

LAKE AGASSIZ WATER AUTHORITY

BOARD OF DIRECTORS

**Holiday Inn
Fargo, North Dakota
March 8, 2019**

A meeting of the Lake Agassiz Water Authority (LAWA) board of directors was held at the Holiday Inn, Fargo, North Dakota, on March 8, 2019. The meeting was called to order by Chair Mahoney at 11 a.m.

MEMBERS PRESENT

Chair Timothy Mahoney
Vice Chair Ken Vein
Director LaVonne Althoff
Director Rick Bigwood
Director Dave Carlsrud
Director Tom Erdmann
Director John Hancock
Director Mark Johnson
Director Ralf Mehnert-Meland
Director Keith Nilson
Alternate Paul Becker for Director Nels Halgren
Alternate Bill Bohnsack for Director Don Moen
Associate Member Carol Siegert
Secretary Duane DeKrey

MEMBERS ABSENT

Associate Member Don Bajumpaa
Associate Member Dick Johnson

OTHERS PRESENT

Staff members of the Garrison Diversion Conservancy District were present along with others. A copy of the registration sheet is attached to these minutes as Annex I.

The meeting was recorded to assist with compilation of the minutes.

AGENDA

Motion by Director Althoff to approve the board agenda. Second by Vice Chair Vein. Upon voice vote, motion carried.

CONSIDERATION OF THE MINUTES

Motion by Director Nilson to dispense with a reading of the December 14, 2018, LAWA Board minutes and approve them as distributed. Second by Director Hancock. Upon voice vote, motion carried.

OFFICER REPORT

Vice Chair Vein reported on water related meetings he has attended and legislative issues facing the Red River Valley Water Supply Project (RRVWSP).

COMMITTEE REPORTS

LAWA Technical Advisory Committee

Upper Sheyenne Extension Pipeline

Al Grasser, Chair, LAWA Technical Advisory Committee (TAC), presented an Executive Summary Report from the TAC meeting held on February 6. The primary purpose of the meeting was to review a request from the LAWA Board to evaluate a potential Upper Sheyenne discharge point. A copy of the summary report is attached to these minutes as Annex II.

Mr. Grasser said the TAC's approach was to identify the primary issues involved, identify technical versus non-technical issues, and then develop and rate a scale of perceived risk. As a result a revised risk matrix was prepared, with a copy attached to these minutes as Annex III.

The TAC reviewed specific concerns and proposals developed by the City of Devils Lake. Discussion was held on evapotranspiration and seepage, as well as the advantages and disadvantages of pipe delivery systems and open channel systems.

Mr. Grasser summarized by stating that an alternative or added discharge point on the Upper Sheyenne River is technically feasible. Cost savings would only be realized if the discharge was selected as an alternate to the current planned discharge point. Duplicate large pipes routed to two points would greatly increase project costs. A decision path which results in increased flow requirements and a larger pipe also rapidly diminishes potential short-term and long-term cost savings. The current route has had years of study and investment to get to the point of potential bidding. To bring another route to this same point will take an investment of time and money. From a perspective of risk, construction delays present a number of highly negative risks. Opening up permit review/application also presents a number of highly negative risks.

Chair Mahoney reported the House Appropriations Committee met on March 7. At that time, the City of Devils Lake was given the opportunity to speak in regard to their suggested alternative for the Upper Sheyenne River. A PowerPoint presentation was also provided to the committee.

Chair Mahoney called on Merri Mooridian, Deputy Manager, RRVWSP Administration; Tami Norgard, Vogel Law Firm and Steve Burian, Advanced Engineering and Environmental Services, to go through the same presentation with the LAWA Board. The presentation

included an overview of the 2017-2019 RRVWSP Work Plan, legislative asks for 2019-2023 and the Devils Lake reroute request.

Chair Mahoney stated that LAWA feels the RRVWSP needs to proceed with the project as presently planned with the opportunity to add a future extension/turnout for Devils Lake.

Mike Grafsgaard, City Engineer, Devils Lake, complimented Al Grasser for his work on the TAC and a well-run meeting on February 6. He added Devils Lake would like to ask for water loss studies to be conducted on the upper, as well as the lower Sheyenne River.

Mr. Grafsgaard said the other thing they would ask the board to look at is trying to emphasize construction on the first 90 miles to gather additional information to allow for potential changes in the future.

Mr. Kovar said one challenge with focusing construction on the first 90 miles is there are no current right-of-way easements.

Vice Chair Vein said the risk assessment was very well done by the TAC. The proposal brought forward by Devils Lake would be good, but there are a number of unintended consequences that have a severe impact on the project. Any changes now would put the project at risk. The turnout is a good solution as an avenue to consider in the future.

Mr. Grafsgaard said Devils Lake supports the project and wants to be a part of it.

RED RIVER VALLEY WATER SUPPLY PROJECT UPDATE

Financial Update - - Ms. Mooridian informed the board that the LAWA Finance Committee met on March 6. At that time, the project numbers that were presented to each of the board member systems were brought forward. A handout was provided to the board members showing the items that were covered at the Finance Committee meeting, including cost scenarios. If anyone has questions or would like further detail, contact a member of the finance team.

SB 2275

Ms. Mooridian commented that a hearing will be held on SB 2275 before the House Appropriations Committee on March 12. Under this bill, the RRVWSP would be eligible for a 40-year, two percent loan. Talking points will be developed and emailed to the LAWA members and other systems to use in contacting their local legislators asking for support on SB 2275. If anyone would like to attend the hearing and provide testimony, it would be greatly appreciated.

2018 RRVWSP Work Plan Status - - Kip Kovar, Deputy Program Manager, RRVWSP Engineering, referred to and reviewed the 2018 RRVWSP Work Plan Status, which summarizes last year's work items for the project. The status of each work item appears in red. A copy of the work plan status is attached to these minutes as Annex IV.

McClusky Canal Water Source - - Ms. Norgard referred to and explained the letter prepared by Garrison Diversion and submitted to the Bureau of Reclamation requesting Reclamation initiate an environmental review for the option to use the McClusky Canal as a source for the additional 145 cfs for the RRVWSP.

Task Order Reallocation - - Mr. Kovar referred to and reviewed the memo from Black and Veatch containing the proposed scope of reallocations for existing task orders. Adjustments are necessary to address either reductions in or additions to the previously agreed to task order scopes of work. If the reallocation is approved, amendments will be made to each task order affected by the changes.

Mr. Kovar stated the cost increases necessary for the additions will be offset by reduction to or deferments of existing tasks already authorized. Therefore, there is not an increase to the overall RRVWSP budget.

The new scope of authorizations requiring approval included the following:

- Project Information Management System (PIMS) software and services
- Program management support services
- NDPDES discharge permitting assistance
- Upper Sheyenne River discharge feasibility study, and
- Financial planning support

Mr. Kovar went through a summary of additions showing the fee increases for new work and amendments totaling \$707,000, which are offset by reductions or deferments totaling \$707,000, of currently approved task orders.

Motion by Vice Chair Vein to approve the proposed scope reallocations under existing RRVWSP task orders. Second by Director Nilson. Upon roll call vote the following directors voted aye: Althoff, Bigwood, Carlsrud, Erdmann, Hancock, Johnson, Mahoney, Mehnert-Meland, Nilson and Vein. Alternates voting aye: Becker and Bohnsack. Those voting nay: none. Absent and not voting: none. Motion carried.

Work Plan Update - - Mr. Kovar referred to and highlighted portions of the RRVWSP Work Plan Update dated February 26, 2019, which provides the status on each of the approved task orders. A copy of the update is attached to these minutes as Annex V.

Early Out Construction Contracts - - Mr. Kovar said the early out construction packages are 90 percent complete; however, the discharge permit will be delayed so it will be late summer before the packages go out.

Mr. Kovar added that the LAWA TAC will be reviewing and making recommendations to the LAWA board on the plans and specifications for the early out construction packages. Garrison Diversion's chairman has also been authorized to form an Ad Hoc Contract Review Committee to perform contract review on early-out construction documents for the RRVWSP.

Program Management - - Ms. Mooridian referred to and reviewed the program management chart dated March 6 pointing out the recent updates. This shows a simplified project schedule for the current biennium. It is a fluid working document that defines the schedule of work required by HB 1020.

Planning Level Budget - - Ms. Mooridian referred to and reviewed the two graphics showing the RRVWSP Planning Level Budget. The bar chart illustrates the cumulative project expenses. The budget table dated January 31 shows a breakdown of project dollars. Of the \$43.7 million estimated total program budget, \$23 million has been expended. The

box at the bottom of the page shows \$9.3 million has been spent out of the state's \$30 million 2017-2019 appropriation. An amount of \$7.1 million is committed and outstanding. The remaining uncommitted amount is \$13.5 million. Copies of the budget and graph are attached to these minutes as Annex VI.

2019 RRVWSP Work Plan - - Mr. Kovar presented the Draft 2019 RRVWSP Work Plan and reviewed the proposed work items for this year. Ms. Mooridian reviewed the financial portion of the work plan. A copy of the proposed work plan is attached to these minutes as Annex VII.

Motion by Director Carlsrud to approve the proposed 2019 RRVWSP Work Plan. Second by Director Bigwood. Upon roll call vote, the following directors voted aye: Althoff, Bigwood, Carlsrud, Erdmann, Hancock, Johnson, Mahoney, Mehnert-Meland, Nilson and Vein. Alternates voting aye: Becker and Bohnsack. Those voting nay: none. Absent and not voting: none. Motion carried.

2019-2021 Draft Biennium Budget - - Ms. Mooridian referred to the Draft 2019-2021 Biennium Budget, stating this is in follow up to the 2019 RRVWSP Work Plan. If \$50 million is received for the RRVWSP this biennium, this budget table illustrates how the funding would be expended. It is for the committee's information and does not require approval until the legislature approves the exact funding amount. A final budget will be brought back for approval by the board once it is determined.

FINANCIAL REPORT

2018 Budget Analysis Statement - - Ms. Mooridian referred to and reviewed the Budget Analysis statement for the period of January 1, 2018, to December 31, 2018, a copy which is attached to these minutes as Annex VIII.

Total income received through December 31 was \$122,257. Expenses were \$69,520. The total bank balance at the end of December 2018 was \$762,011.

Ms. Mooridian reminded the board of its decision to conduct an audit of the financial statements every other year; therefore, 2018 and 2019 will be audited together. This is the final 2018 statement that will be provided to the auditors.

Motion by Director Nilson to approve the Budget Analysis Statement for the period of January 1, 2018, through December 31, 2018. Second by Director Hancock. Upon roll call vote, the following directors voted aye: Althoff, Bigwood, Carlsrud, Erdmann, Hancock, Johnson, Mahoney, Mehnert-Meland, Nilson and Vein. Alternates voting aye: Becker and Bohnsack. Those voting nay: none. Absent and not voting: none. Motion carried.

2018 Bills Paid

In December, \$7,175 was paid to Garrison Diversion for LAWA's share of national legal fees for Brownstein Hyatt Farber Schreck.

2019 Budget Analysis Statement - - Ms. Mooridian referred to and reviewed the Budget Analysis statement for the period of January 1, 2019, to January 31, 2019, a copy which is attached to these minutes as Annex IX.

Total income received through January 31 is \$6.48. Expenses are \$1,290. The total bank balance at the end of January was \$760,728.

2019 Bills Paid

Bills paid in 2019 are \$1,000 to the ND Water Coalition and \$290 to ND Rural Water Systems. Both of these are for 2019 membership dues.

Motion by Director Althoff to approve the Budget Analysis Statement for the period of January 1, 2019, through January 31, 2019. Second by Director Bigwood. Upon roll call vote, the following directors voted aye: Althoff, Bigwood, Carlsrud, Erdmann, Hancock, Johnson, Mahoney, Mehnert-Meland, Nilson and Vein. Alternates voting aye: Becker and Bohnsack. Those voting nay: none. Absent and not voting: none. Motion carried.

2019 LAWA Membership Dues - - Ms. Mooridian referred to the draft letter prepared to go out with 2019 LAWA dues statements. She asked for approval to send out the letter and billing statement for 2019 membership dues.

Motion by Director Hancock to authorize the billing for 2019 LAWA membership dues. Second by Director Johnson. Upon roll call vote, the following directors voted aye: Althoff, Bigwood, Carlsrud, Erdmann, Hancock, Johnson, Mahoney, Mehnert-Meland, Nilson and Vein. Alternates voting aye: Becker and Bohnsack. Those voting nay: none. Absent and not voting: none. Motion carried.

2019 LAWA Budget - - Ms. Mooridian presented the 2019 LAWA Budget and reviewed it with the board, a copy which is attached to these minutes as Annex X.

Projected income for 2019 is \$34,080 with expenses projected at \$111,890.

Ms. Mooridian stated that the line item for Administrative/Legal/Financial has increased. This is due to the hiring of Ohnstad Twichell to represent LAWA and the increased monthly billing for Brownstein Hyatt Farber Schreck. This is the national legal counsel shared by LAWA and Garrison Diversion.

Motion by Director Nilson to approve the proposed 2019 LAWA budget. Second by Director Bigwood. Upon roll call vote, the following directors voted aye: Althoff, Bigwood, Carlsrud, Erdmann, Hancock, Johnson, Mahoney, Mehnert-Meland, Nilson and Vein. Alternates voting aye: Becker and Bohnsack. Those voting nay: none. Absent and not voting: none. Motion carried.

LEGISLATIVE REPORT

Duane DeKrey, Secretary, referred to the Senate and House bills currently being followed in the legislative session, including SB 2020, SB 2275, and HB 1320. He explained the purpose of each bill. Copies of the bills are included with the meeting materials for the board's information.

UNFINISHED BUSINESS

Memorandum of Understanding - - Chair Mahoney informed the board that representatives of LAWA and Garrison Diversion met this morning to discuss the Memorandum of Understanding between LAWA and Garrison Diversion. A good discussion was held, and he felt progress was made in moving the document forward in an equal partnership.

Insurance Advisor - - Ms. Mooridian reported that a Request for Qualifications (RFQ) to advertise for services for an insurance advisor has been developed. This is will be an action item for an upcoming board meeting.

NEW BUSINESS

Manitoba Correspondence - - Ms. Norgard reported that a letter had been sent to North Dakota's leadership of the State Senate Appropriations and Energy and Natural Resources Committees from Manitoba's Minister of Sustainable Development. The same letter was also sent to the State Water Commission and the Department of Health. The letter is regarding funding for the RRWSP and Manitoba's concerns with the project and safe drinking water standards. In the letter, Manitoba asks the legislature to make project funding contingent upon meeting the NAWS level of biota treatment.

Garrison Diversion and LAWA have prepared a joint letter to the senate leadership, Governor Burgum, State Water Commission and State Department of Health, responding to Manitoba's concerns.

OTHER

There being no further business to come before the committee, the meeting adjourned at 1 p.m.

Timothy Mahoney, Chair

Duane DeKrey, Secretary

REGISTRATION

LAWA Board Meeting
Fargo, North Dakota
March 8, 2019

NAME	ADDRESS
Steve Burian	AE ₂ S
Jerry Blomeke	Cass RW District
Al Grasser	City of Grand Forks
Geneva Kaiser	SEWD & GDCU - Statsman Co.
Greg Bischoff	GDOD - Barnes Cty
Jay Paul Anderson	GDOD - Ransom Cty
Cliff Hurrett	GDOD Mefford Co.
Steve Metzger	GDOD - Foster Co.
Keith Myklebust	EAST Grand Forks
Bruce Corubbs	City of Fargo
BERNIE DARDIS	City of West Fargo
Marc Pritchard	Moorhead Public Service
Joe Zauner	American Pipe
Lisa Schaefer	GDOD

TECHNICAL ADVISORY COMMITTEE

EXECUTIVE SUMMARY REPORT TO

THE LAKE AGASSIZ COMMITTEE – MARCH 8, 2019

The Lake Agassiz Water Authority Technical Advisory Committee (TAC) met on February 6, 2019. The primary agenda item was to review a request from the Lake Agassiz Water Authority (LAWA) Board to evaluate a potential Upper Sheyenne discharge point.

The TAC reviewed its' role as advisory to the Board and focused on the more technical aspects of the request. The TAC also recognized there were significant legal and political components to any evaluation that were beyond the TAC expertise or authority. The alternative discharge proposal, as presented, essentially reduces pipe length by at least 42 miles and substitutes 189 miles of open channel flow. Both options continue to deliver water to Lake Ashtabula, provided sufficient capacity is constructed.

In initiating an evaluation, it was immediately apparent that available technical data was either incomplete, conflicting or led to a myriad of sub options/alternatives. The approach taken by the TAC to evaluate this nebulous situation was to identify the primary issues involved, identify technical vs. non-technical issues, and then develop and rate a scale of perceived risk. That risk matrix is provided to the Board as part of your packet.

The TAC reviewed specific concerns and proposals developed by Devils Lake. As part of this process, there were extensive discussions about the general subjects of evapotranspiration and seepage that are inherent in an open channel conveyance system. Discussion was also had relative to advantages and disadvantages of pipe delivery systems and open channel systems.

The TAC began its' first series of consensus items by focusing on the technical components of the alternative discharge point and route. Consensus was reached on the following:

- The Upper Sheyenne River could physically receive water and deliver water.
- The River can reasonably be expected to convey up to 250 cubic feet per second (cfs).
- The most probable route for a pipeline to the Upper Sheyenne would be to primarily follow the Highway 30 corridor.
- The base project pipe size of 72 inches can convey up to 180 cfs to the Upper Sheyenne River.
- The intake structure on the Missouri as proposed can physically capture and convey approximately 250 cfs to the wetwell.
- The basic components of pipe alignment, break tanks, water treatment, etc. are considered to be common to all alternative evaluations.
- The evaporation loss of the Upper Sheyenne route is estimated at 4 cfs as an annual average.
- The cost of treating water as currently envisioned is \$.0875/1000 gallons for the first 165 cfs and .0831/1000 gallons for flows above 165 cfs.

The TAC then spent considerable time on the transpiration and seepage issue. Condensing the chairmen's interpretation of discussions and actions, the TAC agreed that given all the variable and conflicting information on the subjects that more information would add value. As suggested by Devils Lake, a study would be sponsored by the United States Geological Survey (USGS) and occur during 2019. Flow control could be provided by the Devils Lake Outlet pumps. A final delivery date of information has not been determined. However, it is clear that any

project component dependent upon such study would not be able to be constructed in 2019. It was recognized that a study made during a climatological wet cycle may not be indicative of evapotranspiration and seepage during a dry cycle. This limitation should be discussed with the USGS before proceeding with additional study. Related to this discussion, the TAC heard testimony from Cliff Hanretty, GDCD Board Member from McHenry County relating his experience. A reservoir release was made which he was expecting to put to beneficial use. However, the release never materialized in his location having been lost primarily to seepage enroute. He felt comparable river reaches existed along the Upper Sheyenne River.

The whole discussion of evaporation/transpiration/seepage is of significance as they influence the gross amount of water needed to be delivered. This, in turn, is the primary driver of pipe size and pumping/water treatment costs. The LAWA Board will need to provide some guidance in order to reduce the number of variables and options currently on the table. I would be so bold as to suggest at least a set of starting points to consider. Throughout the remainder of the document, certain areas will be underlined. Those represent important Board decision points.

Often the decision to proceed with an action has to do with the perceived benefit of that action. In the matter of seepage, there is one past study that suggests the Upper Sheyenne could gain water. Would the Board consider an expected outcome that during a drought, this river segment would gain water? If not, the project flows needed to be delivered to the discharge point would be at least 165 cfs plus 4 cfs evaporation for a subtotal of 169 cfs. No consensus was reached on transpiration but some additional capacity will need to be added to the 169 cfs for those items. Given the variability and uncertainty of transportation/seepage, would the Board reasonably expect to make a decision in which the pipe size would stay at 72 inch (180 cfs max capacity) or would a decision be made to go to at least the next pipe size up (78inch)? Upsizing the pipe will reduce the potential capital cost savings of the alternative, going from a savings of approximately \$180 million down to a savings of approximately \$80 million.

To complete the picture of potential cost savings, the Board needs to also consider total net present worth which includes the estimated costs of O & M. At 180 cfs, the O & M costs increase approximately \$18 million over a 165 cfs system for the design drought. At 200 cfs, the estimated O & M costs increase by approximately \$40 million.

While any organization would like to have exact numbers in order to make decisions, often times a reasonable set of decisions must be made with an expectation of general outcomes or the direction of the general outcome. In this case the Board needs to contemplate what their decisions may be given various scenarios. In regards to the above discussion, the initial savings in capital costs can be fairly quickly reduced from hundreds of millions to an order of magnitude of millions or tens of millions.

Proceeding with an alternative pipe discharge to the Upper Sheyenne would potentially result in cost savings as discussed above. It would serve to supply a currently nominated flow of 1 cfs for Devils Lake. However, the change from the original routing would preclude service to Carrington and SRWD/Spiritwood without additional extension pipeline costs. The Board will need to contemplate when and how service to Carrington might be handled (estimated additional \$8.5 million) and SRWD (estimated additional \$7.7 million).

As important as the preceding discussions were, the TAC soon realized that these items potentially paled in comparison to other considerations related to permits and Waters of the US (WOTUS).

The TAC was provided opinions that increasing the amount of project water requested would likely re-open the Missouri River intake permit. Permit review would take time. This will add time before a project can be bid, precluding a 2019 construction project. There are also a number of indicators that parties which might oppose a permit would place a high value on the ability to comment on a new permit. The Board will need to contemplate the acceptability of these risks as a major policy decisions.

The TAC was provided information that the current state of legal challenges to WOTUS is that without legal intervention, the 2015 version of WOTUS will automatically take effect in February 2020. This means we only can count on the 2019 construction season to consummate any permits we received to start work. Similar to above, the TAC consensus was that negative consequences and risks to the base project by not moving forward with 2019 construction was high. The Board will need to contemplate the acceptability of these risks as a major policy decisions.

The TAC also heard concerns relative to the impacts of jurisdictional wetlands determinations on other project features. Information received subsequent to the TAC meeting indicates that an alternate discharge point would likely not jeopardize the current determination; so, it appears that is likely a low risk issue now. It has been estimated, however, that additional jurisdictional wetland determination and pipeline routing work will take about two years and cost about \$2 million to get the alternative route on par technically with the base project route.

In summary, an alternative or added discharge point on the Upper Sheyenne River is technically feasible. Cost savings would only be realized if the discharge was selected as an alternate to the current planned discharge point. Duplicate large pipes routed to two points would greatly increase project costs. A decision path which results in increased flow requirements and a larger pipe also rapidly diminishes potential short-term and long-term cost savings. The current route has had years of study and investment to get to the point of potential bidding. To bring another route to this same point will take an investment in time and money. From a perspective of risk, construction delays present a number of highly negative risks. Opening up permit review/application also presents a number of highly negative risks.

This overview has been developed with a focus on trying to identify where some Board determinations or consensus may be necessary related to the Devils Lake request. This is specifically not an engineer's report nor detailed committee report. Detailed TAC determinations can be found in the TAC draft minutes.

Respectfully submitted:

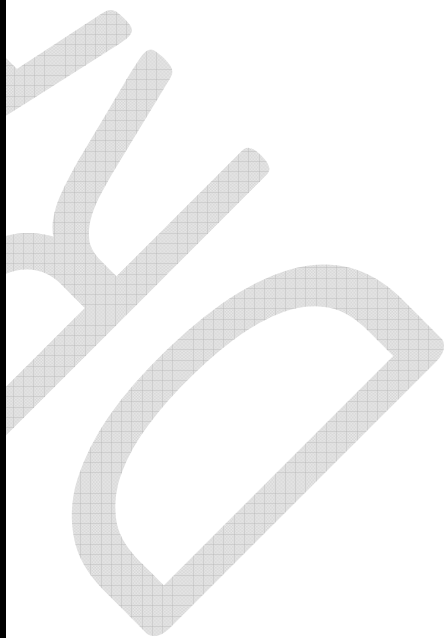
Al Grasser, Chair of the Technical Advisory Committee

Evaluation Category/Risk (incremental above base project)	Risk or Benefit?	Description of Risk or Benefit for Upper Sheyenne Discharge	Schedule Impact Minimum Case (for current ten-year implementation)	Schedule Impact Worst Case (for a current ten-year implementation)	Cost Impact Minimum (for current life cycle budget)	Cost Impact Worst Case (for current life cycle budget)	Probability 1 = Low 5 = High	Consequence 1 = Low 5 = High	Overall Risk/Benefit Score 1 = Low 25 = High
Meeting Project User Demands									
Meeting City of Devils Lake Future Drought Demands	Neutral	The City of Devils Lake has not identified future drought needs.	None	Likely 1-2-year delay in providing service to Carrington. Likely 3-5-year delay in providing service to SRWD due to Federal permits-approvals and re-crossing the Continental Divide with the water.	None	None	3	3/5	Risk
Cost of Providing Water to Carrington, Jamestown and Cooperstown	Risk	An additional \$8.5M of capital cost would be required to extend service to Carrington. An additional \$7.7M of capital cost would be required to extend service to SRWD/Spiritwood from Valley City rather than from the main RRVWSP pipeline. Total distribution extension capital costs within the Sheyenne River basin above Lake Ashtabula are relatively neutral.	Distribution system extensions would need to be funded to provide service to Carrington rather than service directly from the main project.	Likely 1-2-year delay in providing service to Carrington. Likely 3-5-year delay in providing service to SRWD due to Federal permits-approvals and re-crossing the Continental Divide with the water.	\$16.2M in capital cost. The distributed costs to individual users change significantly due to the added pipelines and splitting of systems within the Sheyenne River above Lake Ashtabula.	Additional costs are unknown if SRWD/Spiritwood water is required to be treated beyond initial project standards.	3	3/5	9/15
Meeting other Communities on the Upper Sheyenne River Future Drought Demands	Neutral	No additional known municipal water needs along the Upper Sheyenne River.							N/A
Irrigation	Not applicable	Neither project will provide for irrigation; thus, there are neither benefits or risks.							N/A
Ranching/Cattle Water Use	Benefit	Upper Sheyenne Discharge would provide for an additional 189 miles of incidental cattle watering during periods of extreme drought.	None		None				Benefit
Technical									
Upper Sheyenne Water Losses	Risk	Uncertainty of what actual channel losses will be in a drought.	Uncertain	Uncertain	Potential that cost benefits are understated if channel losses are less than estimated.	Potential that project is undersized if channel losses are greater than estimated resulting in un-met supply water needs for project users.	3	5	15
Open channel vs. pipeline conveyance	Benefit	Benefit - Open channel has lower maintenance costs over a pipeline (no valves, air-release valves, cathodic protection). Risk – Greater potential for exposure to pollution, potential stream losses, potential for unauthorized withdrawals.	Uncertain	Uncertain					Benefit
Response time to water availability for LAWA Communities Future Drought Demands	Risk	Alternative adds an additional 189 miles and many days of response time between the water discharge into the Upper Sheyenne and its availability for release from Lake Ashtabula.	4 to 6 days of additional travel time in the river will be required for the water to reach Lake Ashtabula.	4 to 6 days of additional travel time in the river will be required for the water to reach Lake Ashtabula.	Cost of LAWA communities for water not being available for release is not quantified.	Cost impacts of potential flooding from inability to control river levels is not quantified.	3	3	9

Evaluation Category/Risk (incremental above base project)	Risk or Benefit?	Description of Risk or Benefit for Upper Sheyenne Discharge	Schedule Impact Minimum Case (for current ten-year implementation)	Schedule Impact Worst Case (for a current ten-year implementation)	Cost Impact Minimum (for current life cycle budget)	Cost Impact Worst Case (for current life cycle budget)	Probability 1 = Low 5 = High	Consequence 1 = Low 5 = High	Overall Risk/Benefit Score 1 = Low 25 = High
		<p>The current alternative only has 7 miles between the discharge and Lake Ashtabula.</p> <p>The project will operate year-round in during drought conditions and the additional river miles make it difficult for project operations to react to sudden precipitation events or ice-jams in the Upper Sheyenne River Basin, thus increasing the likelihood of potential flooding in some areas. Current Devils Lake outlets do not operate in the winter or early Spring.</p>					5	3	15
Land									
Discharge Property Acquisition	Risk	Currently negotiating land purchase for discharge location. Initiate negotiations with a new property owner(s). Need survey, cultural and environmental survey of new property.	6 months	1 year	\$50,000 for additional surveys, title work, natural resource delineations.	\$50,000	5	1	5
Pipeline Alignment Easement Acquisition	Risk	Will need to develop new preliminary design for pipeline alignment to the Upper Sheyenne Discharge and begin negotiations for a new 40-mile section of pipeline.	2-years; one year for field work (wetlands, cultural, surveying, geotechnical) and one year for preparation of preliminary design plans before land negotiations can begin with landowners.	2 years	\$2 million for preliminary design of approximately 40 miles of new pipeline.	\$2 million	3	5	15
Regulatory/Permits									
Overall Acceptability to State Regulators	Risk	State Regulators (Dept. of Health, Game & Fish, others) have not been apprised of this option and their response is unknown.	Uncertain	Uncertain	Uncertain but annual cost of delay due to escalation is estimated at \$28 million per year.	Uncertain but the annual cost of delay due to escalation is estimated at \$28 million per year.	1	3	3
Re-Open Missouri River Intake Permit (already have permit)	Risk	Re-submitting intake permit opens permit to re-consideration from USACE and challenge from other parties if permit needs to be revised because of increased flows. Risk not getting permit under existing administration.	1-year for intake permit re-submittal and approval process	Not able to get a revised permit because of changing regulatory conditions.	\$250,000. Intake redesign and permit resubmittal.	\$150 million for 150 cfs horizontal collector wells if project cannot obtain revised intake permit. Studies have not yet identified areas to support the full 165 cfs or more of flow and more hydrogeological studies would be required.	4/5	5	20/25

Evaluation Category/Risk (incremental above base project)	Risk or Benefit?	Description of Risk or Benefit for Upper Sheyenne Discharge	Schedule Impact Minimum Case (for current ten-year implementation)	Schedule Impact Worst Case (for a current ten-year implementation)	Cost Impact Minimum (for current life cycle budget)	Cost Impact Worst Case (for current life cycle budget)	Probability 1 = Low 5 = High	Consequence 1 = Low 5 = High	Overall Risk/Benefit Score 1 = Low 25 = High
Jurisdictional Wetlands	Risk	USACE has concurred on jurisdictional wetlands for entire pipeline route. Will need to initiate new study of wetlands on revised alignment and seek USACE determinations. Added risk of not getting permit under existing WOTUS due to Federalization of the Prairie Pothole Region.	2-years. One year for field work and one year for USACE review and approval.	Indefinite delay. If the project would be evaluated under a revised WOTUS rule, it could be very difficult to permit.	\$2 million for revised conceptual and preliminary pipeline design and field surveys.	\$200 million (rough estimate) if WOTUS changes, which is estimate cost of a much more complex alignment to comply with a stricter WOTUS rule. If the 2015 version of WOTUS goes into effect in 2020, the project may not be feasible.	5	3	15
Discharge Permit	Risk	Currently six months into discharge permit process. Will need to re-write permit application and re-submit with new outfall location. Uncertain how Dept. of Health will view new outfall location.	1 year (3 months to find new outfall location, 3 months to revise application and 6 months for review)	Same as minimum case.	\$400,000 to find new outfall location, revise permit.	\$400,000	5	3	15
Protection of Water Rights	Risk	Many adjacent land owners who did not participate in the project will want water during an extreme drought. Will take enforcement of an additional 189 miles of river to protect water rights of project users.	No schedule impact	No schedule impact	None.	None.	1	1	1
Financial									
Life Cycle Costs	Neutral	215 cfs (50 cfs allocated for additional evaporation, evapotranspiration, seepage, and maintaining river flow) Upper Sheyenne River Discharge would be nearly cost neutral.	See schedule impacts noted above	See schedule impacts noted above	\$2 million in estimated 50-year life cycle cost savings	\$2 million in estimated 50-year life cycle cost savings.			N/A
Life Cycle Costs	Benefit	200 cfs (35 cfs allocated for additional evaporation, evapotranspiration, seepage, and maintaining river flow) Upper Sheyenne River Discharge would be less expensive	See schedule impacts noted above	See schedule impacts noted above	\$38 million in estimated 50-year life cycle cost savings	\$38 million in estimated life-cycle cost savings.			Benefit
Life Cycle Costs	Benefit	180 cfs (15 cfs allocated for additional evaporation, evapotranspiration, seepage, and maintaining river flow) Upper Sheyenne River Discharge would be less expensive.	See schedule impacts noted above.	See schedule impacts noted above.	\$163 million in estimated 50-year life cycle cost savings	\$163 million in estimated life-cycle cost savings.			Benefit
Life Cycle Costs	Risk	Practical treatment has been proposed. Additional treatment could be required. Additional treatment and the associated costs will negatively impact the life cycle costs associated with an Upper Sheyenne Discharge	See schedule impacts noted above	See Schedule impacts noted above	\$33 million in increase capital cost and \$1.8M per year in O&M costs.	\$50 million in increased capital costs and \$2.5M per year in O&M costs.	3	3	9

Evaluation Category/Risk (incremental above base project)	Risk or Benefit?	Description of Risk or Benefit for Upper Sheyenne Discharge	Schedule Impact Minimum Case (for current ten-year implementation)	Schedule Impact Worst Case (for a current ten-year implementation)	Cost Impact Minimum (for current life cycle budget)	Cost Impact Worst Case (for current life cycle budget)	Probability 1 = Low 5 = High	Consequence 1 = Low 5 = High	Overall Risk/Benefit Score 1 = Low 25 = High
Recreational and Ecological Impacts									
Recreational Use	Benefit	Benefit for an additional 189 miles of river during drought conditions.	No impact except for impacts noted above		Value of additional recreational use undetermined				Benefit
Fisheries	Benefit	Benefit for an additional 189 miles of river during drought conditions.	No impact except for impacts noted above		Value of additional fisheries undetermined.				
Increased liability for bank erosion and riparian property owner liability	Risk	Increased flows in the Upper Sheyenne between the discharge and the eastern Devils Lake outfall would significantly change the stream flow and hence channel erosion. Risk would be for adjacent property owners or structural crossings of the Upper Sheyenne to be adversely affected by erosion, ice, etc. There is also the potential that the additional flow would increase water surface elevations during precipitation events. Flowage easements may be required for riparian property owners.	None		Not determined		3	3	9



**Lake Agassiz Water Authority
Red River Valley Water Supply Project
2018 Work Plan Status**

Annex IV
19-16

1. Finalize pipeline Preliminary Design Report for the entire alignment – **Complete.**
2. Complete a VE on the Preliminary Design Report – **Final Comments sent to VE team and waiting VE team completion.**
3. Complete Phased Final Design with the objective of letting early-out contracts this biennium and being prepared to let a \$120-million pipeline contract next biennium.
 - a. 28-mile Pipeline – **90-percent plans and specs will be completed in March with 2 to 5 miles 100-percent plans and specs will be complete in June. Holding balance of first pipeline segment at 90 percent until construction schedule is better defined and funding for construction is in place.**
 - b. Trenchless Crossings – **Ready in March.**
 - c. Discharge Structure – **Ready in March.**
 - d. Intake/Wet Well – **Ready in March**
4. Update StateMod and finalize required import flow rate – **Complete.**
5. Exercise existing easement options that will otherwise expire – **85 percent complete; ongoing.**
6. Develop Program Management tools to support financial and budget tracking. **Tool development is complete; regular updates and maintenance will continue.**
7. Obtain Intake permit coverage under United States Army Corp of Engineers Nationwide 12 – **Complete.**
8. Complete Sediment Transport Analysis and obtain Sovereign Lands Permit – **Analysis and report complete; permit from State Water Commission anticipated in the February/March timeframe.**
9. Complete North Dakota NPDES permit process – **Draft permit anticipated to be issued in June. We expect a 30-day comment period, with a 30-day extension likely granted by the Department of Health, resulting in a final permit in late August.**
10. Continue refinement of financial models – **Ongoing.**
 - a. Overall Financial Model – **The Financial Planning Team constructed a series of robust financial models to evaluate sensitivity to multiple underlying funding plan variables. These variables included an analysis of variability regarding State core pipeline and branch pipeline capital cost-share level, financing terms, construction schedule, drought operations cost funding, and branch pipeline implementation scenarios.**
 - b. Cost Allocation Plan – **In addition to modeling variability regarding State core pipeline capital cost-share level, State versus Local cost allocation variability was evaluated for drought operations, baseline operations, and long-term project renewal costs. Furthermore, allocation of Local cost share to Users was developed using a tiered allocation model that is based on access to and need for the project.**
 - c. Ability to Pay System Scenarios – **To evaluate the Users most feasible capital cost-share, debt financing approach, construction schedule, and drought operating cost share, a**

**Lake Agassiz Water Authority
Red River Valley Water Supply Project
2018 Work Plan Status**

series of “Ability to Pay” system scenarios were evaluated. The results of these scenarios were correlated with specific end user impacts, which was measured in terms of the anticipated percentile impact to a typical users’ monthly water bill under either baseline or drought operating circumstances.

11. Develop legislative plan for 2019-2021 biennium – Development and consensus of five goals for the 2019 legislative including: 1) \$50-million grant for construction of pipeline segment, land acquisition, facility and pipeline design, and management and administrative services; 2) affordable cost-share between state and local users; 3) long-term low interest loan from the State in the form of a 40-year 2-percent loan; 4) drought operation and funding plan through State Water Commission budget mitigation fund; and 5) 10-year project funding plan and construction schedule commitment.
12. Present financial models to stakeholders and policymakers – End User Bill Impacts Financial Analysis developed under item 9.c. have been presented to representatives of all prospective users who have a Board Member on the Lake Agassiz Water Users Board of Directors. LAWA FAC meeting in March 2019 will roll out the analysis for all nominated systems that provided data.
13. Develop Project Participation agreements – Ongoing.
14. Develop and implement MOU with Garrison Diversion – Ongoing.
15. Continue communications – Completed last year and ongoing for 2019.
 - a. Develop and distribute RRVWSP Quarterly Newsletter
 - b. Staff LAWA display booths at appropriate conferences and events
 - c. Prepare and distribute news releases regarding RRVWSP and LAWA efforts
 - d. Develop articles for ND Water and other potential publications
 - e. Maintain social media sites for RRVWSP
 - f. Maintain RRVWSP and LAWA websites
 - g. Develop landowner communication tools
 - h. Develop RRVWSP education tools – videos, presentations, handouts, etc.
 - i. Prepare for 2019 Legislative session

**RRVWSP Work Plan Update
February 26, 2019**

Goal

Spring 2016	Completed Conceptual Design and Cost Estimate
Summer 2017	Completed Preliminary Design and Cost Estimate for pipeline and pump station(s)
2017 - 2018	Complete Phased Final Design and Cost Estimates
2019 - 2027	Phased Bidding and Construction

Total draft budget to complete Conceptual, Preliminary and Final designs is \$66 million. The ND legislature appropriated \$12.359 million for the RRVWSP for the 2015-2017 biennium. The conceptual design phase has been completed; therefore, no further updates will be included in this report. The ND legislature appropriated \$30 million for the RRVWSP for the 2017-2019 biennium.

Preliminary Design

The conceptual design was released in September 2016. The majority of the preliminary design has been completed; of the \$10 million cost estimate, approximately \$200,000 remains to be expended on the task orders. Moving forward with limited funds, it is cost effective to start project phasing. The Implementation Plan will provide a road map to move forward with items that must be completed first, which includes permit phasing, design phasing and construction phasing.

Final Design

The draft preliminary design was released early October 2017. Moving forward with limited funds, it is cost effective to start project phasing. Priority items to move forward first with final design and construction are discharge structure, trenchless crossings and portions of the intake.

1) Pipeline segment 28 miles – This task order will begin final design on a portion of the RRVWSP and is the first of several pipeline design task orders that will be executed to complete the project. Given the current level of state and local funding allocated for the project’s design and construction, the length of the initial segment selected for final design and preparation of construction contract documents is approximately 28 miles. The general location of the 28-mile pipeline segment is in Foster and Wells Counties. The alignment and limits of the pipeline being designed under this task order are identified on the RRVWSP route overview map. This task order will deliver bid ready documents for this 28-mile segment. Estimated cost is \$3,840,000.

Status – Letters have been sent to utility companies asking for facility locations and details where crossings might occur. The team is anticipating 90% plans and specification will be ready for review March 2019.

2) Geotechnical – This task order will allow engineers to drill supplemental borings along the Preliminary Design Report (PDR) pipeline alignment and discharge site and to complete laboratory testing of soil samples collected. These supplemental borings are necessary to characterize subsurface soil conditions not covered by the 2008 investigation. Relevant existing

soils data from the 2008 investigation will be used to the maximum extent practical to support activities. Estimated cost is \$544,000.

Status – All borings and soil resistivity tests are complete. Developed draft Geotechnical Baseline Report and Corrosion Protection Design Guide.

3) Sediment Transport Analysis – This task order will provide information as requested by the North Dakota State Water Commission (SWC) to evaluate the Sovereign Lands Permit for the Missouri River intake, as well as support the overall design of the intake screens. Estimated cost is \$396,000.

Status – All field work was completed prior to the river freezing. A request was made to USACE for a river analysis model HEC-RAS. Developed 1D and 3D models and completed geomorphic analyses. The final Sediment Transport Report has been sent to the SWC for review.

4) Trenchless Crossings – This task order is for final design of tunneled or trenchless crossings in the first 28-mile section of pipeline selected for final design. The general outcome of this task order will be the preparation of construction contract documents. Estimated cost is \$452,000.

Status – The 90% plans and specifications were ready February 2019.

5) Discharge Site Structure – This task order is for final design of the discharge structure. The general outcome of this task order will be the preparation of construction contract documents. Estimated cost is \$508,000.

Status – The 90% designs are available for review.

6) Land Services – This task order is for survey support services, easement and option acquisition for RRWSP parcels. The RRWSP pipeline is separated into segment 1, 2a and 2b, 3 and 4. Authorization has been approved to move forward with only segment 1. Estimated cost for segment 1 is \$556,446. A second authorization was approved for segment 2a, 2b and 4. Estimated cost is \$1,232,839.

Status – Pipeline Segment 1 status; 85% easements signed. The appraisal reports for the intake and discharge land are scheduled to be complete February 28, 2019.

7) Drone Aerial Coverage – This task order is for unmanned aircraft system services for the initial 28-mile pipeline corridor, discharge site and intake site. Oblique view videos will be captured and incorporated into the GIS database. Estimated cost is \$71,443.

Status – The intake, discharge and pipeline segment 1 have been completed.

8) Missouri River Intake – This task order is for preliminary design of the Missouri River intake including a submerged crib, a tunnel from the crib to a pumping station on the river bank, and a pumping station, including utility extensions necessary and site civil design in order to develop the site. To support early out construction, final designs will be performed for the wet well, access road for construction vehicles and site drainage. Estimated cost is \$1,985,000.

Status – USACE has issued NW 12 permit for the intake. The Missouri River Intake Pump Station physical modeling is complete. The intake design passed all Hydraulic Institute tests.

9) NDPDES Permit Application Supplement – This task order provides support documentation on how the proposed RRVWSP water treatment plant meets the established requirements of the Boundary Waters Treaty Act. Estimated cost is \$195,000.

Status – The NDPDES permit application was submitted to NDDOH on July 31, 2018.

10) Value Engineering – HDR was selected to complete a value engineering study on the RRVWSP. Estimated cost is \$198,539.

Status – The value engineering study workshop was held September 10-14. The draft report was issued on September 28 and the final report was submitted January 1st.

11) Value Engineering Assistance – This task order provides Black and Veatch support services to the value engineering process. Estimated cost is \$64,000.

12) StateMod Amendment No. 3 – This task order provides support to respond to GDCD, LAWA, stakeholder and SWC requests for additional analysis. Estimated cost is \$193,428.

13) Field Verification of PDR Pipeline Alignment- This task order provides support services to field verify 139 miles of the PDR alignment not currently under design. Estimated cost is \$164,000.

Financial Modeling & Stakeholder Outreach

1) Municipal Advisor – Ernst & Young Infrastructure Advisors (EYIA) provides municipal advisory services for the RRVWSP. The overall objective is to develop a robust financial plan to finance the RRVWSP. The model will include construction schedule alternatives, capital debt structure options and on-going operational and renewal costs. Estimated cost is \$508,872.

Status – EYIA has refined the financial models based on effective construction schedules and debt financing approaches. The financial model includes quantified market risks and various cost-share alternatives. This work is on hold until further direction is received from stakeholders/policymakers. EYIA's work is jointly occurring and being incorporated into modeling being completed by AE2S Nexus and Black & Veatch. The models are reviewed by the LAWA Financial Advisory Committee.

2) Financial Modeling/Cost Allocation – The task order is for AE2S Nexus to assist EYIA in development of the overall financial plan and use that plan as the basis for the cost allocation model for each participating system. Estimated cost is \$512,175.

Status – The cost allocation model was refined to include a tiered allocation structure, which considers how project users will benefit from the project by assessing water supply needs, as well as access to project water. Feasibility and ability to pay studies are being conducted for roughly ten systems - both large and small systems. This work is in conjunction with the work being completed by EYIA.

3) Stakeholder Re-engagement – This task order will provide support in meeting with each of the 35 systems that signed development agreements. The objective of each meeting is to obtain a signed Project Participation Agreement and Water Service Contract. Estimated cost is \$398,830.

Status – Stakeholder re-engagement is anticipated to occur Fall of 2018.

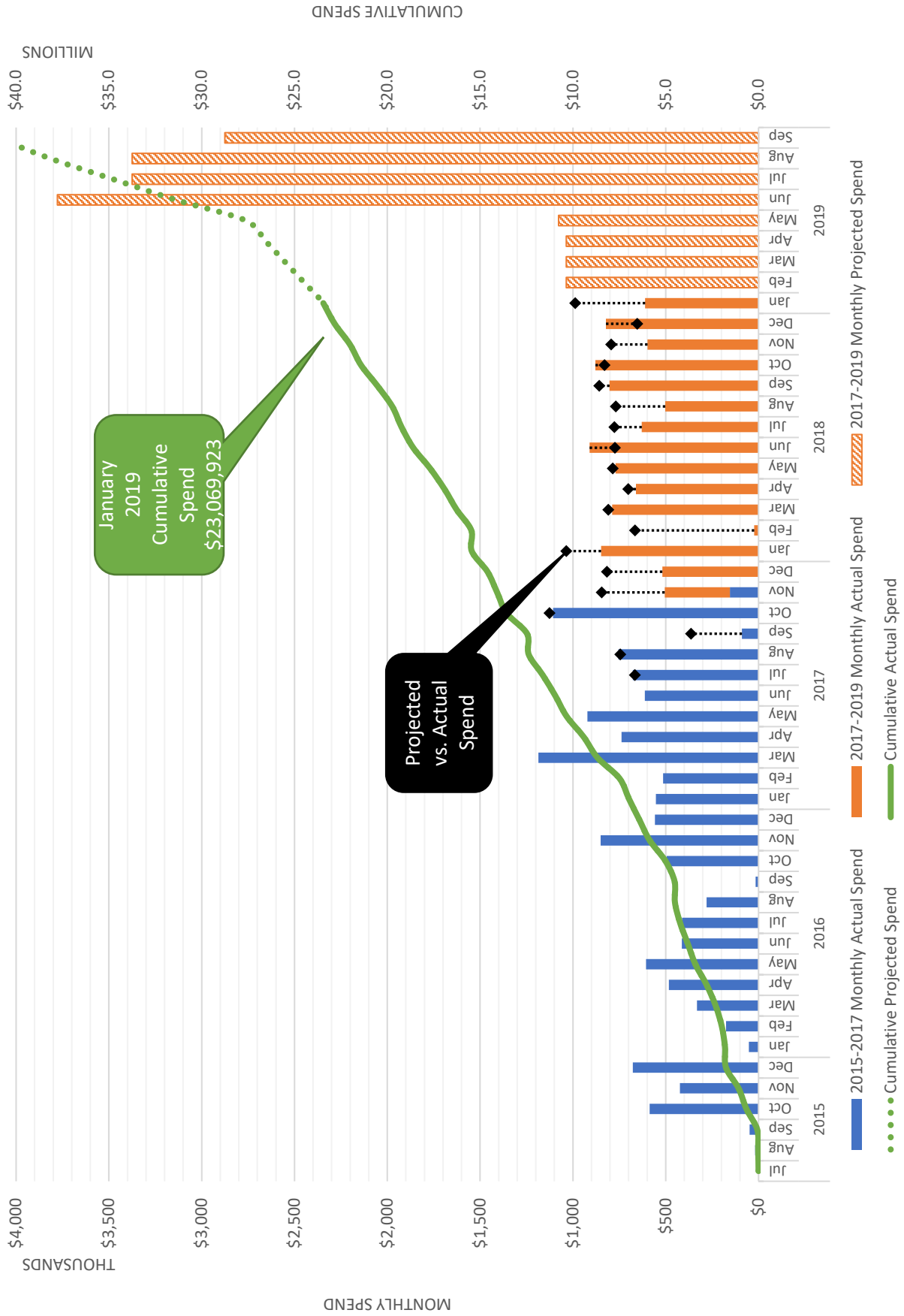
Program

1) Program Management – The overall RRWSP is expected to spend \$30 million in the 2017-2019 biennium and potentially \$180 million or more the next biennium. The objective of this task order will support the development and maintenance of a variety of program management support tools to help successfully execute the project. The tools and processes are expected to be developed and implemented during this biennium and be ready to support a significantly increased program size in the following biennium. Estimated cost is \$491,000.

Status – Program management meeting #1 focused on all aspects of PM, PM #2 focused on the schedule, and other meetings were held developing PM tools and gaining knowledge about program delivery models. Draft Program Management Plan, Construction Management Plan and Design Guidance Manual have been submitted for review.

2) Program Management Information System – This task order will assist GDCD in making initial contact with vendors and to solicit formal submittals from those vendors to provide hardware, software and services. Estimated cost is \$43,100.

Red River Valley Water Supply Project Planning Level Budget



**Red River Valley Water Supply Project
Planning Level Budget**

January 31, 2019	Percent Complete	Current Estimate	Actual Expenses	Outstanding Expenses
Conceptual Design Subtotal	100%	\$ 5,302,130	\$ 5,302,130	\$ 0
Preliminary Design				
Missouri River Conventional Intake Design	100%	\$ 1,010,778	\$ 1,010,778	\$ -
Pipeline Alignment McClusky to Split & Land Services (ROE)	100%	\$ 3,436,073	\$ 3,435,888	\$ 185
Pipeline Alignment Washburn-McClusky & Land Services (ROE)	100%	\$ 593,683	\$ 593,115	\$ 568
Pipeline from Split to Baldhill Creek (RRV) Land Services (ROE)	100%	\$ 574,726	\$ 574,726	\$ -
Land Services (Aerial)	100%	\$ 259,694	\$ 259,694	\$ -
Main Pump Station and Break Tank	100%	\$ 997,267	\$ 995,424	\$ 1,843
StateMod - includes amendments 1, 2 & 3	96%	\$ 616,229	\$ 588,680	\$ 27,549
Pipeline Extensions	100%	\$ 627,333	\$ 627,333	\$ -
Discharge Design (Shyenne/Baldhill)	100%	\$ 617,000	\$ 615,860	\$ 1,140
Administration (cost & schedule, communications, LAWA)	100%	\$ 240,208	\$ 240,208	\$ -
Legal	100%	\$ 370,283	\$ 370,283	\$ -
Financial Modeling	100%	\$ 363,800	\$ 363,800	\$ -
Municipal Advisor	100%	\$ 374,835	\$ 374,835	\$ -
Workflow Manager	92%	\$ 150,000	\$ 138,621	\$ 11,379
Preliminary Design Subtotal	100%	\$ 10,231,909	\$ 10,189,246	\$ 42,663
Final Design				
Engineering				
Pipeline Final Design - 28 miles	58%	\$ 3,840,000	\$ 2,217,910	\$ 1,622,090
Trenchless Final Design	80%	\$ 452,000	\$ 362,189	\$ 89,811
Discharge Final Design	69%	\$ 508,000	\$ 350,308	\$ 157,692
Land Services - Segments 1, 2a, 2b, 4	19%	\$ 1,789,285	\$ 340,736	\$ 1,448,549
Geotechnical	86%	\$ 544,000	\$ 467,330	\$ 76,670
Sediment Transport	88%	\$ 396,000	\$ 349,344	\$ 46,656
Missouri River Intake Final Design	67%	\$ 1,985,000	\$ 1,331,360	\$ 653,640
Upper Shyenne Discharge Analysis *	99%	\$ 36,723	\$ 36,430	\$ 293
Unmanned Aircraft System Services	92%	\$ 71,443	\$ 65,490	\$ 5,953
Value Engineering	70%	\$ 262,539	\$ 182,744	\$ 79,795
NDPDES Permit Application Supplement	97%	\$ 195,000	\$ 189,834	\$ 5,166
Field Verification of PDR Pipeline Alignment	36%	\$ 164,000	\$ 59,583	\$ 104,417
Land Acquisition				
Acquire Options	0%	\$ 134,000	\$ -	\$ 134,000
Acquire Easements	3%	\$ 1,164,000	\$ 40,180	\$ 1,123,820
Acquire Real Estate	0%	\$ 78,000	\$ -	\$ 78,000
Financial, Administration, Legal, Etc.				
Financial Modeling/Cost Allocation	66%	\$ 1,021,047	\$ 674,325	\$ 346,722
Program Management Set Up	99%	\$ 491,000	\$ 484,258	\$ 6,742
Program Management Information System	55%	\$ 43,100	\$ 23,823	\$ 19,277
Administration (communications, LAWA)	41%	\$ 550,000	\$ 225,060	\$ 324,940
Stakeholder Support	8%	\$ 398,830	\$ 33,331	\$ 365,499
Legal	24%	\$ 600,000	\$ 144,309	\$ 455,691
<i>Undesignated</i>			\$ -	\$ -
Final Design, Easement & Administration Subtotal	51%	\$ 14,723,967	\$ 7,578,546	\$ 7,145,421
Construction				
<i>Pipeline Trenchless Construction</i>	<i>Upcoming</i>	\$ 7,000,000	\$ -	\$ 7,000,000
<i>Discharge Construction</i>	<i>Upcoming</i>	\$ 2,000,000	\$ -	\$ 2,000,000
<i>Intake Construction</i>	<i>Upcoming</i>	\$ 4,000,000	\$ -	\$ 4,000,000
<i>Construction Phase Engineering (Trenchless & Intake)</i>	<i>Upcoming</i>	\$ 500,000	\$ -	\$ 500,000
Construction Subtotal	0%	\$ 13,500,000	\$ -	\$ 13,500,000
Total Program Budget	53%	\$ 43,758,006	\$ 23,069,923	\$ 20,688,083

2015/2017 State Appropriation \$12,359,000	\$ 12,359,000
2015/2017 LAWA Cost Share \$1,373,225	\$ 1,373,225
2015/2017 total	\$ 13,732,225
2017/2019 State Appropriation	\$ 30,000,000
RRVWSP Program Budget	\$ 43,732,225
2017/2019 Appropriation Spent to Date	\$ 9,337,698
2017/2019 Committed Outstanding	\$ 7,188,084
2017/2019 Not Committed	\$ 13,500,000

* not subject to local cost share

**Lake Agassiz Water Authority
Red River Valley Water Supply Project
2019 Draft Work Plan**

1. Early-Out Projects – Finalize designs in March, advertise and award three construction contracts, and begin construction of:
 - a. Trenchless Crossings (contract 5A),
 - b. Discharge Structure, and
 - c. Missouri River Intake Pumping Station Wetwell.
2. Complete marine borings in the Missouri River and begin development of geotechnical reports for the Missouri River Intake.
3. Begin final design of facilities to be built in and under the Missouri River to meet USACE Nationwide 12 permit schedule requirements.
4. Begin conceptual design of new McClusky Canal Intake and Pumping Station.
5. Investigate routing and begin preliminary design of a new McClusky pipeline, including wetlands delineation and surveys.
6. Complete final design and associated plans and specifications in June; advertise and award construction contract for 4-mile pipeline (contract 5A).
7. Complete final design and development of associated plans and specs for 24-mile pipeline (contract 5B).
8. Begin final design and development of associated plans and specifications for 24-mile pipeline (contract 4 or 6).
9. Begin advancement of the Biota Water Plant, Main Pumping Station, and Control Valve Structure designs to a 30-percent completion stage.
10. Land Acquisition
 - a. Secure required main pipeline easements; obtain options for the McClusky pipeline.
 - b. Purchase land for Missouri River Intake and Control Valve/Discharge Structures sites.
 - c. Begin platting, appraisals, and site assessments for acquisition of Hydraulic Break Tanks, Biota Water Plant, and McClusky Canal Intake and Pumping Station sites.
11. Begin development of a report with strategies and protocol for operating the water supply system, including Lake Ashtabula releases, to meet project participant needs.
12. Continue use of previously developed program management tools to support financial and budget tracking, to mitigate project risks, and to monitor schedule and performance.
13. Select a vendor and begin implementation of a Project Information Management System software solution to manage workflows and organize/retain project data.
14. Obtain a Sovereign Lands Permit for the Missouri River Intake from the State Water Commission in the February/March timeframe.
15. Continue working to obtain a North Dakota NPDES discharge permit with a draft permit anticipated by June based on recent discussions with the NDDH. Final permit is expected in late August.

**Lake Agassiz Water Authority
Red River Valley Water Supply Project
2019 Draft Work Plan**

16. Continue refinement of financial models
 - a. Finalize Overall Financial Model – Finalize model and incorporate final determinations for construction schedule, project cost share, local financing structure, and drought funding plan.
 - b. State/BND Interface and RTF Forecasting Support/Outreach – Support Garrison Diversion in relaying key considerations for projected costs as they relate to the State’s share of the project. Work will include refinement of construction spend schedule to ensure State understands RTF funding implications as well as further development of the preferred approach to drought operations funding.
 - c. Final Cost Allocation Plan – Work with users through LAWA FAC to make final determinations for cost allocation approach for domestic and industrial nominations. Work will include ensuring all nominating systems understand final approach and anticipated long-term obligations and impacts from the project.
 - d. User Agreement Financial Terms and Conditions – Assist Garrison Diversion and Legal Team in developing appropriate terms and conditions for agreements considering all anticipated allocated costs related to project capital, financing, operations, and renewal.
 - e. 2019 Local Share Capital Financing Support – Assist in securing first State loan for the project and executing initial State loan allocations to the users per the agreed upon terms and conditions.
 - f. Capital Accounting and Cost Allocation Protocol Development – Develop protocol and systems required to ensure cost allocation over time remains consistent with final agreed upon approach for the allocation methodology.
 - g. Ability to Pay System Scenarios
17. Develop legislative plan for 2019-2021 biennium – Create brochures, presentations, testimony, and host social and meetings that are all focused on five goals for the 2019 legislative session including: 1) \$50MM grant for construction of pipeline segment, land acquisition, facility and pipeline design, and management and administrative services; 2) affordable cost-share between state and local users; 3) long-term low interest loan from the State in the form of a 40-year 2-percent loan; 4) drought operation and funding plan through State Water Commission budget mitigation fund; and 5) 10- year project funding plan and construction schedule commitment.
18. Present financial models to stakeholders and policymakers – Assist Garrison Diversion in working with users to relay and garner feedback from evaluations undertaken under refinement of financial models discussed above.
19. Finalize and execute Project Participation Agreements
20. Finalize and implement a Memorandum of Understanding between Garrison Diversion and LAWA

**Lake Agassiz Water Authority
Red River Valley Water Supply Project
2019 Draft Work Plan**

21. Continue communications
 - a. Develop and distribute RRVWSP Quarterly Newsletter
 - b. Staff LAWA display booths at appropriate conferences and events
 - c. Prepare and distribute news releases regarding RRVWSP and LAWA efforts
 - d. Monitor media
 - e. Develop articles for ND Water and other potential publications
 - f. Develop content and monitor social media sites for RRVWSP
 - g. Maintain RRVWSP and LAWA websites
 - h. Develop landowner communication tools
 - i. Develop RRVWSP education tools (videos, presentations, handouts, etc.)
 - j. Develop communication strategies and execute on content and events that support goals of 2019 Legislative session
 - k. Hold a 2019 Water Conference and develop content to support goals of conference



2018 Budget Analysis

For the period of January 1, 2018 - December 31, 2018

Income	2018 Budget	Actual as 12/31/2018	Balance of Budget
Dues Income	\$ 29,000.00	\$ 34,250.00	\$ (5,250.00)
Interest Income	\$ 50.00	\$ 77.68	\$ (27.68)
Miscellaneous	\$ -	\$ -	\$ -
Cost Share/Development Agr.	\$ 89,000.00	\$ 87,930.00	\$ 1,070.00
Total Income	\$ 118,050.00	\$ 122,257.68	\$ (4,207.68)

Expenses

Dues Expenses	\$ 1,280.00	\$ 1,285.00	\$ (5.00)
Accounting	\$ 6,500.00	\$ 6,000.00	\$ 500.00
Directors Expense	\$ 500.00	\$ -	\$ 500.00
Insurance	\$ 550.00	\$ 502.00	\$ 48.00
Service Fees	\$ 66.00	\$ 176.67	\$ (110.67)
Engineering	\$ -	\$ -	\$ -
Adm/Legal/Financial	\$ 53,500.00	\$ 61,557.01	\$ (8,057.01)
Total Expenses	\$ 62,396.00	\$ 69,520.68	\$ (7,124.68)

Account Activity

Beg. Bank Balance 1-1-18		\$ 709,274.57
Income Received		\$ 122,257.68
Total Funds Available		\$ 831,532.25
Service Fees	\$ 176.67	
#1139 EideBailly	\$ 6,000.00	
#1140 Water Coalition	\$ 1,000.00	
#1141 ND Rural Water Systems	\$ 285.00	
#1142 Garrison Diversion	\$ 7,175.00	
#1143 Ohnstad, Twichell, P.C.	\$ 2,065.17	
#1144 Garrison Diversion	\$ 10,762.50	
#1145 Insure Forward	\$ 502.00	
#1146 Garrison Diversion	\$ 10,762.50	
#1147 Ohnstad, Twichell, P.C.	\$ 23,616.84	
#1148 Garrison Diversion	\$ 7,175.00	
Total Expenses	\$ 69,520.68	
Ending Bank Balance		\$ 762,011.57



2019 Budget Analysis

For the period of January 1, 2019 - January 31, 2019

Income	2019 Budget	Actual as 01/31/2019	Balance of Budget
Dues Income	\$ 34,000.00		\$ 34,000.00
Interest Income	\$ 80.00	\$ 6.48	\$ 73.52
Miscellaneous	\$ -		\$ -
Cost Share/Development Agr.	\$ -		\$ -
Total Income	\$ 34,080.00	\$ 6.48	\$ 34,073.52

Expenses

Dues Expenses	\$ 1,290.00	\$ 1,290.00	\$ -
Accounting	\$ -		\$ -
Directors Expense	\$ 500.00		\$ 500.00
Insurance	\$ 550.00		\$ 550.00
Service Fees	\$ -		\$ -
Engineering	\$ -		\$ -
Adm/Legal/Financial	\$ 109,550.00		\$ 109,550.00
Total Expenses	\$ 111,890.00	\$ 1,290.00	\$ 110,600.00

Account Activity

Beg. Bank Balance 1-1-19		\$ 762,011.57
Income Received		\$ 6.48
Total Funds Available		\$ 762,018.05

#1143 ND Water Coalition	\$ 1,000.00
#1144 ND Rural Water Systems	\$ 290.00
Total Expenses	\$ 1,290.00

Ending Bank Balance \$ **760,728.05**



2019 Budget

Income

Dues Income	\$	34,000.00
Interest Income	\$	80.00
Miscellaneous	\$	-
Cost Share/Development Agr.	\$	-
Total Income	\$	34,080.00

Expenses

Dues Expenses	\$	1,290.00
Accounting	\$	-
Directors Expense	\$	500.00
Insurance	\$	550.00
Service Fees	\$	-
Engineering	\$	-
Adm/Legal/Financial	\$	109,550.00
Total Expenses	\$	111,890.00

Anticipated Bank Activity

Beginning Bank Balance 1-1-19	\$	762,011.57
Income Budget	\$	34,080.00
Expense Budget	\$	111,890.00
Anticipated Bank Balance 12-31-19	\$	684,201.57