WaterSMART

Water and Energy Efficiency Grants for FY 2014

Response to Funding Opportunity Announcement No. R14AS00001
Funding Group I

Duchesne County Water Efficiency Project

Duchesne County Water Conservancy District
In Association With
Dry Gulch Irrigation Company
Farnsworth Canal and Reservoir Company
Lake Fork and Yellowstone River Commission
Lake Fork Irrigation Company
Uinta and Whiterocks River Commission

Submitted by:

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January 22, 2014

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TECHNICAL PROPOSAL

Executive Summary

The executive summary should include:

- *The date, applicant name, city, county, and state.*
- *A one paragraph project summary that specifies the work proposed, including how project funds will be used to accomplish specific project activities and briefly identifies how the proposed project contributes to accomplishing the goals of this FOA (see Section III.B, "Eligible Projects" in the FOA).*
- *State the length of time and estimated completion date for the project.*
- *Whether or not the project is located on a Federal facility.*

Application Date:	January 22, 2014
Estimated Start Date:	September 1, 2014
Estimated End Date:	June 30, 2015
Applicant's Name:	Duchesne County Water Conservancy District In association with Dry Gulch Irrigation Company, Farnsworth Canal and Reservoir Company, Lake Fork and Yellowstone River Commission, Lake Fork Irrigation Company, and Uinta and Whiterocks River Commission
Project Location:	Duchesne County, Utah
Project Title:	Duchesne County Water Efficiency Project

Project Summary:

The Duchesne County Water Efficiency Project is a collaborative effort to improve water efficiency in the Duchesne River Basin of Utah. The Duchesne River is a tributary to the Colorado River Basin, which in a study by the U.S. Bureau of Reclamation (published in December 2012) identified that by the year 2050 the Colorado River Basin could experience a water shortage of 2,500,000 acre-feet. The Duchesne County Water Efficiency Project could help meet a portion of this shortfall by saving 9,848 acre-feet of water through measurement of diversions at canal head gates using telemetry, automation of a major river diversion structure, and installation of water meters on laterals. In addition, the project will enhance environmental benefits by taking measures to ensure a water supply to the Duchesne River and the endangered fish species of the Colorado River. By better managing annual water deliveries of 157,900 acre-feet, and saving 9,848 acre-feet, the project would meet the goals of this FOA. The project has close ties to Reclamation's enlarged Big Sand Wash Reservoir and a contractual agreement with the U.S. Department of Interior to deliver 1,500 acre-feet of water to the endangered fish species recovery program on the Colorado River.

Background Data

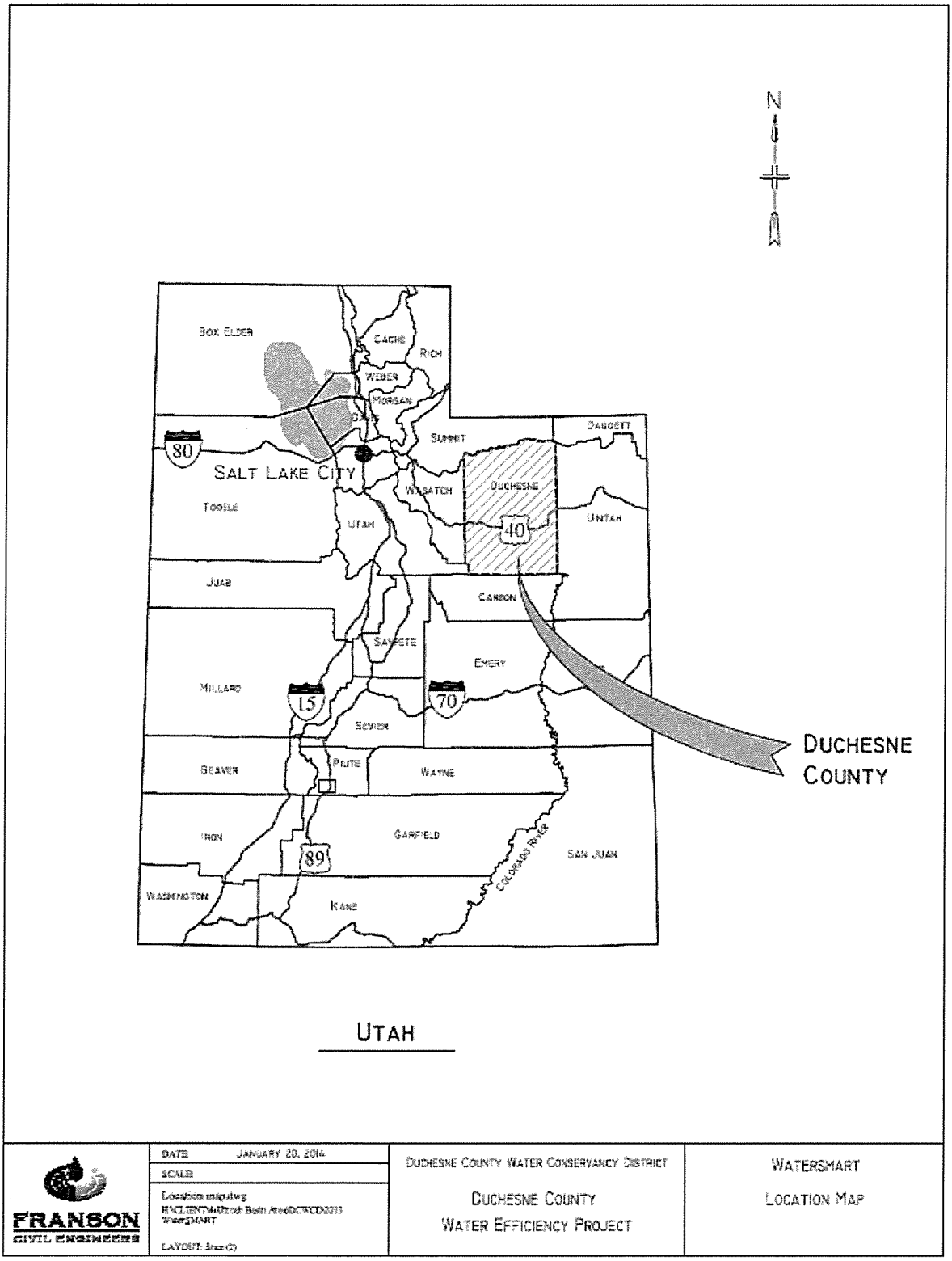

Figure 1. Location Map

As applicable, describe the source of water supply, the water rights involved, current water uses (i.e., agricultural, municipal, domestic, or industrial), the number of water users served, and the current and projected water demand. Also, identify potential shortfalls in water supply. If water is primarily used for irrigation, describe major crops and total acres served.

The Duchesne County Water Conservancy District (DCWCD) was formed in 1998 with the purpose of promoting water development in Duchesne County, Utah. It has a General Manager and a seven-member Board of Directors. It provides assistance to local irrigation companies in Duchesne County; such as: the Dry Gulch Irrigation Company, Farnsworth Canal and Reservoir Company, Lake Fork and Yellowstone River Commission, Lake Fork Irrigation Company, and water users in Duchesne County who receive water from the Uinta and Whiterocks River Commission. DCWCD will be the contracting entity with Reclamation for this WaterSMART grant. DCWCD works closely with Reclamation's Central Utah Project Office and is a sponsoring entity for Reclamation's Big Sand Wash Reservoir Enlargement.

Dry Gulch Irrigation Company serves approximately 58,000 acres of land in the eastern portion of Duchesne County, of which 16,000 acres are included in this WaterSMART application. Water saving measures include: installing telemetry at five (5) measuring points on canal head gates and Montes Creek, and installing 255 water meters on laterals to better manage and conserve water. Annual water savings is estimated to be 1,480 acre-feet and 29,580 acre-feet of water will be better managed

Farnsworth Canal and Reservoir Company serves approximately 10,000 acres of land in northern Duchesne County. Annual water deliveries are 24,400 acre-feet, of which 5%, or 1,200 acre-feet, could be saved through more accurate water measurement at four main canal head gates through telemetry and the use of data-loggers.

Lake Fork and Yellowstone River Commission administers diversion from the Lake Fork and Yellowstone Rivers in northern Duchesne County. Water users consist of both non-Indian and members of the Ute Indian Tribe. Annual water deliveries are 16,700 acre-feet. The river commissioner estimates that annual water savings of 1,528 acre-feet would be realized with the addition of telemetry on several of the canals.

Lake Fork Irrigation Company is a small irrigation company that lacks adequate measuring devices to record their water deliveries. The company serves 568 acres with annual water deliveries of 1,704 acre-feet. With the addition of telemetry and a water meter, they could save 170 acre-feet of water per year.

Uinta and Whiterocks River Commission controls diversions from the Uinta and Whiterocks River through a bifurcation structure at the confluence of the two rivers and water storage in small lakes in the Uinta Mountains. The actual structure is located in Uintah County immediately adjacent to Duchesne County. The water users (including members of the Ute Indian Tribe) that benefit from this WaterSMART application are located in Duchesne County. Annual water deliveries are 84,000 acre-feet, of which 5%, or 4,200 acre-feet, could be saved by installing telemetry and automation of the gate at the bifurcation structure, and telemetry on the high mountain lakes.

In addition, describe the applicant's water delivery system as appropriate. For agricultural systems, please include the miles of canals, miles of laterals, and existing irrigation improvements (i.e., type, miles, and acres). For municipal systems, please include the number of connections and/or number of water users served and any other relevant information describing the system.

Table 1: Summary of Entities and Type of Water Delivery Systems

Entity	Water Delivery System	Irrigated Land (Acres)	Number of Shareholders
Duchesne County Water Conservancy District	Cottonwood Creek	n/a	n/a
Dry Gulch Irrigation Company	Open main canals, piped laterals, and on-farm sprinklers	16,000	300±
Farnsworth Canal and Reservoir Company	Open main canals, piped laterals, and on-farm sprinklers	10,000	300±
Lake Fork and Yellowstone River Commission	Open main canals, piped laterals, and on-farm sprinklers	5,500	500±
Lake Fork Irrigation Company	Open main canals, piped laterals, and on-farm sprinklers	600	10±
Uinta and Whiterocks River Commission	Open main canals, piped laterals, and on-farm sprinklers	28,000	500±

If the application includes renewable energy or energy efficiency elements, describe existing energy sources and current energy uses.

Not applicable.

Identify any past working relationships with Reclamation. This should include the date(s), description of prior relationships with Reclamation, and a description of the projects(s).

Table 2: Entities Past Working Relationships with Reclamation

Entity	Reclamation Project Relationship
Duchesne County Water Conservancy District	Starvation and Big Sand Wash Reservoirs
Dry Gulch Irrigation Company	Big Sand Wash Reservoir and Reclamation's Water 2025 Program
Farnsworth Canal and Reservoir Company	Big Sand Wash Reservoir and Reclamation's Envision Water 2025 Program
Lake Fork and Yellowstone River Commission	Big Sand Wash Reservoir
Lake Fork Irrigation Company	Big Sand Wash Reservoir
Uinta and Whiterocks River Commission	Reclamation's Envision Water 2025 Program

Technical Project Description

If a grant from Reclamation is received, the entities will proceed to finalize components of telemetry, metering, and preparation of scopes of work for the material and/or services needed. An environmental and cultural review will be done by a registered environmental firm. Once environmental clearance is obtained, the construction will commence.

Table 3: Project Components by Entity

ENTITY	PROJECT COMPONENTS
Duchesne County Water Conservancy District and Other Local Entities	
1. Cottonwood Creek	Telemetry and new flow control structure
Dry Gulch Irrigation Company	
1. Montes Creek	Telemetry – staff gage and datalogger
2. State Road Turnout plus a Parshall flume	Telemetry plus a Parshall flume
3. Harding Lateral	Telemetry – staff gage and datalogger
4. Silky Ditch	Telemetry – staff gage and datalogger
5. Cooper Lox Canal	Telemetry – staff gage and datalogger
6. Class C, D, E and F water users	255 water meters
Farnsworth Canal and Reservoir Company	
1. Farnsworth Canal Diversion Point 1	Telemetry – staff gage and datalogger
2. Farnsworth Canal Diversion Point 2	Telemetry – staff gage and datalogger
3. Farnsworth Canal Diversion Point 3	Telemetry – staff gage and datalogger
4. Farnsworth Canal Diversion Point 4	Telemetry – staff gage and datalogger
5. Small Concrete Parshall Flume	Small concrete Parshall flume
Lake Fork and Yellowstone River Commission	
1. Red Cap Canal	Water level sensor
2. C Canal (Evans Flume 1 & 2)	Telemetry – staff gage and datalogger
3. Blood Draw (Hartman Flume)	Telemetry – staff gage and datalogger
4. Payne Canal	Telemetry and water level sensor
5. On-Farm Pond	Water level sensor & datalogger
Lake Fork Irrigation Company	
1. Lake Fork Irrigation – C Canal	Water meter
2. Lake Fork Irrigation (Thacker Pond)	Telemetry – staff gage and datalogger
Uinta and Whiterocks River Commission	
1. Bifurcation Structure	Telemetry – staff gage, datalogger and automation of water control gate
2. High Mountain Lakes	Telemetry – staff gage and datalogger

Evaluation Criteria

Evaluation Criterion A: Water Conservation

Up to 28 points may be awarded for a proposal that will conserve water and improve efficiency. Points will be allocated to give consideration to projects that are expected to result in significant water savings.

Subcriterion No. A.1—Water Conservation:

For projects with quantifiable and sustained water savings, please respond to Subcriterion No. 1(a)—Quantifiable Water Savings described in this subsection. If the project does not result in quantifiable water savings but will improve water management, please respond to Subcriterion No. 1(b)—Improved Water Management described in this subsection. If the project has separate components that will result in both quantifiable water savings and improved water management, an applicant may respond to both Subcriteria No. A.1(a) and (b). However, an applicant is limited to 20 points total under both Subcriteria No. A.1(a) and (b).

Subcriterion No. A.1(a) – Quantifiable Water Savings

*Up to **20 points** may be allocated based on the quantifiable water savings expected as a result of the project.*

Describe the amount of water saved. *For projects that conserve water, please state the estimated amount of water expected to be conserved (in acre-feet per year) as a direct result of this project. Please provide sufficient detail supporting how the estimate was determined, including all supporting calculations. Please be sure to consider the questions associated with your project type (listed below) when determining the estimated water savings, along with the necessary support needed for a full review of your proposal (please note, the following is not an exclusive list of eligible project types. If your proposed project does not align with any of the projects listed below, please be sure to provide support for the estimated project benefits, including all supporting calculations and assumptions made). In addition, all applicants should be sure to address the following:*

- *What is the applicant's average annual acre-feet of water supply?*

Table 4: Entities Average Annual Water Supply

Entity	Annual Water Supply (acre-feet)
Duchesne County Water Conservancy District	1,500
Dry Gulch Irrigation Company	29,580
Farnsworth Canal and Reservoir Company	24,400
Lake Fork and Yellowstone River Commission	16,720
Lake Fork Irrigation Company	1,704
Uinta and Whiterocks River Commission	84,000
TOTAL	**157,904**

- *Where is that water currently going (e.g., back to the stream, spilled at the end of the ditch, seeping into the ground, etc.)?*

Water is currently lost in the system through seeping into the ground, through evaporation to the atmosphere, and spilled at the end of the water delivery system.

- *Where will the conserved water go?*

All of the conserved water would be used by the entities to remediate irrigation shortages during the late summer months. The conserved water by the new control structure on Cottonwood Creek will go toward meeting the objectives of the Upper Colorado River Endangered Fish Species program.

Please include a specific quantifiable water savings estimate; do not include a range of potential water savings.

(1) ***Canal Lining/Piping:*** *Canal lining/piping projects can provide water savings when irrigation delivery systems experience significant losses due to canal seepage. Applicants proposing lining/piping projects should address the following:*

a) How has the estimated average annual water savings that will result from the project been determined? Please provide all relevant calculations, assumptions, and supporting data.

b) How have average annual canal seepage losses been determined? Have ponding and/or inflow/outflow tests been conducted to determine seepage rates under varying conditions? If so, please provide detailed descriptions of testing methods and all results. If not, please provide an explanation of the method(s) used to calculate seepage losses. All estimates should be supported with multiple sets of data/measurements from representative sections of canals.

Project does not involve the lining of canals. Losses are based on improved water management.

c) What are the expected post-project seepage/leakage losses and how were these estimates determined? (e.g. can data specific to the type of material being used in the project be provided?)

N/A

d) What are the anticipated annual transit loss reductions in terms of acre-feet per mile for the overall project and for each section of canal included in the project?

N/A

e) How will actual canal loss seepage reductions be verified?

N/A

f) Include a detailed description of the materials being used.

N/A

*(2) **Water Savings Through Telemetry and Metering:** Telemetry and water metering projects can provide water savings when irrigation delivery systems experience significant losses due to timing and spillage at the end of the irrigation system.*

a) How has the estimated average annual water savings that will result from the project been determined? Please provide all relevant calculations, assumptions, and supporting data.

The water savings of 9,848 acre-feet will be equal to the amount of water that is currently lost through seepage and evaporation.

Water losses are based on the experience of the operators relating to their respective water delivery facilities. This information is summarized in the Table 5 below.

Table 5: Water Savings and Experience of Entity Managers

Entity	Operator/Yrs of Experience	Water Savings (acre-feet)
Duchesne County Water Conservancy District	R. Scott Wilson 4 yrs as General Manager	450
Dry Gulch Irrigation Company	Judy Hamblin 10 years	1,480
Farnsworth Canal and Reservoir Company	Kirk Christensen 30 years of experience	1,220
Lake Fork and Yellowstone River Commission	Leland Carter 8 years of experience	2,328
Lake Fork Irrigation Company	Sean McConkie 35 years of experience	170
Uinta and Whiterocks River Commission	Shane Hamblin 25 years of experience	4,200
	TOTAL SAVINGS	**9,848**

Subcriterion No. A.1(b) – Improved Water Management

*Up to **5 points** may be awarded if the proposal will improve water management through measurement, automation, advanced water measurement systems, through implementation of a renewable energy project, or through other approaches where water savings are not quantifiable.*

***Describe the amount of water better managed.** For projects that improve water management but which may not result in measurable water savings, state the amount of water expected to be better managed, in acre-feet per year and as a percentage of the average annual water supply. (The average annual water supply is the amount actually diverted, pumped, or released from storage, on average, each year. This does not refer to the applicant's total water right or potential water supply.) Please use the following formula:*

$$\frac{\textit{Estimated Amount of Water Better Managed}}{\textit{Average Annual Water Supply}} = \frac{157{,}904 \text{ acre-feet}}{157{,}904 \text{ acre-feet}} = 100\%$$

All water diverted by the entities will be better managed as a result of more accurate water measurements.

Subcriterion No. A.2 – Percentage of Total Supply

Up to 4 additional points may be allocated based on the percentage of the applicant's total average water supply (i.e., including all facilities managed by the applicant) that will be conserved directly as a result of the project.

Provide the percentage of total water supply conserved: State the applicant's total average annual water supply in acre-feet. Please use the following formula:

$$\frac{\textit{Estimated Amount of Water Conserved}}{\textit{Average Annual Water Supply}} = \frac{9{,}848 \text{ acre-feet}}{157{,}904 \text{ acre-feet}} = 6.24\%$$

Water losses are based on the long years of experience of those that operate the rivers and canal systems.

Subcriterion No. A.3 – Reasonableness of Costs

Up to 4 additional points may be awarded for the reasonableness of the cost for the benefits gained.

Please include information related to the total project cost, annual acre-feet conserved (or better managed), and the expected life of the improvement. Use the following calculation:

$$\frac{\textit{Total Project Cost}}{\textit{(Acre-Feet Conserved, or Better Managed x Improvement Life)}}$$

Failure to include this required calculation will result in no score for this section.

For all projects involving physical improvements, specify the expected life of the improvement in number of years and provide support for the expectation (e.g. manufacturer's guarantee, industry accepted life-expectancy, description of corrosion mitigation for ferrous pipe and fittings, etc.) Failure to provide this information may result in a reduced score for this section.

All the water deliveries will be better managed through the system. In addition, the project will conserve approximately 9,8488 acre-feet of water annually. It is anticipated that the telemetry systems, new flow control structure, and automation of diversion structure on the Uinta River will last for 50 years with only minor repairs.

$$\frac{\textit{Total Project Cost}}{\textit{AF Conserved x Improvement life}} = \frac{\$666{,}140}{(9{,}848)*50} = \$1.35$$

The calculation yields a cost of $1.35 for every acre-foot per year of water conserved.

$$\frac{\textit{Total Project Cost}}{\textit{Better Managed x Improvement life}} = \frac{\$666,140}{(157,904)*50} = \$0.08$$

The calculation yields a cost of $0.08 for every acre-foot per year of water better managed.

Evaluation Criteria B: Energy Water Nexus

*Up to **16 points** may be awarded based on the extent to which the project increases the use of renewable energy or otherwise results in increased energy efficiency.*

For projects that include construction or installation of renewable energy components, please respond to Subcriterion No. B.1— Implementing Renewable Energy Projects Related to Water Management and Delivery. If the project does not implement a renewable energy project but will increase energy efficiency, please respond to Subcriterion No. B.2 — Increasing Energy Efficiency in Water Management. If the project has separate components that will result in both implementing a renewable energy project and increasing energy efficiency, an applicant may respond to both. However, an applicant may receive no more than 16 points total under both Subcriterion No. B.1 and B.2.

Subcriterion No. B.1 – Implementing Renewable Energy Projects Related to Water Management and Delivery

Up to 16 points may be awarded for projects that include construction or installation of renewable energy components (i.e., hydroelectric units, solar-electric facilities, wind energy systems, or facilities that otherwise enable the use of renewable energy). Projects such as small-scale solar resulting in minimal energy savings or production will be considered under Subcriterion No. 2 below.

***Describe the amount of energy capacity**. For projects that implement renewable energy systems, state the estimated amount of capacity (in kilowatts) of the system. Please provide sufficient detail supporting the stated estimate, including all calculations in support of the estimate.*

N/A

***Describe the amount of energy generated**. For projects that implement renewable energy systems, state the estimated amount of energy that the system will generate (in kilowatt hours per year). Please provide sufficient detail supporting the stated estimate, including all calculations in support of the estimate.*

N/A

Describe any other benefits of the renewable energy project. *Please describe and provide sufficient detail on any additional benefits expected to result from the renewable energy project, including:*

- *Expected environmental benefits of the renewable energy system*
- *Any expected reduction in the use of energy currently supplied through a Reclamation project*
- *Anticipated beneficiaries, other than the applicant, of the renewable energy system*
- *Expected water needs of the renewable energy system*

N/A

Subcriterion No. B.2 – Increasing Energy Efficiency in Water Management

If the project is not implementing a renewable energy component, as described in Subcriterion No. B.1 above, up to ***4 points*** *may be awarded for projects that address energy demands by retrofitting equipment to increase energy efficiency and/or through water conservation improvements that result in reduced pumping or diversions.*

Describe any energy efficiencies that are expected to result from implementation of the water conservation or water management project *(e.g., reduced pumping).*

- *Please provide sufficient detail supporting the calculation of any energy savings expected to result from water conservation improvements. If quantifiable energy savings are expected to result from water conservation improvements, please provide sufficient details and supporting calculations. If quantifying energy savings, please state the estimated amount in kilowatt hours per year.*
- *Please describe the current pumping requirements and the types of pumps (e.g., size) currently being used. How would the proposed project impact the current pumping requirements?*
- *Please indicate whether your energy savings estimates originates from the point of diversion, or whether the estimate is based upon an alternate site of origin.*
- *Does the calculation include the energy required to treat the water?*
- *Will the project result in reduced vehicle miles driven, in turn reducing carbon emissions? Please provide supporting details and calculations.*

Telemetry, water meters, and gate automation will result in reduced maintenance and operation. The water masters and river commissioners will not need to drive the canal alignment and back roads as frequently for safety, change in gate setting, and other inspection needs.

Describe any renewable energy components that will result in minimal energy savings/production *(e.g., installing small-scale solar as part of a SCADA system).*

N/A

Evaluation Criteria C: Benefits to Endangered Species

*Up to **12 points** may be awarded for projects that will benefit federally-recognized candidate species or up to **12 points** may be awarded for projects expected to accelerate the recovery of threatened species or engendered species, or addressing designated critical habitat.*

Projects that benefit both federally-listed endangered species and federally-recognized candidate species will receive additional consideration under this criterion. Please see <http://www.fws.gov/endangered/index.html> for a complete listing of federally-listed threatened or endangered species and federally-recognized candidate species in your area.

For projects that will directly benefit federally-recognized candidate species, please include the following elements:

1) *Relationship of the species to water supply*
2) *Extent to which the proposed project would reduce the likelihood of listing or would otherwise improve the status of the species*

For projects that will directly accelerate the recovery of threatened species or endangered species or address designated critical habitats, please include the following elements:

1) *How is the species adversely affected by a Reclamation project?*
2) *Is the species subject to a recovery plan or conservation plan under the Endangered Species Act?*
3) *What is the extent to which the proposed project would reduce the likelihood of listing or would otherwise improve the status of the species*

The Duchesne County Water Efficiency Project will aid the recovery of the endangered Colorado River fish species of – Humpback Chub, Bonytail, Colorado Pikeminnow, and Razorback Sucker, by ensuring that 1,500 acre-feet of water is delivered downstream during the spawning season of the endangered species. There is a contractual agreement between the DCWCD and the U.S. Department of Interior to release 1,500 acre-feet at the existing and outdated flow control structure on Cottonwood Creek. The water flows down Cottonwood Creek to the Duchesne River and eventually into the Colorado River.

Evaluation Criteria D: Water Marketing

*Up to **12 points** may be awarded for projects that propose water marketing elements, with maximum points for projects that establish a new water market.*

*Note: Water marketing does **not** include an entity selling conserved water to an existing customer. This criterion is intended for the situation where an entity that is conserving water uses water marketing to make the conserved water available to meet other existing water supply needs or uses.*

***Briefly describe any water marketing elements included in the proposed project.** Include the following elements:*

1) *Estimate amount of water to be marked*
2) *A detailed description of the mechanism through which water will be marketed (e.g., individual sale, contribution to an existing market, the creation of a new water market, or construction of a recharge facility*
3) *Number of users, types of water use, etc. in the water market*
4) *A description of any legal issues pertaining to water marketing (e.g., restrictions under reclamation law or contracts, individual project authorities, or State water laws)*
5) *Estimated duration of the water market*

State laws prohibit the sale or lease of water rights that are designated for a specific plot of land, unless the land itself is sold and taken out of production. As such, the water conserved will not be available to lease or sale but other water uses could be achieved under a contractual water delivery agreement. The conserved water will alleviate current shortages for water users.

Evaluation Criteria E: Other Contributions to Water Supply Sustainability

*Up to **14 points** may be awarded for projects expected to contribute to a more sustainable water supply. This criterion is intended to provide an opportunity for the applicant to explain how the project relates to a WaterSMART Basin Study, how the project could expedite future on-farm improvements, or how the project will provide other benefits to water supply sustainability within the basin. An applicant may receive the maximum 14 points under this criterion based on discussion of one or more of the numbered sections below.*

1) *Points may be awarded for projects that address an adaptation strategy identified in a WaterSMART Basin Study.*

   Proposals that provide a detailed description of how a project is addressing an adaptation strategy specifically identified in a Basin Study (i.e., a strategy to mitigate the impacts of water shortages resulting from climate change, drought, increased demands, or other causes) may receive maximum points under this criterion. Applicants should provide as much detail as possible about the relationship of the proposed project to the adaptation strategy identified in the Basin Study, including, but not limited to, the following:

   (a) Identify the specific WaterSMART Basin Study where this adaptation strategy was developed. Describe in detail the adaptation strategy that will be implemented through this WaterSMART Grant project, and how the proposed WaterSMART Grant project would help implement the adaptation strategy.
   (b) Describe how the adaptation strategy and proposed WaterSMART Grant project will address the imbalance between water supply and demand identified by the Basin Study.
   (c) Identify the applicant's level of involvement in the Basin Study (e.g., cost-share partner, participating stakeholder, etc.)
   (d) Describe whether the project will result in further collaboration among Basin Study partners.

   Through the WaterSMART Basin Study Program, Reclamation is working with State and local partners, as well as other stakeholders, to comprehensively evaluate the ability to

meeting future water demands within a river basin. The Basin Studies allow Reclamation and its partners to evaluate potential impacts of climate change to water resources within a particular river basin, and to identify adaptation strategies to address those impacts. For more information on Basin Studies, please visit: <www.usbr.gov/WaterSMART/bsp>.

This project does not fall within one of the areas that have a completed WaterSMART Basin Study. However, the project area is located within the Colorado River Basin, of which Reclamation recently completed a Water Supply and Demand Study (year 2012). Duchesne County is located in the Uintah Basin of Utah, which was identified in the Colorado River Basin Study as an area that needed additional water savings to meet long term water needs. The project will meet some of these water needs and will result in additional collaboration by the several entities that are included in this WaterSMART application.

2) *Points may be awarded for projects that describe in detail how they will directly expedite future on-farm irrigation improvements, including future on-farm improvements that may be eligible for NRCS funding. Please address the following:*

   a) *Include a detailed listing of the fields and acreage that may be improved in the future.*
   b) *Describe in detail the on-farm improvements that can be made as a result of this project. Include discussion of any planned or ongoing efforts by farmers/ranchers that receive water from the applicant.*
   c) *Provide a detailed explanation of how the proposed WaterSMART Grant project would help to expedite such on-farm efficiency improvements.*
   d) *Fully describe the on-farm water conservation or water use efficiency benefits that would result from the enabled on-farm component of this project. Estimate the potential on-farm water savings that could result in acre-feet per year. Include support or backup documentation for any calculations or assumptions.*
   e) *Projects that include significant on-farm irrigation improvements should demonstrate the eligibility, commitment, and number or percentage of shareholders who plan to participate in any available NRCS funding programs. Applicants should provide letters of intent from farmers/ranchers in the affected project areas.*
   f) *Describe the extent to which this project complements an existing or newly awarded AWEP project.*

   Note: On-farm water conservation improvements that complement the water delivery improvement projects selected through this FOA may be considered for NRCS funding and technical assistance in FY 2014 to the extent such assistance is available. Complementing NRCS Farm Bill programs include the Environmental Quality Incentive Program (EQIP) and Agricultural Water Enhancement Program (AWEP), which are the primary programs that address water quantity and water quality conservation practices. For more information, including application deadlines and a description of available funding, please contact your local NRCS office or visit <www.nrcs.usda.gov>for further contact information in your area.

Many of the irrigated areas have already converted to sprinkler systems for their on-farm irrigation methods.

Points may be awarded for projects that include other benefits to water supply sustainability.

Projects that do not address a need/adapatation strategy identified in a Basin Study or do not help expedite future on-farm irrigation improvements, may receive maximum points under this criterion by thoroughly explaining additional project benefits. Please provide sufficient explanation of the additional expected project benefits and their significance. Additional project benefits may include, but are not limited to, the following:

(a) Will the project make water available to address a specific concern? For example:

i. Will the project address water supply shortages due to climate variability and/or heightened competition for finite water supplies (e.g. population growth or drought)? Is the river, aquifer or other source of supply over-allocated?
ii. Will the project market water to other users? If so, what is the significance of this (e.g., does this help stretch water supplies in a water-short basin)?
iii. Will the project make additional water available for Indian tribes?
iv. Will the project help to address an issue that could potentially result in an interruption to the water supply if unresolved? (e.g., will the project benefit endangered species to maintain an adequate water supply)? Are there endangered species within the basin or other factors that may lead to heightened competition for available water supplies among multiple water uses?
v. Will the project generally make more water available in the water basin where the proposed work is located?

This WaterSMART project will address water supply shortages and will make more water available to the water users in the Duchesne River Basin. The Duchesne River contributes to flows in the Colorado River.

This project will also benefit the Ute Indian Tribe in Utah by reducing water shortages on irrigated lands.

(b) Does the project promote and encourage collaboration among parties?

i. Is there widespread support for the project?
ii. What is the significance of the collaboration/support?
iii. Will the project help to prevent a water-related crisis or conflict?
iv. Is there frequently tension or litigation over water in the basin?
v. Is the possibility of future water conservation improvements by other water users enhanced by completion of this project?

There is widespread support for the project. The project will require collaboration from several entities, including: DCWCD, Dry Gulch Irrigation Company, Farnsworth Canal and Reservoir Company, Lake Fork and Yellowstone River Commission, Lake Fork Irrigation Company, the Uinta and Whiterocks River Commission, and the U.S. Department of Interior. There are approximately 1,600± shareholders that would benefit from the project. With Utah being the second driest state in the country, water conservation projects are widely supported throughout the state. Water conservation is a top priority in the Utah State Water Plan.

(c) Will the project increase awareness of water and/or energy conservation and efficiency efforts?

i. Will the project serve as an example of water and/or energy conservation and efficiency within a community?
ii. Will the project increase the capability of future water conservation or energy efficiency efforts for use by others?
iii. Does the project integrate water and energy components?

This project will conserve 9,848 acre-feet of water and will be an example of water conservation to the local and surrounding communities. The support for this project by the shareholders of the entities involved in this WaterSMART application is an indication of their desire to implement improved measurement of their water deliveries to move toward better water conservation. The reduced maintenance and operation costs and a more reliable supply of water is a win-win situation for the shareholders, the local community, and surrounding region.

Evaluation Criteria F: Implementation and Results

*Up to **10 points** may be awarded for the following:*

Subcriterion No. F.1 – Project Planning

Points may be awarded for proposals with planning efforts that provide support for the proposed project.

Does the project have a Water Conservation Plan, System Optimization Review (SOR), and/or district or geographic area drought contingency plans in place? Does the project relate/have a nexus to an adaptation strategy developed as part of a WaterSMART Basin Study? *Please self-certify, or provide copies of these plans where appropriate, to verify that such a plan is in place. Provide the following information regarding project planning:*

1) Identify any district-wide, or system-wide, planning that provides support for the proposed project. This could include a Water Conservation Plan, SOR, or other planning efforts done to determine the priority of this project in relation to other potential projects.

The entities do not have a water conservation plan. However, approximately 70% of the on-farm irrigation systems have converted to sprinkler irrigation systems. The telemetry, water metering, and gate automation as part of this WaterSMART application will promote district-wide improvements in managing their annual water deliveries of 157,904 acre-feet.

2) Identify and describe any engineering or design work performed specifically in support of the proposed project.

A preliminary estimate of costs for the metering, telemetry, and gate automation on the Uinta River, and a new control structure on Cottonwood Creek, has been completed by Franson Civil Engineers and the entities to be used in the funding acquisition portion of the project.

3) *Describe how the project conforms to and meets the goals of any applicable State or regional water plans, and identify any aspect of the project that implements a feature of an existing water plan(s).*

The Utah State Water Plan emphasizes water conservation and efficient management of developed water supplies as key strategies in providing for the present and future water needs in the state. The projects in this WaterSMART application will be in harmony with the State of Utah's water conservation goals by conserving 9,848 acre-feet.

Subcriterion No. F.2 – Readiness to Proceed

Points may be awarded based upon the extent to which the proposed project is capable of proceeding upon entering into a financial assistance agreement.

Describe the implementation plan of the proposed project. Please include an estimated project schedule that shows the stages and duration of the proposed work, including major tasks, milestones, and dates. (Please note, under no circumstances may an applicant begin any ground disturbing activities—including grading, clearing, and other preliminary activities—on a project before environmental compliance is complete and Reclamation explicitly authorizes work to proceed).

The project is ready to move forward if the grant is awarded. The remaining funding will be secured from the Utah Division of Water Resources and other local entities. Once funding is secured, the design work will begin immediately thereafter. A detailed schedule showing major tasks, milestones, and dates is shown in Appendix G of this application.

Please explain any permits that will be required, along with the process for obtaining such permits.

The environmental clearance is not expected to have any major issues. Preliminary check of the National Register of Historic Places and the National Wetlands Inventory showed no apparent issues. The footprint of the telemetry, gate automation on the Uinta River, new flow control structure on Cottonwood Creek, and installation of water meters is negligible.

Subcriterion No. F.3 – Performance Measures

Points may be awarded based on the description and development of performance measures to quantify actual project benefits upon completion of the project.

Provide a brief summary describing the performance measure that will be used to quantify actual benefits upon completion of the project (i.e., water saved, marketed, or better managed, or energy saved). For more information calculating performance measure, see Section VIII.A.1 "FY2014 WaterSMART Water and Energy Efficiency Grants: Performance Measures"

Note: All WaterSMART Grant applicants are required to propose a "performance measure" (a method of quantifying the actual benefits of their project once it is completed). A provision will be

included in all assistance agreements with WaterSMART Grant recipients describing the performance measure, and requiring the recipient to quantify the actual project benefits in their final report to Reclamation upon completion of the project. If information regarding project benefits is not available immediately upon completion of the project, the financial assistance agreement may be modified to remain open until such information is available and until a Final Report is submitted. Quantification of project benefits is an important means to determine the relative effectiveness of various water management efforts, as well as the overall effectiveness of WaterSMART Grants.

With the installation of telemetry, water metering, gate automation, and a new flow control structure, the entities will now know how much water passes through the main diversion point. With the records provided by each water user of their diversions, the water masters and river commissioners can compare the flow at the measuring points to see the difference and calculate the water savings from what has taken place historically.

Evaluation Criteria G: Additional Non-Federal Funding

*Up to **4 points** may be awarded to proposals that provide non-Federal funding in excess of 50 percent of the project costs. State the percentage of non-Federal funding provided.*

$$\frac{\textit{Non-Federal Funding}}{\textit{Total Project Cost}} = \frac{\$366,377}{\$666,140} = \mathbf{55\%}$$

Evaluation Criteria H: Connection to Reclamation Project Activities

*Up to **4 points** may be awarded if the proposed project is in a basin with connections to Reclamation project activities. No points will be awarded for proposals without connection to a Reclamation project or Reclamation activity.*

1) *How is the proposed project connected to Reclamation project activities?*
2) *Does the applicant receive Reclamation project water?*
3) *Is the project on Reclamation project lands or involving Reclamation facilities?*
4) *Is the project in the same basin as a Reclamation project or activity?*
5) *Will the proposed work contribute water to a basin where a Reclamation project is located?*

The DCWCD has close ties to Reclamation projects including Starvation Dam and Reservoir and Big Sand Wash Dam Enlargement of the Central Utah Project. In addition, the project has ties through a contractual agreement to the U.S. Department of Interior to provide flows to endangered fish species on the Colorado River system.

PERFORMANCE MEASURES

All WaterSMART Grant applicants are required to propose a method (or "performance measure") of quantifying the actual benefits of their project once it is completed. Actual benefits are defined as water actually conserved, marketed, or better managed, as a direct result of the project. Quantifying project benefits is an important means to determine the relative effectiveness of various water management efforts, as well as the overall effectiveness of WaterSMART Grants.

Environmental and Cultural Resources Compliance

To allow Reclamation to assess the probable environmental impacts and costs associated with each application, all applicants must respond to the following list of questions focusing on the NEPA, ESA, and NHPA requirements. Please answer the following questions to the best of your knowledge. If any question is not applicable to the project, please explain why. Additional information about environmental compliance is provided in Section IV.D.4, "Budget Proposal," under the discussion of "Environmental and Regulatory Compliance Costs," and in Section VIII.B., "Overview of Environmental Compliance Requirements."

Note: Applicants proposing a Funding Group II project must address the environmental compliance questions for their <u>entire</u> project, <u>not</u> just the first one-year phase.

If you have any questions, please contact your regional or area Reclamation office (see http://www.usbr.gov/main/regions.html) with questions regarding ESA compliance issues. You may also contact Dean Marrone, WaterSMART Program Coordinator, at 303-445-3577, for further information.

Note, if mitigation is required to lessen environmental impacts, the applicant may, at Reclamation's discretion, be required to report on progress and completion of these commitments. Reclamation will coordinate with the applicant to establish reporting requirements and intervals accordingly.

Under no circumstances may an applicant begin any ground-disturbing activities (including grading, clearing, and other preliminary activities) on a project before environmental compliance is complete and Reclamation explicitly authorizes work to proceed. This pertains to all components of the proposed project, including those that are part of the applicant's non-Federal cost share. Reclamation will provide a successful applicant with information once environmental compliance is complete. An applicant that proceeds before environmental compliance is complete may risk forfeiting Reclamation funding under this FOA.

1) *Will the project impact the surrounding environment (i.e. soil [dust], air, water [quality and quantity], animal habitat)? Please briefly describe all earth-disturbing work and any work that will affect the air, water, or animal habitat in the project area. Please also explain the impacts of such work on the surrounding environment and any steps that could be taken to minimize the impacts.*

There will be minimal disturbance with the installation of telemetry, water metering, gate automation, and a new flow control structure. All work will be performed in previously disturbed areas.

2) *Are you aware of any species listed or proposed to be listed as a Federal endangered or threatened species, or designated critical habitat in the project area? If so, would they be affected by any activities associated with the proposed project?*

According to the U.S. Fish and Wildlife Endangered Species list for Utah, there are endangered species on the Colorado River located downstream of the Duchesne River. These endangered fish species include – Humpback Chub, Bonytail, Colorado Pikeminnow, and Razorback Sucker. This project will help to ensure the contractual delivery of 1,500 acre-feet of water to the U.S. Department of Interior to help promulgate the endangered fish species.

3) *Are there wetlands or other surface water inside the project boundaries that potentially fall under CWA jurisdiction as "waters of the United States?" If so, please describe and estimate any impacts the project may have.*

The National Wetlands Inventory has been searched and there will not be any construction within wetland areas. There are no anticipated impacts to wetlands or surface water that falls under the Clean Water Act (CWA) jurisdiction as "waters of the United States."

4) *When was the water delivery system constructed?*

Much of the network of main canals and laterals were constructed in the early 1900's. The emergence of converting from on-farm flood irrigation to sprinkler irrigation has taken place in the last 20 years.

5) *Will the project result in any modification of or effects to, individual features of an irrigation system (e.g. headgates, canals, or flumes)? If so, state when those features were constructed and describe the nature and timing of any extensive alterations or modifications to those features completed previously.*

There will not be any modification to canals. The installation of telemetry and gate automation will result in automation of one control gate on the Uinta River. There would be one small concrete flume that would be installed with the telemetry system for the Farnsworth Canal and Reservoir Company. The existing flow control structure on Cottonwood Creek would be replaced with telemetry and a new flow control structure so that accurate measurements can be made to ensure the delivery of 1,500 acre-feet of contractual water to the U.S Department of Interior for endangered fish species.

6) *Are any buildings, structures, or features in the irrigation district listed or eligible for listing on the Nation Register of Historic Places? A cultural resources specialist at your local Reclamation office or the State Historic Preservation Office can assist in answering this question.*

There are no buildings or features in the project area listed on the National Register of Historic Places database.

7) *Are there any know archeological sites in the proposed project area?*

There are no known archeological sites in the area. However, a cultural resource specialist will be hired to conduct a survey before construction begins.

8) *Will the project have a disproportionately high and adverse effect on low income or minority populations?*

The project will not adversely affect low income or minority populations. However, the project area is located in a low income area of Utah, and the project would enhance the economic benefits to the area.

9) *Will the project limit access to and ceremonial use of Indian sacred sites or result in other impacts on tribal lands?*

The project will not affect tribal lands but would benefit the Ute Indian Tribe through improved management of water deliveries and water savings.

10) *Will the project contribute to the introduction, continued existence, or spread of noxious weeds or non-native invasive species known to occur in the area?*

The project will not contribute to the spread of noxious weeds.

Required Permits or Approvals

Applicants must state in the application whether any permits or approvals are required and explain the plan for obtaining such permits or approvals.

Applicants proposing renewable energy components to Federal facilities should note that some power projects may require FERC permitting or a Reclamation Lease of Power Privilege. To complete a renewable energy project within the time frame required of this FOA, it is recommended that an applicant has commenced the necessary permitting process prior to applying. To discuss questions related to projects that propose renewable energy development, please contact Mr. Josh German at 303-445-2839 or jgerman@usbr.gov.

Note that improvements to Federal facilities that are implemented through any project awarded funding through this FOA must comply with additional requirements. The Federal government will continue to hold title to the Federal facility and any improvement that is integral to the existing operations of that facility. Please see Section III.H1. Reclamation may also require additional reviews and approvals prior to award to ensure that any necessary easements, land use authorizations, or special permits can be approved consistent with the requirements of 43 CFR 429, and that the development will not impact or impair project operations or efficiency.

An environmental clearance will be required before construction can begin. The permit is not expected to have any major issues. Preliminary check of the National Register of Historic Places and the National Wetlands Inventory showed no apparent issues. All of the required permits should be relatively easy to obtain.

Official Resolution

Include an official resolution adopted by the applicant's board of directors or governing body, or for state government entities, an official authorized to commit the applicant to the financial and legal obligations associated with receipt of WaterSMART Grant financial assistance, verifying:

- *The identity of the official with legal authority to enter into agreement*
- *The board of directors, governing body, or appropriate official who has reviewed and supports the application submitted*
- *The capability of the applicant to provide the amount of funding and/or in-kind contributions specified in the funding plan*
- *That the applicant will work with Reclamation to meet established deadlines for entering into a cooperative agreement*

An official resolution meeting the requirements set forth above is mandatory. *If the applicant is unable to submit the official resolution by the application deadline because of the timing of board meetings or other justifiable reasons, the official resolution may be submitted up to 30 days after the application deadline.*

Official resolutions are shown in Appendix A.

Project Budget

The project budget includes: (1) Funding Plan and Letters of Commitment, (2) Budget Proposal, (3) Budget Narrative and (4) Budget Form.

Funding Plan and Letters of Commitment

Describe how the non-Reclamation share of project costs will be obtained. Reclamation will use this information in making a determination of financial capability.

Project funding provided by a source other than the applicant shall be supported with letters of commitment from these additional sources. This is a ***mandatory requirement****. Letters of commitment shall identify the following elements:*

(1) The amount of funding commitment
(2) The date the funds will be available to the applicant
(3) Any time constraints on the availability of funds
(4) Any other contingencies associated with the funding commitment

Commitment letters from third party funding sources should be submitted with your project application. If commitment letters are not available at the time of the application submission, please provide a timeline for submission of all commitment letters. Cost share funding from sources outside the applicant's organization (e.g., loans or state grants), should be secured and available to the applicant prior to award.

Reclamation will not make funds available for a WaterSMART Grants project until the recipient has secured non-Federal cost-share. Reclamation will execute a financial assistance agreement once non-Federal funding has been secured or Reclamation determines that there is sufficient evidence and likelihood that non-Federal funds will be available to the applicant subsequent to executing the agreement.

The DCWCD may seek a loan from the Utah Division of Water Resources and funding from other local entities to construct the new flow control structure on Cottonwood Creek. The Dry Gulch Irrigation Company may seek a loan from the Utah Division of Water Resources to pay for the non-federal share of telemetry and water meters. The loans would only be finalized if funding from Reclamation is granted. Letters of commitment from the Utah Division of Water Resources and other local entities will be submitted as soon as they are available, but no later than June 1, 2014. All of the other entities have funds from their annual revenues and cash reserves to install telemetry, water meters, gate automation, and the new flow control structure.

The funding plan must include all project costs, as follows:

1) *How you will make your contribution to the cost share requirement, such as monetary and/or in-kind contributions and source funds contributed by the applicant (e.g. reserve account, tax revenue, and/or assessments).*

The total project cost is $666,140. DCWCD may apply for a loan from the Utah Division of Water Resources for $115,552 and/or seek funding from other entities that would benefit from the project. In-kind services of $20,392 would be provided by DCWCD. The Dry Gulch Irrigation Company may apply for a loan from the Utah Division of Water Resources for $143,501 for the telemetry and water meters. The irrigation company would provide in-kind services of $25,324. The loans would be paid back with assessments to the water users. If the $299,763 grant requested by this application is not approved, it is unlikely that this project will be implemented. If a grant is awarded, DCWCD and Dry Gulch Irrigation Company would finalize the loans from the Utah Division of Water Resources. The other entities are ready to proceed forward providing funding from their existing cash reserves.

2) *Describe any in-kind costs incurred before the anticipated project start date that you seek to include as project costs. Include:*

   (a) What project expenses have been incurred

Incurred project expenses include the engineering costs associated with preliminary design, cost estimating, and funding procurement.

(b) How they benefitted the project

These costs allowed the entities to explore funding options and establish a plan for the implementation of the project.

(c) The amount of the expense

The expense amounts to $5,000.

(d) The date of cost incurrence

The costs were incurred between October 2013 and January 2014.

3) *Provide the identity and amount of funding to be provided by funding partners, as well as the required letters of commitment.*

The total of $259,053 will be provided by the Utah Division of Water Resources or other local entities. The letters of commitment will be submitted as soon as a decision is made by the Utah Division of Water Resources, but no later than June 1, 2014.

4) *Describe any funding requested or received from other Federal partners. Note: Other sources of Federal funding may not be counted towards the applicant's 50-percent cost share unless otherwise allowed by statute.*

No other applications for funding have been requested from any other Federal funding agency.

5) *Describe any pending funding requests that have not yet been approved, and explain how the project will be affected if such funding is denied.*

If funds are not secured from Reclamation, the project will not move forward.

Please include the following chart to summarize your non-Federal and other Federal funding sources.

Table 6: Summary of non-Federal and Federal Funding Sources

Funding Sources	Funding Amount
Non-Federal Entities	
1. DCWCD and Other Local Entities	**$135,944**
a. In-kind services	($20,392)
b. Loan from Utah Division of Water Resources/others	($115,552)
2. Dry Gulch Irrigation Company	**$165,825**
a. In-kind services	($25,324)
b. Loan from Utah Division of Water Resources	($143,501)
3. Farnsworth Canal and Reservoir Company	**$13,475**
4. Lake Fork and Yellowstone River Commission	**$12,056**
5. Lake Fork Irrigation Company	**$6,903**
6. Uinta and Whiterocks River Commission	**$32,175**
Non-Federal Subtotal	**$366,377**
Federal Entities	
1. **Reclamation**	($299,763)
Federal Subtotal	($299,763)
Requested Reclamation Funding	**$299,763**
Total Project Funding	**$666,140**

Table 7: Funding Group I Request

Funding Group I Request		
	Year 1 (FY 2014)	**Year 2 (FY 2015)**
Funding Requested	$149,881	$149,882

Budget Proposal

The project budget shall include detailed information on the categories listed below (in the Budget Narrative Section) and must clearly identify all project costs and the funding source(s) (i.e. Reclamation or other funding sources). Unit costs shall be provided for all budget items including the cost of work to be provided by contractors. ***Lump sum costs are not acceptable.*** *Additionally, applicants shall include a narrative description of the items included in the project budget. It is strongly advised that applicants use the budget format (below) or a similar format that provides this information.*

Budget Narrative

Submission of a budget narrative is mandatory. An award will not be made to any applicant who fails to fully disclose this information. The Budget Narrative provides a discussion of, or explanation for, items included in the budget proposal. The types of information to describe in the narrative include, but are not limited, to those listed in the following subsections.

Officials of the DCWCD, Dry Gulch Irrigation Company, Farnsworth Canal and Reservoir Company, Lake Fork and Yellowstone River Commission, Lake Fork Irrigation Company, and the Uinta and Whiterocks River Commission will not earn a salary, wages, fringe benefits or reimbursements from funding obtained to implement this project. All contributions by these participating entities will be either volunteered or funded by the respective company's general fund, be in-kind contributions to the project or funded by the Utah Division of Water Resources and/or other local entities.

All funding secured from Reclamation, the Utah Division of Water Resources, and other local entities will be used to pay contractual agreements for implementing the project, including the construction contract and fees for legal, engineering, and environmental services as described Tables 8 and 9.

Table 8: Breakdown of Funding Sources and Percentages

Funding Sources	Percent of Total Project Costs	Total Cost by Source
Recipient Funding	55%	$366,377
Reclamation Funding	45%	$299,763
Total	**100%**	**$666,140**

Table 9: Project Management, Engineering, Environmental and Construction Costs

Budget Item Description	Computation	Total Cost
Project Manager and Reclamation Reporting	See Appendix D	$9,736
Environmental Services	See Appendix F	$11,810
Engineering and Construction Management	See Appendix C	$40,624
Construction and Materials	See Appendix D	$603,970
Total Project Costs		**$666,140**

Salaries and Wages

Indicate program manager and other key personnel by name and title. Other personnel may be indicated by title alone. For all positions, indicate salaries and wages, estimated hours or percent of time, and rate of compensation proposed. The labor rates should identify the direct labor rate

separate from the fringe rate or fringe cost for each category. All labor estimates, including any proposed subcontractors, shall be allocated to specific tasks as outlined in the recipient's technical project description. Labor rates and proposed hours shall be displayed for each task.

Clearly identify any proposed salary increases and the effective date.

Generally, salaries of administrative and/or clerical personnel will be included as a portion of the stated indirect costs. If these salaries can be adequately documented as direct costs, they should be included in this section; however, a justification should be included in the budget narrative.

The billing rates for Franson Civil Engineers are shown in Table 10.

This Fee Schedule applies to services rendered during the current year. A new Schedule will be issued at the beginning of each year. These fees include overhead and profit.

Table 10: Franson Civil Engineers Billing Rate by Labor Category

Labor Category	Billing Rate	Labor Category	Billing Rate
Principal	$156	Reports Writer/Editor	$85
Senior Manager	$136	Designer	$84
Senior Engineer	$116	Engineering Assistant	$81
Senior Field Manager	$113	Engineering Intern	$70
Staff Engineer	$101	Office Assistant	$57
Senior Designer	$93	Clerk	$51
Engineer 1	$86		

See Appendix D for the full engineering manpower and cost estimate for all design work and construction management tasks.

Construction contractors have not yet bid on this project; therefore, no salary and wage data are available for construction. The construction cost estimate is based on the engineer's estimate of probable construction costs.

Fringe Benefits

Indicate rates/amounts, what costs are included in this category, and the basis of the rate computations. Indicate whether these rates are used for application purposes only or whether they are fixed or provisional rates for billing purposes. Federally approved rate agreements are acceptable for compliance with this item.

No Fringe Costs are included. The basis of the billing rate computation shown previously in Table 10 for Franson Civil Engineers' is as follows:

Table 11: Average Billing Rates and Fringe Benefits

Average Billable Rate	$99.00
Wage Percent	30%
Benefits	15%
Overhead	40%
Profit	15%

Travel

Include purpose of trip, destination, number of persons traveling, length of stay, and all travel costs including airfare (basis for rate used), per diem, lodging, and miscellaneous travel expenses. For local travel, include mileage and rate of compensation.

There will be no lodging or per diem expenses. The engineer will visit the site during the design phase, and periodically visit the site during construction. Charges related to travel will only be the result of travel by vehicle for site visits and construction observation. The charge will be at the IRS mileage rate plus $0.10, which calculates to be $0.66 per mile. The total direct expenses for traveling are shown in the engineering manpower estimate enclosed in Appendix D.

Equipment

Itemize costs of all equipment having a value of over $500 and include information as to the need for this equipment, as well as how the equipment was priced if being purchased for the agreement. If equipment is being rented, specify the number of hours and the hourly rate. Local rental rates are only accepted for equipment actually being rented or leased for the project. If equipment currently owned by the applicant is proposed for use under the proposed project, and the cost to use that equipment is being included in the budget as in-kind cost share, provide the rates and hours for each piece of equipment owned and budgeted. These should be ownership rates developed by the recipient for each piece of equipment. If these rates are not available, the U.S. Army Corp of Engineer's recommended equipment rates for the region are acceptable. Blue book, Federal Emergency Management Agency (FEMA), and other data bases should not be used.

Not included.

Material and Supplies

Itemize supplies by major category, unit price, quantity, and purpose, such as whether the items are needed for office use, research, or construction. Identify how these costs were estimated (i.e., quotes, past experience, engineering estimates or other methodology).

Costs for materials and supplies are included in the engineering manpower estimate shown in Appendix D. These costs are for printing and copying construction drawings, specifications, reports, letters, permits and other documents related to the project. The cost for printing is as follows:

Copy/Print – 8.5x11	$0.04/page
Copies – 11x17	$0.08/page
Color Copy/Print	$0.25/page
Oversize copies/prints	$1.00/sq. ft

Contractual

Identify all work that will be accomplished by subrecipients, consultants, or contractors, including a breakdown of all tasks to be completed, and a detailed budget estimate of time, rates, supplies, and materials that will be required for each task. If a subrecipient, consultant, or contractor is proposed and approved at time of award, no other approvals will be required. Any changes or additions will require a request for approval. Identify how the budgeted costs for subrecipients, consultants, or contractors were determined to be fair and reasonable.

All funding for the project will be used to pay consultants, construction contractors, and subcontractors. These include legal services, engineering services, environmental services, and construction services. Detailed tasks to be completed, estimated time, rates, supplies, and materials for each task is outlined in the Appendices as follows:

1) Appendix C – Total Costs by Entity
2) Appendix D – Engineering and Construction Management
3) Appendix E – Construction and Material Costs
4) Appendix F – Environmental Services

Environmental and Regulatory Compliance Costs

Applicants must include a line item in their budget to cover environmental compliance costs. "Environmental compliance costs" refer to costs incurred by Reclamation or the recipient in complying with environmental regulations applicable to a WaterSMART Grant, including costs associated with any required documentation of environmental compliance, analyses, permits, or approvals. Applicable Federal environmental laws could include NEPA, ESA, NHPA, and the CWA, and other regulations depending on the project. Such costs may include, but are not limited to:

- *The cost incurred by Reclamation to determine the level of environmental compliance required for the project*
- *The cost incurred by Reclamation, the recipient, or a consultant to prepare any necessary environmental compliance documents or reports*
- *The cost incurred by Reclamation to review any environmental compliance documents prepared by a consultant*
- *The cost incurred by the recipient in acquiring any required approvals or permits, or in implementing any required mitigation measures*

The amount of the line item should be based on the actual expected environmental compliance costs for the project. However, the minimum amount budgeted for environmental compliance should be equal to at least 1-2 percent of the total project costs. If the amount budgeted is less than

1-2 percent of the total project costs, you must include a compelling explanation of why less than 1-2 percent was budgeted.

How environmental compliance activities will be performed (e.g., by Reclamation, the applicant, or a consultant) and how the environmental compliance funds will be spent, will be determined pursuant to subsequent agreement between Reclamation and the applicant. If any portion of the funds budgeted for environmental compliance is not required for compliance activities, such funds may be reallocated to the project, if appropriate.

The environmental costs are shown in Appendix F.

Reporting

A total of $6,018 (see Appendix D – Engineering Costs) was budgeted for coordination with Reclamation. This amount would include the costs to create a final construction report and finalize repayment agreements, quarterly construction reports, annual project performance reports, and to coordinate requests for reimbursement. This work will be performed by the consulting engineering firm selected to design the system.

Total Cost

The estimated total project cost is $666,140.

Budget Form

In addition to the above-described budget information, the applicant must complete an SF-424A, Budget Information—Nonconstruction Programs, or an SF-424C, Budget Information—Construction Programs.

Forms SF-424C and SF-424D are enclosed with the application for federal assistance SF-424.

Appendix A

Signed Official Resolutions

OFFICIAL RESOLUTION
Of The
DUCHESNE COUNTY WATER CONSERVANCY DISTRICT
REGARDING THE WATERSMART GRANT PROGRAM

RESOLUTION NO. 2014 - 1

WHEREAS, the United States Department of the Interior, Bureau of Reclamation has established the WaterSMART Water and Energy Efficiency Grants in order to prevent water supply crises and ease conflict in the western United States of America, and

WHEREAS, the United States Department of the Interior, Bureau of Reclamation has requested proposals from eligible entities to be included in the WaterSMART Program, and

WHEREAS, the Duchesne County Water Conservancy District has need for funding to install telemetry and modernize its diversion structure so that water can be more efficiently delivered to the water users.

NOW, THEREFORE, BE IT RESOLVED that the Board of Directors of the DUCHESNE COUNTY WATER CONSERVANCY DISTRICT agrees and authorizes that we:

1. Have reviewed and support the proposal submitted; and

2. Each parties to the resolutions in this WaterSMART application are capable of providing the amount of funding and/or in-kind contributions, specified in the funding plan; and

3. If selected for a WaterSMART Grant, will work with Reclamation to meet established deadlines for entering into a cooperative agreement for funds authorized under this WaterSMART Grant.

DATED: Jan 13 2014

R. Scott Wilson
General Manager
Duchesne County Water Conservancy District

ATTEST:

Moreen Henderson
Board Chairperson
Duchesne County Water Conservancy District

OFFICIAL RESOLUTION
Of The
DRY GULCH IRRIGATION COMPANY REGARDING THE WATERSMART GRANT PROGRAM

RESOLUTION NO. 2013 - 1

WHEREAS, the United States Department of the Interior, Bureau of Reclamation has established the Water SMART Water and Energy Efficiency Grants in order to prevent water supply crises and ease conflict in the western United States of American, and

WHEREAS, the United States Department of the Interior, Bureau of Reclamation has requested proposals from eligible entities to be included in the Water SMART Program, and

WHEREAS, the Dry Gulch Irrigation Company has need for funding to improve its management of irrigation water deliveries so that water can be conserved and be more efficiently delivered to the water users.

NOW, THEREFORE, BE IT RESOLVED that the Board of Directors of the DRY GULCH IRRIGATION COMPANY agrees and authorizes that we:

1. Have reviewed and supports the proposal submitted; and

2. Are capable of providing the amount of funding and/or in-kind contributions, specified in the funding plan; and

3. If selected for a Water SMART Grant, will work with Reclamation to meet established deadlines for entering into a cooperative agreement.

DATED: 11-14-13

Judy Hamblin
President, Dry Gulch Irrigation Company

ATTEST:

R. Scott Wilson
General Manager
Duchesne County Water Conservancy District

OFFICIAL RESOLUTION
Of The
FARNSWORTH CANAL AND RESERVOIR COMPANY
REGARDING THE WATERSMART GRANT PROGRAM

RESOLUTION NO. 2014 - 1

WHEREAS, the United States Department of the Interior, Bureau of Reclamation has established the WaterSMART Water and Energy Efficiency Grants in order to prevent water supply crises and ease conflict in the western United States of America, and

WHEREAS, the United States Department of the Interior, Bureau of Reclamation has requested proposals from eligible entities to be included in the WaterSMART Program, and

WHEREAS, the Farnsworth Canal and Reservoir Company has need for funding to improve its management of irrigation water deliveries so that water can be conserved and be more efficiently delivered to the water users.

NOW, THEREFORE, BE IT RESOLVED that the Board of Directors of the FARNSWORTH CANAL AND RESERVOIR COMPANY agrees and authorizes that we:

1. Have reviewed and supports the proposal submitted; and

2. Are capable of providing the amount of funding and/or in-kind contributions, specified in the funding plan; and

3. If selected for a WaterSMART Grant, will work with Reclamation to meet established deadlines for entering into a cooperative agreement.

DATED: 1/9/14

Kirk Christensen
President
Farnsworth Canal and Reservoir Company

ATTEST:

R. Scott Wilson
General Manager
Duchesne County Water Conservancy District

OFFICIAL RESOLUTION
Of The
LAKE FORK AND YELLOWSTONE RIVER COMMISSIONER
AND LAKE FORK IRRIGATION COMPANY REGARDING THE WATERSMART GRANT PROGRAM

RESOLUTION NO. 2014 - 1

WHEREAS, the United States Department of the Interior, Bureau of Reclamation has established the WaterSMART Water and Energy Efficiency Grants in order to prevent water supply crises and ease conflict in the western United States of America, and

WHEREAS, the United States Department of the Interior, Bureau of Reclamation has requested proposals from eligible entities to be included in the WaterSMART Program, and

WHEREAS, the Lake Fork and River Commissioner and Lake Fork Irrigation Company has need for funding to improve its management of irrigation water deliveries so that water can be conserved and be more efficiently delivered to the water users.

NOW, THEREFORE, BE IT RESOLVED that authorized representatives of the Lake Fork and Yellowstone River Commissioner and Lake Fork Irrigation Company agrees and authorizes that we:

- Have reviewed and supports the proposal submitted; and
- Are capable of providing the amount of funding and/or in-kind contributions, specified in the funding plan; and
- If selected for a WaterSMART Grant, will work with Reclamation to meet established deadlines for entering into a cooperative agreement.

DATED: 1/7/2014

Leland Carter Lake Fork Commissioner

Leland Carter
Lake Fork and Yellowstone River Commissioner

Sean McConkie
President, Lake Fork Irrigation Company

ATTEST:

R. Scott Wilson
General Manager
Duchesne County Water Conservancy District

OFFICIAL RESOLUTION
Of The
UINTA AND WHITEROCKS RIVER COMMISSIONER
REGARDING THE WATERSMART GRANT PROGRAM

RESOLUTION NO. 2014 - 1

WHEREAS, the United States Department of the Interior, Bureau of Reclamation has established the WaterSMART Water and Energy Efficiency Grants in order to prevent water supply crises and ease conflict in the western United States of America, and

WHEREAS, the United States Department of the Interior, Bureau of Reclamation has requested proposals from eligible entities to be included in the WaterSMART Program, and

WHEREAS, the Uintah and Whiterocks River Commission has need for funding to improve its management of irrigation water deliveries so that water can be conserved and be more efficiently delivered to the water users.

NOW, THEREFORE, BE IT RESOLVED that authorized representatives of the UINTA AND WHITEROCKS RIVER COMMISSIONER agrees and authorizes that we:

1. Have reviewed and supports the proposal submitted; and

2. Are capable of providing the amount of funding and/or in-kind contributions, specified in the funding plan; and

3. If selected for a WaterSMART Grant, will work with Reclamation to meet established deadlines for entering into a cooperative agreement.

DATED: January 9, 2014

Shane Hamblin
Uinta and Whiterocks River
Commissioner

ATTEST:

R. Scott Wilson
General Manager
Duchesne County Water Conservancy District

Appendix B

Water Savings Calculations

Table 12: Water Savings by Entity and Project Feature

ENTITY	Annual Water Supply (acre-feet)	Percent Loss (%)	Water Savings (acre-feet)
Duchesne County Water Conservancy District			
1. Telemetry and new control structure	1,500	30%	450
Dry Gulch Irrigation Company			
1. Montes Creek	4,600	5%	1,480
2. State Road Turnout plus small Parshall Flume	4,580		
3. Harding Lateral	1,250		
4. Silky Ditch	2,170		
5. Cooper Lox Canal	980		
6. Class C, D, E and F water users	16,000		
Farnsworth Canal and Reservoir Company			
1. Farnsworth Canal Diversion Point 1	24,400	5%	1,220
2. Farnsworth Canal Diversion Point 2			
3. Farnsworth Canal Diversion Point 3			
4. Farnsworth Canal Diversion Point 4			
5. Small Concrete Parshall Flume			
Lake Fork and Yellowstone River Commission			
1. Red Cap Canal	6,500	20%	1,300
2. C Canal Evans Flumes 1 and 2	440	10%	44
3. Blood Draw (Hartman Flume)	120	15%	18
4. Payne Canal	8,700	10%	870
5. On-Farm Pond	960	10%	96
Lake Fork Irrigation Company			
1. Lake Fork Irrigation – C canal	24	10%	2
2. Thacker Pond	1680	10%	168
Uinta and Whiterocks River Commission			
1. Numerous canals and storage in high mountain lakes including the Ute Tribe	84,000	5%	4,200
TOTALS	**157,904**	**6.24%**	**9,848**

Appendix C

Total Costs by Entity

Table 13: Total Costs by Entity

Totals Costs by Entity						
	Engineering & Reporting to Reclamation	Construction & Material	Environmental	Entity 55 % Cost Share	Reclamation 45% Cost Share	Total Cost
DCWCD and other local entities	$ 42,860	$ 200,000	$ 4,310	$ 135,944	$ 111,227	$ 247,170
Dry Gulch Irrigation Company	$ 1,500	$ 298,000	$ 2,000	$ 165,825	$ 135,675	$ 301,500
Farnsworth Canal and Reservoir Company	$ 1,500	$ 22,000	$ 1,000	$ 13,475	$ 11,025	$ 24,500
Lake Fork and Yellowstone River Commission	$ 1,500	$ 18,420	$ 2,000	$ 12,056	$ 9,864	$ 21,920
Lake Fork Irrigation Company	$ 1,500	$ 10,550	$ 500	$ 6,903	$ 5,648	$ 12,550
Uinta and Whiterocks River Commission	$ 1,500	$ 55,000	$ 2,000	$ 32,175	$ 26,325	$ 58,500
Subtotal	**$ 50,360**	**$ 603,970**	**$ 11,810**	**$ 366,377**	**$ 299,763**	**$ 666,140**

Appendix D

Probable Cost for Engineering Services

(Engineering Design and Construction Management)

Table 14: Engineering Design Costs

Task Description	Hours By Personnel Category					Total Hours	Total Labor Charges	Other Direct Costs	Total Fee
	1	2	3	7	14				
	Principal	Project Manager	Senior Engineer	Designer	Office Assistant				
Phase 1 - Project Management & Coodination									
Task 1. General Project Management Tasks	2	24				26	$3,418	$300	$3,718
Task 2. Reclamation Reporting	2	40			4	46	$5,718	$300	$6,018
SUBTOTAL	**4**	**64**	**0**	**0**	**4**	**72**	**$9,136**	**$600**	**$9,736**
Phase 2 - Installation of Telemetry and Meters									
Task 1. Dry Gulch Irrigation Company	In-kind costs by Dry Gulch Irrigation Company								
Task 2. Farnsworth Canal and Reservoir Company	In-kind costs by Farnsworth Canal and Reservoir Company								
Task 3. Lake Fork & Yellowstone River Commission	In-kind costs by Lake Fork & Yellowstone River Commission								
Task 4. Lake Fork Irrigation Company	In-kind costs by Lake Fork Irrigation Company								
Task 5. Uinta & Whiterocks River Commission	In-kind costs by Uinta & Whiterocks River Commission								
SUBTOTAL									
Phase 3 - Engineering Design (new control structure for Duchesene County Water Conservancy District)									
Task 1. Site Visits/Surveying		2	2			4	$490	$4,000	$4,490
Task 2. Design Criteria Memorandum	1	2	6			9	$1,099	$60	$1,159
Task 3. Hydrologic Analysis		16				16	$2,080	$0	$2,080
Task 4. Structure Design	1		40			41	$4,749	$0	$4,749
Task 5. Construction Drawings Draft	1	2	24	32		59	$6,017	$500	$6,517
Task 6. Construction Drawings Final	1	2	16	24		43	$4,385	$500	$4,885
Task 7. Construction Specifications	1	4	8			13	$1,589	$500	$2,089
Task 8. Bid & Award Coordination	1	2	8			11	$1,329	$500	$1,829
SUBTOTAL	**6**	**30**	**104**	**56**	**0**	**196**	**$21,738**	**$6,060**	**$27,798**
Phase 4 - Construction Management (new control structure for Duchesne County Water Conservancy District)									
Task 1. On-Site Observation and Documentation			40			40	$4,600		$4,600
Task 2. Submittal Reviews			20			20	$2,300		$2,300
Task 3. Record Drawings Preparation			10	40		50	$4,710	$500	$5,210
Task 4. Project Closeout		4				8	$716	$0	$716
SUBTOTAL	**0**	**4**	**70**	**40**	**0**	**118**	**$12,326**	**$500**	**$12,826**

Table 15: Engineering and Design Costs of $50,360 Distributed Between Entities

Entity	Type of Engineering Cost	Portion of Engineering Costs
Duchesne County Water Conservancy District and others	Engineering and Construction Management for new control structure on Cottonwood Creek plus reporting to Reclamation	$42,860
Dry Gulch Irrigation Company	Reporting to Reclamation for grant	$1,500
Farnsworth Canal and Reservoir Company	Reporting to Reclamation for grant	$1,500
Lake Fork and Yellowstone River Commission	Reporting to Reclamation for grant	$1,500
Lake Fork Irrigation Company	Reporting to Reclamation for grant	$1,500
Uinta and Whiterocks River Commission	Reporting to Reclamation for grant	$1,500
	TOTAL	**$50,360**

Appendix E

Probable Cost for Construction and Material

Table 16 - Summary of Construction and Material Costs

Entity	Project Type	Local Cost Share (55%)	Federal Cost Share (45%)	Total Project Cost
Duchesne County Water Conservancy District and Other Local Entities	Telemetry and new control structure	$110,000	$90,000	$200,000
Dry Gulch Irrigation Co.	Install Telemetry & Water Meters	$163,900	$134,100	$298,000
Farnsworth Canal and Reservoir Company	Install Telemetry	$12,100	$9,900	$22,000
Lake Fork/Yellowstone River Commission	Install Telemetry & Water Meters	$10,131	$8,289	$18,420
Lake Fork Irrigation Company	Install Telemetry	$5,803	$4,747	$10,550
Uinta & Whiterocks River Commission	Install Telemetry and automation of control gate at diversion point	$30,250	$24,750	$55,000
	TOTAL (rounded)	**$332,184**	**$271,786**	**$603,970**

Supporting Cost Data

Table 17: Duchesne County Water Conservancy District and Others

Feature	DCWCD and Others (55%)	Reclamation (45%)	Total
Telemetry and Control Structure	$110,000	$90,000	$200,000
TOTAL	**$110,000**	**$90,000**	**$200,000**

Table 18: Dry Gulch Irrigation Company

Feature	Dry Gulch (55%)	Reclamation (45%)
Telemetry Site		
Montes Creek	$2,750	$2,250
State Road Turnout plus Parshall Flume	$4,400	$3,600
Harding Lateral	$2,750	$2,250
Silky Ditch	$2,750	$2,250
Cooper Lox Canal	$2,750	$2,250
Subtotal Telemetry	**$15,400**	**$12,600**
Water Meters		
255 meters at a cost of $1,200 per meter	**$148,500**	**$121,500**
TOTAL	**$163,900**	**$134,100**

Table 19: Farnsworth Canal and Reservoir Company

Telemetry Site	Farnsworth Co. (55%)	Reclamation (45%)
Farnsworth Canal Diversion Point 1	$2,750	$2,250
Farnsworth Canal Diversion Point 2	$2,750	$2,250
Farnsworth Canal Diversion Point 3	$2,750	$2,250
Farnsworth Canal Diversion Point 4	$2,750	$2,250
Concrete Parshall Flume	$1,100	$900
TOTAL	**$12,100**	**$9,900**

Table 20: Lake Fork and Yellowstone River Commission

Telemetry Site	Lake Fork & Yellowstone (55%)	Reclamation (45%)
Red Cap Canal	$836	$684
C Canal (Evans Flume 1 & 2)	$4,125	$3,375
Blood Draw (Hartman Flume)	$2,750	$2,250
Payne Canal	$660	$540
On-Farm pond	$1,760	$1,440
TOTAL	**$10,131**	**$8,289**

Table 20A: Red Cap Canal – Supporting Cost Data

Item	Cost
Transport Backhoe	$280
18" pipe	$200
Clamp pipe	$100
Manual pipe box	$200
Measuring potentiometer	$400
Stainless steel tap	$160
Labor (6 hrs at $30 per hour)	$180
Subtotal	**$1,520**

Table 20B: Dry Gulch C Canal (Evans 1 and Evans 2 Flumes) – Supporting Cost Data

Item	Evans 1	Evans 2
Telemetry using CR 200	$1,800	$1,800
Pipe 18" ($20 per foot)	$100	$100
Labor (attaché flume to 18" pipe)	$150	$150
Dog house over structure	$1,200	$1,200
Install potentiometer meter	$400	$400
Tape stainless steel machined	$100	$100
Subtotals	**$3,750**	**$3,750**

Table 20C: Sand Wash Creek (Blood Draw) – Supporting Cost Data

Item	Cost
Telecommunication (CR 800 datalogger)	$3,500
Gate control	$1,000
Tape SS to meter potentiometer	$500
Subtotal	**$5,000**

Table 20D: Dry Gulch A (Payne Canal) – Supporting Cost Data

Item	Cost
Pipe	$100
Clamp	$100
Pipe top	$250
Tape and potentiometer Gage	$500
Labor	$150
Backhoe	$200
Subtotal	**$1,200**

Table 20E: On-Farm Water Level Sensors – Supporting Cost Data

Item	Cost
18" pipe	$150
Telemetry (CR 200)	$1,800
Ramp to pipe	$300
Attach ramp to pipe	$250
18" pipe cover	$250
Stainless steel tape and potentiometer	$500
Total	**$3,200**

Table 21: Lake Fork Irrigation Company

Telemetry Site	Lake Fork Irrig. Co. (55%)	Reclamation (45%)
C Canal (Lake Fork Irrigation)	$770	$630
Lake Fork Irrigation (Thacker Pond)	$5,033	$4,117
Subtotal	**$5,803**	**$4,747**

C Canal (Lake Fork Irrigation) Supporting Cost Data

The need is to install a meter on the pipe where water is pumped from the canal. The land irrigated amounts to about 8 acres. The meter will improve water efficiency and water savings by 100%. Water has never been charged out.

Estimated Cost = meter $1000 plus welder to install of $400 = $1,400

Lake Fork Irrigation (Thacker Pond) Supporting Cost Data

About 560 acres are irrigated under this diversion point. Telemetry is needed at the small Upalco Thacker pond and diversion site. Further down the water delivery system meters are needed on two pipes. One is 15 inches in diameter and the other is 12 inches in diameter. Telemetry and meters will improve water efficiency and water savings by 15%

Estimated Cost = 2 meters ($2,400) ; gate control ($4,500); meter control ($2,250) = $9,150

Table 22: Uinta and Whiterocks River Commission

Telemetry Site	Uinta & Whiterocks (55%)	Reclamation (45%)	Total
Bifurcation structure on Uinta River. Includes telemetry and automation of control gate plus telemetry on high mountain lake(s)	$30,250	$24,750	$55,000
Subtotal	**$30,250**	**$24,750**	**$55,000**

Appendix F

Probable Cost for Environmental Services

(Environmental and Cultural Resources Compliance)

Table 23: Environmental Survey Costs

ITEM DESCRIPTION	HOURS	UNIT COST	TOTAL COST
Fieldwork - Archaeological Inventory			
Project Manager	50	$70.00	$3,500
Staff Archaeologist	50	$60.00	$3,000
		Subtotal	**$6,500**
Report Production, Site Forms & Maps			
Principal Investigator	30	$75.00	$2,250
Staff Archaeologist	30	$60.00	$1,800
		Subtotal	**$4,050**
Direct Costs			
SHPO - Division of State History File Search	1	$130.00	$130
Mileage	500	$0.56	$280
Field Equipment	15	$50.00	$750
Reproduction and Postage	4	$25.00	$100
		Subtotal	**$1,260**
		TOTAL	**$11,810**

Table 24: Distribution of Environmental Costs of $11,810 between Entities

Entity	Portion of Environmental Costs
Duchesne County Water Conservancy District	$4,310
Dry Gulch Irrigation Company	$2,000
Farnsworth Canal and Reservoir Company	$1,000
Lake Fork and Yellowstone River Commission	$2,000
Lake Fork Irrigation Company	$500
Uinta and Whiterocks River Commission	$2,000
TOTAL	**$11,810**

Appendix G

Proposed Schedule

Duchesene County Water Efficiency Project

PROJECT SCHEDULE