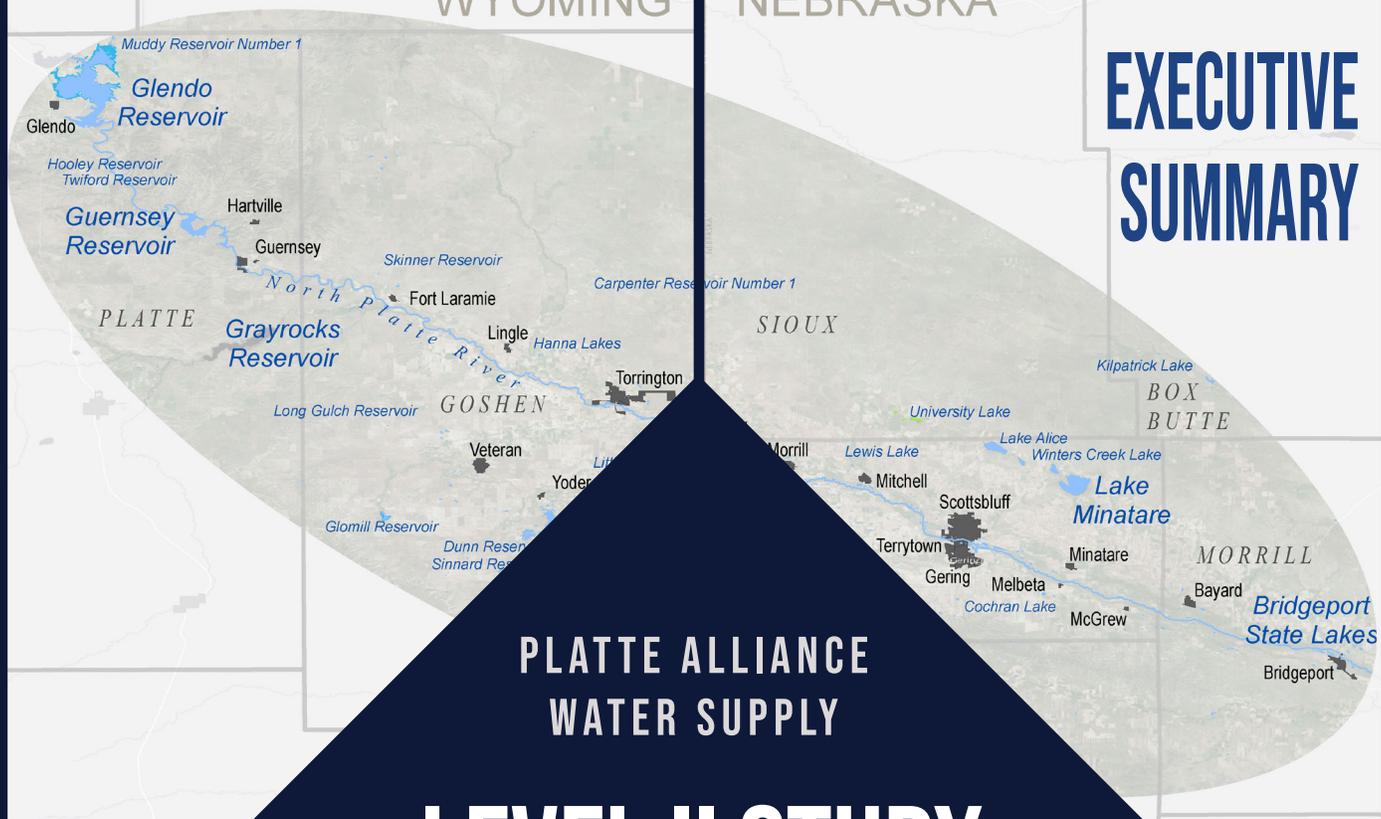


WYOMING NEBRASKA

EXECUTIVE SUMMARY



PLATTE ALLIANCE WATER SUPPLY LEVEL I STUDY



DECEMBER 31, 2019



Working together for affordable high quality water

PAWS

PLATTE ALLIANCE WATER SUPPLY



Working together for affordable high quality water

Acknowledgments

We want to thank everyone included for their input and support throughout this project.

Prepared for:

Goshen County, Wyoming in conjunction with the City of Scottsbluff, Nebraska, and Wyoming Water Development Commission; *and all of the public water users in Wyoming and Nebraska within the project area.*

Funding provided by:

Wyoming Water Development Commission (WWDC) and the City of Scottsbluff, Nebraska

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EXECUTIVE SUMMARY

PLATTE ALLIANCE WATER SUPPLY PROJECT, A REGION-WIDE, MULTI-STATE MUNICIPAL AND RURAL WATER SUPPLY PROJECT

The Platte Alliance Water Supply (PAWS) Project is an interstate study encompassing a stretch of the North Platte River Valley and environs from Glendo Reservoir in Wyoming to Bridgeport, Nebraska. Rural communities in the region are experiencing deteriorating water quality, and it is becoming increasingly difficult and expensive to meet public water quality standards. This lack of dependable water quality limits the ability of the region to remain vibrant and sustain current and future growth and economic vitality. Goshen County, Wyoming, Scotts Bluff County, Nebraska, the City of Scottsbluff, Nebraska and the City of Torrington, Wyoming, in affiliation with the Bureau of Reclamation (USBR), completed the 2013 US Department of the Interior (USDI)-Bureau of Reclamation Platte Alliance Water Supply (PAWS) Appraisal Investigation, and the subsequent 2014 USDI - Bureau of Reclamation Platte Alliance Water Supply Appraisal Report looking at potable water supply alternatives to this region. That study was completed under the Rural Water Supply Act of 2006.

This Platte Alliance Water Supply (PAWS) Level II Study has been prepared for Goshen County, Wyoming in conjunction with the City of Scottsbluff, Nebraska, and Wyoming Water Development Commission (WWDC); and all of the public water users in Wyoming and Nebraska within the project area. Funding is provided by the WWDC and the City of Scottsbluff, Nebraska. The Report is as identified in the 2016 WWDC Consultant Services Contract between WWDC and M.C. Schaff & Associates, and includes the area shown on the Vicinity Map at the conclusion of this Executive Summary. The intent is to address critical public water, health and safety issues through review of historic water use, evaluation of the current situation, and identification of the best cost-effective long term preferred alternative solution.

Historically, within the PAWS area, agricultural uses account for 80+% of the North Platte River basin water use. Currently, the PAWS communities' water supply comes from pumping groundwater from alluvial wells in the vicinity of the North Platte River. Water quality has been deteriorating. The PAWS area is experiencing a progressively increasing presence of some elements in the public water systems, particularly Nitrates, Uranium and Arsenic. Treatment of these constituents requires increasingly more elaborate and expensive processes. The project concept is that groundwater pumping will give way to surface water use. The Environmental Protection Agency (EPA), through the Safe Drinking Water Act (SDWA), has developed standards for Maximum Contaminant Levels (MCLs) of constituents within the water source. As identified within the SDWA, this list of constituents and corresponding MCL standards will continually evolve and expand, potentially requiring modifications to existing water treatment processes for future compliance. Hence, a regional treatment facility will ease future compliance with these evolving requirements.

This Level II Study recommends the preferred regional PAWS alternative (see map at conclusion of this Executive Summary), with a water supply from Glendo Reservoir; piping the raw water supply to a water treatment plant (WTP) located in the vicinity of Guernsey, Wyoming; and piping the treated water down gradient to Wyoming and Nebraska users.



This water source will require only conventional treatment at a significantly lesser cost than the potentially required treatment for existing contaminants downstream (in either groundwater or surface water). Water demand projections have been developed based upon a 1.0% growth and average of 155 gallons per capita per day (gpcpd). Current per capita demand in the project area ranges between 250 and 400 gpcpd. The 155 gpcpd index is based upon potable water requirements only, excluding irrigation or industrial use. The WTP is sized at 16 Million Gallons per Day (MGD), with the ability to expand to 24 MGD. The WTP is intended to be conventional coagulation and disinfection processes with possible iron adjustment.

The Governance developed for the regional system takes the form of multi-layered, interlocal and joint powers associations, composed of member municipalities or rural domestic-water districts in Nebraska and Wyoming. Membership of each group is one member per participating community/entity. Compliant with Nebraska State Statutes a Nebraska Platte Alliance Water Supply Interlocal Committee (NPAWS) Agreement has been adopted by the participating communities in Nebraska. Compliant with Wyoming State Statutes a Wyoming Platte Alliance Water Supply Joint Powers Board (WPAWS) Agreement has been adopted by the participating Wyoming communities. An overarching Platte Alliance Water Supply Board (PAWS), made up of WPAWS and NPAWS members, will be the management and water treatment group. PAWS will own and operate the WTP and sell water to the members. WPAWS and NPAWS will own the pipelines in their respective States and will lease them to PAWS. PAWS will monitor the water appropriations and supply water in accordance with those appropriations. PAWS will supply water at the entry-point of each entities' system.

The WPAWS water supply is intended to consist of a direct flow right below Guernsey Reservoir. When that right is called based on limited flow in deference to more senior rights, WPAWS will access the Wyoming Account held in Pathfinder Reservoir. The physical point of diversion of flow will be transferred from the downstream location to Glendo Reservoir where it will be taken through the outlet works into the raw water pipeline and to the WTP. The NPAWS water supply is intended to consist of contracted water held in account in Glendo Reservoir. This water will also be taken through the outlet works into the raw water pipeline and to the WTP. The WTP is intended to be located in the vicinity of Guernsey, essentially dependent on elevation and pressure requirements. This concept requires no pumping of the treated water, and little, if any pumping of the raw water, and provides significant opportunities to effectively/economically address potential future EPA water quality requirements, including chloride reduction. The opportunity for hydro-electric power generation at the three identified pressure reducing stations along the treated water pipeline will reduce cost.

In essence, participation in the project would most likely benefit all public water users in the project area, both from a water quality/potential water quality perspective and an operational perspective presented by a lessor need for water-providing staff at the agencies. While short term costs during the initial project construction and pay-off/ capitalization period have an impact on the cost of treated water provided to each public water purveyor, the regional system is likely to provide long term costs that are significantly more stable than what may happen at the individual user level. As water quality continues to deteriorate in the region, given the likely potential for migration of ground water constituents and the ever-present potential for increased regulation, the regional system with upstream higher quality water presents a

positive approach to potable water in the region. While not all of the water purveyors in the region are in current need to treat potable water, all of their respective water sources are near groundwater constituent levels that would require treatment, lending credibility to the future need for treatment at each location and the obvious benefit of the regional system.

As it may affect the River depletions issue, the Nebraska Department of Natural Resources completed an analysis on the effects on the North Platte River baseflow from the reduction of municipal pumping. In essence, the analysis shows that more than 50% of the pumping decrease will be realized in increased River flow in the first year, and that after 8 years, 99% of the pumping decrease will manifest in increased River flow. While the specific analysis was performed on Nebraska wells, during conversation with Nebraska DNR, they commented that they would anticipate the same affect upstream, given that the River and aquifer conditions are nearly identical. Therefore, from the perspective of depletions and potential affect on the Platte River Recovery Implementation Program (PRRIP), at a minimum, there will be no negative effect. This is not only significant to the PRRIP but to other down-River water users as well.

The hydraulic model developed provides that system pipe sizes will range from 12” to 42”. The WTP location eliminates the need for pumping. Pressure requirements were established as a minimum pressure of 65 psi at the user outlets and a minimum pressure of 35 psi at any point on the pipeline. Pressure reducing stations are proposed at Torrington, Scottsbluff, and Bayard.

This project presents some challenges as the development of the system crosses not only State lines but is also located in different regions of the Environmental Protection Agency (EPA) and the United States Army Corps of Engineers (USACE). Although this may bring additional review, it also brings opportunity for agencies to work together and maximize the financing opportunities available in all regions. Nine communities and Wyoming rural water districts have agreed to continue the evaluation of the PAWS regional system. Each of these entities run and manage their own water utility enterprise. Each of these systems vary significantly in their complexity not only due to their population size but water source. All of the participating communities and rural water districts continue to struggle with finding and developing a reliable water source and have continued the search for additional well sites. Finding good quality water is becoming more difficult and expensive.

With the nuances that come with each community and their selected alternatives, water rates vary significantly across the PAWS region. The PAWS will act as the wholesale drinking water provider for all communities associated with the system. Water will be charged at the same rate to all communities through metering at the point of delivery. This is important to understand as each community will then have their own distribution systems and staff to maintain. This will then require each entity to have their own utility rate set by them to cover their costs. The PAWS governance will only be responsible for determining the wholesale rate of water to each entity. The effect the PAWS system will have on each individual community’s water rates will vary based on the current infrastructure of each community. The EPA has set a national standard for considering what “Affordable Water Rates” means. AWWA has adopted this standard with the caveat that the “Affordable Rate” structure should also take into consideration poverty rate levels and other demographics. The “Affordable monthly Rate” schedule is based on 2.5% of the monthly median household income (MHI) for each community.



The PAWS system will have a base operating budget as well as a debt service requirement. The debt service requirement is dependent on the financial package assembled for the Project. An operations budget has been developed with a total of \$2,026,000 annually based on similar systems. Based on initial population estimates and conservative water use for financial planning purposes, O&M would require a water usage rate of \$1.34 per 1,000 gallons and a \$1 per tap equivalent fee. This rate will produce roughly \$2,100,000 revenue covering the expenditure. Debt service then becomes the impetus for rates. A tap equivalent fee to retire debt service should then be set based on the grant to loan ratio received for the construction of the overall project. Assuming: a U.S. Treasury Rate rate of 2% and a 30-year amortization rate; a multiplier of 1.33 based on the nearly 17,000 taps for the 12 participating purveyors; a total project cost of \$275,000,000, and assuming funding at a 67% Grant and 33% Loan (\$184,250,000 grant and \$90,750,000 loan), the PAWS water rate would equal \$1.34 per 1,000 gallons. The equivalent tap fee for O&M would be \$1.00, with an equivalent tap fee for debt service of \$19.73; or a total rate of \$1.34 per 1,000 gallons and a Tap Equivalent fee of \$20.73. With the completion of this Report, conversations to pursue additional funding opportunities could have a significant effect in lowering the Tap Equivalent Fee.

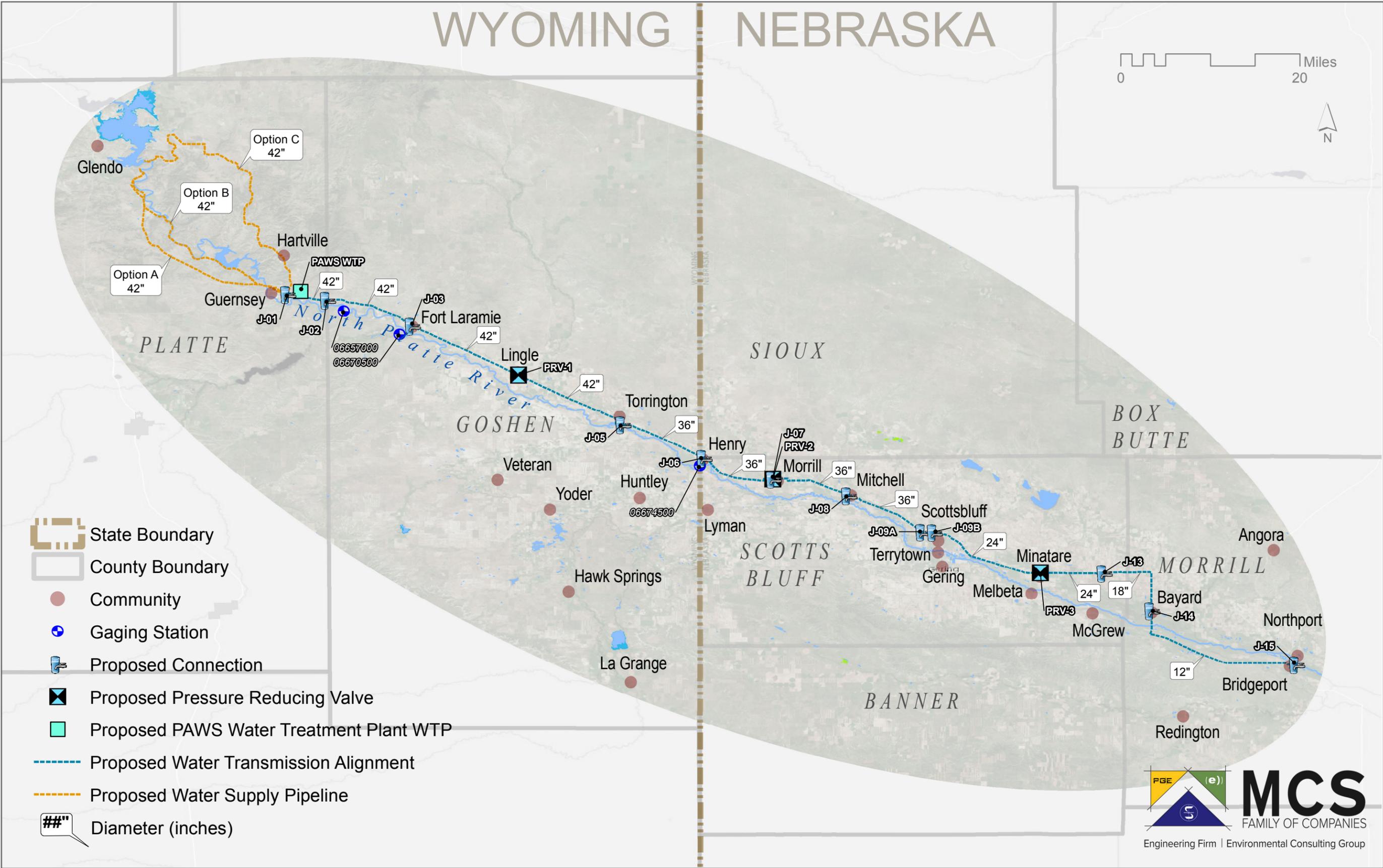
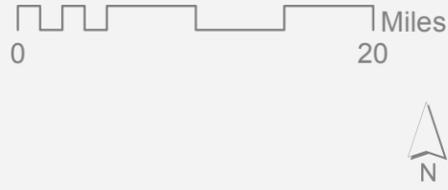
Environmental impacts have been considered for the conceptual design proposed in this Level II Study. It is anticipated that the WTP will be located to appropriately address negative impacts to the environment and the majority of the pipeline alignment considered follows existing road infrastructure. For these reasons, it is anticipated that this project should be considered for a categorical exclusion.

This Level II Study recommends advancing the project to the design phase, including, but not necessarily limited to:

- Application for, and acquisition of, Wyoming direct flow water right, accompanied with change in point of diversion
- Completion of negotiation of, and Contract for, Nebraska water between NPAWS and a holder of storage water in Glendo Reservoir
- Completion of Over-Arching PAWS Contractual Arrangement between WPAWS and NPAWS
- Completion of Pre-Preliminary Design, Including:
 - Environmental Assessment(s)
 - Completion of Funding Applications, including but not limited to:
 - Wyoming State Loan and Investment Board/Wyoming Business Council
 - State of Nebraska Water Sustainability Fund through the Nebraska Natural Resources Commission
 - WIFIA Letter of Interest
 - WIFIA Application
 - USDA Application
 - Wyoming SRF
 - Nebraska SRF



WYOMING NEBRASKA



PAWS Level II Study Water Transmission Alignment Overview Map—Recommended Preferred Alternative



The logo for PAWS (Platte Alliance Water Supply) features the word "PAWS" in a bold, black, sans-serif font. The letter "A" is stylized with a blue water droplet shape integrated into its center. Below the text is a solid black horizontal line.

PAWS

PLATTE ALLIANCE WATER SUPPLY

