



June 25, 2015

Idaho Department of Environmental Quality
ATTN: William Teuscher, P.E.
900 N. Skyline Dr., Ste. B
Idaho Falls, ID 83402

RECEIVED

JUN 29 2015

DEQ-IDAHO FALLS

**RE: Elk Bend Sewer District WWFPS
Addendum No. 1**

Dear Mr. Teuscher:

Following the technical approval of the Elk Bend Wastewater Facilities Planning Study, issued by the Idaho Department of Environmental Quality on September 26, 2012, additional discussion with the members of the Elk Bend Sewer District Board, Idaho Department of Environmental Quality, and Keller Associates resulted in a few minor adjustments to the proposed improvement plan. Concern was expressed by the members of the Board over the feasibility of constructing the gravity sewer line and the difficulty that was being experienced in finding a satisfactory drainfield area near Steelhead Bend. It was agreed by all parties that the priority action to address the problems in the Sewer District was to replace the treatment and drainfield facilities at Elk Bend. The following describes the modifications of the Facility Planning Study that resulted from this discussion. These revisions are presented as this Addendum No. 1 to the 2012 Elk Bend Sewer District Wastewater Facilities Planning Study.

Section 1.6 – Proposed Improvements

The gravity sewer pipeline from Elk Bend to Steelhead Bend is not to be constructed. Instead a separate wastewater treatment facility will be constructed at Elk Bend including a recirculating gravel filter treatment system and a replacement drainfield area. The existing treatment facility at Steelhead Bend will be rehabilitated to improve treatment capability. The Elk Bend Lift Station #1 and Steelhead Bend Lift Station will be rehabilitated with new pumps and electrical equipment. The total estimated cost for these improvements is \$1,250,000. The cost estimate was updated in February 2015 and is included as an attachment to this document.

Section 5.6 - Financial Status

The budget for the Elk Bend Sewer District, adopted by the Board of Directors on June 1, 2015, is shown in the table below.

Elk Bend Sewer District General Fund Budget - 2015		
Revenues:		
Estimated Elk Bend Sewer Levy	\$	25,850
Estimated Interest & Delinquent Taxes	\$	6,000
		\$ 31,850
Expenditures:		
Payroll	\$	10,625
Payroll Taxes	\$	1,200
Utilities	\$	3,555
Chemical Tests	\$	3,961
Insurance	\$	2,804
Travel	\$	827
Repair & Maintenance	\$	8,631
Administration & Legal	\$	247
Total	\$	31,850

Table 1 – Elk Bend Sewer District 2015 Budget

Section 7.9 – Disposal Alternative Comparison

The alternatives for wastewater disposal were initially compared on the basis of several factors including relative cost for both capital construction cost and operation and maintenance cost. A more detailed cost estimate for capital and O&M cost, including short lived asset replacement, was developed and utilized to make a life cycle cost comparison of the study alternatives. The resulting calculations are attached to this document for reference. The life cycle cost comparison is summarized in the table below.

	Est. O&M	Est. SLA Reserve	Est. Capital Payment	Total Annual Cost
Large Soil Absorption System (LSAS)	\$ 9,000	\$ 1,333	\$ 18,603	\$ 28,936
Surface Water	\$ 33,840	\$ -	\$ 22,496	\$ 56,336
Land Application	\$ 11,060	\$ 5,833	\$ 51,266	\$ 68,159
Rapid Infiltration Basins (RIB)	\$ 9,000	\$ 5,000	\$ 35,475	\$ 49,475
STEP systems	\$ 28,320	\$ 2,667	\$ 32,447	\$ 63,433

Table 2 – Disposal Alternative Life Cycle Cost Comparison

For Wastewater Disposal Alternatives, the results of the life cycle cost analysis indicate that on the basis of capital and O&M cost over a 20 year projected period, the Large Soil Absorption System is the least cost alternative. Surface Water Discharge has a larger total annual cost due primarily to the increase in operation and maintenance that would be involved with water quality monitoring and reporting for surface water discharge. The remaining alternatives (Land Application, Rapid Infiltration, and STEP Systems) all yielded much greater life cycle costs, in part related to a larger concern over feasibility as all of these options require a greater amount of land with specific siting requirements for setbacks that were considered unrealistic during evaluation with the Elk Bend Sewer District. The Large Soil Absorption System discharge alternative has additional advantages over the other alternatives as outlined in Section 7 of the 2012 Wastewater Study including

most favorable ratings in level of operator attention, general aesthetics, and treatment requirements.

Section 8.5 – Rehabilitate Existing Package Plants

This alternative has been revised to postpone much of the rehabilitation effort at the Steelhead Bend treatment and discharge facilities. The modified alternative would retain full rehabilitation of the Elk Bend treatment plant and replacement of the Elk Bend discharge facilities with a new LSAS system, rehabilitation of all three lift stations at Elk Bend and Steelhead Bend, and some structural, electrical and mechanical improvements to the Steelhead Bend treatment plant. The cost of the Nutrient Pathogen Evaluation is removed from the cost estimate as it has been completed. Construction cost estimates have been updated. The total estimated cost of this alternative is \$1,138,000.

Section 8.6 – Sequencing Batch Reactor (SBR)

This alternative is revised to consist of a Sequencing Batch Reactor treatment plant at Elk Bend, replacement of the Elk Bend discharge system with a new LSAS, rehabilitation of two lift stations at Elk Bend and Steelhead Bend, and some structural, electrical and mechanical improvements to the Steelhead Bend treatment plant. Elk Bend Lift Station #2 would be replaced by the early stages of the new treatment facility. There would be no gravity connector line and the cost of the Nutrient Pathogen Evaluation is removed from the cost estimate as it has been completed. Construction cost estimates have been updated. The total estimated cost of this alternative is \$1,393,000.

Section 8.7 – Recirculating Gravel Filter (RGF)

This alternative is revised to consist of a Recirculating Gravel Filter treatment plant at Elk Bend, replacement of the Elk Bend discharge system with a new LSAS, rehabilitation of two lift stations at Elk Bend and Steelhead Bend, and some structural, electrical and mechanical improvements to the Steelhead Bend treatment plant. Elk Bend Lift Station #2 would be replaced by the early stages of the new treatment facility. There would be no gravity connector line and the cost of the Nutrient Pathogen Evaluation is removed from the cost estimate as it has been completed. Construction cost estimates have been updated. The total estimated cost of this alternative is \$1,250,000.

Section 8.8 – Alternative Evaluation

The revisit of the capital cost estimates for the alternatives with adjustment to postpone full rehabilitation or replacement of the treatment and discharge facilities at Steelhead Bend results in adjusted project cost estimates as follows:

- Rehabilitate Plants \$1,138,000
- RGF \$1,250,000
- SBR \$1,393,000

As seen from this cost comparison, the Rehabilitate Existing Package Plants alternative is the least cost alternative. However, this alternative would entail rehabilitating equipment in the treatment plants that is approximately 40 years old. It is anticipated that the rehabilitated components of this plant would require additional maintenance in the short

term, as is reflected in the short lived assets assessment of the life cycle cost analysis presented below.

The alternatives for wastewater treatment were initially compared on the basis of several factors including relative cost for both capital construction cost and operation and maintenance cost. Cost estimates for these were not developed for the comparison of alternatives. A more detailed cost estimate for capital and O&M cost, including short lived asset replacement, was developed and utilized to make a life cycle cost comparison of the study alternatives. The resulting calculations are attached to this document for reference. The life cycle cost comparison is summarized in the table below.

	Est. O&M	Est. SLA Reserve	Est. Capital Payment	Total Annual Cost
No Action	\$ 31,950	\$ 208,000	\$ -	\$ 239,950
Rehabilitate Package Plants	\$ 40,250	\$ 26,333	\$ 49,233	\$ 115,816
Sequencing Batch Reactor (SBR)	\$ 51,400	\$ 17,467	\$ 62,674	\$ 131,541
Recirculating Gravel Filter (RGF)	\$ 38,000	\$ 10,883	\$ 54,078	\$ 102,961

Table 3 – Treatment Alternative Life Cycle Cost Evaluation

The least cost alternative for total annual cost in the life cycle cost analysis is the recirculating media filter system with an estimated total annual cost of \$102,961. This cost includes no consideration of grant funds that may be received to assist in the implementation of the project. The analysis of rates is presented in a subsequent section.

Section 9.2 – Operation and Maintenance

Operation and maintenance cost estimates for the recommended alternative were updated. It is estimated that O&M costs for the system including short lived asset reserves will total approximately \$48,000. The short lived asset summary is included in the attached documentation. The current total budget for the Elk Bend Sewer District is approximately \$32,000 per year. Approximately \$16,000 of increased operations and maintenance budget is recommended and is included in subsequent evaluations for funding alternatives.

Section 9.5 – Capital Improvements Plan

The total estimated project cost is \$1,250,000. The 2015 the total general fund budget for the Elk Bend Sewer District is \$31,850.

Section 9.6 – Rate Analysis

The Elk Bend Sewer District has continued to evaluate options for implementing new user rates or increasing the rate collected through the special taxing district. At this time a final determination on the approach to be utilized has not been made. The amounts presented here assume that the Special Taxing District rates will remain the same and all additional funds will be collected through a new user rate. A new rate analysis was completed incorporating updated figures for potential funding including Idaho Department of Environmental Quality State Revolving Fund, Idaho Department of Commerce Block

Grant, and USDA Rural Development Loan and Grant funding combinations. The funding alternatives are presented in detail in the attached documents. Depending on final grant amounts, interest rates, principal forgiveness, and other factors, it is anticipated that the District would need an equivalent user rate increase of between \$28 and \$46 per connection per month, making the total equivalent user rate between \$50 and \$68 per month.

Section 9.9 – Proposed Project Schedule

Table 9-1 of Section 9.9 is updated as follows:

Event	Date
EID Approval	August 2015
Finalize Funding & Contracts	September 2015
Begin Design of Improvements	October 2015
30% Design Review	December 2015
90% Design Review	February 2016
Agency Design Review	March 2016
Issue Bid	April 2016
Begin Construction	August 2016
Construction Completion	November 2016

Table 4 – Proposed Project Schedule

Appendix C – Floodplains

The floodplain map for the area of the Elk Bend Sewer District included in the 2012 Facilities Planning Study did not show the relative location of the proposed project improvements. The attached figure titled “Existing System & Proposed Improvements Preliminary Layout” depicts the proposed improvements with the approximate floodplain boundary shown for reference. Elk Bend Lift Station #1, the Steelhead Bend Lift Station, and portions of the Elk Bend Treatment Facility and proposed disposal area are within the floodplain area. The lift stations and treatment plant facilities will need to be constructed with all basins and electrical and mechanical components elevated above the base flood elevation. The discharge area will be constructed to avoid installing drainfield components within the floodplain if they would be negatively affected by a flood event. The treatment facilities at Steelhead Bend are not within the 100 year floodplain boundary.

Appendix F – Financial Information

The following items are included as additional information related to what was included in Appendix F of the 2012 Wastewater Facilities Planning Study:

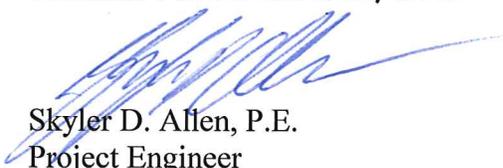
- Updated Elk Bend Sewer District Wastewater Improvements Funding Scenarios
- Elk Bend Sewer District – 2015 Budget

The funding scenarios outlined include estimated repayment of capital project costs, operation and maintenance costs, short lived asset reserves, and debt reserves.

Keller Associates submits this addendum to the Elk Bend WWFPS for your evaluation. Please contact us if there are concerns or questions regarding these items.

Sincerely,

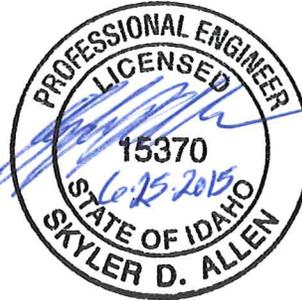
KELLER ASSOCIATES, INC



Skyler D. Allen, P.E.
Project Engineer

Attachment: EBSD WWFPS Amendment No. 1 Attachments

Cc: Glenn Ross, Elk Bend Sewer District
Eleanor Wisner, Elk Bend Sewer District
Noel LaRoque, USDA-RD
Rick Miller, ECIPDA
file



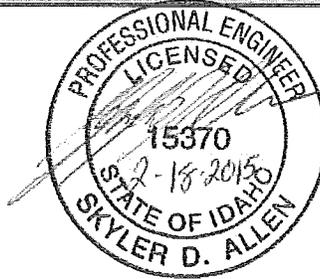
Opinion of Estimated Project Costs



Client: Elk Bend Sewer District
 Project: EBSD WWFPS
 Item: Treatment Plant Improvements
 Project No: 209003

Sheet: 1 of 1
 By: SDA Ckd. JPM
 Date: 2/18/2015 2/18/2015

Description	Unit Meas	Quantity	Unit Cost	Total Cost
Lift Stations (Elk Horn Drive & Steelhead Bend)	LS	2	\$ 77,000	\$ 154,000
RGF Treatment Plant	LS	1	\$ 300,000	\$ 300,000
Pressure line to LSAS	LF	2,000	\$ 40	\$ 80,000
LSAS Construction & Modifications	LS	4.0	\$ 75,000	\$ 300,000
Steelhead Bend Treatment Plant Improvements	LS	1.0	\$ 25,000	\$ 25,000
Materials Sub-Total				\$ 859,000
Contingency			13.5%	\$ 116,000
Property Purchase				\$ 20,000
Legal				\$ 15,000
Funding Administration				\$ 76,000
Interim Financing				\$ 20,000
Survey, Engineering Design, Engineering Construction				\$ 144,000
Total Estimated Project Cost				\$1,250,000



The cost estimate herein is based on our perception of current conditions at the project location. This estimate reflects our opinion of probable costs at this time and is subject to change as the project design matures. Keller Associates has no control over variances in the cost of labor, materials, equipment, services provided by others, contractor's methods of determining prices, competitive bidding or market conditions, practices or bidding strategies. Keller Associates can not and does not warrant or guarantee that proposals, bids, or actual construction costs will not vary from the costs presented herein.

NOTICE OF BUDGET MEETING FOR THE ELK BEND SEWER DISTRICT

Notice is hereby given that a meeting of the Board of Directors as qualified vectors of the above named District will be held the 1st of June 2015 at the hour of 10:00 am in the QRU Building, Elk Bend, Lemhi County, Idaho. At this meeting there shall be a Public Hearing on the Maintenance and Operations Budget for the coming fiscal year.

The budget, as presently determined by the Board of Directors, is now available at the Elk Bend Fire Hall #1 Bulletin Board and will remain available until the hearing, as provided by law.

The budget meeting in pursuant to Section 42-3229 Idaho Code.
Dated this 15th of May 2015
Eleanor Wisner
Elk Bend Sewer District
Lemhi County, Idaho

Elk Bend Sewer District General Fund Budget 2015:

Revenues:

Estimated Elk Bend Sewer Levy	\$25,850.00
Estimated Interest and Delinquent Taxes	<u>6,000.00</u>
Total	\$31,850.00

Expenditures:

Payroll	\$10,625.00
Payroll Taxes	1,200.00
Utilities	3,555.00
Chemical Tests	3,961.00
Insurance	2,804.00
Travel	827.00
Repair and Maintenance	8,631.00
Administration and Legal	<u>247.00</u>
Total	\$31,850.00

Opinion of Estimated Project Costs



Client: Elk Bend Sewer District
 Project: WWFPS
 Item: LSAS - Module
 Project No: 209003-000

Sheet: 1 of 6
 By: SDA Ckd: JPM
 Date: 6/23/2015 Date:

Description	Unit Meas	Quantity	Unit Cost	Total Cost
Mobilization/Demobilization	LS	1	\$ 4,500	\$ 4,500
Drain Base Material	CY	92	\$ 20	\$ 1,840
Excavation & landforming	LS	1	\$ 10,000	\$ 10,000
PVC/HDPE drain pipe	LF	1,250	\$ 20	\$ 25,000
Discharge pumps	LS	1	\$ 5,500	\$ 5,500
Control Boxes	LS	1	\$ 1,500	\$ 1,500
Surface restoration	SF	5,000	\$ 0.50	\$ 2,500
				\$ -
Materials Sub-Total				\$ 50,840
Contingency			20%	\$ 10,168
Concept Level Factor			30%	\$ 15,300
Engineering, Legal, Funding			30%	\$ 15,300
Total Estimated Project Cost				\$ 91,608

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Opinion of Estimated Project Costs



Client: Elk Bend Sewer District
 Project: WWFPS
 Item: Recirculating Gravel Filter - 30kgd
 Project No: 209003-000

Sheet: 2 of 6
 By: SDA Ckd: JPM
 Date: 6/24/2015 Date:

Description	Unit Meas	Quantity	Unit Cost	Total Cost
Mobilization/Demobilization	LS	1	\$ 30,000	\$ 30,000
Excavation & Earthwork	LS	1	\$ 15,000	\$ 15,000
Settling Basins	CY	70	\$ 180	\$ 12,600
Recirculation Tanks	CY	110	\$ 180	\$ 19,800
Concrete Filter Beds	CY	175	\$ 180	\$ 31,500
Filter Media	CY	250	\$ 28	\$ 7,000
Pumps & Mechanical	LS	1	\$ 30,000	\$ 30,000
Dosing Piping & sprayers	LF	200	\$ 55	\$ 11,000
Electrical & Controls	LS	1	\$ 30,000	\$ 30,000
Standby Power	LS	1	\$ 25,000	\$ 25,000
Control Building	LS	1	\$ 35,000	\$ 35,000
Insulation & Heat Tracing	LS	1	\$ 10,000	\$ 10,000
Site Protection	LS	1	\$ 5,000	\$ 5,000
			\$ -	\$ -
Materials Sub-Total				\$ 261,900
Contingency			20%	\$ 52,380
Concept Level Factor			15%	\$ 39,300
Engineering, Legal, Funding			25%	\$ 65,500
Total Estimated Project Cost				\$ 419,080

The cost estimate herein is based on our perception of current conditions at the project location. This estimate reflects our opinion of probable costs at this time and is subject to change as the project design matures. Keller Associates has no control over variances in the cost of labor, materials, equipment, services provided by others, contractor's methods of determining prices, competitive bidding or market conditions, practices or bidding strategies. Keller Associates can not and does not warrant or guarantee that proposals, bids, or actual construction costs will not vary from the costs presented herein.

Opinion of Estimated Project Costs



Client: Elk Bend Sewer District
 Project: WWFPS
 Item: SBR Treatment Plant
 Project No: 209003-000

Sheet: 3 of 6
 By: SDA Ckd: JPM
 Date: 6/24/2015 Date:

Description	Unit Meas	Quantity	Unit Cost	Total Cost
Mobilization/Demobilization	LS	1	\$ 50,000	\$ 50,000
SBR Equipment	LS	1	\$ 165,000	\$ 165,000
SBR Basins concrete	CY	120	\$ 150	\$ 18,000
Equalization Basin	LS	1	\$ 15,000	\$ 15,000
Misc. mechanical	LS	1	\$ 25,000	\$ 25,000
Electrical	LS	1	\$ 20,000	\$ 20,000
Standby Power	LS	1	\$ 10,000	\$ 10,000
Control Building	LS	1	\$ 20,000	\$ 20,000
Insulation & Heat Tracing	LS	1	\$ 7,000	\$ 7,000
Site Protection	LS	1	\$ 3,000	\$ 3,000
			\$ -	\$ -
Materials Sub-Total				\$ 333,000
Contingency			20%	\$ 66,600
Concept Level Factor			30%	\$ 99,900
Engineering, Legal, Funding			30%	\$ 99,900
Total Estimated Project Cost				\$ 599,400

The cost estimate herein is based on our perception of current conditions at the project location. This estimate reflects our opinion of probable costs at this time and is subject to change as the project design matures. Keller Associates has no control over variances in the cost of labor, materials, equipment, services provided by others, contractor's methods of determining prices, competitive bidding or market conditions, practices or bidding strategies. Keller Associates can not and does not warrant or guarantee that proposals, bids, or actual construction costs will not vary from the costs presented herein.

Opinion of Estimated Project Costs



Client: Elk Bend Sewer District
 Project: WWFPS
 Item: RGF Alternative Summary
 Project No: 209003

Sheet: 4 of 6
 By: SDA Ckd: JPM
 Date: 6/24/2015 Date:

Description	Unit Meas	Quantity	Unit Cost	Total Cost
Lift Stations (Elk Horn Drive & Steelhead Bend)	LS	2	\$ 75,000	\$ 150,000
EB RGF Treatment Plant	LS	1	\$ 251,000	\$ 251,000
LSAS Construction & Modifications	LS	4	\$ 51,000	\$ 204,000
Pressure Line to LSAS	LF	2,100.0	\$ 40	\$ 84,000
SB Treatment Plant Improvements	LS	1.0	\$ 25,000	\$ 25,000
Materials Sub-Total				\$ 714,000
Contingency			20%	\$ 143,000
Concept Level Factor			20%	\$ 143,000
Construction Sub-Total				\$ 1,000,000
Engineering, Legal, Funding			25%	\$ 250,000
Total Estimated Project Cost				\$1,250,000

The cost estimate herein is based on our perception of current conditions at the project location. This estimate reflects our opinion of probable costs at this time and is subject to change as the project design matures. Keller Associates has no control over variances in the cost of labor, materials, equipment, services provided by others, contractor's methods of determining prices, competitive bidding or market conditions, practices or bidding strategies. Keller Associates can not and does not warrant or guarantee that proposals, bids, or actual construction costs will not vary from the costs presented herein.

Opinion of Estimated Project Costs



Client: Elk Bend Sewer District
 Project: WWFPS
 Item: SBR Alternative Summary
 Project No: 209003

Sheet: 5 of 6
 By: SDA Ckd: JPM
 Date: 6/23/2015 Date:

Description	Unit Meas	Quantity	Unit Cost	Total Cost
Lift Station Pumps, electrical, freeze protection	LS	2	\$ 75,000	\$ 150,000
SBR Treatment Plant	LS	1	\$ 333,000	\$ 333,000
LSAS Construction & Modifications	LS	4	\$ 51,000	\$ 204,000
Pressure Line to LSAS	LF	2,100.0	\$ 40	\$ 84,000
SB Treatment Plant Improvements	LS	1.0	\$ 25,000	\$ 25,000
Materials Sub-Total				\$ 796,000
Contingency			20%	\$ 159,200
Concept Level Factor			20%	\$ 159,200
Construction Sub-Total				\$ 1,114,400
Engineering, Legal, Funding			25%	\$ 278,600
Total Estimated Project Cost				\$1,393,000

The cost estimate herein is based on our perception of current conditions at the project location. This estimate reflects our opinion of probable costs at this time and is subject to change as the project design matures. Keller Associates has no control over variances in the cost of labor, materials, equipment, services provided by others, contractor's methods of determining prices, competitive bidding or market conditions, practices or bidding strategies. Keller Associates can not and does not warrant or guarantee that proposals, bids, or actual construction costs will not vary from the costs presented herein.

Opinion of Estimated Project Costs



Client: Elk Bend Sewer District
 Project: WWFPS
 Item: Rehabilitation Alternative
 Project No: 209003

Sheet: 6 of 6
 By: SDA Ckd: JPM
 Date: 6/1/2015 Date:

Description	Unit Meas	Quantity	Unit Cost	Total Cost
Elk Bend Plant Rehab	LS	1	\$ 112,500	\$ 112,500
Steelhead Bend Plant Rehabe	LS	0.2	\$ 112,500	\$ 24,750
Lift Station Rehabilitation	LS	3	\$ 75,000	\$ 225,000
LSAS EB	LS	4	\$ 51,000	\$ 204,000
Pressure Line to LSAS	LF	2,100.0	\$ 40	\$ 84,000
Materials Sub-Total				\$ 650,000
Contingency			20%	\$ 130,000
Concept Level Factor			20%	\$ 130,000
Construction Sub-Total				\$ 910,000
Engineering, Legal, Funding			25%	\$ 228,000
Total Estimated Project Cost				\$1,138,000

The cost estimate herein is based on our perception of current conditions at the project location. This estimate reflects our opinion of probable costs at this time and is subject to change as the project design matures. Keller Associates has no control over variances in the cost of labor, materials, equipment, services provided by others, contractor's methods of determining prices, competitive bidding or market conditions, practices or bidding strategies. Keller Associates can not and does not warrant or guarantee that proposals, bids, or actual construction costs will not vary from the costs presented herein.

Discharge Alternative														
	Land Acquisitio		Infrastructure Required	\$	Estimated Operation Effort	Equipment Maintenance	Estimated O&M Cost	SLA Replacement	\$	Time (yrs)	Total Capital Cost	Annual Pmt (3%, 40 yrs)	Total O&M & SLA	Total Annual Cost
Large Soil Absorption System (LSAS)	2 acres	\$ 50,000	Drainfield Pumping	\$ 300,000 \$ 80,000	3 hrs/wk +gw monitoring	2 hrs/wk	\$ 7,800 \$ 1,200	Pumps	\$ 20,000	15	\$ 430,000	\$ 18,603	\$ 10,333.33	\$ 28,936
Surface Water	Rights of way	\$ 20,000	Pipe & manifold Discharge permit + Cost of Treatment	\$ 150,000 \$ 50,000 \$ 300,000	3 hrs/wk + testing +plant operation ~5 hrs/wk to meet higher treatment levels	1 hr/wk	\$ 6,240 \$ 19,800 \$ 7,800	None			\$ 520,000	\$ 22,496	\$ 33,840	\$ 56,336
Land Application	11 acres	\$ 275,000	Pipeline Land App Site Dev Irrigation System Storage Lagoon Pumping	\$ 375,000 \$ 20,000 \$ 65,000 \$ 350,000 \$ 100,000	8 hrs/wk summer Land app monitoring gw monitoring	2 hrs/wk	\$ 9,360 \$ 500 \$ 1,200	Irrigation Pumps	\$ 50,000 \$ 50,000	20 15	\$ 1,185,000	\$ 51,266	\$ 16,893.33	\$ 68,159
Rapid Infiltration Basins (RIB)	2 acres	\$ 50,000	Inf Basins Pumps Transmission Line	\$ 120,000 \$ 150,000 \$ 500,000	3hrs/wk +gw monitoring	2 hrs/wk	\$ 7,800 \$ 1,200	Pumps	\$ 75,000	15	\$ 820,000	\$ 35,475	\$ 14,000	\$ 49,475
STEP systems	3 acres	\$ 75,000	STEP Clusters Collection Changes	\$ 400,000 \$ 275,000	8 hrs/wk +testing	4 hrs/wk	\$ 18,720 \$ 9,600	Pumps	\$ 40,000	15	\$ 750,000	\$ 32,447	\$ 30,986.67	\$ 63,433

LCCA Evaluation of Alternatives for O&M & Capital Cost ranking
 Prepared 6/2015
 Keller Associates

Treatment Alternative	Infrastructure Required	\$	Operation Effort	Equipment Maintenance	O&M \$	SLA Replacem	\$	Total Capital	Annual Pmt (3%, 40 yrs)	Total O&M & SLA	Total Annual Cost
No Action			8 hrs/wk	4 hrs/wk	\$ 15,600		\$ 208,000	\$ -	\$0.00	\$ 239,950	\$239,950
			Repair & Maintenance		\$ 8,600						
			Utilities & Testing		\$ 7,750						
Rehab Package Plants	\$ 991,050		12 hrs/wk	8 hrs/wk	\$ 26,000		\$ 26,333	\$ 1,138,000	\$49,232.59	\$ 66,583	\$115,816
			Repair & Maintenance		\$ 6,500						
			Utilities & Testing		\$ 7,750						
Sequencing Batch Reactor (SBR)	\$ 1,448,700		16 hrs/wk	12 hrs/wk	\$ 36,400		\$ 17,467	\$ 1,448,700	\$62,674.21	\$ 68,867	\$131,541
			Repair & Maintenance		\$ 5,000						
			Utilities & Testing		\$ 10,000						
Recirculating Gravel Filter (RGF)	\$ 1,268,000		12 hrs/wk	8 hrs/wk	\$ 26,000		\$ 10,883	\$ 1,250,000	\$54,077.97	\$ 48,883	\$102,961
			Repair & Maintenance		\$ 4,500						
			Utilities & Testing		\$ 7,500						

Elk Bend Sewer District
Short Lived Assets Summary
With Recommended Improvements
Prepared 6/2015

Elk Bend WWTP

EB Lift Station #1	Quantity	Age	Life Expected	Rem. Useful Lift	Est. Replacement \$	Annual \$
Lift Station Pumps	2	0	20	20	\$ 5,000	\$ 500
EB Treatment Plant						
Recirculation pumps	2	0	20	20	\$ 5,000	\$ 500
Exhaust Fan	1	0	10	10	\$ 5,000	\$ 500
EB LSAS System						
Discharge pumps	2	0	20	20	\$ 15,000	\$ 1,500
Drainfield controls	4	0	20	20	\$ 1,500	\$ 300

Steelhead Bend WWTP

SB Lift Station						
Lift Station Pumps	2	0	20	20	\$ 5,000	\$ 500
SB Treatment Basin						
Blower 1	1	0	20	20	\$ 15,000	\$ 750
Blower 2	1	5	10	5	\$ 15,000	\$ 3,000
Drainfield	1	35	50	15	\$ 50,000	\$ 3,333

Annual Short Lived Assets Reserve \$ 10,883

Items that are nearing useful life are included in the short lived assets summary.

Elk Bend Sewer District
 Short Lived Assets Summary
 Existing System - Rehab alternative
 Prepared 6/2015

Elk Bend WWTP

	Quantity	Age	Life Expected	Rem. Useful Lift	Est. Replacement \$	Annual \$
EB Lift Station #1 Lift Station Pumps	2	0	20	20	\$ 10,000	\$1,000
EB Lift Station #2 Lift Station Pumps	2	0	20	20	\$ 10,000	\$1,000
EB Treatment Basin Blower 1	1	0	20	20	\$ 15,000	\$750
Blower 2	1	0	20	20	\$ 15,000	\$750
Basin	1	35	50	15	\$ 25,000	\$1,667
Mechanical & Electrical	1	35	45	10	\$ 35,000	\$3,500

Steelhead Bend WWTP

SB Lift Station Lift Station Pumps	2	0	20	20	\$ 10,000	\$ 1,000
SB Treatment Basin Blower 1	1	0	20	20	\$ 15,000	\$ 750
Blower 2	1	0	20	20	\$ 15,000	\$ 750
Basin	1	35	50	15	\$ 25,000	\$ 1,667
Mechanical & Electrical	1	35	45	10	\$ 35,000	\$ 3,500
Drainfield	1	35	40	5	\$ 50,000	\$ 10,000

Annual Short Lived Assets Reserve **\$26,333**

Items that are nearing useful life are included in the short lived assets summary.

Elk Bend Sewer District
Short Lived Assets Summary
Existing System
Prepared 6/2015

Elk Bend WWTP

EB Lift Station #1	Quantity	Age	Life Expected	Rem. Useful Lift	Est. Replacement \$	Annual \$
Lift Station Pumps	2	20	20	3	\$ 10,000	\$6,667
Electrical	1	35	30	3	\$ 25,000	\$8,333
Structure & Mechanical	1	35	30	3	\$ 40,000	\$13,333
EB Lift Station #2						
Lift Station Pumps	2	9	10	3	\$ 10,000	\$6,667
Electrical	1	35	30	3	\$ 25,000	\$8,333
Structure & Mechanical	1	35	30	3	\$ 40,000	\$13,333
EB Treatment Basin						
Blower 1	1	20+	20	3	\$ 15,000	\$5,000
Blower 2	1	1	10	9	\$ 15,000	\$1,667
Basin & Structure	1	35	30	5	\$ 100,000	\$20,000
Mechanical & Electrical	1	35	30	5	\$ 100,000	\$20,000
Drainfield	2	5	5	3	\$ 50,000	\$33,333

Steelhead Bend WWTP

SB Lift Station						
Lift Station Pumps	2	20	20	3	\$ 10,000	\$ 6,666.67
Electrical	1	35	30	3	\$ 25,000	\$ 8,333.33
Structure & Mechanical	1	35	30	3	\$ 40,000	\$13,333
SB Treatment Basin						
Blower 1	1	20+	20	3	\$ 15,000	\$ 5,000.00
Blower 2	1	1	10	9	\$ 15,000	\$ 1,666.67
Basin & Structure	1	35	30	5	\$ 85,000	\$17,000
Mechanical & Electrical	1	35	30	5	\$ 80,000	\$16,000
Drainfield	1	35	50	15	\$ 50,000	\$ 3,333.33

Annual Short Lived Assets Reserve **\$208,000**

Items that are nearing useful life are included in the short lived assets summary.
Items with zero remaining useful life are given 3 to 5 years for replacement.

Elk Bend Sewer District
Short Lived Assets Summary
SBR Alternative
Prepared 6/2015

Elk Bend WWTP

EB Lift Station #1 Lift Station Pumps	Quantity	Age	Life Expected	Rem. Useful Lift	Est. Replacement \$	Annual \$
	2	0	20	20	\$ 5,000	\$ 500
EB Treatment Plant						
SBR pumps	12	0	20	20	\$ 5,000	\$ 3,000
SBR blowers	2	0	15	15	\$ 15,000	\$ 2,000
SBR mixers	2	0	15	15	\$ 10,000	\$ 1,333
SBR other	1	0	20	20	\$ 25,000	\$ 1,250
EB LSAS System						
Discharge pumps	2	0	20	20	\$ 15,000	\$ 1,500
Drainfield controls	4	0	20	20	\$ 1,500	\$ 300

Steelhead Bend WWTP

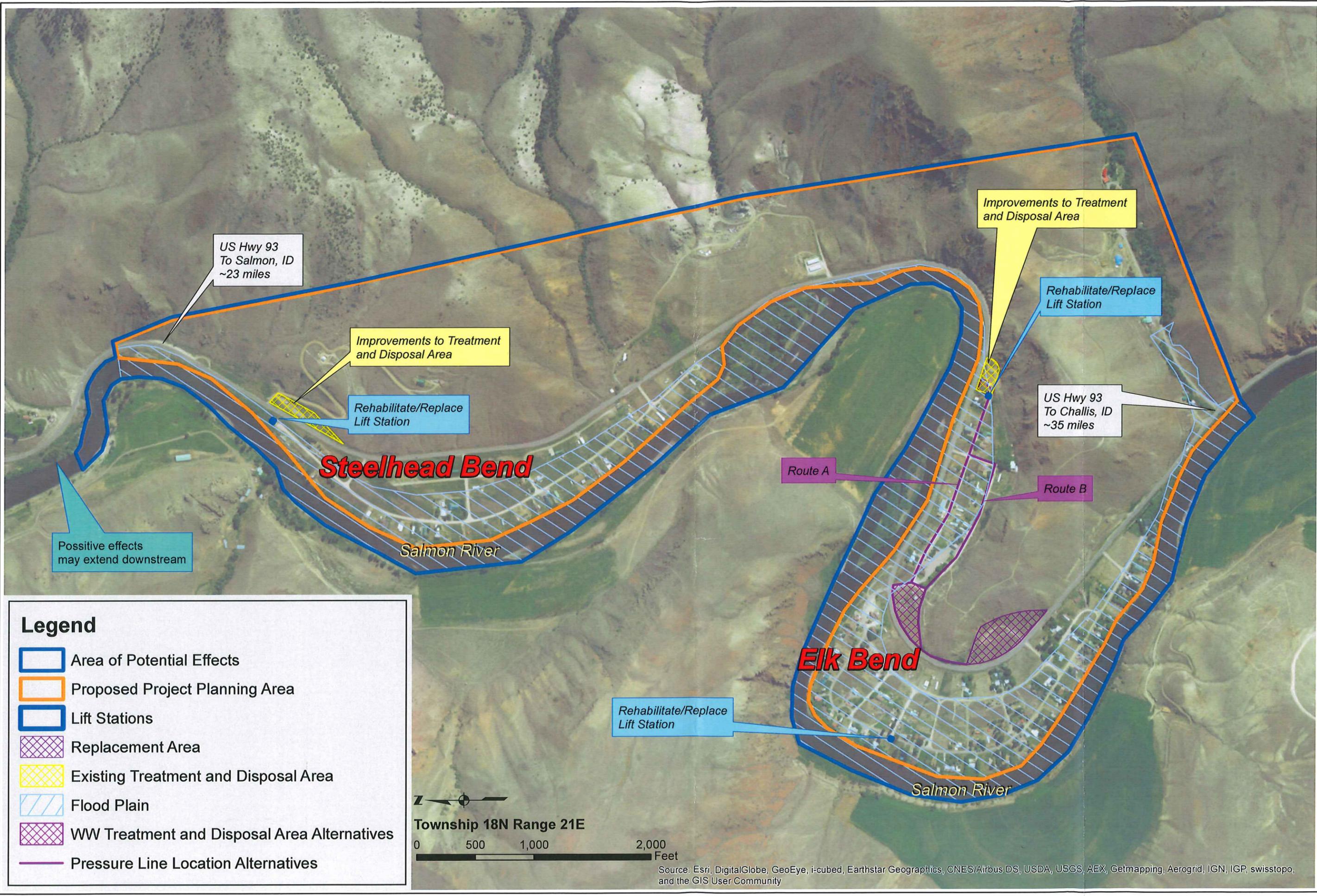
SB Lift Station						
Lift Station Pumps	2	0	20	20	\$ 5,000	\$ 500
SB Treatment Basin						
Blower 1	1	0	20	20	\$ 15,000	\$ 750
Blower 2	1	5	10	5	\$ 15,000	\$ 3,000
Drainfield	1	35	50	15	\$ 50,000	\$ 3,333

Annual Short Lived Assets Reserve \$ 17,467

Items that are nearing useful life are included in the short lived assets summary.

Elk Bend Wastewater Improvements Funding Scenarios

Elk Bend - Pressure Line	\$120,000			
RGF Treatment Plant	\$435,000			
Lift Station Rehabilitation	\$225,000			
LSAS Expansion	\$435,000			
Steelhead Bend WWTP Improvements	\$35,000			
Total Preliminary Project Cost Estimate	\$1,250,000			
Anticipated Funding Sources	IDEQ - 30 years		USDA-RD	
		w/ ICDBG		w/ ICDBG
Idaho Community Development Block Grant*	\$0	\$500,000	\$0	\$500,000
USDA Rural Development Grant (30%)	\$0	\$0	\$375,000	\$225,000
USDA Rural Development Loan (70%) (40 yrs @ 3.5%)	\$0	\$0	\$875,000	\$525,000
IDEQ Loan (30 yrs @ 1.75%)	\$1,250,000	\$750,000	\$0	\$0
Principal forgiveness	\$114,261	\$114,261		
Total	\$1,250,000	\$1,250,000	\$1,250,000	\$1,250,000
Proposed Wastewater Budget Increase				
Loan Payback (estimated annual payment)	\$48,984	\$27,419	\$40,974	\$24,584
O&M Cost Increase	\$16,000	\$16,000	\$16,000	\$16,000
Reserve Fund Increase (10% of payment per year)	\$4,898	\$2,742	\$4,097	\$2,458
Total Increase	\$69,883	\$46,161	\$61,071	\$43,043
Number of Equivalent Dwelling Units (EDU)	125	125	125	125
Current User Rate	\$21.33	\$21.33	\$21.33	\$21.33
Monthly Increase per EDU	\$46.59	\$30.77	\$40.71	\$28.70
New Monthly Rate per EDU	\$67.92	\$52.11	\$62.05	\$50.03
30 year Total Cost	\$1,557,651	\$1,083,224	\$1,832,137.78	\$1,291,282.67



Legend

- Area of Potential Effects
- Proposed Project Planning Area
- Lift Stations
- Replacement Area
- Existing Treatment and Disposal Area
- Flood Plain
- WW Treatment and Disposal Area Alternatives
- Pressure Line Location Alternatives



Source: Esri, DigitalGlobe, GeoEye, i-cubed, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community