

i. EXECUTIVE SUMMARY & CONCLUSION

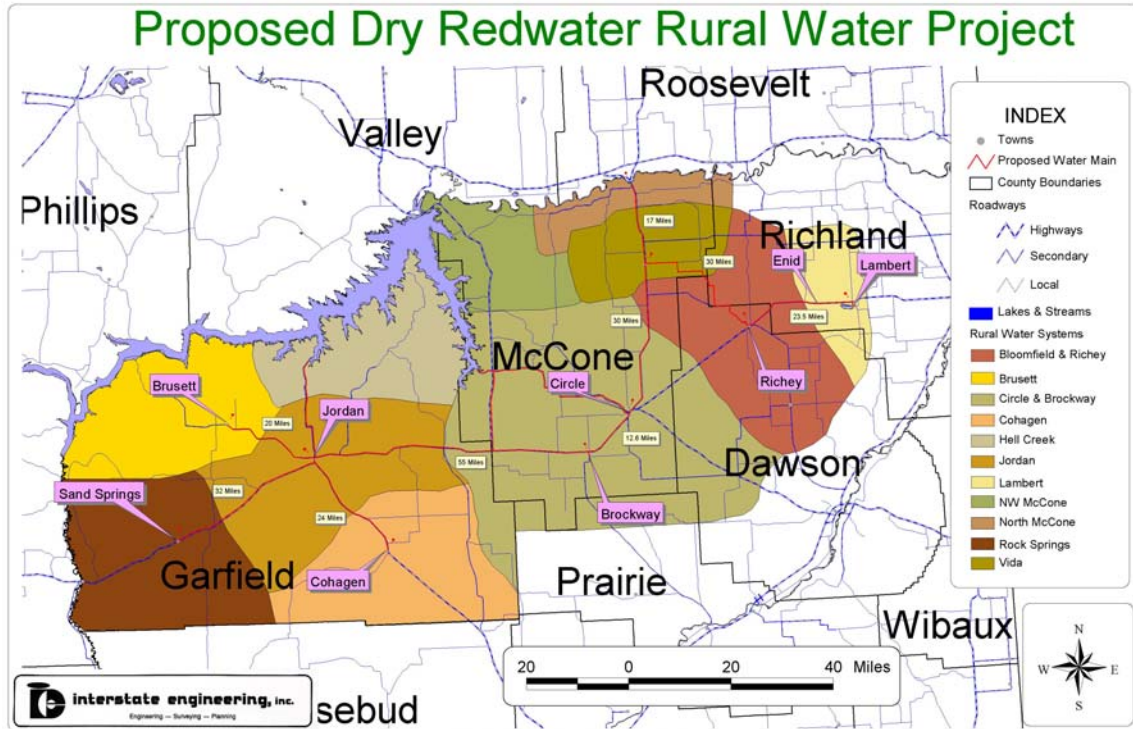
PURPOSE

A feasibility study is the first step in developing a regional water system. In this study a service area (the counties of Garfield, McCone, Dawson and Richland) was developed and a study area (Figure i.1) was evaluated. This evaluation included the number of potential water users, the potential locations, size and type of a water treatment facility, a potential waterline network, the anticipated operation and maintenance costs and a proposed water rate structure. The information contained in the feasibility study has the necessary detail to determine if the project can advance to the next level, which is gaining authorization from Congress. The formation of a regional water authority is necessary to secure Federal authorization.

A steering committee working with the McCone County Conservation District did the ground work to form a water authority. The name of the Authority is the Dry-Redwater Regional Water Authority (DRWA), which includes the following initial member entities: Town of Jordan, Town of Richey, Town of Circle, Dawson County Conservation District, Richland County Conservation District, McCone Conservation District, Garfield County Conservation District, McCone County and Garfield County. This entity was formed December 12, 2005. The table below shows the DRWA Board Members as of May 10, 2006.

Mike McKeever, Chairman	Garfield County
Pat Eggebrecht, Vice Chairman	McCone County
Roger Meyer, Secretary	Richland County Conservation District
Tod Kasten, Treasurer	McCone County Conservation District
Mayor John Whiteman	Richey Board Representative
Marco Unruh	Dawson County Conservation District
Baan Wille	Jordan
Dean Rogge	Garfield County Conservation District
Harry Helegeson	Circle

The general purpose for which the DRWA was formed is to own and operate a regional water system that will provide a high quality water supply to the users in the service area. It is the long term solution to provide good quality and quantity of household and livestock water to the service area. The DRWA is responsible for the financial administration of the system, operation and maintenance of the billing and collection and all other duties and or items required for and in the operation of a regional water authority in the State of Montana.



**Figure i.1
DRWA Study Area**

NEED FOR THE PROJECT

The rural residents in the proposed project area currently obtain their water, in the majority of instances, from private wells drilled into shallow aquifers, gravel pockets or deep confined aquifers. Some rural residents are hauling water either because their well water is undrinkable or there is not a sufficient quantity to be usable. Many rural residents do report water quality and/or quantity problems, which is evidenced by the chart of private well water quality found in Chapter 2, Table 2.3.2 of this study. The majority of the proposed communities to be served are currently operating their own municipal water systems; all of the communities are using wells as a source of water. Three communities must treat their water because of high levels of fluoride which is a health hazard and a regulated contaminant. The fourth community – Jordan – does not treat its water but it is high in sodium and total dissolved solids which are not currently regulated, but has detrimental effects on those drinking it.

Based upon preliminary review of the water quality in the wells of rural users in the proposed service area it indicated that the majority of them do not have access to a quality of water needed for a healthy existence. Table 2.3.2 shows a sampling of water well quality is found in Chapter 2 along with tables showing the National Drinking Water Standards. One of the wells on that list serves Garfield County School District No. 15 and it shows that the sodium level is 447 ppm which exceeds

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the recommended level of 250 ppm, the fluoride is 3.35 ppm which exceeds the recommended level of 2 ppm and it has 1049 ppm of total dissolved solids which is over twice the recommended level of 500 ppm. This well and the other private wells are not regulated by National Drinking Water Standards but the detrimental effects of the water on their users are not any less because they are not regulated. The treatment of water in a private well is costly and sometimes complicated depending on what is in the water. A regional rural water system will allow the rural user to have access to a reliable, safe, high quality water supply. The public water systems in the service area are regulated by Drinking Water Standards and must treat the water they provide to their user to these standards. The use of a membrane type water treatment facility (reverse osmosis or nano-filtration) are not typical systems found in smaller towns, but due to the limited alternatives to remove the regulated contaminants (fluoride) Circle, Richey and Lambert were forced to use this energy intensive system. The requirements for safe drinking water are getting more stringent every year and these increased regulations equal increased costs to all public water systems. A small system that currently treats their water such as Circle, Richey and Lambert will be greatly impacted financially for even minor modifications needed to meet new drinking water treatment standards. These costs will be in treatment, distribution and operator certification costs. The Town of Jordan currently does not treat its ground water source but does provide disinfection by means of chlorination. The Town of Jordan, like other public drinking water systems, must publish an annual drinking water report and following is an excerpt from the latest report: *“We’re pleased to report that our drinking water is safe and meets federal and state requirements. However, as many of you know, although our water is labeled as safe to drink under the Safe Drinking Water Act, some of the unregulated parameters affect the taste and may affect the health of a limited population. The concerns are sodium and the total dissolved solids in the water. The sodium level is high enough that people with high blood pressure may want to consider a separate source of drinking water. The total dissolved solids are high enough to have a laxative effect on people that have not become conditioned to the water. We are aware of these problems with our source of drinking water, but have been unable to find a solution that is financially feasible.”* The drinking water standards for sodium and total dissolved solids will be addressed in future regulations and the Town of Jordan will need to address these regulation changes and the costs that will be associated with meeting those new regulations. By belonging to a regional water system these small systems will be part of a larger user base, so future improvements will not have as great of financial impact to the individual user. In the proposed regional water system there is one source of water treatment which will replace 3 existing water treatment systems. This will reduce the number of certified operators needed and will reduce a duplication of salary costs currently occurring with multiple treatment facilities. A regional water system also mitigates the potential negative impacts of migration from one small community. For example, if 15 users leave Richey that is 10% of their user base, but if Richey joins the DRWA project, and they still lose 15 users it is less than 1% of the user base.

SELECTED ALTERNATIVE

ALTERNATIVE B – BIG DRY ARM (NELSON CREEK, ROCK CREEK OR BEAR CREEK) WATER TREATMENT FACILITY

See Figure i.2 for the service area of the DRWA.

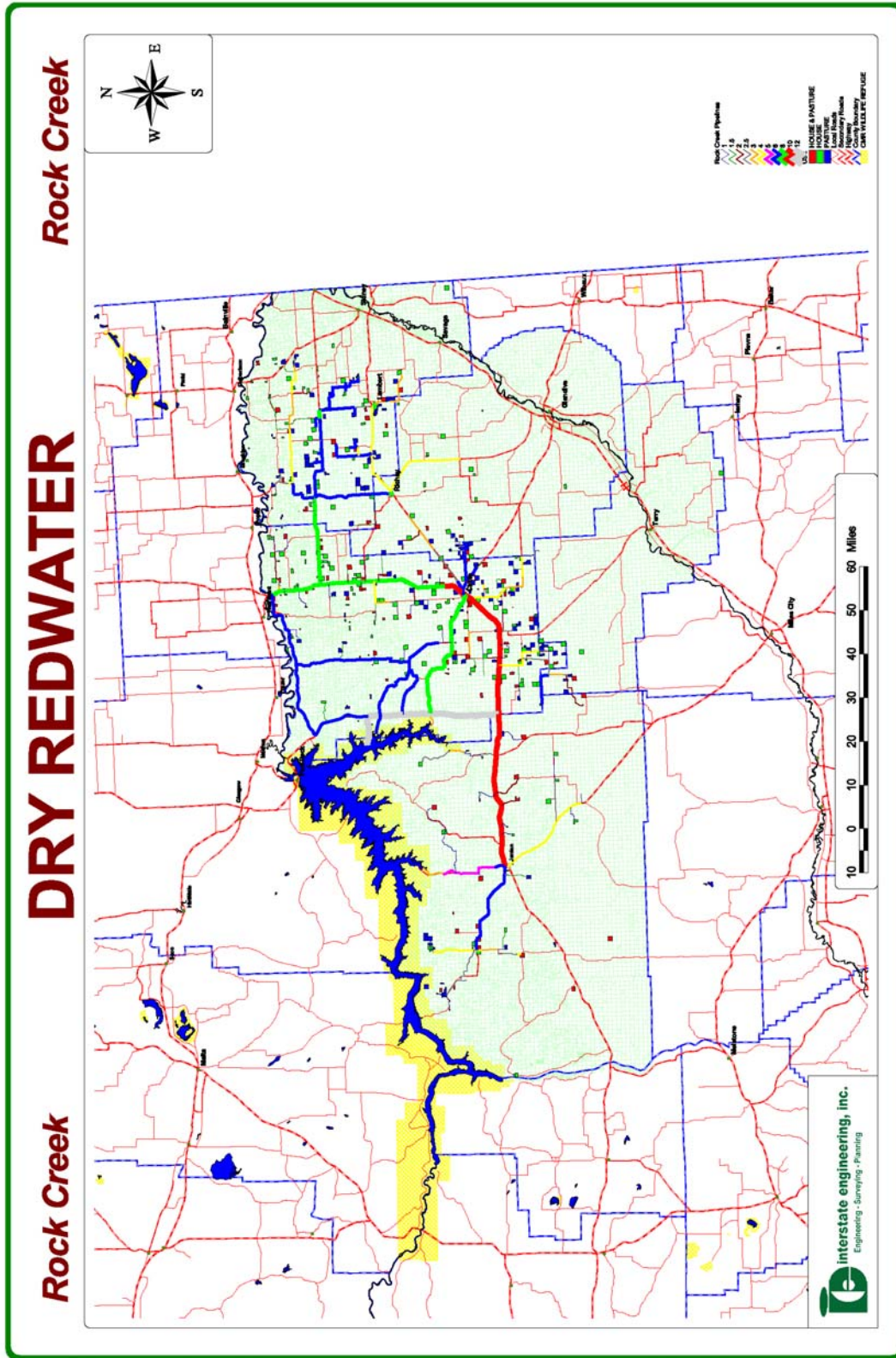


Figure i.2
Selected Alternative: Areas Served

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The opinion of probable costs of the selected alternate is \$82,148,000 for the complete build out of the study area.

Total Equivalent Dwelling Units (EDU) currently in the study area is 1,849. Capital cost per EDU currently in the study area is \$44,430.

The O & M for the selected alternate is estimated to be: \$484,500 for operation of the water treatment facility and booster station operation and \$170,000 for the maintenance of the rural pipeline.

A potential rate schedule and cost of water is (a detail of these rates are found in Chapter 11):

Base Rate (All Users)	\$26.50 / month
Water Treatment / Booster Station (All Users)	\$2.05 / 1000
Pipeline Maintenance (Rural Users)	\$1.45 / 1000
Existing Water System Maintenance (Community Users)	*

* This fee will be set by the individual community based on their operating budget. The study will use the same rate for illustration purposes.

Example rates for 8000 and 5000 gallons per month.

Rural / City User		<u>8,000</u>	<u>5,000</u>
	Base Rate (minimal)	\$26.50	\$26.50
	Water Treatment/Booster	\$16.40	\$10.25
	Pipeline Maintenance or Water Maintenance Fee	<u>\$11.60</u>	<u>\$7.25</u>
	Total Monthly Bill:	\$54.50	\$44.00

Pasture Tap Rates for 100 head of livestock (48,000 gallons/month, based on 16 gal / 1 day / head)

	Base Rate (minimal)	\$26.50
	Water Treatment/Booster	\$98.40
	Pipeline Maintenance	<u>\$69.60</u>
	Total Monthly Bill per 100 head:	\$194.50

FINANCIAL

The funding being considered for the DRWA is a 75% grant from the Federal Government under Municipal, Rural and Industrial Water Supply Program (MR & I Program) or a direct Federal appropriation. The remaining 25% would be pursued in the form of a low interest loan from RUS (Rural Utility Service) for 12½% and a 12½% grant from the Treasure State Endowment Regional Water Program. The feasibility report indicated that without the grant component of the financial package this system would not be affordable.