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Hahn & Crapo P.L.L.C.
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SEP 13 2012

Department of Water Resources
Eastern Region

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September 12, 2012

Idaho Department of Water Resources
Attn: Blake Jordan
900 North Skyline Drive, Suite A
Idaho Falls, ID 83402-1718

**RE: Amended Application for Permit No. 13-7853 and Response to the Letter
Dated May 24, 2012 regarding Consolidated Irrigation Company Hydropower
Application for Permit.**

Dear Blake:

After further investigation and refining of the above-referenced application, we have amended a few elements of that application, and therefore submit this amended Application for Permit for processing. Should you have any questions regarding this Application, please let me know.

In addition, this letter is in response to your letter dated May 24, 2012 regarding a *Hydropower Application for Permit* resubmitted on behalf of Consolidated Irrigation Company. Your letter requested additional information pursuant to Idaho Code § 42-203A(5). More specifically, this statute is given additional guidance under Rule 40.05 of the Water Appropriation rules found at IDAPA 37.03.08. You requested information responsive to parts c through g of Rule 40.05. I will take each of these criteria in turn and discuss the associated documents and further discussion that satisfy those criteria. We should point out that Rule 40.05 does not state specifically that all of the information called for in these rules must be provided or finalized prior to processing an application for hydropower permit. Therefore, as additional authorizations occur, we will update the information accordingly. At this point, we believe the information we have provided is more than sufficient to satisfy the Department's criteria for advertising the hydropower permit pursuant to Idaho Code § 42-203A.

RULE 40.05.c

This administrative rule applies specifically to trust water, which is associated with the Snake River. The proposed hydropower permit will be utilized in the Bear River Basin of Idaho, therefore, Rule 40.05.c is not applicable.

RULE 40.05.d.i

As described in the amended permit application, the water requirements of the proposed project include a 60 cfs peak use. The proposed hydropower facility will be located on existing Company facilities, and therefore, the usage will occur mostly during the irrigation season when the system is actively being used to divert and deliver irrigation water pursuant to Consolidated's natural flow and storage water rights. We have included a spreadsheet summarizing Consolidated's water rights. You will note that the water rights also allow use of the system during the non-irrigation season for the filling of numerous reservoirs within the Consolidated system. Therefore, the average use period will be the entire year, although we anticipate that usage during the non-irrigation season will be less than the 60 cfs, and likely somewhere between 10 and 30 cfs depending upon the Company's ability to convey water through its open canal system. With specific regard to the volume to be diverted per year, the volume will be dictated by what is allowed under Consolidated's water rights. With regard to the volume of water that will be consumptively used, none of the water will be consumptively used under this permit application because it is for hydropower only.

RULE 40.05.d.ii

This rule requests information on the quantity of water available from the source applied for. As stated above, the hydropower permit will be utilized on an existing Company facility, and will not be located on the natural channel of any stream or river. The majority of water that will run through the hydropower facility will be located on what is known locally as the "Cub River Canal", which is sometimes called the "Cub River-Worm Creek Canal". The Department of Water Resources has diversion data available online, and we have included diversion records for 2011 and 2012, which shows that water is diverted and used during the entirety of the irrigation and non-irrigation season through this canal. Additionally, Consolidated receives water from Mink Creek, through a series of tunnels constructed by the Bureau of Reclamation many decades ago. The measurement of this water, which will be injected into the Cub River Canal and also used for hydropower, is attached. As you can see from these records, just from the Cub River Canal alone, there are times (particularly in the months of June and July) where flows exceed 60 cfs. The peak demand would be for 60 cfs, and based on the most current design, the project would need approximately 12 cfs minimum to operate and produce sufficient electricity. A review of the diversion amounts from 2011 and 2012 demonstrates that flows would certainly be available to satisfy that amount. We have also included measurements from the Lamont Johnson ditch, which is the ditch that takes water from the Cub River Canal to be stored in the Lamont and Johnson reservoirs. This water would likewise run through the new hydropower facility.

Lastly, we have included data from the United States Geographical Survey (USGS) gaging station located just upstream from the diversion into the Cub River Canal. The gauge is no longer active, but has data back from 1940 to 1986 and from 2006-2010. These records

likewise show that there are sufficient flows in Cub River to not only meet Consolidated's irrigation needs under its existing water rights, but to also satisfy the amounts sought under this hydropower permit application.

Lastly, this particular rule requires information about the properties of aquifers that water is to be taken from it ground water is proposed for diversion. There will be no use of ground water for this project, but only surface water from Cub River and Mink Creek.

RULE 40.05.e.i

Rule 40.05.e requires information relating to whether or not the project is pursued in good faith, or is made for speculative purposes. As described below, Consolidated's proposal, in our opinion, exceeds the minimum requirements for the good faith component outlined in this rule.

Rule 40.05.e.i requires the Applicants to provide copies of deeds, leases, easements, or applications for right-of-way for the project facilities. At this point, Consolidated has not secured all of the needed property and easements it needs to construct the facilities and pipeline systems. Nevertheless, we wish to provide you an update regarding where it is at with those discussions. The hydropower plant will be located on property owned by Dennis Webster, who has verbally agreed to sell a portion of his property for the location of the hydropower plant. There will also be a need to obtain an easement from Mr. Webster for the return pipe once water goes through the hydropower facility, and he has given a verbal OK for execution of that document. It will also be necessary to obtain an easement from Phil Smith, and he has provided a verbal OK for that interest as well.

Part of the proposed piping will occur along a road maintained by Franklin County, and they have verbally indicated that they would be willing to grant a license to use the road right-of-way for the pipe. Likewise, the City of Preston actually already has an easement for the location of its pipeline, which is located outside of the Cub River Canal, and based on preliminary discussions with them, see no problem with construction of Consolidated's pipeline. As a brief side note, the Idaho Supreme Court has indicated that private pipelines can be placed within County rights-of-way, even if the underlying landowners do not consent to placement of the pipeline. See *Bentel vs. Bannock County*, 104 Idaho 130, 656 P.2d 1383 (1983). Therefore to the extent we cannot obtain rights-of-way from the underlying landowners, we think the law in Idaho is clear that the County could grant a license for use of its right-of-way for the location of the pipeline.

We additionally note the Rule 40.05.e.i states that if deeds, leases, or easements cannot be obtained, the good faith criterion is satisfied if it can be demonstrated that the property interests in these lands can be obtained by eminent domain proceedings and that appropriate actions are being taken to obtain that interest. The ability to condemn property for this project

for purposes of hydropower would be permitted both under Idaho law and federal law. Idaho Code § 7-701 *et seq.* lists hydropower as a public use pursuant to which eminent domain can be exercised under Idaho law. Without going into too much detail, it is clear from review from these statutes that the project sought by Consolidated would satisfy those criteria.

Additionally, we have included a number of documents that have been filed by Consolidated with the Federal Energy Regulatory Commission (FERC) declaring its intention to construct the hydroelectric facility. Under federal law, once a FERC license is issued, the licensee would be permitted to exercise eminent domain to condemn the necessary lands for installation and construction of its facilities. See 16 U.S.C. § 814. Included within these FERC documents is a preliminary feasibility study that was prepared by Alpha Engineering and RB&G Engineering out of Utah. These documents have been submitted to FERC along with Consolidated's declaration of intent. The documents clearly show that Consolidated is pursuing FERC authorization for the project, which would satisfy the criteria of subpart i of the above rule.

Lastly, this Rule specifically states that applicants for hydropower must also submit information to demonstrate compliance with §§ 42-205 and 42-206 of the Idaho Code. Subpart 2 of Idaho Code § 42-205 states that water cannot be appropriated for hydropower development by using manmade irrigation facilities without the permission of the owner of such facilities. Because Consolidated owns the facilities where it proposes its project, this requirement is not an issue. Subpart 3 is likewise not applicable because there are not competing applications for permit to use these existing facilities. Consolidated is only aware of its application, and we believe no other competing applications have been submitted.

Idaho Code § 42-206 requires that a hydropower permit can only be issued to a person or association or a corporation that is authorized to do business under the laws of the State of Idaho. As we have provided in our initial permit application submission, Consolidated Irrigation Company is a corporation organized under the State of Idaho, and all of its pertinent information can be found on the Idaho Secretary of State's website.

RULE 40.05.e.ii

As indicated above, the Applicant will submit copies of any other needed permits, licenses, or approvals and keep the Department apprised of any applications or approvals that it may need. At this point, we should point out it is likely that Consolidated will need to place a portion of its pipeline under the natural channel of Worm Creek. Consolidated has already had preliminary discussions with James Joyner of the Army Corps of Engineers from the Idaho Falls Regulatory office, who preliminarily indicated that the installation of this pipeline is likely exempt as an appurtenant feature to an irrigation system under the Corps' regulations. To the extent that exemption does not apply, it is likely that the impact to waters of the U.S. will be small enough that it would qualify for a nationwide permit. Once the design plans are

completely finalized, we of course will coordinate with the Corps of Engineers to ensure full compliance with their regulations. Lastly, we have included a copy of a task list which shows the authorizations that the Company is aware it needs to obtain, which it is actively pursuing.

RULE 40.05.f.i

Subpart f of Rule 40.05 requires information relative to financial resources of the Applicant. Subpart i of this rule states that the Applicant can submit a current financial statement or a financial commitment letter, or other evidence to show that it is reasonably probable that financing will be available to construct the project. The proposed project will be funded through a Water Smart grant from the United States Bureau of Reclamation, as well as a loan from the Idaho Water Resource Board. We have included copies of documents relative to the granting process, including the acceptance letter sent by the Bureau of Reclamation very recently. In addition, we have included a copy of the loan approval from the Idaho Water Resource Board approving the loan for \$1.5 million to cover the remaining costs associated with the project. Therefore, these existing authorizations make it quite clear that it is reasonably probable that financing will be available because it is actually available. We believe these documents therefore satisfy the criteria of this particular Rule.

RULE 40.05.f.ii

This Rule requires the Applicant to submit plans and specifications along with estimated construction costs of the project works. We believe this is satisfied by viewing the FERC documents which we have submitted, which shows an active and steady attempt to provide the information necessary to FERC to receive their authorization to construct the project. We fully anticipate more detailed drawings to be prepared as we continue to work through the process. We have attached the most recent version of the budget for this project, which we fully concede is likely to change. The projected costs are on the spreadsheet, and as you can see, the anticipated costs are just under approximately three million dollars. For your additional information, we have included recent quotes for purchase of pipe for the project, which shows that the project is still viable at this particular stage.

RULE 40.05.g

This Rule requires submission of information to show that the project will not conflict with the local public interest. We believe that the project is in the local public interest because it utilizes an existing irrigation facility to generate hydropower, which will provide revenue to the stockholders of Consolidated, as well as provide green, renewable energy for the local area and the western United States. No on stream facilities are proposed, so this would not impact any existing recreational uses. This Rule requires letters of comment on the effects of the construction or operation of the proposed project by Franklin County, the Idaho Department of Fish and Game, and the Idaho Department of Environmental Quality. The other entities listed in

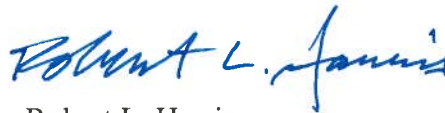
this Rule are not applicable because there is no tribal reservation within which the point of diversion or place of use is located, and the canal company service area within which the proposed project is located is Consolidated. With specific regard to the Idaho Department of Fish and Game, Lyle Porter, the President of Consolidated, has met with Department of Fish and Game officials regarding the project, and we anticipate that comments will be submitted in the FERC process as a result of those meetings. With regards to the Idaho Department of Environmental Quality, we anticipate that the FERC process will necessarily require their involvement and comment, but their comments have not been solicited at this time. With regards to Franklin County, we have already provided above that there have been preliminary discussions with them regarding use of the County's right-of-way for installation of the pipe to feed the hydropower facility. As those discussions progress, and we receive any written authorization or comments from them, we will provide those to the Department.

Lastly, the Bureau of Reclamation is sending an archeologist and biologist to the project site and will submit comments indicating whether or not the proposed project will have impacts on either of those areas of concern.

We appreciate the consideration of the enclosed information as you continue to process this hydropower permit application. We believe that we have satisfied the requests in your letter, and request that the application move to advertising within the next few weeks.

Should you have any questions or concerns regarding the information we have provided, please do not hesitate to give us a call. We appreciate your attention to this matter, and the time and resources you have already expended as we have met and discussed the project with you.

Best Regards,



Robert L. Harris
HOLDEN, KIDWELL, HAHN & CRAPO, P.L.L.C.

Enclosures

CONSOLIDATED IRRIGATION CO. WATER RIGHTS

	Water Right No.	Priority Date	Source	Tributary To	Beneficial Use	Individual Diversion Rate Limitation (cfs)	Combined Diversion Rate Limitation (cfs)	Volume Limitation (AFA)	Point of Diversion	Individual Acre Limitation	Combined Acre Limitations		
NATURAL FLOW	13-2	4/1/1882	Cub River	Bear River	Irrigation	30			Glendale Canal and Middle Ditch	3100		12431	
	13-3	4/1/1882	Cub River	Bear River	Irrigation	25			Glendale Canal and Middle Ditch	9331			9331
	13-2104	3/14/1924	Cub River	Bear River	Irrigation	25			Glendale Canal and Middle Ditch	8410			
	13-271	5/7/1880	Worm Creek	Cub River	Irrigation	50		2000	SESW, Sec. 8, 15S, 40E	10449			
	13-143	4/1/1929	Springs	Worm Creek	Irrigation	5		2133	Springs, SWSW Sec. 8, 15S, 40E				
	13-2103	3/14/1924	Worm Creek	Cub River	Irrigation	25		10662	SESW, Sec. 8, 15S, 40E				
	13-2302	1/9/1962	Cub River	Bear River	Irrigation, Irrigation Storage, Irrigation from Storage	6.8		2282 (Irr.) 730 (Stor., Irr. from Stor.)	NWNE, Sec. 20, 15S, 40E	1226			
	13-7747	5/1/1888	Mink Creek	Bear River	Irrigation	30.13			SWNESE, Sec. 28, 13S, 41E	3013			
	13-35	1/1/1882	No sources found for these rights, but presumably out of Cub River because these rights are listed in the McEwan Decree.		Stockwater, Domestic	4			Not Specified in decree				
	13-36	1/1/1882		Stockwater, Domestic	3	Not Specified in decree							
	13-37	1/1/1882		Stockwater, Domestic	2	Not Specified in decree							
	13-38	1/1/1882		Stockwater, Domestic	3	Not Specified in decree							
	The natural flow water rights from <u>Cub River</u> total <u>98.8 cfs</u> . The natural flow water rights from <u>Worm Creek</u> total <u>75 cfs</u> . The natural flow water rights from <u>Springs</u> tributary to Worm Creek total <u>5 cfs</u> . The natural flow water rights from <u>Mink Creek</u> total <u>30.13 cfs</u> . The <u>GRAND TOTAL</u> of all natural flow rights is <u>208.93 cfs</u> .												
	STORAGE RIGHTS	FOSTER RESERVOIR											
13-2298		2/11/1957	Cub River	Bear River	Irrigation Storage, Irrigation from Storage			3355	Glendale Canal	4708.7			
LAMONT RESERVOIR													
13-2291		6/30/1947	Cub River	Bear River	Irrigation Storage, Irrigation from Storage			2407.5	Glendale Canal	3938			
JOHNSON RESERVOIR													
13-2022		9/17/1910	Worm Creek	Cub River	Irrigation, Irrigation Storage, Diversion to Storage	10	20	4265 (Irr.) 620 (Irr. Stor.)	NWSE, Sec. 10, 15S, 40E	1559			
13-2102		9/18/1923				10		4266 (Irr.) 730 (Irr. Stor.)					
13-2287		9/18/1923				10		4267 (Irr.) 730 (Irr. Stor.)					
GLENDALE RESERVOIR													
13-2288		3/14/1924	Worm Creek	Cub River	Irrigation Storage, Irrigation from Storage, Diversion to Storage	215	6000	NESESW, Sec. 8, 15S, 40E	15708.9 Storage water from these rights can be used to Irrigate an additional 264.9 acres beyond the 15444.2 combined limitation on the rest of the water rights.				
13-2288A		12/15/1924	Cub River	Bear River				Glendale Canal					
13-2108	12/15/1924	Worm Creek	Cub River	NESESW, Sec. 8, 15S, 40E									

IDAHODepartment Of
Water ResourcesAnnual Summary
Log OnPublish Date: 8/28/2012
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Annual Summary

Year Type: Calendar Year
 Year: 01/01/2011 - 12/31/2011
 Water District: 13A Cub River
 Point of Diversion: 10093101 - D - CUB RIVER-WORM CK CANAL (PWIC)

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Annual Summary for Water District 13A Cub River 10093101 - D - CUB RIVER-WORM CK CANAL (PWIC)

DISCHARGE, CUBIC FEET PER SECOND, CALENDAR YEAR 01/01/2011 - 12/31/2011

Day	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1	9.46	5.74	8.37	0.00	0.00	0.00	30.8	4.29	13.1	0.00	21.0	16.6
2	9.46	5.74	8.37	0.00	0.00	0.00	28.6	4.29	13.1	0.00	20.4	16.6
3	9.83	5.74	8.37	0.00	0.00	0.00	32.5	7.01	13.1	0.00	20.4	16.6
4	10.2	5.74	8.37	0.00	0.00	0.00	50.1	6.68	5.74	0.00	20.4	16.6
5	10.2	9.10	8.73	0.00	0.00	0.00	60.4	7.68	0.00	0.00	20.4	16.6
6	10.2	8.08	8.73	0.00	0.00	0.00	65.0	7.34	0.00	0.00	20.4	16.6
7	9.83	7.06	8.73	0.00	0.00	0.00	64.2	8.37	0.00	0.00	20.4	17.1
8	9.46	6.04	8.73	0.00	0.00	20.9	65.7	8.37	0.00	0.00	20.4	17.1
9	9.09	5.02	7.68	0.00	0.00	20.9	61.9	8.37	0.00	0.00	20.4	17.1
10	9.09	4.00	7.68	0.00	0.00	19.0	61.9	8.37	0.00	0.00	20.4	16.6
11	8.37	2.98	0.00	0.00	0.00	24.6	63.4	5.43	0.00	0.00	20.4	16.6
12	8.37	1.96	0.00	0.00	0.00	25.7	65.7	5.74	0.00	0.00	20.4	16.6
13	8.37	0.91	0.00	0.00	0.00	29.0	65.7	6.68	0.00	0.00	20.4	15.5
14	9.38	8.02	0.00	0.00	0.00	17.5	63.4	6.68	0.00	3.00	20.4	15.5
15	9.83	8.02	0.00	0.00	0.00	19.0	65.7	4.29	0.00	17.5	20.4	15.5
16	10.6	8.02	0.00	0.00	0.00	20.4	69.7	8.37	0.00	17.5	21.5	15.5
17	3.24	8.02	0.00	0.00	0.00	18.5	71.3	8.37	0.00	17.5	21.5	15.2
18	3.24	8.02	0.00	0.00	0.00	20.4	73.7	11.0	0.00	17.5	21.5	15.2
19	3.24	8.02	0.00	0.00	0.00	19.9	73.7	10.6	0.00	17.5	21.5	15.2
20	3.24	8.02	0.00	0.00	0.00	19.9	80.4	12.2	0.00	17.5	21.5	15.2
21	3.24	8.02	0.00	0.00	0.00	22.5	75.4	12.2	0.00	17.5	21.5	14.8
22	3.24	8.02	0.00	0.00	0.00	19.9	59.6	12.6	0.00	17.5	21.5	14.8
23	3.24	8.37	0.00	0.00	0.00	22.5	70.5	12.6	0.00	17.5	21.5	14.8
24	5.74	8.37	0.00	0.00	0.00	19.9	61.1	12.6	0.00	17.5	21.5	14.3
25	5.74	8.37	0.00	0.00	0.00	35.6	60.4	12.6	0.00	17.5	21.5	14.3
26	5.74	8.37	0.00	0.00	0.00	32.5	58.9	12.6	0.00	18.2	21.5	14.3
27	5.74	8.37	0.00	0.00	0.00	10.2	64.2	13.1	0.00	18.8	21.5	14.3
28	5.74	8.37	0.00	0.00	0.00	10.2	64.2	13.1	0.00	19.5	21.5	19.5
29	5.74	--	0.00	0.00	0.00	8.73	63.4	13.1	0.00	20.2	21.5	19.5
30	5.74	--	0.00	0.00	0.00	30.8	58.1	13.1	0.00	20.9	21.5	18.5
31	5.74	--	0.00	--	0.00	--	55.2	12.6	--	21.5	--	18.5
Total:	220.3	190.5	83.8	0.00	0.00	488.5	1904	290.3	45.0	314.6	629.1	501.1
Mean:	7.11	6.80	2.70	0.00	0.00	16.3	61.5	9.37	1.50	10.2	21.0	16.2
Min:	3.24	0.91	0.00	0.00	0.00	0.00	28.6	4.29	0.00	0.00	20.4	14.3
Max:	10.6	9.10	8.73	0.00	0.00	35.6	80.4	13.1	13.1	21.5	21.5	19.5
AC-FT:	437.0	377.9	166.1	0.00	0.00	969.0	3778	575.9	89.3	624.0	1247	993.9

CALENDAR YEAR 01/01/2011 - 12/31/2011 TOTAL CFS: 4668 TOTAL AC-FT: 9259



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Water Resources[Annual Summary](#)
[Log On](#)Publish Date: 8/28/2012
(Ver. 1.0.0.2)

Annual Summary

Year Type: Calendar Year
Year: 01/01/2012 - 12/31/2012
Water District: 13A Cub River
Point of Diversion: 10093101 - D - CUB RIVER-WORM CK CANAL (PWIC)

[Export/Print](#)

Annual Summary for Water District 13A Cub River 10093101 - D - CUB RIVER-WORM CK CANAL (PWIC)

DISCHARGE, CUBIC FEET PER SECOND, CALENDAR YEAR 01/01/2012 - 12/31/2012

Day	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1	16.6	8.73	8.73	5.74	27.9	41.3	28.1	0.00	--	--	--	--
2	17.5	8.73	7.01	5.74	27.9	40.0	27.6	0.00	--	--	--	--
3	17.5	8.73	6.05	0.00	18.5	32.5	27.0	0.00	--	--	--	--
4	17.5	8.73	6.68	35.0	11.0	40.0	23.9	0.00	--	--	--	--
5	17.5	8.73	6.68	36.2	11.0	53.7	23.3	0.00	--	--	--	--
6	17.5	8.73	8.73	37.5	9.80	22.5	23.3	0.00	--	--	--	--
7	17.5	8.73	8.73	37.5	25.7	40.7	14.3	0.00	--	--	--	--
8	17.5	8.73	8.73	44.6	33.7	61.1	14.3	0.00	--	--	--	--
9	16.1	8.73	9.09	45.3	50.1	61.1	14.7	--	--	--	--	--
10	17.1	8.73	9.09	47.4	57.4	36.2	12.2	--	--	--	--	--
11	17.1	8.73	18.5	50.8	63.4	60.4	12.2	--	--	--	--	--
12	19.5	7.68	7.01	57.4	70.5	58.5	12.2	--	--	--	--	--
13	19.5	7.68	8.37	57.4	74.6	46.7	12.2	--	--	--	--	--
14	17.5	7.68	11.4	59.6	80.4	51.3	11.8	--	--	--	--	--
15	17.5	7.68	7.01	58.9	82.9	51.3	11.8	--	--	--	--	--
16	16.6	7.34	7.01	57.4	86.4	50.6	11.8	--	--	--	--	--
17	16.6	7.34	7.34	54.4	87.2	50.6	11.4	--	--	--	--	--
18	15.7	7.34	4.29	55.2	74.6	56.3	9.09	--	--	--	--	--
19	15.7	7.34	2.50	55.2	87.2	56.0	6.36	--	--	--	--	--
20	15.7	7.34	9.09	50.8	87.2	54.1	6.36	--	--	--	--	--
21	13.9	7.34	9.09	51.6	87.2	48.6	6.36	--	--	--	--	--
22	11.4	8.73	8.37	29.0	89.9	47.9	6.05	--	--	--	--	--
23	10.6	7.34	8.37	27.9	82.9	47.9	8.02	--	--	--	--	--
24	13.1	7.34	22.5	33.1	70.5	47.9	9.09	--	--	--	--	--
25	13.1	7.34	7.34	38.7	68.9	42.0	7.01	--	--	--	--	--
26	13.1	7.01	7.34	40.0	69.7	40.6	5.14	--	--	--	--	--
27	13.1	7.01	5.74	45.3	41.3	35.1	5.14	--	--	--	--	--
28	13.9	7.01	5.74	52.3	40.0	33.7	3.49	--	--	--	--	--
29	13.9	7.01	5.74	52.3	39.4	30.4	3.49	--	--	--	--	--
30	8.73	--	5.74	26.2	19.5	30.8	3.00	--	--	--	--	--
31	8.73	--	5.74	--	19.5	--	2.53	--	--	--	--	--
Total:	477.3	229.6	253.8	1248	1696	1369	373.2	0.00	--	--	--	--
Mean:	15.4	7.92	8.19	41.6	54.7	45.7	12.0	0.00	--	--	--	--
Min:	8.73	7.01	2.50	0.00	9.80	22.5	2.53	0.00	--	--	--	--
Max:	19.5	8.73	22.5	59.6	89.9	61.1	28.1	0.00	--	--	--	--
AC-FT:	946.7	455.4	503.3	2476	3364	2717	740.3	0.00	--	--	--	--

CALENDAR YEAR 01/01/2012 - 12/31/2012 TOTAL CFS: 5648 TOTAL AC-FT: 11203

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Water ResourcesAnnual Summary
Log OnPublish Date: 8/28/2012
(Ver. 1.0.0.2)**Annual Summary**

Year Type: Calendar Year
 Year: 01/01/2011 - 12/31/2011
 Water District: 13A Cub River
 Point of Diversion: 10098001 - E - MINK CK INJECTION TO WORM CK

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Annual Summary for Water District 13A Cub River
10098001 - E - MINK CK INJECTION TO WORM CK

DISCHARGE, CUBIC FEET PER SECOND, CALENDAR YEAR 01/01/2011 - 12/31/2011

Day	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1	--	--	--	--	--	0.00	22.5	25.2	22.9	21.4	0.00	0.00
2	--	--	--	--	--	0.00	19.2	23.6	22.1	0.00	0.00	0.00
3	--	--	--	--	--	0.00	23.2	25.4	23.2	0.00	0.00	0.00
4	--	--	--	--	--	0.00	23.2	25.9	22.9	0.00	0.00	0.00
5	--	--	--	--	--	0.00	22.5	24.8	22.9	0.00	0.00	0.00
6	--	--	--	--	--	0.00	22.5	25.9	23.2	0.00	0.00	0.00
7	--	--	--	--	--	0.00	22.5	27.1	17.8	0.00	0.00	0.00
8	--	--	--	--	--	0.00	22.5	27.1	17.8	0.00	0.00	0.00
9	--	--	--	--	--	0.00	22.9	26.7	17.2	0.00	0.00	0.00
10	--	--	--	--	--	0.00	23.2	22.5	13.6	0.00	0.00	0.00
11	--	--	--	--	--	0.00	22.5	21.7	13.9	0.00	0.00	0.00
12	--	--	--	--	--	0.00	23.2	21.0	13.8	0.00	0.00	0.00
13	--	--	--	--	--	0.00	22.5	16.1	16.8	0.00	0.00	0.00
14	--	--	--	--	--	0.00	22.5	20.6	16.8	0.00	0.00	0.00
15	--	--	--	--	--	0.00	22.5	9.70	16.8	0.00	0.00	0.00
16	--	--	--	--	--	0.00	22.5	14.5	16.8	0.00	0.00	0.00
17	--	--	--	--	--	3.44	22.5	14.5	13.3	0.00	0.00	0.00
18	--	--	--	--	--	3.44	22.5	14.5	12.7	0.00	0.00	0.00
19	--	--	--	--	--	3.44	23.2	14.8	11.5	0.00	0.00	0.00
20	--	--	--	--	--	3.44	22.9	15.2	10.6	0.00	0.00	0.00
21	--	--	--	--	--	3.44	23.2	15.2	10.4	0.00	0.00	0.00
22	--	--	--	--	--	3.44	23.2	15.2	10.4	0.00	0.00	0.00
23	--	--	--	--	--	3.44	24.0	14.5	21.0	0.00	0.00	0.00
24	--	--	--	--	--	3.44	22.5	14.2	21.0	0.00	0.00	0.00
25	--	--	--	--	--	3.44	24.0	14.2	21.8	0.00	0.00	0.00
26	--	--	--	--	--	3.44	23.2	22.9	21.8	0.00	0.00	0.00
27	--	--	--	--	--	12.1	22.9	22.5	20.7	0.00	0.00	0.00
28	--	--	--	--	--	12.7	22.1	22.5	21.0	0.00	0.00	0.00
29	--	--	--	--	--	17.2	24.4	22.9	21.0	0.00	0.00	0.00
30	--	--	--	--	--	17.2	24.0	22.9	21.4	0.00	0.00	0.00
31	--	--	--	--	--	--	24.0	22.5	--	0.00	--	0.00
Total:	--	--	--	--	--	93.6	708.5	626.3	537.1	21.4	0.00	0.00
Mean:	--	--	--	--	--	3.12	22.9	20.2	17.9	0.69	0.00	0.00
Min:	--	--	--	--	--	0.00	19.2	9.70	10.4	0.00	0.00	0.00
Max:	--	--	--	--	--	--	17.2	24.4	27.1	23.2	21.4	0.00
AC-FT:	--	--	--	--	--	185.7	1405	1242	1065	42.5	0.00	0.00

CALENDAR YEAR 01/01/2011 - 12/31/2011 TOTAL CFS: 1986 TOTAL AC-FT: 3941



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Log OnPublish Date: 8/28/2012
(Ver. 1.0.0.2)**Annual Summary**

Year Type: Calendar Year
 Year: 01/01/2012 - 12/31/2012
 Water District: 13A Cub River
 Point of Diversion: 10098401 - D - LAMONT JOHNSON DITCH

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Annual Summary for Water District 13A Cub River
10098401 - D - LAMONT JOHNSON DITCH

DISCHARGE, CUBIC FEET PER SECOND, CALENDAR YEAR 01/01/2012 - 12/31/2012

Day	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1	0.00	0.00	0.00	0.00	11.3	--	--	--	--	--	--	--
2	0.00	--	0.00	0.00	11.3	--	--	--	--	--	--	--
3	0.00	--	0.00	0.00	7.15	--	--	--	--	--	--	--
4	0.00	--	0.00	0.00	6.77	--	--	--	--	--	--	--
5	0.00	--	8.11	0.00	6.41	--	--	--	--	--	--	--
6	0.00	--	8.11	0.00	5.88	--	--	--	--	--	--	--
7	0.00	--	11.3	0.00	16.0	--	--	--	--	--	--	--
8	0.00	--	10.4	0.00	16.0	--	--	--	--	--	--	--
9	0.00	--	11.3	0.00	17.3	--	--	--	--	--	--	--
10	0.00	--	17.5	0.00	27.2	--	--	--	--	--	--	--
11	0.00	--	14.8	0.00	26.0	--	--	--	--	--	--	--
12	0.00	--	8.11	0.00	28.5	--	--	--	--	--	--	--
13	0.00	--	16.0	0.00	29.7	--	--	--	--	--	--	--
14	0.00	--	16.0	0.00	30.3	--	--	--	--	--	--	--
15	0.00	--	13.6	0.00	31.6	--	--	--	--	--	--	--
16	0.00	--	16.0	0.00	31.3	--	--	--	--	--	--	--
17	0.00	--	16.3	0.00	31.0	--	--	--	--	--	--	--
18	0.00	--	18.6	0.00	30.3	--	--	--	--	--	--	--
19	0.00	--	15.5	0.00	30.7	--	--	--	--	--	--	--
20	0.00	--	8.11	0.00	31.3	--	--	--	--	--	--	--
21	0.00	--	14.3	0.00	31.3	--	--	--	--	--	--	--
22	0.00	--	14.8	13.1	31.3	--	--	--	--	--	--	--
23	0.00	--	16.3	16.5	29.7	--	--	--	--	--	--	--
24	0.00	--	19.7	16.5	31.0	--	--	--	--	--	--	--
25	0.00	--	16.5	15.5	32.3	--	--	--	--	--	--	--
26	0.00	--	16.5	17.0	31.5	--	--	--	--	--	--	--
27	0.00	--	15.4	21.9	29.1	--	--	--	--	--	--	--
28	0.00	--	19.7	25.4	--	--	--	--	--	--	--	--
29	0.00	--	19.7	26.0	--	--	--	--	--	--	--	--
30	0.00	--	8.31	25.7	--	--	--	--	--	--	--	--
31	0.00	--	8.31	--	--	--	--	--	--	--	--	--
Total:	0.00	0.00	379.3	177.6	642.2	--	--	--	--	--	--	--
Mean:	0.00	0.00	12.2	5.92	23.8	--	--	--	--	--	--	--
Min:	0.00	0.00	0.00	0.00	5.88	--	--	--	--	--	--	--
Max:	0.00	0.00	19.7	26.0	32.3	--	--	--	--	--	--	--
AC-FT:	0.00	0.00	752.3	352.3	1273	--	--	--	--	--	--	--

CALENDAR YEAR 01/01/2012 - 12/31/2012 TOTAL CFS: 1199 TOTAL AC-FT: 2378



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IDAHODepartment Of
Water Resources**Annual Summary**
Log OnPublish Date: 8/28/2012
(Ver. 1.0.0.2)**Annual Summary**

Year Type: Calendar Year
Year: 01/01/2011 - 12/31/2011
Water District: 13A Cub River
Point of Diversion: 10098401 - D - LAMONT JOHNSON DITCH

Export/Print**Annual Summary for Water District 13A Cub River**
10098401 - D - LAMONT JOHNSON DITCH

DISCHARGE, CUBIC FEET PER SECOND, CALENDAR YEAR 01/01/2011 - 12/31/2011

Day	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1	--	--	--	26.0	20.2	10.8	19.9	28.8	25.1	20.2	16.0	0.00
2	--	--	--	29.7	20.8	5.88	25.7	29.1	25.1	0.00	16.0	0.00
3	--	--	--	31.6	23.0	5.53	25.4	29.7	25.1	0.00	16.0	0.00
4	--	--	--	25.6	20.2	5.53	27.2	30.0	25.7	0.00	16.0	0.00
5	--	--	--	30.0	21.9	5.36	27.2	30.3	25.7	0.00	16.0	0.00
6	--	--	--	24.8	22.5	5.36	28.8	30.3	25.7	0.00	16.0	0.00
7	--	--	--	34.9	15.0	7.15	28.8	30.3	19.4	0.00	16.0	0.00
8	--	--	--	30.7	15.0	8.11	28.8	30.3	19.1	0.00	16.0	0.00
9	--	--	--	30.7	10.4	7.72	28.8	32.0	19.1	0.00	16.0	0.00
10	--	--	--	30.7	9.95	10.8	28.5	30.3	14.8	0.00	16.0	0.00
11	--	--	--	27.9	15.0	10.8	28.1	30.3	14.8	0.00	16.0	0.00
12	--	--	--	24.2	16.5	11.0	28.1	25.7	14.3	0.00	16.0	0.00
13	--	--	--	21.9	18.6	10.8	28.1	22.8	16.8	0.00	16.0	0.00
14	--	--	--	27.2	14.5	9.95	27.2	28.8	17.0	16.0	16.0	0.00
15	--	--	--	9.95	12.6	9.95	27.5	16.0	16.8	16.0	16.0	0.00
16	--	--	--	8.71	13.8	9.95	29.1	24.2	14.8	16.0	16.0	0.00
17	--	--	--	9.95	13.3	9.95	29.1	22.8	13.6	16.0	0.00	0.00
18	--	--	--	12.2	12.2	9.95	29.7	24.2	12.4	16.0	0.00	0.00
19	--	--	--	12.2	12.2	9.32	28.8	20.8	12.4	16.0	0.00	0.00
20	--	--	--	12.2	12.4	9.11	28.8	24.5	11.3	16.0	0.00	0.00
21	--	--	--	11.3	12.4	9.11	29.1	24.5	10.6	16.0	0.00	0.00
22	--	--	--	11.3	16.3	9.74	29.1	23.9	18.6	16.0	0.00	0.00
23	--	--	--	18.6	16.3	10.2	30.0	23.9	18.6	16.0	0.00	0.00
24	--	--	--	20.8	17.0	12.2	31.3	24.2	20.8	16.0	0.00	0.00
25	--	--	4.54	21.3	15.8	10.2	29.7	18.6	21.3	16.0	0.00	0.00
26	--	--	4.54	19.7	15.8	13.1	30.3	23.6	20.8	16.0	0.00	0.00
27	--	--	4.54	21.9	15.5	14.8	27.2	22.8	21.1	16.0	0.00	0.00
28	--	--	4.54	21.3	15.5	15.5	26.6	23.6	20.2	16.0	0.00	0.00
29	--	--	7.15	21.9	15.3	18.6	27.2	23.9	20.2	16.0	0.00	0.00
30	--	--	10.4	20.8	15.8	19.9	29.1	23.9	20.2	16.0	0.00	0.00
31	--	--	16.0	--	11.0	--	29.1	23.0	--	16.0	--	0.00
Total:	--	--	51.7	650.0	486.8	306.4	872.3	797.1	561.4	308.2	256.0	0.00
Mean:	--	--	7.39	21.7	15.7	10.2	28.1	25.7	18.7	9.94	8.53	0.00
Min:	--	--	4.54	8.71	9.95	5.36	19.9	16.0	10.6	0.00	0.00	0.00
Max:	--	--	16.0	34.9	23.0	19.9	31.3	32.0	25.7	20.2	16.0	0.00
AC-FT:	--	--	102.6	1289	965.5	607.7	1730	1581	1113	611.3	507.8	0.00

CALENDAR YEAR 01/01/2011 - 12/31/2011 TOTAL CFS: 4289 TOTAL AC-FT: 8508

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USGS 10093000 CUB RIVER NEAR PRESTON, ID

Available data for this site Time-series: Monthly statistics

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Franklin County, Idaho Hydrologic Unit Code 16010202 Latitude 42°08'25", Longitude 111°41'26" NAD27 Drainage area 31.60 square miles Gage datum 5,285.10 feet above NGVD29	Output formats HTML table of all data Tab-separated data Reselect output format
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00060, Discharge, cubic feet per second,												
YEAR	Monthly mean in cfs (Calculation Period: 1940-03-01 -> 2010-09-30)											
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1940			33.7	69.1	309.1	118.8	45.3	28.4	23.2	20.3	18.2	16.3
1941	16.0	17.5	26.1	46.1	276.7	137.9	48.3	31.0	24.8	23.9	22.3	20.3
1942	20.0	19.8	22.0	118.1	205.8	262.0	73.1	39.5	27.9	24.7	22.0	21.0
1943	21.5	23.4	33.6	201.2	352.5	357.2	122.5	56.4	34.9	30.6	29.5	24.9
1944	21.5	21.8	22.1	46.9	262.8	277.2	79.1	42.5	32.0	26.9	23.7	19.8
1945	18.7	18.7	22.6	43.6	252.8	340.1	116.7	48.8	36.0	29.6	28.8	26.1
1946	25.4	23.4	40.9	191.6	371.7	279.4	92.8	51.4	36.0	31.5	27.9	27.7
1947	22.0	24.6	34.7	70.7	391.8	233.9	80.7	46.1	33.5	28.5	25.4	24.5
1948	23.8	20.6	20.9	70.1	327.1	366.8	99.3	55.0	39.9	30.6	25.7	23.2
1949	21.3	18.2	30.5	98.6	343.3	189.7	70.4	43.4	32.6	29.1	26.8	25.5
1950	26.6	23.7	35.9	103.7	281.3	522.0	201.8	74.0	46.9	34.7	30.2	26.7
1951	25.9	28.9	27.3	129.9	355.1	287.1	93.8	50.9	37.3	31.1	26.6	21.7
1952	19.6	18.9	18.9	100.7	386.1	322.2	87.2	47.7	32.3			

1955										24.7	21.9	29.1
1956	30.0	21.3	32.9	113.9	373.0	269.7	72.9	43.5	31.2	27.1	23.4	20.7
1957	18.2	21.1	27.4	51.0	262.4	433.6	129.8	52.3	37.4	29.0	24.0	22.2
1958	20.3	23.1	25.9	58.4	377.0	271.0	74.5	42.5	32.3	26.9	24.0	21.6
1959	19.2	18.3	22.1	52.9	194.4	266.9	71.3	38.6	30.2	31.1	27.2	21.8
1960	18.4	17.8	28.9	80.5	259.3	161.8	52.3	33.2	27.5	23.6	21.8	18.9
1961	16.7	16.4	21.6	37.6	206.1	123.6	43.8	28.8	23.3	20.5	19.8	18.5
1962	17.8	35.4	27.8	155.5	337.9	242.9	80.2	43.0	33.9	28.3	23.2	20.5
1963	17.5	19.5	21.7	38.9	256.5	220.7	67.8	38.7	29.0	23.8	21.9	19.1
1964	17.8	17.2	17.5	52.7	253.1	388.7	123.7	49.6	34.6	28.7	24.4	27.7
1965	23.0	23.7	24.0	71.1	246.4	513.1	176.2	67.7	44.4	34.4	29.9	26.6
1966	23.4	22.0	30.4	77.4	251.6	105.7	50.0	33.2	27.0	22.2	19.9	18.6
1967	17.1	17.0	24.9	41.3	210.5	439.2	136.6	53.7	36.8	28.2	24.2	21.2
1968	18.8	20.0	27.7	36.3	163.3	347.6	86.8	44.4	31.7	26.3	22.6	21.4
1969	24.3	21.4	25.5	95.5	349.7	155.9	80.2	42.2	30.3	25.5	22.5	19.9
1970	19.7	21.4	22.5	31.3	248.2	427.0	101.0	48.8	35.9	29.8	28.1	28.9
1971	28.8	29.4	35.5	94.4	348.9	606.7	206.9	72.3	46.3	37.1	29.2	26.5
1972	24.7	22.8	51.3	80.5	320.7	449.0	118.4	54.9	37.4	30.2	26.3	23.3
1973	19.8	18.2	21.9	42.0	303.8	238.7	71.7	41.3	31.0	26.8	25.4	22.4
1974	21.8	20.5	29.7	78.1	358.1	408.8	104.9	52.6	35.0	28.1	23.5	19.6
1975	17.7	16.5	23.2	32.0	159.5	518.5	283.6	75.4	44.3	31.5	26.7	25.2
1976	21.6	22.9	24.8	70.0	362.9	284.5	89.3	44.2	32.3	27.1	22.2	18.6
1977	18.1	14.5	15.0	43.5	77.5	73.5	28.5	21.9	18.0	16.4	14.1	15.1
1978	16.0	17.0	41.8	101.1	242.7	463.3	165.7	56.4	35.8	28.6	26.2	23.4
1979	18.1	16.0	22.5	50.3	297.9	213.9	69.5	37.2	27.3	24.5	20.4	16.8
1980	17.5	18.4	21.8	107.5	327.7	410.9	112.6	49.6	34.5	27.6	23.4	20.3
1981	18.1	15.8	20.4	55.6	237.8	208.8	58.0	38.4	30.1	23.4	20.3	20.5
1982	19.6	22.5	32.3	69.7	372.6	536.6	195.1	71.8	50.7	51.8	49.4	39.5
1983	30.5	25.1	47.6	61.4	228.8	593.1	263.1	78.1	48.3	52.5	49.1	42.7
1984	32.2	28.0	30.4	82.0	431.9	600.2	251.8	70.1	47.3	37.1	31.4	26.5
1985	23.7	23.1	27.5	111.8	338.4	179.1	59.1	38.9	31.6	26.4	23.6	19.8
1986	18.0	36.4	68.8	141.9	302.5	691.3	164.6	65.9	43.0			
2005								51.6	32.9	24.9	19.2	18.1
2006	20.2	17.6	28.3	125.7	467.1	399.8	88.4	44.4	30.9	26.2	24.1	20.3
2007	14.9	11.8	34.8	84.3	279.3	103.4	43.8	28.3	22.2	17.6	14.9	12.1
2008	8.41	10.5	16.5	32.7	220.5	478.2	131.8	45.8	31.0	22.9	20.4	17.0
2009	16.8	18.5	31.2	81.2	363.9	418.0	112.1	54.8	36.1	28.2	23.3	17.2
2010	14.8	14.8	18.8	47.9	114.2	384.6	88.5	40.2	27.8			

Mean of monthly Discharge	21	21	28	79	291	333	107	48	34	28	25	22
** No Incomplete data have been used for statistical calculation												

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0.76 0.65 sdww02



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[USGS Water Resources](#)

Data Category:
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Geographic Area:
Idaho

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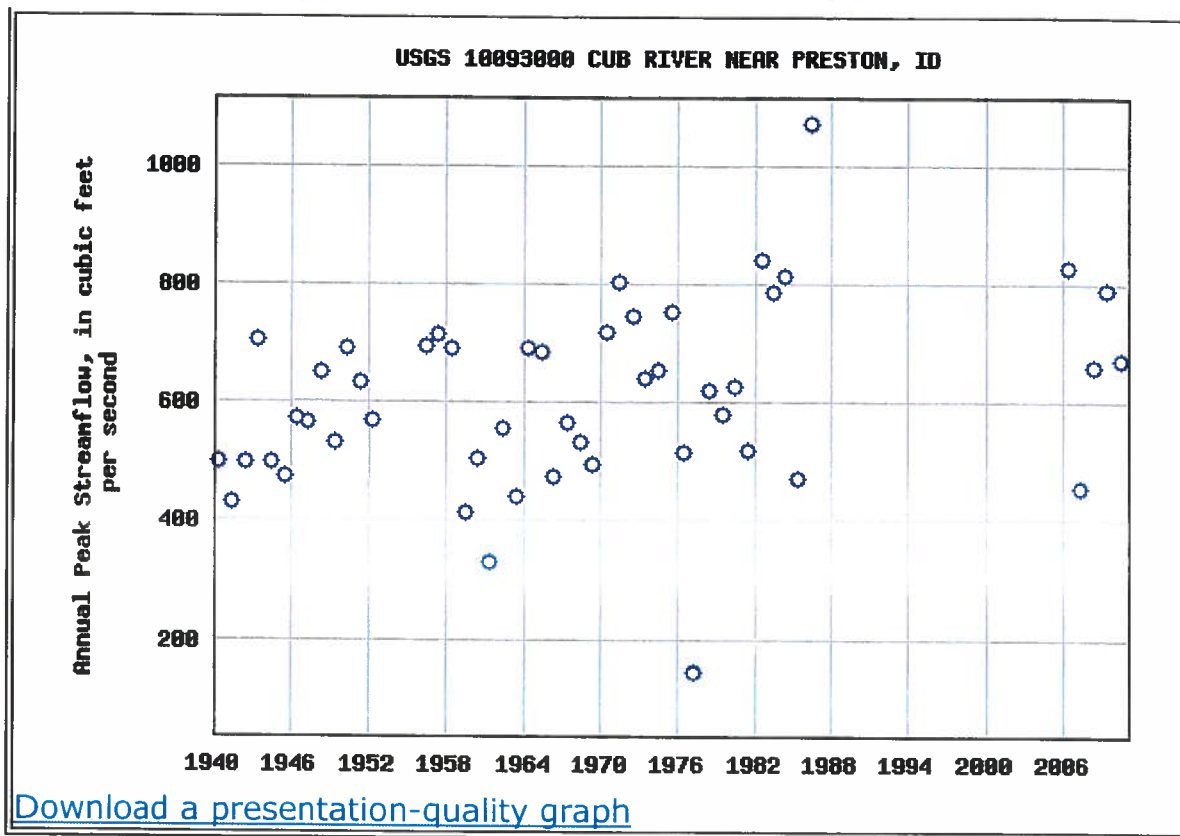
USGS 10093000 CUB RIVER NEAR PRESTON, ID

Available data for this site

Surface-water: Peak streamflow

GO

Output formats	
Franklin County, Idaho Hydrologic Unit Code 16010202 Latitude 42°08'25", Longitude 111°41'26" NAD27 Drainage area 31.60 square miles Gage datum 5,285.10 feet above NGVD29	Table
	Graph
	Tab-separated file
	peakfq (watstore) format
	Reselect output format



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Title: Surface Water for Idaho: Peak Streamflow

URL: <http://nwis.waterdata.usgs.gov/id/nwis/peak?>



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0.37 0.33 nadww01



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Data Category:
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Geographic Area:
United States

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USGS 10093000 CUB RIVER NEAR PRESTON, ID

PROVISIONAL DATA SUBJECT TO REVISION

Available data for this site Time-series: Daily data

GO

Station operated by the U.S. Geological Survey in cooperation with the U.S. Forest Service.

This station managed by the Salt Lake City Field Office.

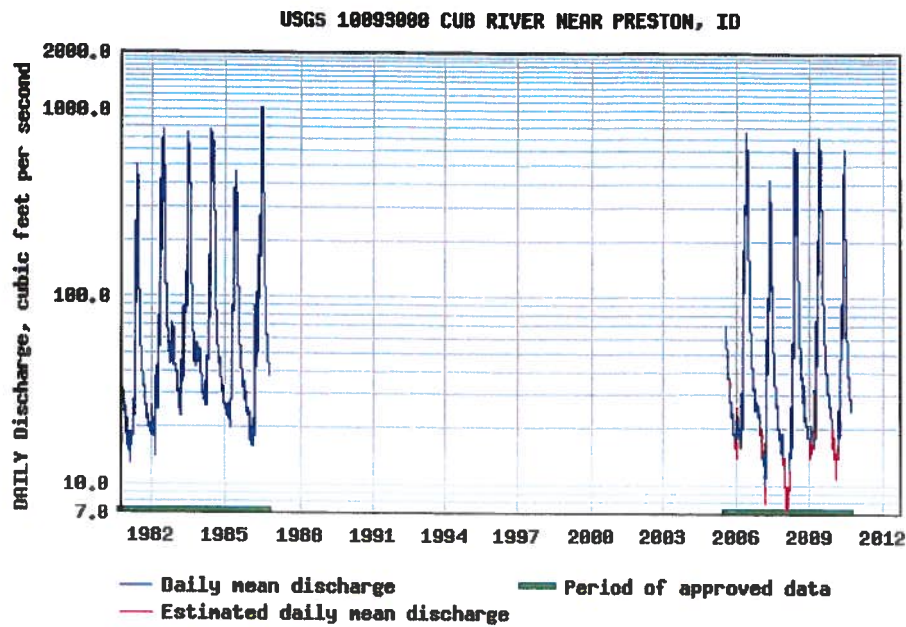
****The funding for the operation and maintenance of this monitoring station has been discontinued and operation will cease on Oct. 1st. If you would like more information, please contact Cory Angeroth at 801-908-5048 or by email at angeroth@usgs.gov.****



Available Parameters	Period of Record	Output format	Days (365)	
☐ All 1 Available Parameters for this site		☒ Graph		GO
☒ 00060 Discharge(Mean)	1940-03-01 2010-09-30	☐ Graph w/ stats	-- or --	
		☐ Graph w/ meas	Begin date	
		☐ Table	2011-09-12	
		☐ Tab-separated	End date	
			2012-09-11	

[Summary of all available data for this site](#)
[Instantaneous-data availability statement](#)

Discharge, cubic feet per second



Create [presentation-quality](#) graph.

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Title: USGS Surface-Water Daily Data for the Nation

URL: <http://waterdata.usgs.gov/nwis/dv?>

Page Contact Information: [Utah Water Data Support Team](#)

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1.53 1.37 vaww01



10093000 CUB RIVER NEAR PRESTON, ID

Lower Bear Basin
Middle Bear Subbasin

LOCATION.--Lat 42°08'25", long 111°41'26" referenced to North American Datum of 1927, Franklin County, ID, Hydrologic Unit 16010202, in NW¼ NW¼ NE¼, Sec.8,T.15S.,R.41E., Franklin County,Cache National Forest, on right bank .2 mi. upstream from headgates of Cub River-Worm Creek Canal, .7 mi.upstream from forest boundary, and 10 mi. east of Preston, ID.

DRAINAGE AREA.--31.60 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--March 1940 to September 1952, October 1955 to September 1986, July 2005 to September 30, 2010 (discontinued).

REVISED RECORDS.--WRD UT-74-1: Drainage area.

GAGE.--Water-stage recorder. Elevation of gage is 5,285 ft. NGVD of 1929. Prior to June 8, 2005 at datum 3.00 ft. lower.

REMARKS.--Records fair except for estimated daily discharges, which are poor.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,070 ft³/s, Jun 4, 1986, gage height, 3.95 ft, datum then in use; no flow for part of Jan 29, 1965, result of snowslide.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 671 ft³/s, Jun 7, gage height, 5.21 ft; minimum daily discharge, 11 ft³/s, Jan 30.

10093000 CUB RIVER NEAR PRESTON, ID—Continued

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2009 TO SEPTEMBER 2010
DAILY MEAN VALUES
[e, estimated]

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	31	26	21	e17	e14	14	20	79	249	186	51	33
2	30	26	e20	e17	15	14	19	74	335	173	50	32
3	30	25	e20	e17	15	15	19	69	390	158	49	31
4	31	25	e19	e16	15	16	18	66	420	140	48	31
5	31	25	e20	e16	15	16	19	65	520	129	47	30
6	30	24	e19	16	15	16	20	64	579	121	46	30
7	29	24	e19	e15	15	16	19	61	620	113	45	30
8	29	24	e19	e13	e15	16	21	59	567	106	44	29
9	29	24	e18	e15	e14	17	23	57	561	101	44	30
10	29	24	e17	e15	14	17	24	57	557	96	43	29
11	29	24	e16	e15	15	17	26	60	554	93	42	29
12	29	24	e18	e14	15	17	32	63	511	90	42	29
13	28	24	e18	e14	15	18	36	63	443	86	42	29
14	30	24	e18	e14	e15	17	32	63	402	82	42	28
15	28	24	e17	e14	15	18	33	64	391	79	40	28
16	28	23	e17	e14	15	20	42	69	407	75	40	27
17	28	23	e18	e13	16	23	52	89	414	73	39	27
18	28	23	e17	e14	16	25	56	114	370	71	38	27
19	28	22	e16	e15	15	23	59	173	322	69	38	26
20	28	22	e16	15	e16	21	70	201	325	67	37	26
21	28	22	e16	15	e15	21	82	199	330	65	36	26
22	27	22	e16	15	e14	21	91	195	315	63	36	26
23	26	22	e16	e15	e15	21	83	183	287	61	36	26
24	27	22	e15	e15	e14	21	72	162	267	60	35	26
25	26	22	e15	15	e14	21	67	136	256	58	35	25
26	26	22	e15	15	14	21	66	130	253	57	33	25
27	26	22	e14	15	14	20	71	132	245	56	33	25
28	26	22	e14	15	14	19	86	167	231	55	34	25
29	26	21	e15	e15	---	20	93	213	216	54	33	25
30	26	21	e17	e11	---	20	86	208	202	53	34	25
31	26	---	e17	e14	---	21	---	204	---	52	33	---
Total	873	698	533	459	414	582	1,437	3,539	11,539	2,742	1,245	835
Mean	28.2	23.3	17.2	14.8	14.8	18.8	47.9	114	385	88.5	40.2	27.8
Max	31	26	21	17	16	25	93	213	620	186	51	33
Min	26	21	14	11	14	14	18	57	202	52	33	25
Ac-ft	1,730	1,380	1,060	910	821	1,150	2,850	7,020	22,890	5,440	2,470	1,660

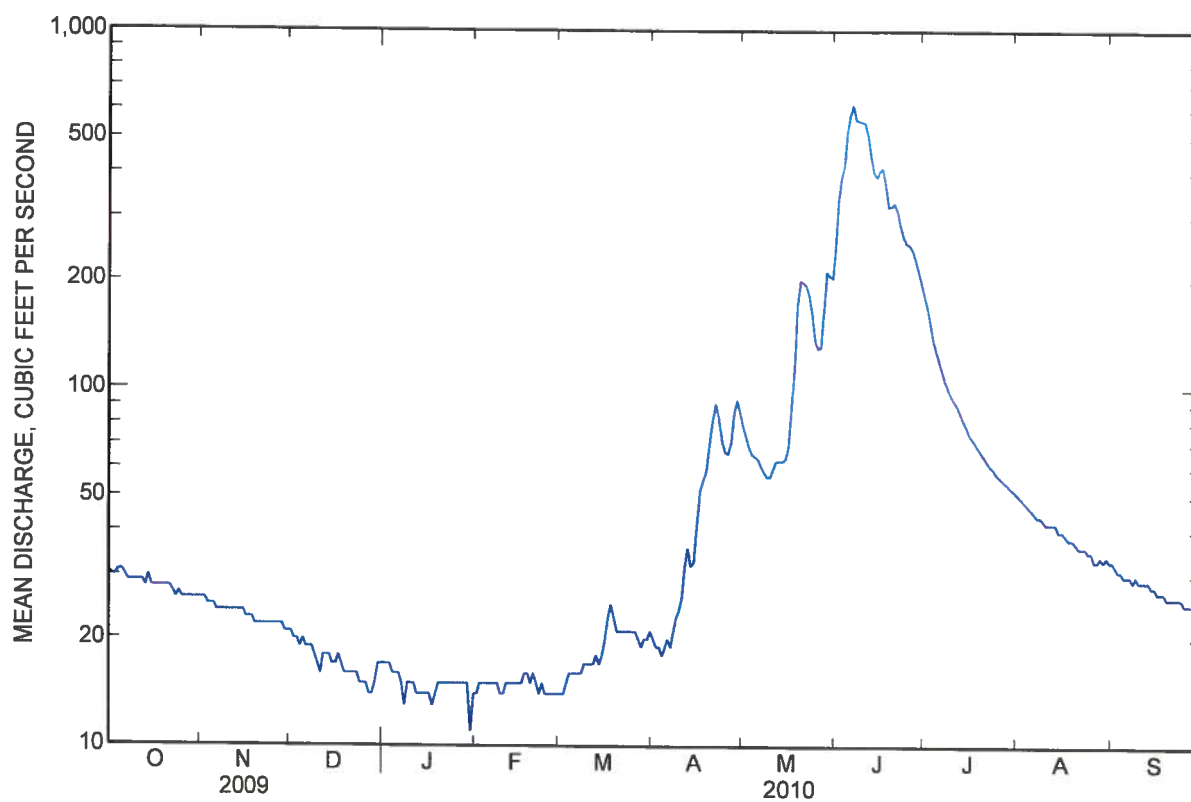
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1941-52, 1956-86, 2006-10, BY WATER YEAR (WY)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	28.3	25.0	22.5	20.5	20.7	28.5	79.1	291	333	107	48.2	33.9
Max	52.5	49.4	42.7	32.2	36.4	68.8	201	467	691	284	78.1	50.7
(WY)	(1984)	(1983)	(1984)	(1984)	(1986)	(1986)	(1943)	(2006)	(1986)	(1975)	(1983)	(1982)
Min	16.4	14.1	12.1	8.41	10.5	15.0	31.3	77.5	73.5	28.5	21.9	18.0
(WY)	(1978)	(1978)	(2008)	(2008)	(2008)	(1977)	(1970)	(1977)	(1977)	(1977)	(1977)	(1977)

10093000 CUB RIVER NEAR PRESTON, ID—Continued

SUMMARY STATISTICS

	Calendar Year 2009		Water Year 2010		Water Years 1941-52, 1956-86, 2006-10	
Annual total	36,628		24,896			
Annual mean	100		68.2		87.2	
Highest annual mean					143	
Lowest annual mean					31.6	
Highest daily mean	714	May 25	620	Jun 7	1,020	Jun 4, 1986
Lowest daily mean	14	Dec 27	11	Jan 30	7.6	Jan 15, 2008
Annual seven-day minimum	15	Dec 23	14	Jan 12	7.7	Jan 13, 2008
Annual runoff (ac-ft)	72,650		49,380		63,170	
10 percent exceeds	312		190		264	
50 percent exceeds	32		27		32	
90 percent exceeds	17		15		18	





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Geographic Area:
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Site Map for Idaho

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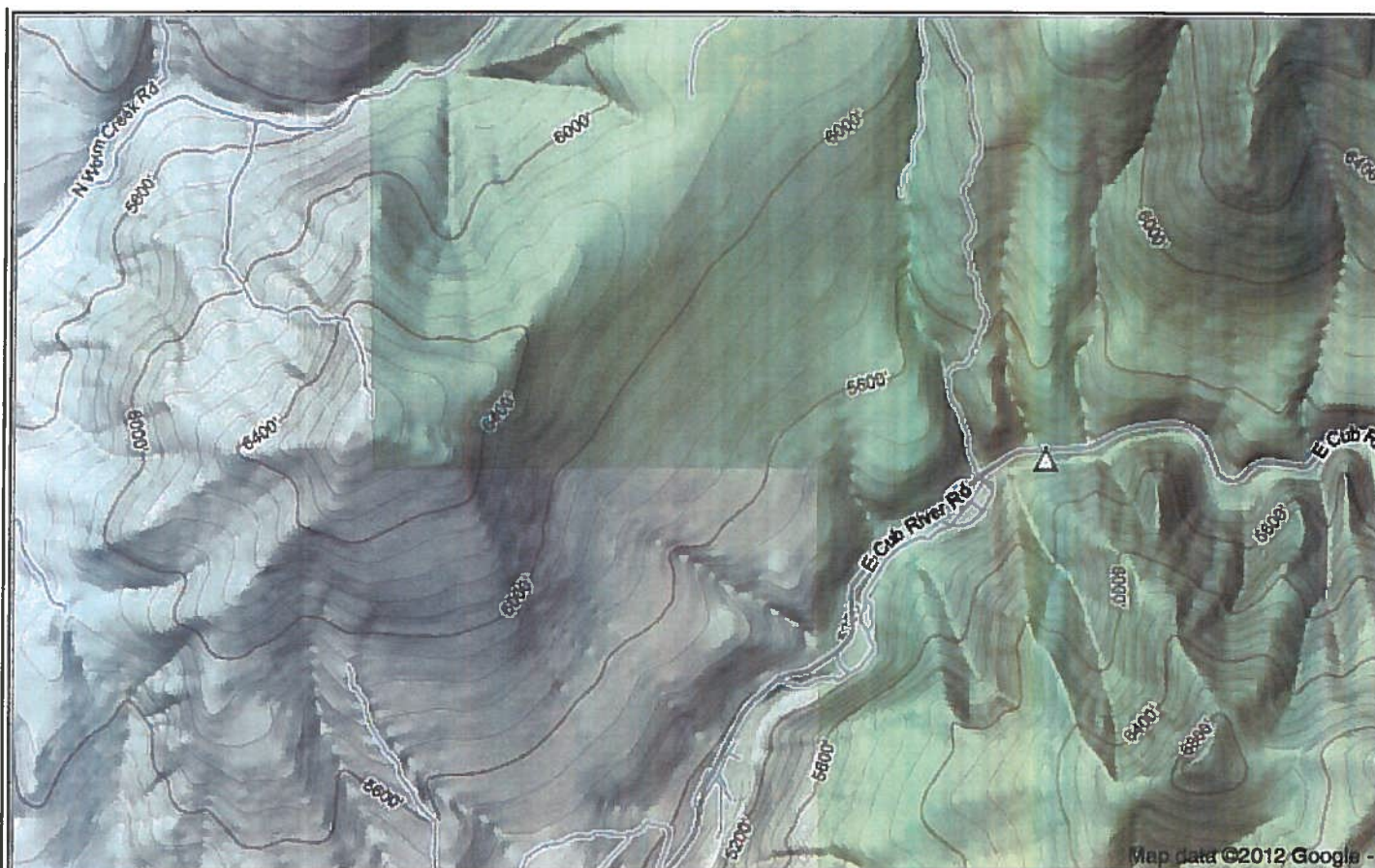
USGS 10093000 CUB RIVER NEAR PRESTON, ID

Available data for this site Location map



Franklin County, Idaho
Hydrologic Unit Code 16010202
Latitude 42°08'25", Longitude 111°41'26" NAD27
Drainage area 31.60 square miles
Gage datum 5,285.10 feet above NGVD29

Location of the site in Idaho.



* References to non-U.S. Department of the Interior (DOI) products do not constitute an endorsement by the DOI. By viewing the Google Maps API on this web site the user agrees to these [TERMS](#) of Service set forth by Google.

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Title: NWIS Site Inventory for Idaho: Site Map

URL: <http://nwis.waterdata.usgs.gov/id/nwis/nwismap?>

Page Contact Information: [Idaho Water Data Maintainer](#)

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COPY

Declaration of Intention

Consolidated Irrigation Company
33 South 1st East
Preston ID 83263
Telephone Number 208-852-2364
Fax Number 208-852-2365
E-Mail Address: lylewporter@plmw.com

Date: July 19, 2012

Secretary
Federal Energy Regulatory Commission
888 First Street, NE. (PJ-12.2)
Washington, D.C. 20426

Re: Consolidated Irrigation Glendale Conduit Hydro

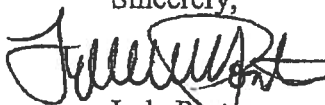
Declaration of Intention

Dear Sir:

Enclosed please find an original and eight copies of the Declaration of Intention for the Consolidated Irrigation Glendale Conduit Hydro for your consideration.

Thank you for your consideration in this matter.

Sincerely,

A handwritten signature in black ink, appearing to read "Lyle Porter", with a stylized flourish at the end.

Lyle Porter
President

Proposed Term of the Preliminary Permit:
24 months

Local electric utility company is:

Rocky Mountain Power-A PacifiCorp Company, 509 South 2nd east Preston ID 83263
phone 208-852-7055 Fax 208-85203974 email: Rex.kendall@PacifiCorp.com

Exhibits:

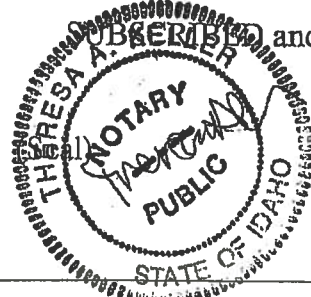
- 1-project description
- 2-Studies conducted and Statement of costs and financing
- 3-Project maps

Verification Statement:

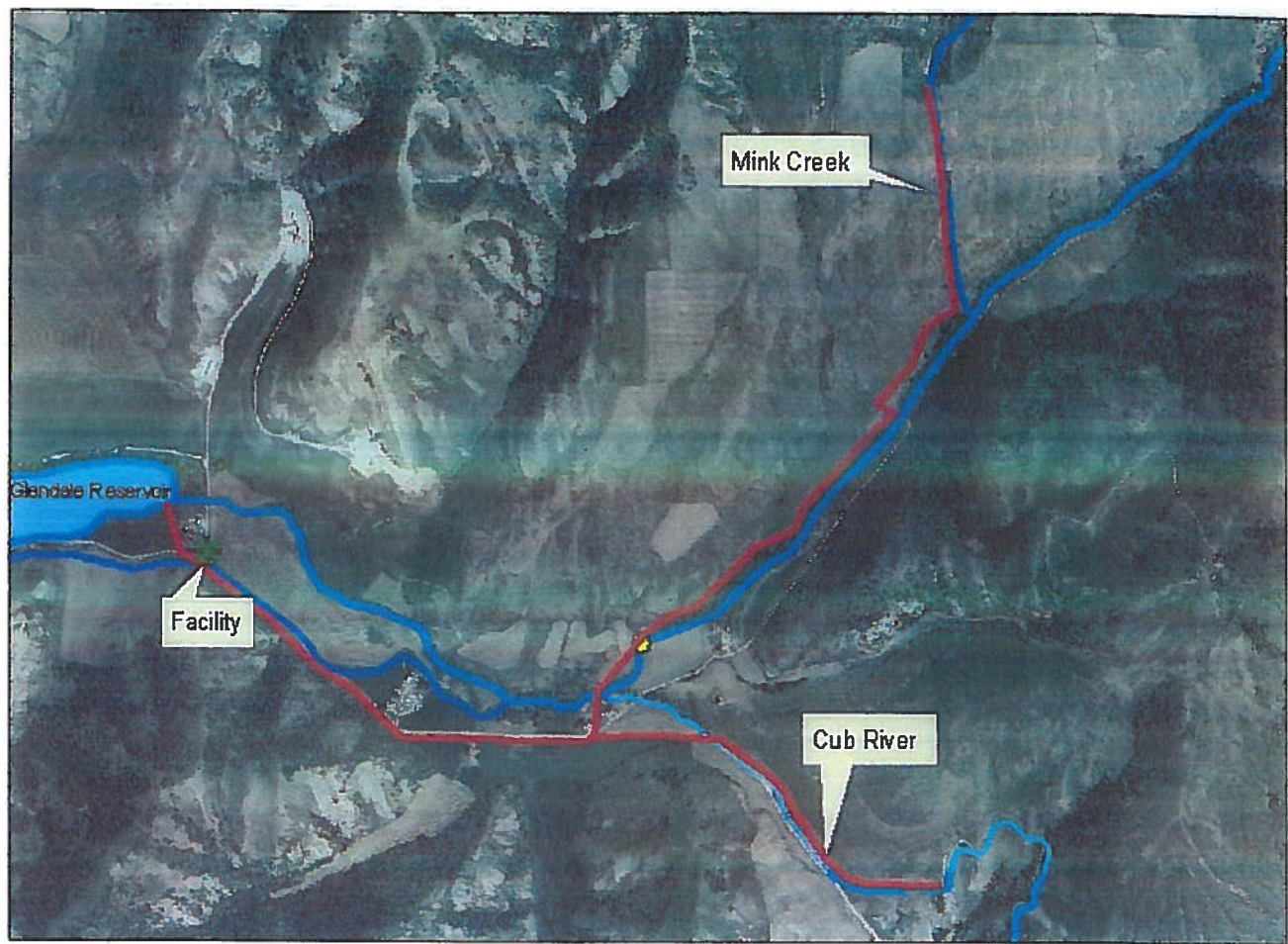
The above Preliminary permit application and the attached exhibits is a true and correct. The Consolidated Irrigation Company, Limited, 33 South 100 East Preston Id pursuant to section 2.1-President duties in bylaws dated June 1, 201, the president shall, when authorized by the board of direct sign all correspondence, contracts deeds and other instruments of a similar nature. Lyle Porter was elected the current president at the 2012 Annual meeting of stockholders.

State Of Idaho)
)ss.
County of Franklin)

Lyle Porter, being first duly sworn, deposes and says, that he is the duly elected president of Consolidated Irrigation Company, Limited, that he is responsible for signing official documents for the company and he believes the foregoing to be accurate and just.

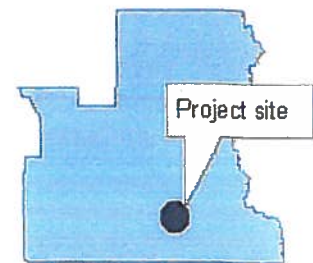
 and sworn to before me this 20th day of July, 2012
Notary Public for Idaho
Residing at: Preston, ID
My Commission Expires: 2/1/13

Threatened and Endangered Species



Legend

-  perennial canals
-  Lakes and Reservoirs
-  Intermittent canals
-  AnimalACD_Aug11_z12
-  SageGrouseLeks_Feb2011
-  Sharp-tailedGrouseLeks_Feb2011





Species Reports

(<http://www.fws.gov>)
Species By County Report

The following report contains Species that are known to or are believed to occur in this county. Species with range unrefined past the state level are now excluded from this report. If you are looking for the Section 7 range (for Section 7 Consultations), please visit the [IPaC \(fipac\)](#) application.

County: Franklin, ID

[Group \(countySearch!speciesByCountyReport.action?d=16544-s=0&d=16544-p=2&d=16544-p=1&fips=16041\)](#)

Birds

Mammals

[Name \(countySearch!speciesByCountyReport.action?d=16544-s=1&d=16544-p=2\)](#)

[Yellow-billed Cuckoo \(*Coccyzus americanus*\)](#)

[http://ecos.fws.gov/speciesProfile/profile/speciesProfile.action?spcode=B0](#)

[Gray wolf \(*Canis lupus*\)](#) [http://ecos.fws.gov/speciesProfile/profile/speciesProfile.action?spcode=A073](#)

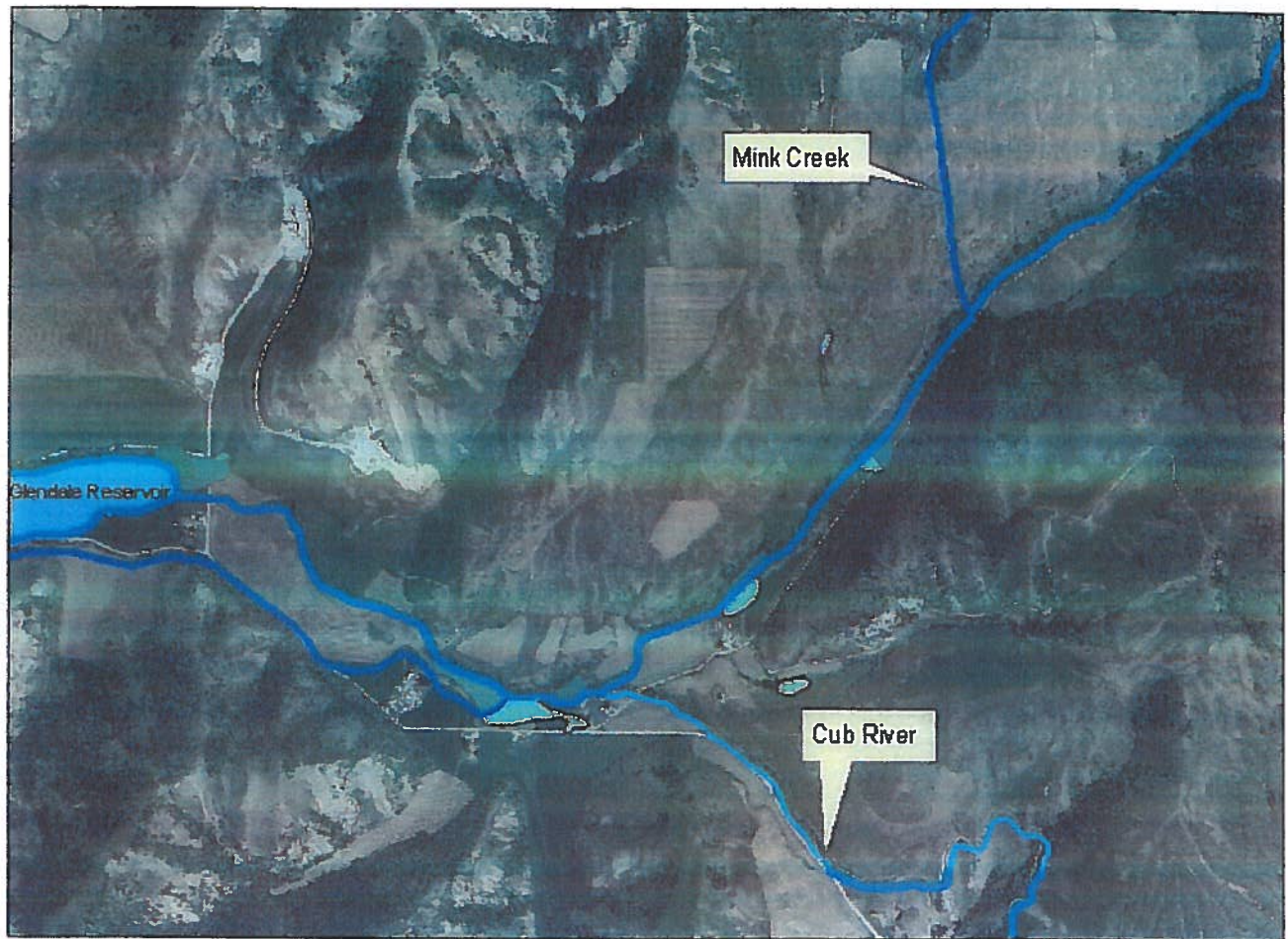
[Canada Lynx \(*Lynx canadensis*\)](#) [http://ecos.fws.gov/speciesProfile/profile/speciesProfile.action?spcode=A073](#)

Export options: [CSV \(countySearch!speciesByCountyReport.action?d=16544-s=1&d=16544-p=1&fips=16041\)](#)
[EXCEL \(countySearch!speciesByCountyReport.action?d=16544-s=2&d=16544-p=1&fips=16041\)](#) [XML \(countySearch!speciesByCountyReport.action?d=16544-s=3&d=16544-p=1&fips=16041\)](#) [PDF \(countySearch!speciesByCountyReport.action?d=16544-s=4&d=16544-p=1&fips=16041\)](#)

Last updated: January 17, 2012

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Wetlands



Legend

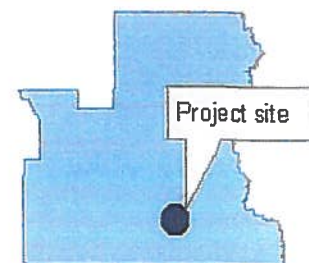
- perennial canals
- Lakes and Reservoirs
- Intermittent canals

national wetland inventory

- <all other values>

ATTRIBUTE

- PAB4F
- PEM1A
- PEM1C
- PFO1C
- PSS1C



0 1,375 2,750 5,500 8,250 11,000 Feet

Declaration of Intention for the Consolidated Irrigation Glendale Conduit Hydro

Federal Energy Regulatory Commission



Declaration of Intention

Consolidated Irrigation Company applies to the Federal Energy regulatory Commission for a preliminary permit for the Glendale Conduit Hydro water power project, as described in the attached exhibits. This application is made in order that the applicant may secure and maintain priority of application for a license for the project under part 1 of the Federal Power Act while obtaining the data and performing the acts required to determine the feasibility of the project and to support an applicant for a license involving a conduit exemption.

The location of the project:

State: Idaho
Town: Preston
Street: 4000 East Glendale Road
County: Franklin
Stream: _ Mink Creek Canal/Cub River Canal
River Basin Name: Worm Creek/ Bear River
Township, Range, Section, and Meridian: T 15S R40E Section 10 Riverdale
Quadrangle Boise meridian

The applicant:

Consolidated Irrigation Company 33 south 1st East Preston ID 83263 P.O. Box 311
Preston ID 83263 Phone 208-852-2364 Fax 208-852-2365 Email
lylewporter@plmw.com

Person authorized to act as agent for the applicant is:

Lyla Dettmer 98 East 800 North Suite #5 Preston ID 83263 Phone 208-852-0562 Fax
208-852-0802 Email: FSWCD@earthlink.net

Consolidated Irrigation Company is an authorized Idaho nonprofit corporation it's purpose "is the acquisition and holding of water rights for the irrigation of the lands of the stockholders and the owning and operating of a diversion facility and a system of canals, reservoirs, pipelines, and laterals with attendant structures and equipment to divert waters from the public source of supply pursuant to it water rights and deliver the same to the private facilities, farms, homes, churches, schools, and municipalities of its stockholders. The company shall further transact any or all lawful business in connection with such purposes, as well as any or all other lawful business for which companies may be incorporated under the laws of the state of Idaho"

1

1 Consolidated Irrigation Company, June 1, 2011 *Articles of Incorporation of Consolidated Irrigation Company*
Preston ID p. 2

Proposed Term of the Preliminary Permit:
24 months

Local electric utility company is:
Rocky Mountain Power-A PacifiCorp Company, 509 South 2nd east Preston ID 83263
phone 208-852-7055 Fax 208-85203974 email: Rex.kendall@PacifiCorp.com

Exhibits:

- 1-project description
- 2-Studies conducted and Statement of costs and financing
- 3-Project maps

Verification Statement:

The above Preliminary permit application and the attached exhibits is a true and correct. The Consolidated Irrigation Company, Limited, 33 South 100 East Preston Id pursuant to section 2.1-President duties in bylaws dated June 1, 201, the president shall , when authorized by the board of direct sign all correspondence, contracts deeds and other instruments of a similar nature. Lyle Porter was elected the current president at the 2012 Annual meeting of stockholders.

State Of Idaho)
)ss.
County of Franklin)

Lyle Porter, being first duly sworn, deposes and says, that he is the duly elected president of Consolidated Irrigation Company, Limited, that he is responsible for signing official documents for the company and he believes the foregoing to be accurate and just.

SUBSCRIBED and sworn to before me this _____ day of _____,

(Seal)

Notary Public for Idaho
Residing at: _____
My Commission Expires: _____.

Attached Exhibits

Exhibit 1-Description of project

Exhibit 2-Description of studies conducted

Exhibit 3- Series of Maps

Exhibit 1

This project is located within the Bear River Basin, which is situated in the Southeast corner of the State of Idaho. The Bear River begins in the Uinta Mountains in the State of Utah. It flows northerly into the State of Wyoming returns to Utah then back into Wyoming. At river mile 245 it enters the state of Idaho. The river leaves Idaho at river mile 100 and enters Utah for the last time. After traveling 440 miles from its headwaters, the Bear River enters the Great Salt Lake.

Because of our close proximity to the state of Utah and the knowledge that river basins do not follow political boundaries we need to harmonize our planning efforts with the State of Idaho Water Plan and the State of Utah Water Plan

Renewable energy generates a range of benefits at the local, state, regional, national, and global levels. It uses natural resources, reduces greenhouse gas emissions, and reduces U.S. dependence on foreign energy sources. Renewable energy can also furnish long-term price stability as they rarely depend on costly fuel sources. 2

The U.S. Department of Energy (DOE) Federal Energy Management Program (FEMP) Guide to Integrating Renewable Energy in Federal Construction helps Federal agencies understand renewable energy options, select appropriate types of renewable energy technologies, and integrate these technologies into all phases of new construction or major renovation projects. This guide is structured to address renewable energy considerations at each stage of the construction process. Our project follows the Guide to Integrating Renewable Energy in Federal Construction. 3

As requested we will describe the following:

Amount of energy capacity.....500 kilowatts

Amount of Energy generated.....2,526,193 kilowatt hour per year

To calculate this Brent Gardner P.E. from Alpha Engineering used the following data

Upper elevation	Hazen William	Time	Income
Turbine elevation	Max Turbine Flow	Efficiency	Flow

and the calculation $HL = L \times [Q / (0.432 \times H \times D^{2.63})]^{1/0.54}$

$$\text{Power Output} = \text{EFF.} \times [(Q \times H) / 11.81]$$

2

Department of Energy, Energy Efficiency and Renewable Energy, July 2004. *Hydropower: Setting a Course for Our Energy Future* At <http://www.hydropower.inel.gov/techtransfer/pdfs/34916.pdf>

3 Department of Energy, Energy Efficiency and Renewable Energy, July 2011. Guide to Integrating Renewable Energy in Federal Construction at <http://www2.eere.energy.gov/femp/reconstructionguide.html>

This facility will be equipped with electronic monitoring system to collect inverter energy production data for a period of five years. The monitoring system must consist of a production history electronic database, web-page component, and a public web link to be added to Rocky Mountain Power's web page for educational purposes

The benefits of this project that make this a favorable project are that this project makes a very small if any impact on the environment. A fish screen is located at the Cub River diversion to prevent mortality of the Bonneville Cutthroat Trout. No additional water is needed, fish and aquatic habit is not damaged, and this project is close to existing electric lines. During our screening phase we asked Mr. Kerry Schwartz, Provo office, Bureau of Reclamation for some clarifications. He stated that since the Preston Bench project is a Bureau project they would want assurance that the irrigation water would not be consumed by the hydro process and that it would remain being used on the same lands as before. We can definitely assure the Bureau of Reclamation that this will occur because these concerns are also a first priority for the irrigation company.

During this discussion Mr. Kerry Schwartz also confirmed that this project need to address the requirements and regulation associated with the FERC process not the lease of Power Privilege.

As stated in the preliminary file information for conduit exemptions we must provide certain information to stakeholders and the Commission so these entities can understand the proposed project, identify any environmental issues, identify any information needs or studies, and provide meaningful comments and recommendations on the proposed project. The information to be provided is specified in section (4.92(f) of the Commission's regulations and is usually consolidated into a single document called an Initial Consultation Document (ICD). We have begun this process by contacting the Idaho State Fish & Game representative. He gave us verbal confirmation this sounds like a conduit exemption and would help us obtain the necessary written document for the ICD. During the consultation process, you will meet with the stakeholders to determine ways to shorten the consultation process. Once concurrence is received from the agencies and affected Indian Tribes, we can proceed with the modified consultation process and request a waiver to expedite the process.

It is proposed to connect power transmission lines near the energy generating facility. Rocky Mountain Power is the local utility and is supportive of alternative energy projects. They have established an avoided cost purchase contract and we will need to execute an interconnection agreement. Qualifying Facility interconnection agreements are administered by PacifiCorp's transmission services function.

Exhibit 2

Background

When the settlers first came to this area in the late 1800's the first projects they begun were irrigation. They knew that our arid climate would not generate productive farmland without irrigation. Irrigation companies continue what the settlers began. Their goals have always been to effectively use the water available without waste or abuse to promote the desired crop response. The stockholders associated with this project realize that new technology combined with planning can make their irrigation system more efficient and provide sustainability without affecting the non-replaceable natural resources.

Over the years the Natural Resources Conservation Service (NRCS) has been instrumental in producing studies for various irrigation entities. These plans provide different levels of engineering and design but have a common thread. That is to investigate the related problems and propose solutions to conserve the natural resources.

A reconnaissance level inventory of irrigation conveyance systems in the Bear River Basin was conducted in 1973 and 1974. The systems were evaluated according to irrigation efficiencies, area served, water source, condition of canals and structures, and method of delivery. The related problems of seepage losses, sedimentation, and floodwater damages were studied. Potential solutions included lining, new structures, and storage reservoirs. 4

The summary of the working paper compiled in 1976 stated that "additional water can be obtained by increasing efficiency both in conveyance and on-farm systems". 4 Shortly after this the focus became increasing efficiencies by utilizing sprinkler systems instead of flooding techniques.

In September 1980 a feasibility study for the North Cache Water Development project was completed. This consisted of a group project between the City of Preston, the Preston Whitney Irrigation Company, the Preston, Riverdale, and Mink Creek Canal Company, the Preston Whitney Reservoir Company, and the Cub River Irrigation Company. These companies provide irrigation water to approximately 34,000 acres in Franklin County, Idaho and Cache County, Utah of which 19,000 is in Idaho. This project was needed because of the rapid rise in energy costs, water loss through seepage and evaporation, a high water table, and random and unorganized development of sprinkler systems in the area. 5

4USDA, Soil Conservation Service, Forest Service, and Economic Research Service. April 1976 *Working Paper: Irrigation Conveyance System Inventory Summary Bear River Basin Idaho-Utah-Wyoming*

5 Taylor, Leroy P.E. September 1980 *Feasibility Study North Cache Water Development project, Preston Idaho* CH2M Hill, Boise Idaho

During the 1979 irrigation season, a block of approximately 750 acres under sprinkler irrigation measured a delivery of approximately 900 acre-feet. This amounted to 1.2 acre-feet per acre. This amount of water was slightly less than needed for maximum production. "Based on consumptive use requirements of about 2 acre-feet per acre, it appears that the existing system is not delivering adequate water for maximum production." 5

To complete a water management conservation plan Dr. Robert Hill, Utah State University analyzed the Preston, Riverdale, Mink Creek Canal Company and developed a water budget to identify water supply and timing problems for the year 1999. The company had increased the efficiency since 1979 to delivering 1.46 acre-feet per acre. This results in an overall, average district-wide efficiency of 67%. This system was still not delivering adequate water. 6

The Preston, Riverdale, Mink Creek Canal Company implemented the top two water saving measures identified in their water management conservation plan. During the 2004 irrigation season normal water use by the irrigators was called for. At the end of the irrigation season an additional 1,300 acre-feet of water was available from previous years.

During 2005 and 2006 the Preston Whitney Irrigation Company and the Preston Whitney Reservoir Company began updating their system. The Johnson Lamont pipeline resulted in a quantitative water savings of 1,803 acre feet per year and 177,000 KW-hrs of energy was reclaimed. Building on the success of the previous pipeline projects the Fairview Lateral which carries water from Preston Whitney Irrigation and Preston Mink Creek Irrigation was completed in three phases. The completed piped Fairview Lateral creates a cross connection between the Preston Whitney Irrigation and a branch of the Cub River Irrigation to facilitate water marketing.

Historically the Preston Whitney Irrigation Company diverts water from the Cub River into a feeder canal that travels 7 miles until the water flows into the Glendale Reservoir or is diverted above the Glendale Reservoir and flows into the Johnson and Lamont Reservoirs. Overflow from the Glendale is stored in the Foster Reservoir. Winter fill in Glendale/Foster includes overflow from the City of Preston culinary pipeline. The Preston Whitney Irrigation Company owns and operates 3 of these Reservoirs: Glendale, Foster, and Lamont, with storage capacities of 5,900 acre-feet, 3,350 acre-feet, and 2,400 acre-feet respectively. The Preston Whitney Reservoir Company owns and operates the Johnson Reservoir, which has a storage capacity of 800 acre-feet. These separate irrigation companies co-mingle their water in the feeder ditch originating from the Worm Creek point of diversion. In addition, Preston, Mink Creek Irrigation Company diverts water from the Mink Creek that travels 15 miles until Mink Creek water is co-

6 Franklin Soil & Water Conservation District. November, 2001 *Water Management and Conservation Plan for the Preston, Riverdale, Mink Creek Irrigation Company*. Preston Idaho. Prepared by LarWEST Engineering & Surveying, Funded by Bureau of Reclamation, Upper Colorado

mingled with water originating in the Cub River.

Traditionally the irrigation water was managed under a unique inter-relationship, collaborative approach. Multiple companies co-mingle their irrigation water in surface water and in company laterals. During the irrigation season, water is released and managed with the goal of providing the best efficiency of the water for all the companies. This has allowed the separate irrigation companies to prevent water shortages and get the maximum potential from stored water.

Joint conveyance improvements and cooperative water operating agreements created the necessity to combine the three individual irrigation companies into one. This combined company known as the Consolidated Irrigation Company received majority support of stockholders during annual meetings in 2011. Confirmation of the Government's acceptance of the merger was received from the Bureau of Reclamation on Jan 12, 2012.

Studies & Investigations

To assist the Consolidated Irrigation Company make an educated decision regarding hydropower projects a feasibility study for renewable energy systems was completed. This study was funded by utilizing the USDA Rural Development Rural Energy for American Program (REAP) and addresses the following: economic feasibility, market feasibility, financial feasibility, and management feasibility. This preliminary feasibility study is attached. Upon completion of the 4 alternatives the option of combining the Cub River and Mink Creek ditches was selected for further analysis.

Work plan

Screening of energy options: The first step in assessing renewable energy options was to conduct a preliminary screening to distinguish between technologies that are worth reviewing and those that should be eliminated without further analysis. Preliminary screening involved resource maps and other basic tools to choose technologies to pursue further. A qualified energy consultant was located. The Company chose an independent renewable energy expert. We contacted RB&G Engineering who felt they did not have the appropriate level of expertise to conduct this type of study. Thus they coordinated our contact with Alpha Engineering, an objective consultant or team with detailed knowledge of the renewable energy systems under consideration, including technical and design issues, resource assessment, relevant policies and incentives, utility tariffs and interconnections issues, NEPA evaluations, and project funding mechanisms. This entity is not a manufacturer, installer, or organization affiliated with any product or technology under consideration in the project.

The next step in assessing renewable energy options was a full screening. It is a review of the possible technology options that identified dead-ends and further narrows the list to probable technologies for the project. Then a more detailed look at the available resources and a high-level analysis of expected costs and savings, utility considerations, and potential incentives was

undertaken. This screening also assessed each technology's ability to contribute to energy goals and requirements. The company analyzed specific sites throughout the system to decide which areas have the greatest renewable energy potential. A combination of the two proposed pipeline with one hydro turbine was selected as the one with the greatest potential.

Feasibility Study & Preliminary Survey: This study estimated the potential of hydro energy by gathering data such as estimated head and available flow from historical records. Power production data and preliminary interconnect requirements were analyzed and provided to the irrigation company. Preliminary construction costs and a economic feasibility was provided. A field survey was completed to provide more accurate data to define the total head available and right-of-way requirements.

Preliminary Hydraulic Engineering: The report from this study will provide a comprehensive framework from which final design can be completed. Included are the following: -preliminary GPS survey, -hydraulic analysis and sign, -delineation of all users and locations, -establishment of alignments, -establishment of final design criteria, -construction planning, -institutional issues, -construction cost estimates, and -life-cycle cost analysis.

Final Design & Survey: The final design package will contain the construction drawings, specification, and operations manual.

Construction: The Consolidated Irrigation Company is committed to constructing two new underground-pressurized HDPE pipelines to replace the company's earthen ditch. This involves installation of 18,500 feet of pipe beginning with 36" DR- 21.0 HDPE and reducing in increments to 24" DR-32.5 HDPE. The pipeline will be installed in the existing easement as much as possible. Trench excavation will avoid wetlands and be performed outside the irrigation season while the canal is not in operation. Care will be taken to ensure minimal utilities and road crossings with additional caution at these locations during construction. Construction will include 4 service connections for on-farm delivery. Screening facilities that will remove debris and ice, which would damage the turbines and wreck havoc with the sprinkler nozzles, will be located at pipe intake. Construction of hydro power house will include procurement of turbines and installation of equipment.

Table 1...Project timeline

Task	Responsibility	Completed
Preliminary screening	FSWCD/CIC	April 2009
Screening	FSWCD/CIC	July 2009
Feasibility Study-Hydro	FSWCD/CIC/RD/Engineer	2009-2011
Preliminary Eng-Hydraulic	CIC/engineer	2009-2011
Easement	CIC	Verbal approval
Task	Responsibility	Scheduled
Initial Stakeholder Consult	FSWCD/CIC	Fall 2012
Environmental compliance	FSWCD/CIC /BOR	Underway
Hydraulic Survey	CIC/ Engineer	2012
Easement-formalized	CIC	2012

Exemption application	CIC/FERC/Engineer	2012
Final design	Engineer	Winter 2012
Interconnect agreement	CIC/RMP	2012
Task	Responsibility	Scheduled
Pipe procurement	FSWCD/CIC	2 nd yr 2013
Contractor selection/permit etc	FSWCD / CIC	2 nd yr
Mainline construct-Cub river	CIC/	2 nd yr
Hydro construct	CIC/Engineer	2 nd yr
Construction Inspection	CIC/Engineer / FSWCD	2 nd yr
Filling & Testing	Engineer/CICI	2 nd yr
Task	Responsibility	Scheduled
Pipe procurement	FSWCD/CIC	2 nd yr 2013
Contractor selection/permit etc	FSWCD / CIC	2 nd yr
Mainline construct-Mink creek	CIC	2 nd yr
Operation and Maintenance	CIC	ongoing
Reporting	FSWCD/CIC	As required
Project coordination	FSWCD	ongoing

Construction Inspection: The construction will include construction engineering for unforeseen conditions, inspection, and quality control. The company with the assistance of the FSWCD will do the on-site construction inspection. A project superintendent will be assigned by the company. This position will be on-site the majority of the time. The duties associated with this position include: Coordinate and supervise all subcontractors, construction and scheduling of work. Oversee all ordering and receiving of construction materials. Function as coordinator and liaison to property owners and stockholders regarding all construction activities and services to be provided by the irrigation company. Review and approve all invoices; assist with monitoring of project budget and bookkeeping.

Operation and Maintenance: A properly operated and maintained irrigation pipeline is an asset. This irrigation pipeline is designed and installed to transmit water to place of use. The estimated life span of this project is at least 50-100 years. The life of this pipeline can be assured and usually increased by developing and carrying out a good operation and maintenance program.

Environmental Compliance

As stated on the attached Species by County report for Franklin County Idaho from the USFWS there is 1 bird and 2 mammals listed as a federally-recognized candidate, threatened, or endangered species. Our project will not benefit these species nor will it further damage these species

Since construction for 100 percent of this project will be located on private land, most components of the action plan can be implemented without extensive environmental compliance activities. To meet any requirements of state, federal, and local environmental, cultural, and

paleontological resource protection laws and regulations we will model our approach to the environmental evaluation used in the planning process practiced by NRCS. This environmental evaluation integrates environmental concerns throughout the planning, installation, and operation of projects. Planning intensity, public involvement, and documentation of actions vary according to the scope of the action.

During the preliminary engineering phase, we will complete an Environmental Evaluation using directives in the National Environmental Compliance Handbook (NECH). This data will establish objectives proportionate with the scope and complexity of the proposed action. In essence this will be the building block for the environmental assessment.

Prior to construction we will undertake an Environmental Assessment based on the established objectives. A multi-disciplinary team focusing on resource considerations, economic and social considerations, and any project specific special environmental concerns will do the bulk of this assessment. This team will identify environmental concerns that may be affected, gather baseline data, and predict effects of alternative courses of actions. This information will be presented at a public meeting in conjunction with a Franklin SWCD board meeting and/or the annual meetings of the irrigation companies.

We do not feel an Environmental Impact Statement will be needed because this project does not involve stream channel realignment, a congressional action, cumulative impacts on the human environment, or actions significantly affecting the quality of the human environment. ⁷ In addition during March 2010 an Environmental Assessment and Finding of No Significant Impact (PRO-EA-10-008, PRO-FONSI-10-008) was completed on a similar project. Brian Joseph, Archeologist from the U.S. Bureau of Reclamation stated that a site specific investigation would have to be undertaken but predicted no problems unless the proposed site has historical importance.

In conjunction with the federal requirements a request will be made to the Idaho State Historical Preservation Office (SHPO). All requests for additional reviews, if any, will be compiled with before any excavation is undertaken.

As ask for in our funding proposal we have answered the following questions we provide them again for your review:

1). Will your project impact the surrounding environment? If so, please explain the impacts and any steps that could be taken to minimize the impacts. During construction soil and vegetation will be disturbed. Care will be taken to ensure that this is minimized and no sediment is transported from the construction site into waterways using such methods as silt fences etc. The construction will take place in predominately agricultural land that will be reseeded into annual or perennial vegetation in the next crop cycle. If it is not agricultural land, it will be reseeded into perennial vegetation.

⁷ USDA, Natural Resources Conservation Service. October 2003. *National Environmental Compliance handbook*. Washington DC

2). *Are you aware of any endangered or threatened species in the project area?* The Conservation Data Center (CDC) database, which is a compilation of sighting for species of concern, candidate and threatened and endangered species, was used to create the **attached Map** titled Sensitive Species. The animal sighting had no qualifying data in the database. The Trumpeter Swan, a candidate species uses the riparian area associated with the Bear River.⁸ Within the project area is no known endangered/threatened or species of concern. In addition no critical habitat has been designated.

3). *Are there wetlands inside the project boundaries? If so, estimate how many acres of wetlands there are, and describe any impact your project will have on the wetlands.* Based on the data provided in the Wetland Inventory by Office of Biological Services for the National Wetlands Inventory, USDI, Fish and Wildlife Service within our project area are 12 wetlands ranging from 1-5 acres (see attached wetland map). This information in this wetland inventory was obtained from aerial photographs and "no attempt to define the limits of proprietary jurisdiction of any federal, state, or local government or to establish the geographical scope of the regulatory programs of government agencies"(9). The attribute PEM1A define this ecological system as Palustrine(P), Emergent(EM),Persistent(1), and Temporary(A). . The attribute PEM1C define this ecological system as Palustrine(P), Emergent(EM),Persistent(1), and Seasonal(C). . The attribute PSS1C define this ecological system as Palustrine(P), Scrub/shrub(SS), Broad leaved deciduous(1), and Seasonal (C). The attribute PFO1C define this ecological system as Palustrine(P), Forest(FO), Broad leaved deciduous (1), and Seasonal(C). The attribute PAB4F defines this ecological system as Palustrine(P),Aquatic bed (AB), Floating-leaved(4), and Semipermanent(F). The attribute PSS1A defines this ecological system as Palustrine(P), Scrub/shrub(SS), Broad leaved deciduous(1), and Temporary(A).

Based on this and our field knowledge any construction in this area will require a section 404 Joint Application for Permits from the U.S. Army Corps of Engineers and the Idaho State Water Resources. Due to these being temporary, artificial wetlands due to subbing from the irrigation Reservoir, we feel that construction will be approved under an agricultural exemption. Alignment of the pipe and construction will be designed to minimize impact on this wetland. This will require a construction method that does not allow the underground pipe to become a French drain.

4). *When was your irrigation system constructed?* The Cub River Canal was constructed in 1880 and the Mink Creek canal in 1948.

⁸USDA, Natural Resources Conservation Service. July15, 2004. *Idaho Technical Guide Notice Number 222, Endangered Species-Threatened and Endangered (T/E) Species GIS database.* Boise Idaho

⁹ USDI, Fish and Wildlife Service. September 1980 *National Wetland Inventory, Franklin, Idaho.* Region 1, Portland Oregon.

5). *If your project will affect individual features in your irrigation system, state when those features were constructed and describe the nature and timing of any extensive alterations or modifications to those features.* The Cub River Canal was upgraded in 1924 and the Mink Creek canal had the Preston Bench Tunnel project done in 1950.

6). *Are any buildings, structures, or features in your irrigation district listed or eligible for listing on the National Register of Historical Places?* No, none are listed. This was confirmed by checking The National Register of Historical Places in Idaho for Franklin County (10).

7). *Are there any known archeological sites in the proposed project area?* No, Based on recent requests from other irrigation projects located in the area to the State Historical Preservation Office. Requests are coming back needing a site visit due to there proximity to surface water, but are passed upon a site visit from a certified cultural resources representative.

Statement of costs

Cost-effectiveness in conserving water and the economic impacts solutions will have on the farmer required to make the change are important considerations because they affect the acceptability of the project. Various methods benefit the water resource and society, but often do not provide an economic benefit to the landowner who installs and maintains them. This is why financial incentives are critical for promoting implementation of water conservation and management improvements.

As presented in the budget section of this proposal the estimate total project cost is \$2,959,863.00. This figure includes \$53,000.00 that has been expended for the screening process and feasibility study. We propose to fund the construction costs by using a combination of cash reserves, future assessment on capital stock, loans, and other appropriate sources. Preston Whitney Irrigation Company shareholders have additional stock that can be issued. It was held back with the intent of an additional reservoir and some was sold to finance recent conveyance improvements. The FSWCD has experienced the specific matching requirements associated with federal funds. Their involvement will ensure that a cost-effective, environmentally sound product is provided.

Additional technical assistance will be provided by various other nonfederal entities such as Water District 13(b)-Cub River and the Idaho State Soil Conservation Commission. The Natural Resources Conservation Service will provide technical assistance in an oversight role ensuring compliance to NRCS standards & specifications. They will provide guidance on addressing the environmental and regulatory compliance. This is a federal agency thus no time, materials, etc have been included in the construction project budget. This interagency involvement will guarantee an overall quality product is generated.

10 Davis, Belinda and Swanson, Ann. 2004 *The National Register of Historic Places in Idaho*. Compiled for the Idaho State Historical Society. Boise Idaho

Table 4-funding sources

Funding sources	Type	Funding Amount	Status
Preston Whitney Irrigation (applicant)		\$ 37,500.00	Prior to application
Consolidated Irrigation (applicant)		\$ 71,682.00	Approved
*Franklin SWCD (local)	inkind	\$ 5,000.00	Approved
*Water District 13(b)-Cub River (local)	inkind	\$ 1,000.00	Approved
Idaho Soil Conservation Commission (state)	inkind	\$ 1,000.00	Need confirmation
*Idaho Dept of Water Resources (state)	loan	\$ 1,350,000.00	Approved
Rocky Mountain Power (other)	grant	\$ 25,000.00	Pending
Non federal subtotal		\$ 1,491,182.00	
Requested Reclamation Funding	grant	\$ 1,453,181.00	Approved
Total Project Funding		\$ 2,906,863.00	
Rural Development (Other federal)	grant	\$ 12,500.00	Prior to application
NRCS (Other federal)	inkind	\$ 3,000.00	Prior to application
Other federal subtotal		\$ 15,500.00	

Article 4, Section 7 of the Canal Company by-laws state “matters submitted to a vote of the stockholders shall be decided by a majority of the votes cast, unless otherwise specifically provided by law or by these Bylaws”. On February 14, 2011, the Preston Whitney Irrigation Company held their annual meeting. A majority of the capital stock was represented. The president, Lyle Porter, presented the proposed project, and a preliminary draft. They directed the Board of Directors to work closely with the Franklin SWCD to finalize the feasibility study and get it submitted to Rural Development.

On November 2, 2011, in a regular meeting, the Franklin SWCD board of supervisors made an official motion that they would assist the Consolidated Irrigation Company to pursue a funding request to the Bureau of Reclamation. Upon approval of funds, they will execute a cooperative agreement with the Consolidated Irrigation Company to detail the project manager duties and responsibilities.

The interim board of directors for the Consolidated Irrigation Company includes 5 representatives from Preston Whitney Irrigation, 3 Representatives from Preston Mink Creek Irrigation and 2 representatives from Preston Whitney Reservoir Company. On January 16, 2012 the Interim board of directors met and reviewed the funding plan.

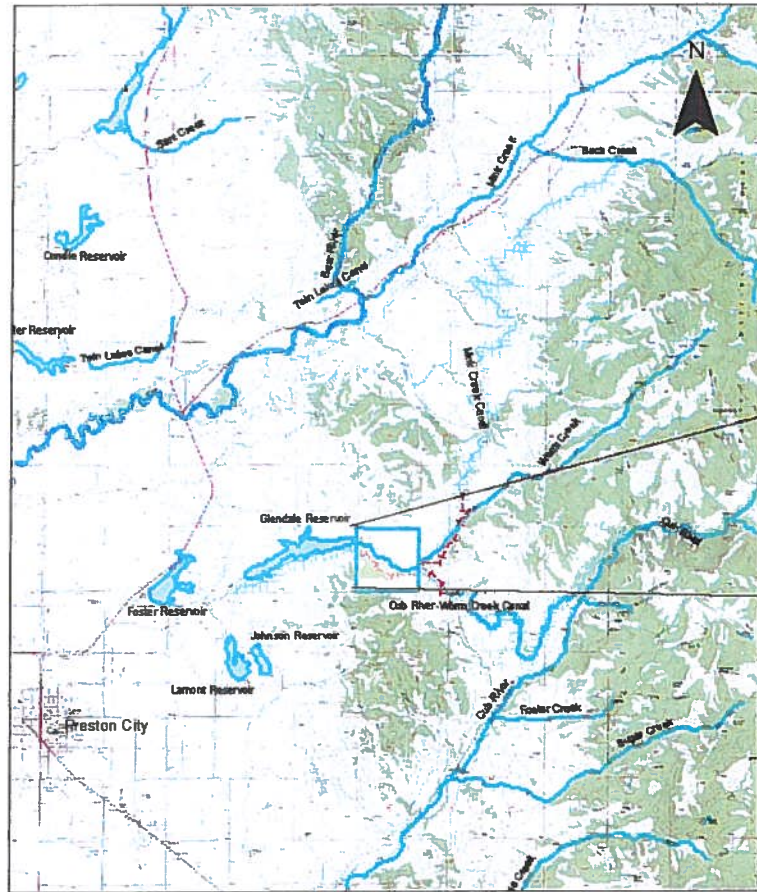
Budget Proposal

	COMPUTATION		RECIPIENT COST SHARE	RECLAMATION FUNDING	OTHER FUNDING	Total Cost
	UNIT	QUANTITY				
SALARIES AND WAGES						
Lyla Dettmer, Project manager	\$ 50.00	2434	\$ 56,700.00	\$ 60,000.00	\$ 5,000.00	\$ 121,700.00
Lyle Porter, Project superintendent	\$ 20.00	6000	\$ 60,000.00	\$ 60,000.00		\$ 120,000.00
Kirk Iverson, Watermaster	\$ 20.00	50	\$ -	\$ -	\$ 1,000.00	\$ 1,000.00
Steve Smith, GIS technician	\$ 20.00	50	\$ -	\$ -	\$ 1,000.00	\$ 1,000.00
FRINGE BENEFITS			\$ -	\$ -		\$ -
Full-time employees	10%		\$ 12,185.00	\$ 12,185.00		\$ 24,370.00
TRAVEL			\$ -	\$ -		\$ -
Mileage	\$ 0.45	4500	\$ 1,013.00	\$ 1,012.00		\$ 2,025.00
EQUIPMENT			\$ -	\$ -		\$ -
turbine, generator, switchgear, controls			\$ 317,250.00	\$ 317,250.00		\$ 634,500.00
SUPPLIES/MATERIALS			\$ -	\$ -		\$ -
Office Supplies			\$ 650.00	\$ 650.00		\$ 1,300.00
CONTRACTUAL/CONSTRUCTION			\$ -	\$ -		\$ -
Pipeline material/installation	\$ 81.41	18,500 ft	\$ 715,558.00	\$ 765,558.00	\$ 25,000.00	\$1,506,116.00
Appurtenant work			\$ 95,781.00	\$ 95,781.00		\$ 191,562.00
Measuring devices	\$5,000.00	5 each	\$ 12,500.00	\$ 12,500.00		\$ 25,000.00
GPS survey/drafting	\$ 100.00	400 hrs	\$ 20,000.00	\$ 20,000.00		\$ 40,000.00
Engineering	7%	\$ 158,522.00	\$ 79,261.00	\$ 79,261.00		\$ 158,522.00
Easements			\$ 25,000.00	\$ -		\$ 25,000.00
ENVIRONMENTAL AND REGULATORY COMPLIANCE	2%		\$ 21,656.00	\$ 21,656.00		\$ 43,312.00
OTHER			\$ -	\$ -		\$ -
Reporting			\$ 1,128.00	\$ 328.00		\$ 1,456.00
Financial review/audit	2.00	\$ 5,000.00	\$ 3,000.00	\$ 7,000.00		\$ 10,000.00
TOTAL DIRECT COSTS			\$ 1,421,682.00	\$ 1,453,181.00	\$ 32,000.00	\$2,906,863.00
Feasibility			\$ 37,500.00	\$ -	\$ 12,500.00	\$ 50,000.00
In kind technical			\$ -	\$ -	\$ 3,000.00	\$ 3,000.00
INDIRECT COSTS - __%						\$ -
						\$ -
TOTAL PROJECT COSTS			\$ 1,459,182.00	\$ 1,453,181.00	\$ 47,500.00	\$2,959,863.00

Exhibit 3 Maps

Please see a series of map on USGS topographical quadrangle maps. No lands within our boundary have been designated for study for inclusion in the National Wild and Scenic River System and no area have been recommended for designation or designated a wilderness study area under the provision of the Wilderness Act.

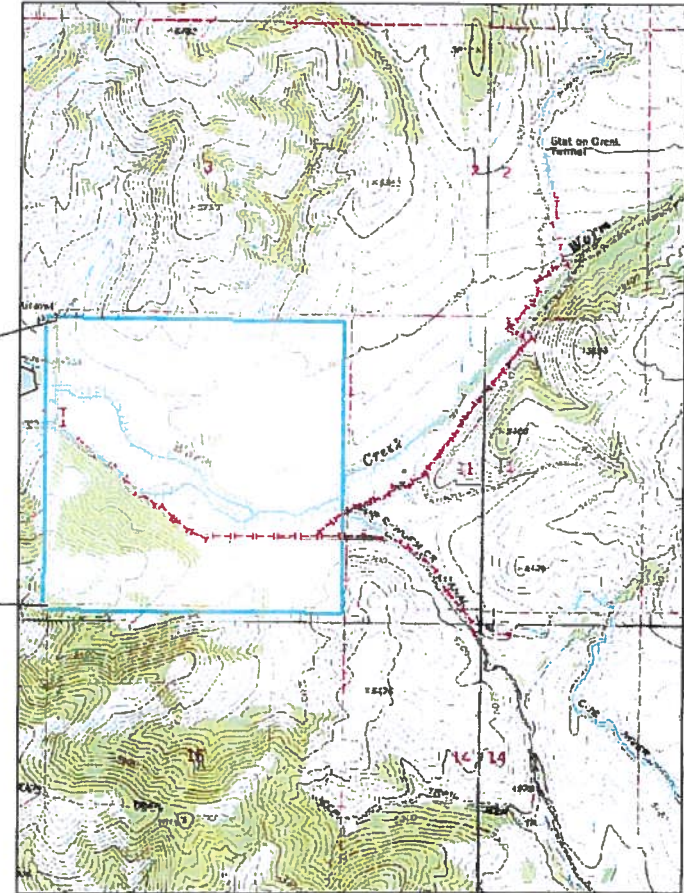
Consolidated Irrigation Glendale Conduit Hydro



0 190 380 760 1,140 1,520 Feet

Legend

- USGS Section 10
- Turbine Facility
- Hydro Pipeline
- Major Reservoirs
- Existing Canal
- Perennial Streams



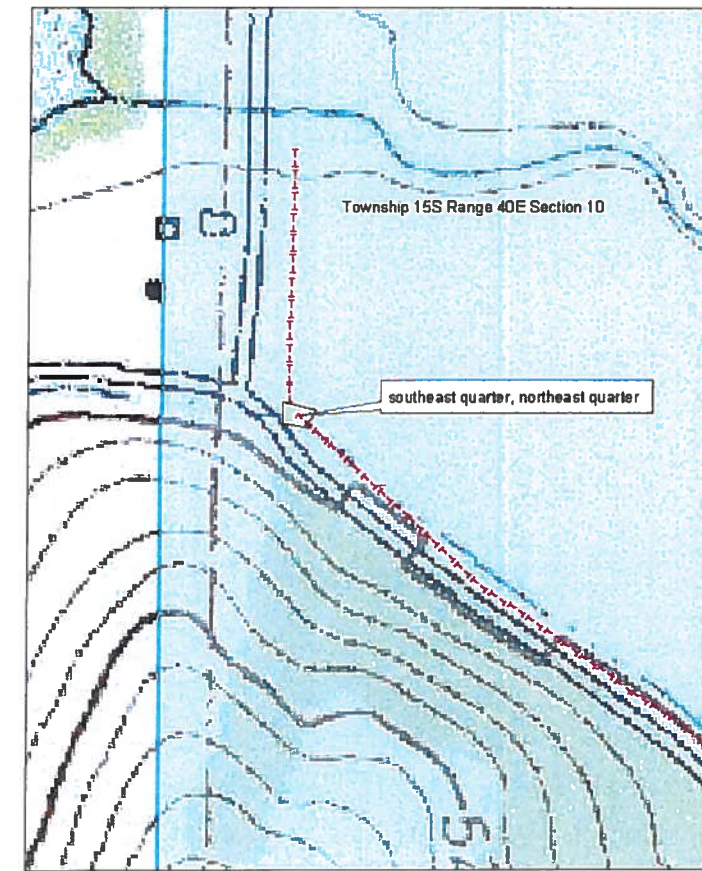
0 1,400 2,800 5,600 8,400 11,200 Feet

Map Index

- overview
- Map 1- Existing streams
- Map 2- Pipeline
- Map 3- Turbine Facility

Map 1- Streams

Consolidated Irrigation Glendale Conduit Hydro

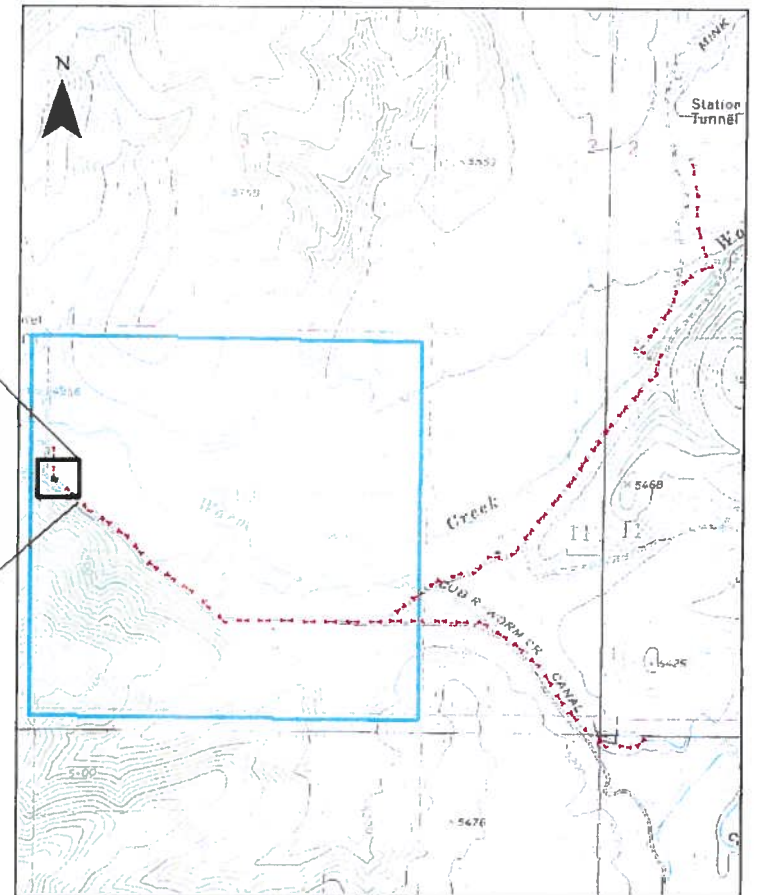


0 190 380 760 1,140 1,520 Feet

Map 3- Turbine Facility

Legend

- USGS Section 10
- Turbine Facility
- Hydro Pipeline



0 1,125 2,250 4,500 6,750 9,000 Feet

Map 2- Pipeline

February 3, 2012

Preston Whitney Irrigation Company
 c/o Jay Ransbottom
 2085 South 2400 East
 Preston, Idaho 83263

Re: Preston Whitney Irrigation Company - Piping and Hydroelectric Project
 50% Grant Funds

Ladies and Gentlemen:

As you are aware we completed the Phase 1 Preliminary Feasibility study of the above referenced project. Based on this study three of the four projects analyzed were not economically viable to proceed to Phase 2 Feasibility. However, additional alternatives were identified to be carried on to Phase 2 Feasibility as follows:

- Cub River Canal Flows with Turbine located near Lamont Ditch Diversion
- Cub River and Mink Creek Canal Flows with Common Turbine to be located near Lamont Ditch diversion – Alternate 1
- Cub River and Mink Creek Canal Flows with Common Turbine to be located near Zeolite mine turnoff to allow diversion back into Lamont ditch – Alternate 2

We have attached an updated map showing the alternatives being considered and updated cost estimates for use in obtaining funding for the project. The following table summarizes the results of the alternatives considered above.

HYDROPLANT	TOTAL COST	kW HOURS PRODUCED	REVENUE	ANNUAL PAYMENT 5% for 20 yrs	ANNUAL O&M \$0.01 per kWh	NET REVENUE
Cub River Canal	\$1,604,126	1,860,144	\$131,270	\$128,719	\$18,601	-\$16,050
Cub River/Mink Creek Alt 1	\$2,294,602	2,497,548	\$176,252	\$184,125	\$24,975	-\$32,848
Cub River/Mink Creek Alt 2	\$2,707,020	2,526,193	\$178,273	\$217,218	\$25,262	-\$64,207

With the piping associated with each of these alternatives there will be several feet of open canal that would be eliminated. There is 5,340 feet of the Cub River Canal eliminated with the Cub River Canal option and Alternate 1. In addition there are 9,840 feet of the Mink Canal and 7,500 feet of the Webster Canal eliminated with Alternate 1 and 9,930 feet of the Cub River Canal, 14,430 feet of Mink Creek Canal and 7,500 feet of the Webster Canal eliminated with Alternate 2. According to the book

"Irrigation and Water Resources Engineering" by G L Asawa there is approximately 8 meters cubed/sec of water loss per million square meters of wetted area of a canal for gravel sand soils. If we assume the canals have a bottom width of 5 feet and a depth of approximately 2 feet and a wetted perimeter of 9 feet we estimate the water loss for each of these options as follows:

HYDROPLANT	LINEAR FEET OF CANAL ELIMINATED	SQUARE FEET WETTED AREA	WATER LOSS (ACRE FEET)
Cub River Canal	5,340	48,060	1,675
Cub River/Mink Creek Alt 1	22,680	204,120	7,112
Cub River/Mink Creek Alt 2	31,860	286,740	9,991

It is our understanding the irrigation company is considering applying for grants for a portion of the project funding of the piping system to eliminate extensive water losses in the system which also contribute to lowering salinity levels by minimizing leaching of salts from the soils due to seepage. The following table summarizes the project feasibility assuming 50% of the funds required for the project are provided by a grant reducing the amount of funds being borrowed to construct the project:

HYDROPLANT	TOTAL COST LESS 50% GRANT	kW HOURS PRODUCED	REVENUE	ANNUAL PAYMENT 5% for 20 yrs	ANNUAL O&M \$0.01 per kWh	NET REVENUE
Cub River Canal	\$802,063	1,860,144	\$131,270	\$64,360	\$18,601	\$48,759
Cub River/Mink Creek Alt 1	\$1,147,301	2,497,548	\$176,252	\$92,062	\$24,975	\$59,215
Cub River/Mink Creek Alt 2	\$1,353,510	2,526,193	\$178,273	\$108,609	\$25,262	\$44,402

Considering the value of water saved and the revenue produced it appears that Alternate 2 provides for the greatest water savings per dollar spent and provides for a positive cash flow if grant funds are available for the project. We will be providing further information relative to the project as it becomes available from the turbine manufacturer and Rocky Mountain Power but feel this will provide the information required at this point to make application for funding.

Let us know if you need any additional information for the funding package.

Sincerely,



Brent E. Gardner, P.E.
ALPHA ENGINEERING COMPANY

Potential Power Generation - Mink Creek w/ Cub River Canal Alternate 2

Date	Mink Creek Monthly Ave Flow (cfs)	Cub River Monthly Ave Flow (cfs)	Combined Flow at Hydro (cfs)	Friction Head Loss (ft)	Net Head (ft)	Power Output (kW)	Power Generated (kWh)	Income
January	0.00	15.48	15.48	10.33	199.67	196.35	143,336	\$10,115.20
February	0.00	14.10	14.10	8.68	201.32	180.25	131,582	\$9,285.72
March	0.00	15.57	15.57	10.43	199.57	197.28	144,011	\$10,162.88
April	0.00	24.65	24.65	24.44	185.56	290.47	212,044	\$14,963.92
May	0.00	37.23	37.23	52.45	157.55	372.53	271,947	\$19,191.30
June	17.70	37.18	54.88	72.53	137.47	479.09	349,735	\$24,680.77
July	24.05	38.23	55.00	74.44	135.56	473.49	345,650	\$24,392.50
August	22.81	4.05	26.86	11.03	198.97	339.42	247,779	\$17,485.79
September	20.09	5.49	25.58	10.54	199.46	324.04	236,546	\$16,693.07
October	0.00	15.22	15.22	10.01	199.99	193.34	141,139	\$9,960.20
November	0.00	18.27	18.27	14.04	195.96	227.41	166,010	\$11,715.34
December	0.00	14.66	14.66	9.34	200.66	186.87	136,414	\$9,626.73

Total: 2,526,193 \$178,273.42

Upper Elevation	5,212'	Hazen Williams	130	Time	730 hrs/month	Income	\$70.57/mWh
Turbine Elevation	5,002'	Max Turbine Flow	55 cfs	Efficiency	75%		

$$HL = L \times [Q / (0.432 \times H \times D^{2.63})]^{1/0.54}$$

$$\text{Power Output} = \text{Eff.} \times [(Q \times H) / 11.81]$$

	Length	Size	Start Elevation	End Elevation
Mink Creek Pipe	8,890 ft	22.37 in	5320'	5035'
Cub River Pipe	4,390 ft	27.97 in	5212'	5035'
Combined Pipe	5,220 ft	32.45 in	5035'	5002'

March 30, 2012

RB&G
ENGINEERING, INC.

Mr. Lyle Porter, President
Preston Whitney Irrigation Company
P.O. Box 311
Preston, ID 83263

Re: Preston Whitney Irrigation Company Piping and Hydroelectric Project
Review of Phase 2 Feasibility Report

Dear Mr. Porter:

In accordance with your request, we have completed a review of the feasibility report dated January 6, 2012, with a modification dated February 3, 2012, as prepared by Alpha Engineering Company with regard to the proposed piping and hydroelectric projects on several Preston Whitney Irrigation Company facilities. The facilities and alternatives considered in the feasibility study include the following:

- Cub River Canal Flows with Turbine located near Lamont Ditch Diversion
- Cub River and Mink Creek Canal flows with common Turbine near Lamont Ditch Diversion – Alternate 1
- Cub River and Mink Creek Canal flows with common Turbine near Zeolite mine turnoff with diversion back into Lamont Ditch – Alternate 2

We have reviewed the seepage loss calculations presented in the study and find the rates used and estimates of total seepage loss to be within a reasonable range. Actual seepage loss in the canal will vary depending upon the variation and permeability characteristics of the soils along its length and the depth of the groundwater table. The hydraulic computations, together with the analysis of potential power output and associated revenue are also reasonable and verifiable. We have further reviewed the cost estimates for the various alternatives and find that they are consistent with current pricing for similar projects at the present time. The estimates include a 10% contingency and 15% budget for engineering and administrative expenses.

Based upon our review of the report, the conclusions appear to be sound and proper. The selection of Alternate 1 would appear to be the best choice considering the initial outlay of funds versus the value of the water saved from seepage and the revenue available from the hydroelectric component.

If there are any questions regarding this review, please call me.

Sincerely,

RB&G ENGINEERING, INC.



Carl L. Cook, P.E.
Principal

PRESTON WHITNEY IRRIGATION COMPANY

HYDROELECTRIC PROJECTS

PRELIMINARY FEASIBILITY STUDY

2nd DRAFT



November 2011

PREPARED BY:

ALPHA
ENGINEERING COMPANY
43 SOUTH 100 EAST, SUITE 100, ST. GEORGE, UT 84770
TEL: (435) 628-6500 FAX: (435) 628-6553

RB&G
ENGINEERING, INC.
1435 West 820 North
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Lamont Reservoir Canal Drop, Mink Creek Canal, Cub River Canal, and Johnson Lamont Pipeline Hydroelectric Projects

Preliminary Feasibility

1.1 Introduction

The purpose of this preliminary feasibility review is to provide an analysis of four potential hydroelectric sites within the Preston Whitney Irrigation Company service area to determine if they are cost effective. If, on a preliminary basis, they are shown to be cost effective, a follow up study is to be performed in accordance with the Renewable Energy Feasibility Guide. The following information was analyzed to determine, on a preliminary basis, the economical feasibility of each of the potential hydroelectric systems:

- 1) Available head for each of the facilities based on USGS and other mapping sources.
- 2) Average monthly flow data obtained from irrigation company records.
- 3) Diversion dam, penstock, and hydro plant location based on existing aerial photography of the area.
- 4) Penstock sizing based on maintaining velocities of around 5 feet per second in the pipeline.
- 5) Power plant production optimization using flow and head available.
- 6) Establish potential revenues using Rocky Mountain Power avoided cost rate information.

A summary of our findings, cost estimates, and economic analysis are provided below.

1.2 Site Data

Aerial mapping has been prepared for each of the hydro systems showing the diversion dam, penstock alignment, and hydro plant locations (see figures in appendix). For the most part, proposed pipelines were located in existing road or canal right-of-ways or along edges of fields to minimize disturbance to the area. Elevations for the diversion dams and hydro plant locations were taken from USGS mapping information.

1.3 Penstock Evaluation

Lengths of penstock were established from the scaled aerial photography. Pressures in the penstocks vary for each of the systems as follows:

<u>Location</u>	<u>Head (feet)</u>	<u>Pressure (psi)</u>
Lamont Reservoir Canal Drop	63	27
Mink Creek	290	126
Cub River Canal	180	78
Johnson Lamont Pipeline	112	48

We recommend the use of HDPE pipe for these relatively low pressures as it is very economical to use for these applications. Using this material also eliminates the need for cathodic protection normally required for steel penstocks. Each of the penstocks was sized based on maintaining a velocity in the line of around 5 feet per second. This velocity is typical in the industry when trying to minimize head loss in the pipeline while maintaining economic viability.

1.4 Generation Facilities

We approached two separate turbine manufacturers for pricing on each of the generating facilities. Based on the preliminary costs provided, we recommend the following turbines for each of the facilities:

<u>Location</u>	<u>Turbine Type</u>	<u>Max. Capacity (kW)</u>
Lamont Reservoir Canal Drop	Canyon Cross Flow	76
Mink Creek	Gilkes Horizontal Francis	496
Cub River Canal	Gilkes Horizontal Francis	508
Johnson Lamont Pipeline	Canyon Dual Nozzle Pelton	21

With the flow and head available for each of the sites, we have prepared a preliminary estimate of power production, which are located in the appendix under tables and charts.

1.5 Substation and Power Transmission

It is proposed to connect to power transmission lines near each of the proposed generation facilities. Step up transformers would be required to match the voltage of facilities nearby. More detailed interconnection requirements would be completed in the next phase of the study. For the purposes of this preliminary report, general costs were included in the cost estimate.

Rocky Mountain Power is supportive of alternative energy projects, and we do not foresee any major issues in interconnecting with their power system to be able to transmit the energy produced by this project. They have established an avoided cost purchase contract for power generation facilities similar to the proposed project.

1.6 Project Costs

We have prepared Preliminary Engineers Opinion of Probable Construction Costs for each of the projects which are located in the appendix. The costs were derived from our previous project experience and recent bid tabulations which have been compiled from several of our recent projects with similar activities.

1.7 Economic Feasibility

We have made the following assumptions in determining the economic feasibility of each of the projects:

- Financing would be obtained at a rate of 5% for 20 years.
- Operation and Maintenance Costs would be \$0.01 per kWh.

- Rocky Mountain Power Avoided Cost Rate for Non-Fueled Projects which is a 20-year levelized contract, would be \$70.57/mWh.

Based on these assumptions the following table shows the projected income and expenses for each of the projects.

HYDROPLANT	TOTAL COST	ANNUAL PAYMENT 5% for 20 yrs	ANNUAL O&M \$0.01 per kWh	REVENUE	NET REVENUE
Lamont Reservoir Canal Drop	\$548,484	\$44,012	\$2,086	\$12,966	-\$33,132
Mink Creek Canal	\$1,530,826	\$122,837	\$10,760	\$66,876	-\$66,722
Cub River Canal	\$1,099,375	\$88,217	\$18,655	\$115,940	\$9,069
Johnson Lamont Pipeline	\$276,625	\$22,197	\$467	\$2,905	-\$19,760

In our evaluation it was proposed that the Mink Creek and Cub River Canal generation facilities be constructed in the same power house. The turbine being used for the Cub River Canal has a maximum flow capacity of 45 cfs and a peak power production of 580 kW. During the months of June through September there is additional capacity in the Cub River Canal turbine to take flows from the Mink Creek Canal. The inlet elevation for the Mink Creek Canal is approximately 100 feet higher than the Cub River Canal so the diameter of the Mink Creek Canal pipeline can be reduced from the original design diameter of 30 inch to a 24 inch line reduce the excess head available in friction loss. The low flow of the Cub River Canal turbine is 14 cfs and thus there is no power production during the months of July and August. On the average a flow of 7.82 cfs during June, 6.67 cfs during July, 22.81 cfs during August, and 20.09 cfs during September can be used through the Cub River Canal turbine to generate additional power without providing any additional equipment.

The Cub River Canal generation facilities would increase their output by 688,506 kW-hrs and produce an additional \$48,600 in revenue and \$6,885 in operation and maintenance costs. The cost for piping the Mink Creek Canal would be approximately \$493,500 excluding the power house and equipment cost etc. Amortizing this amount at 5% for 20 years would have an annual payment of \$39,600. There would be a net income of \$2,115. In addition you would have the benefit of water conservation and the elimination of erosion by piping the canal.

1.8 Conclusion

We have evaluated the Mink Creek Canal, Cub River Canal, Lamont Reservoir Canal Drop and the Johnson Lamont Pipeline for hydroelectric power generation potential and feasibility. Of all the potential projects the Cub River Canal Hydro is economically viable including piping of the Mink Creek Canal. This is due to the fact that the generation system is producing power almost year round. In addition in the next 6 months there may be the possibility that this renewable energy source may be able to be sold for \$0.08 per kW-hr which would increase the overall revenue by \$20,800. We feel that further study is warranted on these two projects.

We feel that further study would be warranted on the other potential hydroelectric projects if renewable energy grant money becomes available or if there is a change in the water system that would allow for longer periods of power production.

APPENDIX

Tables and Charts

Potential Power Generation

Preliminary Engineers Opinion of Probable Construction Cost

Figures

Sheet 1	Lamont Reservoir Canal Drop Hydro Exhibit
Sheet 2	Mink Creek Canal Hydro Exhibit
Sheet 3	Cub River Canal Hydro Exhibit
Sheet 4	Johnson Lamont Pipeline Hydro Exhibit

**Lamont Reservoir Canal Drop Hydroelectric Project
Potential Power Generation**

Date	2008 Monthly Flow (ac ft)	2009 Monthly Flow (ac ft)	2010 Monthly Flow (ac ft)	Monthly Ave Flow (ac ft)	Monthly Ave Flow (cfs)	Head Loss (ft)	Net Head (ft)	Power Output (kW)	Power Generated (kWh)	Income (\$70.57/mWh)
January										
February										
March										
April	48.00	138.00	250.00	145.33	2.44	0.03	62.97	9.77	Low Flow	\$0.00
May	456.00	581.00	91.00	376.00	6.32	0.20	62.80	25.20	18,397	\$1,298.29
June	706.00	94.00	297.00	365.67	6.15	0.19	62.81	24.51	17,894	\$1,262.81
July	1,064.00	1,264.00	1,525.00	1,284.33	21.58	1.92	61.08	83.72	61,114	\$4,312.81
August	923.00	1,202.00	986.00	1,037.00	17.43	1.29	61.71	68.29	49,853	\$3,518.13
September	1,054.00	1,054.00	824.00	977.33	16.42	1.16	61.84	64.50	47,087	\$3,322.93
October	210.00	489.00	175.00	291.33	4.90	0.12	62.88	19.55	14,271	\$1,007.13
November										
December										
Total	4,461.00	4,822.00	4,148.00	4,477.00					Total: 208,617	\$14,722.10

Gross Head	63 ft	Pipe Length	980 ft	Time	730 hrs/month
Pipe Diameter	30 in	Hazen Williams	130	Efficiency	75%

$$HL = [Q / (0.432 \times C \times D^{2.63})]^{1/0.54}$$

$$\text{Power Output} = \text{Eff.} \times [(Q \times H) / 11.81]$$

**Mink Creek Hydroelectric Project
Potential Power Generation**

Date	2008 Monthly Flow (ac ft)	2009 Monthly Flow (ac ft)	2010 Monthly Flow (ac ft)	Monthly Ave Flow (ac ft)	Monthly Ave Flow (cfs)	Head Loss (ft)	Net Head (ft)	Power Output (kW)	Power Generated (kWh)	Income (\$70.57/mWh)
January										
February										
March										
April										
May										
June	1,380.00	1,194.00	584.93	1,052.98	17.70	10.94	279.06	313.61	228,933	\$16,155.81
July	1,426.00	1,570.00	1,296.60	1,430.87	24.05	19.30	270.70	413.39	301,771	\$21,296.00
August	1,439.00	1,478.00	1,154.98	1,357.33	22.81	17.50	272.50	394.74	288,161	\$20,335.54
September	1,349.00	1,192.00	1,044.89	1,195.30	20.09	13.83	276.17	352.30	257,181	\$18,149.27
October										
November										
December										
Total	5,594.00	5,434.00	4,081.39	5,036.46					Total: 1,076,047	\$75,936.61

Gross Head	290 ft	Pipe Length	8,050 ft	Time	730 hrs/month
Pipe Diameter	30 in	Hazen Williams	130	Efficiency	75%

$$HL = [Q / (0.432 \times C \times D^{2.63})]^{1/0.54}$$

$$\text{Power Output} = \text{Eff.} \times [(Q \times H) / 11.81]$$

**Cub River Canal Hydroelectric Project
Potential Power Generation**

Date	2008 Monthly Flow (ac ft)	2009 Monthly Flow (ac ft)	2010 Monthly Flow (ac ft)	Monthly Ave Flow (ac ft)	Monthly Ave Flow (cfs)	Head Loss (ft)	Net Head (ft)	Power Output (kW)	Power Generated (kWh)	Income (\$70.57/mWh)
January	795.00	895.26	1,074.00	921.42	15.48	1.72	178.28	175.31	127,978	\$9,031.42
February	649.00	885.82	982.00	838.94	14.10	1.45	178.55	159.87	116,702	\$8,235.67
March	648.00	383.68	1,747.00	926.23	15.57	1.74	178.26	176.21	128,634	\$9,077.69
April	1,576.00	1,065.12	1,759.00	1,466.71	24.65	4.08	175.92	275.38	201,024	\$14,186.26
May	1,417.00	3,774.72	1,455.00	2,215.57	37.23	8.76	171.24	404.92	295,589	\$20,859.73
June	2,203.00	2,516.43	1,918.00	2,212.48	37.18	8.73	171.27	404.40	295,215	\$20,833.33
July	2,519.00	1,922.72	2,382.00	2,274.57	38.23	9.19	170.81	414.64	302,687	\$21,360.61
August	188.00	381.22	154.00	241.07	4.05	0.14	179.86	46.27	Low Flow	\$0.00
September	166.00	814.61	0.00	326.87	5.49	0.25	179.75	62.70	Low Flow	\$0.00
October	609.00	1,129.53	979.00	905.84	15.22	1.67	178.33	172.40	125,853	\$8,881.42
November	1,136.00	1,018.12	1,108.00	1,087.37	18.27	2.34	177.66	206.17	150,504	\$10,621.03
December	1,009.00	916.78	692.00	872.59	14.66	1.56	178.44	166.18	121,309	\$8,560.78

Total	12,915.00	15,704.01	14,250.00	14,289.67					Total:	1,865,494	\$131,647.93
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Gross Head	180 ft	Pipe Length	3,950 ft	Time	730 hrs/month
Pipe Diameter	36 in	Hazen Williams	130	Efficiency	75%

$HL = [Q / (0.432 \times C \times D^{2.63})]^{1/0.54}$
 Power Output = Eff. x [(Q x H) / 11.81]

**Johnson Lamont Pipeline Hydroelectric Project
Potential Power Generation**

Date	2008 Monthly Flow (ac ft)	2009 Monthly Flow (ac ft)	2010 Monthly Flow (ac ft)	Monthly Ave Flow (ac ft)	Monthly Ave Flow (cfs)	Head Loss (ft)	Net Head (ft)	Power Output (kW)	Power Generated (kWh)	Income (\$70.57/mWh)
January										
February										
March										
April										
May										
June	124.69	119.51	129.91	124.70	2.10	0.00	80.00	9.94	7,254	\$511.94
July	288.64	276.65	300.72	288.67	4.85	0.00	80.00	23.00	16,793	\$1,185.05
August	274.84	263.42	286.34	274.87	4.62	0.00	80.00	21.90	15,990	\$1,128.38
September	115.18	110.39	120.00	115.19	1.94	0.00	80.00	9.18	6,701	\$472.89
October	14.64	14.03	15.25	14.64	0.25	0.00	80.00	1.17	Low Flow	\$0.00
November										
December										

Total	818.00	784.00	852.22	818.07		Total:	46,737	\$3,298.26
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Gross Head	80 ft	Pipe Length	N/A	Time	730 hrs/month
Pipe Diameter	N/A	Hazen Williams	N/A	Efficiency	70%

$$HL = [Q / (0.432 \times C \times D^{2.63})]^{1/0.54}$$

$$\text{Power Output} = \text{Eff.} \times [(Q \times H) / 11.81]$$

**Mink Creek Hydroelectric Project
Potential Power Generation Combined w/ Cub River Canal**

Date	2008 Monthly Flow (ac ft)	2009 Monthly Flow (ac ft)	2010 Monthly Flow (ac ft)	Monthly Ave Flow (ac ft)	Monthly Ave Flow (cfs)	Flow to Cub River Hydro (cfs)	Cub River Hydro Head (ft)	Power Output (kW)	Power Generated (kWh)	Income (\$70.57/mWh)
January										
February										
March										
April										
May										
June	1,380.00	1,194.00	584.93	1,052.98	17.70	7.82	171.27	85.05	140,503	\$9,915.32
July	1,426.00	1,570.00	1,296.60	1,430.87	24.05	6.77	170.81	73.44	190,414	\$13,437.52
August	1,439.00	1,478.00	1,154.98	1,357.33	22.81	26.86	179.86	306.80	190,198	\$13,422.26
September	1,349.00	1,192.00	1,044.89	1,195.30	20.09	25.58	179.75	292.00	167,391	\$11,812.78
October										
November										
December										
Total	5,594.00	5,434.00	4,081.39	5,036.46				Total:	688,506	\$48,587.88

Gross Head	290 ft	Pipe Length	8,050 ft	Time	730 hrs/month
Pipe Diameter	24 in	Hazen Williams	130	Efficiency	75%

$$HL = [Q / (0.432 \times C \times D^{2.63})]^{1/0.54}$$

$$\text{Power Output} = \text{Eff.} \times [(Q \times H) / 11.81]$$

LAMONT RESERVOIR CANAL DROP HYDRO

Preliminary Engineer's Opinion of Probable Construction Costs

Date - November 2011

ITEM NO.	ITEM DESCRIPTION	QUANTITY	UNITS	UNIT PRICE	ITEM PRICE
1	Mobilization	1	L.S.	\$24,900.00	\$24,900
2	Diversion Dam	1	L.S.	\$10,000.00	\$10,000
3	30" Diameter HDPE Pipe	36,387	LBS.	\$1.00	\$36,387
4	Install 30" HDPE Pipe	980	L.F.	\$20.00	\$19,600
5	Air/Vacuum Valves	1	Each	\$4,200.00	\$4,200
6	Power House (10' x 15')	150	S.F.	\$158.00	\$23,700
7	Site Work	1	L.S.	\$5,000.00	\$5,000
8	Turbine, Generator, Switchgear & Controls	1	L.S.	\$285,000.00	\$285,000
9	Install Equipment	1	L.S.	\$15,000.00	\$15,000
10	Power Interconnection	1	L.S.	\$10,000.00	\$10,000
11	Supervisory & Control System	1	L.S.	\$5,000.00	\$5,000
Subtotal of Schedule					\$438,787
10% Contingency					\$43,879
15% Engineering, Legal, Fiscal					\$65,818
TOTAL OF SCHEDULE					\$548,484

MINK CREEK CANAL HYDRO

Preliminary Engineer's Opinion of Probable Construction Costs

Date - November 2011

ITEM NO.	ITEM DESCRIPTION	QUANTITY	UNITS	UNIT PRICE	ITEM PRICE
1	Mobilization	1	L.S.	\$69,400.00	\$69,400
2	Diversion Dam	1	L.S.	\$10,000.00	\$10,000
3	30" Diameter HDPE Pipe	370,461	LBS.	\$1.00	\$370,461
4	Install 30" HDPE Pipe	8,050	L.F.	\$20.00	\$161,000
5	Air/Vacuum Valves	3	Each	\$4,200.00	\$12,600
6	Power House (20' x 20')	400	S.F.	\$158.00	\$63,200
7	Site Work	1	L.S.	\$10,000.00	\$10,000
8	Turbine, Generator, Switchgear & Controls	1	L.S.	\$475,000.00	\$475,000
9	Install Equipment	1	L.S.	\$30,000.00	\$30,000
10	Power Interconnection	1	L.S.	\$18,000.00	\$18,000
11	Supervisory & Control System	1	L.S.	\$5,000.00	\$5,000
Subtotal of Schedule					\$1,224,661
10% Contingency					\$122,466
15% Engineering, Legal, Fiscal					\$183,699
TOTAL OF SCHEDULE					\$1,530,826

CUB RIVER CANAL HYDRO

Preliminary Engineer's Opinion of Probable Construction Costs

Date - November 2011

ITEM NO.	ITEM DESCRIPTION	QUANTITY	UNITS	UNIT PRICE	ITEM PRICE
1	Mobilization	1	L.S.	\$54,300.00	\$54,300
2	Diversion Dam	1	L.S.	\$10,000.00	\$10,000
3	36" Diameter HDPE Pipe	218,400	LBS.	\$1.00	\$218,400
4	Install 36" HDPE Pipe	3,900	L.F.	\$22.00	\$85,800
5	Air/Vacuum Valves	2	Each	\$4,200.00	\$8,400
6	Power House (20' x 20')	400	S.F.	\$158.00	\$63,200
7	Site Work	1	L.S.	\$10,000.00	\$10,000
8	Turbine, Generator, Switchgear & Controls	1	L.S.	\$455,000.00	\$455,000
9	Install Equipment	1	L.S.	\$30,000.00	\$30,000
10	Power Interconnection	1	L.S.	\$18,000.00	\$18,000
11	Supervisory & Control System	1	L.S.	\$5,000.00	\$5,000
Subtotal of Schedule					\$958,100
10% Contingency					\$95,810
15% Engineering, Legal, Fiscal					\$143,715
TOTAL OF SCHEDULE					\$1,197,625

JOHNSON LAMONT PIPELINE HYDRO

Preliminary Engineer's Opinion of Probable Construction Costs

Date - November 2011

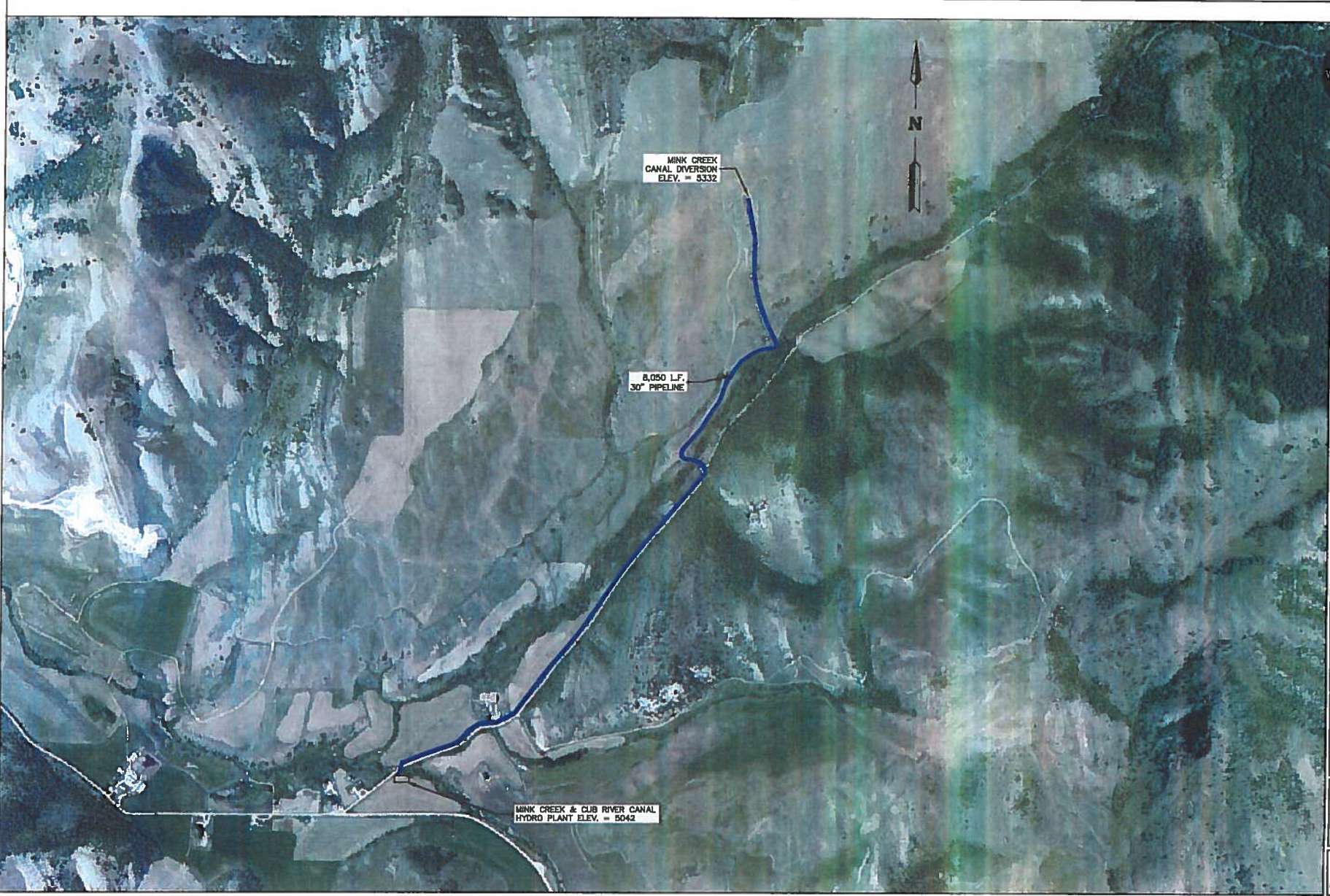
ITEM NO.	ITEM DESCRIPTION	QUANTITY	UNITS	UNIT PRICE	ITEM PRICE
1	Mobilization	1	L.S.	\$12,600.00	\$12,600
2	Power House (10' x 15')	150	S.F.	\$158.00	\$23,700
3	Site Work	1	L.S.	\$10,000.00	\$10,000
4	Turbine, Generator, Switchgear & Controls	1	L.S.	\$145,000.00	\$145,000
5	Install Equipment	1	L.S.	\$15,000.00	\$15,000
6	Power Interconnection	1	L.S.	\$10,000.00	\$10,000
7	Supervisory & Control System	1	L.S.	\$5,000.00	\$5,000
Subtotal of Schedule					\$221,300
10% Contingency					\$22,130
15% Engineering, Legal, Fiscal					\$33,195
TOTAL OF SCHEDULE					\$276,625

MINK CREEK CANAL HYDRO
Penstock Only - Power Generation Combined w/ Cub River Canal
Preliminary Engineer's Opinion of Probable Construction Costs

Date - November 2011

ITEM NO.	ITEM DESCRIPTION	QUANTITY	UNITS	UNIT PRICE	ITEM PRICE
1	Mobilization	1	L.S.	\$22,400.00	\$22,400
2	Diversion Dam	1	L.S.	\$10,000.00	\$10,000
3	24" Diameter HDPE Pipe	209,300	LBS.	\$1.00	\$209,300
4	Install 24" HDPE Pipe	8,050	L.F.	\$18.00	\$144,900
5	Air/Vacuum Valves	2	Each	\$4,200.00	\$8,400
6	Power House (20' x 20')	0	S.F.	\$0.00	\$0
7	Site Work	0	L.S.	\$0.00	\$0
8	Add'l Turbine, Generator, Switchgear & Controls	0	L.S.	\$0.00	\$0
9	Install Equipment	0	L.S.	\$0.00	\$0
10	Power Interconnection	0	L.S.	\$0.00	\$0
11	Supervisory & Control System	0	L.S.	\$0.00	\$0
Subtotal of Schedule					\$395,000
10% Contingency					\$39,500
15% Engineering, Legal, Fiscal					\$59,250
TOTAL OF SCHEDULE					\$493,750

FORMA.12
947-01
Serial
JSS
Date
JULY 2011
Serial
1st = 120' (11x17)
Date
9/4/11
1
1 OF 4
Page
9



PROJECT		947-01	
DATE		JSD	
DATE		JULY 2011	
SCALE		1" = 1000' (11x17)	
SHEET		2	
OF		4	

NO.	DATE	BY	DESCRIPTION

ALPHA ENGINEERING COMPANY INCORPORATED IN THE STATE OF CALIFORNIA	
---	--

EXHIBIT MINK CREEK CANAL HYDRO PRESTON WHITE IRRIGATION COMPANY HYDROELECTRIC PROJECTS

PROJECT #	047-01
FOCUS	JEB
DATE	JULY 2011
SCALE	1" = 400' (11x17)

SHEET	3	3 OF 4
FILE #		

[illegible]

**EXHIBIT
JOHNSON LAMONT PIPELINE HYDRO**

PRESTON WHEATLEY IRRIGATION COMPANY
HYDROELECTRIC PROJECTS

Product	947-01
Model	JBB
Date	JULY 2011
Scale	1" = 1,000' (11x17)
Sheet	4
Page	4 of 4

Task	Responsibility	Completed	Cost±	Milestone*
Preliminary screening	FSWCD/CIC	April 2009		
Screening	FSWCD/CIC	July 2009		
Feasibility Study-Hydro	FSWCD/CIC/RD/Engineer	2009-2011		
Preliminary Eng-Hydraulic	CIC/engineer	2009-2011		
Submit IDWR permit	CIC/Lawyer	June 2012	2,500.00	March 2013
Apply Blue Sky grant	FSWCD/CIC/Engineer	June 2012	500.00	March 2013
Preliminary FERC application	CIC/FERC/FSWCD	July 2012	500.00	March 2013
Task	Responsibility			
Environmental compliance	FSWCD/CIC /BOR		43,312.00	March 2013
Hydraulic Survey	CIC/ Engineer		40,000.00	March 2013
Easement	CIC		25,000.00	March 2013
Exemption application	CIC/FERC/FSWCD		Inc coordination	March 2013
Engineering-pipe 1 of 5	Engineer		31,115.00	March 2013
Project coordination 1 of 6	FSWCD		22,225.00	March 2013
Interconnect study	CIC/RMP/Engineering		15,000.00	March 2013
Pipe procurement 1 of 2	FSWCD/CIC		950,000.00	March 2013
Task	Responsibility	Subtotal	1,130,152.00	
Interconnect agreement	CIC/RMP		Inc coordination	Sept 2013
Contractor selection/permit etc	FSWCD / CIC		Inc coordination	Sept 2013
Equipment procurement	CIC/Engineer		634,500.00	Sept 2013
Mainline construct 1 of 2	CIC/		207,000.00	Sept 2013
Construction Inspection 1 of 3	CIC/Engineer / FSWCD		26,748.00	Sept 2013
Project Coordination 2 of 6	FSWCD		22,225.00	Sept 2013
Engineering-final design 2 of 5	Engineering		31,114.00	Sept 2013
A-133 audit	CIC		5,000.00	Sept 2013
Task	Responsibility		2,056,739.00	
Mainline construct 2 of 2	CIC		200,000.00	March 2014
Pipe procurement 2 of 2	FSWCD/CIC		149,085.00	March 2014
Construction Inspection 2 of 3	CIC/Engineer / FSWCD		26,748.00	March 2014
Project Coordination 3 of 6	FSWCD		22,225.00	March 2014
Engineering-hydro 3 of 5	Engineering		31,114.00	March 2014
Task	Responsibility	Subtotal	2,485,911.00	

Task	Responsibility	Completed	Cost±	Milestone*
Hydro construct	CIC/Engineer		201,562.00	Sept 2014
Construction Inspection 3 of 3	CIC/Engineer / FSWCD		26,748.00	Sept 2014
Project Coordination 4 of 6	FSWCD		22,225.00	Sept 2014
Engineering-4 of 5	Engineering		31,115.00	Sept 2014
A-133 audit	CIC		5,000.00	Sept 2014
Task	Responsibility	Subtotal	2,772,561.00	
Filling & Testing	Engineer/CIC		5,000.00	March 2015
Operation and Maintenance 1 of 2	CIC		26,748.00	March 2015
Project coordination 5 of 6	FSWCD		22,225.00	March 2015
Engineering-5 of 5	Engineering		26,115.00	March 2015
Task	Responsibility	Subtotal	2,857,649.00	
Operation and Maintenance 2 of 2	CIC		26,748.00	Sept 2015
Final Reporting	FSWCD/CIC		1,417.81	Sept 2015
Project coordination 6 of 6	FSWCD		22,225.00	Sept 2015
Task	Responsibility	Total	2,903,039.81	

* Federal milestone March/ September

± Funding 750,000/ 351,590/ 351,590



United States Department of the Interior

BUREAU OF RECLAMATION
PO Box 25007
Denver, Colorado 80225-0007



IN REPLY REFER TO:

84-27810
ACM-1.10

VIA ELECTRONIC MAIL

Consolidated Irrigation Company
Attn: Ms. Lyla Detmer
33 South 1st East
Preston, ID 83263

Subject: Funding Opportunity Announcement (FOA) No. R12SF80049 – WaterSMART: Water and Energy Efficiency Grants for Fiscal Year (FY) 2012 – Your Application Titled, “Improve Irrigation Efficiencies and Provide Sustainability for Consolidated Irrigation”

Dear Ms. Detmer:

Thank you for submitting a WaterSMART Water and Energy Efficiency Grant application. The Bureau of Reclamation is pleased to inform you that your application was among those receiving the highest ratings and is now being considered for award of a financial assistance agreement. Your application included a request for \$1,453,180 to complete your proposal titled, “Improve Irrigation Efficiencies and Provide Sustainability for Consolidated Irrigation.” Reclamation anticipates awarding Federal funds in the amount of \$750,000 for your proposed project this year, and plans to allocate additional funding for this project in FY 2013 (\$351,590) and 2014 (\$351,590), contingent on availability.

Please note that this letter is not a final commitment of funding. A financial assistance agreement will not be executed and funds will not be awarded until further information about your project is developed and all statutory and regulatory requirements have been met as described in Section V.B of the FOA. The final funding amount for each year of the project may be adjusted if necessary. No funding for implementation of the project will be made available until all necessary environmental compliance measures have been completed.

Prior to award of FY 2012 funding, Reclamation must have sufficient evidence that non-Federal cost share to support the FY 2012 Federal funding amount will be available by the start of the project. Note that a 50% cost share is required. Your budget notes that cost share requirements will be made with a grant from Idaho Soil and Conservation Commission. As Consolidated Irrigation Company does not currently have these funds, it will be necessary for Consolidated Irrigation Company to provide documentation that these funds have been received from Idaho Soil and Conservation Commission prior to award of a financial assistance agreement. If the loan/grant from Idaho Soil and Conservation Commission is not realized, describe how it will meet the 50-50 cost-share requirement once these costs have been removed. Funding for the remainder of the project will be awarded contingent on (1) availability of Congressional appropriations in FY 2013 and FY 2014; (2) assurance that additional non-Federal cost share to support FY 2013 and FY 2014 funding will be available; and (3) sufficient progress on the first phase of the project.

Federal statute (42 U.S.C. 10364(a)(3)(B)) requires that before any funds are awarded, you agree not to use any water savings resulting from your proposed project to increase your total irrigated acreage or to otherwise increase the consumptive use of water in your operations. This requirement, which was discussed in Section III.G of the FOA, will be included in the financial assistance agreement for your project.

Also, please be advised that your application has been ranked, in part, based on your description of the benefits you expect to result from your project. Selection criteria placed an emphasis on conserving and using water more efficiently, increasing the use of renewable energy or otherwise addressing the energy-water nexus, addressing benefits to endangered and threatened species, facilitating water markets, and other activities that address climate-related impacts on water. Revisions to the scope of the project described in your application can be made only after Reclamation determines that revisions would be consistent with the selection process and that the expected benefits of the project would not be reduced.

Thank you for your interest and participation in the WaterSMART program. The Reclamation regional office that will be responsible for awarding and administering your agreement will contact you to finalize your award. If you have questions concerning the next steps in awarding this agreement, please contact the WaterSMART Grants Coordinator, Mr. Dean Marrone, at 303-445-3577, or contact me at 303-445-2025.

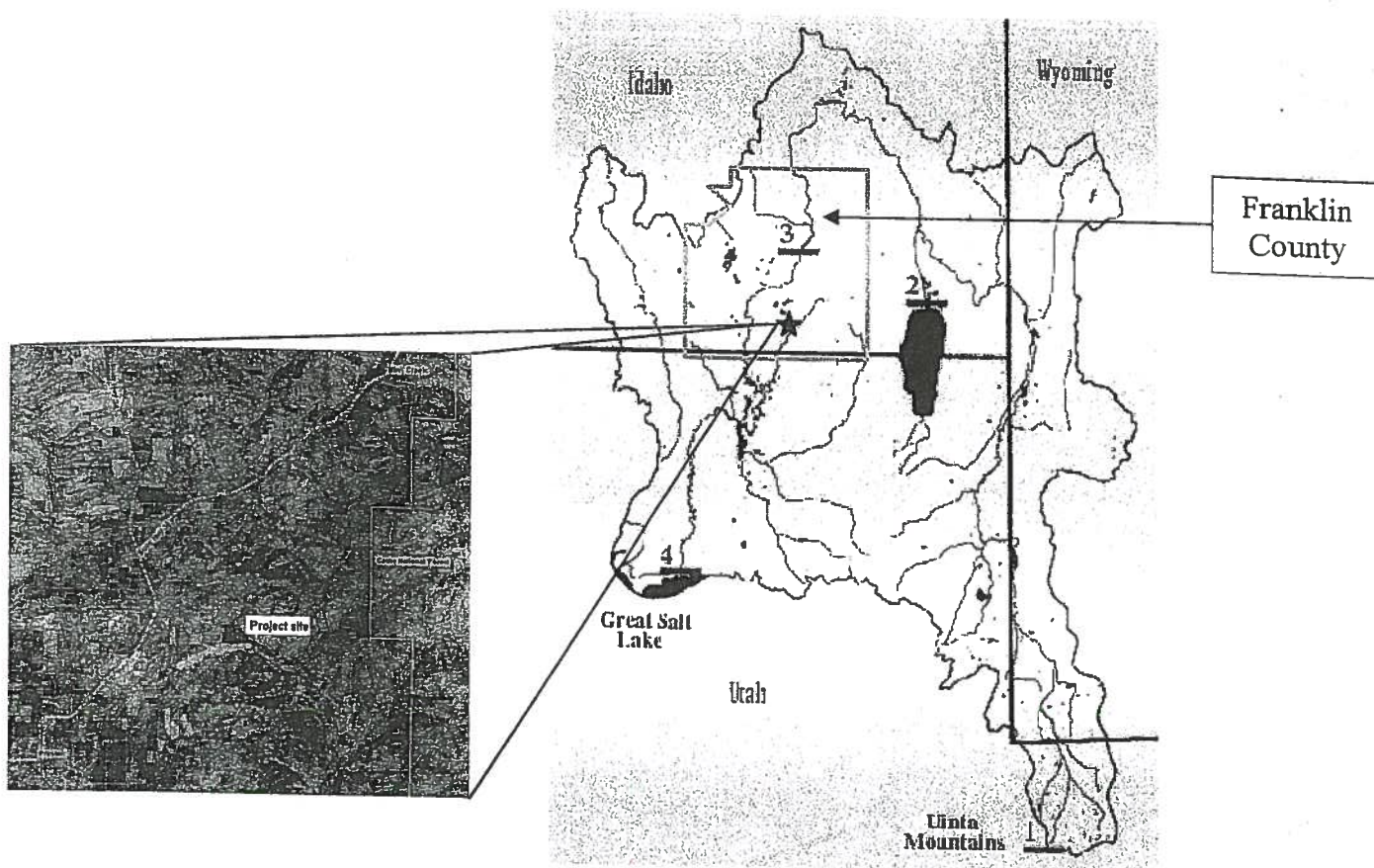
Sincerely,

/s/

Michelle Maher
Grants Officer

WaterSMART(Sustain and Manage America's Resources for Tomorrow)
Water and Energy Efficiency Grants for Fiscal Year 2012
Funding Opportunity Announcement No. \$12SF80049

**Improve Irrigation Efficiencies and Provide Sustainability
for Consolidated Irrigation Franklin County, Idaho**



Applicant

Consolidated Irrigation Company
Lyle Porter, President
P.O. 311
Preston ID 83263

Project Manager

Lyla Dettmer, District Manager
Franklin SWCD
98 East 800 North #5 Preston ID 83263
(208) 852-0562 x 5...Office (208) 852-0802...Fax
FSWCD@Earthlink.net

January 17, 2012

Title Page

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While there is a wide range of groups that may be in a position to lead a local conservation effort, Conservation Districts, under Idaho State Law title 22 chapter 27 are charged with facilitating cooperation and agreements between agencies, landowners, and others; developing comprehensive conservation plans; and bringing those plans to the attention of landowners and others in their District. Thus, Conservation districts are experienced in assessing resource needs, determining priorities, and coordinating programs to meet the needs and priorities.

The Franklin Soil & Water Conservation District (FSWCD) has a tradition of providing conservation planning. We have developed an understanding of the connection between land use and environmental health. The understanding of protection, preservation, and restoration means land use decisions can be made using technical and financial resources as efficiently as possible

To successfully accomplish the goal of sustainability, planning and foresight must be coupled with support of all stakeholders and the resources they can provide. Funding will include integration of programs. Leveraging of federal, state, and local funds and incentives allows for larger projects to be completed without depleting the funds of any one entity, yet giving the benefits of the whole project back to all involved.

The action plan for the Improve Irrigation Efficiencies and Provide Sustainability for Consolidated Irrigation project exemplifies Locally Led Conservation. It is based on the principle that community stakeholders are best suited to deal with natural resources problems. We have blended the USDA Local Working Group (LWG) into our prioritization of natural resource concerns. This group consists of a diverse assortment of community stakeholders that are best suited to identify and resolve local natural resource problems. Based on the probability of landowner acceptance without regard to program specifics they prioritize concerns.

They evaluated the USDA programs and directed the Franklin SWCD to locate additional funding to address the seepage losses and improvement in efficiencies needed by irrigation companies. The Franklin SWCD board of supervisors evaluates all requests for assistance. They feel that the quality of life as we know it depends on water. Whether viewed as resource or commodity, water is the basis of our agriculture, municipal, industrial, and environmental well-being. Watershed lands vary greatly in terms of water yield and the activities that they support. The relationship between proper management and long-term results, including water quality, erosion, flooding, water quantity, and wildlife habitat is crucial.

During the regular FSWCD board meeting on June 2, 2009, they concluded they would assist the Preston Whitney Irrigation Company as they continue to improve their irrigation efficiency and pursue renewable energy development. A feasibility study associated with renewable energy development was recommended before a funding request. The Franklin SWCD has worked with this irrigation company for 8.5 years. They are committed to taking one step at a time to reach the ultimate goal of a highly efficient system that is also cost effective to its shareholders.

At this point in our planning process we are requesting Reclamation's assistance to implement a systematic plan with overall solid goals. This project is based on the Guidebook for Preparing Agricultural Water Conservation Plans. We will or have followed the following steps: 1. Gather information and define problems 2. Set goals and priorities 3. Evaluate options 4. Define a plan of action 5. Implement plan 6. Monitor for progress.

Technical Proposal

Executive Summary

January 18, 2012

Applicant

Consolidated Irrigation Company
P.O. Box 311
County, Idaho

Project Manager

Lyla Dettmer, FSWCD District Manager,
98 East 800 North #4 Preston ID 83263 Preston, Franklin
(208) 852-0562 x 5...Office (208) 852-0802...Fax
FSWCD@Earthlink.net

Increasing demands from industry, recreational interests, rural to urban conversion, and agriculture are creating potential water crises and placing pressures on water, a very important and limited natural resource. The greater the demand, the greater the need for water users to use and share available water wisely. How can a user practice good management unless he knows the amount of water involved? How can the regulatory agencies complete their duties without knowing the amount of water diverted? Accurate measurement of water is the basis of good water management. But is management enough, do we need system improvements? Traditionally, irrigation system improvements have focused on the on-farm improvements. It is time to commit this same focus on the conveyance networks. A combination of both coupled with accurate measurement is necessary to achieve the highest efficiency.

During the 1979 irrigation season, a block of approximately 750 acres under sprinkler irrigation measured a delivery of approximately 900 acre-feet. This amounted to 1.2 acre-feet per acre. This amount of water was slightly less than needed for maximum production. "Based on consumptive use requirements of about 2 acre-feet per acre" (Taylor, Leroy P.E., Sept., 1980) The company had increased the efficiency since 1979 to delivering 1.46 acre-feet per acre in the year 1999. It was at this time that the focus moved from on-farm to company conveyance efficiency improvements.

Our project improves the sustainability of the Consolidated Irrigation Company by improving system efficiency and using existing irrigation water to produce renewable energy in a micro hydroelectric plant.

Task A-Water Conservation

First and foremost the water losses occur from seepage, distribution failure, operational waste, on-farm technology, and evaporation in the earthen ditch. This water loss estimation is based on the amount of water that is conducted through the open ditch, held in storage in the reservoirs, and finally arrives at farms. It takes into account the soil types, the amount of water, and the duration the water is in the ditches. This project will replace 6 miles of un-lined, earthen canals located in gravelly soils with 18,500 feet or 3.5 miles of high-pressure, HDPE plastic pipe.

Proper implementation of agriculture water-use efficiency typically provides increases in crop yields of 15-30 percent. Assuming that 3 crops of alfalfa hay instead of 2 crops are produced per season, at a production rate of 1 ton per crop per acre - and at a net value of \$35 per ton -the service area of 17,000 acres would generate an additional \$595,000.

The project is located in the Preston/Cache Valley nitrate priority area #20. The resulting irrigation improvements will reduce the leaching of nutrients, pesticides, and fertilizers from the cropland. These benefits will result in cleaner ground water, which in turn will provide cleaner well water. Canadian thistle, dyers woad, and leafy spurge, are the main noxious weeds found in the vicinity of the canal. This pipeline would eliminate their environment and stop the spread of their seeds downstream.

The irrigation company will improve the distribution of irrigation water by installing adequate measuring devices at each service connection. This metering method will consist of an inline master meters and magnetic type meters at the point of delivery. These meters will be used to confirm the amount of water use.

In summary, the proposed project would result in a quantitative annual water savings of 9,484 acre-feet per year and a qualitative benefit of reducing the leaching of nutrients, the transport of noxious weeds, and the sedimentation loading of the reservoirs due to soil erosion.

Task B- Energy-Water Nexus

Hydroelectric power comes from the natural flow of water. The energy is produced by the fall of water turning the blades of a turbine. The turbine is connected to a generator that converts the energy into electricity. The water is not consumed as it passes through so the original use of irrigation is retained.

Renewable energy generates a range of benefits at the local, state, regional, national, and global levels. It uses natural resources, reduces greenhouse gas emissions, and reduces U.S. dependence on foreign energy sources. Renewable energy can also furnish long-term price stability as they rarely depend on costly fuel sources. (Dept of EERE, July 2011)

Our facility will have a 500 kilowatt capacity and generate 2,525,193 kilowatts hour per year. By using an Environmental Impact calculator provided by Rocky Mountain Power our project that produces 2,526,193 kilowatt hours offsets 3,029,983 lbs of CO₂. This is equivalent to planting 35,618 trees.

Task D-Water Markets

Based on a consumptive use requirement of 2 acre-feet per acre, and given a total service area of 17,000 acres, approximately 34,000 AF is needed for crop production. Of this amount, 12,600 AF is released from storage, and an assumed 13,600 AF (approximately 40% of consumptive use) is available from precipitation and ground water. This yields an estimated 26,200 AF. Water is diverted from streams, a conservatively assumed approximately 25% is lost due to seepage. By installing the proposed pipeline, 9,484 AF will be conserved. 4,934 AF of this amount will be available to make up the consumptive use deficit, and 4,550 AF will then be available for water marketing

In summary we propose to market water to the following:

Entity	Amount
Preston city	3,000 AFA
Cub River Irrigation	1,000 AFA
Fairview Culinary Water District	350 AFA
Worm Creek Water District	200 AFA

Background Data

When the settlers first came to this area in the late 1800's the first projects they begun were irrigation. They knew that our arid climate would not generate productive farmland without irrigation. Irrigation companies continue what the settlers began. Their goals have always been to effectively use the water available without waste or abuse to promote the desired crop response. The stockholders associated with this project realize that new technology combined with planning can make their irrigation system more efficient and provide sustainability without affecting the non-replaceable natural resources.

Over the years the Natural Resources Conservation Service (NRCS) has been instrumental in producing studies for various irrigation entities. These plans provide different levels of engineering and design but have a common thread. That is to investigate the related problems and propose solutions to conserve the natural resources.

A reconnaissance level inventory of irrigation conveyance systems in the Bear River Basin was conducted in 1973 and 1974. The systems were evaluated according to irrigation efficiencies, area served, water source, condition of canals and structures, and method of delivery. The related problems of seepage losses, sedimentation, and floodwater damages were studied. Potential solutions included lining, new structures, and storage reservoirs. (USDA_SCS, April 1976)

The summary of the working paper compiled in 1976 stated that "additional water can be obtained by increasing efficiency both in conveyance and on-farm systems". (USDA_SCS, April 1976) Shortly after this the focus became increasing efficiencies by utilizing sprinkler systems instead of flooding techniques.

In September 1980 a feasibility study for the North Cache Water Development project was completed. This consisted of a group project between the City of Preston, the Preston Whitney Irrigation Company, the Preston, Riverdale, and Mink Creek Canal Company, the Preston Whitney Reservoir Company, and the Cub River Irrigation Company. These companies provide irrigation water to approximately 34,000 acres in Franklin County, Idaho and Cache County, Utah of which 19,000 is in Idaho. This project was needed because of the rapid rise in energy costs, water loss through seepage and evaporation, a high water table, and random and unorganized development of sprinkler systems in the area. (Taylor, Leroy P.E., Sept., 1980)

During the 1979 irrigation season, a block of approximately 750 acres under sprinkler irrigation measured a delivery of approximately 900 acre-feet. This amounted to 1.2 acre-feet per acre. This amount of water was slightly less than needed for maximum production. "Based on consumptive use requirements of about 2 acre-feet per acre, it appears that the existing system is not delivering adequate water for maximum production." (Taylor, Leroy P.E., Sept., 1980)

To complete a water management conservation plan Dr. Robert Hill, Utah State University analyzed the Preston, Riverdale, Mink Creek Canal Company and developed a water budget to identify water supply and timing problems for the year 1999. The company had increased the efficiency since 1979 to delivering 1.46 acre-feet per acre. This results in an overall, average district-wide efficiency of 67%. This system was still not delivering adequate water. (Franklin Soil & Water Conservation District, 2001)

The Preston, Riverdale, Mink Creek Canal Company implemented the top two water saving measures identified in their water management conservation plan. During the 2004 irrigation season normal water use by the irrigators was called for. At the end of the irrigation season an additional 1,300 acre-feet of water was available from previous years.

During 2005 and 2006 the Preston Whitney Irrigation Company and the Preston Whitney Reservoir Company began updating their system. The Johnson Lamont pipeline resulted in a quantitative water savings of 1,803 acre feet per year and 177,000 KW-hrs of energy was reclaimed. Building on the success of the previous pipeline projects the Fairview Lateral which carries water from Preston Whitney Irrigation and Preston Mink Creek Irrigation was completed in three phases. The completed piped Fairview Lateral creates a cross connection between the Preston Whitney Irrigation and a branch of the Cub River Irrigation to facilitate water marketing.

Historically the Preston Whitney Irrigation Company diverts water from the Cub River into a feeder canal that travels 7 miles until the water flows into the Glendale Reservoir or is diverted above the Glendale Reservoir and flows into the Johnson and Lamont Reservoirs. Overflow from the Glendale is stored in the Foster Reservoir. Winter fill in Glendale/Foster includes overflow from the City of Preston culinary pipeline. The Preston Whitney Irrigation Company owns and operates 3 of these Reservoirs: Glendale, Foster, and Lamont, with storage capacities of 5,900 acre-feet, 3,350 acre-feet, and 2,400 acre-feet respectively. The Preston Whitney Reservoir Company owns and operates the Johnson Reservoir, which has a storage capacity of 800 acre-feet. These separate irrigation companies co-mingle their water in the feeder ditch originating from the Worm Creek point of diversion. In addition, Preston, Mink Creek Irrigation Company diverts water from the Mink Creek that travels 15 miles until Mink Creek water is co-mingled with water originating in the Cub River. This unique relationship is detailed on the attached map "Maximum Canal Capacities".

Traditionally the irrigation water was managed under a unique inter-relationship, collaborative approach. Multiple companies co-mingle their irrigation water in surface water and in company laterals. During the irrigation season, water is released and managed with the goal of providing the best efficiency of the water for all the companies. This has allowed the separate irrigation companies to prevent water shortages and get the maximum potential from stored water.

Joint conveyance improvements and cooperative water operating agreements created the necessity to combine the three individual irrigation companies into one. This combined company known as the Consolidated Irrigation Company received majority support of stockholders during annual meetings in 2011. Confirmation of the Government's acceptance of the merger was received from the Bureau of Reclamation on Jan 12, 2012.

(a) Information Gathered

The Consolidated Irrigation Company's purpose is the sole and exclusive purpose of appropriating or owning rights to the use of the public waters, and for the construction, operation and maintenance of an irrigation system for diverting such waters from the public supply in order to convey and deliver the same in a convenient and economical manner to its stockholders for use upon their lands (Consolidated Irrigation Company By-laws, March 2011) It is the responsibility of the watermaster to implement the board of directors' decisions.

The system includes the storage reservoirs known as Glendale, Foster, and Lamont. The majority of the service area is located south and west of the Reservoirs (see attached Exhibit B) between the foothills and the Bear River. 1,800 acres of the service area is located above the reservoir and delivered to shareholders via the feeder ditches. The remaining service area is divided into the North Lateral, the Eastside Ditch, the Fairview Lateral, and the Johnson Reservoir Ditch. The Middle Ditch is rented through an agreement with the Cub River Irrigation Company. Consolidated Irrigation Company has 465 shareholders and irrigates 17,000 acres. Water rights include surface rights from Cub River, Mink Creek, and Worm Creek

Major crops grown are small grains, pasture, alfalfa, field corn, and safflower. Specifics associated with the crops irrigated along the Bear River are: Potatoes 2%, Alfalfa 35%, Meadow hay 4%, Pasture 18%, Spring wheat 6%, Winter wheat 15%, Spring barley 12%, Sugar beets 1%, Corn 6%, Other 1% (Hill, Robert et al., 1989)

During the average growing season May-September limited precipitation is available for crop production. Direct use of ground water by the crops is an integral part of the present consumptive use. Within this service area, the Soil Conservation Service (SCS) estimated that 25-50 percent of the crop's needs come from precipitation and ground water. (Taylor, Leroy P.E., Sept., 1980). Thus irrigation and irrigation water storage is necessary for the crops in this system.

(b) Problems Defined

Uncontrollable issues, such as the increase in population and the drought cycle make the old and aging technology implemented during the pioneer days a real liability to the conservation of water and the efficiencies of irrigation systems.

This project will address the following:

Water Seepage Losses... The project site is located in very gravelly sandy loam (Windernot), silt loam (Iphil), and silty clay loam (Parleys). Water loss is most prevalent in the very gravelly sandy loam (see attached soils map). Due to these soil types the irrigation ditch loses 35-40% of its water to seepage.

Water Evaporation Losses... In our climate construction of irrigation ditches avoided the north slopes due to the timing of the snow removal in the spring. This creates the prime conditions necessary to facilitate evaporation from these ditches during the warm summer months.

Distribution Losses... The stockholders currently use both flood and sprinkler irrigation techniques. Flood irrigation has a proven 30-35% efficiency rate and limits the reach of the water. Sprinkler has a proven 60-65% efficiency rate and allows for the best distribution of the water to the crop.

Water budget data for the Preston Riverdale, Mink Creek Irrigation Company demonstrated farm efficiencies of 65%. This illustrates that in a similar sprinkler dominant system farm efficiencies are lowest in the early season when the supplies are the highest. The irrigators need education on using crop requirement data to schedule irrigation deliveries to conserve early-season flows for later in the season. Along with the undesirable loss of water, the low farm efficiencies during the highest water supplies suggest the potential for soil erosion and nutrient leaching exists. These conditions have a detrimental effect on ground and surface water quality.

Accurate measurement... In this section of the system the delivery to farm or subsystems is not accurately measured or permanently recorded. The water use estimates are based on number of sprinkler heads and customary usage times. Farmers cannot match deliveries to crop requirements. The irregularity in water delivery makes it impossible for the producer to make key production decision on such things as fertility management and variety selection.

Ground Water... This seepage raises the water table in the surrounding area and elevates many problems associated with a high water table. This high water table influences the efficiency of septic systems in the area. It causes flooding in basements and dictates the construction time line for many projects. These concerns are growing more important as the Preston area becomes more urbanized. By reducing the seepage from the canal the water table would be reduced to a manageable level and alleviate many of these urban concerns.

The project is located in the Preston/Cache Valley nitrate priority area #20. Reduced canal loss seepage would benefit this. The resulting irrigation improvements will reduce the leaching of nutrients, pesticides, and fertilizers from the cropland. These benefits will result in cleaner ground water, which in turn will provide cleaner well water.

Erosion... Soil erosion by water affects both agricultural areas and the natural environment. It impacts both the canal by down cutting and the reservoirs where the eroded soil ends up. This reduces the capacity of the irrigation reservoirs.

On Farm Energy Use... Pressurizing the pipeline will allow for irrigators who currently pump to discontinue pumping altogether. This would allow electrical energy to be more abundantly available for other uses. Repairs on booster pumps would be scaled back because of less usage.

Safety... When the water of Preston Mink Creek Company is co-mingled with Preston Whitney Irrigation water this canal carries 29.00 cfs. This canal is in close proximity to residential areas. Children and animals are drawn to water sometimes with potential disastrous results. By placing this canal in underground pipe the opportunity for a tragic accident is removed. Placing the canal in underground pipe would also remove the potential for a breakage. Canal breaks wash out property and create costly repairs in urban developments.

Noxious Weeds... Canadian thistle, dyers woad, leafy spurge, and water hemlock are the main noxious weeds found in the vicinity of the canal. This pipeline would eliminate their environment and stop the spread of their seeds downstream.

Watershed Conflicts... The 2010 census ranks states by growth rate. From 2000 to 2010 the five fastest growing states in the nation are: 1) Nevada (35%), 2) Arizona (24%), 3) Utah (23%), 4) Idaho (21%), and 5) Texas (20%).

Even in our rural communities, the population has increased. A futures study completed by the Utah State University, Department of Landscape Architecture and Environment Design for the Cub River Watershed showed a 2.5 growth rate in 1999 and projected population to double in 20-25 years (Toth et al, 1999).

Additional concerns such as urban encroachment, ditch and reservoir maintenance, loss of cropland or the ability to utilize pivot technology due to open ditches, and the reduction in capacity generated by existing road crossings justify this project.

(c) Goals and Priorities

Once the basic issues and problems were identified and understood, goals were defined and prioritized in order to facilitate scheduling and management strategies. Based on a systematic prioritization process the key issues of seepage losses and accurate measurement were identified by the irrigation company.

The Irrigation Company board of directors analyzes projects based on the water savings to the entire company and the benefits provided to the stockholders in a specific lateral. This company has prioritized this project as number one for future improvements. Water savings generated by this project will produce additional water throughout the company.

(d) Evaluate Options

Several alternative including both management and technology measures are available to the irrigators. Only a few of these measures however have the capacity to accomplish the specific goals. In identifying alternatives, special attention was given to measures that the irrigators were currently employing. In instances where an alternative has proven to be ineffective in resolving 100% of a specific issue, the measure was not considered for evaluation.

To assist the Consolidated Irrigation Company make an educated decision regarding hydropower projects a feasibility study for renewable energy systems was completed. This study was funded by utilizing the USDA Rural Development Rural Energy for American Program (REAP) and addresses the following: economic feasibility, market feasibility, financial feasibility, and management feasibility. This preliminary feasibility study is attached. Upon completion of the 4 alternatives the option of combining the Cub River and Mink Creek ditches was selected for further analysis.

Technical Project Description

The consolidated Irrigation Company has unique problems that result in a loss of water through various methods. A logical process that used science and technology to remedy the efficiency deficiency in a cost effective way is under way for these companies. To define a plan of action we propose a pipeline project coupled with a hydropower facility.

Evaluation Criteria

(a) Water Conservation

Subcriterion No A.1(a)-Quantifiable Water Savings:

As stated in the problems defined section these company has unique problems that result in a loss of water through various methods.

First and foremost the water losses occur from seepage, distribution failure, operational waste, on-farm technology, and evaporation in the open earthen ditch. This water loss estimation is based on the amount of water that is conducted through the open ditch, held in storage in the reservoirs, and finally arrives at farms. It takes into account the soil types, the amount of water and the duration

the water is in the ditches. This project will replace 6 miles of un-lined, earthen canals located in gravelly soils with 18,500 feet or 3.5 miles of high-pressure, HDPE plastic irrigation pipe. The new installation will result in significant water conservation and utilization of currently wasted hydraulic energy.

This is substantiated by the following engineering references. Referring to water lost in transit from storage to farm, the authors Linsley and Franzine state that "with open ditches, conveyance loss will usually range between 25 and 40 percent of the diversion. Conveyance losses may be virtually eliminated by using a pipe system...." (Linsley & Franzine, 1979) According to the book Irrigation and Water Resources Engineering by G.L. Asawa there is approximately 8 meters cubed/sec of water loss per million square meters of wetted area of a canal for gravel sand soils. Our consulting engineer Brent Garner from Alpha Engineering Company has assumed the canals have a bottom width of 5 feet and a depth of approximately 2 feet and a wetted perimeter of 9 feet. Using our past experience we calculated our seepage loss by completing a simple calculation based on the length of ditch, the soil type, and the quantity of water that passes through the section of ditch. We estimate the seepage loss to be 8,440 acre-feet. (See attached water saving data sheet)

Estimates of free water surface evaporation are frequently obtained by multiplying pan evaporation by a pan coefficient. We have used a simple method whereby the monthly pond evaporation can be calculated using an evaporation map from the NOAA evaporation atlas and monthly percentages of annual evaporation developed from monthly evapotranspiration and pan evaporation data (University of Idaho, 1992). This premise compares the evaporation in an irrigation ditch to a shallow pond and is useful for estimations only. Based on these calculation we estimate 844 acre-feet of water is lost to evaporation

The company mainline is only a portion of the agricultural irrigation system. No productivity would be possible without on-farm systems to complement the company. When the mainline is converted to a pressurized system it produces the requirement to convert from flood to sprinkler. We will convert about 50 acres from flood to sprinkling. Based on the 30% increase in efficiency when converting from flood irrigation to sprinkler we project water saving of 1.4 acre-feet.

In summary, the proposed project would result in a quantitative annual water savings of 9,484 acre-feet per year as summarized in Table 1 and a quantitative benefit of reducing the leaching of nutrients, the transport of noxious weeds, and the sedimentation loading of the reservoirs due to soil erosion.

Table 2- Estimated Water Savings

	Total
Seepage Loss	8,440.75 acre-feet
On-farm	1.40 acre-feet
Evaporation Loss	843.98 acre-feet
Distribution Loss	198.99 acre-feet
Total Water Conserved	9,484.11 acre-feet

*(calculation on the attached water saving data)

Table 3- Estimated water loss per mile

	Miles	Water loss per mile (AFA)
Mink Creek canal	1.86	1,264.65
Cub River Canal	1.01	2,167.22
Webster Canal	1.42	1,168.76
Combined canal	1.74	1,886.98

*(calculation on the attached water saving data)

Subcriterion No A.1(b)-Improved Water Management:

As part of the project, the irrigation company will improve the distribution of irrigation water by installing adequate measuring devices at each service connection. This metering method will consist of an inline Seametric magnetic meters at the point of delivery. These meters will be used to confirm the amount of water released and the water use of each stockholder's water allowed by share. These meters will be installed during construction and maintained by the company. Installation of meters as a water conservation measure has resulted in water savings of up to 42% at a location in California (Stockton East Water district, 2001).

In addition automation will be added to the inlet structure on the Cub River pipe. This will involve a scientific measurement device from Campbell Scientific. This will measure the water temperature that will control valves to change water from the pipe into the canal for the short duration when there is ice in the water. This will protect the pipe and avoid damage and spills.

Average water supply calculated by diversion from Mink Creek, Cub River, and Worm Creek water rights minus the transportation losses.

$$\frac{\text{Estimated Amount of Water Better Managed acre feet per year } 23,710.00}{\text{Average Annual Water Supply } 32,000.00} = .74$$

Subcriterion No. A.2-Percentage of Total Supply

Describe the total average annual water supply in acre-feet
Use formula

$$\frac{\text{Estimated Amount of Water Conserved } 9,484.00}{\text{Average Annual Water Supply } 32,000.00} = .29$$

Subcriterion No. A.3-Reasonableness of Costs

Many installations of HDPE pipe in water applications are already reaching 50 years of successful service. The polyethylene pipe industry estimates a service life for HDPE pipe to conservatively be 50-100 years. This relates to savings in replacement costs for generations to come. (Plastic Pipe Institute, 2009)

According to the U.S. Department of Energy, Energy Efficiency and Renewable Energy the average lifespan of a hydropower facility is 100 years. (Dept. of Energy EERE, 2004) Maintenance of the turbines etc. can be expected at 50 years.

$$\frac{\$2,906,863 \text{ (Total project cost)}}{9484 \text{ (AFA Conserved)} \times 100 \text{ (Improvement Life)}} = 3.06$$

$$\frac{\$2,906,863 \text{ (Total project cost)}}{23,710 \text{ (AFA Better Managed)} \times 50 \text{ (Improvement Life)}} = 1.23$$

(b) Energy-Water Nexus

Subcriterion No B.1- Implementing Renewable Energy Project related to Water Management and Delivery.

Renewable energy generates a range of benefits at the local, state, regional, national, and global levels. It uses natural resources, reduces greenhouse gas emissions, and reduces U.S. dependence on foreign energy sources. Renewable energy can also furnish long-term price stability as they rarely depend on costly fuel sources. (Dept of EERE, July 2011)

The U.S. Department of Energy (DOE) Federal Energy Management Program (FEMP) Guide to Integrating Renewable Energy in Federal Construction helps Federal agencies understand renewable energy options, select appropriate types of renewable energy technologies, and integrate these technologies into all phases of new construction or major renovation projects. This guide is structured to address renewable energy considerations at each stage of the construction process. Our project follows the Guide to Integrating Renewable Energy in Federal Construction.

The environmental benefits of renewable energy technologies are extensive. By using an Environmental Impact calculator provided by Rocky Mountain Power our project that produces 2,526,193 Kw hours offsets 3,029,983 lbs of CO₂. This is equivalent to planting 35,618 trees.

As requested we will describe the following:

Amount of energy capacity.....500 kilowatts

Amount of Energy generated.....2,526,193 kilowatt hour per year

To calculate this Brent Gardner P.E. from Alpha Engineering used the following data

Upper elevation	Hazen William	Time	Income
Turbine elevation	Max Turbine Flow	Efficiency	Flow

and the calculation $HL = L \times [Q / (0.432 \times H \times D^{2.63})]^{1/0.54}$

$$\text{Power Output} = \text{EFF.} \times [(Q \times H) / 11.81]$$

The benefits of this project that make this a favorable project are that this project makes a very small if any impact on the environment. A fish screen is located at the Cub River diversion to prevent mortality of the Bonneville Cutthroat Trout. No additional water is needed, fish and aquatic habit is not damaged, and this project is close to existing electric lines. During our screening phase we asked Mr. Kerry Schwartz, Provo office, Bureau of Reclamation for some clarifications. He stated that since the Preston Bench project is a Bureau project they would want assurance that the irrigation water would not be consumed by the hydro process and that it would remain being used on the same lands as before. We can definitely assure the Bureau of Reclamation that this will occur because these concerns are also a first priority for the irrigation company.

rights are substandard due to the surface water supply. Consolidated Irrigation could market the saved water to these farmers to extend their irrigation watering season with additional water.

In summary we propose to market water to the following:

Entity	Amount
Preston city	3,000 AFA
Cub River Irrigation	1,000 AFA
Fairview Culinary Water District	350 AFA
Worm Creek Water District	200 AFA

(e) Other Contributions to Water Supply Sustainability

Growing population tends to increase the overall demand for land and water. Agriculture has been responsible for much of the existing water development, and thus controls a large supply of relatively low-cost water and land that is attractive to new developments. (Utah Board of Water Resources, 1992)

Farming has undergone fundamental changes in recent years that have resulted in many farmers leaving the farm entirely or relying on off-farm employment. Farmers in the Bear River Basin who have survived have done so by becoming adept at increasing efficiency and productivity. In general Bear River farmers cannot afford to pay the full development cost of water improvement projects without financial subsidies or other incentives.

The multi-state Bear River Compact, existing water rights, wide variations in annual runoff, and scarcity of favorable new Reservoir storage sites limit development of additional water. The need for water will not decrease thus the answer to the potential water supply crisis is the efficient use of existing water. About 60 percent of the total water in the Bear River Basin is used for irrigation. Because of this, an improvement in irrigation efficiencies would impact the largest volume of water and produce measurable improvements.

In Idaho, the Bear River Drainage is the only basin that drains into the Great Salt Lake. The water savings produced in Franklin County has a very short trip downstream to where it meets the Wasatch Front, one of the highly likely conflict areas. The Utah Department of Water Resources has placed a high priority on planning and projects in the Bear River Basin due to potential benefits resulting to the impacts on the Wasatch Front.

Water District 13(b)- Cub River includes Cub River, Worm Creek, Maple Creek, and various tributaries. The Worm Creek was adjudicated in 1970 and Cub River was adjudicated in 1920. These are greatly over allocated and include early undefined water rights. These water rights are not described with current technology such as GIS and do not meet the current standards of the Idaho Department of Water Resources. This project will provide a financial benefit that the Consolidated Irrigation Company plans to use to obtain qualified technical assistance that will utilize GIS capabilities to define a previous undefined stream flow rate. In addition they can document the constant change of irrigation acreage that results from different annual crops and farming practices etc.

As discovered during the problem identification phase the irrigators need education on using crop requirement data to schedule irrigation deliveries to conserve early-season flows for later in the season.

Slowing the rate of withdrawal will provide late season irrigation water to bring crop yields in existing fields up to their potential. This will also alleviate the issues with a companywide water budget where too much water is diverted early in the season and not enough water later in the season. This will help narrow the wide range in efficiency throughout the irrigation season.

Proper implementation of agriculture water-use efficiency typically provides increases in crop yields of 15-30 percent. Based on our experience with previous pipeline conversion for every acre foot of water saved an additional \$25.00 in crop production is generated

The FSWCD is in a distinctive situation of being able to assist small irrigation company's or lateral associations that would be unable to utilize such funding opportunities as is being presented by the Water SMART program. Within the framework of a conservation district, we have access to technical assistance from the Natural Resource Conservation Service and various other entities such as Idaho Association of Soil Conservation Districts, Idaho Department of Water Resources, and the Idaho State Soil Conservation Commission. This coordination and cooperation becomes vital in producing a high quality product that will provide the most benefits to the natural resources for the least cost.

We are also in the unique situation of being able to take an interagency approach when coordinating existing programs such as the NRCS snotel data and runoff forecast. We can couple this information with drought forecast provided by U.S. Drought Monitoring and provide education to Irrigation Company's and individual landowners that can be used to conserve water.

(f) Implementation and Results

Subcriterion No. F.1-Project Planning

This project is located within the Bear River Basin, which is situated in the Southeast corner of the State of Idaho. The Bear River begins in the Uinta Mountains in the State of Utah. It flows northerly into the State of Wyoming returns to Utah then back into Wyoming. At river mile 245 it enters the state of Idaho. The river leaves Idaho at river mile 100 and enters Utah for the last time. After traveling 440 miles from its headwaters, the Bear River enters the Great Salt Lake.

Because of our close proximity to the state of Utah and the knowledge that river basins do not follow political boundaries we need to harmonize our planning efforts with the State of Idaho Water Plan and the State of Utah Water Plan

"The Idaho State Water Plan emerges from a vision of Idaho in which water is used efficiently, and is allocated through laws that fully conform to the prior appropriation doctrine." A goal of the state water plan is to secure greater productivity, in both monetary and non-monetary terms, from existing water supplies. Water used policies are concerned with improvement in practices, procedures, and laws relating to existing water use. Specific to the Bear River Basin, it is the policy of Idaho to encourage additional projects for the development of the water resources of the Bear River Basin without regard to state boundaries. (Idaho Department of Water Resources, waterplan)

The Bear River Compact and the interagency, multi-state Bear River Commission created to administer provisions of the Compact provides additional Basin guidance. This compact has been in effect since 1958, and water allocations for the entire basin were adopted in 1978. The compact must be reviewed at time intervals of not less than twenty years and may be amended during the review process. The goal of Idaho's representatives on the Commission should be to urge conjunctive management of ground and surface water resources within the Bear River Basin and to seek as much of the unconsumed flow entering the Great Salt Lake as possible for Idaho while negotiating in good faith with the other states. (. (Idaho Department of Water Resources, waterplan)

"The state of Utah's role is to set policy, provide assistance and protect statewide water resource interests". This guiding principle is the basis for The Utah State Water Plan, a series of documents that includes a statewide plan and an individual water plan for each of the state's eleven hydrologic river basins. This document is Utah's guide for the stewardship of its water resources. The state recognizes the urgent need to implement effective water conservation measures. These coupled with other innovative water management technologies, must be implemented to safeguard the ability of existing water supplies and new developments to meet future needs and lessen impacts of drought. (UDWR, May 2001).

Out of the eleven river basins the Bear River was placed first on the planning list mainly because of the relationship between the Bear River's water supply and the Wasatch front's projected demand.

"One goal of the river plan is to help direct the orderly planning, conservation, development, protection, and preservation of Utah's water resources at the local level." These plan intentions are that both the formulation of a plan and its implementation will provide for a balance of environmental, economic, social, and political factors. (Utah Board of Water Resources, January 1992)

Since irrigated agriculture is the largest user of water in Utah, many have suggested that using water more efficiently in agriculture is the main solution to meeting future water needs.

Overall this project is based on the statement that water agencies and institutions must fully integrate strategies and policies into their operations to address conservation and development of water resources along with water quality, recreation, and environmental issues.

Subcriterion No. F.2-Readiness to proceed

Implement Plan- Major Tasks

Screening of energy options: The first step in assessing renewable energy options was to conduct a preliminary screening to distinguish between technologies that are worth reviewing and those that should be eliminated without further analysis. Preliminary screening involved resource maps and other basic tools to choose technologies to pursue further. A qualified energy consultant was located. The Company chose an independent renewable energy expert. We contacted RB&G Engineering who felt they did not have the appropriate level of expertise to conduct this type of study. Thus they coordinated our contact with Alpha Engineering, an objective consultant or team with detailed knowledge of the renewable energy systems under consideration, including technical and design issues, resource assessment, relevant policies and incentives, utility tariffs and interconnections issues, NEPA evaluations, and project funding mechanisms. This entity is not a

manufacturer, installer, or organization affiliated with any product or technology under consideration in the project.

The next step in assessing renewable energy options was a full screening. It is a review of the possible technology options that identified dead-ends and further narrows the list to probable technologies for the project. Then a more detailed look at the available resources and a high-level analysis of expected costs and savings, utility considerations, and potential incentives was undertaken. This screening also assessed each technology's ability to contribute to energy goals and requirements. The company analyzed specific sites throughout the system to decide which areas have the greatest renewable energy potential. A combination of the two proposed pipeline with one hydro turbine was selected as the one with the greatest potential.

Feasibility Study & Preliminary Survey: This study estimated the potential of hydro energy by gathering data such as estimated head and available flow from historical records. Power production data and preliminary interconnect requirements were analyzed and provided to the irrigation company. Preliminary construction costs and a economic feasibility was provided. A field survey was completed to provide more accurate data to define the total head available and right-of-way requirements.

Preliminary Hydraulic Engineering: The report from this study will provide a comprehensive framework from which final design can be completed. Included are the following: -preliminary GPS survey, -hydraulic analysis and sign, -delineation of all users and locations, -establishment of alignments, -establishment of final design criteria, -construction planning, -institutional issues, - construction cost estimates, and -life-cycle cost analysis. This report will be provided to Reclamation for input.

Final Design & Survey: The final design package will contain the construction drawings, specification, and operations manual. This report will be provided to reclamation for input

Construction: The Consolidated Irrigation Company is committed to constructing two new underground-pressurized HDPE pipelines to replace the company's earthen ditch. This involves installation of 18,500 feet of pipe beginning with 36" DR- 21.0 HDPE and reducing in increments to 24" DR-32.5 HDPE. The pipeline will be installed in the existing easement as much as possible. Trench excavation will avoid wetlands and be performed outside the irrigation season while the canal is not in operation. Care will be taken to ensure minimal utilities and road crossings with additional caution at these locations during construction. Construction will include 4 service connections for on-farm delivery. Screening facilities that will remove debris and ice, which would damage the turbines and wreck havoc with the sprinkler nozzles, will be located at pipe intake. Construction of hydro power house will include procurement of turbines and installation of equipment. During this construction interim reports will be provided to reclamation for review and input.

Table 1...Project timeline

Task	Responsibility	Completed
Preliminary screening	FSWCD/CIC	April 2009
Screening	FSWCD/CIC	July 2009
Feasibility Study-Hydro	FSWCD/CIC/RD/Engineer	2009-2011
Preliminary Eng-Hydraulic	CIC/engineer	2009-2011
Task	Responsibility	Scheduled
Initial Stakeholder Consult	FSWCD/CIC	Fall 2012
Environmental compliance	FSWCD/CIC /BOR	2012
Hydraulic Survey	CIC/ Engineer	2012
Easement	CIC	2012
Exemption application	CIC/FERC/Engineer	2012
Traditional application	CIC/FERC/Engineer	2012
Final design	Engineer	Winter 2012
Interconnect agreement	CIC/RMP	2012
Task	Responsibility	Scheduled
Pipe procurement	FSWCD/CIC	2 nd yr 2013
Contractor selection/permit etc	FSWCD / CIC	2 nd yr
Mainline construct-Cub river	CIC/	2 nd yr
Hydro construct	CIC/Engineer	2 nd yr
Construction Inspection	CIC/Engineer / FSWCD	2 nd yr
Filling & Testing	Engineer/PWI	2 nd yr
Task	Responsibility	Scheduled
Pipe procurement	FSWCD/CIC	3 rd yr 2014
Contractor selection/permit etc	FSWCD / CIC	3 rd yr
Mainline construct-Mink creek	CIC	3 rd yr
Construction Inspection	CIC/Engineer / FSWCD	3 rd yr
Filling & Testing	Engineer/PWI	3 rd yr
Operation and Maintenance	PWI	ongoing
Reporting	FSWCD/CIC	As required
Project coordination	FSWCD	ongoing

Construction Inspection: The construction will include construction engineering for unforeseen conditions, inspection, and quality control. The company with the assistance of the FSWCD will do the on-site construction inspection. A project superintendent will be assigned by the company. This position will be on-site the majority of the time. The duties associated with this position include: Coordinate and supervise all subcontractors, construction and scheduling of work. Oversee all ordering and receiving of construction materials. Function as coordinator and liaison to property owners and stockholders regarding all construction activities and services to be provided by the irrigation company. Review and approve all invoices; assist with monitoring of project budget and bookkeeping. A report of these activities will be provided to reclamation for review and input.

Operation and Maintenance: A properly operated and maintained irrigation pipeline is an asset. This irrigation pipeline is designed and installed to transmit water to place of use. The estimated life span of this project is at least 50-100 years. The life of this pipeline can be assured and usually increased by developing and carrying out a good operation and maintenance program.

Project Coordination and reporting: FSWCD has administered all of the previous BoR grants. We are familiar with the federal forms and the ASAP financial reimbursement process. The staff with the Franklin SWCD will do the Program Performance Reports and the Fiscal reporting. Regular meeting with the board of directors will be held. During the annual meeting a report will be provided to the stockholders and waterusers.

Subcriterion No. F.3-Performance Measures

Performance Measures

To verify and document that the proposed water conservation project achieves the estimated water savings we will finalize and execute a monitoring plan that clearly defines the goal, encourages the use of appropriate analysis, takes into consideration cost-benefit, and increases the efficient use of management resources.

The fundamental part of our monitoring plan will be accurate measurement. A side effect associated with metering is the data obtained from the meters is useful to the appropriation of the Cub River water district. Well-located meters such as the master mainline meters and the meters for on-farm use can demonstrate where and when the water is used.

To provide the necessary quantified data of water saved, or better managed integrated with production of renewable energy we propose the following performance measures:

Canal lining or piping:

To estimate our pre-project benefits we utilized proven accepted methods. To obtain the water loss for canal piping and lining we interviewed the knowledgeable people associated with the systems. That was usually the board of directors, managers, and watermasters. The watermaster has notebooks that measure flow in and out of the canals. These measurements were instrumental in accounting for seepage loss.

We then contacted the local representatives from the Natural Resources Conservation Service (NRCS). They provided any previous studies done by their organization. The technical staff associated with the conservation districts used available technology such as GIS, Soil Surveys, IDWR water rights, and water accounting models. A site inspection was completed.

Preliminary engineering was obtained by working through the pipeline hydraulics based on Hazen-Williams formula. (ID-40) This provided estimated design outputs including pipe size and length, flow velocity, pressure rating, thrust blocks, and appurtenances. The pipelines were surveyed by Alpha Engineering. A manufacturer recommendation for the Turbines was obtained and including in the feasibility reports.

Measuring devices:

Pre-project estimation is based on knowledge obtained from the watermaster. They attempt to count nozzles but do not feel confident this is the best method. We currently measure the Mink Creek at the point of injection into Worm Creek using a rating section in the ditch and another in the Worm Creek. The company uses a Parshell flume to measure the Cub River canal at the injection into Worm Creek. Another Parshell flume measures the diversion into the Johnson Lamont fill ditch.

Idaho Department of Water Resources completed a comprehensive study of the reliability of meters. This compared various types and manufacturers. They have endorsed magnetic meters as the best method of measuring in a pipeline. Post-project will involve surveying the stockholder to determine the reliability of the magnetic meters. The meters are vital to getting a quantifiable savings.

Company purchased and will install for the 2012 irrigation season a measuring device on the Worm creek that has data collection and telemetry capabilities. This will be used by the Water District 13(b)-Cub River watermaster to allocate water rights.

Water marketing (transfers):

Pre-project baseline data is obtained from historical records of the watermaster and limited measuring using companywide weirs. This project has estimated water saving of 9,484 acre feet. Of this amount 4,934 is needed for adequate crop production. The remaining 4,550 acre feet will be available for transfer. Post-project evaluations will come from the documentation of these additional shareholders or agreements of this marketing.

Renewable Energy produced:

This facility will be equipped with electronic monitoring system to collect inverter energy production data for a period of five years. The monitoring system must consist of a production history electronic database, web-page component, and a public web link to be added to Rocky Mountain Power's web page for educational purposes.

(g) Connection to Reclamation Project Activities

Preston Bench Project contract no IIR-1520 dated August 31, 1948 and contract NO 4-07-40-R0070 dated September 27, 1994

Bureau of Reclamation Water 2025 program year 2005 (05-FC-40-2405) \$300,000.00 was leveraged with shareholder assessments to retrofit the Lamont Reservoir, design, and convert 5.5 miles of open ditch to 4.4 miles of underground pressurized pipeline.

Bureau of Reclamation Water 2025-year 2008 (FC-08-FC-40-2827) \$300,000.00 federal dollars were used to complete for the irrigation season 2010 a 2.5 million dollar project consisting of phase 1 and phase 2 of the Fairview Lateral. This project replaced 7.5 miles of un-lined, earthen canals with 7.2 miles of high-pressure, plastic irrigation pipe.

Bureau of Reclamation ARRA funding sub grant with Idaho Water District #11- Bear River (R09AC40R12) provided \$75,000.00 federal money for Fairview Lateral phase three interconnect that facilitates water marketing with the Cub River Irrigation. This project was completed in 2010.

Bureau of Reclamation ARRA funding sub grant with Idaho Water District #11-Bear River (R09AC40R12) provided \$400,000.00 federal money for the Glendale project completed in 2011.

Environmental and Regulatory Compliance

Since construction for 100 percent of this project will be located on private land, most components of the action plan can be implemented without extensive environmental compliance activities. To

meet any requirements of state, federal, and local environmental, cultural, and paleontological resource protection laws and regulations we will model our approach to the environmental evaluation used in the planning process practiced by NRCS (See attached NEPA flowchart). This environmental evaluation integrates environmental concerns throughout the planning, installation, and operation of projects. Planning intensity, public involvement, and documentation of actions vary according to the scope of the action.

During the preliminary engineering phase, we will complete an Environmental Evaluation using directives in the National Environmental Compliance Handbook (NECH). This data will establish objectives proportionate with the scope and complexity of the proposed action. In essence this will be the building block for the environmental assessment.

Prior to construction we will undertake an Environmental Assessment based on the established objectives. A multi-disciplinary team focusing on resource considerations, economic and social considerations, and any project specific special environmental concerns will do the bulk of this assessment. This team will identify environmental concerns that may be affected, gather baseline data, and predict effects of alternative courses of actions. This information will be presented at a public meeting in conjunction with a Franklin SWCD board meeting and/or the annual meetings of the irrigation companies.

We do not feel an Environmental Impact Statement will be needed because this project does not involve stream channel realignment, a congressional action, cumulative impacts on the human environment, or actions significantly affecting the quality of the human environment. (NRCS, 2003) In addition during March 2010 an Environmental Assessment and Finding of No Significant Impact (PRO-EA-10-008, PRO-FONSI-10-008) was completed on a similar project. Brian Joseph, Archeologist from the U.S. Bureau of Reclamation stated that a site specific investigation would have to be undertaken but predicted no problems unless the proposed site has historical importance.

In conjunction with the federal requirements a request will be made to the Idaho State Historical Preservation Office (SHPO). All requests for additional reviews, if any, will be compiled with before any excavation is undertaken.

As ask for in the request for proposal we have answered the following questions:

1). *Will your project impact the surrounding environment? If so, please explain the impacts and any steps that could be taken to minimize the impacts.* During construction soil and vegetation will be disturbed. Care will be taken to ensure that this is minimized and no sediment is transported from the construction site into waterways using such methods as silt fences etc. The construction will take place in predominately agricultural land that will be reseeded into annual or perennial vegetation in the next crop cycle. If it is not agricultural land, it will be reseeded into perennial vegetation.

2). *Are you aware of any endangered or threatened species in the project area?* The Conservation Data Center (CDC) database, which is a compilation of sighting for species of concern, candidate and threatened and endangered species, was used to create the attached Map titled Sensitive Species. The animal sighting had no qualifying data in the database. The Trumpeter Swan, a candidate species uses the riparian area associated with the Bear River. (NRCS-ID Tech Note 222, July 2004) Within the project area is no known endangered/threatened or species of concern. In addition no critical habitat has been designated.

3). *Are there wetlands inside the project boundaries? If so, estimate how many acres of wetlands there are, and describe any impact your project will have on the wetlands.* Based on the data provided in the Wetland Inventory by Office of Biological Services for the National Wetlands Inventory, USDI, Fish and Wildlife Service within our project area are 12 wetlands ranging from 1-5 acres (see attached wetland map). This information in this wetland inventory was obtained from aerial photographs and "no attempt to define the limits of proprietary jurisdiction of any federal, state, or local government or to establish the geographical scope of the regulatory programs of government agencies"(USDI, Fish and Wildlife Service, 1980). The attribute PEM1A define this ecological system as Palustrine(P), Emergent(EM), Persistent(1), and Temporary(A). . The attribute PEM1C define this ecological system as Palustrine(P), Emergent(EM), Persistent(1), and Seasonal(C). . The attribute PSS1C define this ecological system as Palustrine(P), Scrub/shrub(SS), Broad leaved deciduous(1), and Seasonal (C). The attribute PFO1C define this ecological system as Palustrine(P), Forest(FO), Broad leaved deciduous (1), and Seasonal(C). The attribute PAB4F defines this ecological system as Palustrine(P), Aquatic bed (AB), Floating-leaved(4), and Semipermanent(F). The attribute PSS1A defines this ecological system as Palustrine(P), Scrub/shrub(SS), Broad leaved deciduous(1), and Temporary(A).

Based on this and our field knowledge any construction in this area will require a section 404 Joint Application for Permits from the U.S. Army Corps of Engineers and the Idaho State Water Resources. Due to these being temporary, artificial wetlands due to subbing from the irrigation Reservoir, we feel that construction will be approved under an agricultural exemption. Alignment of the pipe and construction will be designed to minimize impact on this wetland. This will require a construction method that does not allow the underground pipe to become a French drain.

4). *When was your irrigation system constructed?* The Cub River Canal was constructed in 1880 and the Mink Creek canal in 1948.

5). *If your project will affect individual features in your irrigation system, state when those features were constructed and describe the nature and timing of any extensive alterations or modifications to those features.* The Cub River Canal was upgraded in 1924 and the Mink Creek canal had the Preston Bench Tunnel project done in 1950.

6). *Are any buildings, structures, or features in your irrigation district listed or eligible for listing on the National Register of Historical Places?* No, none are listed. This was confirmed by checking The National Register of Historical Places in Idaho for Franklin County (Davis, Belinda and Swanson, Ann. 2004).

7). *Are there any known archeological sites in the proposed project area?* No, Based on recent requests from other irrigation projects located in the area to the State Historical Preservation Office. Requests are coming back needing a site visit due to there proximity to surface water, but are passed upon a site visit from a certified cultural resources representative.

Environmental Compliance Costs

Environmental and regulatory compliance costs include the cost incurred by Reclamation and the Franklin Soil & Water Conservation District to:

- determine the scope and complexity of the proposed action,

- organize a multi-disciplinary team focusing on resource considerations, economic and social considerations, and any project specific special environmental concerns,
- review the environmental reports prepared by each discipline, and
- compile this into an overall environmental evaluation.

This cost is included as a line item in the budget. It is equal to 2% of the total construction costs.

Permits and Approvals

Based on the court case (Talent Irrigation) irrigation ditches and canals are being considered waters of the U.S. and subject to regulations by the U.S. Corp of Engineers. This project will make an application and fulfill all necessary requirements associated with this permitting process. All available exemptions have been investigated and based on recommendation from our local U.S. Corp of Engineer representative this project will proceed as an activity with minor impacts.

During the preliminary planning/engineering process all permits, easements, or approvals will be identified. It is the responsibility of the irrigation companies to negotiate and obtain the necessary easements. These are only necessary when an existing historical right of way is not available. Additional easement will be needed and the landowners have been approached. All of the cropland easements are owned by shareholders of the irrigation company. They wish to remove the open ditches so wheel line and pivot irrigation practices can be utilized.

The Public Utilities Policies Act of 1978 (PURPA) created an obligation for electric utilities to offer to purchase power from, and interconnect with, qualifying generation projects. PURPA is implemented through a set of rules established by the Federal Energy Regulatory Commission (FERC) and each state. We will be a Qualifying Facilities (QFs) thus we must meet certain criteria as specified in the FERC rules. Idaho State is regulated by a public utility commission that has certain responsibilities for the implementation of PURPA as provided in the FERC rules.

Pursuant to section 23(b)(1) of the Federal Power Act (FPA), hydropower projects must be licensed, or granted an exemption from licensing, pursuant to the FPA (unless the applicant has a valid pre-1920 federal permit). We are eligible for a conduit exemption because our project meets the following exemption per FERC regulations:

A small conduit hydroelectric facility up to 15 megawatt (MW) (up to 40 MW for certain municipal projects) using a man-made conduit operated primarily for non-hydroelectric purposes. The applicant must have all the real property interests necessary to develop and operate the project or an option to obtain the interests. The facility cannot occupy federal lands. The conduit on which the project is located is not included as a project work. Applications for exemptions of small hydroelectric conduits are categorically exempt from the requirement for an Environmental Assessment (EA) or Environmental Impact Statement (EIS) to be prepared by the Commission. However, this does not mean that the Commission cannot require an EA or EIS to be prepared if your project appears to have adverse effects on the environment. (FERC, 2012)

In preparation of applying for a conduit exemption we have followed Title 18—Conservation of Power and Water Resources. Part 4—Licenses, permits, exemptions, and determinations of project costs. Subpart J—Exemption of Small Conduit Hydroelectric Facilities. There are three processes

available. We have chosen to use FERC's traditional licensing process because it has fewer defined pre-filing steps and deadlines, has more informal study development process, and does not require the formation of a collaborative workgroup. (see attached traditional license process)

As stated in the preliminary file information for conduit exemptions we must provide certain information to stakeholders and the Commission so these entities can understand the proposed project, identify any environmental issues, identify any information needs or studies, and provide meaningful comments and recommendations on the proposed project. The information to be provided is specified in section (4.92(f) of the Commission's regulations and is usually consolidated into a single document called an Initial Consultation Document (ICD). We have begun this process by contacting the Idaho State Fish & Game representative. He gave us verbal confirmation this sounds like a conduit exemption and would help us obtain the necessary written document for the ICD. During the consultation process, you will meet with the stakeholders to determine ways to shorten the consultation process. Once concurrence is received from the agencies and affected Indian Tribes, we can proceed with the modified consultation process and request a waiver to expedite the process.

It is proposed to connect power transmission lines near the energy generating facility. Rocky Mountain Power is the local utility and is supportive of alternative energy projects. They have established an avoided cost purchase contract and we will need to execute an interconnection agreement. Qualifying Facility interconnection agreements are administered by PacifiCorp's transmission services function.

Funding Plan

Cost-effectiveness in conserving water and the economic impacts solutions will have on the farmer required to make the change are important considerations because they affect the acceptability of the project. Various methods benefit the water resource and society, but often do not provide an economic benefit to the landowner who installs and maintains them. This is why financial incentives are critical for promoting implementation of water conservation and management improvements.

As presented in the budget section of this proposal the estimate total project cost is \$2,959,863.00. This figure includes \$53,000.00 that has been expended for the screening process and feasibility study. We propose to fund the construction costs by using a combination of cash reserves, future assessment on capital stock, loans, and other appropriate sources. Preston Whitney Irrigation Company shareholders have additional stock that can be issued. It was held back with the intent of an additional reservoir and some was sold to finance recent conveyance improvements. The FSWCD has experienced the specific matching requirements associated with federal funds. Their involvement will ensure that a cost-effective, environmentally sound product is provided.

Additional technical assistance will be provided by various other nonfederal entities such as Water District 13(b)-Cub River and the Idaho State Soil Conservation Commission. The Natural Resources Conservation Service will provide technical assistance in an oversight role ensuring compliance to NRCS standards & specifications. They will provide guidance on addressing the environmental and regulatory compliance. This is a federal agency thus no time, materials, etc have been included in the construction project budget. This interagency involvement will guarantee an overall quality product is generated.

The consolidated Irrigation Company with Franklin County's assistance is eligible under Idaho State Law Title 50 Chapter 17 to initiate the organization of a Local Improvement District for the purpose of improving irrigation facilities. This district has bonding authority and can issue bonds to finance these improvements. The Franklin SWCD has recently assisted two irrigation companies obtain funding using this method. Due to the substantial legal costs associated with this process we are awaiting confirmation of the Bureau funds before completing this process.

The actual construction could not be completed at this time without Bureau of Reclamation funding. This feasibility study is only a vision for the future. Without the construction none of the proposed water savings will happen. Based on the track record of other plans done by consultants or the Natural Resources Conservation Service if a design is not constructed within a short period momentum is lost. If construction waits a long time the entire process must be redone. This is a waste of time and money for all involved.

Table 4-funding sources

Funding sources	Type	Funding Amount	Status
Preston Whitney Irrigation (applicant)		\$ 37,500.00	Prior to application
Consolidated Irrigation (applicant)		\$ 71,682.00	Approved
*Franklin SWCD (local)	inkind	\$ 5,000.00	Approved
*Water District 13(b)-Cub River (local)	inkind	\$ 1,000.00	Approved
Idaho Soil Conservation Commission (state)	inkind	\$ 1,000.00	Need confirmation
*Idaho Dept of Water Resources (state)	loan	\$ 1,350,000.00	In Process
Rocky Mountain Power (other)	grant	\$ 25,000.00	Pending
Non federal subtotal		\$ 1,491,182.00	
Requested Reclamation Funding	grant	\$ 1,453,181.00	Application
Total Project Funding		\$ 2,906,863.00	
Rural Development (Other federal)	grant	\$ 12,500.00	Prior to application
NRCS (Other federal)	inkind	\$ 3,000.00	Prior to application
Other federal subtotal		\$ 15,500.00	

*commitment letter attached

Funding Group II

We are proposing a funding group II project. Thus we propose the following funding process

Year One Consolidated receives \$400,000.00 funding for phase 1 consisting of engineering, permitting, environmental, procurement	Year Two Consolidated receives \$750,000.00 funding for phase 2 consisting of construction of Mink Creek pipe and Hydro facility	Year Three Consolidated receives \$303,181.00 funding for phase 3 consisting of Construction of Cub River Pipe.
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Official Resolution

Article 4, Section 7 of the Canal Company by-laws state "matters submitted to a vote of the stockholders shall be decided by a majority of the votes cast, unless otherwise specifically provided by law or by these Bylaws". On February 14, 2011, the Preston Whitney Irrigation Company held their annual meeting. A majority of the capital stock was represented. The president, Lyle Porter, presented the proposed project, and a preliminary draft. They directed the Board of Directors to work closely with the Franklin SWCD to finalize the feasibility study and get it submitted to Rural Development.

On November 2, 2011, in a regular meeting, the Franklin SWCD board of supervisors made an official motion that they would assist the Consolidated Irrigation Company to pursue a funding request to the Bureau of Reclamation. Upon approval of funds, they will execute a cooperative agreement with the Consolidated Irrigation Company to detail the project manager duties and responsibilities.

The interim board of directors for the Consolidated Irrigation Company includes 5 representatives from Preston Whitney Irrigation, 3 Representatives from Preston Mink Creek Irrigation and 2 representatives from Preston Whitney Reservoir Company. On January 16, 2012 the Interim board of directors met and reviewed the funding plan. They definitely feel that a grant would help the project move forward faster. (Attached resolution)

Budget Proposal

	COMPUTATION		RECIPIENT COST SHARE	RECLAMATION FUNDING	OTHER FUNDING	Total Cost
	UNIT	QUANTITY				
SALARIES AND WAGES						
Lyla Dettmer, Project manager	\$ 50.00	2434	\$ 56,700.00	\$ 60,000.00	\$ 5,000.00	\$ 121,700.00
Lyle Porter, Project superintendent	\$ 20.00	6000	\$ 60,000.00	\$ 60,000.00		\$ 120,000.00
Kirk Iverson, Watermaster	\$ 20.00	50	\$ -	\$ -	\$ 1,000.00	\$ 1,000.00
Steve Smith, GIS technician	\$ 20.00	50	\$ -	\$ -	\$ 1,000.00	\$ 1,000.00
FRINGE BENEFITS						
Full-time employees	10%		\$ -	\$ -		\$ -
TRAVEL			\$ 12,185.00	\$ 12,185.00		\$ 24,370.00
Mileage	\$ 0.45	4500	\$ 1,013.00	\$ 1,012.00		\$ 2,025.00
EQUIPMENT						
turbine, generator, switchgear, controls			\$ 317,250.00	\$ 317,250.00		\$ 634,500.00
SUPPLIES/MATERIALS						
Office Supplies			\$ 650.00	\$ 650.00		\$ 1,300.00
CONTRACTUAL/CONSTRUCTION						
Pipeline material/installation	\$ 81.41	18,500 ft	\$ 715,558.00	\$ 765,558.00	\$ 25,000.00	\$ 1,506,116.00
Appurtenant work			\$ 95,781.00	\$ 95,781.00		\$ 191,562.00
Measuring devices	\$ 5,000.00	5 each	\$ 12,500.00	\$ 12,500.00		\$ 25,000.00
GPS survey/drafting	\$ 100.00	400 hrs	\$ 20,000.00	\$ 20,000.00		\$ 40,000.00
Engineering	7%	\$ 158,522.00	\$ 79,261.00	\$ 79,261.00		\$ 158,522.00
Easements			\$ 25,000.00	\$ -		\$ 25,000.00
ENVIRONMENTAL AND REGULATORY COMPLIANCE						
	2%		\$ 21,656.00	\$ 21,656.00		\$ 43,312.00
OTHER						
Reporting			\$ 1,128.00	\$ 328.00		\$ 1,456.00
Financial review/audit	2.00	\$ 5,000.00	\$ 3,000.00	\$ 7,000.00		\$ 10,000.00
TOTAL DIRECT COSTS						
Feasibility			\$ 1,421,682.00	\$ 1,453,181.00	\$ 32,000.00	\$ 2,906,863.00
In kind technical			\$ 37,500.00	\$ -	\$ 12,500.00	\$ 50,000.00
INDIRECT COSTS - ___%			\$ -	\$ -	\$ 3,000.00	\$ 3,000.00
						\$ -
TOTAL PROJECT COSTS						
			\$ 1,459,182.00	\$ 1,453,181.00	\$ 47,500.00	\$ 2,959,863.00

Budget Narrative

Technical assistance and indirect expenses received from the Preston NRCS field office are not included.

Salaries and Wages

Lyla Dettmer, or staff she directs, from the Franklin SWCD with confirmation of the Consolidated Irrigation Company will complete fiscal reporting responsibilities and Program Performance Reports. Project dedicated salaries including rates and hours are included for Lyla Dettmer, FSWCD District Manager and/or FSWCD staff. Lyle Porter, project superintendent will oversee the field operations on a daily basis and will be compensated for the portion of his activities that are above and beyond his normal duties or specific to this project. The portion of the Watermaster salary dedicated to the implementation of this project is included in the salaries and wages. Technical assistance is included in salaries. The entities providing this assistance except FSWCD are contributing this as in-kind service.

Fringe Benefits

Fringe Benefit includes taxes and benefits. This is 10% of the salary for Lyla Dettmer or other staff from the Franklin SWCD. The remaining salaries including all technical assistance is considered contract employee thus no taxes or benefits are involved in this amount.

Travel

Travel cost associated with construction inspection includes mileage at 45 cents/mile.

Equipment

Our definition of equipment is that it can be removed from the site after certification. Equipment rental will be comparable to the county average and is included in the construction figures.

Equipment purchases if it meets our definition in excess of \$500.00 are itemized.

Supplies

This category includes project specific supplies necessary for implementation of this project. These may be but are not limited to office expenses, postage etc. The majority of these supplies will be utilized for reporting and education.

Other

This category includes project specific other expenses such as banking fees, etc. This project will have an annual financial review done by an independent auditor in accordance with the generally accepted government auditing standards covering financial audit and Idaho State Law title 22 chapter 27.

Construction budget

The project construction budget is included in the feasibility study titled Cub River and Mink Creek Canal Hydro- Alternate 2-January5, 2012. This budget has been modified based on recent experience with large diameter pipelines installed and funding requirements. Construction will be accomplished with the irrigation company as the general contractor and specific tasks allocated to job specific contractors. All construction engineering will be on a contractual basis using a typical industry average rate of 7-15% the construction budget. Our construction inspection will be done by project superintendant. He will work closely with the engineer to ensure adherence to engineering practices.

The contingency has been allocated to Fittings, Road crossings, Screening, and measuring devices. Budget proposal includes construction costs- materials, supplies, labor, engineering (7%), environmental (2%), administration (5%).

All purchases such as pipe, fittings, and hydro will be procured using a competitive bid process. The installation using public works contractors will also be selected using sealed complete bids.

Operation and Maintenance expenses

The Irrigation Company currently funds and performs all operation and maintenance involved with their system. When their water is co-mingled the operation and maintenance is shared equally by all entities. The company is committed to continue to fund and perform the necessary operations and maintenance. A net decrease in annual canal maintenance of approximately \$10,000.00 is expected to result from the proposed project. This is based on past expenditures in the financials and experience with other pipeline projects.

Budget Form

Please see attached Budget Information (SF424A)

Form SF 424A or SF424C
PAGE 1

BUDGET FORM PAGE 2

Resources

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Appendix

Map: Project Map: Service Area; Map: Maximum Canal Capability; Map: Soils ; Map: Exhibit B

Engineering: Preliminary Feasibility Study, Feasibility Engineering study; Water Saving Data

NEPA: Flowchart, Map: Wetlands; Map: Species of Concern Species report; Franklin County Idaho

FERC: Traditional licensing process,

Rocky Mountain Power: Environmental Impact Calculator

Bureau of Reclamation: Merger authorization

Official Resolution-dated Jan. 16, 2012.

Letter of commitment: Franklin SWCD, Idaho Dept of Water Resources, Water District 13(b)-Cub River

Letter of support: Franklin County Commissioners, Natural Resources Conservation Service



IDAHO WATER RESOURCE BOARD

August 8, 2012

C.L. "Butch" Otter
Governor

Terry T. Uhling
Chairman
Boise
District 2

Roger W. Chase
Vice Chairman
Pocatello
District 4

Bob Graham
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Bonners Ferry
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**Charles "Chuck"
Cuddy**
Orofino
At Large

Leonard Beck
Burley
District 3

Vince Alberdi
Kimberly
At Large

Jeff Raybould
St. Anthony
At Large

Peter Van Der Meulen
Hailey
At Large

Consolidated Irrigation Company
Attn: Lyle Porter
33 South 100 East
Preston, ID 83263

Dear Mr. Porter:

This is to inform you that the Idaho Water Resource Board (Board) has approved a loan for the amount of \$1,500,000.00 for the new pipeline and hydro facility. Please review the enclosed contracts and sign them if they are acceptable. Your signature on the contract must be notarized where indicated.

Before funds can be issued you must appear before the Water Resource Board with an updated bid package for the project. We will adjust the completion term of the contract at that time to be one year from your presentation.

For payment on the project please supply the Board with a copy of the bill and the amount requested. The Board will hold back 5% of the amount request on each bill until completion and release these funds at final inspection. Also note that no payments on the loan are due until one year after completion. At completion you will receive a payment schedule giving a breakdown of construction interest accrued and yearly payment amount.

We are pleased to assist with this project. Please call me with any questions.

Sincerely,

Stuart VanGreuning
Financial Coordinator
(208) 287-4905

Contract No. 06-1F-12

**STATE OF IDAHO
WATER RESOURCE BOARD**



REVOLVING DEVELOPMENT ACCOUNT LOAN CONTRACT

with the

CONSOLIDATED IRRIGATION COMPANY

for the

PIPELINE AND SMALL HYDRO-PLANT

**STATE OF IDAHO
WATER RESOURCE BOARD**



REVOLVING DEVELOPMENT ACCOUNT LOAN CONTRACT AGREEMENT

LOAN CONTRACT dated July 27, 2012 between the **IDAHO WATER RESOURCE BOARD** (Board) and the **CONSOLIDATED IRRIGATION COMPANY** (Sponsor).

This loan provides financing to construct a water project that has met the criteria of the Board. The loan shall be used for the following purpose(s): To construct a pipeline with small hydro plant as described in Article 2 below.

INTRODUCTORY PROVISIONS

Article 1. DEFINITIONS - When used in this contract, the following terms shall have the meanings hereinafter set forth:

- a. "Project Feasibility Report" means the engineering reports and supporting data.
- b. "Project" means all works and facilities proposed to be constructed by the Sponsor as described in Article 2 Project Description.
- c. "System" means the water supply, storage, and delivery facilities owned and operated by the Sponsor.
- d. "Loan commitment" means the maximum sum of money that the Board agrees to loan to the Sponsor under this contract as provided in Article 3 hereof.
- e. "Year" means fiscal year beginning July 1 and ending June 30 of the year following.
- f. "Quarter" means any period of three months beginning on the first day of July, October, January, or April in any fiscal year.

Article 2. PROJECT DESCRIPTION - The project shall consist of the Sponsor lining approximately 6 miles of canal with a gravity pressurized pipeline that will have a small hydro plant at the end of the pipeline. The funds provided under this contract shall not be used for any other purpose without the approval of the Board.

Article 3. TERM OF CONTRACT - This contract shall be effective when executed and remain in effect until the principal amount of the loan, all interest thereon, and any money owed to the Board under this contract has been paid in full.

LOAN PROVISIONS

Article 4. MAXIMUM LOAN AMOUNT - The Board will loan to the Sponsor in accordance with the provisions of this contract a sum of money not to exceed **ONE MILLION FIVE HUNDRED THOUSAND DOLLARS (\$1,500,000.00)** at the rate of interest specified herein.

Article 5. DISBURSEMENT OF FUNDS

- a. **Disbursements** - The loan commitment shall be disbursed in the following manner:
 - (1) Disbursement of the funds will be allowed upon completion of the following items:
 - No disbursement shall take place until the Sponsor presents the Board with a new cost estimate for the pipeline and hydro plant at a future Board meeting.
 - (2) Disbursements are to be based on construction progress, based on actual bills or invoices submitted to the Sponsor. The Sponsor may then submit the bills to invoices to the Board for approval and disbursement. Disbursement shall be made on a pro-rated basis in proportion to the other funding used

for this project.

- (3) Five percent (5%) of the requested loan disbursements shall be withheld until the final disbursement for the project is made by the Board to the Sponsor.

- b. Construction Payments by Sponsor - Construction progress payments made using these loan funds shall be made by the Sponsor solely on the basis of work in place or materials delivered to the project site, pursuant to the terms of the construction contract or agreement between the Sponsor and the contractor, or for the payment of other costs necessarily incurred for the construction of this project.

Article 6. WITHHOLDING OF DISBURSEMENTS

a. Conditions for Withholding Payment

- (1) If the Board determines that the project is not being constructed substantially in accordance with the provisions of this contract, or that the Sponsor has failed in any other respect to substantially comply with the provisions of this contract, and if the Sponsor does not cause any such failure to comply with this contract to be remedied to the Board's satisfaction within fifteen (15) days, or within some greater period that may be allowed by the Board, from the receipt of written notice of such failure from the Board, the Board may withhold from the Sponsor all or any portion of the loan commitment. During the period, which the Sponsor has to remedy such failure, the Board shall not be obligated to disburse to the Sponsor any portion of the loan commitment. The Board shall provide the Sponsor with prompt written notice of any decision to withhold from the Sponsor all or any portion of the loan commitment.

- (2) Five percent (5%) of the total loan commitment shall be withheld until the final project payment is requested by the Sponsor and approved by the Board.

- (3) Upon the completion of the project and before the final project disbursement is made the project shall be inspected by the Board's contracting officer or his designated representative. For the project to be found to be complete the entire system must be turned on if requested by the contracting officer and be fully operable at the time of the inspection. In the event that construction is not complete when the final project payment is requested, five percent (5%) of the total funds requested may be withheld until the project is completed.

- b. Withholding Entire Commitment - If the Board notifies the Sponsor that it has decided to withhold from the Sponsor pursuant to subdivision (a) of this article all of the loan commitment, this contract shall terminate upon receipt of such notice by the Sponsor and shall no longer be binding on either party hereto.

Article 7. USE OF FUNDS - Any and all money disbursed to the Sponsor under this contract shall be used solely for the payment of costs necessarily incurred by the Sponsor for the construction of the Project, including, but not limited to, the payment of interest hereunder during project construction, engineering expenses, legal expenses, land acquisition, materials purchases, payments to contractors, and the costs of acquiring any maintenance of the project.

Article 8. TIMING AND MANNER OF PROJECT DESIGN AND CONSTRUCTION

- a. Project Completion Date - The Sponsor shall cause the construction of the Project to be completed not later than September 30, 2013, provided that said date may be extended upon written approval of the Board.
- b. The sponsor shall provide periodic reports to the Board during project construction documenting progress.
- c. Inspection of Construction - The Board requires a minimum of 1 inspections to be preformed by the Board's contracting officer or his designated representative. These inspections should coincide with construction of the new pipeline, and at completion of the project. The Sponsor is required to notify the Board's contracting officer, or his designee, prior to these operations so that the officer or his representative can make arrangements to be present. Should the Board's officer or his designated representative not be able to be present, the Sponsor, upon

the approval of the Board's officer, will be required to take photos of the installation process at that time and send them to the Board's officer.

- d. Determination of Project Completion - For the purposes of this contract, construction of the project shall be considered to be completed or terminated when so determined by the Board, or its contracting officer. Upon the completion of the project and before the final project disbursement is made the project shall be inspected by the contracting officer identified or his representative. For the project to be found to be complete the entire system must be turned on if requested by the inspector and be fully operable at the time of the inspection. In case the construction is not complete at the time the final project payment is requested, five percent (5%) of the total funds requested may be withheld until the project is completed. The Board may require as-built drawings to be submitted.

REPAYMENT PROVISIONS

Article 9. STATEMENT OF PRINCIPAL AMOUNT OF LOAN

- a. Remittance of Unexpended Funds - After receipt by the Sponsor of written notice from the Board that the Board has determined that the final disbursement of money has been made to the Sponsor pursuant to Article 5 hereof, or written notice that the Board has decided to withhold from the Sponsor pursuant to Article 6 hereof, the balance of the loan commitment where a portion of the loan commitment has been disbursed, the Sponsor shall, within a period of thirty (30) days from the date such notice was given, remit to the Board any unexpended funds that were disbursed to the Sponsor under this contract and are not needed to pay project construction costs incurred prior to the date such notice was given or, if no such funds exist, transmit to the Board a written notice to that effect. Unexpended funds remitted to the Board under this subdivision shall be considered to be repayment of a part of the loan.
- b. Transmission of Statement to Sponsor - Within thirty (30) days after the termination of the period of thirty days mentioned in subdivision (a) of this article, the Board shall transmit to the Sponsor a written statement setting forth the amount of the loan to be repaid by the Sponsor to the Board pursuant to Article 9 hereof, which shall be the total amount disbursed to the Sponsor hereunder less any amount of such total amount disbursed that may have been previously repaid or remitted to the Board by the Sponsor together with any and all interest accrued thereon.

Article 10. REPAYMENT OF PRINCIPAL AMOUNT OF LOAN

- a. Repayment Terms - The Sponsor shall make **twenty (20)** annual and approximately equal payments to the Board repaying in full the principal amount of the loan funds disbursed together with interest thereon at **five and one half percent (5.5%)** per annum, with the first annual payment due not later than one year from the date of final disbursement of funds for the Project; provided, that such repayment schedule shall be subject to modification by agreement of the Board and the Sponsor.
- b. Advance Payment Option - The Sponsor shall have the option of paying in advance on any date all or any part of the unpaid portion of the principal amount of the loan; provided, that any interest accrued shall be paid at the same time.

Article 11. INTEREST PAYMENT

- a. Repayment Terms - The Sponsor shall pay interest to the Board at the rate of **five and one half percent (5.5%)** per annum of the unpaid balance of the amounts of money disbursed to the Sponsor pursuant to this contract from the date of disbursement of each principal amount.
- b. Computation of Interest - The interest amount due on each disbursement shall be calculated as follows:

$$I = \frac{n}{365} \times (i) \times (p)$$

Where;

I = dollars of interest due

i = interest rate

p = unpaid balance of the disbursement

n = the number of calendar days from, but not including, the date on which a disbursement is made (or the date of the last payment) to and including the date paid. The date of disbursement is defined as the date the check is mailed from or picked up from the Board's principal place of business. The date paid is the date the loan payment is received and stamped received at the central office of the Department of Water Resources in Boise.

Article 12. IMPAIRMENTS TO PAYMENT CAPACITY

- a. Disposal of Water Outside Sponsor's Project - While this contract is in effect, no sale or other disposal of water for use outside the Sponsor's project shall be made by the Sponsor without prior approval by the Board, except for such agreements as may be in effect at the time of loan authorization by the Board. Such approval shall depend upon the Board's judgment of the effect of such action upon the Sponsor's capacity to make payments as provided in this contract.
- b. Change in Sponsor's Operation of Project - While this contract is in effect, no change shall be made in the operation of the Sponsor's project which would, in the judgment of the Board, materially impair the Sponsor's capacity to make payments to the Board as provided for herein. The Sponsor agrees to operate and maintain the system to insure its economic and efficient operation,
- c. Dissolution of Sponsor - While this contract is in effect, the Sponsor agrees to maintain its corporate identity and make no attempt to cause its corporate existence to be abolished.
- d. Transfer of Project Facilities - While this contract is in effect, the Sponsor shall make no attempt to transfer ownership or operation of the project facilities, or any part of the water system, or any water rights owned by the Sponsor, to another party without prior approval by the Board.
- e. Other Obligations Against Project or System - While this contract is in effect the Sponsor shall keep the project and system free and clear of all levies, liens and encumbrances, except for those created under this contract and those that may exist prior to this contract. The Sponsor shall not issue any superior liens, pledge, charge, or encumbrance of or against the project and system, except as allowed by the Board.
- f. Delivery of Water to Cease due to Non-Payment - The Sponsor shall not deliver water to any user that is delinquent with their payments, charges, or assessments for water service. The Sponsor shall use any and all means at its disposal to collect delinquent payments, charges, or assessments for water service.

ACCOUNTING AND REPORTING PROVISIONS

Article 13. ANNUAL FINANCIAL REPORT - While this contract is in effect, the Sponsor shall submit an annual report of its finances on or before the scheduled date of the Sponsors' annual payment.

GENERAL AND OTHER PROVISIONS

Article 14. INSPECTIONS OF PROJECT BY BOARD - The Board shall have the right to inspect the work being performed and the facilities being constructed at any and all times during the construction of the project and to inspect the project and the operation and maintenance thereof at any and all times after its completion prior to repayment and termination of the loan contract. The Sponsor shall notify the BOARD of the final inspection of the project by the Sponsor pursuant to each construction contract at least ten (10) days prior to the date for the inspection.

Article 15. BASIC OPERATION AND MAINTENANCE STANDARDS - The Sponsor shall cause the project to be operated in an efficient and economical manner, shall provide for the making of all repairs, renewals, and replacements necessary to the efficient operation of the same, and shall cause the same to be maintained in as good and efficient condition as upon its construction, ordinary and reasonable wear and depreciation excepted.

Article 16. PROHIBITION AGAINST DISPOSAL OF PROJECT WITHOUT BOARD PERMISSION - The Sponsor shall not sell, lease, transfer, exchange, mortgage, hypothecate or encumber in any manner whatsoever all or any portion of the project or of any real or other property owned by the Sponsor and used in conjunction therewith without prior written permission of the Board.

Article 17. BOARD TO BE HELD HARMLESS FROM PROJECT DAMAGE - The Sponsor agrees to indemnify the State of Idaho, the Idaho Water Resource Board, and their officers, agents, and employees against and to hold the same free and harmless from any and all claims, demands, damages, losses, costs, expenses, or liability due or incident to, either in whole or in part and whether directly or indirectly, the design, construction, operation, repair, maintenance, existence, or failure of the project, or of any of its works or facilities. The Sponsor may be required by the Board to carry a reasonable coverage of liability insurance for this purpose.

Article 18. REMEDIES NOT EXCLUSIVE - The use of either party of any remedy specified herein for the enforcement of this contract is not exclusive and shall not deprive the party using such remedy of, or limit the application of, any other remedy provided by law. In the event suit for collection of any of the amounts due under this contract is required, the Board shall be entitled to collect from the Sponsor any costs and expenses of collection, including a reasonable attorney's fee.

Article 19. AMENDMENTS - This contract may be amended in writing at any time by mutual agreement of the parties, except insofar as any proposed amendments are in any way contrary to applicable law.

Article 20. OPINIONS AND DETERMINATIONS - Where the terms of this contract provide for action to be based upon the opinion, judgment, approval, review, or determination of either party thereto, such terms are not intended to be and shall never be construed as permitting such opinion, judgment, approval, review, or determination to be arbitrary, capricious, or unreasonable.

Article 21. CONTRACTING OFFICER OF THE BOARD - The contracting officer of the Board shall be the Director of the Idaho Department of Water Resources and his successors, or their duly authorized representative. The contracting officer shall be responsible for all discretionary acts, opinions, judgments, approvals, reviews, and determinations required of the Board under the terms of this contract.

Article 22. SUCCESSORS AND ASSIGNS OBLIGATED - This contract and all of its provisions shall jointly and severally apply to and bind the respective heirs, personal representatives, successors, and assigns of the parties hereto.

Article 23. ASSIGNMENT - No assignment or transfer of this contract or any part shall be valid unless and until written approval is received by the Board and made subject to such reasonable terms and conditions as the Board may impose.

Article 24. WAIVER OF RIGHTS - It is the intention of the parties hereto that, from time to time, either party may waive any of its rights under this contract. Any waiver at any time by either party hereto of its rights with respect to a default or any other matter arising in connection with this contract, shall not be deemed to be a waiver with respect to any other default or matter.

Article 25. NOTICES - All notices that are required either expressly or by implication to be given by one party to the other under this contract shall be signed for the Board by its contracting officer and for the Sponsor by such officers as it may, from time to time, authorize in writing to so act. All such notices shall be deemed to have been given if delivered personally or if enclosed in a properly addressed postage-prepaid envelope and deposited in a United States Post Office for delivery by registered or certified mail. Unless and until formally notified otherwise, all notices shall be addressed to the parties at their addresses as shown on the signature page of this contract.

Article 26. INSPECTION OF BOOKS, RECORDS, AND REPORTS - During regular office hours, each of the parties hereto and their duly authorized representative shall have the right to inspect and make copies of any books, records, or reports of the other party pertaining to this contract or matters related hereto. Each of the parties hereto shall maintain and make available for such inspection accurate records of all of its costs, disbursements, and receipts with respect to its activities under this contract.

Article 27. SUIT - In the event suit is instituted to assert any right or privilege under this contract, the Board may recover therein as attorney fees such sum as the court may adjudge as reasonable in addition to the costs and disbursements allowed by law or court rule.

Article 28. REIMBURSEMENT - The Sponsor shall pay for any cost incurred by the Board in filing, or perfecting any security interest including but not limited to, the providing of a mortgage insurance policy, or recording any instrument executed pursuant to this contract. In the event these costs are not paid by the Sponsor they shall be paid by the Board and all costs, expenses, and related attorney fees shall forthwith be due to the Board with interest thereon from the date of such payments at the highest note for which it is lawful to contract, and such amount shall be added to and be deemed a part of the debt.

Article 29. DEFAULT - In the event that the Sponsor shall fail to pay any of the sums of money due under the Contract and Promissory Note; then, as often as such failure of payment or breach of terms, conditions, covenants or provisions shall occur, the Board may at any time thereafter declare the whole of the principal sum, or so much thereof at the time of such declaration may remain unpaid, together with all sums of interest accrued thereon, to be due and payable, and the Board may, at any time after such failure of payment or breach of terms, conditions, covenants or provisions, as aforesaid, proceed to compel payment to be paid of the full amount due and payable, or may exercise every right and remedy as a secured party under the law.

Article 30. COMPLIANCE WITH APPLICABLE LAWS, RULES AND REGULATIONS - The Sponsor shall comply with all applicable local, state, and federal laws, rules, and regulations such as may govern any part of this project and contract. Failure on the part of the Sponsor to comply with any applicable local, state, and federal laws, rules and regulations shall not relieve the Sponsor of its financial obligations under this contract.

Article 31. RATE COVENANT - The Sponsor agrees that for the term of this contract the Sponsor shall establish, fix, prescribe, and collect rates and charges for water service or related services of the system, which after taking into account anticipated delinquencies, provide revenues sufficient to pay for all expenses of the system.

Contract No. 06-1F-12

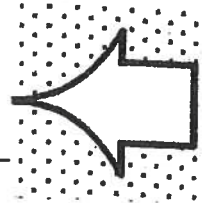
IN WITNESS WHEREOF, the parties hereto have executed this contract as of the date first hereinabove written.

IDAHO WATER RESOURCE BOARD
P.O. Box 83720
Statehouse Mail
Boise, ID 83720-9000

CONSOLIDATED IRRIGATION COMPANY
33 South 100 East
Preston, ID 83263

Brian Patton, Interim Administrator
Idaho Department of Water Resources

Lyle Porter, President



HERE

Approved as to Legal
Form:

State of Idaho, Deputy Attorney General

Maxine Haddock
ATTEST: Secretary

✓
attest:
secretary

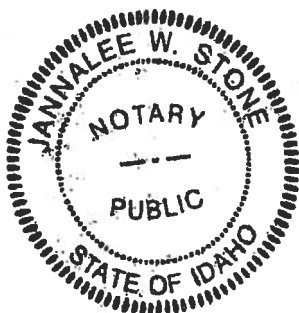
ACKNOWLEDGMENT

STATE OF IDAHO)

County of Franklin)

On this 21 day of August, 2012, before me the undersigned, a Notary Public in and for said State, personally appeared Lyle Porter, known to me to be the President of the Company that executed the instrument or the persons who executed the instrument on behalf of said Company, and acknowledged to me that He executed the same.

IN WITNESS THEREOF, I have hereunto set my hand and affixed my official seal the day and year in this certificate first above written.



Jannalee W. Stone
Notary Public for the State of Idaho

Residing at Preston, Id

Idaho, Commission expires:
05-01-2015

Contract No. 06-1F-12

**IDAHO WATER RESOURCE BOARD
PROMISSORY NOTE**



Made Pursuant to Idaho Water Resource Board Revolving Development Account Loan Contract Agreement with the CONSOLIDATED IRRIGATION COMPANY.

DATED: July 27, 2012

\$1,500,000.00

FOR VALUE RECEIVED, the **CONSOLIDATED IRRIGATION COMPANY** (Maker) promises to pay to the order of the **IDAHO WATER RESOURCE BOARD** (Board), at its principal place of business, the principal sum not to exceed **\$1,500,000.00** or so much as shall be outstanding from time to time with interest and maturity at the rate of five and one half percent (5.5%) per annum on the balance remaining from time to time unpaid. The Maker shall make annual payments to the Board as specified in the Revolving Development Loan Contract Agreement dated July 27, 2012 between the Maker and the Board. Maker may repay all or any portion of the principal at anytime, with interest charged only to the date of payment.

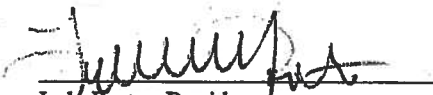
If default is made in any payment of this note, the entire principal and accrued interest shall at once become due and payable without notice at the option of the Board, and thereupon the Maker agrees to pay all costs of collection, including attorney fees. Failure to exercise this option shall not constitute a waiver of the right to declare the entire principal amount of this note and interest due and payable at once at a subsequent time.

All existing and future security interests contained in contract agreements or water rights assignments between the Maker and the Board secure this note. The Maker agrees that the Board may, without notice or demand, set-off against any credit a balance or other money now or hereafter owed the Maker by the Board any amount unpaid under the note.

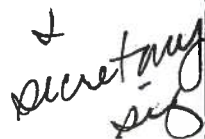
Without affecting the liability of any maker, endorser, surety or guarantor, the Board may, without notice, renew or extend the time for payment, accept partial payments, release or impair any collateral which is security for the payment of this note or agree not to sue any party liable. Any maker, endorser, surety or guarantor further agrees that the Board is not required to first resort for payment to any collateral.

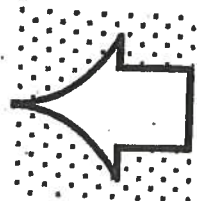
This note is secured by a Revolving Development Loan Contract Agreement and an Assignment of Water Rights.

CONSOLIDATED IRRIGATION COMPANY
33 South 100 East
Preston, ID


Lyle Porter, President


ATTEST: Secretary


secretary
sig



NOTE

**IDAHO WATER RESOURCE BOARD
ASSIGNMENT OF WATER RIGHTS**



This ASSIGNMENT is made and entered into this 27th day of July, by and between the CONSOLIDATED IRRIGATION COMPANY (Sponsor) and the IDAHO WATER RESOURCE BOARD (Board), an agency of the State of Idaho.

WITNESSETH

The Sponsor, for and in consideration of the funds advanced to the Sponsor, under that "Idaho Water Resource Board, Revolving Development Account Loan Agreement" (Agreement) and "Idaho Water Resource Board, Promissory Note" (Note), both dated the 27th day of July 2012, by and between the Sponsor and the Board, has granted, bargained, sold, conveyed, assigned, transferred and set over and by these presents does grant, bargain, sell, convey, assign, transfer and set over unto the Board, its successors and assigns, forever, the following described water rights to secure the payment of that certain Note of the 27th day of July 2012, in the principal sum not to exceed **ONE MILLION FIVE HUNDRED THOUSAND DOLLARS (\$1,500,000.00)**, delivered and executed by the Sponsor, as makers to the Board as secured party and payee, with terms and conditions as more particularly designated therein.

WATER RIGHTS -- All of the interest in the following water rights as listed in the record of the State of Idaho, Department of Water Resources, along with all easements, and rights of way, pipelines, water mains, wells, storage reservoirs, pumps, canals, dams, headgates, flumes, weirs water control structures, water treatment plants, and all other rights and privileges owned by the Sponsor or belonging to, or with, leading to, connected with, or usually had or enjoyed in connection with the following described water rights in **Franklin County, Idaho**.

Attached hereto and incorporated herein is Exhibit A entitled "Water Rights Assigned to the Idaho Water Resource Board"

TO HAVE AN TO HOLD the above described water rights and all of the same and to the Board, its successors and assigns.

1. **DEFAULT** -- In the event that the Sponsor shall fail to pay any of the sums of money when due under the Note; shall fail to comply with any of the terms, conditions, covenants or provisions of this ASSIGNMENT, NOTE, or AGREEMENT; then, as often as such failure of payment or breach of terms, conditions, covenants or provisions shall occur, the Board may at any time thereafter declare the whole of the principal sum, with all sums of interest accrued thereon paid by the Sponsor on the Note or paid by the Sponsor under the provisions of this ASSIGNMENT, to be at once payable, and the Board may, at any time after such failure of payment or breach of terms, conditions, covenants or provisions, as aforesaid, proceed to compel payment to be paid of the full amount due and payable and to compel payment to be paid of the full amount due and payable, or may exercise every right and remedy as a secured party under the law.
2. **WARRANTY** - The Sponsor has covenanted, agreed and represented, and do hereby covenant, agree and represent to and with the Board as follows:

- a. That the Sponsor does warrant and will defend title unto the Board against claims and demands of all persons whomsoever against all of the property subject to the ASSIGNMENT.
- b. That the Sponsor will pay all sums of money specified in the Note referred to above, promptly as it becomes due, and that the Sponsor will pay all taxes, assessments and other charges that may be levied or assigned on any property subject to this ASSIGNMENT when and as the same shall become due and payable, and that they will comply with all terms and conditions of this ASSIGNMENT and any violation thereof shall constitute a default hereunder.

3. ATTORNEY FEES AND COSTS

- a. In the event suit is instituted to assert any right or privilege under this ASSIGNMENT, the Board may recover therein as attorney fees such sums as the court may adjudge reasonable in addition to the costs and disbursements allowed by law or court rule, together with the cost of any abstract of title or evidence of title procured and used in such proceeding and covering said property.
 - b. In the event the Board becomes a party plaintiff or defendant in any suit or legal proceeding in relation to the property described or referred to by this ASSIGNMENT or any agreement given by Sponsor in connection herewith, Sponsor agree to pay on demand all reasonable attorney fees paid or incurred by the Board in connection with such suit or proceeding, including, but not limited to, any expenses paid or incurred in procuring or continuing abstracts of title, title reports or title policies and search of the records for the purpose of such litigation, and all such sums paid shall bear interest at the highest rate for which it is lawful to contract and shall constitute a lien upon the premises and property and be secured hereby, and in default of immediate repayment thereof by the Sponsor after demand, the whole indebtedness secured hereby shall, at the option of the Board, become due and payable without notice.
4. RECEIVER: In the event proceedings are instituted for a breach of the terms and conditions of this ASSIGNMENT, the Board shall, at its election, as a matter of right and without regard to sufficiency of the security or of waste or danger or misapplication of any of the properties of the Sponsor, be entitled forthwith to have a receiver appointed of all or any part of the property hereby secured, and the Sponsor hereby expressly consents to the appointment of a receiver by the court of competent jurisdiction and expressly stipulate, covenant and agree that such receiver may remain in possession and control of the secured property so elected until the final determination of such suit of proceeding.
5. SUBROGATION: The Board shall be subrogated for further security to the lien, though released of record, of any and all prior encumbrances upon the rights subject to this ASSIGNMENT.
6. CHATELS AND PERSONAL PROPERTY: Except for the purposes of making replacements of the CHATELS and other personal property subject to this ASSIGNMENT and which the Sponsor now have or hereafter have or acquire and use in connection with and as a part of the water system and facilities associated with the hereinabove described water rights, the Sponsor will not see or dispose of any of the CHATELS or personal property, nor attempt to do so, nor part with possession of any of the same, nor permit it to be removed from the secured, or from the adjoining or adjacent lands where such property may be located, while this ASSIGNMENT shall remain in force and effect, without the written consent of the Board, which consent shall not unreasonably be withheld. Except in so far as prevented there from by fire, strikes, riots, acts of God, or other unavoidable casualties, the CHATELS and other personal property subject to this ASSIGNMENT shall at all times while

this ASSIGNMENT remains in force and effect be kept and maintained by the Sponsor, at the Sponsor expense, in first class order, condition and repair, and the Sponsor shall from time to time make all replacements of such property which may reasonably be necessary for the irrigation and cultivation of the premises, and the Sponsor will neither commit nor suffer any damages or waste on or to the premises and such property nor do or permit to be done anything that may lessen or impair the value of the property, real or personal, or the lien or security thereof.

7. LEASES OR OTHER INSTRUMENTS OR AGREEMENTS SUBORDINATED: Sponsor covenant and agree that each and every term, condition and covenant of any and all leases or other instruments or agreements, oral or written, between the Sponsor and the Board relating to or affecting in any way the property hereinbefore described or referred to, or any party thereof, shall be and are hereby made subject and subordinate to all of the terms, conditions and covenants of this ASSIGNMENT.
8. TIMELY PERFORMANCES: Sponsor covenant and agree to fully and timely perform each and every term, provision and condition of any and all instruments evidencing the Sponsor easements, rights-of-way, licenses or other rights, privileges or interest in appurtenant to or used or enjoyed in connection with the installation, utilization or maintenance of the water system facilities, used or to be used in the supply or delivery of water to any of the property hereinbefore described and referred to or for access thereto, required to be performed by the Sponsor and hereby assigns such instruments and all of their rights and interest therein to the Board as further security hereunder. Any such assignment shall not affect any of the terms and conditions hereof, and shall terminate or be subject to reassignment by the Board to the Sponsor upon payment of the entire indebtedness secured or to be secured hereby. The Board shall have and is hereby granted the right as its option, at any time within twenty days before performances or payment is required, to perform on behalf of the Sponsor of any or all of the terms, provisions and conditions in such instrument, or any of them, required to be performed by the Sponsor and to pay or expend any and all sums of money as the Board, in its sole and exclusive judgment and discretion, shall deem necessary to prevent the termination of the instruments, or any of them, or the abandonment or loss of any of the Sponsor rights or privileges therein or thereby provided, and the Sponsor hereby agree immediately to repay the Board, without notice or demand, any sums so paid or expended with interest thereon at the same rate as specified in the Note secured hereby on the principal thereof after default and maturity, and all such sums paid or expended by the Board with interest shall become a part of the indebtedness secured hereby, and in default of immediate repayment therefore by the Sponsor, the whole indebtedness secured hereby shall at the option of the Board become due and payable forthwith without notice.
9. BOARD TO BE HELD HARMLESS FROM PROJECT DAMAGE: The Sponsor agree to indemnify the State of Idaho, the Idaho Water Resource Board, and their officers, agents, and employees against and to hold the same free and harmless from any and all claims, demand, losses, costs, expenses, or liability due or incident to, either in whole or in part and whether directly or indirectly, the design, construction, operation, repair, maintenance, existence, or failure of the project, or any of the works or its facilities. The Sponsor may be required by the Board to carry a reasonable coverage of liability insurance for this purpose.
10. INTERPRETATION: Words used herein shall include the singular or plural, and feminine, masculine or neuter as the context may require, and, if this instrument is executed by two or more persons or parties, the obligation and liabilities herein under of such Sponsor shall be joint and several.
11. CONTINUING OBLIGATION: The rights and obligations herein shall inure to and be binding upon the successors, heirs, executors, administrators, and assigns of the respective parties.

12. APPLICABLE LAW: This ASSIGNMENT shall be governed and construed according to the laws of the State of Idaho.

CONSOLIDATED IRRIGATION CO. WATER RIGHTS

	Water Right No.	Priority Date	Source	Tributary To	Beneficial Use	Individual Diversion Rate Limitation (cfs)	Combined Diversion Rate Limitation (cfs)	Volume Limitation (AFA)	Point of Diversion	Individual Acre Limitation	Combined Acre Limitations					
NATURAL FLOW	13-2	4/1/1882	Cub River	Bear River	Irrigation	30			Glendale Canal and Middle Ditch	3100	9331	12431				
	13-3	4/1/1882	Cub River	Bear River	Irrigation	25			Glendale Canal and Middle Ditch	9331						
	13-2104	3/14/1924	Cub River	Bear River	Irrigation	25			Glendale Canal and Middle Ditch	8410						
	13-271	5/7/1880	Worm Creek	Cub River	Irrigation	50			2000	SESW, Sec. 8, 155, 40E	10449					
	13-143	4/1/1929	Springs	Worm Creek	Irrigation	5			2133	Springs, SWSW Sec. 8, 155, 40E						
	13-2103	3/14/1924	Worm Creek	Cub River	Irrigation	25			10662	SESW, Sec. 8, 155, 40E						
	13-2302	1/9/1962	Cub River	Bear River	Irrigation, Irrigation Storage, Irrigation from Storage	6.8			2282 (Irr.) 730 (Stor., Irr. from Stor.)	NWNE, Sec. 20, 155, 40E	1226					
	13-7747	5/1/1888	Mink Creek	Bear River	Irrigation	30.13				SWNESE, Sec. 28, 135, 41E	3013					
	13-35	1/1/1882	No sources found for these rights, but presumably out of Cub River because these rights are listed in the McEwan Decree.	Stockwater, Domestic	4				Not Specified in decree							
	13-36	1/1/1882		Stockwater, Domestic	3								Not Specified in decree			
	13-37	1/1/1882		Stockwater, Domestic	2								Not Specified in decree			
	13-38	1/1/1882		Stockwater, Domestic	3								Not Specified in decree			
	The natural flow water rights from <u>Cub River</u> total <u>98.8 cfs</u> . The natural flow water rights from <u>Worm Creek</u> total <u>75 cfs</u> . The natural flow water rights from <u>Springs</u> tributary to Worm Creek total <u>5 cfs</u> . The natural flow water rights from <u>Mink Creek</u> total <u>30.13 cfs</u> . The <u>GRAND TOTAL</u> of all natural flow rights is <u>208.93 cfs</u> .															
	STORAGE RIGHTS	FOSTER RESERVOIR														
13-2298		2/11/1957	Cub River	Bear River	Irrigation Storage, Irrigation from Storage			3355	Glendale Canal	4708.7						
LAMONT RESERVOIR																
13-2291		6/30/1947	Cub River	Bear River	Irrigation Storage, Irrigation from Storage			2407.5	Glendale Canal	3938						
JOHNSON RESERVOIR																
13-2022		9/17/1910	Worm Creek	Cub River	Irrigation, Irrigation Storage, Diversion to Storage	10	20	4265 (Irr.) 620 (Irr. Stor.)	NWSE, Sec. 10, 155, 40E	1559						
13-2102		9/18/1923				10		4266 (Irr.) 730 (Irr. Stor.)								
13-2287		9/18/1923				10		4267 (Irr.) 730 (Irr. Stor.)								
GLENDALE RESERVOIR																
13-2288		3/14/1924	Worm Creek	Cub River	Irrigation Storage, Irrigation from Storage, Diversion to Storage	215	6000	NESESW, Sec. 8, 155, 40E		15708.9 Storage water from these rights can be used to irrigate an additional 264.9 acres beyond the 15444.2 combined limitation on the rest of the water rights.						
13-2288A		12/15/1924	Cub River	Bear River				Glendale Canal								
13-2108		12/15/1924	Worm Creek	Cub River				NESESW, Sec. 8, 155, 40E								

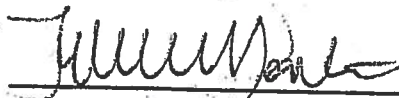
Exhibit A

IN WITNESS WHEREOF, Sponsor has hereunto affixed hands and seals as of the day and year of this instrument.

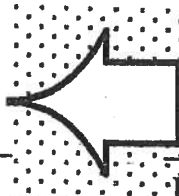
DATED, 27th day of July 2012.

CONSOLIDATED IRRIGATION COMPANY
33 South 100 East
Preston, ID 83263

IDAHO WATER RESOURCE BOARD
P.O. Box 83720
Statehouse Mail
Boise, ID 83720-0098



LYLE PORTER, President



**SIGN
HERE**

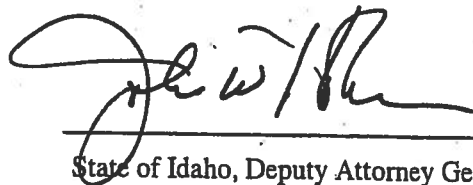
BRIAN PATTON, Interim Administrator
Idaho Department of Water Resources



ATTEST: Secretary

*secretary
sig.*

Approved as to Legal Form:



State of Idaho, Deputy Attorney General

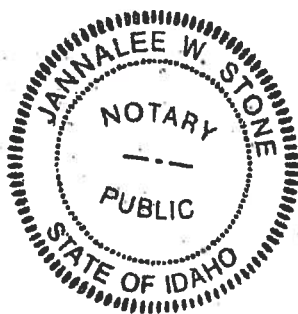
ACKNOWLEDGMENT

STATE OF IDAHO)

County of Franklin)

On this 21 day of Aug, 2012, before me the undersigned, a Notary Public in and for said State, personally appeared Murine Waddoups, known to me to be the Secretary of the Company that executed the instrument or the persons who executed the instrument on behalf of said Company, and acknowledged to me that she executed the same.

IN WITNESS THEREOF, I have hereunto set my hand and affixed my official seal the day and year in this certificate first above written.



Jannalee W. Stone
Notary Public for the State of Idaho

Residing at Preston, Id.

Idaho, Commission expires:

05-01-2015

Version 4

Budget Proposal-2

	COMPUTATION			RECIPIENT COST SHARE	RECLAMATION FUNDING	OTHER FUNDING	Total Cost	Sub totals
	UNIT	QUANTITY						
SALARIES AND WAGES								\$ 267,226.26
Lyle Detmer, Project manager	\$ 48.89	2434	####	\$ 61,299.13	\$ 52,699.13	\$ 5,000.00	\$ 118,998.26	
Lyle Porter, Project superintendent	\$ 22.29	6000	####	\$ 62,370.00	\$ 71,370.00		\$ 133,740.00	
Kirk Iverson, Watermaster	\$ 19.62	50	####	\$ -		\$ 981.00	\$ 981.00	
Steve Smith, GIS technician	\$ 20.06	50	####	\$ -	\$ -	\$ 1,003.00	\$ 1,003.00	
Chris Hatch, Admin assistant	\$ 20.84	600	####	\$ 6,188.13	\$ 6,315.87		\$ 12,504.00	
FRINGE BENEFITS			\$ -	\$ -	\$ -			\$ -
Full-time employees	incl	salaries					\$ -	
TRAVEL			\$ -	\$ -	\$ -			\$ 2,025.00
Mileage	\$ 0.45	4500	####	\$ 1,013.00	\$ 1,012.00		\$ 2,025.00	
EQUIPMENT			\$ -	\$ -	\$ -			\$ 634,500.00
turbine, generator, switchgear, controls			####	\$ 317,250.00	\$ 317,250.00		\$ 634,500.00	
SUPPLIES/MATERIALS			\$ -	\$ -	\$ -			\$ 2,755.81
Reporting	\$ 48.89	\$ 29.00	####	\$ 1,089.81	\$ 328.00		\$ 1,417.81	
Office Supplies			####	\$ 669.00	\$ 669.00		\$ 1,338.00	
CONSTRUCTION			\$ -	\$ -	\$ -			\$ 1,722,647.00
Pipeline material	\$ 59.41	18,500 ft	####	\$ 511,527.00	\$ 562,558.00	\$ 25,000.00	\$ 1,099,085.00	
pipe installation	\$ 22.00	18,500 ft	4E+05	\$ 204,000.00	\$ 203,000.00		\$ 407,000.00	
Appurtenant work			####	\$ 95,781.00	\$ 95,781.00		\$ 191,562.00	
Measuring devices	\$ 5,000.00	5 each	####	\$ 12,500.00	\$ 12,500.00		\$ 25,000.00	
CONTRACTUAL			\$ -	\$ -	\$ -			\$ 230,573.74
GPS survey/drafting	\$ 100.00	400 hrs	####	\$ 20,000.00	\$ 20,000.00		\$ 40,000.00	
Engineering	6.6%	equip/construct	####	\$ 76,331.74	\$ 79,242.00		\$ 155,573.74	
Financial review/audit	2.00	\$ 5,000.00	####	\$ 3,000.00	\$ 7,000.00		\$ 10,000.00	
Easements			####	\$ 25,000.00	\$ -		\$ 25,000.00	
ENVIRONMENTAL AND REGULATORY COMPLIANCE	1.5%		####	\$ 21,656.00	\$ 21,656.00		\$ 43,312.00	\$ 43,312.00
OTHER			\$ -	\$ -	\$ -			\$ -
TOTAL DIRECT COSTS			####	\$ 1,419,674.81	\$ 1,451,381.00	\$ 31,984.00	\$ 2,903,039.81	
INDIRECT COSTS - %			\$ -				\$ -	
			\$ -				\$ -	
TOTAL PROJECT COSTS			####	\$ 1,419,674.81	\$ 1,451,381.00	\$ 31,984.00	\$ 2,903,039.81	
				\$ 1,451,658.81			\$ 2,903,039.81	

1,722,678+634,500

50.00%

Lyle W. Porter

From: "Ray Kilpack" <Ray.Kilpack@isco-pipe.com>
Date: Monday, July 23, 2012 6:12 PM
To: "Lyle W. Porter" <lylewporter@plmw.com>
Cc: "Rob Lawson" <Rob.Lawson@isco-pipe.com>
Subject: ISCO---Current HDPE Pipe Pricing

Lyle,

Below I have priced per current pricing.....please call me with any questions. These are DELIVERED prices below.
 Thanks,

Ray Kilpack

Regional Sales Manager--UT. NV. WY. ID. MT.

ISCO Industries

9541 South Bagley Park Road

West Jordan, UT. 84088

Cell 801-891-3486 Office 800-345-4726 Ext.6704

Fax 502-568-4086

Ray.Kilpack@isco-pipe.com

www.isco-pipe.com

ISCO--Total Piping Solution

From: Lyle W. Porter [mailto:lylewporter@plmw.com]

Sent: Monday, July 23, 2012 5:33 PM

To: Ray Kilpack

Subject: current pipe pricing

Ray;

We will be looking at the following approximate HDPE 4710 pipe quantities sometime later this year:

24" DR-26; 1500';-----\$34.68ft.

24" DR-32.5; 7000'-----\$23.35ft.

30" DR-26; 3700';-----\$46.14ft.

30" DR-32.5; 650'-----\$37.20ft.

36" DR-21;4000';-----\$81.45ft.

36" DR-26; 600';-----\$66.45ft.

36" DR-32.5; 3000'-----\$53.58ft.

Current pricing would be fine, since we do not know for sure when we can bid & order, due to FERC permitting time frames. Earliest would be October 2012, latest (we hope) March 2013. We realize prices may change with time.

Also, could you give some information on large size drain pipes, as Weholite, probably 36" to 40"; characteristics, installation, pros * cons, pricing, etc.

Thank you.

Lyle W. Porter

President

Consolidated Irrigation Co.

P.O. Box 311

Preston, ID 83263

Phone: (208)339-1864

E-Mail: lylewporter@plmw.com

7/23/2012

ZimmaticValleyImplement 

213 W 8th N
Preston, ID 83263
208-852-0430

2570 N Main
North Logan, UT
84341
435-787-1586

PO Box 305
Grace, ID 83241
208-425-3031

Date 7/27/2012

QUOTE	Unit Number
-------	-------------

Consolidated Irrigation Company

BID 1

PO#

Customer Name **Lyle Porter**
1-208-339-1864

Address _____ City _____ State _____ Zip Code _____

[illegible]

Bill of Sale For Property Taken in Trade

For Value I/we Hereby bargain and sell, grant and deliver to DEALER named below

Description	Serial No	Amount
Equipment Sold As is; No Warranty		

Total Sales Price	968,100.00
Sales Tax	
Cash Price	968,100.00
Down Payment	
Trade In	-
Balance Due Dealer	968,100.00

Accepted By _____

x

Purchaser Signature

I certify that the property which I have here purchased will be used by me directly and primarily in the process of producing Tangible personal property by mining, manufacturing, Processing, fabricating or farming or as a repair part of equipment used primarily as described above. This tax exemption statement qualifies if this statement is signed by