

# STRAWBERRY HIGH LINE CANAL COMPANY

## GENOLA WATER AND ENERGY CONSERVATION PIPING PROJECT

GENOLA, UTAH



**Strawberry High Line Canal Company**  
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# TECHNICAL PROPOSAL

## 1. EXECUTIVE SUMMARY

**APPLICATION DATE:** January 17, 2013

**APPLICANT:** Strawberry High Line Canal Company (SHLCC)  
Payson, Utah County, Utah

### PROJECT SUMMARY:

The **Genola Water and Energy Conservation Piping Project** focuses on:

- Task A – Water Conservation**
- Task B – Energy-Water Nexus and**
- Task D – Water Markets**

This conservation project contributes to the accomplishment of **Task A** by **conserving approximately 36,250 AF of water** in the existing Strawberry High Line Canal Company water bank over the life of the project. In addition to the company's conservation efforts, **Shareholder involvement will save an additional 15,000 AF of water** over the life of the project.

Increasing energy efficiency in water management as described in **Task B** will be accomplished as the conversion from open, concrete-lined canal provides a direct connection to a pressurized pipeline, eliminating the need to pump water from a pond; **saving approximately 41,250 kwh and over \$4,800.00 each irrigation season.**

**Task D** accomplishment contributions resulting from the project will be water savings and corresponding increases in available water supply through **converting approximately 17,180 feet (3.25 miles) of open, concrete-lined canal to pipeline.** Water conserved through loss prevention will be made available to lease for agricultural irrigation and municipal secondary irrigation purposes.

By **replacing the current diversion structure with two flow meters equipped with automated valves**, this conservation project will also enable more effective management of our natural resources by improving water measurement accuracy.

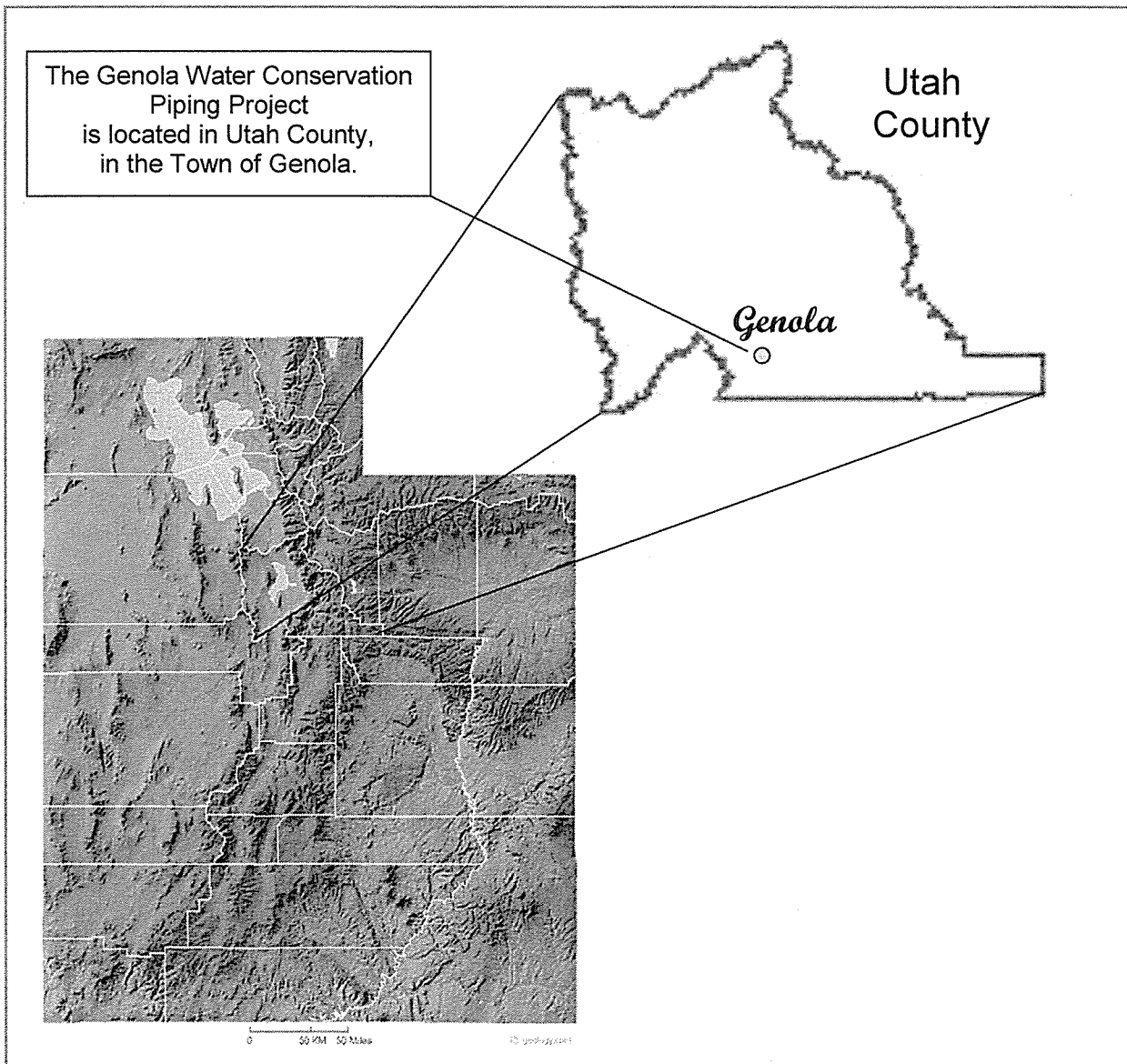


## 2. BACKGROUND DATA

### Project Location

The proposed project is located in the Town of Genola in Utah County, Utah.

- The illustration below shows the location of the project in relation to Utah State and Utah County.
- The **Genola Pipeline Project Map**, located in the **APPENDIX**, provides an aerial view of the project location in relation to surrounding cities and landmarks in south Utah County.



## **2. BACKGROUND DATA** (continued)

### **Water Supply**

#### **Strawberry High Line Canal Company - Overall**

SHLCC delivers an average of 56,300 AF of water annually. The 56,300 AF is comprised of 39,000 AF of Strawberry Valley Project water, 6,500 AF of Central Utah Project water, 6,000 AF from Spanish Fork and Payson canyons, 3,000 AF of well water and 1,800 AF of return flow water right.

#### **Genola – Project Specific**

Within the Strawberry High Line Canal, the Genola canal encompassed within the proposed project area delivers an average of 2,300 AF of water annually.

### **Water Rights**

As landowners within the service area of the High Line Unit of the Strawberry Valley project, SHLCC Shareholders contracted with the Bureau of Reclamation for delivery and beneficial use of their water rights.

The Bureau of Reclamation, in turn, has contracted with SHLCC to operate and maintain the Bureau of Reclamation owned facilities.

By contract, SHLCC delivers water rights appurtenant to land in the High Line Unit of the Strawberry Valley Project.

### **Water Uses**

SHLCC water is used primarily for commercial agriculture irrigation, small pasture irrigation, and small lot irrigation.

### **Water Users**

#### **Strawberry High Line Canal Company - Overall**

SHLCC services 17,500 acres of agricultural land and over 22,000 people in the communities of Payson City, Salem City, the town of Genola, and in southern Utah County. SHLCC provides irrigation to a majority of the fruit orchards in the state, delivering water to over 70% of the orchards in Utah. The orchards served by SHLCC primarily produce apples, cherries, and peaches. In addition to the orchards, the principal crops grown on the acreage served by SHLCC include grass hay, alfalfa, and the following grains: wheat, barley, oats, and corn. Other crops grown are: beets, potatoes, and onions.

## **2. BACKGROUND DATA** (continued)

### **Water Users** (continued)

#### **Genola – Project Specific**

Within the Strawberry High Line Canal, the Genola canal services 1,500 acres of agricultural land and approximately 25 homes in the Town of Genola. The principal crops grown on the 1,500 acres served by the Genola canal include grass hay, alfalfa, and the following grains: wheat, barley, oats, and corn. Other crops grown are: beets, potatoes, and onions. The Genola canal water also services several fruit orchards including apples, cherries, and peaches.

### **Water Demand**

#### **Strawberry High Line Canal Company - Overall**

SHLCC is located in southern Utah County. The demand for water in this area is rapidly increasing to the point where demand will inevitably exceed the available supply.

#### **Genola – Project Specific**

The Genola Water and Energy Conservation Piping Project is located in Southern Utah County; the area is currently experiencing high growth rates in conjunction with limited existing water supplies.

### **Water Delivery System**

#### **Strawberry High Line Canal Company - Overall Facilities**

SHLCC has 17 miles of main canal, over 40 miles of laterals and approximately 35 miles of pressurized pipeline that service the cities and surrounding areas of Salem, Payson, Spring Lake, Santaquin, West Mountain, and the Town of Genola.

#### **Genola – Project Specific Facilities**

The Genola canal currently consists of approximately seven (7) miles of concrete-lined, open canal, and an archaic diversion structure consisting of flashboards and a head-gate.

## **2. BACKGROUND DATA** (continued)

### **Bureau of Reclamation Relationship History**

#### **Strawberry High Line Canal Company**

For over 90 years, SHLCC has been the contract operator for the High Line Unit of the Strawberry Valley Project, having received and delivered Strawberry Valley Project water since April 7, 1916.

SHLCC has also received and delivered water from the Bonneville Unit of the Central Utah Project.

The Genola canal was built in 1914 and 1915 during the original construction of the Strawberry High Line Canal, a Bureau of Reclamation project.

### **Bureau of Reclamation Projects and Previous Grant Funding**

#### **Water Conservation Field Services Program (WCFSP)**

SHLCC was awarded a grant through WCFSP to create a Water Management Conservation Plan (WMCP).

SHLCC's WMCP was finalized and approved by the Bureau of Reclamation in September of 2009.

In 2011, another WCFSP grant was awarded to SHLCC. This grant allowed SHLCC to meet one of its WMCP key objectives to improve water measurement and management through installation of flow meters.

The WCFSP also provided funding for the Utah Association of Conservation Districts (UACD) Canal Safety study. SHLCC was the pilot system for the study, assisting UACD in creating a Water Conveyance Facility Safety Management Plan template in compliance with the Water Conveyance Facilities Safety Act of 2010 and for use and distribution to all irrigation water conveyance facilities within the state of Utah.



## **2. BACKGROUND DATA** (continued)

### **Bureau of Reclamation Projects and Previous Grant Funding** (continued)

#### **Water 2025, Water for America, and Water and Energy Efficiency**

SHLCC's Lateral 20 piping projects are a result of the cooperative relationship of SHLCC, Payson City and the Bureau of Reclamation.

Funding for the initial Lateral 20 Relocation project was received through cooperative, dual-applicant Water 2025 grants awarded to SHLCC and Payson City by the Bureau of Reclamation in 2005 and 2007.

SHLCC's Red Bridge Project was a cooperative effort of SHLCC and the Bureau of Reclamation through a Water 2025 Grant awarded in 2007.

The Lateral 20 Piping Conservation Project that recently completed the piping of Lateral 20 in 2011 was funded in part by a generous award from the Bureau of Reclamation through the Water for America and Water and Energy Efficiency grant programs.

### 3. TECHNICAL PROJECT DESCRIPTION

#### Existing Project Demographics and Proposed Project Details

The Genola canal currently consists of approximately seven (7) miles of open, concrete-lined canal, three (3) ponds, over 11,000 feet of laterals with lower-grade piping, and an archaic diversion structure consisting of flashboards and a head-gate.

The proposed **Genola Water and Energy Conservation Piping Project** is the **first phase of an overall master plan** for the Genola Service District designed to conserve water, improve water management, conserve energy, and advance water delivery to agricultural and municipal users in the Town of Genola and its surrounding areas.

This first phase of the Genola Service District Master Plan eliminates the need for approximately 3.5 miles of open, concrete-lined, dilapidated, 96-year-old canal by utilizing a more direct route for water delivery. The project will convert approximately 1.25 miles of existing open ditch to pipe, and install .5 mile of pipe in an alternate location suitable for piping but not conducive to open ditch water delivery; for a total of 1.75 miles of HDPE pipe upon project completion. The installation of the HDPE pipe, ranging in size from 48"-18", will provide improved access to agricultural and secondary irrigation for SHLCC Shareholders.

(Note: The HDPE pipe is expected to have a lifespan of 50 years. Please refer to "3408 Pipe Specifications" and "4710 Pipe Specifications" included in the application attachments.)

In addition to pipe installation, the first project phase also replaces the current flashboard and head-gate diversion structure with two flow meters equipped with automated valves.

#### Proposed Project Results – First Phase

It is estimated that on an annual basis approximately 32 percent, or 725 AF of water, is lost throughout the 3.25 mile section of open, concrete-lined canal that will be eliminated upon completion of the Genola Water and Energy Conservation Piping Project – the first phase in the Genola Service District Master Plan. Piping the 17,180 foot (3.25 mile) section will result in an annual water savings of approximately 725 AF equating to a potential savings of 36,250 AF over the 50-year life of the project.

In addition to water conservation, the proposed project will potentially save 41,250 kwh of energy annually by offering a direct connection to the newly installed pipeline; preventing the need for pumping out of a pond to provide adequate agricultural irrigation.

### **3. TECHNICAL PROJECT DESCRIPTION** (continued)

#### **Master Plan**

Upon completion of the entire Genola Service District Master Plan, SHLCC anticipates increased annual water savings of 1150-1300 AF, and improved management of all of the water, approximately 3,000 AF annually, diverted to the Genola area. These system improvements, beginning with grant funding awarded for the Genola Water and Energy Conservation Piping Project, will secure in excess of 100,000 AF of water for south Utah County, protecting this finite, natural resource for impending growth and development and future generations.

## 4. EVALUATION CRITERIA

### Evaluation Criterion A: Water Conservation

#### Subcriterion No. A.1. – Water Conservation

##### a) Quantifiable Water Savings

The Genola Water and Energy Conservation Piping Project eliminates the need for approximately 3.5 miles of open, concrete-lined, dilapidated, 96-year-old canal by utilizing a more direct route for water delivery. The project will convert approximately 1.25 miles of existing open ditch to pipe, and install .5 mile of pipe in an alternate location suitable for piping but not conducive to open ditch water delivery; for a total of 1.75 miles of HDPE pipe upon project completion. The project will also replace the current diversion structure with two flow meters equipped with automated valves, the **Genola Water and Energy Conservation Piping Project will conserve approximately 32% of the water utilized in the Genola canal delivery system**, or 725 AF of the annual 2,300 AF conveyed through the Genola canal delivery system.

Over the life of the Genola Water and Energy Conservation Piping Project, SHLCC will improve the delivery efficiency of over 115,000 AF of water, conserving just under 32% (36,250 AF) of the water designated for delivery by way of the Genola canal.

SHLCC's entire delivery system conveys over 56,300 AF of water annually, with the Genola canal encompassing approximately 4% of that delivery system. The Genola Water and Energy Conservation Piping Project would conserve and improve delivery efficiency of approximately 1.3% of SHLCC's annual water delivery.

- **What is the applicant's average annual AF of water supply?**  
SHLCC's average annual AF of water supply is 56,300.  
The average annual water supply delivered in the Genola service area specific to the proposed project is approximately 2,300 AF.
- **Where is that water currently going (i.e., back to the stream, spilled at the end of the ditch, seeping into the ground, etc.)?**  
The water lost during conveyance through the current Genola canal delivery system is lost due to evaporation and seepage; excess water used for delivery conveyance in the Genola canal delivery system is seeping into the ground due to the current condition of the 96-year-old canal.
- **Where will the conserved water go?**  
The conserved water will remain in the SHLCC water bank.

## 4. EVALUATION CRITERIA (continued)

### (1) Canal Lining/Piping

- **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 estimated average annual water savings resulting from the Genola Water and Energy Conservation Piping Project has been determined through an on-site evaluation of the condition of the existing canal, verbal historical reports from the ditch riders, and water delivery and SCADA reports from the 2011 irrigation season. SHLCC has made the assumption that additional water currently required for conveyance to meet water order requests would be saved when the open, concrete-line ditch is replaced with pipe; the additional water would no longer be required to meet water orders and would not be lost due to the very nature of pipe.

- **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.**

The average annual canal losses due to seepage, leakage and evaporation have been determined through an on-site evaluation of the condition of the existing canal, verbal historical reports from the ditch riders, and water delivery and SCADA reports from the 2011 irrigation season. More specifically, SCADA data (inflow/outflow measurements) and water order reports have been compared to determine canal losses. [e.g., On July 15, 2011 water orders in the Genola area totaled 10.21 AF while the SCADA reports indicated that 14.92 AF was required to meet the requested delivery needs. These types of comparisons suggest that an average of 4.71 AF water is lost in the current open, concrete-lined delivery system.] Ponding tests have not been conducted in this section of the canal as the slope in the area is too great.

## 4. EVALUATION CRITERIA (continued)

### (1) Canal Lining/Piping (continued)

- **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?)**

The projected post-project seepage/leakage losses are expected to be nonexistent; the nature of pipe suggests that little or no water will be lost after the pipe is installed and the open, concrete-lined canal is obsolete. (For specific data relating to the type of material being used, please refer to “3408 Pipe Specifications” and “4710 Pipe Specifications” included in the application attachments.)

- **What are the anticipated annual transit loss reductions in terms of AF per mile for the overall project and for each section of canal included in the project?**

The anticipated annual transit loss reductions for the overall project are approximately 225 AF per mile along the entire section of the 3.25 mile canal included in the proposed piping project.

- **How will actual canal loss seepage reductions be verified?**

Actual canal loss seepage reductions will be verified through SCADA reports, water order conveyance comparisons, verbal reports from the ditch riders, and on-site evaluations of the newly-piped canal.

- **Include a detailed description of the materials being used.**

Detailed descriptions of the type of material being used in the project are included as attachments (“3408 Pipe Specifications” and “4710 Pipe Specifications”) with this application.

## 4. EVALUATION CRITERIA (continued)

### Evaluation Criterion A: Water Conservation (continued)

#### Subcriterion No. A.1. – Water Conservation (continued)

##### b) Improved Water Management

The Genola Piping Conservation Project will enable SHLCC to better manage its water delivery, not only by conserving water through loss prevention, but also by offering more efficient watering application choices to its shareholders.

Converting open, concrete-lined, dilapidated, 96-year-old canal to pipe enables shareholders to easily convert from flood irrigation to more efficient and cost-effective watering methods like hand-lines, wheel-lines, pivots, etc.

Shareholder's converting to these more efficient application methods make it possible for SHLCC to more accurately measure water delivery orders. Precise measurement of water delivered to shareholders equates to better managed water on the part of the delivery agent and the recipient.

It is projected that as the shareholders, gleaning momentum from the Genola Water and Energy Conservation Piping Project, follow suit and upgrade their water application equipment, even greater water conservation will be realized.

Potentially, up to an additional 300 AF of water annually, or 15,000 AF over the life of the project, will be conserved as SHLCC shareholders, utilizing connections to the Genola Water and Energy Conservation Piping Project facilities, convert to more efficient irrigation methods.

Upon completion of the proposed project, the newly installed pressurized pipeline will enable SHLCC to better manage 2,300 AF, or approximately 4% of SHLCC's seasonal water delivery.

Over the life of the Genola Water and Energy Conservation Piping Project, SHLCC will improve the delivery efficiency of over 115,000 AF of water designated for delivery by way of the Genola canal.

Estimated Amount of Water Better Managed  
Average Annual Water Supply

2,300 AF  
56,300 AF

**Project Improved Water Management: 4%**

## 4. EVALUATION CRITERIA (continued)

### Evaluation Criterion A: Water Conservation (continued)

#### Subcriterion No. A.2. – Percentage of Total Supply

SHLCC's complete delivery system serves over 56,300 AF of water annually.

**The Genola Water and Energy Conservation Piping Project will conserve approximately 725 AF of water each irrigation season, improving delivery efficiency of approximately 1.3% of SHLCC's Total Supply.**

<u>Estimated Amount of Water Conserved</u>	<u>725 AF</u>
Average Annual Water Supply – Complete System Supply	56,300 AF

**Total Supply Water Conservation: 1.3%**

The entire Genola canal system conveys approximately 3,000 AF – or just over 5% of SHLCC's total water supply.

Approximately 2,300 AF of the Genola canal system water is conveyed through the Genola Water and Energy Conservation Piping Project facilities.

**The Genola Water and Energy Conservation Piping Project will conserve approximately 725 AF of water each irrigation season or 32% of the project specific water supply.**

<u>Estimated Amount of Water Conserved</u>	<u>725 AF</u>
Average Annual Water Supply – Project Specific	2,300 AF

**Project Water Conservation: 32%**



## 4. EVALUATION CRITERIA (continued)

### Evaluation Criterion A: Water Conservation (continued)

#### Subcriterion No. A.3. – Reasonableness of Costs

The total cost of the Genola Water and Energy Conservation Piping Project is \$814,000. 00.

The total AF conserved or better managed is 725 AF annually.

The physical improvements - replacing the open ditches with pipe and replacing the existing diversion structure with two automated valve flow meters - are expected to have added benefits for a project life of 50 years.\*

<u>Total Project Cost</u>	<u>\$814,000.00</u>
AF Conserved X Improvement Life	36,250 AF

**Project Cost: \$22.46 per AF**

\*The 50-year life expectancy of the Genola Water and Energy Conservation Piping Project benefits may be verified through the material specifications included as attachments ("*3408 Pipe Specifications*" and "*4710 Pipe Specifications*") with this application.

## 4. EVALUATION CRITERIA (continued)

### Evaluation Criterion B: Energy-Water Nexus

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

Although the Genola Water and Energy Conservation Piping Project does not immediately implement renewable energy projects related to water management and delivery, the project is designed to incorporate low-head hydrogenation in the future. The proposed project facilities will provide an opportunity for SHLCC to construct a hydrogenation facility enabling them to add to the potential renewable energy supply in the vicinity of the Town of Genola and the surrounding areas of south Utah County.

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

**Describe any energy efficiencies that are expected to result from implementation of the water conservation or water management project.**

- **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.**

The Genola Water and Energy Conservation Piping Project will increase energy efficiency in water management by eliminating pumping costs associated with drawing irrigation water from a pond. By providing SHLCC shareholders with a direct connection to a pressurized pipeline, thereby preventing the need for pumping, approximately 41,250 kwh will be saved each irrigation season, equating to a savings of nearly \$4,800.00 annually.

- **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?**

At present time water delivery to McMullin Orchards, a SHLCC Shareholder, requires water to be extracted from a pond; diverting the water in this manner requires a 50 horsepower pump to provide pressurized irrigation exclusively for the orchard to which the water is being applied.

The proposed project will eliminate all pumping requirements by providing McMullin Orchards with a direct connection to pressurized water.

McMullin Orchards, a SHLCC shareholder that will benefit from a direct connection to the newly installed pressurized pipeline and the potential to eliminate their pumping costs, has expressed their support of the Genola Water and Energy Conservation Piping Project. The "McMullin Letter" of support is included as an attachment with this application.

## 4. EVALUATION CRITERIA (continued)

### Evaluation Criterion B: Energy-Water Nexus

#### Subcriterion No. B.2. – Increasing Energy Efficiency in Water Management (continued)

- **Please indicate whether your energy savings estimate originates from the point of diversion, or whether the estimate is based upon an alternate site of origin.**

The Genola Water and Energy Conservation Piping Project energy savings estimate originates from the point of diversion.

- **Does the calculation include the energy required to treat the water?**  
Not Applicable. The proposed project does not manage water treatment.

- **Will the project result in reduced vehicle miles driven, in turn reducing carbon emissions? Please provide supporting details and calculations.**  
Yes. The proposed project will result in reduced vehicle miles driven; it is estimated that there will be a 15 mile per day reduction in vehicle use during the 152-day irrigation season directly attributed to the Genola Water and Energy Conservation Piping Project. Over the life of the project, this reduction will significantly reduce carbon emissions by eliminating over 114,000 vehicle miles driven; saving the equivalent, 114,000 gallons, in fossil fuel.

## 4. EVALUATION CRITERIA (continued)

### Evaluation Criterion C: Benefits to Endangered Species

The Genola Water and Energy Conservation Piping Project does not provide a benefit to any endangered species.

### Evaluation Criterion D: Water Marketing

**1) Estimated amount of water to be marketed.**

The Genola Water and Energy Conservation Piping Project will add an estimated 36,250 AF of conserved water to the SHLCC water bank over the life of the project, providing 36,250 AF of additional water for lease to SHLCC Shareholders, municipalities, and future developers.

**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.)**

Water conserved through the Genola Water and Energy Conservation Piping Project will be added to the existing SHLCC water bank; providing additional water for lease to SHLCC Shareholders, municipalities, and future developers.

**3) Number of users, types of water, etc. in the water market.**

SHLCC's water market is comprised of over 2200 Shareholders. The 36,250 AF of water conserved by the proposed project will provide additional water for SHLCC shareholders to lease, meeting their future water supply needs and reducing water crisis conflicts. The water in the SHLCC water bank is primarily used for agricultural irrigation with secondary application being comprised of municipal small lot or secondary irrigation use.

**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.)**

SHLCC adheres to all State laws pertaining to water marketing and is not aware of any additional legal issues, reclamation laws or contracts, or individual project authorities that prohibit, regulate or mandate its water marketing practices.

SHLCC utilizes auxiliary water (i.e., well rights, company owned shares, etc.) to supplement water loss within the Strawberry Valley Project. Additional project water conserved through the proposed Genola Water and Energy Conservation Piping Project will allow SHLCC to maintain the current water bank and in turn offer a greater amount of auxiliary water for lease to its Shareholders.

SHLCC's water marketing practices ensure that conserved water is banked, remains within the project, and is put to beneficial use.

## 4. EVALUATION CRITERIA (continued)

### Evaluation Criterion D: Water Marketing (continued)

#### 5) Estimated duration of the water market.

The duration of the water market is expected to span the life of the project, lasting approximately 50 years. The additional water added to the SHLCC water bank conserved through the Genola Water and Energy Conservation Piping Project will be made available for lease to SHLCC shareholders for the life of the project.

### Evaluation Criterion E: Other Contributions to Water Supply Sustainability

#### (1) WaterSMART Basin Study adaptation strategy

- **Describe in detail the adaptation strategy that will be implemented through this WaterSMART Grant project. Identify the specific WaterSMART Basin Study where this adaptation strategy was developed. Describe the water supply or water management issue that this adaptation strategy will address.**

The Genola Water and Energy Conservation Piping Project answers Secretary of the Interior, Ken Salazar's "Call to Action" by implementing three adaptation strategies identified in the Colorado River Basin Water Supply and Demand Study (Basin Study). These strategies include Agricultural Conservation and Efficiency, Irrigation Infrastructure Modernization Program to Improve Efficiency, and Reduction of On-farm and Conveyance Evaporative Losses and Deep Percolation; Basin Study Record Numbers 53, 54, and 83, respectively. (Basin Study Appendix F-2, pg.9)

These three adaptation strategies address two of the six Basin Study Agricultural Water Conservation Measures, including Conveyance System Efficiency Improvements, and On-farm Irrigation System Improvements. (Basin Study Appendix F-10, pg.2)

The two Agricultural Water Conservation Measures specifically address the disproportionate supply and demand concern that is escalating in this area and is expected to increase both in magnitude and spatial extent in the near future.

## 4. EVALUATION CRITERIA (continued)

### Evaluation Criterion E: Other Contributions to Water Supply Sustainability (continued)

- **Provide a detailed explanation of how the proposed WaterSMART Grant project would help implement the adaptation strategy identified in the Basin Study.**

The Genola Water and Energy Conservation Piping Project will help mitigate projected water supply and demand imbalances in the area by narrowing the gap between supply and demand; reducing demand through increased conservation and efficiency efforts.

More specifically, the proposed project aligns with the Conveyance System Efficiency Improvements Conservation Measure by converting open canal to pipe; providing significant reductions in total diversions and water loss due to evaporation, seepage, drainage, etc.

The on-farm improvements that will occur as a result of the project line up with the On-farm Irrigation System Improvements Conservation Measure by enabling reductions in total water diversion from reduced tail water and deep percolation return flows. (Basin Study Appendix, F-10, pg.3)

- **Fully describe any other benefits to water supply sustainability that are not described elsewhere in your proposal that will result from this WaterSMART Grant project, for example, if the project will result in further collaboration among Basin Study partners, or demonstrate a new or innovative approach, among other benefits.**

Additional benefits resulting from the proposed project include diligent planning and collaboration efforts from various entities including the Bureau of Reclamation, SHLCC Directors and Shareholders, and municipal partners, successful implementation of basin study adaptation strategies that will serve as the proto-type for future water and energy efficiency conservation efforts, and accolades for the Colorado River Basin Water Supply and Demand Study due to successfully-utilized adaptation strategies, immediate, effective implementation of multiple Basin Study options, and objectives realized resulting from collaborative efforts coordinated through the Bureau of Reclamation WaterSMART Basin Study and WaterSMART Grant programs.

## 4. EVALUATION CRITERIA (continued)

### Evaluation Criterion E: Other Contributions to Water Supply Sustainability (continued)

(2) **The Genola Water and Energy Conservation Piping Project will help expedite future on-farm irrigation improvements, including future on farm improvements that may be eligible for Natural Resources Conservation Service (NRCS) funding.**

- **Include a detailed listing of the fields and acreage that may be improved in the future.**

The “4<sup>th</sup> North Parcels” document attached with this application provides a detailed list of the individual property owners in the Genola 4<sup>th</sup> North area and SHLCC shareholder fields and acreage that may be improved upon completion of the Genola Water and Energy Conservation Piping Project. With a WaterSMART grant award, over 25 property owners and SHLCC shareholders, comprising a total of approximately 500 acres will have the opportunity to improve their on-farm irrigation practices; adding momentum to SHLCC’s water conservation efforts.

- **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.**

The most significant on-farm improvement resulting from the Genola Water and Energy Conservation Piping Project will be a change in irrigation method or the conversion from flood irrigation to sprinkling of agricultural crops. SHLCC has discussed project plans with the majority of its shareholders in the Genola canal district; several farmers in the area are already engaged in on-going efforts to secure funding for on-farm improvements that will be made possible as grant funding is secured and the project is underway. Letters of commitment and support from three (3) such shareholders are included as attachments with this application (i.e., “McMullin Letter,” “Clinger Letter,” and “Penrod Letter.”)

- **Provide a detailed explanation of how the proposed WaterSMART Grant project would help to expedite such on-farm efficiency improvements.**

The Genola Water and Energy Conservation Piping Project will help expedite on-farm efficiency improvements by providing a direct connection to a pressurized pipeline making it possible for SHLCC shareholders to eliminate on-farm flood irrigation ditches, storage ponds, and archaic, obsolete water measurement devices.

These on-farm efficiency improvements would not be possible without a WaterSMART grant award to expedite the completion of the Genola Water and Energy Conservation Piping Project.

## 4. EVALUATION CRITERIA (continued)

### Evaluation Criterion E: Other Contributions to Water Supply Sustainability (continued)

- **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 AF per year. Include support or backup documentation for any calculations or assumptions.**

In addition to the company's conservation efforts, SHLCC estimates that the on-farm water conservation enacted through shareholder involvement in the Genola Water and Energy Conservation Piping Project by altering current irrigation method from flood irrigation to sprinkling will save an additional estimated 300 AF annually or approximately 15,000 AF of water over the life of the project.

The estimated water conserved through on-farm efficiency benefits has been calculated using the assumption that sprinkle irrigation is roughly 30% more efficient than the flood irrigation method

Backup documentation and support for these estimates and calculations obtained through agricultural irrigation educational resources made available by the Utah State University Cooperative Extension can be found at: <http://extension.usu.edu/smac/htm/irrigation>

- **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.**

The Genola Water and Energy Conservation Piping Project plan does not include or encompass significant on-farm irrigation improvements; however, the project offers the potential for substantial on-farm enhancements that would qualify for funding through NRCS grant programs. Through project meetings and individual shareholder requests, SHLCC anticipates that a minimum of 30% of the SHLCC shareholders in the project area are eligible for NRCS funding, committed to the implementation of on-farm improvements upon completion of the project, and will take advantage of NRCS funding programs to facilitate on-farm irrigation improvements. Letters of commitment and support from three (3) such shareholders are included as attachments with this application (i.e., "*McMullin Orchard Letter*," "*Clinger Letter*," and "*Penrod Letter*.")

- **Describe the extent to which this project complements an existing or newly awarded AWEF project.**

Although the Genola Water and Energy Conservation Piping Project does not complement an existing or newly awarded AWEF project, grant funding for the proposed project would enable many of SHLCC shareholders to voluntarily pursue on-farm system improvement projects under the AWEF initiative.



## 4. EVALUATION CRITERIA (continued)

### Evaluation Criterion E: Other Contributions to Water Supply Sustainability(continued)

#### (3) Other benefits of the Genola Water and Energy Conservation Piping Project

- Will the project make water available to address a specific concern?
  - 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)?**

Yes. SHLCC's Genola Water and Energy Conservation Piping Project will address water supply shortages due to heightened competition for finite water supplies. The project is located in southern Utah County where the demand for water is rapidly increasing to the point where demand will inevitably exceed the available supply; the area is currently experiencing high growth rates in conjunction with limited existing water supplies.

#### **Is the river, aquifer or other source supply over-allocated?**

No. At the present time, the water sources for the Genola Water and Energy Conservation Piping Project (i.e., Strawberry Reservoir, Spanish Fork River, and Payson Canyon) are not over-allocated. However, the demand for water is increasing due to escalating growth and development in the area; without conservation intervention the demand will inevitably out-weigh the supply and cause water supply allocation conflicts in the future.

- 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)?**

Yes. The Genola Water and Energy Conservation Piping Project will enable SHLCC to market water to over 2200 of its Shareholders, surrounding municipalities, and future developers - thereby meeting the water supply needs of multiple water users, stretching the existing water supply, and preventing future water crisis issues and water shortage disputations.

- iii. **Will the project make additional water available for Indian tribes?**

No. The Genola Water and Energy Conservation Piping Project will not make additional water available for Indian Tribes.

## 4. EVALUATION CRITERIA (continued)

### Evaluation Criterion E: Other Contributions to Water Supply Sustainability(continued)

- 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)?**

Yes. The Genola Water and Energy Conservation Piping Project will replace open-ditch canal with pipe, preventing seepage that potentially may result in canal damage or breach that would interrupt the water supply; severely impacting a vast majority of Utah County orchards and many acres of farm ground.

SHLCC's Genola Water and Energy Conservation Piping Project will not address any issues related to water supply interruption or maintain water supply for any endangered species.

- v. **Will the project generally make more water available in the water basin where the proposed work is located?**

Yes. The Genola Water and Energy Conservation Piping Project will conserve Strawberry Valley Project Water enabling SHLCC to maintain its water bank, making more water available throughout the project.

## 4. EVALUATION CRITERIA (continued)

### Evaluation Criterion E: Other Contributions to Water Supply Sustainability (continued)

- Does the project promote and encourage collaboration among parties?
  - i. **Is there widespread support for the project?**

Yes. The Genola Water and Energy Conservation Piping Project has widespread support including, but not limited to, SHLCC Shareholders, the Town of Genola, Strawberry Water Users Association (SWUA), and the Provo Area Office Bureau of Reclamation.

NOTE: A letter of support from the Town of Genola is included as an attachment ("*Town of Genola Letter*") with this application.
  - ii. **What is the significance of the collaboration/support?**

The collaboration and support from SHLCC Shareholders, the Town of Genola, SWUA, and the Provo Area Office Bureau of Reclamation are significant in the fact that SHLCC is setting precedence for other water conveyance facilities throughout the Strawberry Valley Project and the state of Utah; thus being recognized by irrigation associations, regional municipalities, and state entities.

As SHLCC endeavors to conserve water and ensure the safety of residents and residential property, other irrigation companies will follow suit, increasing the water supply throughout the region and offering additional security and confidence in water conveyance facilities in the state of Utah.
  - iii. **Will the project help prevent a water-related crisis or conflict?**

Yes. The Genola Water and Energy Conservation Piping Project will replace aged and deteriorated concrete-lined canal with pipe, addressing water-related crisis concerns expressed in Utah House Bill 60 - The Water Conveyance Facilities Safety Act of 2010, mitigating the potential risk of canal failure that may potentially result in loss of water supply, severe property damage, or loss of life.

In addition to mitigating potential risk and increasing canal safety, the conserved and better managed water made possible by the Genola Water and Energy Conservation Piping Project will help prevent future water-related crisis and conflict by providing additional water supply to an area of increasing demand. The proposed project will abate potential water disputes by increasing the amount of water available for delivery and lease throughout the SHLCC service area.

## 4. EVALUATION CRITERIA (continued)

### Evaluation Criterion E: Other Contributions to Water Supply Sustainability (continued)

- iv. **Is there frequently tension or litigation over water in the basin?**  
Yes. There is reoccurring conflict and the tension is high within the proposed project area as well as within the region of the Colorado River Basin. Currently, agriculture and municipal entities in South Utah County struggle with disagreements over water use and supply allocation and regional water resources are stretched to meet the culinary and agricultural irrigation needs within the basin in the midst of balancing requests for inter-basin water transfers to alleviate water shortages in outlying areas.
  
- v. **Is the possibility of future water conservation improvements by other water users enhanced by completion of this project?**  
Yes. Completion of SHLCC's Genola Water and Energy Conservation Piping Project will enhance the possibly of future water conservation efforts and improvements made by project-area agricultural producers, municipal partners (i.e., The Town of Genola), and Genola town residents. The proposed project will make it possible, through future conservation improvements, for additional water to be stored to meet imminent and increasing demands as exponential growth and development continue throughout the area.

## 4. EVALUATION CRITERIA (continued)

### Evaluation Criterion E: Other Contributions to Water Supply Sustainability (continued)

- 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?**

Yes. As the pilot facility for the UACD Water Conveyance Facility Safety Management Plan study, SHLCC has been in the spotlight, receiving significant attention at the state, regional and national level. SHLCC's Genola Water and Energy Conservation Piping Project will provide examples of water conservation and safety measures and improved energy efficiency that may be recreated and implemented by other water conveyance facility entities.

**ii. Will the project increase the capability of future water conservation or energy efficiency efforts for use by others?**

Yes. The Genola Water and Energy Conservation Piping Project will encourage and enable SHLCC water users to enact conservation measures and manage their water and energy more effectively in the future. The completed pipeline will provide direct access to pressurized irrigation and make it possible to eliminate pond pumping in many areas; increasing SHLCC shareholders' abilities to conserve water and improve energy efficiency.

**iii. Does the project integrated water and energy components?**

Yes. SHLCC's Genola Water and Energy Conservation Piping Project integrates water and energy components. The water component of the proposed project is evident in the conservation efforts relating to open-ditch canal conversion through pipe installation; the project energy component manifests itself in the elimination or conservation of energy resources currently used to generate pumping from an agricultural irrigation pond.

## 4. EVALUATION CRITERIA (continued)

### Evaluation Criterion F: Implementation and Results

#### Subcriterion No. F.1. – Project Planning

**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, where appropriate to verify there is a water conservation plan, SOR, and/or district or geographic area drought contingency plans 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, Basin Study, or other planning efforts done to determine the priority of this project in relation to other potential projects.**

SHLCC's Water Management Conservation Plan (WMCP), submitted to and approved by the Bureau of Reclamation in September 2009, supports the water conservation initiatives detailed in the Genola Water and Energy Conservation Piping Project.

SHLCC's WMCP proposes various goals to help better manage the company's water supplies. The first proposed goal is to address water loss problems by enclosing all SHLCC canals. The second proposed goal is to address environmental and safety concerns by having all open canals converted to a piping system.

The Genola Water and Energy Conservation Piping Project will enable SHLCC to move closer to accomplishing each of these WMCP goals by converting open, concrete-lined canal to pipeline.

A copy of SHLCC's WMCP is available for review, upon request.

The proposed project has a nexus with a Bureau of Reclamation basin study; the Genola Water and Energy Conservation Piping Project is directly connected to implementation adaptation strategies recently published in the Colorado River Basin Water Supply and Demand Study.

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

SHLCC contracted Franson Civil Engineers to design the Genola Water and Energy Conservation Piping Project. Franson has completed preliminary pipe sizing and alignment work specifically in support of the proposed project.

## 4. EVALUATION CRITERIA (continued)

### Evaluation Criterion F: Implementation and Results (continued)

- (3) Describe how the project conforms to and meets the goals of any applicable planning efforts, 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 for providing for the present and future water needs in the state of Utah. The Genola Water and Energy Conservation Piping Project conserves water and helps improve the efficiency in managing the finite and competitive water supply developed for southern Utah County. In this manner, the Genola Water and Energy Conservation Piping Project conforms to and meets the goals of the Utah State Water Plan.

#### **Subcriterion No. F.2. – Readiness to Proceed**

**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.**

#### **PROJECT IMPLEMENTATION PLAN**

Award Date: May 1, 2013

Final Engineering: August 1 – September 1, 2013

Order Material and Supplies: September 1 – 30, 2013

Project Installation:

Concrete Lining Removal: October 1 – November 1, 2013

Pipeline Installation: November 1, 2013 – March 1, 2014

Final Excavation and Clean-up: March 1 – April 30, 2014

Project Completion Date: April 30, 2014

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

SHLCC is not aware of any permits required for the Genola Water and Energy Conservation Piping Project.

## 4. EVALUATION CRITERIA (continued)

### Evaluation Criterion F: Implementation and Results (continued)

#### Subcriterion No. F.3. – Performance Measures

**Provide a brief summary describing the performance measure that will be used to quantify actual benefits upon completion of the project (e.g., water saved, marketed, or better managed, or energy saved).**

In preparation for this application and for the implementation of the Genola Water and Energy Conservation Piping Project, SHLCC reviewed historical seepage and evaporation records. These records provide the primary source for project performance measurement; indicating pre-project performance and allowing for post-project quantifiable measurements.

Prior to project implementation, historical data will be verified with an Inflow/Outflow test and upon project completion, another Inflow/Outflow test will be conducted to actualize project benefits.

SHLCC will also utilize in-house Water Order and Delivery Summary Reports, historical (pre-project) and future (post-project) to quantify and document the overall benefits of the Genola Water and Energy Conservation Piping Project.

Energy conservation performance measurements will be quantified through historical records (e.g., power bills, detailed kwh use statements, etc.) in comparison to post-project energy usage statements verified upon project completion and received after shareholders complete their connections to the pressurized pipeline, eliminating the need for irrigation pumps.



#### 4. EVALUATION CRITERIA (continued)

##### Evaluation Criterion G: Additional Non-Federal Funding

<u>Non-Federal Funding</u>	<u>\$514,000.00</u>
Total Project Cost	\$814,000.00

**Non-Federal Funding will cover 63% of the project cost**

##### Evaluation Criterion H: Connection to Reclamation Project Activities

**(1) How is the proposed project connected to Reclamation project activities?**

For over 90 years, SHLCC has been the contract operator for the High Line Unit of the Strawberry Valley Project, having received and delivered Strawberry Valley Project water since April 7, 1916. SHLCC has also received and delivered water from the Bonneville Unit of the Central Utah Project. SHLCC's proposed piping conservation project seeks funding to pipe the Genola canal, a Bureau of Reclamation owned facility.

**(2) Does the applicant receive Reclamation project water?**

Yes. SHLCC has received Reclamation water through the Strawberry Valley Project since 1916.

**(3) Is the project on Reclamation project lands or involving Reclamation facilities?**

Yes. SHLCC contracts with the Bureau of Reclamation to maintain and operate the High Line Unit of the Strawberry Valley Project.

**(4) Is the project in the same basin as a Reclamation project or activity?**

Yes. The Genola Water and Energy Conservation Piping Project is part of the High Line Unit of the Strawberry Valley Project, a Bureau of Reclamation project, and is, therefore, located 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?**

Yes. The water conserved by the Genola Water and Energy Conservation Piping Project will be contributed to a basin where a Reclamation project is located.

## **IV.D. PERFORMANCE MEASURE FOR QUANTIFYING POST-PROJECT BENEFITS**

SHLCC will quantify in AF the actual Genola Water and Energy Conservation Piping Project benefits of conserved, banked and better managed water. Upon completion of the proposed project, SHLCC will use the AF Performance Measurement to quantify the actual post-project benefits; identifying and documenting, in AF, pre and post project water measurements. AF water measurements in delivery, use and banked water comparison data will be included in the final report describing the completed project and quantifying the actual project benefits. Energy conservation benefits of the Genola Water and Energy Conservation Piping Project will be quantified through kwh Performance Measurements.

## **IV.D.1. ENVIRONMENTAL COMPLIANCE POTENTIAL ENVIRONMENTAL IMPACTS**

- (1) Will the project impact the surrounding environment (i.e., soil [dust], air, water [quality and quantity], animal habitat, etc.)? 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.**

The Genola Water and Energy Conservation Piping Project will have only minor, short-term environmental impacts associated with the pipe installation. All land surface disturbances will be confined to the canal area and small staging areas adjacent to the canal. To minimize the environmental impact in the project construction zone, construction will take place during the late fall and early spring; during this time of the year, SHLCC does not deliver water and the canal will be empty and dry, eliminating any possible environmental impacts that may be posed by diverted canal waters.

- (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?**

No. SHLCC is not aware of any endangered or threatened species, or Critical Habitat in the Genola Water and Energy Conservation Piping Project area.

- (3) Are there wetlands or other surface waters inside the project boundaries that potentially fall under Federal Clean Water Act jurisdiction as “waters of the United States?” If so, please describe and estimate any impacts the project may have.**

No. SHLCC is not aware of any wetlands in the Genola Water and Energy Conservation Piping Project boundaries that fall under Federal Clean Water Act jurisdiction as “waters of the United States.”

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

The Genola canal water delivery system was constructed in 1914 and 1915. Other than regular maintenance, no additional upgrades or construction has taken place on the Genola canal delivery system over the past 96 years; only trivial effects on the proposed Genola canal project area have occurred as a result of regular maintenance.

## **IV.D.1. ENVIRONMENTAL COMPLIANCE POTENTIAL ENVIRONMENTAL IMPACTS**

(continued)

- (5) Will the project result in any modification of or effects to, individual features of an irrigation system (e.g., head gates, 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.**

Yes. The Genola Water and Energy Conservation Piping Project will result in significant modifications to the existing Genola canal delivery system – eliminating the need for approximately 3.5 miles of open, concrete-lined, dilapidated, 96-year-old canal by utilizing a more direct route for water delivery. The project will convert approximately 1.25 miles of existing open ditch to pipe, and install .5 mile of pipe in an alternate location suitable for piping but not conducive to open ditch water delivery; for a total of 1.75 miles of HDPE pipe upon project completion. The project will also replace the current diversion structure with two flow meters equipped with automated valves.

Since its construction in 1914 and 1915 there have not been any major modifications to the proposed Genola canal project area. Throughout the years, only trivial effects on the proposed Genola canal delivery system have occurred as a result of regular maintenance.

- (6) Are any buildings, structures, or features in the irrigation district listed or eligible for listing on the National Register of Historic Places?**

No. None of the buildings, structures, or features in the irrigation district project area are known to be eligible for listing on the National Register of Historic Places.

- (7) Are there any known archeological sites in the proposed project area?**

No. To the best knowledge of SHLCC, there are no archeological sites in the proposed project area.

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

No. To the best knowledge of SHLCC, the Genola Water and Energy Conservation Piping Project will not have any effect on low income or minority populations.

## **IV.D.1. ENVIRONMENTAL COMPLIANCE POTENTIAL ENVIRONMENTAL IMPACTS**

(continued)

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

No. SHLCC is not aware of any sacred sites or tribal lands accessed for ceremonial use within the Genola Water and Energy Conservation Piping Project area boundaries.

**(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?**

No. To the best knowledge of SHLCC, the Genola Water and Energy Conservation Piping Project will not contribute to the introduction, continued existence, or spread of noxious weeds or non-native invasive species within the project area.

## **IV.D.2.REQUIRED PERMITS OR APPROVALS**

SHLCC is not aware of any permits required for the Genola Water and Energy Conservation Piping Project.

## **IV.D.3. OFFICIAL RESOLUTION**

SHLCC's Board of Directors passed an official resolution on January 4, 2012 to commit to the financial and legal obligations associated with the Genola Water and Energy Conservation Piping Project and to fund their cost-share through shareholder assessment revenues and reserve funds.

SHLCC's official resolution, Resolution No. 2012-001, is attached with this application. (i.e., "*SHLCC Official Resolution*")

## IV.D.4. PROJECT BUDGET

### (1) FUNDING PLAN AND LETTERS OF COMMITMENT

- (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).**

SHLCC will achieve their cost-share requirement with in-kind contributions and monetary funds obtained through shareholder assessments and reserve funds.

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

To date, SHLCC has not incurred any in-kind costs for the Genola Water and Energy Conservation Piping Project and therefore, will not seek to include in-kind costs incurred prior to the project's anticipated start date.

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

SHLCC will provide all non-Reclamation funding; there are no other cost-share partners providing funding for the proposed project. As there are no other non-Reclamation cost-sharing partners, other than the applicant, no commitment letters are included with this application.

- (4) Describe any funding requested or received from other Federal partners.**

No funding has been requested or received from other Federal partners.

- (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.**

SHLCC has not applied for other Genola Water and Energy Conservation Piping Project funding; there are no pending funding requests for the proposed project.

As the condition of the deteriorated concrete-lined canal poses a potential safety risk and high probability of water supply loss, mitigating these concerns is a top priority for SHLCC. If grant funding from the Bureau of Reclamation is not awarded, SHLCC will be forced to reevaluate other canal rehabilitation options and enact an alternative provisional project plan to mitigate potential water supply loss and reinforce canal safety within the financial means of the company.

SHLCC does not have the funds to implement the Genola Water and Energy Conservation Piping Project as proposed; without the Bureau of Reclamation grant award, the proposed Genola Water and Energy Conservation Piping Project will be postponed and alternate, transitory project plans enacted due to insufficient funds.

## IV.D.4. PROJECT BUDGET

### (1) FUNDING PLAN AND LETTERS OF COMMITMENT (continued)

Please include the following chart (table 1) to summarize your non-Federal and other Federal funding sources. Denote in-kind contributions with an asterisk (\*).

Funding Sources	Funding Amount
<b>Non-Federal Entities</b>	
1. Strawberry High Line Canal Company	\$514,000.00*
<b>Other Federal Entities</b>	NA
<b>Requested Reclamation Funding</b>	\$300,000.00
<b>TOTAL PROJECT FUNDING</b>	<b>\$814,000.00</b>

\* Approximately 60% of SHLCC's funding, or \$308,400.00, will be provided through in-kind contributions.

Other than SHLCC and the Bureau of Reclamation, there are no other funding partners. **SHLCC will fund 63%, or \$514,000.00 of the Genola Water and Energy Conservation Piping Project**, the remaining 37%, or \$300,000.00, will be funded through the Bureau of Reclamation WaterSMART: *Water and Energy Efficiency Grant*.

Total Federal funding does not exceed 50% of the total estimated project.



## IV.D.4. PROJECT BUDGET

### (2) BUDGET PROPOSAL - PROJECT BUDGET APPLICATION

#### GENERAL REQUIREMENTS

SHLCC's proposed Genola Water and Energy Conservation Piping Project requires funding in the amount of \$814,000.00. Project budget details are provided in the Budget Proposal and Budget Narrative.

#### BUDGET PROPOSAL

BUDGET ITEM DESCRIPTION	COMPUTATION		RECIPIENT FUNDING	RECLAMATION FUNDING	TOTAL COST
	\$/Unit and Unit	Quantity			
<b>SALARIES AND WAGES</b> (Table A-1)					
Laborer	\$23.25	896 hours	\$20,832.00	\$0.00	\$20,832.00
Equipment Operators	\$28.75	224 hours	\$6,440.00	\$0.00	\$6,440.00
<b>FRINGE BENEFITS</b> (Table A-1)					
Laborer	\$4.20	896 hours	\$3,763.20	\$0.00	\$3,763.20
Equipment Operators	\$4.20	224 hours	\$940.80	\$0.00	\$940.80
<b>TRAVEL</b>	NA	NA	NA	NA	NA
<b>OVERHEAD</b> (Table A-1)					
Laborer	\$5.90	896 hours	\$5,286.40	\$0.00	\$5,286.40
Equipment Operators	\$5.90	224 hours	\$1,321.60	\$0.00	\$1,321.60
<b>EQUIPMENT</b> (Table A-3)					
Mobilization	\$5,500.00	1	\$5,500.00	\$0.00	\$5,500.00
Track Hoe	\$190.00	304 hours	\$57,760.00	\$0.00	\$57,760.00
Back Hoe	\$140.00	224 hours	\$31,360.00	\$0.00	\$31,360.00
Fusing Machine	\$50.00	224 hours	\$11,200.00	\$0.00	\$11,200.00
<b>SUPPLIES/MATERIALS</b>					
Materials (Table A-4)	\$587,196.00	1	\$287,196.00	\$300,000.00	\$587,196.00
<b>CONTRACTUAL/CONSTRUCTION</b>					
Engineering – Design and Construction Review (Table A-2)	\$66,400.00	1	\$66,400.00	\$0.00	\$66,400.00
<b>ENVIRONMENTAL AND REGULATORY COMPLIANCE</b>	\$16,000.00	1 (approximately 2% of total project costs)	\$16,000.00	\$0.00	\$16,000.00
<b>TOTAL PROJECT COSTS</b>			<b>\$514,000.00</b>	<b>\$300,000.00</b>	<b>\$814,000.00</b>

## IV.D.4. PROJECT BUDGET

### (3) BUDGET NARRATIVE

#### **Salaries and Wages**

Approximately **3%** of the total project costs are employee wages.  
See labor break-out details in relation to Salary & Wages in the Appendix,  
**Table A-1, Genola Water and Energy Conservation Piping Project – Labor.**

#### **Fringe Benefits**

Approximately **1%** of the total project costs are employee benefits.  
See labor break-out details in relation to Fringe Benefits in the Appendix,  
**Table A-1, Genola Water and Energy Conservation Piping Project – Labor.**

#### **Travel**

Not Applicable

#### **Overhead**

Approximately **1%** of the total project costs are employee benefits.  
See labor break-out details in relation to Overhead in the Appendix,  
**Table A-1, Genola Water and Energy Conservation Piping Project – Labor.**

#### **Equipment**

Approximately **13%** of the total project cost is related to equipment.  
See Equipment details in the Appendix,  
**Table A-3, Genola Water and Energy Conservation Piping Project – Equipment.**

#### **Materials and Supplies**

Approximately **72%** of the total project cost is related to materials.  
See materials detail in the Appendix,  
**Table A-4, Genola Water and Energy Conservation Piping Project – Materials.**

#### **Contractual**

The **Manpower and Cost Estimate Table (Table A-2)**, included in the Appendix of this application, explains the hours and cost breakdown for Franson Civil Engineers costs - totaling \$66,400.00 or **8%** of the total project cost.

Franson Civil Engineers has an agreement with SHLCC to design and provide construction review for the Genola Water and Energy Conservation Piping Project. Franson Civil Engineers will also compile the final report upon completion of the project.

The Manpower and Cost Estimate Table provides a task description for the Franson responsibilities to be completed for the project.

## IV.D.4. PROJECT BUDGET

### (3) BUDGET NARRATIVE

(continued)

#### **Environmental and Regulatory Compliance Costs**

In the Budget Proposal, a cost of \$16,000.00, or approximately 2% of the total project cost, is identified for Environmental and Regulatory Compliance expenditures.

#### **Reporting**

Reporting costs are included in the Contractual line item of the proposed project budget.

#### **Other**

Not Applicable.

#### **Indirect Costs**

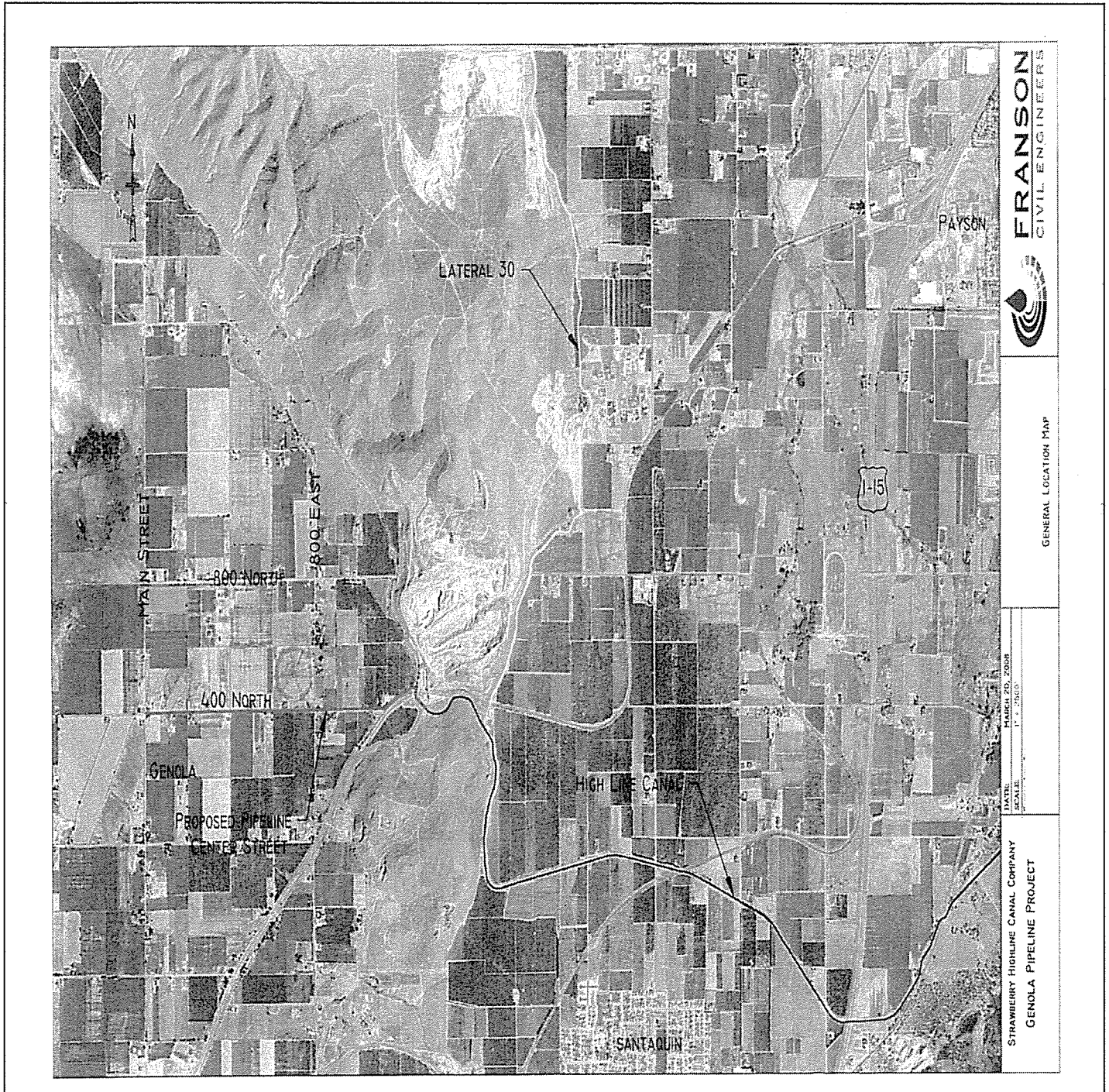
Not Applicable.

#### **Total Cost**

The total cost for the Genola Water and Energy Conservation Piping Project will be **\$814,000.00** with a **Federal cost share of \$300,000.00 or 37%** of the total project cost. **SHLCC will fund the remaining \$514,000.00, or 63%** of the proposed project outlay.

# APPENDIX

# Genola Pipeline Project Map



**FRANSON**  
CIVIL ENGINEERS



GENERAL LOCATION MAP

TABLE A-1				
Genola Water and Energy Conservation Piping Project - LABOR				
Description	Quantity	Unit	Unit Price	Amount
1 Laborer	896	Wage - hourly	\$ 23.25	\$ 20,832.00
	896	Benefits - hourly	\$ 4.20	\$ 3,763.20
	896	Overhead - hourly	\$ 5.90	\$ 5,286.40
2 Equipment Operator	224	Wage - hourly	\$ 28.75	\$ 6,440.00
	224	Benefits - hourly	\$ 4.20	\$ 940.80
	224	Overhead - hourly	\$ 5.90	\$ 1,321.60
<b>LABOR TOTAL COST</b>				<b>\$38,584.00</b>

Table A-2

MANPOWER AND COST ESTIMATE

**Client:** Strawberry High Line Canal Company  
**Project:** Genola Pipeline

**Personnel Assigned**

- |                          |                            |                      |
|--------------------------|----------------------------|----------------------|
| 1. Principal             | 7. Senior Designer         | 13. CAD Operator     |
| 2. Senior Manager        | 8. Engineering Assistant   | 14. Technician       |
| 3. Senior Engineer       | 9. Reports - Writer/Editor | 15. Office Assistant |
| 4. Staff Engineer        | 10. Designer               | 16. Clerk            |
| 5. Senior Field Engineer | 11. Field Engineer         |                      |
| 6. Engineer I            | 12. Engineering Intern     |                      |

**Description:** Franson Civil Engineers manpower estimate for engineering services related to this project.

Task Description	Hours By Personnel Category											Total Hours	Total Labor Charges	Other Direct Costs	Total Fee
	1	2	3	4	6	7	9	12	13	15					
	JF	PW	BN	VH	CB	LF	CM	AN	MG	VLH					
Genola Pipeline															
Project Administration	2	5			40		12	25		10	94	\$7,461	\$20	\$7,481	
Pre-design & Coordination	10	8	6	4	30	10	4	20	20	8	120	\$10,244	\$140	\$10,384	
Design & Drawings	2	10	12	30	80	40	5	50	80	4	313	\$25,174	\$25	\$25,199	
Bidding	1	3		2	15		8	10	5	6	50	\$3,917	\$15	\$3,932	
Construction Review	1	2	5		40	10	5	60	20	8	151	\$11,482	\$180	\$11,662	
Coordination w/ Reclamation	1	1			12		4	5	4	2	29	\$2,307	\$5	\$2,312	
Final Report	1	3			15		8	25	16	4	72	\$5,414	\$15	\$5,429	
<b>Project Totals</b>	<b>18</b>	<b>32</b>	<b>23</b>	<b>36</b>	<b>232</b>	<b>60</b>	<b>46</b>	<b>195</b>	<b>145</b>	<b>42</b>	<b>829</b>	<b>\$65,999</b>	<b>\$400</b>	<b>\$66,400</b>	
<b>Employee Hourly Rates (\$)</b>	<b>\$142</b>	<b>\$121</b>	<b>\$108</b>	<b>\$94</b>	<b>\$85</b>	<b>\$83</b>	<b>\$78</b>	<b>\$70</b>	<b>\$67</b>	<b>\$51</b>					
<b>Total Cost Per Employee (\$)</b>	<b>\$2,556</b>	<b>\$3,872</b>	<b>\$2,484</b>	<b>\$3,384</b>	<b>\$19,720</b>	<b>\$4,980</b>	<b>\$3,496</b>	<b>\$13,650</b>	<b>\$9,715</b>	<b>\$2,142</b>		<b>\$65,999</b>			

TABLE A-3					
Genola Water and Energy Conservation Piping Project - EQUIPMENT					
Description	Quantity	Unit	Unit Price	Amount	
1) Mobilization	1	LS	\$ 5,500.00	\$ 5,500.00	
2) Concrete Lining Removal & Excavation					
Track Hoe	80	Hours	\$ 190.00	\$ 15,200.00	
3) Pipeline Installation					
Track Hoe	224	Hours	\$ 190.00	\$ 42,560.00	
Back Hoe	224	Hours	\$ 140.00	\$ 31,360.00	
Fusing Machine	224	Hours	\$ 50.00	\$ 11,200.00	
<b>CONSTRUCTION EQUIPMENT TOTAL COST</b>				<b>\$ 105,820.00</b>	

TABLE A-4					
Genola Water and Energy Conservation Piping Project - MATERIALS					
Description	Quantity	Unit	Unit Price	Amount	
1) Pipeline					
48" DR 32.5 HDPE PIPE	800	LF	\$ 119.00	\$ 95,200.00	
36" DR 32.5 HDPE PIPE	3240	LF	\$ 68.00	\$ 220,320.00	
22" DR 21 HDPE PIPE	2640	LF	\$ 39.00	\$ 102,960.00	
18" DR 17 HDPE PIPE	2640	LF	\$ 32.00	\$ 84,480.00	
2) Other Materials					
Fittings & Appurtenances	1	LS	\$ 63,886.00	\$ 63,886.00	
Flow Meter	2	EA	\$ 8,800.00	\$ 17,600.00	
Concrete Headwalls	5	CY	\$ 550.00	\$ 2,750.00	
<b>CONSTRUCTION MATERIALS TOTAL COST</b>				<b>\$ 587,196.00</b>	

# PE3608/PE3408 PIPE COMPOUND



## Typical Physical Properties for WL Plastics PE3608/PE3408 Pipe Compound

- WL Plastics HDPE PE3608/PE3408 pipe is manufactured from pressure rated polyethylene compound that meets or exceeds ASTM D 3350 Cell Classification 345464C and meets or exceeds material designation codes PE3608 and PE3408.
- WL Plastics HDPE PE3608/PE3408 polyethylene pipe materials are listed by PPI in TR-4 with HDB ratings of 1600 psi at 73°F and 800 psi at 140°F, and HDS ratings for water of 800 psi at 73°F and 400 psi at 140°F.
- For potable water service, WL Plastics HDPE PE3608/PE3408 black polyethylene compounds are certified by the National Sanitation Foundation in accordance with NSF-61.

Physical Property	Test Method	Typical Value <sup>1</sup>
Cell Classification (black compound)	ASTM D3350	346464C
Melt Index (190/2.16)	ASTM. D1238	0.1 g/10 min
High Load Melt Index <sup>2</sup> (190/21.6)	ASTM. D1238	6 – 18 g/10 min
Density with 2% minimum carbon black	ASTM. D792	0.955 g/cm <sup>3</sup>
Tensile strength at yield (2 in/min)	ASTM. D638	>3000 psi
Tensile elongation (2 in/min)	ASTM. D638	>700%
Flexural modulus	ASTM. D790	110,000 < 160,000 psi
SCG Resistance, PENT (80°C, 2.4 MPa)	ASTM. F1473	> 100 h
Thermal stability	ASTM. D3350	>428°F (>220°C)
Brittleness temperature	ASTM. D746	<-103°F (<-75°C)
Thermal expansion coefficient	ASTM. D696	9 x 10 <sup>-5</sup> in/in/°F
HDB <sup>3</sup> at 140°F (60°C)	D2837/PPI TR-3	800 psi
HDS <sup>3</sup> at 73°F (23°C)	D2837/PPI TR-3	800 psi
HDS at 140°F (60°C)	D2837/PPI TR-3	400 psi

Contact WL Plastics Customer Service for availability. 1. Typical values determined from laboratory tests of resin plaques and specimens prepared in accordance with industry standard test methods. Values determined on samples taken from pipe may vary. The typical values presented herein are for PE3608/PE3408 polyethylene pipe compounds (resin) but do not constitute engineering properties for pipe. 2. Overall range of HLMI values for all compounds from all WL Plastics compound suppliers; HLMI variation for an individual compound will be well within the overall range. 3. Listed HDB and HDS ratings are published by the Plastics Pipe Institute in PPI TR-4 by the compound manufacturer (independent listing) and WL Plastics (dependent listing) in accordance with ASTM D 2837 and PPI TR-3. Compound supplier codes for WL Plastics PE3608/PE3408 PPI dependent listings are D (Dow), E (Lyondell Basell), N (Nova), S (Ineos) and T (Total).

This publication is intended for use as a piping system guide. It should not be used in place of a professional engineer's judgment or advice and it is not intended as installation instructions. The information in this publication does not constitute a guarantee or warranty for piping installations and cannot be guaranteed because the conditions of use are beyond our control. The user of this information assumes all risk associated with its use. WL Plastics Corporation has made every reasonable effort to ensure accuracy, but the information in this publication may not be complete, especially for special or unusual applications. Changes to this publication may occur from time to time without notice. Contact WL Plastics Corporation to determine if you have the most current edition. Publication duplication permitted.



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 CROSSFIELD PLANT: PO Box 860 • 1030 Western Drive • Crossfield, AB T0M 0S0 Canada • Customer Service 403-946-0202 • Fax: 403-946-0252



# PE4710 PIPE COMPOUND



## Typical Physical Properties for WL Plastics PE4710 Pipe Compound

- WL Plastics PE4710 pipe is manufactured from pressure rated PE4710 polyethylene compounds that meet or exceed ASTM D 3350 Cell Classification 445574C and that meet or exceed ASTM D3350 Cell Classification 345464C and material code designations PE3608 and PE3408
- WL Plastics PE4710 polyethylene pipe compounds are Listed by PPI in TR-4 and are stress rated for pressure pipe at 1000 psi (6.9 MPa) HDS for water at 73°F (23°C) and 1000 psi (6.9 MPa) HDB at 140°F (60°C)
- WL Plastics PE4710 exceeds minimum PPI SCG resistance requirements (>500 hours) with over 2,500 hours per ASTM F 1473 (PENT). WL Plastics PE4710 ductility is validated with greater than 438,300 hours (50 years) at 73°F (23°C) before brittle stress-rupture
- For potable water service, WL Plastics PE4710 black polyethylene compounds are certified to NSF-61 by the National Sanitation Foundation

Physical Property	Test Method	Typical Value <sup>1</sup>
Cell classification (black compound)	ASTM D3350	445574C
Melt Index (190/2.16)	ASTM D1238	0.1 g/10 min
High Load Melt Index <sup>2</sup> (190/21.6)	ASTM D1238	6 – 18 g/10 min
Density with 2% minimum carbon black	ASTM D792	0.960 g/cm <sup>3</sup>
Tensile strength at yield (2 in/min)	ASTM D638	3500 < 4000 psi
Tensile elongation (2 in/min)	ASTM D638	>700%
Flexural modulus	ASTM D790	110,000 < 160,000 psi
SCG Resistance, PENT (80°C, 2.4 MPa)	ASTM F1473	> 2500 h
Thermal stability	ASTM D3350	>428°F (> 220°C)
Brittleness temperature	ASTM D746	<-103°F (<-75°C)
Thermal expansion coefficient	ASTM D696	9 x 10 <sup>-5</sup> in/in/°F
HDB <sup>3</sup> at 140°F (60°C)	D2837/PPI TR-3	1000 psi (6.9 MPa)
HDS <sup>3</sup> for water at 73°F (23°C)	D2837/PPI TR-3	1000 psi (6.9 MPa)
HDS for water at 140°F (60°C)	D2837/PPI TR-3	630 psi (4.3 MPa)
RCP Resistance, Critical Pressure at 32°F (0°C)	ISO 13477	>174 psi (>1.2 MPa)
RCP Resistance, Critical Temperature at 72.5 psi (0.5 MPa)	ISO 13477	<2°F (<-17°C)

Contact WL Plastics Customer Service for availability. 1. Typical values determined from laboratory tests of samples of compounds (resins) prepared as plaque specimens in accordance with industry standard test methods. Values determined on samples prepared from pipe may vary. The typical values presented herein are for PE4710 polyethylene pipe compounds (resins) but do not constitute engineering properties for pipe. 2. Overall range of HLMI values for all compounds from all WL Plastics compound suppliers; HLMI variation for an individual compound will be well within the overall range. 3. Listed HDB and HDS ratings are published by the Plastics Pipe Institute in PPI TR-4 by the compound manufacturer (independent listing) and WL Plastics (dependent listing) in accordance with ASTM D 2837 and PPI TR-3. Compound supplier codes for WL Plastics PE4710 PPI dependent listings are D (Dow), E (Lyondell Basell) and T (Total).

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American Water Works Association  
Dedicated to Safe Drinking Water



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# 4thnorthparcels

SERIAL	OWNER	ACREAGE
290290022	800 NORTH SPRINKLER GROUP	2.75
290290056	ALAN R RILEY PROPERTIES LLC	57.79182
290290056	ALAN R RILEY PROPERTIES LLC	57.79182
290290056	ALAN R RILEY PROPERTIES LLC	57.79182
290290047	ALLRED, IVY MARIE	1.05
290290007	ALLRED, IVY MARIE	1.56
290300101	ANDERSON, ALDON & CAROLYN K	8.518132
290300100	ANDERSON, ALDON & CAROLYN K	2.500788
290310014	ANDERSON, O ROBERT & NIKKI B	5
483160008	ARCHULETA, ALFRED J	2.847
290310011	BALY MANAGEMENT LLC	20
290310012	BALY MANAGEMENT LLC	25.55
353950001	BARNEY, B JOE & SHERRY L	21.683
290290030	BASIC MANUFACTURIN G AND TECHNOLOGIES	0.01
290300014	BATEMAN LAND & LIVESTOCK LLC	20
533570004	BERTSCHI, JAMES & ANNE	2.5
290300030	BIRD, NORMAN F & SHEILA A	1
290290039	BRODERICK, PAUL S & LOUISE P	0.28
290290008	BRODERICK, PAUL STEVEN & LOUISE P	0.52
290310008	BROWN, WILLIAM GARRY & PATRICIA ANN	2.8
290300016	BROWN, WILLIAM	10.85

SERIAL	OWNER	ACREAGE
	GARRY & PATRICIA ANN	
290310002	BROWN, WILLIAM	15
	GARRY & PATRICIA ANN	
290310032	BROWN, WILLIAM	79.00484
	GARRY & PATRICIA ANN	
290310027	BROWN, WILLIAM NEIL	1
290300024	BURGESS, BRENDA & LYNN R	1
483160006	BURNINGHAM, E SCOTT & JOANIE LASSEN	2.847
290290014	CARROLL, ROY & ANNE K	1.09
290290050	CARROLL, ROY & ANNE K	7.5
290290013	CARROLL, ROY & ANNE K	1.22
290300013	CARTER, AARON T & BRITTANY A	1.15
650120008	CARTER, ALAN M & JANET N	3.407164
290290076	CHAPMAN, LANCE & BECKY J	2.540194
290300077	CITY OF GENOLA THE	0.378498
290300022	CLARK, JOHN D & KARAN (ET AL)	59
290300008	CLINGER FAMILY PTSHP	3.01
290300051	CLINGER, MARTIN & EMILY	5.025237
290300023	CLINGER, MARTIN H & EMILY W	15
290300011	CLINGER, MARTIN H & EMILY W	20
290300031	CORLETT, GREGORY JAMES & VALERIE DRA	5.35
290310019	CORP OF PRES BISHOP CHURCH OF JESUS	4.000736
467130001	COWAN, JARED J & MECHELLE	2.538
290300099	COWAN, JARED JOHN & MECHELLE	7.907855
383210004	CRUMP, LA VERN E	2.669
383210013	CRUMP, RONNIE J	2.5

SERIAL	OWNER	ACREAGE
	& LA VERN E	
383210007	CRUMP, RONNIE J & LA VERN E	2.503
290290004	DAVIS, ALAN J & LESLIE J	0.54
290290011	DRAGE, JAMES DON & STARLA RAE	1.68
371610002	DRAPER, COLBY & NICOLE (ET AL)	2.691
290300015	DRAPER, LAYNE Y & TAMARA J	6.75
371610500	DRAPER, LEE MORLEY & DEBORAH A (ET A	0.627
371610001	DRAPER, LEE MORLEY & DEBORAH A (ET A	2.504
371610003	DRAPER, SHANE GLADE & SHAWNEE ANNETT	2.943
290300045	DUFFIN, WALLACE E & VERA C	11.96
383210014	EWELL, CALVIN E & COLLEEN L	2.493
383210005	EWELL, CALVIN E & COLLEEN L	2.672
383210006	EWELL, CALVIN E & COLLEEN L	2.504
290300079	EWELL, ELWIN R & CHERI R	4.801957
383210002	EWELL, LOUISE M & KENDELL T	2.664
383210008	EWELL, LOUISE M & KENDELL T	2.502
383210003	EWELL, LOUISE M & KENDELL T	2.667
383210009	EWELL, NEAL MILO & SHERIE B	2.501
290290053	EWELL, TRAVIS & CHERI	5.250032
290310025	FLEMING, ELDON L & ARLA JEAN	10
403650003	GENOLA CITY	0.304
453690003	GENOLA TOWNSITE	0.29
353950003	GENOLA TOWNSITE	0.812
483160009	GENOLA TOWNSITE	2.943
453690001	GHEEN, MARK LLOYD & RENAE	2.501
290300028	GRAY, DAVID	7.73

SERIAL	OWNER	ACREAGE
	JOHN & DARLENE L	
290290052	GUERRA, ENRIQUE O & WENDY	0.938114
290290055	HALLIDAY, MARC L & BECKY J	5.250056
290300042	HATCH, BLAIN E (SIC) & VICKIE F	10.35
290300043	HILL, DENNIS L & LA RITA T	10.85
662410005	JACKSON, DANIEL	0.179
662410004	JACKSON, DANIEL	0.537
662410003	JACKSON, DANIEL B & SHARON	1.785
483160007	JEWETT, SCOTT & SHELLEY	2.847
290290058	JL'S GENOLA FARMS LLC	2.892762
290300059	JLS GENOLA FARMS LLC	33.408682
290300040	JLS GENOLA FARMS LLC	28.69
533570002	JOHNSON, MARJORIE ELLEN LARSON	2.5
290310062	JOHNSON, MARJORIE ELLEN LARSON	20.929638
290290063	JOHNSON, SPENCER F & RHONDA E	2.642448
290300041	JOLLEY, PATRICK R	5.44
290290066	JUDD, D STODDARD	0.116811
290290065	JUDD, D STODDARD	0.123181
290290069	JUDD, D STODDARD	1.907706
662410001	JUDD, D STODDARD & VALENE A	2.632
290290074	JUDD, D STODDARD & VALENE A	0.231672
662100001	JUDD, GREGORY A & MARCI C	4.375
290300058	JUDD, STANFORD A & GALE B	5.406087
290300098	KESTER, EVERETT J & SHIRLEY L	7.814233

SERIAL	OWNER	ACREAGE
290300097	KESTER, EVERETT JUNIOR & SHIRLEY LA	2.56873
290310063	KOFFORD, LINDA ANN LARSON	21.265204
533570001	KOFFORD, LINDA ANN LARSON	2.5
290300026	LA FAY, BRANDON B	0.5
383210012	LEE, FRED ALBERT & CORINNE E	2.5
483160002	LUNDELL, CAREY M	2.5
483160003	LUNDELL, DANIEL C & TARA	2.5
290300075	LUNDELL, DANIEL C & TARA	2.749988
290300076	LUNDELL, JAKE & DANIEL (ET AL)	5.936065
483160004	LUNDELL, JAKE D & TINA N	4.299
290300074	LUNDELL, JAKE D & TINA N	4.619004
483160001	LUNDELL, JED & LINDI	3
290290075	LYMAN, ROSS & AMY	1.941289
290290003	LYMAN, ROSS M & AMY R	4
290300029	MACNAUGHTON, J MARK & CLAUDIA	6.75
290300089	MC CLELLAN FAMILY LC	29.205203
290290024	MCMULLIN ORCHARD INC	29
290290024	MCMULLIN ORCHARD INC	29
290290026	MCMULLIN ORCHARDS INC	7.45
290290025	MCMULLIN ORCHARDS INC	2.33
290290072	MCMULLIN ORCHARDS INC	42.546246
290290018	MCMULLIN ORCHARDS INC	4.53
290290020	MCMULLIN ORCHARDS INC	32.5
290290021	MCMULLIN ORCHARDS INC	2.8
290290027	MCMULLIN ORCHARDS INC	4.67
290290064	MECHAM, DONALD BLAKE	2.642851

SERIAL	OWNER	ACREAGE
290300088	MECHAM, DONALD J & VIOLA JUNE	5.317057
290290038	MECHAM, DONALD J & VIOLA JUNE (ET AL	0.7
290290042	MOUNTAIN WEST CORNER LLC	11.7
290290040	MOUNTAIN WEST CORNER LLC	4.47
290290041	MOUNTAIN WEST CORNER LLC (ET AL)	0.27
290300071	NELSON, MAX E & MELBA J	8.83546
290300067	NELSON, STUART B & KATHRYN O	5.738384
290310042	PENROD, CLOWARD S & LAVERNE	0.172787
290310043	PENROD, CLOWARD S & LAVERNE	0.132483
290310035	PENROD, CLOWARD S & LAVERNE	3.681798
290310041	PENROD, CLOWARD S & LAVERNE	44.496037
290310026	PENROD, RONALD C	5.250632
290310022	PENROD, WAYNE C	5.27553
290300062	PENROD, WAYNE C & DIANA (ET AL)	17.79161
290310024	PENROD, WILLIAM C	5.259023
290300061	PIERCE, ANNETTE	34.636894
650120007	PYNE, TRAVIS CORY & MANDY CARTER	2.50453
290290012	REILLY, THOMAS G & MICHELE D	1.15
290290029	RILEY, ALAN R & CHRISTINE E	7.64
353950002	ROSE, JUSTIN D & MINDILYNN B	2.5
290310054	SANDERSON, JENNIE E & RICHARD J	5.250275
290290061	SCHRAMM, ORVAL R & VIVIAN R	0.075757
483160005	SEXTON,	2.847

SERIAL	OWNER	ACREAGE
	TIMOTHY & KRISTA	
290300091	SMITH, GREGORY R (ET AL)	2.699858
290300092	SPENCER, DEREK & HOLLY	0.656358
290300073	SPENCER, DEREK & HOLLY	3.15092
650120004	STAHELI, KELLY R & AMY D	2.517
290310017	SWENSEN, HAROLD EARL & JO ANN	40
650120001	TAYLOR, ERIC & JENNA	2.5
533570003	THOMAS, BONNIE L	2.5
290310064	THOMAS, BONNIE L	40.291169
290310064	THOMAS, BONNIE L	40.291169
533910002	THOMAS, CURTIS GERALD & JANEAN OLSEN	1.024
533910001	THOMAS, CURTIS GERALD & JANEAN OLSEN	2.5
290310036	THOMAS, DIANA L & DALLEN	6.545455
290310037	THOMAS, DOUGLAS G & LUCILLE T	5
290310058	THOMAS, DOUGLAS G & LUCILLE T	13.226367
290310058	THOMAS, DOUGLAS G & LUCILLE T	13.226367
290310046	THOMAS, MARGARET IDA (ET AL)	3.353138
290310053	THOMAS, WARREN DEE & BEVERLY	0.597877
290290049	THOMPSON, ANNETTE D	1
290300084	THROCKMORTAN, DANNY A & MAX S	34.056737
290300060	TOWN OF GENOLA	1.229285
533910003	TOWN OF GENOLA	0.585
533570005	TOWN OF GENOLA	0.537
467130002	TOWN OF GENOLA	0.404



SERIAL	OWNER	ACREAGE
290310060	TOWN OF GENOLA	1.737955
453690002	TURLEY, MICHAEL V & XIAOYU L	2.501
290310018	UNITED STATES OF AMERICA	80
290320002	UNITED STATES OF AMERICA	280.29
290320003	UNITED STATES OF AMERICA	160
290290051	UTAH COUNTY	12.5
290290002	UTAH COUNTY	0.01
290290051	UTAH COUNTY	12.5
650120002	WATSON, THOMAS W & SHERRI J	2.5
290300048	WHITE, RONALD M & NAOMI N	10.85
290300018	WRIGHT, TROY A	5
290310007	Y & H GENOLA PROPERTIES LLC	15
290310055	Y & H GENOLA PROPERTIES LLC	9.913962
290300090	Y & H PROPERTIES	39.999951
650120003	ZOBELL, SHARON A	2.5



**McMULLIN ORCHARDS INC.**

*Growers and Shippers of Quality Fruit*



January 17, 2012

Strawberry High Line Canal Company  
54 West 100 North  
Payson, UT 84651

Re: WaterSMART Grant Application for the Genola Piping Project

Dear Jennifer:

We are shareholders in the Strawberry High Line Canal Company. We have fruit orchards in the Town of Genola and we take water for those orchards from the High Line canal delivery system there. We are aware of the High Line's application to the Bureau of Reclamation for grant funding to upgrade and improve the canal system in Genola by installing a pressurized pipeline.

We believe that it is in the best interest for everyone to upgrade the delivery system to help conserve irrigation water and improve energy efficiency. The proposed pipeline would make it possible for us to connect directly to the High Line's pipeline, preventing water loss that occurs through evaporation and seepage and eliminating the need to pump water for irrigation from an existing pond. Eliminating the need to pump would conserve energy, approximately 41,250 kwh annually, and provide substantial cost-saving benefits to our orchard equating to nearly \$4,800.00 of savings each year.

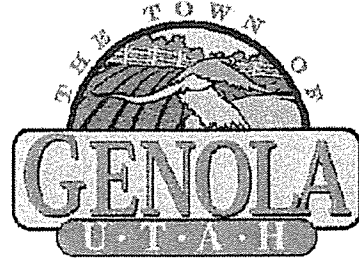
In addition to the water conservation and improved energy efficiency benefits of the Genola Piping Project, we also believe that piping the canal will help decrease many of the liability issues associated with an open irrigation ditch.

We support High Line's initiative to pipe the Genola ditch and recommend Strawberry High Line Canal Company as a front-running applicant for the WaterSMART grant award. If there is a need for further information regarding our endorsement of this effort, please do not hesitate to contact us.

Very truly yours,

William McMullin  
McMullin Orchards, Inc.

January 11, 2012



US Department of the Interior  
Policy and Administration  
Bureau of Reclamation  
Denver, Colorado

To whom it may concern:

The Town of Genola, by way of this letter, expresses full support of Strawberry High Line Canal Company and its proposed piping project for the Genola canal service area.

The town council and residents recognize the many benefits of a pressurized pipeline and look forward to the High Line providing additional options for secondary irrigation to agricultural acreage and residential lots in the Town of Genola and the surrounding area.

We recognize Strawberry High Line Canal Company as a key player in the south Utah County water district and anticipate the opportunity to work closely with the High Line to improve water management, increase water conservation efforts, and help to secure our natural resources for future growth & development.

Please accept this letter of support for Strawberry High Line's Genola Water Conservation Piping Project. We appreciate your careful consideration of the High Line's grant application and look forward to hearing good news in relation to the grant award.

Sincerely,

Dan Throckmorton  
Mayor, Town of Genola

*Martin & Emily Clinger*  
319 E 400 N  
Genola, UT 84655

January 5, 2012

Jennifer Nelson  
SHLCC  
54 W 100 N  
Payson, UT 84651

Dear Ms. Nelson:

Thank you for contacting me regarding the Genola Water Conservation Piping Project. I was thrilled to hear that there are plans to provide additional pressurized irrigation connections in the Genola area.

As SHLCC Shareholders, my wife and I hold 84 shares of water in the High Line canal. We use those shares to irrigate only 20 of the 40 acres we own in the Town of Genola. Unfortunately, the other 20 acres can only be flood irrigated as the current Genola canal delivery system does not make it possible to sprinkle irrigate in that area.

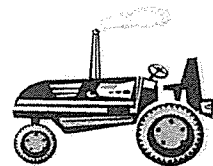
We were so happy to hear about the proposed piping project for Genola as it would provide water delivery through pressurized irrigation to all of our 40 acres!

We are more than happy to express our support of SHLCC's application for a grant to pipe the Genola canal. Please let us know when the decision is made and when the project will be underway.

Thanks again,



Martin Clinger



*Clinger Family Farm*

Wayne Penrod  
377 N Main Street  
Genola, UT 84655

January 17, 2012

United States Bureau of Reclamation

Re: Strawberry High Line Canal Company  
Genola Water Conservation Piping Project Grant Application

To Whom It May Concern:

As a Shareholder in the Strawberry High Line Canal Company who takes water delivery from the Genola canal, I am writing this letter in support of the High Line's grant application to complete the piping of the open canal ditches in Genola.

Piping of the Genola canal will eliminate excessive water loss due to open ditch delivery and make it possible for me to have the option of switching from flood irrigation and installing a pressurized sprinkling system for my property.

I would like to express my support and recommendation for the Strawberry High Line Canal Company grant application.

Sincerely,

A handwritten signature in cursive script that reads "Wayne Penrod". The signature is written in black ink and is positioned below the word "Sincerely,".

Wayne Penrod

**RESOLUTION NO. 2012 - 001**

**APPLICANTS NAME: STRAWBERRY HIGH LINE CANAL COMPANY**

**WHEREAS**, the United States Department of the Interior, Bureau of Reclamation has established the WaterSMART Water and Energy Efficiency Grant program for the accomplishment of water conservation and energy efficiency activities, and

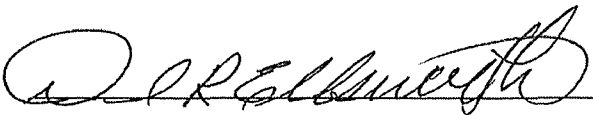
**WHEREAS**, the United States Department of the Interior, Bureau of Reclamation has requested proposals from eligible entities to be included in the WaterSMART Water and Energy Efficiency Grant program, and

**WHEREAS**, the Strawberry High Line Canal Company has need for funding for the Genola Water Conservation Piping Project which will increase water conservation, and improve water management,

**NOW THEREFORE, BE IT RESOLVED** that the Board of Directors of the Strawberry High Line Canal Company agrees and authorizes that we:

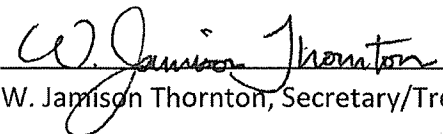
1. Have reviewed and support the proposal submitted;
2. Are capable of providing the amount of funding and/or in-kind contributions, specified in the funding plan; and
3. Will, if selected for the WaterSMART Water and Energy Efficiency Grant program award, work with the Bureau of Reclamation to meet established deadlines for entering into a cooperative agreement.

Resolution adopted on January 4, 2012 by the Board of Directors of Strawberry High Line Canal Company.



Dan Ellsworth, President

ATTEST:

  
W. Jamison Thornton, Secretary/Treasurer