

MARKET STUDY FOR THE FORMER ACME POWER PLANT

Sheridan, Wyoming
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adaapta



PREPARED FOR

Sheridan County Conservation District
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INTRODUCTION

Adaapta is providing technical assistance for the former Acme Power Plant site via a subcontract with Tetra Tech under EPA's Office of Brownfields and Land Revitalization (OBLR). The Brownfields Program is designed to empower states, communities, and other stakeholders in economic redevelopment to work together in a timely manner to prevent, assess, safely clean up, and sustainably reuse brownfields sites.

The Acme Power Plant site has been an institution within the Sheridan County community for over a hundred years, but it has been underutilized since 1976. The power plant building is heavily contaminated with asbestos, and the remainder of the site has varying amounts of soil and groundwater contamination as a result of both recycling activities and illegal dumping that occurred after the power plant shut down.

This market study report represents the first of two phases of technical assistance support that Adaapta is providing at the Acme site. The market study examines potential future uses of the Acme site based on local and regional market demand and will inform the preparation of architectural concept plans for the site's eventual reuse. The second phase of Adaapta's support will include conducting a financial and funding analysis of the presumed future use, which will be completed after the concept plan is finalized.

Adaapta is conducting both phases of this work concurrently with a different site visioning technical assistance project under OBLR. This work, which is being conducted by ICF and Stromberg/Garrigan & Associates, Inc. (SGA), will result in a conceptual brownfield site reuse plan based on input received during the stakeholder engagement meetings.

To develop this market study, Adaapta conducted a site and community analysis, participated in a site visit and stakeholder engagement meetings, interviewed local experts, and researched relevant market topics. The data gathered informed the recommendations that are included in this report for the Sheridan County Conservation District's (SCCD) consideration when determining the future use of the Power Plant.

SITE AND PROJECT BACKGROUND

EPA Region 8 identified the former Acme Power Plant site ("the site") in Sheridan County, Wyoming, as a candidate for technical assistance under OBLR's Regionally-Directed Task Orders for both



Figure 1: Site Location

site visioning and funding/financing. The site is located at 165 Acme Road, Sheridan, WY 82801, approximately 10 miles north of downtown Sheridan (Figure 1). The Acme Power Plant was built in 1910 and originally provided power to nearby coal mines, coal camps, and the City of Sheridan. In the 1970s, the power plant ceased operations and was converted to a number of industrial uses, including auto dismantling and battery disposal. The industrial uses continued off and on from the 1980s through the 2010s; the site has been subject to dumping and vandalism during periods of vacancy. The SCCD acquired the site in 2017 with the objectives of preserving the site’s historic significance, restoring public access, and cleaning up contamination.

The SCCD won a \$585,000 grant from the EPA in May 2022 to fund cleanup of the site (including cleanup and disposal of regulated building materials) as well as an additional \$500,000 subgrant from the Wyoming Department of Environmental Quality (WDEQ) to perform removal of debris and contaminated soil at the site.

INFORMATION SOURCES

The information sources used to support this market study include the previously completed reports listed in the following section. Information was also obtained from the Esri Business Analyst database, CoStar Sheridan County Travel and Tourism data, interviews with local real estate experts, conversations with SCCD stakeholders, and other market research.

PREVIOUS STUDIES/PLANS/WORK

In January 2017, EPA Region 8 conducted a Phase I Environmental Site Assessment (ESA) through the Superfund Technical Assessment and Response Team (START) program. In October 2017, two Phase II ESAs were also conducted through the START program – one for the overall site and one for hazardous building materials. The site was subsequently enrolled in the State of Wyoming’s Voluntary Remediation Program (VRP) in 2018. Site stabilization work took place after approval of the VRP application, including removal of drums and loose asbestos materials. A number of other site assessments have been conducted, including a Building Structural Survey in October 2020, a hydrologic interactions study in 2021, and an Infrastructure Needs Analysis, which is currently ongoing.

To date, the SCCD has conducted substantial community engagement and planning in preparation for remediation and redevelopment. In August 2017, SCCD hosted a community reuse visioning workshop in partnership with the Kansas State University Technical Assistance to Brownfields (KSU TAB) Program. As a result of the workshop, the SCCD formed a working group in December 2017 to help drive the vision for site reuse. The working group has held several public meetings over the past five years to engage the public and inform them on project progress. In 2018, students from the University of Wyoming completed a Personal Background and Historical Narratives report that provided a history of the power plant and town of Acme. While developing the report, they interviewed residents who

worked at the power plant or lived in the town of Acme or the neighboring mining towns. A Public Participation Plan was prepared in 2018 in support of the property’s enrollment into the VRP. SCCD received additional assistance from KSU TAB in the form of an opportunities/highest and best use analysis, which was completed in 2021.

COMMUNITY PROFILE

Overview of Sheridan County

Prior to European settlement, the area of present-day Sheridan County was inhabited by the Crow tribe. As a result of territorial pressures caused by the Oregon Trail and the development of the transcontinental railroad, the Sioux (primarily Lakota Sioux), Arapahoe, and Cheyenne tribes arrived in the area around the same time as American pioneers. As the pioneers migrated through Wyoming on the newly established Bozeman Trail in the 1860s, conflict arose between the Lakota, Arapahoe, and Cheyenne and the US Army forts established along the route. Several major historic battlefields, including the Connor Battlefield/Battle of the Tongue River in Rancheater and the Battle of the Hundred Slain/Fetterman Massacre and the Wagon Box Fight sites outside of Fort Phil Kearney, are located within 25 miles of present-day downtown Sheridan. The Battle of Little Bighorn, the most significant conflict of the Great Sioux War between the U.S. Army and the Lakota Sioux, Northern Cheyenne, and Arapahoe tribes, took place in 1876 in southeastern Montana around 70 miles north of present-day Sheridan. Following the Agreement of 1877, Lakota Sioux were forced onto reservation lands and conflicts between Native American tribes and American pioneers eased.

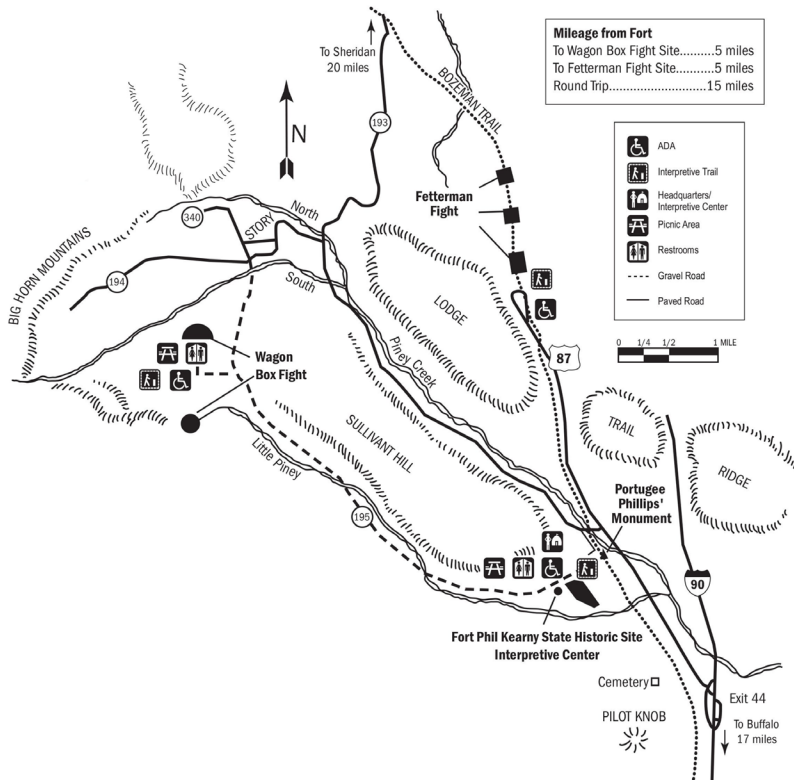


Figure 2: Fort Phil Kearney State Historic Site Map
Credit: Wyoming State Parks

The City of Sheridan was established in the early 1880s and was chosen as the county seat when Sheridan County split from Johnson County in 1888. In 1892, the Burlington and Missouri railroad arrived in Sheridan, allowing for an economy surrounding the extraction and exportation of raw materials, especially coal, to flourish. Mining and agriculture remain a significant part of the local economy today.

Tourism and recreation have also been large economic drivers in Sheridan County. The Bighorn Mountains are located approximately fifteen miles southwest of the City of Sheridan and are a popular destination for outdoor recreation activities, including hunting, hiking, fishing, and more.

Population and Demographic Information

According to Esri Business Analyst data, the 2022 population of Sheridan County is 31,469. With the exception of the Great Depression years, the population of Sheridan County grew fairly steadily from 1890 until 1950. The population declined for the next 20 years, but saw more than a 40% increase between 1970 and 1980. The population again declined between 1980 and 1990, but has increased steadily since then. Anecdotally, Sheridan County has seen significant growth as a result of the COVID-19 pandemic, with an influx of new remote-working residents who are attracted to the lifestyle of Sheridan County.

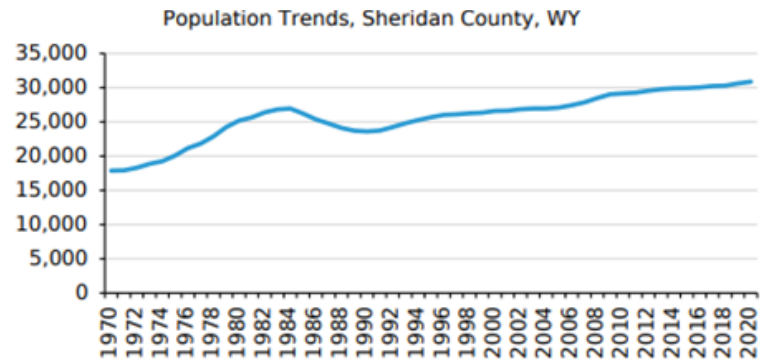


Figure 3: Population Trends in Sheridan County
Credit: http://eadiv.state.wy.us/wef/P_Sheridan_WY.pdf

Demographically, Sheridan County residents are largely white and non-Hispanic. Residents are generally older than the U.S. population, with an average age of 43.8 years, up from 42.1 years in 2010. This indicates that the population is growing more heavily weighted towards older residents, particularly when compared to the average age of the U.S. as a whole, which is 38.8 years.¹ The population is approximately 48.5% male and 50.5% female.

Residents of Sheridan County over the age of 25 are well-educated. Only 3.2% of the population has less than a high-school diploma or GED; 26.6% are high school graduates or have a GED/alternative credential; 24.0% have some college, no degree; 10.9% have an associate's degree, 19.4% have a bachelor's degree, and 15.9% have a graduate or professional degree.

Labor and Employers

According to Esri Business Analyst data, there are 2,194 businesses located within Sheridan County. Table 1 provides a summary of the 10 largest business sectors, as well as the sectors that employ the most people. While agriculture and mining make up a smaller proportion of the total number of businesses and employees when compared to the top 10 industries (Table 1), they are a significant industry in Sheridan County and employ over 450 people.

¹ <https://www.census.gov/newsroom/press-releases/2022/population-estimates-characteristics.html>

Type	# of Businesses	% of Total Businesses	# of Employees	% of Total Employees
Retail Trade	251	11.4%	1,759	9.2%
Other Services (Except Public Administration)	249	11.3%	1,064	5.5%
Health Care & Social Assistance	215	9.8%	2,963	15.4%
Professional, Scientific, and Tech Services	208	9.5%	1,421	7.4%
Construction	181	8.2%	1,201	6.3%
Accommodation and Food Services	130	5.9%	1,725	9.0%
Finance and Insurance	104	4.7%	617	3.2%
Public Administration	100	4.6%	1,431	7.5%
Manufacturing	58	2.6%	930	4.8%
Educational Services	47	2.1%	2,963	15.4%

Table 1: Businesses and Employers

According to the Wyoming at Work website, the most popular categories for job listings in Wyoming are registered nurses, with nearly 600 available positions throughout the state, and retail salespeople, with over 200 available positions throughout the state (Figure 4).

In 2022, the unemployment rate for Sheridan County was 1.3%. The median household income is \$72,394, compared to the state of Wyoming at \$68,814 and the U.S. overall at \$72,414. The wealth index in Sheridan County is 84, compared to a wealth index of 82 in the state of Wyoming, and a wealth index of 100 for the entire U.S.²

Regional Dynamics

Esri Business Analyst produces a report on “Tapestry Segments”, which are used to describe dominant demographic and socioeconomic trends within a certain area. Sheridan is best characterized by the “Old and Newcomers”, “Midlife Constants”, and “Green Acres” tapestries, all of which are attached to this report as Attachment 1. With the exception of the city limits

Top Occupations Advertised Online for December 04, 2022

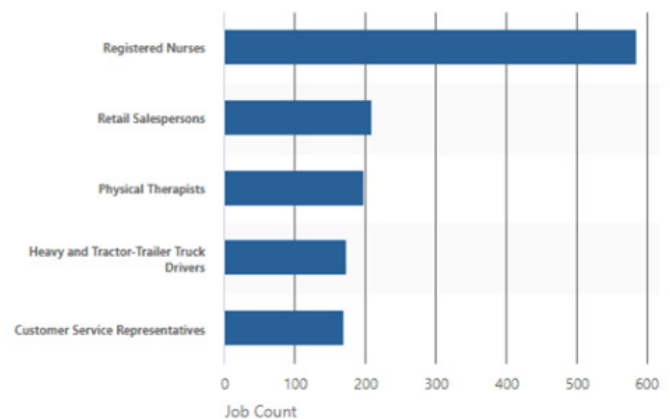


Figure 4: Top Occupations Posted Online

² The wealth index measures the area’s wealth relative to the national level. A score of 100 indicates that the area’s wealth is on par with the national average, and a score of more than 100 indicates that the area’s wealth is greater than the national average. A wealth index of less than 100 indicates an area has less wealth than the national average.

for the City of Sheridan, the rest of Sheridan County is designated as Rural by the U.S. Census Bureau.

Historically, Sheridan County's economy has been based mostly in ranching and resource extraction, including coal and clay, with the City of Sheridan functioning as the regional center for services. Today, the area's economy is focused primarily on tourism, agriculture, and ranching.

Real Estate Market

Data on the Sheridan County real estate market was primarily obtained through an interview with local realtor and supplemented by CoStar, Zillow, and other internet research.

Residential

According to Adaapta's conversations with a local realtor, the residential market in Sheridan County has been quite strong since before the COVID-19 pandemic, although the market is beginning to cool slightly in response to higher interest rates. According to Rockethomes.com, the average listing age of homes in Sheridan was 82 days in November 2022, up from 76 days in October 2022. There were 32 homes available on the market in November 2022, up from 27 homes in October 2022. The median list price was \$482,250 in November 2022, down 3.5% from the previous month³. According to Zillow.com and Padmapper.com, there were 17 homes listed for rent as of December 5, 2022. Rents for studio and 1-bedroom apartments generally ranged between \$800 and \$1,000 per month; 2-bedroom units ranged between \$1,000 and \$1,400; and 3-bedroom homes were available for between \$1,400 and \$1,700.

Commercial/Retail

Anecdotally, commercial and industrial real estate in Sheridan is still in high demand. Recently, smaller, undeveloped, commercially-zoned land within the city limits has sold for between \$4 and \$8 per square foot. Land is still slightly cheaper to the north of the city, where a large commercial site recently sold for \$3 per square foot. The local realtor indicated that most new development in the next 20 years will likely be concentrated on the north side of the city. According to data obtained from CoStar, there are currently 1.5 million square feet of retail space in Sheridan with a 0.4% vacancy rate. Market rent prices are \$12.81 per square foot and market sale price is \$159 per square foot. Over the past 12 months, 2,300 square feet of retail space has been absorbed, a 292.4% increase over the previous 12-month period. The market cap rate for retail buildings is 7.7%.

Industrial

The realtor also indicated that developed industrial properties could sell for up to \$260 per building square foot. According to CoStar, there is currently 1.1 million square feet of industrial space in Sheridan with a 1.3% vacancy rate. Market rent prices are \$6.03 per square foot, and market sale prices are \$108 per square foot. Over the past 12 months, 6,900 square feet of industrial space has become available for rent, a -193.8% decrease from the previous 12 months. The market cap rate for industrial buildings is 7.9%.

³ <https://www.rockethomes.com/real-estate-trends/wy/sheridan-county?type=seller>

Agricultural

According to input from the local realtor, agricultural land around Sheridan is typically worth a maximum of \$25,000 per acre. Landwatch.com has over 200 properties listed for sale; agricultural land is typically listed for between \$3,600 and \$40,000 per acre depending on size, location, amenities, and natural resources.

Tourism

Visitorship

There are a number of attractions that bring visitors to Sheridan County. In 2021, visitors spent \$137.7 million dollars in Sheridan, which generated \$35.3 million in earnings, supported 950 jobs, and created \$3.3 million in local tax revenue and \$5.4 million in state tax revenue. According to the January 2022 Local Travel & Tourism Industry Update prepared by the Sheridan County Travel & Tourism office, the Sheridan County Visitor Center received a total of 84,203 visitors in 2021, with the highest number of visits occurring in July (16,865).⁴ As of October 1, 2022, the Sheridan County Visitor Center has received a total of 60,518 visitors, which is 10,622 fewer compared to the previous year.⁵ According to an April 2022 article from the Sheridan Press, visits to Sheridan last an average of 3.4 nights and visitors spend an average of \$250 per day.⁶

Local Events

The Sheridan WYO Rodeo has taken place in Sheridan since 1931 and it is now one of the premier Professional Rodeo Cowboys Association (PRCA) and Woman's Professional Rodeo Association (WPRA) rodeos in America.⁷ It is held over four days every summer in mid-July; attendance has ranged from approximately 22,000 to 26,500 between 2015 and 2019,⁸ with roughly 24,400 tickets sold for the 2021 rodeo.⁹ Cash prizes distributed in 2021 totaled to over \$346,000. The First Peoples' Pow Wow and Dance is an event held on the lawn of the Sheridan Inn during the week of the WYO rodeo. The Sheridan County Fairgrounds, where the rodeo takes place, was placed on the National Register for Historic Places in 2011 due to its connection to Sheridan County's agricultural and western roots, as well as the exemplary Works Progress Administration-style stonework on several of the buildings.¹⁰

The Sheridan WYO Winter Rodeo was held in 2019 and 2020 and will be held again in February 2023. This competition features the innovative winter rodeo event of skijoring,

4 <https://www.sheridanwyoming.org/wp-content/uploads/2022/09/2022-01-January-Industry-Update.pdf>

5 <https://www.sheridanwyoming.org/wp-content/uploads/2022/10/2022-10-October-Industry-Update.pdf>

6 https://www.thesh Sheridanpress.com/business/local-business/reports-indicate-favorable-peak-tourism-season-associated-economic-benefits-ahead/article_bc1821dc-ba6b-11ec-8148-935a9bb8184e.html

7 <https://www.sheridanwyorodeo.com/history/>

8 https://www.thesh Sheridanpress.com/business/sheridan-wyo-rodeo-tops-attendance-record/article_993313be-a0e3-5b1d-bbc0-68d617da94e8.html

9 https://www.thesh Sheridanpress.com/news/local/rodeo-attendance-slightly-lower-than-previously-reported-still-beat-2019-2018-numbers/article_59d0c570-ee37-11eb-b882-571f4f58a65a.html

10 <https://wyoshpo.wyo.gov/index.php/programs/national-register/wyoming-listings/view-full-list/782-sheridan-county-fairgrounds-historic-district>

where a participant skis through obstacles while pulled by a horse. The 2019 inaugural event drew 6,000 participants and spectators and awarded \$11,000 in prize money.¹¹

The Big Horn Mountain Trail Run is a 100-mile endurance run through the Little Bighorn and Tongue River areas of the Bighorn National Forest. The trail features 20,500 feet in elevation gain and must be completed in 34 hours. The race takes place in mid-June of every year and also features 18-mile, 32-mile, and 52-mile versions. Over 735 people participated in race events in 2022 and over 865 people participated in 2021. The event attracts participants from across the U.S. and internationally and is a significant tourism generator in Sheridan County.

Every May, cowboys from Eaton's Ranch run their herd of horses through downtown Sheridan as part of the 3-day, 100-mile journey known as Eaton's Horse Drive. Approximately 125 horses are wintered near in Echeta, Wyoming, and are trailed to Eaton's Ranch, America's oldest dude ranch, 17 miles west of Sheridan for the summer/fall tourist season. Thousands of spectators gather at the Big Horn Museum to watch the herd pass through downtown Sheridan.

Local Attractions

The Bighorn National Forest is a 1.1 million-acre federally protected area located around 15 miles southwest of the city of Sheridan. The area was created as a U.S. Forest Reserve in 1897, making it one of the oldest government-protected forest lands in the U.S. Within the Bighorn National Forest is the Cloud Peak Wilderness area, a 189,000-acre area where no motorized or mechanical equipment is allowed. There are over 1,500 miles of trails in the forest, along with 32 camping areas and three scenic byways. Recreational opportunities include hiking, mountain biking, rock climbing, camping, fishing, horseback riding, hunting, skiing/snowboarding, and more. The Bighorn Mountains, Bighorn River, and surrounding area is sacred for several Native American tribes.



Figure 5: Bighorn National Forest
Credit: <https://www.recreation.gov/camping/gateways/1058>

The Sheridan area is full of William "Buffalo Bill" Cody and Wild West history. Buffalo Bill was once a part-time owner of the Sheridan Inn, which still operates today. According to legend, he held auditions for his traveling wild west show on the porch of the Sheridan Inn. Today, a cowboy culture still exists, and Sheridan was named "the #1 Western Town in America" in 2006.

¹¹ <https://www.wyowinterrodeo.org/>



Figure 6 : Sheridan Inn around 1900 and in 2014
 Credit: Facebook / Historic Sheridan Inn and Wikimedia Commons / Paul Hermans

Sheridan has been a regional center for the sport of polo since a pair of Scottish brothers, William and Malcolm Moncreiffe, established a pony breeding operation and polo field in the 1890s. There are currently two clubs, the Big Horn Polo Club (the oldest polo club west of the Mississippi) and the Flying H Polo Club, which have nine playing fields that are used throughout the summer season. Many out-of-town polo players migrate to Sheridan for the summer season.



Figure 7: Playing Polo in Sheridan, Wyoming
 Credit: <http://www.sheridanwyoming.org/the-great-outdoors/polo/>

Sheridan is near two ski areas that are frequently used for recreation: the Antelope Butte Ski Area and the Meadowlark Ski Area. Antelope Butte is located in the Antelope Butte Mountain Recreation Area, 59 miles west of Sheridan in Big Horn County.

The Meadowlark Ski Area is located around 80 miles southwest of the city of Sheridan, also in Big Horn County. While these ski areas are frequently used by Sheridan County residents, they typically receive less destination travel compared to larger ski resorts in Wyoming, such as Jackson Hole.

Historic Buildings and Sites

As a town with significant Wild West history, Sheridan has a number of historic buildings. The Sheridan Inn was built in 1893 and featured the first electric lights in Sheridan. Buffalo Bill Cody was a part-owner for a period of time and resided at the Inn from 1894 until 1902, allegedly holding auditions for his wild west show on the front porch. Today, the Sheridan Inn is the site of several events associated with the WYO Rodeo, as well as numerous other events throughout the year. The Inn was added to the National Register of Historic Places in May 1964.¹²

¹² <https://wyoshpo.wyo.gov/index.php/programs/national-register/wyoming-listings/view-full-list/784-sheridan-inn-national-historic-landmark>

Sheridan's historic downtown district is home to several historically significant buildings, including the WYO Theater. The Lotus Theater opened in 1923 as a vaudeville theater and underwent a number of iterations before receiving its current name in 1941. In total, the WYO operated for nearly 60 years before shutting down in 1982. However, strong support from the community allowed the theater to reopen in 1989. Today, it is the location for several community events including the WYO Film Festival.



Figure 8: WYO Theater
Credit: Shawn Parker

The Brinton Museum is a Western and American Indian art and history museum located on the 620-acre Quarter Circle A Ranch in Big Horn. The ranch was originally owned by William Moncreiffe, one of the Scottish immigrants who popularized the sport of polo in Sheridan County. Bradford Brinton purchased the house from Moncreiffe in 1923; his sister, Helen Brinton, left the ranch in trust with the Northern Trust Company of Chicago after her death in 1960. The museum is dedicated to American Indian art and culture as well as American fine and decorative art, and includes the historic ranch house, grounds, and a new 24,000 square foot art museum. The museum hosted over 12,000 visitors between Memorial and Labor Day in 2022.¹³

There are a number of historically significant sites of conflict between Native American tribes and pioneers near Sheridan. The first is the Connor Battlefield in present-day Ranchester, which was the site of the most significant conflict of the Powder River Expedition of 1865. This battle resulted in the alliance of the Arapahoe with the Cheyenne and Lakota at the Fetterman Fight in 1866.

Fort Phil Kearney was established in 1866 as an outpost of the U.S. Army to protect miners and pioneers traveling from the Oregon Trail to Montana via the Bozeman Trail. The fort played an important role in Red Cloud's War, a conflict between the U.S. Army (allied with the Crow Nation) and the Lakota, Northern Cheyenne, and Northern Arapahoe tribes. The fort was abandoned in 1868 following the Treaty of Fort Laramie and was burned down by the Cheyenne tribe shortly thereafter. The remnants of the fort are now a state historic site located just 22 miles south of downtown Sheridan.

The Fetterman Fight or Battle of a Hundred Slain was a battle that occurred in late December 1866 during Red Cloud's War. The fight took place between 81 soldiers from Fort Phil Kearney and over 1,000 Lakota, Cheyenne, and Arapahoe. The battle was the worst defeat suffered by the U.S. on the Great Plains until the Battle of Little Bighorn in 1876. The battlefield is memorialized with a monument located 3 miles north of Fort Phil Kearney. A

¹³ <http://thebrintonmuseum.org/wp-content/uploads/2020/11/TBM-Newsletter-vol.-21-no.-1-low-res.pdf>

monument for another battle of Red Cloud's War, the Wagon Box fight, is located just over 4 miles to the northwest of Fort Phil Kearney.

A number of significant sites in the Great Sioux Wars are also located near Sheridan, including the Rosebud Battlefield State Park and the Little Bighorn National Monument. Although located in Montana, these sites are within an hour's driving distance from downtown Sheridan.

A full list of locations in Sheridan County that have been placed on the National Register of Historic Places can be found [here](#).

The Black Diamond Historic Mine Trail is the result of a collaboration between the Sheridan Community Land Trust and the Wyoming Historic Preservation Group. The approximately 20-mile trail features 16 stops with interpretive signage, as well as a guided audio tour, which provide insight into Sheridan's mining heritage. The trail features stops at each of the former mining town sites shown in Figure 9 along with other points of interest, including a stop at the Acme power plant and town site. A virtual preview of the tour is [available online](#).

SITE HISTORY AND REDEVELOPMENT CONSIDERATIONS

Site History

Coal mining began in 1892 along the Tongue River and grew into a major industry in Sheridan County in the early 1900s. Around that time, a number of coal mines began operations in the area near Acme and began producing upwards of 3,000 tons of coal per day. Between the late 19th and early 20th centuries, nearly 5,000 people were employed by mines, many of whom lived in the mining towns of Dietz, Monarch, Kleenburn, Acme, Kooi, and Model (Figure 9). The Sheridan County Electric Company constructed the Acme Power Plant in 1910 to provide electricity to the city of Sheridan, the mining town of Acme, and other coal mines and towns in the surrounding area. The power plant cost \$300,000 to build (\$9,027,560.26 in 2021 dollars) and was acclaimed as one of the most state-of-the-art steam turbine plants in the country.¹⁴ The power plant ran on coal, which resulted in the generation of significant amounts of coal ash. This byproduct was transported across the Tongue River via a conveyor belt. The large coal ash pile is still present today.

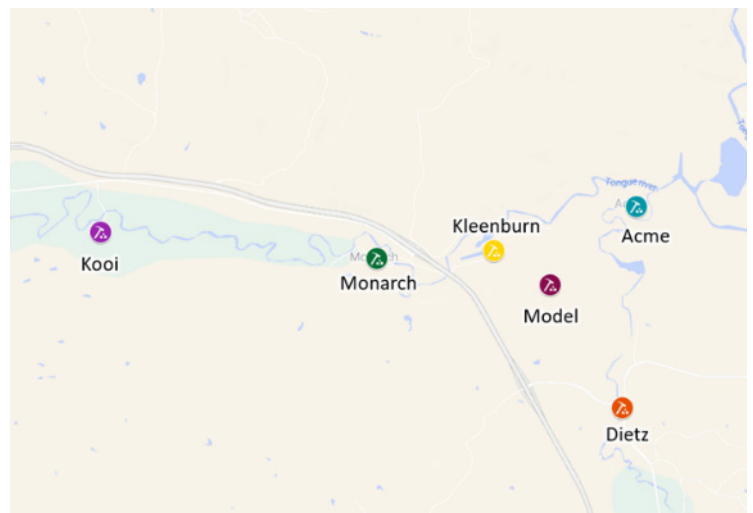


Figure 9: Mine locations near Acme

¹⁴ Haub Power of Acme Past

Although underground coal mining activities around Acme shut down permanently in 1940, the plant continued to generate power until 1976 under the operation of the Montana Dakota Utility Company, which had purchased the plant in 1947. The same year, Big Horn Coal, which owned the town of Acme, removed the remaining buildings from the Acme town site in anticipation of expanding their open pit mine operations. Many of the homes were relocated to other sites, including Sheridan. In 1977, the power plant was purchased by Carl Weissman and Sons. From 1977 to 1984 the site was used for metal salvage. After that, the site was sold several times with minimal changes to on-site operations. In 2008, the site was approved for auto salvage uses by the Sheridan Board of County Commissioners. Between 2008 and 2015, vehicle salvage operations and battery recycling took place at the site. The SCCD took ownership of the site in 2017. The power plant and adjacent water tower still stand today, although the Town of Acme has all but disappeared, its buildings demolished or moved into the city of Sheridan.

Today, the site contains three primary buildings – the 16,553 sq. ft. power plant, the 1,440 sq. ft. maintenance shop, and the 2,112 sq. ft. barn, plus a few derelict trailers and other structures that have been left on site. The 5.8-acre property is divided by the Tongue River, with approximately 3.7 developable acres south of the river. On the north side of the river is a large coal ash pile that accumulated when the plant was operational.



Figure 10: Site Location and Ownership Map
Prepared by WWC Engineering

Environmental Actions to Date

Prior to acquiring the site in 2017, the SCCD received site investigation assistance through the EPA Region 8 START program to conduct environmental due diligence. The Phase I Environmental Site Assessment (ESA) report identified six Recognized Environmental Conditions (RECs), including existing stained surface soils and stressed vegetation, multiple areas of 55-gallon drum storage, previous undocumented operational activities, a transformer spill of PCB-containing oil, a coal ash pile, and a history of coal-fired power plant operations.

A Phase II ESA and a Hazardous Building Materials Survey (HBMS) were conducted in October 2017 to further characterize site conditions. The Phase II ESA identified polycyclic aromatic hydrocarbons (PAHs), total petroleum hydrocarbons (TPHs), polychlorinated biphenyls (PCBs), lead, arsenic, antimony, copper, iron, and manganese, along with volatile organic compounds (VOCs) and semi-volatile organic compounds (SVOCs) in surface soils. However, only iron and the VOC tetrachloroethylene (PCE) were detected in sub-surface soil

2017

This aerial was taken around the time the SCCD purchased the property. The site is cleared of most debris.



2014

There are substantial amounts of old cars and other debris on the site.



2012

Similar to 2014, there are substantial amounts of cars and other debris located on the site.



Figures 11.1 - 11.3: Historical Aerials



2010

Additional debris is visible around the site.

2006

The site appears to be mostly vacant. There are a few cars parked in the grass, but minimal debris is visible around the buildings.



2002

As in 2006, the site appears to be mostly vacant. There are a few cars parked in the grass, but minimal debris is visible around the buildings.



Figures 11.4 - 11.6 : Historical Aerials

1994

The site is mostly vacant; there do not appear to be any cars or other debris located around the buildings.



Figure 11.7 : Historical Aerial

sampling at levels above regulatory standards. In groundwater, only PCE was determined to be of primary concern. Soil sediments from the Tongue River were also analyzed; contamination was mostly concentrated on the south bank and consisted of TPHs and metals. The coal ash pile across the Tongue River was also sampled, but metals detected in soil samples did not exceed state and federal standards for migration to groundwater. Some of the on-site drums were also sampled; the majority of them contained used oil.

According to the HBMS that was conducted concurrently with the Phase II ESA, there are significant amounts of asbestos throughout the power plant building as well as in the barn, maintenance shop, and little house. There are also trace amounts of asbestos in surface soils, indicating that friable asbestos migrated outside of the walls of the buildings. The HBMS also identified elevated lead concentrations on door and window components, walls, and trim in all of the buildings on the site, as well as potential PCB-containing ballasts in the barn, maintenance shop, and in five transformers. One mercury thermostat switch was identified in an abandoned trailer onsite, and mold was encountered throughout the buildings. Following the completion of the Phase II ESAs, the site was enrolled into the Wyoming VRP on January 18, 2019. Cleanup of soil and groundwater will occur under WDEQ VRP oversight, and asbestos remediation will be under the supervision of the WDEQ Air Quality Division (AQD) Asbestos Program.

WDEQ contracted with WWC Engineering (WWC) in June 2018 to oversee the implementation of preliminary remedial actions termed “site stabilization”, with the purpose of removing hazards that could present immediate risk to human health and the environment. According to the 2021 Site Assessment Final Report prepared by WWC, site stabilization took place between October 2018 and January 2019. Activities included removing around 60 cubic yards of bulk and loose asbestos containing materials (ACM), both friable and non-friable, from inside and outside the existing buildings. No further abatement of ACMs was completed under the site stabilization activities. Site stabilization

also included characterization and disposal of 51 drums, 23 of which had RCRA 8 metals concentrations that classified the drums as hazardous waste. All 51 drums were properly disposed of, along with other miscellaneous buckets and containers of 5-gallons or less. WWC also conducted PCB contamination sampling and delineation and implemented site security measures as part of the site stabilization work.

In 2020, a structural engineering and façade evaluation study was conducted, which indicated that the power plant building was overall in good condition structurally, although portions of the roof were in need of repair and portions of the façade would need reconstruction and spot repointing. Since the completion of the structural report, a portion of the roof in the northeast corner of the building has collapsed. The study also indicated that the maintenance shop had significant settling in one corner that would require stabilization and reconstruction of the walls and slab.

WWC prepared an Analysis of Brownfield Cleanup Alternatives (ABCA) in August 2021. The ABCA assessed three cleanup alternatives – Alternative 1 consisted of taking no action, Alternative 2 consisted of removing and abating all ACM, and Alternative 3 consisted of removing and abating all ACM and lead-based paint. Alternative 2 was the recommended cleanup approach, which would most effectively address on-site ACMs and allow for future decision-making on how to best approach remediation of lead-based paint depending on the future of the building. The total cost estimate for Alternative 2 was \$680,000. The SCCD won \$585,000 in EPA cleanup grant funds in Spring 2022 and plans to begin asbestos abatement in late 2023 or early 2024.

STAKEHOLDER INPUT

2017 Community Visioning Session

In August 2017, the SCCD conducted the first community visioning meeting for the reuse of the Acme power plant. Over 50 stakeholders participated in the meeting, which included a Strengths, Weaknesses, Opportunities, and Threats (SWOT) analysis as well as reuse visioning. In the SWOT analysis, participants generally thought that the site was strong in historical interest and recreational opportunities but was challenged by limited economic opportunity, contamination, and its remote location. After the SWOT analysis, participants voted for and against reuse options that had been identified by the group. The most highly supported redevelopment ideas included an outdoor recreation center (especially with river access), science/teaching center, and natural park with trails and water park. The least popular ideas included golf course, small business incubator, and removing the building to increase access to the river.

2021 Working Group Reuse Planning

In October 2021, the Acme Working Group met to discuss future reuse options for the site.

Reuse alternatives were grouped into three categories: Outdoor Park/Recreation, Education Facility/Retreat Space, and Commercial Operation. Of the 13 members who voted, 11 chose “Outdoor Park/Recreation” as their favorite reuse alternative. Members were also asked to select their preferred alternative for the future of the building, including completely removing the building, keeping or reusing the building, or incorporating some building elements into reuse. Six participants voted to completely remove the building, five participants voted to incorporate some building elements into the reuse option, and two participants voted to keep or reuse the building. The group agreed that unless the building were to be used as a commercial operation, the cost and effort to maintain and operate the building would be too significant for it to be feasible. The group supported the possibility of including building materials into the reuse programming, such as using bricks to make walking trails or interpretive displays. The group noted that outdoor recreation is a significant economic driver in Sheridan County, so while the site itself may not generate income, it could indirectly generate income through tourism. The group also noted that in order to be sustainable, the site would have to be unstaffed, similar to the Kleenburn Recreation Area a few miles away. The group also asserted that once cleanup and redevelopment is complete, the SCCD would like to transfer or sell the site to a long-term holding entity like the Sheridan County Recreation District, Wyoming State Parks and Cultural Resources, or the City of Sheridan.

2022 Stakeholder Meeting

On October 26, 2022, Adaapta participated in two stakeholder engagement meetings that were organized by the ICF and SGA team under the site visioning task order, which has been conducted concurrently with this market study. In both meetings, attendees were split into three groups: Group 1 focused on site design, Group 2 focused on identifying end users, and Group 3 focused on market potential and long-term ownership. The ICF team began the group discussion by presenting four alternatives for development of the site:

- Alternative 1: Primitive Nature Park with Trails
 - Option 1A: Keep Building
 - Option 1B: Remove Building
- Alternative 2: Outdoor Learning Center
- Alternative 3: Outdoor Recreation and Event Center

Adaapta team members led the discussion with Group 3 during both meetings. Group members agreed unanimously that Option 1B was the best path forward due to ongoing safety concerns around the building, which is difficult to adequately supervise due to its remote location and the expense of around-the-clock oversight. Since the SCCD has acquired the building, trespassing has been an ongoing issue, with at least one incident of serious injury occurring. While the participants were invested in preserving the building’s historic importance through interpretive signage, virtual reality, or other means, they felt strongly that the most realistic alternative - from both a maintenance and safety perspective - would be to demolish the building.

Group members proposed several ideas for site reuse that fit into the Outdoor Park/ Recreation category identified in the 2021 Working Group Reuse Planning Session. Participants expressed interest in installing solar panels on site, potentially on the north side of the Tongue River. Participants also expressed support for enhancing water recreation opportunities on the site by adding a kayak put-in and whitewater park, adding trail access to other nearby mining towns (see Figure 9), creating a motocross park, or adding a launch area for hunters looking to access state-owned walk-in hunting land located to the northwest of the site. Creating camp sites was also proposed, although participants thought that demand would be limited due to existing high-quality campsites in Bighorn National Forest.

The group then discussed potential long-term ownership options. Consistent with the 2021 Working Group Reuse Planning Session, the SCCD does not plan to maintain ownership of the site in the long term due to operational costs, although they will maintain ownership until the site is cleaned up and redevelopment is complete. Group members identified a number of potential owners, including the state or county parks department, an existing adjacent private property owner, or the community land trust.

MARKET ASSESSMENT

Based on suggestions received in the October 2022 stakeholder engagement meetings and coordination with the ICF team, Adaapta conducted additional research into two reuse options that would complement the site's future use as a nature park: solar energy and a kayaking/whitewater park. These ideas are not mutually exclusive, and could both be pursued in addition to development of the site as a recreation destination/park.

Solar/Renewable Energy Market Assessment

Several Group 3 participants suggested pursuing solar energy on the roughly 1-acre portion of the property on the north side of the Tongue River that currently contains the coal ash pile. If profitable, revenue generated from the operation of a solar farm on this portion of the site could be used to fund development, maintenance, and improvement costs for future recreational uses.

According to the National Renewable Energy Laboratory's (NREL) PVWatts Calculator, the portion of the property north of the Tongue River could likely support around 238 kW of



Figure 12: Approximate Solar Array Area

solar energy in the area shown in Figure 12 (Attachment 2). Based on an annual average of 4.8 solar hours per day, a solar array of this size could generate between 316,223 and 335,887 kWh per year depending on weather conditions. The average Wyoming household consumes approximately 10,728 kWh of electricity per year, meaning that a solar array of this size could power around 30 homes per year.¹⁵ According to the Solar Energies Industries Association, as of Q1 2021, commercial solar panel systems cost approximately \$1.45 per watt to construct, meaning that a 238 kW solar development would cost approximately \$345,100 to build.¹⁶ However, the small size of this solar development could result in construction costs that are up to 50% higher than large-scale solar installations; costs for a 238 kW solar development could be as high as \$517,650. While the size of the solar project is limited by current property boundaries, project economics could be substantially improved if five to ten additional acres were added to the project. If the SCCD decides to pursue solar development, coordination with adjacent property owners is recommended.

Due to its history of energy generation, the site is connected to the electrical grid, although the status of the nearest substation (0.80 miles away) is uncertain. The cost to connect the solar array to the substation would vary depending on the condition of the current lines and could be as low as \$10,000 or higher than \$70,000.¹⁷ However, right-of-way easements have likely already been acquired for existing power lines, which removes significant barriers and reduces costs associated with connecting the solar development to the grid. An Infrastructure Needs Analysis conducted by WWC Engineering (to be completed early 2023) will provide more detailed estimates for costs associated with upgrading electrical service to the site.

As of December 13, 2022, the Montana Dakota Utility Company (MDUC), the electricity provider for the City of Sheridan and portions of Sheridan County, charged 11.1 cents/kWh.¹⁸ The MDUC buys excess generation from privately owned solar at a rate of 3.6 cents/kWh, meaning a solar array of this size could generate between \$11,384 and \$12,092 per year.¹⁹ Assuming total development costs between \$400,000 and \$600,000, annual operating costs of \$4,000, and relatively stable energy prices, the project will not be financially feasible without substantial subsidization through tax credits and grants.²⁰

With the passage of the Inflation Reduction Act in 2022, substantial increases in federal tax credits for renewable energy have become available. The Investment Tax Credit (ITC) provides rebates of up to 40% for solar development in energy transition communities (which also includes brownfields sites), provided the project is built before 2033 and complies with

15 <https://www.electricchoice.com/blog/electricity-on-average-do-homes/>

16 <https://www.seia.org/research-resources/solar-market-insight-report-2021-q4>

17 <https://thundersaidenergy.com/downloads/wind-and-solar-costs-of-grid-inter-connection/>

18 <https://psc.wyo.gov/home/utility-rate-comparison>

19 <https://www.montana-dakota.com/wp-content/uploads/PDFs/Rates-Tariffs/Wyoming/Electric/wyelectricRateSummarySheet.pdf>

20 <https://www.nrel.gov/docs/fy20osti/74840.pdf>

certain labor requirements.²¹ The ITC covers a wide range of expenses, including materials, installation costs, battery storage, and grid connection costs. The Energy Infrastructure Reinvestment (EIR) program, expected to launch in 2023, will provide low-cost loans for the development of clean energy. By combining these two programs, the project could feasibly break even or turn a small profit. Assuming total development costs of \$400,000, the project would cost \$240,000 after a 40% ITC rebate. If the SCCD is able to provide \$100,000 in cash from grants, fund raising, or other means, a \$140,000 EIR loan at a 4.5% interest rate financed over 30 years would result in an annual payment of approximately \$8,400, allowing for \$3,000 to \$4,000 in annual operating expenses.²² If project costs are closer to \$600,000, substantial additional grant funding would likely be necessary to make the project feasible. However, the addition of adjacent land would likely make the project more profitable despite higher initial development costs.

Whitewater Park/River Trail

One of the most unique assets of the Acme site is its proximity to the Tongue River. Historically, the river has been used to float in kayaks or inner tubes, particularly in late spring and early summer when water levels are high. There are several examples of communities that have leveraged proximity to a popular river to create whitewater parks and water trails, which are man made river courses that are designed to help users practice and improve their paddling skills or enhance the tubing experience.



*Figure 13: Clear Creek Whitewater Park in Golden, CO
Credit: UncoverColorado.com*

In Golden, Colorado there is an 800-foot-long whitewater park for kayaks and canoes that features drops, pools, eddies, and boulders (Figure 13). The course has hosted a number of events, including the Colorado School of Mines Spring Icebreaker, the Clear Creek Whitewater Festival, the Open Canoe Championships, the Junior Olympic Championships, and the Eddie Bauer Invitational. There are currently only three whitewater parks in Wyoming: in Green River, Evanston, and Casper. All three are municipally owned and operated and are free to the public.²³

According to Parks and Recs Business, whitewater park construction costs can range between \$250,000 for parks with one or two whitewater features to over \$10 million,

²¹ <https://www.energy.gov/eere/solar/federal-solar-tax-credits-businesses>

²² State statutes currently prohibit the SCCD from taking on debt. However, the loan could be taken out by a development partner capable of taking on debt.

²³ <https://www.cityofgolden.net/play/recreation-attractions/clear-creek-white-water-park/>

particularly for the parks that also include event space, trails, and other uses.²⁴ However, there may be substantial grant funding opportunities or sponsorships for this type of use, which would help to minimize improvement costs. A list of potential funding sources will be provided in the second phase of this technical assistance.

While comparable parks are free to the public, they have significant indirect economic benefit. According to Parks and Recs Business, five comparable whitewater parks generated an additional \$117.47 per visitor in indirect economic value on average.²⁵ According to the October 2022 Travel and Tourism Industry Update, 32,280 people visited the Sheridan County Visitor Center in June, July, and August. If ten percent of all summer visitors went to the whitewater park, the total number of visitors per season would be 3,228. At an estimated \$117.47 of economic impact per visitor, the Acme Whitewater Park could generate upwards of \$379,000 per year in tourism revenue. This number does not include any additional revenue that could be generated if higher-volume national events and competitions were held at the site.

If a whitewater park is not feasible due to river conditions, a family-oriented water trail could be developed as an enhancement to the existing Tongue River Water Trail (Figure 14). Creating an off-site tube/kayak rental and parking facility where users can access a shuttle service for the Tongue River Water Trail may increase usership while minimizing the amount of traffic generated by the increase in use. Comparable operations throughout Wyoming and Montana charge between \$25 and \$50 per person for tube/kayak rental and shuttle service. Assuming a similar use scenario to the whitewater park, an equipment rental and shuttle service with 3,228 customers annually could generate between \$80,000 and \$160,000 in annual revenue. Water trail development and operational costs would likely be significantly lower than for a whitewater park, allowing the service to break even relatively quickly.

While local usage of a whitewater park or water trail is less likely to generate substantial indirect tourism revenue, it appears that the local market is likely to support either use. Market data generated from Esri Business Analyst indicates that the local market index for canoeing and kayaking is 155, which is 55% higher than the US average. According to a survey of Wyoming residents included in the 2019 Wyoming State Comprehensive Outdoor Recreation Plan (SCORP), 39% of respondents identified a need for non-motorized water travel recreation opportunities. While local residents are unlikely to generate significant economic impact, market data indicates that a whitewater park or water trail would be well supported by Sheridan County residents.

The addition of a kayak put-in/take-out and whitewater park or water trail is also compatible with the 2019 City of Sheridan Parks and Recreation Master Plan, which identified a kayak/canoe launch as one of the highest ranked unmet recreation facility needs (page I-4). It also meets the City's short-term capital investment goal (<5 years) of providing "additional access to and awareness of existing opportunities for water-based recreation, [particularly for recreating] in water in an outdoor natural setting" (I-5). Other whitewater parks have

24 <https://www.parksandrecbusiness.com/articles/2020/1/the-rise-of-urban-whitewater>

25 Ibid.

included streambank stabilization, vegetation restoration, and habitat improvement, all of which provide additional environmental benefit.



Figure 14: Tongue River Water Trail Map
 Credit: Sheridan Community Land Trust

There is currently a kayak put-in at the Kleenburn Recreation area (Figure 14) located approximately 1.75 miles upriver from the Acme site, which takes between 30 and 45 minutes to paddle or float. In either the whitewater park or water trail development scenario, users looking for a shorter trip could take out their kayaks at the Acme Power Plant or could continue to paddle the river for a longer trip, assuming that public use and access will continue to be permitted.

Other Recreation Uses

While solar panels and a whitewater park are likely the most lucrative uses of the Acme site, there are lower-cost alternatives that may subsidize the maintenance of any future improvements. Similar communities rent out event space and picnic facilities for around \$40 per day, although stakeholder meeting participants indicated that implementing a reservation system for Sheridan park facilities had been unsuccessful in the past. The SCCD could consider installing a donation box for parking and site access, with a suggested donation of \$5 per visit.

Finally, we recommend that after development, the site should be listed on popular outdoor activity apps like AllTrails, Gaia GPS, Trailforks, or Avenza to improve visibility and increase awareness of the Acme site. Historical photographs and information could also be

uploaded to the app, which would help connect users to the history of the site. The SCCD or future owner could also consider creating a tri-fold promotional pamphlet to include in the Sheridan County Visitor Center, hotel lobbies, and local recreation businesses to generate more awareness of the site’s history and recreational opportunities.

CONCLUSION

The Acme Power Plant has a rich history in Sheridan County, but it has been disconnected from the community for decades. The SCCD has made great strides in acquiring the property, building an engaged stakeholder base, securing funds for environmental assessment and asbestos abatement, and positioning the site for cleanup and reuse. Adaapta’s analysis shows that the reuse alternatives identified by the Acme Working Group are financially feasible and likely would be supported by the larger Sheridan community. With the redevelopment of the site envisioned by the SCCD, the Acme Power Plant site can continue to be a community asset for generations to come.