER	OPERATOR	DRIVER	LABOR	DOLLAR
1	Project Engineer/Supervisor	40													
2	Senior Engineer/Supervisor	20													
3	Mid-level Engineer	14													
4	Junior Engineer/Assistant	20													
5	Public Engineering/Analysis	20													
6	Office Clerical	20													
7	Alignment Survey/Fieldwork	20													
8	Project Engineer/Supervisor	20													
9	Project Engineer/Supervisor	20													
10	Field Engineer/Supervisor	20													
11	Senior Surveying	20													
12	Surveying/Fieldwork/Design	20													
13	Technical Support	20													
14	Field/Office/Design	20													
15	Project Engineer/Supervisor	20													
16	Project Engineer/Supervisor	20													
17	Project Engineer/Supervisor	20													
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100	Project Engineer/Supervisor	20													

City of Flagstaff Red Gap Ranch Pipeline Alignment Feasibility Study

REIMBURSABLE
DESIGN COST WORKSHEET (DDC'S and Subconsultants)

TYPE - DESCRIPTION	AMT	UNIT	RATE	TOTAL	COMMENTS
A Helicopter Tour (6 hours per day trip)	24	HR	\$1050.00	\$ 25,200	Four tours total one each in Phase I, II
B Reproduction, Supplies, Mileage, Shipping	218	EA	\$102	\$ 22,134	Copy, mail
C Travel to Flagstaff from Reno, NV (Supp/Travel)	38	EA	\$475	\$ 18,050	City and Internal Team Meetings
D Flagstaff Office Expenses	1	LS	\$12,750	\$ 12,750	
E Subconsultant - Copper Aerial Survey	1	LS	\$40,961	\$ 40,961	Aerial Survey
F Subconsultant - RPS	1	LS	\$36,000	\$ 36,000	ROW
G Subconsultant - Staff	1	LS	\$19,670	\$ 19,670	Corrosion Protection
H Subconsultant - InverSystems	1	LS	\$116,600	\$ 116,600	Environmental, Cultural, FH
I Subconsultant - EIS	1	LS	\$91,967	\$ 91,967	Electrical, IAC
J Subconsultant - WBR Group	1	LS	\$272,039	\$ 272,039	General Engineering, GIS, Agency Coordination
K Subconsultant - Kinyo & Moore	1	LS	\$56,570	\$ 56,570	Geotechnical

ACTIVITY	TYPE (see above)											TASK TOTAL
	A	B	C	D	E	F	G	H	I	J	K	
PHASE I	\$1,050.00	\$100	\$175	\$12,750	\$40,961	\$15,000	\$19,670	\$116,600	\$91,967	\$272,039	\$56,570	\$66,909
1 Project Kickoff Meeting/Workshop #1		4.00	3.00	0.03				5.03		0.02		12,542.02
2 Desktop Alignment Reconnaissance/Identify Issues of Concern		4.00	4.00	0.03		0.03	0.11	0.16	0.03	0.10	0.17	52,621.00
3 Helicopter Alignment Tour #1	12.50	2.00	7.00	0.00				0.02		0.02	0.05	24,410.00
4 Preliminary Pump Station Location Analysis		4.00	4.00	0.03							0.02	1,650.00
5 Pipeline Siting/Planning Analysis		4.50	4.00	0.03							0.02	1,850.50
6 Cost Estimating		2.00	4.00	0.03		0.10	0.04	0.07	0.03	0.02		29,195.64
7 Alignment Alternatives Evaluation		4.00	6.00	0.08						0.12	0.13	38,854.10
8 Pipeline Alignment Workshop #2		4.00	2.00	0.00					0.03	0.02	0.01	19,281.64
9 Prepare Draft Pipeline Alignment Technical Memorandum		20.00	4.00	0.14		0.10	0.04	1.33		0.03	0.11	77,654.62
10 Final Pipeline Alignment Technical Memorandum		20.00	2.00	0.10		0.10	0.01	1.02		0.02	0.07	15,847.00
Phase I Subtotal												249,714.00
Phase II		4.00	1.00	0.04		0.30				0.19		11,732.00
1 Identify Property Ownership		4.00	1.00	0.04		0.30			0.19	0.04	0.18	37,050.00
2 Environmental/Geotechnical/Drainage Review		12.00	2.50	4.00	0.03				0.03	0.04	0.18	17,279.50
3 Helicopter Alignment Tour #2		8.00	4.00	0.00				0.03	0.08	0.02	0.03	24,143.60
4 Workshop #3		2.00	2.00					0.11		0.02		23,131.00
5 Perform Preliminary Survey		6.00	2.00	0.16	1.00					0.15		140,932.00
6 Identify Permitting Requirements		4.00	2.00	0.04		0.10		0.03		0.03		19,884.00
8 Determine Pipeline, Forebay and Booster Pump Station Siting		5.00	4.00	0.04								4,229.00
9 Identify Corrosion Protection Requirements		2.00		0.11			0.07					7,569.00
10 Pipeline, Forebay and Pump Station Materials Selection		4.00	2.00	0.14			0.11					4,555.00
11 Identify Water Treatment and Disinfection Requirements		4.00	2.00	0.01					0.01			7,643.00
12 Identify Technical Alternatives		4.00	1.00	0.03					0.03			21,465.00
13 Develop SCADA/Instrumentation Needs		4.00	2.00	0.03					0.02			29,830.00
14 Prepare Draft Prelim. Pipeline, Booster Pump and Reservoir Feasibility Tech Memo	20.00	4.00	1.00			0.10	0.11	0.08	0.05	0.13	0.04	42,917.20
15 Finalize Prelim. Pipeline, Booster Pump and Reservoir Feasibility Tech Memo	20.00	2.00	0.03			0.05	0.08	0.12	0.11	0.03		26,693.00
Phase II Subtotal												425,416.00
Phase III		20.00	4.50	0.03		0.09	0.11	0.03	0.02	0.02	0.09	27,181.00
1 Prepare Draft Final Feasibility Study		10.00	6.50			0.09	0.13			0.01		21,435.00
2 Public Outreach Events		20.00	2.00			0.04		0.03	0.06	0.02	0.02	15,616.00
3 Finalize Final Feasibility Study												75,202.00
Phase III Subtotal												75,202.00
TOTALS	24.50	212.00	18.00	1,090,600	1,059,909	1,059,320	1,005,000	1,000,000	1,020,000	1,106,000	1,020,000	745,395.00

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Rate Schedule	
City of Flagstaff Red Gap Ranch Pipeline	
Project Director, QA/QC Manager	\$250
Project Manager	\$240
Senior Technical Advisor - USBR, Treatment	\$230
Cost Estimating Manager	\$200
GIS Manager	\$185
Engineer V	\$175
Task Lead II, Engineer IV, Lead Estimator	\$160
Engineer III	\$150
Project Controls Manager	\$145
Task Lead I	\$140
Engineer II	\$135
Estimator	\$120
Deputy Project Manager	\$120
Senior Project Coordinator	\$100
Engineer I, Senior Designer, Website Applications	\$90
EIT	\$80
CAD Technician	\$65
GIS Technician	\$60
Administrative Assistant	\$55

Note: Rates are subject to adjustment each calendar year.