Resource Report No. 1
General Project Description

FERC Docket No. CP09-___-000

January 2009

Resource Report No. 1
General Project Description

Summary of Filing Information

Minimum Requirements to Avoid Rejection	Where Found in Document	Comments
1. Provide a detailed description and location map of the project facilities. (§ 380.12(c)(1)). o Include all pipeline and aboveground facilities o Include support areas for construction or operation o Identify facilities to be abandoned	Sections 1.2 and 1.3 Exhibit F Appendix 1E	There are no abandoned facilities associated with this Project.
2. Describe any non-jurisdictional facilities that would be built in association with the project (§ 380.12(c)(2)). o Include auxiliary facilities (See § 2.55(a)) o Describe the relationship to the jurisdictional facilities. o Include ownership, land requirements, gas consumption, megawatt size, construction status, and an update of the latest status of Federal, state, and local permits/approvals. o Include the length and diameter of any interconnecting pipeline. o Apply the four-factor test to each facility (see § 380.12(c)(2)(ii))	Sections 1.9, 1.9.1, 1.9.2, and 1.9.3 Table 1.9-1	
3. Provide current original U.S. Geological Survey (USGS) 7.5-minute-series topographic maps with mileposts showing the project facilities. (§ 380.12(c)(3)). o Maps of equivalent detail are acceptable if legible (check with staff) o Show locations of all linear project elements, and label them o Show locations of all significant aboveground facilities, and label them.	Appendix 1E	
4. Provide aerial images or photographs or alignment sheets based on these sources with mileposts showing the project facilities. (§ 380.12(c)(3)) o No more than 1 year old. o Scale no smaller than 1:6,000	Appendix 1D	
5. Provide plot/site plans of compressor stations showing the location of the nearest noise-sensitive areas (NSA) within 1 mile (§380.12(c)(3,4)). o Scale no smaller than 1:3,600 o Show reference to topographic maps and aerial alignments provided above.	Appendix 1C	CEII Material
6. Describe construction and restoration methods. (§ 380. 12(c)(6)) Include this information by milepost o Make sure this is provided for offshore construction as well. For the offshore this information is needed on a mile-by-mile basis and will require completion of geophysical and other surveys before filing.	Sections 1.4, 1.5, 1.5.2 to 1.5.13.4 Appendix 1B	
7. Identify the permits required for construction across surface waters. (§ 380.12(c)(9)) o Include the status of all permits o For construction in the Federal offshore area, be sure to include consultation with the MMS File with the MMS for rights-of-way grants at the same time or before you file with the FERC.	Table 1.8-1 in Section 1.8	
8. Provide the names and addresses of all affected landowners and certify that all affected landowners will be notified as required in § 157.6(d). (§ 380.12(c)(10)) o Affected landowners are defined in § 157.6(d) o Provide an electronic copy directly to the environmental staff.	Appendix 1A	
Additional Information Often Missing and Resulting in Data Requests		
• Describe all authorizations required to complete the proposed action and the status of applications for such authorizations.	Table 1.8-1	Completed

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Minimum Requirements to Avoid Rejection	Where Found in Document	Comments
• Provide plot/site plans of all other aboveground facilities that are not completely within the right-of-way.	Appendix 1C	CEII Material
• Provide detailed typical construction right-of-way cross-section diagrams showing information such as widths and relative locations of existing rights-of-way, new permanent right-of-way, and temporary construction right-of-way. See Resource Report 8.	Appendix 1C	CEII Material
• Summarize the total acreage of land affected by construction and operation of the project.	Section 1.4	
• If Resource Report 5, Socioeconomics, is not provided, provide the start and end dates of construction, the number of pipeline spreads that would be used, and the workforce per spread.	Resource Report No. 5.	
• Send two (2) additional copies of topographic maps and aerial images/photographs directly to the environmental staff of the Office of Energy Projects (OEP).		

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List of Abbreviations and Acronyms

API	American Petroleum Institute
Bcf/d	billion cubic feet per day
MMDth/d	million dekatherms per day
BLM	Bureau of Land Management
CFR	Code of Federal Regulations
CPUC	California Public Utilities Commission
Dth	Dekatherms
DOT	United States Department of Transportation
EIA	Energy Information Administration
FERC	Federal Energy Regulatory Commission
HCA	high consequence areas
HDD	horizontal directional drilling
HP	horsepower
ISO	International Standards Organization
MAOP	maximum allowable operating pressure
Mcf/d	thousand cubic feet per day
MP	milepost
NEPA	National Environmental Policy Act
NPDES	National Pollutant Discharge Elimination System
NRCS	Natural Resources Conservation Service
POD	plan of development
Project	Ruby Pipeline Project
PSIG	pounds per square inch gauge
RMP	Resource Management Plan
ROW	right-of-way
Ruby	Ruby Pipeline, L.L.C.
TCF	trillion cubic feet
US	United States
USFS	United States Forest Service
USFWS	United States Fish and Wildlife Service
USGS	United States Geological Survey

1 GENERAL PROJECT DESCRIPTION

The Ruby Pipeline Project (Project), proposed by Ruby Pipeline, L.L.C (Ruby), is comprised of approximately 675.2 miles of 42-inch diameter natural gas pipeline, along with associated compression and measurement facilities, located between Opal, Wyoming and Malin, Oregon. An approximate 2.6-mile lateral, PG&E Lateral, would also be constructed south from the Malin Hub. As proposed, the Project would have a design capacity of approximately 1.5 million Dekatherms per day (MMDth/d), depending on final subscriptions.[1] The Project's rights-of-way (ROW) would cross four states: Wyoming, Utah, Nevada, and Oregon. In addition to the pipeline facilities, Ruby proposes the installation of four compressor stations for the Project: one located near the Opal Hub, one in western Utah, one near the mid-point of the Project north of Elko, Nevada, and one northwest of Winnemucca, Nevada. Milepost (MP) locations for each are shown in Appendices 1D and 1E. The estimated capital cost for the Project is approximately $2.96 billion.

1.1 Purpose and Need

The primary customer base for the proposed Ruby Project consists of two groups: 1) end users in Northern California, Nevada, and the Pacific Northwest, and 2) Rockies Producers. Although very recent economic indicators now suggest slower projected economic growth and concurrent business and electric generation development, there is and will be an increasing, long-term demand for natural gas in the Project area. Combined with increasing consumer demand, end-users in Northern California, Nevada, and the Pacific Northwest face declining exports of Canadian natural gas on which they currently rely. Because Canadian supplies are declining at a time when Canadian market demand is growing and because Western Canadian supplies are connected to multiple in-country and export pipeline alternatives, recent prices for Western Canadian supplies have been elevated relative to North American benchmarks such as the Henry Hub and NYMEX index prices. Canadian natural gas prices are forecasted to remain relatively high. Consequently, even if gas demand slows in the near term, an alternative to the natural gas supplies originating from Canada should be sought. The Project provides the new infrastructure to move the historically lower priced domestic natural gas supplies originating from the Rocky Mountain supply areas to the Project area demand regions that currently find themselves largely captive to declining Canadian supplies. These flexible and reliable Rocky Mountain supplies will help serve as an efficient backstop for new renewable energy sources as they are brought online in the Project area and integrated into the regional energy infrastructure. In summary, Ruby would (i) provide an alternative to declining, higher priced Canadian supplies; (ii) increase supply diversity; (iii) enhance pipeline and supply source reliability; (iv)

promote gas-on-gas competition; and (v) serve as a reliability backstop for renewal energy sources.

Canadian Production & Export Decline

Canadian gas production peaked around 2001 and has decreased since. Steeper declines are forecasted. (Canadian National Energy Board, 2008) Even the recent development of shale exploration plays in western Canada, which are anticipated to result in additional recoverable reserves at some point in the future, will not be enough to offset the declines contemplated for the region. (EIA, 2009)

Meanwhile, demand for natural gas in Canada is growing. In its 2008 International Energy Outlook, the EIA forecasts that Canadian gas demand will grow at a rate of 1.5% per year, increasing demand from 3.4 Tcf/year in 2005 to 5.0 Tcf/year in 2030. (EIA, 2008) This increased demand is being driven by Canada's industrial natural gas consumption, including the conversion of coal-fired electric generation to clean gas burning generation pursuant to Canada's participation in the Kyoto Protocol, and that industrial consumption is projected to grow 2% per year. (EIA, 2008) Given the natural gas consumed in mining local oil sands deposits and other residential, commercial and industrial uses, Canada is projected to consume 93% of its own production in 2030, compared with 52% in 2005. (EIA, 2008) The increased domestic gas consumption, coupled with the projected decline in Canada's natural gas production, will exacerbate the decline in available Canadian supplies, leaving less Canadian natural gas available for export.

Consumers in Northern California and the Pacific Northwest currently rely significantly on natural gas supplies received from Canadian sources in part due to pipeline capacity constraints within California and Washington. The decreased availability of Canadian natural gas to Northern California, Nevada, and the Pacific Northwest has reduced its price competitiveness compared to natural gas from other gas production basins. Northern California and Pacific Northwest consumers must essentially purchase the Canadian supplies at any cost since today they have limited alternatives. As a result, consumer groups in these areas have sought alternative natural gas sources to replace the declining Canadian gas supplies, increase reliability, and provide price competition.

Ruby will help to offset the decline in available Canadian export supplies by transporting additional Rocky Mountain supplies to the Malin Hub in southern Oregon for downstream off-system deliveries to California, the Pacific Northwest and Nevada. The Rockies supplies that would be transported by Ruby into these demand regions would have a price and reliability advantage over the delivery options that are currently available. Without the Project, this demand region will have to pay higher prices to compete with

[1] This is approximately equivalent to 1.456 Bcf/d based on a 1,031.5 Btu conversion factor.

consumers in Canada, the Midwest, and East Coast for the decreasing Canadian supplies. In summary, the desire for additional sources of competitively priced gas supply has created significant consumer demand for Ruby.

Consumer Group Demand

United States natural gas consumption increased between 2006 and 2007 by 6.2% from 21.7 trillion cubic feet (TCF) to 23.0 TCF. (EIA, 2008a) Furthermore, the EIA forecasts that natural gas consumption will increase by nearly 2 TCF by 2015. (EIA, 2008a) Like the rest of the United States, the biggest growth in demand for natural gas on the West Coast and in Nevada is from the electric power generation sector. Ruby recognizes that future electric power generation will also utilize alternative renewable fuels. However, one of the main limitations associated with these renewable alternatives is the ability to dispatch effectively, or the ability to "turn-on" these sources at will to meet demands for electricity. Electricity generation alternatives such as wind or solar power generation are limited by their intermittency. While hydropower is a less intermittent alternative than wind or solar power and is generally affected by seasonal availability, hydropower reliability is still subject to climate meteorological factors. To ensure their reliability, power generators have elected to integrate these alternatives into power generation portfolios that generally include natural gas-fired generation facilities. By doing so, the use of the alternative power generation facilities is maximized while assuring electric power reliability is "backstopped" by natural gas-fired power generation facilities. Furthermore, as the United States continues its transition to alternative power generation, natural gas will serve as a "bridge fuel" to ensure a successful transition to these new-technology power alternatives.

Pacific Northwest

Although Washington is a major net exporter of hydroelectricity, the Pacific Northwest fuels more than 20 percent of its electric generation with natural gas, and the use of natural gas for electricity is expected to increase about 12 percent through 2012. (NWGA, 2008) Between 1998 and 2006, two thirds of new electric generation capacity in the Pacific Northwest was gas-fired and the remainder was wind-powered. Because drought conditions can significantly reduce hydroelectric production, and wind generation is intermittent, the Northwest Power and Conservation Council expects that most new electric generating capacity will be natural gas fired and will serve as a backstop to these electrical power generation alternatives. (State of Washington, Department of Community, Trade, and Economic Development, 2007)

Similarly, demand for natural gas for non-electric-power-generation purposes is also projected to increase. The Northwest Gas Association estimates that natural gas consumption for industrial and end-user consumers will increase about seven percent by 2012. (NWGA, 2008) Longer term projections of natural gas consumption also illustrate

continued growth. A report prepared for the Washington Energy Facility Council anticipates that total natural gas consumption in Washington and Oregon could reach 741 billion cubic feet (Bcf) per year by 2025, an increase in demand of more than 50 percent. (ICF, 2007)

Oregon imports nearly all of its natural gas, with two thirds coming from Canada and one third coming from the Rocky Mountains at this time. More than 1 million people will be living in Oregon by 2030. (OOEA, 2009) Renewable sources of energy are increasingly important, but natural gas will play a key role in ensuring that the region's current and growing energy demand is met. (NWGA, 2007) From a policy perspective, Oregon also has determined that natural gas "will continue to be needed in Oregon in the foreseeable future. It will continue to serve as a fuel which is cleaner than other fossil fuels, as we transition toward a more sustainable energy future."(ODE, 2008)

California

California also expects moderate long term gas consumption growth but expects, in the near term, natural gas demand will be flat to declining. The major area for growth within the state is in the residential sector which is expected to increase at an annual average rate of 0.3%. (CEC, 2008) The largest consumers of natural gas in California are electric power generators which use about half of all natural gas consumed in the state. (CEC, 2008) Overall gas demand for electric generation, however, is expected to be flat for the next 22 years due to efforts to minimize Greenhouse Gas emissions through demand side reductions and customer energy efficiency programs. Natural gas will be the fuel of choice in the electric generation sector for the purpose of load following and backstopping intermittent or seasonal renewable electric power generation, such as hydropower, solar and wind sources. Regionally, natural gas demand in Northern California is projected to grow at an annual rate of 4.6 percent through 2030.

Nevada

The demand in Nevada for natural gas is also largely expected to be driven by electric power generation. Even though Nevada has large geothermal and hydroelectric power generation resources, the majority of electricity in Nevada is generated by coal or natural gas. However, stricter air emission standards and new facility permitting requirements for coal-fired generation facilities will make it increasingly difficult to meet future demand for electric power from coal-fired generation facilities. Such permitting challenges are already evident. For instance, in 2007, the operation of the first 750 megawatt coal unit of the Ely Energy Center was delayed due to permitting problems and the state's utilities have stated that further delays or cancellation of coal-fired power plants are possible. (Ely Times, 2008) The challenges faced by coal-fired electricity generators will make natural gas-fired power generation facilities a more favorable alternative because of their low air

emissions. Thus, natural gas demand will increase as it continues to be the fuel of choice in electricity generation, based on these overriding public policy drivers.

In addition, the construction of a major natural gas pipeline across the northern Nevada will give communities in the vicinity of the Project corridor an opportunity to access a new natural gas source for residential, commercial, or industrial purposes.

Strong Producer Demand for Ruby

The declining Canadian natural gas supply dynamic discussed earlier has been complemented by Rocky Mountain producer demand for more pipeline takeaway capacity. Currently, interstate natural gas pipelines transporting gas out of the Rocky Mountains to regions along the Rocky Mountain Front Range, the Midwest, the Southwest (including Southern California), the Pacific Northwest, and the East Coast, are either fully or nearly fully subscribed and are heavily utilized day-to-day with the most demanding operational period for exports occurring during the summer months when Intermountain West local demand is lowest. High capacity utilization levels on these pipelines and depressed local prices demonstrate that there is insufficient pipeline infrastructure to transport the increasing natural gas supplies out of the Rocky Mountain region. The development of the Project will provide additional necessary "takeaway" or export infrastructure. As reflected by the contract commitments received to date, Ruby will provide producers in the region an additional competitive long-term option to deliver their natural gas supplies to regions that need additional gas supplies in the western United States.

Rocky Mountain Natural Gas Supply

The major production basins that have the ability to supply natural gas to the Opal Hub from the Central Rocky Mountain ("CRM") area include the Big Horn, Wind River, Greater Green River, Overthrust, Uinta, Piceance, Powder River, Paradox, Raton, and Denver Basins. According to a Potential Gas Committee December 31, 2006 report, and an Energy Information Administration ("EIA") December 31, 2007 report, these basins have a combined, total proved and potential most likely resource of 240 Tcf.[2] Natural gas reserves of this size would last for 68 years at current production rates.

EIA data for Colorado, Utah, and Wyoming natural gas production areas show that total proved reserves grew at an annual rate of 10.3% from 22.2 Tcf in 1998 up to 58.0 Tcf in 2007.[3] The rapid increase in proven reserves expected for the Rockies is attributable to increased exploration and exploitation of unconventional gas reserves through the use of new technology. (Navigant Consulting, 2008) With this available resource and all the activity

[2] Refer to Table 1 in Ruby's application Exhibit H, Total Gas Supply Data.
[3] Refer to Figure 1 in Ruby's application Exhibit H, Total Gas Supply Data.

currently planned in the CRM area, there is no reason to believe that this reserve growth trend will not continue into the future.

Production from the CRM area follows a similar trend to that of proved reserves. CRM production has been increasing by an average rate of 6.7% between 1998 and 2007 and 6.5% during the past five years.[4] As a result of these trends, the CRM production increases during this time period amounted to approximately 4,873 MMcf per day.[5] In the same manner, gas well drilling activity continues at a robust pace. Both the resource base and production development plans support projections for robust long-term production growth from the CRM area. According to a report by Wood Mackenzie, an estimated 43,000 gas wells will be drilled between 2006 and 2010 in the Rocky Mountains. (Wood Mackenzie, 2008) The result of this drilling activity will be continued production growth. Ruby forecasts that the CRM area production volumes will increase by 3,424 MMcf/d from 2007 through 2017 under the base case scenario (which fully considers the current economic liquidity crisis and resultant drilling impacts), and by 4,715 MMcf/d during the same period under the high case scenario.[6]

Pipeline Infrastructure

Production growth in the Rocky Mountain supply basins has already supported the construction of a number of pipeline projects including the Kern River pipeline expansions (including Kern River's proposed 2010 Expansion that would add 145,000 Dth per day of capacity), the Cheyenne Plains pipeline, and, most recently, the West and East Rockies Express Expansion ("REX") Projects.[7] Within the past five years, expansion projects have added over 4.5 Bcf/d of takeaway capacity from the region and, as of August 2008, all of the aforementioned pipelines were operating at or near capacity.

Despite the addition of new take-away pipeline infrastructure projects, growth in natural gas production from the Rockies has outpaced the available pipeline capacity. In this environment, natural gas production drives the development of new pipeline capacity infrastructure. This is often referred to as the "producer push" or "supply push" phenomenon. However, natural gas production increases often are realized faster than the timing required for the permitting and development of new pipeline infrastructure projects which results in depressed regional prices. For example, the last two major export pipeline projects

4 Refer to Ruby's application Exhibit H, Total Gas Supply Data.
5 Ibid.
6 Refer to Ruby's application Exhibit H, Total Gas Supply Data.
7 See Kern River's 2003 Expansion Project in Docket No. CP01-422-000 and 2010 Expansion Project in Docket No. CP08-429-000; Cheyenne Plains Gas Pipeline Company, L.L.C.'s Cheyenne Plains Project in Docket No. CP03-302-000, et al., and Cheyenne Plains Expansion Project in Docket No. CP04-345-000; and REX's "Entrega Gas Pipeline Project" in Docket No. CP04-413-000, REX West and East Projects in Docket Nos. CP06-354-000 and CP07-208-000, respectively.

constructed out of the Rockies, Cheyenne Plains Expansion Project and the REX West Project, were both heavily supported by producers. Both projects had initial contract profiles with a majority of producer commitments (62% and 80%, respectively) of the total pipeline capacity. While production area gas prices improved when the pipelines went into service, within months, Rockies prices were once again depressed resulting in a push for additional export projects. Expansions of Cheyenne Plains were completed relatively quickly after the initial project was built.

The recent commissioning of the REX West Pipeline is a good illustration of a "supply push" pipeline which was operating at capacity very quickly after its initial in-service date. When it was placed in-service in early 2008, natural gas exports from the Rockies grew at an unprecedented rate. Conventional wisdom anticipated that the REX West Project would provide several years of growth capacity once constructed. Instead, the export pipelines out of the Rockies operated at a 94 percent load factor during the summer of 2008 (April to October) and all of the export pipelines, including REX, were much more fully used than almost any market participant had previously expected. This pipeline-constrained environment resulted in the Opal or Cheyenne Hub index price trading at more than a $3.00 discount to Henry Hub during this time period. These large pricing disparities across regions illustrate the enormous opportunity cost imposed on Rockies Producers if no new export pipeline is constructed and the enormous value of additional takeaway capacity to those Producers – capacity that will have the effect of better aligning regional pricing with national pricing and that will have the effect of providing the appropriate incentives and market signals for increased production. Because natural gas is a key element in national energy security policies and energy independence, it is in the public interest to ensure that insufficient access to transportation services does not artificially constrain the exploration and production of domestic natural gas.

In the last two years, six major pipeline marketing proposals to construct additional capacity out of the Rocky Mountain region were announced by different pipelines. Of all these solicitations, the Ruby Pipeline Project was able to secure the greatest amount of contract commitments (approximately 1.2 MMDth/d), and it is the only proposed project that has received endorsement from the Public Utilities Commission of California ("CPUC"), by virtue of its approval of PG&E's agreement for transportation service on the Ruby pipeline. Ruby had the most success generating commitments because it timely recognized the need for a new major Rockies greenfield pipeline, proposed a west-flow route before any other, and has aggressively sought contract support and actively undertaken field survey work well ahead of its competition. This favorably positioned Ruby to provide the most timely pipeline alternative for end users in northern California, Nevada, and the Pacific Northwest seeking to diversify their natural gas supply portfolio and for Rocky mountain producers seeking additional takeaway capacity.

Ruby acknowledges that recent financial liquidity concerns and constrained access to capital have led to a moderated natural gas exploration environment. Producers have reduced their capital spending for 2009 and, in general, have reduced drilling programs across the United States, including the Rocky Mountain production areas. Ruby anticipates that such spending cuts may temporarily reduce the number of active rigs in the Rockies. Ruby has concluded, however, that these drilling cutbacks will not result in flat or declining production profiles. (NGI, 2008/2009) Instead, production growth will continue, but the slope of the growth curve will be moderated as drilling is reduced in the near term. The drilling program cuts announced to date have primarily been in the Piceance, Uinta and Raton Basins. Ruby does not expect significant cuts in the prolific Green River basin. The Green River basin offers the lowest drilling cost for unconventional gas production in the United States and will account for the majority of the near-term overall Rockies supply growth. Even with near-term reduced drilling programs in the Rockies, supply growth is still expected to continue, exacerbating the capacity bottleneck that became evident in 2008. Ruby expects drilling activity will "bottom out" in 2009 and will begin to increase thereafter.

Projected Gas Flows for Ruby

Ruby anticipates that it will operate at a high utilization factor as a result of favorable supply pricing at Opal and its anticipated low variable costs. The impact of a pricing advantage and the demand for Rocky Mountain natural gas was illustrated by the level of pipeline utilization experienced when the Rockies Express Pipelines West Project ("REX West") facilities were placed into service. The REX-West segment runs from Cheyenne to interconnections with four interstate pipelines in the mid-continent states. As highlighted above, the pipeline was placed in service on January 12, 2008 and fully utilized its 1.5 Bcf/d capacity in mid-June 2008, roughly 5 months after operation began. The progression from in-service to extremely high utilization was much more rapid than was generally anticipated. Furthermore, all of the gas being transported by the REX-West facilities was incremental supply, which left the existing export pipelines full. The combination of the high export pipeline utilization and the unavailability of additional capacity drove Rockies natural gas prices down over the second half of 2008, demonstrating a need for additional pipeline takeaway capacity.

Based on these dynamics in natural gas supply and demand, Ruby expects it will also operate at a high load factor very quickly following the in-service date and will provide benefits to customer groups in Northern California, Nevada, and the Pacific Northwest through: i) increasing natural gas reliability derived from pipeline infrastructure diversity; ii) increasing optionality in natural gas supply basin access; and, iii) providing pricing advantages resulting from more gas-on-gas competition.

Open Seasons Supporting the Project

Two open seasons have been conducted to solicit support for the Project. The initial open season was held from February 15, 2008 to April 18, 2008, and then extended to September 1, 2008. Ruby held a subsequent open season from September 8, 2008 to September 24, 2008, later extended to October 10, 2008. In response to the open seasons, Ruby executed several precedent transportation agreements with shippers. Currently, the Project would have a design capacity of up to 1.5 MMDth/d. Generally, the shippers on Ruby would receive quantities at or near the Roberson Creek Compressor Station near Opal, Wyoming and would transport their quantities to Malin, Oregon. Shippers will also have the option to deliver their natural gas volumes into the Paiute Pipeline Company and Tuscarora Gas Transmission Company pipeline systems. Currently, Ruby is continuing to market its remaining capacity on its Project.

1.2 Location and Description of Facilities

The Project consists of the following facilities:

- Approximately 675.2 miles of 42-inch-diameter natural gas mainline pipeline,
- Approximately 2.6 miles of 42-inch-diameter natural gas pipeline lateral,
- Ten interconnects located within four measurement facilities,
- Forty-four mainline valves, and
- Four compressor stations.

The maps and diagrams in Appendices 1D and 1E illustrate the location of the various facilities, the general routing of the Project, and the general routes of potential alternatives currently being considered.

1.2.1 Pipeline Facilities

Table 1.2-1 Ruby Pipeline Facilities

Facility	Pipeline Diameter and Type	Milepost	County	State	Approximate Length (miles)
Line No. 300A	42" Mainline	0.0 – 21.2	Lincoln	Wyoming	21.2
	42" Mainline	21.2 – 48.1	Uinta	Wyoming	26.9
				Subtotal WY	**48.1**
Line No. 300A	42" Mainline	48.1 – 73.2	Rich	Utah	25.1
	42" Mainline	73.2 – 101.0	Cache	Utah	27.8
	42" Mainline	101.0 – 230.6	Box Elder	Utah	129.6
				Subtotal UT	**182.6**

Table 1.2-1 Ruby Pipeline Facilities

Facility	Pipeline Diameter and Type	Milepost	County	State	Approximate Length (miles)
Line No. 300A	42" Mainline	230.6 – 396.8	Elko	Nevada	166.2
	42" Mainline	396.8 – 536.0	Humboldt	Nevada	139.2
	42" Mainline	536.0 – 588.2	Washoe	Nevada	52.2
				Subtotal NV	**357.6**
Line No. 300A	42" Mainline	588.2 – 647.4	Lake	Oregon	59.2
	42" Mainline	647.4 – 675.2	Klamath	Oregon	27.7
				Subtotal OR	**86.9**
				Subtotal Mainline	**675.2**
Line No. 301A	42" Lateral	0 – 2.6	Klamath	Oregon	2.6
				Total Length of Pipeline Facilities	**677.8 miles**

Downstream of the first compressor station at Roberson Creek, the line would have a uniform design pressure and maximum allowable operating pressure (MAOP) of 1,440 pounds per square inch gauge (PSIG).

Pipeline design specifications are further discussed in Section 1.11 below.

The pipeline would be designed in accordance with the U.S. Department of Transportation (DOT) Pipeline Safety Regulations, 49 Code of Federal Regulations (CFR) Part 192. Consistent with a recent DOT notice of proposed rulemaking, Ruby would utilize a 0.80 design factor and 0.541 inches nominal wall thickness in most Class 1 Areas.[8] The section of the pipeline upstream of the Roberson Creek Compressor Station would be built using the more traditional 0.72 design factor for Class 1 locations. Ruby would utilize a 0.60 design factor with a nominal wall thickness of 0.721 inches in Class 2 Areas, and a 0.50 design factor with a nominal wall thickness of 0.865 inches in Class 3 Areas if any occur later on the Project. Ruby would utilize Grade X-70 high strength steel manufactured per API 5L. The Project is mainly located in Class 1 locations. Only 1.8 miles of the 675.2-mile route have a DOT classification other than Class 1; these 1.8 miles are also designated as a high consequence area (HCA).[9] There is one 1.0-mile HCA in a Class 1 area, as identified below.

[8] Pipeline classification is based on population density as defined in CFR Part 192. Design factors are specified in CFR 192. However, these are the minimum requirement. In many locations, Ruby would utilize a greater design factor than required.

[9] DOT pipeline safety regulations use the concept of HCAs to identify specific areas where a release from a pipeline could have the most significant adverse consequences. Once identified, operators are required to devote additional focus, efforts, and analysis in HCAs to ensure the integrity of the pipeline. 49 CFR 192.903.

Special design consideration would be given to road crossings, river crossings, fault crossings and any areas with potential for class change in the future that would require heavier wall thickness pipe (i.e., future residential developments).

DOT classifications and designations for the Ruby route are as follows:

Line No. 300A

- MP 0.0 to MP 105.6 Class 1
- MP 105.3 to MP 105.4 Class 2
- MP 105.4 to MP 107.1 Class 3
- MP 107.1 to MP 675.2 Class 1

- MP 105.3 to MP 107.1 HCA
- MP 136.3 to MP 137.3 HCA

Line No. 301A

- MP 0.0 to MP 2.6 Class 1

A description of the activities and surface disturbance associated with aboveground facilities is detailed in Table 1.2-2. All facility locations, staging areas, contractor construction yards, extra workspace locations, and access roads are depicted on aerial alignment sheets and/or topographic quadrangle maps in Appendix 1D and Appendix 1E, respectively.

1.2.2 Aboveground Facilities

1.2.2.1 Compressor Stations

The design for the Project requires four compressor stations. The first station, the Roberson Creek Compressor Station, would be located near the existing Opal Hub in Lincoln County, Wyoming. The quarter-point station, the Wildcat Hills Compressor Station, would be located in western Box Elder County, Utah. The mid-point station, the Wieland Flat Compressor Station, would be located north of the city of Elko in Elko County, Nevada. The three-quarter point station, the Desert Valley Compressor Station, would be located in Humboldt County, northwest of Winnemucca, Nevada.

The Roberson Creek Compressor Station would utilize three electric drive units. Each of these units has a 23,000 horsepower (HP) [International Standards Organization (ISO)] rating. In total, the Roberson Creek Compressor Station would use up to 69,000 HP (ISO).

Table 1.2-2 Ruby Aboveground Jurisdictional Facilities

Facility	MP	County	State	Ownership	Temporary Design Dimension (feet)	Temporary Design Acreage	Temporary Surface Disturbance Attributed to Facility (acres)	Permanent Design Dimension (feet)	Permanent Design Acreage	Permanent Surface Disturbance Attributed to Facility (acres)
Measurement Facility 1	0.0	Lincoln	WY	BLM	500 x 500	5.7		500 x 500	5.7	14.4
Compressor Station and Measurement Facility 2	5.7	Lincoln	WY	BLM	1620 x 1620	60	10.2	1400 x 1250	40	39.4
Compressor Station Site	172.5	Box Elder	UT	State of Utah	1620 x 1620	60	31.5	1000 x 1100	25	23.4
Compressor Station Site	330.1	Elko	NV	Private	1620 x 1620	60	18.1	1000 x 1100	25	25.1
Measurement Facility	437.6	Humboldt	NV	Private	500 x 500	5.7	5.2**	150 x 150	0.5	.5**
Compressor Station Site	476.3	Humboldt	NV	BLM	1620 x 1620	60	33.2	1000 x 1100	25	23.8
Measurement Facility	675.2	Klamath	OR	Private	500 x 500	5.7		500 x 500	5.7	6.1
					Total Disturbance	257.1	98.2		132.1	132.7

** This feature has not been analyzed in GIS to determine disturbance acres in relation to collocated Project features.

The Wildcat Hills Compressor Station would consist of two Solar Mars 100 gas turbine-centrifugal compressor units. In total, this station would have available 30,000 HP (ISO). Under existing site conditions, this station would utilize 16,787 HP.

The Wieland Flat Compressor Station would consist of two Solar Titan 130 gas turbine-centrifugal compressor units. In total, this station would have available 41,000 HP (ISO). Under existing site conditions, this station would utilize 27,004 HP.

The Desert Valley Compressor Station would consist of one Solar Titan 130 gas turbine-centrifugal compressor unit. In total, this station would have available 20,500 HP (ISO). Under existing site conditions, this station would utilize 9,090 HP.

1.2.2.2 Measurement Facilities

Ruby is proposing to install eight interconnects (i.e., receipt and/or delivery points) within four separate measurement facilities. The first measurement facility would be installed within Colorado Interstate Gas Company's King Compressor Station. The second measurement facility would be installed within the Roberson Creek Compressor Station. The remaining two measurement facilities would be installed within their own 500-by-500 foot sites. Site-specific plot/site plans have been developed and are included in Appendix 1C. These plans show permanent acreage as well as temporary acreage required for construction at the facility locations. The facilities and associated surface disturbance are detailed in Table 1.2-2, above.

1.3 Location Maps

A general location of facilities map is included as Exhibit F of this Application. The pipeline route and facilities are shown in more detail as allowed by scale on 11-by-17-inch United States Geological Survey (USGS) topographic maps (Appendix 1E), 1:12,000 scale, and photo-based alignment sheets (Appendix 1D), 1:6,000 scale. The alignment sheets incorporate the civil survey data, facility locations, construction work areas, including extra workspace areas, waterbodies (streams, creeks, and washes), wetlands, landowner parcels, and access roads.

In addition to the meter station plot plans, Ruby is also providing typical drawing for river crossings, hydrostatic test manifolds, and fill and discharge locations under Appendix 1C.

1.4 Land Requirements

Ruby proposes to utilize a 115-foot-wide nominal[10] construction ROW for installation of the 42-inch-diameter pipeline (mainline and lateral) in upland areas. The proposed ROW configurations are provided in Appendix 1C. This ROW width would accommodate large equipment, pipe stringing and set up, welding, the trench, and the temporary storage of topsoil and trench spoil. The construction area for this Project includes the 115-foot nominal construction ROW and acreages associated with aboveground facilities, including access roads and additional temporary workspace.

The Project would result in a total of 4,328.8 acres of permanent (operational) disturbance and an additional 9,681.0 acres of temporary (construction) disturbance. A detailed discussion of the Project land requirements categorized by land use is presented in Resource Report No. 8.

The equipment required for construction of a 42-inch-diameter pipeline includes numerous large trenchers, trackhoes, sidebooms and other tractors in each construction spread. This equipment requires 30 to 55 feet of ROW width for safe operation. Ruby also plans to use automatic welding for the majority of the Project. Automatic welding operations are conducted in portable shelters, commonly referred to as "sheds." The standard width of these sheds is 10 feet, and they are moved by sidebooms in a leapfrog manner during mainline welding operations. Depending on the sideboom used, movement of the sheds could require up to 30 feet of width. Depending on the type of trench excavation equipment used, the ditch width would vary from five to 15 feet or wider in some soils. The trench would be roughly seven feet or greater in depth, depending on site-specific factors such as topography and the crossing of existing utilities and underground infrastructure such as drain tiles.

Pursuant to DOT requirements, the pipeline would have at least 30 inches of cover from the top of the pipe to the natural ground surface in normal soil conditions. Additional depth of cover to address landowner concerns (i.e. agricultural lands) would be determined during the ROW negotiation process. The amount of spoil generated from a trench of this size typically requires 20 to 25 feet of the ROW width for storage on the spoil side. Depending on topsoil segregation requirements, the amount of topsoil generated would typically require an additional 10 to 20 feet of ROW or additional temporary workspace for storage. The additional 10-foot to 20-foot ROW would have landowner approval and environmental clearance prior to use.

[10] Nominal is an industry term that indicates the width of the construction ROW without additional construction workspaces.

As shown on Plan No. 2 in Appendix 1C, an additional 25 feet would be required in areas of heavy timber and significant surface rock. This 25-foot area would not be cleared of existing vegetation. Ruby would obtain landowner approval and would perform environmental clearance for these locations prior to submission to the Commission for authorization. Typical cross-section drawings reflecting workspace requirements are included in Appendix 1C.

As proposed, this Project also would require extra temporary workspace to facilitate construction adjacent to waterbody, road, and railroad crossings; topography constraints; and crossing of other buried utilities. Extra workspaces for staging areas will also be used to place pipe in reasonable proximity to the construction ROW prior to stringing that pipe along the ROW. Extra workspaces may also be required for staging of large mechanical equipment. A preliminary description of all required extra temporary workspace locations is summarized in Resource Report No. 8.

1.4.1 Access Roads

Ruby would use existing public and private roads to access the construction corridor and staging areas. Currently, there are no plans for construction of new access roads. Post construction access to aboveground facilities would utilize existing access roads and/or the pipeline ROW. Measurement facilities would be either located within existing permanent facilities or accessed by existing roads. If Ruby determines that new access roads are necessary, Ruby would complete the required analysis and secure the necessary approvals prior to use.

Resource Report No. 8 contains a summary of access roads that would be used for the Project. Public roads requiring no improvements have not been included in this analysis.

Ruby's goal is to leave access roads in their present or a slightly improved condition. For roads needing improvement, Ruby may grade or conduct maintenance no wider than 30 feet. In a few isolated locations, Ruby may require extra grading to allow for adequate turning radius. This additional grading would fall outside the 30-foot-wide road ROW. The proper authorizations and clearances would be obtained prior to grading. All temporary road impacts would be restored to their pre-construction condition to the extent practicable as provided in the Reclamation Plan. For all roads requiring improvements, 25 feet on either side of the road have been surveyed for biological and cultural resources. Any unavoidable disturbance outside of the road's original footprint would be re-contoured and seeded with an appropriate seed mix. Ruby would coordinate with landowners or land management agencies to reclaim any two-track roads that are disturbed back to their original width. Ruby is currently in the process of securing authorization for the use of access roads. Ruby will continue to coordinate with the Bureau of Land Management (BLM), U.S. Fish and Wildlife Service (USFWS), and private landowners (along with other permitting agencies) prior to using such roads.

1.4.2 Survey Monuments

Ruby is committed to protecting all survey monuments found within the ROW. Survey monuments include, but are not limited to, General Land Office and BLM Cadastral Survey Corners, reference corners, witness points, U.S. Coastal and Geodetic benchmarks and triangulation stations, military control monuments, and recognizable civil (both public and private) survey monuments. In the event of disturbance of any of the above, Ruby will immediately report the incident. Where General Land Office or BLM ROW monuments or references are disturbed during construction or operations, Ruby will secure the services of a registered land surveyor or a BLM cadastral surveyor to restore the disturbed monuments and references using surveying procedures found in the Manual of Surveying Instructions for the Survey of the Public Lands in the United States, latest edition. Ruby will record such survey in the appropriate county. If the BLM cadastral surveyors or other federal surveyors are used to restore the disturbed survey monument, Ruby will be responsible for the survey cost.

1.5 Construction Procedures

Facilities would be designed, constructed, operated, and maintained in compliance with the Natural Gas Pipeline Safety Act of 1968, as amended, and 49 CFR Part 192, as administered by the DOT. During all phases of this Project, the applicable requirements of the Occupational Safety and Health Act would be followed. The requirements set forth in the aforementioned acts have been or will be provided to Ruby's employees engaged in the planning, construction, maintenance, and operation of the Project and would be provided to all of Ruby's construction contractors and environmental inspectors. These employees and contractors have been or would be instructed to follow these requirements, as applicable, when planning, installing, and operating the facility.

Detailed construction methods are presented in Appendix 1B of this report which contains a draft of Ruby's Plan of Development (POD) that will be filed with the BLM as part of Ruby's ROW application. The following items are included in the POD:

- Spill Prevention Control and Countermeasure Plan;
- Hydrostatic Testing and Discharge Plan;
- Upland Erosion Control, Revegetation, and Maintenance Plan (Ruby's Plan);
- Reclamation Plans;
- Wetland and Waterbody Construction and Mitigation Procedures (Ruby's Procedures);
- Major Waterbody Crossing Plans;
- Noxious and Invasive Weed Control Plan;
- Special Status Species Conservation Measure Plan;
- Unanticipated Discoveries Plan for Cultural Resources;
- Paleontological Resources Monitoring Plan;

- Fire Prevention and Suppression Plan;
- Blasting Plan;
- Fugitive Dust Control Plan; and,
- Transportation Plan.

Throughout the permitting process, various regulatory agencies, including the Federal Energy Regulatory Commission (FERC) and the BLM may require additional resource protection measures. These additional measures would be finalized prior to construction and detailed in the BLM POD or other applicable federal and state permits.

Unless otherwise specified by the landowner or land managing agency, specifications in the POD will be implemented along the entire length of the Project as a general construction document.

1.5.1 Environmental Compliance

Ruby would implement an environmental compliance program for the Project. The Ruby inspection and oversight personnel, including environmental inspectors and the construction contractor, would receive copies of all applicable environmental permits, plans, and procedures as well as any conditions agreed to by Ruby and relevant landowners.

Further, the construction contractor would receive any Project-specific alterations to FERC's standard Plan and Procedures as approved by the appropriate agencies, including FERC (Ruby's *Plan and Procedures*, Appendix 1B). Ruby's proposed alterations are shown at the appropriate location in the text of the Plan or the Procedures, in ***bold, italicized*** print. Additional information on particular construction methodology that does not change the meaning of the Plan or the Procedures has been included at the appropriate location in the text, but is shown only in **bold print**.

The construction contractor also would be provided with detailed and specific environmental procedures and drawings to ensure compliance with the FERC requirement for this Project as it relates to notification requirements issued, mitigation measures approved by FERC, and other related environmental permits.

1.5.2 Pipeline Construction

Standard pipeline construction techniques would be employed along the pipeline route. Those techniques typically involve the following sequential operations: fencing, clearing and grading, ditching, stringing and bending, welding, joint coating, lowering and backfilling, hydrostatic testing, and cleanup and restoration. Typical drawings depicting standard construction techniques are provided under Appendix 1C and would be used unless conditions warrant special methods described later in this section.

The Project would also require the crossing of multiple public roadways, canals, and railroads. Specialized techniques for waterbody crossings are discussed in Resource Report No. 2. Ruby would minimize impacts to paved roadways and railroads by utilizing an appropriate crossing method.

1.5.3 Staking the Construction ROW

Prior to any construction-related activities, survey crews would stake the outside limits of the construction ROW, the centerline of the pipeline trench, and temporary workspace areas with color-coded flagging. Sensitive areas to be avoided would be flagged, as appropriate, and wetland boundaries would be clearly delineated using easily identifiable temporary signage. Before construction begins, One-Call systems for the various states would be contacted so that buried utilities could be identified and flagged by the facility owners. Ruby would also work with the owners of the foreign facilities to develop a parallel construction work plan agreement that would have specific safety-related procedures regarding construction near third-party lines.

1.5.4 Clearing and Grading

Vegetation would be cleared and the construction corridor would be graded, as needed, to provide safe and efficient operation of construction equipment. Space would be provided for temporary storage of spoil material and segregated topsoil. The width of the construction corridor would be restricted to avoid undue surface disturbance to adjacent resources. The construction corridor boundaries are the limits of the temporary workspace and would be clearly staked or flagged. No disturbance would be allowed beyond the ROW limits unless previously approved.

In most cases topography (side hill, cut and fill areas, irrigated lands) will dictate when ROW vegetation is left in place or removed. Soil conditions (rutting, loose, sandy, limited topsoil, etc.) will also help to determine how the ROW area will be prepared for construction.

When grading is required, trees, brush, and shrubs within the construction corridor would be cut or scraped at or near the ground level. Low brush would be scraped up and stored with the topsoil. The brush/topsoil mixture would be spread back over the ROW during restoration. Timber and larger brush such as juniper would be stored adjacent to the ROW and placed on the ROW during final clean-up. Slash would either be spread back across the ROW, chipped and spread on the ROW, removed from the ROW, or burned subject to landowner or land management agency approval and applicable law. All clearing activities will utilize access roads and ROWs permitted for the Project.

The construction area would be graded to create a suitable work surface for construction vehicles. The terrain along the Project varies from relatively flat and even to steep with significant side slopes. Substantive cutting of terrain would not be performed unless required.

For construction across all federally-managed lands (other than in wetlands), Ruby will enforce a 4-inch rutting standard when topsoil is present. When soil compaction and rutting exceed 4-inches, Ruby is proposing to either postpone construction activities at those locations until conditions improve, remove up to 12" of topsoil prior to resuming the ROW construction activities, or stabilize the ROW to avoid rutting (e.g., with timber riprap, prefabricated equipment mats, or terra mats).

To the extent rutting occurs on privately owned agricultural land during construction, Ruby will restore such affected areas at the time restoration activities are performed. Should rutting exceed 12 inches in depth and increase the potential for the mixing of topsoils with subsoils, construction activities could continue so long as the rutted area is covered with an adequate volume of new weed-free topsoil during the restoration of the right-of-way. Topsoiling procedures are discussed in Resource Report No. 7.

In any areas where replacement of topsoil is required as a result of rutting, Ruby will replace such topsoil with topsoil from a local source acceptable to the landowner or land management agency, or provide soil amendments, such as fertilizers or manure, again with approval of the landowner or land management agency.

Fences crossed by the construction corridor would be braced, cut, and temporarily fitted with a gate to permit passage of construction equipment while maintaining current livestock barriers and to help prevent unauthorized public access. Approximately 20 feet of temporary additional work space is required on each side of the specified construction work space to allow the fencing crews to construct the temporary fence bracing. During construction, the opening would be controlled as needed to prevent undesired passage. Upon completion of construction activities, existing fences would be replaced, braces left in place, and in some cases, gates permanently installed.

The Project would employ Ruby's Plan and Procedures to minimize erosion during construction. The following general measures would be implemented as appropriate:

- Minimize the quantity and duration of soil exposure;
- Protect critical areas during construction by reducing the velocity of water and redirecting runoff as appropriate;
- Install and maintain erosion control measures during construction;
- Establish vegetation as soon as possible following final grading; and
- Inspect the ROW and maintain erosion control as needed until final stabilization is achieved.

The cleared construction corridor would be used for access during construction. After construction, the ROW would be used to access the route for inspections and maintenance, as needed.

1.5.5 Trenching

Excavation of the pipeline trench would follow clearing and grading of the ROW. The majority of the excavation would be accomplished using machinery such as ditching machines, backhoes, or rippers.

Ruby will consult with landowners and land management agencies to determine the best approach for topsoil segregation that will provide for successful reclamation. The results of these discussions and consultations will be incorporated into the POD and will constitute Ruby's commitment to specific construction and restoration techniques. In areas where segregation of topsoil is required, such as in pasture land, agricultural land, and in residential areas, topsoil and subsoil would be separated using a two-pass excavation process, provided topsoil is present. The first cut would be a shallow excavation that removes the topsoil. The topsoil would then be stockpiled for later replacement. The second cut would be a deeper excavation that removes and stockpiles the subsoil on the spoil side of the trench. The trench would then be excavated to a sufficient depth to provide the minimum depth of cover required by the DOT, allowing for at least 30 inches of cover between the top of the pipe and the final land surface after backfilling. Hay bales or silt fences may be used to contain soil piles and prevent erosion during construction, as appropriate.

Subject to the availability of the material in the affected states, Ruby is committed to using weed-free hay or straw bales or other suitable material, such as corn husks, throughout construction. In cases where weed-free material is not available, Ruby will work with respective agencies, including the BLM and Natural Resource Conservation Service (NRCS), to ensure a suitable alternative is used.

Where topsoil exists and segregation is required, no more than 12 inches of topsoil would be segregated. The native seed base is contained in the top 12 inches of topsoil. Removal of deeper topsoil would dilute this seed base and slow the return of native vegetation. Further, most soils along the Project are between six and 12 inches in depth.

Separation of salvaged topsoil and subsoil would be maintained throughout all construction activities. Additionally, segregated topsoil may not be used for padding the pipe.

Ruby anticipates that approximately 50 miles of ditch per construction spread would be open at any one time during construction. The duration a trench would be left open would be minimized to the extent practicable; local agency construction requirements would be adhered to. Due to the difficulty of excavating the trench in rocky soils, an extension of the local construction

requirements regarding open trenches may be necessary. Typically crossovers and exit ramps for wildlife and livestock would be located to coincide with identified wildlife and livestock crossings, existing roadways, and tie-in locations. Crossovers consist of gaps in the trench, spoil piles, and pre-welded pipe. These crossovers and exit ramps would be installed at intervals not to exceed 2,500 feet. Additional information regarding wildlife impact mitigation measures is included in Resource Report No. 3.

Any crossing of foreign pipelines would generally require the Ruby pipeline to be buried at greater depths, consistent with applicable DOT regulations. Where practicable, at least 12 inches of clearance would be maintained when crossing foreign pipelines, cables, or other similar structures.

1.5.6 Stringing, Bending, Inspection

The steel pipe sections that would be used for the pipeline would be brought to the construction ROW in 40- to 80-foot lengths. Stringing trucks would transport the pipe joints to the ROW, observing permitted load restrictions on county roads and state and federal highways. The stringing trucks would travel along the ROW and string the individual pipe joints on temporary supports (skids) along the working side of the trench in preparation for subsequent bending (as necessary), line-up, welding, field weld coating, lowering-in, backfill, and associated inspection activities.

The majority of the pipe would be delivered in straight sections. Some factory-bent pipe also may be delivered to specific Project locations. A hydraulic pipe-bending machine would be used on site to conform sections or joints to ground contours and directional changes in the pipeline alignment. Any required pipe bending would be completed prior to pipe lineup and welding.

After the pipe is bent, the pipe segments would be strung end-to-end and clamped into position. The pipeline then would be welded in conformance with 49 CFR Part 192, Subpart E, "Welding of Steel Pipelines," and API 1104 "Standard for Welding Pipelines and Related Facilities" (latest edition). Ruby would utilize an automatic welding technique done in portable shelters, commonly referred to as "sheds." The standard width of these sheds is 10 feet which would be moved by sidebooms in a leapfrog manner during the mainline welding operations. Welds would be inspected in conformance with DOT requirements. Any welding defects would be repaired or removed as required by the specified regulations and standards. All pipeline welds would be non-destructively tested.

Field welds would be coated with fusion-bonded epoxy or other approved coating in accordance with Ruby’s approved coating procedures. Before the pipeline is lowered into the trench, it would be inspected visually and mechanically, and any coating defects would be repaired.

1.5.7 Pipe Lowering-In

Once the coating operation has been completed, the pipeline would be lowered into the trench. Side boom tractors would be used to lift the pipe, position it over the trench, and lower it in place. The pipeline and trench would be inspected to verify that minimum cover is provided, that the trench is free of rock or debris, that external pipe coating is not damaged, and that the pipe is properly fitted and installed into the trench.

Trench dewatering may be necessary at certain times during the lowering-in process. Any trench dewatering would be accomplished in a manner designed to prevent heavily silt-laden water from flowing into wetlands or waterbodies.

1.5.8 Padding and Backfilling

After the pipe is lowered into the trench, the trench would be backfilled. Previously excavated materials would be pushed back into the trench using bladed equipment, backhoes, or auger type backfilling machines. Backfill material generally consists of the material excavated from the trench. Padding or other protective coating would be used to prevent damage to the pipe coating. This padding would typically consist of subsoil removed from the trench that has been screened to remove larger rocks. Alternatively, other suitable material (e.g., soil or sand) may be imported to the site. Topsoil would not be used for padding. In agricultural lands and other areas where the topsoil has been segregated, trench subsoil would be placed in the trench first and the topsoil placed on top of the trench subsoil. Following backfilling, Ruby would feather any excess ditch spoil across the construction corridor.

1.5.9 Trench Compaction Techniques

In active irrigated crop land where compaction is required, Ruby would require its contractor to use a proven compaction procedure to ensure that the trench would not settle. Following construction activities, Ruby would backfill the trench to the top of the pipe and would then utilize water to compact the soil around the newly installed pipeline. Ruby would continue with lifts of soil, water compacting or mechanically compacting each layer until the trench is completely backfilled. In non-irrigated areas, a heavy rubber-tired piece of equipment would wheel-compact the backfill several times during the final grade. Permits for certain areas such as road crossings may require mechanical compaction. In the unlikely event that ditch settlement occurs, Ruby would regrade the settled areas. Ruby is committed to working with affected landowners and land management agencies to restore the ROW to pre-construction conditions. Additional details regarding land restoration are provided in Resource Report No. 7.

1.5.10 Clean-up and Restoration

After backfilling is complete, disturbed areas would be final graded and erosion control measures would be implemented. The erosion control measures used would be in accordance with Ruby's *Plan and Procedures* and other applicable federal, state, and local agency requirements. Final cleanup would typically involve a series of steps including off-site waste disposal and equipment

removal. A revegetation plan would be implemented to the reasonable satisfaction of the individual landowners or in accordance with applicable federal, state, and local regulations. Non-cultivated lands would be reseeded as soon as possible to minimize erosion. If seasonal or weather conditions are not favorable, revegetation would be delayed until favorable conditions exist. In the interim, the ROW would be stabilized, including mulching or seeding with a sterile annual grass. Revegetation would be accomplished in a manner compatible with preconstruction and adjacent vegetation patterns, in accordance with 18 CFR 380.15 and FERC guidelines.

To the extent possible, streambeds would be returned to their preconstruction contours, and stream and river banks would be restored to their preconstruction condition and re-vegetated in accordance with Ruby's Procedures (Appendix 1B). Periodic aerial and ground inspections of the ROW would be conducted, and further restoration measures would be implemented if necessary.

Fences and other existing infrastructure would also be returned to their pre-construction condition as approved by landowners and/or land managing agencies.

Unless otherwise required by the landowner or land management agency, Ruby will restore all areas as close as practicable to their pre-construction condition with the exception of the aboveground facilities described in Section 1.2.2.

1.5.11 Hydrostatic Testing

Both the mainline and the lateral would be hydrostatically tested before being placed into service to verify their integrity and to ensure their ability to operate at the MAOP. Hydrostatic test water would be obtained in compliance with state regulations and existing water rights. Topography and the availability of test water would determine the length of each test segment. Pipeline test segments would be capped and filled with water, then pressurized in accordance with DOT regulations (49 CFR Part 192). Any leaks detected would be repaired and that section of pipeline re-tested.

Upon completion of the test, the water may be pumped to the next segment for testing, or discharged. The test water would ultimately be discharged in accordance with the National Pollutant Discharge Elimination System (NPDES) hydrostatic discharge permit requirements, as administered by the individual states. Only clean pipe would be tested and no chemicals would be added. Once a pipe segment has been successfully tested and dried, the test cap and manifold would be removed and that section of the pipe would be connected to the remainder of the tested pipeline. Preliminary locations of test water fill sites and discharge sites have been identified and are provided in Ruby’s Hydrostatic Test Plan as identified on Project alignment sheets and topographical maps found in the appendices to this report. Water would be discharged through energy dissipating devices (e.g., hay bale filters, sediment bags) where necessary to control erosion and sedimentation.

1.5.12 Special Construction Procedures

Construction across the following features -- roads and railroads, wetlands and waterbodies, residential/commercial/industrial areas, pipelines, and rugged terrain -- would involve special construction techniques as described below.

1.5.12.1 Road and Railroad Crossings

Construction of pipelines across major paved highways, railroads, and paved and unpaved roads where traffic cannot be interrupted would be accomplished by boring under the roadbed. Most smaller unpaved roads and drives would be crossed by open trenching and then restored to pre-construction or better condition. If an open-cut road requires extensive construction time, provisions would be made for detours or other measures to permit traffic flow during construction. Ruby is proposing to work with landowners to determine the best way to cross privately owned roads. Ruby would also repair road damage caused by construction of the pipeline. The pipeline would be buried to the depth required by applicable road crossing permits/approvals and would be designed to withstand anticipated external loadings. Railroad crossings would be installed (typically using a bore) in accordance with the requirements of the railroad.

1.5.12.2 Wetland Crossings

Wetlands would be crossed following the methods outlined in Ruby's Procedures, Section 2.4.7.2 in Report No. 2, and Section 3.4.7.2 in Report No. 3. These wetland construction methods are briefly outlined below. During clearing, sediment barriers, such as silt fence or staked straw bales, would be installed and maintained adjacent to all wetlands and within additional temporary workspace areas as necessary to minimize the potential for sediment runoff. Sediment barriers would be installed across the full width of the ROW and extra workspaces at the base of slopes adjacent to wetland boundaries.

The method of pipeline construction used in the wetland would depend largely on the stability of the soils at the time of construction. Where wetlands are saturated and the trench fills with water, the pipeline segment could be assembled in an upland area and installed using the push-pull or float technique.

Where wetland soils are stable enough to support the pipe, it would be assembled in a manner similar to conventional construction techniques. The amount of time that the excavated ditch is kept open would be minimized, as conditions allow, reducing the effect on wetlands. For those wetlands occurring in actively cultivated or rotated cropland, construction would progress using techniques similar to conventional upland cross-country construction.

The construction ROW may be used for access when the wetland soil is firm enough to support equipment or the construction ROW has been appropriately stabilized (e.g., with timber rip-rap, prefabricated equipment mats, or terra mats). In wetlands that cannot be appropriately

stabilized, construction equipment other than that needed to install the wetland crossing would use access roads located in upland areas. In areas where no reasonable access exists, construction equipment would be permitted one pass through the wetland using the construction ROW. The top one foot of topsoil would be segregated from the trench area, except where standing water is present or soils are saturated or frozen. Segregated topsoil would be immediately restored to its original location after backfilling is complete.

Restoration of wetland contours to pre-construction levels would be accomplished during backfilling. Prior to backfilling, trench breakers would be installed where necessary to prevent the subsurface drainage of water from the wetland. Ruby will monitor and record the success of wetland revegetation annually for a minimum of three years after construction or until wetland revegetation is successful. Refer to Appendix 1C for typical drawings detailing wetland crossing methodologies.

Ruby's Procedures include several mitigation measures designed to minimize the overall effects of the Project on wetlands.

1.5.12.3 Conventional Open-Cut Waterbody Crossings

The open-cut crossing method is discussed in Ruby's Procedures and in Resource Report No. 2, Section 2.4.1 and Report No. 3, Section 3.4.7.1. These crossings would involve excavation of the pipeline trench across the waterbody, installation of the pipeline, and backfilling of the trench with no effort to isolate flow from construction activities.

Excavation and backfilling of the trench would be accomplished using backhoes or other excavation equipment working from the banks of or in the waterbody. Trench spoil would be stored at least 10 feet from the banks (topographic conditions permitting) or within temporary workspace placed at least 50 feet from the water's edge. A section of pipe long enough to span the entire crossing would be fabricated on one bank and either pulled across the bottom to the opposite bank, floated across the stream, or carried into place and submerged into the trench. The trench would then be backfilled and the bottom of the watercourse and banks restored and stabilized. Sediment barriers, such as silt fencing, staked straw bales, or trench plugs, would be installed to prevent spoil and sediment-laden water from entering the waterbody from adjacent upland areas.

1.5.12.4 Dry Waterbody Crossings

A "dry-ditch" crossing method is appropriate discussed in Ruby's Procedures and in Resource Report No. 2, Section 2.4.1 and Resource Report No. 3, Section 3.4.7.1. A flumed crossing involves installation of a temporary dam and a flume pipe to divert the entire stream flow over the construction area and allow for trenching of the crossing in dry or nearly dry conditions. Dams would be constructed of sand bags alone, sand bags with plastic sheeting, inflatable bladders, or similar materials to direct the flow into the flume pipe. Spoil removed during the trenching would

be stored at least 10 feet away from the water's edge (topographic conditions permitting) or within temporary workspace placed at least 50 feet from the water's edge. A section of pipe long enough to span the entire crossing would be fabricated on one bank and slipped under the flume pipe to the opposite bank. The trench would be backfilled and the bottom of the watercourse and banks restored and stabilized before the flume pipe and dams are removed. Sediment barriers, such as silt fencing, staked straw bales, or trench plugs would be installed to prevent spoil and sediment-laden water from entering the waterbody from adjacent upland areas.

The dam-and-pump dry-ditch crossing method would involve damming the stream with sandbags or equivalent materials on both sides of the construction work area and pumping the stream flow around the construction zone. Excavation of the trench, installation of the pipeline, and restoration would be similar to that described above for the flumed crossing.

1.5.12.5 Horizontal Directional Drill Crossings

Horizontal directional drill (HDD) is a method by which a pipeline is installed beneath obstacles or sensitive areas. Typically during this process there is minimal disturbance of the ground surface between the entry and exit points of the HDD. The feasibility and length of pipeline that can be installed by HDD depends upon such factors as access to the entry and exit points, subsurface conditions (geology), and pipe diameter.

An HDD is a multi-stage process, consisting of establishing a small diameter pilot hole along a crossing profile, followed by enlargement of the pilot hole (reaming) to accommodate pullback of the pipeline. The pilot hole is drilled using rotation cutting and/or jetting with a jetting assembly attached to the drill pipe. The cutting action of the drill head is remotely operated to control its orientation and direction. Bentonite drilling fluid (bentonite, a non-toxic, naturally occurring sedimentary clay, is composed of weathered and aged volcanic ash) is delivered to the cutting head through the drill string to provide the hydraulic cutting action, lubricate the drill bit, help stabilize the hole and remove cutting spoil as the drilling fluid is returned to the entry point. Drilling fluid is also used during the reaming process to remove cutting spoil. The position of the drill string is electronically monitored and directional corrections made as necessary to ensure that the drill string maintains the desired alignment.

Enlarging the pilot hole is an incremental process accomplished with one or more reaming passes, depending on the pipeline diameter and subsurface geology, to increase the hole diameter. Upon successful completion of the reaming operation, a cylinder shaped swab is pulled through the hole to ensure the integrity of the completed hole and prepare for pullback of the pipe. The pre-assembled section of pipeline is then pulled into the completed hole.

Ruby recognizes that HDD is not a fail-safe crossing methodology. As a result, Ruby would evaluate each crossing with the appropriate agencies to develop site-specific crossing methodologies. Typical stream crossings methods are attached under Appendix 1C.

1.5.12.6 Bored Crossings

Where traffic cannot be interrupted, major highways and railroads would be bored. Some waterbodies may also be bored. Boring involves pushing the pipe through a hole below the waterbody, road, or railroad. A bore pit is dug on one side of the crossing and a receiving pit is dug on the other side of the crossing, and both are then graded so that the bore is at the proper elevation for installation of the pipe. A boring machine is then lowered to the bottom of the bore pit and placed on supports. The machine cuts a shaft under the crossing using a cutting head mounted on an auger. The pipeline is then pushed through behind the auger.

1.5.12.7 Residential Areas

Currently, there are no residences located within 100 feet of the proposed Project ROW. Should modifications to Ruby's ROW result in the ROW being within 100 feet of any residence, Ruby would implement specialized construction techniques in such areas. This would include notifying landowners prior to construction and arranging work hours to take landowners' needs into consideration. During construction, the edge of the work area along any residences would be fenced for safety purposes to a distance of 100 feet on either side of the residence. Dust minimization techniques would be used on site, and all litter and debris would be removed daily from the construction work area. Mature trees and landscaping would be preserved to the extent possible while ensuring the safe operation of construction equipment. Site-specific construction drawings depicting the temporary and permanent ROW and noting special construction techniques would be prepared for residential structures within 50 feet of the construction area.

1.5.12.8 Commercial/Industrial Areas

Impacts on commercial and industrial areas (which include existing natural gas facilities and other utility infrastructure) would be limited to the construction and post-construction restoration periods when construction activities could inconvenience business owners, employees, and customers. Ruby would maintain close coordination with business owners to maintain access, decrease construction duration, and generally minimize impacts.

1.5.12.9 Foreign Pipeline Crossings

In accordance with DOT regulations and specifications, where the Project crosses existing pipeline facilities, it would be installed at an appropriate depth to meet soil cover and separation requirements, whether crossing under or over these existing facilities. Temporary extra workspace would be required at foreign pipeline crossings to accommodate the increased excavation depths and minimize placing the spoil or construction equipment over existing pipelines.

1.5.12.10 Rugged Terrain

Rugged topography is encountered throughout the Project. Where severe side slopes are encountered, the upslope side of the construction ROW would be cut during grading. The

material removed from the cut would be used to fill the downslope edge of the ROW to provide a safe and level surface from which to operate heavy equipment. Side hills may require additional temporary workspace to accommodate fill material. During grade restoration, spoil would be placed back in the cut and compacted to restore original contours. Any springs or seeps found in the cut would be carried downslope using restoration techniques such as the installation of drainpipes and/or gravel French drains. The final determination of the most appropriate method to ensure downhill flow of groundwater seeps or springs in sidehill situations would be made in the field during construction.

1.5.12.11 Blasting

Since subsurface rock that cannot be excavated using mechanical means would likely be encountered, Ruby has determined that blasting for ditch excavation may be necessary. In such areas, care would be taken to prevent damage to underground structures (e.g., cables, conduits, and pipelines) or to springs, water wells, or other water sources in accordance with all applicable regulations. Blasting mats or soil cover would be used as necessary to prevent the scattering of loose rock. Any blasting would be conducted during daylight hours and would not begin until occupants of nearby residences, buildings, stores, places of business, or ranchers and farmers had been notified.

Ruby's blasting contractor will develop a Project-specific Blasting Plan in accordance with the procedures outlined above, industry accepted standards and any applicable local permit requirements.

1.5.13 Aboveground Facility Construction

Typical construction activities associated with compressor stations are summarized below. General construction activities and storage of construction materials and equipment would be confined to areas within the approved compressor station construction sites. Debris and wastes generated from construction would be disposed of appropriately. Installation of the meter stations would meet the same standards and requirements established for the compressor stations and pipeline construction.

1.5.13.1 Foundations

Excavation would be performed as necessary to accommodate the reinforced concrete foundations required for the new compressor units. Forms would be set, rebar installed, and the concrete poured and cured in accordance with applicable standards. Concrete pours would be randomly sampled to verify compliance with minimum strength requirements. Backfill would be compacted in place, and excess soil would be used elsewhere or distributed around the site.

1.5.13.2 Compression Equipment

The compression equipment would typically be shipped to the site by truck after construction commences. The compressors would be offloaded and when ready for installation, positioned on the foundation, leveled, grouted, and secured.

1.5.13.3 Piping

All pipe connections associated with the new compressors that are not flanged or screwed would be welded. All welders and welding procedures would be qualified in accordance with 49 CFR Part 192, as administered by the DOT. All welds in gas piping systems would be verified by a non-destructive testing method to ensure compliance with code requirements.

1.5.13.4 Hydrostatic Testing

All components in high-pressure natural gas service would be pressure tested prior to being placed into service. Before being placed in service, all controls and safety equipment and systems, including emergency shutdown, relief valves, gas and fire detection, engine overspeed, and vibration would be checked or tested.

1.6 Operation and Maintenance

Ruby would operate and maintain the Project facilities in compliance with the Natural Gas Pipeline Safety Act implementing regulations contained in 49 CFR Part 192, as administered by the DOT. The standards imposed are in accordance with the Natural Gas Pipeline Safety Act of 1968, as amended.

During all phases of this Project, the applicable requirements of the Occupational Safety and Health Act would be followed. The requirements set forth in the aforementioned Acts have been or will be provided to Ruby's employees engaged in the planning, construction, maintenance, and operation of the Project and would be provided to all of Ruby's construction contractors and environmental inspectors. These employees and contractors have been or would be instructed to follow these requirements, where applicable, when planning, installing, and operating the facility.

1.7 Future Plans and Abandonment

Throughout the Project area, the number of natural gas consumers is increasing and Ruby, in conjunction with its customers, would continually evaluate options to serve these regions further. If expansions or other facility modifications to expand service were needed in the future, Ruby would seek appropriate regulatory approvals at that time, including any certificate of public convenience and necessity that might be required by FERC. Future expansion plans are not currently specified beyond the facilities described in this document. The Project would proceed regardless of the development of any future expansions. Additionally, there are no plans to

abandon any facilities proposed to be constructed for this Project at this time. When facilities are abandoned, Ruby would comply with all local, state, and federal requirements.

1.8 Permits and Approvals

Table 1.8-1 lists the environmental permits and approvals required for the Project. Names and addresses for the permitting agencies are located in Appendix 1A.

Table 1.8-1 Environmental Permits and Approval

Responsible Agency	Permit/ Approval/ Consult	Regulated Activity	Approval Process	Timing Issues	Comments
Federal Permits/Approvals/Consultations Applicable to Entire Route					
FERC	Certificate of Public Convenience and Necessity	Construction and operation of a natural gas pipeline.	Submit application for a Certificate of Public Convenience and Necessity.	Certificate issued after ESA Section 7 consultation and NHPA Section 106 consultation. If consultations are complete, certificate issued approximately 30 days after final EIS is issued.	
	Lead federal agency for NEPA Compliance	Major federal actions significantly affecting the quality of the human environment.	Prepare NEPA EIS for pipeline project and address environmental issues for ROW grant, Section 404 permit, and other federal actions.	Pre-application and application preparation determine schedule. Draft EIS to be issued approximately 2-3 months after the filing of the application.	
	Lead federal agency for NHPA compliance	Federally funded, licensed or permitted undertakings that may affect historic properties.	Take into account effects to historic properties, consult with SHPOs and Indian Tribes and afford the ACHP reasonable opportunity to comment.	Section 106 process must be completed prior to start of construction.	
EPA	Review of NEPA EIS	Authority to review and comment on EIS; can appeal to Council on Environmental Quality.	EPA review of EIS.		

Table 1.8-1 Environmental Permits and Approval

Responsible Agency	Permit/ Approval/ Consult	Regulated Activity	Approval Process	Timing Issues	Comments
	Clean Air Act Permits and Approvals	Emissions from stationary sources of air pollution.	See States.	See States.	
	Clean Water Act Section 401 Water Quality Certification	Certification from state that discharge complies with state water quality certification.	See States.	See States.	Certification needed for Section 402 and Section 404 permits.
	Clean Water Act Section 402 Permits for Wastewater or Stormwater Discharges	Discharge of pollutants into waters of the United States from a point source.	See States.	See States.	Stormwater permit will be obtained through appropriate jurisdictional authority.
BLM	Mineral Leasing Act ROW Grant and Temporary Use Permit	Pipeline ROWs across federal lands.	Application for ROW and Temporary Use Permit. Plan of Development required.	At least 60 days. Conclusion of NEPA process, ESA Section 7 consultation, and NHPA Section 106 consultation required.	Single ROW application may be filed for federal lands administered by both USFS and BLM.
	Federal Land Policy and Management Act RMP Amendments	Determine whether ROW grant complies with RMPs.	Amend RMP through NEPA process, if necessary.	Completed during NEPA process.	Dept. of Defense consultation required if amendment to Box Elder RMP is necessary.
	Archeological Resources Protection Act (ARPA)	Permit required for intentional excavation or archeological resources on public lands	Qualified archeologist may apply to the land manager for permit.	If harm to an Indian religious or cultural site will result, must notify interested tribes at least 30 day prior to permit issuance.	

Table 1.8-1 Environmental Permits and Approval

Responsible Agency	Permit/ Approval/ Consult	Regulated Activity	Approval Process	Timing Issues	Comments
USFWS	Endangered Species Act - Section 7 Consultation	Protection of T&E species.	FERC submits biological assessment to USFWS.	Consultation carried out in conjunction with NEPA process. Formal consultation must be concluded within 90 days of initiation and USFWS must issue its biological opinion 45 days after the conclusion of formal consultation and prior to issuance of certification, ROW and other federal approvals.	If Project may adversely affect T&E species, biological opinion must be issued prior to issuance of federal approvals and authorizations. Conditions provided in the biological opinion may require a reroute of the pipeline or other Project modifications.
	Fish and Wildlife Coordination Act Consultation	Conserve and protect wildlife resources when stream modification or channel diversion is required.	Full compliance with NEPA process.		
	Migratory Bird Treaty Act Protective Measures	Avoid take of migratory bird species.	FERC consultation with USFWS during NEPA process.		

Table 1.8-1 Environmental Permits and Approval

Responsible Agency	Permit/ Approval/ Consult	Regulated Activity	Approval Process	Timing Issues	Comments
	Bald and Golden Eagle Protection Act Protection Measures	Avoid take of bald and golden eagles.	FERC consultation with USFWS during NEPA process. Potential permitting if Bald and Golden Eagle Protection Act permit regulations are finalized.		
USACE	Clean Water Act Section 404 & Section 10 Rivers and Harbors Act	Discharge of dredged or fill material into wetlands or waters of the United States.	Submit pre-construction notice for construction under nationwide permit or apply for an individual permit. Submit drawings showing the location of wetlands and waterbody crossings and identify the type of construction method for each crossing.	Conclusion of NEPA process, ESA Section 7 consultation, and NHPA Section 106 consultation required. Processing takes 3 to 4 months.	Some USACE districts have joint application with state agencies.
USFS	National Forest Management Act LRMP Amendments	Determine whether ROW grant complies with LRMPs.	Amend LRMP through NEPA process, if necessary.	Completed during NEPA process.	
	Special Use Permits	Special use authorization on USFS lands.	USFS agreement with BLM to issue ROW across USFS lands.	Coordinated with BLM ROW grant.	Special use authorization will likely be satisfied by USFS agreement with BLM to issue ROW across BLM and USFS lands.
USBOR	Approval / Consult – Temporary Right-of-Way Use Permit for the access roads and Concurrence to the BLM ROW Grant	Special use authorization on Reclamation lands.			
FHWA	Federal Highway Administration Encroachment Permits	Crossing of federally funded highways.	See States.	See States.	

Table 1.8-1 Environmental Permits and Approval

Responsible Agency	Permit/ Approval/ Consult	Regulated Activity	Approval Process	Timing Issues	Comments
ACHP	NHPA Section 106	Federally funded, licensed or permitted undertakings that may affect historic properties	ACHP comment on adverse effects to historic properties,	Section 106 process, including resolution of any adverse effect, must be completed prior to start of construction.	
NRCS	Consultation	Protection of sensitive soil resources and prime or unique farmlands.	Notification during the NEPA scoping and public comment periods.	Completed during the NEPA process.	No permit required. Provide guidance on weed control, erosion control, and ROW restoration.
BATFE	Explosive Users Permit	Use of explosives.	Types, location, and use of explosives.	Three months approval from time of application.	May be acquired by the construction contractor.
DOT	Natural Gas Pipeline Safety Act Program	Administer national regulatory program to ensure safe transportation of natural gas.	See States.	See States.	
FCC	Licensed for Fixed Microwave Stations	Siting and use of microwave communication towers.		Three months approval from time of application.	
Indian Tribes[11]	NHPA Section 106	Federally funded, licensed, or permitted undertakings that may affect historic properties of religious or cultural significance to identified Indian tribes.	Consultation with Indian Tribes		
WYOMING					
State Permits and Approvals*					

[11] No Indian tribe has yet asked to be a cooperating agency under NEPA. For a complete list of the federally recognized Indian tribes that have been identified as potentially interested in the Project, please see Resource Report No. 4.

Table 1.8-1 Environmental Permits and Approval

Responsible Agency	Permit/ Approval/ Consult	Regulated Activity	Approval Process	Timing Issues	Comments
Wyoming Game and Fish Department; Natural Heritage Program	Sensitive Species Consultation	Potential impacts to sensitive species.	No permit required, but consultation is requested.	Approval obtained as part of FERC filing process.	
Wyoming State Historic Preservation Office	NHPA Section 106	Federally funded, licensed or permitted undertakings that may affect historic properties in Wyoming.	Review and comment on Project activities potentially affecting cultural resources.		
Wyoming DEQ, Water Quality Division	Clean Water Act Section 401 Water Quality Certification	Water quality certification.	Request for certification submitted by USACE for Section 404 permits.		Under nationwide Section 404 permit, certification is provided for Class 2, 3, and 4 waters.
	Section 402 Wastewater Discharge Permit	Hydrostatic test water discharge and other temporary discharges.	NOI submitted to WY DEQ – form available online; if approved, DEQ will send a facility certification form.		
	Stormwater Discharge Permit	Construction/ Stormwater discharges.	File application for general state stormwater permit, including NOI and SWPPP.	At least 30 days. prior to construction	
Wyoming DEQ, Air Quality Division	Construction Air Permit	Minor and major source construction permits.	Application for construction permit.	Approximately 90 to 120 days for a construction permit. Possibly longer if there is significant public interest.	
	Operating Air Permit (major sources)	Minor and major source operation permits.	Application for operating permit (if major source).		Operating permit only required for major sources.
Wyoming DOT	Traffic Management	Consultation concerning traffic management during construction activities.		Required, if construction activities occur near state highways.	

Table 1.8-1 Environmental Permits and Approval

Responsible Agency	Permit/ Approval/ Consult	Regulated Activity	Approval Process	Timing Issues	Comments
	Utility License	Construction of utility facilities across streets, roads, and highways under DOT jurisdiction.	File license application and/or enter License Agreement.		
	Road Crossing and Oversized Load Permit	Transportation of oversize, over length, and/or overweight loads.	Need to contact the DOT State Patrol Division to obtain clearance.		
Office of State Lands and Investments Board of Land Commissioners	Roadway/Non-Roadway Easements	Issuance of easements across state lands.	Roadway application. Non-roadway application.		
Lincoln County Planning Office	Zoning and Development Permit	Development in "rural" and "mixed" zoning districts.	Application Form. Site Plan. Pre-application process. Copy of deed and easements or permission from landowner.	Pre-application process. Completeness determination in 7 days. Decision 14 days after complete application.	Comprehensive Plan was adopted Nov. 2006.
	Oil and Gas Permit	Development of gas transmission lines on federal or state land.			Permits lapse if development does not begin within one year.
	Building Permit				
	Driveway Access Permit				
Uinta County Planning Office	Zoning and Development Permit	Development in "rural" and "mixed" zoning districts.	Application Form. Site Plan. Pre-application process. Copy of deed and easements or permission from landowner.	Pre-application process. Completeness determination in 7 days. Decision 14 days after complete application.	Comprehensive Plan was adopted Nov. 2006.
	Oil and Gas Permit	Development of gas transmission lines on federal or state land.			Permits lapse if development does not begin within one year.
	Building Permit				
	Driveway Access Permit				

Table 1.8-1 Environmental Permits and Approval

Responsible Agency	Permit/ Approval/ Consult	Regulated Activity	Approval Process	Timing Issues	Comments
UTAH					
State Permits and Approvals					
Utah DEQ, Division of Air Quality	Air Construction Permit (if necessary)	Air quality impacts during construction of source.	Application includes a Notice of Intent.	Submit before starting construction of source.	There is an exemption for small sources.
	Air Operating Permit (if necessary)	Air quality impacts during operation of source.	Application includes a Notice of Intent.	Submit before starting operation of source.	
	Dust Control Plan	Monitor fugitive emissions and fugitive dust.	Comply with general fugitive emissions standards.		
Utah DEQ, Division of Water Quality	Clean Water Act Section 401 Water Quality Certification	Water quality certification.	Request to be submitted by agency issuing Section 402 or 404 permits.		
	Section 402 permit for Wastewater Discharge	Hydrostatic test water discharge and other temporary discharges.	Submit a Notice of Intent (general permit application) to the Division of Water Quality.	Apply at least 30 days prior to discharge.	
	Stormwater Discharge Permit	Construction/ Stormwater discharges	Submit NOI and develop SWPPP.		
	Groundwater Quality Protection Permit	Discharge of hydrostatic test water from pipeline to land surface.	Apply for protection permit.		
Utah Dept. of Natural Resources, Division of Water Rights	Stream Channel Alteration Permit	Alteration of bed or banks of a natural stream.	Construction method for crossing each stream, duration, dewatering procedures, and erosion control measures.	Likely 30 to 45 days.	State Engineer's Office has entered a joint permitting program with the USACE to issue Section 404 approvals through the State Stream Alteration Program.

Table 1.8-1 Environmental Permits and Approval

Responsible Agency	Permit/ Approval/ Consult	Regulated Activity	Approval Process	Timing Issues	Comments
Utah State Historic Preservation Office	NHPA Section 106	Federally funded, licensed or permitted undertakings that may affect historic properties in Utah.	Review and comment on Project activities potentially affecting cultural resources.		
Dept. of Natural Resources, Division of Wildlife Resources	Sensitive Species Consultation	Protection of state sensitive species.	Conducted through NEPA scoping process.	Concurrent with NEPA process.	
Department of Natural Resources, Division of State Lands; State and Institutional Trust Lands Administration; and Department of Forestry	ROW Across State Lands	Grant ROWs across state lands.	File application for easement and execute easement within 60 days of agency approval. Post a bond.		Applications for ROWs across DSL and SITLA lands are nearly identical.
Utah DOT	Statewide Utility License Agreement and License Bond	Development in Utah DOT ROWs. Utilities located within Sate Highway ROWs.	Enter into Statewide Utility License Agreement with DOT. Post bond as part of agreement. Obtain encroachment permit containing terms and conditions pertaining to construction and maintenance activities.		
Local – Rich County					
Rich County Planning and Zoning	Zoning Approval	All construction activities.	Notarized application form.	Deadline of 4 weeks before commission meeting.	EIS would facilitate the county review of the Project.
Local – Cache County					

Table 1.8-1 Environmental Permits and Approval

Responsible Agency	Permit/ Approval/ Consult	Regulated Activity	Approval Process	Timing Issues	Comments
Cache County Fire Department	Consultation	Construction activities with a potential for fire hazard.	Property information and Project information.	Needed for permit/zone clearance.	
Cache County Planning and Zoning	Zoning Approval	All construction activities.	Notarized application form.	Deadline of 4 weeks before commission meeting.	EIS would facilitate the county review of the Project.
Local – Box Elder County					
Box Elder County Planning Department	Construction Permit	Construction activities in Box Elder County.	Filing fee. Plat map. Parcel map with Project area outlined in red. Detailed Project plan.	Approved by the County Commission. Approval/denial must be determined 45 days after commission meeting.	
NEVADA					
State Permits and Approvals					
Nevada Department of Wildlife	Protected Wildlife Species Permit	Capturing, removing, or destroying animals on state's protected list requires a permit	Consultation through NEPA process. Obtain special permit if necessary.		
Nevada Dept. of Conservation and Natural Resources, Division of Wildlife	Protected Wildlife Species Permit	Capturing, removing, or destroying animals on state's protected list requires a permit.	Consultation through NEPA process. Obtain special permit if necessary.		
Nevada Dept. of Conservation and Natural Resources, Division of Forestry	Protected Plant Species Permit	Removal or destruction of protected species of native flora.	Consultation through NEPA process. Obtain special permit if necessary.		
Division of Environmental Protection, Bureau of Air Pollution	Air Construction Permit	Air quality impacts during construction of emissions source.	Calculate potential emissions and apply for permit to construct.	Apply 90 days prior to construction activities.	

Table 1.8-1 Environmental Permits and Approval

Responsible Agency	Permit/ Approval/ Consult	Regulated Activity	Approval Process	Timing Issues	Comments
Control	Air Operating Permit	Air quality impacts during operation of emissions source.	Apply for permit to operate		
	Surface Area Disturbance Permit	Control of fugitive dust.	Apply for surface area disturbance permit and complete Disturbance Fugitive Dust Control and Process Equipment Emission Control Plan.	60-70 days.	
Division of Environmental Protection, Bureau of Water Pollution Control	Clean Water Act Section 401 Water Quality Certification	Water quality certification.	Request generally sent by agencies issuing Section 402 and 404 permits.		
	Section 402 permit for Wastewater Discharge	Hydrostatic test water discharge and other temporary discharges.	Submit NPDES application.		
	Stormwater Discharge Permit (if required)	Construction/ Stormwater discharges.	Submit NOI and SWPPP.	File for general permit no later than 2 days prior to date of construction.	
	Temporary Work in Waterways and Dewatering Permits	Work within, next to, or immediately adjacent to live streams or waterbodies.	File permit application, including a description of the Project and details of work plan.		
Nevada Historic Preservation Office	NHPA Section 106	Federally funded, licensed or permitted undertakings that may affect historic properties in Nevada.	Review and comment on Project activities potentially affecting cultural resources.		

Table 1.8-1 Environmental Permits and Approval

Responsible Agency	Permit/ Approval/ Consult	Regulated Activity	Approval Process	Timing Issues	Comments
NEVADA					
State Permits and Approvals					
Nevada DOT	Occupancy Permit	Development in a state ROW.	Application must include details on the location of proposed encroachment and traffic impacts.		Does not substitute for approval by any local government.
Local – Elko County					
Elko County Planning and Zoning	ROW Permit	Construction of utility rights-of-way.	Project descriptions, plans, drawings, and mitigation.		
Local – Humboldt County					
Humboldt County Building and Safety Department	Building Permit	Building permits.	Project plan approval and permit application.		
Humboldt County Planning Department	Special Use/Conditional Use Permit	Development projects in specified zones.	Conditional Use Permit.		
Local – Washoe County					
Washoe County Building and Safety Department	Building Permit	Building permits.	Project plan approval and permit application.		
Washoe County Planning Department	Special Use/Conditional Use Permit	Development projects in specified zones.	Conditional Use Permit.		
OREGON					
State Permits and Approvals					
Oregon DSL	Removal-Fill Permit	Removal or fill of materials in waters of the state.	Complete Joint Permit Application Form for state removal-fill permit and Section 404 permit.	DSL will forward on the joint application form to DEQ, ODFW, and local land use authorities. DSL has 90 days from deeming a Joint Permit Application Form complete to issue or deny a permit (completeness determinations must be completed within 30 days).	Jurisdiction shared jointly with USACE.

Table 1.8-1 Environmental Permits and Approval

Responsible Agency	Permit/ Approval/ Consult	Regulated Activity	Approval Process	Timing Issues	Comments
	State Land and Waterway Easement (if necessary)	Easements to cross state-owned land, including streams and rivers.	Single easement application.	60 days.	Pipeline is not proposed to cross state-owned lands, but may cross state waterways.
Oregon DEQ	CWA Section 401 Water Quality Certification	Water quality certification.	Section 404/Removal-Fill application forwarded to DEQ for certification.	Section 401 certification to be issued prior to federal agency action. Statutory requirement to issue it within one year of DEQ's receiving a complete application.	Individual certification may be unnecessary because DEQ has pre-certified NWP 12, although agency retains discretion to require an individual 401 certification.
	Section 402 permit for Wastewater Discharge	Hydrostatic test water discharge and other temporary discharges.	Submit written application or apply for general permit.	NPDES permit prior to construction – at least 180 days before NPDES permit is needed.	
	Construction Stormwater Discharge Permit	Construction/ Stormwater discharges arising from disturbance of more than .1 acre.	Register under general permit or obtain individual permit.	At least 60 days before a permit is needed.	
	Water Pollution Control Facility Permit	Land application of water used in hydrostatic testing of pipeline.	Apply for Water Pollution Control Facility general permit or individual permit.		
Oregon State Historic Preservation Office	NHPA Section 106	Federally funded, licensed or permitted undertakings that may affect historic properties in Utah.	Review and comment on Project activities potentially affecting cultural resources.		

Table 1.8-1 Environmental Permits and Approval

Responsible Agency	Permit/ Approval/ Consult	Regulated Activity	Approval Process	Timing Issues	Comments
Department of Parks and Recreation	Archeological Excavation Permit	Excavation, or alteration of an archeological site on, or removal of a historic or archeological object from, public lands in Oregon.	Apply for archeological excavation permit for any ground disturbing activity that may affect known or unknown archeological resources.	Approximately 30 days	
Oregon Department of Fish and Wildlife	Sensitive Species Consultation	Protection of sensitive species.	Request incidental take permit if necessary. Consult with ODFW.	Concurrent with NEPA process.	
	Fish and Wildlife Habitat Mitigation Recommendations	Implement Oregon's fish and wildlife habitat policy.	ODFW makes mitigation recommendations during NEPA process.		
	In water Blasting Permit	Use of explosives in waters of the state.	File application for in-water blasting permit.		
	In water Timing Guidelines	Time periods for in water work.	Follow recommended guidelines if possible.		
ODA	Endangered Plant Species Consultation	Take of T&E species on non-federal public lands.	Consult with ODA.	Concurrent with NEPA process.	
Oregon DOT	Utility Permit	Development in state highway ROWs and properties under the jurisdiction of the DOT.	File permit application and sign approved permit.		
Local – Lake County					
Lake County Planning Commission	Land Use Permit	Development in "A2 Agricultural" Zone.	Description and parcel information.		Lake County has both a zoning ordinance and a comprehensive plan.
Local – Klamath County					
Klamath County Planning Commission	Land Use Permit	Development in "A2 Agricultural" Zone.	Description and parcel information.		Klamath County has both a zoning ordinance and a comprehensive plan

* Note that the Natural Gas Act may preempt certain state and local permitting requirements or authorizations.

Table 1.8-1 Environmental Permits and Approval

Responsible Agency	Permit/ Approval/ Consult	Regulated Activity	Approval Process	Timing Issues	Comments

Key:
BATFE = Bureau of Alcohol, Tobacco, Firearms, and Explosives
BLM = Bureau of Land Management
DEQ = Department of Environmental Quality
DOT = Department of Transportation
DSL = Department of State Lands
EIS = Environmental Impact Statement
EPA = United States Environmental Protection Agency
ESA = Endangered Species Act
FCC = Federal Communication Commission
FERC = Federal Energy Regulatory Commission
LRMP = Land and Resource Management Plan
NEPA = National Environmental Policy Act
NHPA = National Historic Preservation Act
NOI = Notice of Intent
NPDES = National Pollutant Discharge Elimination System
NRCS = Natural Resource Conservation Service
ODFW = Oregon Department of Fish and Wildlife
RMP = Resource Management Plan
ROD = Record of Decision
ROW = ROW
SHPO = State Historic Preservation Office
SITLA = State Institutional and Trust Lands Administration
SWPPP = Storm Water Pollution Prevention Plan
T&E = Threatened and endangered
USACE = Army Corps of Engineers
USBOR = United States Bureau of Reclamation
USDA = United States Department of Agriculture
USFS = United States Forest Service
USFWS = United States Fish and Wildlife Service

1.9 Auxiliary and Non-Jurisdictional Facilities

Pursuant to Section 2.55(a) of the FERC's Regulations, 18 CFR 2.55(a), certain facilities Ruby proposes to construct to facilitate the operation of the Project design are exempt from authorization under Section 7(c) of the Natural Gas Act. While these facilities are a part of the Project, these facilities would be auxiliary installations that would serve the purpose of obtaining more efficient or more economical operation of the Ruby pipeline transmission facilities. These facilities include: valves, pig launchers/receivers,[12] yard and station piping, communications equipment, and buildings. Even though these facilities are auxiliary in nature, Ruby is providing the following information solely for informational purposes and to facilitate the Commission's NEPA review for the entire Project.

1.9.1 Launchers/Receivers

Launcher and receiver facilities would be installed along the pipeline route to accommodate Ruby's pipeline integrity operation, as detailed in Section 1.11. The Project would include the installation of 11 launchers and 10 receivers. These facilities are detailed in Table 1.9-1.

1.9.2 Communication Facilities

Ruby intends to automate all of its measurement facilities and mainline block valves, to the extent practicable, enabling facilities to transmit operating data to Ruby's existing gas control facility in Colorado Springs, Colorado. Ruby intends to utilize satellite-based services for the required data transport. Each site would require a two-meter dish and the electronics for the communication with Colorado Springs. Ruby would utilize a combination of solar, wind, or commercial power depending on availability for these sites. In addition to the satellite sites, Ruby

[12] Facilities used to send and receive pipeline telemetry and cleaning devices (referred to as "pigs") to measure and report on the physical characteristics of the pipe over time and to clean the inside of the pipe.

would construct five new towers, one at each compressor site and one at the Ruby Elko Office site. These facilities would be used for local control and two-way radio communications within the compressor station yards.

1.9.3 Mainline Valves

A total of 42 mainline valves would be located along the pipeline as described in Table 1.9-1. Eight-foot-high chained-link fence enclosures measuring 75 by 100 feet would be installed around each valve assembly that is not enclosed within a measurement facility or compressor station. The fenced enclosures would be contained within the limits of the permanent ROW.

Table 1.9-1 Ruby Aboveground Auxiliary Facilities

Facility Description	MP	County	State	Owner-ship	Temporary Design Dimension (feet)	Temporary Design Acreage	Temporary Surface Disturbance Attributed to Facility (acres)**	Permanent Design Dimension (feet)	Permanent Design Acreage	Permanent Surface Disturbance Attributed to Facility (acres)**
MLV 1 Launcher (to be installed within the existing CIG King Compressor Station site)	0.0	Lincoln	Wyoming	BLM	500 x 500	5.7*	0.0	500 x 500	5.7*	14.4
MLV 2 Launcher / Receiver (to be installed at the Roberson Creek Compressor Station)	2.6	Lincoln	Wyoming	BLM	300 x 500	3.4*	2.5	125 x 320	0.9*	0.1
MLV 3	21.1	Uinta	Wyoming	Private	115 x 200	0.5	0.0	75 x 100	0.2	0.1
MLV 4	39.5	Uinta	Wyoming	BLM	115 x 200	0.5	0.0	75 x 100	0.2	0.1
MLV 5	55.1	Rich	Utah	Private	115 x 200	0.5	0.0	75 x 100	0.2	0.1
MLV 6	73.3	Cache	Utah	Private	115 x 200	0.5	0.0	75 x 100	0.2	0.1
MLV 7	92.2	Cache	Utah	State of Utah (DNR)	115 x 200	0.5	0.0	75 x 100	0.2	0.1
MLV 8 Launcher / Receiver	102.9	Box Elder	Utah	Private	300 x 500	3.4	0.7	125 x 320	0.9	2.0
MLV 9	108.6	Box Elder	Utah	Private	115 x 200	0.5	0.0	75 x 100	0.2	0.1
MLV 10	127.4	Box Elder	Utah	Private	115 x 200	0.5	0.0	75 x 100	0.2	0.1
MLV 11	144.6	Box Elder	Utah	Private	115 x 200	0.5	0.0	75 x 100	0.2	0.1
MLV 12	161.1	Box Elder	Utah	Private	115 x 200	0.5	0.5	75 x 100	0.2	0.1
MLV 13 Launcher / Receiver (to be installed at the Wildcat Hills Compression Station)	172.5	Box Elder	Utah	State of Utah	300 x 500	3.4*	0.9	125 x 320	0.9*	0.1

Table 1.9-1 Ruby Aboveground Auxiliary Facilities

Facility Description	MP	County	State	Owner-ship	Temporary Design Dimension (feet)	Temporary Design Acreage	Temporary Surface Disturbance Attributed to Facility (acres)**	Permanent Design Dimension (feet)	Permanent Design Acreage	Permanent Surface Disturbance Attributed to Facility (acres)**
MLV 14	190.6	Box Elder	Utah	BLM	115 x 200	0.5	0.0	75 x 100	0.2	0.1
MLV 15	209.7	Box Elder	Utah	State of Utah	115 x 200	0.5	0.0	75 x 100	0.2	0.1
MLV 16	222.3	Box Elder	Utah	BLM	115 x 200	0.5	0.0	75 x 100	0.2	0.1
MLV 17	239.1	Elko	Nevada	Private	115 x 200	0.5	0.0	75 x 100	0.2	0.1
MLV 18 Launcher / Receiver	257.4	Elko	Nevada	BLM	300 x 500	3.4	2.1	125 x 320	0.9	0.6
MLV 19	275.8	Elko	Nevada	BLM	115 x 200	0.5	0.0	75 x 100	0.2	0.1
MLV 20	295.0	Elko	Nevada	Private	115 x 200	0.5	0.0	75 x 100	0.2	0.1
MLV 21	311.0	Elko	Nevada	Private	115 x 200	0.5	0.0	75 x 100	0.2	0.1
MLV 22 Launcher / Receiver (to be installed at the Wieland Flat Compressor Station)	330.1	Elko	Nevada	Private	300 x 500	3.4*	0.0	125 x 320	0.9*	0.0
MLV 23	345.7	Elko	Nevada	Private	115 x 200	0.5	0.0	75 x 100	0.2	0.1
MLV 24	364.1	Elko	Nevada	Private	115 x 200	0.5	0.0	75 x 100	0.2	0.1
MLV 25	383.6	Elko	Nevada	Private	115 x 200	0.5	0.0	75 x 100	0.2	0.1
MLV 26 - Launcher/Receiver	403.5	Humboldt	Nevada	BLM	300 x 500	3.4	2.1	125 x 320	0.9	0.6
MLV 27	421.0	Humboldt	Nevada	Private	115 x 200	0.5	0.0	75 x 100	0.2	0.1
MLV 28	437.4	Humboldt	Nevada	Private	115 x 200	0.5	0.0	75 x 100	0.2	0.1
MLV 29	456.9	Humboldt	Nevada	BLM	115 x 200	0.5	0.0	75 x 100	0.2	0.1
MLV 30 Launcher / Receiver (to be installed at the Desert Valley Compressor Station)	476.3	Humboldt	Nevada	BLM	300 x 500	3.4*	0.0	125 x 320	0.9*	0.0
MLV 31	493.2	Humboldt	Nevada	BLM	115 x 200	0.5	0.0	75 x 100	0.2	0.1
MLV 32	509.7	Humboldt	Nevada	BLM	115 x 200	0.5	0.0	75 x 100	0.2	0.1
MLV 33 - Launcher/Receiver	528.7	Humboldt	Nevada	BLM	300 x 500	3.4	2.1	125 x 320	0.9	0.6

Table 1.9-1 Ruby Aboveground Auxiliary Facilities

Facility Description	MP	County	State	Owner-ship	Temporary Design Dimension (feet)	Temporary Design Acreage	Temporary Surface Disturbance Attributed to Facility (acres)**	Permanent Design Dimension (feet)	Permanent Design Acreage	Permanent Surface Disturbance Attributed to Facility (acres)**
MLV 34	547.8	Washoe	Nevada	Private	115 x 200	0.5	0.0	75 x 100	0.2	0.1
MLV 35	567.1	Washoe	Nevada	BLM	115 x 200	0.5	0.0	75 x 100	0.2	0.1
MLV 36 - Launcher/Receiver	581.9	Washoe	Nevada	BLM	300 x 500	3.4	2.1	125 x 320	0.9	0.6
MLV 37	601.1	Lake	Oregon	BLM	115 x 200	0.5	0.0	75 x 100	0.2	0.1
MLV 38	614.2	Lake	Oregon	Private	115 x 200	0.5	0.0	75 x 100	0.2	0.1
MLV 39	627.8	Lake	Oregon	Private	115 x 200	0.5	0.0	75 x 100	0.2	0.1
MLV 40	643.0	Lake	Oregon	Fremont National Forest Service	115 x 200	0.5	0.0	75 x 100	0.2	0.1
MLV 41	658.1	Klamath	Oregon	BLM	115 x 200	0.5	0.0	75 x 100	0.2	0.1
MLV 42 Receiver Separation Facilities	675.2	Klamath	Oregon	Private	500 x 500	5.7*	0.0	500 x 500	5.7*	6.1
MLV 301-1	Line No. 301 MP 0.0	Klamath	Oregon	Private	Included in MLV 42 Site	0.0	0.0	Included in MLV 42 Site	0.0	0.0
MLV 301-2	Line No. 301 MP 2.6	Klamath	Oregon	Private	115 x 200	0.5	0.0	75 x 100	0.2	0.0
Total Disturbance							12.8			26.6

* The temporary and permanent surface disturbance for this facility is accounted for in the surface disturbance totals provided for the associated compressor station and are reflected in Table 1.2-2.

** The temporary and permanent surface disturbance for mainline valves and launcher/receiver facilities overlaps the nominal construction ROW--these disturbance areas are reported with the ROW construction.

1.9.4 Contractor Yards

Contractor construction yards would be needed during the construction phase of the Project for the storage and staging of pipe as it is being strung along the ROW as well as for parking tractors, trucks, and other construction equipment.[13] Ruby has identified potential locations for contractor yards. As shown on Table 1.9-2, Ruby plans to use five contractor yards. The locations of the yards currently identified by Ruby are contained in Resource Report No. 8. Approximately 220.9 acres of land would be used temporarily for contractor yards. If any new contractor construction yards are identified after the issuance of a certificate order, approval would be obtained from the landowner or land management agencies, and such yards would be surveyed for listed species, wetlands, and cultural resources, as required. The information would then be provided to FERC's Director of Office of Energy Projects for review and approval prior to use.

Table 1.9-2 Land Requirements for Contractor Construction Yards

Contractor Construction Yards	County	State	Section/Township Range	Temporary Surface Disturbance Attributed to Facility (acres)*
Pipeline Construction				
Construction Yard	Uinta	WY	S30, T16N, R120W	32.2
Construction Yard	Box Elder	UT	S24, T10N, R3W	36.4
Construction Yard	Elko	NV	S11, T37N, R62E	39.3
Construction Yard	Elko	NV	S8, T34N, R55E	34.4
Construction Yard	Humboldt	NV	S21, T36N, R38E	78.6
Measurement Facilities				
Yard No. 1	Lincoln	WY	S28, T21N, R114W	0**
Yard No. 2	Lincoln	WY	S24, T20N, R115W	0**
Yard No. 3	Humboldt	NV	S13, T42N, R13E	5.7***
Yard No. 4	Klamath	OR	S11, T41S, R12E	0**
Compressor Stations				
Roberson Creek	Lincoln	WY	S24, T20N, R115W	10.2
Wildcat Hills	Box Elder	UT	S16, T12N, R11W	31.5
Wieland Flat	Elko	NV	S28/29, T39N, R53E	18.1

[13] Within this resource report, Ruby uses as interchangeable terms "pipeline stringing/staging yards" and "storage/staging yards" to reflect land use areas utilized for construction stringing and staging activities. "Pipeline stringing/staging yards" may also refer to the associated construction activities of housing temporary office facilities, parking large equipment and employee vehicle parking.

Table 1.9-2 Land Requirements for Contractor Construction Yards

			Section/Township	
Desert Valley	Humboldt	NV	S24, T41N, R33E	33.2
			Total Acreage	**319.6**

* The temporary and permanent surface disturbance for mainline valves and launcher/receiver facilities overlaps the nominal construction ROW--these disturbance areas are reported with the ROW construction.

** This workspace is included in the 60-acre construction sites required for the compressor station.
*** Acreage for this feature reflects total disturbance not additional disturbance.

1.9.5 Construction of Upstream and Downstream Non-Jurisdictional Facilities

Only minor upstream and/or downstream non-jurisdictional facilities associated with the Project would be constructed by other parties. Ruby anticipates that the only upstream facilities constructed would be minor interconnection metering and station piping facilities. This includes relatively short lengths of interconnecting pipe of up to 1,000 feet in length which may be installed at the receipt metering facilities. Similar to upstream activities, minor interconnecting pipe and metering facilities would be installed by downstream parties. Ruby has been informed by PG&E that it would hot tap both of its mainlines, and install (1) approximately 1,000 feet of pipe to connect PG&E facilities to Project facilities at the California/Oregon border; (2) block valves; (3) over-pressure protection; (4) check valves, if necessary; (5) radio and antenna for equipment communication purposes, as necessary; and (6) other appurtenant equipment, as needed. All of the PG&E facilities would be located in California.

Additionally, electrical power line facilities would be constructed to provide power to the Roberson Creek Compressor Station. Rocky Mountain Power would design and construct an approximate 5.5-mile electric transmission line to serve the Ruby Roberson Creek Compressor Station. The power line and the related components would be ready to provide electrical service to the Roberson Creek Compressor Station prior to the scheduled in-service date. Other than the above-described facilities, there are no additional, currently identified, non-jurisdictional facilities associated with this Project.

1.9.6 Four-Factor Test Application

Section 380.12(c)(ii) of the FERC's regulations requires that an application address four enumerated factors and indicate which ones, if any, indicate the need for the FERC to do an environmental review of project-related non-jurisdictional facilities. As described below, none of the factors require FERC's review of the Project's non-jurisdictional facilities.

1. The regulated activity is not "merely a link" in a corridor-type project.

The regulated activity is a westward expansion of interstate pipeline infrastructure that is designed to provide natural gas to Northern California, the Pacific Northwest and Nevada. Therefore, the Project is not merely a link in a corridor type project.

2. The non-jurisdictional facility does not "uniquely determine the location and configuration of the regulated activity."

   The location of the regulated facilities determines the relative location and configuration of the non-jurisdictional facilities described above. Therefore, the non-jurisdictional facilities do not determine the location of the regulated facilities.

3. The entire Project is not within the FERC's jurisdiction.

   Construction of the upstream and downstream pipeline facilities and the electrical facilities that will supply power to the Roberson Creek Compressor Station are non-FERC regulated activities. The non-jurisdictional facilities will undergo their separate environmental review that will be conducted by state agencies with jurisdiction over those facilities.

4. The cumulative federal control and responsibility of the interstate natural gas-related facilities proposed in this application.

   The non-jurisdictional facilities to be constructed as a part of this Project are outside the FERC's control and responsibility. No facilities fall under the jurisdiction of state agencies.

Based on this analysis, Ruby submits that the facts here are comparable to those facing FERC in Algonquin Gas Transmission Company, 56 FERC ¶ 61,255 (1992). In that case, FERC found that it was not necessary to examine the environmental impact of non-jurisdictional facilities that were being constructed and that would utilize the pipeline's proposed facilities. Consistent with its decision in that case, FERC need not include the aforementioned non-jurisdictional facilities within this review when it evaluates the environmental impact of the Project.

1.10 Land Jurisdiction for the Project

Ruby has identified approximately 354 landowners and land management agencies that may be affected by the Project. Table 1.10-1 provides a summary of land jurisdiction by percentage crossed by the Project. Ruby would provide Project notification to all directly affected and abutting landowners within three business days following the date that the FERC issues a notice of application. Ruby would also publish notice of the filing of the Application in daily or weekly newspapers of general circulation across the Project area no later than 14 days after FERC assigns a docket number to the Application. In addition, within

three business days of the date a docket number is issued, a copy of the Application would be placed in public libraries located within the Project area. Attached in Appendix 1A is a list containing the names and addresses of the affected landowners, federal permitting agencies, government officials, and Indian Nations.

Table 1.10-1 Summary of Land Jurisdiction

Jurisdiction	Percentage
Federal	61
State	2
Municipal	0.5
County	0.5
Private	36
Total-	**100**

1.11 Safety and Reliability

The Project facilities would be operated, maintained, and inspected in accordance with DOT safety standards, and pursuant to the General Terms and Conditions of Ruby's FERC Gas Tariff. Ruby has integrated the following design features, construction techniques and operational procedures into its Project that would ensure pipeline facilities meet or exceed required safety standards.

Design Features

- As described above, Ruby's 42-inch pipe would utilize different wall thickness criteria depending on DOT class location designation and design requirements. Ruby would give special design consideration to road crossings, river crossings, fault crossings and any areas with reasonable potential for class change in the future that would require heavier wall thickness pipe (i.e., future residential developments).

- The pipe installed by Ruby would be externally coated with a fusion-bonded epoxy coating, or other suitable coating, that is designed to prevent or minimize the potential for corrosion on the pipe. All welds on the pipe would also be coated with a fusion-bonded epoxy. Before the pipe is lowered into its trench, it would be visually and mechanically inspected and any defects would be repaired.

- Ruby would install cathodic protection systems along the entire length of its pipeline in order to minimize corrosion on the pipeline.

- Pig launcher and receiver facilities would be installed to allow Ruby periodically to run internal inspection devices, once the pipeline is in operation.

- Ruby intends to automate all of its mainline block valves, to the extent practicable, to allow remote operation from a control center.

Construction Techniques

- From a construction standpoint, Ruby would install its pipe in a trench that would allow a minimum 30 inches of cover between the top of the pipe and the final land surface after backfilling, all as required by the DOT. In agricultural areas, Ruby would install its pipe in a deeper trench to allow for field plowing activities.

- All pipe welds would be in conformance with 49 CFR Part 192, Subpart E, "Welding of Steel Pipelines," and API 1104 "Standard for Welding Pipelines and Related Facilities." Welds would be inspected in conformance with DOT requirements. Any defects in the welding would be repaired or removed as required by the specified regulations and standards. All pipeline welds would be non-destructively tested.

- Once in the trench and covered with padding and backfill, the mainline and lateral pipes would be hydrostatically tested before being put into service to verify their integrity and to ensure their ability to operate at the proposed MAOP. As part of the hydrostatic test, pipeline test segments would be capped and filled with water, then pressurized in accordance with DOT regulations (49 CFR Part 192). If any leaks were detected, Ruby would repair the relevant section of pipe, and it would be re-tested.

Operational Procedures

- After the Project is placed into service, the pipeline would be inspected periodically from the air and on the ground as required by applicable regulations. These surveillance activities would provide information on possible encroachments and nearby construction activities, erosion, exposed pipe, and any other potential concerns that may affect the safety and operation of the pipeline. Aerial surveys of the pipeline system would be performed in accordance with the U.S. DOT requirements of 49 CFR, Part 192.

- Ruby supports and actively participates in national 811 and state one-call programs. Excavators, including individuals, are required to use the 811 National "One Call" system or call their state one-call center if they plan to excavate near a pipeline or any other buried facility. Active farmers are not required to place a "One Call" for their normal farming practices unless they plan to remove significant cover over the top of the pipeline.

  Information about the use of "one-call" and the importance of calling before digging is communicated to contractors and the affected public on a regular basis. However, unauthorized encroachments still do occur. When they do, the first step is to educate the encroaching party about using the one-call center and the potential consequences of not

doing so. If an encroaching party is aware of one-call requirements and elects not to use the one-call, a warning letter would be sent to further emphasize Ruby's request to use the one-call and follow accepted safety practices in the future. If an enforcement agency exists that can help achieve compliance, proper notice would be given to that agency as well. Ruby would also consider seeking appropriate injunction relief from a court of competent jurisdiction to prevent damage to the pipeline and achieve compliance with one-call requirements. If damage to the pipeline occurs, reimbursement for damages along with the imposition of any civil penalties would be pursued.

These types of events are reported through normal internal reporting processes. The events are evaluated and if additional efforts (patrolling, etc.) are necessary to ensure the safety of the pipeline, they would be performed.

- Once the pipeline is installed, backfilled, cleaned up, and reclaimed, it would be identified by the placement of pipeline markers identifying the owner of the pipe and a 24-hour telephone number. The pipeline markers would be placed for "line of sight" visibility along the entire pipeline length, except in active agricultural crop locations and in waterbodies. Pipeline marker locations are required by DOT policies.

- Ruby would install a supervisory control and data acquisition (SCADA) system that allows it to monitor pipeline flows and pressures at various points along the system. It will also permit remote start and stop capability of the compressor stations and closing of mainline valves (opening a closed mainline valve will probably require local action). While this system is currently being designed, it will most likely utilize a combination of radio, and satellite communications to transmit data from the pipeline to Ruby's current gas control center in Colorado Springs, Colorado.

  The SCADA system would enhance the safety of the Ruby pipeline since gas control technicians would be able to monitor and react to conditions on the pipeline as needed (gas control technicians are on duty 24 hours a day, 365 days a year). While leak detection via SCADA systems is not a proven technology for gas pipelines, if unexpected pressure changes are noted that indicate the possibility of a leak, the gas controller on duty can either shut in the pipeline block valves upstream and downstream of the apparent leak and/or dispatch field technicians to investigate the pressure change. Reliability is enhanced because Ruby would not be as dependent on technicians being able to travel to remote sites in inclement weather to actuate valves or monitor pipeline operations. Finally, while the potentially SCADA system is not directly responsible for any of the safety functions such as overpressure protection (because the last line of defense on safety issues will be local controls and devices), safety is enhanced by the SCADA system because it may allow the gas control technician monitoring the pipeline to detect incipient issues and take actions to avoid problems. For example, if pipeline

pressures downstream of a compressor station begin to rise rapidly because a customer unexpectedly reduces their natural gas receipts from the pipeline, the gas control technician could slow or stop the upstream compression to control the rising pressure.

- Ruby would utilize the emergency procedures currently contained in its Emergency Operating Procedures Manual. Local contact phone numbers, external contact information, equipment or resources available for mobilization, and any specific procedures to be followed for Ruby would be incorporated into this Manual prior to commencement of pipeline operations.

  Ruby would establish and maintain liaison with appropriate fire, police, and public officials in a variety of ways. Annual communications would include the following information:

  - The potential hazards associated with Ruby facilities located in their service area and prevention measures undertaken,
  - The types of emergencies that may occur on or near Ruby facilities,
  - Purpose of pipeline markers and the information contained on them,
  - Pipeline location information and the availability of the National Pipeline Mapping System (NPMS),
  - Recognition of and response to pipeline emergencies, and
  - Procedures to contact Ruby for more information.

  These communications may involve: individual meetings with agency personnel, group meetings, or direct mailings. In addition, Ruby would perform periodic table top emergency exercises and mock emergency drills with local government, law enforcement, and emergency response agencies, subject to agency availability and willingness to participate.

  Coordination of mutual response is accomplished through the use of the Incident Command System (ICS). This system is utilized by all emergency responders. Ruby personnel are also trained on this system and understand their roles and responsibilities within the ICS structure.

1.12 Public Outreach Program

1.12.1 Public Outreach

Public outreach for the Project included but is not limited to the following:

- The Project was presented to each BLM office affected by the Project.
- Agency presentations were provided as requested

- Ruby route maps were posted at Ruby's website and periodically updated. Ruby's website address is http://www.rubypipeline.com/.
- Open House meetings were held in February and March 2008. (A total of ten Open House meetings were held.)
- Open House meetings were conducted in:
    - Kemmerer, Wyoming
    - Montpelier, Idaho
    - Tremonton, Utah
    - Brigham City, Utah (two meetings)
    - Logan, Utah
    - Elko, Nevada
    - Winnemucca, Nevada
    - Reno, Nevada
    - Lakeview, Oregon (two meetings), and
    - Malin, Oregon
- Advance meeting notice display ads were published on the dates shown in the following newspapers, which provide local and regional coverage throughout the Project areas:

Ad publish date	Newspaper	Open House Date
February 13, 2008	The Leader (Tremonton, UT)	Announced 9 Open Houses
February 13, 2008	News Examiner (Montpelier, ID)	Announced 9 Open Houses
February 14, 2008	Kemmerer Gazette (WY)	Announced 9 Open Houses
February 19, 2008	Humboldt Sun (Winnemucca, NV)	Announced 9 Open Houses
February 20, 2008	The Citizen, Leader, News-Examiner (Utah & Idaho)	Announced 9 Open Houses
February 20, 2008	Lake County Examiner (OR)	Announced 9 Open Houses
February 20, 2008	Elko Daily Free Press (NV)	Announced 9 Open Houses
February 22, 2008	Klamath Falls Herald & News (OR)	Announced 9 Open Houses
February 27, 2008	The Leader (Tremonton, UT)	Announced 9 Open Houses
February 27, 2008	Box Elder News Journal (UT)	Brigham City, UT, March 5, 2008
February 28, 2008	Reno Gazette Journal (NV)	Reno, NV, March 4, 2008
February 29, 2008	Standard-Examiner (Ogden UT)	Announced 9 Open Houses
February 29, 2008	Herald Journal (Logan UT)	Announced 9 Open Houses
March 12, 2008	Box Elder News Journal (UT)	Logan, UT, March 18, 2008
March 12, 2008	The Citizen, Leader, News-Examiner (Utah & Idaho)	Logan, UT, March 18, 2008
March 13, 2008	Herald Journal (Logan UT)	Logan, UT, March 18, 2008

- All stakeholders within 0.5 miles of the project including agencies were invited.
- Landowners within 0.5 miles on either side of the proposed centerline were identified and notified via U.S. mail (approximately 3,100 invitations were sent).
- Ruby participated in Agency and stakeholder FERC scoping meetings (six agency and ten public scoping meetings).
- Public scoping meetings were conducted in:
    - Kemmerer, Wyoming
    - Two meetings in Brigham City, Utah
    - Elko, Nevada
    - Winnemucca, Nevada
    - Two meetings in Lakeview, Oregon
    - Malin, Oregon
    - Montpelier, Idaho
    - Hyrum, Utah
- FERC sent Notice of Intent meeting notices to all affected stakeholders.
- Ruby met with the USFWS lead and assigned staff in Denver during July 2008.
- Ruby met with local, state and governmental entities to provide project information.
- Ruby met with the Summit Lake Tribal Council on September 23, 2008.
- Ruby met with a group of at least seven tribes on November 13, 2008 to provide a Project overview.
- Ruby mailed copies of the draft resources reports to 11 libraries and will mail copies of the certificate application to the same libraries.
- Ruby also provides quarterly newsletter Project updates to all stakeholders both through U.S. mail and on Ruby's Project Website.

1.12.2 Route Changes to Address Stakeholder or Environmental Concerns

To address stakeholder concerns or avoid archaeological or environmentally sensitive areas, Ruby made many minor and some major route adjustments. Shown below in Table 1.12-1 are those adjustments that extend 0.5 miles beyond the centerline of the pipeline corridor as originally sited. These adjustments include, but are not limited to: variations in Avon and Brigham City, Utah; avoidance of the Willow Creek Enhancement Area in Nevada owned by Barrick Goldstrike Mines Inc.; avoidance of an archaeological district within the Surprise BLM District; and avoidance of a citizen roadless area in Oregon (based on discussions with Oregon Wild). Ruby has also made numerous minor route adjustments that are not shown in this table, taking into account input from stakeholders and negotiations with landowners that were less than .5 miles beyond the original centerline. All of the adjustments listed in Table 1.12-1 have been incorporated into the currently proposed pipeline route.

Table 1.12-1 Route Adjustments Incorporated into Proposed Route

Variation	Start MP	End MP	Miles	Reason for Variation
1.12-1	21.5	51.8	30.3	To minimize impacts to the Oregon-California National Historic Trail at the request of BLM
1.12-2	77.0	83.9	6.9	To avoid impacts in Ant Valley and East Fork of the Little Bear River at the request of landowners
1.12-3	92.8	97.7	5.9	To avoid wetlands, springs and other sensitive areas along the East Fork of the Little Bear River at the request of landowners.
1.12-4	108.5	132.1	23.6	To avoid impacts to local landowners, springs along a bench north and west of Brigham City and cropland with drainage tiles
1.12-5	174.5	205.2	30.7	Salt Desert Shrub Variation was made at the request of BLM to avoid important salt desert habitat
1.12-6	288.1	302.5	14.4	To minimize impacts to crossing of Mary's River and avoid irrigation pivots on Tabor Ranch
1.12-7	341.7	388.1	46.4	To avoid the Willow Creek Enhancement Area at the request of Barrick Mining and BLM
1.12-8	391.5	445.2	53.7	To avoid impact on Barrack and Newmont active and proposed mining areas
1.12-9	462.4	479.7	17.3	To avoid presence of a significant number of archaeological sites
1.12-10	553.1	562.1	8.6	To avoid the Massacre Rim Wilderness Study Area
1.12-11	585.9	594.5	9.6	To follow existing transmission line crossing Twelvemile Creek and avoid an Archaeological District at the request of BLM
1.12-12	597.1	613.3	16.2	To avoid U.S. Forest Service Inventoried Roadless Area.
1.12-13	616.5	633.3	16.8	To stay south of existing pasture land at the request of local landowners
1.12-14	648.2	655.0	6.8	To avoid crossing the Evans Ranch at the request of the landowner.
1.12-15	662.6	675.1	12.5	To avoid a proposed wind farm at the request of the landowner.

1.13 References

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1A. Contact List for Affected Landowners (Privileged Information), Federal Permitting Agencies, State Permitting Agencies, and Tribal Nations

Resource Report No. 1

Appendix 1A

The landowner contact list that is a part of Appendix 1A in Environmental Resource Report 1 contains Privileged and Confidential information. Accordingly, this list is being provided separately under Volume 4. Volume 4 contains all Privileged and Confidential information.

1B. Plan of Development

1C. Typical Drawings/Site Location/ Plot Plans (CEII)

Resource Report No. 1

Appendix 1C

The plot plans provided under Appendix 1C of Environmental Resource Report No. 1 contain Critical Energy Infrastructure Information ("CEII"). Accordingly, the plot plans are being provided separately in Volume 3. Volume 3 contains all CEII.

1D. Aerial Alignment Sheets

1E. Topographic Maps