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# Wyoming Industrial Development Information and Siting Act

Section 109 Permit Application

**Cheyenne Prairie Generating Station**

Submitted by  
**Black Hills Corporation**  
P.O. Box 1400  
Rapid City, SD 57709

April 2012

Prepared by  
**CH2MHILL®**



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# Acronyms and Abbreviations

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(L <sub>eq</sub> (24h)	24-hour average sound level
°F	Fahrenheit
ac-ft	acre-feet
ac-ft/yr	acre-feet per year
AADT	average annual daily traffic
ACHP	Advisory Council on Historic Preservation
ACTB	Albany County Tourism Board
AFB	Air Force Base
AISC	American Institute of Steel Construction
ANSI	American National Standards Institute
ASME	American Society of Mechanical Engineers
ASTM	American Society for Testing and Materials
AQD	Air Quality Division
AWWA	American Water Works Association
BACT	Best Available Control Technology
BEA	U.S. Bureau of Economic Analysis
BGEPA	Bald and Golden Eagle Protection Act
bgs	below ground surface
BHC	Black Hills Corporation
BLM	Bureau of Land Management
BLS	Bureau of Labor Statistics
BMP	best management practice
CBOPU	Cheyenne Board of Public Utilities
CBP	Colorado butterfly plant
CCCT	combined-cycle combustion turbine
CDW	construction demolition waste
CFD	Cheyenne Frontier Days™
CFR	Code of Federal Regulations
cfs	cubic feet per second
CIP	Capital Improvement Plan
CLFP	Cheyenne Light, Fuel & Power

CO	carbon monoxide
CO <sub>2</sub>	carbon dioxide
CPGS	Cheyenne Prairie Generating Station
CRMC	Cheyenne Regional Medical Center
CTG	combustion turbine generator
CWA	<i>Clean Water Act</i>
CWIP	Construction Work in Progress
dB	decibel
dBA	A-weighted decibels
dBC	C-weighted decibels
EB	eastbound
EHS	Environmental, Health, and Safety
EMS	emergency medical services
EMT	emergency medical technician
EPA	U.S. Environmental Protection Agency
ESA	<i>Endangered Species Act</i>
e-waste	electronic waste
FEMA	Federal Emergency Management Agency
FEPCA	<i>Federal Environmental Pesticide Control Act</i>
FIFRA	<i>Federal Insecticide, Fungicide and Rodenticide Act</i>
FIRM	Flood Insurance Rate Map
FLM	Federal Land Manager
FMV	fair market value
ft	foot
FTE	full-time equivalent
FY	fiscal year
GDP	gross domestic product
GHG	greenhouse gases
GSU	generator step-up
HAP	hazardous air pollutant
HHW	household hazardous waste
HP	high-pressure
hr/yr	hour(s) per year

HRSG	heat recovery steam generator
Hz	hertz
I/O	input-output
I-25	Interstate 25
I-80	Interstate 80
I-880	Interstate 880
IBC	International Building Code
IMPLAN	Impact Analysis for Planning
ISA	<i>Industrial Development Information and Siting Act</i>
ISC	Industrial Siting Council
ISD	Industrial Siting Division
ISO	International Organization for Standardization
km	kilometer
kV	kilovolt
lb/hr	pound(s) per hour
LCFD	Laramie County Fire District
LCSD1	Laramie County School District 1
LCSD2	Laramie County School District 2
L <sub>dn</sub>	day-night average sound levels
L <sub>eq</sub>	equivalent-continuous sound level
LOS	level of service
LP	low-pressure
L <sub>x</sub>	exceedance sound level
MBTA	<i>Migratory Bird Treaty Act</i>
MCE	maximum considered earthquake
mgd	million gallons per day
MIG, Inc.	Minnesota IMPLAN Group
mm	millimeters
MMboe	million barrels of oil equivalent
mph	miles per hour
MPO	Metropolitan Planning Organization
MSL	mean sea level
MSW	municipal solid waste

MW	megawatt
NAAQS	National Ambient Air Quality Standard
NAICS	North American Industry Classification System
NB	northbound
NE	northeast
NEPA	<i>National Environmental Policy Act</i>
NFPA	National Fire Protection Association
NHPA	<i>National Historic Preservation Act</i>
NML	noise monitoring location
NO	nitric oxide
NO <sub>2</sub>	nitrogen dioxide
NOI	Notice of Intent
NO <sub>x</sub>	oxides of nitrogen
NPDES	National Pollutant Discharge Elimination System
NRHP	National Register of Historic Places
NSS	Native Species Status
NW	northwest
NWI	National Wetland Inventory
NWP	Nationwide Permit
O <sub>2</sub>	oxygen
O&M	operation and maintenance
OES	Occupational Employment Statistics
OSHA	Occupational Safety and Health Administration
PCE	personal consumption expenditure
PCPD	per capita per day
PHRC	public health response coordinators
PM <sub>10</sub>	particulate matter less than 10 microns in aerodynamic diameter
PM <sub>2.5</sub>	particulate matter less than 2.5 microns in aerodynamic diameter
PM	particulate matter
PMJM	Preble's meadow jumping mouse
ppm	parts per million
ppmvd	parts per million by volume, dry
Project	Cheyenne Prairie Generating Station

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PSD	Prevention of Significant Deterioration
REIS	Regional Economic Information System
REMI	Regional Economic Models, Inc.
RERT	Regional Emergency Response Team
RIMS	Regional Industrial Multiplier System II
ROW	right-of-way
RV	recreational vehicle
SAM	social accounting matrix
SB	southbound
scf	standard cubic feet
SCR	selective catalytic reduction
SE	southeast
SGCN	Species of Greatest Conservation Need
SHPO	State Historic Preservation Office
SO <sub>2</sub>	sulfur dioxide
SPCC	Spill Prevention, Control, and Countermeasures
STG	steam turbine generator
SW	southwest
SWAP	State Wildlife Action Plan
SWDD	Solid Waste Disposal District
SWPPP	Stormwater Pollution Prevention Plan
TCE	trichloroethene
tpy	tons per year
USACE	U.S. Army Corps of Engineers
UI	unemployment insurance
ULT	Ute ladies'-tresses
U.S.C.	United States Code
USACE	U.S. Army Corps of Engineers
USFS	U.S. Forest Service
USFWS	U.S. Fish and Wildlife Service
USGS	U. S. Geological Survey
VAMC	Veterans Affairs Medical Center
VOC	volatile organic compound

WB	westbound
WDEQ	Wyoming Department of Environmental Quality
WDOR	Wyoming Department of Revenue
WGFD	Wyoming Game and Fish Department
WQD	Water Quality Division
WRF	Water Reclamation Facility
WRP	water reclamation plant
WSEO	Wyoming State Engineers Office
WTP	water treatment plant
WY EAD	Wyoming Economic Analysis Division
WYDOT	Wyoming Department of Transportation
WYPDES	Wyoming Pollution Discharge Elimination System
yd <sup>3</sup>	cubic yards
ZVI	zone of visual influence

# Executive Summary

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The Black Hills Corporation (BHC) has begun the regulatory process to construct the Cheyenne Prairie Generating Station (CPGS, or the Project). When completed, the natural gas-fired electric generating station will serve customers in Wyoming and South Dakota.

BHC proposes to own, construct, and operate the Project located on private lands in the City of Cheyenne. The Project will include engineering, procurement, and construction of all equipment and facilities necessary for a fully operational gas-fired electrical generating facility.

## Industrial Siting Act Statute and Cost

A meeting was held with the Wyoming Department of Environmental Quality (WDEQ) Industrial Siting Division (ISD) on December 8, 2011, in which the ISD staff determined that the estimated capital cost of construction for the Project meets or exceeds the current statutory jurisdictional capital construction cost threshold of \$186.7 million (W.S. § 35-12-102).

## Location

The Project site is located in Laramie County, Wyoming, approximately 5 miles east of downtown Cheyenne, but still within the city limits. The facility would sit on approximately 30 acres within a 250-acre parcel. The parcel is adjacent to and south of Interstate 80 (I-80), situated just west of the Dry Creek Wastewater Treatment Plant (WWTP). Elevation throughout the Project area is approximately 5,950 feet above mean sea level. Approximately 1.75 miles of 115-kilovolt (kV) transmission line will be installed to connect the facility to the grid at a point east of the facility.

## Components

The primary components of the Project are gas-fired combustion turbine generators, one operating alone in simple cycle, and two operating in combined cycle. Additional infrastructure will include inlet air heaters, fuel gas heaters, a wet cooling tower, diesel generator, and diesel fire pump. The facility will be served by a natural gas pipeline originating near the southern border of Wyoming and an approximately 1.75-mile-long transmission line. The gas pipeline and transmission interconnect are non-jurisdictional components and not subject to the ISA regulations. A portion of the facility's footprint will contain a substation used to interconnect with the Cheyenne Light, Fuel, and Power (CLFP) electrical system.

## Project Schedule

Permitting is under way for the Project. The Prevention of Significant Deterioration (PSD) Greenhouse Gas air construction permit application was submitted to the U.S. Environmental Protection Agency in August 2011 and the PSD air construction permit application was submitted to WDEQ in October 2011. This Industrial Siting Act (ISA) permit application has been submitted in April 2012 with a public hearing scheduled for July 2012. Major equipment is expected to be ordered in the third quarter of 2012. A 14-month construction period is anticipated to commence in April 2013. Commercial operation of the facility is anticipated for summer 2014.

Construction activities will consist of equipment mobilization; preliminary site work including clearing, leveling, and grading work; excavation; substructures and piping; and foundation work including erection of foundations and steel structures. Major construction activities will commence in third quarter 2013, including mechanical and electrical work, and construction of combustion turbine generators, air quality control system and major auxiliary equipment.

# Construction and Operations Workforce

## Construction Workforce

Site preparation and clearing would begin in April 2013. Construction activities and the corresponding workforce will ramp up over the following months. The construction workforce is expected to peak at 400 on-site workers in December of 2013.

## Operations Workforce

During the operations phase, an estimated permanent workforce of 12 full-time positions will be needed by the Project.

## Public Involvement

Through numerous informational meetings and presentations, BHC representatives have actively sought out municipalities, counties, state agencies, and other stakeholders. The objective of this outreach has been to discuss potential environmental, social, and economic issues and identify mitigation recommendations and solutions to incorporate into the planning and design of the Project. The Project area of study, as identified by ISD staff during the Jurisdictional Meeting, determined the local governments where informational meetings were held.

BHC staff have met with elected government officials in Laramie, Albany, Platte, and Goshen counties as part of the pre-application filing process to inform them of the Project, receive comments and input, and address concerns.

Two public open house meetings were held to provide the public the opportunity to discuss the Project and any concerns. The meetings were held in Cheyenne on January 25 and February 18, 2012.

## Environmental Impacts

An analysis of the environmental impacts, including cumulative impacts, has found the Project will have a less than significant impact to the area within the Project's influence. Selected resources are presented below.

### Land Use

The Project site will be located on private lands. The Project site is undeveloped and zoning for industrial use has been approved by the City Council. There is an existing transmission line along the north end of the parcel, adjacent to I-80. The Project is consistent with all land use designations and is not expected to affect surrounding land uses.

### Traffic

Workforce and delivery vehicles are expected to primarily use I-80 and Campstool Road to reach the Project. HR Ranch Road would be improved west of Campstool Road. Driveway access will connect HR Ranch Road to the Project site. All deliveries will be trucked directly to the Project site. A traffic study was completed analyzing the construction and operation impacts to local traffic. The study found no significant impacts to traffic patterns, even during the height of construction.

### Water Use

In an effort to conserve water resources, the Project proposes to use treated wastewater effluent from the neighboring Dry Creek Wastewater Treatment Plant (WWTP) for the bulk of its water needs. The Project is estimated to use less than 100 acre-feet of water per year in peak and intermittent service, primarily during the summer. The water balance for the Project estimates a

maximum annual water use of 786 acre-feet/year. This figure was calculated assuming the plant is running at 100 percent load. The primary water requirement will be associated with the cooling tower. The water use estimate is conservative and represents the highest water use scenario.

More than 80 percent of the plant's operational water needs will be met by the treated wastewater effluent; the remainder will be potable water from the Cheyenne Board of Public Utilities. The current Dry Creek WWTP effluent flow is approximately 5,585 acre-feet per year; therefore, the plant is expected to consume less than 2 percent of the available WWTP effluent. Wastewater from the Project will be returned to the WWTP.

## Noise Impacts

The noise emissions from the Project have been evaluated based on ensuring the Project shows compliance with the City of Cheyenne Code of Ordinances. Project sound levels at the nearest noise sensitive receptors (residences) should not exceed an A-weighted sound pressure level of 48 dBA. Project-only sound levels at the nearest residences are expected to range from 43 dBA to 45 dBA. Therefore, the Project sound levels are expected to be consistent with the USEPA guidelines.

## Socioeconomic Impacts

A detailed analysis of social and economic impacts has been submitted as part of this permit application to evaluate the benefits and impacts to the social and economic resources in the area of study and primary area of site influence. To measure potential impacts, the socioeconomic analysis compares the expected future conditions in the area of study with and without the Project. The counties included in the area of study were determined in consultation with ISD staff and have been defined as Laramie, Albany, Platte, and Goshen counties.

Both local communities and the state will realize benefits from the Project. Wyoming will gain economic benefits, including permanent job creation and tax revenues. Locally, the Project may result in allocation and distribution of impact assistance payment funds, local spending on goods and services, additional local economic activity, and tax revenues. Additionally, locally generated electricity will provide the opportunity for residential and commercial development in the service area.

Construction of the Project is expected to place minimal demands on water, sewer, roads, electrical lines, or other local infrastructure. Therefore, construction and operation of the Project is not expected to significantly affect the various public and non-public facilities and municipal services as a result of in-migration of workers for non-basic employment opportunities.



# 1.0 Purpose, Need, and Benefit

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## 1.1 Purpose

Black Hills Corporation (BHC) proposes to construct the Cheyenne Prairie Generating Station (CPGS or the Project). When completed, the natural gas-fired electric generating station will serve customers in South Dakota and Wyoming.

## 1.2 Need

The need for the Project is driven by the impact of environmental regulatory requirements on its older coal-fired generating facilities. New U.S. Environmental Protection Agency (EPA) regulations require some power plants to be upgraded to meet new emissions limits or be retired from service. Through Black Hill Power's Integrated Resource Planning process, it was analyzed how compliance with these new regulations would affect existing coal-fired generating facilities. It was determined the best course of action would be to retire three coal-fired facilities by 2014 and replace that lost capacity with newer technology.

Furthermore, Cheyenne is experiencing positive economic development, and Cheyenne Light, Fuel & Power (CLFP) is a partner to ensure that those businesses have the energy they need to succeed. Recent examples of this growth include the National Center for Atmospheric Research, the continued development of the Swan Ranch Industrial Park, and indications of expansion plans from industrial customers.

## 1.3 Benefits

### 1.3.1 Regional Benefits

A typical concern with the location of new industries is that demand for services such as schools, roads, water supply, and waste disposal associated with population increases will grow more than the tax base that the new industry brings. While providing positive benefits to the local economy, the Project will have minimal impacts on communities and their infrastructure. Local communities will be able to plan for and accommodate the incremental changes resulting from the influx of the temporary construction workforce. Development of the Project carries significant economic benefits, including creation of new jobs, increased *ad valorem* taxes, and new dollars supporting the local economy.

Because of the relatively short timeframe for construction and the limited operations workforce required, the Project will place minimal demands on water, sewer, roads, electrical lines, or other local infrastructure. In addition, there would be little measurable increase in non-basic employment, as these jobs are generated from ongoing employment of the existing base of construction workers and would be maintained through the continued employment of both local and non-local construction and operation workers. Therefore, construction and operation of the Project will not significantly affect the various public and non-public facilities and services described above from the in-migration of workers for non-basic employment opportunities.

The Project will generate distinct and positive economic impacts during both the construction and operation phases. Specifically, development and construction will result in a short-term surge in economic spending activity, while operation will produce long-term economic benefits to local communities. Both sources of regional economic stimuli will result in increased output, income, and employment in Laramie County.

Implementation of the Project is expected to have beneficial effects on employment, earnings, and tax revenues. A major facet of the socioeconomic impact of large capital infrastructure projects is the total economic impact on specific local economic sectors and various positive effects on the local economy. The increases in employment or output often occur locally as a result of new business locations and community events, and such changes have positive implications for other parts of the local economy.

The Project's economic benefits to both local communities and the State of Wyoming include the following:

- Additional *ad valorem* taxes
- Increased need for and expenditure on local goods and services
- Potential allocation and distribution of Impact Assistance Fund payments over the construction period
- Increased use of the local service industry
- Negligible impacts to local government and municipal services
- Creation of jobs and stable employment
  - Peak of approximately 400 temporary construction jobs in December 2013
  - Addition of 12 permanent, full-time jobs
- Increased sales and use tax revenues from temporary and permanent employees purchasing goods and services during construction and operation of the Project
- Additional property taxes paid should new employees move into the area

An added environmental benefit would be that because the natural gas-fired turbines will use state-of-the-art technology and emission controls, the region will benefit from low emissions and high-efficiency combustion turbine technology.

### **1.3.2 Regional Economy**

The primary local economic impacts associated with the introduction of new business activity are increased employee compensation (wages and salaries exclusive of withholdings), purchases made by the new business, and taxes paid to local governments. The more local businesses are able to supply the needs of the employees and the new business, the greater will be the local economic impact of the new business.

Economic multipliers are often used to estimate the total economic impacts of a project or new business activity. The concept is that employee wages and business purchases have a ripple effect in an economy. The new business will purchase some of its required materials, supplies, and services in the local economy and those local businesses, in turn, will hire some new employees, creating indirect effects. Employees at the new business or project will, likewise, spend a portion of their wages at local stores and businesses, creating induced effects. In this way, the economic impact of the new business or project spreads in the local economy. In order to estimate the total economic impacts, economic multipliers are used in conjunction with the direct employment, wages, business purchases, and taxes paid. The direct impacts are multiplied by the economic multiplier to yield an estimate of the overall economic impact of the new business or project. Multipliers are generated by economic input-output models that account for linkages between sectors in an economy.

In addition to providing a stimulus to the local economy in the form of expenditures on materials and supplies (referred to as procurements), the Project would employ construction workers who are expected to spend a portion of their income (referred to as personal consumption expenditure [PCE]) in the study area, thus stimulating additional output in the various sectors that provide consumer goods and services. As a result of both Project procurements and PCE by both local and non-local construction workers, the Project is expected to result in a temporary increase in employment and income within the study area during the construction period.

Lastly, the Project will create a local and dependable source of electricity sufficient to supply a growing Cheyenne community.

### 1.3.3 Direct and Secondary (Indirect and Induced) Effects

Based on knowledge of the local economy and local sources, it is possible to identify the elements that have a direct effect on the local economy:

- A direct effect arises from the first round of buying and selling. In general, this is the purchase of some inputs, such as fuel; the spending of income earned by workers; and the income effects of tax changes. These direct effects can be used to identify additional rounds of buying and selling for other sectors and to identify the effect on rounds of spending by local households.
- An indirect effect is the increase in sales of other industry sectors in the county, which includes further round-by-round sales.
- An induced effect is the increased household income expenditures generated by the direct and indirect output effects.

The total economic effect is the sum of the direct, indirect, and induced effects.

During the construction phase of the Project, it is anticipated that between 35 and 40 percent of the onsite workforce would be composed of persons already residing in the local area. During the 14-month construction period, the Project would employ as many as 140 local workers, and the average monthly local employment would number 68 jobs. The Project would generate up to 12 permanent full-time jobs.

During construction, it is estimated that expenditures in the local economy for equipment, materials, and services would total approximately \$23.3 million.

### 1.3.4 Secondary Benefits

Construction of the Project would result in secondary economic impacts (indirect and induced impacts) within the study area. These benefits would be temporary. Direct and total employment effects include the purchase of goods and services by firms involved with construction as well as induced employment effects such as construction workers spending their income within the study area. In addition to these secondary employment impacts, there are income effects arising from construction.

At the peak, the Project is expected to result in annual direct and total employment within the study area of 127 and 180 full-time equivalent (FTE) jobs, respectively, over the 14-month construction period. The additional secondary jobs result from Project-related procurements in the study area, as well as local and non-local construction worker PCE. PCE would consist mostly of accommodations, food services, recreation, entertainment, and transportation. Table 1-1 provides a summary of employment effects as a result of the Project.

TABLE 1-1  
**Direct and Total Employment in the Local Economy**

Employment Type (FTE)	Construction Phase 2013	Operations Phase 2014 Onward
Direct (onsite)	127	12
Secondary (off-site)	53	7
<b>TOTAL</b>	<b>180</b>	<b>19</b>

Source: CH2M HILL, 2012.

Following completion of the Project, it is anticipated that operation of the facility would require 12 new permanent, full-time positions. In addition, this new direct employment would also generate secondary employment through local procurements to support operations and through expenditures on local goods and services by the operations workforce.

## 1.4 Local Benefits

The primary local benefits attributable to the Project as described below include the following:

- Potential distribution of Impact Assistance Fund payments
- Increased local spending
- Increased local professional job opportunities
- Tax effects

### 1.4.1 Distribution of Impact Assistance Funds

Pursuant to W.S. § 35-12-102(a)(vii), the proposed costs of the Project were reviewed by the Wyoming Department of Environmental Quality's (WDEQ) Industrial Siting Division (ISD) and determined to exceed the 2011 statutory threshold construction cost amount of \$186.7 million. Therefore, the Project falls under requirements of the Industrial Development Information and Siting Act (ISA), whereby local governments are eligible to receive Impact Assistance Fund payments.

#### Impact Assistance Fund Calculations

The amount of Impact Assistance Fund payments is based on the growth of sales and use taxes during the previous 12-month period. The calculation uses an average of all the sales and use taxes in the Project county (in this case, Laramie County) for the preceding 12-month period and is based on the growth of sales and use taxes after construction is initiated. The Wyoming Department of Revenue (WDOR) is responsible for calculating the prior 12 months of sales and use taxes to establish a baseline total. The corresponding construction month's sales and use tax is then compared to the monthly baseline total to determine that month's Impact Assistance Fund payment. The difference, the growth in sales and use taxes during the construction month, is the amount to be distributed in the Impact Assistance Fund payment. It is important to note that only sales and use taxes are used for the calculation. Lastly, the actual Impact Assistance Fund payments are issued by the WDOR and come from Wyoming's General Fund, rather than directly from the Project proponent.

#### Impact Assistance Fund Distributions

**Appendix C** provides an estimate of the amount of Impact Assistance Fund payments that could be expected as a result of the Project expenditures and increased sale and use taxes. Appendix C shows that the monthly average of Impact Assistance Fund payments from March 2012 through February 2013 is estimated to be \$208,122.

## 1.4.2 Increased Local Spending

Spending on construction and operation of the Project will positively affect the local economy directly, through the purchase of local goods and services, and indirectly as those purchases generate purchases of intermediate goods and services from other related sectors of the economy. In addition, direct and indirect increases in employment and income will enhance overall local purchasing power, thereby inducing further spending on goods and services. This cycle is expected to continue until the dollars spent eventually leak out of the local economy as a result of taxes, savings, or purchases of non-locally produced goods and services.

## 1.4.3 Increased Local Economic Activity

The Project will be a moderate source of new local professional job opportunities. Specifically, permanent facility operations positions will provide new local wage jobs (i.e., jobs above entry level and providing industry-scale income), some requiring specialized backgrounds in power plant and gas turbine operations. These positions may also add to the local economy through the employee purchase of residential homes, thereby increasing the local tax base.

## 1.4.4 Tax Effects

Tax effects are an important consideration and a significant benefit of the Project. The biggest tax benefit and source of new tax revenue would be associated with the *ad valorem* taxes collected over the estimated 30-year life of the Project. In conjunction with associated ancillary activities, state and local tax revenues also would be generated during the construction and life of operation of the proposed facility. Although some of these tax revenues will be distributed on a local level, the state controls such distribution.

### **Ad Valorem Taxes**

It is estimated that property taxes of approximately \$93,527 would be payable to Laramie County in the first year, as shown in Table 1-2. Once operational, for the period 2016 through 2040, the estimated total *ad valorem* tax revenue generated in the first 25 years would be approximately \$6 million.

TABLE 1-2  
**Estimate of Ad Valorem Taxes Paid Per Year**

2013	2014	2015	25-Year Total
\$93,527	\$470,922	\$619,137	\$6,053,000

Source: CH2M HILL, 2012.

### **Sales, Use, and Lodging Taxes**

Local tax revenues would also accrue from the sale of goods and services to non-local workers. These purchases would be mostly for meals, recreation, entertainment, gasoline and automotive service, and lodging. It is estimated that local tax revenues totaling more than \$8 million would accrue to Laramie and Albany counties combined over the construction period.

Lodging tax revenues could accrue to the counties in which Project-related construction workers temporarily reside, and estimates are included in the local tax revenues reported above. However, it should be noted that the actual distribution of construction workers is not known at this time as well as the durations of their stays, and lodging taxes are levied only on sleeping accommodations for guests staying less than 30 days.



## 2.0 Applicant and Facility Description

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The following sections provide information relevant to W.S. 35-12-109 and detailed Project-specific information relating to the intention of Black Hills Corporation (BHC) to construct, own, and operate a natural gas-fired power plant facility in Cheyenne, Wyoming.

### 2.1 Applicant Information

#### **Name and Address of Applicant:**

Black Hills Corporation (BHC)  
625 Ninth Street  
Rapid City, SD 57701

The following manager has been designated by BHC to be responsible for permitting the Project:

Jason Hartman  
Director, Generation Project Engineering  
Black Hills Corporation  
1515 Wynkoop Street, Suite 500  
Denver, CO 80202  
(303) 566-3445  
[Jason.Hartman@blackhillscorp.com](mailto:Jason.Hartman@blackhillscorp.com)

The following manager has been designated by BHC to be responsible for constructing the Project:

Aaron Hoff  
Project Manager  
Black Hills Corporation  
1515 Wynkoop Street, Suite 500  
Denver, CO 80202  
(303) 566-3419  
[Aaron.Hoff@blackhillscorp.com](mailto:Aaron.Hoff@blackhillscorp.com)

BHC is a diversified energy company with a tradition of exemplary service and a vision to be the energy partner of choice. BHC is based in Rapid City, South Dakota, with corporate offices in Denver, Colorado, and Papillion, Nebraska. The company serves 765,000 natural gas and electric utility customers in Colorado, Iowa, Kansas, Montana, Nebraska, South Dakota, and Wyoming. The company's non-regulated businesses generate wholesale electricity and produce natural gas, oil, and coal. BHC's employees partner to produce results that improve life with energy. More information is available at [www.blackhillscorp.com](http://www.blackhillscorp.com).

### 2.2 Point of Delivery – Goods and Services

The construction and operation of the Project will result in the purchase of goods and services, both for the Project itself and for the needs of the associated construction and operations workforce. Goods and services procured for construction activities will be obtained from various local, regional, and national vendors. BHC anticipates that all of the Project's components will be trucked to the Project site. Laramie County will be the primary point of delivery for components associated with the Project.

## 2.3 Site Selection

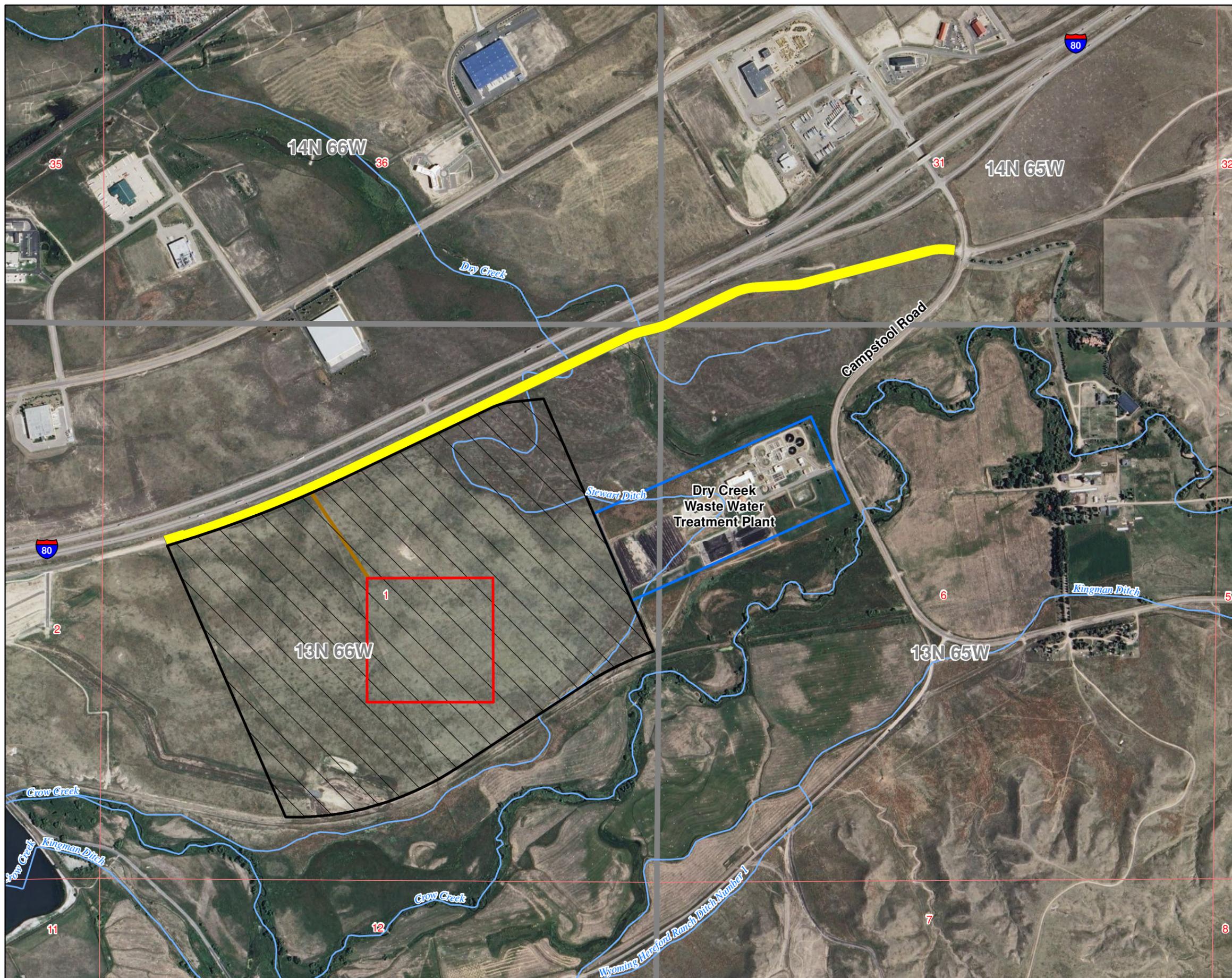
The Project site, shown in Figure 2-1, was selected for the following reasons: 1) availability of land for sale within the City of Cheyenne; 2) close proximity to transmission lines on which to interconnect; 3) low conflicts with surrounding land uses (e.g., industrial, highway); 4) absence of environmental sensitivities; and 5) close proximity to available water source.

## 2.4 Nature and Location of the Facility

The Project site is located in Laramie County, Wyoming, approximately 5 miles east of downtown Cheyenne, but still within the city limits. The facility would sit on approximately 30 acres within a 250-acre privately-owned parcel. The parcel is adjacent to and south of I-80, situated just west of the Dry Creek Wastewater Treatment Plant (WWTP). Elevation throughout the Project area is approximately 5,950 feet above mean sea level. (reference **Figure 2-1** and **Appendix A**). The Project site will be accessed using the Campstool Road exit off I-80 to HR Ranch Road to a new driveway access at the Project site. The dominant drainage feature near the Project site is Crow Creek, located to the south. The Project area is treeless and entirely composed of upland grasses. With the exception of a few two-track roads and fences, the Project area appears undisturbed.

## 2.5 Preliminary Site Plan

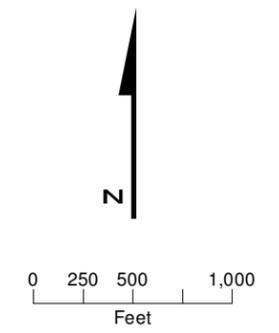
BHC has completed a preliminary site plan layout for the Project that minimizes environmental impacts and addresses community concerns to the most detailed extent practical. See **Figure 2-1** for the Project location and **Appendix A** for the preliminary site plan and major equipment layout.



**LEGEND**

- Streams
- Cheyenne Prairie Generating Station
- Project Parcel
- HR Ranch Road - Proposed Extension
- Project Driveway
- Township/Range
- Sections

Note: All lands shown are private.



**Figure 2-1**  
**Cheyenne Prairie Generating Station**  
**Black Hills Corporation**  
 Cheyenne, Wyoming

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## 2.6 Land Ownership

The Project is located on private lands. The final plat has not been recorded with the City of Cheyenne and, therefore, an official legal description is not available. Nonetheless, the Project will involve irregular portions of four sections as shown in Table 2-1. Land ownership is provided in **Appendix A**.

TABLE 2-1  
**Site Legal Description**

	Section	Township	Range
	Section 1	13N	66W
	Section 6	13N	65W
	Section 31	14N	65W
	Section 36	14N	66W

## 2.7 Project Phase Descriptions and Future Modifications

The Project will be constructed in a single phase during an anticipated 14-month construction period. No future phases or modifications to the Project are planned.

## 2.8 Facility Components

The Project will use natural gas-fired turbines to produce electricity for delivery to the local transmission system. Locations of these components are displayed on preliminary site and equipment plans in **Appendix A**. Descriptions of the major components follow. In general, the mechanical systems and equipment described in this section will, at a minimum, meet the relevant requirements of National Fire Protection Association (NFPA) 70, American Society of Mechanical Engineers (ASME), American National Standards Institute (ANSI), and American Water Works Association (AWWA).

### 2.8.1 Simple-Cycle Turbine

The simple-cycle combustion turbine generator (CTG) will have a net capacity of 37 megawatts (MW) at annual average ambient conditions and is designed to provide peaking service. The CTG will combust high-pressure natural gas, which, in turn, drives the electrical generator to produce electrical power. Major components of this turbine include:

- Combustion turbine
- Generator
- Natural gas-fired inlet air heating units
- Enclosures and freeze protection measures
- Inlet air cooling system
- Carbon dioxide fire protection system
- Turbine control system

The turbine will be equipped with selective catalytic reduction (SCR) capability to control nitrogen oxides (NO<sub>x</sub>), and with Catalytic Oxidation to control carbon monoxide (CO) and volatile organic carbon (VOC) emissions as discussed in the PSD construction air permit application that was

submitted to WDEQ in October 2011. The emissions control systems include the following major components:

- SCR system, including ammonia injection system
- Tempering air system
- Catalytic Oxidation system
- Exhaust stack

### **2.8.2 Combined-Cycle Turbine**

The two combined-cycle turbines will have a net capacity of 95 MW at annual average ambient conditions, designed to provide intermediate to baseload service. Each combined-cycle gas turbine combusts high-pressure natural gas that is expanded in a turbine, which, in turn, drives the electrical generator to produce electrical power. Each turbine includes the following major components:

- Combustion turbine
- Generator
- Modular inlet air filtration system with evaporative cooling and heating coil
- Inlet air heater system
- Compressor interstage water injection system
- Enclosures and freeze protection measures
- Auxiliary skids
- Carbon dioxide (CO<sub>2</sub>) fire protection system
- Air-cooled auxiliary cooling system
- Turbine control system

### **2.8.3 Heat Recovery Steam Generators**

Different from the simple-cycle turbine, the combined-cycle turbines use added equipment to recover heat from turbine exhaust to drive a second electric generator. Each of the two combined-cycle turbines will feed a heat recovery steam generator (HRSG). The HRSG uses water piping to capture heat from the turbine exhaust to produce steam. Each HRSG will be designed as a two-pressure steam generator without duct firing, and include SCR to control NO<sub>x</sub> and Catalytic Oxidation to control CO and VOCs to no greater than the limits proposed in the PSD air construction permit application that was submitted to WDEQ in October 2011. Each HRSG includes the following major components:

- Low-pressure (LP) heat transfer section
- High-pressure (HP) heat transfer section
- SCR system, including ammonia injection system
- Catalytic Oxidation unit
- Boiler feed pumps
- Ammonia storage and handling system
- Exhaust stack

### **2.8.4 Steam Turbine Generator**

The two HRSGs at the combined-cycle turbines will power the steam turbine generator (STG). The STG takes HP and LP steam from the HRSGs and expands that steam through the rotating blades to produce rotational energy in the shaft. The shaft is connected to the generator, which converts the rotational energy into electric power. The steam turbine exhausts the steam at vacuum conditions into the steam surface condenser. The STG includes the following major components:

- Steam turbine with HP and LP inlets
- Generator
- Lube oil system with coolers
- Turbine exhaust hood water spray system
- Steam seal system and gland steam condenser
- Electrohydraulic control system
- Turbine generator control system with distributed control system interface

### **2.8.5 Steam Surface Condenser**

The steam surface condenser receives exhaust steam from the steam turbine and condenses the steam using circulating water flowing through tubes. The condenser shell operates as a vacuum and contains the steam until it is condensed. Any non-condensable gases that enter the condenser are removed by the associated air removal equipment. The condenser includes the following major components:

- Surface condenser
- Condensate pumps
- Air removal equipment
- Makeup condensate de-aeration section

### **2.8.6 Cooling Tower**

The cooling tower receives heated water from the circulating water system from the steam surface condenser and uses evaporative cooling as the water cascades down the fill to reduce the water temperature to near that of the ambient wet bulb. The cooling tower includes the following major components:

- Multi-cell cooling tower structure
- Cooling fans and drive system
- Water distribution system, including fill and drift control media
- Fire protection system
- Lightning protection system

### **2.8.7 Water Systems**

Several water and wastewater systems will be installed to meet the water and wastewater disposal needs of the facility. The Project will receive potable water from the Cheyenne Board of Public Utilities (CBOPU) municipal water system, and the service water system will use wastewater effluent water from the neighboring CBOPU Dry Creek WWTP. Plant wastewater and sanitary wastewater will be directed to the Dry Creek WWTP. The water systems include the following major components:

- Circulating water system
- Auxiliary cooling water system
- Service water system
- Evaporative cooling water system
- Demineralized water system
- Potable water system
- Wastewater system
- Sanitary waste system

### **2.8.8 Generator System**

The generator system transfers electrical energy from the turbines to the generator step-up (GSU) transformers and plant auxiliary power supply. The system includes the generator breakers, which are used to connect the generators to the electrical system, the GSU transformers, current-limiting reactors, and non-segregated bus duct that carries the electrical energy to the GSU transformers. The generator system includes the following major components:

- Non-segregated bus duct
- Generator circuit breakers
- Current-limiting reactors

### **2.8.9 Substation**

The plant will interconnect to CLFP's 115-kilovolt (kV) transmission system at a new 115 kV substation located along the western boundary of the Project site. The 115 kV substation will be designed and constructed to initially accommodate two 115 kV transmission lines and two 115/13.8-kV GSU transformers.

- Circuit breakers
- Air break switches
- Associated structures – aluminum buses, line terminating structures, control building

### **2.8.10 Access Road and Project Driveway**

Access to Project site will be from an improved HR Ranch Road. Currently, HR Ranch Road is unimproved from its intersection with Campstool Road to the point where it is paved at the eastern end of the JL Ranch Subdivision west of the Project. This segment of road would be paved and improved to specifications agreed to in consultation with the city. Approximately 1.25 miles from Campstool Road, the Project's driveway will depart the road, and terminate at the administration building. Figure 2-1 locates the segment of improved HR Ranch Road and the Project's driveway.

### **2.8.11 Fire Protection and Detection System**

The fire protection and detection system provides fire pumps, water storage, hydrants, fire extinguishers, manual pull stations, notification, fixed suppression systems, and independent fire detection systems to protect plant personnel, buildings, and equipment in the event of fire. The fire protection and detection system include the following major components:

- Connection to the CBOPU municipal water system
- Firewater storage tank (a dedicated portion of the service water storage tank)
- Firewater pump package (skid mounted enclosure)
- Underground firewater loop piping, fire hydrants, valves, instrumentation, and accessories
- Sprinkler systems in various plant buildings, sized in accordance with NFPA requirements
- Fire detection and alarm system
- Hand-held fire extinguishers

### **2.8.12 Administration Building**

An approximately 30,000 square foot administration building will be located in the northwestern corner of the facility. It will house administrative offices, a warehouse space, and an equipment room for water treatment, fire protection, diesel generator, and compressed air equipment. Sanitary facilities will connect to municipal sewer. Potable water will be provided by a connection to the municipal water supply.

## 2.9 Additional Project Features

Per W.S. §35-12-119(c)(i) and (iii), electric transmission lines not exceeding 500 kV and natural gas pipelines are exempt from the industrial siting process. However, per W.S. §35-12-119(d), Applicants shall furnish some information on exempt facilities.

### 2.9.1 Interconnecting Transmission Line

*W.S. §35-12-109(a)(iii) – A description of the nature and location of the facility*

A 115-kV transmission line would be installed connecting the Project's substation to an existing transmission line approximately 1.75 miles east of the Project and south of I-80. The line would be self-supporting steel monopole with the conductor attached in a vertical arrangement.

*W.S. §35-12-109(a)(iv) – Estimated time of commencement of construction and construction time.*

Construction would begin in July 2013 and last 6 months, concluding in December 2013.

*W.S. §35-12-109(a)(v) – Estimated number and job classification, by calendar quarter, of employees of the applicant, or contractor or subcontractor of the applicant, during the construction phase and during the operating life of the facility. Estimates shall include the number of employees who will be utilized but who do not currently reside within the area to be affected by the facility.*

Transmission line construction will employ 21 non-local workers from July 2013 through December 2013, as shown in Table 2-2. No incremental permanent employees will be needed for operation and maintenance of the transmission line.

TABLE 2-2

**Estimated Workforce for Transmission Line Construction**

Classification	Q3 2013		Q4 2013	
	Local	Non-Local	Local	Non-Local
Supervisor/Foreman		1		1
Equipment Operators		3		3
General Laborer		7		7
Lineman/Electricians		10		10
<b>Total</b>		<b>21</b>		<b>21</b>

Source: BHC, 2012.

*W.S. §35-12-109(a)(viii) – A copy of any studies which may have been made of the environmental impact of the facility*

The transmission line was surveyed for the potential habitat of species protected by the Endangered Species Act (ESA). No potential habitat was identified along the route (WEST, 2012).

Once the final route is determined, a Class III cultural survey will be performed for areas to be disturbed by installation of the transmission line. Should resources eligible for listing on the National Register of Historic Places (NRHP) be identified, BHC will notify the State Historic Preservation Office (SHPO) to determine if mitigation is appropriate.

## 2.9.2 Natural Gas Supply Pipeline

*W.S. §35-12-109(a)(iii) – A description of the nature and location of the facility*

A 12-inch natural gas pipeline would be installed connecting the Project to a metering station approximately 9 miles south of the Project.

*W.S. §35-12-109(a)(iv) – Estimated time of commencement of construction and construction time.*

Construction would begin in April 2013 and last 4 months, concluding in July 2013.

*W.S. §35-12-109(a)(v) – Estimated number and job classification, by calendar quarter, of employees of the applicant, or contractor or subcontractor of the applicant, during the construction phase and during the operating life of the facility. Estimates shall include the number of employees who will be utilized but who do not currently reside within the area to be affected by the facility.*

Natural gas pipeline construction will employ 10 to 12 non-local workers from April 2013 through July 2013, as shown in Table 2-3. No incremental permanent employees will be needed for operations and maintenance of the natural gas pipeline.

TABLE 2-3

**Estimated Workforce for Natural Gas Pipeline Construction**

Classification	Q2 2013		Q3 2013	
	Local	Non-Local	Local	Non-Local
Superintendent		1		1
Foreman		1		1
Pipefitter		2		2
Welder		3		3
Laborer	3		3	
Operator		2		2
<b>Total</b>	<b>3</b>	<b>9</b>	<b>3</b>	<b>9</b>

Source: BHC, 2012.

*W.S. §35-12-109(a)(viii) – A copy of any studies which may have been made of the environmental impact of the facility*

The natural gas pipeline line was surveyed for the potential habitat of species protected by the ESA. No potential habitat was identified along the route (WEST, 2012). However, the U.S. Fish and Wildlife Service (USFWS) recommended surveying Porter Draw (a drainage approximately 5 miles south of the Project) for Colorado butterfly plant (*Gaura neomexicana ssp. coloradensis*) prior to construction. BHC will complete the survey in summer 2012 during the appropriate survey period and report the results to the USFWS.

Once the final route is determined, a Class III cultural survey will be performed for areas to be disturbed by installation of the pipeline. Should resources eligible for listing on the NRHP be identified, BHC will notify the SHPO to determine if mitigation is appropriate.

## 2.10 Financial Capability of Applicant

Black Hills Corporation is firmly committed to the success of the Cheyenne Prairie Generating Station, the latest project in a proven history of successfully constructing power generating facilities. Black Hills Corporation (founded in 1883) is a publicly traded holding company registered with the Securities and Exchange Commission. Its most recent 10-K as filed with the SEC has been provided to the ISD. The following is a sample of recently completed power generation projects:

TABLE 2-4

**Recent Black Hills Corporation Power Generation Projects**

Project	Size	In Service Date
Wygen II (Wyoming)	95 MW	January 2008
Valencia (New Mexico)	149 MW	June 2008
Wygen III (Wyoming)	110 MW	April 2010
Pueblo Airport Generating Station (Colorado)	380 MW	January 2012

Source: BHC, 2012.

As subsidiaries of Black Hills Corporation, Cheyenne Light, Fuel and Power Company and Black Hills Power, Inc. are public utilities regulated by the Wyoming Public Service Commission pursuant to W. S. 37-1-101 et seq. Both companies have filed a joint application before the Wyoming Public Service Commission for a Certificate of Public Convenience and Necessity under W.S. 37-2-205. The application will be heard on July 31, 2012, at which time the Commission will determine whether the present and future public convenience and necessity will require the construction of the facility, together with the gas pipeline that will serve it, and the electric transmission line that will provide the electrical power which the facility will generate. As part of that determination, the Public Service Commission will determine and examine the financial ability and good faith of the applicant and the necessity for the additional service and facilities.



## **3.0 Construction, Operations, and Decommissioning**

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This section provides information on the construction, operation, and decommissioning of the Project. In addition to presenting general construction and operations procedures, schedules, and workforce estimates, this section also provides details on the required permits, relevant regulations, health and safety issues, and site decommissioning.

### **3.1 Commencement and Duration of Construction**

Initial site selection and limited permitting activities were initiated in 2011. Contingent upon obtaining approval from the Industrial Siting Council (ISC) and securing all other required permits, formal commencement of construction of the Project is planned for the second quarter of 2013. The construction schedule will last approximately 14 months.

### **3.2 Construction Schedule**

Contingent upon approval from the ISC and obtaining all other required permits, BHC anticipates formal commencement of Project construction activities in the second quarter of 2013. The current construction schedule for the Project is summarized in Figure 3-1.

### **3.3 Construction Completion Schedule**

As detailed in Figure 3-1, construction is expected to be completed in May 2014. Therefore, the Project is anticipated to be 90 percent complete in the second quarter of 2014.

### **3.4 Construction Workforce Estimate**

The estimated number of construction workers by month and calendar quarter is shown in Figure 3-2. BHC anticipates that onsite construction workforce will vary from a low of 45 in April 2013 during initial site preparation to a high of 400 construction trades people during the peak of construction activities in the winter of 2013. Over the 14-month construction period, there would be a monthly average of approximately 194 FTE workers onsite. Table 3-1 presents the workforce personnel breakdown.

#### **3.4.1 Local In-State Contractor Hiring**

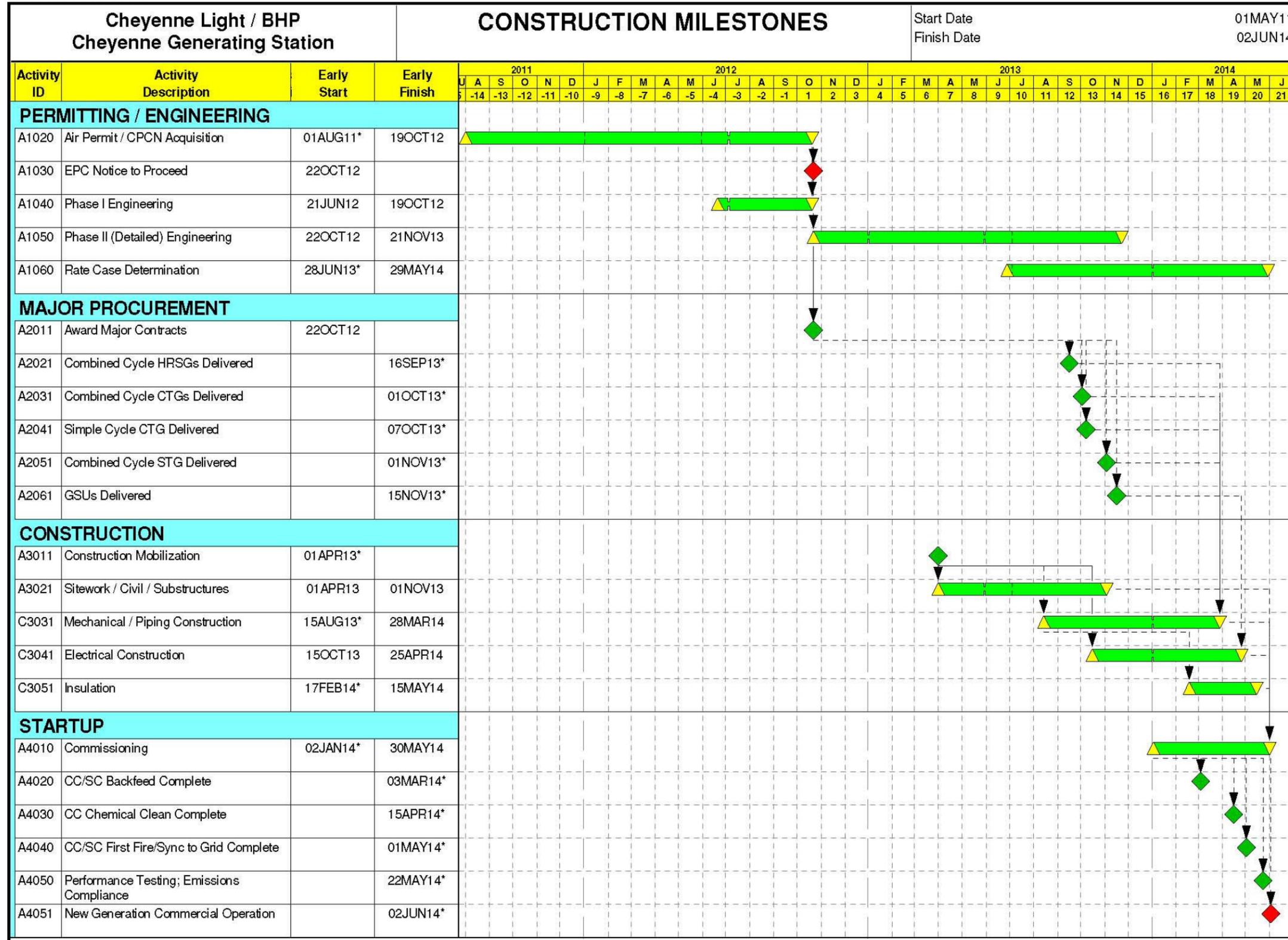
BHC will solicit local contractors for screening and sourcing by the general contractor and will request its general contractor to use local workers to the extent practicable. Additionally, employment opportunities for local workforce during both construction and operations will be posted in the local Wyoming Department of Workforce Services, Employment Services office in Cheyenne.

### **3.4.2 Local Workforce**

Based on past project experience, it is assumed that the proportion of local workers filling job openings will vary by trade and skill level. BHC estimates 35 percent of the construction workforce will be formed by local workers within commuting distance of Cheyenne.

Based on these workforce assumptions, during the construction period of 14 months, the Project would employ as many as 140 local workers at the peak, and the average monthly local employment over the construction period would number 68 jobs. Figure 3-3 presents an estimate of the local construction workforce that may be potentially employed at the Project.

FIGURE 3-1  
Construction Schedule



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FIGURE 3-2  
**Construction Workforce by Trade and Month**

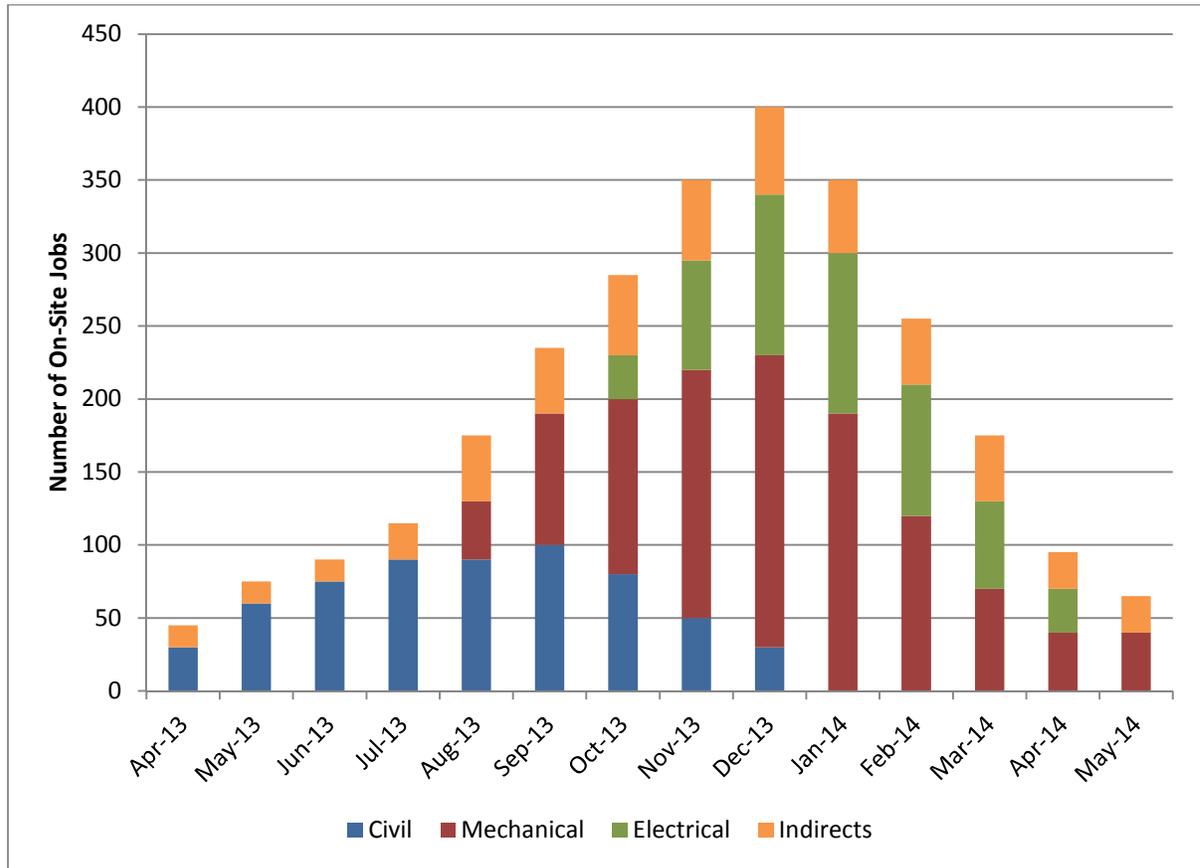
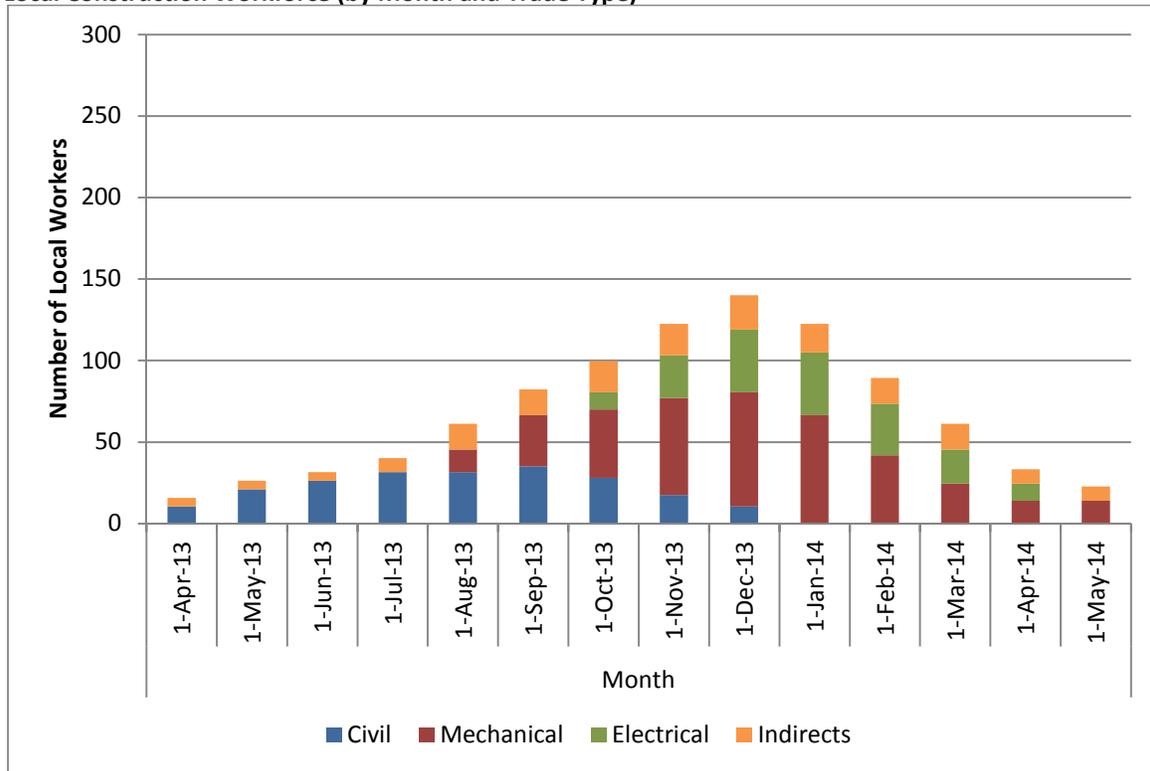


TABLE 3-1  
**Onsite Construction Workforce Schedule**

	April 2013	May 2013	June 2013	July 2013	August 2013	September 2013	October 2013	November 2013	December 2013	January 2014	February 2014	March 2014	April 2014	May 2014
<b>Civil</b>														
Laborers	15	15	15	20	20	20	15	15	15					
Operators	15	10	10	10	10	10	5	5	5					
Carpenters		15	20	20	20	15	10	5	5					
Pipefitters		5	10	15	15	20	20	10	3					
Electricians		5	10	15	15	20	20	10	2					
Cement Masons		10	10	10	10	15	10	5						
<b>Mechanical</b>														
Laborers					25	15	10	10	10	10	10	5		
Operators					7	10	10	10	10	10	10	5		
Pipefitters					8	30	60	105	130	130	90	15		
Boilermakers						15	15	20	20	10		10		
Ironworkers						10	15	15	15	15				
Millwrights						10	10	10	15	15	10	5		
Insulators												30	40	40
<b>Electrical</b>														
Laborers							5	10	15	15	10	5	5	
Electricians							25	65	95	95	80	55	25	
<b>Indirects</b>														
Project Management	8	10	10	20	40	40	45	45	50	40	35	35	18	18
Const. testing	3	3	3	3	3	3	3	2						
Survey	4	2	2	2										
Vendor TFA					2	2	7	8	10	10	10	10	7	7
<b>TOTAL</b>	<b>45</b>	<b>75</b>	<b>90</b>	<b>115</b>	<b>175</b>	<b>235</b>	<b>285</b>	<b>350</b>	<b>400</b>	<b>350</b>	<b>255</b>	<b>175</b>	<b>95</b>	<b>65</b>

Source: BHC, 2012.

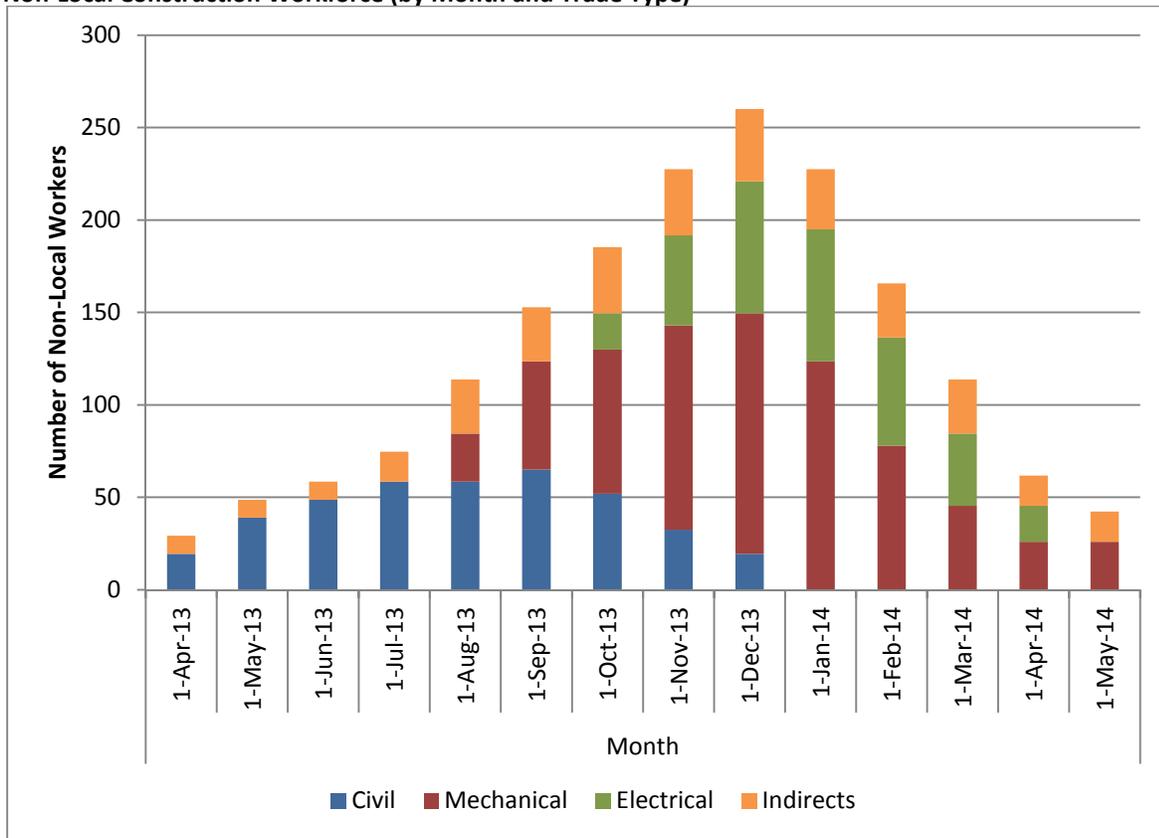
FIGURE 3-3  
Local Construction Workforce (by Month and Trade Type)



### 3.4.3 Non-Local Workforce

Based on the type of labor required to complete construction contracts on facility, the majority of the construction workers are likely to be non-local and enter the region. Figure 3-4 provides an estimate of the peak non-local construction workforce.

**FIGURE 3-4  
Non-Local Construction Workforce (by Month and Trade Type)**



### 3.5 Operations Workforce Employment

A long-term benefit of the Project comes from the permanent employees who will operate and maintain the power generating facility. Upon completion, operation of the Project will require 12 permanent, full-time employees. The full-time job classifications and estimated number of personnel are displayed in Table 3-2.

It is anticipated that the Project will have an initial operations workforce in place in mid-2014. Employees will be full-time over the calendar year and through the anticipated life of the Project.

**TABLE 3-2  
Estimated Operations Workforce Summary by Job Classification**

Job Classification	Number
Technicians	9
Plant Manager	1
Engineer	1
Administrative Support	1

Source: BHC, 2012.

## 3.6 Permits Required for Construction

It is expected that all permits required for construction will be obtained prior to the start of construction activities in April 2013. The anticipated permits required for construction are listed by regulatory agency in Table 3-3.

TABLE 3-3  
List of Potential Permits for Construction and Operation of Project

Agency	Permit/Decision	Status	Anticipated Permit Date
<b>Federal</b>			
U.S. Environmental Protection Agency (EPA)	Spill Prevention, Control, and Countermeasure (SPCC) Plan – for construction	After EPC Award	April 2013
U.S. Environmental Protection Agency (EPA)	Spill Prevention, Control, and Countermeasure (SPCC) Plan – for operations	Prior to initial operation a plan will be developed	June 2014
U.S. Environmental Protection Agency (EPA)	Prevention of Significant Deterioration – Greenhouse Gas Permit	Application submitted to EPA in August 5, 2011	November 2012
<b>State of Wyoming</b>			
Wyoming Department of Environmental Quality (WDEQ)	Wyoming Industrial Development Information and Siting Act / Industrial Siting Commission Order	Filed April 30, 2012	September 2012
	Construction PSD Permit Application	Application submitted October 19, 2011	November 2012
	Wyoming Pollutant Discharge Elimination System (WYPDES) - Large Construction General Permit (Storm Water Program)	Application will be prepared after final design & approval	April 2013
<b>City of Cheyenne</b>			
Board of Public Utilities	Industrial Discharge Permit Application (discharge to Dry Creek WWTP)	Application will be prepared after final design & approval	April 2013
<b>Laramie County</b>			
Planning and Development – Development Office	Section 2-2-127 of the Laramie County and Use Regulations, <i>High-Power Transmission Lines, Water Pipelines Over 12 Inches in Diameter, and Energy Pipelines</i>	Application will be prepared once routes are finalized.	June 2012

## 3.7 Laws and Regulations

BHC will fulfill informational requirements of the regulations and the ISA by also obtaining required permits under the jurisdiction of other local, state, and federal regulatory agencies. The primary laws, rules, and regulations that govern construction of this Project are summarized in this section.

### 3.7.1 Federal

*Clean Water Act, 33 United States Code (USC) § 1344, Section 404; 40 Code of Federal Regulations (CFR) 231 (authority), 233 (state); 33 CFR 320-330*—establishes the requirements for Nationwide Permits (NWP) administered by the U.S. Army Corps of Engineers (USACE).

*Clean Water Act, 40 CFR 122-124, Subchapter D*—establishes the requirements of the National Pollutant Discharge Elimination System (NPDES) permit for stormwater discharges from municipalities, industries, and construction operations.

*Clean Water Act, Oil Pollution Act Spill Prevention Control and Countermeasures Regulations, 33 USC 1314; 33 CFR 320, 323; 40 CFR 230, 33 USC 1341(a), 40 CFR Part 112*—establishes procedures and requirements addressing when a Spill Prevention, Control, and Countermeasures (SPCC) Plan is required and what it entails.

*Federal Insecticide, Fungicide and Rodenticide Act (FIFRA) of 1947, as amended by the Federal Environmental Pesticide Control Act (FEPCA) of 1972, 7 USC s/s 136 et seq. (1972); 40 CFR Parts 150-189*—establishes methods and standards of control of herbicides and pesticides, including personnel certified to apply herbicides.

### 3.7.2 State of Wyoming

*Wyoming Air Quality Rules and Regulations, Chapters 1-14, in accordance with the Wyoming Environmental Quality Act, W.S. § 35-11-101 et seq.*—establishes air quality standards in the State of Wyoming.

*Hazardous Waste Management Rules and Regulations, Chapters 1-14, in accordance with the Wyoming Environmental Quality Act, W.S. § 35-11-101 et seq.*—a joint rule of the Solid Waste Management Program, the Water Quality Division, and the Air Quality Division, which establishes hazardous waste management standards in the State of Wyoming.

*Industrial Siting Council Rules and Regulations, Chapters 1-2, in accordance with the Environmental Quality Act, W.S. § 35-12-101-119*—establishes industrial siting regulations in the State of Wyoming.

*Solid Waste Management Rules and Regulations, Chapters 1-4, 6-10, and 15, in accordance with the Wyoming Environmental Quality Act, W.S. § 35-11-101 et seq.*—establishes solid waste management standards in the State of Wyoming. Specific sections of the act that provide authority for this regulation include W.S. § 35-11-102, W.S. § 35-11-109 and Article 5, Solid Waste Management, W.S. § 35-11-501 et seq.

*Surface Water Quality Standards Rules and Regulations, Chapters 1-12, promulgated pursuant to W.S. § 35-11-101 through 1507, specifically 302 (a)(i) and 302 (b)(i) and (ii)*—establishes surface water quality standards.

*Department of Transportation Rules and Regulations, Chapters 1-15, in accordance with practices and procedures, which are promulgated by authority of W.S. § 31-18-104(vi) and W.S. § 31-18-303*—establishes transportation requirements for issues such as oversize/overweight vehicles in the State of Wyoming.

*Wyoming Weed and Pest Control Act of 1973, W.S. § 11-5-101 through 11-5-119*—establishes means for controlling designated weeds and pests.

### 3.7.3 Laramie County

Section 2-2-127 of the Laramie County and Use Regulations, *High-Power Transmission Lines, Water Pipelines Over 12 Inches in Diameter, and Energy Pipelines*, establishes a Board of County Commissioners review for major utility lines.

## 3.8 Construction Procedures

The general construction contractor and subcontractors would prepare the construction site; complete site civil work including site development, excavations, foundations, steel work, and building construction. Table 3-4 details the general equipment that is likely to be used for the Project. After construction, temporarily disturbed areas (e.g., laydown areas) will be restored similar to pre-construction conditions. Disturbed areas will be contoured and seeded with a designated reclamation seed mixture, in consultation with the reclamation contractor

TABLE 3-4  
**General Construction Equipment**

Equipment	Construction Use
Bulldozers	Road and Foundation Construction
Motor Graders	Road and Foundation Construction
Gravel Truck Haulers / Bottom Dump	Hauling and Placement of Aggregate
Water Trucks	Compaction and Dust Control
Roller/Compactors	Road and Foundation Compaction
Backhoe/Trenching Machines	Excavating Foundations; Trenches
18-Wheel Semi-Tractors	Component Delivery
Concrete Trucks and Pumps	Pouring Foundations
Conventional and Small Cranes	Off-Loading Equipment Onsite
Heavy and Intermediate Cranes	Off-Loading Equipment Onsite
Cement Trucks	Hauling Cement Material
Pickup Trucks	General Use by Construction Personnel
Small Hydraulic Cranes/Forklifts	Loading and Unloading Minor Project Equipment

Source: BHC, 2012.

### 3.8.1 Site Development and Grading

The initial site development work will include clearing and grubbing the site, disposing of non-hazardous waste, stripping and stockpiling topsoil, the installation and maintenance of construction parking and construction laydown areas and the construction of temporary and permanent drainage facilities using accepted best management practices (BMPs) for erosion and sediment control.

Facility grading work will include shaping the natural grade as required to accommodate both construction facilities and permanent facility equipment. Grading will be carried out in a manner that will minimize earthwork while obtaining proper cross section, longitudinal slopes, and curvature

for roads, raising grades as necessary to eliminate flooding from external watercourses due to the 100-year rainfall, and constructing stable, erosion-resistant earthen side slopes. The 100-year runoff from uphill drainage areas will be diverted around the Project and returned to the natural drainage course in a manner acceptable to the permitting agency.

A looped facility road will be provided around the power block area and interior facility roads will be provided where access is required to equipment, pump structures, or entrances to buildings or enclosures. All open areas will be covered with crushed rock to minimize dust.

Temporary security fencing will be provided around the entire property line with appropriate gates to accommodate construction activities. Permanent security fencing will be installed around the perimeter of the new facility. The plant entrance gate will be a motor operated gate, which will be remotely controlled from the control room or by an electronic keypad or access card locally. All other gates will be manually operated.

### **3.8.2 Earthwork, Excavation, and Fill**

A geotechnical investigation has been performed at the Project site. The investigation will determine the suitability of site soils for use as compacted fill, and their ability to achieve the desired compaction requirements with the proper moisture treatment.

Excavations will be carried out and supported in such a manner as to prevent flooding or ponding of water, or damage or interference to other existing structures, utility services, or stored equipment/materials. Excavations for foundations will be sealed with a concrete mud mat or seal slab, if required, as soon as possible after being excavated and inspected.

Fill materials will be suitable for the intended purpose and will not include materials hazardous to health, material susceptible to attack by ground or groundwater chemicals, material susceptible to swelling or shrinkage under changes in moisture content, highly organic or chemically contaminated materials, or any other unacceptable materials.

Compaction of fill materials will be carried out as soon as practicable after deposition of fill materials. Fill will be compacted to the densities appropriate to the design requirements, fill type, and depth of layers.

### **3.8.3 Foundations**

Geotechnical exploration, steel pile testing, and analysis information will be used to determine the most suitable foundation system. Foundation analysis for major equipment will include the evaluation of total and differential settlement. Dynamic foundation analysis and design will be performed for the turbine generators when recommended by the equipment manufacturer. Foundations will meet all manufacturer requirements. Additionally, foundations for rotating equipment will not impart unreasonable vibration levels, consistent with normal utility industry practice, to surrounding foundations and equipment.

Aboveground tanks, equipment skids, pumps, and supports will be installed on raised slabs or pads for corrosion protection. All foundation floor elevations will be above the 100-year flood plain and the floor elevation of buildings and the top of foundations for major outdoor equipment will be a minimum of 6 inches above the high point of finished grade elevation. Oil-filled equipment foundations will have an integral reinforced concrete spill containment area.

### **3.8.4 Steel Work**

Steel design will be in accordance with the latest edition of the American Institute of Steel Construction (AISC) design manual, allowable stress design. The selected contractor will use a

system to validate the type and grade of high-strength bolts through sampling and metallurgical testing. All hoist and monorail support beams will be clearly marked with their rated capacity.

### **3.8.5 Buildings**

Buildings will be constructed to provide the space needed to house the Project's personnel as well as electrical and auxiliary equipment. It is expected that a control/administration building, warehouse/workshop building, and a water treatment building will be required.

## **3.9 Operation and Maintenance Procedures**

Generating units for the electric utility industry are generally categorized as baseload, intermediate, peaking, or super peaking. Baseload generating units generally operate 7 days per week, 24 hours per day to meet the demand that is always present. Intermediate capacity is additive to baseload capacity and meets demand that occurs for 10 to 12 hours per day. Peaking capacity operates for brief periods to meet high-demand hours. Super peaking operates for those very few hours when loads are at their highest levels. A resource mix that consists of each of these types of capacity generally provides the most operating flexibility for utilities. The combined-cycle turbines will operate as an intermediate resource and the simple-cycle turbine fills the peak need.

The plant will be supplied with natural gas by a 12-inch dedicated pipeline. The pipeline will originate at a metering station near the Wyoming/Colorado state line in southern Laramie County and terminate at the plant. The Project will use up to 30,000 dekatherms of natural gas per day. The plant will be connected to the electrical grid.

### **3.9.1 Anticipated Operation Life**

The economic life of the Project is anticipated to be 25 years, but may be extended depending on market conditions and the overall condition of the infrastructure.

### **3.9.2 Facility Operations**

After construction is complete, onsite personnel will operate and maintain all components of the Project. The facility will have administrative, operations and maintenance staff. The administrative building will house the main control room that will monitor all turbine and auxiliary equipment operations. The building will also house the mechanical and instrumentation technicians that will maintain, repair, test, and calibrate equipment and system controls. Continuous Emission Monitoring systems will be installed on each of the turbine stacks.

The facility will utilize pipeline natural gas to operate the turbines, inlet air heaters and fuel gas heaters. Diesel fuel will be stored for the emergency generator and fire pump. Water will be supplied by the City of Cheyenne BOPU and the Dry Creek WWTP. There will also be deliveries of aqueous ammonia (for the SCR emission control systems) and water treatment chemicals.

## **3.10 Worker, Environmental, and Facility Protection**

Pursuant to ISD requirements, BHC will develop a Written Compliance Plan to effectively meet the Section 109 Permit Conditions and to ensure compliance with voluntary commitments made by BHC in the permit application, during testimony, and via agreements with local governments. The Plan will support the construction and operation of a safe and environmentally compliant Project that is constructed and operated in compliance with federal, state, and local regulations and in accordance with the ISA permit conditions. This Plan will provide a comprehensive framework for site-specific environmental procedures and requirements. Throughout the duration of the construction and

operation of the Project, this Plan will be reviewed and revised for implementation, effectiveness, and applicability.

### **3.10.1 Environmental, Health, and Safety**

BHC will prepare a site Environmental, Health, and Safety (EHS) Plan that outlines overall expectations for EHS performance on the Project site for all employees, contractors, and subcontractors.

#### **Construction**

The EHS Plan will require that the construction contractors prepare specific plans and procedures to be approved by BHC and put in place prior to commencement of construction. The EHS Plan will cover all work to be performed by the general contractor, turbine suppliers, and all site subcontractors during construction, operation, and decommissioning of the Project. In addition, all site personnel will comply with all safety requirements of the Occupational Safety and Health Administration (OSHA), State of Wyoming, and local ordinances, as applicable.

Contractors will be required to maintain adequate first aid facilities throughout the construction period. Specifically, prior to construction, the general contractor and turbine supplier will provide and maintain for the protection of their employees such safety equipment, guarding, and personal protective apparel as is prescribed for safety practices or as required by any law, ordinance, rule, or the exercise of ordinary prudence for the type of work being performed. Each contractor with more than 20 people at the site will be required by BHC to have a designated EHS professional onsite. Lastly, a BHC construction management representative will oversee the construction phase to monitor the health and safety performance of the general contractor.

#### **Operations**

Upon reaching commercial operation, the Project will be subject to BHC EHS regulation, including specific programs and procedures applicable to the company's power plants. These policies will be deployed and implemented to ensure that EHS Plan expectations, roles, and responsibilities are well documented and understood by site employees, contractors, and visitors. Components of the EHS Plan include emergency response, training, environmental requirements, contractor management, and comprehensive safety programs, including wind-specific risks such as severe weather, confined space entry, lockout tagout, electrical safety, and other site- and equipment-specific requirements. BHC corporate EHS professional will provide comprehensive support for the site, including oversight of any monitoring programs. It is BHC's intent that all projects implement the appropriate programs, procedures, and training that result in a sustained zero injury and illness culture.

The BHC EHS Plan will cover all work to be performed by all site contractors and BHC employees during operation of the Project. A BHC Plant Manager will oversee the operations phase to monitor the health and safety performance of subcontractors and BHC employees.

### **3.10.2 Non-Hazardous Waste**

#### **Construction**

A variety of non-hazardous, inert construction wastes are typically generated during construction. The major solid waste types are concrete waste, equipment packing material, scrap metal and lumber, and other standard construction materials. Concrete accumulating in the concrete washout area or any other materials not suitable to be left in place will be removed and properly disposed of. Additional wastes could include erosion control materials, such as straw bales and silt fencing, and packaging materials for turbine parts and electrical equipment. The waste is typically accumulated onsite in dumpsters and/or drop boxes until hauled away to a licensed landfill. Construction

materials appropriate for recycling (e.g., metals, wood, etc.) will be stored in appropriate bins and recycled. Local waste haulers were contacted regarding the ability to dispose of construction waste (Kizlinski, 2012). One hauler expressed the ability to dispose of Project-related CWD regardless of the status of the Happy Jack Landfill. The hauler noted they have access to other landfills (including ones in Colorado), and that there would be no issues providing waste removal services for the Project. No significant impacts to local solid waste disposal sites or services are expected from the amount of wastes generated by the Project.

### **Operations**

Solid waste generation during Project operations will be minimal, on the order of one dumpster per week; therefore, no significant impacts to local solid waste facilities are expected. The only other source of solid waste will be incidental waste from repair, maintenance, and replacement of equipment, as necessary. The facility will be connected to the city sanitary sewer. Disposal of materials onsite will be conducted in accordance with all applicable regulations.

### **3.10.3 Hazardous Wastes and Materials**

Hazardous substances and wastes are subject to strict handling, storage, disposal, and transportation laws at the federal, state, and local levels. It is the intention of BHC to properly manage all hazardous materials and waste streams associated with the Project in accordance with those laws and other BHC waste management and hazardous material requirements. The sections below describe hazardous materials and wastes anticipated at the site and best practices for properly managing those materials.

Construction, operation, and maintenance of the Project would result in the temporary use and storage of small amounts of hazardous materials. Such materials would include mostly fuels, lubricants, and hydraulic fluids associated with construction equipment, as well as cleaning and maintenance compounds.

#### **Construction**

It is expected that small amounts of hazardous waste may be generated during Project construction, resulting in a conditionally exempt small quantity generator status for the Project. Potential hazardous waste streams would be associated with spent aerosol cans and other construction-related solvent use. The Project is subject to NPDES requirements for the protection of surface water quality. Conditions of approval for the Project will require the implementation of NPDES BMPs during construction, including provisions that construction equipment be properly maintained to minimize leaks of motor oils, hydraulic fluids, and fuels.

#### **Operation**

Operation of the Project will not result in the generation of regulated quantities of hazardous wastes. The primary type of waste generated by operation of the Project will be municipal solid waste generated at the administration building consisting of typical office wastes (e.g., paper, cardboard, food waste, etc.). This waste will be stored in a dumpster until it is hauled to the appropriate disposal facility. In addition, small amounts of waste associated with site maintenance will be generated, including wood pallets, oily debris, etc. These wastes will be managed according to regulatory and BHC requirements.

There are no suspected or known hazardous waste contamination sites within or adjacent to the proposed Project area. Given the history and current characteristics of the Project site, it is unlikely that any contamination would be encountered. Therefore, no significant impact from former activities at the property should occur.

### 3.10.4 Spill Prevention, Control, and Countermeasure Plans

The Applicant is required to establish and maintain a SPCC Plan for construction and operations under the revised regulations pertaining to 40 CFR 112. Under this Plan, a procedure and the required equipment would be provided and maintained by the owner or contractor to respond in the event of a spill. All use of hazardous materials, including storage and disposal, would be in compliance with site procedures. Therefore, impacts relative to the release of hazardous substances as a result of Project construction and operations should be insignificant.

Several petroleum products will be used in the construction and operation of the facility. During transport, handling, and use, there is a possibility of a spill. Potential sources for a spill are the fuel and lubricating oils from construction vehicles and equipment. The construction contractor will be responsible for training its personnel in spill prevention and control and, if an incident occurs, will be responsible for containment and cleanup.

The types of products to be used, as well as the SPCC Plan that will be implemented, are described below.

#### Construction

**Fuel** – During construction, fuel trucks will be used for refueling of vehicles, fuel storage tanks, and equipment onsite. The fuel trucks will be properly licensed and will incorporate features in equipment and operation, such as automatic shut-off devices, to prevent accidental spills. Fueling of large, heavy construction equipment, such as cranes and earthmoving equipment, will occur onsite where the equipment is located. The fuel truck will drive to the equipment. Some construction vehicles, such as pickup trucks, will be fueled at local gas stations. Any spills will be addressed in accordance with the SPCC Plan that will be developed for the construction phase of the Project.

The risks associated with driving fuel trucks on paved roads to the Project site are low. Potential risks will be additionally reduced by using dedicated fuel-delivery trucks driven by professional, appropriately licensed drivers and by ensuring adherence to the Project site speed limits. A fuel tanker accident would trigger activation of the SPCC Plan. This Plan will include a description of procedures that will be followed in the event of a fuel tanker spill, and will contain a list of equipment that will be maintained onsite for spill response emergencies.

**Lubricating oils** – Lubricating oils used during construction will mostly be contained in the vehicles and equipment for which they are used. Small quantities of lubricating oils may also be stored in appropriate containers at the construction staging area located at the site of the administration building. The details of storage and containment of lubricating oils and other materials at the construction staging area will be addressed in the SPCC Plan. Appropriate measures will be taken to ensure these materials are not spilled. If a spill does occur, it will be promptly cleaned up and reported as required to the proper agencies.

#### Operation

Operation of the Project will require the use of fuel that could cause a spill or other accidental release. Project operations will not require the use of a permanent gasoline fuel storage tank; however, there will be a diesel storage tank for the emergency generator and fire pump and an aqueous ammonia storage tank for the SCR emission control systems. Both of these tanks will have secondary containment systems.

The potential for accidental spills of other oils or lubricants during Project operations is minimal, because the only materials used during Project operations that present any potential for accidental

spills are mineral oils and lubricating oils. The operations SPCC will address spill containment for these materials.

### **3.10.5 Stormwater Pollution Prevention**

#### **Construction**

There will be a certain amount of disturbance of surface soils and minor excavation associated with construction of the facilities. A Stormwater Pollution Prevention Plan (SWPPP) will be developed with the Notice of Intent (NOI) for the required Wyoming Pollution Discharge Elimination System (WYPDES) General Stormwater Construction Permit and implemented to minimize soil erosion during construction of the Project. Therefore, BMPs will be implemented by the contractor during construction of the Project to ensure that erosion will be minimized and other adverse impacts on area soils will not occur. Other BMPs are presented in more detail under Section 7. The Project will be designed with proper erosion protection and culverts in order to minimize or eliminate the potential for downstream sedimentation that could affect aquatic resources in Crow Creek or damage Project facilities during construction and operation.

#### **Operation**

The Project will be designed with proper erosion protection and culverts in order to minimize or eliminate the potential for damage to Project facilities during operation or result in downstream sedimentation that could affect aquatic resources. Culverts and roads will be designed and constructed in accordance with industry standards for their intended uses and to ensure regulatory compliance.

### **3.10.6 Security**

#### **Construction**

Site access will be controlled at an entry security checkpoint.

BHC will work with a security contractor to develop a plan to effectively monitor the overall site during construction, including an access gate, drive-around security, and specific checkpoints. Local emergency response organizations will be informed of security procedures to ensure that appropriate access is available.

#### **Operation**

Site visitors, including vendor equipment personnel, maintenance contractors, material suppliers, and all other third parties, will require permission for access from authorized Project staff prior to entrance. The Plant Manager, or designee, will grant access to any critical areas of the site on an as-needed basis.

### **3.10.7 Emergency and Law Enforcement Services**

Access to the Project will occur directly from HR Ranch Road for the construction period and operational life of the Project. Response times are expected to be minimal for fire and ambulance crews from Cheyenne.

#### **Medical Emergencies**

Medical emergencies generally will be handled by calling 911 and alerting the emergency medical services (EMS) system. Calls to 911 from the Project area would go to the City of Cheyenne, where the appropriate fire/ambulance crews are paged for dispatch.

The Cheyenne Regional Medical Center, a 218-bed Level II Trauma Center located in Cheyenne approximately 8 miles from the Project area, is the anticipated provider of any significant emergency hospital services needed by the workforce.

### **Fire Emergencies**

Fire emergencies will be handled by calling 911 and alerting the Laramie County Sherriff and Police office in Cheyenne, where the appropriate fire crews are paged for dispatch. The City of Cheyenne Fire Department would respond to fire emergencies. BHC will proactively coordinate with the fire department to minimize fire safety hazards, coordinate response efforts, and effectively train BHC and subcontracting personnel in fire safety issues, as necessary.

### **Law Enforcement**

The Project will be covered by the City of Cheyenne Police Department.

## **3.11 Site Decommissioning**

Decommissioning is a step-by-step, methodical deconstruction process that involves removing and disposing of the infrastructure and appurtenant facilities associated with the Project at the end of its useful life. With some exceptions, site decommissioning would involve the reverse of site development.

Disturbed land areas covered in rock or gravel, or building and facility footprints, would be restored to approximate original grade (which would include adjusting soil compaction that might have resulted from previous uses) and seeded or planted with native vegetation. Reclamation procedures would be based on site-specific requirements and techniques commonly employed at the time the area is to be reclaimed and may include grading, adding topsoil, and vegetation of all disturbed areas.

Decommissioning activities would be accompanied by inspection for the presence of industrial contamination from minor spills or leaks and decontamination, as necessary. Lastly, demolition or removal of equipment and facilities will meet applicable environmental and health regulations, and every attempt will be made to salvage economically recoverable materials.

The potential fire risks during Project decommissioning and construction are similar in nature but lower than those described during construction and operation. Fire prevention measures during decommissioning would be substantially similar to those described for Project construction.

BHC is financially capable and responsible to ensure the proper decommissioning of all facilities at the end of their useful life. Approval by the Wyoming Public Service Commission of an application for a Certificate of Public Convenience and Necessity is required for a regulated public utility to construct a major generation facility in the State of Wyoming. A regulated public utility in Wyoming may discontinue use or abandon a utility plant or facility only upon application and receipt of the prior approval of the Public Service Commission of Wyoming.

## 4.0 Public Involvement

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As stated in the ISA rules and statutes, a local government primarily affected by the proposed industrial facility means any defined geographical area or unit of local government or special district in which the construction and operation of the industrial facility may significantly affect the environment, population, level of economic wellbeing, or level of social services, or may threaten the health, safety, or welfare of present or expected inhabitants. Any such local government body or special district is within the area of site influence.

Based on the statute definition of the area of site influence presented above, the Applicant recommends that local governments primarily affected by the proposed industrial facility would include the following:

- Laramie County and the incorporated cities and towns of Cheyenne and Pine Bluffs
- Albany County and the incorporated City of Laramie

Large areas of Laramie and Albany counties would remain outside the area of site influence due to excessive commuting distance and lack of appropriate accommodations. Therefore, the applicant also recommends that a number of communities located within the recommended area of site influence would also not experience Project-related impacts. Additionally, other urban areas that could contain industries potentially affected by the proposed Project are relatively distant, with the closest large Wyoming city (after Laramie) being Casper, located about 175 miles to the northwest. Fort Collins, Colorado, located approximately 47 miles to the south-southwest, may serve the Project or be affected in some fashion, but including it in this analysis is beyond the scope of the ISA. It is recommended that counties (and communities contained within them) other than Laramie and Albany counties be excluded from the area of site influence because of excessive commuting distance from the Project site.

BHC aims to maximize the benefits of the Project to the local communities in the area of site influence while minimizing adverse impacts as much as possible. Therefore, BHC conducted a series of meetings with state agencies and local officials, and undertook additional outreach activities that exceeded the ISA requirements. These activities are presented below, and additional details are provided in **Appendix D**.

### 4.1 Meeting Activities

Formal meetings were scheduled by BHC to present the Project and receive comments from state agencies and local government officials, and to provide the opportunity for involvement by local community members. **Table 4-1** lists these formal public and agency involvement activities by organization and date.

TABLE 4-1  
**Local Government, State Agency, and Community Meetings**

Organization	Date	General Discussion
Cheyenne City Council	January 20, 2012	Contacted City Council President Patrick Collins. Because the City was heavily involved in the site platting and was very aware of the Project, he requested no formal presentation. Received signed letter of support dated February 3, 2012.
Wyoming Department of Environmental Quality (WDEQ) – Industrial Siting Division (ISD)	December 8, 2011	Jurisdictional Meeting – provided overview of Project and ISA process, Project workforce and operation requirements, construction schedule and costs, local agency consultation, and public involvement.
Wyoming State Engineers Office (WSEO)	December 8, 2011	Meeting to review water use estimates, project water supply, and waste water stream.
Meeting with Cheyenne Board of Public Utilities (CBOPU)	January 25, 2012	Discussed coordination of activities required for water interconnection.
Community Open House – Cheyenne	January 25, 2012	
Albany County Commissioners – Local Government	February 7, 2012	
Goshen County Commissioners – Local Government	February 8, 2012	At each meeting, presented Project details regarding workforce and operation requirements, construction schedule and costs, local agency consultation, and public/agency involvement. BHC representatives responded to questions and addressed issues and concerns.
Laramie County Commissioners – Local Government	February 17, 2012	
Community Open House – Cheyenne	February 18, 2012	
Platte County Commissioners – Local Government	February 21, 2012	
Wyoming State Agency Leaders – State Government	March 26, 2012, April 4, 2012	Letter invitation to notify various state agencies and departments of the Project and inviting questions, comments, and input for topics to address in the permit application (see <b>Appendix F</b> ).
Wyoming Game and Fish Department (WGFD)	Meeting has been Requested	Reference 3/30/12 letter to WGFD in <b>Appendix F</b>
Wyoming State Historic Preservation Office (SHPO)	Meeting has been Requested	Reference 3/30/12 letter to SHPO in <b>Appendix F</b>
Wyoming Department of Transportation (WYDOT)	Meeting has been Requested	Reference 3/30/12 letter to WYDOT in <b>Appendix F</b>
Wyoming Department of Environmental Quality (WDEQ) – Industrial Siting Division (ISD)	April 9, 2012	Pre-Application Filing Meeting

Source: CH2M HILL and BHC, 2012.

### 4.1.1 Meeting Format and Information Provided

As presented in **Table 4-1**, the meeting format and information provided at the agency and community meetings were generally the same. The format and information consisted of the following:

- Informational boards were widely displayed at meetings for attendees to view and discuss with BHC planners. Displays included:
  - Project location map
  - Simulation of the facility
  - Facility site plan
  - Facility equipment layout
  - Project description
  - Project schedule
  - Business need and community benefit
  - Construction and operation workforce
  - Environmental permits and considerations
- At the community meetings, a video was presented showcasing a similar power plant in operation in Colorado, as well as the current conditions of the Project area and surrounding landscape. The video can be viewed at <http://www.blackhillscorp.com/cpgs/>.
- A PowerPoint™ presentation detailing BHC and the Project was shown to each audience.
- Factsheets describing the Project were made available to attendees.
- A question-and-answer session followed each presentation in which BHC discussed attendee concerns.

### 4.1.2 Meeting Notices and Attendees

The state agencies and local entities notified of the public meetings and invited for input were those specified by statute in the ISA permit regulations. More than 70 local stakeholders and governmental officials also received personal invitations via email or telephone. Meeting invitations, entities invited, and attendee sign in sheets from the meetings are included in **Appendix D**.

### 4.1.3 Public Notification

Newspaper advertisements announcing the open houses were placed in the *Wyoming Tribune-Eagle* in advance of each public meeting, as shown in Table 4-2. This is the primary local newspaper serving residents of Laramie and Albany counties. The advertisements invited the public to attend the public meetings to learn more about the Project and ask questions of BHC representatives. Both open houses were well attended, with 62 people signing in at the first meeting and 25 at the second. **Appendix D** contains a copy of the advertisement and list of attendees at each meeting.

Press releases were issued January 23, 24, and 25 as well as February 7, 2012, announcing the Project and the upcoming public meetings. Those press releases are contained in **Appendix D**.

CLFP added inserts to the January and February bills for 34,867 residential and commercial customers. The bill insert provided information on both public meetings, including the topics to be presented. Copies of the bill inserts are contained in **Appendix D**.

Finally, several radio and television stations aired interviews about the Project. Dates and format of the broadcasts follow.

- January 25 – K2 TV interview at the public meeting in Cheyenne
- February 14 – TownSquare media radio interview previewing CPCN Open House
- February 16 – TownSquare media radio interview previewing CPCN Open House
- February 18 – *Wyoming Tribune-Eagle* newspaper interview – published February 19
- February 18 – K2 TV interview at the public meeting in Cheyenne
- February 18 – TownSquare media radio - aired February 20

TABLE 4-2

**Newspaper and Internet Media Notices for the Cheyenne Community Meetings**

Newspaper/Internet Media	Notice
<i>Wyoming Tribune-Eagle</i>	January 20, 2012 “Blurb”
	January 22, 2012 Advertisement
	January 23 and February 7, 2012 Press Release
	January 24, 2012 Article in “Local Section”
	January 25, 2012, February 12, 2012, February 18, 2012 Legal Notice
Traders	January 20, 2012, February 17, 2012
Twitter	January 23, 2012
WashingtonExaminer.com, AP State-wide website, Basin Radio website, KGAM website, Cowboy Country website, KDLY/KOVE website, KULR8.com, <i>Billings Gazette</i> website,	January 24, 2012 Press Release
MiamiHerald.com, SunHerald.com, Star-telegram.com, TheOlympian.com, StarTribune.com	January 25, 2012 Press Release
<i>Billings Gazette</i>	January 24, 2012 Press Release

#### 4.1.4 Additional Meetings

Additional meetings were held with local and state government agencies, elected officials, and parties relevant to permitting and planning the Project. BHC met with USFWS officials (Wyoming Ecological Services Field Office) on February 16, 2012, in Cheyenne, Wyoming, to discuss BHC’s impact avoidance, mitigation, and monitoring plan for construction and operation of the Project.

## 4.2 Questions and Answers

The types and nature of the questions and comments posed were similar across all the meetings and included such topics as:

- How many houses will 132 MW serve?
- When did CLFP become part of Black Hills?
- How much gas will the facility use?
- What is the noise produced by the facility?
- Where are the nearest residences, and will they be able to hear/see the plant?
- How much will the facility cost?

- How much will rates increase?
- Where is the gas coming from?
- What will you do with the extra power when you do not need it?
- Proximity to adjacent landowners and conformity with overall land use in the area?
- Power destination – Wyoming or out of state?
- Benefits to towns and cities?
- What will be the traffic generated during construction and during operation?
- Desire to educate local contractors on risk, benefit, and contractual issues relevant to participating in construction activities.
- Where is the water coming from?
- How much water will the plant use?
- Pointed to specific structures in the rendering and inquired about their purpose, i.e., administration building, cooling tower, etc.
- What will the traffic be, volume and types of vehicles?
- What will the visual impact be?

BHC representatives attempted to provide answers to the best of their knowledge for all of the above questions.

### 4.3 Community Response

Overall, the Project has been well received, and numerous letters have been submitted in support of the Project. The letters of support are presented in **Appendix B**, and state the positions of:

- Albany County Commissioners
- Cheyenne LEADS
- City of Cheyenne
- First Wyoming Capital
- Greater Cheyenne Chamber of Commerce
- Jonah Bank
- Laramie County Commissioners
- Laramie County Community College
- Platte County Commissioners
- Representative Peter Illoway
- Town of Burns
- Town of Pine Bluffs

During the public open houses, there were a few concerns raised about noise, water supply, potential traffic impacts during construction and aesthetic impacts. These issues have been addressed in Section 6 of the application.



# 5 Socioeconomic Baseline and Impacts

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## 5.1 Introduction

Section 5 is organized into six major subsections that address the following topics:

- Regulatory jurisdiction, which describes the statutory background germane to treatment of socioeconomic resources
- Methodology, which addresses the following topics:
  - Recommended area of site influence, study area, and local governments primarily affected by the proposed industrial facility
  - Construction and operations workforce estimates
  - Impact analysis methodology
- Inventory and evaluation of social and economic conditions and impact assessment, which addresses existing conditions and Project-induced impacts occurring during both the construction and operations phases. This subsection is further divided on a resource-specific basis as follows:
  - Population
  - Economic and fiscal conditions
  - Housing
  - Public education
  - Public safety
    - Fire protection services
    - Law enforcement services
    - Crime
  - Health care
  - Municipal services
    - Wastewater treatment facilities
    - Water distribution and treatment facilities
    - Non-hazardous waste collection and disposal
    - Electricity service
    - Natural gas service
- Cumulative impacts
- Tradeoff analysis
- Mitigation measures

## 5.2 Regulatory Jurisdiction

Title 35 – Public Health and Safety, Chapter 12 – Industrial Development and Siting of the Statutes of the State of Wyoming provides guidance relative to the socioeconomic topics of concern that will be addressed during the permit application process. A number of aspects of the socioeconomic environment could experience benefits or adverse impacts associated with construction and

operation of the proposed facility. These aspects are addressed in this report and include economic base, housing, transportation, sewer and water facilities, solid waste facilities, police and fire facilities, educational facilities, and health and hospital facilities.

*According to the statute, the Wyoming Industrial Siting Council (ISC) will grant a permit, either as proposed or as modified by the Council, if it finds and determines that the facility will not pose a threat of serious injury to the environment, the social and economic condition, or inhabitants or expected inhabitants in the affected areas and will not substantially impair the health, safety, or welfare of the inhabitants. For the purposes of the permit application, the definitions of "health," "safety," and "welfare" provided in the statutes are as follows:*

- *Health will mean the state of being sound in body or mind and includes psychological as well as physical well-being.*
- *Safety will mean freedom from fear of injury or threat of injury. Such injury or threat of injury may be premised on crime rates, traffic accident rates, dangers of industrial accidents or mishaps, or other similar considerations.*
- *Welfare will mean considerations of public convenience, public well-being, and general prosperity. The term also properly covers those subjects encompassed under health and safety.*

Guidance is provided in the Wyoming statutes regarding information that should be included in the permit application and includes items such as the Project geometries defined below, construction and operations workforce estimates, and inventory and evaluation of the social and economic conditions in the area of site influence. These Project geometries, established by statute and defined by either the ISD or BHC, are used for the ISA socioeconomic analysis:

- A study area of where the proposed Project will be located – Laramie County – and each of the neighboring counties (i.e., Albany, Platte, and Goshen) is the boundary for the study of socioeconomic impacts; it was established by the ISD after the Jurisdictional Meeting held December 8, 2011,
- The areas of site influence are defined by BHC to mean the areas that may be affected environmentally, socially, or economically, in any significant degree, by the location of the industrial facility at the proposed site. A separate "area of influence" may be considered for each of the resource areas discussed in Section 5.4,
- The area primarily affected is recommended by BHC and determined by WDEQ/ISD after examination of the application and other data. Identifies persons eligible to become parties to the permit, identifies those local governments eligible for impact assistance payments, and identifies those who will receive certain statutory notice and copies of the application,
- The area substantially affected is also determined by WDEQ/ISD and includes those local governments in the area primarily affected who did not become parties; such receive certain statutory notice.

## 5.3 Methodology

### 5.3.1 Area of Site Influence, Local Governments Primarily Affected, and Study Area

#### Area of Site Influence

An area of site influence contains locations that may be affected environmentally, socially, or economically, in any significant degree, by the proposed location of the industrial facility. A local government primarily affected by the proposed industrial facility means any defined geographical area or unit of local government or special district in which the construction and operation of the industrial facility may significantly affect the environment, population, level of economic wellbeing, or level of social services, or may threaten the health, safety, or welfare of present or expected inhabitants. Any such local government body or special district is within the area of site influence.

Pursuant to statute, BHC evaluated the potential area of site influence and local governments primarily affected by the proposed Project. Primary criteria that factored into the area of site influence recommendation are as follows:

1. Within a commuting distance of approximately 60 miles or less from the work site
2. Within a daily one-way commute time of approximately 1 hour or less from the work site
3. Supply of temporary housing units
4. Size of population (i.e., as an indicator for labor supply and urban amenities)

These four criteria were used in identifying communities likely to capture 1 percent or more of allocated workers.

#### 1. Commuting Distance of 60 Miles or Less from the Project

Commuting distance can come into play in defining the area of site influence in two ways. First, members of the local workforce residing in communities within commuting distance may choose to commute to the Project site to take advantage of the employment opportunity offered by the Project. Second, non-local workers may decide to relocate to communities within driving distance of the Project. The Project, named the Cheyenne Prairie Generating Station (CPGS), will be located on a 250-acre parcel within the city limits of the City of Cheyenne, Wyoming, approximately 5 miles southeast of the downtown area. This parcel is located south and adjacent to Interstate 80 (I-80) approximately 6.7 miles east of Interstate 25 (I-25). Campstool Road, an exit off I-80 approximately 1 mile east of the site, tracks back to the west to provide access to the site as well as the neighboring wastewater treatment plant (Dry Creek Water Reclamation Facility). HR Ranch Road, an aggregate surface road, leaves Campstool Road near the highway and travels along the northern portion of the parcel, providing maintenance access for the existing overhead transmission lines. The driving distances were computed from the origins to the approximate site entrance.

**Table 5-1** illustrates the distance in miles (Column C) separating the Project site from a number of communities in counties adjacent to Laramie County (Columns A and B). Although not included in the study area, Colorado communities within commuting distance are also shown. The following communities meet the commuting distance criterion of 60 miles or less from the Project: Cheyenne, Ranchettes, Pine Bluffs, Burns, and Albin in Laramie County; Laramie and Buford in Albany County; and Chugwater in Platte County. There are no communities in Goshen County that meet the commuting distance criterion. Given the Project's close proximity to the Colorado border, it is likely that workers may also come from nearby communities in Colorado. The northern Colorado communities of Wellington, Fort Collins, Greeley, and Windsor are all within 60 miles of the Project.

## **2. Daily One-Way Commute of Approximately 1 Hour or Less**

It is reasonable to assume that non-local workers will not spend any more of their workday commuting than is necessary, especially when suitable accommodations can be found relatively close to the Project site. Column D shows the one-way commuting times for the communities in the study area. The list of communities with a daily one-way commute of approximately 60 minutes or less is identical to the list of communities within a 60-mile driving distance.

## **3. Supply of Temporary Housing Units**

The supply of temporary housing units is another factor that can constrain worker location choices. It is reasonable to assume that any workers who temporarily relocate in order to work on the Project will prefer suitable accommodations that are close to the Project site and urban amenities. This will minimize their daily commute and provide access to shopping, restaurants, leisure activities, and other entertainment. Cheyenne has more than 2,400 hotel and motel rooms (including bed and breakfast accommodations). In addition, it has 680 recreational vehicle (RV) sites. Nearby Pine Bluffs offers an additional 19 hotel/motel rooms and 100 RV sites. Combined, these two communities have ample capacity to meet the need for temporary housing. Should any workers choose to temporarily relocate to Laramie and commute the 55 miles to the Project site, this adds 1,650 beds and 100 RV sites to the housing stock. Temporary housing in Laramie is frequently used as housing alternative in mid-to late July during the popular Cheyenne Frontier Days™, when it is notoriously difficult to book lodging in Cheyenne. One other community, Chugwater in Platte County, has 50 beds within a 56-mile commute. Although it is possible workers may choose to stay in Chugwater, it is unlikely that the number of workers would represent no more than 1 percent of the workforce given the abundance of opportunities closer to the site. Finally, it is noted that the nearby Colorado communities may also have a supply of temporary housing, but those housing alternatives are not pertinent for the purpose of determining the area of site influence for Wyoming.

## **4. Size of Population**

The size of the resident population of each of the communities (Column E) is also shown. Approximately 59,500 people live in Cheyenne with an additional 7,409 residents in the surrounding communities of Burns, Ranchettes, Pine Bluffs, and the more distant community of Albin. Additionally, more than 30,800 people reside in Laramie. This suggests that Laramie and especially Cheyenne have a relatively sizeable permanent workforce to contribute to the Project. Cheyenne and Laramie also have urban amenities that could be attractive to the non-local workforce. Cheyenne is likely to have local support services and materials to meet the unspecialized needs of the Project as well as transportation facilities to accept shipments from outside the region. In contrast, Albin in Laramie County and Chugwater in Platte County are both within commuting distance of the Project, but due to their very small population sizes, neither community is likely to supply a sizeable number of workers or be a provider of temporary housing. The Project location in Cheyenne is uniquely convenient to populated cities in Colorado, especially Fort Collins (population of approximately 144,000) and Greeley (population of approximately 93,000). The implication of having so many workers within commuting distance of the Project is that it reduces the need to provide temporary housing for a temporary workforce.

## **5. Recommended Area of Site Influence and Area Primarily Affected**

The data presented in **Table 5-1** suggest recommending the area of primary influence to include all of Laramie County, especially the City of Cheyenne and, to a lesser extent, the relatively proximate communities of Burns, Pine Bluffs, and Ranchettes as well as Laramie in Albany County. All of these

Wyoming communities are within commuting distance and have a sufficient population size to contribute at least 1 percent toward the supply of the construction workforce and/or supply of temporary housing to accommodate at least 1 percent of the construction workforce. Commuter behavior takes place under time and distance constraints, and applying the criteria previously outlined would exclude many of the listed communities.

Factoring in all five criteria, it is estimated that the temporary residence choices made by the CPGS non-local workforce would be as follows:

- City of Cheyenne – 97 percent
- Town of Pine Bluff – 1 percent
- City of Laramie – 2 percent

The area of site influence, as recommended by the applicant, is detailed in **Table 5-1**.

TABLE 5-1  
**Communities Identified as within Recommended Area of Site Influence and Relevant Housing Statistics**

County	Community	Distance (miles) from Work Site Used in Model	Distance (minutes) from Work Site Used in Model	Population (2010 Census)	Number of Rooms	Number of RV Sites	% of Non- Local Workers
A	B	C	D	E	F	G	
<b>Albany County</b>							
	Albany CDP	89.8	93	55	35	0	
	Buford (Community)	34.1	36	NA	4	0	
	Centennial CDP	84.8	86	270	94	19	
	Laramie, City of	55.3	53	30,816	1,651	100	2%
	Rock River, Town of	96.6	96	245	7	0	
	Tie Siding (Community)	71.3	67	NA	12		
	Woods Landing CDP	86.6	97	97	11	10	
<b>Albany County Total</b>				<b>36,299</b>	<b>1,814</b>	<b>129</b>	
<b>Goshen County</b>							
	Fort Laramie, Town of	120	104	230	6	24	
	La Grange, Town of	67.4	69	448	3	0	
	Lingle, Town of	103	105	468	0	65	
	Torrington, Town of	93.5	94	6,501	191	57	
	Yoder, Town of	83.5	86	151	0	0	
<b>Goshen County Total</b>				<b>13,249</b>	<b>200</b>	<b>146</b>	
<b>Laramie County</b>							
	Albin, Town of	52.5	57	181	0	0	
	Burns, Town of	22.7	27	301	0	0	

TABLE 5-1  
**Communities Identified as within Recommended Area of Site Influence and Relevant Housing Statistics**

County	Community	Distance (miles) from Work Site Used in Model	Distance (minutes) from Work Site Used in Model	Population (2010 Census)	Number of Rooms	Number of RV Sites	% of Non- Local Workers
A	B	C	D	E	F	G	
	Cheyenne, City of	7.9	14	59,466	2,432	680	97%
	Ranchettes CDP	12.8	25	5,798	0	0	
	Pine Bluffs, Town of	35.5	39	1,129	19	100	1%
<b>Laramie County Total</b>				<b>91,738</b>	<b>2,451</b>	<b>780</b>	
<b>Platte County</b>							
	Chugwater, Town of	55.4	56	212	50	0	
	Glendo, Town of	112	106	205	0	344	
	Guernsey, Town of	108	102	1,147	42	197	
	Hartville, Town of	114	110	62	0	0	
	Wheatland, Town of	80.5	80	3,627	323	49	
<b>Platte County Total</b>				<b>8,667</b>	<b>415</b>	<b>590</b>	
<b>Study Area Total</b>					<b>149,953</b>	<b>4,880</b>	<b>1,645</b>
<b>Adjacent Colorado Communities</b>							
<b>Larimer County</b>							
	Wellington, Town of	39	38	6,289			
	Fort Collins, City of	52	55	143,986			
	Loveland, City of	64	63	66,859			
<b>Weld County</b>							
	Greeley, City of	57	68	92,889			
	Windsor, Town of	59	62	18,644			
<b>Colorado Total</b>				<b>328,667</b>			

**Notes:**

NA – Not available

60 miles or less one-way commute distance; 1 hour or less one-way commute time.

Distances measured to Dry Creek Water Reclamation Plant, adjacent to likely site entrance: 8911 Campstool Road, Cheyenne, WY 82007-9612.

Source: CH2M HILL, 2012.

The recommended area of site influence is shown in Figure 5-1.

FIGURE 5-1  
Recommended Area of Site Influence and Counties Comprising Study Area



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Given the availability of housing alternatives, permanent workforce, and urban amenities relatively close to the Project site, all the counties and the communities neighboring Laramie County, with the exception of the City of Laramie in Albany County, have been eliminated from the list of likely residence communities. The more distant and smaller communities have also been eliminated from the list of likely residence communities.

The majority of construction and operations workers are expected to reside within this recommended area of site influence and its communities; therefore, CPGS has concentrated its efforts at securing housing commitments for non-local workers in this area.

### **Local Governments Primarily Affected by the Project**

A local government primarily affected by the proposed industrial facility includes any defined geographical area, unit of local government, or special district in which construction and operation of the industrial facility may significantly affect the environment, population, level of economic wellbeing, or level of social services, or may threaten the health, safety, or welfare of present or expected inhabitants. Any such local government body or special district is within the area of site influence. It is generally accepted that the principal concern is the drain that temporary workers can place on local public services and quality of life.

**Local Governments Primarily Affected by the Proposed Industrial Facility.** Based on the recommended delineation of the area of site influence presented previously, the applicant recommends that local governments primarily affected by a temporary workforce associated with the proposed industrial facility would include the following:

- Laramie County and the City of Cheyenne and the Town of Pine Bluff, and the City of Laramie in Albany County.

**Local Governments Primarily Unaffected by the Proposed Industrial Facility.** From **Table 5-1**, it is recommended that Goshen and Platte counties (and the communities contained within them) as well as all the communities in Albany County (with the exception of the City of Laramie) be excluded from the area of site influence. This recommendation for excluding other communities is based on their relatively lengthy commuting times and/or lack of appropriate accommodations and urban amenities when compared to availability within 15 minutes of the Project site in Cheyenne.

### **Study Area**

The socioeconomic impact analysis methodology involves a description of existing (i.e., baseline) conditions for a geographical area that is expected to be broader than the area ultimately recommended for the area of site influence. This conservatively large area is referred to as the study area. The data gathered on existing conditions for the study area are intended to support a determination of which areas and governments within the broader area to include or omit from the area of site influence. The counties comprising the study area were identified early in the analysis and in consultation with the ISD as the county where the proposed Project will be located – Laramie County – and each of the neighboring counties (i.e., Albany, Platte, and Goshen).

It is anticipated that most of the direct and secondary economic impacts associated with the construction and operation of the proposed Project would occur within the study area, and that any remaining economic impacts would be dispersed and not significant. It is also expected that the study area will provide the workforce for the Project, including the provision of temporary housing for workers that relocate to the area to fill gaps in the specialized skills of the local workforce, if any. Finally, it is anticipated that any stress on existing community services that may be caused by an influx of temporary workers or on local infrastructure to accommodate constructing and operating

the Project would be contained within the study area. Analysis of the data obtained for the broader study area is to examine potential relationships between the proposed Project and the various types of socioeconomic resources, identify the area and jurisdictions that are primarily affected, and provide the rationale for excluding areas from the area primarily affected. For example, economic impacts are mainly associated with the purchase of equipment, materials, goods, and services required for construction and operation of the Project, and expenditures made by workers for personal items. It is likely that economic impacts will be centered in the Cheyenne area in Laramie County due to the size of its economy relative to the size of the Project. Cheyenne offers purveyors of goods and services likely to be purchased in support of construction activities as well as by individuals for personal items. The nearby communities of Burns, Ranchettes, and Pine Bluffs in Laramie County and the City of Laramie in Albany County could contribute to the Project workforce as well as provide some materials and services to the Project and its employees. All other urban areas that could contain industries potentially affected by the proposed Project are relatively distant and located outside the study area.

Another factor contributing to the inclusion or exclusion of areas to or from the area primarily affected is commuting patterns. Typically, the large majority of persons working in any county reside in the same county. Commuter flows relate directly to the number of job opportunities at specific destinations and the driving time required to access those destinations from a place of residence. **Table 5-2** summarizes the distribution of incoming (inflow) and departing (outflow) commuters by county as well as the State of Colorado for Laramie County for the fourth quarter of 2009. Of the nearly 11,000 commuters entering Laramie County, 35 percent were from an unknown origin, 30 percent traveled from Colorado, and approximately 14 percent were from Albany, Goshen, or Platte County.

TABLE 5-2  
**Inter-County Commuter Flows for Laramie County (4th Quarter 2009)**

County of Origin or Destination	Share of Inflow to Laramie County	Share of Outflow from Laramie County
Albany	8.2%	17%
Big Horn	0.3%	2%
Campbell	2.1%	6%
Carbon	1.3%	2%
Converse	1.3%	2%
Crook	0.2%	0%
Fremont	2.5%	2%
Goshen	2.4%	3%
Hot Springs	0.3%	0%
Johnson	0.3%	0%
Lincoln	0.5%	1%
Natrona	5.8%	16%
Niobrara	0.2%	1%
Park	0.9%	1%

TABLE 5-2  
**Inter-County Commuter Flows for Laramie County (4th Quarter 2009)**

County of Origin or Destination	Share of Inflow to Laramie County	Share of Outflow from Laramie County
Platte	3.1%	5%
Sheridan	1.2%	2%
Sublette	0.2%	1%
Sweetwater	2.4%	3%
Teton	0.5%	1%
Uinta	0.9%	2%
Washakie	0.4%	1%
Weston	0.2%	0%
State of Colorado	30.2%	
Unknown	34.5%	
<b>Total Commuters</b>	<b>10,993</b>	<b>2,591</b>
<b>To / From Other 3 Study Area Counties</b>	<b>13.7%</b>	<b>25.4%</b>

Source: Wyoming DOE, 2010.

Information published by the U.S. Census Bureau regarding commuting patterns for residents of Laramie County and persons who work in Laramie County in 2009 is displayed in **Table 5-3**. Approximately 84 percent of the people who work in Laramie County also reside in the county. There is little evidence of a strong linkage to any other county with the possible exception of Albany County, where about 3 percent of Laramie County residents work. Additionally, of all the people working in Laramie County, about 3percent commute from Albany County. These commuting patterns show that few residents of counties outside the recommended area of site influence choose to commute to Laramie County.

TABLE 5-3  
**Work Places of Laramie County Residents and Places of Residence of Persons Working in Laramie County, 2009**

	Places of Work of Persons Residing in Laramie County		Places of Residence of Persons Working in Laramie County	
	Count	Share	Count	Share
<b>Total Primary Jobs</b>	<b>37,055</b>	<b>100</b>	<b>39,112</b>	<b>100%</b>
<b>Laramie County</b>	<b>30,935</b>	<b>83.5%</b>	<b>30,935</b>	<b>79.1%</b>
City of Cheyenne	26,524	71.6%	22,832	58.4%
Fox Farm-College CDP	1,107	3.0%	883	2.3%
F.E. Warren AFB CDP	346	0.9%	217	0.6%
Ranchettes CDP	344	0.9%	1,779	4.5%

TABLE 5-3  
**Work Places of Laramie County Residents and Places of Residence of Persons Working in Laramie County, 2009**

	Places of Work of Persons Residing in Laramie County		Places of Residence of Persons Working in Laramie County	
	Count	Share	Count	Share
Town of Pine Bluffs	334	0.9%	319	0.8%
South Greeley CDP	136	0.4%	1,332	3.4%
<b>Albany County</b>	<b>1,252</b>	<b>3.4%</b>	<b>1,415</b>	<b>3.6%</b>
City of Laramie	1,104	3.0%	1,269	3.2%
<b>Goshen County</b>	<b>247</b>	<b>0.7%</b>	<b>202</b>	<b>0.5%</b>
City of Torrington	178	0.5%	113	0.3%
<b>Platte County</b>	<b>177</b>	<b>0.5%</b>	<b>126</b>	<b>0.3%</b>
Town of Wheatland	92	0.2%	60	0.2%
<b>Other Wyoming Counties</b>	<b>2,122</b>	<b>5.7%</b>	<b>1,980</b>	<b>4.5%</b>
<b>Colorado</b>	<b>1,256</b>	<b>3.4%</b>	<b>2,118</b>	<b>5.4%</b>
City of Fort Collins	359	1.0%	346	0.9%
City of Greeley	218	0.6%	398	1.0%
City of Loveland	110	0.3%	174	0.4%
City of Denver	60	0.2%	79	0.2%
All Other Locations	4,021	10.8%	7,331	18.7%

**Notes:**

ND = No data

Source: U.S. Census Bureau, 2009.

### 5.3.2 Construction and Operations Workforce Estimates

It is required that the applicant, its contractors, and its subcontractors provide estimates of the number of employees needed to complete the construction and operation of the facility. These estimates must include job classifications by calendar quarter; seasonal fluctuations and the peak employment during both construction and operation; annual payroll; and expected benefits, if any, to be provided, including housing allowance, transportation allowances, and per diem allowances.

#### Construction Workforce Estimate

Potential impacts to socioeconomic resources are directly and indirectly attributable to 1) the influx of non-local workers, and 2) expenditures made in the local economy for equipment, materials, and services required to both construct and operate the Project.

The estimated number of onsite construction workers is illustrated in **Figure 5-2** and the more complete data showing the number of workers by month and craft are shown in **Table 5-4**. BHC anticipates that the onsite construction workforce (both local and non-local) will ramp up quickly

from 45 workers in April 2013 to 400 workers in the peak month (December 2013). The onsite workforce will then decline rapidly during the following 5 months.

FIGURE 5-2  
Estimated Number of Onsite Construction Workers

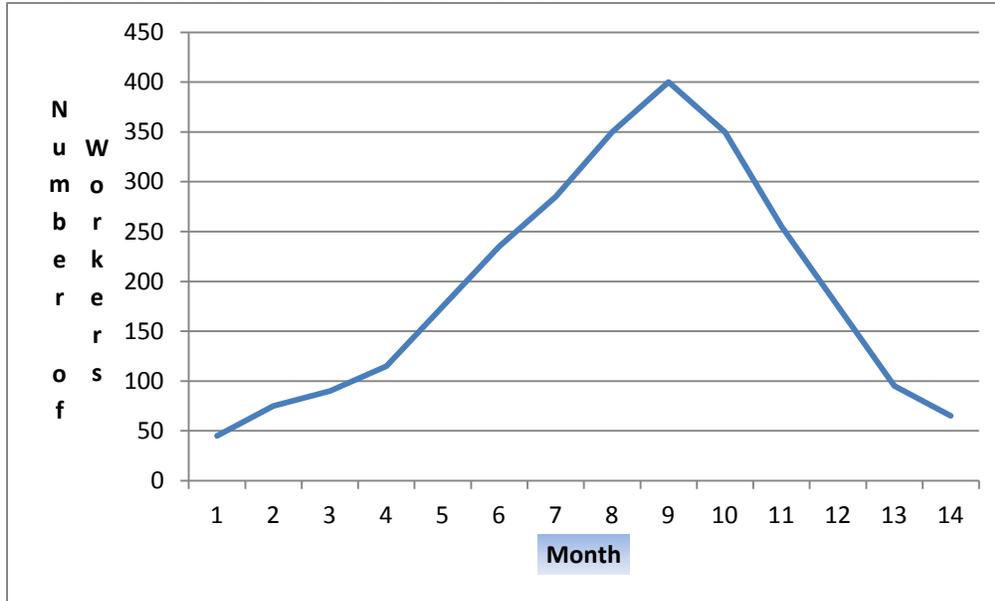


TABLE 5-4  
**Black Hills Corporation Cheyenne Prairie Generating Station, Cheyenne, Wyoming, Construction Workforce**

Craft Category	Month													
	1-Apr-13	1-May-13	1-Jun-13	1-Jul-13	1-Aug-13	1-Sep-13	1-Oct-13	1-Nov-13	1-Dec-13	1-Jan-14	1-Feb-14	1-Mar-14	1-Apr-14	1-May-14
<b>Civil</b>	30	60	75	90	90	100	80	50	30					
Laborers	15	15	15	20	20	20	15	15	15					
Operators	15	10	10	10	10	10	5	5	5					
Carpenters		15	20	20	20	15	10	5	5					
Pipefitters		5	10	15	15	20	20	10	3					
Electricians		5	10	15	15	20	20	10	2					
Cement Masons		10	10	10	10	15	10	5						
<b>Mechanical</b>					40	90	120	170	200	190	120	70	40	40
Laborers					25	15	10	10	10	10	10	5		
Operators					7	10	10	10	10	10	10	5		
Pipefitters					8	30	60	105	130	130	90	15		
Boilermakers						15	15	20	20	10		10		
Ironworkers						10	15	15	15	15				
Millwrights						10	10	10	15	15	10	5		
Insulators												30	40	40
<b>Electrical</b>							30	75	110	110	90	60	30	
Laborers							5	10	15	15	10	5	5	
Electricians							25	65	95	95	80	55	25	
<b>Indirects</b>	15	15	15	25	45	45	55	55	60	50	45	45	25	25
Project Management	8	10	10	20	40	40	45	45	50	40	35	35	18	18
Construction Testing	3	3	3	3	3	3	3	2						
Survey	4	2	2	2										
Vendor TFA					2	2	7	8	10	10	10	10	7	7
Non-Local Workforce	29	49	59	75	114	153	185	228	260	228	166	114	62	42
<b>Total Workforce</b>	<b>45</b>	<b>75</b>	<b>90</b>	<b>115</b>	<b>175</b>	<b>235</b>	<b>285</b>	<b>350</b>	<b>400</b>	<b>350</b>	<b>255</b>	<b>175</b>	<b>95</b>	<b>65</b>
<b>Total Man-Days</b>	22	22	22	22	22	22	22	22	22	22	22	22	22	22
<b>Man-Hours/Day</b>	10	10	10	10	10	10	10	10	10	10	10	10	10	10
<b>Total Man-Hours</b>	9,900	16,500	19,800	25,300	38,500	51,700	62,700	77,000	88,000	77,000	56,100	38,500	20,900	14,300

Source: Black Hills Corporation.

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BHC estimates that a total of 596,200 man-hours will be expended over the duration of CPGS's 14-month construction period. The peak construction workforce of 400 workers will occur in just 1 month and the average workforce will be less than half that figure, or 194 workers per month. These summary statistics are presented below in **Table 5-5**.

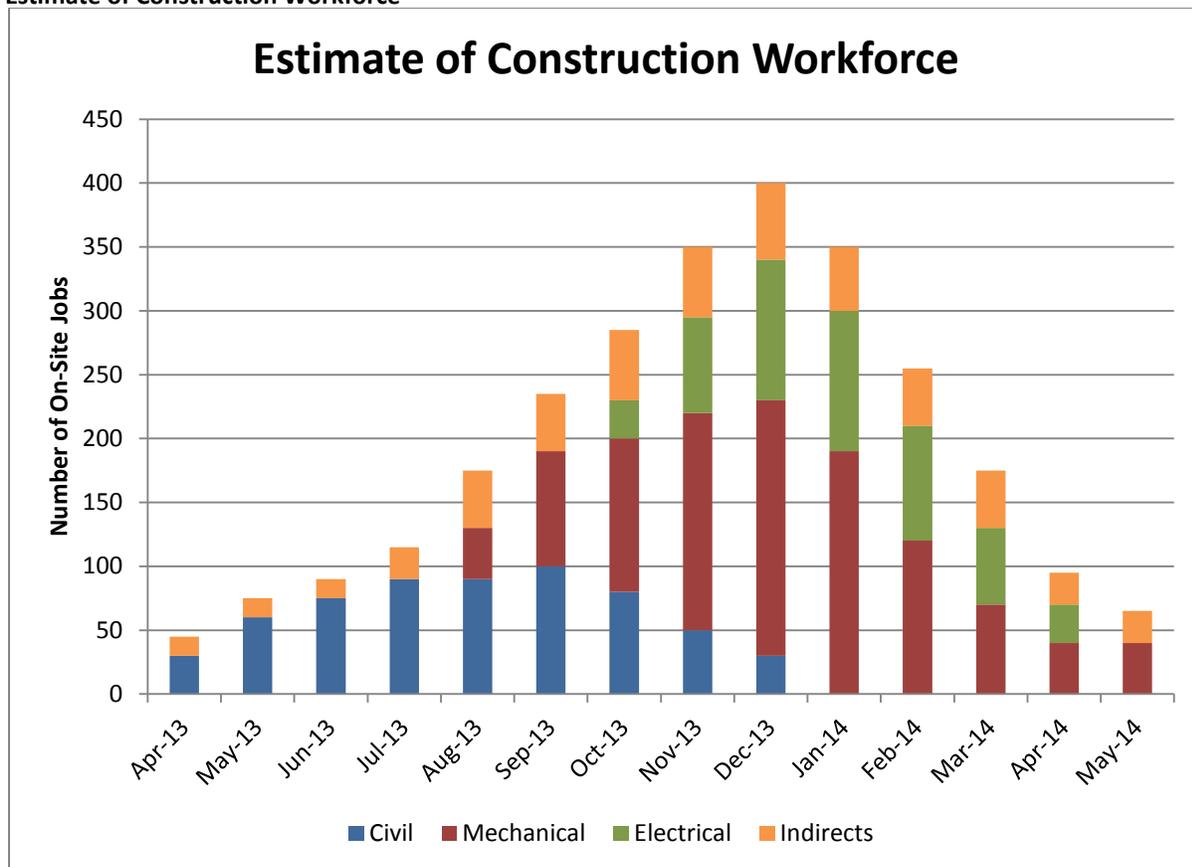
TABLE 5-5  
**Summary Black Hills Corporation Cheyenne Prairie Generating Station Construction Workforce Statistics**

Total Project Man-Hours	596,200
Peak Workforce	400
Average Workforce	194
Construction Duration (months)	14

*Source: BHC, 2012.*

As shown in **Figure 5-3**, the civil trade will dominate the workforce in the first 5 months and reach its peak of 100 workers in September before tapering off by December. The average civil workforce over this 9-month period is about 67 workers. The mechanical trade is engaged in August and reaches its peak of 200 workers in December. The average mechanical workforce is estimated at 108 workers over the 10 months they are onsite. The electrical trade works onsite for 7 months from October through April, with a peak workforce of 110 workers in December and January, and an average workforce of approximately 72. Finally, the indirect support, including Project management, construction testing, and survey work, for example, represents a small but steady component of the workforce throughout the 14-month construction phase.

FIGURE 5-3  
Estimate of Construction Workforce



**Single Worker.** Based on the type of labor required to complete construction on the combined-cycle natural gas-fired combustion turbine facility, the majority of the workforce is expected to be single or will likely be unaccompanied by their spouse and children during the duration of construction. BHC has sought to ensure the availability of accommodations, including hotel and motel rooms as well as RV sites and other forms of temporary lodging.

**Local to Non-Local Workforce Ratio.** The proportion of non-local workers filling job openings will vary by construction activity. On a month-to-month basis, the number of onsite jobs held by workers from outside the local area would vary. Overall, approximately 60 to 65 percent of the workforce would be composed of non-local workers, with the non-local workforce peaking at 260 workers in December 2013. This estimated distribution of non-local workers is reported in **Table 5-4** and follows the same pattern as the overall construction workforce. The local construction workforce payroll is estimated to exceed \$18 million, including pre-construction site preparation activities.

### Operations Workforce Estimate

The total workforce associated with the Project during the operations phase would number about 12 workers. As shown in **Table 5-6**, the operations workforce would be comprised of a plant manager, an engineer, an office administrator, and 9 technicians. The estimated total annual payroll is about \$1.2million. These workers would likely originate as non-local and permanently relocate to the local area.

TABLE 5-6  
Operations Work Force and Payroll

	2014 Base Salary	Salary and Fringe per Employee	Total
Plant Manager (1)	\$120,000	\$150,000	\$150,000
Engineer (1)	\$100,000	\$125,000	\$125,000
Administrative (1)	\$22,000	\$27,500	\$27,500
	Hourly	Hourly Wage and Fringe	
O&M Technicians (9)	\$38.00	\$47.50	\$889,200
Total Operations Payroll			\$1,191,700

Source: BHC (2012) and CH2M HILL (2012).

### 5.3.3 Impact Analysis Methodology

Potential impacts associated with the proposed facility are driven by a number of factors, including direct construction and operations workers currently residing in the area; direct workers newly entering the region for a limited time; additional service workers required to support these direct workers; and the local purchase of equipment, supplies, materials, and services necessary for construction and operation of the facility.

Where appropriate, level of service (LOS) ratios are calculated for resources and comparisons are made with statewide, national, and local ratios to provide a perspective for impact assessment. LOS ratios express the quantity of a service (e.g., the number of firefighters or law enforcement officers in a service area) in relation to the population in the respective service area (e.g., per 10,000 residents). These ratios provide a means of comparing service levels across service areas and over time or against target or standard levels. LOS ratios are used to estimate the number of additional service personnel required to meet the demands of new residents while maintaining existing service levels. If it appears that the resources are unlikely to be able to accommodate the new demands of the Project, then mitigation measures are proposed.

### Regional Economic Analysis

The economic impacts occurring in a local economy associated with the introduction of new business activity are based primarily on employee compensation, purchases made by the new business, and taxes paid to local governments. Thus, the positive economic impact on local businesses is expected to be consistent with the degree to which local businesses are able to supply the needs of new businesses and their employees. Conversely, if local businesses cannot meet the needs of new businesses or their employees, or cannot do so in a cost-competitive manner, then purchases may occur outside of the local economy. Purchases made outside of the local area represent leakages of money out of the local economy. Profits of the new business also leak out of the local economy if the owners or stockholders reside outside the local area. To measure local economic impacts, this report focuses on projected wages and salaries, business purchases, and taxes collected by local municipal and county governments.

To estimate the total economic impacts of a project or new business activity, the analysis takes into account the concept that employee wages and business purchases have a “ripple effect” in an economy. The new business will purchase some of its required materials, supplies, and services in the local economy, and local businesses will hire some new employees and purchase materials and

services from other businesses to meet demand, creating what are known as indirect effects. Likewise, employees at the new business or project will spend a portion of their wages at local stores and businesses, creating “induced effects.” In this way, the economic impact of the new business or project spreads in the local economy. The portions of employee wages and business purchases that are made outside of the local economy result in leakages out of the local economy. Collectively, indirect and induced effects are referred to as “secondary impacts.” In their entirety, all of the previously discussed changes (direct and secondary) are referred to as “total economic impacts.” By their nature, total impacts are greater than initial changes because of secondary effects. The magnitude of the increase is what is popularly termed a “multiplier effect.” To estimate the total economic impacts due to this ripple effect, economic multipliers are used in conjunction with the direct employment, wages, business purchases, and taxes paid. The direct impacts are multiplied by the economic multiplier to yield an estimate of the overall economic impact of the new business or project. Multipliers are generated by economic input-output (I-O) models that account for linkages between sectors in an economy.

An I-O analysis estimates the dollar value of change in regional economic activity associated with economic linkages and leakages. The economic system, consisting of producers and consumers, is divided into various sectors that are defined in terms of the resources they require as inputs and what they produce as outputs. The quantities of inputs and outputs for a given period, usually expressed in monetary terms, are entered into an I-O matrix to enable the analysis of impacts within and across various sectors of an economy where growth and decline take place, as well as what effects various policies may have.

A number of regional economic analysis modeling systems (consisting of data and analytical software) are available for use in regional economic analysis. An I-O approach is used here for estimating the secondary effects of the Project. A number of I-O models exist, including Impact Analysis for Planning (IMPLAN); Regional Economic Models, Inc. (REMI); and Regional Industrial Multiplier System II (RIMS). These modeling systems all contain computer databases used to create I-O models for any combination of U.S. counties. For this Project, IMPLAN was used to estimate the indirect and induced impacts associated with implementation of the Project.

### **Impact Analysis for Planning Model**

IMPLAN was originally developed by the U.S. Forest Service (USFS) in cooperation with the Federal Emergency Management Agency (FEMA) and the Bureau of Land Management (BLM) to assist in land and resource management planning. The IMPLAN package includes 1) estimates of final demands and final payments for counties developed from government data; 2) a national average matrix of technical coefficients; 3) mathematical tools that help the user build the I O model; and 4) tools that allow the user to change data, conduct impact analysis, and generate reports.

## **5.4 Inventory, Evaluation, and Impact Assessment by Social and Economic Resource Areas**

Social and economic conditions in the geographical area likely to experience impacts associated with the construction and operation of the industrial facility are inventoried and evaluated as they currently exist, projected as they would exist in the future without the proposed facility, and as they would exist with the facility. Following this evaluation, an assessment is presented of the potential Project-induced impacts during both construction and operation phases.

The resources addressed are as follow:

- **Population** – historical trends, density and distribution, age, race and ethnicity, poverty status, migration, and projections
- **Economic and Fiscal Conditions** – employment and unemployment, employment by industrial sector, earnings and income, commuting and housing-jobs balance, construction industry, government revenues and finances (property values, sales taxes, use taxes, lodging taxes, impact assistance funds), finances (revenues and expenditures), and future conditions by sector
- **Housing** – permanent housing (housing stock characteristics, construction activity, home values and rental housing costs, rental housing vacancies, housing needs), and temporary housing (hotel, motels, and RV spaces)
- **Public Education** – educational facilities, student enrollment, and student-teacher ratios
- **Public Safety** – fire protection services, law enforcement services, and crime
- **Health Care** – location and characteristics of personnel and facilities, and health needs of existing population
- **Municipal Services** – wastewater treatment, water treatment and distribution, non-hazardous waste collection and disposal, electricity service, and natural gas service

### 5.4.1 Population

This subsection describes past, present, and future characteristics of the population in the study area. These characteristics include historical trends for the study area, counties, and incorporated places; age composition of the county populations; racial and ethnic composition; and migration patterns.

Population characteristics that are important in determining the location and availability of the local labor force include the location of population centers and the age distribution of the population (i.e., the identification of areas where persons of working age reside).

#### Existing Conditions

**Historical Population Trends.** Historical population data for the study area are summarized in **Table 5-7**, while **Table 5-8** presents the decade-to-decade population change. In contrast to the population of the individual counties and cities, which reflects the boom-and-bust cycle common in Wyoming in the 20th century, the overall population of the four-county study area has seen an increase every decade since 1940 with the exception of the 1960s (WY EAD, 2012).

TABLE 5-7  
Population Trends in the Study Area

Area	1940	1950	1960	1970	1980	1990	2000	2010
<b>Laramie County</b>	<b>33,651</b>	<b>47,662</b>	<b>60,149</b>	<b>56,360</b>	<b>68,649</b>	<b>73,142</b>	<b>81,607</b>	<b>91,738</b>
Albin, Town of	160	208	172	118	128	120	120	181
Burns, Town of	253	216	225	185	268	254	285	301
Cheyenne, City of	22,474	31,935	43,505	41,254	47,283	50,008	53,011	59,466
Pine Bluffs, Town of	771	846	1,121	937	1,077	1,054	1,153	1,129
<b>Albany County</b>	<b>13,946</b>	<b>19,055</b>	<b>21,290</b>	<b>26,431</b>	<b>29,062</b>	<b>30,797</b>	<b>32,014</b>	<b>36,299</b>
Laramie, City of	10,627	15,581	17,520	23,143	24,410	26,687	27,204	30,816
Rock River, Town of	349	424	497	344	415	190	235	245
<b>Goshen County</b>	<b>12,207</b>	<b>12,634</b>	<b>11,941</b>	<b>10,885</b>	<b>12,040</b>	<b>12,373</b>	<b>12,538</b>	<b>13,249</b>
Fort Laramie, Town of	311	300	233	197	356	243	243	230
La Grange, Town of	211	221	176	189	232	224	332	448
Lingle, Town of	428	403	437	446	475	473	510	468
Torrington, Town of	2,344	3,247	4,188	4,237	5,441	5,651	5,776	6,501
Yoder, Town of	201	128	83	101	110	136	169	151
<b>Platte County</b>	<b>8,013</b>	<b>7,925</b>	<b>7,195</b>	<b>6,486</b>	<b>11,975</b>	<b>8,145</b>	<b>8,807</b>	<b>8,667</b>
Chugwater, Town of	245	283	287	187	282	192	244	212
Glendo, Town of	162	215	292	210	367	195	229	205
Guernsey, Town of	603	721	800	793	1,512	1,155	1,147	1,147
Hartville, Town of	179	229	177	246	149	78	76	62
Wheatland, Town of	2,110	2,286	2,350	2,498	5,816	3,271	3,548	3,627
<b>Study Area</b>	<b>67,817</b>	<b>87,276</b>	<b>100,575</b>	<b>100,162</b>	<b>121,726</b>	<b>124,457</b>	<b>134,966</b>	<b>149,953</b>
<b>Wyoming</b>	<b>250,742</b>	<b>290,529</b>	<b>330,066</b>	<b>332,416</b>	<b>469,557</b>	<b>453,588</b>	<b>493,782</b>	<b>563,626</b>

Source: Wyoming Department of Administration and Information, Economic Analysis Division (WY EAD), 2011a.

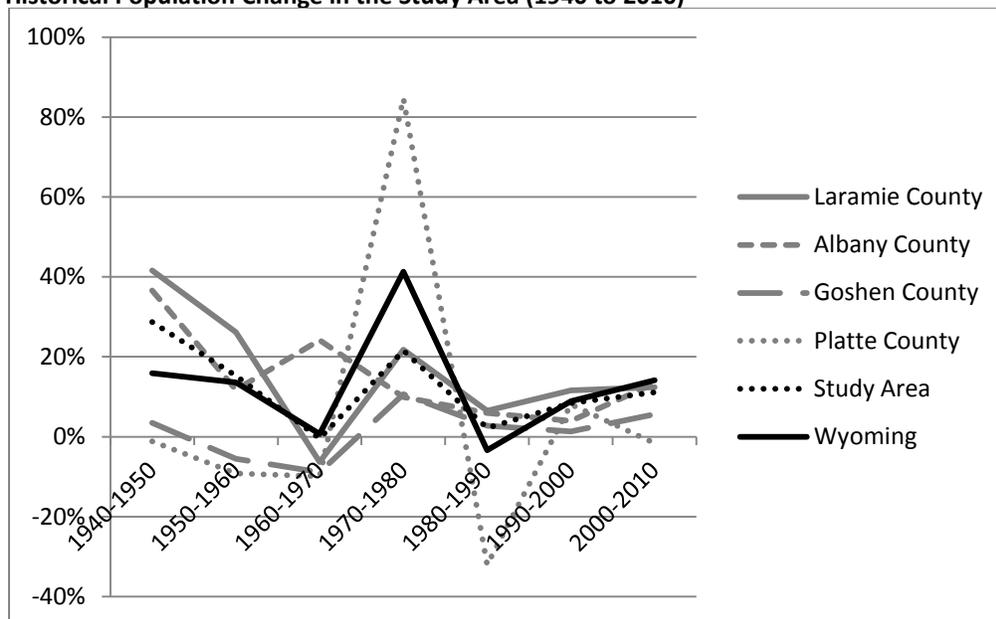
TABLE 5-8  
Decade-to-Decade Percent Population Change in the Study Area

Area	1940-1950	1950-1960	1960-1970	1970-1980	1980-1990	1990-2000	2000-2010
<b>Laramie County</b>	<b>42%</b>	<b>26%</b>	<b>-6%</b>	<b>22%</b>	<b>7%</b>	<b>12%</b>	<b>12%</b>
Albin, Town of	30%	-17%	-31%	8%	-6%	0%	51%
Burns, Town of	-15%	4%	-18%	45%	-5%	12%	6%
Cheyenne, City of	42%	36%	-5%	15%	6%	6%	12%
Pine Bluffs, Town of	10%	33%	-16%	15%	-2%	9%	-2%
<b>Albany County</b>	<b>37%</b>	<b>12%</b>	<b>24%</b>	<b>10%</b>	<b>6%</b>	<b>4%</b>	<b>13%</b>
Laramie, City of	47%	12%	32%	5%	9%	2%	13%
Rock River, Town of	21%	17%	-31%	21%	-54%	24%	4%
<b>Goshen County</b>	<b>3%</b>	<b>-5%</b>	<b>-9%</b>	<b>11%</b>	<b>3%</b>	<b>1%</b>	<b>6%</b>
Fort Laramie, Town of	-4%	-22%	-15%	81%	-32%	0%	-5%
La Grange, Town of	5%	-20%	7%	23%	-3%	48%	35%
Lingle, Town of	-6%	8%	2%	7%	0%	8%	-8%
Torrington, Town of	39%	29%	1%	28%	4%	2%	13%
Yoder, Town of	-36%	-35%	22%	9%	24%	24%	-11%
<b>Platte County</b>	<b>-1%</b>	<b>-9%</b>	<b>-10%</b>	<b>85%</b>	<b>-32%</b>	<b>8%</b>	<b>-2%</b>
Chugwater, Town of	16%	1%	-35%	51%	-32%	27%	-13%
Glendo, Town of	33%	36%	-28%	75%	-47%	17%	-10%
Guernsey, Town of	20%	11%	-1%	91%	-24%	-1%	0%
Hartville, Town of	28%	-23%	39%	-39%	-48%	-3%	-18%
Wheatland, Town of	8%	3%	6%	133%	-44%	8%	2%
<b>Study Area</b>	<b>29%</b>	<b>15%</b>	<b>0%</b>	<b>22%</b>	<b>2%</b>	<b>8%</b>	<b>11%</b>
<b>Wyoming</b>	<b>16%</b>	<b>14%</b>	<b>1%</b>	<b>41%</b>	<b>-3%</b>	<b>9%</b>	<b>14%</b>

Source: Wyoming Department of Administration and Information, Economic Analysis Division (WY EAD), 2011a.

Figure 5-4, below, and Table 5-7 illustrate the population trends of the study area, the counties within the study area, and in the state as a whole between 1940 and 2010. It illustrates the overall “boom-bust” cycle experienced historically in the state, and demonstrates that Platte County, as the smallest county in terms of population, can be particularly impacted by swings in population. Similarly, all the counties within study area, with the exception of Platte County, have grown at a relatively steady pace over the past 20 years.

FIGURE 5-4  
**Historical Population Change in the Study Area (1940 to 2010)**



Source: Wyoming Department of Administration and Information, Economic Analysis Division (WY EAD) and CH2M HILL, 2012.

**Population Density and Distribution.** Table 5-9 summarizes the land area, the 2010 population and population density for the study area, and each entity's percentage of the overall study area population. Of the 149,953 persons in the study area in 2010, the majority, 85 percent, were located in either Laramie County (61 percent) or Albany County (24 percent). Further, more than half of the population, 60 percent, resides in either the City of Cheyenne in Laramie County or the City the Laramie in Albany County. The population of the study area represented 27 percent of Wyoming's total population in 2010.

The majority of the population of each county, as well as the study area overall, resides in incorporated communities. While the land area of these communities represents less than 1 percent of the total four-county study area, 70 percent of the study area population resides in an incorporated town or city. As presented in Table 5-9, the two largest population centers in 2010 were the City of Cheyenne in Laramie County and the City of Laramie in Albany County, accounting for about 40 percent and 21 percent of the study area population, respectively. The population density of the cities of Cheyenne and Laramie were also the highest with 2,425 and 1,737 persons per square mile, respectively. In contrast, the population density of Wyoming is six persons per square mile, while in the study area overall, the population density is 13 persons per square mile.

TABLE 5-9  
Population Density and Distribution in the Study Area

	Area (square mile)	2010	Population Density	% of Study Area Population
<b>Laramie County</b>	<b>2,685.9</b>	<b>91,738</b>	<b>34</b>	<b>61.2%</b>
Albin, Town of	0.2	181	1,207	0.1%
Burns, Town of	3.1	301	99	0.2%
Cheyenne, City of	24.5	59,466	2,425	39.7%
Pine Bluffs, Town of	3.2	1,129	351	0.8%
<b>Albany County</b>	<b>4,273.8</b>	<b>36,299</b>	<b>9</b>	<b>24.2%</b>
Laramie, City of	17.7	30,816	1,737	20.6%
Rock River, Town of	2.3	245	105	0.2%
<b>Goshen County</b>	<b>2,225.4</b>	<b>13,249</b>	<b>6</b>	<b>8.8%</b>
Fort Laramie, Town of	0.3	230	852	0.2%
La Grange, Town of	0.4	448	1,093	0.3%
Lingle, Town of	0.3	468	1,510	0.3%
Torrington, Town of	4.6	6,501	1,407	4.3%
Yoder, Town of	0.2	151	719	0.1%
<b>Platte County</b>	<b>2,084.2</b>	<b>8,667</b>	<b>4</b>	<b>5.8%</b>
Chugwater, Town of	3.1	212	69	0.1%
Glendo, Town of	0.5	205	387	0.1%
Guernsey, Town of	1.0	1,147	1,125	0.8%
Hartville, Town of	0.3	62	248	0.0%
Wheatland, Town of	4.1	3,627	885	2.4%
<b>Study Area Total</b>	<b>11,269.4</b>	<b>149,953</b>	<b>13</b>	
Town or City Total Area	65.8	105,189	1,599	
<b>Wyoming</b>	<b>97,093.1</b>	<b>563,626</b>	<b>6</b>	

Source: U.S. Census Bureau, 2012.

**Age of the Population.** The age distribution of the population is an important factor in assessing the size of the local labor force. **Table 5-10** compares the existing population, by age, in the study area counties and the State of Wyoming. The age cohorts from 25 to 44 and from 45 to 64 offer the greatest possible contribution of the expected labor force. These two cohorts contain 54 percent of the population of the State of Wyoming as a whole. The study area counties were similar with the exception of Albany County, where less than half (46 percent) of its population is between the ages of 25 – 64. Nearly 30 percent of population in Albany County is between the ages of 18 – 24 due to the City of Laramie being home to the University of Wyoming.

TABLE 5-10  
**Year 2010 Population in Wyoming and Study Area Counties by Age and Age Cohort Percent of the Total**

Geographic Area	Age						Total
	Under 18	5 to 17	18 to 24	25 to 44	45 to 64	65+	
<b>Wyoming</b>							
Number	135,402	95,199	56,429	144,615	157,090	70,090	563,626
Percent	24%	17%	10%	26%	28%	12%	
<b>Laramie County</b>							
Number	22,401	15,674	8,916	23,746	25,170	11,505	91,738
Percent	24%	17%	10%	26%	27%	13%	
<b>Albany County</b>							
Number	6,037	3,997	10,480	9,300	7,316	3,166	36,299
Percent	17%	11%	29%	26%	20%	9%	
<b>Goshen County</b>							
Number	2,701	2,001	1,336	2,818	3,894	2,500	13,249
Percent	20%	15%	10%	21%	29%	19%	
<b>Platte County</b>							
Number	1,765	1,338	535	1,729	2,841	1,797	8,667
Percent	20%	15%	6%	20%	33%	21%	

Source: Wyoming Department of Administration and Information, Economic Analysis Division (WY EAD), 2010.

**Population Migration.** Population change in an area is attributable to births, deaths, and net migration. Population migration in Wyoming is tracked by the U.S. Census Bureau as well as WYDOT, which tracks drivers who exchange licenses from other areas when they move to Wyoming as well as those who surrender their licenses to other states when they move from Wyoming (WY CDA, 2011). **Table 5-11** summarizes the net change between incoming and outgoing persons with licenses for each of the four counties in the study area, the study area as a whole, and the state based on the WYDOT data. It illustrates that the net migration to the study area has been increasing since 2004 as well as its proportion of Wyoming's overall net migration. Approximately 1,800 new residents moved to the study area between 2005 and 2010, representing 34 percent of the state's net migration during this period, an increase from a low of 12 percent in 2006 and 2007. The age groups ranging from 26 to 45 experienced a majority of the influx during the first half of 2011, likely representing those who are seeking or have secured employment opportunities (WY CDA, 2011).

TABLE 5-11  
**Net Migration Trends in the Study Area**

Area	2005	2006	2007	2008	2009	2010	6/2011	(2005 – 2010)
Laramie County	429	510	606	650	1,042	1,327	370	1,016
Albany County	-16	69	61	261	426	450	51	487
Goshen County	37	85	55	110	152	244	83	232
Platte County	32	30	22	49	77	151	39	87
Study Area	482	694	744	1,070	1,697	2,172	543	1,822
Wyoming	3,387	5,810	6,002	7,112	6,431	7,495	1,619	5,420
Study Area as % of State	14%	12%	12%	15%	26%	29%	34%	34%

Source: Wyoming Community Development Authority (WCDA), 2011.

**Population Projections without Proposed Project.** As shown in **Table 5-12**, population projections forecast that the population of the study area will increase by 6,567 residents by 2015 and by a total of 20,347 by 2030 (WY EAD, 2011). **Table 5-12** summarizes the forecasted population change by county in 5-year increments out to 2030.

TABLE 5-12  
**Population Forecasts in the Study Area**

	2010 Census	2015 Forecast	2020 Forecast	2025 Forecast	2030 Forecast
<b>Wyoming</b>	<b>563,626</b>	<b>594,710</b>	<b>622,360</b>	<b>644,050</b>	<b>668,830</b>
<b>Albany County</b>	<b>36,299</b>	<b>37,850</b>	<b>38,910</b>	<b>39,630</b>	<b>40,560</b>
Laramie	30,816	32,133	33,033	33,644	34,433
Rock River	245	255	263	267	274
<b>Goshen County</b>	<b>13,249</b>	<b>13,680</b>	<b>13,960</b>	<b>14,030</b>	<b>14,120</b>
Fort Laramie	230	237	242	244	245
La Grange	448	463	472	474	477
Lingle	468	483	493	496	499
Torrington	6,501	6,712	6,850	6,884	6,928
Yoder	151	156	159	160	161
<b>Laramie County</b>	<b>91,738</b>	<b>96,230</b>	<b>99,710</b>	<b>102,790</b>	<b>106,740</b>
Albin	181	190	197	203	211
Burns	301	316	327	337	350
Cheyenne	59,466	62,378	64,634	66,630	69,191
Pine Bluffs	1,129	1,184	1,227	1,265	1,314

TABLE 5-12  
Population Forecasts in the Study Area

	2010 Census	2015 Forecast	2020 Forecast	2025 Forecast	2030 Forecast
<b>Platte County</b>	<b>8,667</b>	<b>8,760</b>	<b>8,780</b>	<b>8,790</b>	<b>8,880</b>
Chugwater	212	214	215	215	217
Glendo	205	207	208	208	210
Guernsey	1,147	1,159	1,162	1,163	1,175
Hartville	62	63	63	63	64
Wheatland	3,627	3,666	3,674	3,678	3,716
<b>Study Area</b>	<b>149,953</b>	<b>156,520</b>	<b>161,360</b>	<b>165,240</b>	<b>170,300</b>
<b>Percent of Wyoming</b>	<b>27%</b>	<b>26%</b>	<b>26%</b>	<b>26%</b>	<b>25%</b>

**Notes:**

2010 state, county, and municipality population are 2010 Census data; 2011 to 2030 state and county population forecasts were developed based on trends of demographic and economic variables; municipality population forecasts were simply calculated by applying the place/county ratios to the appropriate county population forecasts.

Source: Wyoming Department of Administration and Information, Economic Analysis Division (WY EAD), (<http://eadiv.state.wy.us>), October 2011.

As shown in **Table 5-13**, Laramie County is expected to experience the highest 5-year rates of growth within the study area, closely mirroring those of the state, while Platte County is forecast to maintain its current population with little or no growth (0 - 1 percent) prior to 2030. The four-county study area is projected to grow between 2 and 4 percent, just below that of Wyoming as a whole.

TABLE 5-13  
Percent Population Change Forecasted for Counties in the Study Area

	% Change 2010 - 2015	% Change 2015 - 2020	% Change 2020 - 2025	% Change 2025 - 2030
Wyoming	6%	5%	3%	4%
Study Area	4%	3%	2%	3%
Albany County	4%	3%	2%	2%
Goshen County	3%	2%	1%	1%
Laramie County	5%	4%	3%	4%
Platte County	1%	0%	0%	1%

**Population Race and Ethnicity.** Overall, the results of the 2010 Census in Wyoming indicate that there has been significant change in the racial and ethnic composition. The white population increased at the slowest rate, 12.5 percent, over the 2000 through 2010 period, while the Asian population grew more quickly than any other race at 59.7 percent (WY EAD, 2011). **Table 5-14** summarizes the racial and ethnic composition of each of the four counties and the study area overall as compared to the state based on the 2010 Census. Similar to the state, the counties in the study area are predominantly white, representing between 88 and 95 percent of the total

population. Those identifying themselves as Hispanic or Latino ethnically ranged from 6.7 percent of the population in Platte County to 13.1 percent in Laramie County, as compared to 8.9 percent of the state overall.

TABLE 5-14  
**Population Composition by Race and Ethnicity (2010 Census)**

Geographic Area	Percent of Population by Race							
	White	Black or African American Alone	American Indian and Alaska Native Alone	Asian Alone	Native Hawaiian and Other Pacific Islander alone	Two or More Races	Hispanic or Latino Origin	Minority Population
Wyoming	90.7%	0.8%	2.4%	0.8%	0.1%	2.2%	8.9%	14.1%
Albany County	90.1%	1.2%	0.7%	2.8%	0.1%	2.7%	8.8%	15.2%
Goshen County	94.5%	0.6%	0.8%	0.3%	0.1%	1.2%	9.7%	12.1%
Laramie County	88.5%	2.5%	1.0%	1.1%	0.2%	3.1%	13.1%	19.2%
Platte County	95.4%	0.3%	0.4%	0.4%	*	1.5%	6.7%	8.8%

**Notes:**

\* Value greater than zero but less than half unit of measure shown.

Source: U.S. Census Bureau, *Census 2010 Quickfacts*, accessed January 2012.

**Population Poverty Status.** According to 2010 Census, the proportions of the population living below the poverty level (as defined in 1999) were 10.2 percent for the state, 18.7 percent for Albany County, 14.3 for Goshen County, 10.4 percent for Laramie County, and 12.6 percent for Platte County.

### Construction Impacts

The number of non-local temporary workers likely to enter the area of site influence during the peak construction month could total 260 and average about 126 over the 14-month construction period. It is not expected that these temporary workers will be accompanied by spouses or children and, therefore, impacts to population would be minor, consisting of only 0.2 percent of the existing four-county population of approximately 149,953 and just 0.3 percent of Laramie County's population of 91,738.

### Operations Impacts

During operations, it is expected that 12 permanent workers would be hired and relocate to the local region. This is expected to have a negligible impact to the population of the local area.

## 5.4.2 Economic and Fiscal Conditions

This section addresses past, present, and future economic conditions (labor force, employment, and unemployment); income and earnings by industrial sector; commuting patterns and work centers; existing labor characteristics and availability; and government revenues (property, sales, use, and lodging taxes and residential property values).

## Existing Conditions

**Employment and Unemployment.** Recent labor force trends are tabulated in **Table 5-15**. During the period 2000 through 2010, total employment in the study area increased by nearly 1,400 jobs or 2 percent, less than half the statewide increase of more than 6 percent during the same period. Meanwhile, the size of the study area labor force rose by over 5 percent and, thus, the rate of unemployment also increased. In 2010, the unemployment rate was lowest in Albany County at 5.1 percent and highest in Laramie County at 7.5 percent. As illustrated in **Figure 5-5**, counties within the study area experienced somewhat different changes in employment. Laramie County employment grew by over 1,200 jobs (3.1 percent), Albany County jobs increased by 603 (3.4 percent), Goshen County lost 110 jobs (-1.8 percent), and Platte County experience the largest percentage change in employment with the loss of 312 jobs (-7.5 percent).

TABLE 5-15  
**2000-2010 Wyoming Benchmark Labor Force Estimates--Annual Averages**

	<b>Wyoming</b>										
	<b>2000</b>	<b>2001</b>	<b>2002</b>	<b>2003</b>	<b>2004</b>	<b>2005</b>	<b>2006</b>	<b>2007</b>	<b>2008</b>	<b>2009</b>	<b>2010</b>
Labor Force	266,882	269,985	269,654	271,607	273,091	278,183	285,958	291,604	295,592	296,880	293,769
Employment	256,685	259,508	258,462	259,489	262,358	267,927	276,882	283,543	286,394	277,669	273,313
Unemployment	10,197	10,477	11,192	12,118	10,733	10,256	9,076	8,061	9,198	19,211	20,456
Unempl. Rate	3.8	3.9	4.2	4.5	3.9	3.7	3.2	2.8	3.1	6.5	7
	<b>Laramie County</b>										
	<b>2000</b>	<b>2001</b>	<b>2002</b>	<b>2003</b>	<b>2004</b>	<b>2005</b>	<b>2006</b>	<b>2007</b>	<b>2008</b>	<b>2009</b>	<b>2010</b>
Labor Force	40,237	40,120	40,839	41,550	41,324	41,611	42,121	42,566	42,866	43,375	43,188
Employment	38,732	38,464	39,101	39,633	39,441	39,849	40,493	41,082	41,164	40,493	39,941
Unemployment	1,505	1,656	1,738	1,917	1,883	1,762	1,628	1,484	1,702	2,882	3,247
Unempl. Rate	3.7	4.1	4.3	4.6	4.6	4.2	3.9	3.5	4	6.6	7.5
	<b>Albany County</b>										
	<b>2000</b>	<b>2001</b>	<b>2002</b>	<b>2003</b>	<b>2004</b>	<b>2005</b>	<b>2006</b>	<b>2007</b>	<b>2008</b>	<b>2009</b>	<b>2010</b>
Labor force	18,300	18,527	18,360	18,627	19,699	19,478	18,921	18,863	19,059	19,481	19,272
Employment	17,688	17,880	17,740	17,990	19,104	18,925	18,426	18,416	18,569	18,646	18,291
Unemployment	612	647	620	637	595	553	495	447	490	835	981
Unempl. Rate	3.3	3.5	3.4	3.4	3	2.8	2.6	2.4	2.6	4.3	5.1
	<b>Goshen County</b>										
	<b>2000</b>	<b>2001</b>	<b>2002</b>	<b>2003</b>	<b>2004</b>	<b>2005</b>	<b>2006</b>	<b>2007</b>	<b>2008</b>	<b>2009</b>	<b>2010</b>
Labor Force	6,249	6,151	5,945	5,832	5,757	5,713	5,955	5,963	6,132	6,244	6,294
Employment	6,022	5,902	5,690	5,563	5,502	5,454	5,724	5,774	5,912	5,900	5,912
Unemployment	227	249	255	269	255	259	231	189	220	344	382

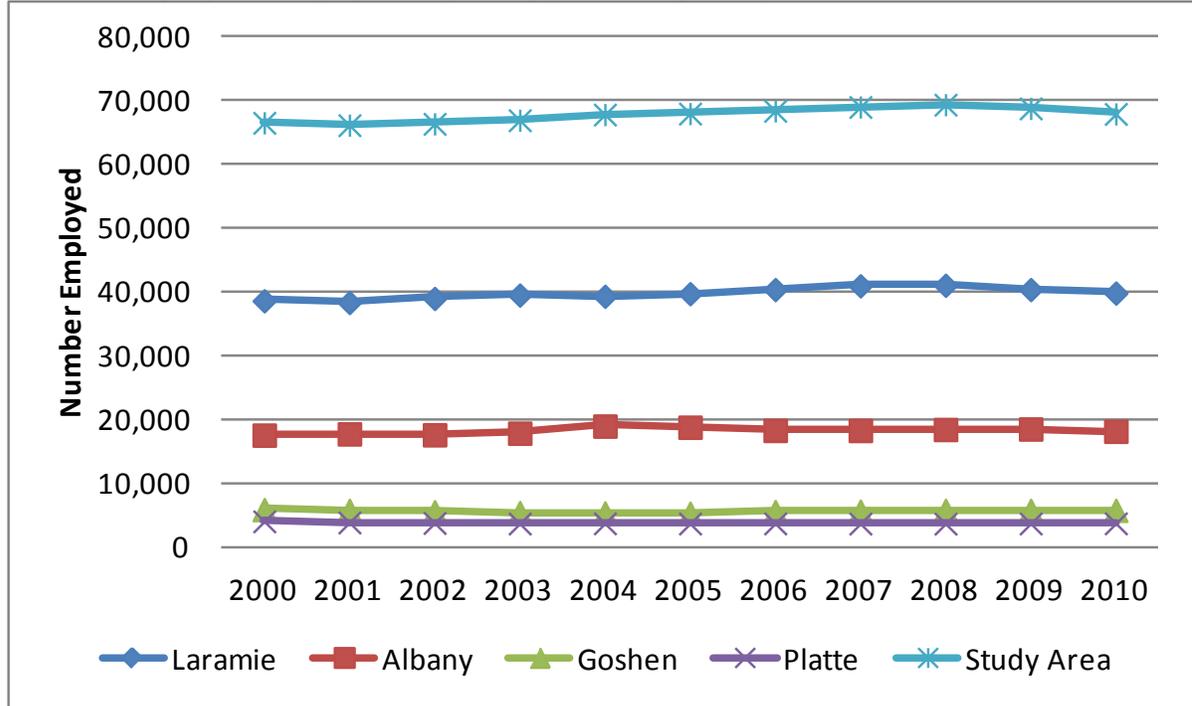
TABLE 5-15  
**2000-2010 Wyoming Benchmark Labor Force Estimates--Annual Averages**

Unempl. Rate	3.6	4	4.3	4.6	4.4	4.5	3.9	3.2	3.6	5.5	6.1
<b>Platte County</b>											
	<b>2000</b>	<b>2001</b>	<b>2002</b>	<b>2003</b>	<b>2004</b>	<b>2005</b>	<b>2006</b>	<b>2007</b>	<b>2008</b>	<b>2009</b>	<b>2010</b>
Labor Force	4,355	4,178	4,125	4,050	4,077	4,037	4,028	3,982	3,977	4,095	4,153
Employment	4,179	4,001	3,927	3,836	3,866	3,837	3,850	3,826	3,813	3,840	3,867
Unemployment	176	177	198	214	211	200	178	156	164	255	286
Unempl. Rate	4	4.2	4.8	5.3	5.2	5	4.4	3.9	4.1	6.2	6.9
<b>Study Area</b>											
Labor Force	69,141	68,976	69,269	70,059	70,857	70,839	71,025	71,374	72,034	73,195	72,907
Employment	66,621	66,247	66,458	67,022	67,913	68,065	68,493	69,098	69,458	68,879	68,011
Unemployment	2,520	2,729	2,811	3,037	2,944	2,774	2,532	2,276	2,576	4,316	4,896

Benchmark Run Date April 2011.

Source: Wyoming Department of Employment (<http://doe.state.wy.us/lmi/LAUS/0004aa.htm>), accessed February 2012.

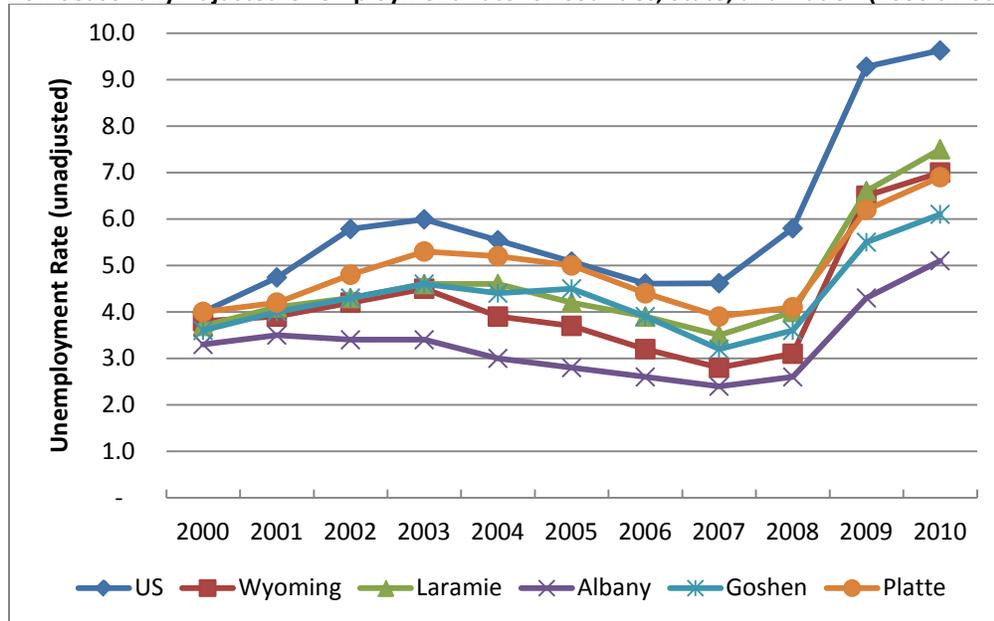
FIGURE 5-5  
**Non-Seasonally Adjusted Employment by County (2000 through 2010)**



Source: Wyoming Department of Employment (<http://doe.state.wy.us/lmi/LAUS/0004aa.htm>), accessed February 2012.

Unemployment rates among the counties in the study area started low in 2000, trended upward for all but Albany County until 2003, and decreased in all counties until 2007 before rising steeply in 2009 and escalating still higher in 2010. Throughout the entire period, unemployment rates in the study area counties were lower than for the nation, with the exception of Platte County, which matched the U.S. unemployment rate of 5 percent in 2005. **Figure 5-6** shows the trend in unemployment rates in the study area counties, the state, and the nation during the period 2000 through 2010.

FIGURE 5-6  
**Non-Seasonally Adjusted Unemployment Rate for Counties, State, and Nation (2000 through 2010)**

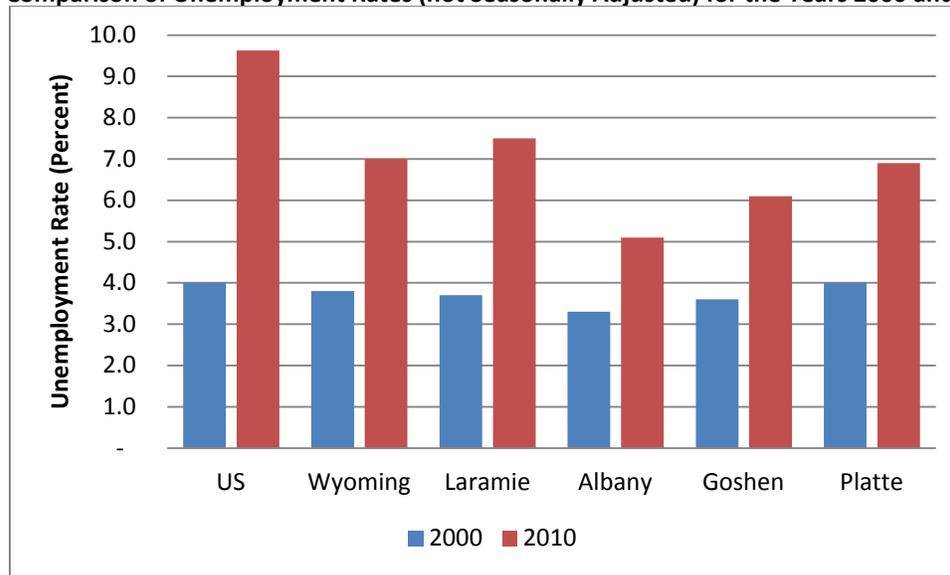


Source: Wyoming Department of Employment (<http://doe.state.wy.us/lmi/LAUS/0004aa.htm>), accessed February 2012.

Recent information regarding initial monthly claims for unemployment benefits suggests that unemployment is on the rise. **Figure 5-7** shows a comparison of unemployment rates for the study area counties, the state, and the nation for 2000 relative to 2010. In 2000, the unemployment rates for the counties in the study area hovered at approximately 3 or 4 percent. In contrast, 2010 unemployment rates for the counties in the study area ranged from a low of 5.1 percent in Albany County to a high of 7.5 percent in Laramie County. It is clear from **Figure 5-6** that the current unemployment rates are high by historical standards, but are well below the nation's 9.6 percent unemployment rate. In all cases, however, unemployment has risen substantially, with joblessness in Laramie County climbing 103 percent, Albany County 55 percent, Goshen County 69 percent, and Platte County 73 percent.

Between 2000 and 2010, the unemployment rate for the entire State of Wyoming rose 84 percent while the U.S. rate of unemployment during the same period increased 140 percent. For the duration of economic slowdown, both the local and non-local labor force is likely to have greater availability for staffing projects than has been the case historically.

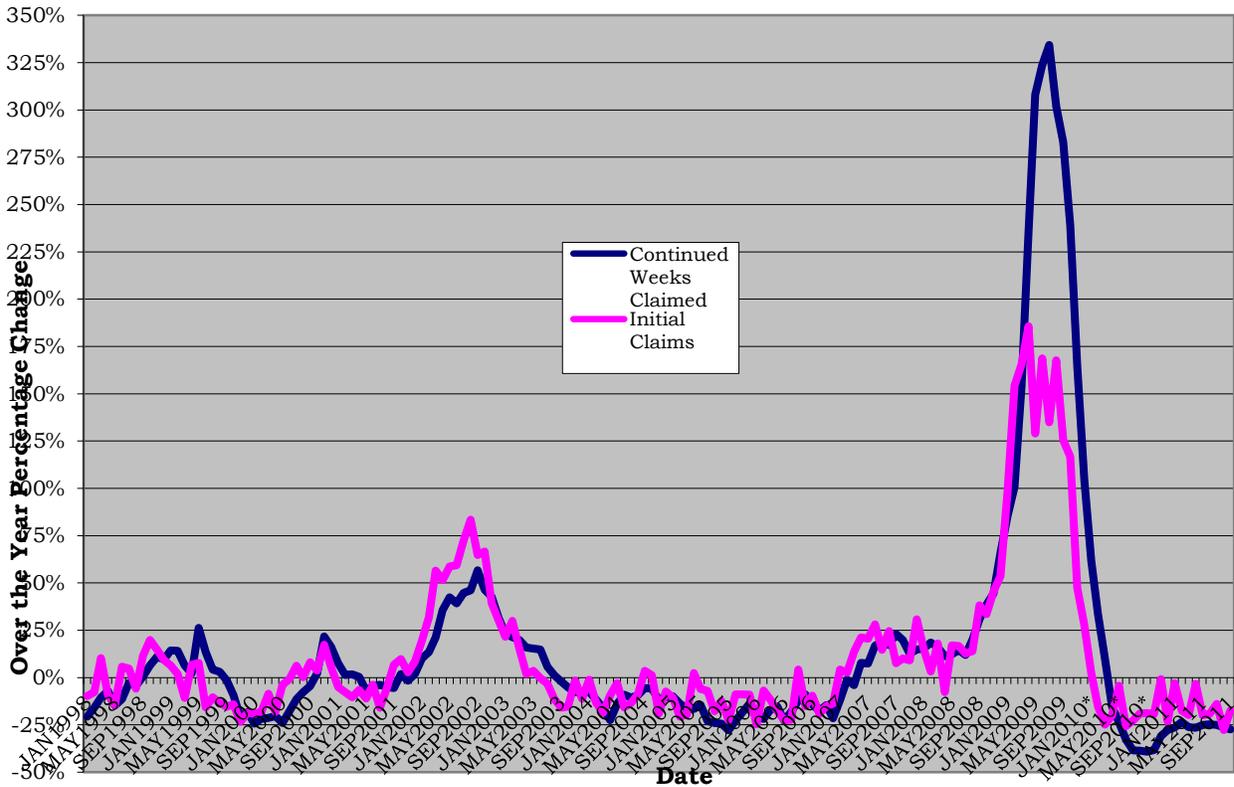
FIGURE 5-7  
**Comparison of Unemployment Rates (not Seasonally Adjusted) for the Years 2000 and 2010**



**Figure 5-8** illustrates how monthly claims for unemployment benefits compare to the same month in the preceding year over the period from January 1998 to September 2011. The period between September 2001 and May 2003 was one of increasingly deteriorating employment. Prior to this time, from mid-year 1999, was a period characterized by steady and sustained improvement in employment. Another period of stable and continued growth occurred between June 2003 and December 2007. However, 2007 saw the start of a trend of increasing claims for unemployment benefits, with the number increasing rapidly in the fourth quarter of 2008 and reaching historical highs during the first half of 2009. In March 2009, the number of claims was more than 150 percent higher than in the corresponding month in 2008. In 2011, however, the monthly claims decreased relative to the preceding year.

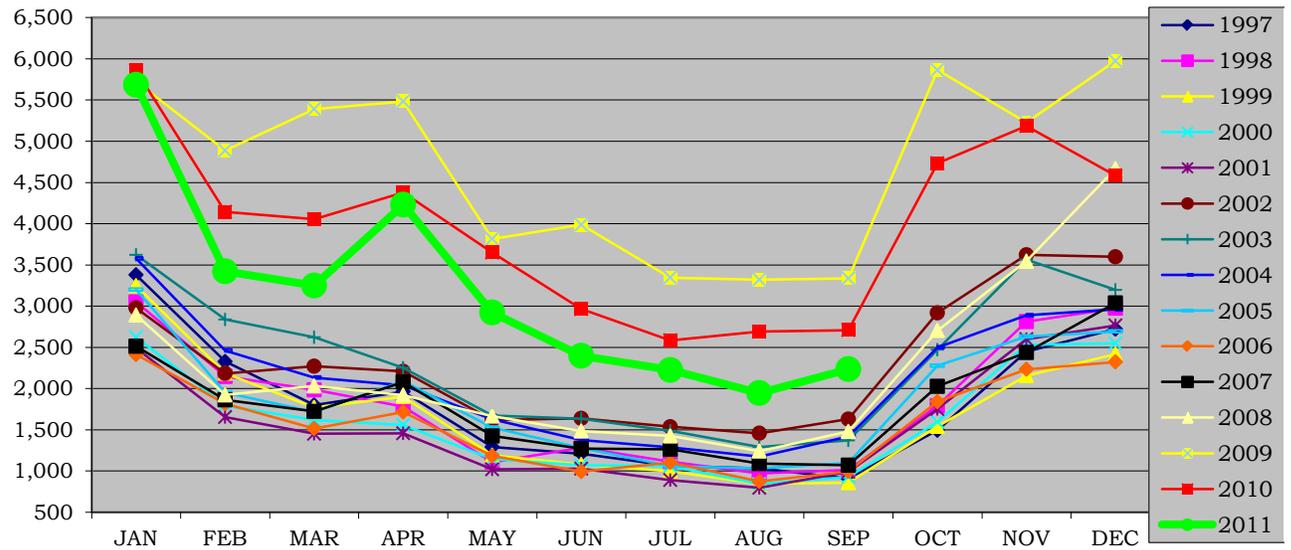
The information presented in **Figure 5-9** illustrates how the number of claims for unemployment benefits, at the state level, varies through the year and between years. Year 2009 began with a historical high in monthly claims relative to preceding years and remained high for the duration of the year. Year 2010, however, showed improvement, and economic gains continued in 2011, but had not yet returned to the pre-2009 levels. These numbers suggest the state's economy is in recovery. However, as of the second quarter of 2011, both initial and continued claims levels were still much higher than during non-downturn years (see **Figure 5-9**).

**FIGURE 5-8**  
**Monthly Initial Claims for Unemployment in the State, Year to Previous Year (January 1998 through September 2011)**



Source: Wyoming Department of Employment, Research and Planning, 2012, *Statewide Normalized Initial Claims by Industry in NAICS—Updated September 2011* ([http://doe.state.wy.us/lmi/ui/NAICS\\_Statewide\\_Initial.htm](http://doe.state.wy.us/lmi/ui/NAICS_Statewide_Initial.htm)).

**FIGURE 5-9**  
**Initial Claims for Unemployment by Month and Year in Wyoming (1997 through 2011) Showing Seasonality of Workforce Requirements throughout the Year**



Source: Wyoming Department of Employment, Research and Planning, 2012, UI -Tables – Initial Claims Chart ([http://doe.state.wy.us/lmi/ui/NAICS\\_Statewide\\_Initial.htm](http://doe.state.wy.us/lmi/ui/NAICS_Statewide_Initial.htm)).

**Employment by Industrial Sector.** Total employment in the study area from 2000 through 2009 increased by 11,426 jobs, as shown in **Table 5-16**. During this period, farm employment increased by 1 percent, government employment rose 11 percent, and nonfarm employment climbed by 14 percent. The educational sector experienced the greatest positive change in percentage terms, jumping by more than 200 percent from 2000 through 2009. The health sector gained the most jobs over this period, growing by 3,520, while the retail trade sector lost the most jobs, decreasing by 488 or 5 percent. Nonetheless, the retail sector remains one of the largest employment sectors in the study area, superseded only by the state and local government sectors. In percentage terms, the mining sector was the hardest hit, with employment eroding 69 percent from 2000 through 2009. The construction industry accounted for 6,254 jobs in 2009, an increase of 15 percent from 2000. As shown in **Table 5-17**, of the four study area counties, Laramie County contributes the most toward total state employment (15.85 percent), followed by Albany County at a distant second, accounting for 5.57 percent of total state employment. Laramie County also boasts more than 12 percent of the state's construction jobs.

TABLE 5-16  
**Study Area Full-Time and Part-Time Employment by Type and By Industry<sup>1</sup>**

CPGS Study Area	Year 2000	Year 2009	Change (number) 2009-2008	Change (Percent)
Total employment	85,930	97,356	11,426	0.13
Employment by Type:		0	0	
Wage and salary employment	69,612	76,440	6,828	0.10
Proprietors employment	16,318	20,916	4,598	0.28
Farm proprietors employment	2,034	2,227	193	0.09
Nonfarm proprietors employment <sup>2</sup>	14,284	18,689	4,405	0.31
Employment by Industry:	0	0	0	
Farm employment	2,830	2,863	33	0.01
Nonfarm employment	83,100	94,493	11,393	0.14
Private employment	58,114	66,737	8,623	0.15
Forestry, fishing, and related activities	95	100	5	0.05
Mining	215	77	-138	-0.64
Utilities	143	207	64	0.45
Construction	5,074	6,254	1,180	0.23
Manufacturing	2,772	2,498	-274	-0.10
Wholesale trade	1,389	1,495	106	0.08
Retail Trade	10,624	10,136	-488	-0.05
Transportation and warehousing	2,874	4,195	1,321	0.46
Information	543	1,517	974	1.79
Finance and insurance	3,155	4,824	1,669	0.53
Real estate and rental and leasing	2,758	4,205	1,447	0.52
Professional and technical services	3,943	4,444	501	0.13
Management of companies and enterprises	395	153	-242	-0.61
Administrative and waste services	2,944	2,752	-192	-0.07
Educational services	315	979	664	2.11
Health care and social assistance	3,159	6,679	3,520	1.11
Arts, entertainment, and recreation	1,275	1,386	111	0.09
Accommodation and food services	5,737	7,035	1,298	0.23
Other services, except public administration	4,449	4,220	-229	-0.05
Government and government enterprises	24,986	27,756	2,770	0.11
Federal, civilian	2,835	3,143	308	0.11
Military	4,067	3,808	-259	-0.06

TABLE 5-16  
**Study Area Full-Time and Part-Time Employment by Type and By Industry<sup>1</sup>**

CPGS Study Area	Year 2000	Year 2009	Change (number) 2009-2008	Change (Percent)
State and local	18,084	20,805	2,721	0.15
State government	9,002	10,320	1,318	0.15
Local government	9,082	10,485	1,403	0.15

1. The estimates of employment for 2001-2006 are based on the 2002 North American Industry Classification System (NAICS). The estimates for 2007 forward are based on the 2007 NAICS.

2. Excludes limited partners.

(D) or (0) Not shown to avoid disclosure of confidential information, but the estimates for this item are included in the totals.

(L) or (0.0) Less than 10 jobs, but the estimates for this item are included in the totals.

Source: Bureau of Economic Analysis, accessed from [http://eadiv.state.wy.us/i&e/wyemp01\\_09.htm](http://eadiv.state.wy.us/i&e/wyemp01_09.htm).

TABLE 5-17  
**Total Full- and Part-Time Jobs in Wyoming (2009) and Share by Study Area County<sup>1</sup>**

Description	Number of Jobs				
	Wyoming	Share of State Jobs by Place of Work			
		Albany	Laramie	Goshen	Platte
Employment by place of work (number of jobs)					
Total employment	392,431	5.57	15.85	1.94	1.46
<b>By Type</b>					
Wage and salary employment	295,461	6.24	16.71	1.66	1.26
Proprietors employment	96,970	3.51	13.23	2.78	2.05
Farm proprietors employment	9,639	3.94	7.42	7.19	4.55
Nonfarm proprietors employment <sup>2</sup>	87,331	3.46	13.87	2.29	1.78
<b>By Industry</b>					
Farm employment	12,502	3.97	7.28	7	4.66
Nonfarm employment	379,929	5.62	16.13	1.77	1.35
Private employment	306,013	4.34	14.34	1.77	1.36
Forestry, fishing, and related activities	2,822	3.54	(D)	(D)	(D)
Mining	33,273	0.23	(D)	(D)	(D)
Utilities	2,566	1.36	5.3	1.4	(D)
Construction	33,273	3.82	12.05	1.82	1.1
Manufacturing	10,788	4.07	15.14	2.9	1.05
Wholesale trade	9,663	1.94	10.9	2.64	(D)
Retail trade	39,111	5.26	17.49	1.75	1.41
Transportation and warehousing	14,231	1.85	24.28	1.28	2.07
Information	4,744	3.88	26.08	1.33	0.7
Finance and insurance	16,625	4.55	20.62	2.26	1.58
Real estate and rental and leasing	19,047	3.41	15.25	1.78	1.64

TABLE 5-17  
**Total Full- and Part-Time Jobs in Wyoming (2009) and Share by Study Area County<sup>1</sup>**

Description	Number of Jobs		Share of State Jobs by Place of Work		
	Wyoming	Albany	Laramie	Goshen	Platte
Professional, scientific, and technical services	16,810	7.67	16.09	1.52	1.15
Management of companies and enterprises	929	(D)	13.46	0	3.01
Administrative and waste management services	12,191	(D)	19.93	1.57	1.07
Educational services	3,323	13.54	15.92	(D)	(D)
Health care and social assistance	28,900	6.36	16.75	(D)	(D)
Arts, entertainment, and recreation	6,707	5.87	12.23	1.46	1.1
Accommodation and food services	32,646	5.57	13.38	1.11	1.49
Other services, except public administration	18,364	4.79	14.73	2.09	1.37
Government and government enterprises	73,916	10.92	23.53	1.79	1.32
Federal, civilian	7,794	2.69	34.54	1.31	1.78
Military	6,252	3.44	55.47	1.2	0.8
State and local	59,870	12.77	18.76	1.92	1.31
State government	15,545	36.88	27.22	1.16	1.13
Local government	44,325	4.31	15.79	2.18	1.37

<sup>1</sup> The estimates of employment for 2009 are based on the 2007 North American Industry Classification System (NAICS).

<sup>2</sup> Excludes limited partners.

Last updated: April 21, 2011 - new estimates for 2009; revised estimates for 2001-2008.

Source: *Regional Economic Information System, Bureau of Economic Analysis, U.S. Department of Commerce*, <http://www.bea.gov/regional/index.htm>.

As can be seen from the list of major employers presented in **Table 5-18**, businesses associated with education and federal and local government service providers are important employers in the study area. All but two of the top 10 major employers are located in Laramie County in or around Cheyenne, and the remaining two, including the University of Wyoming, the state's single largest employer, are located in Albany County.

TABLE 5-18  
**Top 10 Major Employers in the Study Area**

Enterprise	Number of Employees	County
<b>Government</b>		
University of Wyoming	5,225	Albany
F.E. Warren Air Force Base	4,410	Laramie
State of Wyoming	3,840	Laramie
Federal Government	1,747	Laramie
Laramie County School District No. 1	1,999	Laramie
Albany County Schools	896	Albany
<b>Nongovernment</b>		
Cheyenne Regional Medical Center	1,324	Laramie

TABLE 5-18  
**Top 10 Major Employers in the Study Area**

Enterprise	Number of Employees	County
Sierra Trading Post	691	Laramie
Union Pacific Railroad	686	Laramie
Walmart Distribution	680	Laramie

Source: <http://businessclimate.com/wyoming-economic-development/wyoming-top-employers>, accessed on February 10, 2012.

The economy in and around Cheyenne is comprised of light manufacturing, agriculture, the military and government, tourism, services, and transportation. Historically a cattle- and sheep-raising region, the recent addition of a fertilizer plant contributes to the growing diversity that started with other manufacturing entities, including electronic products and precision instruments.

The region also anticipates additional economic diversification within its oil and gas sector as interests in the Niobrara Shale formation play continue to test the local geology and oil and gas operators refine their plans to develop the oil-rich underground zone that falls beneath Laramie, Platte and Goshen counties. While Laramie County has reviewed and approved more than 75 oil well applications since September 2010, actual drilling of these wells is occurring at a more measured pace as operators assess market conditions and the quality of the play in Wyoming (LCPD, 2012; [http://billingsgazette.com/news/state-and-regional/wyoming/article\\_e4a88611-2603-52f3-9373-7b49cb562abe.html#ixzz1qRcPRSky](http://billingsgazette.com/news/state-and-regional/wyoming/article_e4a88611-2603-52f3-9373-7b49cb562abe.html#ixzz1qRcPRSky), Accessed April 9, 2012). A total of 58 wells were completed in Laramie County between July 2009 and April 2012, or approximately 13 percent of the 434 permits approved by the Wyoming Oil and Gas Commission for the same time period (<http://wogcc.state.wy.us/RepByCountyApdY.cfm?&RequestTimeOut=500>, Accessed March 28, 2012). Of the 58 oil / gas wells completed, 64 percent (37 wells) were completed since the start of 2011. A recent market analysis report of the Niobrara Shale play in Colorado and Wyoming noted that nearly 87 percent of the actual gross production in 2011 occurred in Colorado (GlobalData, 2012). However, similar to the recent completions observed in Laramie County, it also noted a significant increase in recent drilling activities from the Niobrara in Wyoming with gross production increasing from 0.17 million barrels of oil equivalent (MMboe) in 2007 to 1.32 MMboe in 2011. The Wyoming Oil and Gas Commission has also issued 455 horizontal well permits targeting the Niobrara between January and February 22, 2012 (Global Data, 2012). The market analysis report forecasts that the overall growth in gross production from the Niobrara Shale play in Wyoming and Colorado is projected to increase 273 percent between 2007 (8.5 MMboe) and 2020 (31.7 MMboe), or an average annual increase of about 11 percent. An economic impact study looking at the effects of the construction of new oil / gas wells in the Yampa Valley (Moffat and Routt counties) of northwest Colorado found that the biggest effect relates to an increase in revenue to the local governments in terms of tax and royalty collections due to the small size and nature of oil / gas workforce (<http://www2.craigdailynews.com/news/2012/apr/16/yampa-valley-data-partners-report-drilling-crews-1/>, accessed April 16, 2012).

F. E. Warren Air Force Base (AFB), headquarters of the Twentieth Air Force, is the city's largest employer, and the City of Cheyenne is also home to a number of federal, state, and county government offices. Major private sector employers in Cheyenne include United Medical Center, Union Pacific Railroad, Lowe's Companies, Inc., Sierra Trading Post, EchoStar Communications, Frontier Refining, and Walmart. With access to two railroads, interstate freeways, and commercial

air service, the City of Cheyenne is a vital transportation center for the state (<http://www.city-data.com/us-cities/The-West/Cheyenne-Economy.html>, accessed February 13, 2012).

**Construction Labor Characteristics.** From 2000 to 2009, study area employment in the construction industry increased by 1,180 jobs, as shown in **Table 5-16**. Within the study area, Laramie County contributed the largest share (more than 12 percent) to state construction employment in 2009. Albany County contributed 3.8 percent, followed by Goshen and Platte counties with 1.8 and 1.1 percent shares, respectively (**Table 5-17**). As a whole, study area construction employment accounted for nearly 19 percent of all construction jobs in the state.

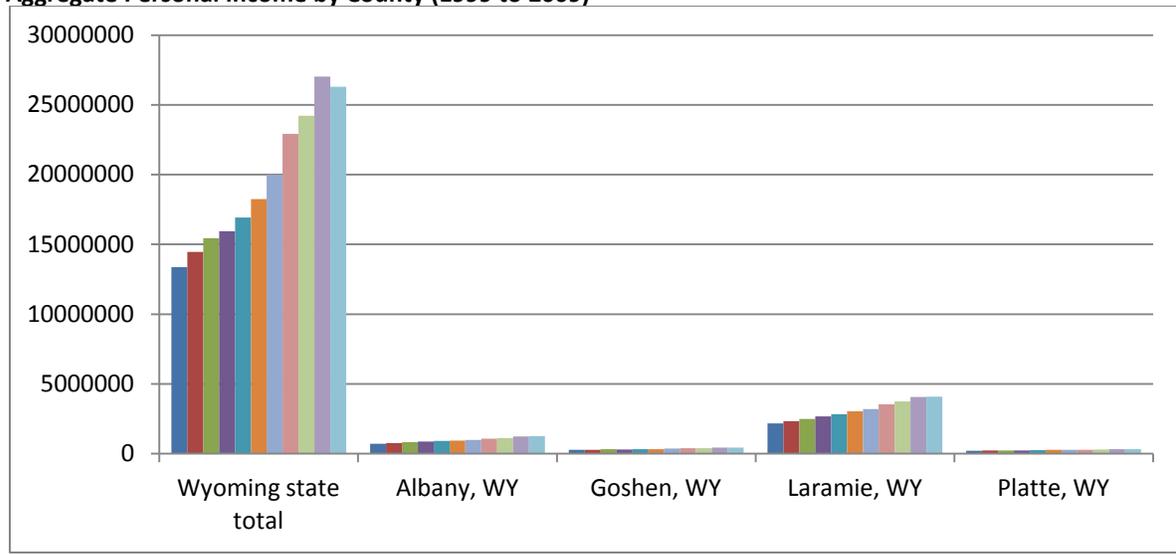
The average annual wage for persons in construction and extraction occupations for the Cheyenne area as of September 2011 was \$40,655. The mean annual salary for other occupations ranged from a low of \$19,984 in the food preparation industry to a high of \$80,632 in management occupations (<http://doe.state.wy.us/LMI/EDS2011SeptECI/PAGE0091.htm>).

Inquiries were made with the ISD and Cheyenne Building and Development Office to identify other sizable construction projects in the Cheyenne area that, in combination with the proposed Project, could cumulatively cause local labor and / or temporary housing shortages during CPGS's projected construction period from April 2013 through May 2014. While there are ongoing plans for new retail, hotel, and multi-family developments, such construction projects are considered normal for the region. No large industrial projects were identified that could cause local workforce or housing shortages.

**Earnings and Income.** Total aggregate personal income increased in each of the counties in the study area over the period 1999 through 2009 (unadjusted for inflation), as shown in **Figure 5-10**. At the state level, aggregate personal income grew all years except from 2008 to 2009. Aggregate income, presented in **Table 5-19**, shows Platte County, at \$333 million in 2009, has the lowest income of the study area counties. Laramie County's personal income was the highest in the study area, reaching \$4.08 billion in 2009, while in Albany County, aggregate personal income exceeded \$1.27 billion. In 2009, the study area accounted for approximately 23 percent of the statewide aggregate personal income of \$26.29 billion.

Per capita personal income also increased over the period, as shown in **Table 5-20**, and the statewide average has consistently exceeded that of each of the study area counties. In 2009, Goshen County's per capita personal income of \$35,719 was the lowest in the study area. By contrast, personal per capita income in Laramie County in 2009 was \$45,950, the highest among the study area counties but still below the statewide average of \$48,302.

FIGURE 5-10  
**Aggregate Personal Income by County (1999 to 2009)**



Source: Bureau of Economic Analysis and CH2M HILL, 2012.



TABLE 5-19  
**Aggregate Personal Income (thousands of dollars) by County 1999 through 2009**

Area	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
Wyoming State Total	\$13372433	\$14463473	\$15441258	\$15945633	\$16933024	\$18238847	\$19969216	\$22911824	\$24219501	\$27016369	\$26289062
Albany County	\$721428	\$769966	\$825589	\$869043	\$923763	\$943483	\$990032	\$1078614	\$1112694	\$1233403	\$1270947
Goshen County	\$278354	\$284684	\$319805	\$300452	\$314914	\$331202	\$365204	\$387292	\$400331	\$439931	\$440017
Laramie County	\$2183755	\$2338017	\$2489949	\$2669931	\$2837159	\$3028295	\$3208059	\$3549633	\$3751313	\$4055314	\$4082859
Platte County	\$217257	\$229613	\$244581	\$232399	\$246768	\$268886	\$276439	\$290564	\$301486	\$332504	\$333485

**Legend / Footnotes:**

All state and local area dollar estimates are in current dollars (not adjusted for inflation).

Last updated: April 21, 2011 - new estimates for 2009; revised estimates for 2001-2008.

Source: Bureau of Economic Analysis and CH2M HILL, 2012.

TABLE 5-20  
**Per Capita Personal Income for the State and Study Area Counties 1999 – 2009**

Area	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
Wyoming State Total	\$27192	\$29281	\$31322	\$32079	\$33921	\$36261	\$39446	\$44676	\$46272	\$50689	\$48302
Albany County	\$22410	\$24126	\$25632	\$26926	\$28437	\$28807	\$30360	\$32928	\$34259	\$37264	\$37404
Goshen County	\$22265	\$22695	\$25816	\$24591	\$25957	\$27253	\$30265	\$32106	\$33145	\$36182	\$35719
Laramie County	\$26957	\$28601	\$30221	\$32112	\$33661	\$35545	\$37622	\$41287	\$43317	\$46210	\$45950
Platte County	\$24505	\$26247	\$27997	\$26731	\$28791	\$31412	\$32664	\$34488	\$36033	\$40221	\$40689

**Notes:**

Per Capita personal income was computed by the Bureau of Economic Analysis using midyear population estimates. Estimates for 2000-2009 reflect county population estimates available as of April, 2011.

All state and local area dollar estimates are in current dollars (not adjusted for inflation).

Source: Bureau of Economic Analysis, Regional Economic Information Service, and CH2M HILL, 2012.



## Governmental Revenues and Finances

**Assessed.** The assessed value of real property is the major source of *ad valorem* taxes. Properties are assessed at both the state and local (county) levels—the state assesses the value of utility and mineral properties and the counties assess residential, agricultural, commercial, and industrial land and improvements.

The total assessed value of real property in 2011 for the four-county study area was \$1.6 billion, as shown in **Table 5-21**. Laramie County accounted for more than half of this total, contributing about \$952 million. Albany County contributed about \$363 million, Platte County about \$149 million, and Goshen County about \$137 million. Industrial property in the study area was assessed at \$88 million and most of this type of property was in Laramie County, where industrial property was assessed at about \$74.8 million. Commercial Land and Improvements contributed the most assessed value in the study area at about \$860 million and agricultural land contributed the smallest amount at \$61 million. Together, the counties in the study area accounted for about 6.6 percent of the assessed value of all real property in Wyoming.

TABLE 5-21  
State and Local Assessed Valuation (2011)

County	Locally Assessed Valuation				State Assessed	
	Agricultural Land	Commercial Land, Improvements, and Personal Property	Residential Land, Improvements, and Personal Property	Industrial Property	Minerals and Non-Minerals (Utilities, Railroads, and Airlines)	Total
Albany	\$7,735,769	\$214,423,018	\$71,202,620	\$7,975,554	\$61,621,639	\$362,958,600
Goshen	\$22,854,801	\$60,336,111	\$13,108,018	\$3,622,677	\$37,096,744	\$137,018,351
Laramie	\$17,683,793	\$541,508,401	\$175,432,852	\$74,772,113	\$142,479,103	\$951,876,262
Platte	\$12,808,526	\$43,275,233	\$9,591,010	\$1,812,213	\$81,472,433	\$148,959,415
Study Area	\$61,082,889	\$859,542,763	\$269,334,500	\$88,182,557	322,669,919	\$1,600,812,628
<b>State Total</b>	\$235,824,632	\$4,224,415,570	\$1,125,249,571	\$1,959,128,827	\$16,795,081,632	\$24,339,700,232

Source: Wyoming Department of Revenue, 2010.

*Ad valorem* taxes (calculated by applying county- and use-specific mill rates to the assessed value of property) support a number of county and municipal operations including airports, fire protection, hospitals, libraries, museums, public health, recreational systems, special districts, and education.

**Table 5-22** presents the major beneficiaries of *ad valorem* taxes at the state level.

TABLE 5-22  
Beneficiaries of *Ad Valorem* Taxes in Wyoming (2010)

Beneficiary	Percent of Total
Schools	53.86
Counties	18.06
Foundation Program	18.78
Special Districts	7.66
Municipalities	1.64

Source: Wyoming Department of Revenue, 2010.

**Sales, Use, and Lodging Taxes.** Sales and use tax collections are two principal sources of revenue for state and local governments. Local governments can also impose a lodging tax. The rates for each of these taxes for all the counties in the study area are shown in **Table 5-23**

TABLE 5-23  
**Wyoming Sales, Use, and Lodging Tax Rates by County**  
(effective January 1, 2011)

County	State Tax Rate	General Purpose Option	Specific Purpose Option	Economic Development Option	Total S & U Tax Rate	Local Government	Lodging Tax Rate	Total Tax Rate
Albany	4%	1%	1%		6%	Albany	4%	10%
Goshen	4%	1%			5%	Goshen	4%	9%
Laramie	4%	1%	1%		6%	Laramie	4%	10%
Platte	4%	1%	1%		6%	Guemsey only	2%	8%

Note: In Platte County, the lodging tax is imposed only in this city, i.e., not on a countywide basis.

Source: Wyoming Sales, Use, and Lodging Tax Revenue Report, 2011, page 9  
([http://eadiv.state.wy.us/s&utax/Report\\_FY11.pdf](http://eadiv.state.wy.us/s&utax/Report_FY11.pdf)).

**Sales Tax.** The state-imposed sales tax rate is 4 percent and revenues collected are divided 69 percent to the state and 31 percent to the counties. Each of the counties in the study area imposes a 1 percent general purpose optional sales tax, as is shown in **Table 5-23**. Revenue derived from the optional sales tax, less administrative costs, is returned by the state to the county of origin. Total sales tax collections for the years 2009 through 2011 for each county in the study area are presented in **Table 5-24**. Sales tax revenue can vary from year to year and is tied to the level of economic activity. In fiscal year (FY) 2010, sales tax collections were down from 2009 levels for all of the counties in the study area and for the state as a whole. By FY 2011, sales tax revenues had rebounded for all of the counties except for Albany County, where they fell 6 percent from FY 2010. In FY 2011, Laramie County collected more than \$90 million in total sales taxes compared with \$24 million in Albany County and about \$7 million each in Goshen and Platte counties.

TABLE 5-24  
**Sales and Use Tax Collections by County (2009-2011)**

Total Sales Tax Collections by County			
County	FY 2009	FY 2010	FY 2011
	Total Taxes	Total Taxes	Total Taxes
Albany	\$26,513,468	\$25,843,437	\$24,275,688
Goshen	\$7,013,857	\$6,247,872	\$7,523,463
Laramie	\$75,806,000	\$78,882,302	\$90,189,323
Platte	\$5,824,558	\$6,496,409	\$6,961,701
State of Wyoming	\$863,512,486	\$694,855,847	\$748,364,960
Total Use Tax Collections by County			
County	FY 2009	FY 2010	FY 2011
	Total Taxes	Total Taxes	Total Taxes
Albany	\$2,635,779	\$2,671,953	\$2,748,146
Goshen	\$1,627,981	\$978,587	\$1,040,172
Laramie	\$8,929,284	\$8,026,562	\$8,146,623
Platte	\$2,581,393	\$2,324,640	\$2,840,595
State of Wyoming	\$118,196,963	\$87,147,717	\$105,223,085

Source: Wyoming Sales, Use and Lodging Tax Revenue Report, 2011, pages 17 and 50 ([http://eadiv.state.wy.us/s&utax/Report\\_FY11.pdf](http://eadiv.state.wy.us/s&utax/Report_FY11.pdf)).

**Use Tax.** A state use tax is imposed on purchases made outside a taxing jurisdiction for first time, storage, or other consumption within that jurisdiction, thus preventing sales tax avoidance. Use tax is a complement to sales tax. Effective January 1, 1981, the adoption of an optional sales tax required a change in the use tax rate of equal amount. The state-imposed tax rate is 4 percent. State use tax collections are shared between state government and the county of origin on the same distribution basis as sales tax. Use tax collections for the state totaled less than 14 percent of the sales tax revenues in 2011. Use tax collections by year and county are shown in **Table 5-24**.

**Lodging Tax.** Cities, towns, and counties may impose an excise tax of up to 4 percent on all sleeping accommodations for guests staying less than 30 days. All tax collections, less state administrative costs, are distributed to the taxing jurisdiction. At least 90 percent of the tax distributions must be used to promote travel and tourism. The tax collections for each of the counties, cities, and towns comprising the study area are shown in **Table 5-25**.



TABLE5-25  
**Lodging Tax Collections by County and Local Entity**

Area	FY 2000	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Albany County	\$36,588	\$33,086	\$29,041	\$31,590	\$44,100	\$61,014	\$64,837	\$62,661	\$66,378	\$60,768	\$54,702	\$58,087
Laramie	\$244,627	\$265,979	\$282,262	\$282,914	\$356,934	\$349,187	\$414,426	\$524,036	\$567,553	\$618,058	\$600,606	\$587,477
Rock River	\$595	\$728	\$739	\$588	\$314	\$490	\$416	\$223	\$711	\$544	\$526	\$461
TOTAL	\$281,810	\$299,793	\$312,042	\$315,092	\$401,348	\$410,691	\$479,679	\$586,921	\$634,643	\$679,370	\$655,833	\$646,025
Goshen County	\$1,044	\$2,414	\$3,528	\$2,946	\$2,587	\$2,958	\$3,676	\$3,673	\$4,187	\$6,267	\$6,765	\$6,064
Fort Laramie	\$110	\$190	\$287	\$17	\$15	\$15	\$7	\$21	\$103	\$72	\$180	\$186
Torrington	\$48,198	\$48,518	\$40,436	\$41,921	\$38,733	\$41,532	\$43,334	\$49,166	\$50,615	\$62,743	\$92,210	\$96,179
TOTAL	\$49,352	\$51,122	\$44,251	\$44,885	\$41,335	\$44,505	\$47,017	\$52,860	\$54,905	\$69,082	\$99,154	\$102,428
Laramie County	\$134,655	\$126,834	\$121,672	\$120,041	\$164,458	\$159,754	\$162,943	\$54,626	\$80,627	\$59,457	\$72,853	\$84,749
Cheyenne	\$245,706	\$281,828	\$289,999	\$329,817	\$485,896	\$501,793	\$600,112	\$855,710	\$1,090,759	\$1,037,264	\$1,059,130	\$1,312,247
Burns	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Pine Bluffs	\$3,351	\$3,626	\$3,017	\$3,268	\$4,702	\$4,216	\$4,295	\$5,215	\$5,861	\$5,507	\$5,231	\$5,787
TOTAL	\$383,712	\$412,288	\$414,688	\$453,126	\$655,057	\$665,764	\$767,350	\$915,552	\$1,177,246	\$1,102,227	\$1,137,215	\$1,402,783
Platte County	NA	NA	NA	NA								
Guernsey	\$4,491	\$5,370	\$4,437	\$4,254	\$3,944	\$4,854	\$5,438	\$6,147	\$6,637	\$8,545	\$3,288	\$7,307
TOTAL	\$4,491	\$5,370	\$4,437	\$4,254	\$3,944	\$4,854	\$5,438	\$6,147	\$6,637	\$8,545	\$3,288	\$7,307

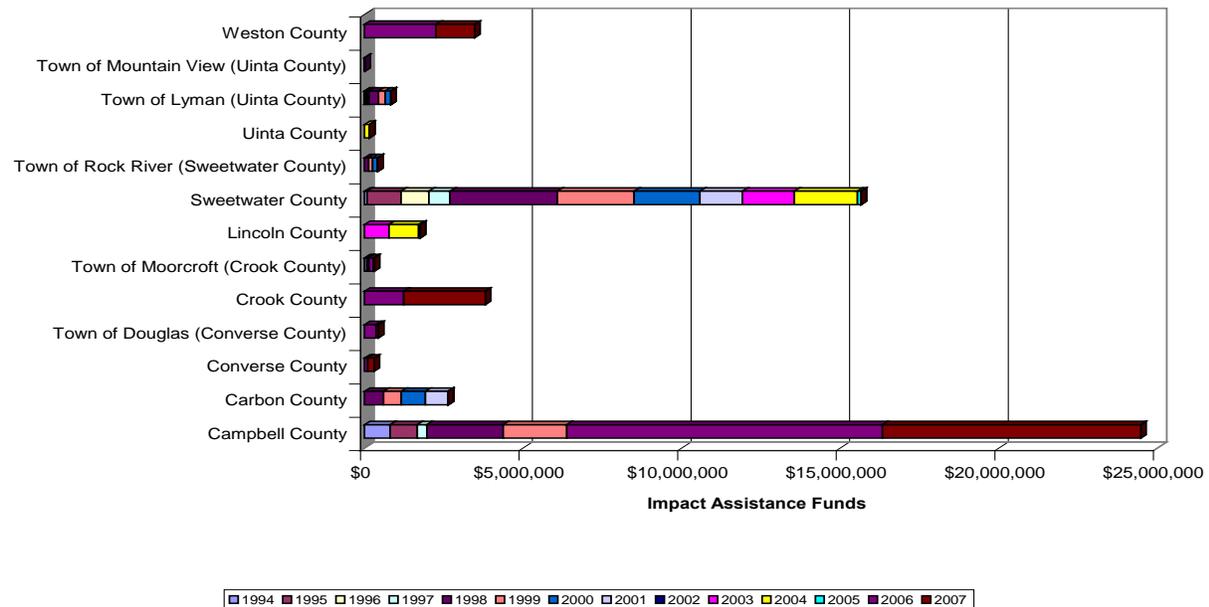
Source: Wyoming Sales, Use and Lodging tax Revenue Report, 2011 ([http://eadiv.state.wy.us/s&utax/Report\\_FY11.pdf](http://eadiv.state.wy.us/s&utax/Report_FY11.pdf)).



**Industrial Siting Impact Assistance Funds.** Under the Industrial Development and Siting Statutes (W.S. 35-12-101 through 35-12-109), the criteria that potential industrial facilities must meet to be awarded a construction permit (found at W.S. 35-12-102[a][vii]) also qualify a county or town to receive industrial impact assistance tax payments. The impact assistance payments are distributed to the county treasurer, and the county treasurer distributes to the county and to the cities and towns therein based on a ratio established by the ISC during a public hearing held in accordance with W.S. 35-12-110. The ISC reviews the distribution ratio for construction projects on a regular basis and makes appropriate adjustments. A governing body that is primarily affected by the facility, or any person issued a permit pursuant to W.S. 35-12-106, may petition the ISC for review and adjustment of the distribution ratio upon a showing of good cause. The impact assistance payment is in addition to all other distributions under this section, but no impact assistance payment is made for any period in which the county or counties are not imposing at least a 1 percent tax authorized by W.S. 39-15-204(a)(i) and 39-16-204(a)(i) or at least a total of a 2 percent sales tax authorized under W.S. 39-15-204(a)(i), (iii) and (vi) and at least a total of a 2 percent use tax authorized under W.S. 39-16-204(a)(i), (ii) and (v). The project is deemed to be located in the county in which a majority of the construction costs will be expended, provided that upon a request from the county commissioners of any adjoining county to the ISC, the council may determine that the social and economic impacts from construction of the industrial facility or federal or state government project upon the adjoining county are significant and establish the ratio of impacts between the counties and certify that ratio to the state treasurer who will thereafter distribute the impact assistance payment to the counties pursuant to that ratio.

This program of industrial impact assistance tax payments is designed to assist cities, towns, or counties in deflecting the impact a major industrial project may have on community resources. This program measures the increase in tax revenue caused by the industrial project and matches that increase with additional monies from the state General Fund to help communities respond to project-related impacts. This tax distribution is transferred from the state General Fund, via the office of the State Treasurer, directly to County Treasurers' offices. **Figure 5-11** illustrates the impact assistance tax payments received from FY 1994 through FY 2007 by counties and cities or towns. These totals represent the amount of extra revenue counties, cities, and towns receive in direct proportion to any increase in their tax collection to mitigate project-related impacts.

**FIGURE 5-11**  
**Impact Assistance Tax Payments (1994 through 2007)**



Source: Wyoming Department of Revenue, 2007.

**Table 5-26** presents the impact assistance funds in tabular form covering the period from FY 2009 to FY 2011. Albany County was the only study area county to receive impact assistance in any of the past 3 years. In 2009, Albany County received nearly \$151,000 in impact assistance funds. This figure decreased to approximately \$32,000 in 2010 and dropped again in 2011 to less than \$10,000.

**TABLE 5-26**  
**Distribution of Impact Assistance Funds FY 2009 – FY 2011**

Entity	Sales Tax	Use Tax	Total
<b>FY-2009</b>			
Carbon County	\$1,087,114.34	0.00	\$1,087,114.34
Albany County	\$150,558.51	0.00	\$150,558.51
Converse County	\$1,252,801.51	\$116,384.88	\$1,369,186.39
Natrona County	\$192,575.18	\$15,445.96	\$208,021.14
Campbell County	\$9,502,831.94	\$1,564,746.31	\$11,067,578.25
Weston County	\$199,235.37	\$35,591.41	\$234,826.78
Crook County	\$1,621,844.45	\$256,516.41	\$1,878,360.86
Johnson County	\$123,849.01	\$22,124.39	\$145,973.40
Sheridan County	\$134,618.47	\$24,048.26	\$158,666.73
<b>Totals</b>	<b>\$14,265,428.78</b>	<b>\$2,034,857.62</b>	<b>\$16,300,286.40</b>
<b>FY-2010</b>			
Albany	\$24,033.47	\$7,836.16	\$31,869.63
Campbell	\$124,406.07	\$1,527,377.69	\$1,651,783.76
Carbon	\$8,011.16	\$80,905.74	\$88,916.90
Converse	\$170.84	\$30,013.12	\$30,183.96
Crook	\$29,934.12	\$241,783.92	\$271,718.04

TABLE 5-26  
**Distribution of Impact Assistance Funds FY 2009 – FY 2011**

Entity	Sales Tax	Use Tax	Total
Johnson	\$130.98	\$23,010.06	\$23,141.04
Sheridan	\$142.36	\$25,010.92	\$25,153.28
Sweetwater	-	\$65,364.45	\$65,364.45
Weston	\$210.69	\$37,016.19	\$37,226.88
<b>Totals</b>	<b>\$187,039.69</b>	<b>\$2,038,318.25</b>	<b>\$2,225,357.94</b>
<b>FY-2011</b>			
Albany	\$7,586.84	\$1,663.87	\$9,250.71
Campbell	0.00	\$574,600.04	\$574,600.04
Carbon	\$22,760.52	\$4,991.61	\$27,752.13
Converse	\$28,263.34	\$21,021.95	\$49,285.29
Crook	0.00	\$45,547.56	\$45,547.56
Johnson	0.00	\$16,116.83	\$16,116.83
Natrona County	\$14,559.90	0.00	\$14,559.90
Sheridan		\$17,518.29	\$17,518.29
Weston		\$25,927.07	\$25,927.07
<b>Totals</b>	<b>\$73,170.60</b>	<b>\$707,387.22</b>	<b>\$780,557.82</b>

Source: Wyoming Department of Revenue 2010 - 2011 Annual Report, page 24.

## Future Economic Conditions

**Economic Projections.** The following description of potential future economic conditions in Wyoming is derived from the report entitled *10-Year Outlook Wyoming Economic and Demographic Forecast 2007 to 2016*, prepared by the Wyoming Department of Administration and Information (WY EAD, 2007a). Because this report was prepared in 2007, it does not reflect the unanticipated economic downturn in 2008. However, such forecasts are intended to capture the long-term trends rather than year-to-year variations.

Wyoming's economy is largely driven by natural resources, and in 2005, the mining industry contributed approximately one-third of both the state's total earnings growth and job growth. In addition, the multiplier effect associated with the mining industry results in stimuli in many other industries, such as wholesale trade, transportation, and professional and business services. The total job growth rate of 4.9 percent in 2006 was the second highest in the nation, and the personal income growth rate of 10.4 percent in 2006 was virtually the highest. The mining industry provides high-paying jobs and, as such, its strong presence in Wyoming means that income growth in the state is always closely associated with mining activity. Housing permits in Wyoming have outpaced the western United States and the United States as a whole since 2003. Residential construction is expected to taper; however, housing in the state is expected to remain very affordable compared to the national average.

Wyoming's population is aging rapidly and this trend is expected to continue. In 2000, the median age of 36.2 in the state passed the national average of 35.3. The expected median age for Wyoming was 39.3 years by 2010, but the actual median was 36.7 years according to the U.S. Census. The size of the older population (age 65 and over) is projected to exceed 81,000 by 2014, compared to 61,000 currently.

Although mining jobs are expected to slow to more sustainable levels, the increased demand for the natural resources in the state from national markets will help provide a steady source of mining jobs and revenues for the state. Outside of the mining industry, however, the state's future prospects will be somewhat limited by a job market that fails to attract high-growth job opportunities. Although migration has recently reversed to a positive trend, many younger workers will move to other states with more versatile job opportunities. Wyoming is the least diversified state in the nation in terms of employment distribution across industries.

**Mining Industry.** The mining sector has been the greatest contributor of economic and revenue activity in Wyoming's recent history. After experiencing a boom in the late 1970s, a bust in the mid-1980s, and a slow and steady decline in the 1990s, the mining sector demonstrated strong growth from 2000 to 2007. The 33,000 mining jobs in 1981 were the highest number on record, and accounted for 14.7 percent of Wyoming's total non-agricultural wage and salary employment. However, by 1999, the number dwindled to only 15,500. Mining sector employment increased 5.6 percent in 2000 and another 13 percent in 2001, and held up well in 2003 as commodity prices rebounded. The number of mining jobs rose again in 2004, climbing by more than 10 percent. The energy-driven growth continued through 2007, as low industrial diversity tied the state's fortunes to mining extraction, most recently dominated by natural gas production. In 2009, mining jobs returned to their historical high of over 33,000, which is above the forecast employment of about 32,000 by 2016. If the recent rebound in mining continues, this suggests that revenue and jobs from the state's mining industry may exceed the anticipated growth.

The state benefits from increases in mining activity in many ways. First, increased demand for oil, natural gas, and coal means increased mineral production revenue as well as sales and use tax collections for both state and local governments. In addition, because mining job salaries are more than twice as high as the average for all other industries, increased demand for mining employment trickles down into the economy through increased per capita income and increased levels of consumer spending. On the other hand, the state's economy and revenue also fluctuate significantly along with the rise and fall of commodity prices.

**Construction.** Nationally, real estate and housing industries were strong until 2007, when Wyoming along with much of the rest of the nation experienced a slowdown in this sector. The housing boom's economic contribution mid-decade had been enormous, accounting for approximately one-fourth of real gross domestic product (GDP) growth over the period 2002 through 2007. The direct effects from housing are through construction activity, real estate transactions, and mortgage finance. The multiplier benefits are substantial, such as demand in numerous supplying industries, and the income earned from construction-related industries drives spending elsewhere in the economy. As the fastest-growing sector in the 1990s, the construction industry in Wyoming added 7,100 jobs in that decade at an annual average rate of 5.2 percent. Again, in 2002, the construction sector remained the strongest industry in the state, expanding by 1.9 percent due to historically low interest rates.

The substantial job growth in the general building and specialty trades subsectors is directly caused by the residential construction boom. From 1992 to 2002, total residential home permits averaged nearly 1,800 units per year, compared to an annual range of 500 to 800 units from 1987 to 1991.

However, the number of permits expanded dramatically to 2,877 in 2003 and 3,318 in 2004. Permits for single-family homes nearly doubled from 1,485 houses in 2001 to 2,815 in 2004, and the 2,328 permits issued in 2003 broke the record set in 1980. Housing units authorized for the first 6 months of 2005 showed another 14 percent increase over the same period the previous year. Consistent with the national downturn in housing starts, the state saw the number of annual housing units fall to 2,669 in 2008, the lowest level since 2002. Statewide, housing units increased by 17 percent between 2000 and 2010 compared to an increase of 10 percent between 1990 and 2000. Long term, it is anticipated that residential construction will once again be tied more closely to population growth and that speculative housing demand will be diminished.

**Retail Sales.** As the third-largest sector in Wyoming's economy, the retail trade industry (North American Industry Classification System [NAICS]) experienced fast job growth in the first half of the 1990s, averaging nearly 2 percent each year. However, it slowed to only about 1 percent annually up until 2007, largely due to out-migration from the state. While the average rate of increase from FY 1991 to FY 2000 was 7.3 percent, annual non-auto taxable retail sales were up only 3.1 percent from FY 2001 to FY 2003. However, mostly driven by strong natural gas exploration, expanding housing market, and net migration, retail sales were robust again. For FY 2004, both the taxable non-auto and auto retail sales recorded significant expansions, at 15.1 and 12.9 percent, respectively. Non-auto retail sales continued the strong pace in FY 2005 and increased another 7.2 percent from the previous year's level. However, seemingly dragged down by the high gasoline prices, automobile sales in the state came to a virtual standstill in 2006, edging up by only 1.4 percent from the previous fiscal year. Much like the nation, the real concern for many retailers in the state is how to continue competing with remote sellers who do not have to charge sales tax. Over the period 2006 through 2016, jobs in the retail sector are expected to grow by nearly 4,500 workers, but its share of total employment is expected to remain steady in the neighborhood of 9 percent.

**Services.** The economy is continuing its long-term trend of shifting more toward a service orientation than one that is goods-driven. Much like the rest of the country, the service industries grew continually in Wyoming, even during the 1980s recession. The upward pace accelerated in the 1990s, at an annual rate of 3.3 percent. Despite the slowdown of the economy, total employment for various service industries still increased 2.5 and 2.2 percent in 2001 and 2002, respectively. Mainly caused by the decrease in food services and administrative services, overall employment increased only 1.6 percent in 2003 and 2.1 percent in 2004. The services sectors are forecasted to be the fastest-growing industry—both in terms of growth rate and total number of new jobs. Business, social assistance, and health services will be the main drivers. Despite the structural difference between the Wyoming and national economies, the growing pace in services sector is similar for both. The service sector industry was and will be the fastest-growing sector in the Wyoming economy as it continues to undergo a structural shift from a goods-producing to a service-producing economy.

**Tourism.** With more than \$1 billion in direct expenditures and 28,000 jobs, Wyoming's travel and tourism industry is an important part of the overall economy, particularly for the northwest region of the state. The primary attractions for tourists are Yellowstone National Park and the Grand Teton National Park, which are visited annually by millions of people from all over the world. However, tourism itself is not classified as an independent or separate economic sector, but is mainly included in the accommodation and food services sector. Its economic effect crosses many retail trade- and services-related sectors such as gasoline stations, general merchandise stores, arts, entertainment, and recreation services. Unfortunately, most jobs directly connected with tourism tend to be lower

skilled and lower paying by nature. Long term, it is likely that Wyoming's travel and tourism industry may not deviate substantially from the past trend (i.e., an extremely slow increase).

**Government.** As the largest employment sector for Wyoming, the government jobs sector is one of the mainstays of the state's economy, particularly in the southeast region. It also serves as a significant stabilizer to the overall economy. During Wyoming's economic bust period of the 1980s, government employment only experienced a 1-year decline (in 1986), in sharp contrast to an 18 percent reduction in the state's total employment from 1981 to 1987.

Because of the nature of a sparsely distributed population, state and local governments have needed to hire a relatively large number of employees to serve the residents, from public schools and fire districts, to road maintenance. The proportion of state and local government full-time employees in Wyoming was the highest in the country in 2003, at 869 per 10,000 population, compared to the national average of 542 employees. Other states with higher state/local government employee rates were also states with large land areas and low population, such as Alaska, New Mexico, and Nebraska. The lower proportions of government employment are states with high population density such as Pennsylvania and Florida. Wyoming also ranked the third highest state in terms of per capita state and local government expenditures in 2002.

In 2004, the government sector contributed 64,590 jobs, or one-fourth of the total, to Wyoming's economy. However, it was one of the slowest-growing industries in the 1990s, but has performed well since 2000, and will remain a consistent and steady source of new jobs in the future. From 1990 to 2000, government in Wyoming created 5,500 jobs for an annual growth rate of 1 percent, compared with an overall growth rate of 1.9 percent for the state as a whole. Nearly all of the new jobs added were in local government, which includes K–12 education and hospitals. State government experienced only a slight increase, while federal government recorded a minor decline during the same period. Since 2000, state government jobs increased 3.1 percent annually due to the accelerating revenues from mineral production.

Over the forecast period, the government sector is expected to add 5,180 new jobs, for a total of 70,730 jobs in 2016. Most of the growth is projected to occur in local government, with slower growth for state government and no change for federal government. The governments' share of total non-agricultural employment in the state is expected to decline by more than 1 percent between 2006 and 2016.

**Future Employment Growth.** Over the period 2006 through 2016, non-agricultural employment in the state is forecast to increase by 1.6 percent annually, on average, as shown in **Table 5-27**. Several industrial sectors are expected to exceed this rate of growth, including the following: construction (2.7 percent), wholesale trade (2.3 percent), transportation and warehousing (2.5 percent), professional and business services (2.4 percent), education and health care (3.3 percent), leisure and hospitality (2.4 percent), and other services (1.8 percent). Some of the sectors with the lowest growth rates include utilities (0.5 percent), manufacturing (0.6 percent), and government (0.8 percent). As a result of these differing growth rates, the share that each sector contributes to total non-agricultural employment will change.

TABLE 5-27  
**2007 Forecast of Wyoming Non-Agricultural Wage and Salary Employment (in thousands) (2006 and 2016)**

Non-Agricultural Employment Type	Change 2006 through 2016					Share of Total	
	2006	2016	Numeric	Percent	Average Annual Percent	2006	2016
Natural Resources and Mining	\$26,590	\$31,610	\$5,020	18.88%	1.74%	7.77%	7.87%
Utilities	\$2,300	\$2,410	\$110	4.78%	0.47%	0.67%	0.60%
Construction	\$23,610	\$30,900	\$7,290	30.88%	2.73%	6.90%	7.70%
Manufacturing	\$10,080	\$10,700	\$620	6.15%	0.60%	2.94%	2.66%
Wholesale Trade	\$8,200	\$10,280	\$2,080	25.37%	2.29%	2.40%	2.56%
Retail Trade	\$30,800	\$35,240	\$4,440	14.42%	1.36%	9.00%	8.78%
Transportation and Warehousing	\$11,290	\$14,470	\$3,180	28.17%	2.51%	3.30%	3.60%
Information	\$4,210	\$4,920	\$710	16.86%	1.57%	1.23%	1.23%
Financial Activities	\$11,100	\$12,690	\$1,590	14.32%	1.35%	3.24%	3.16%
Professional and Business Services	\$16,960	\$21,500	\$4,540	26.77%	2.40%	4.96%	5.35%
Education and Health Care	\$22,600	\$31,310	\$8,710	38.54%	3.31%	6.60%	7.80%
Leisure and Hospitality	\$32,520	\$41,010	\$8,490	26.11%	2.35%	9.50%	10.21%
Other Services	\$10,920	\$13,030	\$2,110	19.32%	1.78%	3.19%	3.25%
Government	\$65,550	\$70,730	\$5,180	7.90%	0.76%	19.15%	17.62%
Federal	\$7,330	\$7,330	0	0.00%	0.00%	2.14%	1.83%
State	\$15,310	\$16,090	\$780	5.09%	0.50%	4.47%	4.01%
Local	\$42,910	\$47,310	\$4,400	10.25%	0.98%	12.54%	11.78%
<b>Total Non-Agricultural Employment</b>	<b>\$342,280</b>	<b>\$401,530</b>	<b>\$59,250</b>	<b>17.31%</b>	<b>1.61%</b>		

Source: Wyoming Department of Administration and Information, Economic Analysis Division (WY EAD), 2007.

Between 2002 and 2006, real personal income in the state of Wyoming increased by nearly \$3.5 million, or an average annual rate of 5.4 percent. During the period 2006 to 2016, real personal income in the state was projected in the 2007 Wyoming Economic Analysis Division (WY EAD) report to increase at an annual rate of 6.4 percent, as seen in **Table 5-28**. The projected 1.3 percent rate of growth in the civilian labor force between 2006 and 2016 would be slightly lower than the 1.4 percent rate experienced between 2002 and 2006.

TABLE 5-28

**Wyoming Personal Income, Wage and Salary Earnings, Labor Force, Employment, and Unemployment (2002, 2006, 2016)**

	2002	2006	2016
Total Personal Income (Then-year \$)	\$15,463,330	\$20,948,050	\$34,481,470
Real Personal Income (2000-year \$)	\$14,995,590	\$18,472,030	\$34,481,470
Per Capita Personal Income (Then-year \$)	\$30,991	\$40,676	\$61,236
Per Capita Personal Income (2000-year \$)	\$30,053	\$35,868	\$44,372
Median Household Income (Then-year \$)	\$39,963	\$48,351	\$65,626
Wages and Salaries	\$7,568,720	\$10,497,020	\$17,237,250
Civilian Labor Force	269,650	284,690	324,630
Number Employed	258,460	275,620	315,210
Number Unemployed	11,190	9,070	9,430
Unemployment Rate (Percent)	4.2	3.2	2.9

Source: Wyoming Department of Administration and Information, Economic Analysis Division (WY EAD), 2007a.

Growth in the construction sector is highly sensitive to both population growth and governmental spending on infrastructure. Between 2002 and 2006, employment in the construction sector increased at an average annual percentage rate of 4.4 percent. Between 2006 and 2016, that rate is projected to decline to 2.7 percent. On an average annual basis, growth in total construction employment is expected to slow from 4.2 percent between 1990 and 2004 to 3.8 percent between 2000 and 2014, as illustrated by the information presented in **Table 5-29**. Growth in heavy and civil engineering employment, however, is projected to increase in the future relative to its past trend. This long-term forecast was prepared in 2007 and it does not reflect the slowdown in Wyoming's economy over the period from 2008 through the first quarter of 2010. Any new project that would increase construction employment in 2010 and early 2011 would help put the state's construction industry back on the path toward economic recovery.

TABLE 5-29

**Construction Employment in Wyoming 1990, 2000, 2004, and 2014**

	1990	2000	2004	2014 Projected	Change		Average Annual Change	
					1990 to 2004	2004 to 2014	1990 to 2004	2004 to 2014
Construction of Buildings	2,099	4,285	4,148	6,000	2,049	1,852	4.99%	3.76%
Heavy and Civil Engineering Construction	3,866	5,301	5,128	7,870	1,262	2,742	2.04%	4.38%
Special Trade Contractors	4,815	8,085	9,901	14,034	5,086	4,133	5.28%	3.55%
<b>Total Construction</b>	<b>10,780</b>	<b>17,671</b>	<b>19,177</b>	<b>27,904</b>	<b>8,397</b>	<b>8,727</b>	<b>4.20%</b>	<b>3.82%</b>

Source: Wyoming Statewide Long-Term Employment Projections by Industry: 2004-2014, Wyoming Department of Employment, April 2007.

### 5.4.3 Construction Impacts

A variety of tools are available to estimate regional economic impacts, but by far the most widely used today are I-O models combined with social accounting matrices (SAMs). Referred to as I-O/SAM models, these tools form the basis for estimating economic impacts for industry (manufacturing, mining, construction) commercial business activity (restaurants, hotels), and agriculture (irrigation and livestock water uses).

The I-O/SAM model is an accounting framework that traces spending and consumption among various economic sectors, including businesses, households, government, and “foreign” economies in the form of exports and imports. “Direct effects” represent the response (e.g., change in value-added or employment) for a given industry’s expenditures of final demand for that same industry. Value-added refers to the additional value of a commodity produced by that industry over the cost of commodities used to produce it from the previous stage of production. It is the *net* measure of the economic contribution of an industry to the regional economy less the intermediate goods and services used. “Indirect effects” represent the response by all local industries caused by the iteration of purchasing for a given industry. “Induced effects” represent the response by all local industries caused by the expenditures of new household income generated by the direct and indirect spending.

Collectively, indirect and induced effects are referred to as “secondary impacts.” In their entirety, all of the previously discussed changes (direct and secondary) are referred to as “total economic impacts.” By their nature, total impacts are greater than initial changes because of secondary effects. The magnitude of the increase is what is popularly termed a “multiplier effect.” I-O models generate numerical multipliers that estimate indirect and induced effects. The I-O/SAM models are run using propriety software known as IMPLAN PRO (Input Output Model for Planning Analysis). IMPLAN is a modeling system originally developed by the USFS in the late 1970s. Today, the Minnesota IMPLAN Group (MIG, Inc.) owns the copyright and distributes data and software. It is probably the most widely used economic impact model in existence. IMPLAN comes with databases containing the most recently available economic data from a variety of sources.

Using IMPLAN software and data, transaction tables were estimated for the two potentially affected counties (Laramie and Albany) in Wyoming. Although most of the local economic impacts are anticipated to be felt in and around Cheyenne in Laramie County, the City of Laramie in Albany County is sufficiently close and of a size that could contribute direct and/or indirect labor, materials, and services to the Project. Thus, for the purpose of the construction economic impact analysis, these two counties comprise the local regional economy. This region contains more than 128,000 people and has over 45,000 households.

Each transaction table in IMPLAN contains 509 economic sectors and allows users to estimate a variety of economic statistics. The most relevant measures for the purpose of understanding the economic impacts to the region due to the CPGS Project construction are value-added and employment. For perspective, current economic conditions for the two-county region of influence in terms of employment, output, value-added, and labor income are derived from data compiled by the IMPLAN, which uses the information provided by the U.S. Bureau of Economic Analysis (BEA), BEA’s Regional Economic Information System (REIS), the U.S. Bureau of Labor Statistics, the Census of Agriculture, the U.S. Census Bureau, the U.S. Census Bureau’s Economic Census, the U.S. Census Bureau’s Annual Survey of Manufacturers, and the Internal Revenue Service Quarterly Payroll File (FICA). The latest available data are for 2010 and appear in **Table 5-30**.

The top 10 industries in terms of their employment contribution to the region-wide economy are shown. The region produces over \$5.9 billion in annual value added per year and employs nearly 84,000 people. Output (Column 3 in **Table 5-30**) is a measure of the total goods and services used and produced by a given industry and is closely related to sales. By all three measures, employment, labor income, and output, the top industry is state and local government, excluding education. Construction, food service, health professionals, and retail stores all have a heavy presence in the local economy.

TABLE 5-30

**Top 10 Industries by Employment in the Local Region Composed of Laramie County and Albany County**

Sector	Description	Employment	Labor Income	Output
437	* Employment and payroll only (state and local government, non-education)	10,647	\$587,403,600	\$659,294,100
438	* Employment and payroll only (state and local government, education)	7,683	\$404,769,700	\$457,284,800
413	Food services and drinking places	5,345	\$84,425,060	\$259,163,900
440	* Employment and payroll only (federal government, military)	3,867	\$336,052,400	\$502,230,400
360	Real estate establishments	3,173	\$29,565,490	\$255,435,900
36	Construction of other new nonresidential structures	2,764	\$124,454,900	\$345,609,500
439	* Employment and payroll only (federal government, non-military)	2,400	\$219,811,400	\$240,309,800
394	Offices of physicians, dentists, and other health practitioners	2,004	\$172,561,600	\$261,098,700
356	Securities, commodity contracts, investments, and related activities	1,694	\$34,214	\$193,572,800
329	Retail stores - general merchandise	1,562	\$38,272,310	\$80,347,260

Source: IMPLAN Data for 2010.

### Construction Impacts on Employment and Value Added

The estimate of economic impacts from CPGS construction activities on the two-county economic region is measured in terms of value-added and employment. These figures depend upon the local share of direct costs to construct the Project. Local construction costs for the Project are estimated to be \$8.39 million for materials purchased locally and \$14.93 million for local labor as shown in **Tables 5-31 and 5-32**. These values represent more than 10 percent of the total cost to construct the Project. Expenditures by industry sector are shown and used as direct inputs into IMPLAN. First, however, the expenditures are allocated on an annual basis because IMPLAN is based on annual economic activity.

TABLE 5-31  
**Total Cost and the Local Share of Expenditures on Labor and Materials to Construct the CPGS in Cheyenne, Wyoming (\$2011)**

Item	Description	Total Cost	Local Materials	IMPLAN Sector Materials	Local Labor	IMPLAN Sector Labor	Comments
1	Engineering and Construction Management	\$13,000,000	\$-		\$1,300,000	369	10% local engineering, surveying, site development, materials testing. Balance non-local.
2	CT Generator	\$60,000,000	\$-		\$-		Assumed all costs are non-local material.
3	GSU Transformers	\$2,295,000	\$-		\$-		Assumed all costs are non-local material.
4	Auxiliary Power Enclosures	\$4,635,500	\$-		\$-		Assumed all costs are non-local material.
5	Steam Turbine Generator	\$9,600,000	\$-		\$-		Assumed all costs are non-local material.
6	Heat Recovery Steam Generator	\$11,900,000	\$-		\$-		Assumed all costs are non-local material.
7	Cooling Tower	\$3,000,000	\$130,000	319	\$200,000	36	Assumed 5% material local (fasteners, anchors, etc.). 50% labor assumed local.
8	Exhaust System	\$2,000,000	\$-		\$-		Assumed all costs are non-local material.
9	Balance of Plant Equipment	\$15,859,590	\$-		\$-		Assumed all costs are non-local material.
10	Switchyard Construction	\$3,224,400	\$200,000	319	\$490,000	36	
11	Sitework	\$6,030,000	\$1,890,900	319	\$2,690,415	36	All materials assumed local. 65%/35% local/non-local work force.
12	Civil/Substructures	\$8,652,000	\$2,555,160	319	\$2,028,894	36	33% costs assumed materials. Majority of materials considered local. Labor 35%/65%,
13	Architectural Finishes	\$1,816,800	\$400,000	319	\$1,000,000	36	Assumed 33% of total dollars is material plus cost of building. 80% material will be local, not
14	Mechanical/Piping	\$19,380,000	\$639,540	319	\$4,544,610	36	Assumed 33% of total dollars is material. 10% of material will be local. 35% of labor dollars
15	Electrical I&C	\$10,150,000	\$2,512,125	319	\$2,380,175	36	Assumed 33% of total dollars is material. 75% of material will be local. 35% of labor dollars is local.
16	Insulation	\$1,250,000	\$62,500	319	\$293,125	36	Assumed 33% materials. Majority non-local materials. 35%/65%, local/non-local labor.
17	Start-Up and Commissioning	\$4,000,000	\$-		\$-		Assumed 100% non-local labor.

TABLE 5-31

**Total Cost and the Local Share of Expenditures on Labor and Materials to Construct the CPGS in Cheyenne, Wyoming (\$2011)**

<b>Item</b>	<b>Description</b>	<b>Total Cost</b>	<b>Local Materials</b>	<b>IMPLAN Sector Materials</b>	<b>Local Labor</b>	<b>IMPLAN Sector Labor</b>	<b>Comments</b>
18	Indirects (e.g., permitting, interest, land)	\$45,562,223	\$-		\$-		All considered non taxed labor, fees, agreements, interest, etc.
	<b>TOTALS</b>	<b>\$222,355,513</b>	<b>\$8,390,225</b>		<b>\$14,927,219</b>		

TABLE 5-32  
**Additional Costs – Local Expenditures on Food and Accommodations by Non-Local Workforce**

Item	Description	Total Cost	Local Cost	IMPLAN Sector	Comments
21	Hotels and Motels (support non-local workforce)	\$4,069,065	\$4,069,065	411	Assumes \$77 per day for 30 days per month by number of non-local workers (as per Government Per diems for this locale)
22	Food Service and Drinking Establishments to Support Non-Local Workforce	\$2,430,870	\$2,430,870	413	Assumes \$46 per day for 30 days per month by number of non-local workers (as per government per diems for this locale)

Source for per diems – <http://www.gsa.govportal/category/100120>.

Additional local direct costs of \$4.07 million for temporary housing and \$2.43 million for food and incidentals are anticipated to accommodate the non-local workforce. Thus, while it is assumed that the outside labor force would send their payroll remittances to their home origins, they do contribute to the local economy through their expenditures on food and housing. The local labor force would spend their payroll within the local economy similar to other local households.

**Table 5-33 through Table 5-35** show the summary results of the analysis for years 2012 through 2014, respectively. The IMPLAN model uses the Bureau of Labor Statistics (BLS) Growth Model to convert nominal dollars into 2011 dollars. Local pre-construction costs are estimated at \$2.25 million in 2012. This creates 16 jobs directly involved with the Project with a total of 23 jobs in the two-county region. Total value added is estimated at \$1.25 million. Total sales volume as measured by total output is \$2.19 million.

TABLE 5-33  
**Local Construction Costs (\$2011) and Economic Impacts in 2012**

Costs Total	Total Value Added	Total Output	Direct Jobs Created	Total Jobs Created
\$2.25 million	\$1.25 million	\$2.19 million	16	23

Source: CH2M HILL, 2012.

The largest local economic impact from construction occurs in 2013. Local construction costs are estimated to be \$19.50 million. The direct jobs due to the Project are 127 and total job creation in the two-county region is 180. Value added comes to \$10.48 million and total output is \$20.87 million.

TABLE 5-34  
**Local Construction Costs (\$2011) and Economic Impacts in 2013**

Local Construction Costs	Total Value Added	Total Output	Direct Jobs Created	Total Jobs Created
\$19.50 million	\$10.48 million	\$20.87 million	127	180

Source: CH2M HILL, 2012.

By 2014, Project construction, although winding down, contributes \$7.5 million in direct local spending. This spending creates 64 direct jobs and 90 jobs overall in the two-county region. Total value added is \$3.3 million and output is \$10.01 million.

TABLE 5-35  
**Local Construction Costs (\$2011) and Economic Impacts in 2014**

Local Construction Costs	Total Value Added	Total Output	Direct Jobs Created	Total Jobs Created
\$7.5 million	\$3.3 million	\$10.01	64	90

Source: CH2M HILL, 2012.

**Wage and Benefits for Construction and Operations.** The Research and Planning section of the Wyoming Department of Employment, in cooperation with the BLS, conducts an Occupational Employment Statistics (OES) Wage Survey. The OES program estimates occupational employment and wages. Data obtained from polled establishments are used to estimate occupational employment and wage rates for unemployment insurance (UI) covered wage and salary jobs in non-farm establishments. Wages for the OES Wage Survey include base pay rates, cost-of-living allowances, guaranteed pay, hazard pay, incentive pay, commissions, piece rates and production bonuses, length-of-service allowances, on-call pay, and portal-to-portal pay. The hourly wage estimates are calculated using a year-round, full-time figure of 2,080 hours per year (52 weeks times 40 hours).

**Employee Wage Estimates.** Information compiled by the Department of Employment on annual and hourly wages is presented in **Table 5-36** for skilled labor categories that are expected to be present throughout the construction phase. Similar data for the operations phase are presented in Table 5-37.

TABLE 5-36  
**Average Wages Per Construction Occupation in Cheyenne, Wyoming, 2011**

Occupation	Wage	Mean wage	10th pct	25th pct	Median wage	75th pct	90th pct
Construction and Extraction Occupations	Annual	\$40,655	\$23,663	\$29,260	\$37,770	\$48,362	\$62,231
	Hourly	\$19.55	\$11.38	\$14.07	\$18.16	\$23.25	\$29.91
First-Line Supervisors/Managers of Construction Trades and Extraction Workers	Annual	\$57,735	\$38,359	\$44,413	\$53,129	\$65,907	\$81,149
	Hourly	\$27.76	\$18.45	\$21.35	\$25.54	\$31.69	\$39.01
Brickmasons and Blockmasons	Annual	\$46,310	\$32,621	\$40,188	\$46,956	\$54,663	\$58,933
Carpenters	Annual	\$42,155	\$27,359	\$33,549	\$38,923	\$49,417	\$64,948
	Hourly	\$20.27	\$13.15	\$16.13	\$18.71	\$23.76	\$31.23
Cement Masons and Concrete Finishers	Annual	\$31,188	\$19,086	\$23,189	\$30,318	\$38,464	\$45,347
	Hourly	\$14.99	\$9.18	\$11.15	\$14.58	\$18.5	\$21.8
Construction Laborers	Annual	\$28,907	\$21,574	\$24,859	\$28,292	\$32,453	\$38,764
	Hourly	\$13.89	\$10.37	\$11.95	\$13.6	\$15.6	\$18.64
Paving, Surfacing, and Tamping Equipment Operators	Annual	\$38,571	\$29,260	\$33,479	\$37,879	\$42,877	\$50,735
	Hourly	\$18.55	\$14.07	\$16.09	\$18.21	\$20.62	\$24.39

TABLE 5-36  
**Average Wages Per Construction Occupation in Cheyenne, Wyoming, 2011**

Occupation	Wage	Mean wage	10th pct	25th pct	Median wage	75th pct	90th pct
Operating Engineers and Other Construction Equipment Operators	Annual	\$43,049	\$28,488	\$33,513	\$40,009	\$47,868	\$67,387
	Hourly	\$20.7	\$13.7	\$16.11	\$19.24	\$23.01	\$32.4
Drywall and Ceiling Tile Installers	Annual	\$36,493	\$22,336	\$35,049	\$38,936	\$41,716	\$44,565
	Hourly	\$17.55	\$10.74	\$16.85	\$18.72	\$20.05	\$21.43
Electricians	Annual	\$52,159	\$27,751	\$32,858	\$49,742	\$59,403	\$94,880
	Hourly	\$25.08	\$13.34	\$15.8	\$23.92	\$28.56	\$45.62
Glaziers	Annual	\$28,536	\$21,135	\$25,730	\$28,861	\$32,235	\$36,409
	Hourly	\$13.72	\$10.16	\$12.38	\$13.87	\$15.5	\$17.51
Painters, Construction and Maintenance	Annual	\$28,831	\$20,052	\$23,729	\$28,028	\$31,493	\$38,476
	Hourly	\$13.86	\$9.65	\$11.41	\$13.48	\$15.15	\$18.5
Pipelayers	Annual	\$38,361	\$27,209	\$31,278	\$36,521	\$45,899	\$52,992
	Hourly	\$18.45	\$13.08	\$15.03	\$17.56	\$22.07	\$25.47
Plumbers, Pipefitters, and Steamfitters	Annual	\$46,271	\$30,479	\$37,079	\$43,949	\$53,965	\$68,465
Roofers	Annual	\$27,653	\$15,943	\$16,695	\$27,187	\$36,597	\$45,147
	Hourly	\$13.29	\$7.67	\$8.03	\$13.07	\$17.59	\$21.7
Helpers--Brickmasons, Blockmasons, Stonemasons, and Tile and Marble Setters	Annual	\$29,243	\$21,863	\$23,589	\$31,370	\$35,171	\$37,453
	Hourly	\$14.06	\$10.51	\$11.34	\$15.08	\$16.91	\$18.01
Helpers--Carpenters	Annual	\$32,838	\$25,292	\$28,285	\$32,299	\$37,820	\$41,422
	Hourly	\$15.79	\$12.16	\$13.6	\$15.53	\$18.18	\$19.91
Construction and Building Inspectors	Annual	\$48,838	\$33,898	\$40,470	\$46,835	\$56,453	\$68,497
	Hourly	\$23.48	\$16.3	\$19.45	\$22.52	\$27.14	\$32.93

Source: Wyoming Department of Employment (<http://doe.state.wy.us/LMI/EDS2011SeptECI/PAGE0091.HTM>).

TABLE 5-37  
**Average Wages Per Operations Manager, Maintenance and Repair Occupations in Cheyenne, Wyoming**

Occupation	Mean wage	10th pct	25th pct	Median wage	75th pct	90th pct
Management Occupations	\$80,632	\$38,945	\$54,024	\$76,925	\$98,672	\$121,489
	\$38.77	\$18.72	\$25.97	\$36.98	\$47.44	\$58.41
General and Operations Managers	\$87,917	\$39,794	\$54,710	\$78,600	\$113,216	\$140,790
	\$42.27	\$19.13	\$26.31	\$37.79	\$54.43	\$67.68
Installation, Maintenance, and Repair Occupations	\$42,807	\$22,853	\$30,595	\$40,846	\$55,105	\$66,236
	\$20.58	\$10.99	\$14.71	\$19.64	\$26.49	\$31.84
First-Line Supervisors/Managers of Mechanics, Installers, and Repairers	\$56,057	\$31,668	\$46,227	\$56,675	\$68,591	\$74,553
	\$26.95	\$15.22	\$22.22	\$27.25	\$32.97	\$35.84
Computer, Automated Teller, and Office Machine Repairers	\$33,275	\$18,356	\$24,057	\$36,275	\$40,738	\$44,207
	\$15.99	\$8.82	\$11.56	\$17.44	\$19.58	\$21.26
Telecommunications Equipment Installers and Repairers, Except Line Installers	\$50,372	\$31,205	\$42,306	\$51,813	\$58,481	\$67,534
	\$24.22	\$15	\$20.34	\$24.91	\$28.12	\$32.47
Electrical and Electronics Repairers, Commercial and Industrial Equipment	\$56,323	\$44,886	\$52,015	\$57,856	\$62,756	\$66,409
	\$27.08	\$21.58	\$25.01	\$27.81	\$30.17	\$31.93
Electrical and Electronics Repairers, Powerhouse, Substation, and Relay	\$68,327	\$55,037	\$64,416	\$70,781	\$75,972	\$80,990
	\$32.85	\$26.46	\$30.97	\$34.03	\$36.52	\$38.94
Electronic Home Entertainment Equipment Installers and Repairers	\$26,237	\$19,216	\$21,499	\$24,144	\$32,770	\$36,876
	\$12.62	\$9.24	\$10.34	\$11.6	\$15.76	\$17.73
Automotive Body and Related Repairers	\$46,530	\$33,054	\$41,545	\$46,663	\$52,257	\$55,883
	\$22.37	\$15.89	\$19.97	\$22.44	\$25.12	\$26.87
Automotive Glass Installers and Repairers	\$42,194	\$30,587	\$35,711	\$42,823	\$49,598	\$53,825
	\$20.28	\$14.7	\$17.17	\$20.59	\$23.84	\$25.87
Automotive Service Technicians and Mechanics	\$32,856	\$21,152	\$25,065	\$31,297	\$38,084	\$46,541
	\$15.8	\$10.17	\$12.05	\$15.05	\$18.31	\$22.37
Bus and Truck Mechanics and Diesel Engine Specialists	\$45,515	\$31,279	\$36,814	\$43,079	\$55,190	\$63,519
	\$21.88	\$15.04	\$17.7	\$20.71	\$26.53	\$30.54

TABLE 5-37  
**Average Wages Per Operations Manager, Maintenance and Repair Occupations in Cheyenne, Wyoming**

Occupation	Mean wage	10th pct	25th pct	Median wage	75th pct	90th pct
Mobile Heavy Equipment Mechanics, Except Engines	\$49,803	\$34,869	\$39,073	\$48,394	\$55,880	\$66,898
	\$23.94	\$16.76	\$18.78	\$23.27	\$26.87	\$32.16
Outdoor Power Equipment and Other Small Engine Mechanics	\$31,657	\$27,176	\$29,558	\$32,594	\$35,177	\$37,995
	\$15.22	\$13.07	\$14.21	\$15.68	\$16.92	\$18.27
Tire Repairers and Changers	\$25,388	\$16,356	\$17,497	\$19,399	\$40,023	\$45,136
	\$12.21	\$7.87	\$8.41	\$9.33	\$19.25	\$21.7
Heating, Air Conditioning, and Refrigeration Mechanics and Installers	\$41,834	\$32,118	\$35,030	\$40,084	\$47,095	\$52,989
	\$20.12	\$15.44	\$16.84	\$19.27	\$22.64	\$25.47
Industrial Machinery Mechanics	\$49,940	\$34,508	\$38,931	\$54,656	\$59,386	\$63,482
	\$24.01	\$16.59	\$18.71	\$26.27	\$28.55	\$30.52
Electrical Power-Line Installers and Repairers	\$68,291	\$51,763	\$58,905	\$69,070	\$79,625	\$89,613
	\$32.83	\$24.89	\$28.32	\$33.21	\$38.29	\$43.09
Telecommunications Line Installers and Repairers	\$40,476	\$25,860	\$29,710	\$36,612	\$53,189	\$59,288
	\$19.46	\$12.43	\$14.28	\$17.6	\$25.57	\$28.51
Maintenance and Repair Workers, General	\$36,984	\$19,221	\$25,164	\$35,187	\$45,973	\$62,082
	\$17.78	\$9.24	\$12.1	\$16.92	\$22.1	\$29.84
Helpers--Installation, Maintenance, and Repair Workers	\$21,974	\$16,298	\$17,780	\$21,590	\$26,080	\$30,408
	\$10.57	\$7.84	\$8.55	\$10.38	\$12.54	\$14.62

Source: Wyoming Department of Employment (<http://doe.state.wy.us/LMI/EDS2011SeptECI/PAGE0091.HTM>).

A review of **Table 5-36** shows that mean wages for the construction and extraction occupations in 2011 were \$40,655 on an annual basis or \$19.55 per hour. First-line supervisors were at the high end of the pay scale, earning \$57,735 per year. Roofers, construction laborers, glaziers, painters, and construction maintenance professions were at the low end, with earnings around \$29,000 per year. Representative occupations for the operations phase of the project show a larger range in pay scales. Operations managers average \$87,917 per year, whereas maintenance and repair helpers earn \$21,974 on average.

**Project Employee Benefits Estimates.** Total employee compensation includes wages and salaries as well as benefits such as health insurance and retirement plans. In 2010, wages and salaries comprised 84.6 percent of Wyoming compensation costs, while insurance contributions came to 10.5 percent and health insurance made up the remainder. **Table 5-38** provides a statewide assessment of relationships of compensation components for all industries, as well as the construction and trade/transportation/utilities sectors in Wyoming.

TABLE 5-38  
**Percentage of Full- and Part-Time Workers Offered Selected Benefits in Wyoming by Industry, 2010**

Employees	Benefit Type					
	All Industries		Construction		Trade, Transportation and Utilities	
	Full-Time	Part-Time	Full-Time	Part-Time	Full-Time	Part-Time
Child Care	6.1%	2.4%	3.0%	9.1%	2.2%	0.0%
Dental Plan	67.7%	11.4%	52.5%	15.5%	64.9%	11.2%
Dependent Health Insurance	75.6%	10.3%	54.8%	15.2%	69.1%	3.3%
Educational/Tuition Assistance	49.2%	19.8%	18.9%	3.3%	37.7%	5.8%
Flexible Spending Account	48.5%	11.4%	16.2%	10.1%	27.7%	3.4%
Health Insurance	80.0%	11.4%	62.0%	16.5%	75.4%	4.1%
Hiring Bonus	25.1%	5.7%	7.6%	0.0%	16.8%	1.6%
Life Insurance	69.8%	11.7%	46.6%	5.9%	58.2%	22.6%
Long-Term Disability	40.5%	6.1%	15.1%	0.0%	32.2%	12.5%
Operate in Shifts	41.8%	24.9%	3.1%	0.9%	26.4%	17.8%
Shift Differentials	58.6%	33.9%	46.4%	100.0%	35.8%	17.4%
Paid Holidays	77.6%	22.3%	47.7%	5.5%	76.6%	20.3%
Paid Personal Leave	44.9%	11.7%	23.2%	0.0%	40.0%	6.7%
Paid Sick Leave	47.8%	13.7%	13.0%	0.0%	37.3%	13.4%
Paid Vacation	79.4%	21.8%	65.8%	1.9%	88.2%	27.4%
Retirement Plan	76.5%	27.9%	61.6%	12.1%	75.4%	27.6%
Short-Term Disability	30.2%	4.9%	17.2%	0.3%	29.8%	2.0%
Vision Plan	55.9%	9.2%	33.6%	0.0%	44.9%	11.4%

Source: Wyoming Department of Workforce Services Research and Planning, 2012. Wyoming Benefits Survey 2011. Available online at <http://doe.state.wy.us/LMI/benefits2011/benefits2011.pdf>.

Based on a review of **Table 5-38**, benefits paid to employees are expected to vary by industry and status of full-time versus part-time positions. Most beneficial categories favor full-time workers, but there are exceptions. Employers in the construction industry offer child care and shift differentials to a higher proportion of part-time workers than full-time workers. Paid vacations, retirement plans, and health insurance are offered to more than 60 percent of full time workers in these industries, and dental care and health insurance for dependents are not far behind. Short-term disability and paid sick leave, both less than 20 percent, are relatively rare in the construction industry. Across all industries, nearly 48 percent of full-time workers receive paid sick leave and 30 percent are offered short-term disability. The trade, transportation, and utilities sector is more in line with the averages for all industries.

## Taxes

The benefits related to the Project from a tax revenue perspective would occur based mostly on the *ad valorem* taxes that would be collected over the life of the Project. Additionally, in conjunction with associated ancillary activities, as discussed later, state and local sales and use tax revenues would be generated during construction and operation of the proposed facility. Although some of these tax revenues will be distributed on a local level, the state controls such distribution.

### ***Ad Valorem Taxes***

*Ad valorem* taxes support a variety of county and municipal operations including airports, fire protection, hospitals, libraries, museums, public health, recreational systems, special districts, and education. Assessed property values are the basis for *ad valorem* taxes. Property values related to the Project are determined annually on a centralized basis by the Wyoming Department of Revenue (WDOR).

It is the WDOR's role to estimate the fair market value (FMV) of the industrial facility, including the value of the land and improvements. It is the owner's responsibility to provide WDOR with all necessary information enabling the department to make this determination. The owner provides WDOR with all property located in the state on the lien date, which is January 1 of each calendar year. Developments or Construction Work in Progress (CWIP) are taxable prior to their completion and operation, especially in the case of multi-year construction schedules. Under such circumstances, the owner provides WDOR with cumulative construction costs that are then incorporated into its appraisal.

After WDOR determines the FMV of the industrial facility, the assessed value is stated as 11.5 percent of this value. The assessed value is then allocated to the county within which the Project is located. This county then applies the property tax levy (for the tax district within which each Project is located) to calculate the annual property taxes due. The proposed site is located in Tax District 0150 in Laramie County, where the 2011 tax levy is 71.00 mills. Thus, for every \$1,000 of assessed value of real property (land and improvements), Laramie County will levy property taxes of \$71.00 annually. The property tax revenues received by the county are distributed across a number of taxing entities as shown in **Table 5-39**, with the majority supporting public education. BHC projected future property tax payments based upon the *ad valorem* taxes paid on other properties in the state, assessed value, and construction costs less allowable exemptions for pollution and fire exemptions. Property taxes of approximately \$93,600 would be payable to Laramie County in 2013 because pre-construction activities would commence in the fourth quarter of 2012. By tax year 2014, property taxes would increase to about \$470,900 and by 2015 they would reach \$619,937 per year, for a total of \$1,183,631 in *ad valorem* taxes paid over the construction period. In addition, substantial *ad valorem* tax revenues would be generated annually by the facility. An assessment of these tax revenues is presented in the section addressing operational impacts.

TABLE 5-39  
**Millage by Taxing Entity, Cheyenne, Laramie County (2011)**

Taxing Entity	Millage
General County Levy	9.5
Library	2.0
County Fair	0.5
Special District (weed and pest, conservation)	2.0
Schools	49.0
Municipal	8.0

*Wyoming Department of Revenue, 2011.*

### **Sales, Use, and Lodging Taxes**

The State of Wyoming levies a state sales tax of 4 percent on a wide array of goods and services purchased within the state. The use tax is a companion to the sales tax and is imposed upon goods purchased tax-free outside Wyoming for use in Wyoming. Collected taxes are shared between the state (69 percent) and counties (31 percent). Counties can levy the following additional sales and use taxes: general-purpose option tax of 1 percent, specific-purpose option tax of 1 percent, and lodging tax of up to 4 percent on hotel and motel room charges for stays under 30 days.

In 2011, both Laramie County and Albany County had a 6 percent sales and use tax (statewide base of 4 percent plus 1 percent general purpose optional county tax plus 1 percent specific purpose optional county tax). Effective April 1, 2012, Laramie County's sales and use tax is 5 percent. However, the county may decide to reinstate the 1 percent optional county tax in future years. It is anticipated that most, if not all, of the Wyoming sales and use taxes will be paid in Laramie County, where the Project is located. Due to the uncertainty in the optional tax 1 percent tax, it is included as a separate line item.

In addition to expenditures to construct the Project, local tax revenues would accrue from the sale of goods and services to non local workers. In all, it is possible that local tax revenues totaling \$7.87 million would accrue to Laramie and Albany counties combined over the construction period. The sources of these potential tax revenues are shown in **Table 5-40**.

TABLE 5-40  
**Estimate of Tax Revenues Accruing to Local Governments from Purchases and from Non-Local Worker Expenditures in Laramie and Albany Counties**

Type of Tax	Tax Rate (%)	Quarters								Aggregate 2013-14
		2013				2014				
		Q1	Q2	Q3	Q4	Q1	Q2	2013	2014	
State	4	\$508,739	\$1,038,647	\$1,069,847	\$1,069,847	\$1,034,342	\$525,603	\$3,687,080	\$1,559,944	\$5,247,025
General-Purpose Option	1	\$127,185	\$259,662	\$267,462	\$267,462	\$258,585	\$131,401	\$921,770	\$389,986	\$1,311,756
Specific-Purpose Option	1	\$127,185	\$259,662	\$267,462	\$267,462	\$258,585	\$131,401	\$921,770	\$389,986	\$1,311,756
Total	6	\$763,108	\$1,557,971	\$1,604,771	\$1,604,771	\$1,551,512	\$788,404	\$5,530,621	\$2,339,916	\$7,870,537

Source: BHC, 2012, and CH2M HILL, 2012.

Lodging tax revenues could accrue to the counties in which Project-related construction workers temporarily reside. Estimates of these potential tax revenues are not presented in **Table 5-40**. This is because lodging taxes are levied only on sleeping accommodations for guests staying less than 30 days. In general, the non-local workers are expected to stay longer than 30 days.

#### 5.4.4 Operation Impacts

##### Operations Impacts on Employment and Value Added

In this analysis, the economic impact to the region resulting from O&M costs are estimated. Following completion of the Project, it is anticipated that annual O&M of the newly installed equipment would require up to 12 new positions, which would all be filled by non-local workers at a total compensation of \$1.19 million per year. Annual procurements for the operations phase are estimated at \$3.29 million, with approximately half (i.e., \$1.65 million) purchased locally. The combined total for annual local O&M is \$2.83 million. These direct local expenditures generate \$3.55 million in total value added and a total of 19 new jobs, including the 12 new employees working at the CPGS.

The results of the analysis the total economic impacts for the two-county region are shown in **Table 5-41**.

TABLE 5-41  
**Annual Economic Impacts of CPGS O&M in Million Dollars (\$2011)**

IMPLAN Sector	O&M Costs Per Year	Local O&M Costs Per Year	Total Value Added	Total Output	Direct Jobs Created	Total Jobs Created
31	\$4.48	\$2.83	\$3.55	\$3.55	12	19

Source: Minnesota IMPLAN Group and CH2M HILL, 2012.

The top 10 industries in the region affected in terms of employment are shown in **Table 5-42**. The direct employment is in the electric power generation sector. The food services sector is expected to add one new job. Health practitioners and real estate establishments would each gain .5 FTEs. The other sectors experiencing a small but positive employment impact are retail sales, nursing and residential care facilities, nondepository credit intermediation agencies, and retail stores.

TABLE 5-42  
**Top 10 Industries Experiencing Job Creation Due to the O&M Phase of the CPGS Project**

Sector	Description	Total Employment	Total Labor Income	Total Value Added	Total Output
31	Electric power generation, transmission, and distribution	12.0	1,233,559.7	3,095,704.8	2,786,593.4
413	Food services and drinking places	1.0	16,841.2	26,245.3	51,845.8
394	Offices of physicians, dentists, and other health practitioners	0.5	39,825.4	41,014.8	61,213.8
360	Real estate establishments	0.5	4,280.5	32,860.4	37,442.4
329	Retail Stores - General merchandise	0.3	7,522.2	11,981.9	15,606.1
356	Securities, commodity contracts, investments, and related activities	0.3	6.1	56.2	30,898.6
398	Nursing and residential care facilities	0.2	8,365.2	9,732.5	14,615.0
355	Nondepository credit intermediation and related activities	0.2	11,725.1	12,184.8	23,125.7
324	Retail Stores - Food and beverage	0.2	5,191.9	7,677.0	10,499.8
320	Retail Stores - Motor vehicle and parts	0.2	8,133.2	9,138.5	16,529.4

Source: Minnesota IMPLAN Group and CH2M HILL, 2012.

### ***Ad Valorem* Taxes during Project Operations**

*Ad valorem* tax revenues would accrue to Cheyenne, Laramie County, as described above each year until the value of the property has been fully depreciated. The property tax revenues received by the county and Cheyenne are distributed across a number of taxing entities, as shown in **Table 5-43** and **Table 5-44**, with the majority supporting public education.

Over the period 2013 through 2015, the estimated total *ad valorem* tax revenue generated would be approximately \$1.180 million in nominal terms. Using straight-line depreciation over the subsequent 25 years, the annual property taxes would decline as the assets depreciate. The net present value of property tax payment is computed at a 2 percent discount rate as this corresponds to the current yield on 10-year U.S. Treasury Bond. Over the 25-year life of the Project post construction, total property taxes in the amount of \$15.5 million would be paid to Cheyenne, Laramie County. This estimate of total property taxes is based on nominal dollars. At a discount rate of 2 percent, the corresponding figure in net present value terms is about \$6.1 million. This figure is additive to the \$1.18 million paid during construction.

TABLE 5-43

**Millage and Revenue by Taxing Entity, Cheyenne, Laramie County (2011)**

Taxing Entity	Millage <sup>1</sup>	Revenue
General County Levy	9.5 mills	\$4,964,000
Library	2.0 mills	\$1,045,000
County Fair	0.5 mills	\$261,000
Special District (weed and pest, conservation)	2.0 mills	\$1,045,000
Schools	49.0 mills	\$25,603,000
Municipal	8.0 mills	\$4,180,000
<b>Total</b>	<b>71 mills</b>	<b>\$37,098,000</b>

Source: Wyoming Department of Revenue, 2011.

TABLE 5-44

**Estimate of Ad Valorem Taxes Paid Per Year in Nominal Dollars and NPV of Ad Valorem Taxes Paid During the Operations Phase**

2013	2014	2015	25- Year Total (NPV) 2016 - 2040
\$93,572	\$470,922	\$619,137	\$6,053,000

Source: Black Hills Corporation, 2012, and CH2M HILL, 2012.

### 5.4.5 Housing and Housing Availability Analysis

This section addresses the following six major topics: 1) composition of the existing housing, 2) housing inventory and residential construction trends, 3) home value and rental housing costs, 4) rental housing vacancies, 5) housing needs, and 6) temporary accommodations.

#### Existing Conditions

**Housing Stock.** Statewide, housing units in Wyoming rose by 17 percent between 2000 and 2010 compared to an increase of 10 percent between 1990 and 2000. While Wyoming's housing markets have historically experienced severe shortages and a lack of affordable housing, many of these conditions are beginning to ease (WY CDA, 2011). The total number of housing units in the study area increased 15 percent between 2000 and 2010, similar to the 17 percent increase for the state as a whole, as shown in **Table 5-45**. Of the 9,203 housing units added in the study area in the past decade, the majority were located in either Albany County or Laramie County, each of which posted an 18 percent increase in housing stock during this period.

TABLE 5-45  
2000 – 2010 Changes in Housing Units for Wyoming and Study Area Counties

Area	Number of Units		% change
	2000	2010	
Wyoming	223,854	261,868	17%
Albany County	15,215	17,939	18%
Goshen County	5,881	5,972	2%
Laramie County	34,213	40,462	18%
Platte County	4,528	4,667	3%
<b>Study Area Total</b>	<b>59,837</b>	<b>69,040</b>	<b>15%</b>

Source: U.S. Census Bureau, 2010 Census.

**Table 5-46** summarizes the occupied versus vacant housing units in the study area as well as those that are renter-occupied. In 2010, there were a total of 62,416 occupied housing units and 6,624 vacant units in the four-county study area. Of these vacant housing units, 44 percent, or 2,886 units, were in Laramie County and 34 percent, or 2,248 units, were in Albany County. While approximately 25-30 percent of the housing stock in most study area counties was renter-occupied, similar to the state as a whole, housing stock in Albany County and the City of Laramie was over 50 percent renter-occupied due to a large student population (University of Wyoming).

TABLE 5-46  
2010 Housing Unit Characteristics (Occupied, Vacant and Renter-Occupied) for Wyoming and the Study Area

Area Name	Total Housing Units	Occupied Housing Units		Vacant Housing Units		Renter Occupied Units	
	Number	Number	Percent of Total	Number	Percent of Total	Number	Percent of Total
<b>Wyoming</b>	<b>261,868</b>	<b>226,879</b>	<b>86.6</b>	<b>34,989</b>	<b>13.4</b>	<b>69,802</b>	<b>30.8</b>
<b>Albany County</b>	<b>17,939</b>	<b>15,691</b>	<b>87.5</b>	<b>2,248</b>	<b>12.5</b>	<b>7,857</b>	<b>50.1</b>
Laramie city	14,307	13,394	93.6	913	6.4	7,380	55.1
Rock River town	126	94	74.6	32	25.4	28	29.8
<b>Goshen County</b>	<b>5,972</b>	<b>5,311</b>	<b>88.9</b>	<b>661</b>	<b>11.1</b>	<b>1,571</b>	<b>29.6</b>
Fort Laramie town	143	111	77.6	32	22.4	25	22.5
La Grange town	135	115	85.2	20	14.8	52	45.2
Lingle town	217	204	94.0	13	6.0	51	25.0
Torrington city	2,717	2,527	93.0	190	7.0	870	34.4
Yoder town	85	68	80.0	17	20.0	10	14.7
<b>Laramie County</b>	<b>40,462</b>	<b>37,576</b>	<b>92.9</b>	<b>2,886</b>	<b>7.1</b>	<b>12,043</b>	<b>32.0</b>
Albin town	71	59	83.1	12	16.9	27	45.8

TABLE 5-46  
**2010 Housing Unit Characteristics (Occupied, Vacant and Renter-Occupied) for Wyoming and the Study Area**

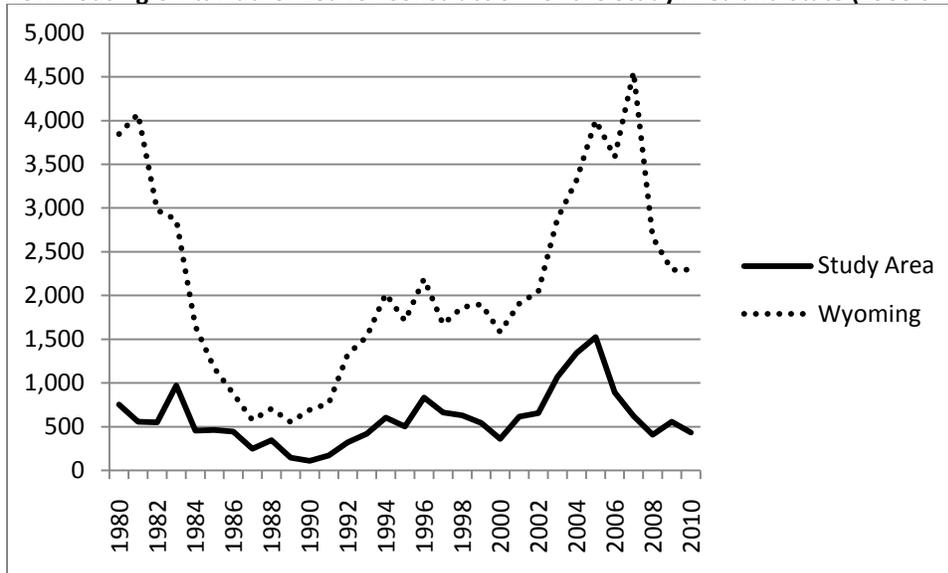
Area Name	Total Housing Units	Occupied Housing Units		Vacant Housing Units		Renter Occupied Units	
	Number	Number	Percent of Total	Number	Percent of Total	Number	Percent of Total
Burns town	138	118	85.5	20	14.5	16	13.6
Cheyenne city	27,283	25,557	93.7	1,726	6.3	9,256	36.2
Pine Bluffs town	532	476	89.5	56	10.5	111	23.3
<b>Platte County</b>	<b>4,667</b>	<b>3,838</b>	<b>82.2</b>	<b>829</b>	<b>17.8</b>	<b>940</b>	<b>24.5</b>
Chugwater town	106	93	87.7	13	12.3	22	23.7
Glendo town	167	101	60.5	66	39.5	23	22.8
Guernsey town	581	504	86.7	77	13.3	35	26.8
Hartville town	45	32	71.1	13	28.9	4	12.5
Wheatland town	1,879	1,657	88.2	222	11.8	498	30.1

Source: U.S. Census Bureau, 2010 Census, prepared by WY DEA, 2011.

**Housing Construction Activity.** As demonstrated nationally during the past 5 years, the residential construction industry is highly cyclical and sensitive to economy and financial conditions. While Wyoming saw moderating sales prices due to the economic downturn, new housing unit production, indicated by residential permits, still exceeded 2,000 new units annually between 2002 and 2010. Construction peaked in 2007, with 4,584 units permitted, and then fell sharply by 42.0 percent between 2007 and 2008 and by another 14.0 percent between 2008 and 2009 (WY CDA, 2011).

**Figure 5-12** illustrates the number of housing units authorized annually for construction in Wyoming and the study area. While the growth and contraction of the new housing market in the study area has generally reflected that of the state overall historically, the study area did not experience the same jump in construction activity in 2007. After witnessing steady growth in construction authorizations between 2000 (361 permits) and 2005 (1,524 permits), the study area saw only 410 new units permitted in 2010. The contribution that residential construction activity in the study area has made to that of the state has varied substantially from lows of approximately 15 percent in 1981, 1990, 2007, and 2008 to highs of about 50 percent in 1986 and 1988.

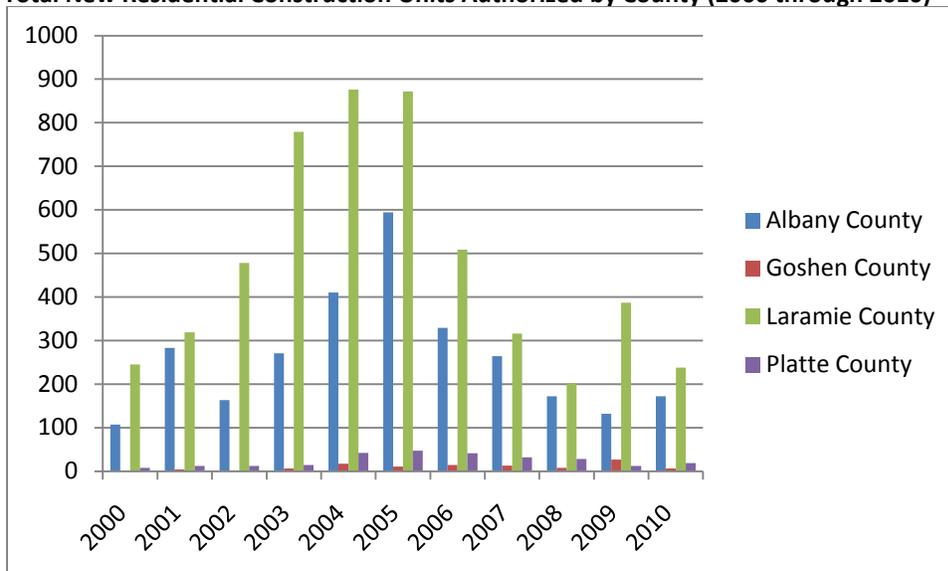
FIGURE 5-12  
**New Housing Units Authorized for Construction for the Study Area and State (1980 through 2010)**



Source: Wyoming Housing Database Partnership, 2011.

On average, approximately 95 percent of the new housing authorized for construction over the past decade in the study area has been in either Laramie County or Albany County, as shown in **Figure 5-13**. Laramie County has contributed an average of 61 percent of the new construction in the study area since 2000, while Albany County has contributed 34 percent. **Figure 5-13** further illustrates that, with the exception of a relatively minor increase in permits in Laramie County in 2009, the study area overall experienced a peak in new construction earlier in the decade (2004-2005) than did the state and nation as a whole, both of which crested in 2007.

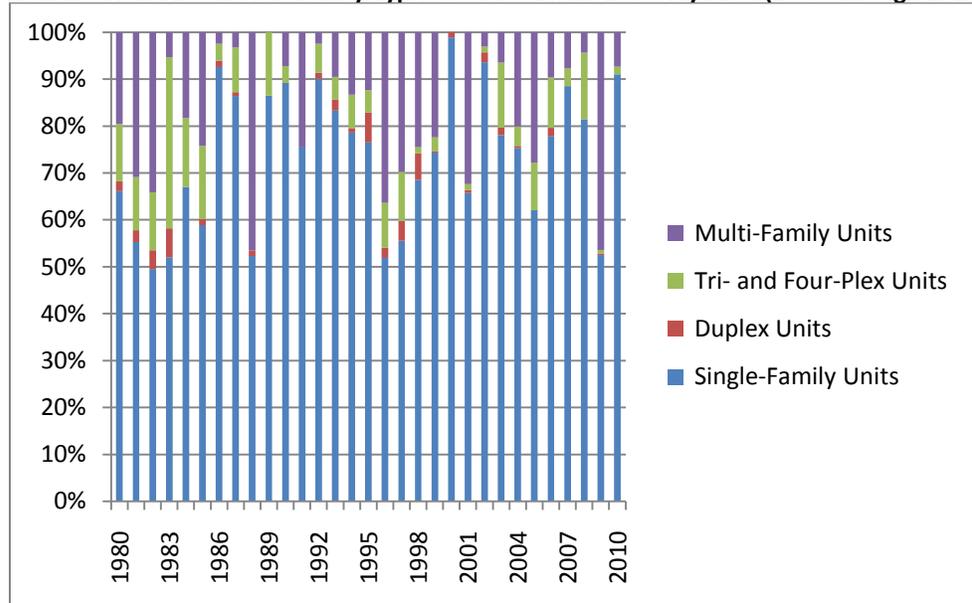
FIGURE 5-13  
**Total New Residential Construction Units Authorized by County (2000 through 2010)**



Source: Wyoming Housing Database Partnership, 2011.

Single-family units comprised more than half of the total housing units constructed over the past three decades in the study area, as shown in **Figure 5-14**. While a limited number of duplexes have been constructed historically, structures containing three or more units represented greater than 45 percent of the new residential units authorized for construction in the study area in 1982, 1988, 1996, and 2009.

FIGURE 5-14  
**New Residential Construction by Type of Structure in the Study Area (1980 through 2010)**

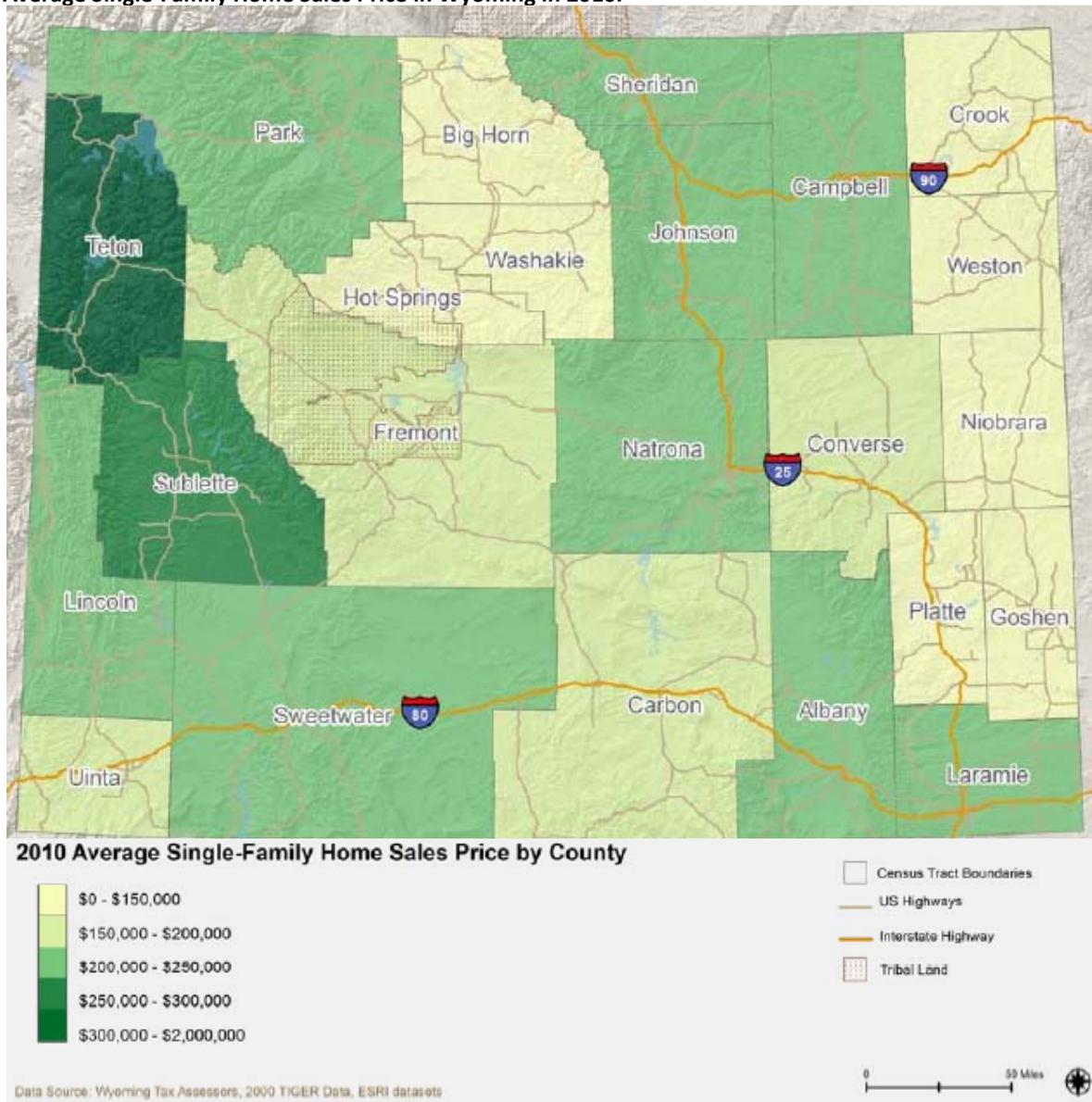


Source: Wyoming Housing Database Partnership, 2011.

## Home Value and Rental Housing Costs

**Home Values.** The Wyoming Housing Database Partnership annually compiles the average sales price of existing, detached, single-family homes on 10 acres or less sold from each County's Tax Assessor. Home values across the state have varied only modestly since the 1980s when Wyoming experienced an average annual percentage decrease of 2.6 percent. Average annual growth of 4 to 5 percent was observed in the 1990s. In contrast, between 2004 and 2010, sales prices more than doubled from a statewide simple average of \$142,501 to \$261,532, an average increase of 10.7 percent per year (WY CDA, 2011). **Figure 5-15** illustrates that the average single-family home sales price in 2010 varied greatly by county across the state. Teton County, located on Wyoming's northwest border and home to multiple ski resorts, saw a substantial 35.8 percent hike in average sales price from \$1.4 million to \$1.9 million.

FIGURE 5-15  
Average Single-Family Home Sales Price in Wyoming in 2010.



Source: Wyoming Community Development Authority, 2011.

Recent home sales for the four study area counties are summarized in **Table 5-47**, while **Figure 5-16** illustrates the change in average home values. Each county shows increasing sales prices through 2008, with noticeable declines in 2009. However, with the exception of Platte County, sale prices rebounded in the study area in 2010. The simple average home sale price in the study area in 2010 was \$173,726, while the weighted average, integrating the number of home sales, was \$202,025. Home sale prices were highest in Albany County at \$225,991, followed by Laramie County (\$208,842) and Goshen County (\$136,174). Homes in Platte County, with an average price of \$123,898, are the least expensive. The ranges in median prices in 2010 extend from a low of \$119,000 in Platte County to a high of \$204,000 in Albany County.

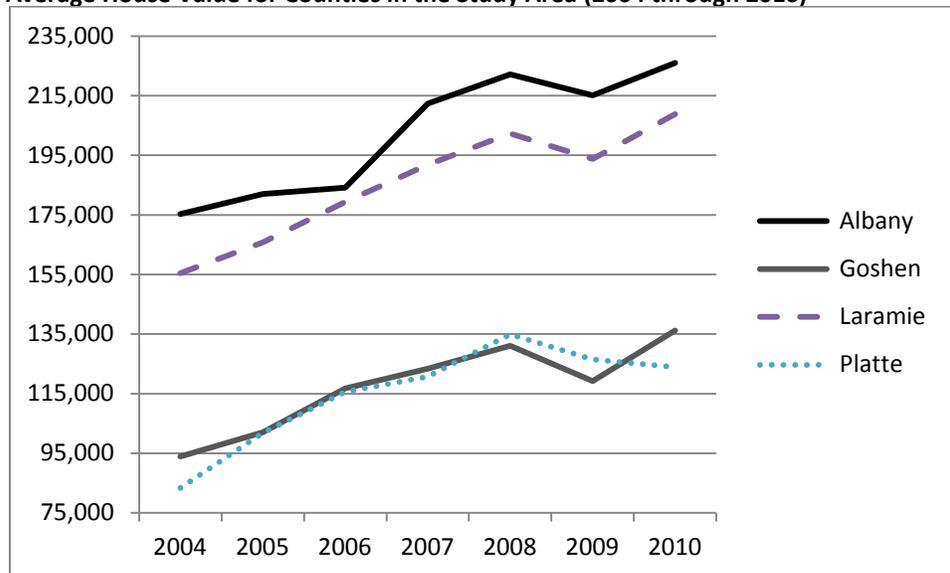
TABLE 5-47

**Home Sales in the Study Area from 2004 through 2010 (Assessor data: Nominal Dollars and Annual Percent Change)**

County	2004	2005	2006	2007	2008	2009	2010	#2010 Sales	2009-10 % Change	2010 Median
Albany	175,320	182,000	184,159	212,313	222,151	215,069	225,991	303	5.1	204,000
Goshen	93,965	102,053	116,812	123,393	131,037	119,207	136,174	136	14.2	125,600
Laramie	155,467	165,743	179,338	191,863	202,304	193,759	208,842	959	7.8	189,000
Platte	83,393	101,802	115,617	120,692	134,896	126,479	123,898	62	-2.0	119,000
<b>Simple Average</b>	<b>127,036</b>	<b>137,900</b>	<b>148,982</b>	<b>162,065</b>	<b>172,597</b>	<b>163,629</b>	<b>173,726</b>		<b>3.9</b>	<b>189,900</b>
<b>Weighted Average</b>							<b>202,025</b>			

Source: Wyoming Community Development Authority, *The 2011 Wyoming Profile of Demographics, Economics, and Housing*, Vol. 1, September 2011.

FIGURE 5-16

**Average House Value for Counties in the Study Area (2004 through 2010)**

Source: Wyoming Community Development Authority, 2011.

**Rental Housing Costs.** For workers seeking temporary relocation to an area, housing rental rates for apartments, houses, and mobile home lots are generally more relevant than home sale prices. The number of renter-occupied housing units and the percentage they represent of the total number of housing units in each county are summarized in **Table 5-46**. The most recent rental rate data for the study area cover the annual period from the fourth quarter of 2009 to the fourth quarter of 2010, as presented in **Table 5-48**. Rental rates for mobile homes declined approximately 6 percent across the study area in 2010, averaging \$511 compared to a statewide rental rate of \$619. While apartment rental rates declined slightly in Albany and Platte counties in 2010, they rose 3 percent in study area, overall, to an average of \$555. Rates for home rentals increased 8 percent in the study area in 2010 to an average of \$729 a month. For all housing types, average rents were highest in the fourth

quarter of 2010 in Laramie County followed closely by Albany County. Renters can do somewhat better in Goshen County or Platte County, but any savings in rent would need to be balanced against the time and out-of-pocket costs associated with a longer commute.

TABLE 5-48  
Average Apartment, Mobile Home Lot, and House Rental Rates for Counties in the Study Area

County	Apartment <sup>1</sup>			Mobile Home Lot <sup>2</sup>			House <sup>3</sup>		
	4Q09	4Q10	Percent Change	4Q09	4Q10	Percent Change	4Q09	4Q10	Percent Change
Wyoming	\$647	\$651	1%	\$630	\$619	-2%	\$900	\$928	3%
Albany	\$627	\$620	-1%	\$608	\$578	-5%	\$873	\$926	6%
Goshen	\$499	\$530	6%	N/A	N/A		\$496	\$575	16%
Laramie	\$594	\$640	8%	\$633	\$597	-6%	\$902	\$983	9%
Platte	\$431	\$428	-1%	\$385	\$359	-7%	\$436	\$432	-1%
<b>Study Area Average</b>	<b>\$538</b>	<b>\$555</b>	<b>3%</b>	<b>\$542</b>	<b>\$511</b>	<b>-6%</b>	<b>\$677</b>	<b>\$729</b>	<b>8%</b>

**Notes:**

<sup>1</sup>Two-bedroom units, unfurnished, excluding gas and electric.

<sup>2</sup>Single-wide, including water.

<sup>3</sup>Two or three bedroom, single-family, excluding gas and electric.

Source: WY EAD, 2011.

## Rental Housing Vacancies

The State of Wyoming Housing Database Partnership estimates rental housing vacancy rates based on semiannual surveys, the most recent of which was conducted in June 2011. **Table 5-49** compares the survey sample size, total number of units, and vacancy rates for the study area and the state in 2010 and 2011. Of the 28,819 units administered by those surveyed in 2011, 1,401 were vacant, resulting in a vacancy rate of 4.9 percent, down from 6.1 percent in 2010. Those surveyed noted that rental stock being sold into homeownership continued to be a trend. The study area had a low rental vacancy rate of 3.4 percent in 2011, with approximately 226 vacant rental housing units available (WY EAD, 2011).

TABLE 5-49  
Rental Vacancy Rates in the Study Area

	2010				2011			
	Sample	Total Units	Vacant Units	Vacancy Rate	Sample	Total Units	Vacant Units	Vacancy Rate
Wyoming	1,234	27,570	1,684	6.1	1,353	28,819	1,401	4.9
Albany	119	2,049	106	5.2	107	1,917	94	4.9
Goshen	27	368	13	3.5	34	524	10	1.9
Laramie	168	4,738	165	3.5	188	6,081	113	1.9
Platte	15	172	12	7.0	20	185	9	4.9
<b>Study Area</b>	<b>329</b>	<b>7,327</b>	<b>296</b>	<b>4.8</b>	<b>349</b>	<b>8,707</b>	<b>226</b>	<b>3.4</b>

Consistent with the housing plan, the county of primary interest for house rentals is Laramie County. The most recent survey of property managers (June 2011) included 188 completed surveys for Laramie County. Of the 6,081 rental units surveyed, 113 (1.9 percent) were vacant. This compares to a statewide average of 4.9 percent for the first half of 2011. **Table 5-50** summarizes the distribution of the vacant housing stock for rent by type in 2011 as well as the low vacancy rates, pointing to a tight rental market. Property managers indicated a waiting list of approximately 2,100 persons and a desire to see 1,141 units added to the rental market (WY EAD, 2011).

TABLE 5-50  
**Rental Vacancy Rates by Type of Unit in the Laramie County in 2011**

	Number of Vacant Units	Vacancy Rate
Single-Family Units	21	1.9
Apartments	56	1.5
Duplexes	1	0.7
Mobile Homes	12	2.1
Other	23	3.6
Total Vacant Units	113	
Size of Waiting List	2,101	
Total Number of Additional Units Desired	1,141	

### Temporary Accommodations

Temporary accommodations, for purposes of this report, are defined as hotel and motel rooms and sites for RVs. These data were collected to assist with identifying the area primarily affected by non-local workers and to obtain housing commitments for the temporary non-local workforce. In years when facilities close to a project site have low vacancy rates, for example due to multiple projects, alternatives more distant from the project become more viable. However, it is reasonable to assume that workers will tend to choose housing opportunities that are more convenient to their work in the City of Cheyenne when such opportunities are available, affordable, and suitable.

Temporary accommodations in the study area experience an annual peak the last 2 weeks of July in association with Cheyenne Frontier Days™ (CFD), a 9-day western celebration with an outdoor rodeo, attractions, and entertainment held annually at Frontier Park approximately 13 miles northwest of the city near the Cheyenne Airport. Registered event attendance in 2009 totaled nearly 192,000, not including participation in events outside Frontier Park such as parades. During this time, many CFD attendees commute from communities within an hour drive of Frontier Park (CFD, 2012).

As discussed in Section 5.4.2, there also exists the potential for an additional influx in temporary workers due to the increase in drilling oil / gas wells related to the Niobrara Shale formation play beyond what has been observed historically in Laramie County. Of 154 permits approved in 2010, a total of 20 wells were completed, while in 2011, 153 permits were issued and 35 wells were completed. To assess the potential impacts, a series of assumptions were based on records from the Wyoming Oil and Gas Commission databases and the reports discussed in Section 5.4.2. The Yampa Valley economic impact study helped inform the assumptions regarding the average life span of 100

days for each well construction project from site preparation to completion and production as well as the average number of workers needed by phase. These estimates include:

- Phase I – Infrastructure Development – Two crews of 6 to 10 workers each. One crew works 12 hour shifts every day for 2 weeks before switching with the second crew. Thus, the total duration of phase I is under 30 days and the maximum number of temporary workers on any given day is 10.
- Phase II – Drilling – Four crews of 7-8 workers each. Two crews work every day for 2 weeks, with one crew taking the 12-hour day shift and the other crew taking the 12-hour night shift. After 2 weeks, the second team takes over. The rotation is repeated, if necessary. The average total duration of this phase is 40 days and the maximum number of temporary workers on location on any given day is 16.
- Phase III – Completion / Production– Two crews of 6 to 8 workers. One crew works 14-hour shifts for 2 weeks in duration before switching with the second crew. Total duration of phase III is 30 days with a maximum number of 8 temporary workers (YVDP, 2012).

An analysis of the well activity in Laramie County since July 2009 compared the number of permits received by quarter with the number of well completions. The quarterly average of well completions was six, with a high of 13 completions reported in the second quarter of 2011

(<http://wogcc.state.wy.us/RepByCountyApdY.cfm?&RequestTimeout=500>, Accessed March 28, 2012). To conservatively estimate the potential impacts of these additional oil / gas workers, the peak of historical quarterly average of 13 was projected forward to 2013 – 2014. Applying the same annual growth rates assumed in the GlobalData market analysis report for the Niobrara Shale formation in Wyoming and Colorado, it is estimated that the number of well completions could reach a peak of 18 per quarter in 2013 and 20 wells per quarter in 2014. Because temporary housing is the resource most likely to be affected by an increase in oil and gas well construction / drilling, potential impacts were conservatively estimated assuming a maximum of 16 workers temporarily located at an additional seven drilling sites per quarter for the duration of construction, or approximately 112 workers. This number represents an estimate of the increase in demand for temporary housing to consider below in an assessment of the impacts of the CPGS construction project on temporary accommodations.

**Table 5-51** compiles a listing of hotels, motels, and RV parks within an hour of the Project location as well as their corresponding number of rooms. There are at least 4,845 temporary lodging units in Wyoming within an hour commute of the Project site.

TABLE 5-51  
**Hotel and Motel Rooms and RV Sites by County and Community (2011)**

County	Community	Hotel/Motel	Number of Rooms
<b>Albany</b>			
	City of Laramie		
		1st Inn Gold	79
		AmericInn Lodge & Suites	59
		Best Western	62
		Comfort Inn Laramie	55
		Days Inn	50
		Econolodge Laramie	51
		Gas Lite Motel	30

TABLE 5-51  
**Hotel and Motel Rooms and RV Sites by County and Community (2011)**

County	Community	Hotel/Motel	Number of Rooms
		Hampton Inn	84
		Hilton Garden Inn and University of Wyoming Conference Center	135
		Americas Best Value Inn	33
		Fairfield Inn & Suites	82
		Laramie Express Inn	79
		Laramie Holiday Inn	100
		Laramie KOA RV Park	50
		Longhorn Lodge	7
		Motel 6 Laramie	122
		Motel 8 Laramie	141
		Ramada Center Hotel	100
		Ranger Motel	20
		Snowy Range Inn	112
		Sunset Inn	50
		Super 8 Motel	42
		Travelodge Laramie	30
		Quality Inn & Suites	72
		<i>Laramie Total</i>	<i>1,645</i>
<b>Laramie</b>			
	City of Cheyenne		
		America's Best Value Inn	60
		Atlas Motel	31
		Candlewood Suites	86
		Central Plaza	88
		Cheyenne Motel	30
		Comfort Inn	77
		Days Inn	108
		Fairfield Inn	61
		Firebird Motel	49
		Fleetwood Motel	22
		Guest Ranch Motel	32
		Hampton Inn	64
		Historic Plains Hotel	131
		Hitching Post Inn	70
		Holiday Inn	245
		Holiday Inn Express Hotel & Suites	76
		La Quinta Inn	105
		Lariat Motel	16
		Little America Hotel & Resort	188

TABLE 5-51  
**Hotel and Motel Rooms and RV Sites by County and Community (2011)**

County	Community	Hotel/Motel	Number of Rooms
		Luxury Inn	32
		Microtel	56
		Motel 6	107
		Oak Tree Inn	40
		Pioneer Hotel	50
		Ranger Motel	22
		Rodeo Inn	68
		Rodeway Inn	104
		Round-Up Motel	37
		Sands Motel	52
		Sapp Bros/Travelers Inn	20
		Sleep Inn Suites	74
		Springhill Suites	92
		Stage Coach Motel	60
		Super 8 Motel	24
		AB Camping	87
		Cheyenne KOA	42
		Curt Gowdy State Park	148
		Greenway Trailer Park	32
		Hide-A-Way RV Park	22
		Jolley Rogers RV Park	15
		Last Chance Camp	75
		Restway Travel Park	97
		Terry Bison Ranch	111
		T-Joe's RV Park	25
		WYO Campground	50
		<i>Cheyenne Total</i>	<i>3,081</i>
	Town of Pine Bluffs		
		Gators Travelyn Motel	19
		Pine Bluffs RV Park	100
		<i>Pine Bluffs Total</i>	<i>119</i>
			<b>3,200</b>
<b>Study Area Total</b>			<b>4,845</b>

Sources: Wyoming Official State Travel Website, City Data Website, Smith Travel Research, and CH2M HILL, 2010.

**Hotels and Motels.** The Cheyenne area has approximately 2,780 rooms at 34 hotels and motels, including eight facilities with more than 100 rooms each (**Table 5-51**). For high-occupancy periods such as July, there are an additional 1,645 rooms available in the Laramie area located approximately an hour west of Project site (ACTB, 2012). Hotel and motel occupancy rates for the period from 2005 to 2011 are presented in **Table 5-52** and **Figure 5-17** based on information from Smith Travel Research. The estimated occupancy rates are derived from a sample of 32 hotels and

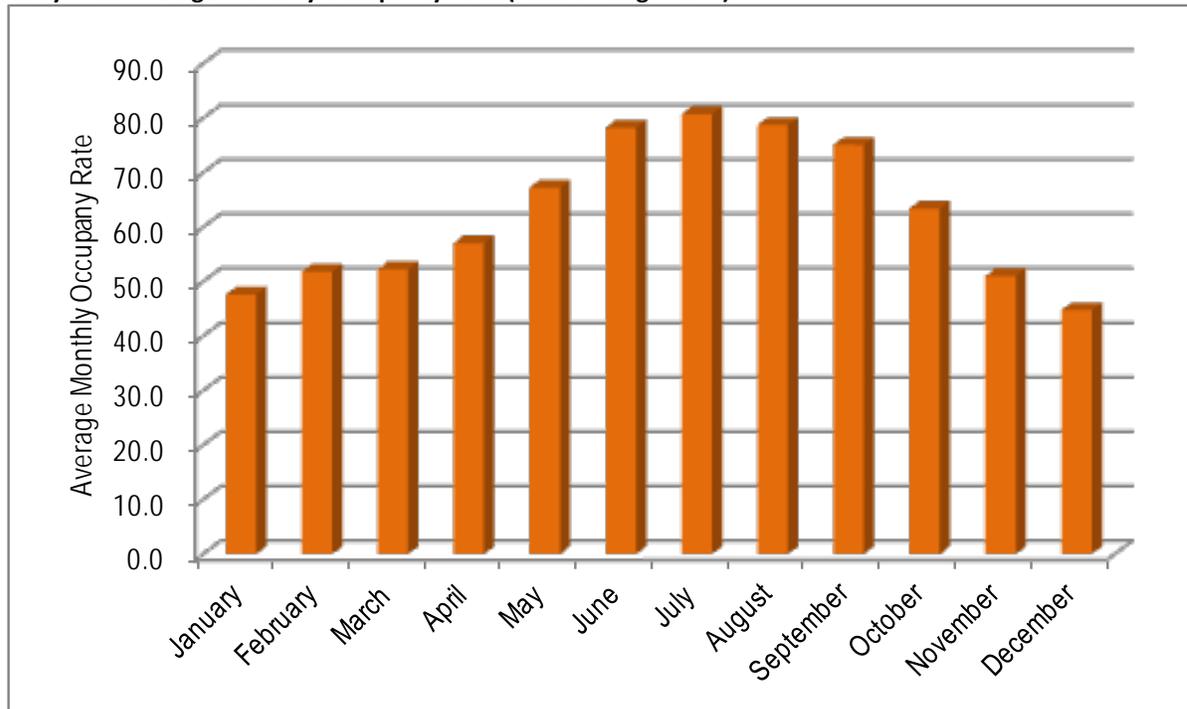
motels in the Cheyenne area. The sample includes the closest hotel to the Project site, the 74-room Sleep Inn & Suites, which is less than a 5 minute drive, as well as the largest hotel in the area, the Holiday Inn with 244 rooms, which is located less than 10 minutes from the Project site. The average monthly occupancy rate between 2005 and 2011 was lowest in December at 44.8 percent and highest in July with 80.7 percent. The corresponding vacancy rate is also highly seasonal, ranging from highs of 50-55 percent in December and January to lows of approximately 20 percent in June through August.

TABLE 5-52  
Average Monthly Hotel and Motel Occupancy Rates for Cheyenne, Wyoming January 2005 to December 2011

	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec
<b>Average</b>	47.6	51.9	52.3	57.1	67.3	78.3	80.7	78.8	75.1	63.4	51.0	44.8

Source: Smith Travel Research, 2012

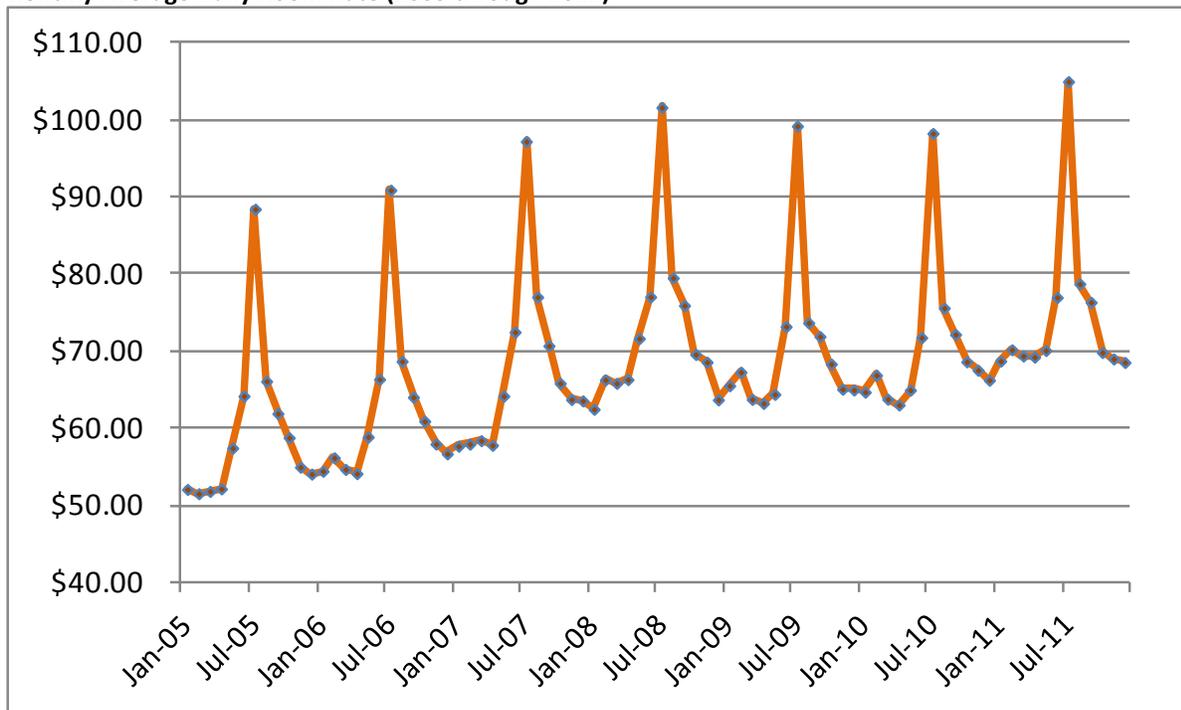
FIGURE 5-17  
Study Area Average Monthly Occupancy Rate (2005 through 2011)



Source: Smith Travel Research, 2012.

The average daily room rate fluctuates depending on the month, as can be seen from the information presented in **Figure 5-18**. Room rates generally vary little from January through May and then gradually increase, peaking in July and August, and decrease throughout the remainder of the year. The average annual rates have continued to generally trend upwards over the period, from just under \$61 in 2005 to \$75 in 2011, with the exception of 2009 and 2010, when rates fell or remained the same. The 7-year average of room rates during the peak month of July was \$97.50 while the daily room rate in July 2011 was \$105.

FIGURE 5-18  
**Monthly Average Daily Room Rate (2005 through 2011)**



Sources: Smith Travel Research, 2012

**Recreational Vehicle Sites.** Many RV sites within an hour drive of the Project site can provide accommodations for visits with durations of weeks or months. **Table 5-51** includes 12 RV or camping locations in the Cheyenne or Pine Bluff area with more than 521 individual RV sites for year-round camping.

### Construction Impacts

Employment during the construction phase of the Project would range from a low of 29 non-local workers in the first month of construction to a peak of 260 workers in December 2013. The average number of non-local workers over the 14-month construction period is approximately 194. The non-local temporary workforce is projected to number 75 in July 2013, the month that coincides with CFD. Impacts to temporary housing are expected to be minor, with the Project workforce representing less than 0.04 percent of the typical visitors to CFD (CFD, 2012).

### Number of Units Required

Estimates of selected characteristics of the peak-month, December 2013, workforce is shown in **Table 5-53**. It is estimated that a total of 255 single non-local construction workers would relocate to the area of site influence. Up to five non-local workers could be accompanied by family members and it is assumed that all workers would secure temporary accommodations for the duration of their involvement in the Project.

TABLE 5-53  
**Estimate of Local and Non-local Construction Worker Breakdown During Peak Month**

Peak Monthly Workforce	Number of Workers
Total Peak Workforce	400
Local Workers	140
Non-Local Workers	260
Non-Local Workers Bringing Families	5
Non-Local Single Workers	255

Housing Requirement	Number of Rooms
Permanent Housing Units	0
Temporary Accommodation Units by Type	260
Recreational Vehicle Spaces	0
Houses, Apartments, and Rental Mobile Homes	5
Hotel and Motel Rooms	255

Temporary Accommodation Units by Occupancy	Number of Type
Single-Occupancy	191
Double-Occupancy	64

Source: CH2M HILL, 2012.

The estimated housing requirements shown in **Table 5-53** are based on the assumption that one-quarter of the single, non-local workers will share temporary accommodation units such as hotel/motel rooms (i.e., double-occupancy). The remaining three-quarters would occupy units singly. The aggregate demand for accommodations created by the non-local workers could total 260 units. The Project assumed that hotel / motel rooms in close proximity to the Project would generally be the primary accommodation type due to the abundance of rooms, even in the peak month of July. However, it is anticipated that the five non-local families would consider renting a house, apartment, or mobile home during the duration of construction.

### Construction Workforce Housing Plan

CLFP has engaged in a preliminary assessment of housing options to ensure that housing is available to temporary construction workers employed during the construction period from April 2013 until May 2014. Due to the variety of the housing options and locations within commuting distance of the site, the housing market analysis suggests that there will not be a housing shortage for the non-local workforce.

To accomplish a successful and implementable housing plan, CLFP conducted an extensive temporary housing market survey in the area of site influence. Housing availability was determined by compiling a listing of temporary housing purveyors in Cheyenne and the surrounding area. **Table 5-54** provides a breakdown of the housing vacancies in Cheyenne by type of housing.

TABLE 5-54

**Potentially Available Temporary Accommodations**

Type of Rental Housing	Number of Accommodation Units Required by Project During Peak Month (Demand)	Number of Accommodation Units in Cheyenne Area	Vacancy Rate 2	Number of Available Accommodation Units in Study Area (Supply)	Housing Gap (Supply minus Demand)
Houses, Apartments, and Rental Mobile Home <sup>1</sup>	5	6,081	1.9%	116	+111
Hotel/Motel Rooms	255	2,779	19.3%	536	+281
<b>TOTAL</b>	<b>260</b>	<b>8,860</b>		<b>652</b>	<b>+392</b>

**Notes:**

<sup>1</sup>Based on City of Cheyenne rental units only.

<sup>2</sup>The vacancy rate for hotel/motel rooms is based on the average occupancy for the peak month of July over the January 2005 to December 2011 period.

+ indicates a surplus of housing units.

Source: Smith Travel Research, 2012; CH2M HILL, 2012.

The aggregate sum of rooms available for use by members of the construction workforce during the peak occupancy month numbers about 536. This compares to a peak demand of 255 units. The potential supply in the Cheyenne area alone exceeds demand by close to 392 units. This excess supply of temporary housing is sufficient to also accommodate the projected growth in demand for temporary housing posed by the growth in oil/gas well activity projected by an independent party (GlobalData, 2012). The increase in demand for local housing from this source could reach a peak of 116 rooms over the CPGS construction period. After accommodating this reduction in supply of 116 rooms occupied by oil/gas workers, the region will have excess capacity of 276 rooms.

**Effects on Vacancies of Local Motel/Hotels, Recreational Vehicles, and Apartments**

The supply of temporary accommodations in the study area includes hotel and motel rooms, apartments, single-family rental housing units, rental mobile homes, and RV spaces located in RV parks. Estimates of the available supply of each type of accommodation are shown in **Table 5-54**, along with the demand generated by the non-local workers associated with the Project. The number of potentially available units is derived by applying the vacancy rates shown to the total number of each type of unit in the study area. More than adequate housing is available to meet the needs of the non-local workers as well as any growth in the number of non-local construction workers related to the Niabrara Oil Shale play in Laramie County.

Implementation of the Project would reduce temporary housing vacancy rates as the demand absorbs a fraction of the available units. **Table 5-54** shows estimates of vacancy rates, by type of accommodation unit, prior to the period of peak construction activity of the Project. CLFP received responses from 11 of the hotels (1,165 rooms) it contacted, all of which are located within a 15-minute drive of the Project, to obtain housing commitment letters. Appendix A provides copies of these housing commitment responses, which conservatively result in 307 rooms during the peak tourism months of June through September and up to 430 rooms in the offseason. If no specific commitment was provided by a facility, it was assumed that it could commit no more than its total number of rooms times the corresponding vacancy rate for that month. Given 1) the commitment letters to provide accommodations secured by CLFP regarding available hotel/motel rooms, and

2) the available supply of other types of temporary accommodations in the Cheyenne, the likely demand for 260 accommodation units would be satisfied.

### Operations Impacts

During operation of the proposed Project, it is estimated that there would be 12 full-time employees. No impacts to housing resources are expected.

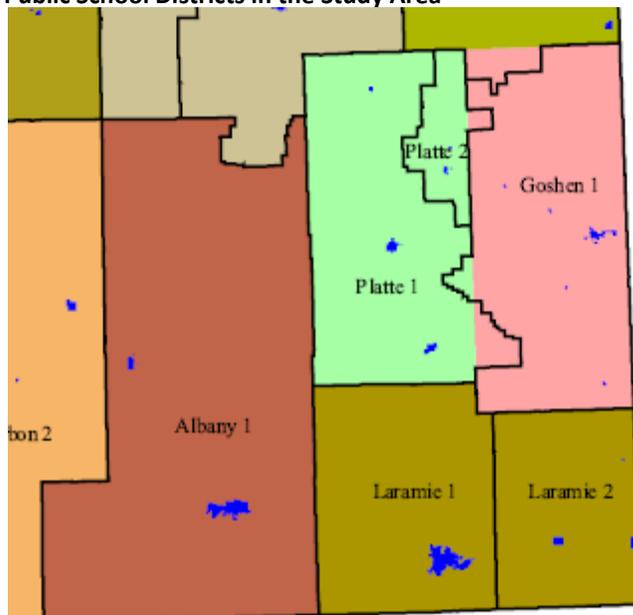
## 5.4.6 Public Education

The major topics addressed in this section are location and characteristics of educational facilities, current and historical school enrollment, and student-teacher ratios for Laramie County, because it is anticipated that the majority of the non-local workers will relocate to the Cheyenne area.

### Location and Characteristics of Educational Facilities

Laramie County contains two school districts, Laramie County School District 1 (LCSD1) and Laramie County School District 2 (LCSD2). LCSD1 serves the western half of the county, including the Project location, and is the largest school district in the state with 34 schools and 13,370 students (LCSD1, 2012a). LCSD1 includes three rural elementary schools, 24 city elementary schools, three junior highs, three high schools, and one alternative high school. LCSD2 serves the eastern half of the county and currently has 921 students at six schools (LCSD2, 2012). The school districts in the study area are illustrated in **Figure 5-19**. **Table 5-55** shows the type and number of schools by district and selected district-wide characteristics.

FIGURE 5-19  
Public School Districts in the Study Area



Source: Wyoming Economic Analysis Division, 2010.

TABLE 5-55

**Selected Characteristics of School Districts (2010)**

	Laramie County School District No. 1	Laramie County School District No. 2
Elementary Schools	27	4
Secondary Schools	7	2
<b>Enrollment (As of October 3, 2011)</b>		
Kindergarten enrollment	1,181	74
Grade 1	1,066	75
Grade 2	1,138	74
Grade 3	1,089	67
Grade 4	984	71
Grade 5	995	82
Grade 6	1,049	59
Grade 7	1,011	67
Grade 8	1,022	75
Grade 9	995	77
Grade 10	1,036	63
Grade 11	938	67
Grade 12	866	65
<b>Total</b>	<b>13,370</b>	<b>916</b>
<b>Staff (Full-Time Equivalent [FTE]) (2010 – 2011)</b>		
Total	2,163	203
Teachers	970	95
Student Instructional Aids, Support Staff, Counselors	499	46
Administration	313	27
Other General Support (O&M, Bus Drivers, Mechanics, Food Service)	381	34
<b>Student-Teacher Ratio</b>	<b>19.94</b>	<b>14.02</b>
<b>Revenue Source (Percent) (2010 – 2011)</b>		
Local	14%	14%
County	4%	3%
State	73%	75%
Federal	10%	9%
<b>Total</b>	<b>\$215,966,995</b>	<b>\$18,574,598</b>
<b>Revenue per Student</b>	<b>\$16,153</b>	<b>\$20,278</b>

Source: Wyoming Department of Education, 2012, and LCSC1 and LCSC2, 2012.

Revenues per student in 2010 vary by school district, with LCSD1 reporting revenues per student at \$16,153 and LCSD2 reporting per-student revenues of \$20,278. However, the contribution to total revenues from federal, state, and local sources for each of the school districts are highly similar. The state contributes approximately 75 percent of the total revenue for the two school districts, while

local sources contribute 14 percent, as shown in **Table 5-54**. The balance of revenue comes from either the federal government (9 – 10 percent) or the county (3 - 4 percent).

### Student Enrollment

Student enrollment as of October 3, 2011, totaled 13,370 in LCSD1 and 916 in LCSD2. Between 2001 and 2011, LCSD1 enrollment increased by 98 students (1 percent), while enrollment in LCSD2 fell by 11 pupils (-1 percent), as shown in **Table 5-56**. In spite of the relative stability of district-wide enrollment, LCSD1 is currently experiencing some imbalance on a school-by-school basis due to high kindergarten enrollment during the 2011-2012 school year. This resulted in 338 students being displaced from their local schools and required to attend other schools due to overcrowding (Wyoming Tribune-Eagle, 2011).

TABLE 5-56  
**School District Enrollment (2001 to 2011)**

Year	Laramie County School District No. 1	Laramie County School District No. 2
2001	13,272	927
2002	13,113	911
2003	13,065	860
2004	12,831	876
2005	12,776	868
2006	12,832	894
2007	12,776	928
2008	12,933	841
2009	13,195	872
2010	13,171	925
2011	13,370	916
<b>Change (2001-2011)</b>		
Numeric	98	-11
Percent	1%	-1%
Average Annual Percent		

Source: Wyoming Department of Education, 2012

### Student-Teacher Ratios

A commonly used measure of overall school quality is the student-teacher ratio (i.e., the ratio of total student enrollment in a school, school district, or other unit to the number FTE certified teachers). This ratio provides a means of comparing different educational units, such as school districts, to a state or national parameter. As a whole, the pupil-teacher ratios, which can be used as an indicator of school quality, within the study area tend to be better than the state and national standards. The implementation of the 16:1 student teacher ratio is mandated by House Enrolled Act 98 of 2011, specifically W.S. § 21-13-307(a) (iv).

Of the two school districts comprising the study area, LCSD2 (with a 2011 student-teacher ratio of 14.02) had the lower student-to-teacher ratio followed by LCSD1 with 19.94. As a result, LCSD1 is above the 2010 national ratio of 15.6 and LCSD2 is below. Both districts, however, are above the Wyoming ratio of 13.3.

### **Capital Improvement and Expansion Plans**

The Capital Improvement Plans (CIPs) for the school districts are designed to address the requirements of anticipated baseline growth and changing demographic conditions in the school districts as well as periodic maintenance and repair of existing facilities and infrastructure. LCSD1 has multiple ongoing capital projects to upgrade existing facilities and to expand capacity at the primary school level (LCSD1, 2012b).

### **Construction Impacts**

The number of non-local workers likely to enter the study area during the peak onsite employment month would total 260. Based on the historical data, it is expected that less than 2 percent of these non-local workers would be accompanied by family members. Thus, no impacts to public education are anticipated.

### **Operations Impacts**

The permanent workforce of 12 associated with the operation of the proposed facility is not expected to impact public education.

## **5.4.7 Public Safety**

This section addresses the availability of fire protection, law enforcement services, and crime levels in Laramie County, because it is anticipated that the majority of the non-local workers will relocate to the Cheyenne area.

### **Fire Protection and Rescue Services**

There are 11 fire districts within Laramie County, with 23 fire stations, 224 full-time employees, and 194 volunteers, as shown in **Table 5-57** (WSFM, 2011). Most of the fire districts in the county are staffed by volunteers and support each other in the event of a large fire or catastrophic event (LCPDO, 2001). **Figure 5-20** illustrates that while the Project site is within Cheyenne Fire & Rescue's (CFR) service area, it is directly adjacent to an area served by Laramie County Fire District (LCFD) 1 and less than 2 miles from LCFD 2. The nearest CFR station is located 7.9 miles (14-minute drive) west of the Project at 1912 Carey Avenue. However, because the Project is on the edge of the Cheyenne service area, the closest fire station is one of two stations associated with LCFD 1, located 7.1 miles, or an approximately a 13-minute drive, west of the Project on 207 East Allison Road.

TABLE 5-57  
**Fire Departments in Laramie County**

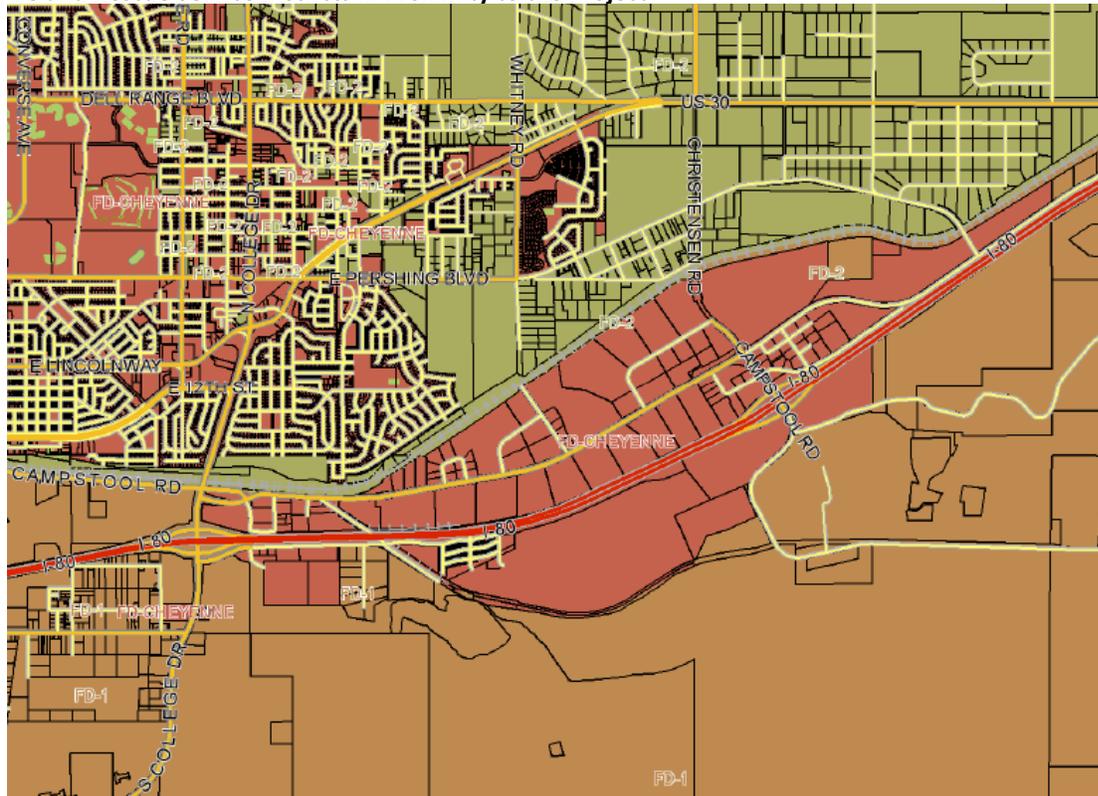
Fire Districts	No. of Stations	No. of Firefighters		Emergency Medical Services (EMS)	Basic Emergency Medical Technicians (EMTs)	Advanced EMTs
		Full-Time Paid	Volunteer			
<b>Laramie County Total</b>	<b>23</b>	<b>224</b>	<b>194</b>	<b>32</b>	<b>154</b>	<b>3</b>
Cheyenne Fire & Rescue (CFR)	5	87	0	29	49	2
F.E. Warren AFB	2	56	0	NA	20	NA
Wyoming Air National Guard	1	23	0	NA	23	1
LCFD 1 – South Cheyenne	2	20	33	0	20	0
LCFD 2 – North Cheyenne	4	0	60	0	18	0
LCFD 3 - Albin	3	0	22	NA	6	NA
LCFD 4 - Carpenter	1	0	12	0	6	0
LCFD 5 – Pine Bluffs	1	0	15	0	2	0
LCFD 6 – Burns & Hillsdale	1	NA	16	NA	NA	NA
LCFD 8 – Table Mountain	1	0	16	1	2	NA
LCFD 10 – Granite Canyon	2	38	20	2	8	0

**Notes:**

NA = No data available

Source: Wyoming State Fire Marshal, 2011.

FIGURE 5-20  
Fire and Rescue Service Districts in Proximity to the Project



Source: Cheyenne and Laramie County Cooperative GIS (CLCCGIS) Program, Laramie County Map Service, 2012.

CFR provides an integrated Emergency Response System utilizing firefighters in the delivery of fire and emergency medical services (EMS), with every frontline engine company staffed at the paramedic level 24 hours a day, 7 days a week (CFR, 2012). CFR is staffed by 87 full-time firefighters, 29 paramedics, and 49 emergency medical technicians (EMTs), as shown in **Table 5-57**. CFR responded to more than 7,000 calls in 2009, of which the majority, 78 percent, were related to rescue and EMS, and 2 percent, or 148 calls, were for fires (**Table 5-58**) (WSFM, 2011). CFR targets providing levels of service response times of 4 minutes or less, based on road system and traffic, with a minimum staffing per station of 12 officers in three shifts plus one extra person for 24-hour coverage.

TABLE 5-58  
Cheyenne Fire and Rescue (CFR) Call Volume (2009)

Call Type	Number of Calls	% of Total Calls
Total Calls	7,081	
Rescue and Emergency Medical	5,501	78%
Fires (All Types)	148	2%
False Alarm and False Calls	420	6%
Good Intent Calls	479	7%
Service Calls	235	3%
Hazardous Conditions	285	4%

TABLE 5-58  
**Cheyenne Fire and Rescue (CFR) Call Volume (2009)**

Call Type	Number of Calls	% of Total Calls
Special Incident Types	3	Less than 1%
Ruptures, Explosions, Overheats	9	Less than 1%
Severe Weather and Natural Disaster	1	Less than 1%

Source: CFR, 2010.

LCFD 1, South Cheyenne, serves approximately 20,000 people living in a 180-square-mile area extending south of the City of Cheyenne to the Colorado border. LCFD 1 has 40 members, six of whom are full-time, and one paid fire chief. Apparatus include two command vehicles, two engines, one ladder truck, four brush trucks, one tender, and one support vehicle. LCFD 1 provides the following services: firefighting, Hazmat, BLS EMS, vehicle rescue (extrication), and search and rescue. It has an average of 1,300 calls per year with an average first-due response time of 3-5 minutes (LCFD1, 2012). **Table 5-59** summarizes the fire response and rescue incidents for the departments within Laramie County for 2010.

TABLE 5-59  
**Fire Incidents in Laramie County (2010)**

Department	Total Incidents	Fire Calls	EMS Rescue Calls	Civilian Fire Injuries	Firefighter Injuries	Civilian Fire Deaths	Firefighter Deaths
<b>Laramie Total</b>	<b>9,417</b>	<b>377</b>	<b>6,981</b>	<b>4</b>	<b>3</b>	<b>1</b>	<b>0</b>
Cheyenne	7,162	152	5,426	4	3		
South Cheyenne	1,267	91	971				
North Cheyenne	606	63	384				
Albin	39	8	21				
Burns	118	7	84				
Carpenter	65	20	26				
Pine Bluffs	65	23	13			1	
Table Mountain	58	7	35				
Granite Canyon	37	6	21				

Source: WFSM, 2011.

For other types of incidents, the Wyoming Emergency Response Act (35-9-151) established seven Regional Emergency Response Teams (RERTs) under the authority of the director, Wyoming Office of Homeland Security. Members of these teams are specially trained and available to respond to incidents involving hazardous materials and weapons of mass destruction. Each county in Wyoming has a coordinator responsible for mitigation and preparedness activities to protect against and prepare for disasters. This involves planning, training, exercising, procuring/maintaining equipment, and designating facilities for shelter and other purposes.

## Law Enforcement Services

Law enforcement in the study area is provided by District #1 of the Wyoming Highway Patrol, the Laramie County Sheriff's Office, and the police departments of Cheyenne and Pine Bluffs, as shown in **Table 5-60**.

TABLE 5-60  
Law Enforcement in the Study Area

Name	Address	Phone	City
Wyoming Highway Patrol District #1	5300 Bishop Boulevard Cheyenne, Wyoming 82009	(307) 777-4321	Cheyenne
Laramie County Sherriff's Office	1910 Pioneer Avenue Cheyenne, Wyoming 82001	(307) 633-4700	Cheyenne
Cheyenne Police Department	2020 Capitol Avenue Cheyenne, Wyoming 82001	(307) 637-6500	Cheyenne
Pine Bluffs Police Department	203 Main Street Pine Bluffs, Wyoming 82082	(307) 245-3777	Pine Bluffs

Source: WY Attorney General and USA Cops, 2012.

District #1 of the Wyoming State Patrol is based in Cheyenne and serves Albany, Carbon, and Laramie counties with 73 sworn officers and 145 personnel. In 2010, District #1 responded to 5,798 calls for service, issued 21,035 speeding citations, and made 315 DUI arrests. Local law enforcement agencies in Laramie County had 148 officers in 2010, of which approximately 65 percent, or 96 officers, were employed by the City of Cheyenne (**Table 5-61**). The number of officers per 1,000 residents, 1.6, in the study area is below the state average of 2.2 and the index of crimes per officer, 20.1, is above the state average of 12.3. This is primarily due the urban nature of Cheyenne relative to that of the balance of Wyoming.

TABLE 5-61  
Law Enforcement Personnel in Laramie County

Location	Total Employees	Officers		Civilians		Officers per 1,000 Population	Index Crimes per Officer
		Male	Female	Male	Female		
<b>Laramie County</b>	<b>183</b>	<b>135</b>	<b>13</b>	<b>7</b>	<b>28</b>	<b>1.6</b>	<b>20.1</b>
Sheriff	59	45	4		10	1.6	11.0
Cheyenne	115	87	9	7	12	1.6	25.0
Pine Bluffs	9	3			6	2.7	10.7

Source: Wyoming Office of Attorney General, 2012.

## Crime

Reported crimes (i.e., crimes known to law enforcement) are categorized into the more serious Part 1 crimes and less serious Part 2 crimes. Part 1 crimes (also referred to as index crimes) are further subdivided into violent crimes against persons (murder, forcible rape, robbery, and aggravated assault) and crimes against property (burglary, larceny, and motor vehicle theft).

The number of reported crimes is directly related to the number of residents and, thus, most crimes occur in the largest community—the City of Cheyenne. This is evident from the information presented in **Table 5-62**. However, for comparative purposes, the most relevant statistic is the crime rate per 10,000 inhabitants because this statistic adjusts for the size of the population. In 2010, this crime rate index ranged from a low of 175.1.4 per 10,000 inhabitants served by the Laramie County

Sheriff's Office to a high of 403.1 for those residents served by the Cheyenne Police Department. A rate of 325 was observed overall for Laramie County, which is higher than the state average of 264.9 in 2010. The majority, 94 percent, of the crime events in 2010 are classified as crimes against property. The remaining 6 percent were crimes involving the element of personal confrontation between the perpetrator and the victim, and entail the use or threat of force or violence.

TABLE 5-62  
Number of Reported Index Crime Events (2010)

Location	Murder	Rape	Robbery	Aggravated Assault	Burglary	Larceny	MVT	2010 Total	2009 Total	% Change	2010 Population Coverage	Crime Rate per 10,000 Inhabitants
<b>Laramie County</b>	<b>0</b>	<b>41</b>	<b>23</b>	<b>119</b>	<b>337</b>	<b>2,333</b>	<b>119</b>	<b>2,972</b>	<b>3,064</b>	<b>-3.0</b>	<b>91,437</b>	<b>325</b>
Sheriff	0	14	2	31	93	366	34	540	552	-2.2	30,842	175.1
Cheyenne	0	27	21	83	236	1,948	85	2,400	2,490	-3.6	59,466	403.6
Pine Bluffs	0	0	0	5	8	19	0	32	22	45.5	1,129	283.4

Source: Wyoming Office of Attorney General, 2012.

Part 2 crimes are considered less serious in nature than Part 1 crimes, but they are significantly more numerous and often of an anti-social nature, with the majority related to alcohol and drug abuse. Part 2 crimes are classified into the following groups: manslaughter by negligence; arson; other assault; forgery and counterfeiting; fraud; embezzlement; buying, receiving, or possessing stolen property; vandalism; carrying or possessing weapons; prostitution and commercial vice; sex offenses (except rape and prostitution); drug abuse – sale and manufacture; drug abuse – possession; gambling; offenses against family and children; driving under the influence; liquor laws; drunkenness; disorderly conduct; vagrancy; and all other (except traffic). Information regarding Part 2 crimes is available only in the form of arrest data, as shown in **Table 5-63**. As the numbers reflect, drug- and alcohol-related arrests and other assaults top the list of offenses that result in arrests.

TABLE 5-63  
2010 Part 2 Crime Arrests by Type of Crime and Entity

Classification of Offenses	Sex	Total		Sheriff		Cheyenne		Pine Bluffs	
		Adult	Juvenile	Adult	Juvenile	Adult	Juvenile	Adult	Juvenile
Manslaughter by Negligence	M	0	0						
	F	0	0						
Arson	M	0	0						
	F	0	0						
Other Assaults	M	488	107	124	24	364	83		
	F	156	51	32	2	124	49		
Forgery and Counterfeiting	M	8	0	3		5			
	F	5	0	4		1			

TABLE 5-63  
**2010 Part 2 Crime Arrests by Type of Crime and Entity**

Classification of Offenses	Sex	Total		Sheriff		Cheyenne		Pine Bluffs	
		Adult	Juvenile	Adult	Juvenile	Adult	Juvenile	Adult	Juvenile
Fraud	M	18	0	1		17			
	F	14	0	6		8			
Embezzlement	M	0	0						
	F	0	0						
Stolen Property: Buy Receive Possess	M	18	1	12	1	6			
	F	3	0	2		1			
Vandalism	M	86	62	16	19	69	42	1	1
	F	30	5	4	4	26	1		
Weapons: Carry Possess etc.	M	3	15				15		
	F	0	2				2		
Prostitution and Commercialized Vice	M	0	0						
	F	1	0	1					
Sex Offenses (Except Rape and Prostitution)	M	20	2	12	1	6	1	2	
	F	2	1	1		1	1		
Drug Abuse Violations Total	M	283	113	40	4	237	106	6	3
	F	67	7	3	2	62	25	2	0
1) Sale Manufacture Subtotal	M	17	4	3		9	2	5	2
	F	6	0			5		1	
2) Possession Subtotal	M	266	109	37	4	228	104	1	1
	F	61	27	3	2	57	25	1	
Gambling Offenses	M	0	0						
	F	0	0						
Offenses Against Family and Children	M	7	5	3	2	4	3		
	F	3	0	2		1			
Driving Under the Influence	M	564	6	211	3	352	3	1	
	F	203	3	77		126	3		
Liquor Laws	M	257	123	24	17	232	102	1	4
	F	92	72	10	15	82	56		1
Drunkenness	M	337	0			336		1	
	F	37	0			36		1	

TABLE 5-63  
2010 Part 2 Crime Arrests by Type of Crime and Entity

Classification of Offenses	Sex	Total		Sheriff		Cheyenne		Pine Bluffs	
		Adult	Juvenile	Adult	Juvenile	Adult	Juvenile	Adult	Juvenile
Disorderly Conduct	M	126	42	5	1	119	41	2	
	F	39	19	5	2	34	17		
Vagrancy	M	17	0	17					
	F	2	0	2					
All Other Offenses (Except Traffic)	M	845	146	194	17	646	129	5	
	F	252	60	48	3	204	57		
Suspicion	M	0	0						
	F	0	2			2			
Curfew and Loitering Law Violations	M	N/A	29	N/A		N/A	29	N/A	
	F	N/A	25	N/A		N/A	24	N/A	1
Runaways	M	N/A	128	N/A	27	N/A	101	N/A	
	F	N/A	133	N/A	28	N/A	105	N/A	
Total Male	M	3,391	899	730	132	2,641	759	20	8
Total Female	F	1,174	498	236	65	935	430	3	3
Total	M	4,565	1,397	966	197	3,576	1,189	23	11

Source: Wyoming Office of Attorney General, 2012.

## 5.4.8 Construction Impacts

### Fire Protection

The temporary influx of a peak number of 260 residents associated with the construction phase of the Project would have negligible effect on the quality of service provided by fire protection agencies. Due to its location, the Project can be served by either CFR or LCFD 1.

Fire emergencies would generally be initiated through 911 calls, alerting the appropriate fire/ambulance crews for dispatch. It is anticipated that CFR would be the first responder in the event of a fire. CLFP will proactively coordinate with the appropriate fire departments to minimize fire safety hazards, coordinate response efforts, and effectively train all personnel in fire safety issues. CLFP's general contractor will also maintain a safety officer onsite for the duration of construction activities that will coordinate emergency management and response, provide onsite training and certification to new site personnel, and enable additional training opportunities, such as CPR and first aid, to enable qualified administration of basic first-responder care should an emergency arise.

### Law Enforcement

Law enforcement services would be provided to the Project site by the Cheyenne Police Department. As shown in **Table 5-61**, the current level of service ranges from about 1.6 to 2.7 officers per 1,000 in population. Thus, the temporary increase in persons attributable to construction of the Project would equate to an increase in demand addressed by less than one-half

of an additional law enforcement officer. However, this increase in demand would last for a short period and would not justify the hiring of additional personnel.

With an index crime rate of about 325 per 10,000 residents in Laramie County, the additional construction workers could account for an increase of between eight and nine crimes annually, assuming the average of the crime rate index would hold for the population of construction workers. However, unlike the general population, the construction population has additional incentives to reduce criminal incidences.

It is stressed that CLFP and its contractors will take a hard line on criminal activity. Any personnel found to have committed a Part 1 or Part 2 crime while employed for the CPGS Project will be disciplined to the fullest extent, including termination of employment. Additionally, to the extent possible, CPGS will facilitate prosecution for any such criminal activity.

### **Operations Impacts**

The local workforce of 12 associated with the O&M of the proposed facility would represent a negligible increase in the demand for fire protection and law enforcement personnel.

## **5.4.9 Health Care**

This section discusses the location and characteristics of health care facilities in Laramie County, including the number and type of facilities, staffing levels, availability of EMS, and the health needs of the existing population.

### **Location and Characteristics of Health Care Facilities**

Cheyenne and Laramie counties are primarily served by two hospitals, the Cheyenne Regional Medical Center (CRMC) and the Veterans Affairs Medical Center (VAMC), which is dedicated to military personnel and veterans. CRMC is located 7.8 miles, or an approximately 12-minute drive, west of the Project, as shown in **Figure 5-21**. Similarly, the VAMC is 7.2 miles to the northwest and a 14-minute drive from the Project. Additionally, Tri-County Medical Center is located approximately 35 miles to the east in the Pine Bluffs. CRMC offers 217 beds and is designated as a regional trauma center by the Wyoming Department of Health Office of Emergency Medical Services. VAMC has a total bed capacity of 71 and provides general medical and surgical services (inpatient and outpatient) for U.S. Veterans. Selected summary statistics from an American Health Association Survey of more than 5,000 hospitals across the nation related to patient volume are provided in **Table 5-64**. These data were extracted from the U.S. News and World Report website, which maintains a searchable directory.

TABLE 5-64  
**Hospitals in the Study Area: Selected Statistics**

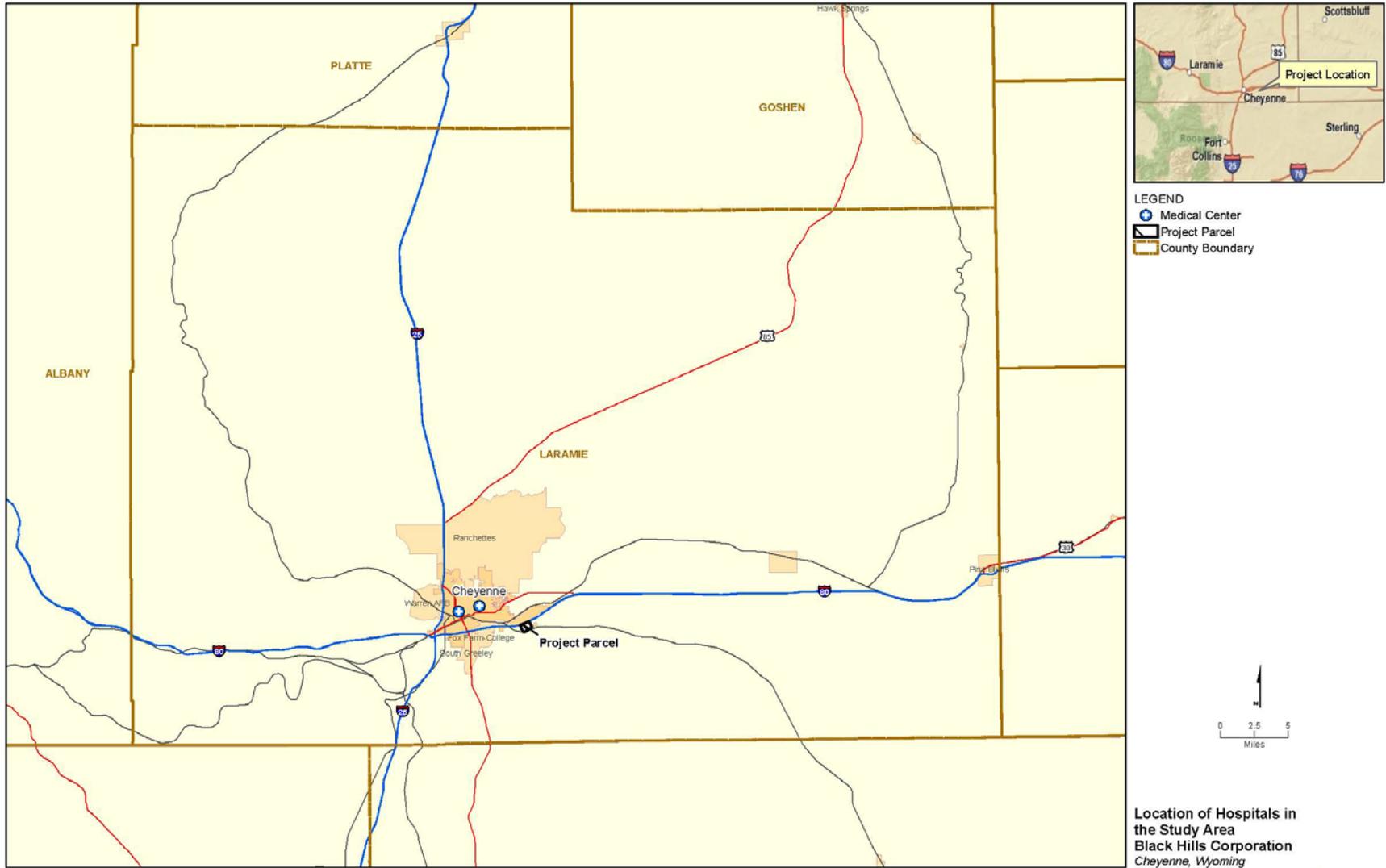
	<b>Cheyenne Regional Medical Center</b>	<b>Cheyenne Veterans Affairs Medical Center</b>
Beds	217	71
Admissions	11,646	1,654
Inpatient Surgeries	2,623	136
Outpatient Visits	135,968	137,143
Emergency Room Visits	36,389	N/A

*Sources: U.S. News & World Report, 2012, and CCCP, 2008.*

Another measure of health care service levels relates to the availability of primary care physicians. The Wyoming Department of Health recently evaluated the status of the primary care provider workforce (2009). Primary care providers are physicians in family practice, general practice, internal medicine, pediatrics, or OBGYN, as well as non-physician providers such as physician assistants, nurse practitioners, and nurse midwives. The Wyoming Department of Health estimated the number of primary care physicians needed using Rural Health Works formulas and compared the needs to the number of physicians in place. It found that Laramie County had a 16.74 percent surplus of primary care physicians in 2009 (WDH, 2009).



**FIGURE 5-21**  
**Location of Hospitals in the Study Area**



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Source: CH2M HILL, 2012.



The public health response coordinators (PHRC) program consists of a coordinator for each participating county's public health office. The primary goal of the PHRC is to achieve local preparedness for responding to public health incidents through education, planning, training, and surveillance. Laramie County is in Region 7 with Platte and Goshen counties. PHRCs develop and maintain county public health emergency response plans. They work with county health officers and local emergency planning committees to coordinate county health and medical plans with the Wyoming Department of Health and other agencies, including hospitals, EMS, and county emergency management agencies.

EMS in the study area is provided utilizing firefighters in the delivery of EMS and fire services. **Table 5-57** summarizes EMS, Basic EMT, and Advanced EMT staffing in Laramie County.

### **Health Needs of the Existing Population**

This section discusses a report prepared for the Wyoming Health Care Commission in 2007 entitled *Status and Future of Health Care Delivery in Rural Wyoming*. Wyoming is undergoing significant changes in population. According to the report, which was published prior to the recent economic downturn, some areas of the state were expected to continue experiencing extraordinary growth, while others were predicted to endure continued population declines. Like many predominantly rural states, Wyoming is seeing a dramatic increase in the number of persons aged 65 and older. However, Wyoming is also experiencing substantial growth in the working-age population that supports the growth in extraction of natural resources. The two population shifts will place different pressures on the health care system. The increase in persons aged 65 and over will create more demand for geriatric care and care management of patients with multiple chronic conditions associated with the elderly. The increase of working-age persons will increase demand for dental services, preventive services, and primary care services associated with young families.

Wyoming has an adequate array of facilities offering inpatient services, hospitals, and skilled nursing facilities (nursing homes). Despite the availability of these institutional services and the presence of qualified clinical personnel, many Wyoming residents who could be served in Wyoming are using health services in Colorado, Utah, and Nebraska.

The key findings of the analysis contained in the report are as follows:

- The demographic shift of the aging population will increase an already growing demand for health care professionals. Recruitment and retention should be priorities at all levels, from local to state, including public and private entities.
- To reduce the number of health care professionals who leave Wyoming, the state should support and encourage increased participation in programs with proven success.
- Stakeholders in Wyoming health care delivery recommended a step-wise strategy of integrating services in local communities and then building regional systems.
- Stakeholders believe there is no pattern of sustained leadership in health care in Wyoming, but there are potential sources of leadership that can be explored.
- Community members expressed concern about continuous population growth combined with the number of providers reaching retirement, and stressed the importance of recruitment and retention efforts.
- Respondents identified services for the elderly as a current or future need, particularly assisted living.

- Considering the combined effect of the direct and indirect impact on Wyoming's economy, health care accounts for 10.3 percent of the state's total employment, 10.5 percent of the state's total income, and 8.2 percent of the state's total output.
- The estimated total lost revenue for Wyoming hospitals due to inpatient out-migration to Colorado, Utah, and Nebraska was \$101.3 million in 2003. As a result, an estimated \$32.5 million less was spent in other economic sectors of Wyoming communities in the same year.
- Other states have formal or informal networks of providers to coordinate care. Examples of strong comprehensive networks across providers are the Alaska Federal Health Care Access Network and the Nebraska Rural Comprehensive Care Network.
- State health agencies use advisory groups to provide technical assistance and formulate recommendations. The Health Policy Commission in New Mexico, for example, is an independent commission monitoring the health status and health care services in the state.

### **Construction Impacts**

The estimated peak month non-local construction workforce of 260 persons could generate a demand for less than a single physician, or 1.8 percent of the current supply. At its peak, the construction workforce could generate an additional 103 emergency room visits, or less than a 1 percent increase annually. Due to the surplus (nearly 17 percent in 2009) of primary care physicians in Laramie County and an adequate array of facilities offering inpatient services, hospitals, and skilled nursing facilities (nursing homes), the impact from the temporary workforce would be negligible. Medical emergencies would be initiated through 911 calls alerting the EMS system. Calls to 911 from the Project area would be received by CFR or LCFD 1, and the appropriate fire/ambulance crews would be paged for dispatch.

The vast majority of non-local workers are not expected to be accompanied by family members, and it is assumed that all workers would secure temporary accommodations for the duration of their involvement in the Project. It is unlikely that the presence of the non-local workers in the area, for the relatively short period of construction, would adversely impact the demand for human services or over-extend existing facilities and personnel.

### **Operations Impacts**

The jobs created through the O&M of the proposed facility would be staffed by 12 workers. Based on current LOS statistics, these workers, and any associated family members and dependents, would not generate a noticeable increase in demand for health care personnel, services, or facilities and, thus, Project-related impacts would be negligible. The addition to the local economy of permanent direct and secondary jobs will add to the stability of the local workforce and communities, and is unlikely to increase the demand for human services. Increased long-term employment will benefit the social and economic condition of present and expected inhabitants in the area of site influence. No substantial impairments to the health, safety, and welfare of the present or expected inhabitants in the area of site influence are anticipated.

## **5.4.10 Municipal Services**

This section describes the location and characteristics of the following five primary municipal services provided to residents of the two-county study area:

- Wastewater treatment facilities
- Water distribution and treatment facilities

- Nonhazardous waste collection and disposal
- Electricity service
- Natural gas service

### Wastewater Treatment

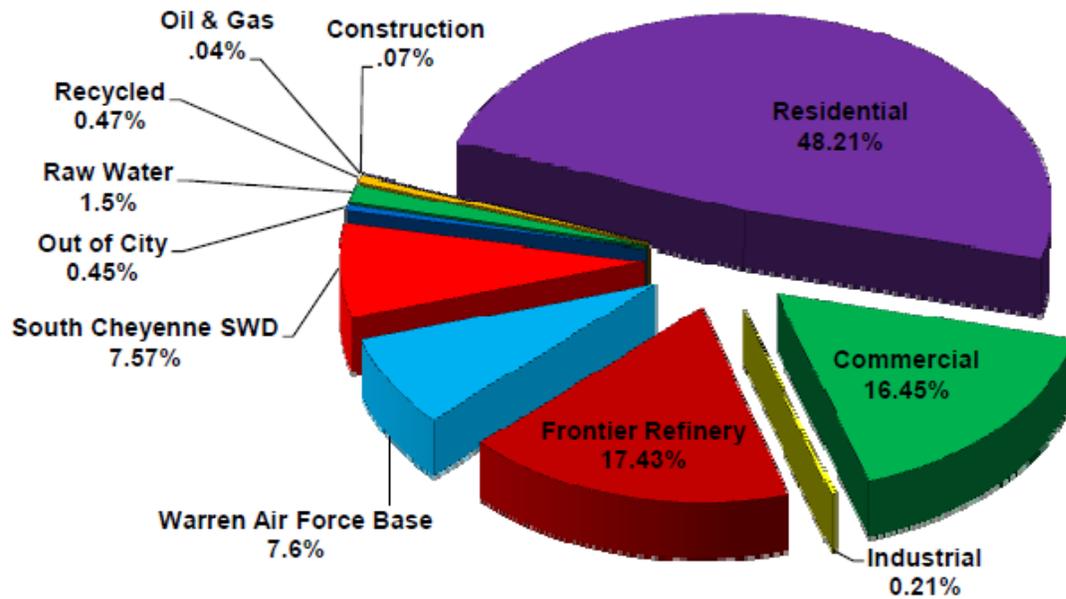
Sewer service in the study area is provided by the Cheyenne Board of Public Utilities (CBOPU), which currently serves a population of 55,314 with a customer base of 21,667. Sewers systems collect residential, commercial, and industrial sources of wastewater and convey them to one of CBOPU's two water reclamation plants (WRPs), Dry Creek or Crow Creek. The Dry Creek WRP is located immediately east of the Project site. With recent expansions to the Dry Creek facility (from 7 million gallons per day [mgd] to 10.5 mgd), the current combined capacity of both plants is 17 mgd (CBOPU, 2011). Additionally, the WRPs were upgraded to comply with the mandate to provide ammonia removal (called nitrification) and chlorine residual removal from the effluent before it is discharged to Crow Creek downstream of Avenue C. As part of the improvements to the plants, recycle water treatment facilities (chemical feed, filtration, pumping, supplemental disinfection, and storage) were constructed at the Crow Creek WRP. The recycle water meets the WDEQ Class "A" water reuse standards, the most stringent. Recycled water is delivered to cemeteries, parks, athletic fields, and green spaces for irrigation use. As constructed, the recycle water treatment facilities can treat about 4 mgd. In addition, about 12.2 miles of purple (reclaimed water) pipe were installed for the recycled water distribution system. The recycle water system went online in July 2007 at cost of about \$12.3 million for the treatment, pumping, and purple pipe.

### Potable Water Treatment and Distribution

Water in the study area is provided by CBOPU through a relatively complex system of both surface and groundwater supply sources. CBOPU's Little Snake River Water Project and its corresponding reservoirs and delivery pipelines provide an average annual water yield, after meeting required minimum stream flow releases, of 21,000 acre-feet based on average rainfall and snow pack conditions, which furnishes the City of Cheyenne with an adequate source of supply for the foreseeable future. In the fall of 2007, CBOPU completed construction of a second raw water delivery pipeline from Crystal Reservoir, part of the Little Snake River Water Project, to the new 32-mgd Sherard Water Treatment Plant (WTP). The combined capacity of this new pipeline and the existing 30-inch pipeline is about 56 mgd.

During FY 2011, BOPU sold 4.218 billion gallons of water, up 10 percent from 3.832 billion gallons in FY 2010. Total water supplied to the City of Cheyenne in FY 2011 was 4.828 billion gallons of water compared to 4.290 billion gallons in FY 2010. CBOPU attributes the increase in 2010 to a dry fall, resulting in increased outdoor irrigation. Billed water consumption has averaged 4.139 billion gallons over the past 10 years (CBOPU, 2011). **Figure 5-22** illustrates the diversity of CBOPU's customer base, with 44 percent of its water sales going to non-residential entities.

FIGURE 5-22  
Metered Water Sales by Customer Class (FY 2011)



Source: CBOPU, 2011.

**Table 5-65** summarizes Cheyenne BOPU's water use and per capita per day (PCPD) use over the past decade. Residential PCPD rates have averaged 97.68 gallons, ranging from a low of 85.77 gallons in 2007 and a high of 112.75 gallons in 2002.

TABLE 5-65  
Cheyenne BOPU Per Capita Water Consumption 2002-2011

Fiscal Year	Population	Residential Meter Water Use Only	Residential Gallons per Capita per Day	Total Metered Water Use (gallons)	Total Gallons per Capita per Day
2002	54,093	2,226,099,000	112.75	3,793,348,000	192.13
2003	54,716	2,174,054,000	108.86	3,797,967,000	190.17
2004	55,473	1,736,696,000	85.77	3,177,271,000	156.92
2005	56,036	1,784,824,000	87.27	3,089,056,000	151.03
2006	55,662	2,093,589,000	103.05	3,624,482,000	178.40
2007	55,641	2,081,685,000	102.50	3,564,189,000	175.50
2008	56,051	2,026,111,000	99.03	3,435,725,000	167.94
2009	56,296	1,962,219,000	95.49	3,482,228,000	169.47
2010	56,483	1,800,494,000	87.33	3,237,866,000	157.05
2011	59,466	2,057,439,000	94.79	3,512,364,000	161.82

CBOPU is currently working with the USACE to address legacy groundwater pollutant (trichloroethene [TCE]) issues associated with the former Atlas "D" Missile Site 4 (previously under the command of F.E. Warren AFB), located approximately 20 miles west of the Project site. TCE was

detected in some of CBOPU's water supply wells, prompting upgrades at the WTPs to remove all contaminants that may be present (including TCE) (USACE, 2012).

### Nonhazardous Waste Collection and Disposal

Waste disposal in the study area is provided by Sanitation Division of the City of Cheyenne Public Works Department. Services include solid waste pickup and disposal, e-waste (electronic waste) disposal, household hazardous waste (HHW) disposal, recycling, roll-off units, and a transfer station – drop-off facility for convenience. Cheyenne's solid waste management facilities include Happy Jack Landfill #1, the Felix Pino Transfer Station, and the Cheyenne Compost Facility. Other facilities in the county include the Eastern Laramie County Solid Waste Disposal District (SWDD) Landfill serving the Town of Burns as well as LCSD2, the F.E. Warren Air Force Base Recycling Facility and Compost Yard, Magic City/Enterprises/ECO Recycling Center, and Tatoonie, Incorporated.

The original permitted capacity of Happy Jack Landfill #1 was estimated to be approximately 8 million cubic yards (yd<sup>3</sup>) with 811,000 yd<sup>3</sup> remaining in 2009. Based on the current service area, construction demolition waste (CDW) disposal rates, and operating practices, the landfill will reach capacity by the year 2012. Due to landowner issues, there are currently no plans to expand the permit boundary for the facility. In July 2008, in an effort to extend the capacity of Happy Jack Landfill #1, Cheyenne began routing municipal solid waste (MSW) through the Felix Pino Transfer Station, from which it is transported to the North Weld County Landfill in Ault, Colorado. It is anticipated that only CDW will continue to be accepted at Happy Jack Landfill #1 and, to increase CDW diversion, the City of Cheyenne plans to upgrade the current landfill facilities to include a dedicated CDW recycling facility within the next 5 years. Funding for the expansion of Happy Jack via a sixth Penny Specific Purpose Tax Project will be presented to voters in August 2012. If approved, two new cells will be constructed along with an upgrade to the transfer station (TriHydro, 2009). Local waste haulers were contacted regarding the ability to dispose of CDW in light of the landfill situation (Kizlinski, 2012). One hauler expressed the ability to dispose of Project-related CWD regardless of the status of the Happy Jack Landfill. She noted they have access to other landfills (including in Colorado as noted previously), and that there would be no issues providing CWD removal services for the Project.

### Electricity Service

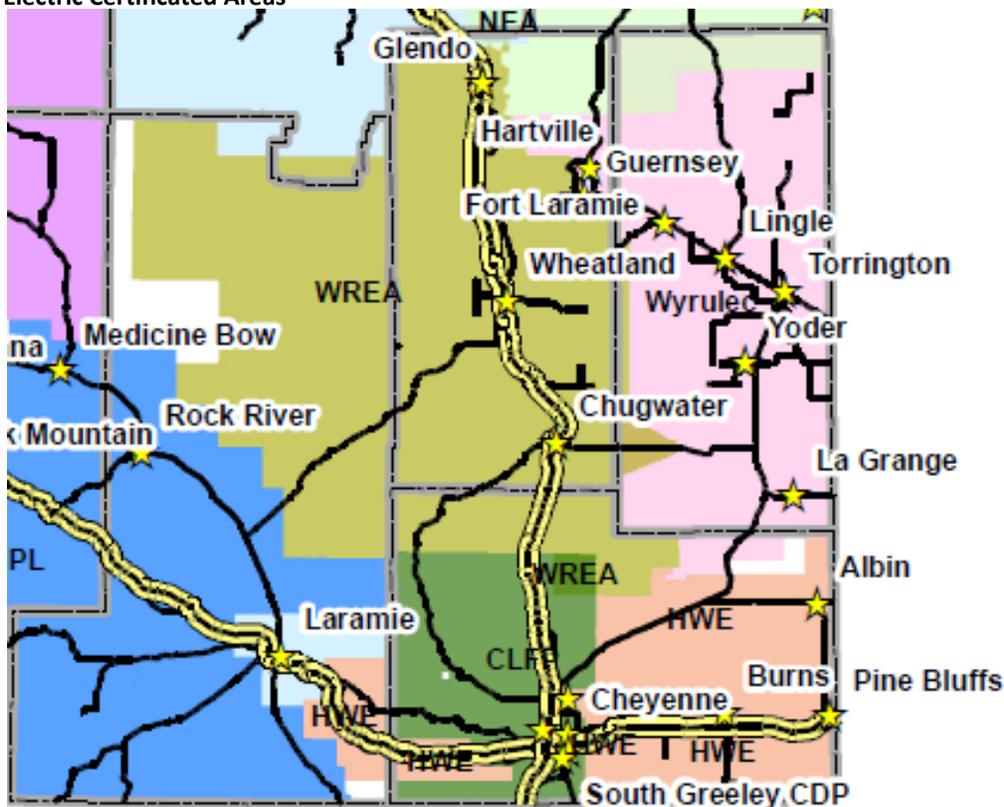
There are four suppliers of electricity in Laramie County, two of which, CLFP and High West Energy, serve the Cheyenne area, as shown in **Table 5-66**. The Project site is located near the boundary of these two service areas (**Figure 5-23**). CLFP is expected to provide electricity service to the Project site during both construction and operations.

TABLE 5-66  
Electric and Gas Utility Company Service Areas

Company	Areas Served
<b>Electricity</b>	
Cheyenne Light, Fuel & Power	Southwestern Laramie County
High West Energy	Southeastern Laramie County
Wheatland REA	Northwestern one-sixth of Laramie County
Wyrulec Company	Small area along Laramie County's border with Goshen County
<b>Gas</b>	
Cheyenne Light, Fuel & Power	Southern one-third of Laramie County

Sources: Wyoming Public Service Commission, 2011.

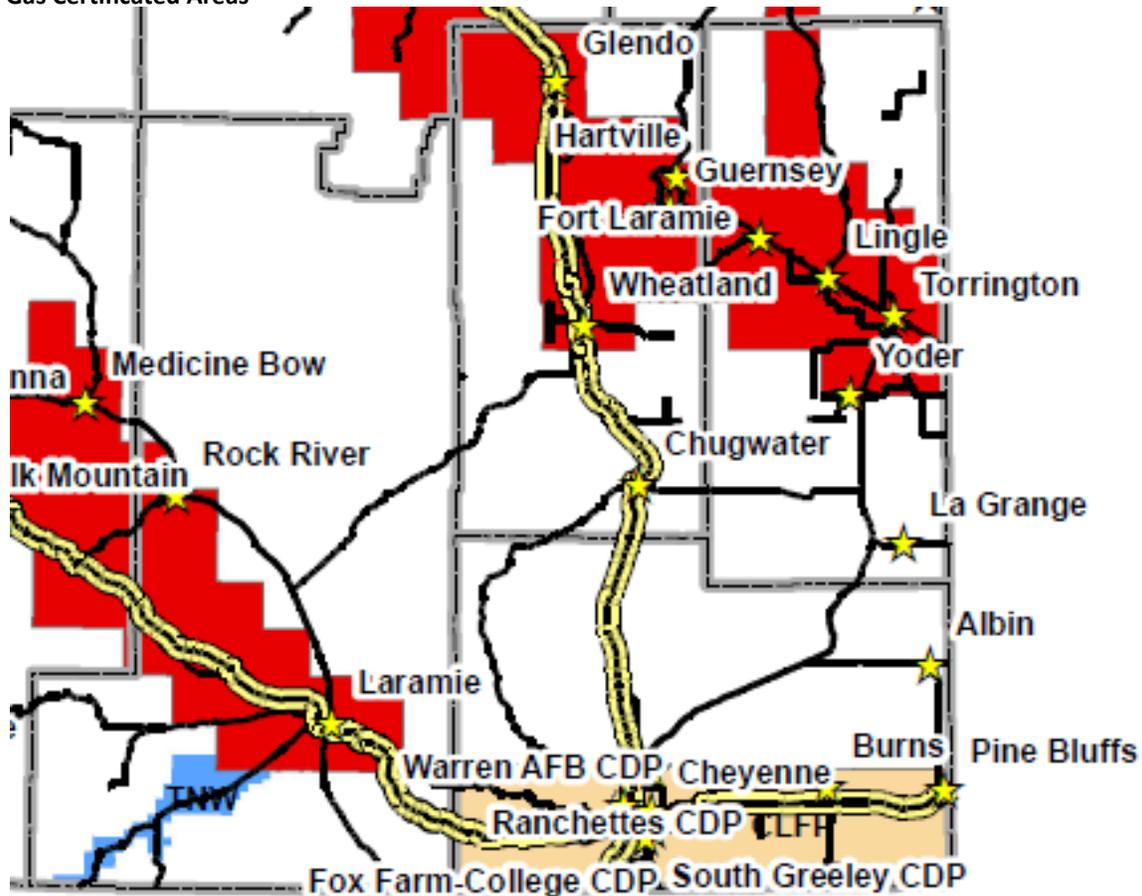
FIGURE 5-23  
Electric Certificated Areas



### Natural Gas Service

CLFP provides natural gas service to the southern third of Laramie County, including the Project site, as shown in **Table 5-66** and illustrated in **Figure 5-24**. The balance of the county does not have access to natural gas service.

FIGURE 5-24  
Gas Certificated Areas



### Construction Impacts

It is expected that non-local construction workers would reside primarily in hotel/motels and RVs located at established sites and facilities in the existing housing stock of the area of site influence. The addition of 260 peak-month non-local residents would not increase the number of accommodation units in the area of site influence. The additional temporary population could increase the demand for municipal services such as water, wastewater, and solid waste. However, such a modest increase for this short duration would have negligible effects on the provision of these services. CLFP will coordinate with the Sanitation Division of the City of Cheyenne Public Works Department to ensure that all solid waste materials generated by activities at the Project site will be disposed of in an appropriate manner at suitable disposal sites.

**Wastewater Treatment and Potable Water Treatment and Distribution.** The additional temporary population could increase the demand for municipal services such as potable water and generate additional quantities of wastewater. However, such a modest increase for this short duration would have negligible effects on the provision of these services. Portable toilets will be provided for onsite sewage handling during construction and will be pumped and cleaned regularly by the construction contractor. No other wastewater will be generated during construction.

**Nonhazardous Waste Collection and Disposal, including Construction Waste Materials.** CSW materials (e.g., excess construction materials) would be generated during the construction period. Other potential wastes may include erosion control materials, such as straw bales, silt fencing, and scrap steel. When feasible, these construction wastes will be recycled. Steel scrap will be separated and recycled to the extent feasible. Wood from concrete forms will be reused when possible and then recycled. A total of 11,520 yd<sup>3</sup> of construction waste is anticipated from the Project; estimates of the quantities of waste materials generated by month during the construction period are presented in **Table 5-67**. The amount construction debris is projected to peak at 1,440 yd<sup>3</sup> of debris per month between October 2013 and February 2014, requiring approximately 12 pickups of four 30-yard containers per month. CLFP will coordinate with the Sanitation Division of the City of Cheyenne Public Works Department to ensure that all solid waste materials generated by activities at the Project site will be disposed of in an appropriate manner at suitable disposal sites.

TABLE 5-67  
**Estimated Construction Waste Materials**

	30 Yard Containers	Total yd <sup>3</sup>	Pick-up (# per month)	Total yd <sup>3</sup> Debris
Apr 2013	2	60	4	240
May 2013	2	60	4	240
Jun 2013	2	60	4	240
Jul 2013	2	60	4	240
Aug 2013	3	90	8	720
Sep 2013	3	90	8	720
Oct 2013	4	120	12	1,440
Nov 2013	4	120	12	1,440
Dec 2013	4	120	12	1,440
Jan 2014	4	120	12	1,440
Feb 2014	4	120	12	1,440
Mar 2014	3	90	8	720
Apr 2014	3	90	8	720
May 2014	2	60	4	240
Jun 2014	2	60	4	240
Total Project (yd <sup>3</sup> )				11,520

Source: CH2M HILL, 2012.

**Hazardous Wastes.** Any hazardous materials will be used in a manner that is protective of human health and the environment, will comply with all applicable local, state, and federal laws and regulations, and will be disposed of in appropriate, licensed facilities. Accidental releases of hazardous materials (e.g., vehicle fuel during construction) will be prevented or minimized through proper containment of these substances during use and transportation to the site. Any oily waste, rags, or dirty or hazardous solid waste will be collected in sealable drums and removed for recycling or disposal by a licensed contractor.

In the unlikely event of an accidental hazardous materials release, any spill or release will be cleaned up and the contaminated soil or other materials disposed of and treated according to applicable regulations. Spill kits, containing items such as absorbent pads, will be located on equipment and in temporary storage facilities onsite to respond to accidental spills, if any were to occur. Employees handling hazardous materials will be instructed in the proper handling and storage of these materials, as well as where spill kits are located. The balance of plant general contractor will be responsible for obtaining approval of a spill prevention and countermeasures control plan.

**Electricity and Natural Gas Service.** The temporary addition of about 260 non-local workers during the peak month of construction would not noticeably increase the demand for electricity and natural gas in the region, and impacts would be negligible.

### Operations Impacts

The jobs created through the O&M of the proposed facility would be staffed by workers originating as non-local, but who would take up residence in the area primarily affected. Negligible quantities of wastewater, potable water, MSW, hazardous waste materials, electricity, and natural gas would be associated with this minor population influx. The O&M building will use a new groundwater well to supply water for domestic use and discharge to an onsite septic system. Power for the O&M building is expected to be provided by CLFP, which will be responsible for securing the corresponding permits required to provide utility service to the O&M building prior to construction of associated infrastructure. Thus, Project-related impacts would be negligible.

## 5.5 Summary of Impacts

**Tables 5-68 and 5-69** present a summary of impacts for the major resources addressed earlier. The Project will have a positive short-term impact on construction jobs, contributing nearly 5 percent to employment in that sector during the construction phase. Compared to overall employment in the region, the impact is much smaller, comprising less than 1 percent. Similarly, the operations phase will have a modest positive effect, contributing less than 1 percent to total employment in the region. As can be seen, most service impact levels are low (less than 1 percent of baseline conditions). One exception is vacant housing. However, the peak demand for temporary housing can be accommodated by the supply, and the higher occupancy rates will be a positive benefit for the local economy. It should be emphasized that this peak demand condition would persist only for a short period. Local demand for primary care physicians increases by 1.8 percent, but this represents only one primary care provider. Construction debris from the Project will contribute 1 percent to solid waste disposal in the area. However, local authorities have plans to expand capacity in the near term. Finally, the Project will contribute more than .2 percent to the annual *ad valorem* tax base with the completion of construction and will have paid nearly \$8 million in sales and use taxes to construct the Project.

TABLE 5-68  
**Summary of Direct Project Effects and Project-Induced Impacts**

Direct Project Effects		
	Peak Month	Construction Period Average
<b>Construction Phase</b>		
Total Onsite Workers	400	194
Non-Local Workers	260	126
Local Workers	140	68
<b>Operations Phase</b>		
	Average Annual	
Local Workers	12	

TABLE 5-69  
**Summary of Direct Project Effects and Project-Induced Impacts**

Project-Induced Impacts			
Employment (FTEs in 2010)	Study Area Baseline Condition	Project Effect	Project Impact
<b>Construction Phase (2013)</b>			
Direct	2,764	127	4.6%
Total	97,356	180	0.2%
<b>Operations Phase</b>			
Direct	2,566	12	0.47%
Total	97,356	19	0.02%
<b>Housing Supply</b>			
Recreational Vehicle Spaces	521	0	0.00%
Houses, Apartments and Mobile Homes	116	5	4.30%
Motel and Hotel Rooms	536	255	47.60%
<b>Public School</b>			
Students	14,286	0	0.00%
Teachers and Staff	2,366	0	0.00%
<b>Fire Protection</b>			
Full-Time Paid Personnel	224	0	0.00%
Emergency Medical Technicians	154	0	0.00%
<b>Law Enforcement</b>			
Officers	148	0.5	0.30%
Index Crimes (crimes per 10,000)	325	8.5	0.30%
<b>Healthcare</b>			
Physicians (primary care)	56	1	1.80%
Emergency Room Visits	36,389	103	0.3%
<b>Solid Waste Generation (Cubic Yards)</b>			
Construction Debris	811,000	11,520	1.40%
<b>Taxes</b>			

TABLE 5-69  
**Summary of Direct Project Effects and Project-Induced Impacts**

Employment (FTEs in 2010)	Project-Induced Impacts		
	Study Area Baseline Condition	Project Effect	Project Impact
<i>Ad Valorem</i> Laramie County (2015)	\$37,098,000	\$619,000	.2%
Cumulative <i>Ad Valorem</i> NPV (2016 – 2040)		\$15,500,000,00 0	
Sales and Use Taxes (2013-2014)		\$7,870,000	

Source: CH2M HILL, 2012.

## 5.6 Cumulative Impacts

Cumulative environmental impacts, as defined in the ISA rules and regulations, are the combined impacts upon the environment to the social or economic conditions resulting from construction and operation of the proposed industrial facility and from construction and operation of other ongoing or proposed developments in the area of site influence. Proposed developments to be included in cumulative impacts include those developments that are actively planning and have public information available, or may be actively permitting. Currently, there are no ongoing or proposed developments in the area of site influence that would compete with the CPGS for resources, temporary housing, or other services. The region does experience steady activity from a number of smaller commercial construction projects as well as residential construction. The data describing existing conditions reflect this activity while showing ample capacity for supporting the Project.

### 5.6.1 Trade-Off Analysis

The proposed Project is expected to create significant and ongoing tax benefits and a modest temporary increase in employment throughout the study area and area of site influence. It is anticipated that Project-related impacts, especially on community services, would be minor with the potential exception of CDW landfill capacity, and distributed throughout the area of site influence, with the majority occurring in the Cheyenne area.

Implementation of the Project would create both primary and secondary employment opportunities, contribute modest growth to the local economy, including the service sectors, and provide a substantial source of revenues for local governments through the collection of significant *ad valorem* taxes and sales and use taxes. The potential for short-term impacts associated with implementation of the Project on socioeconomic resources is minimal.

The major long-term impact of the Project would be the additional revenue collected by the state and distributed to Laramie County through increased *ad valorem* taxes. The increased *ad valorem* tax revenues would be distributed by the state and counties for schools, roads, and other community infrastructure. Further expansion of energy-related resources in the region will continue to add jobs to the growing economies and generate additional tax revenues.

### 5.6.2 Beneficial and Adverse Impacts

The proposed Project is expected to create long-term tax benefits to Laramie County and a modest increase in employment. Project-related impacts, especially on community services, would be small and would be concentrated in the Cheyenne area in Laramie County, the primary area of site

influence. Adverse impacts are possible due to the limited CDW capacity remaining at Cheyenne's Happy Jack Landfill #1 and the current uncertainty regarding funding for its expansion via the sixth Penny Specific Purpose Tax Project. However, on a relative scale, the total amount of construction debris generated by the Project represents less than 1.5 percent of the total capacity remaining at Happy Jack in 2009. The Project would have the following benefits to the local communities and counties comprising the study area and area of site influence:

- The creation of 286 direct FTE jobs over the construction period—about 35 percent of these jobs would be filled by local workers, on average, over the construction period.
- The creation of a total of 21 jobs annually would be attributable to O&M.
- *Ad valorem* (property) taxes accruing to Laramie County would increase as a result of an increase in the fair market value (and assessed value) of the real property comprising the Project site. *Ad valorem* taxes would be approximately \$748,000 annually commencing in 2015 and will continue to be paid for the next 25 years, albeit at lower rates due to depreciation of the assets.
- Sales and use tax revenues attributable to the Project could total more than \$8 million over the construction period.
- Temporary construction workers are expected to reside mostly in local hotels and motels. Depending on their length of stay, Laramie and Albany counties could gain revenues from the lodging tax levied on room expenditures.

### 5.6.3 Impacts to Community Services

During the construction phase of the Project, the number of non-local workers (and any accompanying family members) entering the area temporarily would peak at 260. Only a small proportion of these workers would be accompanied by family members or occupy permanent housing. The potential impacts this inflow of persons would have on community services in the area of site influence would be negligible. Their short-term presence would have negligible impacts on law enforcement, fire protection, health care, or municipal services. As noted previously, CLFP will coordinate with the Sanitation Division of the City of Cheyenne Public Works Department to ensure that all solid waste materials generated by activities at the Project site will be disposed of in an appropriate manner at suitable disposal sites.

Hotel/motels are the expected primary temporary lodging choices. Thus, the most noticeable impact would be on the availability of hotel and motel rooms for other visitors, especially tourists during the annual Cheyenne Frontier Days held in mid-July. However, the demand exerted by the temporary workers would not exhaust the likely available supply of vacant units, especially given that CPGS's expected workforce construction peak would primarily occur outside of peak tourism weeks.

## 5.7 Mitigation Measures to Offset Adverse Cumulative Impacts to Housing

Housing for a temporary construction workforce can be a concern of communities in Wyoming. Cheyenne's relative abundance of temporary housing makes this much less of a potential issue than other locations in the state. Nonetheless, the Project proponent has acquired letters of interest from hotels and motels and will make hard housing commitments during Cheyenne Frontier Days to ensure that the temporary workforce is adequately housed. Letters of interest from local hotels are shown in **Appendix E**.

## 6.0 Evaluation of Environmental Impacts

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Potential environmental impacts associated with the construction, operation, and maintenance of the Project are presented in this section. Resource data were collected from existing sources and field studies performed for the Project. Impact analyses were conducted to evaluate the effects of the Project on the natural environment. Methods of mitigating and avoiding impacts will be implemented as part of the Project and are incorporated into the impact analyses and site-specific monitoring plans. Unless otherwise stated, the area of analysis for the evaluated environmental resources consists of the area within the Project boundary as detailed in **Appendix A**.

### 6.1 Physical, Chemical, Biological, and Radiological Discharges

There are no anticipated chemical, physical, biological, or radiological discharges associated with construction or operation of the Project that would substantially impair the health, safety, or welfare of the present or expected inhabitants in the area of site influence or the Project area.

### 6.2 Air Quality

#### 6.2.1 Regulatory Jurisdiction

The WDEQ, Air Quality Division implements adopted air quality standards and regulations. Air emissions associated with construction and operation of the Project will be subject to the WDEQ-AQD Standards and Regulations. Specifically, Chapter 6 of the Standards and Regulations establishes permitting requirements for all sources being constructed and/or operating in the State of Wyoming. A Prevention of Significant Deterioration (PSD) air construction permit application was submitted to WDEQ on October 19, 2011, for the proposed gas turbine electric generating facility.

The facility is also subject to federal PSD for greenhouse gases (GHG). A PSD GHG permit application was submitted to EPA Region 8 on August 5, 2011, and an amended application was filed on September 23, 2011.

#### 6.2.2 Emission Sources

##### Construction Emissions

Particulate matter, consisting primarily of dust and some aggregate and sand dust emissions, is the primary pollutant of concern. Most emission points are fugitive in nature. The main source of fugitive dust is the disturbed soil; however, this will be a temporary and limited impact. Approximately 30 acres will be cleared and graded with the intention of resurfacing; therefore, the time soil will be exposed to wind will be short. Asphalt, gravel, or concrete will be used as surface coverage beneath and around the various facilities' components. Within the property fence line, approximately 220 acres (88 percent) will remain in its current grassland condition.

##### Operation Emissions

The CPGS will emit 96 tons per year (tpy) of oxides of nitrogen (NO<sub>x</sub>), 111 tpy of carbon monoxide (CO), 6 tpy of sulfur dioxide (SO<sub>2</sub>), 61 tpy of total particulate matter, 59 tpy of particulate matter less than 10 microns in aerodynamic diameter (PM<sub>10</sub>), 59 tpy of particulate matter less than 2.5 microns in aerodynamic diameter (PM<sub>2.5</sub>), 44 tpy of volatile organic compounds (VOCs), and 1.1 tpy of total hazardous air pollutants (HAPs). The estimated hourly and annual controlled emission rates of criteria and HAP pollutants from all CPGS emission sources are summarized in Table 6-1.

TABLE 6-1  
CGS Potential to Emit Facility-Wide Summary

Emission Point	Description	Units	NO <sub>x</sub>	CO	SO <sub>2</sub>	PM	PM <sub>10</sub>	PM <sub>2.5</sub>	VOC	Total HAPs
EP01	CT01A CCCT Normal Operation	lb/hr	4.6	3.7	0.5	4.0	4.0	4.0	3.0	0.1
		tpy	18.8	15.2	2.1	17.5	17.5	17.5	12.3	0.3
EP02	CT01B CCCT Normal Operation	lb/hr	4.6	3.7	0.5	4.0	4.0	4.0	3.0	0.1
		tpy	18.8	15.2	2.1	17.5	17.5	17.5	12.3	0.3
EP03	CT02A SCCT Normal Operation	lb/hr	7.7	5.6	0.5	4.0	4.0	4.0	3.0	0.1
		tpy	32.4	23.7	2.1	17.5	17.5	17.5	12.7	0.3
EP01	CT01A CCCT startup/shutdown	lb/hr	22.5	56.5	---	---	---	---	8.2	---
		tpy	6.7	17.0	---	---	---	---	2.5	---
EP02	CT01B CCCT startup/shutdown	lb/hr	22.5	56.5	---	---	---	---	8.2	---
		tpy	6.7	17.0	---	---	---	---	2.5	---
EP03	CT02A SCCT startup/shutdown	lb/hr	22.9	61.6	---	---	---	---	8.7	---
		tpy	3.4	9.2	---	---	---	---	1.3	---
EP06	Inlet Air Heater 01	lb/hr	0.2	1.3	0.01	0.1	0.1	0.1	0.1	0.03
		tpy	0.4	2.7	0.02	0.3	0.3	0.3	0.2	0.1
EP07	Inlet Air Heater 02	lb/hr	0.2	1.3	0.01	0.1	0.1	0.1	0.1	0.03
		tpy	0.4	2.7	0.02	0.3	0.3	0.3	0.2	0.1
EP09	Inlet Air Heater 04	lb/hr	0.2	1.3	0.01	0.1	0.1	0.1	0.1	0.03
		tpy	0.4	2.7	0.02	0.3	0.3	0.3	0.2	0.1
EP10	Inlet Air Heater 05	lb/hr	0.2	1.3	0.01	0.1	0.1	0.1	0.1	0.03
		tpy	0.4	2.7	0.02	0.3	0.3	0.3	0.2	0.1
EP12	Inlet Air Chiller 01	lb/hr	---	---	---	0.0	0.0	0.0	---	---
		tpy	---	---	---	0.0	0.0	0.0	---	---
EP13	Inlet Air Chiller 02	lb/hr	---	---	---	0.0	0.0	0.0	---	---
		tpy	---	---	---	0.0	0.0	0.0	---	---
EP14	Inlet Air Chiller 03	lb/hr	---	---	---	0.0	0.0	0.0	---	---
		tpy	---	---	---	0.0	0.0	0.0	---	---
EP15	Diesel Generator	lb/hr	10.8	0.9	0.01	0.1	0.1	0.1	0.02	0.01
		tpy	2.7	0.2	0.003	0.02	0.02	0.0	0.005	0.01
EP16	Diesel Fire Pump	lb/hr	1.9	0.5	0.004	0.1	0.1	0.1	0.1	0.01
		tpy	0.2	0.1	0.0005	0.01	0.01	0.0	0.01	0.001
EP17	Cooling Tower	lb/hr	---	---	---	1.7	1.3	1.3	---	---
		tpy	---	---	---	7.3	5.5	5.5	---	---
EP18	Fuel Gas Heater 01	lb/hr	1.1	0.6	0.003	0.03	0.03	0.0	0.02	0.01
		tpy	2.3	1.4	0.01	0.1	0.1	0.1	0.1	0.02
EP19	Fuel Gas Heater 02	lb/hr	1.1	0.6	0.003	0.03	0.03	0.0	0.02	0.01
		tpy	2.3	1.4	0.01	0.1	0.1	0.1	0.1	0.02
<b>Total PTE for Facility</b>		<b>lb/hr</b>	<b>100.4</b>	<b>195.4</b>	<b>1.5</b>	<b>14.4</b>	<b>14.0</b>	<b>14.0</b>	<b>34.7</b>	<b>0.3</b>
		<b>tpy</b>	<b>96.2</b>	<b>111.4</b>	<b>6.4</b>	<b>61.1</b>	<b>59.3</b>	<b>59.3</b>	<b>44.3</b>	<b>1.1</b>

TABLE 6-1  
CGS Potential to Emit Facility-Wide Summary

Emission Point	Description	Units	NO <sub>x</sub>	CO	SO <sub>2</sub>	PM	PM <sub>10</sub>	PM <sub>2.5</sub>	VOC	Total HAPs
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Notes:

1. Combustion Turbines:

Tons per year for combined cycle combustion turbines based on normal operation which is 8760-600 = 8160 hours.

Normal operation does not include startup or shutdown hours.

Tons per year for simple cycle combustion turbines based on normal operation which is 8760-300 = 8460 hours.

Normal operation does not include startup or shutdown hours.

Tons per year for startup and shutdown of combined cycle combustion turbines based on 600 hours.

Tons per year for startup and shutdown of simple cycle combustion turbines based on 300 hours.

2. Inlet Air Heaters: 4,380 hr/yr operation per heater

3. Inlet Air Chillers: 5,330 hr/yr per chiller

4. Diesel Emergency Generator: 500 hr/yr operation

5. Diesel Fire Pump: 250 hr/yr operation

6. Wet Cooling Tower: 8,760 hr/yr operation

7. Fuel Gas Heaters: 4,380 hr/yr operation per heater

A Best Available Control Technology (BACT) analysis has been performed for all criteria pollutants that exceed their PSD significant emission rates. The emissions for NO<sub>x</sub>, CO, VOC, PM<sub>10</sub>, and PM<sub>2.5</sub> exceed their respective PSD significant emissions rates and, therefore, BACT analyses were conducted for all of these pollutants. The combustion turbines will use low-NO<sub>x</sub> burners, selective catalytic reduction for further NO<sub>x</sub> removal, and an oxidation catalyst for removal of CO and volatile organic compounds (VOCs). The BACT analysis is concluding that for CT01A and CT01B, the combined-cycle LM 6000 turbines, 3 parts per million by volume, dry (ppmvd) NO<sub>x</sub> at 15 percent O<sub>2</sub> (1-hour average) and 4 ppmvd CO at 15 percent O<sub>2</sub> (1-hour average) be set as the combustion turbine BACT levels. For CT02A, the LM 6000 simple-cycle turbine, the BACT analysis is concluding that 5 ppmvd NO<sub>x</sub> at 15 percent O<sub>2</sub> (1-hour average) and 6 ppmvd CO at 15 percent O<sub>2</sub> (1-hour average) be set as the combustion turbine BACT levels. Table 6-2 below summarizes the control technologies chosen as a result of the CPGS BACT Analysis.

TABLE 6-2  
BACT Summary

Equipment	NO <sub>x</sub>	CO	VOC	SO <sub>2</sub>	PM10/PM2.5
CPGS Gas Turbines Combined Cycle	Dry Low NO <sub>x</sub> Burners w/SCR (3.0 ppmvd @ 15% O <sub>2</sub> )	Good Combustor Design w/CatOx (4.0 ppmvd @ 15% O <sub>2</sub> )	Good Combustor Design w/CatOx (3.0 ppmvd @ 15% O <sub>2</sub> )	Pipeline Quality Natural Gas (0.5 grains of sulfur/100 scf)	Pipeline Quality Natural Gas & Good Combustor Design (4.0 lb/hr total particulate with 3-hour averaging time)
CPGS Gas Turbine Simple Cycle	Dry Low NO <sub>x</sub> Burners w/SCR (5.0 ppmvd @ 15% O <sub>2</sub> )	Good Combustor Design w/CatOx (6.0 ppmvd @ 15% O <sub>2</sub> )	Good Combustor Design w/CatOx (3.0 ppmvd @ 15% O <sub>2</sub> )	Pipeline Quality Natural Gas (0.5 grains of sulfur/100 scf)	Pipeline Quality Natural Gas & Good Combustor Design (4.0 lb/hr total particulate with 3-hour averaging time)

TABLE 6-2  
BACT Summary

Equipment	NOx	CO	VOC	SO2	PM10/PM2.5
Emergency Generator	Engine Design, Good Combustion Practices, Turbocharging, and Aftercooling	Good Combustion Practices	Good Combustion Practices	Low-Sulfur Diesel Fuel (15 ppm sulfur)	Combustion Practices, Limitation of Operating Hours, and Low-Sulfur Diesel Fuel
Fire Pumps	Engine Design, Good Combustion Practices, Turbocharging, and Aftercooling	Good Combustion Practices	Good Combustion Practices	Low-Sulfur Diesel Fuel (15 ppm sulfur)	Combustion Practices, Limitation of Operating Hours, and Low-Sulfur Diesel Fuel
Fuel Gas Heater	Pipeline Quality Gas and Low-NOx burners	Pipeline Quality Gas and Good Combustion Practices			
Inlet Air Heater	Pipeline Quality Gas and Low-NOx burners	Pipeline Quality Gas and Good Combustion Practices			
Wet Cooling Towers	N/A	N/A	N/A	N/A	High efficiency drift eliminator (Total of 5.5 tons/year for all cooling towers)

Dispersion modeling was performed for CPGS air pollutant sources using the AERMOD air pollutant dispersion model. Pollutants included in this analysis included NO<sub>x</sub>, CO, PM<sub>10</sub>, PM<sub>2.5</sub>, and SO<sub>2</sub>. In addition, other near-field impacts, such as those related to ambient ozone, population growth, and local soils and vegetation, were also performed. Cumulative modeling analysis was also conducted for 1-hour and annual NO<sub>2</sub>, 24-hour PM<sub>10</sub>, and 24-hour and annual PM<sub>2.5</sub>. The modeling demonstrated no violations of any National Ambient Air Quality Standard.

In consultation with WDEQ and the Federal Land Manager (FLM), far-field atmospheric dispersion modeling using the CALPUFF air pollutant dispersion model was conducted for PSD increment analysis for selected Class I and Class II protected areas. Modeled impacts were well below all Class I modeling significance levels for all pollutants.

### 6.2.3 Construction Impacts

Water trucks will be used as appropriate during construction activities to wet the surface of access roads and other work area sources of fugitive particulate matter. The selected EPC contractor or subcontractor and holder of the issued air quality permit will be responsible for ensuring that the plant is constructed in accordance with the issued permit conditions. The resulting construction emissions will not significantly impair the environment or the social and economic condition of present or expected inhabitants in the area of site influence.

## 6.2.4 Operation Impacts

The facility will comply with all permit conditions stipulated in the PSD construction permits to be issued by WDEQ and EPA. The facility will also prepare a Title V operating permit application and submit to WDEQ within 12 months after initial operation. Dispersion modeling conducted for the facility demonstrated compliance with all National Ambient Air Quality Standards (NAAQS).

## 6.3 Noise

### 6.3.1 Regulatory Jurisdiction

The Project is located within the city limits of Cheyenne in Laramie County, Wyoming. Noise regulations and standards specified by these jurisdictions have been reviewed to determine applicability to the Project.

The State of Wyoming Annotated Statutes adopted December 1, 2011 contain no identified regulations or standards that would regulate the environmental noise levels within the state. Likewise, the Laramie County Land Use Regulations adopted February 15, 2011, and the Laramie County Comprehensive Plan drafted in 2001 contain no identified regulations or standards that would regulate the environmental noise levels within the county.

Based on the available information, Chapter 8.56, *Noise Control*, of the City of Cheyenne Code of Ordinances has deemed it unlawful to create any excessive or unusually loud noise within the city limits. Furthermore, a noise source is classified as excessive or unusually loud if measurements conducted 25 feet from the property line of the property on which the noise source is located exceeds 80 A-weighted decibels (dBA).

EPA has identified yearly day-night average sound levels ( $L_{dn}$ ) sufficient to protect public health and welfare from the effects of environmental noise (EPA, 1977). According to the EPA, outdoor yearly levels are sufficient to protect public health and welfare if they do not exceed an  $L_{dn}$  of 55 dBA in sensitive areas such as residences, schools, and hospitals. The  $L_{dn}$  is the 24-hour average sound level ( $L_{eq}[24h]$ ), with a 10-decibel (dB) penalty applied to nighttime sound levels (10:00 p.m. to 7:00 a.m.) to account for increased sensitivity to noise during nighttime hours. A constant  $L_{eq}(24h)$  of 48 dBA would be equivalent to an  $L_{dn}$  of 55 dBA. If the facility were designed to not exceed an A-weighted sound pressure level of 48 dBA at the nearest sensitive areas (residences, schools, hospitals, churches, etc.), the facility would meet the EPA guidelines.

### 6.3.2 Acoustical Terminology

#### Sound Energy

Sound is generated by the propagation of energy in the form of pressure waves. Being a wave phenomenon, sound is characterized by amplitude (sound level) and frequency (pitch). Sound amplitude is measured in dB. A dB is the logarithmic ratio of a sound pressure to a reference sound pressure. Typically, 0 dB corresponds to the threshold of human hearing. A 3-dB change in a continuous broadband noise is generally considered “just barely perceptible” to the average listener. A 5-dB change is generally considered “clearly noticeable” and a 10-dB change is generally considered a doubling (or halving) of the apparent loudness (Bies and C.H. Hansen, 2009). For reference, the sound pressure levels and subjective loudness associated with common noise sources are shown in Table 6-3.

Frequency is measured in hertz (Hz) (cycles per second). Most sound sources (except those with pure tones) contain sound energy over a wide range of frequencies. In order to analyze sound energy over the range of frequencies, the sound energy is typically divided into sections called

octave bands. Octave bands are identified by their center frequencies including 31.5, 63, 125, 250, 500, 1,000, 2,000, 4,000, and 8,000 Hz. For more detailed analyses, narrow bands such as  $\frac{1}{3}$ -octave bands or  $\frac{1}{12}$ -octave bands are employed. The sum of the sound energy in all of the octave bands for a source represents the overall sound level of the source.

The normal human ear can hear frequencies ranging from 20 Hz to 20,000 Hz. At typical sound pressure levels, the human ear is more sensitive to sounds in the middle and high frequencies (1,000 to 8,000 Hz) than sounds in the low frequencies. Various weighting networks have been developed to simulate the frequency response of the human ear. The A-weighting network was developed to simulate the frequency response of the human ear to sounds at typical environmental levels. The A-weighting network emphasizes sounds in the middle to high frequencies and de-emphasizes sounds in the low frequencies. Most sound level instruments can apply these weighting networks automatically. Any sound level to which the A-weighting network has been applied is expressed in dBA. To characterize sound that contains relatively more low frequency energy—and to approximate the ear's response to relatively high sound levels—the C-weighting network was developed. C-weighting places more equal emphasis on low and high frequencies relative to A-weighting. Any sound level to which the C-weighting network has been applied is expressed in C-weighted decibels (dBC).

### **Sound Level Metrics**

Noise in the environment is constantly fluctuating, such as when a car drives by, a dog barks, or a plane passes overhead. Therefore, noise metrics have been developed to quantify fluctuating environmental noise levels. These metrics include the equivalent-continuous sound level and the exceedance sound levels.

The equivalent-continuous sound level ( $L_{eq}$ ) is used to represent the equivalent sound pressure level over a specified period. The  $L_{eq}$  metric is the sound level of a steady-state sound that has the same (equivalent) total energy as the time-varying sound of interest, taken over a specified time period and covering a specified set of conditions. Thus,  $L_{eq}$  is a single-value level that expresses the time-averaged total energy of a widely varying or fluctuating sound level.

The exceedance sound level ( $L_x$ ) is the sound level exceeded “x” percent of the sampling period and is referred to as a statistical sound level. The most common  $L_x$  values are  $L_{90}$ ,  $L_{50}$ , and  $L_{10}$ .  $L_{90}$  is the sound level exceeded 90 percent of the sampling period. The  $L_{90}$  sound level represents the sound level without the influence of loud, transient noise sources and is therefore often referred to as the residual or background sound level (ANSI, 2003). The  $L_{50}$  sound level is the sound level exceeded 50 percent of the sampling period or the median sound level. The  $L_{10}$  sound level is the sound level exceeded 10 percent of the sampling period. The  $L_{10}$  sound level represents the occasional louder noises and is often referred to as the intrusive sound level. As previously discussed, the  $L_{90}$  environmental sound level typically represents the background (residual) sound level.

The variation between the  $L_{90}$ ,  $L_{50}$ , and  $L_{10}$  sound levels can provide an indication of the variability of the acoustical environment. If the acoustical environment is perfectly steady, all values are identical. A large variation between the values indicates the environment experiences highly fluctuating sound levels. For instance, measurements near a roadway with frequent passing vehicles may cause a large variation in the statistical sound levels.

### **Human Response to Sound**

Human response to sound is highly individualized. Annoyance is the most common issue regarding community noise. The percentage of people claiming to be annoyed by noise will generally increase

as environmental sound levels increase. However, many other factors will also influence people's response to noise. These factors can include the character of the noise, the variability of the sound level, the presence of tones or impulses, and the time of day of the occurrence. Additionally, non-acoustical factors, such as the person's opinion of the noise source, the ability to adapt to the noise, the attitude towards the noise and those associated with it, and the predictability of the noise can also influence people's response. Response to noise varies widely from one person to another and with any particular noise, individual responses will range from "highly annoyed" to "not annoyed."

TABLE 6-3  
**Typical Sound Pressure Levels Associated with Common Noise Sources**

Sound Pressure Level, dBA	Subjective Evaluation	Common Outdoor Environment or Source	Common Indoor Environment or Source
140	Deafening	Jet aircraft at 75 ft	
130	Threshold of pain	Jet aircraft during takeoff at a distance of 300 ft	
120	Threshold of feeling	Elevated Train	Hard rock band
110	Extremely loud	Jet flyover at 1000 ft	Inside propeller plane
100	Very loud	Power mower, motorcycle at 25 ft, auto horn at 10 ft	
90	Very loud	Propeller plane flyover at 1000 ft, noisy urban street	Full symphony or band, food blender, noisy factory
80	Moderately loud	Diesel truck (40 mph) at 50 ft	Inside auto at high speed, garbage disposal, dishwasher
70	Loud	B-757 cabin during flight	Close conversation, vacuum cleaner, electric typewriter
60	Moderate	Air-conditioner condenser at 15 ft, near highway traffic	General office
50	Quiet		Private office
40	Quiet	Farm field with light breeze, birdcalls	Soft stereo music in residence
30	Very quiet	Quiet residential neighborhood	Bedroom, average residence (without TV and stereo)
20	Just audible		Human breathing
10	Threshold of hearing		
0			

Source: Adapted by Black & Veatch from *Architectural Acoustics*, by David M. Egan (1988) and *Architectural Graphic Standards*, by Ramsey and Sleeper (1994).

### 6.3.3 Existing Acoustical Environment

A noise study was completed to understand the baseline acoustical environment and how that may change with construction and operation of the Project (Black and Veatch, 2012). The findings of that study are summarized here.

In order to characterize the existing (pre-construction) acoustical environment in the area surrounding the Project, an ambient sound level survey was conducted. This section describes the results of the survey and the nature of the existing acoustical environment surrounding the Project site.

### 6.3.4 Survey Procedure and Conditions

The ambient sound level survey was conducted March 5 through 6, 2012. The survey procedure was based on relevant portions of general industry standards including, but not limited to, ANSI S1.13, ANSI S12.9, ANSI S12.18, ASTM E1014, and ISO 1996. Sound level measurements were conducted using Type 1 and Type 2 sound level meters that meet the requirements of ANSI S1.4. The sound level meters were field calibrated immediately before and after each measurement period. All equipment had been laboratory calibrated within the last 12 months.

The meteorological conditions during the ambient sound level survey were reasonable for environmental noise monitoring. Temperatures ranged from approximately 32 to 66 degrees Fahrenheit (°F) and skies were clear. Wind speeds ranged from 0 to 9 miles per hour (mph) with gusts up to 25 mph. The lowest wind speeds, ranging from 0 to 2 mph, occurred during the more critical early morning sound level measurements.

In order to effectively quantify and qualify the existing daily sound levels within the surrounding community, the ambient survey included both continuous monitoring and short-term (attended) sound level measurements at three noise monitoring locations (NMLs) surrounding the Project site. Each NML was selected to represent nearby noise-sensitive receptors (i.e., residences) and is described in Table 6-4 and identified on Figure 6-1.

Several sound level metrics were used to quantify the fluctuating environmental noise. These metrics included the hourly  $L_{10}$ ,  $L_{50}$ , and  $L_{90}$  sound levels. The  $L_{90}$  sound level is generally considered representative of the residual or background sound level (i.e., without discrete noise events such as occasional traffic, aircraft, etc.), the  $L_{50}$  sound level is considered the median sound level, and the  $L_{10}$  sound level is generally considered the intrusive sound level (i.e., with the occasional discrete events such as traffic, aircraft, etc.).

TABLE 6-4  
Noise Measurement Locations (NML's)

Noise Measurement Location	Location Description	Ambient Environment
NML-1	Eastern most corner of the JL Ranch Subdivision, within the transmission line ROW.	Representative of existing and future residences within JL Ranch Subdivision.
NML-2	Approximately 350 yards north of the Simon Contractors Gravel Operation entrance along Burlington Trail Road.	Representative of residence at 8701 Campstool Road.
NML-3	Approximately 500 yards south of the Dry Creek Reclamation Facility along Campstool Road.	Representative of residences at 1220 Hereford Ranch Road and 9211 Campstool Road.

FIGURE 6-1  
Noise measurement locations (NMLs) and nearby noise-sensitive receptors (current and future residences).



### 6.3.5 Survey Results

The ambient sound level survey included continuous monitors and short-term (attended) measurements. The continuous monitoring collected sound level data at each of the three NMLs throughout the 24-hour survey period. Short-term, 20-minute, measurements were conducted periodically at each NML in order to qualify the existing overall conditions and quantify the existing spectral conditions during various daytime and nighttime hours. The subsequent sections detail the survey results at each measurement location.

#### NML-1: Representative of JL Ranch Subdivision

NML-1 was selected to capture the acoustical environment experienced by the residences in the JL Ranch Subdivision. At the time of the survey, the JL Ranch Subdivision was only partially developed with the nearest developed property located at 5527 Alex Ranch Road. However, land to the east of Judy Lee Drive and west of Banner Drive has been subdivided with the apparent intent to construct additional residences. The nearest undeveloped lot to the Project site is JL Ranch Lot 17, Block 6.

The 24-hour monitoring results provide an indication of the daily sound level trends. The hourly background sound levels ( $L_{90}$ ) ranged from 42 to 58 dBA during the daytime hours (7:00 a.m. to 10:00 p.m.) and 36 to 46 dBA during the nighttime hours (10:00 p.m. to 7:00 a.m.). The hourly measured sound levels are generally consistent with a rural area in the vicinity of a moderately traveled highway. The quietest periods occurred during the late night to early morning hours when

wind related noise and traffic on I-80 had subsided. The lowest hourly background sound level of 36 dBA occurred between 3:30 and 4:30 a.m. It is important to note that these levels represent the background conditions without the influence of discrete event such as vehicle passes, aircraft flyovers, dog barks, etc. The  $L_{10}$  sound levels are generally representative of the higher sound levels that occurred during these discrete events. Influential noise sources observed during the short-term measurements included I-80 traffic, transmission line corona, train traffic, wind blowing through grass, and birds.

### **NML-2: Representative of 8701 Campstool Road**

NML-2 was selected to capture the acoustical environment experienced by the residence at 8701 Campstool Road. The 24-hour monitoring results provide an indication of the daily sound level trends. The hourly background  $L_{90}$  sound levels ranged from 32 to 50 dBA during the daytime hours (7:00 a.m. to 10:00 p.m.) and 30 to 37 dBA during the nighttime hours (10:00 p.m. to 7:00 a.m.). The hourly background sound levels are consistent with a rural area in the vicinity of a moderately traveled highway. The quietest periods occurred during the early morning hours when wind related noise and traffic on I-80 and Burlington Trail Road had subsided. The lowest hourly background sound level of 30 dBA occurred between 4:15 and 5:15 a.m. It is important to note that these levels represent the background conditions without the influence of discrete event such as vehicle passes, aircraft flyovers, dog barks, etc. The  $L_{10}$  sound levels generally representative of the higher sound levels that occurred during these discrete events. Influential noise sources observed during the short-term measurements included I-80 traffic, heavy truck traffic on Burlington Trail Road, train traffic, wind blowing in the grass, water noise from a nearby stream, and birds.

### **NML-3: Representative of 1220 Hereford Ranch Rd and 9211 Campstool Rd**

NML-3 was selected to capture the acoustical environment experienced by the nearest residential locations at 1220 Hereford Ranch Road (Wyoming Hereford Ranch) and 9211 Campstool Road (The Hereford Condominiums). The 24-hour monitoring results provide an indication of the daily sound level trends. The hourly background  $L_{90}$  sound levels ranged from 35 to 50 dBA during the daytime hours (7:00 a.m. to 10:00 p.m.) and 35 to 41 dBA during the nighttime hours (10:00 p.m. to 7:00 a.m.). The hourly measured sound levels are consistent with a rural area in the vicinity of a moderately traveled highway. The quietest periods occurred during the early morning hours when wind-related noise and traffic on I-80 and Campstool Road had subsided. The lowest hourly background sound level of 35 dBA occurred between 3:00 and 4:00 a.m.

It is important to note that these levels represent the background conditions without the influence of discrete event such as vehicle passes, aircraft flyovers, dog barks, etc. The  $L_{10}$  sound levels are generally representative of the higher sound levels that occurred during these discrete events. Influential noise sources observed during the short-term measurements included I-80 traffic, industrial noise from the Dry Creek Water Reclamation Facility, local traffic on Campstool Road, train traffic, wind blowing in the grass, livestock, and birds.

In general, the existing acoustical environment in the vicinity of the Project site is consistent with a rural area in the vicinity of a moderately traveled highway. During the survey, the primary sources of noise included traffic on I-80, local traffic, truck traffic related to nearby gravel operations, wind, trains, occasional aircraft (including military operations), and the Dry Creek Water Reclamation Facility. The ambient sound level survey results are summarized in Table 6-5. As shown, the quietest periods occurred during the early morning hours.

TABLE 6-5  
**Summary of Survey Results**

Noise Measurement Location	Range of Daytime <sup>1</sup> Hourly Background Sound Levels (L <sub>90</sub> ) <sup>2</sup> , dBA	Range of Nighttime <sup>1</sup> Hourly Background Sound Levels (L <sub>90</sub> ) <sup>2</sup> , dBA	Observed Noise Sources
NML-1	42-58	36-46	I-80 traffic, transmission line corona, train traffic, wind blowing through grass, and birds
NML-2	32-50	30-37	I-80 traffic, heavy truck traffic on Burlington Trail Road, train traffic, wind blowing in the grass, water noise from a nearby stream, and birds
NML-3	35-50	35-41	I-80 traffic, industrial noise from the Dry Creek Water Reclamation Facility, local traffic on Campstool Road, train traffic, wind blowing in the grass, livestock, and birds

<sup>1</sup> Daytime and nighttime hours are from 7:00 a.m. to 10:00 p.m. and 10:00 p.m. to 7:00 a.m., respectively.

<sup>2</sup> Background sound level is represented by the L90 sound level metric, which is a measure of the residual noise without the influence of short discrete noise events. See Appendix C for a detailed description of the L90 sound level metric.

### 6.3.6 Project Noise Emissions

The noise emissions from the Project have been predicted based on the design information available to date. The Project noise evaluation has been based on the equipment layout detailed presented in **Appendix A**. With the exception of the Emission Control Module, equipment specifications used for impact assessments are anticipated to be consistent with standard-packaged equipment. The supplier should be queried to confirm these sound level specifications, to identify necessary noise control features, and to provide guarantees for each. The following equipment was used in the noise modeling:

- Combustion Turbine Generator (GE LM6000)
- Heat Recovery Steam Generator
- Emissions Control Module
- Anti-Icing System
- Steam Turbine Generator
- Condenser
- Cooling Tower
- Boiler Feed Pump/Motor Assemblies
- Compressed Air System
- Fuel Gas Conditioning Equipment
- Condensate and Circulating Water Pump/Motor Assemblies
- Power Transformers

The noise emissions associated with the Project have been modeled using noise prediction software (Cadna/A® version 4.2.140), which is based on methodologies specified in ISO 9613. The model simulated the outdoor propagation of sound from each noise source and accounted for sound wave divergence, atmospheric and ground sound absorption, sound directivity, and sound shielding due to interceding barriers, buildings, and terrain. A database was developed that specified the location, octave-band sound levels, and sound directivity of each noise source. A receptor grid was specified which covered the entire area of interest. The model calculated the sound pressure levels within the

receptor grid based on the octave-band sound level contribution of each noise source. Finally, a noise contour plot was produced based on the overall sound pressure levels within the receptor grid, including specific receptor locations.

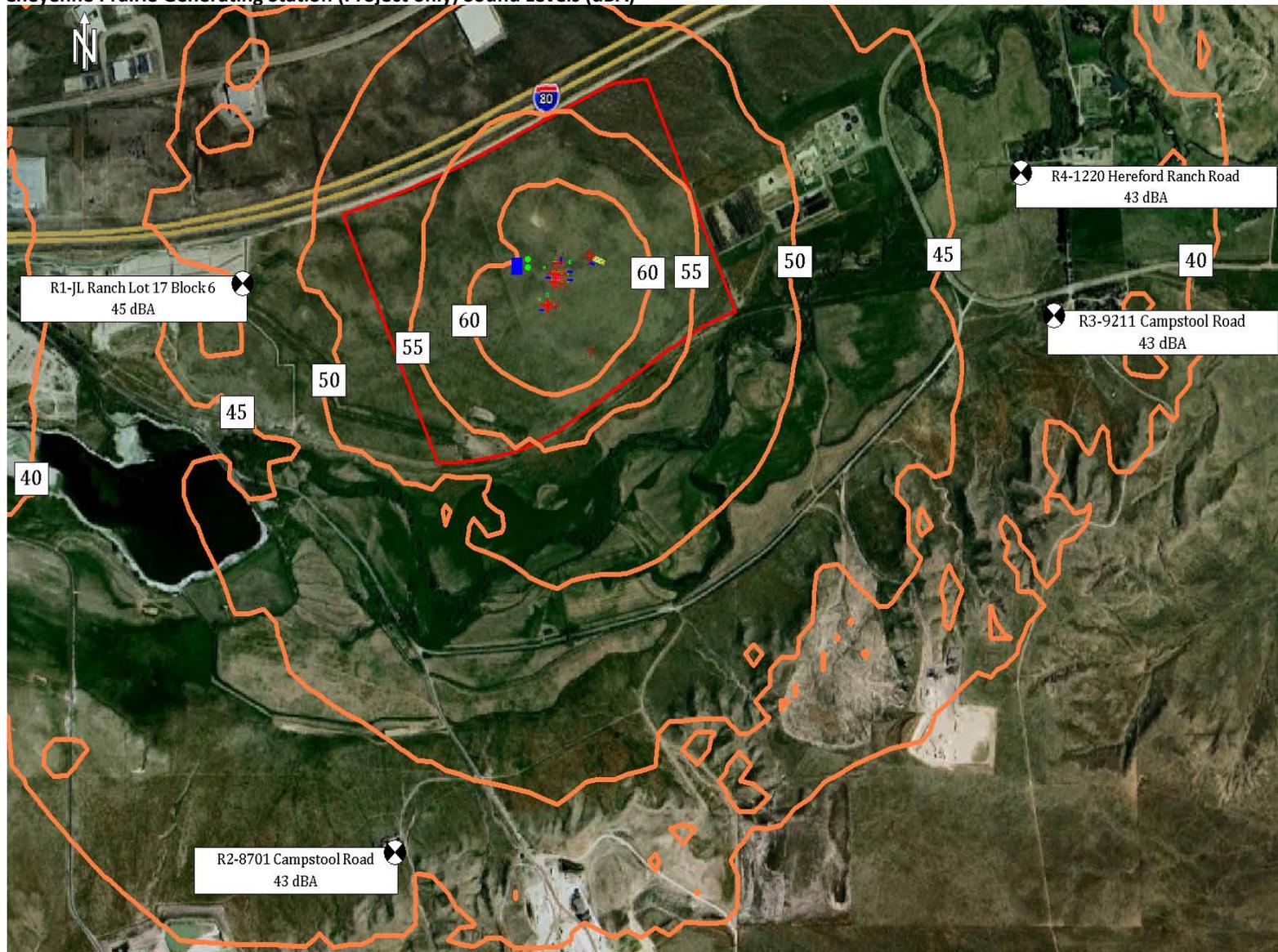
Noise modeling was based on normal operation, which excludes intermittent activities such as start-up, shut down, and any other abnormal or upset operating conditions. All facility structures associated with the Project were included in the model as structures to account for their shielding effect.

The resulting noise emissions associated with the Project are presented in Figure 6-2 as noise contours. The noise contours represent the overall A-weighted sound pressure levels at 5-dB intervals. It is important to note that the calculated noise emissions only include noise resulting from the Project and are exclusive of any background. As shown, the calculated Project sound levels are anticipated to range from 51 to 58 dBA at the Project property line and from 43 to 45 dBA at the nearest noise sensitive receptors (residences) R1, R2, R3, and R4.

### **6.3.7 Construction Impacts**

The EPA Office of Noise Abatement and Control studied noise from individual pieces of construction equipment, as well as from construction sites for power plants and other types of facilities, as shown in Table 6-6. Because specific information about types, quantities, and operating schedules of Project construction equipment is not known at this stage, data from the EPA document for industrial projects of similar size have been used. These data are conservative because the evolution of construction equipment generally has gravitated toward quieter design. Use of these data is reasonable for estimating noise levels, given that they are still used widely by acoustical professionals.

FIGURE 6-2  
Cheyenne Prairie Generating Station (Project only) Sound Levels (dBA)





**TABLE 6-6**  
**Average Noise Levels from Common Construction at a Reference Distance of 50 feet**

<b>Construction Equipment</b>	<b>Typical Average Noise Level at 50 ft (dBA)</b>
Air compressor	81
Backhoe	85
Concrete mixer	85
Concrete pump	82
Crane, mobile	83
Dozer	80
Generator	78
Grader	85
Loader	79
Paver	89
Pile driver	101
Pneumatic tool	85
Pump	76
Rock drill	98
Saw	78
Scraper	88
Shovel	82
Truck	91

Source: EPA, 1971.

Table 6-7 shows the total composite noise level at a reference distance of 50 feet, based on the pieces of equipment operating for each construction phase and the typical usage factor for each piece. The calculated level at 1,500 feet is probably conservative because the only attenuating mechanism considered was geometric spreading, which results in an attenuation rate of 6 dBA per doubling of distance; attenuation related to the presence of structures, trees or vegetation, ground effects, and terrain was not considered.

**TABLE 6-7**  
**Composite Construction Site Noise Levels**

<b>Construction Phase</b>	<b>Composite Equipment Noise Level at 50 ft (dBA)</b>	<b>Composite Equipment Noise Level at 1,500 ft (dBA)</b>
Clearing	88	58
Excavation	90	60
Foundation	89	59
Erection	84	54
Finishing	89	59

Source: EPA, 1971.

Because of the Project's distances to the nearest residence (over 0.75 mile), the noise levels resulting from construction of the Project will not significantly impair the environment or the social and economic condition of present or expected inhabitants in the area of site influence.

### 6.3.8 Operation Impacts

Noise emissions from the Project will result in sound levels that are consistent with the EPA guidelines for protecting of public health and welfare at nearby noise sensitive areas. In addition to this evaluation, the potential increases due to the Project have been evaluated at the nearest residents (R1, R2, R3, and R4). Estimated future ambient sound levels were determined by combining the calculated Project sound level with the measured hourly  $L_{90}$  sound levels. The potential increase to the ambient sound level was determined as the difference between the "before Project" and "after Project" sound levels. As shown in Table 6-8, the potential increases to the ambient sound level at the nearest residents are expected to range between approximately 0 and 10 dB. For reference a 3 dB change in a continuous broadband noise is generally considered "just barely perceptible" to the average listener. A 5 dB change is generally considered "clearly noticeable" and a 10 dB change is generally considered a doubling (or halving) of the apparent loudness.

The potential increases of 0 to 10 dB are based on the measured background sound pressure levels ( $L_{90}$ ). Periodically throughout the day, the sound levels were higher than the measured background sound levels due to transient events such as local traffic, airplane flyovers, etc. During these short periods of higher sound levels, the change in the existing ambient sound levels due to the Project are expected to be just barely perceptible.

Based on the ambient survey results, the residence at 8701 Campstool Road (R2) currently experiences the lowest ambient sound levels. These sound levels were previously detailed in Figure 6-1. As previously discussed, the Project sound level at this location is expected to be 40 dBA, which, as indicated in Table 6-3, is generally considered "quiet" by the average listener. For comparison, the expected Project sound level is shown with the existing ambient sound levels at R2 in Figure 6-2. As shown, throughout most hours of the day, the expected Project sound level is consistent with the existing ambient sound levels. During the quietest period, the Project could be discernible.

TABLE 6-8  
Potential Ambient Sound Level Increase Due to the Project During Daytime Hours

Nearest Noise Sensitive Receptor	Measured Hourly $L_{90}$ Sound Levels, dBA "Before Project"	Estimated Project Sound Level, dBA	Estimated Future Ambient Sound Levels, dBA "After Project"	Potential Increase, dB
R1	42 to 58	45	47 to 58	0 to 5
R2	32 to 50	43	43 to 50	1 to 11
R3	35 to 50	43	44 to 50	1 to 9
R4	35 to 50	43	44 to 50	1 to 9

Upon review of the applicable ordinances, the Design Basis document, and EPA guidelines, Project design criteria were established to guide the acoustical design of the Project. Project noise emissions were evaluated against each of these criteria. Project sound levels were calculated and are expected

to range from 51 to 58 dBA at the Project property line and from 43 to 45 dBA at the nearest residential receptors. The Project noise emissions are anticipated to comply with the established design criteria.

The noise emissions from the Project have been evaluated based on ensuring the Project shows compliance with the City of Cheyenne Code of Ordinances. Specifically, the City of Cheyenne deems a noise source to be excessive or unusually loud if it exceeds 80-dBA when measured 25 feet from the property line of the noise source. As shown in Figure 6-2, the Project sound levels are not expected to exceed the 80 dBA limit.

During intermittent and emergency operating conditions such as start-up and shut-down the Project sound levels at the property line may at times exceed the 55-dBA design basis goal. However, given that these abnormal operating conditions are sporadic and occur for only a short duration the potential exceedance is anticipated to be minimal. Noise emissions during startup and shutdown can be controlled by including such measures as appropriate vent silencers.

Project noise emissions have also been evaluated based on ensuring the Project promotes the protection of public health and welfare at nearby noise sensitive areas such as residences, schools, and hospitals. Specifically, Project sound levels at the nearest noise sensitive receptors (residences) should not exceed an A-weighted sound pressure level of 48 dBA. Project-only sound levels at the nearest residences are expected to range from 43 dBA to 45 dBA. Therefore, the Project sound levels are expected to be consistent with the USEPA guidelines.

The Project will comply with all applicable regulations and noise levels at receptors are not expected to change perceptibly. Therefore, no impacts associated with Project-related noise are expected to occur as a result of implementation and construction of the Project.

## 6.4 Soils and Geologic Hazards

### 6.4.1 Soils

The area surrounding the Project location can be described as undulating and rolling and is typical of the high plains and grasslands located in southeastern Wyoming. The topography is marked by a high terrace or knoll at approximately 5,970 feet above mean sea level (MSL) and then descends slowly by approximately 50 feet in elevation to the southeast and southwest towards Crow Creek and Stewarts Ditch. The topography ascends again near a line of hills and terraces to the south approximately one-half mile from the southern border of the site. Crow Creek flows to the southeast and borders the site to the south at an elevation of 5,918 feet MSL, receiving drainage from offsite ephemeral tributaries and the Hereford Ranch Reservoir to the west. Topography is shown in **Appendix A**.

Soil conditions have been evaluated in a previous report by Terracon in October 2005 when a geological site investigation was conducted to test the feasibility of constructing new building foundations at the site (Terracon, 2005). Regionally, the surface and subsurface soils overlie the Tertiary and Quaternary deposits of the Ogallala Formation. The contact with the Ogallala is estimated to be the first distinct clay, silt, or sandy clay layer below the unconsolidated Quaternary deposits. Quaternary terrace deposits range in thickness from about 10 to 30 feet and consist of interbedded clay, sand, and gravel. The Ogallala Formation is predominantly interbedded clayey sand, fine, sandy silt and sandy clay, with several sandstone lenses. The detailed discussion of the site geology is limited to the Ogallala Formations of the Tertiary age located within the site boundary. The Ogallala is the only formation directly affecting site development, including foundation and groundwater conditions at the plant site.

Soil samples consisting of silty sand, well-graded sand, and silty clayey sand were documented during the geotechnical investigation and are indicative of the terraced alluvial deposits caused by gently inclining and relatively flat surfaces within the Ogallala formation. Based on geological contact maps, the predominant surficial geological feature across the site that defines the vadose zone (geological formation, primarily soil horizons encountered before the first water bearing aquifer) and foundation conditions is terrace deposits. The terrace consists of relict alluvial deposits on flat and gently inclined surfaces that are bounded to the west by a relatively ascending slope and to the south by a relatively steeper descending slope and then ascending slope beyond Crow Creek. The soil encountered in the vadose zone and foundation zone from approximately 1 foot below ground surface (bgs) to approximately 15 feet bgs consists of well drained, loose to dense sands with silty sand to 5 feet bgs and either well-graded, medium dense to dense sand or silty clayey sand to approximately 12 feet bgs. Medium dense to dense silty sand extends between 10 to 20 feet bgs at varying percentages.

The actual contact between the surficial geological features of the Tertiary and Quaternary deposits and the Upper Miocene bedrock formation is unknown within the site boundary, but it is estimated to be below the extent of the Ogallala formation depth of approximately 30 feet bgs. The Upper Miocene rocks of the early tertiary epoch are the dominant bedrock formation below the Ogallala across the site. Immediately to the south of the site boundary, the Upper Miocene formation is in contact with the more recent bedrock formation of the alluvial and colluvium deposits caused by ancient stream erosion and gravity within the Crow Creek stream basin, consisting of loose and incoherent rocks. If excavation activities are expected to extend below 40 feet bgs, then consolidated bedrock may be encountered and additional heavy equipment will be necessary to drive foundation piles or other building stabilization tools into the bedrock formation.

The hydrologic properties of these soils are considered Group B as defined by the U.S. Department of Agriculture soil classification system, consisting of moderate infiltration rates and are well drained with moderately fine and coarse textures. Surface water transmission is moderate and indicates a low capillary capacity or ability to hold water within the soil horizon. Excavation activities within the near surface to approximately 5 feet bgs will require careful attention to slope stability due to the unconsolidated sandy soils. Beyond 10 to 15 feet bgs, heavy excavation equipment will be required due to the higher percentage of cohesive silty sands and clayey sands.

With the presence of Group B soils, recharge of the shallow aquifer will be predictable and at a higher rate in some areas with more sandy conditions than those with silty or clayey soils present. Data collected during the geotechnical investigation indicates the depth to groundwater to be greater than 20 feet bgs as indicated by the lack of groundwater present in any of the 12 borings advanced across the site. The investigation, however, was conducted in the fall during a period of lower-than-normal precipitation when groundwater recharge may have been limited. The presence, therefore, of shallow groundwater within the unconsolidated water bearing unit less than 20 feet bgs is possible during the winter, spring, and early summer periods. Although the groundwater gradient and average flow direction has not been formally calculated, it is expected to follow the drainage topography of the site towards Stewart Ditch and Crow Creek to the south. Further, the Tertiary and Quaternary deposits found within the shallow and deep aquifers are hydraulically connected and these water-bearing strata are referred to as the High Plains Aquifer.

Based on the suspected flow of groundwater towards Crow Creek to the south, it is expected that groundwater may be encountered at depths less than 20 feet bgs within the southern half of the site. The presence of shallow groundwater less than 20 feet bgs within the higher elevations located in the northern half of the site is less likely, but still possible due to aquitards or other features

where more consolidated fine soils within the vadose zone demonstrate higher water holding capacity. During excavation, monitoring for groundwater intrusion will be necessary. Additional precautions to avoid impacting groundwater caused by equipment fuel leaks or spills may be required based on site conditions, but is unclear without additional onsite depth to groundwater measurements.

The presence of mineral deposits within the Project site is unlikely according to the geotechnical report and due to knowledge of geological exploration and reporting in the region. Within Wyoming, extraction for ore deposits such as coal and precious metals have occurred further to the north in the Powder River Basin and to the west in areas such as the Wind River Valley near the higher elevations of the Absaroka Mountains and Wind River Mountains. No presence of mineral ore deposits have been identified within the subsurface of the site.

### **6.4.2 Faults**

No potentially seismically active faults have been mapped within the Project site boundary. According to the U. S. Geological Survey's (USGS) Quaternary Fault and Fold database (USGS, 2010) the closest mapped potentially active fault is the Valmont Fault approximately 80 miles to the southwest of the site. This fault is described as a 1-kilometer (km) long, east-northeast-trending fault southeast of the town of Valmont near Boulder, Colorado. This fault is considered a middle- and late-Quaternary-age fault with a slip rate estimated to be less than 0.2 millimeters (mm) per year (Widmann, 1997).

The seismic potential for the Project site is low. For new construction, the facility will be designed for the maximum considered earthquake (MCE), according to the International Building Code (IBC), and the site will be assigned a seismic site class based on soil properties.

### **6.4.3 Construction and Operation Impacts**

There will be a certain amount of disturbance of surficial soils and minor excavation into soils and weak bedrock associated with construction of the plant and access roads. A SWPPP will be developed with the NOI for the required WYPDES General Stormwater Construction Permit, and implemented to minimize soil erosion during construction of the Project. Therefore, BMPs will be implemented by the contractor during construction and operation of the Project to ensure that erosion is minimized and other adverse impacts on area soils do not occur.

## **6.5 Cultural Resources**

Cultural resources of concern consist of historical or archaeological sites that are listed on or are eligible to be listed on the NRHP.

### **6.5.1 Regulatory Jurisdiction**

The National Historic Preservation Act (NHPA) is the principal federal law guiding federal actions with respect to the treatment of cultural, archaeological, and historic resources. Section 106 (16 USC 470f) of the NHPA requires federal agencies, prior to taking action to implement an undertaking, to take into account the effects of their undertaking on historic properties and to give the Advisory Council on Historic Preservation (ACHP) and the SHPO a reasonable opportunity to comment regarding the undertaking. Historic properties are "any prehistoric or historic district, site, building, structure, or object included in, or eligible for inclusion in, the NRHP" (16 USC 470w [5]). The criteria used to evaluate the NRHP eligibility of properties affected by federal agency undertakings are contained in 36 CFR 60.4.

The lead federal or state agency that administers the land or minerals or that issues key permits determines the level and scope of cultural resources inventory that will be required for a project.

### **Federal Lands**

Development of any area that is predominantly federal surface lands or federal minerals would require a complete cultural resource inventory in compliance with Section 106 of the NHPA. Consideration of potential effects on cultural resources by actions on federal surface lands or involving federal permits or funding may be required by the National Environmental Policy Act (NEPA) or Section 106 of the NHPA. No federal lands will be occupied or disturbed during construction or operation of this Project.

### **State Lands**

There is no nexus for Section 106 consultation on State lands unless a federal action would serve as the trigger. With respect to discoveries located on easements obtained across State-owned lands, the Board of Land Commissioners' Rules and Regulations, Chapter 3, Section 9(b) requires that the Director of the Office of State Lands and Investments be notified and that the SHPO, the State Archeologist, State Geologist, or other authority will be notified if "deemed necessary" by the Director.

### **Private Fee Lands**

There is no nexus for Section 106 consultation on private fee lands unless a federal action would serve as the trigger. Additionally, there are no State laws applicable to the protection of cultural resources on private fee lands.

## **6.5.2 Survey Results**

Archaeologists completed a Class I site files review and a Class III Cultural Resource Inventory for the 250-acre parcel in which the Project will be located. The confidential Class III report was submitted to the SHPO for its review (North Platte Archeological Service, 2012). The survey found no resources that would be eligible for listing on the NRHP. Only three non-eligible resources were identified; an irrigation ditch, broken bottle glass, and a small rock flake.

## **6.5.3 Construction/Operation Impacts**

No adverse impacts to cultural resources are expected as a result of construction and operation of the Project. The SHPO will ultimately make a determination of any effects to cultural resources. Any mitigation necessary will be in consultation with the SHPO.

# **6.6 Water Supply Yield and Analysis**

The Wyoming Constitution defines that all natural waters within the boundaries of the state are declared to be the property of the State. The WSEO is charged with the regulation and administration of the water resources in Wyoming.

## **6.6.1 Regulatory Jurisdiction**

If an applicant for an industrial siting permit plans to construct a facility that will use more than 260.7 million gallons (800 acre-feet [ac-ft]) of water per year, the applicant must submit a water supply and water yield analysis to the State Engineer. The State Engineer will then review the analysis and "render a preliminary opinion as to the quantity of water available for the proposed facility" (W.S. 35-12-108(c)). This preliminary opinion will be made available for public comment, and the State Engineer will consider submitted comments in preparing a final opinion. The State Engineer's final opinion will be binding on the ISC.

## 6.6.2 Construction Water Uses

The main water use during construction will be applications for dust control. During Project construction, water will be obtained from a municipal water source and trucked to the site. No new groundwater wells will be installed. Once onsite, water will either be put to immediate use or placed in an onsite temporary water storage tank.

A minimal quantity of water will be required to support the Project over the 14-month construction period. The actual amount of water applied daily to access roads is variable and is dependent on daily weather temperatures, humidity, wind speeds, and local precipitation amounts.

In addition to the water used for construction and maintenance of the site access roads, water will be used in the concrete mixing for foundations and other footings. Concrete will be supplied by a local permitted contractor.

Based on the estimated construction water balance calculations, the Project will not exceed the 800 ac-ft/year threshold and will not require a WSEO water supply yield analysis or opinion.

## 6.6.3 Operations Use

The Project is estimated to use less than 100 acre-feet of water per year because the plant will provide peak and intermittent service, primarily during the summer. The water balance for the Project estimates a maximum annual water use to be 786 ac-ft/yr. This is equivalent to approximately 1.1 cubic feet per second (cfs). The primary water requirement will be associated with the cooling tower. This estimate was calculated assuming the plant is running at 100 percent load. The water use estimate is conservative and represents the highest water use scenario.

Water sources for the operating plant will be a combination of city-supplied water and effluent wastewater from the neighboring Dry Creek WWTP. More than 80 percent of the plant's operational water needs will be met by the treated wastewater effluent; the remainder will be potable water. The WWTP effluent flow is approximately 5,585 acre-feet per year; therefore, the plant is expected to consume less than 2 percent of the available WWTP effluent. Wastewater from the Project will be returned to the WWTP.

Based on the water balance calculation for operations, the Project will not exceed the 800 ac-ft/yr threshold and will not require a WSEO water supply yield analysis or opinion.

## 6.7 Surface and Groundwater

Baseline surface and groundwater resources were reviewed and water use calculations were estimated for the Project in Sections 6.6.2 and 6.6.3. The following sections detail the baseline conditions and potential Project impacts on surface water and groundwater in the Project area.

### 6.7.1 Regulatory Jurisdiction

Water quality associated with construction and operation of the Project will be subject to the WDEQ – Water Quality Division (WQD) Standards and Regulations. Specifically, implementing Water Quality Rules and Regulations are found in Chapters 1 to 23, as well as promulgated rules adopted in the Wyoming Environmental Quality Act.

### 6.7.2 Surface Water

The Project lies within the South Platte River Basin, Crow Creek watershed (HUC 10190009). The major named stream within the vicinity is Crow Creek, its headwaters in the Medicine Bow Mountains to the west and its terminus at the South Platte River near Greely, Colorado.

As it passes south of the Project area, Crow Creek is a perennial stream supporting fringe wetlands, but is quite incised with areas of cut banks. Crow Creek below Avenue C in Cheyenne (i.e., the portion nearest the Project) is designated a Class 2C surface water (WDEQ-WQD, 2001). Class 2C waters are designated for most uses except for drinking water and game fish. Just upstream of the Project, Hereford Ranch Reservoir No. 1 is designated as 3B, surface waters not having fish present and not used for drinking water (WDEQ-WQD, 2001).

FEMA has designated a 100- and 500-year floodplain along Crow Creek as part of its Flood Insurance Rate Map (FIRM) program (FEMA, 2007, Map Number 569021C1376F). The floodplain is shown on **Figure 6-3** Surface Water. Project components will be situated well outside of Crow Creek and its associated floodplains, both 100- and 500-year.

### **Construction Impacts**

The only potential impacts to surface waters during construction will be the improvements to the crossing of Stewart Ditch. Once installed, the crossings will be maintained as necessary to ensure access to the plant and prevent erosion reaching the ditch. Construction of the road and installation of appropriately sized culverts is expected to be an improvement to the existing road-crossings, thereby reducing erosion, sediment accumulation, and downstream sediment flows during large precipitation events.

Project construction will be over 1,000 feet north of Crow Creek; therefore, construction activities are not anticipated to discharge into surface waters. Nonetheless, potential impacts to surface water features from erosion and sedimentation will be minimized and prevented by measures to control runoff during construction of the Project. A SWPPP will be developed with the NOI for the required WYPDES General Stormwater Construction Permit and implemented to minimize impacts on surface water resources during construction of the Project.

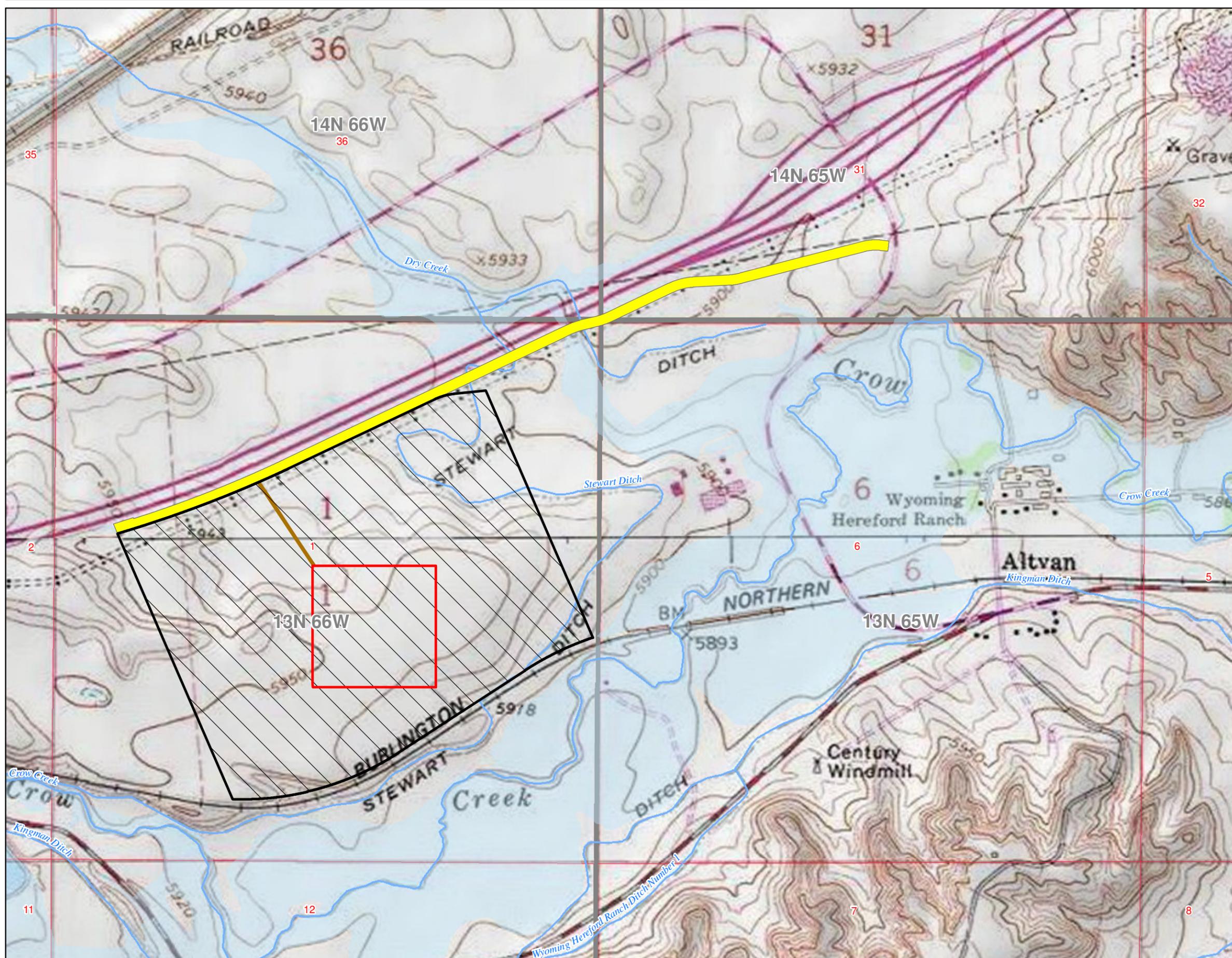
The proposed Project infrastructure will be constructed outside of the regulatory floodplain. No adverse or significant impacts to surface water resources or floodplains in the area of site influence are anticipated from Project area during construction.

The Project will not have discharges to surface waters, but rather waste water will be returned to the neighboring WWTP. The WWTP is designed to treat domestic sewage only; however, it receives wastewater from industrial (non-domestic) users such as the Project. Cheyenne's Board of Public Utilities (BOPU) has pretreatment regulations that establishes limits for industrial users and requires facilities to obtain an Industrial Discharge Permit. The Project will obtain this permit prior to operations.

Therefore, no adverse or significant impacts to floodplains in the area of site influence are anticipated as a result of Project construction.

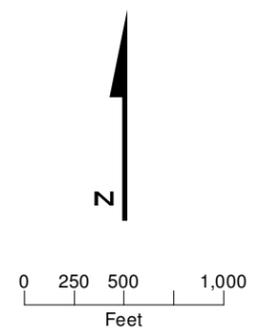
### **Operation Impacts**

BHC will operate the Project in accordance with all issued conditions of approval from the WDEQ-ISD and all relevant local, state, and federal permits. Therefore, operation of the Project will not result in significant impact to surface water resources that would impair the health, safety, or welfare of current or expected inhabitants in the area of site influence.



**LEGEND**

- Streams
- Cheyenne Prairie Generating Station
- Project Parcel
- HR Ranch Road - Proposed Extension
- Project Driveway
- Township/Range
- Sections
- FEMA 100-Year Flood Zone



**FIGURE 6-3**  
**Surface Water**  
**Cheyenne Prairie Generating Station**  
**Black Hills Corporation**  
 Cheyenne, Wyoming



### 6.7.3 Groundwater

The site is located above tertiary geologic units forming the High-Plains aquifer system. The High Plains aquifer system, while extending through several states to the east and south, occurs only in the southeast quarter of Wyoming. In general, the water-bearing strata in the upper portions of the aquifer are poorly consolidated and unconfined; the deeper water-bearing strata are typically more consolidated and semi-confined to confined by lower permeability strata (WDEQ, 1997).

Most groundwater in the High Plains aquifer system in Wyoming is found in the Ogallala Formation and underlying Arikaree Formation. The Ogallala is generally unconsolidated and consists of poorly sorted silt, sand and gravel with minor clay, which becomes coarser and less cemented in the lower parts of the formation. Water bearing strata of the Arikaree Formation consist of bedded sandstones. The aquifer is as much as 1,000 feet thick in southeastern Wyoming (USGS, 1996). Representative Wyoming communities relying on this aquifer system include the City of Cheyenne, and the Towns of Lusk, Pine Bluffs, and Manville (WDEQ, 1997).

The majority of groundwater use within the Project area is for irrigation and livestock use by the Wyoming Hereford Ranch. Groundwater is also pumped for domestic purposes by the City of Cheyenne (WSEO Water Rights database review for T13N, R66W, Sec 1). The depth to groundwater in Ogallala aquifer in the vicinity of the site is estimated at 40 to 42 feet below ground surface, based on the USGS 2006 Water-Data Report for well 14-066-28adb01, located 1.5 miles north of the proposed facility location.

#### Construction Impacts

Impacts to the aquifer by the Project will be minimal. No new water wells are needed or planned. The Project will obtain its water from the neighboring WWTP recycling/reusing treated effluent, which provides an environmental benefit to new wells, and a City water hookup. Wastewater will be returned directly to the WWTP.

During the construction phase, water supply for the Project will be met through either of the two identified sources, depending on the use. Portable toilets will be provided for onsite sewage handling during construction and will be pumped and cleaned regularly by the construction contractor. No other wastewater will be generated during Project construction. Any quantities of solid waste materials generated by activities at the Project site will be disposed of in an appropriate manner at suitable licensed disposal sites. Licensed waste haulers will be used to remove wastes and dispose of them in licensed and approved facilities according to local regulations and procedures.

#### Operation Impacts

Limited domestic water usage would be associated with potable water needs for the operations staff. This water will be provided by the City. As stated above, the majority of the process water for the facility will be provided from the Dry Creek WWTP. Discharge of all waters will be through return flow directly to the treatment plant through a sanitary sewer.

Water sources for the operating plant will a combination of city-supplied water and effluent wastewater from the neighboring Dry Creek WWTP. More than 80 percent of the plant's operational water needs will be met by the treated wastewater effluent; the remainder will be potable water. The WWTP effluent flow is approximately 5,585 acre-feet per year; therefore, the plant is expected to consume less than 2 percent of the available WWTP effluent. Wastewater from the Project will be returned to the WWTP.

Therefore, operational impacts to groundwater will not result in substantial impairment to the groundwater resources or the health, safety, or welfare of the present or expected inhabitants in the area of site influence.

## **6.8 Land Use**

This section presents information regarding existing and future land uses, zoning, and adopted land use plans and regulations for the study area. It analyzes the consistency of the Project with current and future land uses, policies, and plans.

The Project site is located in Laramie County, Wyoming, on lands entirely owned by BHC. Aside from a few two-track roads and barbed wire fences, the parcel is undeveloped, although it appears to have been used for grazing. Surrounding land uses include hay fields to the south and the Dry Creek WWTP to the east. Two transmission lines and I-80 run along the northern parcel boundary, additional industrial and commercial development lies to the north of the highway. A residential development lies approximately 0.75 miles to the west.

### **6.8.1 Consistency with Land Use Plans**

Local land use plans establish the vision for how a jurisdiction can develop and establish the goals, objectives, and action items for achieving that vision. The plans also establish a framework to guide and evaluate future development. A land use plan is a key tool that communities use to protect valued resources, guide development in a predictable manner, and encourage a preferred patterning and design of the built environment. These land use plans, in combination with the zoning code, provide a community the ability to evaluate the compatibility of new development and ensure that the objectives of that community are achieved.

The Project lies within the city limits of Cheyenne, and therefore is subject to requirements set forth in Chapter 17 of the Cheyenne City Code. The Project site is located within the Heavy Industrial District.

The Project also lies within Laramie County, and though the county defers

### **6.8.2 Construction Impacts**

The existing alignment of HR Ranch Road will be improved where practicable to minimize the Project's impact to the land. The Project is located centrally within the parcel to maximize buffers with adjacent landowners and users. This will ensure the Project does not impact activities on land adjacent to the Project area. The surrounding land uses can continue unaffected by the Project. Construction of the Project would not conflict with any adopted land use plan, policy, or regulation.

### **6.8.3 Operation Impacts**

Direct land use impacts would include the conversion of undeveloped grazing lands to an industrial facility and corresponding associated road improvements. The majority of the 250-acre parcel will not be developed as part of the Project, and would be available for other uses at the discretion of the landowner. Operating the facility is not expected to affect surrounding land uses. Therefore, it is not anticipated that the Project would limit future land development opportunities.

## **6.9 Recreational Resources**

The Project area itself does not provide formal recreational opportunities. There are no developed trails or water bodies accessible by the public. There are no national parks or state parks within twenty miles of the Project site. The nearest park, United Nations Park, and the nearest recreation facility, a KOA campground, are both located over one mile away from the Project site.

United Nations Park is situated in the center of a residential neighborhood in southeast Cheyenne. The residences and mature deciduous and coniferous vegetation in the foreground would screen views towards the natural gas power plant.

The KOA Campground is situated along Interstate 80, northeast of the Project site. The KOA Campground is likely to have a view of the Project. However, from a distance of nearly two miles away, the Project would be absorbed into the landscape without much alteration to the character or unity of the view, given the industry and transportation uses that already occupy the view. Considering that this campground is located adjacent to Interstate 80, recreationalists' sensitivity to the proposed Project is expected to be low.

### **6.9.1 Construction Impacts**

It is anticipated that the Project would result in a temporary population increase in the area of site influence during construction. A limited number of workers are expected to visit the regional recreational resources in the vicinity. It is anticipated that a very small incremental increase in park visitations would occur during construction. This usage would be limited to periods when employees are not working and would not result in a significant increase in annual visitation. Therefore, the Project is not expected to result in impacts from increased visitation to area parks that would substantially impair the health, safety, and welfare of present or expected local inhabitants.

### **6.9.2 Operation Impacts**

Operation of the proposed Project would not directly impact any parks or recreation facilities. It would not require the conversion of park or recreation facilities to industrial facilities. The closest park lies over 1 mile from the Project boundary and operation of the Project would not adversely affect recreational opportunities nor diminish the quality of the recreational experience for users. Noise and visual effects of the Project operation would not extend to nearby recreational facilities.

## **6.10 Wetlands and Waters of the United States**

The U.S. Army Corps of Engineers (USACE) provides authorization for fill impacts to jurisdictional waters of the United States and adjacent wetlands under Section 404 of the Clean Water Act (CWA).

### **6.10.1 Regulatory Jurisdiction**

The Clean Water Act (CWA) (33 U.S.C. § 1251, et seq.) is a 1977 amendment to the Federal Water Pollution Control Act of 1972, which set the basic structure for regulating discharges of pollutants to waters of the U.S. The following are jurisdictions within the CWA.

- Section 404—Regulates the discharge of dredged and fill material into waters of the United States, including wetlands
- Section 402—National Pollutant Discharge Elimination System (NPDES) permits for discharge of pollutants
- Section 401—State certification of water quality

### **6.10.2 Construction Impacts**

The USFWS National Wetland Inventory (NWI) database was reviewed for mapped wetlands according to the classification scheme of Cowardin et al. (1979). The NWI database indicates the general proximity of wetland habitat based on changes in vegetation patterns as observed from satellite imagery. This database is used as a preliminary indicator of wetland habitats as the aerial interpretation is not precise (i.e., wetlands identified in this database require field verification).

The Project site was visually inspected for the presence of wetlands or waters of the United States. The site is considered upland and no wetlands or waters of the United States are present within the area planned for disturbance.

The visual inspection of the pipeline route indicates that no isolated wetlands will be impacted by the pipeline portion of the Project; however, Crow Creek and Porter Draw, and associated wetlands, are located within the area proposed for installation of the pipeline and thus these features are potentially subject to disturbance. The pipeline will be placed underneath these features using directional boring to completely avoid impacts to these jurisdictional features.

A formal wetland delineation and waters of the United States assessment will be completed prior to construction initiation of the pipeline to ensure that the selected route avoids and/or minimizes impacts to wetlands and water bodies. If work is necessary within jurisdictional waters of the United States or wetlands, it would be conducted in accordance with Sections 404 and 401 permits of the CWA; therefore, no adverse or significant impacts to surface water resources are anticipated during construction of the Project.

No adverse impacts to wetlands or waters of the U.S. are anticipated from construction of the Project that may impair the health, safety, or welfare of the resource or the health, safety, or welfare of the present or expected jurisdictional features in the area of site influence.

### 6.10.3 Operation Impacts

No adverse impacts to wetlands or waters of the United States are anticipated from operation of the Project that may impair the health, safety, or welfare of the resource or the health, safety, or welfare of the present or expected jurisdictional features in the area of site influence.

## 6.11 Scenic Resources

Visual or scenic resources are the natural and built features of the landscape that contribute to the public's experience and appreciation of the environment. Visual resource or scenic impacts are generally defined in terms of a Project's physical characteristics and potential visibility and the extent to which the Project's presence would change the perceived visual character and quality of the environment in which it would be located.

ISD regulations state that scenic resources must be taken into account in the application process. However, visual resource standards have not been specified at the state or county level.

### 6.11.1 Methodology

This analysis documents the existing visual conditions on the site and in the surrounding area and assesses the extent to which the proposed Project would affect the valued qualities of the area's scenic resources.

**Views** are what can be seen of the Project area from the surrounding neighborhoods and communities.

**Viewshed** is the area surrounding a Project area from which the Project is, or potentially could be, visible to viewers.

**Renderings** are images depicting views that have been modified by computer modeling to show the proposed Project within the existing landscape.

**Viewers** are people who have views of the Project. Viewers are usually discussed in terms of general categories of activities (such as residents, workers, recreationists [park users, boaters, or bicyclists],

pedestrians, or motorists [both commuters and leisure travelers]) and are referred to as “viewer groups.”

**Viewer sensitivity** (or level of concern) is a combination of the following factors for a specific view:

- How many people have that view and what types of viewers are they?
- How long can they see the view? Residents and recreationists generally have views of long duration while bicyclists and motorists typically have short-duration views.
- What is their likely level of concern about the appearance, aesthetics, and quality of the view? Level of concern is a subjective response that is affected by factors such as the visual character of the surrounding landscape, the activity a viewer is engaged in, and their values, expectations, and interests. Generally, residents and recreationists are considered to be highly sensitive viewers, and local business staff and commuters are considered to be less sensitive.
- Low viewer sensitivity exists when there are few viewers who experience a defined view or they are not particularly concerned about the view. High viewer sensitivity exists when there are many viewers who have a view frequently or for a long duration, as well as viewers (many or few), such as those in a residential neighborhood, who are likely to be very aware of and concerned about the view. Viewer sensitivity or level of concern does not imply support for or opposition to a proposed Project; it is a neutral term that is an important parameter in assessing visual quality.

**Visual character** is an impartial description of what the landscape consists of and is defined by the relationships between the existing visible natural and built landscape features. These relationships are considered in terms of dominance, scale, diversity, and continuity. Visual character-defining resources and features include:

- Landforms: types, gradients, and scale.
- Vegetation: types, size, maturity, and continuity.
- Land uses: height, bulk, scale, and architectural detail of associated buildings and ancillary site uses.
- Transportation facilities: types, sizes, scale, and directional orientation.
- Overhead utility structures and lighting: types, sizes, and scale.
- Open space: type (e.g., parks, reserves, greenbelts, and undeveloped land), extent, and continuity.
- Viewpoints and views to visual resources.
- Water bodies, historic structures, and downtown skylines.
- Apparent “grain” or texture, such as the size and distribution of structures and unbuilt properties or open spaces of the landscape.
- Apparent upkeep and maintenance.

## 6.11.2 Visual Conditions on the Site and in its Surroundings

### Project Visibility

The first step in understanding the visual impact of the proposed Project was to identify the areas within 6 miles from which the Project would be visible. This analysis, known as a viewshed or “zone

of visual influence” (ZVI) analysis, was prepared using the viewshed feature of the ArcView GIS program. The results of the analysis are conservative, in that the areas of potential Project visibility include areas in which the 75-foot-tall generator stacks may be visible.

The ZVI or viewshed analysis for the Project identified the fact that the generator stacks would be partially or fully visible from most areas within the 6-mile viewshed because of the relatively flat topography. The closest views of the site are from the residential subdivision, approximately 0.6 mile to the west of the Project site. The closest view of the Project site that has the potential to be seen by high volumes of travelers is from I-80. Although this analysis takes into account the role that topography plays by blocking views, it does not take into account the screening of views that could be provided by buildings or vegetation.

### **Project Appearance**

The Project proposes to develop an approximately 30-acre, natural gas-fired power plant on a 250-acre privately owned, greenfield site. The parcel is characterized by gently rolling, low growing, grassland. The Project site contains no unique or remarkable features that distinguish it visually from surrounding land. The site is set on the outskirts of southeast Cheyenne, Wyoming, and is bordered to the east by the Dry Creek WWTP, to the north by I-80 and Union Pacific Railroad, to the south by Crow Creek and undeveloped range land, and to the west by a reservoir. The regional landscape consists of a developed, urban setting to the west and north (the city of Cheyenne) with gently rolling grassland to the south and east of the parcel. Although the Project site now consists of vacant land, the surrounding area is one in which industrial uses occur. The parcel itself is free from any visual intrusions presently, but when considered in the larger context, features of the built environment encroach into this area (transportation infrastructure, railroad infrastructure, wastewater infrastructure, etc.).

The Project vicinity does not contain areas of identified statewide scenic significance or regional focal points, established or protected viewsheds, or any historic sites or trails. There are no national, state, or local parks in the Project vicinity. There are no bodies of water frequented for recreation or scenic purposes in the Project vicinity. There are no designated scenic highways or byways within or near the Project site. The lack of recreational uses or cultural sites provides a relatively low degree of viewer sensitivity. Travelers on I-80 would be afforded the closest views of the Project site, although high travel speeds would limit the length of exposure to the site. Additionally, given that this stretch of highway is developed with primarily industrial uses, including the WWTP and a refinery, traveler sensitivity is expected to be low. The view of the proposed Project would be a typical sight through this stretch of interstate.

Viewer sensitivity would be greater at the residences in the Project vicinity. There are five residential dwellings within 1.0 mile of the Project area:

- 8701 Campstool Road: 1.0 mile southwest of the limits of construction/operation
- 9211 Campstool Road: 1.0 mile east of the limits of construction/operation
- 1220 Hereford Ranch Road: 1.0 mile east of the limits of construction/operation
- 5527 Alex Ranch Road: 0.75 mile west of the limits of construction/operation
- Lot 17, Block 6 (planned future residence): 0.60 mile west of the limits of construction/operation

As a part of the process of evaluating the visual sensitivity of views, a review was made of the plans, regulations, ordinances, and design standards adopted by the city of Cheyenne, in which the Project would be located to identify any provisions that designate specific landscape areas or features as scenic resources deserving of special protection. No adopted state or municipal planning documents

limit or restrict the amount of visual alteration that may occur on privately owned lands within a Heavy Industrial District.

### 6.11.3 Project Construction

The construction period is anticipated to require 14 months, with construction anticipated to begin April 2013 and be completed by May 2014. During that time, large earth-moving equipment, trucks, cranes, and other heavy equipment will be in use on the Project site.

At some times, small, localized clouds of dust created by grading activities may be visible at the site, although active dust suppression should minimize the frequency of such events. Because of the construction-related grading activities, areas of exposed soil and fresh gravel that contrasts with the colors of the surrounding undisturbed landscape may be visible. Any visible construction activities would be relatively short in duration, and would not result in any significant, permanent impact to visual resources. As such, construction-related impacts are not discussed any further in this analysis.

During the Project's construction and startup phases, some activities would occur 6 days a week and up to 10 hours a day. If nighttime construction activities are undertaken, illumination that meets state and federal worker safety regulations would be required. Because of the existing industrial setting in which the Project site is located and absence of residences in the area, no mitigation efforts are anticipated.

### 6.11.4 Project Operation

The Project's most visible features would be the cooling tower, the water tanks (2), the administrative building, the gas turbine generator and auxiliary equipment (3), and heat recovery steam generator, the steam turbine and the steam turbine generator auxiliary power enclosure, inlet air heater (4), fuel gas heater (2) and fuel yard, ammonia tank, and other equipment. The exhaust stacks, associated with the gas turbine generators, would constitute the tallest equipment on site, at a height of 75 feet. The Project will also consist of a 115-kV monopole transmission line routed along the south side of I-80 and tying into an existing transmission line approximately 1.75 miles to the east of the Project. Figure 6-4 presents a computer-generated rendering of the proposed facility has been created to illustrate the visual character of the parcel as it would be viewed once operational.

Once fully constructed and in operation, the Project would change the visual character of the property from an undeveloped parcel to an industrial use. While the natural gas power plant would be a noticeable change to the landscape, it would fit into the larger visual context. Given the relationship between the proposed natural gas plant facility in comparison to the scale of the landscape and its surroundings, the plant would remain a small component in the overall landscape.

The Project infrastructure includes smooth, tan, vertical elements in contrast to the low-growing vegetation and broad horizons of the undeveloped landscape to the south. The Project would remove the existing vegetation on the site and replace it with gravel; the color of gravel could contrast against the natural vegetation, depending on the color selected. The visual impact of the Project would remain fairly localized, with changes to visual quality less apparent with increasing distance. Views in the immediate vicinity are limited. For travelers along I-80, the Project would blend into the existing industrial context well but would partially block views of the ridges south of the site. For viewers from higher elevation vantage points, the greatest degree of visual contrast would likely come from the excavated soil rather than the infrastructure itself. For viewers from lower elevation vantage points, the greatest degree of visual contrast would likely come from the

infrastructure extending above the horizon and into the skyline. Overall, viewer response would be expected to be limited due to minimal exposure and sensitivity in this area.

FIGURE 6-4

**Computer rendering of the Project viewing from the northeast**



The Project would create new sources of nighttime lighting. The lighting at the Project's industrial features and administrative building will be the minimum required for safety and security, and all light fixtures would be shielded and aimed downward to prevent light from being cast into the sky and from projecting outward. Because of these measures and because the power plant will be located well within the boundary of a large Project site far from surrounding residential roadways, there will be little potential for light trespass or to adversely affect sensitive offsite viewers.

### **Sensitive Viewpoints**

The Project would produce a degree of contrast against its backdrop from different vantage points. Given the scale of the Project, this analysis considers the change to views resulting from the Project from the three closest locations where residences are located.

From the residence at **8701 Campstool Road** (south of the Project, looking north), the Project would be integrated into a view that is already dotted by industrial, residential, and transportation land uses. The overall change in visual character, in comparison to the composition of the existing view, would be relatively low. This residence would have an unscreened view of the Project, but from this distance, the Project would not constitute a visually dominant element in the view and from this elevation, the Project would not extend above the horizon. From this slightly elevated location, however, the degree of visual contrast generated by the excavated Project site against the natural vegetation could be noticeable.

From the two residences east of the Project, looking west (**1220 Hereford Ranch Road; 9211 Campstool Road**), the WWTP would remain in the foreground of the view, with the Project location in the middle ground of the view, and the City of Cheyenne in the background. This view already contains industrial development. From this distance, the Project would not constitute visually

dominant element in the view, and the lower elevation of these residences compared to the site would not provide views of the disturbed soils. The distance from the site to the residences also indicates the Project infrastructure would not extend above the horizon into the skyline.

From the two residences west of the Project, looking east (**5527 Alex Ranch Road; Lot 17 Block 6 planned future residence**), the Project would be partially screened from view because a rise in elevation occurs between the subdivision and the Project. The views of the rangeland afforded to these residences would be partially obscured by the Project's infrastructure, which would reduce the visual quality. However, this Project is back dropped by the WWTP to the east, an indicator of the existing industrial context of the area.

### 6.11.5 Visual Impact Assessment

Visual impacts resulting from construction and operation of the Project would consist of the alteration of the presently undeveloped parcel to an industrial facility. Based on the existing visual character of this area, neither construction nor operation of the proposed Project would be expected to cause significant direct or cumulative visual character or quality impacts.

Although the proposed Project would, to varying degrees, be visible from the highway and neighboring residences, the impacts would not be substantial based on the following conclusions:

- The Project is not located within an area that has been identified to be of major scenic or cultural significance.
- The Project area would not degrade views or scenic resources of state-wide significance.
- The Project would not visually intrude upon a natural or cultural landscape feature that is a regional focal point.
- The Project is not in a landscape area that is visually distinct and rare or unique.

## 6.12 Wildlife

This section identifies wildlife species known to or that potentially will occur within the area of site influence.

### 6.12.1 Regulatory Jurisdiction

The State of Wyoming has jurisdiction over all aquatic and terrestrial wildlife in the state (exclusive of federally-listed species), placing species under management of the WGFD or the Department of Agriculture. The WGFD is responsible for oversight of big game species, nongame species, aquatic, and small game species that are nonmigratory. The evaluation, plans, and proposals presented in this application must address terrestrial and aquatic wildlife, as well as threatened, endangered, and rare species and other species of concern identified in the Wyoming State Wildlife Action Plan (SWAP) (WGFD, 2010). Additionally, Wyoming Statute 35-12-110 (b) requires the WGFD to provide information and recommendations to the ISC regarding the impacts of projects under the jurisdiction of the ISD.

The USFWS has oversight of migratory bird species, whether they are hunted (i.e., waterfowl) or not (i.e., passerine species), and of all federal threatened, endangered, or candidate terrestrial plant and animal species. Many of the species groups under USFWS regulations also receive management and protection under state statutes and regulations. WGFD participates in these activities through interagency operating agreements.

The Project area is identified in the Wyoming SWAP as occurring primarily within the prairie grassland ecological system, which provides habitat for 31 species of wildlife (9 mammals, 12 bird, 8 reptile, and 3 amphibian) identified as Species of Greatest Conservation Need (SGCN) (WGFD, 2010). Additionally, the Project area is located in the Platte River Basin, which supports a distinct community of fish and aquatic wildlife, some of which are identified in the SWAP as SGCN (10 fish, 3 reptiles, 3 crustaceans, and 3 mollusks). The Project is outside SGCN Priority Areas identified in the SWAP; however, avoidance or minimization of impacts to wildlife habitats and SGCN species is deemed appropriate.

SGCN identified in the Wyoming SWAP that may occur in or near the Project are presented in Table 6-9. Potential for occurrence of each SGCN was determined using range maps and habitat associations for each species as identified in the SWAP. Particular species groups (Big Game, Avian, Bats, and Aquatic Species) are addressed in detail in Sections 6.3.3 through 6.3.6, whereas federally listed species are discussed in Section 6.4.

### 6.12.2 Big Game

Important criteria for federal and state wildlife managers in Wyoming are land areas that are designated as crucial winter ranges, parturition areas, and migration routes for big game. Based on review of current WGFD data, the gas plant Project site and pipeline route will not enter crucial winter range, parturition area, or migration routes for any big game species. Therefore, no impacts will result from construction or operation of the Project.

### 6.12.3 Avian Species

#### Regulatory Jurisdiction

Migratory passerine birds and raptor species are protected from take by implementing acts and federal policies. The following details the acts and policies that currently protect migratory birds and raptors.

**Migratory Bird Treaty Act.** The Migratory Bird Treaty Act (MBTA) offers protection of 836 species of migratory birds (listed in 50 Code of Federal Regulations [CFR] 10.13), including waterfowl, shorebirds, seabirds, wading birds, raptors, and passerines. Generally speaking, the MBTA protects all birds in the United States, except gallinaceous (upland game) birds, rock pigeons, Eurasian collared doves, European starlings, and house sparrows.

The MBTA implements various treaties and conventions between the United States and Japan, Mexico, and the former Soviet Union for the protection of migratory birds. Under the MBTA, taking, killing, or possessing migratory birds is unlawful. Unless permitted by regulation, the MBTA provides that it is unlawful to pursue, hunt, take, capture, or kill; attempt to take, capture, or kill; possess; offer to or sell, barter, purchase, or deliver; or cause to be shipped, exported, imported, transported, carried, or received any migratory bird, part, nest, egg, or product, manufactured or not.

According to the MBTA, a person, association, partnership, or corporation that violates the Act or its regulations is guilty of a misdemeanor and subject to fines, imprisonment, or both. The USFWS is responsible for implementing the provisions of the MBTA, which is enforced by the USFWS Division of Law Enforcement.

TABLE 6-9  
**Species of Greatest Conservation Need Identified in the Wyoming 2010 State Wildlife Action Plan Potentially Occurring in or near the Project Area**

Species	Scientific Name	Native Species Status (NSS)	Habitat
<b>Mammals</b>			
Big brown bat	<i>Eptesicus fuscus</i>	NSS4	A wide variety of habitats and elevations, including cottonwood riparian woodlands, sagebrush-steppe, juniper woodlands, conifer forests, and aspen woodlands.
Eastern red bat	<i>Lasiurus borealis</i>	NSSU	Primarily forested areas and riparian corridors. Occasionally found utilizing shrubs and conifers.
Hispid pocket mouse	<i>Chaetodipus hispidus</i>	NSS3	A variety of dry grasslands. Most commonly found in shortgrass or open bunchgrass prairie with sparse or moderate vegetation density.
Little brown myotis	<i>Myotis lucifugus</i>	NSS4	Coniferous forest, riparian areas, woodlots, shelterbelts, and urban areas up to about 11,000 ft near open water
Olive-backed pocket mouse	<i>Perognathus fasciatus</i>	NSS4	A variety of arid and semiarid upland habitats. Primarily occurs in sparsely vegetated grasslands and sagebrush-grasslands and prefers loose sandy to clay soils.
Plains harvest mouse	<i>Reithrodontomys montanus</i>	NSS3	Prefers well vegetated grasslands and weedy fields with soil less than 40 percent and vegetation less than 10 inches (25 centimeters). Most commonly found in blue grama grasslands but also occupies sagebrush grasslands, buffalo grass, and mixed grasslands.
Plains pocket gopher	<i>Geomys bursarius</i>	NSS3	Prefers open lands such as sagebrush-grasslands, eastern Great Plains grasslands, and agricultural areas. Burrows usually associated with deep sandy or loamy soils.
Plains pocket mouse	<i>Perognathus flavescens</i>	NSS3	Sand dunes, sagebrush-, yucca-, and grama-grasslands with sandy or sandy loam soil, sparse vegetation, where dominant vegetation exceeds 20 inches
Preble's meadow jumping mouse	<i>Zapus hudsonius preblei</i>	NSS4	Marshy meadows, moist grasslands and riparian shrub communities
Silky pocket mouse	<i>Perognathus flavus</i>	NSS3	Inhabits a variety of arid habitats including grasslands, shrublands, and juniper woodlands on valley bottoms, mesas, and hillsides. Prefers low, thin grasses and minimal bare soil. Most abundant on loose, friable soils.
Spotted ground squirrel	<i>Spermophilus spilosoma</i>	NSS4	Arid and semiarid areas, including sagebrush-grasslands, grasslands, disturbed areas, and sand dunes. Prefers dry, deep, sandy soils with sparse vegetation.
Swift fox	<i>Vulpes velox</i>	NSS4	Prefers shortgrass prairie and mixed-grass prairie with gently rolling or level landscapes. Also found in sagebrush steppe in Wyoming.

TABLE 6-9  
**Species of Greatest Conservation Need Identified in the Wyoming 2010 State Wildlife Action Plan Potentially Occurring in or near the Project Area**

Species	Scientific Name	Native Species Status (NSS)	Habitat
<b>Birds</b>			
Bald eagle	<i>Haliaeetus leucocephalus</i>	NSS2	Generally associated with large bodies of open water with fish, waterfowl and tall trees, typically nesting in tall trees, on cliffs.
Bobolink	<i>Dolichonyx oryzivorus</i>	NSS4	Grasslands with large expanses of grass or forbs for cover. Prefers large open areas of tall grass, alfalfa, clover, or grain crops.
Burrowing owl	<i>Athene cucularia</i>	NSSU	Prefers sparse vegetation and bare ground on well drained, level to gently sloping areas. Can be found in a wide variety of arid and semiarid environments.
Chestnut-collared longspur	<i>Calcarius ornatus</i>	NSS4	Shortgrass and open mixed-grass prairies. Prefers relatively mesic areas within arid habitats.
Dickcissel	<i>Spiza americana</i>	NSS4	Often inhabits grasslands with dense vegetation of taller grasses, forbs, or shrubs. Also uses hay and alfalfa fields.
Ferruginous hawk	<i>Buteo regalis</i>	NSS3	Primarily found on semiarid open grasslands, basin-prairie shrublands, and badlands. Requires large tracts of relatively undisturbed rangeland and nests on rock outcrops, cutbanks, cliffs, trees, or the ground.
Grasshopper sparrow	<i>Ammodramus savannarum</i>	NSS4	Shortgrass prairies, mixed grasslands, meadows, open sagebrush-grasslands, and agricultural areas. Requires herbaceous cover and conspicuous perches.
Lark bunting	<i>Calamospiza melanocorys</i>	NSS4	Shortgrass prairie, mixed-grass prairie, and shrubsteppe habitats support populations, as do weedy fallow croplands, minimum-tillage croplands, planted cover.
Long-billed curlew	<i>Numenius americanus</i>	NSS3	Inhabits a wide variety of grassland types ranging from moist meadow grasslands to agricultural fields, wet and dry meadows and prairies, and grazed mixed-grass scrub communities.
McCown's longspur	<i>Calcarius mccownii</i>	NSS4	Found in open, dry, sparsely vegetated areas. It prefers 45 to 80 percent grass cover and 15 to 25 percent bare ground.
Mountain plover	<i>Charadrius montanus</i>	NSSU	Inhabits low, open habitats such as arid shortgrass and mixed-grass prairies with scattered clumps of cactus and forbs, and saltbush habitats.
Short-eared owl	<i>Asio flammeus</i>	NSS4	Occupies broad expanse of open habitat with dense, low-growing vegetation. Strongly correlated with ungrazed and undisturbed native grasslands and wetlands that support dense small mammal populations.

TABLE 6-9

**Species of Greatest Conservation Need Identified in the Wyoming 2010 State Wildlife Action Plan Potentially Occurring in or near the Project Area**

Species	Scientific Name	Native Species Status (NSS)	Habitat
Swainson's hawk	<i>Buteo swainsoni</i>	NSSU	Semi-open and open areas below 9,000 feet (2,740 meters) elevation, including prairies, plains, shrub-steppe, large mountain valleys, savannah, open pine-juniper woodlands, and cultivated lands with scattered trees.
Upland sandpiper	<i>Bartramia longicauda</i>	NSSU	Open grassland habitats, including prairies, meadows, pastures, hayfields, alfalfa fields, and highway right-of-ways. Large areas of short grasses interspersed with or adjacent to taller grasses are required.
<b>Reptiles</b>			
Great Plains earless lizard	<i>Holbrookia maculata maculata</i>	NSSU	Grassland communities. Yucca and exposed sandy habitats are preferred. May also be found along streams, prairie dog towns, and other flat open areas.
Greater short-horned lizard	<i>Phrynosoma hernandesi</i>	NSS4	A variety of habitats ranging from semiarid plains to the mountains. May be found in shortgrass prairie and sagebrush habitats, and open pine-spruce, pinyon-juniper, and spruce-fir forests.
Northern many-lined skink	<i>Plestiodon multivirgatus multivirgatus</i>	NSSU	Prefers grassland communities in the plains zone, including prairies and scarp woodlands with loose soil for burrowing. Often observed near cover such as logs, cow dung, trash, and rocks.
Plains gartersnake	<i>Thamnophis radix</i>	NSSU	Along small streams, sloughs, and ponds in the grassland communities of the plains zone.
Plains hog-nosed snake	<i>Heterodon nasicus</i>	NSSU	Prefers grasslands with sandy or gravelly areas for burrowing in areas near water. Also known to inhabit open brushland and woodland, farmlands, canyon bottoms, scrub brush, and floodplains.
Prairie lizard	<i>Sceloporus consobrinus</i>	NSSU	Prefers grassland and scarp woodlands in the plains zone of Wyoming. May be found in grassland hillsides, sandy areas, sandstone outcrops, limestone outcrops, cliffs, talus, and other types of outcrops.
Prairie racerunner	<i>Aspidescelic sexlineatus viridis</i>	NSSU	Prefers floodplains and yucca-covered grasslands. Requires an unvegetated or sparsely vegetated opening.
Red-sided gartersnake	<i>Thamnophis sirtalis parietalis</i>	NSSU	Near permanent water at lower elevations in the plains zone in a variety of habitats.
Eastern painted turtle	<i>Chrysemys picta bellii</i>	NSS4	Swampy habitats, marshes, small lakes, ponds, ditches, and muddy streams with slow-moving shallow water, soft bottoms, basking sites, and aquatic vegetation.

TABLE 6-9  
**Species of Greatest Conservation Need Identified in the Wyoming 2010 State Wildlife Action Plan Potentially Occurring in or near the Project Area**

Species	Scientific Name	Native Species Status (NSS)	Habitat
<b>Amphibians</b>			
Great Plains toad	<i>Anaxyrus cognatus</i>	NSSU	Grasslands, sand hills, and agricultural areas below 6,000 feet (1,830 meters) elevation.
Northern leopard frog	<i>Lithobates pipiens</i>	NSSU	In or near permanent water in the plains, foothills, and montane zones. Prefers swampy cattail marshes on the plains.
Plains spadefoot	<i>Spea bombifrons</i>	NSSU	Prefers loose and well drained soils within plains grasslands and sagebrush communities below 6,000 feet (1,830 meters) in elevation.

Notes:

NSS1 = Population status imperiled, limiting factors are severe and continue to increase in severity.

NSS2 = Population status imperiled, limiting factors are severe and not increasing significantly; or vulnerable, limiting factors are severe and continue to increase in severity.

NSS3 = Population status vulnerable, limiting factors are severe and not increasing significantly.

NSS4 = Population status vulnerable, limiting factors are moderate and appear likely to increase in severity; or population status stable, limiting factors are severe and not increasing significantly.

NSSU = NSS unknown until additional information is obtained for the species.

Source: WGFD, 2010c.

**Bald and Golden Eagle Protection Act.** In addition to the protections afforded to eagles under the MBTA, the Bald and Golden Eagle Protection Act (BGEPA) prohibits knowingly taking, or taking with wanton disregard for the consequences of an activity, any bald eagle (*Haliaeetus leucocephalus*) or golden eagle (*Aquila chrysaetos*) or their body parts, nests, or eggs, which includes collection, molestation, disturbance, or killing. Under the BGEPA take “includes also pursue, shoot, shoot at, poison, wound, kill, capture, trap, collect, molest or disturb” (16 U.S.C. § 668c).

The term “disturb” under the BGEPA has recently been defined as: “to agitate or bother a bald or golden eagle to a degree that causes, or is likely to cause, based on the best scientific information available, 1) injury to an eagle, 2) a decrease in its productivity, by substantially interfering with normal breeding, feeding, or sheltering behavior, or 3) nest abandonment, by substantially interfering with normal breeding, feeding, or sheltering behavior” (72 CFR 31332). In addition to immediate impacts, this definition also covers impacts that result from human-induced alterations initiated around a previously used nest site during a time when eagles are not present, if, upon the eagles return, such alterations agitate or bother an eagle to a degree that injures an eagle or substantially interferes with normal breeding, feeding, or sheltering habits and causes, or is likely to cause, a loss of productivity or nest abandonment.

**Fish and Wildlife Service Mitigation Policy.** In developing mitigation recommendations, the USFWS is guided by the Fish and Wildlife Service Mitigation Policy (46 CFR 15; January 1981) in evaluating modifications to or loss of habitat caused by development. This policy follows the sequence of steps recommended in the Council on Environmental Quality’s Regulations for Implementing the Procedural Provisions of NEPA in seeking to avoid, minimize, or compensate for negative impacts. Mitigation can involve 1) avoiding the impact of an activity by taking no action; 2) minimizing impacts by limiting the degree of activity; 3) rectifying an impact by repairing, rehabilitating, or restoring an affected environment; 4) reducing or eliminating an impact by conducting activities that preserve and maintain the resources; or 5) compensating for an impact by replacing or providing substitute resources or environments.

### **Baseline Assessment**

A variety of avian species may utilize the Project site for nesting and foraging; however, no federally listed or state-protected species are expected to occur or be affected by the Project. During baseline studies of the Project site and pipeline corridor, three raptor nests were detected south of the Project area in the Cottonwood riparian habitat along Crow Creek. The nearest nest is located approximately 0.36 miles from the gas Project area, but potentially closer to the pipeline route, depending on the final entry and exit locations associated with the directional boring.

The nests were detected outside the nesting season; however, based on characteristics and historical knowledge of these nests, the species that are likely to use these nests in the future include Swainson’s hawk (*Buteo swainsoni*), great-horned owl (*Bubo virginianus*), and red-tailed hawk (*Buteo jamaicensis*). In discussions with the USFWS, the agency recommends that BHC avoid disturbance of any active raptor nest during the nesting season by implementing the following avoidance measures:

1. Complete construction outside the nesting period (approximately January 1 through August 1, depending on species).
2. If construction must occur during the nesting period, locate all construction activity greater than 0.125 mi from active great horned owl nests and 0.25 mi from active Swainsons’ hawk and red-tailed hawk nests.

3. If construction activity must occur within the avoidance area during the nesting period, USFWS recommends that an onsite biologist monitor the nest to ensure that the nesting raptors are not at risk of disturbance. If this situation is necessary, BHC would coordinate with the USFWS to implement effective measures to ensure compliance with the MBTA.

These raptor nests and the area surrounding the Project site will be evaluated in spring 2012 and 2013, prior to construction, to determine species and status of nesting raptors and to ensure that compliance with the USFWS recommendations to avoid impact can be effectively implemented.

In coordination with the USFWS, the agency recommended that BHC implement measures to avoid or minimize risk of impact to MBTA-protected ground and grassland/shrub nesting birds, such as mowing, clearing vegetation, or trenching outside the nesting season. BHC will consider ground preparation practices to discourage ground nesting at the Project site and natural gas line corridor, which would involve mowing or tilling prior to nesting season or documenting the absence of nesting birds where disturbance will occur.

### **Construction Impacts**

By implementing USFWS recommendations, impacts to raptors and other birds will be avoided or minimized during construction of the Project, with no significant population level impacts that may impair the health, safety, or welfare of the avian species in the area of site influence.

### **Operation Impacts**

Impacts to raptors and other birds during operation are anticipated to be low to nonexistent, with no significant population level impacts that may impair the health, safety, or welfare of the avian resources in the area of site influence. BHC will implement its Avian Protection Plan (BHC, 2011) in the design and operation of the Project. Measures taken to minimize Project impacts on birds and bats are contained in Section 7.

## **6.12.4 Bats**

Of the 45 species of bats found in the continental United States, six are federally listed as endangered under the ESA. However, no federally listed species are known to occur within or near the Project area. Therefore, no baseline study of bat use was completed for the Project. The upland habitat at the gas plant site and along the pipeline corridor may provide suitable foraging habitat for some bat species, although the importance of this habitat and the extent of use by bats would be expected to be very low. The riparian area along Crow Creek likely provides suitable roosting habitat for some bat species, and likely provides higher quality foraging habitat than the Project site and remainder of the transmission line site due to the presence of mature trees, surface water and associated insects in this area.

### **Construction Impacts**

The extent of impacts will be at the Project site and along the pipeline corridor away from Crow Creek will be minor from a landscape perspective, and impacts to the Crow Creek area will be avoided by directionally boring underneath the water body; therefore, no significant population level impacts that may impair the health, safety, or welfare of the bats in the area of site influence are anticipated to result from construction of the Project.

### **Operation Impacts**

The extent of permanent habitat disturbance at the gas plant site will be minor from a landscape perspective, and impacts along the pipeline right-of-way (ROW) will be temporary and reclaimed after pipeline installation; therefore, impacts to bats during operation are anticipated to be low to

nonexistent, with no significant population level impacts that may impair the health, safety, or welfare of the bat resources in the area of site influence.

### 6.12.5 Aquatic Wildlife

The Project is within the Platte River Basin, which supports a distinct community of fish and aquatic wildlife, some of which are identified in the Wyoming SWAP as SGCN (10 fish, 3 reptiles, 3 crustaceans, and 3 mollusks). Crow Creek flows approximately 0.35 miles south of the Project, which supports fish and other aquatic wildlife. No other aquatic habitats are present in or near the Project.

Crow Creek supports a primary species assemblage of bigmouth shiner, central stoneroller, common shiner, and Iowa darter, brown trout, creek chub, Johnny darter, longnose dace, longnose sucker, plains killifish, sand shiner, and white sucker with a secondary species assemblage of western painted turtle, northern leopard frog, and Woodhouse's toad (WGFD 2008). Portions of Crow Creek are on the Wyoming Water Quality list of impaired waters, and the WYDEQ indicates that the city of Cheyenne appears to have a major impact on the water quality of Crow Creek (WDEQ, 2010). Crow Creek is designated impaired due to sediment from Happy Jack Road downstream to Hereford Reservoir #1, and it is designated impaired due to exceedances of the chronic selenium criterion from Frontier Refinery downstream to Hereford Reservoir #1. Waters identified as impaired are listed under section 303(d) and are those waters for which the effluent limits outlined in Section 301 of the CWA are not effective in attaining designated uses.

#### Construction Impacts

Although fish and aquatic wildlife are present in and near Crow Creek, the pipeline will be directionally bored under this surface water; therefore, no direct impacts to the aquatic habitat or associated species will occur from construction of the Project that may impair the health, safety, or welfare of the aquatic wildlife resources in the area of site influence.

Additionally, no consumptive groundwater or surface water use is planned for the Project that would significantly affect Crow Creek, and BHP's compliance with the requisite SPPP and SPCC Plan to be developed for the Project will ensure no construction period impacts will occur to surface or groundwater quality that would impair the health, safety, or welfare of the aquatic species inhabiting Crow Creek.

#### Operation Impacts

No operational impacts will occur to the aquatic habitat or associated species will occur from construction of the Project that may impair the health, safety, or welfare of the aquatic wildlife resources in the area of site influence.

## 6.13 Federally Listed Species

### 6.13.1 Regulatory Jurisdiction

Threatened and endangered plant and animal species are protected under the federal ESA of 1973, as amended. Designated threatened and endangered plant and animal species are protected from incidental take by implementing acts and federal policies. The following details the ESA and policies that currently protect threatened and endangered species.

**Endangered Species Act of 1973** - Those species classified as threatened or endangered are protected under the ESA, enforced by USFWS. Threatened or endangered species are considered "federally listed" or "listed" after a final rule has been published in the Federal Register. Federal candidate species are those plant and animal species being considered for listing as endangered or threatened, but for which a proposed regulation has not yet been published in the Federal Register.

Wyoming does not have an endangered species act; therefore, those species with federal designation are protected under the ESA.

This Project requires a greenhouse gas permit from the EPA; therefore, ESA Section 7 consultation is required between the EPA and USFWS. If the construction or operation of the Project were to result in the take of an endangered species, the applicant would be in violation of the ESA.

A major difference in the ESA is how it establishes broad prohibitions against “taking” endangered or threatened plant species. On private lands it is illegal to “remove, cut, dig up, or damage or destroy” plants only when it is “in knowing violation of any state law or in the course of any violation of state criminal trespass law.” Stated another way, there are no federal prohibitions under the ESA for the take of listed plants on nonfederal lands, unless taking of those plants is in violation of state law.

**Threatened and Endangered Species** - Endangered species are those plant and animal species, subspecies, or varieties that are in danger of extinction throughout all or a significant portion of their range. The threatened category comprises plant and animal species, subspecies, or varieties likely to become endangered within the foreseeable future throughout all or a significant portion of their range.

**Candidate Species.** Federal candidate species are plants and animals for which the USFWS has sufficient information on their biological status and threats to propose them as endangered or threatened under the ESA but for which development of a proposed listing regulation is precluded by other higher priority listing activities. Candidate species receive no statutory protection under the ESA. However, USFWS encourages cooperative conservation efforts for these species because they are, by definition, species that may warrant future protection under the ESA.

### 6.13.2 USFWS Threatened and Endangered Species

A review of the USFWS endangered, threatened, and candidate species for Wyoming (USFWS, 2011a) was completed to identify species listed under the ESA that have the potential to occur in the Project vicinity, and a letter was provided to the EPA by the USFWS noting the federally-listed species to be considered (USFWS, 2011b). Additionally, BHC met with representatives of the USFWS Wyoming Ecological Services Office in Cheyenne on February 16, 2012, to discuss compliance with the Endangered Species Act (ESA).

Three federally threatened species (one mammal and two plants) have the potential to occur within portions of the pipeline ROW and therefore warrant consideration. **Table 6-10** provides the species name, status, habitat, and potential for occurrence within the Project area. No candidate or petitioned species have potential to occur. Potential for occurrence was determined based on detailed assessment of the area proposed for development by technical experts (WEST, 2012) and discussions with the USFWS.

In addition to the three species identified as potentially occurring in the Project vicinity, five federally listed species inhabiting the downstream reaches of the Platte River system have potential to be affected by consumptive water use or activities that could influence the water quality of the Platte River system. These include the endangered least tern (*Sterna antillarum*), pallid sturgeon (*Scaphirhynchus albus*) and whooping crane (*Grus americana*) and the threatened piping plover (*Charadrius melodus*) and western prairie fringed orchid (*Platanthera praeclara*) (USFWS, 2011a).

TABLE 6-10  
Listed Threatened and Endangered Species Potentially Occurring in the Project Area

Species/Listing Name	Scientific Name	Status	Habitat	Potential for Occurrence
Colorado butterfly plant	Guara eomexicana coloradensis	Threatened	Wet meadows and riparian areas	Possible. Suitable habitat is potentially present within the drainages located along the pipeline ROW.
Preble's meadow jumping mouse	Zapus hudsonius	Threatened	Lush riparian vegetation or herbaceous understories of wooded areas near water.	Possible. Potentially suitable habitat is present within the pipeline ROW along Crow Creek.
Ute ladies'-tresses	Spiranthes diluvialis	Threatened	Along riparian edges, gravel bars, old oxbows, high flow channels, and most to wet meadows along perennial streams. It typically occurs in stable wetland and seep areas.	Possible. Potentially suitable habitat is present within the pipeline ROW along Crow Creek area.

Field surveys results and discussions with the USFWS indicate that the Project site for the generating station is basically free and clear of issues with the species and habitats protected under the ESA. The USFWS agreed that the distance of the Project from the area where the listed species could potentially occur was sufficient to conclude the gas plant construction and facility posed no threat of impact to the threatened species potentially occurring in the riparian corridor and adjacent uplands of Crow Creek.

Field survey results and discussions with the USFWS indicate that potentially suitable habitat exists in the Crow Creek drainage for Preble's meadow jumping mouse (PMJM), Colorado butterfly plant (CBP), and Ute ladies'-tresses (ULT). BHC intends to bore under the Crow Creek riparian habitat, thus resulting in no impact to these species or their potential habitat in this area. However, if impacts cannot be conclusively avoided at the bore entry and exit locations, the USFWS has requested that BHC survey for CBP and ULT at these impact areas to confirm or deny the presence of these species and take appropriate avoidance action through micrositing the entry and exit holes. USFWS indicated they would notify BHC when each species is in bloom during 2012 (anticipated to occur during June, July, and/or August) so that surveys can be completed if necessary. If impacts to potential habitat can be avoided with the directional bore, the USFWS confirmed that presence/absence surveys would not be warranted.

Field survey results and discussions with the USFWS indicate that that potentially suitable habitat may occur for CBP along Porter Draw, but that PMJM or ULT are unlikely to occur along Porter Draw and none of the three listed species is likely to occur elsewhere along the pipeline corridor. Thus, USFWS recommends that a one-time survey for CBP be completed in Porter Draw during summer 2012 to confirm or deny the presence of the CBP. If the species is found and BHC will avoid or drill under the area where the species is found to ensure that impacts are avoided.

### 6.13.3 Construction Impacts

By implementing USFWS recommendations for construction, impacts to federally listed species will be avoided during construction of the Project, with no significant population level impacts that may impair the health, safety, or welfare of the federally listed species in the area of site influence.

Additionally, no consumptive groundwater or surface water use is planned for the Project that would significantly affect the Platte River system, and BHC's compliance with the requisite Stormwater Pollution Prevention Plan and Spill Prevention, Control and Countermeasure Plan to be developed for the Project, will ensure no impact to surface or groundwater quality that would impair the health, safety, or welfare of the federally listed species inhabiting the downstream reaches of the Platte River System.

#### **6.13.4 Operation Impacts**

Impacts to federally listed species will not occur during Project operation; therefore, no significant population level impacts that may impair the health, safety, or welfare of the federally listed species potentially occurring in the area of site influence will occur.

### **6.14 Rare Vegetation Communities**

The area of site influence for rare vegetation communities was defined as the area entirely within the Project site boundary. Rare vegetation communities are those that are considered rare in the region, support sensitive species of plants and animals, and/or that are subject to regulatory protection through various federal, state, or local policies or regulations. These communities may or may not contain special-status plants.

#### **6.14.1 Construction Impacts**

A review of publicly available data and site reconnaissance did not identify the occurrence of any rare vegetation communities. Habitats present on the Project area consist of typical, regionally common, grassland. The pipeline portion of the Project will extend through similar grassland habitats, crossing several ephemeral and permanent waterbodies. The pipeline will be placed underneath Crow Creek to avoid impacts to the riparian vegetation community. Construction of the Project will not result in any impacts to rare vegetation communities, and only minimal impacts to common communities in the area of site influence.

#### **6.14.2 Operation Impacts**

Because none is present in the Project area, operation of the Project will not result in any impacts to rare vegetation communities in the area of site influence.

### **6.15 Traffic and Transportation**

#### **6.15.1 Transportation Facilities**

This section identifies major transportation facilities in the study area and their use levels.

##### **Major Facilities**

The project is located in Cheyenne, Wyoming east of the interchange at Interstate 25 (I-25) and I-80. Figure 6-5 shows the major roadway corridors within the study area. There are four local interchanges in the project study area: Interstate 180 (I-180) and I-80, College Drive and I-80, Campstool Road and I-80, and Lincolnway (US 30) and I-80. I-180 is also referred to as US 85 and North Greeley Highway until Lincolnway at which the northbound (NB) road becomes Warren Avenue and the southbound (SB) road becomes Central Avenue. Table 6-11 details the major roads and highways in the study area.

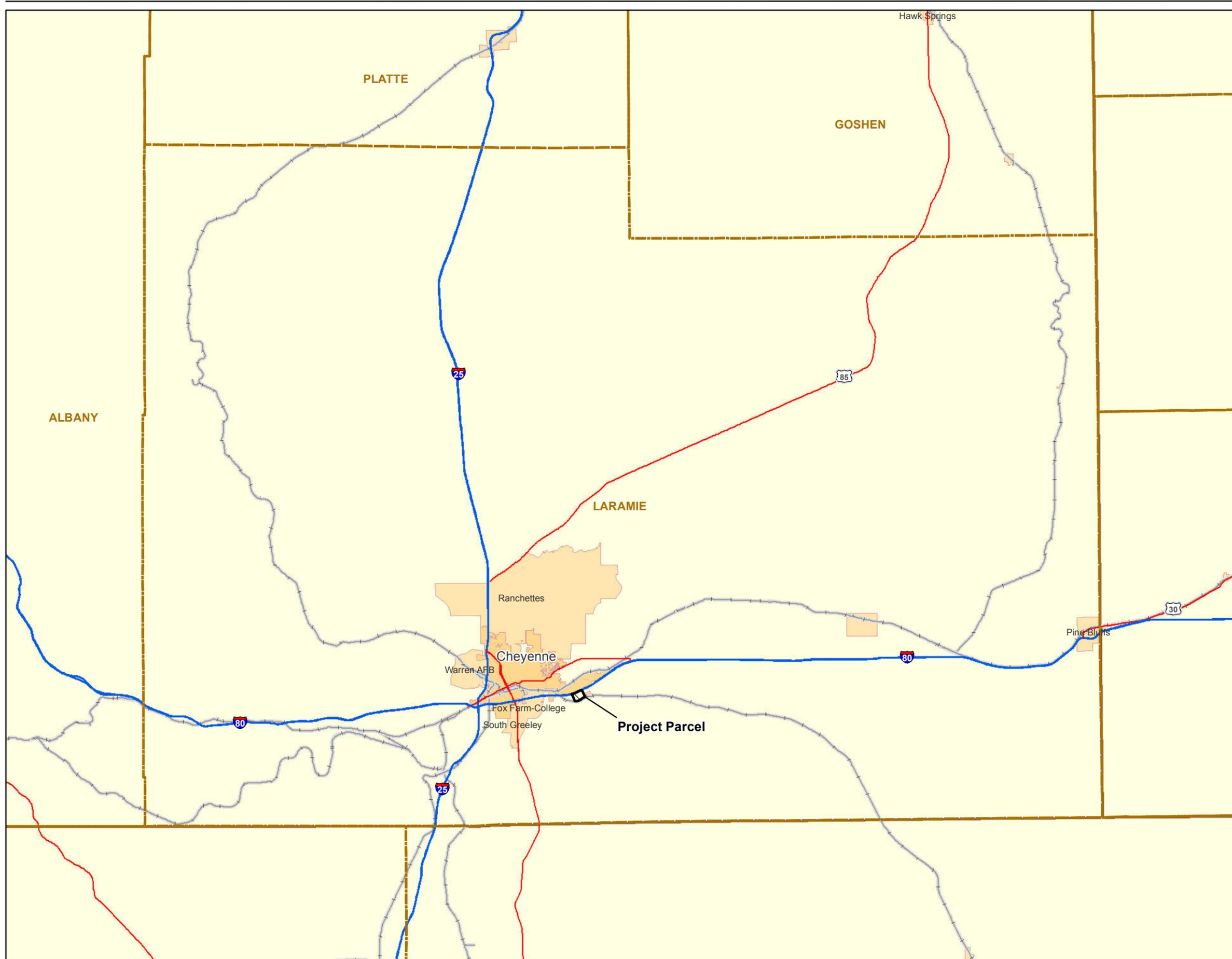
TABLE 6-11  
**Major Roadway Corridors within the Study Area**

Road	Type	General Direction
I-25	Interstate	North-South
I-80	Interstate	East-West
US 85/ I-180	U.S. Highway	North-South
Lincolnway/ US 30	U.S. Highway	East-West
Campstool Road/ Rd. 209	Local Road	East-West/ North-South

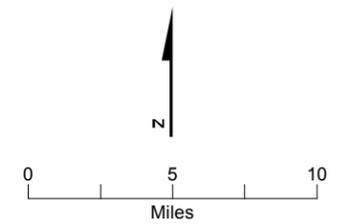
Source: CH2M HILL, 2012.

Traffic counts are recorded at a number of locations by both the Cheyenne Metropolitan Planning Organization (MPO) and the Wyoming Department of Transportation (WYDOT). These locations are shown in Figure 6-6. The highest traffic volumes are on I-25 and I-180, as can be seen from the traffic counts presented in Table 6-12. The highest proportion of trucks (approximately 42 percent) is recorded on I-80 east of College Drive. These traffic counts were all calibrated to a background existing scenario for the year 2010 using the growth rates in the existing counts.





- LEGEND**
- Project Parcel
  - County Boundary
  - Interstate
  - US Highway
  - Railroad



**Figure 6-5**  
**Study Area**  
 Cheyenne, Wyoming





-  WYDOT Count Location
-  Cheyene Count Location

**Figure 6-6**  
 Traffic Count Locations  
 Cheyenne, Wyoming



TABLE 6-12  
**Traffic Counts and Percent Truck Traffic, by Location**

Highways <sup>1</sup>			Count Data		
WYDOT Route	Direction	WYDOT Section Description	WYDOT Average Annual Daily Traffic (AADT)	Count Year	Percent Truck Traffic
25	NB	N. of College Dr.	11,240	2010	11%
25	NB	N. of I-80 Ramps	10,299	2010	19%
25	SB	N. of College Dr.	8,530	2010	18%
25	SB	N. of I-80 Ramps	9,209	2010	21%
80	WB	E. of Junction I-25	8,769	2010	33%
80	WB	E. of Junction I-180 (US 85 INT)	8,469	2010	33%
80	WB	E. of Junction Route 212 (Sun Valley INT)	5,860	2010	42%
80	EB	E. of Junction I-25	8,459	2010	32%
80	EB	E. of Junction I-180 (US 85 INT)	8,019	2010	33%
80	EB	E. of Junction Route 212 (Sun Valley INT)	5,810	2010	39%
180	SB	N. of I-80 WB Ramps	10,227	2010	3%
180	SB	N. of 5th Street	10,134	2010	2%
180	NB	N. of I-80 WB Ramps	10,894	2010	2%
180	NB	N. of 5th Street	10,883	2010	2%
Ramps and Intersections <sup>2</sup>			Count Data		
Cheyenne Station ID	Cheyenne Route	Cheyenne Location Description	Cheyenne Average Annual Daily Traffic (AADT)	Count Year	Percent Truck Traffic
17	5th Street	W. of Warren	7,513	2007	
1610	Burlington	S. of Campstool	822	2009	
215	Campstool	S. of I-80 EB Ramps	1,691	2009	
1615	Campstool	W. of Christensen	1304	2009	
264	Central Avenue	N. of 17th	9,968	2009	
523	I-25/ I-80	Loop- SW Quadrant	2,464	2009	
524	I-25/ I-80	Ramp- NE Quadrant	2,928	2009	
532	I-25/ Lincolnway	Ramp NE Quadrant	1,455	2009	
533	I-25/ Lincolnway	Ramp NW Quadrant	1,479	2009	
571	I-80/ Campstool	Ramp NW Quadrant	2,213	2007	
573	I-80/ Campstool	Ramp SW Quadrant	2,190	2007	
585	I-80/ So. Greeley	Ramp- NE Quadrant	2,422	2007	
587	I-80/ So. Greeley	Ramp- SE Quadrant	2,192	2007	
634	Lincolnway	E. of Little America	3,226	2009	
636	Lincolnway	E. of Missile	16,218	2009	
641	Lincolnway	E. of Pioneer	17,733	2009	

TABLE 6-12  
**Traffic Counts and Percent Truck Traffic, by Location**

Highways <sup>1</sup>			Count Data	
665	Lincolnway	W. of Missile	11,076	2009
666	Lincolnway	W. of Morrie	22,332	2010
696	Missile	N. of Lincolnway	6,369	2011
1035	Warren	N. of 17th	11,952	2009
1611	HR Ranch Rd.	E. of Burlington	158	2009

Source<sup>1</sup>: Wyoming Department of Transportation, 2010.

Source<sup>2</sup>: Cheyenne Area Traffic Counts, Cheyenne MPO, 2007-2011.

Figure 6-7 shows the location of rail infrastructure in the study area. The major lines, which intersect in Cheyenne, are operated and maintained by the Union Pacific Railroad and Burlington Northern Railroad. The Union Pacific Railroad operates the “Central Corridor” running east-west across the southern part of Wyoming with a main hub in the heart of Cheyenne. The line continues west from Cheyenne to Granger as one of the nation’s most heavily used freight routes, moving in excess of 100 million gross tons per annum (WSA, 2004). The Burlington Northern route is part of the “front range” corridor with Wyoming being a central component to the transcontinental route. Coal is the primary commodity flowing through Wyoming on the rail lines accounting for 95 percent of the originating freight tons in 2002.

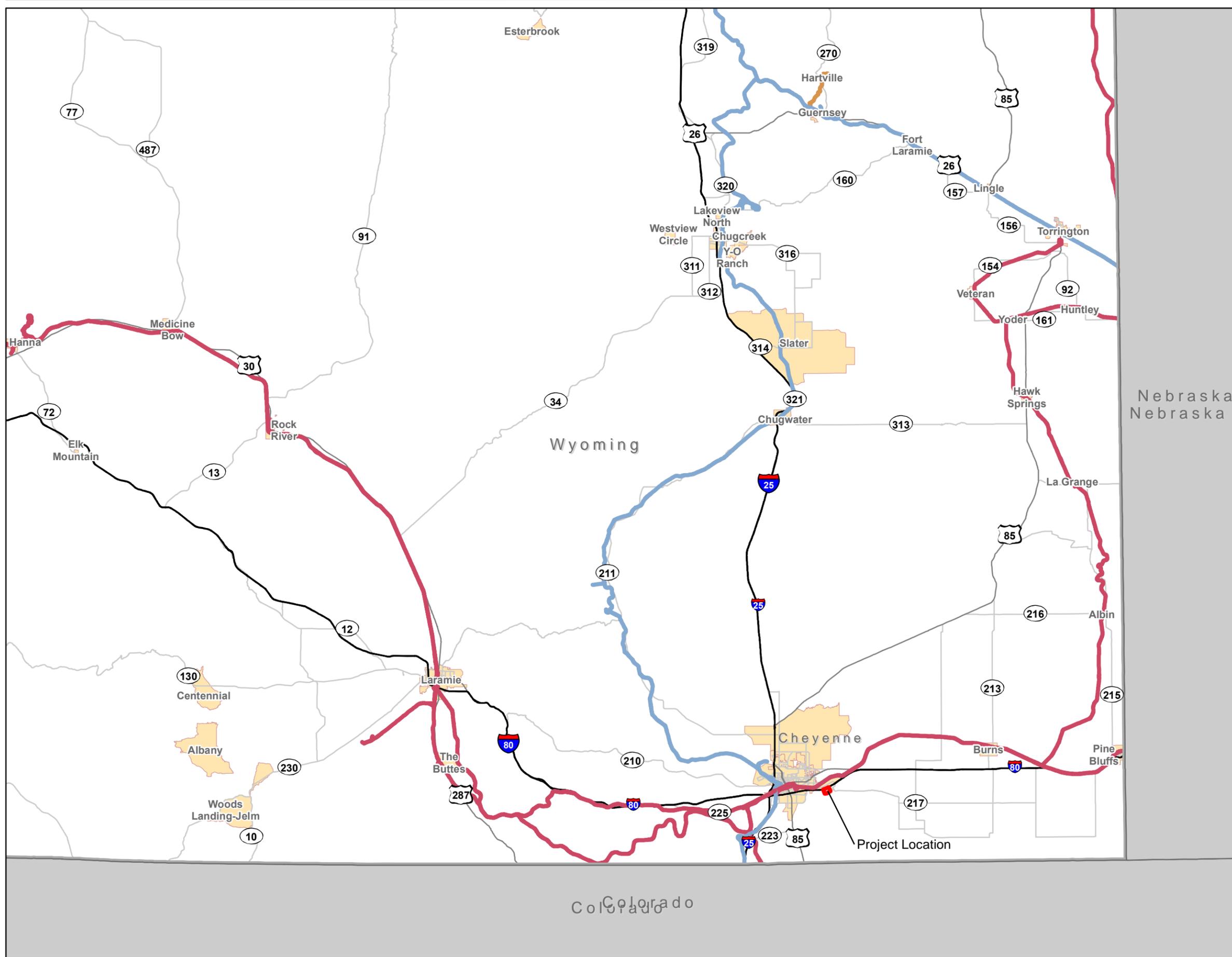
### Roadway Facilities Adjacent to the Project

The Project is located in Cheyenne approximately 8 miles east of I-25 along I-80.

The site is accessed along the proposed extension of HR Ranch Road west of the intersection with Campstool Road. The existing HR Ranch Road, runs east of Campstool Road and is an unpaved road traversing agricultural lands to the east and accessing a small number of residences. Campstool Road is a major collector south of I-80, and then changes classification north of I-80 to a minor arterial and continues parallel to I-80 into downtown Cheyenne. Access to the site is planned from the US 30/I-80, I-25/ I-80, the I-80/ I-180 (US 85), and the I-80/ Campstool Road interchanges.

### Potentially Affected Roads and Highways

I-25, I-80, and I-180 are the interstates that may be affected by the project. The personnel traffic will use these interstates as well as US 85, Lincolnway, and Campstool Road. The primary site access will be from the proposed extension of HR Ranch Road west of Campstool Road. This will tie into the intersection with the existing HR Ranch Road, which currently is immediately east of Campstool Road. As opposed to the personnel traffic coming from Cheyenne, the truck traffic will likely be coming from cities outside of Cheyenne. These deliveries will use I-25 and/or I-80 outside the study area limits, but they will use the I-80/ Campstool Road interchange for site access.

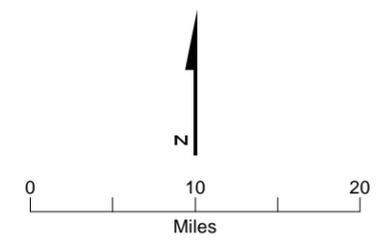


**LEGEND**

- Project Location
- City Area
- Interstate
- US Highway
- State/County/Local Road

**Railroad**

- Burlington Northern Railroad
- Union Pacific Railroad
- Joint BNSF and UP
- Other Owner



**Figure 6-7**  
**Rail Network**  
 Cheyenne, Wyoming



During the construction period, HR Ranch Road will only be extended to the site access so that local traffic will not mix in with the construction traffic. Once construction of the site is complete, the project will continue the extension to the existing HR Ranch Rd near the intersection with Burlington Trail Road. HR Ranch Road currently serves as the only access to the residences in this area. This connection will make HR Ranch Road a thru route from Burlington Trail Road to Campstool Road just south of I-180.

During project construction, roads and highways may be impacted by vehicles hauling materials to and from the site. Contractors will comply with existing federal, state, and county requirements and restrictions to protect the road network and the traveling public. In addition, load limits will be observed at all times to prevent damage to existing paved road surfaces. If necessary, arrangements to transport oversized loads will be coordinated with and approved by WYDOT.

### Personnel Access Routes

The anticipated month for the peak construction workforce (400) is December 2013. The peak traffic months in Laramie County are July and August due to the summer tourism. To represent a worst-case scenario, the peak workforce was used with the average traffic month. Although some portion of the workforce will be travelling from outside Cheyenne, the workforce is assumed to all be housed within Cheyenne to demonstrate a worst-case scenario in the urban roadway network. The workforce is expected to use the following access routes:

- Lincolnway Hotels- Lincolnway to I-25 SB to I-80 EB to Campstool Road and HR Ranch Road
- Downtown- possible route 1 – Lincolnway to Central Avenue to I-80 EB to Campstool Road and HR Ranch Road
- Downtown- possible route 2- Lincolnway to Central Avenue to 5th Street East that becomes Campstool Road to HR Ranch Road
- South of I-80- US 85 to I-80 EB to Campstool Road and HR Ranch Road

Once construction is complete, operations will require approximately five local personnel during three shifts. As during the construction period, the site will be accessed from the proposed intersection with Campstool Road. It is assumed that all operations personnel will live in or near Cheyenne and drive their own vehicles to the site. It is assumed that the operations personnel will travel from downtown Cheyenne via US 85 and I-80.

### Truck Access Routes

Construction deliveries by rail are not anticipated; therefore, all of the construction materials will be trucked to the site. These deliveries will be from I-80 and I-25 with the expectation that they will be traveling from cities outside of Cheyenne, particularly north from Fort Collins. Heavy trucks are expected to rarely access the site during the operations period.

### Traffic Analysis – Existing Conditions

In order to assess the potential traffic impacts associated with the Project, existing and future traffic conditions were analyzed both with and without the Project for three time periods: existing, construction, and operations. The Institute of Transportation Engineers' *Trip Generation Manual*, the Federal Highway Administration's *Highway Capacity Manual*, the Cheyenne Metropolitan Planning Organization (MPO), and the WYDOT planning department were used as resources for this analysis.

The operating conditions, or level of service (LOS), provided by the highways and the intersections were assessed using *Highway Capacity Manual* freeway, ramps, signalized, and un-signalized intersection methodologies. LOS is a term used to qualitatively describe operating conditions in a traffic stream and motorists' perceptions of those conditions. Six LOS classifications are given a letter designation from A to F, with A representing the best operating conditions and F the worst. LOS D is typically considered acceptable for peak hour operations.

For Freeways, LOS is defined in terms of speed and flow rate. For signalized intersections, LOS is defined in terms of average delay per vehicle. The method incorporates delay associated with deceleration, acceleration, stopping, and moving up in the queue. For side street stop-controlled intersections, LOS is defined in terms of delay in seconds for each movement from the minor approaches and the left turns from the major street.

The 2010 daily volumes were used to calculate the peak hour volumes assuming an even ten percent of the daily volume in both the morning and evening peak hours. The 2010 peak hour volumes, shown in Figure 6-8, indicate that all ramps and intersections are operating at acceptable levels of service. All of the freeway segments within the study area operate at a LOS A during the 2010 peak hour.

### Traffic Analysis - Construction

Approximately 1,800 trucks are expected to make deliveries to the site over the 14 month construction period. Table 6-13 lists the expected delivery schedule and number of trucks per type of delivery. All deliveries will come from the I-80 and Campstool Road interchange during off-peak hours.

WYDOT will require all oversized loads to avoid peak traffic hours, holidays, and nighttime hours. Suppliers, and/or haul contractors will be required to check each proposed load to verify clearances prior to beginning haul to ensure that no detours are necessary. The I-80 bridges over Campstool Road are marked for low clearance.

TABLE 6-13

#### Construction Trucks

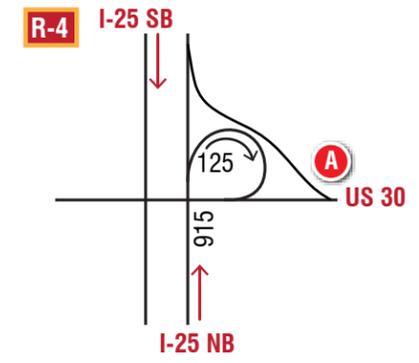
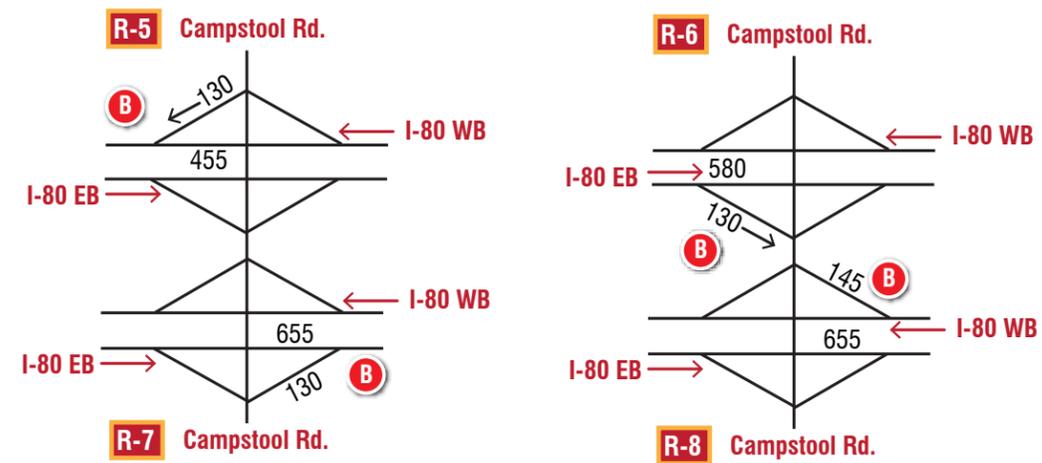
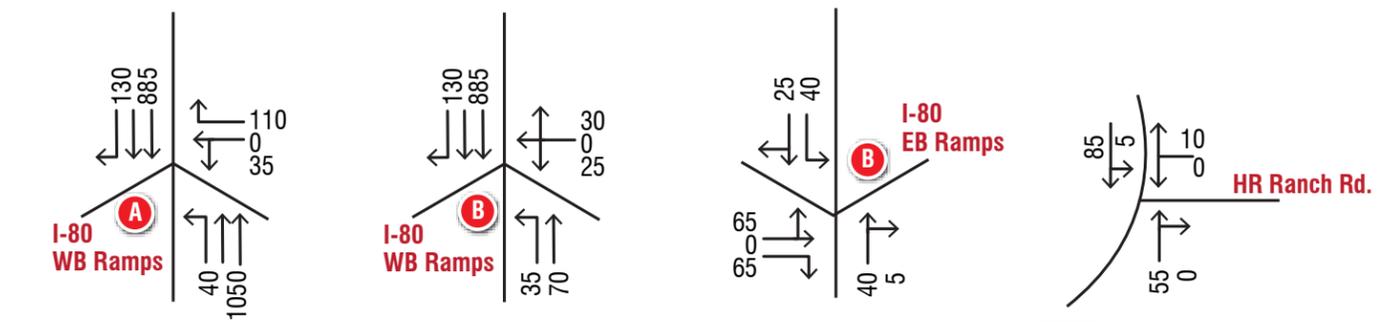
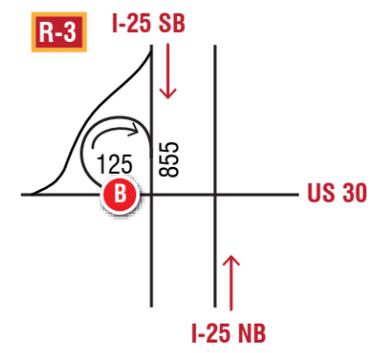
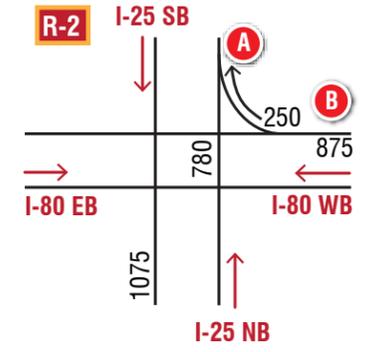
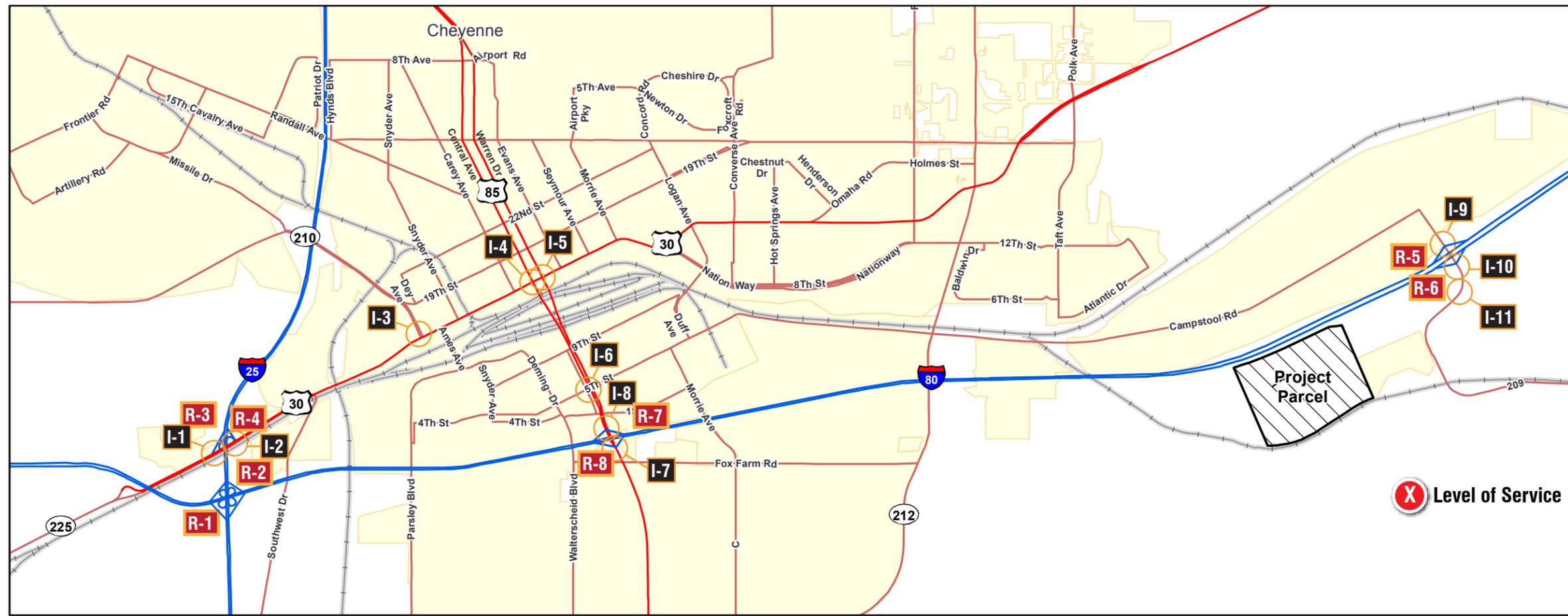
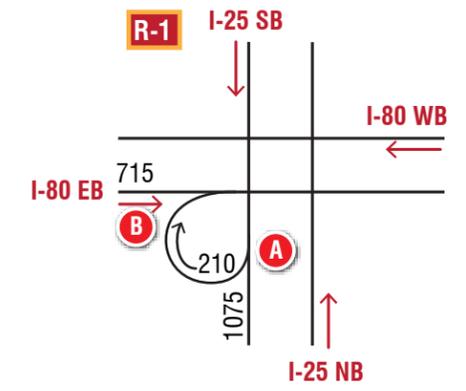
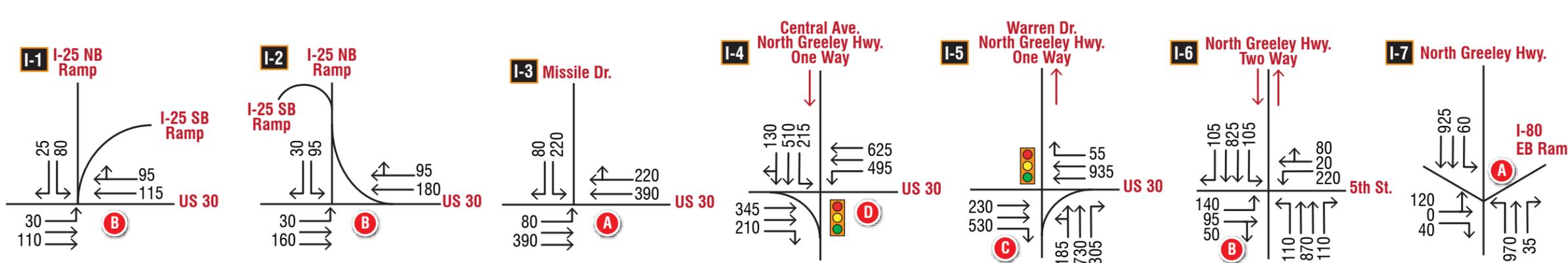
Truck Type	Total Number of Trucks <sup>1</sup>	Delivery Schedule	Average Truck Trips Per Day <sup>2</sup>
Construction Materials Trucks	423	April 2013- April 2014	4
Concrete Trucks	1,051	May – December 2013	9
Mobilization/ Demobilization Trucks	290	April 2013- May 2014	2
Commissioning Items	50	January- May 2014	1
Total	1,814		16

<sup>1</sup> Trucks traveling on highway system, not including internal site trips.

<sup>2</sup> Represents worst month scenario. All deliveries will be during off peak hours.

Source: *Black Hills, 2012.*

The potentially affected highways, ramps, and intersections were analyzed with and without the project to determine impacts to the facilities due to the construction of the project. The construction will take place from 2013 to 2014, so the worst case analysis year is 2014.



**Figure 6-8**  
 Traffic Volume (2010)  
 Peak Hour Base Conditions  
 Cheyenne, Wyoming



## Background Analysis

The traffic count data were projected to 2014 by increasing the volumes from the 2010 base year volumes using a 1.25 percent annual growth rate. This growth rate is an average between the Cheyenne transportation planning growth rate from the 2006 “Plan Cheyenne” and the projected Laramie County population growth rate from the WYDOT Long Range Transportation Plan from 2008. The 2014 daily volumes were then used to calculate the peak hour volumes assuming an even ten percent of the daily volume in both the morning and evening peak hours. It is assumed the existing truck percentages will remain the same in future years.

Figure 6-9 shows the 2014 background ramp and intersection volumes and corresponding LOS. The I-25 and I-80 freeway LOS is calculated for each direction between each interchange as the volumes vary between segments, and each segment operates at LOS A.

All of the facilities operate at acceptable levels of service during the peak hours. The signalized intersections at Lincolnway/ Central Avenue and Lincolnway/ Warren Avenue operate at LOS D and LOS C, respectively, in the background analysis. The worst delays are for the WB left turns onto Central Avenue (delay of 51 seconds in the peak hour) and WB thru movement across Warren Avenue (delay of 45 seconds). The average control delay for both intersections is 30 seconds or less. All other intersections operate at LOS A or B, and all ramp merges, ramp diverges, and freeway segments are LOS A or B. With very little volume growth from 2010 to 2014, there is little change in operating conditions for the background volumes.

## Total Analysis

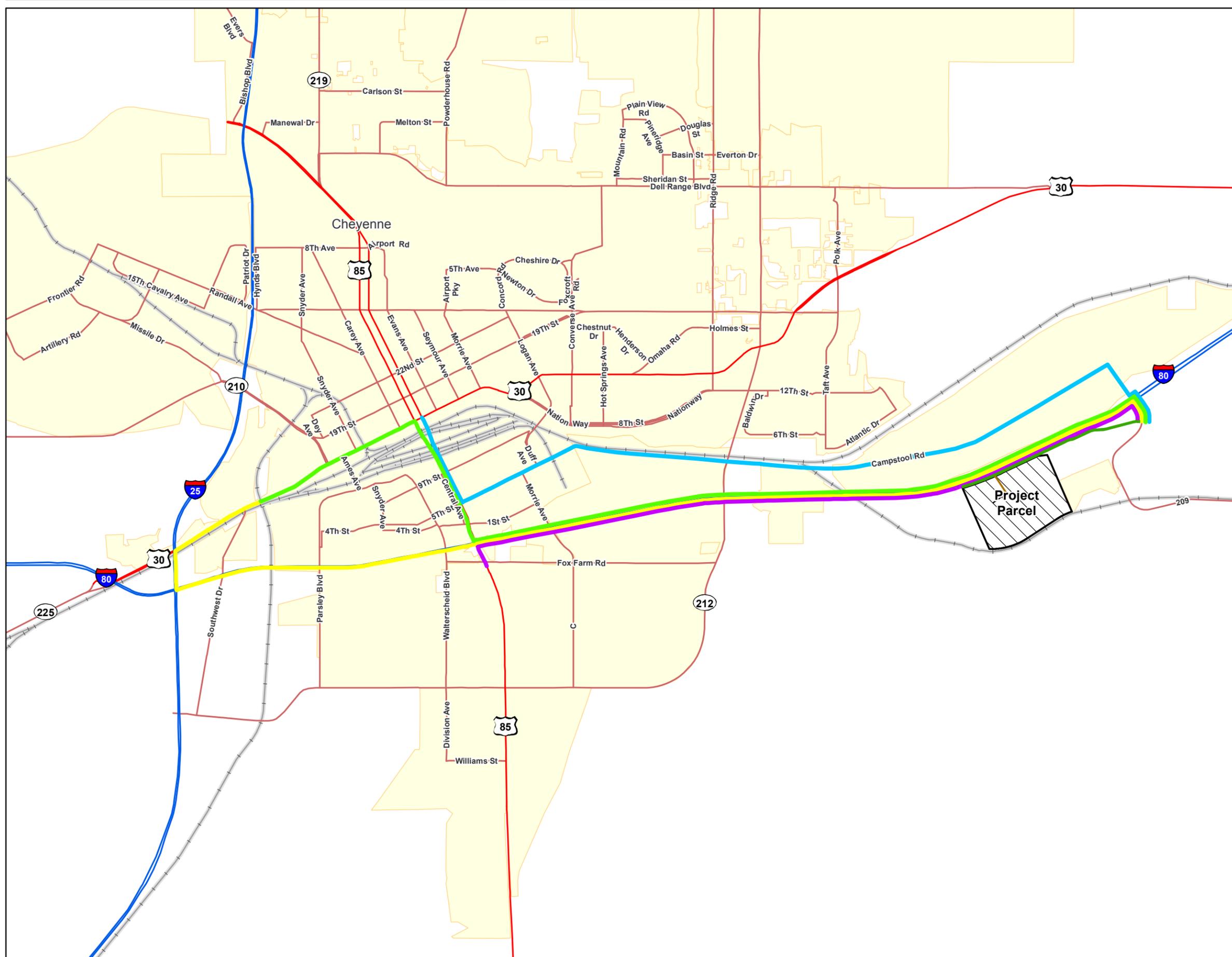
Adding the site-generated traffic to the background traffic yields the volumes for the analysis of the Project’s construction period. The trip generation and distribution process used the following assumptions to calculate the additional highway and turn movement volumes due to the construction project:

- 400 peak construction workers
- Construction will occur in one daily shift with personnel arriving in the morning peak hour and departing in the evening peak hour.
- The workers will reside in hotels in central Cheyenne or South of I-80 near US 85.
- The average vehicle occupancy is 1.3 people per vehicle.
- The proposed trips were distributed as shown in Figure 6-10.

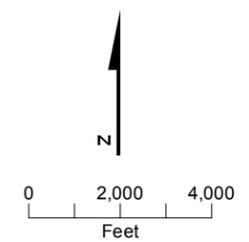








- LEGEND**
- Project Parcel
  - HR Ranch Road - Proposed Extension
  - Project Driveway
  - City Area
  - Interstate
  - US Highway
  - State/County/Local Road
  - Railroad
- Trip Distribution**
- 10% coming from S. Greeley Highway south of I-80
  - 35% coming from Central Ave/N. Greeley Hwy
  - 5% coming from Lincoln Way/Campstool
  - 50% coming from Lincoln Way/I-25 Interchange



**Figure 6-10**  
**Trip Distribution**  
 Cheyenne, Wyoming



These assumptions result in the estimation of 150 additional cars traveling to and from Lincolnway, I-25 and I-80 per peak hour during the construction period. These volumes plus 105 cars from I-180/US 85 and 30 cars from US 85 south of I-80, yield a total of 285 additional cars travelling east of US 85 on I-80 to/ from Campstool Road per peak hour. There will also be an additional 15 cars on Campstool Road north of I-80. The direction of travel is to the site in the morning and from the site in the evening peak hour.

Figure 6-11 shows the 2014 total ramp and intersection volumes and corresponding LOS with the additional construction traffic. The intersection LOS is shown for both morning and evening peak hours. The freeway segments all operate at LOS A except for Northbound I-25 north of I-80 and WB I-80 west of College, both operating at LOS B in the evening peak hour.

The additional volume generated by the project construction does degrade level of service by one letter designation at several locations. The operations of the Lincolnway/ Warren Avenue signalized intersection decrease in level of service in the morning peak hour due to the additional construction volume. The operations at the ramp terminal intersections at both US 85 and Campstool Road decrease in LOS in the evening peak hour because the additional site traffic is added to the thru and left-turn movements, creating more control delay. The intersection of HR Ranch Road and Campstool Road operates at LOS B in the evening peak hour because of the increased left turns coming out of the site. However, all intersections have an average control delay less than 10 seconds; thus, travelers will not experience excessive delays during the peak construction period.

In addition to the highway system, construction workers staying in the area may use county roads for recreational purposes. The additional vehicle trips on these roads are not likely to degrade the operational performance of the roadways.

### **Traffic Analysis - Operations**

The potentially affected freeways, ramps, and intersections were analyzed with and without the project to determine impacts to the facilities due to the operations of the Project once construction is complete. The operations will begin in June 2014, so the operations analysis year is the same as the construction analysis year.

### **Background Analysis**

The background volumes for the operations analysis scenario are the same as those for the background construction analysis scenario. All of the freeways, ramps, and intersections operate at acceptable LOSs.

### **Total Analysis**

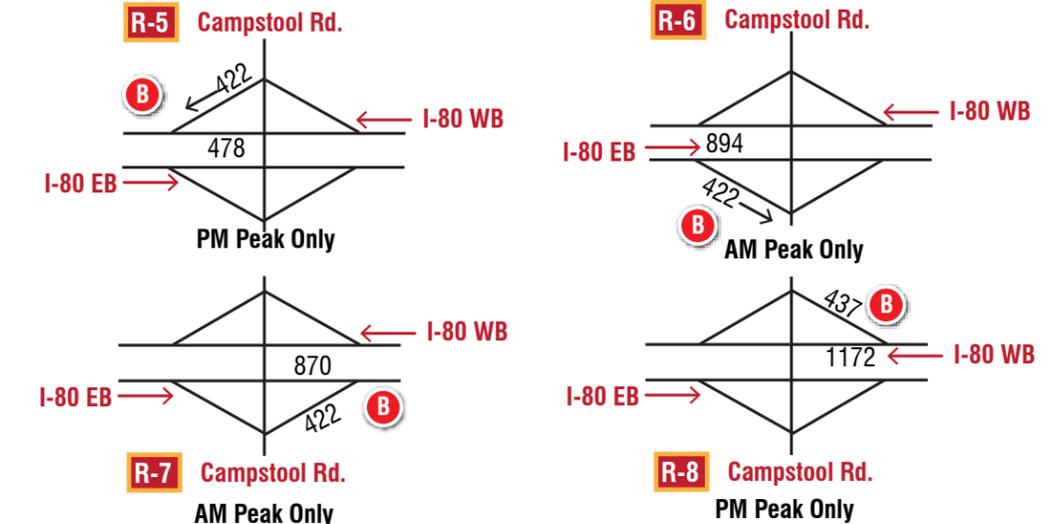
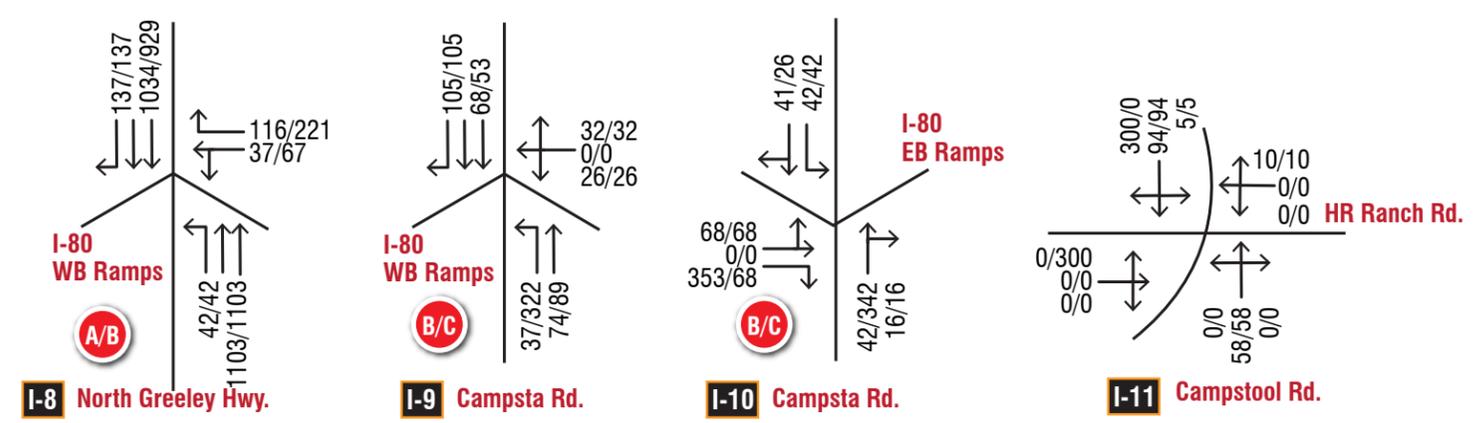
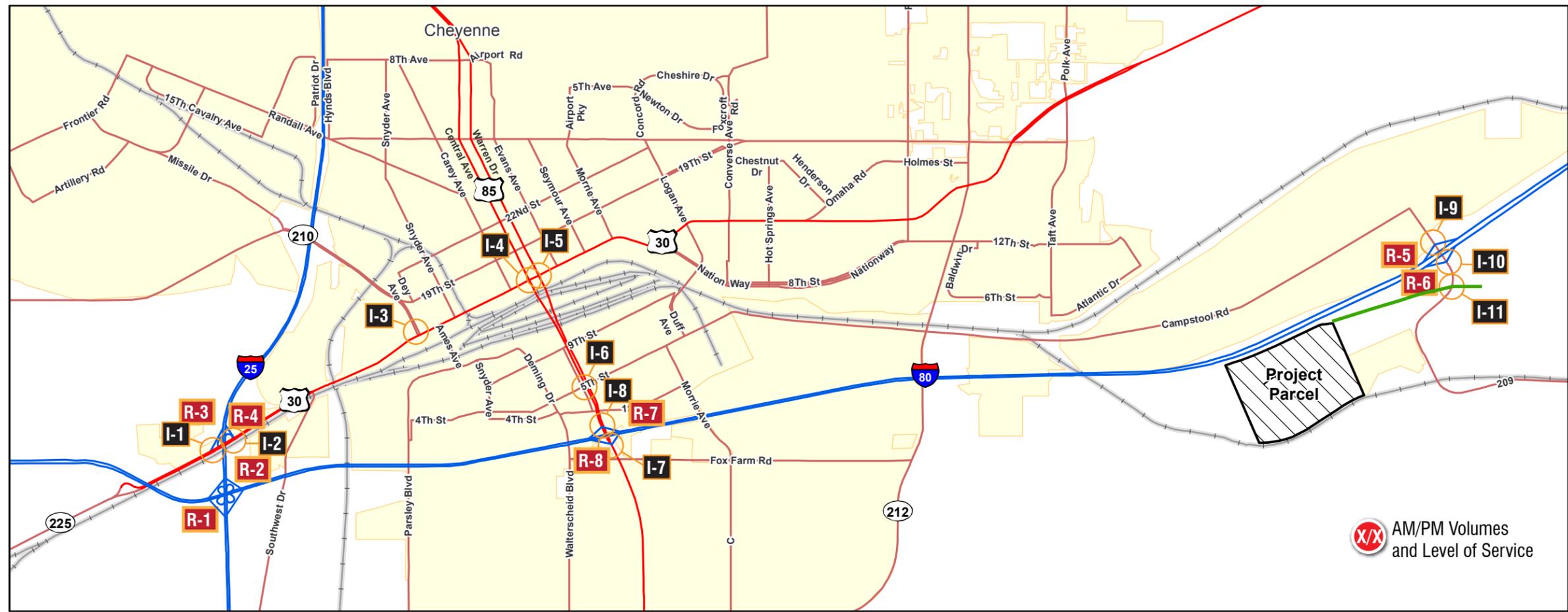
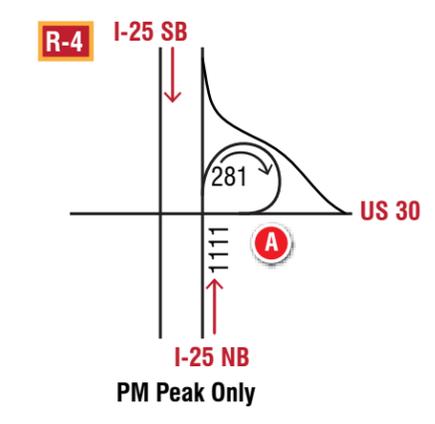
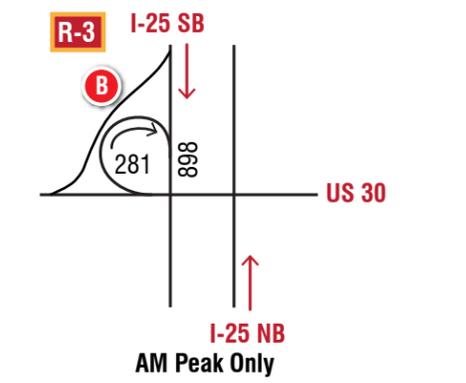
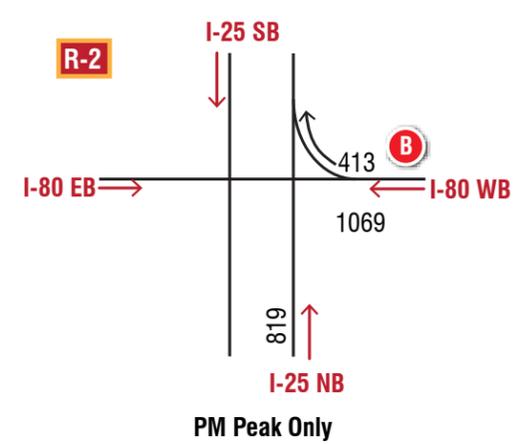
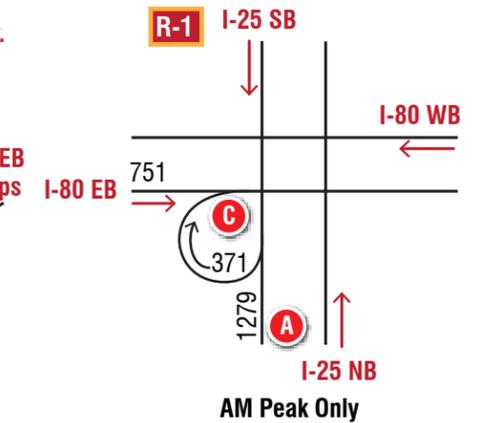
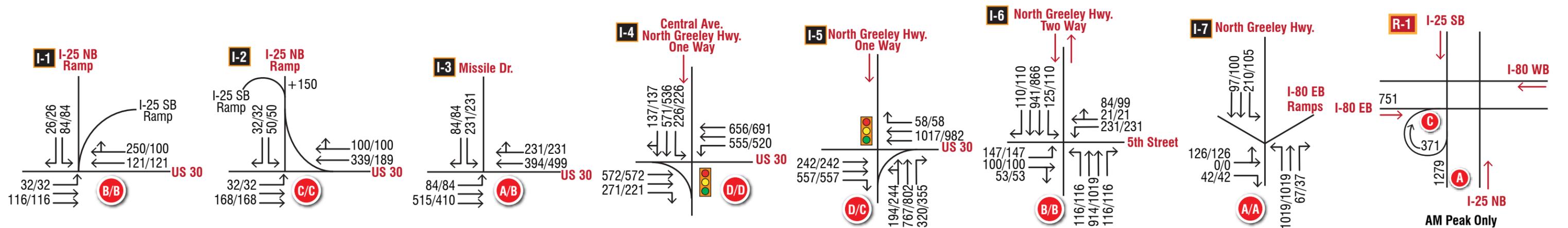
Adding the site generated traffic to the background traffic yields the volumes for the analysis of the Project's operations period. The trip generation and distribution process used the following assumptions to calculate the additional highway and turn movement volumes due to the operation of the project:

- HR Ranch Road will be extended to be a thru route from Burlington Trail Road to Campstool Road just south of I-80
- Work force will operate in three daily shifts with five vehicles entering and five vehicles leaving the site during each peak hour.
- All personnel will travel in their own vehicles to the project site.

- Personnel will not leave the site during the shift.
- All personnel will travel from central Cheyenne via US 85, I-80 / Campstool Road, and HR Ranch Road.
- There will be no truck deliveries in the peak hour.

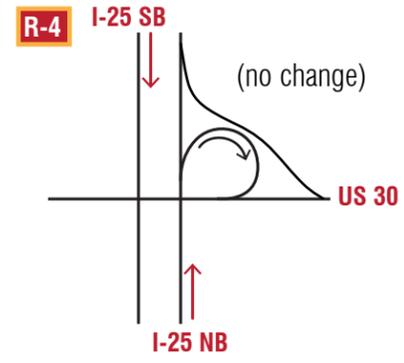
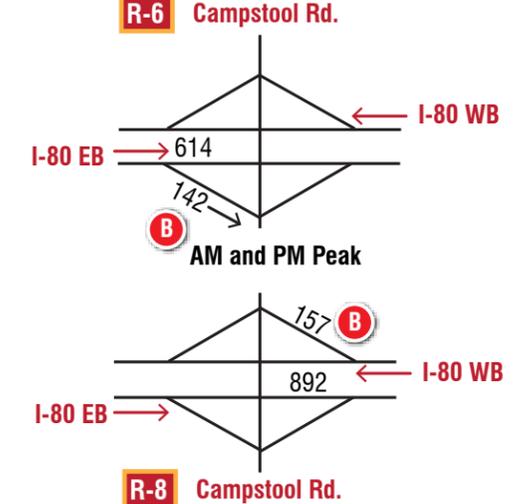
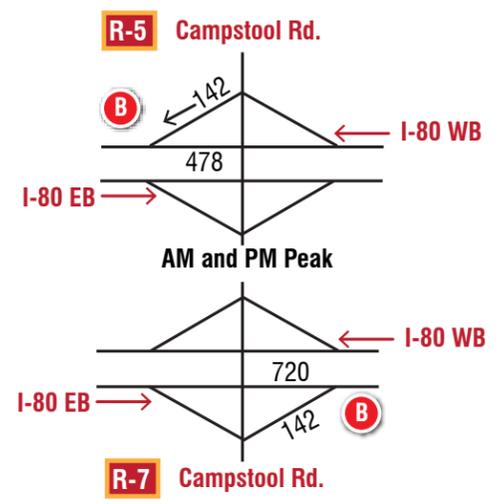
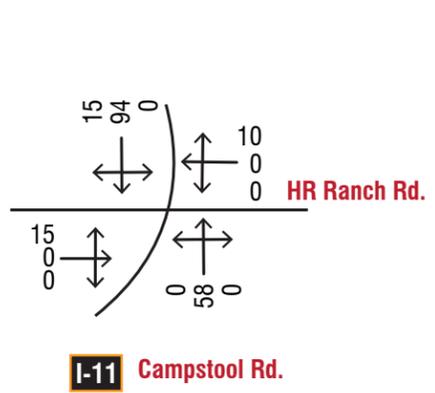
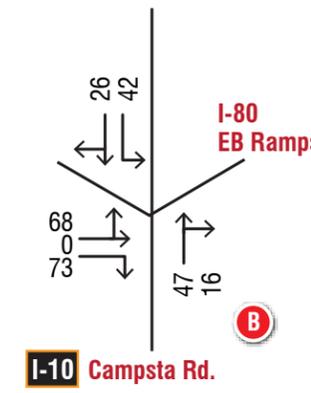
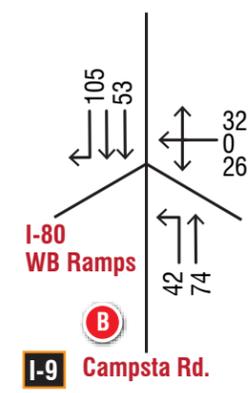
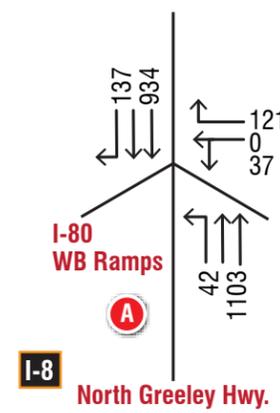
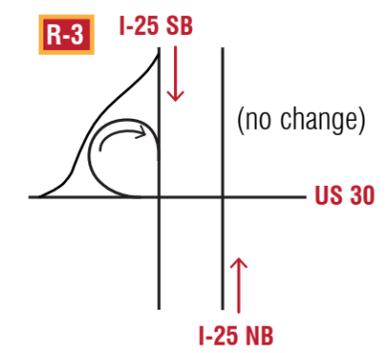
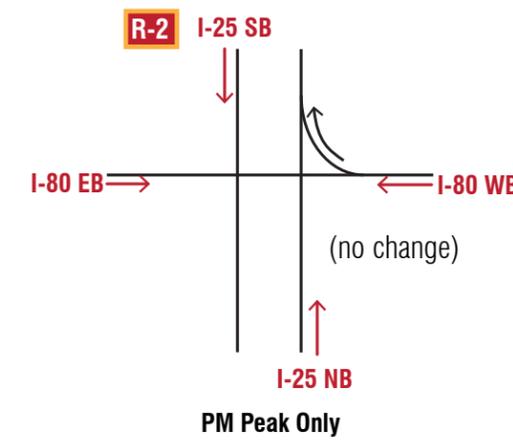
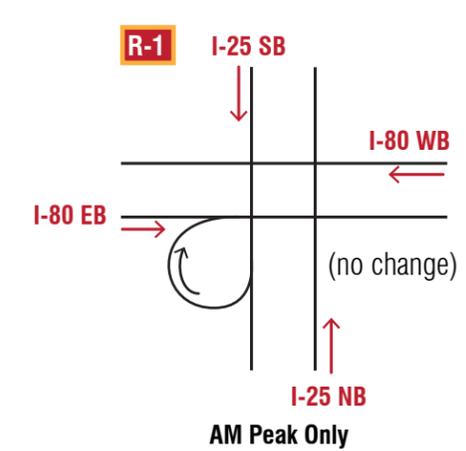
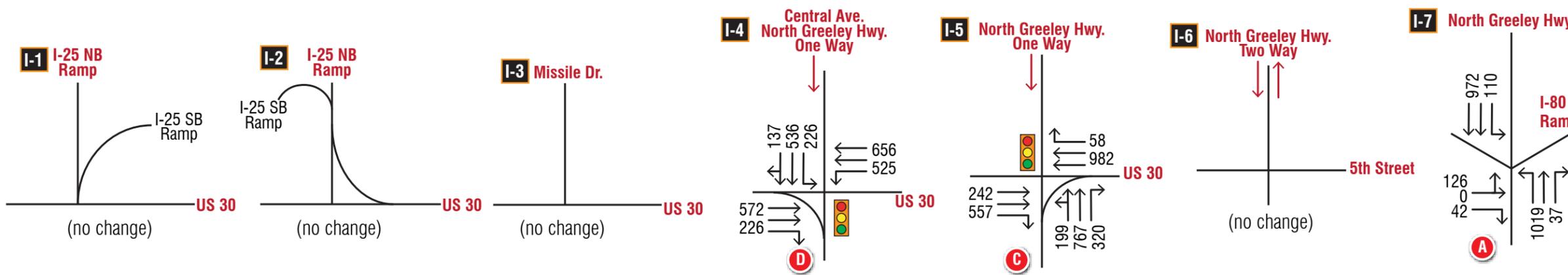
These assumptions result in the estimation of five additional cars traveling to the site and five cars traveling from the site via US 85, I-80, Campstool Road, and HR Ranch Road per peak hour. Figure 6-12 shows the 2014 total ramp and intersection volumes and corresponding LOS for the operations period. The intersection LOS is shown for both the morning and evening peak hours if they are the same or the worst-case scenario if they are different. The only change from the background scenario is at the intersection of Campstool Road and HR Ranch Road where there is a small increase in site traffic and an additional increase from the thru traffic, resulting in LOS B. This traffic increase is from the residences near HR Ranch Road and Burlington Trail Road, which would likely use this new HR Ranch Road extension to reach I-80. This is actually a benefit to the users because the route length to access to the freeway is much shorter than what is currently in use today. This will also reduce the number of residents using the Burlington Trail Road/ HR Ranch Road intersection. The freeway LOS does not change from the background scenario; therefore, all segments remain LOS A.

The facilities operate at acceptable levels of service during the peak hours on the freeways, on the ramps, and at the intersections. With only one change as compared to the background condition (LOS A to LOS B at HR Ranch Road), the additional volume generated by the project operations does not decrease the level of service nor degrade the operational performance of the adjacent roadway facilities.



**Figure 6-11**  
 Total Construction Scenario  
 (2014) AM/PM  
 Cheyenne, Wyoming





**Figure 6-12**  
 Total Operation Scenario  
 (2014) AM=PM  
 Cheyenne, Wyoming



## 6.16 Cumulative Impacts

The cumulative impacts analysis is organized by resource to provide better presentation of cumulative impacts. Potential direct and indirect impacts were analyzed previously in this section. The environmental impacts evaluation of the Project indicated that, although the construction and operation impacts would not result in significant or adverse resource impacts, minor impacts could occur to some resources; therefore, a cumulative impacts assessment was completed to determine if the minor impacts of the Project could, along with other actions in the area of site influence under the jurisdiction of the Industrial Siting Division, contribute to a significant or adverse cumulative impact.

### 6.16.1 Approach to Cumulative Impacts Analysis

The ISA lacks issuing guidance that defines or details requisite cumulative impact analysis methodology. Therefore, the Council on Environmental Quality (CEQ) was queried to identify cumulative impact methodology and guidance (CEQ, 1997).

Based on a review of CEQ guidance, the following factors were considered for the Project.

- The direct and indirect impacts of the proposed project
- An evaluation of which resources, ecosystems, and human communities are affected
- An evaluation of which impacts to these resources are important from a cumulative perspective

Based on additional CEQ guidance, cumulative impacts are those impacts resulting from the incremental impact of an action when added to other past, present, or reasonably foreseeable actions. Cumulative impacts would occur if incremental impacts of the Project, added to the environmental impacts of past, present, and reasonably foreseeable future actions, would result in adverse impacts to resources. Cumulative impacts could only occur for those resources that are affected by the Project and by other actions whose impacts occur within the same timeframe.

### 6.16.2 Geographic Scope of Cumulative Analysis

Cumulative environmental impacts, as defined in the ISA Rules and Regulations, means the combined impacts upon the environment to the social or economic conditions resulting from construction and operation of the proposed industrial facility and from construction and operation of other ongoing or proposed developments in the area of site influence.

Proposed developments to be included in cumulative impacts include those developments that are actively planning and have public information available or may be actively permitting under the auspices of the Wyoming ISA. Therefore, the geographic scope of cumulative impacts analysis is generally based on the area of site influence of each resource.

### 6.16.3 Timeframe

Potential impacts from the construction of the Project would be relatively short-term, generally occurring over the 14-month construction period. For the purposes of the cumulative impacts analysis, it is assumed that operation would begin in May 2014. Potential impacts associated with operation of the proposed Project would continue for approximately 25 years.

### 6.16.4 Past, Present, and Reasonably Foreseeable Actions

The lands of Laramie County surrounding the Project area are primarily either state- or privately-managed. This is in contrast to other areas of the state that are predominantly managed by the BLM, BIA, or the Forest Service. In those areas, National Environmental Policy Act (NEPA) compliance is required for most project actions. Through NEPA analysis of projects with a Federal

nexus, Federal land management agencies are able to understand how projects relate to one another with respect to cumulative impacts. Similarly, State of Wyoming lands are managed by the Office of State Lands and Investments for revenues directed into the Wyoming State Land Trust. As such, a Special Use Lease is required from the Board of Land Commissioners to develop industrial facilities on State of Wyoming lands. Therefore, each of these governmental entities have specific planning processes and implementing rules that require evaluation prior to construction and operation industrial projects on State and Federal lands in the area of site influence.

With the prevalence of private lands in the study area, private land projects are likely to form the actions to be considered in this cumulative impact analysis. Unfortunately, such projects are difficult to track and forecast. Unlike projects analyzed under the NEPA, most private projects lack a lengthy permitting process, nor is there an overarching management direction for large resource areas. City and county land use plans can provide some guidance on how the municipalities view development in lands under their jurisdiction. As the Project lies within the city of Cheyenne, there is a constant baseline level of smaller projects ranging from public works (e.g., road construction and repair) to private enterprise (e.g., new business or industrial development).

In evaluating the cumulative impacts of other projects at and around the Project site, the project team considered relevant historical events in the region and present and reasonably foreseeable future actions under the jurisdiction of the ISA. There are no other projects within the area of influence that are currently engaged with the ISD seeking evaluation under the ISA.

Some of the past, present, and reasonably foreseeable activities affecting Laramie and Albany county lands include the following:

- Oil exploration and extraction
- Natural gas exploration and extraction
- Pipeline construction
- Electric transmission line construction
- Wind power generation projects
- Farming and Ranching
- Urban development

City and county planners were contacted to identify any projects that could contribute to cumulatively to the Project's impacts. There is a baseline of oil and gas development; however, it is not known how the timing of any drilling or exploration activities would coincide with the Project, or what the impacts of that activity would be. Other commercial or industrial projects are known to be in the planning stages, but development schedules are not known.

### **6.16.5 Cumulative Impacts**

Construction of the Project along with the other listed projects has the potential to contribute to cumulative impacts, especially if the schedules are concurrent. At the time of construction for the Project, is possible other smaller projects could be underway. Given the low level of impacts expected from the Project, cumulative impacts are not expected to be significant for any resource, despite the uncertainty of the future development scenario.

#### **Air Quality**

Air quality in the cumulative impact area is generally good, and the area is not in violation of any National Ambient Air Quality Standards (NAAQS). The Project will obtain air quality permits from both the state and the EPA. Any other project with emissions sufficient to have cumulative impacts

would also be evaluated by the relevant agencies. As the Project sits within a larger 250-acre parcel, local impacts to air quality from fugitive dust emissions from construction is expected to be minimal.

### **Noise**

The area for potential cumulative noise impacts is the area that is affected by Project noise. Locations beyond the reach of Project-related noise cannot be cumulatively affected by the Project and other noise sources. Acoustic monitoring found the primary sources of ambient noise at receptors closest to the Project are I-80 traffic, heavy truck traffic, train traffic, , industrial noise from the Dry Creek Water Reclamation Facility, local traffic on Campstool Road, wind blowing in the grass, livestock, and birds. Modeling indicates Project operational noise would be consistent with the existing ambient sound levels, though it may be discernible during the quietest times at one receptor. No other project activities are known that would simultaneously increase local impacts to noise levels. Noise generated by onsite construction activities will not reach the nearest residential areas, and thus will have no cumulative impact on typical background levels. No significant cumulative effect from Project noise is expected in the area of site influence.

### **Soils and Geologic Hazards**

There will be localized disturbance of soils associated with construction of facilities and access roads, and along the proposed transmission line alignment. These impacts will be minimized by mitigation measures designed to guard against erosion. No other foreseeable action will contribute to cumulative impacts on soil resources or geologic hazards within the Project site. Cumulative impacts to soil/geologic resources or seismic characteristics from construction or operation of the Project and other projects in operation are not expected to be significant.

### **Cultural Resources**

The Project layout has been designed to avoid impacts to known cultural resources. All cultural resources in the vicinity of the Project are not eligible for listing under the NRHP. Therefore, implementation of this Project would not contribute to any regional cumulative impacts to cultural resources.

### **Surface and Groundwater**

Water will be obtained from sources that either have an existing water right (BOPU) or through effluent from the neighboring WWTP. Construction activities are not anticipated to discharge into surface waters, nor is significant water use expected during construction. During operations, there will be no discharge to surface waters; all discharges will be to the Dry Creek WWTP.

After the Project is operational, water needs will be met by using a small percentage of the effluent typically discharged by the WWTP. Existing and future development, livestock grazing, and transportation corridors all contribute to cumulative impacts on surface water through some level of increased sedimentation. It is expected these projects that could contribute to the cumulative to the quality and/or quantity of water will be subject to review and approval of the appropriate agencies (e.g., the State Engineers Office). In addition, implementation of BMPs for handling, storage, and use of hazardous materials and adherence to applicable permits during construction and operation of the Project will prevent significant cumulative impacts on surface and groundwater resources. Due to the negligible impacts associated with this Project, water quality and quantity impacts are not expected to contribute to any significant impacts on a cumulative scale.

### **Land Use and Recreation**

The Project will be constructed and operated in accordance with county land use and building requirements; therefore, the Project will cause no significant cumulative impacts that are

detrimental to established uses of the surrounding area. No recreation sites or opportunities will be affected by the Project; therefore, no cumulative impacts to land use and recreation are expected.

### **Wetlands and Waters of the United States**

Impacts to jurisdictional waters of the United States and wetlands are governed by Clean Water Act compliance. Impacts to wetlands or waters of the U.S. are unlikely to occur, but if they do they will be minor in scale and covered under the Nationwide Permit Program. Therefore, implementation of the project will not significantly impact jurisdictional waters of the United States and wetlands and will not contribute significantly to cumulative impacts to these jurisdictional features.

### **Scenic Quality**

The small scale of the proposed facility minimizes the range of cumulative visual influence created by this and other similarly sized industrial facilities near the study area. The Project is located in an area that is already developed with industrial uses, indicating the lack of visual sensitivity along this corridor. The majority of the remaining undeveloped land in the vicinity is zoned for agricultural uses, so further development is not anticipated. A residential subdivision is platted immediately west of this Project site. These two projects combined would contribute to a relatively small cumulative visual change from the screening of views of the southern ridgeline in the background for travelers on I-80. However, the lack of scenic sensitivity and the already developed nature of this area would produce a negligible cumulative impact upon visual resources.

### **Vegetation, Special Status Plants, and Rare Vegetation Communities**

No rare or unique vegetative communities are documented or are anticipated to occur within the Project area. Therefore, construction or operation of the Project will not contribute to cumulative loss or degradation of these resources.

### **Wildlife**

No significant or adverse impacts to wildlife are expected to occur in response to construction and operations of the project; therefore, implementation of the Project will not contribute to cumulative loss or degradation of these resources.

### **Federally-Listed Species**

The three federally-listed species potentially occurring in the project vicinity and the five federally-listed species potentially occurring downstream reaches of the Platte River System will be unaffected by the project because of lack of suitable habitats and well defined impact avoidance measures to be implemented by BPE. Therefore, cumulative impacts to threatened and endangered species or their critical habitat will not occur as a result of the Project.

# 7.0 Controls, Mitigation, and Monitoring Measures

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A number of specific mitigation measures will be implemented to alleviate impacts related to construction and operation of the Project. These measures are described in the following sections.

## 7.1 Controls

A broad array of measures has been proposed to mitigate the potential hazards associated with the Project and the exposure of persons, animals, and facilities in the area of site influence. These measures can generally be classified as avoidance, prevention, and exclusionary actions.

The following control measures, in combination with setback distances, significantly reduce the likelihood of the public coming within a hazardous distance of the Project and electrical equipment. The Project will be designed, constructed, and operated to adequately restrict public access and minimize impacts.

### 7.1.1 Avoidance

BHC selected the Project site, in part, because the size of the parcel allows for the facility to be set back from adjacent parcels. This setback avoids several potential conflicts that could arise, such as noise, visual, or air quality impacts. In addition, the Project is being developed within an industrialized area that has reduced potential for environmental resource impacts. The resulting preliminary site plan considers environmental and land use constraints and uses areas that are most appropriate for Project development.

### 7.1.2 Prevention

Primary among the means of preventing hazards described herein will be adherence to appropriate design and construction protocols such as those provided by the National Fire Protection Association (NFPA) 70, American Society of Mechanical Engineers (ASME), American National Standards Institute (ANSI), and American Water Works Association (AWWA). A second important form of prevention is the establishment of a skilled workforce and implementation of effective facility-wide maintenance, monitoring, compliance, and security programs. This includes the preparation and implementation of a Stormwater Pollution Prevention Plan (SWPPP); Spill Prevention, Control, and Countermeasures (SPCC) Plan; and Fire Protection and Prevention Plan; as well as consultation with the appropriate local agencies.

### 7.1.3 Exclusion

Every hazard identified herein decreases as some function of linear distance. In many cases, therefore, it has been possible to reduce or eliminate hazards to persons and facilities by prohibiting or controlling their presence in the area of site influence. Where multiple hazard areas overlap, the largest distance should govern. The Project will have controlled access, and access to the facilities will be limited to persons who are knowledgeable of safety measures and potential risks.

### 7.1.4 Restricted Public Access

The Project will be located on private lands. BHC will restrict public access to the main facility and substation and any related or supporting facilities that could pose a potential safety threat. The facility will be staffed continuously during operations.

### 7.1.5 Health and Safety Measures

BHC is committed to a safe and healthy workplace that promotes a zero-accident culture. Additionally, BHC is committed to continuous improvement to identify and control risks so that company safety metrics and performance meets high expectations. To meet this commitment, BHC's health and safety policies will require the following:

- Operate in compliance with or exceed all health and safety governmental laws, regulations, ordinances, standards, and permit requirements
- Ensure all employees are involved in health and safety programs with appropriate training and communication to work responsibly, make decisions to carry out their duties, and be accountable for the results
- Provide a health and safety plan and structure that ensures effective health and safety management with risks, impacts, and legal requirements controlled through appropriate actions and governance
- Ensure that health and safety goals are set and communicated to all employees and that performance is monitored to promote continuous improvement
- Work to proactively prevent incidents, accidents, and environmental damage before these occur through sustainable actions and process improvements at all locations.

### 7.1.6 Worker, Environmental, and Facility Controls

#### Occupational Hazards

Construction and operations workers at any facility are subject to risk of injury or fatality from physical hazards. While such occupational hazards can be minimized when workers adhere to safety standards and use appropriate protective equipment, injuries or fatalities from on-the-job accidents can still occur. Occupational health and safety are regulated at the federal level through the Occupational Safety and Health Administration (OSHA) (29 USC 651 et seq.). Wyoming has additional laws and regulations that build on the federal law.

Some of the occupational hazards associated with the Project are similar to those of other heavy construction and electric power industries. BHC and its subcontractors will comply with all applicable local, state, and federal safety, health, and environmental laws, ordinances, regulations, and standards. Some of the primary laws, ordinances, regulations, and standards designed to protect human health and safety that will be reflected in the design, construction, and operation of the Project include:

- Occupational Safety and Health Act of 1970 (29 USC 651, et seq.) and 29 *Code of Federal Regulations* (CFR) 1910, Occupational Safety and Health Standards
- Americans with Disabilities Act (ADA) for accessibility at the O&M Building

- Uniform Fire Code Standards
- Uniform Building Code
- National Fire Protection Association (NFPA), which provides design standards for the requirements of fire protection systems
- National Institute for Occupational Safety and Health (NIOSH), which requires that safety equipment carry markings, numbers, or certificates of approval for stated standards
- National Electric Safety Code
- American Concrete Institute Standards
- American Institute of Steel Construction Standards
- American Society for Testing and Materials
- National Electric Code

### **Public Safety**

Warning signs will be posted along access roads to inform the public of construction activities and recommend that the public not enter the site. Likewise, signs will be posted to direct construction traffic to stay on Project access roads, where possible, to prevent construction traffic from unnecessarily entering public roadways when avoidable. For areas where public safety risks could exist and site personnel would not be available to control public access (such as excavated foundation holes), warning signs and temporary fences may be erected. Fencing may also be installed around material storage, staging, and/or laydown areas. Other areas determined to be hazardous, or where security or theft is of concern, may also be fenced. Temporary fencing will typically be a high-visibility plastic mesh. Security guards, cameras, and/or additional fencing will be used as necessary to protect public health and safety and Project facilities.

Since the Project will construct approximately 1.75 miles of 115 kV transmission line, electromagnetic fields (EMFs) will be generated. However, for this Project, EMF exposure is very low because the line passes over and through undeveloped land. The transmission line has been sited away from occupied residences and developed areas where people are present for extended time periods. Therefore, impacts from Project EMFs are not anticipated to be significant.

### **Traffic Management**

#### ***Construction***

The potential for traffic issues will be highest during construction, when deliveries of equipment and materials and worker traffic will occur. A traffic study has been completed (see **Section 6**) that details the number and nature of vehicle trips to, within, and from the Project area. No significant impacts to the levels of service for intersections along Project access routes are expected. Should issues arise, a traffic management plan will be developed in consultation with WYDOT.

#### ***Operation***

In terms of access traffic, the Project will operate continuously (24 hours per day, 7 days per week). It will employ an estimated 10 to 12 full-time worker; though all will not be working on-site at the same time. There will be a minimal daily increase in traffic to and from the site.

## **Construction Waste Management**

Waste management control procedures will be implemented during the construction phase of the Project.

### ***Solid Waste Management***

The generation of solid waste during the construction phase will be handled by contracting with a solid waste hauling and management firm. BHC has contacted local construction waste haulers that can provide disposal of the weekly construction solid waste. Portable haul-off 30-cubic-yard dumpsters will be delivered to the Project site and used to collect generated construction waste materials. The contracted waste hauler will remove the portable dumpsters on a weekly basis and ensure proper treatment and disposal. There are no plans to store or treat solid waste at the Project site other than via portable dumpsters.

### ***Fuel Storage***

Aboveground fuel storage tanks will be used by the General Contractor to facilitate on-site equipment refueling. The storage tanks will comply with relevant rules and regulations. No underground tanks will be used during construction or operation of the Project. All aboveground fuel tanks will have secondary containment systems.

### ***Hazardous Wastes***

It is anticipated that no or minimal hazardous wastes will be generated as part of the construction of the Project, resulting in a Resource Conservation and Recovery Act (RCRA) Conditionally Exempt Generator status for the project. Potential generation of hazardous wastes could include waste paints, solvents, and lubricants. However, the quantities of such wastes are expected to be well below regulatory thresholds for changing generator status to small-quantity or large-quantity generator. Potential U.S. Environmental Protection Agency (EPA) waste codes generated include D001, F003, and F005 wastes.

Any such wastes that are generated will be properly characterized and managed by the General Contractor using established SPCC protocols. It is not anticipated that any on-site treatment, storage, or disposal will occur that would require obtaining hazardous waste permits during the construction period. In addition, any wastes generated from a release will be properly characterized and managed by the General Contractor.

### ***Spill Management***

The General Contractor will develop and implement a SPCC Plan in accordance with 40 CFR Part 112 and Solid Waste Rules and Regulations. If fuels and/or other petroleum-based products are spilled during construction of the Project, a treatment/disposal facility currently permitted by the Solid and Hazardous Waste Division will be contracted to dispose and manage the contaminated soils. The General Contractor will contract with properly licensed firms to clean up contaminated areas and properly dispose of any oily wastes generated as a result of such releases.

## 7.2 Mitigation Measures

### 7.2.1 Scenic Resources

BHC and its contractors shall exercise care to preserve the natural landscape and shall conduct construction operations (including all construction-related activities and designated access roads/trails and staging areas) to prevent any unnecessary damage to, or destruction of, natural features.

The Project has been located as centrally as possible within the overall parcel. This maximizes the distance of the Project in all directions to offsite viewers.

### 7.2.2 Air Quality

BHC and its contractors shall use such practicable methods and devices as are reasonably available to control, prevent, and otherwise minimize atmospheric emissions or discharges of air contaminants.

Construction-related dust disturbance shall be controlled by the periodic application of water to all disturbed areas along the right-of-way and access roads.

Vehicles and equipment showing excessive emission of exhaust gases due to poor engine adjustments or other inefficient operating conditions shall not be operated until corrective adjustments or repairs are made.

### 7.2.3 Biological Resources

Removal of vegetation will be limited to that necessary for construction of the Project.

Erosion and sedimentation controls will be used to prevent runoff of particulates into wetlands and waterways.

On completion of the work, all work areas, except any permanent access roads, shall be graded, as required, so that all surfaces drain naturally, blend with the natural terrain, and are left in a condition that will facilitate the establishment of natural vegetation, provide for proper drainage, and prevent erosion. All construction materials and debris shall be removed from the Project site in a timely manner.

BHC intends to bore the natural gas supply pipeline under the Crow Creek riparian habitat, thus avoiding impacts to sensitive habitats, wetlands, sensitive species, and nesting raptors. Additionally, this measure will avoid potential sedimentation associated with an open crossing.

BHC met with the Laramie County Weed & Pest District on April 17, 2012 to discuss weed management for the project. A letter from the district is included in Appendix F. BHC plans to implement a weed management plan and also enter into a cooperative agreement with the District for control of Leafy spurge and Dalmatian toadflax on the project site.

### 7.2.4 Cultural Resources

Should any previously unknown historic/prehistoric sites or artifacts be encountered during construction, all land-altering activities at that location will be immediately suspended and the discovery left intact until such time that BHC is notified and appropriate measures are taken to ensure compliance with the National Historic Preservation Act and enabling legislation. Should any

additional cultural resources be discovered during construction, the Wyoming State Historic Preservation Officer will be immediately contacted at:

Wyoming State Historic Preservation Office  
2301 Central Avenue, Barrett Building, Third Floor  
Cheyenne, Wyoming 82002  
307-777-6311

## 7.2.5 Wildlife

To reduce employee-wildlife incidents, construction workers will receive information on wildlife awareness during their employee orientation program. The program will include, at a minimum:

- Information regarding restrictions or prohibition of construction employees' access to sensitive wildlife activity areas
- Information regarding applicable wildlife laws and resident hunting requirements
- Information regarding policies and laws penalizing wildlife harassment and poaching
- Statement prohibiting the possession of firearms on the site
- Reporting procedures and requirements for vehicle collisions with wildlife
- Reporting procedures and requirements for incidental observation of wildlife including threatened or endangered species
- Posted and enforced speed limits to minimize wildlife vehicle collisions

BHC will implement measures contained in the company's Avian Protection Plan to minimize impacts to birds and bats. The following portions of the Avian Protection Plan pertain to the Project and will be applied.

### **Electric Construction Design Standards**

The Company's Electric Construction Design Standards Committee has developed Electrical Construction Standards. The Committee will use the following guidance in addressing avian protection measures.

- *Suggested Practices for Avian Protection on Power Lines: The State of the Art in 2006*, published by the Avian Power Line Interaction Committee (APLIC), the Edison Electric Institute, and the California Energy Commission. 2006. Washington, D.C. and Sacramento, CA.
- *Mitigating Bird Collisions with Power Lines - The State of the Art in 1994*, published by the Edison Electric Institute and the Raptor Research Foundation. 1994. Washington, D.C.

### **Avian Protection Measures for Electrical Structures**

The Company will evaluate whether to apply avian protection measures utilizing available guidance documents or by utilizing avian protection expertise.

- **Siting New Electrical Lines:** Avian protection measures will be taken into consideration when siting new electrical lines.

- **New Line Construction:** Avian-safe designs will be employed for all new construction. In areas with known populations of raptors or other birds of concern, new lines will be designed with adequate separations for birds.
- **Isolated incidents:** If a death or injury of a bird is due to electrocution, the structure will be retrofitted to avian safe standards as soon as feasible.

#### **Avian Protection Measures for Other Structures and Facilities**

Every effort will be made to construct facilities and structures at generation and other facilities in such a manner as to minimize impact to protected avian species. Where feasible new facilities are typically designed and constructed to minimize access to protected species; and netting or mesh will be placed over containers, pits, tanks, lagoons and ponds to prevent access to oil, condensate, and other hydrocarbons, and hazardous or toxic substances.

Isolated incidents: If a death or injury of a bird is discovered, the structure, container, pit, tank, lagoon, pond or other feature will be evaluated and repaired or retrofitted to avian safe standards as soon as feasible.

#### **Avian Protection Measures for Construction Sites**

Every effort will be made to keep construction sites clean and free of debris and contaminants, including oil and other hydrocarbons, and hazardous or toxic substances.

### **7.2.6 Fire Prevention and Control**

Construction vehicles shall be equipped with government-approved spark arresters. The contractor shall maintain in all construction vehicles a current list of local emergency response providers and methods of contact/communication.

The mechanical systems and equipment, at a minimum, will meet the relevant requirements of NFPA 70, ASME, ANSI, and AWWA.

### **7.2.7 Land Use**

The contractor shall limit movement of crews, vehicles, and equipment to the Project area and access roads to minimize damage to property and disruption of surrounding land use activity.

### **7.2.8 Noise**

Construction vehicles and equipment shall be maintained in proper operating condition and shall be equipped with manufacturers' standard noise control devices or better (e.g., mufflers, engine enclosures).

The Project will be designed to meet or exceed all applicable local, state, and federal noise specifications.

### **7.2.9 Soils**

Administered through Project specifications and job supervision, the following erosion control measures will be implemented to minimize the impacts to soils during and after construction:

- An erosion control plan will be prepared by the contractor that addresses excavation, grading, and erosion control measures during and after construction.

- Limits of construction and areas to be disturbed will be defined and managed by onsite inspectors and construction managers.
- Periodic inspection will be made of erosion control measures by project managers, especially after storms. Erosion control measures will be repaired or replaced as necessary.
- Berms and other water-channeling measures will be used to direct water to appropriate detention ponds.
- Barriers and other measures consisting of hay bales, silt fences, and straw mulches will be used to minimize and control soil erosion.
- All disturbed areas will be restored and reclaimed using certified weed-free native grasses.

### **7.2.10 Traffic**

The contractor shall make all necessary provisions for conformance with federal, state, and local traffic safety standards and shall conduct construction operations to offer the least possible obstruction and inconvenience to public traffic.

Truck deliveries will be scheduled to fall outside of peak hours, both AM and PM, to avoid cumulative impacts during commuting times, both for Project construction workers and for the general public.

### **7.2.11 Surface Water**

Potential impacts to surface water from erosion and sedimentation will be prevented by measures to control runoff during construction and operation of the Project. A pollution prevention plan will be developed and implemented to minimize impacts on water resources during long-term operation of the Project. All requirements of the Storm Water Permit will be administered and adhered to during and after construction.

BHC facilities fall under SPCC/Stormwater Plan requirements. The facility grounds are defined as inside the fences located around the entire facilities or the entire facility in general. Any contractor activities within these boundaries are required to meet the following requirements:

- No lubricant/chemical/compound in any form will be discharged from its original/intended container onto plant grounds/facilities or into stormwater or treatment systems without direct permission from plant or project management personnel (this includes significant volumes of water).
- No lubricant/chemical/compound in any form in any container will be left unattended in any area where a potential exists for damage from activities (e.g., vehicle traffic, persons working, spillage, uncovered where rain/snow will overflow, temperature extremes, etc.).
- No lubricant/chemical/compound in any form will be located where, if container leakage or overflow occurs, the contents will enter the stormwater or plant treatment systems. Therefore, lubricants or chemicals onsite will be required to be stored properly in solid, well-maintained containments that function properly (e.g., equipment engines, hydraulic systems, fuel systems, oil/lube containers, chemical containers/equipment).

- If large storage quantities of any lubricant/chemical/compound are required for contractor's operation, BHC maintains containment areas that may be used by contractors (with permission).
- If a spill or leak occurs, the contractor shall immediately contact the BHC plant shift supervisor (when on the plant site) or contract coordinator (when off the plant site).

### 7.2.12 Water Quality

Construction activities shall be performed by methods that prevent entrance or accidental spillage of solid matter, contaminant debris, and other objectionable pollutants and wastes into flowing streams or dry watercourses, lakes, and underground water sources. Such pollutants and wastes include, but are not restricted to, refuse, garbage, cement, concrete, sanitary waste, industrial waste, radioactive substances, oil and other petroleum products, aggregate processing tailings, mineral salts, and thermal pollution.

Borrow pits shall be so excavated that water will not collect and stand therein. Before being abandoned, the sides of borrow pits shall be brought to stable slopes, with slope intersections shaped to carry the natural contour of adjacent, undisturbed terrain into the pit or borrow area, giving a natural appearance. Waste piles shall be shaped to provide a natural appearance.

Dewatering work for structure foundations or earthwork operations adjacent to, or encroaching on, streams or watercourses shall not be performed without prior approval by the applicable land managing agency or landowner.

Excavated material or other construction materials shall not be stockpiled or deposited near or on stream banks, lake shorelines, or other watercourse perimeters where they can be washed away by high water or storm runoff, or can encroach, in any way, upon the actual water source itself.

Wastewaters from construction operations shall not enter streams, watercourses, or other surface waters without the use of such turbidity control methods as settling ponds, gravel filter entrapment dikes, approved flocculating processes that are not harmful to fish, recirculation systems for washing of aggregates, or other approved methods. Any such wastewaters discharged into surface waters shall be essentially free of settleable material. Settleable material is defined as that material that will settle from the water by gravity during a 1-hour quiescent period.

### 7.2.13 Paleontological Resources

To reduce the potential for adverse impacts and to foster beneficial impacts from the discovery of fossil resources, the following mitigation measures will be implemented. A qualified paleontologist will be notified if fossils of potential significance are uncovered during ground disturbance. Activities that might adversely affect such fossils will cease within 100 feet of the discovery or, if possible, the fossils will be set safely aside until their scientific significance can be determined.

## **7.3 Monitoring Programs**

### **7.3.1 Raptor Nest Monitoring**

BHC will monitor raptor nesting activity along Crow Creek during construction. If necessary, and in consultation with the USFWS, distance buffers or other measures may be used to minimize disturbance to nesting raptors.

### **7.3.2 Air Quality Monitoring**

The facility will comply with all permit conditions stipulated in the PSD construction permits to be issued by WDEQ and EPA. The facility will also prepare a Title V operating permit application and submit to WDEQ within 12 months after initial operation.

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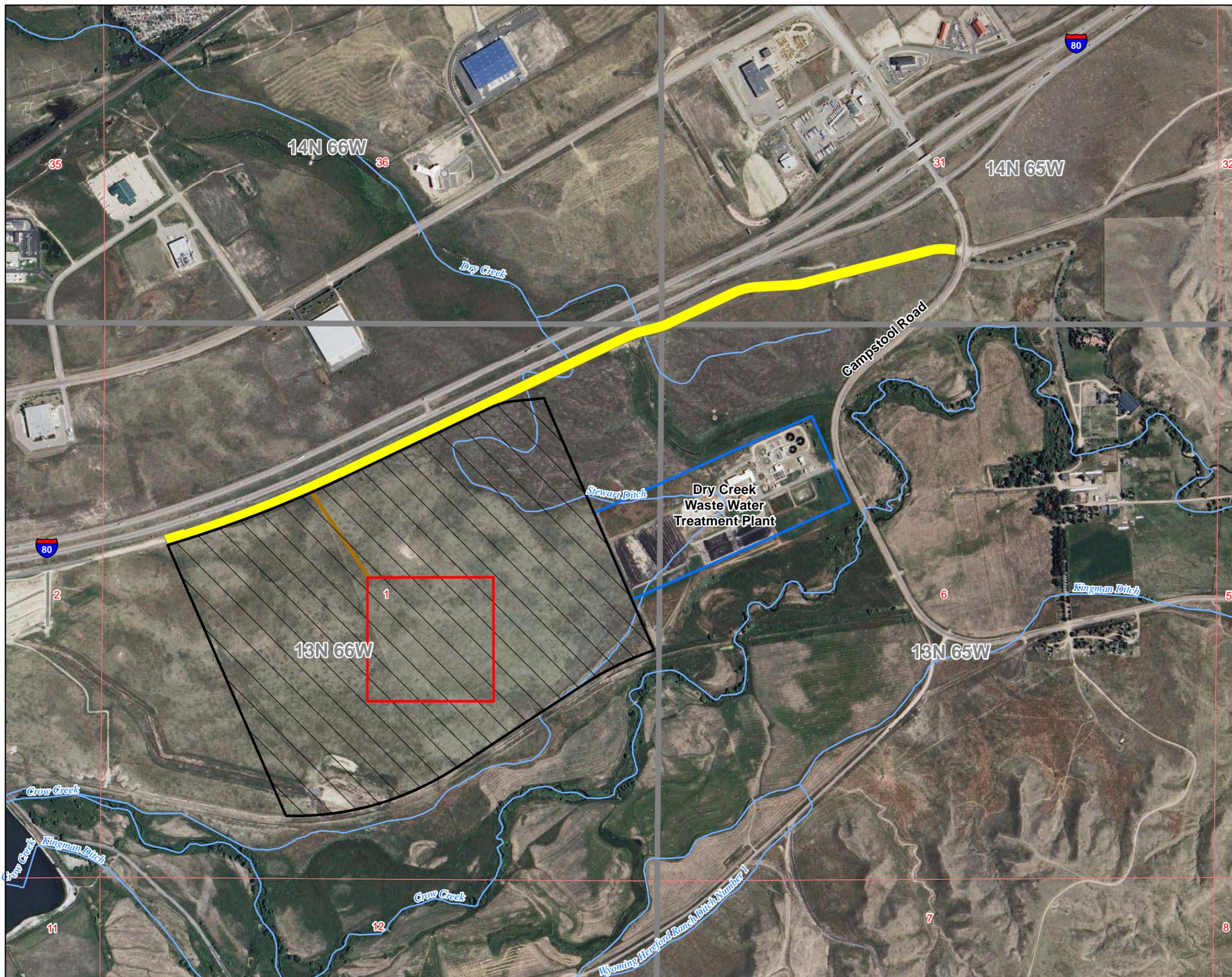
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**Appendix A-1**  
**Project Site Location**

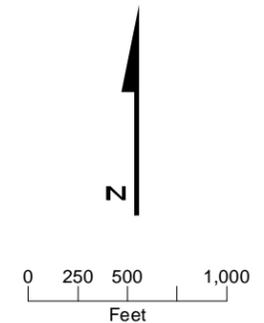
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**LEGEND**

- Streams
- Cheyenne Prairie Generating Station
- Project Parcel
- HR Ranch Road - Proposed Extension
- Project Driveway
- Township/Range
- Sections

Note: All lands shown are private.



**Figure A-1**  
**Cheyenne Prairie Generating Station**  
**Black Hills Corporation**  
 Cheyenne, Wyoming

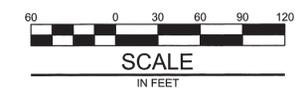
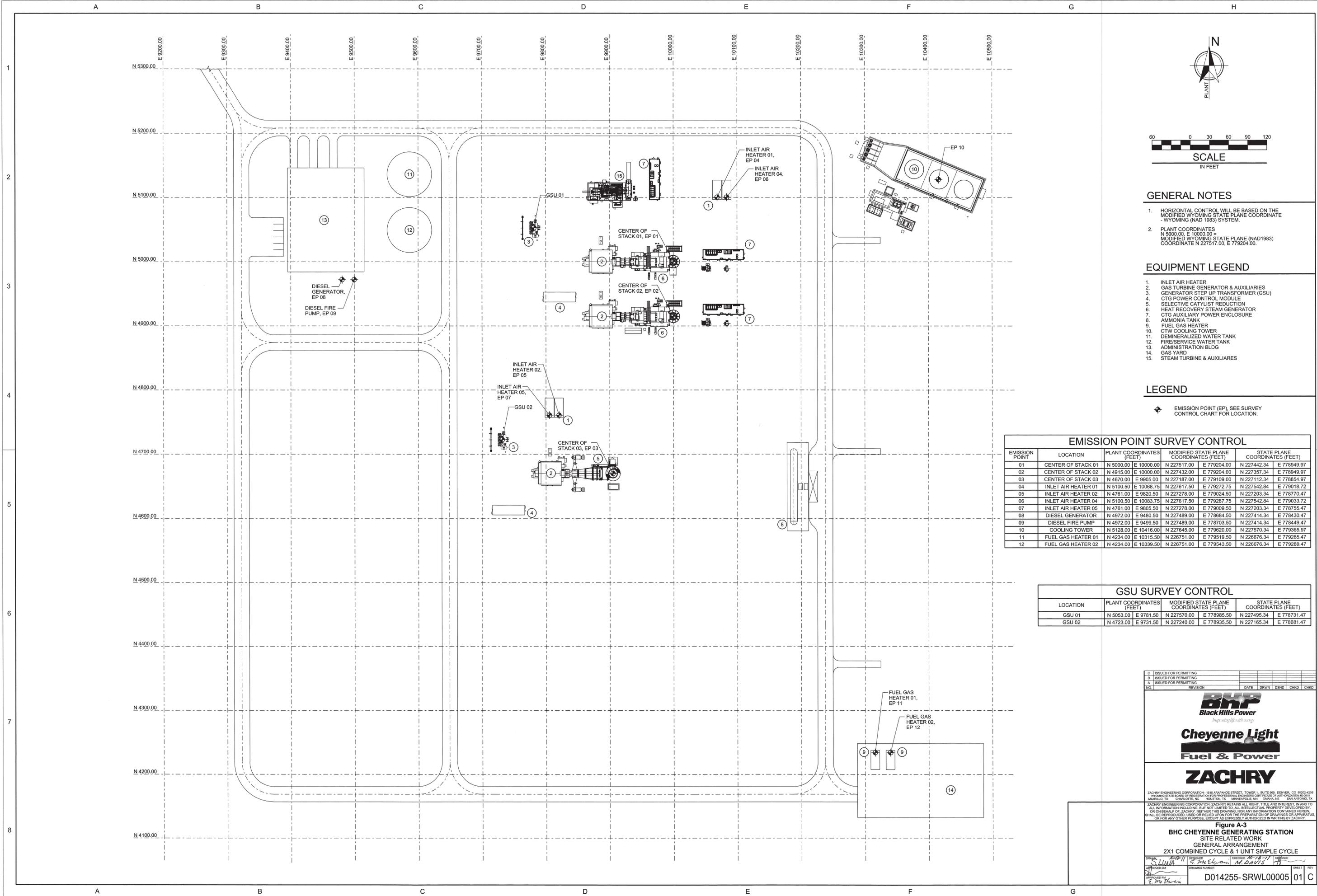
**Appendix A-2**  
**Site General Arrangement**

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**Appendix A-3**  
**Site Equipment Layout**

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**GENERAL NOTES**

- HORIZONTAL CONTROL WILL BE BASED ON THE MODIFIED WYOMING STATE PLANE COORDINATE - WYOMING (NAD 1983) SYSTEM.
- PLANT COORDINATES  
N 5000.00, E 10000.00 =  
MODIFIED WYOMING STATE PLANE (NAD1983)  
COORDINATE N 227517.00, E 779204.00.

**EQUIPMENT LEGEND**

- INLET AIR HEATER
- GAS TURBINE GENERATOR & AUXILIARIES
- GENERATOR STEP UP TRANSFORMER (GSU)
- CTG POWER CONTROL MODULE
- SELECTIVE CATALYST REDUCTION
- HEAT RECOVERY STEAM GENERATOR
- CTG AUXILIARY POWER ENCLOSURE
- AMMONIA TANK
- FUEL GAS HEATER
- CTW COOLING TOWER
- DEMINERALIZED WATER TANK
- FIRE/SERVICE WATER TANK
- ADMINISTRATION BLDG
- GAS YARD
- STEAM TURBINE & AUXILIARIES

**LEGEND**

➤ EMISSION POINT (EP). SEE SURVEY CONTROL CHART FOR LOCATION.

EMISSION POINT SURVEY CONTROL				
EMISSION POINT	LOCATION	PLANT COORDINATES (FEET)	MODIFIED STATE PLANE COORDINATES (FEET)	STATE PLANE COORDINATES (FEET)
01	CENTER OF STACK 01	N 5000.00 E 10000.00	N 227517.00 E 779204.00	N 227442.34 E 778949.97
02	CENTER OF STACK 02	N 4915.00 E 10000.00	N 227432.00 E 779204.00	N 227357.34 E 778949.97
03	CENTER OF STACK 03	N 4670.00 E 9905.00	N 227187.00 E 779109.00	N 227112.34 E 778854.97
04	INLET AIR HEATER 01	N 5100.50 E 10068.75	N 227617.50 E 779272.75	N 227542.84 E 779018.72
05	INLET AIR HEATER 02	N 4761.00 E 9820.50	N 227278.00 E 779024.50	N 227203.34 E 778770.47
06	INLET AIR HEATER 04	N 5100.50 E 10083.75	N 227617.50 E 779287.75	N 227542.84 E 779033.72
07	INLET AIR HEATER 05	N 4761.00 E 9805.50	N 227278.00 E 779009.50	N 227203.34 E 778755.47
08	DIESEL GENERATOR	N 4972.00 E 9480.50	N 227489.00 E 778684.50	N 227414.34 E 778430.47
09	DIESEL FIRE PUMP	N 4972.00 E 9499.50	N 227489.00 E 778703.50	N 227414.34 E 778449.47
10	COOLING TOWER	N 5128.00 E 10416.00	N 227645.00 E 779620.00	N 227570.34 E 779365.97
11	FUEL GAS HEATER 01	N 4234.00 E 10315.50	N 226751.00 E 779519.50	N 226676.34 E 779265.47
12	FUEL GAS HEATER 02	N 4234.00 E 10339.50	N 226751.00 E 779543.50	N 226676.34 E 779289.47

GSU SURVEY CONTROL				
LOCATION	PLANT COORDINATES (FEET)	MODIFIED STATE PLANE COORDINATES (FEET)	STATE PLANE COORDINATES (FEET)	
GSU 01	N 5053.00 E 9781.50	N 227570.00 E 778985.50	N 227495.34	E 778731.47
GSU 02	N 4723.00 E 9731.50	N 227240.00 E 778935.50	N 227165.34	E 778681.47

ISSUED FOR PERMITTING					
NO.	REVISION	DATE	DRWN	DSND	CHKD



ZACHRY ENGINEERING CORPORATION, 1615 ARAPAHOE STREET, TOWER 1, SUITE 800, DENVER, CO 80202-4095  
 WYOMING STATE BOARD OF REGISTRATION FOR PROFESSIONAL ENGINEERS CERTIFICATE OF AUTHORIZATION #E-0115  
 #ABARILLO, TX # CHARLOTTE, NC # HOUSTON, TX # MEMPHIS, TN # OMAHA, NE # SAN ANTONIO, TX  
 ZACHRY ENGINEERING CORPORATION (ZACHRY) RETAINS ALL RIGHT, TITLE AND INTEREST, IN AND TO ALL INFORMATION INCLUDING, BUT NOT LIMITED TO, ALL INTELLECTUAL PROPERTY DEVELOPED BY, OR ON BEHALF OF, ZACHRY, NEITHER THIS DRAWING, NOR ANY INFORMATION CONTAINED HEREIN, SHALL BE REPRODUCED, USED OR RELIED UPON FOR THE PREPARATION OF DRAWINGS OR APPARATUS, OR FOR ANY OTHER PURPOSE, EXCEPT AS EXPRESSLY AUTHORIZED IN WRITING BY ZACHRY.

**Figure A-3**  
**BHC CHEYENNE GENERATING STATION**  
 SITE RELATED WORK  
 GENERAL ARRANGEMENT  
 2X1 COMBINED CYCLE & 1 UNIT SIMPLE CYCLE

DESIGNED BY S. L. WEAVER	CHECKED BY M. S. WEAVER	DATE 08/28/11	SHEET 01	REV C
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**Appendix B-1**  
**Letters of Support - Town of Pine Bluffs**

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# Town of Pine Bluffs

220 Main Street - P O Box 429  
Pine Bluffs WY 82082-0429  
Tel (307) 245-3746 Fax (307) 245-3883



William Shain, Mayor

Alan Curtis, Council Member  
Mike Ragsdale, Council Member

Tom Mohren, Council Member  
Mark Fornstrom, Council Member

February 1, 2012

Tom Schroeder, Program Principal  
Tia Raamot, Principal Economist  
State of Wyoming Department of Environmental Quality  
Industrial Siting Division  
Herschler Building, 4W  
122 West 25<sup>th</sup> Street  
Cheyenne, WY 82002

Re: Cheyenne Prairie Generating Station

Dear Mr. Schroeder and Ms. Raamot,

Black Hills Corporation is proposing to build a natural gas-fired power plant in Cheyenne, WY. The proposed power plant is to be environmentally friendly and provide many new jobs in the short term as well as 10-12 full-time positions when operational.

The Town of Pine Bluffs believes that this project will benefit the Southeastern Wyoming area. Our Town and County will feel the positive impact of the project and because of this the Town Council supports the endeavor. Black Hills Corporation has proven to be a responsible partner in the past and we look forward to maintaining this relationship as we continue to see economic development and growth.

Respectfully submitted,

William Shain, Mayor

CC:  
Donna Beaman  
Cheyenne Light  
1301 W. 24<sup>th</sup> Street  
Cheyenne, WY 82009





# City Council

C H E Y E N N E  
February 3, 2012

Dr. Tom Schroeder  
Program Principal  
Industrial Siting Division  
Herschler Building  
122 West 25<sup>th</sup> Street  
Cheyenne, WY 82001

Ms. Tia Raamot  
Principal Economist  
Industrial Siting Division  
Herschler Building  
122 West 25<sup>th</sup> Street  
Cheyenne, WY 82001

Re: Cheyenne Prairie Generating Station

Dear Dr. Schroeder and Ms. Raamot:

As you are aware, Black Hills Corporation, in concert with its Cheyenne Light, Fuel and Power and Black Hills Power Companies, plans to construct a new nominal 132 megawatt gas fired combustion turbine power plant in Cheyenne. This project provides several positive attributes including source to market power, is environmentally friendly, complements renewable generation, investment of millions of dollars within the Cheyenne community, creation of needed construction and permanent jobs, and provides additional property and ad valorem taxes not only for Cheyenne, but Wyoming as well.

After review and assessment, the City of Cheyenne Governing Body unanimously approved a zoning change on October 10, 2011 for the construction of the power plant facility.

The City of Cheyenne Governing Body believes that this project will be a benefit not only to Cheyenne, but Laramie County and Wyoming as well, and supports the project.

Black Hills Corporation, Cheyenne Light, Fuel and Power Company, and Black Hills Power Company have proven to be good corporate partners, and we look forward to maintaining this relationship as we continue to see economic development and growth in the Cheyenne community.

Sincerely,

Partick Collins, President  
Cheyenne City Council

cc: Donna Beaman  
Manager, Energy Services  
Cheyenne, Light, Fuel and Power Company

Municipal Building - Room 115  
2101 O'neil Avenue  
Cheyenne, WY 82001

637-6357 - Office  
637-6356 - Fax  
citycouncil@cheyennecity.org





# FIRST WYOMING CAPITAL

Tom Schroeder, Program Principal  
Tia Raamot, Principal Economist  
State of Wyoming Department of Environmental Quality  
Industrial Siting Division  
Herschler Building, 4W  
122 West 25<sup>th</sup> Street  
Cheyenne, WY 82002

Re: Cheyenne Prairie Generating Station

Dear Mr. Schroeder and Ms. Raamot,

Black Hills Corporation is proposing to build a natural gas-fired power plant in Cheyenne, WY. The proposed power plan will be environmentally friendly and provide many new jobs in the short term as well as 10-20 full-time positions when operational.

I believe that this project will benefit the Southeastern Wyoming area. Our city and county will feel the positive impact of the project. Because of this I support the endeavor. Black Hills Corporation has proven to be a responsible partner in the past and we look forward to maintaining this relationship as we continue to see economic development and growth.

Respectfully submitted,

John R Perkins  
Chief Operating Officer  
First Wyoming Capital

CC:  
Donna Beaman  
Cheyenne Light  
1301 W. 24<sup>th</sup> Street  
Cheyenne, WY 82009





**JONAH BANK**

OF WYOMING

*Building a Better Wyoming*

Tom Schroeder, Program Principal  
Tia Raamot, Principal Economist  
State of Wyoming Department of Environmental Quality  
Industrial Siting Division  
Herschler Building, 4W  
122 West 25<sup>th</sup> Street  
Cheyenne, WY 82002

Re: Cheyenne Prairie Generating Station

Dear Mr. Schroeder and Ms. Raamot,

Black Hills Corporation is proposing to build a natural gas-fired power plant in Cheyenne, WY. The proposed power plan will prove to be environmentally friendly and will provide many new jobs in the short term as well as when the plant is in operation.

Jonah Bank of Wyoming believes that this project will provide substantial benefit the Southeastern Wyoming area. Our city and county will feel the positive impact of the project. To me, having this facility is very likely a tipping point in Cheyenne's future, as large power users will seek out municipalities that offer clean, affordable and ample power. We wholeheartedly support this endeavor. Black Hills Corporation has proven to be a responsible partner in the past and we look forward to maintaining this relationship as Cheyenne, and its citizens, continue to strive for a growing and diversified economy.

Respectfully submitted,

Gregg Jones, Cheyenne President

CC:

Donna Beaman  
Cheyenne Light  
1301 W. 24<sup>th</sup> Street  
Cheyenne, WY 82009

— Donna - Glad we can help! I have sent the template to a couple other businesses & asked them to offer their own endorsement of the plant. Hope that's okay.  
Regards, Gregg





February 6, 2012

Representative Peter S. "Pete" Illoway  
Wyoming House of Representatives

Mr. Tom Schroeder, Program Principal  
State of Wyoming  
Department of Environmental Quality  
Industrial Siting Division  
Herschler Building, 4W  
122 West 25<sup>th</sup> Street  
Cheyenne, WY 82002

Re: Cheyenne Prairie Generating Station

Dear Mr. Schroeder:

This letter is in support of the application by Cheyenne Light, Fuel and Power and Black Hills Power in the matter of a 132 megawatt gas fired electric generating station in east Cheyenne near the Dry Creek Waste Water facility.

Since the year 2000 the state's population has grown 14.1%, from 493,782 persons to 563,626 persons. Likewise Laramie County has grown 12.4% from 81,607 persons to 91,738 persons, and the City of Cheyenne has grown 12.2% from 53,011 persons to 59,466 persons.

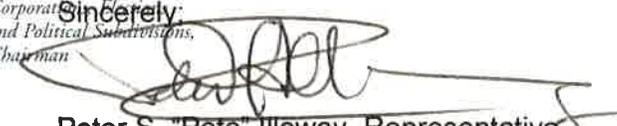
Cheyenne continues to experience industrial, commercial and residential growth. The new Swan Ranch Development project and Logistics Hub south of Cheyenne will continue to add more industrial and commercial growth. In the near future, the City of Cheyenne will be in the design phase of the Christensen Road overpass over the Union Pacific Railroad east of Cheyenne. When built, this connector will then allow for a proposed outer belt to be constructed around Cheyenne allowing for additional growth to occur.

The continued growth of the Cheyenne LEADS East Business Park and its North Range Business Park west of Cheyenne will continue to fuel additional industrial growth. Increased industrial growth will fuel increased commercial and residential growth. The foresight of Cheyenne Light, Fuel and Power and Black Hills Power to begin the process of building and supplying additional power is an encouraging sign for a growing part of the State. The proposed power plant is anticipated to be completed and ready for commercial operation by June of 2014. This completion date will be a good fit for the anticipated growth of the city and county.

As a long time citizen of the City of Cheyenne and a current State Representative, I am one hundred percent behind this project. There is continued growth in the southeast corner of Wyoming and we need to be ready with adequate electric power. I hope that the proposed plant and its appurtenant structures will move through the permitting process with minimal delays.

Committee:

*Corporate, Educational  
and Political Substitutions,  
Chairman*

*Sincerely,*  
  
Peter S. "Pete" Illoway, Representative





# COUNTY OF ALBANY

525 GRAND AVE ROOM 105 · LARAMIE, WYOMING 82070  
(307) 721-2541 · FAX (307) 721-2544  
COMMISSIONERS@CO.ALBANY.WY.US

February 7, 2012

Mr. Tom Schroeder, Program Principal  
Ms. Tia Raamot, Principal Economist  
State of Wyoming Department of Environmental Quality  
Industrial Siting Division  
Herschler Building, 4W  
122 West 25<sup>th</sup> Street  
Cheyenne, WY 82002

RE: Cheyenne Prairie Generating Station

Dear Mr. Schroeder and Ms. Raamot:

Donna Beaman, Siting Coordinator for Black Hills Corporation met with us today at our Regular Meeting to discuss the plans for the Cheyenne Prairie Generating Station Project. We are very appreciative of Black Hills Corporation's effort to provide us with information about this project.

Ms. Beaman shared the vision and plans thus far on the Cheyenne Prairie Generating Station and we fully support this project. The long-term results will bring economic stability to this region in a variety of ways. We hope you will give favorable consideration to this project.

Sincerely,

Tim Sullivan, Chairman  
Board of Albany County Commissioners

cc: Ms. Donna Beaman, Siting Coordinator

TIM CHESNUT  
COMMISSIONER

TIM SULLIVAN  
COMMISSIONER CHAIRMAN

JERRY M. KENNEDY  
COMMISSIONER



February 14, 2012

Tom Schroeder, Program Principal  
Tia Raamot, Principal Economist  
State of Wyoming Department of Environmental Quality  
Industrial Siting Division  
Herschler Building, 4W  
122 West 25<sup>th</sup> Street  
Cheyenne, WY 82002

Re: Cheyenne Prairie Generating Station

Dear Mr. Schroeder and Ms. Raamot,

Cheyenne LEADS is the economic development entity for Cheyenne and Laramie County. As such, we are writing in support of Black Hills Corporation's proposal to build a natural gas fired power plant in Cheyenne. During construction the proposed plant will create payroll and economic activity providing an immediate one-time boost to our local economy.

More importantly, this environmentally friendly plant will have significant long-term benefits, not only to Laramie County but state-wide. The plant, as proposed, will help Cheyenne have greater control over its own destiny as far as electric power supply is concerned. It also will significantly increase the ability to attract technology companies to the Cheyenne area. In fact, just the prospect of this facility being built has kept Cheyenne on the "short List" with several prospective companies with whom Cheyenne LEADS is working.

Black Hills Corporation has proven to be a responsible economic development partner and we would expect this relationship to continue as this facility becomes a reality.

Cheyenne LEADS is pleased to express our strong and unqualified support for this project.

Respectfully submitted,  
Cheyenne LEADS



Randy Bruns  
CEO

CC:  
Donna Beaman  
Cheyenne Light

Appendix B-8

Letters of Support – Laramie County Community College

---



LARAMIE COUNTY  
COMMUNITY COLLEGE

OFFICE OF THE PRESIDENT

February 15, 2012

Tom Schroeder, Program Principal  
Tia Raamot, Principal Economist  
State of Wyoming Department of Environmental Quality  
Industrial Siting Division  
Herschler Building, 4W  
122 West 25<sup>th</sup> Street  
Cheyenne, WY 82002

Re: Cheyenne Prairie Generating Station

Dear Mr. Schroeder and Ms. Raamot:

We at Laramie County Community College would like to extend our support of the Black Hills Corporation's proposed natural gas-fired power plant in Cheyenne, Wyoming. We understand it is to be environmentally friendly, will provide many jobs in the short term as well as 10 to 12 full-time positions when operational, and that the electricity derived from the plant will service Cheyenne and Laramie County users.

During construction and after the plant is operational, the benefit to the southeastern Wyoming area will be substantial. With that in mind, we look forward to this project and the positive impact it will have on our local economy.

Respectfully submitted,

Dr. Joe Schaffer  
President  
Laramie County Community College

and

Mr. Greg Thomas  
Chairman, Board of Trustees  
Laramie County Community College

c: Donna Beaman  
Cheyenne Light  
1301 W. 24<sup>th</sup> Street  
Cheyenne, WY 82009

Appendix B-9

Letters of Support – Laramie County Commissioners

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The Board of  
Laramie County  
Commissioners



*Gay Woodhouse*  
Chairman

*Troy Thompson*  
Vice-Chairman

*Diane Humphrey*  
Commissioner

February 21, 2012

Tom Schroeder, Program Principal  
Tia Raamot, Principal Economist  
State of Wyoming Department of Environmental Quality  
Industrial Siting Division  
Herschler Building 4W  
122 W 25 St  
Cheyenne WY 82002

Re: Cheyenne Prairie Generating Station

Dear Mr. Schroeder and Ms. Raamot,

Donna Beaman, Siting Coordinator for Black Hills Corporation met with us recently to outline and discuss the plans for the Cheyenne Prairie Generating Station project. We are very appreciative of the Black Hills Corporation's effort to provide us with information about the project.

Mrs. Beaman shared the vision and plans thus far on the Cheyenne Prairie Generating Station. It is the intention of the Laramie County Commissioners to fully support the project. The long-term results will bring economic stability to this region in a variety of ways.

Respectfully submitted,

*Gay Woodhouse*  
Gay Woodhouse  
Chairman

*Troy Thompson*  
Troy Thompson  
Vice-Chairman

*Diane Humphrey*  
Diane Humphrey  
Commissioner

Cc:  
Donna Beaman  
Cheyenne Light  
1301 W 24 St  
Cheyenne WY 82009



**COUNTY OF PLATTE**  
**BOARD OF COMMISSIONERS**

---

PO BOX 728  
WHEATLAND, WY 82201  
(307)322-3555  
[pcclerk@plattecountywyoming.com](mailto:pcclerk@plattecountywyoming.com)  
[www.plattecountywyoming.com](http://www.plattecountywyoming.com)

February 21, 2012

Tom Schroeder, Program Principal  
Tia Raamot, Principal Economist  
State of Wyoming Department of Environmental Quality  
Industrial Siting Division  
Herschler Building, 4W  
122 West 25<sup>th</sup> St  
Cheyenne, WY 82002

RE: Cheyenne Prairie Generating Station

Dear Mr Schroeder and Ms. Raamot:

Donna Beaman, Siting Coordinator for Black Hills Corporation met with us recently to outline and discuss the plans for the Cheyenne Prairie Generating Station project. We are very appreciative of Black Hills Corporation's effort to provide us with information about the project.

Mrs. Beaman shared the vision and plans thus far on the Cheyenne Prairie Generating Station. It is the intention of the Platte County Board of Commissioners to fully support the project. The long term results will bring economic stability to this region in a variety of ways.

Respectfully,



Tim Millikin, Chairman  
Platte County Board of Commissioners

cc Donna Beaman

**Appendix B-11**  
**Letters of Support – Town of Burns**

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**Town of Burns  
PO Box 66  
Burns, WY 82053  
307-547-2206**



March 6, 2012

Donna Beaman  
Cheyenne Light  
1301 W. 24<sup>th</sup> Street  
Cheyenne, WY 82009

Re: Cheyenne Prairie Generating Station

Dear Ms. Beaman,

John Thompson of Cheyenne Light met with us recently to outline and discuss the plans for the Cheyenne Prairie Generating Station project. We are very appreciative of Black Hills Corporation's effort to provide us with information about the project.

Mr. Thompson shared the vision and plans thus far on the Cheyenne Prairie Generating Station. It is the intention of the Town of Burns to fully support the project. The long-term results will bring economic stability to this region in a variety of ways.

Also, I would like to take this opportunity to once again thank you most sincerely for the kindness and support that Cheyenne Light, Fuel, and Power as well as your parent company, Black Hills Corporation, shows to the municipalities you serve. Your generosity to our community has greatly enhanced the aesthetics and quality of our lives, and we will never be able to adequately express our appreciation.

Respectfully submitted,

A handwritten signature in blue ink that reads "Judy Johnstone". The signature is written in a cursive, flowing style.

Judy Johnstone, Mayor  
Town of Burns

Appendix B-12

Letters of Support – Greater Cheyenne Chamber of Commerce



Tom Schroeder, Program Principal  
Tia Raamot, Principal Economist  
State of Wyoming Department of Environmental Quality  
Industrial Siting Division  
Herschler Building, 4W  
122 West 25<sup>th</sup> Street  
Cheyenne, WY 82002

Re: Cheyenne Prairie Generating Station

Dear Mr. Schroeder and Ms. Raamot,

Black Hills Corporation is proposing to build a natural gas-fired power plant in Cheyenne, WY. The proposed power plant is to be on the cutting edge of modern technology that will produce efficient power while having a minimal environmental footprint. The project is also a significant economic boost to our community that provide a significant short run employment boost during construction and 10-12 full-time positions when operational.

The Greater Cheyenne Chamber of Commerce supports this needed addition of power to our generation and we believe that it will benefit Cheyenne and all of the region. Black Hills Corporation has been a great community partner in Cheyenne that has been supportive of the community and a responsible corporate citizen. The chamber is excited about the continued prospects of economic development that this project can help foster.

Sincerely,

A handwritten signature in dark ink that reads "Dale G. Steenbergen". The signature is fluid and cursive, written over a light blue horizontal line.

Dale G. Steenbergen  
President/CEO  
Greater Cheyenne Chamber of Commerce

**Appendix C-1**  
**Impact Assistance Calculation**

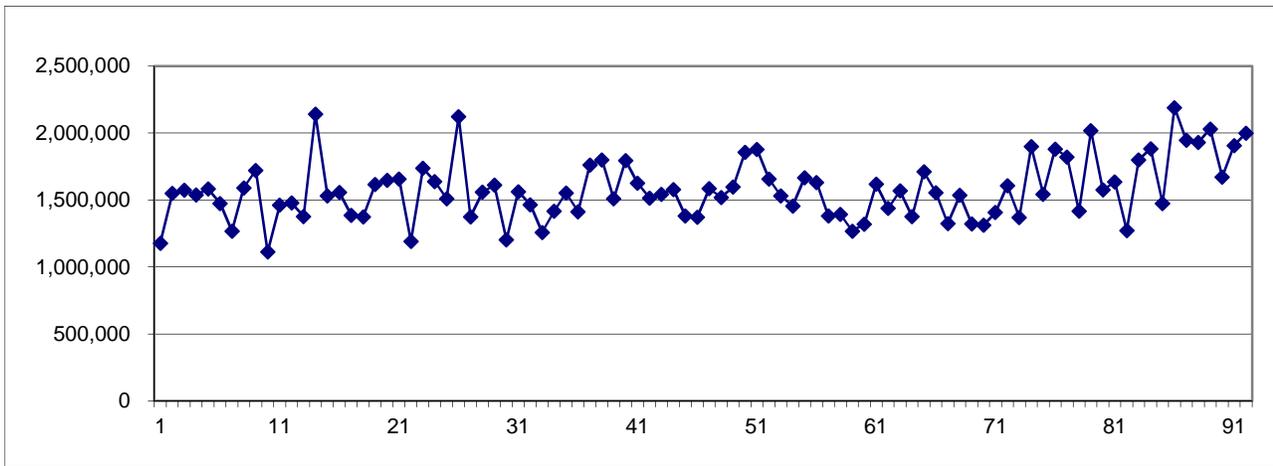
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## History of State Sales and Use Tax Given to Laramie County Governments

Serial	Month	State Share Given to Co			State Share Given Muni's			Total
		Sales	Use	Total	Sales	Use	Total	
1	July 04	41,791	2,429	44,220	999,328	132,804	1,132,132	1,176,352
2	Aug 04	60,303	5,046	65,349	1,414,160	70,228	1,484,388	1,549,737
3	Sep 04	61,059	3,807	64,866	1,378,950	130,164	1,509,114	1,573,980
4	Oct 04	60,187	4,152	64,339	1,358,843	114,708	1,473,551	1,537,890
5	Nov 04	61,161	4,868	66,029	1,385,587	131,772	1,517,359	1,583,388
6	Dec 04	54,611	4,765	59,376	1,263,189	152,600	1,415,789	1,475,165
7	Jan 05	49,860	3,386	53,246	1,102,741	112,585	1,215,326	1,268,572
8	Feb 05	53,899	3,076	56,975	1,364,362	170,183	1,534,545	1,591,520
9	Mar 05	60,134	4,350	64,484	1,450,416	207,760	1,658,176	1,722,660
10	Apr 05	45,993	4,216	50,209	971,612	90,494	1,062,106	1,112,315
11	May 05	54,016	7,363	61,379	1,252,044	148,574	1,400,618	1,461,997
12	Jun 05	56,461	6,043	62,504	1,279,309	136,309	1,415,618	1,478,122
13	Jul 05	54,232	5,710	59,942	1,208,640	109,387	1,318,027	1,377,969
14	Aug 05	89,497	6,835	96,332	1,836,119	209,552	2,045,671	<b>2,142,003</b>
15	Sep 05	64,072	5,863	69,935	1,300,360	161,610	1,461,970	1,531,905
16	Oct 05	73,592	6,133	79,725	1,345,997	133,075	1,479,072	1,558,797
17	Nov 05	64,536	5,789	70,325	1,196,048	119,919	1,315,967	1,386,292
18	Dec 05	61,061	6,059	67,120	1,197,922	108,475	1,306,397	1,373,517
19	Jan 06	63,130	4,366	67,496	1,430,056	119,613	1,549,669	1,617,165
20	Feb 06	63,386	6,098	69,484	1,395,201	182,911	1,578,112	1,647,596
21	Mar 06	76,951	5,087	82,038	1,456,684	119,259	1,575,943	1,657,981
22	Apr 06	48,269	4,898	53,167	989,284	149,714	1,138,998	1,192,165
23	May 06	75,504	11,410	86,914	1,441,598	209,533	1,651,131	1,738,045
24	Jun 06	72,667	9,500	82,167	1,382,539	173,701	1,556,240	1,638,407
25	Jul 06	65,973	6,915	72,888	1,291,939	145,833	1,437,772	1,510,660
26	Aug 06	98,713	11,583	110,296	1,806,991	204,902	2,011,893	<b>2,122,189</b>
27	Sep 06	76,123	8,889	85,012	1,162,308	128,348	1,290,656	1,375,668
28	Oct 06	75,688	10,740	86,428	1,290,278	182,606	1,472,884	1,559,312
29	Nov 06	91,335	13,147	104,482	1,351,987	155,007	1,506,994	1,611,476
30	Dec 06	68,108	10,191	78,299	1,016,187	108,133	1,124,320	1,202,619
31	Jan 07	77,947	8,580	86,527	1,356,427	120,118	1,476,545	1,563,072
32	Feb 07	72,783	9,949	82,732	1,246,293	137,017	1,383,310	1,466,042
33	Mar 07	67,832	7,837	75,669	1,086,818	96,747	1,183,565	1,259,234
34	Apr 07	62,264	6,578	68,842	1,218,234	129,846	1,348,080	1,416,922
35	May 07	77,972	10,319	88,291	1,308,480	157,187	1,465,667	1,553,958
36	Jun 07	63,140	7,955	71,095	1,142,199	199,864	1,342,063	1,413,158
37	Jul 07	78,770	12,704	91,474	1,479,171	192,404	1,671,575	1,763,049
38	Aug 07	93,141	13,700	106,841	1,476,604	217,642	1,694,246	1,801,087
39	Sep 07	82,628	4,749	87,377	1,249,756	172,707	1,422,463	1,509,840
40	Oct 07	90,917	22,251	113,168	1,511,587	171,121	1,682,708	1,795,876
41	Nov 07	84,396	7,873	92,269	1,370,680	162,434	1,533,114	1,625,383
42	Dec 07	72,207	10,503	82,710	1,300,204	132,208	1,432,412	1,515,122
43	Jan 08	78,003	9,030	87,033	1,338,061	119,158	1,457,219	1,544,252
44	Feb 08	81,820	12,689	94,509	1,341,621	143,143	1,484,764	1,579,273
45	Mar 08	71,053	9,084	80,137	1,172,820	128,065	1,300,885	1,381,022

46	Apr 08	70,071	6,393	76,464	1,162,332	133,265	1,295,597	1,372,061
47	May 08	79,105	10,999	90,104	1,346,281	149,047	1,495,328	1,585,432
48	Jun 08	75,610	8,507	84,117	1,245,823	189,984	1,435,807	1,519,924
49	Jul 08	74,048	7,211	81,259	1,357,023	158,877	1,515,900	1,597,159
50	Aug 08	107,839	12,568	120,407	1,557,077	178,647	1,735,724	1,856,131
51	Sep 08	103,309	10,619	113,928	1,581,922	182,032	1,763,954	1,877,882
52	Oct 08	102,657	10,310	112,967	1,359,118	185,857	1,544,975	1,657,942
53	Nov 08	86,528	10,717	97,245	1,291,120	142,954	1,434,074	1,531,319
54	Dec 08	82,337	10,184	92,521	1,181,325	182,435	1,363,760	1,456,281
55	Jan 09	77,044	8,919	85,963	1,435,562	144,398	1,579,960	1,665,923
56	Feb 09	96,277	10,996	107,273	1,396,433	128,379	1,524,812	1,632,085
57	Mar 09	71,842	13,773	85,615	1,194,366	100,719	1,295,085	1,380,700
58	Apr 09	69,627	11,920	81,547	1,185,061	126,609	1,311,670	1,393,217
59	May 09	54,680	7,691	62,371	1,073,679	132,350	1,206,029	1,268,400
60	Jun 09	61,641	6,576	68,217	1,075,804	175,879	1,251,683	1,319,900
61	Jul 09	69,422	12,090	81,512	1,396,216	140,875	1,537,091	1,618,603
62	Aug 09	70,501	6,202	76,703	1,216,062	146,023	1,362,085	1,438,788
63	Sep 09	67,686	8,740	76,426	1,304,025	188,222	1,492,247	1,568,673
64	Oct 09	63,688	7,373	71,061	1,168,249	137,320	1,305,569	1,376,630
65	Nov 09	73,615	6,723	80,338	1,481,770	149,672	1,631,442	1,711,780
66	Dec 09	67,124	6,114	73,238	1,344,798	136,643	1,481,441	1,554,679
67	Jan 10	53,048	7,235	60,283	1,138,617	125,724	1,264,341	1,324,624
68	Feb 10	63,292	893	64,185	1,392,566	78,606	1,471,172	1,535,357
69	Mar 10	62,046	5,719	67,765	1,157,538	97,914	1,255,452	1,323,217
70	Apr 10	56,721	6,396	63,117	1,156,356	93,735	1,250,091	1,313,208
71	May 10	59,261	7,411	66,672	1,224,765	116,200	1,340,965	1,407,637
72	Jun 10	67,032	8,281	75,313	1,386,370	146,902	1,533,272	1,608,585
73	Jul 10	60,243	10,967	71,210	1,169,947	128,942	1,298,889	1,370,099
74	Aug 10	85,185	8,545	93,730	1,675,729	130,281	1,806,010	1,899,740
75	Sep 10	67,268	7,792	75,060	1,327,112	141,538	1,468,650	1,543,710
76	Oct 10	81,804	15,249	97,053	1,638,455	145,893	1,784,348	1,881,401
77	Nov 10	83,110	9,477	92,587	1,599,189	130,558	1,729,747	1,822,334
78	Dec 10	62,255	5,974	68,229	1,228,859	120,039	1,348,898	1,417,127
79	Jan 11	79,440	10,578	90,018	1,798,176	129,324	1,927,500	2,017,518
80	Feb 11	66,359	8,038	74,397	1,380,681	121,280	1,501,961	1,576,358
81	Mar 11	68,453	7,490	75,943	1,430,662	128,960	1,559,622	1,635,565
82	Apr 11	57,301	6,723	64,024	1,101,301	107,511	1,208,812	1,272,836
83	May 11	72,608	9,518	82,126	1,582,791	135,753	1,718,544	1,800,670
84	Jun 11	75,139	8,876	84,015	1,661,970	137,540	1,799,510	1,883,525
85	Jul 11	57,805	8,532	66,337	1,288,969	120,199	1,409,168	1,475,505
86	Aug 11	100,224	10,722	110,946	1,936,340	143,266	2,079,606	2,190,552
87	Sept 11	87,573	9,694	97,267	1,700,725	148,104	1,848,829	1,946,096
88	Oct 11	82,018	9,482	91,500	1,618,408	221,642	1,840,050	1,931,550
89	Nov 11	91,063	11,737	102,800	1,735,391	193,411	1,928,802	2,031,602
90	Dec 11	71,508	8,806	80,314	1,450,246	141,814	1,592,060	1,672,374
91	Jan 12	85,663	8,231	93,894	1,680,538	133,557	1,814,095	1,907,989
92	Feb 12	88,226	8,544	96,770	1,752,539	151,019	1,903,558	2,000,328

Base Period Amount = 1,812,383



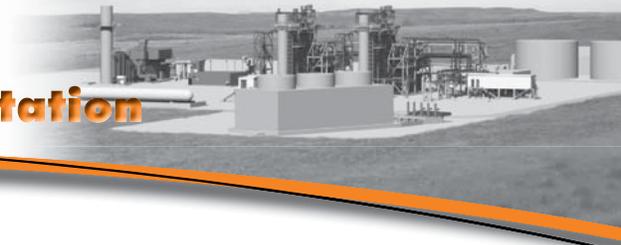
### Forecast of Impact Assistance Payments

Serial	Month	SLR	BasePeriod	Impact Assistance
93	Mar 2012	1,929,364	1,812,383	<b>116,982</b>
94	Apr 2012	1,945,935	1,812,383	<b>133,553</b>
95	May 2012	1,962,506	1,812,383	<b>150,124</b>
96	Jun 2012	1,979,077	1,812,383	<b>166,695</b>
97	Jul 2012	1,995,648	1,812,383	<b>183,265</b>
98	Aug 2012	2,012,219	1,812,383	<b>199,836</b>
99	Sep 2012	2,028,790	1,812,383	<b>216,407</b>
100	Oct 2012	2,045,361	1,812,383	<b>232,978</b>
101	Nov 2012	2,061,932	1,812,383	<b>249,549</b>
102	Dec 2012	2,078,503	1,812,383	<b>266,120</b>
103	Jan 2013	2,095,074	1,812,383	<b>282,691</b>
104	Feb 2013	2,111,645	1,812,383	<b>299,262</b>

**208,122** Forecast average monthly impact assistance  
**2,497,462** Forecast yearly impact assistance

1.094 Forecast growth rate in sales & use tax





## Project Description

Black Hills Corporation (BHC) plans to construct a new nominal 132 megawatt (MW) net simple and combined cycle natural gas fired combustion turbine power plant in Laramie County, Wyoming. Pending approval by the Wyoming Public Service Commission, the project, named the Cheyenne Prairie Generating Station (CPGS), will be located within the city limits of the City of Cheyenne, Wyoming, approximately 5 miles southeast of the downtown area on a 250 acre parcel owned by BHC. BHC subsidiaries Cheyenne Light Fuel and Power Company (CLFP) and Black Hills Power (BHP) will jointly own and operate the facility. The 37 MW net Simple Cycle Combustion Turbine will be 100% owned by CLFP. The 95 MW net Combined Cycle will be 42% CLFP and 58% BHP. The purpose of the proposed facility is to 1) meet capacity requirements per the Integrated Resource Plan, 2) allow reserve generation for economy purchases, 3) locate generation in the service area for reliability, 4) provide a source of peaking and intermediate generation and 5) enable renewable generation.

The CPGS project will include three General Electric (GE) LM 6000 PF SPRINT combustion turbine generators (CTGs) fired by pipeline quality natural gas. Two of the turbines will be operated in combined cycle mode and one will be operated in simple cycle mode. The combustion turbines will use best available control technology including low-NO<sub>x</sub> burners, Selective Catalytic Reduction for further Nitrogen Oxides (NO<sub>x</sub>) removal and an Oxidation Catalyst for removal of Carbon Monoxide (CO) and Volatile Organic Compounds (VOCs).

The estimated cost of the facility is \$237 million including the generation facility, natural gas pipeline and transmission interconnect.



## Schedule

Permitting is currently underway for the project. Major equipment would be ordered in October 2012, construction would start in April 2013 and commercial operation would commence in June 2014.

## Construction and Operations Workforce

Construction at the site is expected to start in April 2013. The average construction workforce is estimated at 194 for the 14-month construction duration. The peak is estimated at 400 on-site workers in December 2013. The Operations and Maintenance Workforce for the new facility is estimated to be 10 to 12 full time permanent positions.

## Community Benefits

The construction of the new generation facility will provide investment in the local community, employment, expanded tax base and clean electric power. There will be significant capital expenditures on local purchases. There will be new jobs for both construction and long-term operation. The project will result in additional property, ad valorem, severance and other taxes paid by the project.

## Environment

Major environmental permits required for the project include:

- Wyoming Industrial Siting permit
- Prevention of Significant Deterioration (PSD) Air Construction permit
- Greenhouse Gas PSD Construction permit
- Title IV Acid Rain permit
- Title V Operating permit
- Construction Stormwater Discharge permit
- National Pollutant Discharge Elimination System (NPDES) Stormwater Discharge Permit
- Industrial Water Discharge Pre-Treatment Permit with Regional Wastewater Plant
- Spill Prevention, Control and Countermeasure (SPCC) Plan
- Other permits related to siting of Electric Transmission and Natural Gas Pipeline

**Industrial Siting Permit Application** - Black Hills Corporation is required to obtain an Industrial Siting Permit from the Wyoming Department of Environmental Quality, Industrial Siting Division (ISD) due to the source category and overall capital cost of the project. The application is expected to be filed in April 2012.

**Water** - A water supply analysis for the project was recently completed. The City of Cheyenne will supply water to the new facility. The facility is also going to use treated wastewater from the neighboring regional wastewater facility to reduce fresh water makeup. The facility will also discharge all wastewater to the regional wastewater facility. There will not be a discharge permit to Crow Creek or other surface waters.

**Air** - The air construction permit application was submitted to the Wyoming Department of Environmental Quality, Air Quality Division in October 2011. A Greenhouse Gas permit application was submitted to EPA Region 8 in August 2011.

## For more information, contact:

Donna Beaman  
Manager – Energy Services  
Cheyenne Light Fuel & Power  
108 West 18th Street  
Cheyenne, WY 82001  
307-778-2140  
donna.beaman@blackhillscorp.com

**Appendix D-2**  
**Open House Welcome Sign**

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# Cheyenne Prairie Generating Station



# Welcome

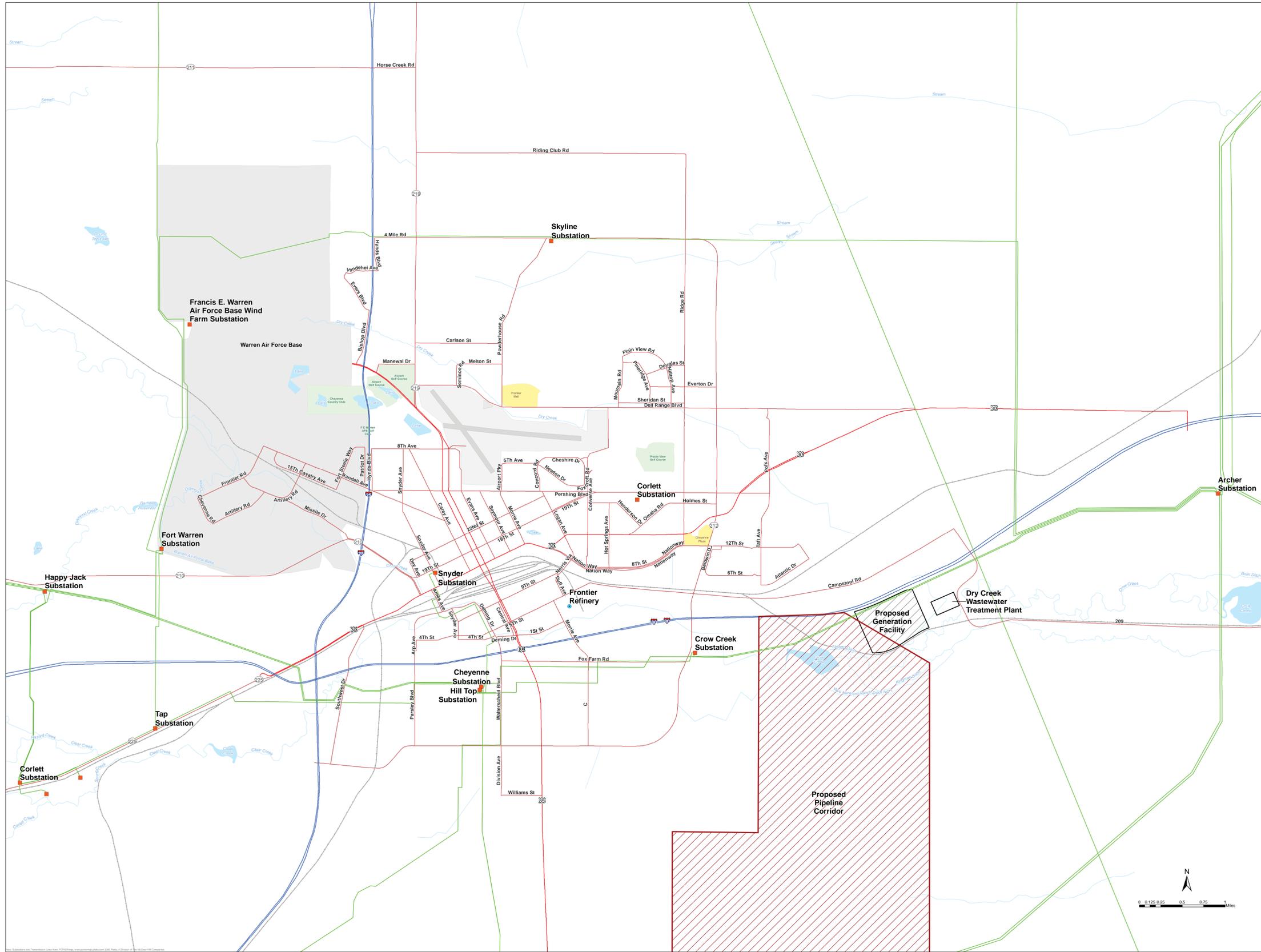
Cheyenne Prairie Generating Station  
Public Meeting

*Please Sign In!*





## Project Location



# Cheyenne Prairie Generating Station

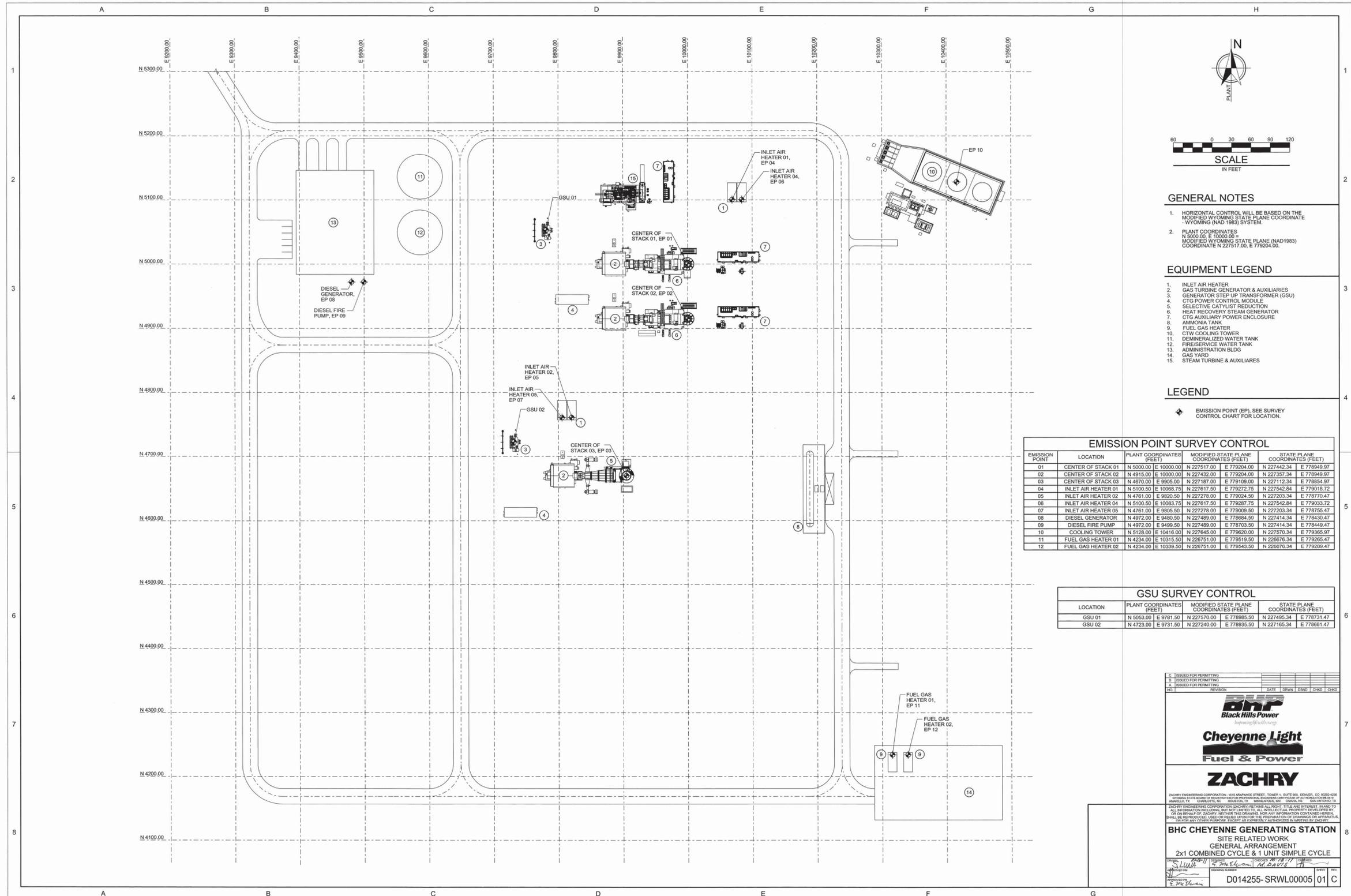
## Facility Simulation







## Facility Equipment Layout



## Project Description

### Project Description

Black Hills Corporation (BHC) plans to construct a new nominal 132 megawatt (MW) net simple and combined cycle natural gas fired combustion turbine power plant in Laramie County, Wyoming. The project, named the Cheyenne Prairie Generating Station (CPGS), will be located within the city limits of the City of Cheyenne, Wyoming, approximately 5 miles southeast of the downtown area on a 250 acre parcel owned by BHC. BHC subsidiaries Cheyenne Light Fuel and Power Company (CLFP) and Black Hills Power (BHP) will jointly own and operate the facility.

### The CP GS project will include the following:

- Three General Electric (GE) LM 6000 PF SPRINT combustion turbine generators (CTGs) fired by pipeline quality natural gas. Two of the turbines will be operated in combined cycle mode and one will be operated in simple cycle mode.
- One wet cooling tower for the combined cycle steam turbine
- Four natural gas inlet air heaters for inlet air heating for all of the CTGs
- Two fuel gas heaters, natural gas-fired
- One diesel emergency generator
- One diesel fire pump
- Natural gas pipeline
- Transmission interconnect

The estimated cost of the facility is \$237 million including the generation facility, natural gas pipeline and transmission interconnect.



## Project Schedule

Project Schedule	
Task	Timeline
Greenhouse Gas Application Submitted to EPA	August / September 2011
PSD Air Construction Permit Application Submitted to Wyoming DEQ	October 2011
Submit Industrial Siting Application to Wyoming DEQ	April 2012
Order Major Equipment (including Turbines)	October 2012
Commence Construction	April 2013
Commercial Operation	June 2014



## ***Business Need and Community Benefits***

### **Business Need**

BHC subsidiaries Cheyenne Light Fuel and Power Company (CLFP) and Black Hills Power (BHP) will jointly own and operate the facility. The 37 MW net Simple Cycle Combustion Turbine will be 100% owned by CLFP. The 95 MW net Combined Cycle will be 42% CLFP and 58% BHP. The purpose of the proposed facility is to

- 1)** meet capacity requirements per the Integrated Resource Plan,
- 2)** allow reserve generation for economy purchases,
- 3)** locate generation in the service area for reliability,
- 4)** provide a source of peaking and intermediate generation and
- 5)** enable renewable generation.

### **Community Benefits**

#### ***New Investment***

- project cost approximately \$237 million
- millions of dollars to be spent on local purchases
- local service industry expanded
- clean, efficient power for new and expanding businesses in Cheyenne area

#### ***Employment***

- approximately 200 construction jobs (400 peak)
- 10 to 12 long term jobs

#### ***Expanded Tax Base***

- additional property, ad valorem, severance and other taxes paid by project
- additional property taxes paid by new employees moving into area



## Construction and Operations Workforce

### Construction Workforce

Construction at the site is expected to start in April 2013. The average construction workforce is estimated at 194 for the 14-month construction duration. The peak is estimated at 400 on-site workers in December 2013.

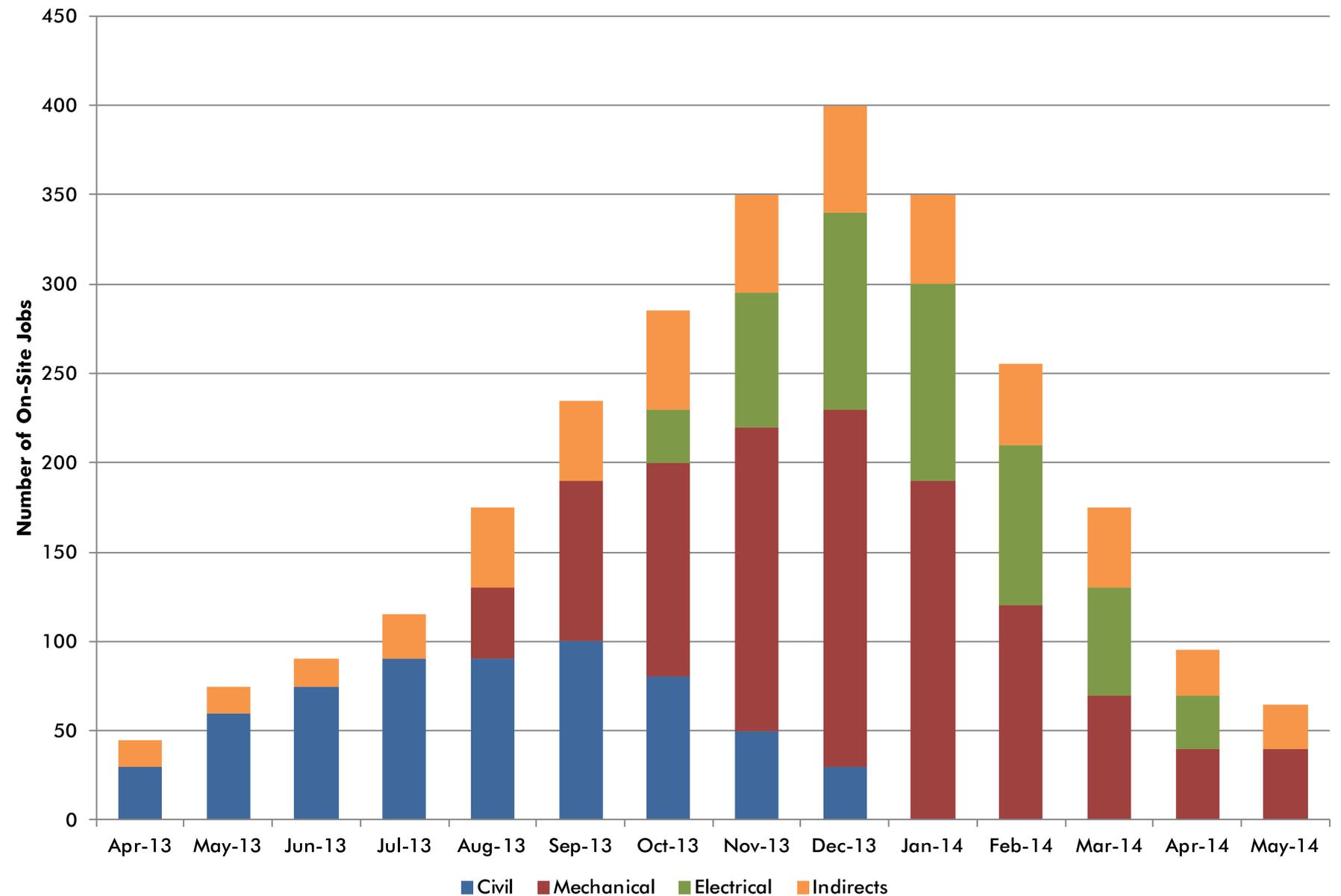
Construction Crafts will include:

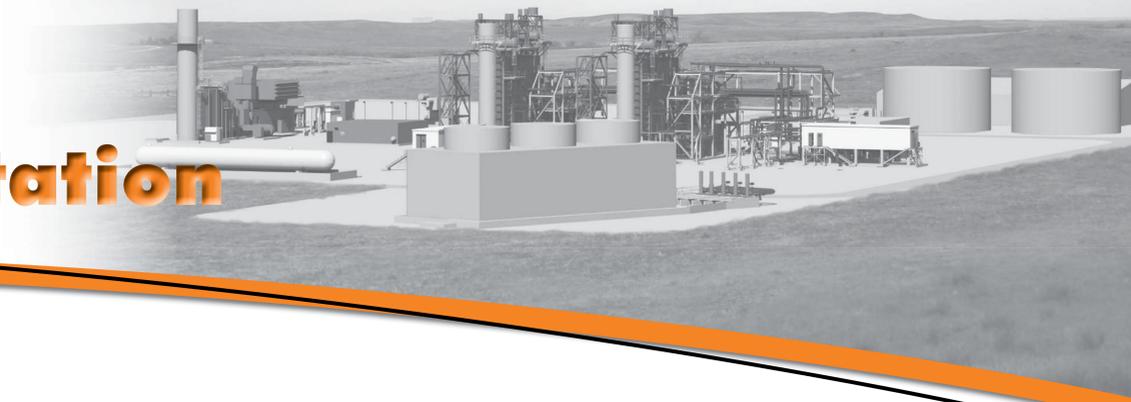
- Laborers
- Equipment Operators
- Carpenters
- Pipefitters
- Electricians
- Cement Masons
- Boilermakers
- Ironworkers
- Millwrights
- Insulators
- Construction Management

### Operations Workforce

The Operations and Maintenance Workforce for the new facility is estimated to be 10 to 12 full time permanent positions.

**Estimate of Construction Workforce**





## Environment

### Environmental Permits

Major environmental permits required for the project include:

- Wyoming Industrial Siting permit
- PSD Air Construction permit
- Greenhouse Gas PSD Construction permit
- Title IV Acid Rain permit
- Title V Operating permit
- Construction Stormwater Discharge permit
- NPDES Stormwater Discharge Permit
- Industrial Water Discharge Pre-Treatment Permit with Regional Wastewater Plant
- SPCC Plan
- Other permits related to siting of Electric Transmission and Natural Gas Pipeline

### Industrial Siting Permit Application

Black Hills Corporation is required to obtain an Industrial Siting Permit from the Wyoming Department of Environmental Quality, Industrial Siting Division (ISD) due to the source category and overall capital cost of the project. The Industrial Siting Act (ISA) requirements focus on four main issues:

1. Confirmation from the Wyoming State Engineer's Office (SEO), via a formal opinion letter, that any groundwater consumed by the project would be appropriately used and that such use will not adversely affect other water users in the vicinity.
2. Review of the social and economic impacts of the construction and operation of the project, with identification and mitigation strategies for any predicted impacts.
3. Review of any environmental impacts of the project that are not under the specific jurisdiction of any other state agency.
4. Based on review of the applicant's application and socioeconomic analysis, and input from local agencies, the Industrial Siting Division will make a recommendation to the Industrial Siting Council on the distribution of impact assistance funds.

### Current Activities:

- The project team has met with the SEO on estimated water use for the project. The water will be supplied by the City of Cheyenne and is under the threshold for review in the ISA regulations.
- Work on the socioeconomic analysis and preparation of the Industrial Siting Permit Application is in progress.
- The project team currently has studies underway analyzing the housing needs for both the construction and permanent operations workforce.
- Transportation route and traffic studies are currently underway for both construction/operation personnel and equipment deliveries.

### Water

A water supply analysis for the project was recently completed. The City of Cheyenne will supply water to the new facility. The facility is also going to use treated wastewater from the neighboring regional wastewater facility to reduce fresh water makeup. The facility will also discharge all wastewater to the regional wastewater facility. There will not be a discharge permit to Crow Creek or other surface waters.

### Air

The air construction permit application was submitted to the Wyoming Department of Environmental Quality, Air Quality Division in October 2011. A Greenhouse Gas permit application was submitted to EPA Region 8 in August 2011.

The combustion turbines used in the power block will use best available control technology including low-NOx burners, Selective Catalytic Reduction for further Nitrogen Oxides (NOx) removal and an Oxidation Catalyst for removal of Carbon Monoxide (CO) and Volatile Organic Compounds (VOCs).

**Appendix D-4**  
**Open House Sign-In Sheet**

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Cheyenne Prairie Generating Station Public Meeting - January 25, 2012  
 Cheyenne, Wyoming  
 Sign-in Sheet - Please Print Clearly

Name	Representing	Title	Address
Peggy McCollom			Cheyenne
Laura Arzoumanian			Cheyenne, Wyo.
Royce Shirley			Cheyenne
John Wilkinson			Cheyenne
Natalie Dunn	B.O.P.U.	Industrial Pretreatment Coordinator	Cheyenne
Phil Clark	BOPU	Compliance Sr.	Cheyenne
Fred Amaki			Cheyenne
Ed & Peggy Upland			Cheyenne
DALE WOODWARD	ME	-	CHEYENNE
CHARLES BOSSELMAN	—	—	10510 Beck Brush Rd, CHEYENNE
Dale Kjack			Cheyenne
Harvey J. Humphrey	IBEW 415	Business Mgr.	Cheyenne
Jeremy Bridges	IBEW 415	Membership Director	Cheyenne

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Cheyenne Prairie Generating Station Public Meeting - January 25, 2012  
 Cheyenne, Wyoming  
 Sign-in Sheet - Please Print Clearly

Name	Representing	Title	Address
Benny Antunes	IBEW et al.	I.O. Rep	Boise ID
Scott Anderson	TIC		Centennial, CO
Quentin Porter	DDA	E.D	121 West 15 <sup>th</sup> , Ste 200
Jeff Rennes			Cheyenne
Charles Canoll + Shana	self		3118 Omaha Road
Steve Kystner			Lander, CO.
Michael Miller			Denver CO
Ed Meades	self		3918 Dover
Dennis Foggy	self	IME	11200 Campstead 82007
Mat Ashby	CITY OF CHEYENNE	PLANNING DIRECTOR	2101 ORNIE AVE.
Dewey Williams	self		709 David CT 82007
Vince Abeyta	self		Chey.
Dave Walker	self		Chey.

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26 29

2 pages as of 3:26  
28 guests

42 by 7:30



Cheyenne Prairie Generating Station Public Meeting - January 25, 2012  
 Cheyenne, Wyoming  
 Sign-in Sheet - Please Print Clearly

Name	Representing	Title	Address
Mr + Mrs Victor Contratto	Self		1009 MITCHELL PLACE CHEYENNE 82007
Joan Anderson	self		1002 Randall ave Cheyenne 82001
D Johnson			Cheyenne
John Shepards	Self		Reporter
Luke Esch	AG's Office/ISC		123 Capital
Dwest			Cheyenne
JOAN P BARNES	WY state ENGINEER/OFFICE		Hesseler Bldg AE Cheyenne 82002
Kevin McDougal	STERLING CRANE	Barnes member	1212 E. VINE DRIVE FORT COLLINS, CO 80524
Tou Schroeder	DEQ/ISD	proj. pm.	Hesseler.
Kim H. Sherwood	DOE Washington St.	Environ. Engineer	3550 Hillside Lane <sup>SLO</sup> UT 84109
Jack Meena	States West	Project Engineer	1904 E 15 <sup>th</sup> St., Cheyenne WY 82001
DENNIS HEMENOVER	LOCAL 192	BUSINESS MANAGER	411 W. 5 <sup>th</sup> ST. CHEYENNE, WY 82007
Jim Flesher	CITY OF CHEYENNE Urban Planning	Senior Planner	2101 D'NEIK AVE

(3)

39 43

42 by 4:30 pm



Cheyenne Prairie Generating Station Public Meeting - January 25, 2012  
 Cheyenne, Wyoming  
 Sign-in Sheet - Please Print Clearly

Name	Representing	Title	Address
Don Kaufman			Cheyenne
Edith Cook			Cheyenne
Charles A Freier			Cheyenne
Wendy Lowe			Casper
Sue Barnard			Cheyenne
Todd Kennedy	City of Cheyenne	Planner II	2101 O'Neil Ave Rm 202 Cheyenne, WY 82001
Brian Heithoff			Pine Bluffs
Brye & Freeman	WOPA	Administrator	Cheyenne
Lance & Genny Peterson			Cheyenne
Lui Luong	WRSC		Cheyenne
Mike & Tamara Walos			Cheyenne
Chuck Loomis	Black Hills Power	VP Operations	Rapid City
Phil Stump			Cheyenne

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Cheyenne Prairie Generating Station Public Meeting - January 25, 2012  
 Cheyenne, Wyoming  
 Sign-in Sheet - Please Print Clearly

Name	Representing	Title	Address
Barbara Barklee	Self		2713 E 9th St Chey 82001
TIA Rammot	STATE of WY / SD		Cheyenne Wyo
Berinda Nelson	Wyoing Bus Report	Publisher	<del>311</del> 1603 Capitol Ave
MJ Clark	Wyo Biz Report	Editor	753 S Second Landin

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Cheyenne Prairie Generating Station Public Meeting - February 18, 2012  
 Cheyenne, Wyoming

Sign-in Sheet - Please Print Clearly



Name	Representing	Title	Address
M. Mrs. Frank Cencela	Myself		575 E Log St L. Hilton, CO 80121
Robert Frytal	"		Cheyenne, WY 82003-1262
Richard Hurst	"		Cheyenne WY
Del Lummis			Cheyenne
Victor Ciccare	Relg		Cheyenne
Margyunka Demmon	self		515 E 78th St. Cheyenne
Ray Rull	Touyon wife		Cheyenne
Curtis Sidney Barnett	Self		422 Appletree Lane Chey. 82009
Marv Wolf	MARV'S PLACE		Marv's Farm Shop
Pete Hutchison	self		Cheyenne
Jim Cochran	LCCD		Cheyenne



Cheyenne Prairie Generating Station Public Meeting - February 18, 2012  
 Cheyenne, Wyoming

Sign-in Sheet - Please Print Clearly

Name	Representing	Title	Address
Rick Giovinetti			Cheyenne
DAVE MIZENY			Cheyenne
DENISE FARNISH			2614 Van Hennen Cheyenne
Dyghie Daug	Residence		Cheyenne
Sharon Lakes	WHR		1920 EVANS Cheyenne
Anna Marie Hales	WHR		"
Janetta Pyle			4433 SPRINGEE CR. CHEY.
Susan Flobeck	Resident		CY
Chas Mires	Resident		767 Arbor Crest
Laura Curran	Sen. Barrasso		CYS
Tia Keant	Wyong USD		Cheyenne
Gene Nebel			Cheyenne
J. R. Walsh			Cheyenne

**Appendix D-8**  
**Open House First Newspaper Ad**

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# You're invited to a neighborhood discussion

hosted by **Cheyenne Light, Fuel & Power**



Cheyenne Light recently filed for a Certificate of Public Convenience and Necessity with the Wyoming Public Service Commission requesting approval to construct a gas-fired electric generating power plant named the Cheyenne Prairie Generation Station. Please join us to learn more about the project that will provide safe, reliable electric service for Cheyenne's growing energy needs.

**Wednesday, January 25, 3-7 p.m. and Saturday, February 18, 11 a.m. – 3 p.m.**

## **Holiday Inn**

204 West Fox Farm Road, Cheyenne, Wyo.

## **Topics Will Include:**

- Project overview
- Industrial siting permit process and timeline
- Site location
- Construction and operation schedule

We hope you can join us.

*Improving life with energy*

**Cheyenne Light**  
**Fuel & Power**

Appendix D-9

Open House News Release January 23, 2012

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## News Release

### Company Contacts:

Jerome Nichols, Investor Relations	605-721-1171
Sharon Fain, External Affairs	307-286-2167
24-Hour Media Relations line	866-243-9002

### **CHEYENNE LIGHT, FUEL AND POWER HOSTS COMMUNITY OPEN HOUSES TO DISCUSS PROPOSED CHEYENNE PRAIRIE GENERATING STATION**

**CHEYENNE, Wyo. — Jan. 23, 2012** — Cheyenne is experiencing positive development, and Cheyenne Light, Fuel & Power is a partner in making sure the community's homes and businesses have the energy they need. Cheyenne Light has begun the regulatory process to construct a natural-gas-fired power plant called the Cheyenne Prairie Generating Station. The proposed facility would be within city limits, adding to the local tax base, creating jobs and continuing Cheyenne Light's reliable service.

In addition to meeting the community's growing energy demand, the natural-gas fired turbines will position Cheyenne Light to meet current and future U.S. Environmental Protection Agency emission regulations and policies. The units will be capable of backing up intermittent renewable generation resources, such as wind, as needed in the future.

Cheyenne Light is currently undergoing the industrial siting permit process. The Cheyenne Prairie Generating Station will include state-of-the-art emissions controls. Moreover, Cheyenne Light respects all state and federal requirements and is working diligently to ensure that the generating station will meet or exceed all regulations, including conducting studies on environmental, noise, endangered species and cultural impact.

As part of that process, Cheyenne Light wants to hear from all interested customers and provide them with more information about the project. Community open houses are scheduled for 3 p.m. to 7 p.m. Wednesday, Jan, 25, and 11 a.m. to 3 p.m. Saturday, Feb. 18, at the Cheyenne Holiday Inn, 204 West Fox Farm Road.

**CHEYENNE PRAIRIE GENERATING STATION FAST FACTS**

**Location:** Three miles east of Cheyenne in Laramie County, within city limits.

**Energy Generation:** One 37 megawatt simple cycle combustion turbine wholly owned by Cheyenne Light, Fuel and Power. One 95 megawatt combined cycle combustion turbine jointly owned with Black Hills Power, a Black Hills Corporation utility subsidiary, with Cheyenne Light owning 40 megawatts and Black Hills Power owning 55 megawatts.

**Timeline:** Nov 1, 2011 – Certificate of Public Convenience and Necessity filed with the Wyoming Public Service Commission.

**2011-2012 – File appropriate air permits with EPA and State of Wyoming.**

**Fourth Quarter 2012 – If approved by the Wyoming Public Service Commission, construction begins.**

**2014 – Facility begins serving customers.**

**Cheyenne Light, Fuel & Power Company**

Cheyenne Light, Fuel and Power Company, a subsidiary of Black Hills Corp. (NYSE: BKH), serves 39,000 electric customers and 34,000 natural gas customers in the greater Cheyenne, Wyo., area.

**Black Hills Corporation**

Black Hills Corp. — a diversified energy company with a tradition of exemplary service and a vision to be the energy partner of choice — is based in Rapid City, S.D., with corporate offices in Denver and Papillion, Neb. The company serves 762,000 natural gas and electric utility customers in Colorado, Iowa, Kansas, Montana, Nebraska, South Dakota and Wyoming. The company's non-regulated businesses generate wholesale electricity, produce natural gas, oil and coal, and market energy. Black Hills' 2,100 employees partner to produce results that improve life with energy. More information is available at [www.blackhillscorp.com](http://www.blackhillscorp.com).

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Appendix D-10  
Open House Second Newspaper Ad

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# You're invited to a neighborhood discussion

hosted by **Cheyenne Light, Fuel & Power**



Cheyenne Light recently filed for a Certificate of Public Convenience and Necessity with the Wyoming Public Service Commission requesting approval to construct a gas-fired electric generating power plant named the Cheyenne Prairie Generation Station. Please join us to learn more about the project that will provide safe, reliable electric service for Cheyenne's growing energy needs.

**Saturday, February 18, 11 a.m. – 3 p.m.**

## **Holiday Inn**

204 West Fox Farm Road, Cheyenne, Wyo.

### **Topics Will Include:**

- Project overview
- Industrial siting permit process and timeline
- Site location
- Construction and operation schedule

We hope you can join us.

*Improving life with energy*

**Cheyenne Light**  
**Fuel & Power**





## News Release

### Company Contacts:

Jerome Nichols, Investor Relations	605-721-1171
Sharon Fain, External Affairs	307-286-2167
24-Hour Media Relations line	866-243-9002

### **CHEYENNE LIGHT, FUEL AND POWER HOSTS COMMUNITY OPEN HOUSE TO DISCUSS PROPOSED CHEYENNE PRAIRIE GENERATING STATION**

**CHEYENNE, Wyo. — Feb. 7, 2012** — Cheyenne is experiencing positive development. To make sure the community's homes and businesses have the energy they need, Cheyenne Light has begun the regulatory process to construct a natural-gas-fired power plant called the Cheyenne Prairie Generating Station. The proposed facility would be within city limits, adding to the local tax base, creating jobs and continuing Cheyenne Light's reliable service.

In addition to meeting the community's growing energy demand, the natural-gas fired turbines will position Cheyenne Light to meet current and future U.S. Environmental Protection Agency emission regulations and policies. The units will be capable of backing up intermittent renewable generation resources, such as wind, as needed in the future.

Cheyenne Light is currently undergoing the industrial siting permit process. The Cheyenne Prairie Generating Station will include state-of-the-art emissions controls. Moreover, Cheyenne Light respects all state and federal requirements and is working diligently to ensure that the generating station will meet or exceed all regulations, including conducting studies on environmental, noise, endangered species and cultural impact.

As part of that process, Cheyenne Light wants to hear from all interested customers and provide them with more information about the project. A community open house is scheduled for 11 a.m. to 3 p.m. Saturday, Feb. 18, at the Cheyenne Holiday Inn, 204 West Fox Farm Road.

**CHEYENNE PRAIRIE GENERATING STATION FAST FACTS**

**Location:** Within Cheyenne city limits, south of I-80, west on Campstool Road.

**Energy Generation:** One 37 megawatt simple cycle combustion turbine wholly owned by Cheyenne Light, Fuel and Power. One 95 megawatt combined cycle combustion turbine jointly owned with Black Hills Power, a Black Hills Corporation utility subsidiary, with Cheyenne Light owning 40 megawatts and Black Hills Power owning 55 megawatts.

**Timeline:** Nov 1, 2011 – Certificate of Public Convenience and Necessity filed with the Wyoming Public Service Commission.

**2011 – File appropriate air permits with EPA and State of Wyoming.**

**2013 – If approved by the Wyoming Public Service Commission, construction begins.**

**2014 – Facility begins serving customers.**

**Cheyenne Light, Fuel & Power Company**

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**Black Hills Corporation**

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###





# You're invited to a **neighborhood discussion**

hosted by **Cheyenne Light, Fuel & Power**

Cheyenne Light recently filed for a Certificate of Public Convenience and Necessity with the Wyoming Public Service Commission requesting approval to construct a gas fired electric generating power plant named the Cheyenne Prairie Generation Station. Please join us to learn more about the project that will provide safe, reliable electric service for Cheyenne's growing energy needs.

**Wednesday, January 25, 3-7 p.m. and  
Saturday, February 18, 11 a.m. – 3 p.m.**

## **Holiday Inn**

204 West Fox Farm Road  
Cheyenne, Wyo.

### **Topics Will Include:**

- Project overview
- Site location
- Industrial siting permit process and timeline
- Construction and operation schedule

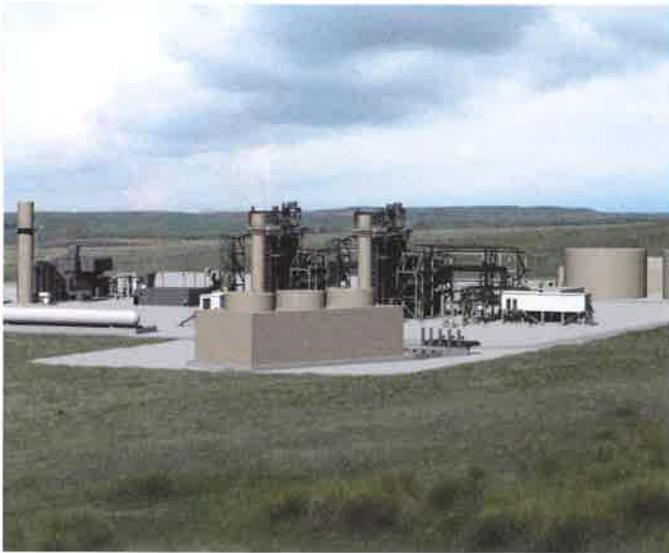
We hope you can join us.

©2011 · CHY\_967\_11

*Improving life with energy*

**Cheyenne Light**  
**Fuel & Power**

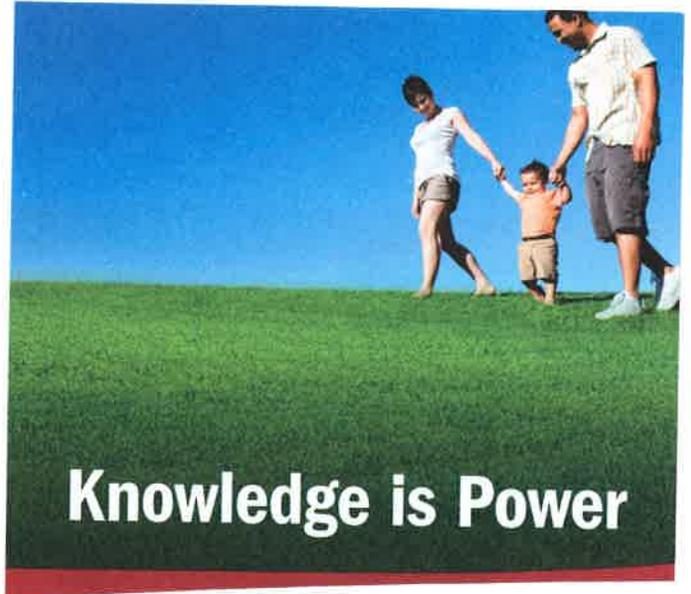




*Cheyenne Prairie Generating Station artist rendering*

Those who attended were able to view video footage of similar generating stations; learn more about the site plan; view an artist rendering of the proposed facility; gain information on environmental matters associated with the project; learn more on the construction and workforce plans as well as become better informed about the business needs and community benefits prompting the construction of the electric generating station in Cheyenne.

If you have questions about the generating station, we invite you to contact Cheyenne Light Energy Services Manager Donna Beaman P.E. at [donna.beaman@blackhillscorp.com](mailto:donna.beaman@blackhillscorp.com). This is a community based project so no question is too big or too small - knowledge is power.



As a community partner, keeping customers informed is a priority for Cheyenne Light, Fuel & Power. That's why Cheyenne Light hosted two informational meetings recently to answer questions about the proposed natural-gas-fired electric facility to be built in Cheyenne.

The informal gatherings took place at the Holiday Inn in Cheyenne on January 25 and February 18. The events were well attended and gave the public an educational opportunity to learn more about the proposed Cheyenne Prairie Generating Station.

Experts supporting the project as well as Cheyenne Light leaders readily answered questions based on the current status of the project. The company must first receive approval of their recently filed Certificate of Public Convenience and Necessity from the Wyoming Public Service Commission in order to finalize the project details.

*Improving life with energy*

**Cheyenne Light**  
**Fuel & Power**  
*Celebrating 130 Years*

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*Improving life with energy*

**Cheyenne Light**  
**Fuel & Power**  
*Celebrating 130 Years*

Appendix D-14

CLF&P Energy Connection Newsletter February 2012

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# ENERGY Connection

The Cheyenne Light newsletter for residential customers.



February 2012

## Cheyenne Light Planning For Growing Energy Needs

Cheyenne is experiencing positive development, and Cheyenne Light, Fuel & Power is a partner in making sure our community's homes and businesses have the energy they need.

Cheyenne Light has begun the regulatory process to construct a natural-gas-fired power plant called the Cheyenne Prairie Generating Station. The proposed facility would be within city limits, adding to the local tax base, creating jobs and continuing Cheyenne Light's reliable service.

In addition to meeting our community's growing energy demand, the natural-gas-fired turbines will position Cheyenne Light to meet current and future U.S. Environmental Protection Agency emission regulations and policies. The units will be capable of backing up intermittent renewable generation resources, such as wind, as needed in the future.

We are currently undergoing the industrial siting permit process. The Cheyenne Prairie Generating Station will include state-of-the-art emissions controls. Moreover, Cheyenne Light respects all state and federal requirements. We are working diligently to ensure that the generating station will meet or exceed all regulations, including conducting studies on environmental, noise, endangered species and cultural impact.

As part of that process, we want to hear from all our interested customers and provide you with more information about the project. We held our first neighborhood discussion in January, with another one planned for 11 a.m. to 3 p.m. Feb. 18 at the Holiday Inn Express, 204 West Fox Farm Road in Cheyenne, Wyo.

If you missed these meetings, we'd still like to talk with you. Please contact Donna Beaman at 307-778-2140 with any questions about this project.

## Cheyenne Prairie Generating Station Fast Facts

**Location:** Three miles east of Cheyenne in Laramie County, within city limits.

**Energy Generation:** One 37 megawatt simple cycle combustion turbine wholly owned by Cheyenne Light.

One 95 megawatt combined cycle combustion turbine jointly owned with Black Hills Power, a Black Hills Corporation utility subsidiary, with Cheyenne Light owning 40 megawatts and Black Hills Power owning 55 megawatts.

### Timeline:

**Nov. 1, 2011** - File for Certificate of Public Convenience and Necessity with Wyoming Public Service Commission.

**2011-2012** - File appropriate air permits with EPA and State of Wyoming.

**Fourth Quarter 2012** - If approved by Wyoming Public Service Commission, start construction.

**2014** - Facility begins serving customers.



*Improving life with energy*

**Cheyenne Light**  
**Fuel & Power**

# HOW TO

## SAVE ENERGY WITH CFL LIGHTING

### The Value of High-Efficiency Lighting

A compact florescent bulb uses 75 percent less energy than a standard incandescent bulb. In 2012, Cheyenne Light will make it easier for eligible customers to purchase the energy-saving CFLs through the Energy Efficiency Solutions Program.

In the new plan, electric residential customers will be able to purchase up to 10 CFLs at local participating stores. The \$1 discount per bulb will be provided at the check-out counter, no coupon necessary. Value-packs of CFL bulbs are also eligible for the rebate.

Participating retailers will be announced in the first quarter of 2012.

Changing one incandescent bulb to an equal CFL can save more than \$5 per year in energy costs. Make this New Year an energy saving one and experience the value of high-efficiency lighting.

For more information on the Cheyenne Light Energy Efficiency Solutions Program, please go to our website at [www.cheyennelight.com](http://www.cheyennelight.com) or call 888-454-3312.

## Sponsored Events

- |             |  |
|-------------|--|
| Feb 18      | Cheyenne Light Open House<br>Topic: Proposed Power Plant<br>Holiday Inn Cheyenne, WY                                   |
| March 16    | Harlem Ambassadors Basketball/HOPE<br>South High School Gymnasium<br>Cheyenne, WY                                      |
| March 23-25 | Home & Garden Show<br>Cheyenne Ice & Events Center<br>Cheyenne, WY   |
| March 24    | FURBALL/Cheyenne Animal Shelter<br>Little America Hotel & Resort<br>Cheyenne, WY                                       |
| March 31    | Mike Huckabee/St. Mary's FanFare for<br>Education Little America Hotel & Resort<br>Cheyenne, WY                        |
| April 30    | Cheyenne Concert Assoc./Metalis M5<br>Mexico's leading brass quintet<br>Central High School Auditorium<br>Cheyenne, WY |



Save money.



Save time.



Save paper.



## This year, resolve to simplify your life.

Enroll in eBill for convenient, secure, paperless billing and online payment options.

**Sign up today  
at your utility website!**

[www.cheyennelight.com](http://www.cheyennelight.com)

## Cheyenne Light, Fuel & Power Payment Options

Cheyenne Light, Fuel & Power offers convenient ways to make your utility payment:

**eBill:** Sign up at [www.cheyennelight.com](http://www.cheyennelight.com) to eliminate paper billing and receive your bill online for free.

**Budget Billing:** The no-fee way to budget your monthly payment by spreading bills for higher seasonal usage out over the year. Call 866-264-8003 for details.

**Mail:** Mail your payment in the envelope provided with your bill.

**Bank Withdrawal:** Have your bill automatically paid from your bank account each month. Go to [www.cheyennelight.com](http://www.cheyennelight.com) or call 866-264-8003 for more information.

**Phone\*:** Call SPEEDPAY's toll-free number at 866-537-9039 to pay your monthly bill with a credit card (Visa, MasterCard or Discover) or by check.

**Online\*:** Go to [www.cheyennelight.com](http://www.cheyennelight.com) to pay online.

**In Person:** Go to the Cheyenne Light office during regular business hours.

**Pay Station\*:** Go to [www.cheyennelight.com](http://www.cheyennelight.com) to find a nearby location.

\*The payment service provider may require a convenience fee for this option. Go to [www.cheyennelight.com](http://www.cheyennelight.com) for details.

Appendix D-15

**BHC Project Announcement News Release November 1, 2011**

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## News Release

### Company Contacts:

Jerome Nichols, Investor Relations: 605-721-1171

Sarah Folsland, Black Hills Power: 605-721-1609

Sharon Fain, Cheyenne Light: 307-286-2167

24-Hour Media Relations line: 866-243-9002

### **BLACK HILLS POWER AND CHEYENNE LIGHT, FUEL & POWER SEEK APPROVAL TO BUILD NEW GENERATION FACILITY**

*New energy supply needed to meet growing electricity demand and current and pending federal environmental regulations*

**RAPID CITY, S.D. — Nov. 1, 2011** — Black Hills Corp. (NYSE:BKH) utility subsidiaries Black Hills Power and Cheyenne Light, Fuel & Power announced today that they have filed for a certificate of public convenience and necessity with the Wyoming Public Service Commission to construct and operate a new \$237 million natural-gas-fired electric generation facility within Cheyenne city limits. The proposed facility will include one simple-cycle combustion turbine unit with a net capacity of approximately 37 megawatts that will be wholly owned by Cheyenne Light. It will also include one combined-cycle unit with a net capacity of approximately 95 megawatts that will be jointly owned by Cheyenne Light and Black Hills Power, with Cheyenne Light owning 40 megawatts and Black Hills Power owning 55 megawatts.

“This joint project represents a win-win for our customers in the Black Hills area and Cheyenne,” said David R. Emery, chairman, president and chief executive officer. “Black Hills Power must plan for future compliance as federal environmental regulatory requirements will impact some of our older coal-fired generating facilities, and Cheyenne Light must prepare for the growing electricity demand. This jointly owned generation facility allows each utility to cost-effectively serve the changing electricity needs of our customers.”

If approved by the Wyoming Public Service Commission, construction would begin in 2012, and the facility would begin serving customers in 2014.

Cheyenne Light had previously filed a CPCN with the Wyoming Public Service Commission in August to construct three simple-cycle combustion turbine units with a total gross capacity of 120

megawatts at an estimated cost of \$158 million. This application is being withdrawn and replaced with the joint application described in this release. After Cheyenne Light filed its original CPCN in August, Black Hills Power completed its resource plan, which forecasted the future electricity needs of its customers and determined the most cost-effective generation resources to meet those needs. Modifying Cheyenne Light's planned generation facility to also meet the needs of Black Hills Power provides a cost-effective means to meet the needs of both utilities.

The combined-cycle and simple-cycle turbines will be fueled by natural gas, which will position Black Hills Power and Cheyenne Light to meet current and future U.S. Environmental Protection Agency emission regulations and policies and diversify Black Hills Power's and Cheyenne Light's generation portfolios. Additionally, both units are capable of backing up intermittent renewable generation resources, such as wind, as needed in the future.

**Black Hills Power, Inc.**

Black Hills Power is the legacy utility business of Black Hills Corp. (NYSE: BKH) and has been delivering energy for more than 127 years. The electric utility serves 68,000 customers in 25 communities in western South Dakota, northeastern Wyoming, and southeastern Montana.

**Cheyenne Light, Fuel & Power Company**

Cheyenne Light, Fuel and Power Company, a subsidiary of Black Hills Corp. (NYSE: BKH), serves 39,000 electric customers and 34,000 natural gas customers in the greater Cheyenne, Wyo., area.

**Black Hills Corporation**

Black Hills Corp. — a diversified energy company with a tradition of exemplary service and a vision to be the energy partner of choice — is based in Rapid City, S.D., with corporate offices in Denver and Papillion, Neb. The company serves 762,000 natural gas and electric utility customers in Colorado, Iowa, Kansas, Montana, Nebraska, South Dakota and Wyoming. The company's non-regulated businesses generate wholesale electricity, produce natural gas, oil and coal, and market energy. Black Hills' 2,100 employees partner to produce results that improve life with energy. More information is available at [www.blackhillscorp.com](http://www.blackhillscorp.com).

**CAUTION REGARDING FORWARD-LOOKING STATEMENTS**

This news release includes "forward-looking statements" as defined by the Securities and Exchange Commission, or SEC. We make these forward-looking statements in reliance on the safe harbor protections provided under the Private Securities Litigation Reform Act of 1995. All statements, other than statements of historical facts, included in this news release that address activities, events or developments that we expect, believe or anticipate will or may occur in the future, including statements regarding the cost of the project and our ability to comply with future environmental regulations, are forward-looking statements. These forward-looking statements are based on assumptions which we believe are reasonable based on current expectations and projections about future events and industry conditions and trends affecting our business. However, whether actual results and developments will conform to our expectations and predictions is subject to a number of risks and uncertainties that, among other things, could cause actual results to differ materially from those contained in the forward-looking statements, including the factors discussed above, the risk factors described in Item 1A of Part I of our 2010 Annual Report on Form 10-K filed with the SEC, and other reports that we file with the SEC from time to time.

New factors that could cause actual results to differ materially from those described in forward-looking statements emerge from time-to-time, and it is not possible for us to predict all such factors, or the extent to which any such factor or combination of factors may cause actual results to differ from those contained in any forward-looking statement. We assume no obligation to update publicly any such forward-looking statements, whether as a result of new information, future events or otherwise.

###

**Appendix D-16**  
**Laramie County Commissioners Sign-In Sheet**

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**Appendix D-17**  
**Albany County Commissioners Sign-In Sheet**

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**Black Hills Corporation  
 Cheyenne Prairie Generation Station Presentation  
 Albany County Commissioners  
 February 7, 2012**

Printed Name	Title
JERRY M Kennedy	County Commissioner
<i>Jim Quilley</i>	—
<i>Tom Chesnut</i>	"
<i>Mike Oster</i>	ALBANY County R&B
<i>George M Marble</i>	Marble Development, mgr
<i>Zandra Markle</i>	Markle Development
<i>Jimmi Chatfield</i>	Albany County Fairboard
<i>Melissa Onstad</i>	Albany County Public Health
<i>Gaye Stockman</i>	CEO - LEDC
<i>Karen Guidice</i>	Ex Dir - High Plains EDD
<i>Tony Aech</i>	Director - LRED
<i>Gary Wilken</i>	Cable Enforcement Officer, Alb. Co. P
BILL GORMAN	COUNTY ENGINEER - AL. CO.
<i>David Gertsch</i>	County Planner
<i>Shawn Jones</i>	Grants Specialist
<i>Sheela Schermetzler</i>	Albany County Grants <i>manager</i>
<i>Amy Gilman</i>	Committee Building
<i>Patsy Joney</i>	Albany Co. Public Health - Emergency <i>Response</i>
<i>Cynthia Macdonald</i>	Big Brothers Big Sisters' Grants Coordinator
<i>Scott Davis</i>	Emil Nordman
<i>John Sundahl</i>	Cheyenne Light Fuel & Power
<i>Mark</i>	CLF&P
<i>Mark Corbridge</i>	P. M., Cotton Eng. & Surveying LLC
<i>Jennifer Horvath</i>	Wyoming ACLU
<i>Karla Bawdon</i>	Deputy Clerk

*Judith P. Sandberg  
 Albany County Clerk*

**Appendix D-18**  
**Goshen County Commissioners Sign-In Sheet**

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**Black Hills Corporation  
 Cheyenne Prairie Generation Station Presentation  
 Goshen County Commissioners  
 February 8, 2012**

Printed Name	Title
Emily Minaro	Staff writer - Torrington Telegram
Robert Ward	Commish.
Ross Newman	Commish
James A. Swanson	Commissioner
Cynthia Lessor	Chief Deputy Clerk





**Appendix E-1**  
**Housing Commitment Summary Table**

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**CPGS Housing Commitment Summary Table**

<b>Construction Timeline</b>	<b>4/1/2013</b>	<b>5/1/2013</b>	<b>6/1/2013</b>	<b>7/1/2013</b>	<b>8/1/2013</b>	<b>9/1/2013</b>	<b>10/1/2013</b>	<b>11/1/2013</b>	<b>12/1/2013</b>	<b>1/1/2014</b>	<b>2/1/2014</b>	<b>3/1/2014</b>	<b>4/1/2014</b>	<b>5/1/2014</b>
Workforce	45	75	90	115	175	235	285	350	400	350	255	175	95	65
Workforce- Double Occupancy	39	66	79	101	153	206	249	306	350	306	223	153	83	57
Number of Single-bed Rooms	34	56	68	86	131	176	214	263	300	263	191	131	71	49
Number of Double-bed Rooms	6	9	11	14	22	29	36	44	50	44	32	22	12	8
<b>HOTEL</b>	*	**	***	***	***	***	*	*	*	*	*	*	*	**
Candlewood Suites	18	14	9	9	9	9	18	18	18	18	18	18	18	14
Comfort Inn	30	30	30	30	30	30	30	30	30	30	30	30	30	30
Holiday Inn	70	70	70	70	70	70	70	70	70	70	70	70	70	70
Rodeway Inn	34	26	16	16	16	16	34	34	34	34	34	34	34	26
Hitching Post Inn	40	40	40	40	40	40	40	40	40	40	40	40	40	40
Sleep Inn & Suites	30	30	30	30	30	30	30	30	30	30	30	30	30	30
Motel 6	<i>Pending</i>	<i>Pending</i>	<i>Pending</i>	<i>Pending</i>	<i>Pending</i>	<i>Pending</i>	<i>Pending</i>	<i>Pending</i>						
Little American	81	62	38	38	38	38	81	81	81	81	81	81	81	62
Super 8	30	30	30	30	30	30	30	30	30	30	30	30	26	20
Historic Plains Hotel	56	43	26	26	26	26	56	56	56	56	56	56	56	43
Spring Hill Suites	40	30	18	18	18	18	40	40	40	40	40	40	40	30
<b>SUM (Hotel rooms)</b>	430	376	307	307	307	307	430	430	430	430	430	430	425	366
<b>Excess (original workforce)</b>	385	301	217	192	132	72	145	80	30	80	175	255	330	301

**Notes:**

Lines highlighted in grey are available rooms based on Smith estimates because no specific number of rooms was given in hotel “commitments.”

\*- Used average vacancy rate for October through April from Smith reports.

\*\*- Used average vacancy rate for May from Smith reports.

\*\*\*- Used average vacancy rate for October through April from Smith reports.

**Appendix E-2**  
**Housing Commitment Correspondence**

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## Hammontree, Amy/DEN

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**From:** Brad Rice [brice@midco.net]  
**Sent:** Friday, January 27, 2012 3:27 PM  
**To:** Hammontree, Amy/DEN  
**Cc:** Roxanna Felbush  
**Subject:** RE: Subject: Room Availability Information Request for Cheyenne Prairie Generating Station

Amy,

I'm sincerely hoping we would be able to accommodate your associates throughout the entire period you are working in the Cheyenne area.

For April & May of 2014 and even later in the year, common sense tells me that if we work together, we can make it a win-win for each of us.

Have a great weekend!

*Bradley H. Rice*  
*Vice President*  
*Eastern Hospitality Management, Inc.*  
*P - 605.229.8855*  
*F - 605.229.8915*

---

**From:** Amy.Hammontree@CH2M.com [mailto:Amy.Hammontree@CH2M.com]  
**Sent:** Friday, January 27, 2012 4:16 PM  
**To:** brice@midco.net  
**Cc:** s8gm3241@ehm-inc.com  
**Subject:** RE: Subject: Room Availability Information Request for Cheyenne Prairie Generating Station

Brad-

Thank you very much for your quick reply, this information is just what we are looking for the initial housing analysis. One additional question for clarification, you mentioned that you "may be able to provide you with around 30 rooms in the spring, fall & winter of 2013 and the 1st quarter of 2014 at a weekly rate". Can we assume then that the same number of rooms would still be available for the remainder of the Project schedule (April and May 2014) under a different rate structure? Or are you only offering rooms through March 2014?

Thanks much-

Amy Hammontree  
Staff Scientist, CH2M Hill  
Direct: 720-286-0830  
[Amy.Hammontree@ch2m.com](mailto:Amy.Hammontree@ch2m.com)

---

**From:** Brad Rice [mailto:brice@midco.net]  
**Sent:** Friday, January 27, 2012 1:17 PM  
**To:** Hammontree, Amy/DEN  
**Cc:** Roxanna Felbush  
**Subject:** Subject: Room Availability Information Request for Cheyenne Prairie Generating Station

Amy,

I have completed the information on what we currently are doing at the Cheyenne Super 8 regarding number of available rooms, rates etc. See below.

In addition, we have FREE continental breakfast, FREE WiFi, most rooms have microwaves & frigs, all rooms have hairdryers, in-room coffee, alarm clock radios and 25" TVs with HBO. We have a business computer in our lobby for guest usage 24 hours/day.

We may be able to provide you with around 30 rooms in the spring, fall & winter of 2013 and the 1<sup>st</sup> quarter of 2014 at a weekly rate of around \$399 single & \$419 double. This is just a ballpark figure for you to work with. As we get closer to the dates you are looking at, we could then give you a firm price for a certain period of time (6 months or a year may be possible). We currently do not offer weekly rates in the summer, but we are always looking at ways to satisfy our guests needs in the long term.

One other item that might interest you, we will be constructing an extended stay property next door to our Super 8 in Cheyenne. It will have 32 rooms with two double beds and 32 rooms with a single bed. Rates will depend on the cost of construction and what the current market is for extended stay hotels. As we get closer to building/opening this property, we will then have a better idea on rates.

We are very interested in working with you and your associates at both properties. We do have clean hotels and strive to make life great for all your traveling associates.

If I can be of further assistance or if you have any questions or concerns, please call or email me. Thank you very much for your interest in our Super 8 and our extended stay brand,

*Bradley H. Rice*  
*Vice President*  
*Eastern Hospitality Management, Inc.*  
*P - 605.229.8855*  
*F - 605.229.8915*

----- Original Message -----

From: [Amy.Hammontree@CH2M.com](mailto:Amy.Hammontree@CH2M.com)

To: [s8gm3241@ehm-inc.com](mailto:s8gm3241@ehm-inc.com)

Sent: Tuesday, January 24, 2012 10:35 AM

Subject: Room Availability Information Request for Cheyenne Prairie Generating Station

Hello,

On behalf of Black Hills Corporation, I am contacting the Cheyenne Super 8 Motel to determine room availability for the construction workforce slated for the Cheyenne Prairie Generating Station Project, located just outside Cheyenne, WY. We are looking to secure housing for the construction workforce slated to work on the Project over an approximately 13-month period, from April 1, 2013 through May 1, 2014. Construction will begin with approximately 40 workers in April 2013, rising monthly to a peak of approximately 400 workers in December 2013, and falling monthly afterward to approximately 57 workers by May 2014.

I was hoping you could provide the following information for your hotel regarding availability of rooms and rates during this period. Here is a summary of the information we are requesting:

**Total number of rooms: We have 60 rooms. 12 rooms w/ two double beds, 30 rooms w/two queen beds, 6 king single rooms & 12 rooms w/ one queen bed**

Number of single-occupancy, double-occupancy, suites (if appropriate):

**Typical occupancy rates (seasonal, special events, etc.):** *Our rates from January - April are around \$72 - \$79, summer rates \$89 - \$179 (including special events such as Frontier Days in July) then \$74 - \$89 the last quarter.*

Rates by room type:

**Weekly rates:** *We do weekly rates from January - April and mid - September through December. We currently do not do weekly rates from May 1 - mid September.*

**Negotiated rates for companies (general or specific to this Project):** *Single weekly rate - \$406, double weekly rate - \$406 plus applicable taxes (currently 10%). We clean room twice a week and these rates are payable in advance at the beginning of the week, no refund if guest leaves early.*

**Room availability (April 2013 to May 2014):** *We do not book anything over a year out.*

Please respond by email or letter with the above information using the contact information provided below. Please note our largest priority is covering the peak construction season from roughly October 2013 to February 2014, when we will have the largest number of workers on site.

Please also note that we are not looking for Letters of Commitment at this time, however this information will be used at a later date to determine housing commitments, so again any information you can provide would be greatly appreciated.

If you have any additional questions, please feel free to contact me. I look forward to your quick response, and appreciate your assistance.

Thanks much,

Amy Hammontree  
Staff Scientist  
CH2M Hill  
9193 S. Jamaica Street  
Englewood, CO 80112  
Direct: 720-286-0830  
Cell: 785-764-0698  
Fax: 720-286-9736  
[Amy.Hammontree@ch2m.com](mailto:Amy.Hammontree@ch2m.com)

## Hammontree, Amy/DEN

---

**From:** SHS, Cheyenne WY GM [shs.cysssh.gm@marriott.com]  
**Sent:** Friday, January 27, 2012 12:31 PM  
**To:** Hammontree, Amy/DEN  
**Subject:** RE: Room Availability Information Request for Cheyenne Prairie Generating Station  
**Attachments:** SHS Flyer.pdf

Dear Ann,

I am sorry I took so long getting back to you, but here is the information you requested.

Please let me know if you need any additional information. Attached is a flyer telling you more about the hotel.

Total number of rooms: 92

Number of single-occupancy, double-occupancy, suites (if appropriate):

All of our rooms are suites with 52 single King Suites and 40 double Queen Suites. The sleeping area is separated from the "setting" area by a 3/4 wall. The setting area has a sofa sleeper, one easy chair, desk and a desk chair.

There is also a wet bar in that area with small refrigerators, microwave and coffee pot.

Typical occupancy rates (seasonal, special events, etc.): Our regular room rates will typically run anywhere from \$129 to \$269 during special events.

Rates by room type: No difference

Weekly rates: We don't have weekly rates

Negotiated rates for companies (general or specific to this Project): For this project we will give you \$79.00 rate, which includes breakfast, free wireless internet, local and 800# calls, pool, whirl pool and fitness room.

Room availability (April 2013 to May 2014): are completely open.

Sincerely,

*Judy Fox*  
*General Manager*  
*SpringHill Suites*

416 Fox Farm Road  
Cheyenne, WY  
Phone 307-635-0006  
Fax 307-635-0008

[Marriott.com/cysssh](http://Marriott.com/cysssh)

*Western Hospitality at It's Best!*

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**From:** [Amy.Hammontree@CH2M.com](mailto:Amy.Hammontree@CH2M.com) [<mailto:Amy.Hammontree@CH2M.com>]  
**Sent:** Thursday, January 26, 2012 3:32 PM  
**To:** SHS, Cheyenne WY GM  
**Subject:** RE: Room Availability Information Request for Cheyenne Prairie Generating Station

Hello-

Have you had a chance to address the request below? I will call to verify if I do not hear back from you. Please let me know if there are any additional questions I can answer.

Thanks-

Amy Hammontree  
Staff Scientist, CH2M Hill  
Direct: 720-286-0830  
[Amy.Hammontree@ch2m.com](mailto:Amy.Hammontree@ch2m.com)

---

**From:** Hammontree, Amy/DEN  
**Sent:** Tuesday, January 24, 2012 11:03 AM  
**To:** 'judy.fox@marriott.com'  
**Subject:** Room Availability Information Request for Cheyenne Prairie Generating Station

Dear Judy,

Thanks for speaking with me earlier. On behalf of Black Hills Corporation, I am contacting the Cheyenne Springhill Suites to determine room availability for the construction workforce slated for the Cheyenne Prairie Generating Station Project, located just outside Cheyenne, WY. We are looking to secure housing for the construction workforce slated to work on the Project over an approximately 13-month period, from April 1, 2013 through May 1, 2014. Construction will begin with approximately 40 workers in April 2013, rising monthly to a peak of approximately 400 workers in December 2013, and falling monthly afterward to approximately 57 workers by May 2014.

I was hoping you could provide the following information for your hotel regarding availability of rooms and rates during this period. Here is a summary of the information we are requesting:

**Total number of rooms:**

**Number of single-occupancy, double-occupancy, suites (if appropriate):**

**Typical occupancy rates (seasonal, special events, etc.):**

**Rates by room type:**

**Weekly rates:**

**Negotiated rates for companies (general or specific to this Project):**

**Room availability (April 2013 to May 2014):**

Please respond by email or letter with the above information using the contact information provided below. Please note our largest priority is covering the peak construction season from roughly October 2013 to February 2014, when we will have the largest number of workers on site. Please also note that we are not looking for Letters of Commitment at this time, however this information will be used at a later date to determine housing commitments, so again any information you can provide would be greatly appreciated.

If you have any additional questions, please feel free to contact me. I look forward to your quick response, and appreciate your assistance.

Thanks much,

**Amy Hammontree**

Staff Scientist  
CH2M Hill  
9193 S. Jamaica Street  
Englewood, CO 80112  
Direct: 720-286-0830  
Cell: 785-764-0698  
Fax: 720-286-9736  
[Amy.Hammontree@ch2m.com](mailto:Amy.Hammontree@ch2m.com)

## Hammontree, Amy/DEN

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**From:** General Manager WY065 [gm.wy065@choicehotels.com]  
**Sent:** Friday, January 27, 2012 3:41 PM  
**To:** Hammontree, Amy/DEN  
**Subject:** RE: Room Availability Information Request for Cheyenne Prairie Generating Station

Depending on availability. So I guess I would say 30.

On 01.27.12, Amy.Hammontree@CH2M.com wrote:

Thank you very much for your response Crystal. One additional question- is there a specific number of rooms you would be offering for the Project, or would all rooms be potentially available?

Thanks-

Amy Hammontree  
Staff Scientist, CH2M Hill  
Direct: 720-286-0830  
[Amy.Hammontree@ch2m.com](mailto:Amy.Hammontree@ch2m.com)

---

**From:** General Manager WY065 [mailto:gm.wy065@choicehotels.com]  
**Sent:** Friday, January 27, 2012 11:05 AM  
**To:** Hammontree, Amy/DEN  
**Subject:** RE: Room Availability Information Request for Cheyenne Prairie Generating Station

Dear Amy,

Thank you for being patient with me, I was in a meeting all day yesterday and so, this is the first chance that I have to get back to you.

Let me tell you what we have to offer first of all. We have basically the same breakfast that the Comfort Inn offers (we will at the time of your stay anyway): Hot scrambled eggs, hardboiled eggs, sausage, hot fresh waffles, hot oatmeal, cold cereal, breads, danishes, and muffins, fruit, yogurt, juices, milk, coffee and tea. We have an indoor heated pool and hot tub, fitness center, guest laundry, business center, and meeting room. All

of our rooms have a microwave, refrigerator, coffee maker, iron & ironing board, safe (no charge), 32" flat screen TV, free phone calls and free wifi throughout the hotel.

We have a total of 74 rooms. 25 of the rooms are double occupancy (2 queen beds) and 37 are single occupancy (1 king bed) and 12 are suites (bigger room, with sitting area with 32" flat screen TVs, couch and coffee table) the couch makes into a bed and there is 1 king bed in that room also.

The rate I can offer will vary by season also and based on availability. October through April is our slower time and I can offer a flat rate of \$72 per night. Cheyenne Frontier Days rates are \$200 - \$250 per night. May through September I can offer you a \$90 rate. Cheyenne Frontier Days is negotiable (last full week of July).

We are proud of our facility, we are not quite 5 years old. We trust that your employees will be comfortable here. We would like to be given the chance to show you what we have to offer. Please feel free to give me a call if you have any questions. We would also be willing to give you a tour.

Sincerely,  
Crystal Kunau  
General Manager  
Sleep Inn & Suites  
Cheyenne, WY 82007  
(307) 638-8891

On 01.26.12, Amy.Hammontree@CH2M.com <Amy.Hammontree@CH2M.com> wrote:

Hello-

Have you had a chance to address the request below? I will call to verify if I do not hear back from you. Please let me know if there are any additional questions I can answer.

Thanks-

Amy Hammontree  
Staff Scientist, CH2M Hill  
Direct: 720-286-0830  
[Amy.Hammontree@ch2m.com](mailto:Amy.Hammontree@ch2m.com)

---

**From:** Hammontree, Amy/DEN  
**Sent:** Tuesday, January 24, 2012 11:29 AM  
**To:** 'gm.wy065@choic-hotels.com'  
**Subject:** Room Availability Information Request for Cheyenne Prairie Generating Station

Hello,

Thanks for speaking with me earlier. On behalf of Black Hills Corporation, I am contacting the Cheyenne Sleep Inn Suites to determine room availability for the construction workforce slated for the Cheyenne Prairie Generating Station Project, located just outside Cheyenne, WY. We are looking to secure housing for the construction workforce slated to work on the Project over an approximately 13-month period, from April 1, 2013 through May 1, 2014. Construction will begin with approximately 40 workers in April 2013, rising monthly to a peak of approximately 400 workers in December 2013, and falling monthly afterward to approximately 57 workers by May 2014.

I was hoping you could provide the following information for your hotel regarding availability of rooms and rates during this period. Here is a summary of the information we are requesting:

**Total number of rooms:**

**Number of single-occupancy, double-occupancy, suites (if appropriate):**

**Typical occupancy rates (seasonal, special events, etc.):**

**Rates by room type:**

**Weekly rates:**

**Negotiated rates for companies (general or specific to this Project):**

**Room availability (April 2013 to May 2014):**

Please respond by email or letter with the above information using the contact information provided below. Please note our largest priority is covering the peak construction season from roughly October 2013 to February 2014, when we will have the largest number of workers on site.

Please also note that we are not looking for Letters of Commitment at this time, however this information will be used at a later date to determine housing commitments, so again any information you can provide would be greatly appreciated.

If you have any additional questions, please feel free to contact me. I look forward to your quick response, and appreciate your assistance.

Thanks much,

**Amy Hammontree**

Staff Scientist  
CH2M Hill  
9193 S. Jamaica Street  
*9193 S. Jamaica Street*  
Englewood, CO 80112  
Direct: 720-286-0830

Cell: 785-764-0698

Fax: 720-286-9736

Amy.Hammontree@ch2m.com <Amy.Hammontree@ch2m.com> <Amy.Hammontree@ch2m.com <Amy.Hammontree@ch2m.com>>

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Crystal Kunau, G.M.  
Sleep Inn & Suites  
Cheyenne, WY 82007  
(307)638-8891

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Crystal Kunau, G.M.  
Sleep Inn & Suites  
Cheyenne, WY 82007  
(307)638-8891

## Hammontree, Amy/DEN

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**From:** Kjerstin Bair [kjerstin.hotels@yahoo.com]  
**Sent:** Thursday, January 26, 2012 4:08 PM  
**To:** Hammontree, Amy/DEN  
**Subject:** Re: Room Availability Information Request for Cheyenne Prairie Generating Station

Amy, Yes we could set it up that way for the week of frontier days. That any negotiated rate will be higher for the week of frontier days.

**From:** "Amy.Hammontree@CH2M.com" <Amy.Hammontree@CH2M.com>  
**To:** kjerstin.hotels@yahoo.com  
**Sent:** Thursday, January 26, 2012 3:53 PM  
**Subject:** RE: Room Availability Information Request for Cheyenne Prairie Generating Station

Thank you Kjerstin-

So am I understanding then that your rooms would not be available for the last week of July (2013) for Frontier Days, or would it be based on first-come, first-serve booking? Would we assume then that any negotiated rate (you said you would match LIKE hotel rates) would be higher for this week in July 2013, as this is how other hotels in the area have set up their rates for us?

Thanks for your assistance-

Amy Hammontree  
Staff Scientist, CH2M Hill  
Direct: 720-286-0830  
[Amy.Hammontree@ch2m.com](mailto:Amy.Hammontree@ch2m.com)

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**From:** Kjerstin Bair [mailto:kjerstin.hotels@yahoo.com]  
**Sent:** Wednesday, January 25, 2012 11:28 PM  
**To:** Hammontree, Amy/DEN  
**Subject:** Re: Room Availability Information Request for Cheyenne Prairie Generating Station

Amy,  
For the most part we could commit all available rooms for the project depending on how full we are on the days needed. If you book the room first you would get the room. As of now our bookings over the next year are light we do receive quite a bit of walk-ins which are the majority of our sales. The only time we would not be able to have rooms is for the last week in July as it is Cheyenne Frontier Days and we already have quite a bit of rooms booked. We also do have a continental breakfast each morning that would be included in this rate!

Thank You,  
Kjerstin Bair

**From:** "[Amy.Hammontree@CH2M.com](mailto:Amy.Hammontree@CH2M.com)" <[Amy.Hammontree@CH2M.com](mailto:Amy.Hammontree@CH2M.com)>  
**To:** [kjerstin.hotels@yahoo.com](mailto:kjerstin.hotels@yahoo.com)  
**Sent:** Wednesday, January 25, 2012 10:56 AM  
**Subject:** RE: Room Availability Information Request for Cheyenne Prairie Generating Station

Kjerstin-

Thank you very much for your quick response. One additional question- how many of these 102 rooms would you be able to commit to our project, and would this number vary over the project schedule?

Thanks-

Amy Hammontree  
Staff Scientist, CH2M Hill  
Direct: 720-286-0830  
[Amy.Hammontree@ch2m.com](mailto:Amy.Hammontree@ch2m.com)

---

**From:** Kjerstin Bair [<mailto:kjerstin.hotels@yahoo.com>]  
**Sent:** Wednesday, January 25, 2012 10:41 AM  
**To:** Hammontree, Amy/DEN  
**Subject:** Re: Room Availability Information Request for Cheyenne Prairie Generating Station

Amy,  
Please let me know if there is any other information they may need in helping decide for accommodations! We will do our best to beat any like hotel rate

**Total number of rooms: 102**

**Number of single-occupancy, double-occupancy, suites (if appropriate): Double rooms 54 Single 48**  
**Typical occupancy rates (seasonal, special events, etc.):**

**Rates by room type: Rate would be 49.00 But would See about matching and beating any LIKE hotel Rate**

**Weekly rates: 310.00 Including Tax**

**Negotiated rates for companies (general or specific to this Project): Will try and beat any like hotels rate!**

**Room availability (April 2013 to May 2014): Our rates would not include cheyenne frontier days which is the last week in july!**

**From:** "[Amy.Hammontree@CH2M.com](mailto:Amy.Hammontree@CH2M.com)" <[Amy.Hammontree@CH2M.com](mailto:Amy.Hammontree@CH2M.com)>  
**To:** [kjerstin.hotels@yahoo.com](mailto:kjerstin.hotels@yahoo.com)  
**Sent:** Tuesday, January 24, 2012 10:53 AM  
**Subject:** Room Availability Information Request for Cheyenne Prairie Generating Station

Hello,

Thanks for speaking with me earlier. On behalf of Black Hills Corporation, I am contacting the Cheyenne Rodeway Inn to determine room availability for the construction workforce slated for the Cheyenne Prairie Generating Station Project, located just outside Cheyenne, WY. We are looking to secure housing for the construction workforce slated to work on the Project over an approximately 13-month period, from April 1, 2013 through May 1, 2014. Construction will begin with approximately 40 workers in April 2013, rising monthly to a peak of approximately 400 workers in December 2013, and falling monthly afterward to approximately 57 workers by May 2014.

I was hoping you could provide the following information for your hotel regarding availability of rooms and rates during this period. Here is a summary of the information we are requesting:

**Total number of rooms: 102**

**Number of single-occupancy, double-occupancy, suites (if appropriate): Double rooms 54 Single 48**  
**Typical occupancy rates (seasonal, special events, etc.):**

**Rates by room type: Rate would be 49.00 But would See about matching and beating any LIKE hotel Rate**

**Weekly rates: 310.00 Including Tax**

**Negotiated rates for companies (general or specific to this Project): Will try and beat any like hotels rate!**

**Room availability (April 2013 to May 2014): Our rates would not include cheyenne frontier days which is the last week in july!**

Please respond by email or letter with the above information using the contact information provided below. Please note our largest priority is covering the peak construction season from roughly October 2013 to February 2014, when we will have the largest number of workers on site. Please also note that we are not looking for Letters of Commitment at this time, however this information will be used at a later date to determine housing commitments, so again any information you can provide would be greatly appreciated.

If you have any additional questions, please feel free to contact me. I look forward to your quick response, and appreciate your assistance.

Thanks much,

**Amy Hammontree**

Staff Scientist  
CH2M Hill  
9193 S. Jamaica Street  
Englewood, CO 80112  
Direct: 720-286-0830  
Cell: 785-764-0698  
Fax: 720-286-9736  
[Amy.Hammontree@ch2m.com](mailto:Amy.Hammontree@ch2m.com)

## Hammontree, Amy/DEN

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**From:** Katherine Greenwood [kgreenwood@cheyenne.littleamerica.com]  
**Sent:** Tuesday, January 31, 2012 6:25 PM  
**To:** Hammontree, Amy/DEN  
**Subject:** RE: Room Availability Information Request for Cheyenne Prairie Generating Station

Amy,

Thank you so much for getting that information to me☺ The companies who choose Little America to host their employees during this time will receive the following negotiated rates and will apply based on availability. At this point of time I won't designate a specific amount of rooms they can book; they can book at they wish with these rates☺

Frontier Days rates; \$229.00

4/1/2013	5/1/2013	6/1/2013	7/1/2013	8/1/2013	9/1/2013	10/1/2013	11/1/2013
\$72.00/\$92.00	\$72.00/\$92.00	\$82.00/\$92.00	\$82.00/\$92.00	\$82.00/\$92.00	\$82.00/\$92.00	\$82.00/\$92.00	\$72.00/\$92.00

\*\*\*\*\*Based on availability

Please let me know if you need additional information or if there is anything I can assist you with!

Katherine Greenwood  
Sales & Catering Coordinator  
Little America Hotel & Resort  
Cheyenne, Wyoming  
Ph: 307-775-8467, 800-235-6383  
Fax: 307-775-8444



Wyoming's Largest Convention & Meeting Hotel

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**From:** Amy.Hammontree@CH2M.com [mailto:Amy.Hammontree@CH2M.com]  
**Sent:** Tuesday, January 31, 2012 4:06 PM  
**To:** Katherine Greenwood  
**Subject:** RE: Room Availability Information Request for Cheyenne Prairie Generating Station

Here is the additional construction workforce breakdown information I mentioned over the phone. Please feel free to contact me with any further questions.

Construction Timeline	4/1/2013	5/1/2013	6/1/2013	7/1/2013	8/1/2013	9/1/2013	10/1/2013	11/1/2013	12/1/2013
Estimated Workforce	45	75	90	115	175	235	285	350	

Thanks for your assistance.

Amy Hammontree  
Biologist / Environmental Planner, CH2M Hill  
Direct: 720-286-0830  
[Amy.Hammontree@ch2m.com](mailto:Amy.Hammontree@ch2m.com)

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**From:** Katherine Greenwood [mailto:kgreenwood@cheyenne.littleamerica.com]  
**Sent:** Monday, January 30, 2012 2:52 PM  
**To:** Hammontree, Amy/DEN  
**Subject:** Room Availability Information Request for Cheyenne Prairie Generating Station

Ms. Hammontree,

Thank you so much in your interest in Little America! We would be please to offer you the following accommodations per your request;

**Total number of rooms: 188**

**Number of single-occupancy, double-occupancy, suites (if appropriate): 115 Single, 69 Double, 4 Executive Suites**

**Typical occupancy rates (seasonal, special events, etc.): \$89.00-\$129.00 \*\*Based on availability and season. Cheyenne Frontier Days (BLACKOUT DATES)**

**Rates by room type: \$72.00 Deluxe Kings,  
\$82.00 Deluxe Queens  
\$92.00 Deluxe King Large  
\$102.00 Preferred King  
\$ 92.00 Preferred Queen  
\$229.00 Executive Suite**

**\*\*Based on availability and season**

**Weekly rates: N/A**

**Negotiated rates for companies (general or specific to this Project): \$72.00-\$ 92.00 \*\*Based on availability and season**

Please let me know if I can provide you with any additional information pertaining to our property or about our negotiated rates☺

Have a wonderful day!

Katherine Greenwood  
Sales & Catering Coordinator  
Little America Hotel & Resort  
Cheyenne, Wyoming  
[kgreenwood@cheyenne.littleamerica.com](mailto:kgreenwood@cheyenne.littleamerica.com)  
Ph: 307-775-8467, 800-235-6383  
Fax: 307-775-8444



Wyoming's Largest Convention & Meeting Hotel

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**From:** [Amy.Hammontree@CH2M.com](mailto:Amy.Hammontree@CH2M.com) [<mailto:Amy.Hammontree@CH2M.com>]

**Sent:** Tuesday, January 24, 2012 11:10 AM

**To:** Joan Watkins

**Subject:** Room Availability Information Request for Cheyenne Prairie Generating Station

Dear Joan (or Katie),

Thanks for speaking with me earlier. On behalf of Black Hills Corporation, I am contacting the Cheyenne Little America Hotel and Resort to determine room availability for the construction workforce slated for the Cheyenne Prairie Generating Station Project, located just outside Cheyenne, WY. We are looking to secure housing for the construction

workforce slated to work on the Project over an approximately 13-month period, from April 1, 2013 through May 1, 2014. Construction will begin with approximately 40 workers in April 2013, rising monthly to a peak of approximately 400 workers in December 2013, and falling monthly afterward to approximately 57 workers by May 2014.

I was hoping you could provide the following information for your hotel regarding availability of rooms and rates during this period. Here is a summary of the information we are requesting:

**Total number of rooms:**

**Number of single-occupancy, double-occupancy, suites (if appropriate):**

**Typical occupancy rates (seasonal, special events, etc.):**

**Rates by room type:**

**Weekly rates:**

**Negotiated rates for companies (general or specific to this Project):**

**Room availability (April 2013 to May 2014):**

Please respond by email or letter with the above information using the contact information provided below. Please note our largest priority is covering the peak construction season from roughly October 2013 to February 2014, when we will have the largest number of workers on site.

Please also note that we are not looking for Letters of Commitment at this time, however this information will be used at a later date to determine housing commitments, so again any information you can provide would be greatly appreciated.

If you have any additional questions, please feel free to contact me. I look forward to your quick response, and appreciate your assistance.

Thanks much,

**Amy Hammontree**

Staff Scientist  
CH2M Hill  
9193 S. Jamaica Street  
Englewood, CO 80112  
Direct: 720-286-0830  
Cell: 785-764-0698  
Fax: 720-286-9736  
[Amy.Hammontree@ch2m.com](mailto:Amy.Hammontree@ch2m.com)

## Hammontree, Amy/DEN

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**From:** Jennifer Thayer [jthayer@cheyennehi.com]  
**Sent:** Wednesday, January 25, 2012 9:37 AM  
**To:** Hammontree, Amy/DEN  
**Subject:** RE: Room Availability Information Request for Cheyenne Prairie Generating Station  
**Attachments:** Black Hills Corporation 2013-2014.pdf

Amy,

Attached is information for the Holiday Inn. Cheyenne has had many large projects in the area over the past 3 years and we are accustomed to housing the workforce on a long term basis and making their stay as comfortable as possible. If you have any questions or need additional information please let me know. Thank you for your time and I look forward to hearing from you.

All the Best,

Jennifer Thayer  
Director of Sales & Marketing

Direct Line: 307.757.9111  
Cell: 307.631.5877  
Fax: 307.433.9161

Holiday Inn® Cheyenne  
204 W Fox Farm Rd.  
Cheyenne, WY 82007  
307.638.4466



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**From:** [Amy.Hammontree@CH2M.com](mailto:Amy.Hammontree@CH2M.com) [<mailto:Amy.Hammontree@CH2M.com>]  
**Sent:** Tuesday, January 24, 2012 10:32 AM  
**To:** Jennifer Thayer  
**Subject:** Room Availability Information Request for Cheyenne Prairie Generating Station

Dear Jennifer,

Thanks for speaking with me earlier. On behalf of Black Hills Corporation, I am contacting the Cheyenne Holiday Inn to determine room availability for the construction workforce slated for the Cheyenne Prairie Generating Station Project, located just outside Cheyenne, WY. We are looking to secure housing for the construction workforce slated to work on the Project over an approximately 13-month period, from April 1, 2013 through May 1, 2014. Construction will begin with approximately 40 workers in April 2013, rising monthly to a peak of approximately 400 workers in December 2013, and falling monthly afterward to approximately 57 workers by May 2014.

I was hoping you could provide the following information for your hotel regarding availability of rooms and rates during this period. Here is a summary of the information we are requesting:

**Total number of rooms:**

**Number of single-occupancy, double-occupancy, suites (if appropriate):**

**Typical occupancy rates (seasonal, special events, etc.):**

**Rates by room type:**

**Weekly rates:**

**Negotiated rates for companies (general or specific to this Project):**

**Room availability (April 2013 to May 2014):**

Please respond by email or letter with the above information using the contact information provided below. Please note our largest priority is covering the peak construction season from roughly October 2013 to February 2014, when we will have the largest number of workers on site.

Please also note that we are not looking for Letters of Commitment at this time, however this information will be used at a later date to determine housing commitments, so again any information you can provide would be greatly appreciated.

If you have any additional questions, please feel free to contact me. I look forward to your quick response, and appreciate your assistance.

Thanks much,

**Amy Hammontree**

Staff Scientist  
CH2M Hill  
9193 S. Jamaica Street  
Englewood, CO 80112  
Direct: 720-286-0830  
Cell: 785-764-0698  
Fax: 720-286-9736  
[Amy.Hammontree@ch2m.com](mailto:Amy.Hammontree@ch2m.com)

## Hammontree, Amy/DEN

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**From:** leeza jariwala [leeza\_j@yahoo.com]  
**Sent:** Thursday, January 26, 2012 4:41 PM  
**To:** Hammontree, Amy/DEN  
**Cc:** Leeza Patel  
**Subject:** Re: Room Availability Information Request for Cheyenne Prairie Generating Station

Hi Amy,

Thank you for contacting the hotel for rate quotes for the workforce for this project. I would love to work with you on the price and provide rooms for the crew.

Currently the property has: 70 rooms

15 single occupancy - king beds  
10 single/ double occupancy - king with sofa bed  
42 double occupancy - 2 beds

the rooms are equipped with -

- 1) Iron w/ Ironing board
- 2) Hair Dryers
- 3) Refrigerators
- 4) Microwave in most of the rooms (We have a microwave in the lobby for guest use as well)
- 5) Complimentary Continental Breakfast
- 6) Complimentary WiFi
- 7) 24hrs Front desk service with wake up calls
- 8) All restaurants are within 0.5miles distance in downtown
- 9) Huge parking lot for convenience of the guests.
- 10) Rooms are huge and spacious
- 11) Near by restaurants that deliver food to the hotel - Jimmy John's , Piizahut, Dominos, PapaJohns, Little Philly sandwiches and Ling's Chinese Cafe.

If need be we can provide 40 rooms starting April 2013 and can assure you those rooms throughout the 13 month period as required.

### **Typical occupancy rates (seasonal, special events, etc.):**

Single person : \$79.99 + tax

2 People : \$89.99 + tax

### **Special events (Frontier Days) this is typically for the last 10 days of July.**

Single person: \$189.99 + tax

2 people : \$199.99 + tax

### **Negotiated rates for companies (general or specific to this Project):**

We can provide a corporate rate for your company for

Single person: \$69.99 + tax

2 People : \$79.99 + tax

**However during frontier days there might be a spike in the rate which can be negotiated.**

**Number of rooms you could commit (April 2013 to May 2014):**

At least 40 rooms.

Thank you,

Leeza

## Hammontree, Amy/DEN

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**From:** Brad Frey [brad@theplainshotel.com]  
**Sent:** Friday, January 27, 2012 1:09 PM  
**To:** Hammontree, Amy/DEN  
**Subject:** RE: Room Availability Information Request for Cheyenne Prairie Generating Station

Hi Amy,

It looks like we can accommodate a portion of your needs in 2013. Our hotel has 131 rooms, so there are so in August, September, October, November, December, January, February, and March we would be happy to offer as many as we can although the number of rooms required exceeds our size.

Since this is such a large group, our Director of Sales, Gilda Lara will be in touch with you soon for more information and to help you with this.

Thank you,  
Brad

### **Bradley Frey**

Revenue Manager & Sales Coordinator  
Historic Plains Hotel  
P: (307) 638-3311 ext. 4615  
F: (307) 635-2022

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**From:** Amy.Hammontree@CH2M.com [mailto:Amy.Hammontree@CH2M.com]  
**Sent:** Friday, January 27, 2012 10:18 AM  
**To:** brad@theplainshotel.com  
**Subject:** RE: Room Availability Information Request for Cheyenne Prairie Generating Station

Fantastic, thanks.

Amy Hammontree  
Staff Scientist, CH2M Hill  
Direct: 720-286-0830  
[Amy.Hammontree@ch2m.com](mailto:Amy.Hammontree@ch2m.com)

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**From:** Brad Frey [mailto:brad@theplainshotel.com]  
**Sent:** Friday, January 27, 2012 10:10 AM  
**To:** Hammontree, Amy/DEN  
**Subject:** RE: Room Availability Information Request for Cheyenne Prairie Generating Station

Hi Amy,

Thanks you so much for sending this estimate. I think I can shuffle some rooms around to make part of this work. Let me work on this and I'll have a rough idea ready for you by noon.

Brad

**Bradley Frey**

Revenue Manager & Sales Coordinator  
Historic Plains Hotel  
P: (307) 638-3311 ext. 4615  
F: (307) 635-2022

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**From:** [Amy.Hammontree@CH2M.com](mailto:Amy.Hammontree@CH2M.com) [<mailto:Amy.Hammontree@CH2M.com>]  
**Sent:** Friday, January 27, 2012 9:24 AM  
**To:** [brad@theplainshotel.com](mailto:brad@theplainshotel.com)  
**Subject:** RE: Room Availability Information Request for Cheyenne Prairie Generating Station

Hi Brad-

Here is a breakdown estimate of our room needs for single and double-occupancy over the course of the Project. We will take as many rooms as you can offer over the course of the Project, with a particular emphasis on our peak workforce timeline of 9/1/2013 to 3/1/2014.

Construction Timeline	4/1/2013	5/1/2013	6/1/2013	7/1/2013	8/1/2013	9/1/2013	10/1/2013	11/1/2013	12/1/2013
Number of Single-bed Rooms	34	56	68	86	131	176	214	263	300
Number of Double-Bed Rooms	6	9	11	14	22	29	36	44	50

Please let me know if you have any additional questions, I look forward to hearing back from you.

Thanks-

Amy Hammontree  
Staff Scientist, CH2M Hill  
Direct: 720-286-0830  
[Amy.Hammontree@ch2m.com](mailto:Amy.Hammontree@ch2m.com)

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**From:** Brad Frey [<mailto:brad@theplainshotel.com>]  
**Sent:** Friday, January 27, 2012 8:37 AM  
**To:** Hammontree, Amy/DEN  
**Subject:** RE: Room Availability Information Request for Cheyenne Prairie Generating Station

Hi Amy,

I apologize for the delay getting back to you. Here are the answers to your questions:

**Total number of rooms: 131**

**Number of single-occupancy, double-occupancy, suites (if appropriate): \$69 Single, \$79 double**

**Typical occupancy rates (seasonal, special events, etc.): \$99 Spring, \$109 Summer (Single), \$109 Spring \$119 Summer (double)**

**Rates by room type: Classic Double Queen: \$79, Classic King: \$69, Classic Queen: \$69, Suites and Parlors: \$99.**

**Weekly rates: \$483 (Single), \$553 (Double)**

**Negotiated rates for companies (general or specific to this Project): \$69 Single / \$79 Double**

**Room availability (April 2013 to May 2014): Limited on certain dates. How many rooms will you need? I can give you a better idea of availability with an idea of the number of rooms needed.**

Thank you,

Brad

**Bradley Frey**

Revenue Manager & Sales Coordinator

Historic Plains Hotel

P: (307) 638-3311 ext. 4615

F: (307) 635-2022

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**From:** [Amy.Hammontree@CH2M.com](mailto:Amy.Hammontree@CH2M.com) [<mailto:Amy.Hammontree@CH2M.com>]

**Sent:** Thursday, January 26, 2012 3:29 PM

**To:** [info@theplainshotel.com](mailto:info@theplainshotel.com)

**Subject:** RE: Room Availability Information Request for Cheyenne Prairie Generating Station

Hello-

Have you had a chance to address the request below? I will call to verify if I do not hear back from you. Please let me know if there are any additional questions I can answer.

Thanks-

Amy Hammontree

Staff Scientist, CH2M Hill

Direct: 720-286-0830

[Amy.Hammontree@ch2m.com](mailto:Amy.Hammontree@ch2m.com)

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**From:** Hammontree, Amy/DEN

**Sent:** Tuesday, January 24, 2012 10:34 AM

**To:** 'info@theplainshotel.com'

**Subject:** Room Availability Information Request for Cheyenne Prairie Generating Station

Hello,

On behalf of Black Hills Corporation, I am contacting the Historic Plains Hotel to determine room availability for the construction workforce slated for the Cheyenne Prairie Generating Station Project, located just outside Cheyenne, WY. We are looking to secure housing for the construction workforce slated to work on the Project over an approximately 13-month period, from April 1, 2013 through May 1, 2014. Construction will begin with approximately 40 workers in April 2013, rising monthly to a peak of approximately 400 workers in December 2013, and falling monthly afterward to approximately 57 workers by May 2014.

I was hoping you could provide the following information for your hotel regarding availability of rooms and rates during this period. Here is a summary of the information we are requesting:

**Total number of rooms:**

**Number of single-occupancy, double-occupancy, suites (if appropriate):**

**Typical occupancy rates (seasonal, special events, etc.):**

**Rates by room type:**

**Weekly rates:**

**Negotiated rates for companies (general or specific to this Project):**

**Room availability (April 2013 to May 2014):**

Please respond by email or letter with the above information using the contact information provided below. Please note our largest priority is covering the peak construction season from roughly October 2013 to February 2014, when we will have the largest number of workers on site.

Please also note that we are not looking for Letters of Commitment at this time, however this information will be used at a later date to determine housing commitments, so again any information you can provide would be greatly appreciated.

If you have any additional questions, please feel free to contact me. I look forward to your quick response, and appreciate your assistance.

Thanks much,

**Amy Hammontree**

Staff Scientist  
CH2M Hill  
9193 S. Jamaica Street  
Englewood, CO 80112  
Direct: 720-286-0830  
Cell: 785-764-0698  
Fax: 720-286-9736  
[Amy.Hammontree@ch2m.com](mailto:Amy.Hammontree@ch2m.com)

## Hammontree, Amy/DEN

---

**From:** Sales Department [comfortinncheyenne@gmail.com]  
**Sent:** Tuesday, January 24, 2012 4:12 PM  
**To:** Hammontree, Amy/DEN  
**Subject:** Re: Room Availability Information Request for Cheyenne Prairie Generating Station

Total Number of rooms: 77  
Single Rooms: 50  
Double Rooms: 27

The rate I can offer will vary from season to season. I would really love the chance to talk with you about such an extended amount of business. Generally, during the months of October through April I can do a flat rate of 69.99. May through September I would have to raise the rate to 89.00. July 19<sup>th</sup> through July 30 is Frontier Days, Frontier days is our big money maker of the year and our rates are between \$200.00 and \$250.00. We would be able to give you guys as many as 30 to 45 rooms per night. Having said all of this a lot depends on how many rooms per night you want. If we were doing year around business certain accommodations could be made in the summer and during frontier days. I must also point out all of our rooms have microwaves and refrigerators. We also offer a free breakfast buffet that includes scrambled and boiled eggs, sausage, waffles, muffins, cereal, bagels, toast and juice plus much more. I have a partnership with a local hotel and I think I could get all the rooms that you need between us and this local hotel that we send our people when we are sold out. I am going to give you my cell phone number so please feel free to give me a call. I know the market for rooms in the Cheyenne area and I am very confident that I can take care of your companies needs and get you guys a great deal. As for Oct 2013 through February of 2014 that is my slowest time of the year and I really think we could take care of all your needs.

Thanks,

Lee Welch

Cell—307-274-0638

E-mail—[comfortinncheyenne@gmail.com](mailto:comfortinncheyenne@gmail.com)

On Tue, Jan 24, 2012 at 11:21 AM, <[Amy.Hammontree@ch2m.com](mailto:Amy.Hammontree@ch2m.com)> wrote:

Hello Lee,

Thanks for speaking with me earlier. On behalf of Black Hills Corporation, I am contacting the Cheyenne Comfort Inn to determine room availability for the construction workforce slated for the Cheyenne Prairie Generating Station Project, located just outside Cheyenne, WY. We are looking to secure housing for the construction workforce slated to work on the Project over an approximately 13-month period, from April 1, 2013 through May 1, 2014. Construction will begin with approximately 40 workers in April 2013, rising monthly to a peak of approximately 400 workers in December 2013, and falling monthly afterward to approximately 57 workers by May 2014.

I was hoping you could provide the following information for your hotel regarding availability of rooms and rates during this period. Here is a summary of the information we are requesting:

**Total number of rooms:**

**Number of single-occupancy, double-occupancy, suites (if appropriate):**

**Typical occupancy rates (seasonal, special events, etc.):**

**Rates by room type:**

**Weekly rates:**

**Negotiated rates for companies (general or specific to this Project):**

**Room availability (April 2013 to May 2014):**

Please respond by email or letter with the above information using the contact information provided below. Please note our largest priority is covering the peak construction season from roughly October 2013 to February 2014, when we will have the largest number of workers on site.

Please also note that we are not looking for Letters of Commitment at this time, however this information will be used at a later date to determine housing commitments, so again any information you can provide would be greatly appreciated.

If you have any additional questions, please feel free to contact me. I look forward to your quick response, and appreciate your assistance.

Thanks much,

## **Amy Hammontree**

Staff Scientist

CH2M Hill

9193 S. Jamaica Street

Englewood, CO 80112

Direct: [720-286-0830](tel:720-286-0830)

Cell: [785-764-0698](tel:785-764-0698)

Fax: [720-286-9736](tel:720-286-9736)

[Amy.Hammontree@ch2m.com](mailto:Amy.Hammontree@ch2m.com)

## Hammontree, Amy/DEN

---

**From:** Josh Ziemann [josh.candlewoodsales@gmail.com]  
**Sent:** Tuesday, January 24, 2012 4:02 PM  
**To:** Hammontree, Amy/DEN  
**Subject:** Re: Room Availability Information Request for Cheyenne Prairie Generating Station  
**Attachments:** 3D Suite Overviews.pdf; Candlewood Suites Websites and Links.docx

Amy,

Thank you for the call earlier as I have been monitoring this project, and I have been in contact with Black Hills Corporation. If you are not familiar with Candlewood Suites we are the only full extended stay hotel in Cheyenne, and we have a lot of experience working with companies staying long term. I also attached a brochure with an overview of the room types offered. The information requested is listed below:

Total Number of Rooms: 43

Single/Double Occupancy: We can allocate according to need. Same Rate Applies

Typical Occupancy Rates: We ran at 90% occupancy for the year, and and 100% occupancy summer weekdays.

Rates: \$65.99 Studio Suite      \$85.99 One-Bedroom Suite( Based on 30 consecutive nights)

Weekly Rates: \$461.93 Studio Suite      \$601.93 One Bedroom Suite

Negotiated Rates for Companies: Candlewood Suites will offer same rates to companies working with Project

Room Availability April 2013 to May 2014: 43 rooms

All of our services such as free laundry, free Internet, free fitness center, free business center are all included with the rates offered above. Also, if any guest stay 30 consecutive nights the 10% tax is removed because they are considered a permanent resident. Having full kitchens in all of our rooms also save on food per diem's for companies. We are a very flexible company that understands the trials of working on the road from overall comfort to billing. Let me know if there is anything else I can do.

Sincerely,

Josh Ziemann

On Tue, Jan 24, 2012 at 11:17 AM, <[Amy.Hammontree@ch2m.com](mailto:Amy.Hammontree@ch2m.com)> wrote:

Dear Josh,

Thanks for speaking with me earlier. On behalf of Black Hills Corporation, I am contacting the Cheyenne Candlewood Suites to determine room availability for the construction workforce slated for the Cheyenne

Prairie Generating Station Project, located just outside Cheyenne, WY. We are looking to secure housing for the construction workforce slated to work on the Project over an approximately 13-month period, from April 1, 2013 through May 1, 2014. Construction will begin with approximately 40 workers in April 2013, rising monthly to a peak of approximately 400 workers in December 2013, and falling monthly afterward to approximately 57 workers by May 2014.

I was hoping you could provide the following information for your hotel regarding availability of rooms and rates during this period. Here is a summary of the information we are requesting:

**Total number of rooms:**

**Number of single-occupancy, double-occupancy, suites (if appropriate):**

**Typical occupancy rates (seasonal, special events, etc.):**

**Rates by room type:**

**Weekly rates:**

**Negotiated rates for companies (general or specific to this Project):**

**Room availability (April 2013 to May 2014):**

Please respond by email or letter with the above information using the contact information provided below. Please note our largest priority is covering the peak construction season from roughly October 2013 to February 2014, when we will have the largest number of workers on site.

Please also note that we are not looking for Letters of Commitment at this time, however this information will be used at a later date to determine housing commitments, so again any information you can provide would be greatly appreciated.

If you have any additional questions, please feel free to contact me. I look forward to your quick response, and appreciate your assistance.

Thanks much,

**Amy Hammontree**

Staff Scientist

CH2M Hill

9193 S. Jamaica Street

Englewood, CO 80112

Direct: [720-286-0830](tel:720-286-0830)

Cell: [785-764-0698](tel:785-764-0698)

Fax: [720-286-9736](tel:720-286-9736)

[Amy.Hammontree@ch2m.com](mailto:Amy.Hammontree@ch2m.com)

--

**Josh Ziemann**  
**Director of Sales**

**Candlewood Suites**  
**(307) 634-6622**

**[josh.candlewoodsales@gmail.com](mailto:josh.candlewoodsales@gmail.com)**

**Appendix F-1**  
**State Agency Contact List**

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**Wyoming Industrial Siting Application - State Agency Contact List - March 2012**

Name			Title	Wyoming State Agency	Address	City	State	Zip	
John	Cox	Mr.	Director	Department of Transportation	5300 Bishop Avenue	Cheyenne	WY	82009	
Christopher	Petrie	Mr.	Chief Counsel	Public Service Commission	2515 Warren Avenue Suite 300	Cheyenne	WY	82002	
Scott	Talbott	Mr.	Director	Game & Fish Department	5400 Bishop Avenue	Cheyenne	WY	82009	
Thomas	Forslund	Mr.	Director	Department of Health	2300 Capitol Avenue	Hathaway Building	Cheyenne	WY	82002
Cindy	Hill	Ms.	Superintendent	Department of Education	2300 Capitol Avenue	Hathaway Building	Cheyenne	WY	82002
Patrick	Tyrrell	Mr.	State Engineer	Office of State Engineer	122 West 25 Street	Hershler Building	Cheyenne	WY	82002
Wallace	Ulrich	Mr.	State Geologist	Geological Survey	PO Box 1347	Laramie	WY	82073	
Jason	Fearneyhough	Mr.	Director	Department of Agriculture	2219 Carey Avenue	Cheyenne	WY	82002	
John	Corra	Mr.	Director	Department of Environmental Quality	122 West 25 Street	Hershler Building 4 West	Cheyenne	WY	82002
William	Gern	Mr.	Research & Development	University of Wyoming	1000 E. University Ave. Dept 3355	Laramie	WY	82071	
Ed	Schmidt	Mr.	Director	Department of Revenue	122 West 25 Street	Hershler Building 2 East	Cheyenne	WY	82002
Robert	Jensen	Mr.	Chief Executive Officer	Wyoming Business Council	214 West 15 Street	Cheyenne	WY	82002	
Joan	Evans	Ms.	Director	Department of Workforce Services and Employment	122 West 25 Street	Hershler Building 2 East	Cheyenne	WY	82002
Susan	Child	Ms.	Deputy Director	State Lands & Investments	122 West 25 Street	Hershler Building 1 West	Cheyenne	WY	82002
Milward	Simpson	Mr.	Director	State Parks & Cultural Resources	2301 Central Avenue	Cheyenne	WY	82002	
Lanny	Applegate	Mr.	Fire Marshal	Department of Fire Prevention & Electrical Safety	122 West 25 St.	Hershler Building 1 West	Cheyenne	WY	82002
Steve	Corsi	Mr.	Director	Department of Family Services	2300 Capitol Ave	Hathaway Building 3 West	Cheyenne	WY	82002
Thomas	Doll	Mr.	Supervisor	Oil & Gas Conservation Commission	2211 King Boulevard, PO Box 2640	Casper	WY	82602	
Steve	Dietrich	Mr.	Administrator	Air Quality Division	122 West 25 Street	Hershler Building 2 East	Cheyenne	WY	82002
John	Wagner	Mr.	Administrator	Water Quality Division	122 West 25 Street	Hershler Building 4 West	Cheyenne	WY	82002
Carl	Anderson	Mr.	Administrator	Solid & Hazardous Waste Division	122 West 25 Street	Hershler Building 4 West	Cheyenne	WY	82002
Nancy	Nuttbrock	Ms.	Administrator	Land Quality Division	122 West 25 Street	Hershler Building 3 West	Cheyenne	WY	82002





**Mark Stege**

Vice President Operations  
mark.stege@blackhillscorp.com

108 West 18<sup>th</sup> Street  
Cheyenne, WY 82201-4521  
P: 307.778.2105  
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March 26, 2012

Wyoming State Agency

Subject: Cheyenne Light, Fuel & Power Company and Black Hills Power, Inc.  
Cheyenne Prairie Generating Station  
Section 109 Wyoming Industrial Siting Permit

Dear Mr./Ms:

Cheyenne Light, Fuel & Power Company (CLFP) and Black Hills Power, Inc. (BHP) have begun the regulatory process to construct the Cheyenne Prairie Generating Station (CPGS, the Project). When completed, the natural gas-fired-electric generating station will serve customers in Wyoming and South Dakota.

The purpose of this letter is to notify all relevant State of Wyoming agencies of the Project and invite their input and involvement. The Project team met with the State Engineer's Office on December 8, 2011. Meetings will be requested with the State Historic Preservation Officer (SHPO), the Wyoming Game and Fish Department, and Wyoming Department of Transportation to ensure that their concerns are identified and addressed. CLFP and BHP have met with the U.S. Fish and Wildlife Service to discuss construction activities and avoidance measures that will be used to minimize Project impacts to the maximum extent practicable. An information handout on the Project is shown as Attachment 2.

CLFP and BHP propose to jointly own, construct, and operate the Project located on private lands in the City of Cheyenne. The Project will include engineering, procurement, and construction of all equipment and facilities necessary for a fully operational gas-fired electrical generating facility.

## **Industrial Siting Act Statute and Cost**

A meeting was held with the Wyoming Department of Environmental Quality Industrial Siting Division (ISD) on December 8, 2011, in which the ISD staff determined that the estimated capital cost of construction for the Project meets or exceeds the current statutory jurisdictional capital construction cost threshold of \$186.7 million (W.S. § 35-12-102).

## **Location**

The Project site is located in Laramie County, Wyoming, approximately 5 miles east of downtown Cheyenne, but still within the city limits. The facility would sit on approximately 30 acres within a 250-acre parcel. The parcel is adjacent to and south of I-80, situated just west of the Dry Creek Wastewater Treatment Plant. Elevation throughout the Project area is

approximately 5,950 feet above mean sea level. Approximately 1.8 miles of 115-kilovolt (kV) transmission line will be installed to connect the facility to the grid at a point east of the facility. A project location map is shown in Attachment 1.

## **Land Use**

The Project site will be located on private lands in Laramie County. The Project site is undeveloped and zoning for industrial use has been approved by City Council. There is an existing transmission line along the north end of the parcel, adjacent to Interstate 80.

## **Components**

The primary components of the Project are gas-fired combustion turbine generators, one operating alone in simple cycle, and two operating in combined cycle. Additional infrastructure will include inlet air heaters, fuel gas heaters, a wet cooling tower, diesel generator and diesel-driven fire pump. The facility will be served by a natural gas pipeline originating near the southern border of Wyoming and an electric transmission line approximately 2 miles in length. A portion of the facility's footprint will contain a substation used to interconnect with the CLFP electrical system.

## **Project Schedule**

Permitting is currently underway for the project. The Prevention of Significant Deterioration (PSD) Greenhouse Gas air construction permit application was submitted to EPA in August 2011 and the PSD air construction permit application was submitted to WDEQ in October 2011. Currently the plan is to submit the Industrial Siting Act (ISA) permit application in mid-April 2012 with a public hearing scheduled for July 2012. Major equipment is expected to be ordered in the third quarter of 2012. CLFP and BHP anticipate an approximately 14-month construction period commencing in the second quarter of 2013. Commercial operation of the facility is anticipated for summer 2014.

It is expected that the Facility will begin commercial operation in the summer of 2014. During the summer of 2013, it is anticipated that construction activities will consist of equipment mobilization; preliminary site work including clearing, leveling, and grading work; excavation; substructures and piping; and foundation work including erection of foundations and steel structures. Major construction activities will commence in third quarter 2013, including mechanical and electrical work, and construction of combustion turbine generators, air quality control system and major auxiliary equipment.

## **Construction and Operations Workforce Requirements**

### **Construction Workforce**

Site preparation and clearing would begin in the second quarter of 2013. Construction activities and the corresponding workforce will ramp-up over the following several months. The construction workforce is expected to peak at 400 during the height of construction activities in the winter of 2013.

### **Operations Workforce**

During the operations phase, an estimated permanent workforce of 10 to 12 full-time positions will be needed by the Project.

## Transportation

Workforce and delivery vehicles are expected to primarily use Interstate 80 and Campstool Road to reach the Project location. An existing gravel road parallels the highway near the existing transmission lines. That dirt road would be improved between Campstool Road and HR Ranch Road to the west. A new access road will connect this improved road to the Project site to the south. All deliveries will be trucked directly to the Project site.

## Water Use

The Project is estimated to use less than 100 acre-feet per year because the plant will provide peak and intermittent service, primarily during the summer. The water balance for the Project estimates a maximum annual water use of 786 acre-feet/year. This figure was calculated assuming the plant is running at 100 percent load. The primary water requirement will be associated with the cooling tower. The water use estimate is conservative and represents the highest water use scenario.

Water sources for the operating plant will be a combination of treated waste water effluent from the neighboring Dry Creek Waste Water Treatment Plant (WWTP) and potable water from the Board of Public Utilities (BOPU). Over 80 percent of the plant's operational water needs will be met by the treated waste water effluent; the remainder will be potable water. The WWTP effluent flow is approximately 5,585 acre-feet per year; therefore, the plant is expected to consume less than two percent of the available WWTP effluent. Waste water from the Project will be returned to the WWTP.

## Public Involvement Activities

Through numerous informational meetings and presentations, CLFP and BHP representatives have actively sought out potentially affected municipalities, counties, state agencies, and other stakeholders to discuss potential environmental, social, and economic issues and identify mitigation recommendations and solutions to incorporate into the planning and design of the Project. The Project area of study, as identified by ISD staff during the Jurisdictional Meeting, determined the local governments where informational meetings were held.

CLFP and BHP will have met with elected government officials in Laramie, Albany, Platte, and Goshen Counties as part of the pre-application filing process to inform them of the Project, receive comments and input, and address concerns.

CLFP and BHP held two public open house meetings to ensure the public had the opportunity to discuss the project and ensure any concerns were identified and addressed. The meetings were held in Cheyenne on January 25 and February 18, 2012.

## Socioeconomic Impacts

A detailed analysis of social and economic impacts will be submitted as part of the ISA permit application to evaluate the benefits and impacts to the social and economic resources in the area of study and primary area of site influence. To measure potential impacts, the socioeconomic analysis will compare the expected future conditions in the area of study with and without the Project. The counties included in the area of study were determined in consultation with ISD staff and has been defined as Laramie, Albany, Platte, and Goshen Counties.

Both local communities and the state will realize benefits from the Project. Wyoming will gain economic benefits including permanent job creation, and tax revenues. Locally, the Project may result in allocation and distribution of impact assistance payment funds, local spending on goods and services, additional local economic activity, and tax revenues. Additionally, locally-generated electricity will provide the opportunity for residential and commercial development in the service area.

Construction of the Project is expected to place minimal demands on water, sewer, roads, electrical lines, or other local infrastructure. Therefore, construction and operation of the Project is not expected to significantly affect the various public and nonpublic facilities and municipal services as a result of in-migration of workers for non-basic employment opportunities.

## Environmental Resources

CLFP and BHP have reviewed existing data and conducted cultural resource inventories and threatened and endangered species habitat evaluations. Noise analyses will be completed to document and characterize baseline conditions of the Project area and estimated Project impacts. All baseline resource information will be used to design Project components to avoid or minimize the potential for environmental and natural resource impacts.

A Class III Cultural Resource Inventory was completed for the entire 250-acre parcel in which the Project will sit. No cultural resource sites eligible for listing on the National Register of Historic Places were identified. A supplemental Class III Inventory will be completed on the access road, transmission interconnect, and other facilities outside the parcel as the locations of those facilities become finalized.

## Invitation to Participate

CLFP and BHP invite you to express your agency's comments and provide feedback so that issues may be considered and addressed directly with your agency, as well as incorporated directly into the ISA permitting application and construction planning process.

You may provide input by sending an e-mail to [Mark.Stege@blackhillscorp.com](mailto:Mark.Stege@blackhillscorp.com), or by faxing your comments to us at (307) 778-2106. Please be sure to include your name and contact info with your comments so that we may follow-up with you effectively. Likewise, if you prefer to discuss the Project further, CLFP and BHP are available to meet in person or via phone upon your request.

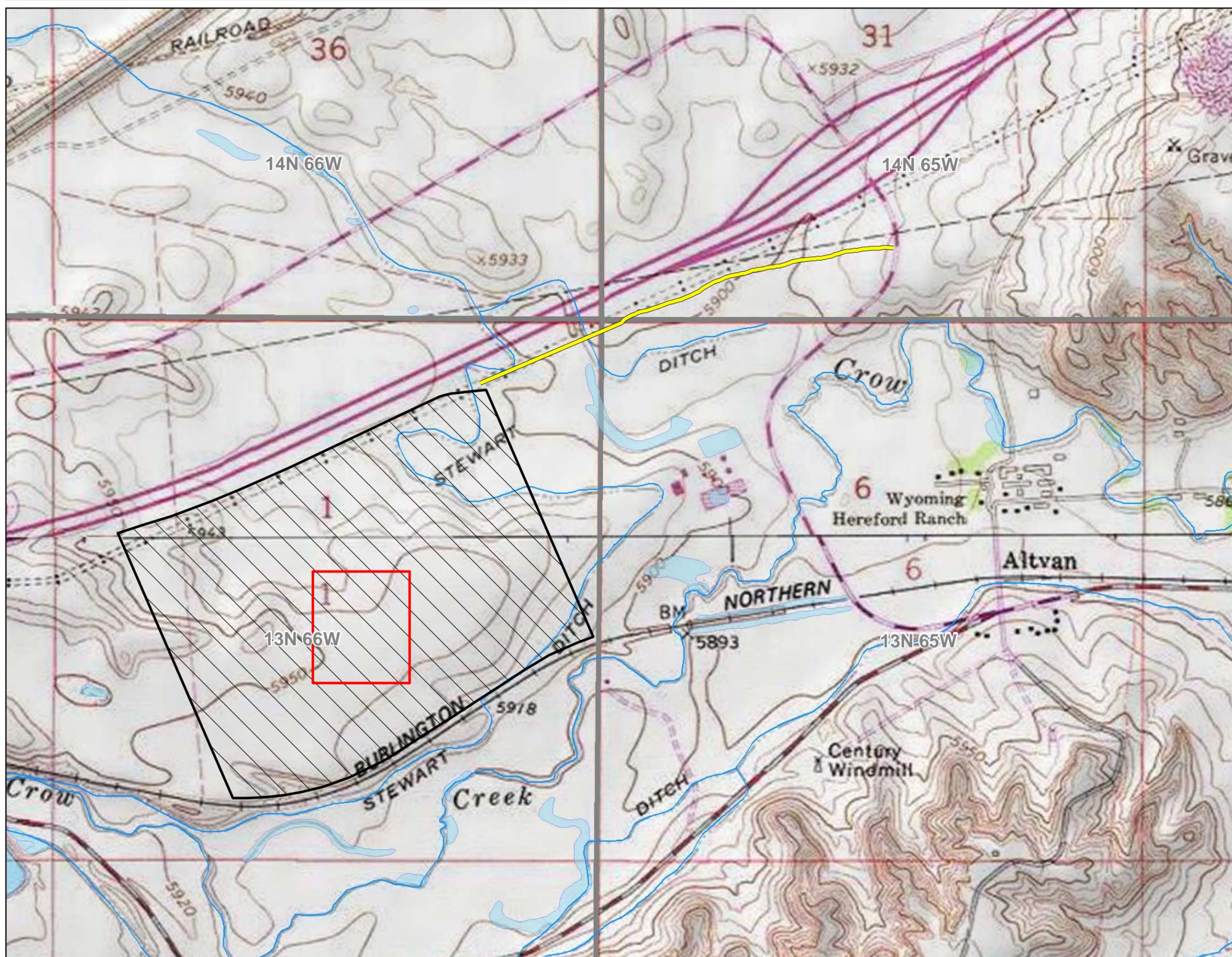
We look forward to working with you on this Project, and look forward to your input.

Sincerely,



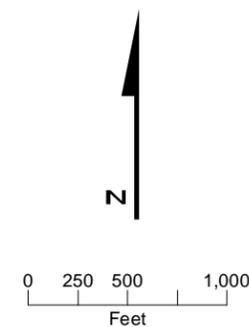
Mark Stege  
Vice President, Operations  
Cheyenne Light Fuel & Power Company

Attachments: 1) Project Location Map  
2) Project information Handout

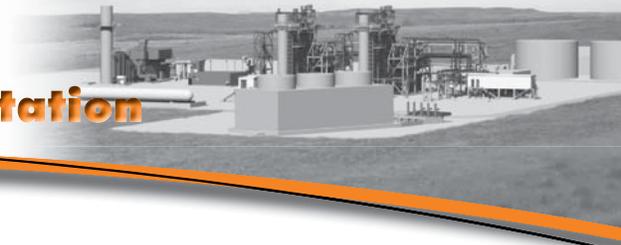


**LEGEND**

- Access Road (Approximate Location)
- Cheyenne Prairie Generating Station
- Project Parcel
- Township/Range



**FIGURE 1**  
**Cheyenne Prairie Generating Station**  
**Black Hills Corporation**  
 Laramie County, Wyoming



## Project Description

Black Hills Corporation (BHC) plans to construct a new nominal 132 megawatt (MW) net simple and combined cycle natural gas fired combustion turbine power plant in Laramie County, Wyoming. Pending approval by the Wyoming Public Service Commission, the project, named the Cheyenne Prairie Generating Station (CPGS), will be located within the city limits of the City of Cheyenne, Wyoming, approximately 5 miles southeast of the downtown area on a 250 acre parcel owned by BHC. BHC subsidiaries Cheyenne Light Fuel and Power Company (CLFP) and Black Hills Power (BHP) will jointly own and operate the facility. The 37 MW net Simple Cycle Combustion Turbine will be 100% owned by CLFP. The 95 MW net Combined Cycle will be 42% CLFP and 58% BHP. The purpose of the proposed facility is to 1) meet capacity requirements per the Integrated Resource Plan, 2) allow reserve generation for economy purchases, 3) locate generation in the service area for reliability, 4) provide a source of peaking and intermediate generation and 5) enable renewable generation.

The CPGS project will include three General Electric (GE) LM 6000 PF SPRINT combustion turbine generators (CTGs) fired by pipeline quality natural gas. Two of the turbines will be operated in combined cycle mode and one will be operated in simple cycle mode. The combustion turbines will use best available control technology including low-NO<sub>x</sub> burners, Selective Catalytic Reduction for further Nitrogen Oxides (NO<sub>x</sub>) removal and an Oxidation Catalyst for removal of Carbon Monoxide (CO) and Volatile Organic Compounds (VOCs).

The estimated cost of the facility is \$237 million including the generation facility, natural gas pipeline and transmission interconnect.



## Schedule

Permitting is currently underway for the project. Major equipment would be ordered in October 2012, construction would start in April 2013 and commercial operation would commence in June 2014.

## Construction and Operations Workforce

Construction at the site is expected to start in April 2013. The average construction workforce is estimated at 194 for the 14-month construction duration. The peak is estimated at 400 on-site workers in December 2013. The Operations and Maintenance Workforce for the new facility is estimated to be 10 to 12 full time permanent positions.

## Community Benefits

The construction of the new generation facility will provide investment in the local community, employment, expanded tax base and clean electric power. There will be significant capital expenditures on local purchases. There will be new jobs for both construction and long-term operation. The project will result in additional property, ad valorem, severance and other taxes paid by the project.

## Environment

Major environmental permits required for the project include:

- Wyoming Industrial Siting permit
- Prevention of Significant Deterioration (PSD) Air Construction permit
- Greenhouse Gas PSD Construction permit
- Title IV Acid Rain permit
- Title V Operating permit
- Construction Stormwater Discharge permit
- National Pollutant Discharge Elimination System (NPDES) Stormwater Discharge Permit
- Industrial Water Discharge Pre-Treatment Permit with Regional Wastewater Plant
- Spill Prevention, Control and Countermeasure (SPCC) Plan
- Other permits related to siting of Electric Transmission and Natural Gas Pipeline

**Industrial Siting Permit Application** - Black Hills Corporation is required to obtain an Industrial Siting Permit from the Wyoming Department of Environmental Quality, Industrial Siting Division (ISD) due to the source category and overall capital cost of the project. The application is expected to be filed in April 2012.

**Water** - A water supply analysis for the project was recently completed. The City of Cheyenne will supply water to the new facility. The facility is also going to use treated wastewater from the neighboring regional wastewater facility to reduce fresh water makeup. The facility will also discharge all wastewater to the regional wastewater facility. There will not be a discharge permit to Crow Creek or other surface waters.

**Air** - The air construction permit application was submitted to the Wyoming Department of Environmental Quality, Air Quality Division in October 2011. A Greenhouse Gas permit application was submitted to EPA Region 8 in August 2011.

## For more information, contact:

Donna Beaman  
Manager – Energy Services  
Cheyenne Light Fuel & Power  
108 West 18th Street  
Cheyenne, WY 82001  
307-778-2140  
donna.beaman@blackhillscorp.com

Appendix F-3

Letter to WY Department of Transportation March 30, 2012

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**Mark Stege**

Vice President Operations  
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Cheyenne, WY 82201-4521  
P: 307.778.2105  
F: 307.778.2191

March 30, 2012

Mr. John Cox  
Director, Wyoming Department of Transportation  
5300 Bishop Avenue  
Cheyenne, Wyoming 82009

Subject: Cheyenne Light, Fuel & Power Company and Black Hills Power, Inc.  
Cheyenne Prairie Generating Station  
Section 109 Wyoming Industrial Siting Permit  
Project-Related Traffic Impacts

Dear Mr. Cox:

Cheyenne Light, Fuel & Power Company (CLFP) and Black Hills Power, Inc. (BHP) have begun the regulatory process to construct the Cheyenne Prairie Generating Station (CPGS, the Project). When completed, the natural gas-fired-electric generating station will serve customers in Wyoming and South Dakota.

Your office has been notified previously to invite your input and involvement in the Department of Environmental Quality's (DEQ) industrial siting process. As a state agency party to that process, your office will be receiving the project's application for review and comment the end of next month.

To assist your office in review of the application, I am transmitting a memorandum presenting the findings of a traffic study completed for the construction and operations phases of the project. The study concluded that though traffic will increase during construction, there will be no degradation to the level of service. Operations-related traffic will be negligible.

Based on the findings of the study, in our application to the DEQ, we propose to conclude that there would be no significant traffic impacts resulting from the project, and no additional mitigation is required. We would like to discuss the project and the study with the goal that your office can reach the same determination, and if not, what measures are needed.

We look forward to working with you on this Project, and look forward to your input.

Sincerely,

A handwritten signature in blue ink that reads "Mark Stege". The signature is fluid and cursive, with a long horizontal line extending from the end of the name.

Mark Stege  
Vice President, Operations  
Cheyenne Light Fuel & Power Company

Attachments: CH2MHILL Memorandum on CPGS Traffic Study

Appendix F-4

Letter to WY Historic Preservation Officer March 30, 2012

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**Mark Stege**

Vice President Operations  
mark.stege@blackhillscorp.com

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Cheyenne, WY 82201-4521  
P: 307.778.2105  
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March 30, 2012

Mr. Joseph Daniele  
Historic Preservation Officer  
Department of State Parks  
2301 Central Avenue, Barrett Building, Third Floor  
Cheyenne, Wyoming 82002

Subject: Cheyenne Light, Fuel & Power Company and Black Hills Power, Inc.  
Cheyenne Prairie Generating Station  
Section 109 Wyoming Industrial Siting Permit  
Cultural and Historic Resource Inventory

Dear Mr. Daniele:

Cheyenne Light, Fuel & Power Company (CLFP) and Black Hills Power, Inc. (BHP) have begun the regulatory process to construct the Cheyenne Prairie Generating Station (CPGS, the Project). When completed, the natural gas-fired-electric generating station will serve customers in Wyoming and South Dakota.

Your office has been notified previously to invite your input and involvement in the Department of Environmental Quality's (DEQ) industrial siting process. As a state agency party to that process, your office will be receiving the project's application for review and comment the end of next month.

To assist your office in review of the application, I am transmitting the Class III survey report that was completed for the project area. In summary, only three non-eligible resources were identified; an irrigation ditch, broken bottle glass, and a small rock flake. The survey concluded no resources that would be eligible for listing on the National Register of Historic Places are present.

Based on the findings of the survey, in our application to the DEQ, we propose to conclude that there would be no impact to cultural and historic features resulting from the project, and no additional mitigation measures are necessary. We would like to discuss the project and the survey with the goal that your office can reach the same determination, and if not, what measures are needed.

We look forward to working with you on this Project, and look forward to your input.

Sincerely,

A handwritten signature in blue ink that reads "Mark Stege". The signature is fluid and cursive, with a long horizontal line extending from the end of the name.

Mark Stege  
Vice President, Operations  
Cheyenne Light Fuel & Power Company

Attachment: NPAS Class III Cultural Resource Inventory report

Appendix F-5

Letter to WY Game & Fish Department March 30, 2012

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**Mark Stege**

Vice President Operations  
mark.stege@blackhillscorp.com

108 West 18<sup>th</sup> Street  
Cheyenne, WY 82201-4521  
P: 307.778.2105  
F: 307.778.2191

March 30, 2012

Mr. Steve Ferrell  
Director, Game and Fish Department  
5400 Bishop Avenue  
Cheyenne, Wyoming 82009

Subject: Cheyenne Light, Fuel & Power Company and Black Hills Power, Inc.  
Cheyenne Prairie Generating Station  
Section 109 Wyoming Industrial Siting Permit  
Wildlife and Habitat Resources

Dear Mr. Ferrell:

Cheyenne Light, Fuel & Power Company (CLFP) and Black Hills Power, Inc. (BHP) have begun the regulatory process to construct the Cheyenne Prairie Generating Station (CPGS, the Project). When completed, the natural gas-fired-electric generating station will serve customers in Wyoming and South Dakota.

Your office has been notified previously to invite your input and involvement in the Department of Environmental Quality's (DEQ) industrial siting process. As a state agency party to that process, your office will be receiving the project's application for review and comment the end of next month.

To assist your office in review of the application, I am transmitting a survey report completed to assess habitat suitability of the project area for species protected by the Endangered Species Act. The report was used to consult with the U.S. Fish and Wildlife Service (USFWS) with respect to Section 7 consultation underway between the USFWS and the Environmental Protection Agency (EPA) regarding a Greenhouse Gas Permit. Measures have been developed in coordination with the USFWS to avoid impacts to listed species' habitats.

With respect to general wildlife and habitats, the parcel presents a uniform upland grassland habitat for wildlife; no special or unique habitats are present. Given the parcel's location and size, use by big game is likely limited to transient, occasional use. The site is not suitable habitat for sage-grouse (*Centrocercus* spp.), and is outside of identified sage-grouse core areas. Raptors are known to nest along Crow Creek to the south of the project area, and efforts are underway to determine nesting activity this season. There are no wetlands within the parcel; however, irrigation ditches are present.

Based on the findings of the survey, in our application to the DEQ, we propose to conclude that based on the resources present and the mitigation measures proposed, there would be no significant impacts to wildlife and their habitats resulting from the project. We would like to discuss the project and the survey with the goal that your office can reach the same determination, and if not, what measures are needed.

We look forward to working with you on this Project, and look forward to your input.

Sincerely,

A handwritten signature in blue ink, appearing to read "Mark Stege", with a horizontal line extending to the right from the end of the signature.

Mark Stege  
Vice President, Operations  
Cheyenne Light Fuel & Power Company

Attachments: WEST T&E Assessment Report

Appendix F-6

Letter from Laramie County Weed & Pest District

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# LARAMIE COUNTY WEED & PEST CONTROL DISTRICT

801 Muddy Creek Drive  
Pine Bluffs, WY 82082

Phone: 307-245-3213  
Fax: 307-245-3027

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Steve McNamee  
Laramie County

April 23, 2012

Jason Hartman  
Director Generation Project Engineering  
Black Hills Corporation  
1515 Wynkoop Street, Suite 500  
Denver, Colorado 80202

Re: Cheyenne Prairie Generating Station

Dear Mr. Hartman:

Thank you for meeting with me on April 17<sup>th</sup> at the future site of the Cheyenne Prairie Generating Station to discuss weed management for the project.

As we discussed, a weed management plan for the project would be an acceptable means of weed control.

Further, as the project site already contains Leafy Spurge and Dalmatian toadflax, the project will be eligible for the County's Special Management Program and other noxious weeds will be eligible for the County Weed & Pest cost share program. I provided you with the draft agreement For the Special Management Program during the site visit.

Thank you for your consideration of this important issue prior to starting construction.

I hope this addresses your questions. Please feel free to contact me if you need any additional information.

Sincerely,



Steve McNamee