

Former Acme Power Plant Infrastructure Needs Assessment Technical Assistance Grant



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**Prepared for
Sheridan County Conservation District**





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Infrastructure Needs Assessment
Technical Assistance Grant**

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1.0 EXECUTIVE SUMMARY

The Former Acme Power Plant (Site) is a 5.8-acre parcel of land located at 165 Acme Road in Acme, Sheridan County, Wyoming, approximately 10 miles north of Sheridan, Wyoming. The Site is owned by the Sheridan County Conservation District (SCCD) (Owner). The Site was the location of the historical coal-fired Acme Power Plant (Plant). The Plant was constructed in 1910 and operated from March 1911 through August 23, 1976. The Plant derived its coal from nearby mines and its water source from the Tongue River.

After applying to the USEPA Targeted Brownfield Assessment Program in June 2016, the SCCD assumed ownership of the Site in June 2017. The Site was entered into the Wyoming Department of Environmental Quality/Voluntary Remediation Program (DEQ/VRP) as VRP Site Number 58.220 in January 2018. With the expectation for future use of the Site, the Owner has completed site stabilization activities and site assessment activities under the supervision of the DEQ/VRP. The next phases of work will include cleanup activities to make the Site safe for future use. There are three primary expectations for future use:

1. Ensure Public Use/Access
2. Capture Historical Importance
3. Protect Land and Water Quality

The objective of this Infrastructure Needs Assessment (INA) is to identify the required infrastructure for a variety of possible uses at the Site. Because the future use of the Site is unknown, the infrastructure needs have been evaluated for three general reuse categories identified as follows:

- Low Intensity - Reuse scenarios likely require minimal or no amenities (such as open or greenspace).
- Medium Intensity - Reuse scenarios likely require limited amenities (such as camping spots, retreat space, or community gardens).
- High Intensity - Reuse scenarios likely require full amenities (such as commercial businesses).

Using these three general reuse categories, a variety of infrastructure needs were evaluated including rezoning, a potable water supply, septic, electrical, natural gas (propane) service, access roads, structural repairs, roof membrane replacement, and internet/phone service. These planning-level cost estimates have been developed to

assist the Owner in future decision-making regarding reuse of the Site. Table ES-1 summarizes the costs estimated during the course of this study.

Table ES-1. Summary of Infrastructure Upgrade Cost Estimates by Reuse Intensity

Infrastructure	Low Intensity Cost	Medium Intensity Cost	High Intensity Cost
Conditional Use Permit or Rezoning	\$5,000	\$5,000	\$5,000
Potable Water	\$0	\$75,000	\$150,000
Septic	\$50,000	\$150,000	\$150,000 to \$600,000
Electrical	\$0	\$0	\$13,500
Natural Gas (Propane)	\$0	\$2,900 + \$500 per month	\$125,000 + \$50,000 per month
Roads	\$167,000	\$167,000	\$167,000
Structural Repair	\$0	\$25,000	\$260,000
Roof Membrane Replacement	\$0	\$37,500	\$308,000 to \$350,000
Internet/Phone	\$0	\$105 per month	\$150 per month
Total	\$222,000	\$462,400 + \$605 per month	\$1,670,500 + \$50,150 per month

2.0 INTRODUCTION

2.1 HISTORY

The Former Acme Power Plant (Site) is a 5.8-acre parcel of land located at 165 Acme Road in Acme, Sheridan County, Wyoming, approximately 10 miles north of Sheridan, Wyoming. The Site is owned by the Sheridan County Conservation District (SCCD) (Owner). The location of the Site, in relation to Sheridan, is shown on Figure 1. The Tongue River, that passes through the northern portion of the Site, is a perennial tributary to the Yellowstone River.

The Site was the location of the historical coal-fired Acme Power Plant (Plant). The Plant was constructed in 1910 and operated from March 1911 through August 23, 1976. The Plant derived its coal from nearby mines and its water source from the Tongue River. As early as 1912, the Plant provided power to the neighboring mines and coal camps, the City of Sheridan, and the Sheridan Railway Company. The Sheridan County Electric Company owned and operated the Plant from 1910 until 1947, when it sold the Plant to Montana-Dakota Utilities (MDU). MDU upgraded the steam turbines in the Plant in 1947, and again in 1952. In 1973, the U.S. Environmental Protection Agency (USEPA) informed MDU that the Plant did not meet air quality standards and would either need to be upgraded or shut down. MDU chose to shut down the Plant. USEPA agreed to a slow-phase shutdown, and the Plant completed final operations on August 23, 1976.

MDU sold the Plant to Carl Weissman and Sons for metal salvage in 1976. Some salvage activities occurred and then the Plant sat mostly idle until 1984 when it was purchased by Perkins Power, with the intention of operating it again and using the Plant's steam to heat a 2-acre greenhouse for growing lettuce hydroponically. This planned use, along with several other proposed Plant use options, did not materialize during the 1980s and early 1990s. Several deed transfers occurred in the early 1990s. In 2000, salvage rights were assigned to a private individual, and ownership of the Plant was transferred to Diversified Resources. In 2008, the Site was approved for auto salvage operations and disposal by the Sheridan Board of County Commissioners. In October 2015 through January 2017, the Sheridan Community Land Trust (SCLT) worked through issues involving property ownership of the Site. After applying to the USEPA Targeted Brownfield Assessment Program in June 2016, the SCCD assumed ownership of the Site in June 2017. The Site was entered into the Wyoming Department of Environmental Quality/Voluntary Remediation Program (DEQ/VRP) as VRP Site Number 58.220 in January 2018.

2.2 DESCRIPTION AND LOCATION

The Site is a 5.8-acre parcel located in Sheridan County near the historical town of Acme, Wyoming. The Site location in relation to Sheridan, Wyoming, is shown on Figure 1. The current Site layout is shown on Figure 2. The Site is located in the North $\frac{1}{2}$ of the Southwest $\frac{1}{4}$, Section 15 of Township 57 North, Range 84 West, Section 15, (Sheridan County Parcel ID 57841530000333). Adjacent properties are owned by the Padlock Ranch Company. Nearby properties are owned by Black Gold Land Company, Sheridan-Johnson Rural Electrification Association, and the State of Wyoming.

Since entry into the DEQ/VRP, the Site is vacant and closed to the public due to human health and environmental hazards currently present. The Plant is the main structure at the Site. The Plant was constructed in three distinct phases: 1910, 1947, and the early 1950s. The Plant was decommissioned in 1976. The maintenance shop is a secondary structure west of the Plant. Both are masonry buildings. While several other smaller structures are present at the Site including a barn, a little house, and trailers; the other structures are dilapidated and will require demolition. For the purposes of this study, the Plant and the maintenance shop are the only two structures under consideration. Additionally, this study also considers the use of the Site as potential greenspace offering public access to the Tongue River without involving the existing structures.

2.3 PREVIOUS REPORTS

The following discussions summarize a variety of previous reports or activities completed regarding the Site. These reports and activities have been used to guide the infrastructure requirements for potential uses of the Site.

2.3.1 Community Visioning Session (August 2017)

In August 2017, a community visioning workshop was held in Sheridan, Wyoming, to solicit community input on future uses of the Site. The workshop was attended by 56 members of the community, six representatives of local and state stakeholders, three facilitators with the Kansas State University (KSU) Technical Assistance to Brownfields (TAB) Program, and one representative of USEPA Region 8. The workshop completed a Strengths, Weaknesses, Opportunities, and Threats (SWOT) analysis. There are three primary expectations for future use:

4. Ensure Public Use/Access
5. Capture Historical Importance
6. Protect Land and Water Quality

Generally, the strengths of the Site were determined to be the local community/history and recreation. Examples of local community/history included

community involvement, rich local history, and philanthropy. Examples of recreation include trails and open space, natural beauty, and Tongue River access. Weaknesses of the Site were identified as economic opportunity and accessibility. Examples of economic weaknesses included lack of funding, low wages and few employment opportunities, and expensive housing. Accessibility weaknesses included lack of transportation, small city/low population, and isolation from other communities.

After analyzing the overall strengths and weaknesses of the Site, redevelopment ideas were ranked accordingly:

1. Outdoor Recreation Center (especially with river access)
2. Science/Teaching Center
3. Natural Park with Trails and Water Park
4. Botanic Gardens
5. Greenhouse/Vertical Farming
6. Trail Hub
7. Replica Mine Town
8. Preserve Unique Sheridan History
9. Native American Research
10. Recorded History - Accessible by Phone
11. Film Production Center
12. Indoor Recreation Center
13. Drone Racing
14. Resort (negative votes)
15. Remove Building to Increase Access to River (negative votes)
16. Small Business Incubator (negative votes)
17. Golf Course (negative votes)

Economic opportunity was identified as a weakness of the area (less than half the ideas were focused on economic opportunity) and included ideas such as the small business incubator, a resort, or a film production center. The most popular suggestions emphasized outdoor recreation, especially with river access. Overall, the participants overwhelmingly supported outdoor recreation as a component of reuse.

The most significant threats to the Property were identified as contamination/environmental concerns, access, funding/ongoing maintenance costs, opposition from neighbors, water rights, and a nearby coal mine.

2.3.2 Structural Evaluation (October 2020)

A structural evaluation was completed by American Engineering Testing (AET) in October 2020. The structural evaluation included a structural analysis, evaluation of existing conditions, and recommendations for structural rehabilitation. The structural analysis determined that since the Plant was constructed to support heavy industrial loads, it retains sufficient capacity to support all but the highest live occupancy loads. The Plant also retains sufficient capacity to resist all wind loads. The 1910 and 1947 portions of the roof require reconstruction to resist snow and rain loads. Since the structural evaluation, a portion of the roof in the 1910 portion of the building collapsed, likely due to snow loads. At the time of the structural evaluation in October 2020, the Plant was overall in good condition with the following exceptions and recommendations for rehabilitation:

1. The following recommendations are repairs and maintenance. The suggested repairs in items 2 through 8 would likely cost between \$150,000 to \$225,000 (this was an estimate in October 2020 and has likely increased due to recent trends in material and labor costs). Modifications to the Plant to support new uses would be in addition to those estimated for repairs.
2. The basement and first floor were originally constructed to support heavy industrial loads (i.e., the turbines, boilers, and associated equipment), and will support most new loads without reinforcement. Modifications to infill the openings in the floors will be relatively straightforward.
3. The roofing membrane for the entire building is in poor condition and requires replacement.
4. The structural roof in the 1910 building is in poor condition and requires repair and/or replacement across the majority of its area. In October 2020, AET estimated that 80% of the roof required attention and 40% required replacement. In October 2021, a portion of the 1910 roof collapsed in the turbine room. AET suggested that it may be cost-effective to replace the roof in its entirety. The structural roof in the 1947 addition requires additional evaluation to determine its structural capacity. AET determined the 1950s building roof is in good condition and does not require attention.
5. The north/south spanning brick center wall of the 1910 building is cracked between the roof truss top and bottom chords. This requires a structural

evaluation to determine if the bricks are overstressed in compression; it may require brick reconstruction in a small area.

6. The exterior brick walls of the 1910 building and the 1947 addition require repair and some reconstruction. The top five feet of the walls require 100% repointing and approximately 40% reconstruction. The decorative corbelling and dentils at the top of the walls require complete reconstruction, with 50% brick replacement. The walls below the large window heads require spot repointing - approximately 50% require attention with 10% requiring resetting or replacement.
7. The exterior brick walls of the 1950s addition are in good condition and require only spot repointing with approximately 20% of wall area needing attention.
8. The small ancillary building (the maintenance shop) that lies 50 feet from the southwest corner of the Plant, has settled in its southwest corner, causing extensive cracking of the south and west walls and the interior concrete slab-on-grade. The recommended repair of this building includes soil investigation and stabilization to prevent future settlement, and reconstruction of the walls and interior slab. The brick parapet at the top of the north wall requires reconstruction, and the remainder of the exterior brick walls require spot repointing (approximately 20%).

2.3.3 Acme Working Group Exercise (October 2021)

During October 2021, the Acme Working Group conducted an exercise to evaluate potential future uses of the Site. During the exercise, potential reuse was divided into three broad categories:

1. Outdoor Recreation/Park
2. Education Facility/Retreat Space
3. Commercial Operation

With these broad categories in mind, the Acme Working Group was first asked to rank the proposed reuse category. Second, the members were asked to rank the future of the Plant. The three categories offered for the future of the Plant were:

1. No Building/Complete Removal
2. Keep/Reuse the Building
3. Incorporate Some Building Elements into Reuse

The reuse option with the greatest votes was outdoor recreation/park, followed by an education facility/retreat space, and lastly a commercial operation. When ranking the

preference for the outcome of the buildings, complete removal had the most votes, followed by incorporating some building element components into reuse, and last keeping and reusing the building.

A follow-up discussion after the survey results determined that a commercial operation would be required to maintain the building. An empty building would continue to draw trespassers and vandalism. Due to the relatively remote location, the Acme Working Group felt that an outdoor recreation center would need to be unstaffed, or minimally staffed. There was consensus among the Acme Working Group that long-term ownership by a public entity made the most sense from a maintenance standpoint, but a public entity would not be able to maintain the building as a commercial operation.

In summary, the Acme Working Group exercise determined that an outdoor recreation space with only components of the building, or no building at all, would be the most feasible reuse option and meet the primary objectives of the Site (protect land and water quality, ensure public access/use, and capture historical importance). Due to the relatively remote location of the Site, the Site either needs to have minimal infrastructure and staff or be an operational commercial facility that is fully staffed. A commercial facility had little support as a potential reuse option.

2.3.4 Site Opportunity Analysis (December 2021)

The “Former Acme Power Plant Site Opportunity Analysis: Challenges and Opportunities” was completed in December 2021 by Development Research Partners, Inc., Short Elliot Hendrickson, Inc., and KSU-TAB for the Owner. This report provided recommendations for potential higher and better uses of the Site. The previous sessions and exercises were incorporated and considered in the analysis. The analysis considered physically possible, legally permissible, and economically viable uses, but financial feasibility was not completed.

The Site Opportunity Analysis considered site characteristics such as existing conditions of the Site, environmental issues challenging redevelopment, topography, floodplain extents, infrastructure and utilities, zoning and encumbrances, access, and compatibility with the local economy and regional markets. Community input was also considered.

Ultimately, the Site Opportunity Analysis determined that the Site is best suited for open space, parks, educational facilities and/or services, campgrounds (including rustic, developed, and/or recreational vehicle), and ancillary retail or support services. The following list identifies prospects for the Site:

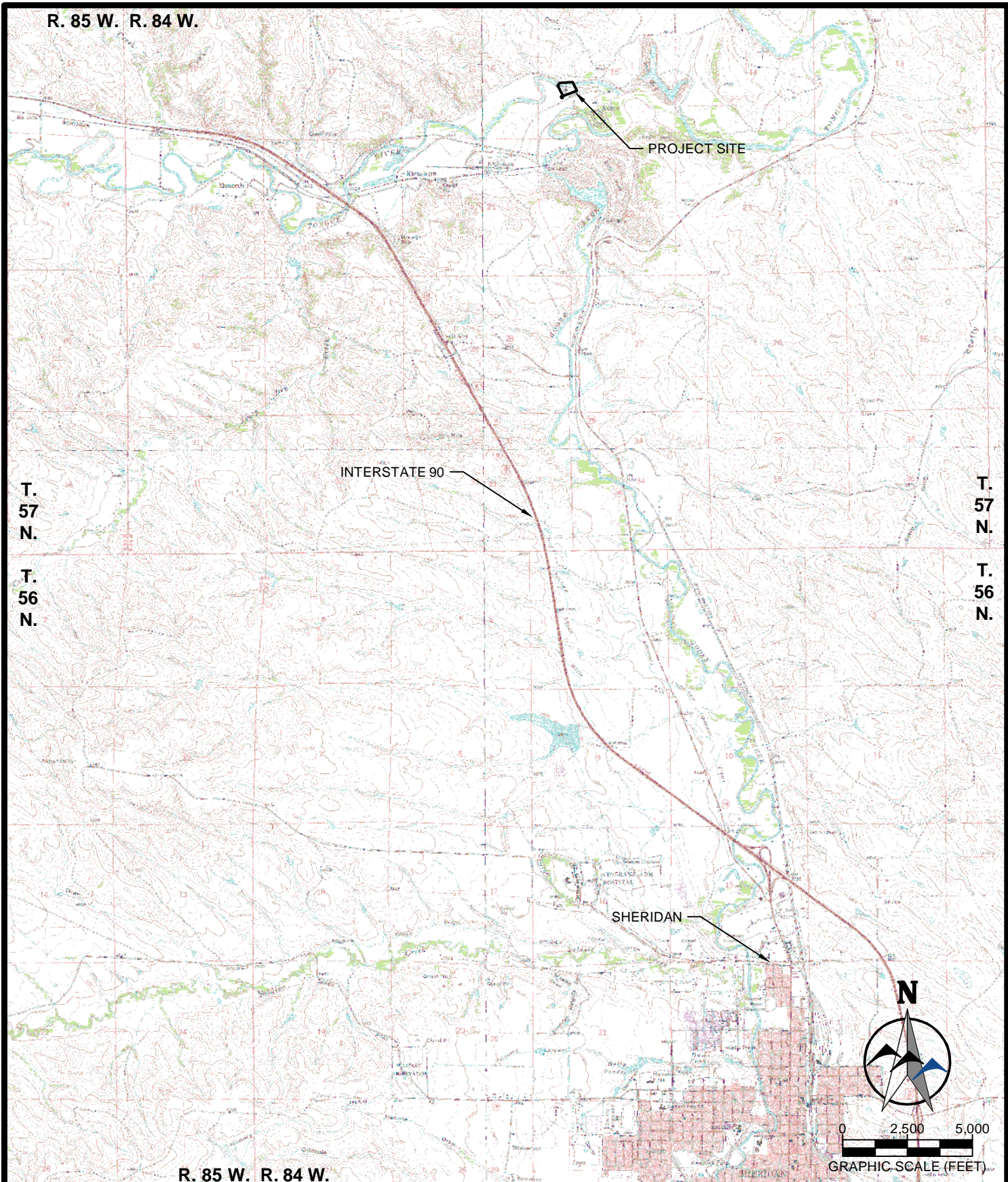
- Parks/Open Space/Trails
- Rustic Camping
- White Water Park
- RV Camping
- Nature Education Uses
- YMCA Conservation/Education
- Boy Scout Nature Retreat
- Portage Site Around Water Diversion, possibly with services
- Guide Services and Watercraft Rentals
- Food Truck Services
- Solar Energy Aggregate Net-Metering Facility (community solar garden)
- Hydroponic Farming

2.4 OBJECTIVE OF INFRASTRUCTURE NEEDS ASSESSMENT

The objective of this INA is to identify the required infrastructure for a variety of possible uses at the Site. Since the future use of the Site is unknown, the infrastructure needs have been evaluated for three general reuse categories identified as follows:

- Low Intensity - Reuse scenarios likely require minimal or no amenities (such as open or green space).
- Medium Intensity - Reuse scenarios likely require limited amenities (such as camping spots, retreat space, or community gardens).
- High Intensity - Reuse scenarios likely require full amenities (such as commercial businesses).

The remainder of this INA refers to the infrastructure needs of these three broad categories rather than specific reuse scenarios.



DESIGNED BY:  WWC ENGINEERING

FIGURE 1. SITE LOCATION IN RELATION TO SHERIDAN, WYOMING



IMAGE SOURCE: BING IMAGERY; IMAGE DATE: APPROX. SUMMER 2016

DESIGNED BY:  WWC ENGINEERING

FIGURE 2. CURRENT SITE LAYOUT

3.0 EXISTING CONDITIONS

3.1 SURROUNDING SITE CONDITIONS

The Site is surrounded by private property. The nearest public roadway is approximately 0.5 mile from the Site, and the existing road to the Site is privately owned by two separate landowners. Access to the Site is provided by a minimally maintained asphalt road from I-90 and a gravel road across the private land. In 2020, SCCD obtained a perpetual easement and access agreement from the two private landowners who own the existing road. Most of the existing roadway is on surface owned by Padlock Ranch Company. Padlock Ranch Company agreed to a perpetual easement which allows for moderate improvements (such as lighting, benches, and continued maintenance) which could support future public access and use. At the time, Lighthouse Resources owned approximately 500 feet of the existing access roadway to the Plant. Lighthouse Resources owned the former Big Horn Coal Mine and would not allow a perpetual easement inside the former mine permit boundary; instead, Lighthouse Resources agreed to a renewable access agreement for SCCD and contractors to access the Site for assessment and remediation activities. Since the access agreement was filed, the property owned by Lighthouse Resources has been sold to Black Gold Land Company, LLC. Current access to the Site across lands owned by Black Gold Land Company, LLC continues to be by a renewable access agreement. When the perpetual easement was written across surface owned by Padlock Ranch Company, a parallel alignment to the road on Black Gold Land Company, LLC was established and the perpetual easement was offset onto lands owned by Padlock Ranch Company; therefore, the full alignment of the perpetual easement is on lands owned by Padlock Ranch Company. Prior to public use of the Site, the SCCD will likely need to consider construction of a road within the perpetual easement on Padlock Ranch Company lands and around the Black Gold Land Company, LLC surface ownership.

Two surface water rights are attached to the Site. One surface water right, the Acme No. 1 Pump, is an irrigation right of 4.6 acres (0.06 cubic feet per second) which used to be transported via the McKinley Ditch (Permit No. P1335D). In 2019, the Owner submitted a petition to the Wyoming State Engineer's Office (SEO) to change the point of diversion of the irrigation water right from the McKinley Ditch to a pumping point directly from the Tongue River within the property boundary. This new point of diversion was named the Acme No. 1 Pump but maintains a priority date of September 28, 1896. The Acme No. 1 Pump water right can be used to irrigate lands on the south side of the Tongue River. The new point of diversion for the Acme No.1 Pump is located on the bank at the concrete retaining wall on the northeast corner of the Plant.

The second water right on the Site is the Sheridan County Electric Co. Tunnel (Permit No's. P11181D and P5059E). These are non-consumptive industrial water rights which were used for cooling in the Plant during historical operations. As non-consumptive water rights, the same volume of water that entered the Plant through the cooling tunnel was required to exit the Plant; therefore, the volume of water specified for the Sheridan County Electric Co. Tunnel may not be used for consumptive uses such as irrigation or domestic supply. The sheet pile diversion in the Tongue River adjacent to the Plant was used to divert water from the Tongue River for Permit No's. P11181D and P5059E.

During April and May of 2023, the Owner and Wyoming Game and Fish Department (WGFD) collaborated to remove the sheet pile diversion from the river. The diversion was dilapidated and no longer served the original purpose of diverting water into the Plant for cooling, provided a barrier to fish migration, and was a safety hazard to recreational users of the Tongue River.

The entire Site is located within the Sheridan County Groundwater Protection Area (SCGPA) (Sheridan County 2023). The SCGPA limits development of septic systems in areas susceptible to groundwater contamination. One method of regulating septic systems in sensitive groundwater areas includes restrictions on lot sizes. The Site cannot be subdivided into lots smaller than 5-acres within the SCGPA (Sheridan County 2021). Since the Site is a 5.8-acre lot, it cannot be subdivided. Depending on future use of the Site, a septic system design would require approval by either Sheridan County or the DEQ.

3.2 BUILDING EXTERIOR

The Plant is a brick masonry structure built in phases between the 1910s and the 1950s. The brick exterior is currently salvageable if repointing, repair, and reconstruction were completed in the near future. The condition of the brick is discussed in the October 2020 structural evaluation and is summarized as follows (AET 2020):

- The exterior brick walls of the 1910 building and the 1947 addition require repair and some reconstruction. The top five feet of the walls require 100% repointing and approximately 40% reconstruction. The decorative corbelling and dentils at the top of the walls require complete reconstruction, with 50% brick replacement. The walls below the large window heads require spot repointing - approximately 50% require attention with 10% requiring resetting or replacement.
- The exterior brick walls of the 1950s addition are in good condition and require only spot repointing with approximately 20% of wall area needing attention.

The roof is a flat roof constructed of precast concrete panels and steel. The membrane is asbestos tar. The asbestos tar is degrading and exposing the roof substructure, which in turn is leading to failure and collapse. In October 2021, WWC personnel discovered that a portion of the roof over the 1910 turbine room had collapsed. The October 2020 structural evaluation concluded:

- The roofing membrane for the entire building is in poor condition and requires replacement.
- The structural roof in the 1910 building is in poor condition and requires repair and/or replacement across the majority of its area. In October 2020, AET estimated that 80% of the roof required attention and 40% required replacement. In October 2021, a portion of the 1910 roof collapsed in the turbine room. AET suggested that it may be cost-effective to replace the roof in its entirety. The structural roof in the 1947 addition requires additional evaluation to determine its structural capacity. AET determined the 1950s building roof is in good condition and does not require attention.

The windows throughout the Plant are in poor condition and require replacement. Most windows are broken, and windows that are not broken require upgrading. The cost of replacing windows in the Plant was considered beyond the scope of INA and was not researched.

The area around the Plant on the Site is covered in solid waste and garbage. This solid waste has minimal salvage value. Currently, the Owner has received funds to remove wastes that will prevent soil cleanup and remediation. The cost of removing these wastes is beyond the scope of this INA.

3.3 BUILDING INTERIOR

Several conditions in the interior of the Plant will require attention prior to reuse or redevelopment. The turbines that had been in the Plant were salvaged during previous ownership. When the turbines were salvaged, large holes in the floor of the Plant were left open. These large holes are a falling hazard and require filling or covering to reuse the Plant.

Large, industrial equipment that could not be salvaged or moved were left in place. This equipment includes boilers, coal hoppers, conveyors, pumps, compressors, tanks, and piping. Most, or all, of this industrial equipment would require removal prior to reuse of the Plant. Some of the equipment may have salvage value; however, the cost to remove the equipment may likely exceed the salvage value.

Doorways and windows have been left open or were broken. The openings in the building have led to weathering of asbestos-containing materials (ACMs). The ACMs

have degraded into a friable condition. Friable asbestos must be abated and removed prior to reuse of the Plant as a public or commercial space. The Owner is currently a recipient of a Brownfields cleanup grant to abate the ACM in the Plant. The cost of the asbestos abatement is beyond the scope of this INA.

The Plant is also filled with varieties of garbage and solid waste with no value. Waste that cannot be decontaminated will likely be removed during ACM abatement. Nonporous materials (such as metal) will be decontaminated and left in place for future salvage or removal.

3.4 EXISTING UTILITIES

Utilities exist on the Site that remain from when the Plant was in operation or when the Site was used as a residential property. There is evidence of water wells on the Site; however, a search of the Wyoming SEO database did not provide any existing groundwater well permits on the Site (SEO 2024). Water quality and construction details are unknown.

Both the Plant and the singlewide trailer east of the Plant have restrooms. There are no properly designed and permitted septic systems on the Site, and there is no evidence of a septic tank or leach field. The septic from the Plant likely drained directly to the Tongue River. A septic tank may be behind the singlewide trailer, but it appears to drain directly to the Tongue River. If present, the existing septic system(s) must be decommissioned.

Three-phase electrical power still exists on the Site and could be used by the Owner at no upgrade cost. The three-phase electrical service is provided by MDU.

There are no other existing utilities on the Site such as natural gas, telephone, or internet service. Cellular telephone service is also limited, due to existing tower locations.

4.0 ZONING, CODES, AND LEGAL CONSIDERATIONS

4.1 LOCAL ZONING

4.1.1 Current Zoning and Allowable Uses

The Property is zoned “Industrial 1”, according to Sheridan County zoning standards. According to the *Rules and Regulations Governing Zoning Sheridan County, Wyoming*, Industrial 1 (I-1), is defined as heavy industrial, smokestack industries, assembly, manufacturing and fabrication, outside storage, salvage yards, and bulk storage facilities.

The intent of I-1 zoning is to provide for smokestack industries which produce obnoxious sounds, glare, dust, and odor and preserve an area for industrial uses that require isolation from other kinds of uses. Allowable uses of I-1 zoning are I-1, I-2 Industrial, C-1 Commercial, and Agricultural (A). The minimum lot area is 5 acres per industrial building when the lot is located within the SCGPA, and it is not served with a central water and sewer system. There are no yard requirements for I-1 zoning. Examples of permitted uses on the Site include those listed in Table 1:

Table 1. Examples of Permitted Uses in I-1 Zoning

Accessory buildings	Dairy, commercial	Office, professional and office, general
Agricultural	Drilling rig assembly and service	Oilfield/mining equipment sales/service
Animal clinic	Farm implement sales/service	Parking structure
Animal shelter, arena, commercial	Frozen food locker	Pipeline terminal/pump station
Art gallery	Gas and liquid propane processing plant	Pre-cast concrete
Auto repair, sales, salvage yard, service station, storage, wrecker service	Grocery store	Printing/newspaper house
Bank/savings & loan	Grocery store, neighborhood	Research/lab facility
Bar/lounge	Heavy equipment sales/service	Sales barn
Bottling factory	Hot mix plant	Sawmill
Bus terminal	Junkyard	Stockyard/rendering plant
Business, retail	Landscaping nursery	Storage of flammable and combustible liquids
Business, wholesale	Laundry, commercial	Storage, indoor/outdoor
Campground	Lumberyard	Supply/service shop
Cement manufacture	Manufacturing, explosives/storage	Taxidermist
Club, lodge	Manufacturing	Truck terminal
Communication tower & facility	Meat processing	Truck stop
Concrete batch plant	Mineral manufacturing/refining/processing	Utilities installation
Construction yard & shop	Mini-warehouse	Warehouse
Credit union	Mobile home storage, permanent	Wind energy system, small
Creosote mfg./treating	Motel/hotel	Woodworking shop, any number of employees

4.1.2 Adjoining Zoning and Allowable Uses

Adjoining land is owned by the Padlock Ranch Company, Inc. and is zoned “Agricultural”. Lands owned by Black Gold Land Company, LLC are also primarily zoned “Agricultural.” Three islands of land in the vicinity of the Site are zoned “Industrial 2”. The closest island zoned “Industrial 2” is on Black Gold Land Company, LLC land. This island is located at the former Big Horn Coal Company shop and laydown area. The second closest island zoned “Industrial 2” is also on Black Gold Land Company, LLC land and is the former Big Horn Coal Company rail load-out area.

Approximately 1.5 to 2 miles away from the Site, lands owned by RAMACO Wyoming Coal Co., LLC are also zoned “Industrial 2.”

According to the *Rules and Regulations Governing Zoning Sheridan County, Wyoming*, Agriculture (A), is defined as a farming and ranching operation, which include buildings and structures, which shall be used for agriculture including, but not limited to farming, grazing, dairying, pasturage, agriculture, horticulture, on-farm or local retail sales and its related agricultural processing, dude ranches, riding stables, animal and poultry husbandry and wildlife game farm, as well as the accessory uses; provided, however, that the operations of any such accessory uses shall be secondary to that of the normal agricultural activities. The allowable uses of Agriculture (A) are agricultural and residential. The minimum lot area of Agriculture (A) is 80 acres per dwelling unit. As discussed in Section 2.0, the Property is 5.8 acres. Therefore, the Property could not be zoned Agriculture (A) without an exemption due to the size of the lot.

According to the *Rules and Regulations Governing Zoning Sheridan County, Wyoming*, Industrial 2 (I-2), is defined as light industrial, non-smokestack industries, assembly, manufacturing and fabrication facilities, outside storage, construction yards, ready mix concrete plants, heavy equipment service and sales, machine shops, welding shops, C-1 and C-2 Commercial uses, and Agriculture (A).

The intent of I-2 zoning is to provide for non-smokestack industries that require isolation from other kinds of uses, free from other uses; except those which are compatible with and convenient to the occupants of the district. The intent is also to provide for industrial uses that are compatible with neighboring commercial uses and to establish a buffer zone between commercial districts and heavy industrial. The minimum lot area for I-2 zoning is 5 acres within the SCGPA if the lot is not served with a central water and sewer system. There are no yard requirements for I-2 zoning. Examples of permitted uses in I-2 zoning include those listed in Table 2.

4.1.3 Rezoning/Conditional Use Permit Process and Cost

WWC contacted the Sheridan County Planning and Zoning Department (Planning and Zoning) to discuss options for repurposing the Site or the Plant. It was the recommendation of Planning and Zoning to proceed with a Conditional Use Permit (CUP) once a specific plan was developed for the Plant. The rezoning process will not allow for an educational facility as such facilities are not permitted in any zone in Sheridan County. If approved, a CUP will allow for all concepts previously discussed for the Site.

A CUP submittal will require a letter of intent, a site plan, a vicinity map highlighting access, and a written description of the proposed use. Input from the Owner will be

required regarding the proposed use and how the business or Site would be used or operated. The CUP approval process is approximately 12 weeks.

The cost to complete the CUP process includes Sheridan County fees and consultation fees for exhibit preparation, application submittal, and representation at public hearings. The total cost will be approximately \$5,000. If a rezone of the Site was completed instead, the application process will be similar with a similar review turnaround time (12 weeks) and similar cost (approximately \$5,000).

A favorable outcome from the decision made by governing bodies cannot be guaranteed. The rezone or CUP process would not include necessary approvals by DEQ for commercial sewer or water systems, building permits required by Sheridan County, or easements or vacations required for utilities and access.

Table 2. Examples of Permitted Uses in I-2 Zoning

Accessory buildings	Drilling rig assembly and service	Pharmacy
Agricultural	Farm implement sales/service	Pipe storage in conjunction with another permitted use
Amusement center	Frozen food locker	Pipeline terminal/pump station
Animal clinic	Grocery store	Pipeyard
Animal shelter, arena, commercial	Grocery store, neighborhood	Pre-cast concrete
Art gallery	Heavy equipment sales/service	Printing/newspaper house
Auto repair, sales, service station, storage, wrecker service	Hot mix plant	Research/lab facility
Bank/savings & loan	Landscaping nursery	Sales barn
Bar/lounge	Laundry, commercial	Sawmill
Bus terminal	Liquor store	Stockyard/rendering plant
Business, retail	Lumberyard	Storage of flammable and combustible liquids, not to exceed 500 gallons total
Business, wholesale	Manufacturing	Storage, indoor/outdoor
Campground	Meat processing	Supply/service shop
Club, lodge	Mini-warehouse	Taxidermist
Communication tower & facility	Mobile home storage, permanent	Truck terminal
Concrete batch plant	Mortuary	Truck stop
Construction yard & shop	Motel/hotel	Utilities installation
Credit union	Office, general	Warehouse
Dairy, commercial	Office, professional	Wind energy system, small
Daycare facility, commercial	Oilfield/mining equipment sales/service	Woodworking shop, any number of employees
	Parking structure	

4.2 BUILDING CODES

Code-mandated forces to be evaluated include gravity loads (dead and live loads), environmental (flood, wind, snow, and rain), and seismic (lateral) loads. Wyoming recognizes the 2018 editions of the International Building Code (IBC) and the International Existing Building Code (IEBC). As discussed in Section 2.1, the Plant was

constructed in three phases in 1910, 1947, and 1952. Loading requirements have changed since each phase of the Plant was constructed; the IBC specifies the modern loading requirements, and the IEBC determines when modern versus original loading should be used (AET 2020).

Per the IBC and the IEBC, gravity loading, environmental loading, and seismic loading will require evaluation for any new loadings, depending on the reuse of the building. For live loadings, the IEBC requires that the existing structure be checked for modern loading requirements that are higher than the original loading, as defined by IBC Tabel 1607.1. Due to the likely light manufacturing design loads of roughly 125 pounds per square foot (psf), any uses such as assembly areas, offices, dance halls, or public rooms with design loadings of 100 psf, the floors in the Plant would not require reanalysis. If future reuse of the Plant included uses such as heavy manufacturing or storage with design loadings greater than 125 psf, reanalysis of the floor would be required (AET 2020).

As noted in the structural evaluation, the Plant lies within Zone A of a Special Flood Hazard Area, which places restrictions on the height of the lowest habitable level. The lowest floor elevation must be above the base flood elevation. Additional hydrologic evaluation will be necessary for any future change to the occupancy of the Plant (AET 2020).

It was the professional opinion of the structural engineer that the Plant has sufficient strength to withstand flooding, wind lateral loads, and seismic loading. Upon evaluating vertical environmental loading (snow and rain), it was noted that while the 1950s roof deck has sufficient capacity to support modern snow and rain requirements, the 1910 and 1947 structural roof decks are in poor condition. The roof decks in these portions of the Plant would require repair and reinforcement, but in the process could be reinforced to meet modern snow loads (AET 2020).

Overall, the conclusion of the structural code analysis was that the three portions of the Plant are sufficiently strong to resist code-mandated modern loads. The exception to this is that the roof slabs of the 1910 and 1947 portions of the building must be repaired, reinforced, or replaced. The boilers must also be analyzed separately from the building to ensure the boilers can resist internal forces (AET 2020).

4.3 OTHER LEGAL CONSIDERATIONS

The future use of the Site will dictate legal requirements. There are three primary expectations for future use:

1. Ensure Public Use/Access
2. Capture Historical Importance

3. Protect Land and Water Quality

Ensuring public use/access and protecting land and water quality require health and safety compliance through cleaning up the Site to applicable regulatory standards. Asbestos, lead-based paint, and soil and groundwater contamination must be addressed to regulatory standards.

According to the Wyoming DEQ/Air Quality Division (DEQ/AQD) - Asbestos Program, all public or commercial spaces undergoing renovations or demolitions must be assessed for the presence of asbestos. If asbestos is confirmed, the quantity and type of ACMs that will be disturbed during renovation or demolition must be reported to DEQ/AQD at least 10 business days prior to the commencement of asbestos abatement (Wyoming DEQ Asbestos Program 2024).

Solid waste is scattered around the Site. If the solid waste is not contaminated to a degree requiring special disposal, the solid waste will be disposed of at a permitted solid waste disposal facility or salvaged (e.g., metal may be sold for scrap). If solid waste is contaminated and cannot be cleaned to a degree satisfactory for disposal at a local municipal solid waste facility, the waste will be disposed of as contaminated materials. For example, porous materials in the Plant contaminated with asbestos fibers will be disposed of as ACMs. Solid waste preventing soil cleanup will be removed and properly disposed of before soil cleanup can commence.

Soil and groundwater contamination have been confirmed at the Site during Phase II ESA and site assessment activities. Since the Owner entered the Site into the VRP and contamination has been confirmed, certain cleanup standards must be met for the Owner to receive a certificate of completion. The cleanup standards to be met will be dependent on the future use of the Site. For example, industrial or commercial uses require less cleanup than residential uses. If the Site will not be used for residential purposes, site-specific cleanup levels can be calculated through risk assessment based upon the anticipated exposure scenarios of human and ecological receptors. DEQ/VRP will approve the site-specific cleanup levels following completion of a risk assessment.

The Site is surrounded by private property. The nearest public roadway is approximately 0.5 mile from the Site, and the existing road to the Site is privately owned by two separate landowners. Access to the Site is provided by a minimally maintained asphalt road from I-90 and a gravel road across the private land. In 2020, SCCD obtained a perpetual easement and access agreement from the two private landowners who own the existing road. Most of the existing roadway is on surface owned by Padlock Ranch Company. Padlock Ranch Company agreed to a perpetual easement which allows for moderate improvements (such as lighting, benches, and continued maintenance) which could support future public access and use. Public

access to the Site will be allowed according to the legal confines of the easement agreement.

5.0 INFRASTRUCTURE NEEDS

Infrastructure needs for the Site will be dependent on the future use of the Site. Aforementioned, this INA considers low intensity, medium intensity, and or high intensity scenarios. These scenarios are defined in Section 2.4 as well as likely uses for each scenario. It is possible that different forms of infrastructure would be required for different intensity scenarios. Discussions regarding different infrastructure needs for intensity scenarios are provided in the following sections.

5.1 POTABLE WATER

A low intensity, passive reuse of the Site would likely not require potable water. Medium intensity reuse may require potable water and high intensity reuse would undoubtedly require a potable water supply onsite.

No municipal potable water supplies are in the vicinity of the Site. Therefore, a groundwater well would be required to supply potable water. Groundwater wells are permitted through the Wyoming State Engineer's Office (SEO) using the "Application for Permit to Appropriate Groundwater" or Form U.W. 5. The current filing fee is \$50.

In the vicinity of the Site, groundwater well P208610.0W (Ramaco Water Supply Well No. 1) is permitted for potable and sanitary supply for a light industrial site. The well is permitted for 25 gallons per minute (gpm). The permit states that the well is approximately 750 feet deep. The well is located in the NW $\frac{1}{4}$ of the SE $\frac{1}{4}$ of Section 20, Township 57 North, Range 84 West, 6th Principal Meridian (Wyoming State Engineer's Office 2022). This well is approximately 1.9 miles southwest of the Site.

Based upon WWC's knowledge of potable water well drilling and construction, during 2023, wells cost approximately \$100 per foot to drill and install casing. If a similar depth as P208610.0W is required to install a well at the Site, such a well would cost approximately \$75,000. Depending on where the well is drilled on the Site, additional piping may be required. Other potential infrastructure requirements could include a cistern, pressure tank, and onsite water treatment, depending on the flowrate and water quality of the groundwater from the well.

5.2 SEPTIC

The required septic service will be highly dependent on the on the future use and wastewater requirements of the Site. A low intensity reuse scenario will either not require septic, or a privy/outhouse may suffice. Sheridan County reviews and approves permitting for vault toilets. In speaking to Sheridan County, a vault toilet,

like those currently in use at the Kleenburn Recreational area, was suggested. The approximate cost to purchase and deliver a vault toilet, excavate the hole, and install would be approximately \$50,000 (Sheridan County, personal communication, January 11, 2023).

A medium intensity scenario could require a range of septic needs. Any reuse scenario that might have an office, small commercial business, or education center would require a commercial septic system permitted through the DEQ/WQD. For reference, a nearby commercial septic system permitted to operate at 750 gpd cost approximately \$150,000 to design, permit, and construct.

Any high intensity reuse of the Site with a commercial business would also require permitting through the DEQ/WQD. The cost of the septic system is dependent on site-specific circumstances. Depth to groundwater, percolation rates, wastewater stream types (i.e., domestic versus process water), and design flow are all contributing factors to the cost of a commercial septic system. Table 3 summarizes several commercial septic systems designed and permitted by WWC. The year of construction and design flow are also summarized in Table 3. The cost of each system was adjusted for inflation. Generally, commercial septic systems ranged from \$150,000 to \$600,000.

Table 3. Examples of Commercial Septic Systems and Associated Costs

Example Project Location	Year	Flow (gallons per day)	Project Cost Adjusted for Inflation (\$2023)
Campbell County, WY	2014	3,500	\$311,000
Carbon County, WY	2009	3,150	\$265,000
Sheridan County, WY	2004	5,733	\$476,000
Bonneville County, ID	2007	2,500	\$582,000
Butte County, ID	2007	1,625	\$145,000
Fremont County, WY	2004	3,600	\$250,000
Sheridan County, WY	2021	750	\$150,000

5.3 ELECTRICAL

The Plant was previously owned by MDU and generated electricity. A three-phase line with potential for small to medium three-phase loads is present onsite. This line could be utilized by the Owner with no upgrade cost. This line would likely be sufficient to service most low, medium, or high intensity scenarios. WWC assumes there would be no significant cost to provide electrical service to low or medium intensity scenarios.

If electrical service required extension to other locations around the Site for high intensity uses, MDU currently charges \$30 per foot to extend the service. The maximum distance that service could be extended on the Site is approximately 450

feet; therefore, the maximum cost to extend electrical service would be approximately \$13,500 (MDU, personal communication, October 14, 2022).

5.4 NATURAL GAS

WWC assumed that low intensity uses such as greenspace and public access to the river would not require natural gas service. Since medium or high intensity uses of the Site would likely mean occupancy year-round, natural gas service would be required.

MDU is the local natural gas service provider. There is currently no natural gas service at the Site. WWC contacted MDU to determine if a natural gas line was in the vicinity of the Site. The nearest natural gas line is near I-90 at the Port of Entry, approximately 2 miles southwest of the Site. Natural gas service to the Site is unlikely (MDU, personal communication, October 14, 2022).

Propane would likely be the only viable option at the Site. WWC interviewed Blakeman Propane of Johnson and Campbell counties to discuss the recommended propane services and costs for medium and high intensity scenarios. Medium intensity uses of the Site would likely only require relatively small office space (such as in the repurposed maintenance shop). Blakeman Propane recommended a 1,000-gallon propane tank. The current price of propane (2023) was \$3 per gallon. Propane tanks are only filled to 80% capacity; therefore, the initial fill would cost about \$2,400. Tank rental would be \$200 per year and the tank set cost would be \$300. The total cost for the initial tank set, fill, and first year rental would be approximately \$2,900. The maintenance shop is approximately 1,500 square feet. Blakeman Propane estimated a monthly propane expense of approximately \$500.

WWC also consulted Blakeman Propane regarding the propane requirements for the Plant assuming it was used for a high intensity scenario. Assuming the Plant would have approximately 17,000 square feet of usable space, Blakeman Propane recommended a vaporizer system rated for 2.5 to 3 million BTUs. The system would require approximately three vaporizers, an 18,000-gallon tank on skids, and piping. The total cost of the system would be approximately \$100,000. The commercial price for propane sales would be approximately \$2 per gallon; therefore, the initial tank fill would cost about \$25,000. The total cost of the system and installation would be approximately \$125,000. A building the size of the Plant would cost approximately \$1,400 per day to heat; therefore, the monthly expense to heat the Plant could be nearly \$50,000 (Blakeman Propane, personal communication, January 12, 2023).

5.4 ROADS

As discussed in Section 3.1, a portion of the existing access road is not within the perpetual access easement obtained in 2020. A portion of the existing alignment is within an access agreement which requires renewal. Approximately 650 feet of new road will be required to be constructed within the perpetual access easement. WWC

has evaluated the approximate cost of constructing this length of road as an infrastructure requirement for reuse and redevelopment. It is assumed that the road construction would be necessary regardless of the intensity of the future use. Therefore, the same road cost has been used for low, medium, and high intensity uses.

To develop a cost estimate to construct the required length of road in the perpetual access easement, WWC considered recent (2023), local cost estimates to construct roads. The cost estimate necessitated several assumptions. First, WWC assumed the road would be gravel-surfaced. WWC also assumed that the road would be 24 feet wide and 650 feet long. The alignment of the perpetual access easement is below the grade of the current roadbed. WWC assumed approximately 2 feet of fill would be required, or approximately 1,200 cubic yards (cy). In addition, the gravel surfacing would be 1 foot thick for a total of approximately 600 cy of crushed base. Topsoil stripping would be approximately 30 feet wide by 650 feet, or approximately 2,170 square yards (sy). WWC added expenses for mobilization and bonding as well as engineering services, assuming 10% of the construction cost for each item. Table 4 summarizes the necessary tasks, recent unit prices for road construction in Sheridan County, and the total estimated costs. WWC’s estimated total cost to construct the road is approximately \$167,000.

As a check on this cost estimate, WWC considered the final construction cost of several roads in Sheridan County versus the total length. The average construction cost was found to be between \$170 to \$200 per foot of road length. Using this cost estimate, a 650-foot road would range between \$110,500 and \$130,000; therefore, the estimated total cost in Table 4 is assumed to be conservatively high.

Table 4. Summary of Road Construction Costs

Item	Unit Cost	Quantity	Total Cost
Topsoil Stripping	\$2.50/sy	2,170 sy	\$5,425
Excavation Below Subgrade	\$25.00/cy	240 cy	\$6,000
Subgrade Preparation	\$8.00/sy	2,170 sy	\$17,360
Compacted Fill	\$42.00/cy	1,200 cy	\$50,400
Crushed Aggregate	\$80.00/cy	600 cy	\$48,000
Topsoil Placement	\$4.00/sy	2,170 sy	\$8,680
Seeding	\$1.30/sy	2,170 sy	\$2,821
Subtotal			\$138,686

Table 4. Summary of Road Construction Costs (cont.)

Mobilization and Bonding	10%	1	\$14,000
Engineering and Quality Control	10%	1	\$14,000
Total with Mobilization, Bonding, and Engineering			\$166,686

5.5 STRUCTURAL AND ROOF REPAIR

As noted in the structural evaluation, the Plant was in overall good structural condition at the time of the inspection in 2020. Several repairs to the Plant were recommended to maintain the integrity of the building. The estimate for structural repairs, adjusted for inflation in 2023, would be approximately \$260,000 (AET 2020). WWC assumes that these repairs to the Plant would only occur for a high intensity use of the Site. If a medium intensity use of the Site included the maintenance shop, WWC estimated the recommended repairs at approximately \$25,000.

WWC consulted Pete’s Builders, a Wyoming company that replaces commercial roof membranes on flat roofs. Pete’s Builders recommended using a 725 TR felt on top of the concrete roof. The cost to replace flat roof membranes would range between \$22 to \$25 per square foot (Pete’s Builders, personal communication, January 12, 2023).

For a medium intensity scenario, WWC assumed the maintenance shop could be restored and reused. The maintenance shop is approximately 1,500 sq ft, and the cost to replace the membrane would range between \$33,000 and \$37,500. For a high intensity scenario, the Plant would likely be reused and would require roof replacement. Assuming approximately 14,000 sq ft of roof on the Plant, membrane replacement would range between \$308,000 and \$350,000. These costs do not include removal of the asbestos tar on the roofs. The cost of asbestos tar removal is not included due to the assumption that environmental cleanup and/or abatement will be completed prior to infrastructure improvements.

5.6 INTERNET/PHONE

WWC contacted Visionary, a local internet and telephone service provider. Visionary reviewed the location of the Site and stated that internet and telephone service can be provided. Basic internet for a medium intensity scenario would cost approximately \$105 per month. Adding one telephone line would cost \$20 per month. Two telephone lines would cost an additional \$30 per month. An upgraded telephone and internet package for high intensity commercial use would cost approximately \$150 per month (Visionary Broadband, personal communication, January 11, 2023).

6.0 INFRASTRUCTURE COST ESTIMATE

The objective of this INA is to identify the required infrastructure for a variety of possible uses. Because the future use is unknown, the infrastructure needs have been evaluated for three general reuse categories:

- Low Intensity - Reuse scenarios likely require minimal or no amenities.
- Medium Intensity - Reuse scenarios likely require limited amenities.
- High Intensity - Reuse scenarios likely require full amenities.

Using these three general reuse categories, a variety of infrastructure needs were evaluated including rezoning, a potable water supply, septic, electrical, natural gas (propane) service, access roads, structural repairs, roof membrane replacement, and internet/telephone service. These planning-level cost estimates have been developed to assist the Owner in future decision-making regarding reuse of the Site. Table 5 summarizes the costs estimated from this study.

Table 5. Summary of Infrastructure Upgrade Cost Estimates by Reuse Intensity

Infrastructure	Low Intensity Cost	Medium Intensity Cost	High Intensity Cost
Conditional Use Permit or Rezoning	\$5,000	\$5,000	\$5,000
Potable Water	\$0	\$75,000	\$150,000
Septic	\$50,000	\$150,000	\$150,000 to \$600,000
Electrical	\$0	\$0	\$13,500
Natural Gas (Propane)	\$0	\$2,900 + \$500 per month	\$125,000 + \$50,000 per month
Roads	\$167,000	\$167,000	\$167,000
Structural Repair	\$0	\$25,000	\$260,000
Roof Membrane Replacement	\$0	\$37,500	\$308,000 to \$350,000
Internet/Telephone	\$0	\$105 per month	\$150 per month
Total	\$222,000	\$462,400 + \$605 per month	\$1,670,500 + \$50,150 per month

7.0 REFERENCES

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