
Water Management Improvement Design

*Design of Canal Lining and
Canal to Pipeline Projects*

Reclamation Water Conservation Field Services Program Grant Proposal

Funding Opportunity Announcement No. BOR-PN-18-F010

Prepared by

SELAH-MOXEE IRRIGATION DISTRICT

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December 13, 2018

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- A Budget Proposal
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Technical Proposal

1.1 Executive Summary

Date: December 13, 2018
Applicant: Selah-Moxee Irrigation District
City/County/State: Moxee, Yakima County, Washington

This application is for funding by the U.S. Bureau of Reclamation's (Reclamation) Water Conservation Field Services Program for FY 2018 Funding Opportunity Announcement (FOA) No. BOR-PN-18-F010. This application from the Selah-Moxee Irrigation District (District) is seeking \$25,000 in federal funding under the funding category **Water Management Improvement Design**. The funding will be used to design two projects: 1) Lining for the Selah-Moxee Canal in East Selah and 2) Conversion of the Selah-Moxee Canal to Pipeline in Terrace Heights to increase water conservation and water-use efficiency by reducing seepage and evaporation losses. The proposed project is an investment in existing infrastructure to increase water supply reliability in the Yakima River Basin. When complete, the project will result in an annual water savings of an estimated 137 acre-feet (AF) as well as improved overall water management. The requested funds will provide the resources needed to assist the District with *surveying* and *design* for the Canal Lining and Canal to Pipeline Projects (Projects). Surveying will commence before the 2019 irrigation season begins and design will begin in the spring 2019 with completion by July 2019 in preparation for fall/winter bidding and construction.

1.2 Introduction to Organization

The current District was formed by the merger of two recognized State of Washington (Title 87) irrigation districts in early 1995. The original two districts were the Moxee Irrigation District and the Selah-Moxee Irrigation District. Consolidated operations and management of the combined districts began on January 1, 1995.

The District is located in the southern part of central Washington, east of the Cascade Mountains near the City of Yakima. The District covers 7,396 irrigable acres and is served by 3 canals: the Selah-Moxee Canal, the Moxee Ditch, and the Hubbard Ditch.

1.3 Problem Statement

The East Selah area located on the upstream side of the Yakima Ridge Tunnel includes approximately 4.7 miles of open ditch canal (Selah-Moxee Canal). The existing Selah-Moxee canal is mostly an unlined earth channel that includes approximately 0.25 miles of Coletanche bituminous geomembrane lining that has been installed in the last 12 years. Significant seepage losses have been apparent for many years based on visual observations of seepage through the canal banks, frequent bank repairs, and vegetation growth downslope of the canal banks. Portions of the Selah-Moxee Canal are located within close proximity to residential developments that are at risk for flooding as a result of seepage and canal breaks.

The Selah-Moxee Canal in this area is also experiencing capacity problems manifested by freeboard limitations. Currently the approximate maximum flow that can be conveyed through the canal in the East Selah area is 90 cfs with minimal freeboard. The capacity limitation has forced the District to supplement with water pumped from the Roza hydroelectric station tailrace at times.

1.4 Project Objectives

1.4.1 Planning to Date

In 2015 the District completed a Feasibility Investigation which included numerous phased water conservation conceptual designs. The Feasibility Investigation served as an update to the District's Comprehensive Water Conservation Plan (CWCP) which is discussed below in Section 1.6.2. Two of the phased projects as part of the Feasibility Investigation include the following:

- Project ID 12a - Line 13,416 lineal feet (LF) of the Selah-Moxee Canal on the upstream side of the Yakima Ridge Tunnel. Conceptual design of the liner system includes removal of portions of the deteriorated existing liner system, canal grading as required to provide the appropriate canal cross section for water conveyance up to 90 cfs, and installation of a new liner.
- Project ID 10 - Pipe 9,657 LF of the open ditch Selah-Moxee Canal from Turnout 76 to the Tunnel Outlet. Large diameter piping is required for this reach to convey the water by gravity over a long distance with minimal elevation drop.

1.4.2 Water Conservation Field Services Program – Water Management Improvement Design

Design work as part of this Water Conservation Field Services Program (WCFSP) grant application will focus on the design of two portions of the larger Projects 12a and 10 which have notable seepage losses and have been identified as high-priority areas for canal improvements.

The proposed Canal Lining Project being considered includes a concrete canal lining in the Selah-Moxee Canal from Harrison Road to the I-82 Freeway Crossing for a length of 1,689 LF. Design tasks for the Canal Lining Project include the following:

- Canal Surveying - Although only the 1,689 LF segment of the canal has been identified as a high-priority area for canal lining due to seepage losses, the entire canal from the headworks to the Yakima Ridge Tunnel (approximately 4 miles) requires additional survey in support of a hydraulic analysis to determine the canal capacity and required cross section.
- Hydraulic Analysis
 - Design an appropriate cross section for the 1,689 LF reach to convey up to 90 cfs.
 - Evaluate possible benefits to increase the capacity of the Selah-Moxee Canal (widening the canal by grading) to provide storage volume to accommodate changes in irrigation demand. By making the canal significantly larger, it could be used to store water when the downstream demand is less than the current canal flow rate. If feasible, the additional storage provided in the canal could be used in lieu of the regulating reservoir that was proposed in the 2015 Feasibility Investigation at an estimated cost of \$5,946,000.
- Canal Lining Design Section
 - The concrete canal liner is being considered for the canal lining.
 - It is assumed that the District will construct this project with their staff, therefore, detailed Design Drawings and Specifications will not be required.

The proposed Canal to Pipeline Project will replace the open Selah-Moxee Canal from Siphon #2 to Siphon #3 with a pipeline for a length of 1,133 LF. Design tasks for the Canal Lining Project include the following:

- Canal Surveying – Surveyor to Develop Plan and Profile Drawings to be used for Pipeline Design.
- Hydraulic Analysis
 - Confirm pipeline diameter and materials recommended in the Feasibility Investigation.
- Develop Design Drawings and Specifications
 - The large diameter pipeline project will be built by a Contractor, therefore detailed Design Drawings and Specifications will be needed.

Performance of the proposed design activity will be evaluated based on clarity of the design documents used during construction. Clear and accurate design documents will reduce or eliminate changes during construction that could result in additional costs for the Owner (lining project) or Contractor (pipeline project).

Reduced diversion from the Yakima River as a result of constructing the water saving measures will be quantifiable from the existing river diversion measuring facilities. The performance of the water savings upgrades will be evident after construction by visual observation since the land down gradient of the existing canal has sufficient moisture to support significant weed growth within the right of way. As with other canal to pipeline conversions that the Owner has performed in the past, the weedy areas return to a natural state similar to surrounding ground that is relatively free of vegetation.

1.5 Project Schedule

The anticipated surveying and design schedule is presented in Table 1.

TABLE 1
Project Schedule

Task	March 2019	April 2019	May 2019	June 2019	July 2019
Canal Lining Project					
Survey	X				
Hydraulic Calculations		X	X		
Cross Section Design				X	
Canal Lining Detail				X	
Cost Estimate Canal Lining				X	
Canal to Pipeline Project					
Survey	X				
Hydraulic Calculations		X	X		
Design Drawings				X	X
Design Specifications				X	X
Cost Estimate Canal to Pipeline					X

1.6 Project Evaluation

1.6.1 Evaluation Criterion A: Association with Reclamation Project Water Supplies

The District's long-term goal is to ensure adequate and reliable irrigation deliveries. The District has surface water rights to divert water from the Yakima River. In addition, the District has storage contracts in Reclamation's Yakima Project reservoirs. The reservoirs that can supply the District are: Lake Cle Elum, Lake Kachess, and Lake Keechelus which are storage sites included in Reclamation's Integrated Plan. The District's surface water rights are very senior and the District rarely experiences water supply shortages. Conservation measures implemented by the District will result in a river diversion reduction on both natural flow and stored water that could have other beneficial uses such as improving in-stream flows to improve river habitat for ESA listed species and improve water supply to other Reclamation water users.

1.6.2 Evaluation Criterion B: Extent to which applicant's Water Management Plan is Complete and Updated

The District's participation in the first phase of the Yakima River Basin Water Conservation Program (Basin Conservation Program) was completed with the submittal of the District's CWCP. The CWCP was submitted for review to Reclamation and the Washington State Department of Ecology (Ecology) in September 1995. Following this submittal, the District completed an Update to the CWCP and Feasibility Study in 2004 that was the second phase of the Basin Conservation Program.

On July 9, 2013, Lorri J. Lee, BOR Regional Director Pacific Northwest Region U.S., signed and approved the Record of Decision (ROD) for the Yakima River Basin Integrated Water Resource Management Plan (Integrated Plan) Final Programmatic Environmental Impact Statement (EIS) for the Yakima Project, Washington. District canal modifications to reduce seepage and other losses from open ditch canals

meet the requirements of the ROD under Enhanced Water Conservation. The District is uniquely situated to provide multiple benefits to improve water supply for agriculture and fish and improve the ability of water and fisheries managers to adapt to climate change.

In 2015, the District completed a Feasibility Investigation which served as an update of the 2004 Update to the CWCP and Feasibility Study. The Feasibility Investigation included updated water conservation data, re-evaluated the feasibility of constructing the District's proposed conservation measures, and provides the basis for implementing the final design of the proposed water conservation measures. The Feasibility Investigation evaluated water conservation measures to determine the estimated costs, water savings, and environmental effects. The Feasibility Investigation was funded by Ecology, Reclamation, and the District.

1.6.3 Evaluation Criterion C: Improve Water Management and Modernize Existing Water Delivery Infrastructure

The District's system of open irrigation canals and flumes has existed since the original construction and operation of the facilities began in the late 1800's. The District continues to make improvements to its conveyance and distribution systems to increase their operating efficiency and to conserve water. Canal lining and conversion of canal to pipeline projects will increase water conservation and water-use efficiency by reducing seepage and evaporation losses. The conservation measures proposed are conventional upgrades using proven technology and standard construction practices.

1.6.4 Evaluation Criterion D: Extent to which the Proposed Design is Related to a Water Management Improvement Project Identified in a Previous Planning Effort

As mentioned above in Section 1.6.2, the District completed a Feasibility Investigation in 2015 which evaluated numerous water conservation measures and determined the estimated costs, water savings, and environmental effects. Design work as part of this WCFSP grant application will focus on the design of two portions of the larger Projects 12a and 10 which have notable seepage losses and have been identified by the District as high-priority areas for canal improvements.

1.6.5 Evaluation Criterion E: Reasonableness of Cost

Canal lining design costs are minimized since the construction work will not be formally advertised to receive construction bids from Contractors. Therefore, much of the design effort to prepare contract documents (drawings and specifications) to reduce Owner risk and transfer construction liability to a Contractor is not needed. The design will provide the information needed for the Owner to construct the improvements with appropriate oversight during construction by the design engineer.

Design costs associated with the piping project are reduced by having the surveyor provide both the survey information as well as the plan and profile drawings associated with the canal section to be piped. Although the pipeline will need to be relatively large diameter, it is anticipated to be constructed with bell and spigot PVC pipe as opposed to steel pipe which would require increased design effort and increased construction cost. The canal in the proposed area is relatively straight so the design effort will focus primarily on confirmation of hydraulics for sizing the pipeline to maximize use of the existing right of way to reduce the number of fittings. Also, the Owner is considering pre-purchase of the pipe to eliminate contractor material markups.

In terms of **construction costs**, the District completed a Feasibility Investigation in 2015 which evaluated numerous water conservation measures and determined the estimated costs. The proposed project is an investment in existing infrastructure to increase water supply reliability in the Yakima River Basin. The proposed improvement projects will utilize conventional construction methods under reasonable working conditions. Since the work will be done during the winter months with adequate time to complete the work, it is anticipated that the construction costs will be reasonable. The site conditions are fairly well known so the work can be accurately defined. It is expected that the capital cost per acre foot for construction of these projects is reasonable and competitive with other water conservation alternatives that were evaluated.

Table 2 presents the estimated annual water savings, construction cost and cost per acre-feet of saved water. The estimated annual water savings and cost per acre-feet of saved water is based on a percentage of the larger projects 10 and 12a identified in the 2015 Feasibility Investigation. The estimated construction cost has been updated for 2018 costs and for the specific locations identified for improvements.

TABLE 2
Benefits and Construction Costs

Phase - Project Identification	New Pipe or Lining (LF)	Estimated Annual Water Savings (acre-feet)*	Estimated Construction Cost (\$)	Cost per AF of Saved Water (\$ / AF)*
Line Selah Moxee Canal from Harrison Rd to the I-82 Crossing (Project ID 12a)	1,689	79	\$280,000	\$3,500
Pipe Selah Moxee Canal from Siphon #2 to Siphon #3 (Project ID 10)	1,133	59	\$570,000	\$9,700

*Based on a percentage of Phase 12a and 10 (Option 1) in the Feasibility Investigation

1.6.6 Evaluation Criterion F: Amount and Sources of Non-Federal Funding

The non-federal funding portion of the total project cost is 54 percent, assuming a WCFSP grant in the amount of \$25,000. The non-federal funding amount is comprised of an in-kind investment in salaries and wages for project planning by the District staff and contractual work with a surveyor and consulting engineer.

$$\frac{\text{Non-Federal Funding} = \$25,000}{\text{Total Project Cost} = \$54,736}$$

1.6.7 Evaluation Criterion G: Extent to which Federal funding would Promote Completion of an Activity that Might Otherwise be Delayed or Postponed

Without the contributions from the public funding sources, the District is unable to embark on new projects as there is no practical alternative source of funds that is within the water users' ability to pay. In addition to funding requested through the WCFSP for Water Management Improvement Design, funding for implementing these and other water conservation projects will be pursued through the following programs:

- WaterSMART Water and Energy Efficiency Grants
- Yakima River Basin Integrated Water Resource Management Plan (Integrated Plan)

Having construction contract documents on the shelf ready for bidding by contractors the moment funding becomes available will facilitate efficient authorization and appropriation of project construction funding.

1.6.8 Evaluation Criterion H: DOI Priorities

Subcriterion No. H.1 – Creating a Conservation Stewardship Legacy

Water Supply Sustainability Benefits

With the proposed conservation improvements implemented, an estimated 137 acre-feet of senior water rights could be made available annually to increase water flows in the lower Yakima River downstream of the Pomona diversion to enhance fish habitat flows or for other beneficial uses.

Subcriterion No. H.2 – Utilizing our Natural Resources

Water conservation projects will make more water available to alleviate water supply shortages resulting from drought by conserving water that would normally be lost to seepage. Water would remain in the storage system, which would extend the length of the water season. These projects will minimize economic losses from drought conditions by improving the reliability of water supplies during times of drought.

Subcriterion No. H.3 – Restoring Trust with Local Communities

The District has been a good steward of Yakima River water for many years, often providing Trust Water back to the state during good water years. These projects will help establish trust with our local communities by making conserved water, from the District's projects, available in times of drought, along with providing a reliable source of irrigation water to the District's water users. The conservation measures as part of these projects are consistent with continuing good stewardship of Yakima River water.

Subcriterion No. H.4 – Striking a Regulatory Balance

Preliminary environmental review shows that there will be minor or no negative environmental impacts to earth (soils), air, plants, animals, energy, natural resources, environmental health (health hazards and noise), land and shoreline use, housing, aesthetics, light and glare, recreation, historic and cultural preservation, transportation, public services, and utilities. The only potential significant impacts are at locations where leaky open ditch canals are replaced with pipelines or lining where existing vegetation growing adjacent to open ditch canals will be impacted when seepage is reduced or eliminated. When the upgraded system is operational, there will be an overall positive effect to the environment, particularly to increasing water quality, and increase Yakima River flows.

Any work will be limited to the District's existing right-of-way. No known environmental or cultural resources of special value exist. Therefore, it is expected that activities required for NEPA, NHPA, and ESA compliance will be minimal when the project is ready for construction. The subsequent construction project will follow Ecology's State Environmental Policy Act (SEPA) review procedures.

Subcriterion No. H.5 – Modernizing our Infrastructure

The conservation measures proposed are conventional upgrades using proven technology and standard construction practices. Construction of the Canal to Pipeline Project will be bid competitively which facilitates private sector efforts to construct infrastructure projects serving American needs.

SECTION 2

Official Resolution

The District is committed to the financial and legal obligations associated with the receipt of financial assistance under the WCFSP. The District has the resources and capability to provide the amount of funding for contributions specified in the funding plan. The District will work with Reclamation to meet the established deadlines to enter into a cooperative agreement.

An official resolution that identifies the official with legal authority to enter into agreement was adopted by the District Board of Directors at its meeting on November 21, 2018 (see Attachment B).

Detailed Budget Narrative

3.1 Project Budget

The total cost for surveying and design of these projects has been estimated to be \$54,736. The project estimate is based on reasonable and allowable costs and input from engineering and surveying professionals.

The detailed project budget is provided in Attachment A. A summary of non-federal and federal funding sources is shown in Table 3.

TABLE 3
Summary of Non-Federal and Federal Funding Sources

Funding Sources	Percent of Total Project Cost	Total Cost by Source
Recipient Funding	54	\$29,736
Reclamation Funding	46	\$25,000
Total Project Funding	100	\$54,736

3.2 Salaries and Wages

As described in the budget table in Attachment A, the District expects to make an in-kind investment of \$4,356 in salaries and wages. These investments support the project, as follows:

- Project planning from March 2019 thru July 2019

In-kind investments exclude general administration outside the project.

3.3 Fringe Benefits

As described in the budget table in Attachment A, the District expects to make an in-kind investment of \$1,362 in fringe benefits. These investments provide for social security, Medicare, state pension, workers compensation, sick leave, vacation, and health insurance premiums.

3.4 Travel

There are no travel-related costs associated with the design of these projects.

3.5 Equipment

There are no equipment-related costs associated with the design of these projects.

3.6 Materials and Supplies

There are no materials and supply-related costs associated with the design of these projects

3.7 Contractual

The District plans to contract with a surveyor and a consulting engineer to assist with the surveying and design efforts for these projects.

Anticipated tasks include the following for the canal lining project:

- Surveyor to supplement existing canal data from the gaging station to tunnel entrance. Survey to take place in March 2019 prior to the irrigation season for use during design over the summer.
- Hydraulic analysis to evaluate capacity of the entire canal from gaging station to tunnel entrance.
- Determine the required cross-sectional geometry based on survey results.
- Civil drawings with canal lining section (concrete canal liner)

Anticipated tasks include the following for the canal to pipeline conversion project:

- Surveyor to develop plan and profile drawings. Survey to take place in March 2019 prior to the irrigation season for use during design over the summer.
- Hydraulic analysis to confirm pipeline capacity
- Design Drawings and Specifications for bidding purposes

The total budgeted amount for contractual expenses is \$48,200.

3.8 Other – Reporting

This line item includes costs to be incurred while reporting to federal funders. In accordance with the FOA requirements, the District will prepare and submit to Reclamation an SF-425 Federal Financial Report. While the specific terms and conditions pertaining to reporting requirements will be included in the financial assistance agreement, for cost estimating purposes it is assumed the District will submit two reports. The total budgeted amount for reporting expenses is \$818.

3.9 Indirect Costs

For this project, the recipient will not have any indirect costs. All costs associated with the project are direct and can be documented as such.

3.10 Total Costs

The estimated total project cost is \$54,736. The requested federal share is \$25,000; the total non-federal share is \$29,736. A copy of the completed SF 424C, Budget Information – Non-Construction Programs, is provided in Attachment C.

SECTION 4

Detailed Project Budget

Please refer to the Detailed Project Budget provided in Attachment A. A copy of the completed SF 424A Budget Information – Non-Construction Programs is provided in Attachment C.

Attachment A - Budget Proposal

Budget Item Description	Computation			Total Cost
	\$/Unit	Quantity	Unit	
Salaries and Wages				
PLANNING AND DESIGN				
Nathan Draper , Manager (16 hours per month)	\$ 52.08	80	hour	\$ 4,166
Office Manager (2 hours per month)	\$ 19.00	10	hour	\$ 190
Subtotal				\$ 4,356
Fringe Benefits				
PLANNING AND DESIGN				
Nathan Draper , Manager (16 hours per month)	\$ 16.07	80	hour	\$ 1,286
Office Manager (2 hours per month)	\$ 7.62	10	hour	\$ 76
Subtotal				\$ 1,362
Contractual/Construction				
CANAL LINING PROJECT				
ENGINEER (See Attached Quote)				
<i>Design</i>				
Senior Ag Engineer	\$ 198.00	40	hour	\$ 7,920
Designer	\$ 200.00	12	hour	\$ 2,400
CANAL TO PIPELINE PROJECT				
ENGINEER (See Attached Quote)				
<i>Design</i>				
Senior Ag Engineer	\$ 198.00	40	hour	\$ 7,920
Designer	\$ 200.00	100	hour	\$ 20,000
Specifications Processor	\$ 135.00	16	hour	\$ 2,160
CANAL LINING AND CANAL TO PIPELINE PROJECT				
SURVEYOR (See Attached Quote)	\$ 7,800	1	LS	\$ 7,800
Subtotal				\$ 48,200
Other				
Reporting (Two Reports @ 6hr/report)	\$ 68.15	12	hour	\$ 818
Subtotal				\$ 818
Total Direct Costs				\$ 54,736
Indirect Costs - __%				0%
Total Project Costs				\$ 54,736.00

**BUDGET PROPOSAL ENGINEERING CONSULTANT WORK (NON-CONSTRUCTION)
TO BE PERFORMED UNDER CONTRACT WITH SELAH-MOXEE IRRIGATION DISTRICT**

BUDGET ITEM DESCRIPTION	COMPUTATION		TOTAL COST
	\$/Unit and Unit	Quantity	
1. SALARIES AND WAGES --Position title x hourly wage/salary x est. hours for assisted activity. Describe this information for each position.			
The hourly rate identified is based on the hourly wage for each individual multiplied by 3.1. The 3.1 multiplier accounts for the cost CH2M HILL incurs for employee fringe benefits and profit.			
Senior Ag Engineer	198 \$/hr	80 hr	\$15,840
Designer	200	112	\$22,400
Specifications Processor	135	16	\$2,160
2. FRINGE BENEFITS – Explain the type of fringe benefits and how are they applied to various categories of personnel.			
Vary somewhat for each individual (covered in multiplier identified above)			
3. TRAVEL —dates; location of travel; method of travel x estimated cost; who will travel			
NA			NA
4. MILEAGE – Explain mileage, need and rate			
		0.565 \$/hr	
5. EQUIPMENT —Equipment use rate + hourly wage/salary x est. hours for assisted activity—Describe equipment to be purchased, unit price, # of units for all equipment to be purchased or leased for assisted activity; Do not list contractor supplied equipment here.			
n/a			
6. SUPPLIES/MATERIALS --Describe all major types of supplies/materials, unit price, # of units, etc., to be used on this assisted activity.			
n/a			
7. CONTRACTUAL/ ¹ CONSTRUCTION —Explain any contracts or sub-Agreements that will be awarded, why needed. Explain contractor qualifications and how the contractor will be selected.			
n/a			
8. ENVIRONMENTAL and REGULATORY COMPLIANCE COSTS ² – Reference cost incurred by Reclamation or the applicant in complying with environmental regulations applicable to this Program, which include NEPA, ESA, NHPA etc.			
n/a			
9. OTHER –List any other cost elements necessary for your project; such as extra reporting, or contingencies in a construction contract.			
n/a			
TOTAL DIRECT COSTS--			\$40,400
9. INDIRECT COSTS – Must provide a copy of one of the following in order for indirect costs to be allowed: 1) current federally-negotiated Indirect Cost Rate Agreement; or 2) the base/pool information used to determine an indirect rate which has been reviewed and approved by a qualified CPA; or 3) documentation supporting paperwork has been submitted to cognizant agency to get and Indirect Cost Rate Agreement established.			
n/a			
TOTAL PROJECT/ACTIVITY COSTS			\$40,400



November 29, 2018

Selah Moxee Irrigation District
P.O. Box 166
113 E. Moxee Avenue
Moxee, WA 98936

Attn: Nathan Draper

Re: Topographic Survey
Selah Moxee Irrigation District Main Canal
Yakima County, Washington

**Proposal and
Agreement for Professional Services**

Dear Nathan:

HLA Engineering and Land Surveying, Inc. (HLA), is pleased to provide the following proposal for professional land surveying services for the above-referenced project.

HLA proposes to provide the land surveying services as set forth on Exhibit A on a time spent basis in accordance with the attached Exhibit B – Schedule of Hourly Rates, plus reimbursement for direct non-salary expenses. We estimate our fees to be \$7,800.00.

To accept this proposal, please sign below, initial the attached General Conditions, and return one (1) executed copy to our office. This letter and all attachments will serve as the Agreement for this project, and HLA agrees to perform the services described in Exhibit A following your authorization. We will diligently pursue the project and make every effort to finish all items within a timely manner following receipt of the accepted agreement.

Thank you for the opportunity to provide professional land surveying services for this project. We are prepared to begin work upon authorization to proceed.

Very truly yours,

A handwritten signature in blue ink, appearing to read "Eric T. Herzog".

Eric T. Herzog, PLS
Vice President

ETH/sms

Enclosure

ACCEPTED BY CLIENT:

Selah Moxee Irrigation District

Date

G:\PROPOSALS\2018\2018-11-29 Selah Moxee Irrigation District Survey.docx

EXHIBIT A

Scope of Work

During the term of this Agreement, HLA Engineering and Land Surveying, Inc. (HLA), shall perform professional services in connection with the following project:

Topographic Survey
Selah Moxee Irrigation District Main Canal
Yakima County, Washington

This scope of work shall include the furnishing of all services, labor, materials, equipment, supplies, and incidentals necessary to conduct and complete the work in the 2018 calendar year as described below.

1. HLA will field survey approximately 4 miles of the Selah Moxee main canal from the head works to the tunnel. HLA will cross section the canal every 500 feet.
2. HLA will field survey 1300 feet of the main canal between Siphon No. 1 and Siphon No. 3.
3. HLA will cross section the canal every 100 feet.
3. HLA will plot the cross section data.
4. HLA will provide an AutoCAD file and six (6) paper copies of the survey to the Owner.


End of Exhibit A

Initial:
CLIENT:
HLA: 

EXHIBIT B

**Schedule of Hourly Billing Rates
Effective January 1, 2018, through December 31, 2018**

Senior Principal Engineer	\$202.00 per hour
Licensed Principal Land Surveyor	\$197.00 per hour
Licensed Principal Engineer	\$181.00 per hour
Licensed Professional Engineer	\$165.00 per hour
Other Licensed Professional	\$165.00 per hour
Licensed Professional Land Surveyor	\$150.00 per hour
Project Engineer	\$136.00 per hour
Senior Planner	\$124.00 per hour
Contract Administrator	\$124.00 per hour
CAD Technician	\$119.00 per hour
Resident Engineer/Inspector	\$112.00 per hour
Senior Engineering Technician	\$112.00 per hour
Surveyor	\$112.00 per hour
Surveyor on Two Man Crew	\$107.00 per hour
Surveyor on Three Man Crew	\$95.00 per hour
Engineering Technician	\$79.00 per hour
Word Processing Technician	\$79.00 per hour
Vehicle Mileage	\$0.545 per mile

Initial:
CLIENT: 
HLA:

Selah-Moxee Irrigation District

113 East Moxee Avenue
PO Box 166
Moxee, WA 98936
(509) 469-0449 FAX (509) 469-0489

SELAH-MOXEE IRRIGATION DISTRICT RESOLUTION 2018-12


WHEREAS, the Selah-Moxee Irrigation District has previously indicated a desire to design water conservation measures identified in their Comprehensive Water Conservation Plan dated 1995 and the associated Feasibility Study dated 2015; and

WHEREAS, the Selah-Moxee Irrigation District affirms the acceptability of the proposed water conservation measures identified in said Plan and Study.


NOW, THEREFORE, BE IT HEREBY RESOLVED by the Board of Directors of the Selah-Moxee Irrigation District that the following is true:

The Selah-Moxee Irrigation District has determined that the conservation measures and concepts identified in the 2015 Feasibility Study are consistent with needs of the District and should be implemented through design and subsequent construction


PASSED AND ADOPTED by the Selah Moxee Irrigation District of the County of Yakima on this 21st day of November, 2018



Mike McGree, President



Ben St. Mary, Vice President

Michael Roy, Director


Nathan Draper, Manager/ Secretary/Treasurer



BUDGET INFORMATION - Non-Construction Programs

OMB Number: 4040-0006
Expiration Date: 06/30/2014

SECTION A - BUDGET SUMMARY

Grant Program Function or Activity (a)	Catalog of Federal Domestic Assistance Number (b)	Estimated Unobligated Funds		New or Revised Budget		
		Federal (c)	Non-Federal (d)	Federal (e)	Non-Federal (f)	Total (g)
1. Water Management Improvement Design		\$ 25,000.00	\$	25,000.00	29,736.00	54,736.00
2.						
3.						
4.						
5. Totals		\$ 25,000.00	\$	25,000.00	29,736.00	54,736.00

SECTION B - BUDGET CATEGORIES

6. Object Class Categories	GRANT PROGRAM, FUNCTION OR ACTIVITY				Total (5)
	(1)	(2)	(3)	(4)	
	Water Management Improvement Design				
a. Personnel	\$ 4,356.00	\$	\$	\$	\$ 4,356.00
b. Fringe Benefits	1,362.00				1,362.00
c. Travel					
d. Equipment					
e. Supplies					
f. Contractual	48,200.00				48,200.00
g. Construction					
h. Other	818.00				818.00
i. Total Direct Charges (sum of 6a-6h)	54,736.00				\$ 54,736.00
j. Indirect Charges					\$
k. TOTALS (sum of 6i and 6j)	\$ 54,736.00	\$	\$	\$	\$ 54,736.00
7. Program Income	\$	\$	\$	\$	\$

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SECTION C - NON-FEDERAL RESOURCES				
(a) Grant Program	(b) Applicant	(c) State	(d) Other Sources	(e) TOTALS
8. Water Management Improvement Design	\$ 29,736.00	\$	\$	\$ 29,736.00
9.				
10.				
11.				
12. TOTAL (sum of lines 8-11)	\$ 29,736.00	\$	\$	\$ 29,736.00

SECTION D - FORECASTED CASH NEEDS					
	Total for 1st Year	1st Quarter	2nd Quarter	3rd Quarter	4th Quarter
13. Federal	\$ 25,000.00	\$	\$	\$	\$ 25,000.00
14. Non-Federal	\$				
15. TOTAL (sum of lines 13 and 14)	\$ 25,000.00	\$	\$	\$	\$ 25,000.00

SECTION E - BUDGET ESTIMATES OF FEDERAL FUNDS NEEDED FOR BALANCE OF THE PROJECT				
(a) Grant Program	FUTURE FUNDING PERIODS (YEARS)			
	(b) First	(c) Second	(d) Third	(e) Fourth
16. Water Management Improvement Design	\$ 0.00	\$ 0.00	\$ 0.00	\$ 0.00
17.				
18.				
19.				
20. TOTAL (sum of lines 16 - 19)	\$	\$	\$	\$

SECTION F - OTHER BUDGET INFORMATION	
21. Direct Charges:	22. Indirect Charges:
23. Remarks:	