

Funding Opportunity Announcement No. BOR-DO-19-F005

WaterSMART Grants:

Small-Scale Water Efficiency

Projects for Fiscal Year 2019



Hights Creek Irrigation Company

Application for grant award to support the implementation of the

Backyard Piping Project Phase III

Applicant:

Rod Hill, General Manager
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Technical Proposal and Evaluation Criteria

Executive Summary

Date: April 22, 2019

Applicant: Hights Creek Irrigation Company, Kaysville City, Davis County, Utah

Hights Creek Irrigation Company (HCIC) proposes to complete Phase 3 of its Backyard Piping Project. HCIC would use awarded funds from this funding opportunity to replace the aging back-lot transite distribution lines and galvanized steel service lines with new PVC distribution lines and HDPE service lines, installed in public rights-of-way. Flow meters will also be installed in each new service line to collect data on water use, specific to each shareholder within the project area, which, when combined with the usage reports that will be generated for metered connections, will help educate shareholders and encourage water conservation.

Implementation of the proposed project with the assistance of awarded funds will show an effort by HCIC, consistent with the stated goals of this Funding Opportunity Announcement (FOA), to better manage their water supply, conserve water and empower shareholders with the information they need to make more efficient use of limited water supplies.

The proposed project will take less than the 24 months allotted under this Funding opportunity Announcement (FOA) to complete. After design and bidding, it is anticipated that construction would start in May 2020.

Background Data

HCIC was organized in 1899 by residents with an interest in the management of water flowing from Bair Canyon in Kaysville, Utah. As demand for agricultural irrigation increased, HCIC realized the need for additional sources of water. When it became available, the shareholder-owned company contracted with the Weber Basin Water Conservancy District (WBWCD) for delivery of water from the Bureau of Reclamation (Reclamation) Weber Basin Project.

Reclamation loans in the 1960's allowed HCIC to pressurize its distribution system. Today, HCIC manages its right of up to 18 CFS from Bair Canyon¹ and supplements that right with 7,008 AF of contracted water through WBWCD.

HCIC maintains three open reservoirs with a total capacity of 70 AF² and 65 miles of transmission and distribution pipelines, to provide secondary water to 4,200 residential/commercial and agricultural users within the Company's 3,200-acre service area.

HCIC has seen a consistent decline in the number of agricultural connections over the last decade as land in agricultural has been converted to residential developments. An increase in demand for irrigation water has been realized with conversion of land from agricultural use to residential and commercial uses. HCIC expects that the land-use-conversion trend will continue,

¹ Water Right 31-4632 for 18.0 CFS with a limit of 2,667 AF. Actual flow and quantity are dependent on environmental factors.

² 30 AF Upper Reservoir; 15 AF Green Road Reservoir; 25 AF 200 North Reservoir.

and along with it, an associated increase in peak water demand.

Implementation of the proposed project will decrease inefficiencies and increase conservation of irrigation water in several ways:

- *Aging infrastructure*. Implementation of the proposed project will help mitigate system losses by continuing the Company's efforts to conserve water by implementing efficient water delivery technologies and practices³.
- Implementation of the proposed project will also result in the installation of water meters. The meters will be used to collect usage data that HCIC will then distribute to its metered shareholders to help educate users on how to make more efficient use of water supplies by reducing *misapplication* of water.
- With implementation of the proposed project, HCIC is proactively addressing the ever-present threat of *drought*, which seems to be a present condition to react to, or a pending condition to prepare for in the arid western United States.

In addition to the previously-mentioned loans received from Reclamation in the 1960s to pressurize their system, HCIC has recently received Reclamation monies.

HCIC was awarded a Fiscal Year (FY) 2016 Water Conservation Field Services Program grant to support development of its Water Conservation and Management Plan (WCMP), which identified and established the need and priority for the proposed project.

HCIC also received two WaterSMART Energy and Efficiency Grants in FY 2016. The first award was for the Green Road Piping, Metering and Small Hydro Project⁴. The second award was for Phase 1 of the Backyard Piping and Metering Project⁵.

Project Location

The proposed project is located at the base of the Wasatch Mountains, in Kaysville City, Davis County, Utah. The project latitude is 41° 2'26.75"N and longitude is 111°55'31.37"W⁶. The Project Location Map is included as Attachment 1.

Technical Project Description and Milestones

The proposed project will include the installation of 1,040 feet of 6-inch and 8-inch PVC pipe in the roadway of a residential neighborhood, which will allow HCIC to abandon the existing transite distribution lines that are within backyard easements of shareholders in the

³ Replacing deteriorating transite (a.k.a. asbestos-cement or AC) pipelines with new PVC pipelines is an application of newer, more efficient *technology* to conserve water. The location of pipelines in public-rights-of-way is a *practice* that is aimed at water conservation by locating the system's main lines out into streets where Company employees (and the general public) can look daily for signs of main line breaks and potentially significantly reducing losses by early identification and correction of breaks, as opposed to having main lines in a backyard, where a homeowner may not be as attentive to or aware of signs of breaks.

⁴ Contract #R16AP00087.

⁵ Contract #R16AP00091.

⁶ WGS84

neighborhood. Replacement of the distribution lines will also necessitate the re-establishment of service connections to each of the 11 shareholders' irrigation systems.

A magnetic flow meter will be installed in each effected service line to collect water usage data. The collected data will be published for each metered shareholder and used to educate them on their secondary water use. The intended outcome is to promote proper irrigation application rates and overall conservation.

HCIC completed an Environmental Assessment (EA) in 2016 that covered the scope of work in the proposed project. A Finding of No Significant Impact (FONSI) was determined by the Reclamation⁷. In a recent discussion about the scope of the proposed project with Brandi Worthington, Upper Colorado Region WaterSMART coordinator, it is anticipated that the project will fit within a Categorical Exclusion. Thus, it is anticipated that environmental compliance will be complete within 30 days of notice of grant award.

Local permitting will be required for excavation within the roadway for implementation of this project. The general contractor retained to construct the proposed project will secure necessary permits before performing any excavation work.

Construction plans for the project will be developed immediately following notice of grant award. HCIC has installation details for distribution lines, service connections and meters that will be used to accelerate the creation of a biddable plan set.

After bidding and award of contract, it is expected that the distribution lines, service lines and meters will be installed during the 2020 irrigation season. Connections and surface restoration will take place between October 2020, and May 2021, with final reports and project closeout completed by September 2021. The project schedule will be accelerated where feasible and beneficial.

The non-Federal funds for the cost share are currently held in a cash account by HCIC and ready for immediate disbursement as a match to awarded grant monies.

As the original distribution pipes and service lines in HCIC's system have aged and deteriorated, necessary repairs to those facilities have become more frequent. The needed repairs very often are in individuals' backyards, many times involving more than one homeowner. Permission must be obtained to enter yards. It is not infrequent that the leaking pipes and the associated repairs disrupt or destroy landscaping and fencing, all of which takes time, resources and often negatively affects public perception of the Company. If there is a significant break in the line, which may or may not have been noticed quickly by a homeowner, the process of identifying, accessing and repairing the break can sometimes lead to significant water loss. Through implementation of the proposed project, deteriorating transite lines in back yards will be replaced with new PVC pipelines in the easily accessible and observable public roadways. Original galvanized steel service laterals will also be replaced with new HDPE service lines. Both improvements will provide similar **benefits**:

- Reduced water loss due to leaks and breaks of deteriorating infrastructure;

⁷ EA-16-016 dated September 9, 2017

- Reduced water loss due to delayed accessibility because of the facilities' locations in back yards;
- Reduced water loss due to ignorance of leaks and breaks because of the facilities' locations in back yards.

To date, the service connections within the proposed project extents have not been metered to any extent. The shareholders served have paid an annual assessment, then water use has been unregulated for the season. Whether unintentionally, as through an unidentified malfunctioning sprinkler system or open valve, or intentionally, as through overapplication of irrigation water, HCIC believes that a lot of water is misapplied at homes without meters on their secondary connections. Their major supplier, WBWCD, has installed water meters on many of their secondary connections and has realized significant decreases in demand⁸. HCIC expects to realize similar decreases through implementation of the proposed project. Meters will be installed, and monthly usage reports generated and distributed to each shareholder within the proposed project extents. It is expected that metering and educating will result in the following anticipated **benefits**:

- Reduced water loss through malfunctioning sprinkler systems that otherwise might go unidentified for an extended period;
- Conservation of irrigation water as shareholders become aware of their actual use and compare it to the ideal application rates that will be included in the monthly usage reports.

Evaluation Criteria

Evaluation Criterion A—Project Benefits (35 points)

Describe the expected benefits and outcomes of implementing the proposed project.

It is expected that through implementation of the proposed project, which is part of executing the Company's WCMP, HCIC will be moving toward a system-wide update with new technologies and practices. Completion of each phase of the system-wide update is expected to result in an incremental increase in water conservation. Implementing the proposed project will be another realization of the Company's management plan for the efficient use of this limited natural resource.

What are the benefits to the applicant's water supply delivery system?

Benefits to the HCIC system will be:

- More rapid identification of leaks;
- Easier access to pipes and service lines needing repair;
- Elimination of the need to impact shareholders' backyard landscaping and fencing

⁸ Rice, David, 2017, *Metering Non-Potable Water: 5-Year Study of Urban Irrigation Efficiency* accessed 15 April, 2019, <<https://cereportal.com/wsi/documents/sessions/2017/T-1704.pdf>>

and the associated potential for conflicts related to system management.

- Because of the metering and reporting component of the proposed project, it is anticipated that conservation of water by individual shareholders will reduce peak-flow related stresses on the delivery system.

Extent to which the proposed project improves overall water supply reliability.

The water conservation that will be realized because of implementation of the proposed project will reduce reliance on HCIC's contract with WBWCD. Reducing that need will help keep water in Reclamation's Weber Basin Project reservoirs. This is consistent with a statewide effort to conserve our limited natural resource, as stated in the Recommended State Water Strategy, published in 2017⁹.

The expected geographic scope benefits from the proposed project (e.g., local, sub-basin, basin).

Local Benefit: Reduced impact on individual shareholders when maintenance is required, reduces potential for conflict between effected shareholders and HCIC.

Sub-basin benefit: Water collected at the mouth of Bair Canyon and delivered to HCIC shareholders will be conserved through improved delivery and accountability.

Basin benefit: WBWCD contract water is pulled out of Reclamation's Reservoirs in the Weber River drainage. When losses of Bair Canyon are reduced, the subsequent demand on WBWCD water will be reduced and Reclamation water will stay in higher-elevation reservoirs later into the season.

Extent to which the proposed project will increase collaboration and information sharing among water managers in the region.

HCIC currently collaborates with its primary water supplier, WBWCD, to collect usage data via WBWCD's Advanced Metering Infrastructure (AMI) and use WBWCD's template for creating shareholders' water use reports. Implementation of the proposed project will increase the number of metered secondary connections, and thereby increase the statistical reliability of the secondary water use dataset at WBWCD. The collected data will be readily accessible to WBWCD to observe and provide feedback to HCIC and each of their wholesale customer agencies, as they collectively work toward reducing per capita outdoor water consumption by 25% before the year 2025.

Any anticipated positive impacts/benefits to local sectors and economies (e.g., agriculture, environment, recreation, tourism).

None

Extent to which the project will complement work done in coordination with NRCS in the area

⁹ Compiled by the Governor's Water Strategy Advisory Team, Invited by The Honorable Gary R. Herbert Governor, State of Utah, Facilitated by Envision Utah, July 2017, *Recommended State Water Strategy*, accessed 15 April, 2019 <https://www.envisionutah.org/images/FINAL_Recommended_State_Water_Strategy_7.14.17_5b15d.pdf>

(e.g., with a direct connection to the district's water supply). Describe any on-farm efficiency work that is currently being completed or is anticipated to be completed in the future using NRCS assistance through EQIP or other programs.

None

Evaluation Criterion B—Planning Efforts Supporting the Project (35 points)

HCIC was awarded a FY 2016 Water Conservation Field Services Program grant in support of development of its WCMP. The WCMP thoroughly reviewed historic and projected uses of the HCIC shareholders, system condition and design. The goal of creating and following the WCMP is to manage Company resources in such a way to conserve water. The Plan identified, as the first priority to help achieve the goal of water conservation, the proposed project, which will simultaneously address the problems of:

- Water loss related to back yard distribution mains and services; and
- Poor public perception when landscaping or other yard features are impacted during repair efforts;
 - Even though HCIC is carrying out their mandate to operate and manage the distribution system for shareholders when they enter back yards, the disturbance is still potentially annoying and conflict-prone for many shareholders; and
- Misapplication of water by shareholders related to the lack of metering and reporting.

Describe how your project is supported by an existing planning effort.

An excerpt from the WCMP stating top priority for the proposed project is included as Attachment 2.

Does the proposed project implement a goal or address a need or problem identified in the existing planning effort?

As summarized in the attached reproduction of the first page of the Project Priorities and Implementation section of the WCMP, implementation of the proposed project will help accomplish the goals of improving efficient management and increasing water conservation.

Explain how the proposed project has been determined as a priority in the existing planning effort as opposed to other potential projects/measures.

The proposed project has been determined as a priority over other potential projects because of the multiple problems that could be addressed relatively quickly and easily through its implementation. The proposed project addresses the problems of *water loss, poor public perception and liability, and misapplication*. Other identified projects do not address legal liability issues as much as the proposed project.

Evaluation Criterion C—Project Implementation (10 points)

Describe the implementation plan for 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.

Detailed construction plans for the project will be developed immediately following notice of grant award. HCIC has installation details for distribution lines, service connections and meters that will be used to accelerate the creation of a biddable plan set.

After bidding and award of contract, it is expected that the distribution lines, service lines and meters will be installed during the 2020 irrigation season. Connections and surface restoration will take place before May 2021, with final reports and project closeout completed by September 2021. The project schedule will be accelerated where feasible and beneficial.

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

Local permitting will be required for excavation within the roadway for implementation of this project. The general contractor retained to construct the proposed project will secure necessary permits before performing any excavation work.

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

Engineering principles were applied during the process of developing HCICs Water Conservation and Management Plan. Within that plan, the problems of water losses and inefficiencies were identified and quantified. Solutions to the problems were also prioritized within the plan. The proposed project is a phase of the solution identified with the highest priority for implementation. Specific design work has not been done, but HCIC's standard details and specifications will be incorporated into a biddable construction set and will thus support implementation of the proposed project.

Describe any new policies or administrative actions required to implement the project.

None

Describe how the environmental compliance estimate was developed. Have the compliance costs been discussed with the local Reclamation office?

The environmental compliance cost was developed after discussion with WaterSMART coordinator, Brandi Worthington. She consulted with Reclamation's Environmental specialist in Provo. Because of the recent FONSI for the Backyard Piping Project, which encompasses the area effected by the proposed project, the environmental compliance cost will be negligible.

Evaluation Criterion D— Nexus to Reclamation (10 points)

Does the applicant receive Reclamation project water?

Yes. Stand-alone water rights held by HCIC are supplemented with Reclamation's Weber Basin Project water, through contracts with BWCD.

Is the project on Reclamation project lands or involving Reclamation facilities?

No.

Is the project in the same basin as a Reclamation project or activity?

Yes. The proposed project is in the same basin as the Weber Basin Project.

Will the proposed work contribute water to a basin where a Reclamation project is located?

Yes. Through conservation, the net effect of implementation of the proposed project will be the contribution of water to the Weber Basin Project.

Will the project benefit any tribe(s)?

No.

Evaluation Criterion E— Department of the Interior Priorities (10 points)

Please address those Department of the Interior priorities that are applicable to your project.

Restoring trust with local communities

Implementation of this project will improve relationships especially with homeowners. Currently, the back-lot water mains and services require entering and impacting private property and landscaping. Some leaks have resulted in flooded basements. Relocating the water mains and services to public rights-of-way will reduce shareholder impact and possibly adversarial conflict as operation and maintenance procedures take place.

By installing water meters, HCIC will be able to add to the body of knowledge concerning water use in the state. This will benefit state-wide policy-makers and public involvement entities as they discuss, recommend and enact water policy in the State, for the management of the State's limited water resource.

Project Budget

Funding Plan and Letters of Commitment

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

The non-Federal funds for the cost share are currently held in a cash account by HCIC and ready for immediate disbursement as a match to awarded grant monies.

Identify whether the budget proposal includes any project costs that have been or may be incurred prior to award. The budget proposal for the project does not include any project costs that have been or may be incurred prior to award.

Budget Proposal

Total Project Cost Table

SOURCE	AMOUNT
Costs to be reimbursed with the requested Federal funding	\$75,000
Costs to be paid by the applicant	\$85,617
Value of third-party contributions	\$0
TOTAL PROJECT COST	\$160,617

Please see the proposed project’s detailed budget estimate on the following page.

Detailed Budget Estimate

BUDGET ITEM DESCRIPTION	COMPUTATION		Qty Type	TOTAL COST
	\$/Unit	Quantity		
Salaries and Wages	0			\$0
Fringe Benefits	0			\$0
Equipment	0			\$0
Supplies and Materials	0			\$0
Contractual/Construction				\$160,618
Engineering/Design	\$12,570	1	LS	\$12,570
Construction Management	\$8,380	1	LS	\$8,380
Mobilization	\$7,000	1	LS	\$7,000
Traffic Control	\$3,000	1	LS	\$3,000
8-inch PVC Pipe	\$40	540	LF	\$21,600
6-inch PVC Pipe	\$36	500	LF	\$18,000
8-inch Gate Valve	\$1,850	1	EA	\$1,850
6-inch Gate Valve	\$1,500	1	EA	\$1,500
Fittings (elbows, reducers, tees)	\$14,500	1	LS	\$14,500
Single Service Laterals	\$1,370	1	EA	\$1,370
Double Service Laterals	\$1,380	8	EA	\$11,040
Flow Meter, Transmitter, Meter Box	\$1,050	17	EA	\$17,850
Connect to Existing Piping: 500 East	\$5,000	1	EA	\$5,000
Connect to Exist. Piping: Cul-de-sac	\$3,000	1	EA	\$3,000
Air Release/Vacuum Station	\$3,000	1	EA	\$3,000
Road Section Remove and Restore	\$21,214	1	LS	\$21,214
Pipe Bedding and Backfill	\$18	541.28	TON	\$9,743
Third-Party In-Kind Contributions	0			\$0
Other	0			\$0
Environmental Compliance	0			\$0
TOTAL DIRECT COSTS				\$160,618
Indirect Costs	0			\$0
TOTAL ESTIMATED PROJECT COSTS				\$160,618

Budget Narrative**Salaries and Wages**

No HCIC Salaries or Wages are included. HCIC staff time associated with implementation of the proposed project will be accounted as normal costs of business.

Fringe Benefits

No Fringe Benefits are included.

Equipment

Equipment will be part of the contracted portion of the project.

Materials and Supplies

Material and Supplies will be part of the contracted portion of the project and will be documented as required.

Contractual

HCIC relied upon the experience and database of recent bid results of its consultant for development of the detailed budget cost.

The Engineering and Design Contract will include design at 9 percent and construction management at 6 percent of construction costs.

HCIC will invite bids for the construction portion of the project from several construction companies. The contractual costs shown are estimates for each of the components to furnish and install all equipment. Generally, the low bidder will be selected based on a determination of acceptable qualifications.

The Contractor will be hired to perform mobilization, furnish and install all pipe, fittings, meters, granular materials and surface improvements related to implementation of the proposed project.

Third-Party In-Kind Contributions

No Third-Party In-Kind Contributions will be made on this project.

Environmental and Regulatory Compliance Costs

Reclamation was consulted for an appropriate compliance cost to include in the subject budget proposal. Due to the recently-received FONSI for the overall scope of work of which the proposed project is a phase, Reclamation indicated a cost of \$0.

Other Expenses

No other expenses are included.

Indirect Costs

No indirect costs will be part of the project.

Environmental and Cultural Resources Compliance

Environmental and Cultural Resource Considerations

Will the proposed project impact the surrounding environment (e.g., 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.

Yes. Construction activities will include shallow¹⁰ pipeline trench excavation in previously-disturbed public rights-of-way, creating a potential for increased dust and adding construction vehicle traffic. The contractor will be required to develop and implement a Fugitive Dust Control Plan¹¹.

A storm water pollution prevention plan will be developed, and best management practices incorporated into the work to minimize any negative effects on storm water quality during construction.

Landscaping on previously-disturbed residential properties will be also be minimally effected. Surface improvements will be restored as part of the proposed project.

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

No. Six such species were identified as potential inhabitants within the boundaries of the proposed project. A FONSI was issued, partly because of the determination that suitable habitat does not exist within the project area.

Are there wetlands or other surface waters 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 proposed project may have.

No. The EA and FONSI document that there will be no impacts to wetlands in the project area.

When was the water delivery system constructed?

HCIC was organized in 1899 with a delivery system consisting of ponds, canals and ditches. In the 1960's, the canals and ditches were converted to pressurized pipes. The EA resulted in a FONSI, including impacts on historical artifacts.

¹⁰ 36" anticipated excavation depth to accommodate the installation of an 8" diameter pipe with the top of pipe being 24" below the finished road surface.

¹¹ Required by the State Division of Air Quality, R307-309-6 of the Utah Administrative Code

Will the proposed 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.

Implementation of the proposed project will result in the abandonment in-place of pipelines installed in the 1960's. As part of the completed and approved EA, the required historical documentation for the project was completed and a FONSI issued.

Are any buildings, structures, or features in the irrigation district Not limited to scope of proposed project? listed or eligible for listing on the National 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.

As part of the completed and approved EA, a copy of the Class III cultural resource inventory report and a recommendation of no historic properties affected by the proposed project were submitted to the State Historic Preservation Office (SHPO). SHPO concurred with Reclamation.

Are there any known archeological sites in the proposed project area?

No. The EA and FONSI document that there are no known archeological sites in the proposed project area.

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

No.

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

No.

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

No.

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.

Local permitting will be required for excavation within the roadway for implementation of this project. The onus for securing road-cut permits will be on the general contractor retained to construct the proposed project. The permits will be obtained before performing any excavation work.

Letters of Project Support

Letters of support from the Utah State Division of Wildlife Resources and WBWCD are included as Attachment 3.

Official Resolution

Include an official resolution adopted by the applicant's governing body to commit the applicant to the financial and legal obligations associated with receipt of a financial assistance award under this FOA.

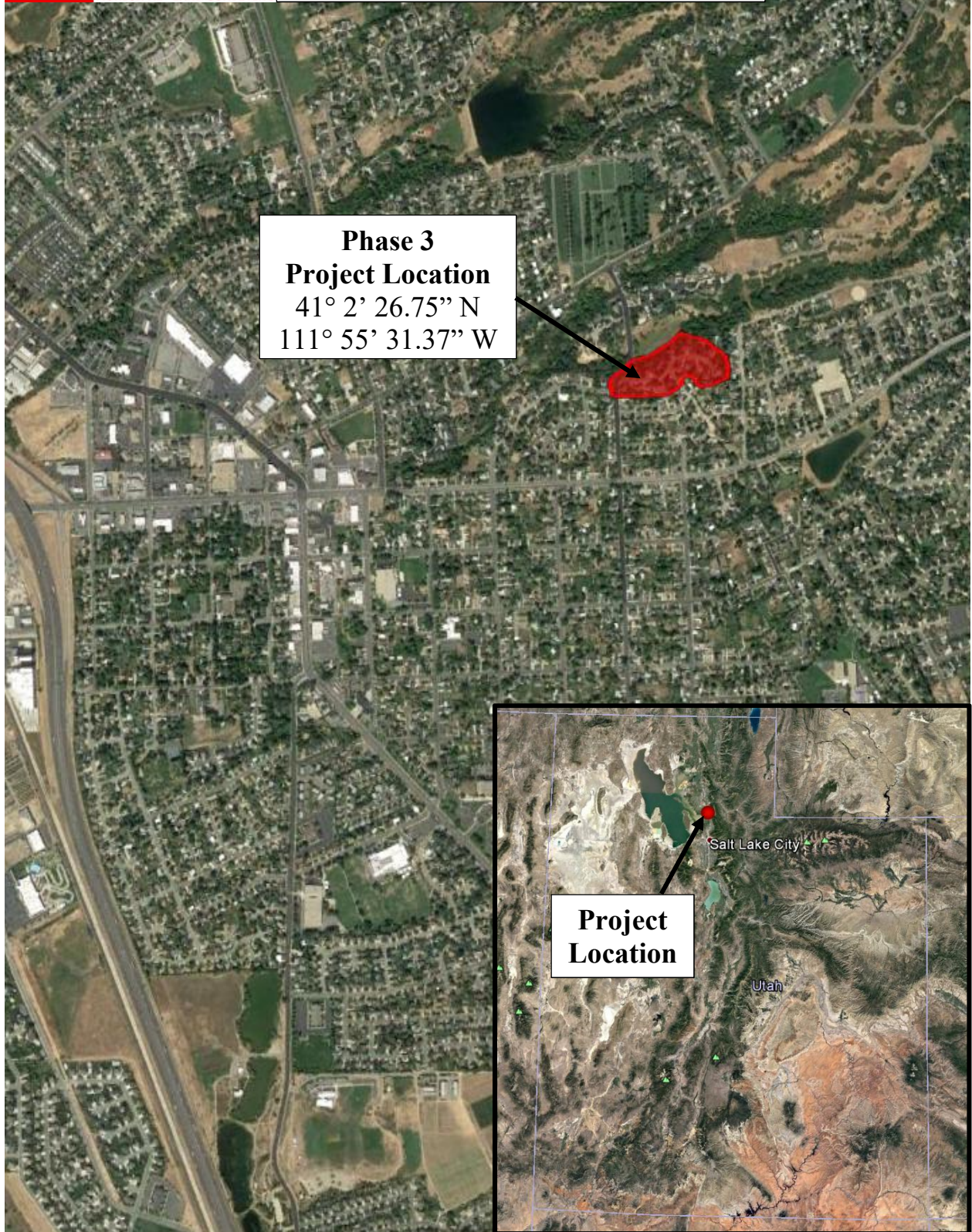
See Attachment 4.

Attachments

Attachment 1	Project Location Map
Attachment 2	Excerpt from 2017 Water Conservation and Management Plan
Attachment 3	Letters of Support
Attachment 4	Official Resolution

Hights Creek Backyard Piping

Phase 3 Project Location Map



**Phase 3
Project Location**
41° 2' 26.75" N
111° 55' 31.37" W



**Project
Location**

disturbance during construction. Thus, based on the lack of suitable habitat within the project area, it is anticipated that future construction projects would have no effect on the Short-eared Owl.

Project Priorities and Implementation

This section of the Plan is intended to describe the HCIC priority project that will help accomplish the Company's goals of more efficient water management and greater water conservation. As will be described in this section, some of this work is already underway and is successfully moving HCIC towards the accomplishment of these goals.

Priority Project No. 1—Backyard Piping Project

As stated earlier in the Plan, a large portion of the original HCIC residential pressure irrigation system installed in the early 1960s was installed at the rear of residential lots. This was a cost-effective way to install pipelines at the time because it reduced the amount of costly street repair that is required when pipelines are installed in existing streets. Since that time, most property owners have installed fences and many have encroached on the pipeline easements in ways that make operation and maintenance of the "backyard" system difficult and expensive. For this reason, and because much of this piping is the original asbestos-cement (transite) pipe, replacing these backyard pipelines with new PVC and ductile iron pipelines is a major priority to HCIC, from the perspective of water administration and operation and maintenance.

The first phase of this critical task is already underway at HCIC. With the assistance of a USBR WaterSMART grant, Phase 1 of the Backyard Piping Project has been designed and bid and is scheduled for completion in 2018. This phase of the project includes the replacement of 7,320 linear feet of backyard transite pipelines with 7,430 feet of new PVC pipelines installed in established street rights-of-way for easy access and maintenance. In addition, as 84 backyard secondary water services are relocated to the front of residences, meters are being installed as a water conservation measure.

The remainder of the Backyard Piping Project includes the following tasks:

- | | |
|---|-------------------|
| • Backyard transite pipe removal from use | 8,750 linear feet |
| • New Pipeline Installation in Street Rights-of-way | 8,720 linear feet |
| • New Water Meters Installation | 159 |

The implementation of the remainder of this project will be based upon HCIC's ability to match local resources with additional federal funding through the USBR WaterSMART program. The WaterSMART program requires a 50% local funds match. While it is HCIC's desire is to tackle the entire remaining project in a single project, the size of the remaining project will allow the use of the maximum available federal grant component by splitting the project into two (2) additional phases. Each phase will receive approximately \$300,000 in federal grant funding to go along with approximately \$355,000 in HCIC funds. The next grant request will occur in the 2018 WaterSMART Funding Opportunity. Construction of the next phase of the Backyard Piping Project is anticipated to occur between September of 2019 and April of 2020, with a plan to build the final phase in the 2020-2021 off-season.

An Engineer's Opinion of Probable Cost for the Backyard Piping Project is included in Appendix B.

Prepared by J-U-B ENGINEERS, Inc. | December 20 17



GARY R. HERBERT
Governor

SPENCER J. COX
Lieutenant Governor

State of Utah

DEPARTMENT OF NATURAL RESOURCES

MICHAEL R. STYLER
Executive Director

Division of Wildlife Resources

MICHAEL D. FOWLKS
Division Director

April 17, 2019

Rodney Hill
General Manager
Hights Creek Irrigation Company
820 East 200 North
Kaysville, UT 84307

Subject: U.S. Bureau of Reclamation Small-Scale Water Efficiency Projects

Dear Mr. Hill:

As the Aquatics Program Manager in Northern Utah for the Utah Division of Wildlife Resources (UDWR), I am pleased to write in support of the grant application you are submitting to the U.S. Bureau of Reclamation Small-Scale Water Efficiency Projects Program. I applaud your efforts to increase the efficiency of your system and conserve valuable water and energy. All water savings in the Weber River watershed are valuable to ensure that we have adequate water for future generations.

The Bonneville Cutthroat Trout and Bluehead Sucker are native fish species found in portions of the Weber River. Both species are covered by conservation agreements the State of Utah has entered into with the U.S. Fish and Wildlife Service and other parties. The population status of these two sensitive species warrants additional conservation effort to diminish the likelihood of future listings under the Endangered Species Act. The population of Bonneville Cutthroat Trout in the lower Weber River is quite unique in that they travel considerable distances in the mainstem of the Weber River and ultimately up tributary streams to spawn. This life history attribute has been lost from almost all other Bonneville Cutthroat Trout populations, but still persists in the Weber River!

The UDWR's approach to aquatic species management and conservation in the Weber River, in part, focuses on reconnecting and maintaining connectivity of priority habitats by removing unnecessary barriers to fish migration, or by modifying existing barriers to allow upstream movement of these species, particularly for Bonneville Cutthroat Trout and Bluehead Sucker. Naturally of course, stable and connecting flows between those habitats are a fundamental requirement for those conservation actions to be successful. Within that context, most any project that enhances the continuity and maintenance of flows within the Weber River is a step in the right direction, as we work cooperatively to protect and conserve these native species.



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April 17, 2019

We are very excited regarding the objective of water metering and conservation within the Hights Irrigation grant proposal as efficiency efforts such as this one help ensure that the Bonneville Cutthroat Trout and Bluehead Sucker have adequate flows to carry out their life history requirements and thrive within the Weber River system.

Sincerely,

A handwritten signature in black ink that reads "Christopher R. Penne". The signature is written in a cursive style with a large initial 'C' and 'P'.

Chris Penne

Aquatics Program Manager, Norther Region
Utah Division of Wildlife Resources



WEBER BASIN WATER CONSERVANCY DISTRICT

2837 East Highway 193 • Layton, Utah 84040 • Phone (801) 771-1677 • (SLC) 359-4494 • Fax (801) 544-0103

Tage I. Flint
General Manager/CEO

April 17, 2019

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Rod Hill, General Manager
Haight's Creek Irrigation Company
820 East 200 North
Kaysville, UT 84037

RE: Letter of Support for Small-Scale Water Efficiency Project

Dear West:

Weber Basin Water Conservancy District ("District") is pleased to confirm its support of your grant application to the Bureau of Reclamation for a Small-Scale Water Efficiency Project. We applaud your efforts to increase the efficiency of your system to conserve valuable water through secondary water metering. We have implemented similar secondary metering projects and have documented significant water savings as consumers are made aware of their water use.

The District recognizes the importance of water conservation in our basin. The water saved through these improvement projects will provide benefits to water users and the regional environment. Haight's Creek Irrigation Company continues to be a valuable partner promoting wise water uses in our area.

We strongly support your grant application and appreciate the advancements it will make in water savings and improving water efficiencies within the District's boundaries.

Sincerely,

Tage I. Flint, PE
General Manager/CEO

TIF/dh

**Resolution
By the Board of Directors
Hights Creek Irrigation Company
Board of Directors Meeting Held April 9, 2019**

RESOLUTION:

WHEREAS, it was determined during the meeting of the Board of Directors of Hights Creek Irrigation Company (the Company), that an effort should be made to apply for the WaterSMART Grants: Small-Scale Water Efficiency Projects for Fiscal Year 2019. And that the Company President and/or the Company General Manager and Treasurer are authorized to submit completed applications for the above referenced funding grant opportunities;

AND WHEREAS, the Company has the ability to provide the amount of funding and/or in-kind contributions as specified in the funding plan;


AND WHEREAS, the Company will work with the Bureau of Reclamation to meet established deadlines for entering into grant or cooperative agreement;

AND WHEREAS, the Board of Directors of the Company have reviewed the finished/completed applications prior to the submission of the final applications to the Department of the Interior, Bureau of Reclamation.

THEREFORE, BE IT RESOLVED that at the meeting of the Board of Directors of the Hights Creek Irrigation Company, held April 9, 2019, that Norman O. Whitaker, Director and President of Hights Creek Irrigation Company, and Rodney G. Hill, General Manager and Treasurer of Hights Creek Irrigation Company, are authorized to submit completed applications for the above referenced funding grant opportunities.

CERTIFICATION:

I, Norman O. Whitaker, certify that I am a Director and President of the Hights Creek Irrigation Company, organized under the laws of the State of Utah, and that the resolution stated above was adopted at a meeting of the Board of Directors of the Company duly and properly called and held on April 9, 2019.




Norman O. Whitaker, Director and President
Hights Creek Irrigation Company

4-16-19

Date

ATTEST:



Leland (Lee) G. Stenquist, Director
Hights Creek Irrigation Company

4-16-19

Date