

2.0 Alternatives Including the Proposed Action

When choosing alternative routes for the proposed Project, OPPC also considered issues and concerns addressed during construction of pipelines recently completed in the area. As such, the Final Environmental Impact Statements (EISs) for the Entrega Pipeline Project (Entrega) (Federal Energy Regulatory Commission [FERC] 2005a), the WIC Piceance Basin Expansion Project (WIC Piceance) (FERC 2005b), and the OPPC Overland Pass NGL Pipeline Project (BLM 2007a) provided background information on the Project area and NGL transport during the development of this EA.

The alternatives considered and analyzed in detail include the Proposed Action and the No Action Alternative. In the application submitted by OPPC, variations from the proposed pipeline route also were presented, including a South Connector Route Alternative and a North Connector Route Alternative. However, upon further consideration, these alternatives were eliminated from detailed analysis because of problems encountered during construction of previous pipelines (Entrega and WIC Piceance) and/or anticipated undesirable residual impacts associated with the alternative route(s). The alternatives that were considered but eliminated are discussed in more detail in Section 2.3.

All activities associated with the proposed Project are consistent with the following land use plans:

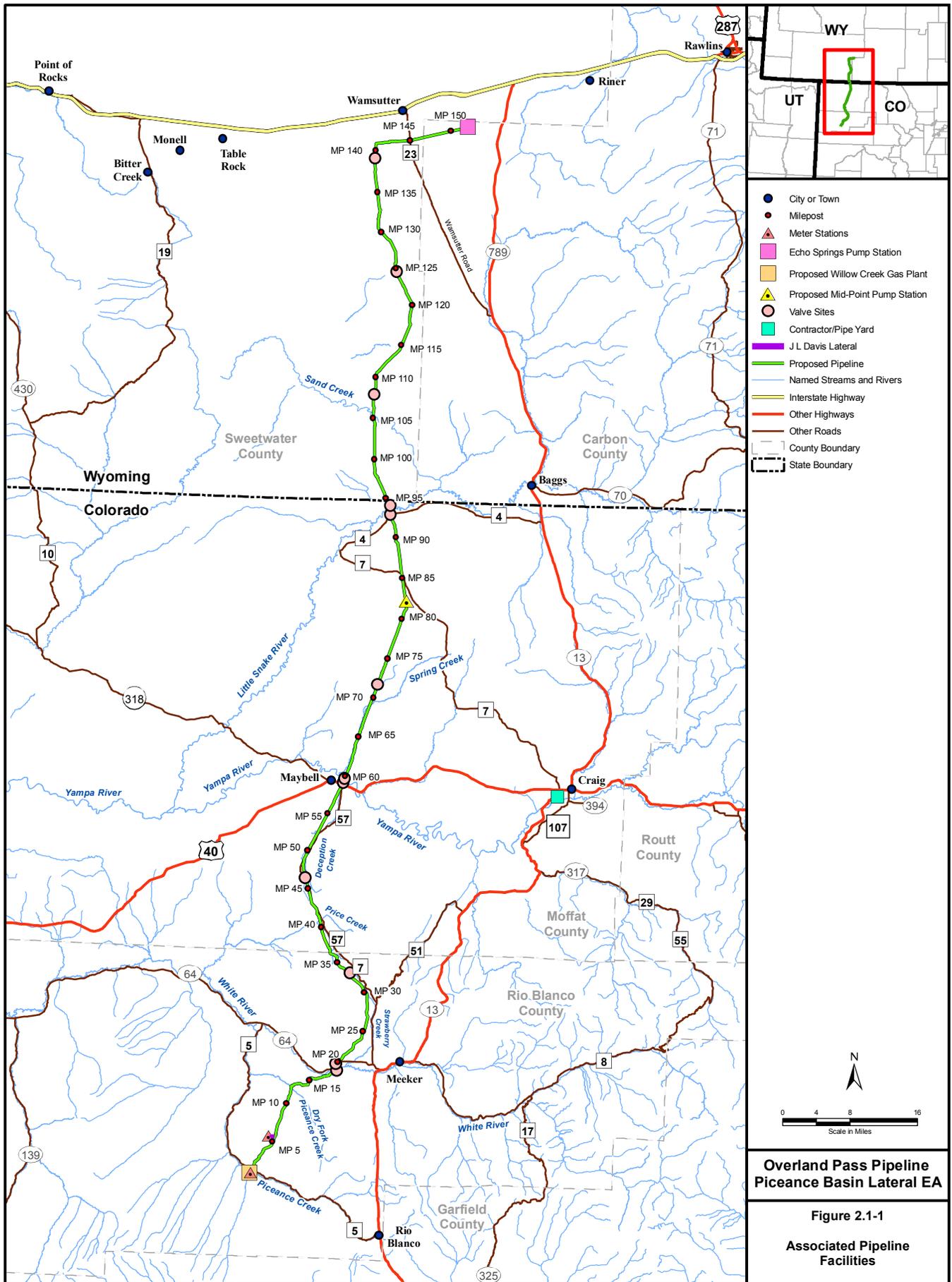
- White River Record of Decision (ROD) and Approved RMP (BLM 1997);
- Little Snake RMP and ROD (BLM 1989);
- ROD for the Oil and Gas Plan Amendment to the Little Snake RMP/EIS (BLM 1991); and
- Rawlins RMP and Final EIS (BLM 2008a).

2.1 Proposed Action

OPPC proposes to construct and operate a 152-mile-long, 14-inch-diameter NGL pipeline that would begin at the recently approved Willow Creek Gas Plant southwest of Meeker, Colorado, and end at the existing Echo Springs pump station southeast of Wamsutter, Wyoming. OPPC proposes to begin construction of the pipeline and associated facilities in September 2008 and be in service in July 2009. Construction is estimated to take approximately 6 months. An overview map showing the location of pipeline and associated facilities for the Proposed Action is provided in **Figure 2.1-1**.

2.1.1 Pipeline

The pipeline would be engineered and constructed in conformance with the requirements of U.S. Department of Transportation (USDOT) regulations (49 CFR Part 195). The 14-inch pipe would be constructed with high-strength steel pipe (grade 5L X70) with factory-applied, fusion-bonded epoxy (FBE) external coating with a wall thickness of 0.219 inch. Cathodic protection would be provided by an impressed current system. The pipeline would be manufactured, constructed, and operated in accordance with applicable local, state, and federal regulations.



**Overland Pass Pipeline
Piceance Basin Lateral EA**

Figure 2.1-1

**Associated Pipeline
Facilities**

2.1.2 Ancillary Facilities

Additional facilities associated with the Proposed Action would include one 6-inch-diameter lateral, 2 meter stations, 1 possible future pump station, 12 mainline valves (MLVs), 5 pigging facilities, 1 contractor/pipe yard, 1 new access road, and possible future electrical powerlines. **Table 2.1-1** summarizes the facilities and their proposed locations.

Table 2.1-1 Proposed Facilities Associated with the Project

Facility Name	MP	County, State
Pipeline		
Willow Creek Gas Plant to Echo Springs Pump Station (14-inch diameter)	0.0 – 152.2	Rio Blanco and Moffat counties, Colorado; Sweetwater and Carbon counties, Wyoming
J. L. Davis Lateral (6-inch-diameter)	5.6	Rio Blanco County, Colorado
Meter and Pump Stations		
Meter Stations	0.0, 5.6	Rio Blanco County, Colorado
Pump Station (future)	82.4	Moffat County, Colorado
MLVs		
MLVs 1 – 3	18.9	Rio Blanco County, Colorado
	19.6	
	32.9	
MLVs 4 – 9	46.3	Moffat County, Colorado
	59.1	
	59.7	
	71.7	
	92.8	
	93.9	
MLVs 10 – 12	107.9	Sweetwater County, Wyoming
	124.6	
	139.1	
Pigging Facilities		
Willow Creek Gas Plant – Launcher	0.0	Rio Blanco County, Colorado
J. L. Davis Tie-in – Launcher (6-inch)	L0.0 ¹	Rio Blanco County, Colorado
J. L. Davis Tie-in – Receiver (6-inch)	5.6	Rio Blanco County, Colorado
Mid-point – Launcher/Receiver	82.4	Moffat County, Colorado
Echo Springs Pump Station – Receiver	152.2	Carbon County, Wyoming
Yards		
Craig Contractor/Pipe Yard (existing)	NA ²	Moffat County, Colorado

Table 2.1-1 Proposed Facilities Associated with the Project

Facility Name	MP	County, State
Access Road		
New (0.4 mile long by 15 feet wide)	19.3	Rio Blanco County, Colorado
Electrical Power Lines (future)		
White River (approximately 0.5 mile)	19.2	Rio Blanco County, Colorado
Yampa River (200 feet)	59.0	Moffat County, Colorado
Midpoint (approximately 3.8 miles)	82.2	Moffat County, Colorado
Little Snake (approximately 6.7 miles)	92.9	Moffat County, Colorado and Carbon County, Wyoming

¹The launcher at the J. L. Davis tie-in would be located at the origination point of the J. L. Davis Lateral (MP L0.0).

²NA = not applicable; the contractor/pipe yard is located off of the pipeline ROW.

Under the Proposed Action, OPPC would construct two meter stations; one at the southern terminus of the pipeline and one at the origination point of a 2,000-foot, 6-inch-diameter lateral within the grounds of the existing J. L. Davis gas treatment facility. The station at MP 0.0 would serve as a custody transfer and system check station to measure the volume of NGL transported over the pipeline. When complete, it would be approximately 0.5 acre (100 feet by 200 feet) partially within the pipeline ROW, with the additional space extending to the northeast. This facility would consist of a meter building with communication, a meter skid, a pig launcher, and filtration traps.

The potential future midpoint pump station would be constructed in two phases, as needed. Phase 1 would be built concurrent with the construction of the pipeline and would include construction of the launcher/receiver and MLV. Phase 2 would only be built at some date in the future should the volume of NGL transported through the pipe increase above 70,000 bpd. The pump station would enable OPPC to maintain the required pressure for firm NGL deliveries and to restore the drop in pressure that would otherwise occur as the NGL flows through the pipeline. Should the pump station be built in the future, it would be approximately 1.8 acres (274 feet by 284 feet), partially within the proposed pipeline ROW with the additional space extending to the southeast, away from the ROW of the existing pipelines in the corridor. This facility would consist of a pump building, utility building, and parking area for station personnel. The station would operate on locally purchased power for electricity for lights, heating, communication, and valves in the buildings, and would be fully automated for unmanned operation. Remote start/stop, set point controls, unit monitoring equipment, and station information would be installed. The pipeline entering and exiting the pump facility would be below grade as practicable, but would come aboveground before entering and exiting the pump building.

The Proposed Action would include the construction of 12 MLVs: 9 block valves and 3 check valves. All 12 MLVs would be constructed within the permanent 50-foot ROW. Block valves are located at key river crossings as well as at various other points along the route and would be installed to enable shut-off of the pipeline for safety purposes. Check valves would generally be located downstream of the key river crossings and are designed to prevent backflow of NGL.

One pig launcher would be located at the southern origin of the pipeline at MP 0.0, one at the origin of the J. L. Davis lateral within the existing J. L. Davis gas facility, and one at the mid-point location at MP 82.4. Pig receivers would be located at the J. L. Davis tie-in at MP 5.6, at the mid-point location at MP 82.4, and at the northern terminus at MP 152.2. All launchers and receivers would be within the 50-foot-wide permanent ROW or within the footprint of existing facilities. The pigging facilities launch and receive a device that moves through

the length of the pipeline to clean it. The pipeline would be cleaned approximately monthly during operation of the pipeline. The pigging also would be used for smart pigging, which would be done once every 5 years.

OPPC would use an existing contractor/pipe yard southwest of Craig, Colorado, to store pipe and other construction materials and equipment during construction of the Project. This approximately 51.6-acre yard is located at Township 6 North (T6N), Range 91 West (R91W), Section 2 and was used as a pipe yard for the Entrega Pipeline Project (FERC 2005a).

The potential future electric powerlines would be constructed, operated, and maintained by local power providers to provide power for the proposed future pump station and remotely activated valves located along the proposed pipeline route. A maximum of four locations have been identified as potentially needing electrical power at some time in the future. The White River location would be constructed by the White River Electric Association and the other three would be constructed by the Yampa Valley Electric Association. These would all be 7.2-kilovolt lines constructed with 12- to 15-inch-diameter vertical poles within a 30-foot temporary construction ROW and a 20-foot permanent operational ROW. Average span between poles would be 300 to 350 feet. If determined necessary at a future time, all siting, permitting, and clearances necessary for the construction and operation of these powerlines would be the responsibility of the local power provider and would not be included in the ROW grant application for approval by BLM for the proposed Project described in this EA.

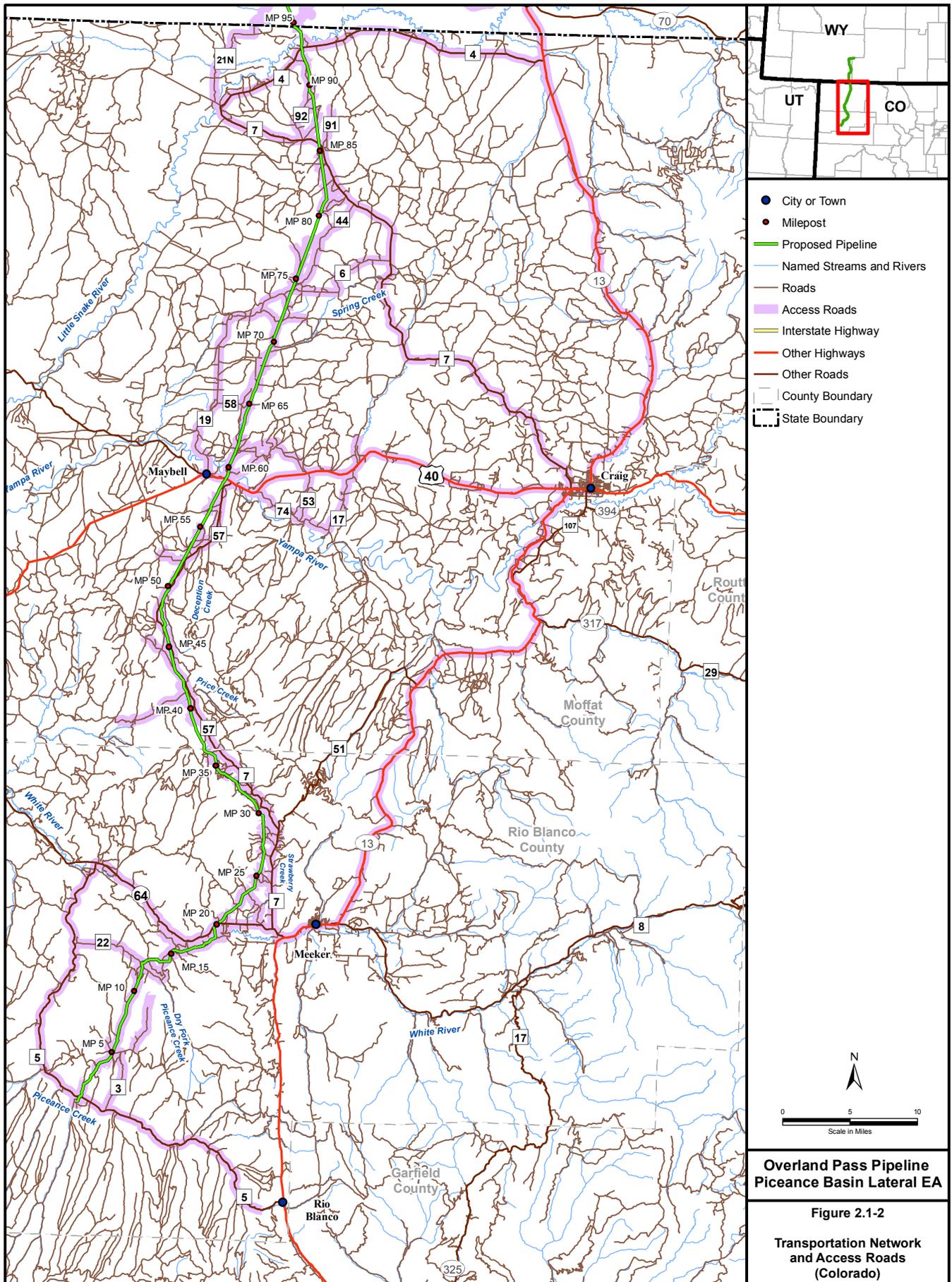
2.1.3 Access Roads

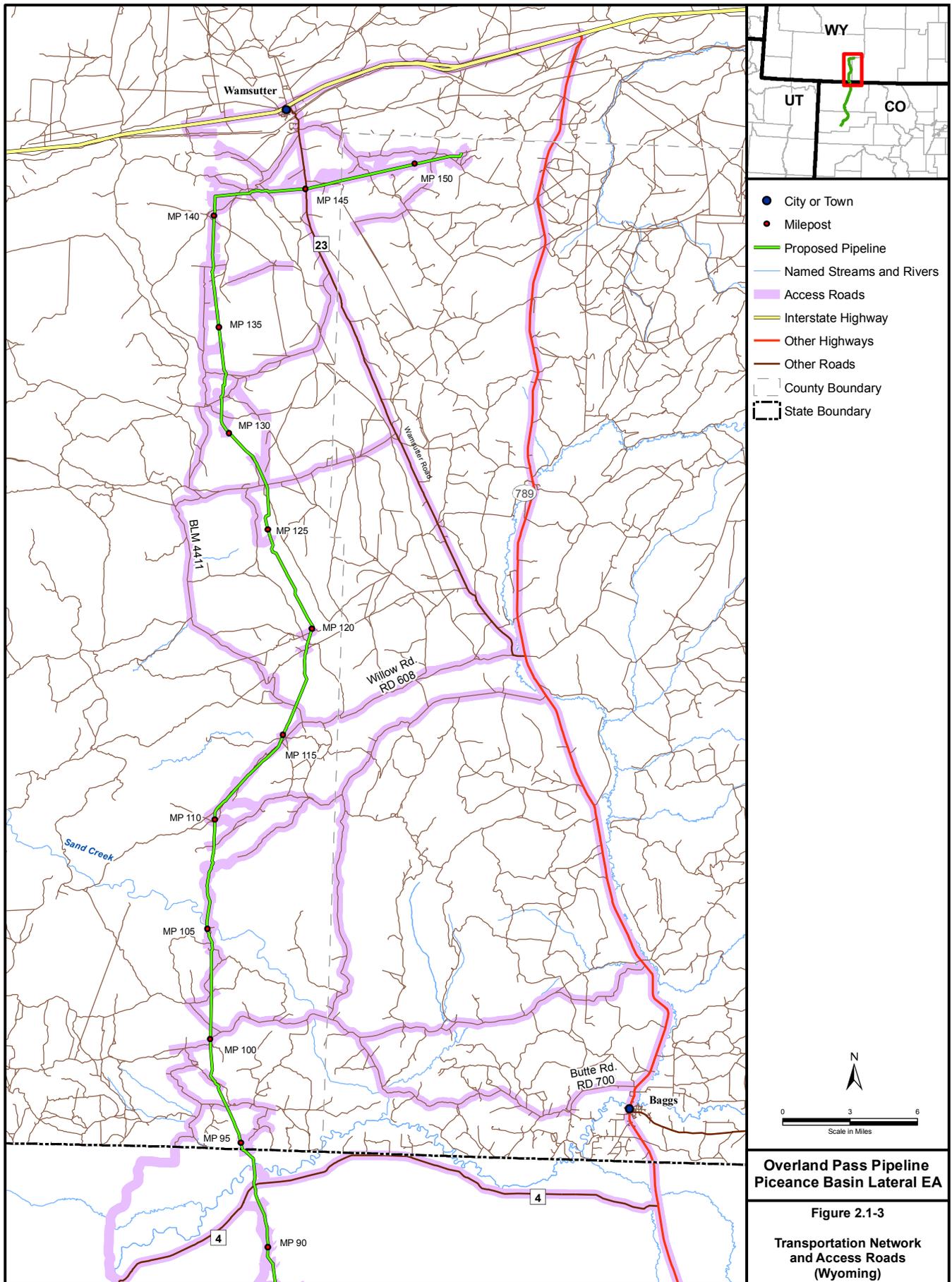
With the exception of one new access road proposed to be built on fee land, OPPC proposes using a combination of existing state, county, private, and BLM roads to access the ROW during construction. These existing roads were used on the recently constructed Entrega and WIC Piceance pipelines. The one new access road would be constructed on the south side of the White River crossing at the request of the landowner and would be 15 feet wide by approximately 0.4 mile long encompassing 0.7 acre.

Equipment and materials would be hauled in accordance with state requirements. Some of the existing roads might require modifications, including grading and/or widening, to make them usable for pipeline construction. OPPC would maintain the roads, which would include blading throughout the construction period to keep roads level and not rutted. For those areas where improvements would occur outside the pre-construction roadway, all areas of new impact would be reclaimed and reseeded using the reclamation techniques and seeding mixes proposed in the *Environmental Protection Plan*, which is an appendix to the POD for this Project (CH2M Hill Trigon, Inc. 2008). Temporary access along the ROW would be reclaimed at the end of construction. Operations and maintenance activities could require year-round access post construction. The locations of identified access roads and proposed modifications are listed in the POD as part of the *Transportation Management Plan*. **Figures 2.1-2** and **2.1-3** show the access roads to be used in Colorado and Wyoming, respectively. **Table 2.1-2** lists all access roads proposed to be constructed or potentially widened along with the acres of impact.

2.1.4 Land Requirements

Table 2.1-3 summarizes the land requirements for the Proposed Action. The Proposed Action would primarily run parallel to the existing Entrega/WIC Piceance pipeline corridor. The pipeline would generally be constructed within 50 feet of the existing pipeline centerline (25-foot off-set from the edge of the existing ROW), where applicable, but could be increased or decreased depending on the site-specific circumstances as required. The construction ROW would be 75 feet wide for the majority of the proposed pipeline route with additional width as needed at temporary work areas (TWAs) such as steep slopes or side slopes, at major road and river crossings, and for truck turn-around areas. After construction, OPPC proposes a 50-foot-wide





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Figure 2.1-3

**Transportation Network
and Access Roads
(Wyoming)**

Table 2.1-2 Access Roads Proposed to be Constructed or Potentially Widened

County/ State	MP at Centerline	Class ¹	Existing Surface	Length (feet)	Approximate Existing Road Width (feet)	Additional Width Needed (feet)	Estimated Acres Impact (acres) ²
Rio Blanco County, CO	6.1	C	Dirt	5,061	10	2	0.2
	10.9	C	Dirt	10,257	10	2	0.5
	16.5	C	Dirt - 2-track	393	8	4	0.0
	16.7	C	Dirt - 2-track	1,228	8	4	0.1
	17.1	C	Dirt	172	8	4	0.0
	17.2	C	Dirt	81	8	4	0.0
	19.3	New	NA ³	2,040	0	15	0.7
	24.8	B	Dirt	8,920	10	2	0.4
	24.9	C	Dirt	431	10	2	0.0
	29.0	C	Dirt - 2-track	7,562	10	2	0.4
	33.7	C	Dirt	8,197	10	2	0.4
	34.1	C	Dirt	5,821	10	2	0.3
Moffat County, CO	36.2	C	Dirt	3,582	10	2	0.2
	53.1	C	Dirt	2,213	10	2	0.1
	53.2	C	Dirt	10,411	10	2	0.5
	57.0	C	Dirt	3,315	8	4	0.3
	59.6	C	Dirt - 2-track	41,135	11	1	0.9
	65.0	C	Dirt	3,104	10	2	0.1
	74.6	C	Dirt	599	10	2	0.0
	75.1	C	Dirt	290	10	2	0.0
	76.2	C	Dirt	777	10	2	0.0
	77.2	C	Dirt	145	10	2	0.0
	90.6	C	Dirt	1,365	10	2	0.1
	91.9	C	Dirt - 2-track	588	6	6	0.1
93.6	C	Dirt	5,138	10	2	0.2	
Sweetwater County, WY	95.2	B	Dirt	2195	8	4	0.2
	98.0	B	Dirt (Cherokee Trail Rd.)	6,610	8	4	0.6
Total (acres)							6.3

¹All access roads proposed for use during the proposed Project have been designated as follows:

Class A = well maintained and need little or no improvement; gravel or paved with bar ditches; and all-weather roads.

Class B = maintained dirt road with little or no gravel that may not be all-weather road or 4-wheel-drive only in bad conditions.

Class C = not-maintained 2-track road with grass in center.

²All impacts associated with widening existing roads to be temporary; new access road assumed to be permanent.

³NA = not applicable.

Table 2.1-3 Summary of Land Requirements Associated with the Proposed Action

State/Facility	MP	Land Affected During Construction (acres) ¹	Land Affected During Operation (acres) ²
Colorado			
Pipeline Facilities			
Pipeline ROW	0.0 - 94.7	873.8	573.9
Additional TWAs	Various	130.0	0.0
J. L. Davis Lateral	5.6	3.4	2.3
Aboveground Facilities ³			
Willow Creek Meter Station ⁴	0.0	0.0	0.2
J. L. Davis Meter Station ⁵	5.6	0.0	0.0
Mid-point Pump Station ⁶	82.4	0.0	0.0
MLVs	Various	0.0	0.0
Launchers and Receivers	Various	0.0	0.0
Contractor/Pipe Yard	Off-ROW	51.6	0.0
Access Roads ⁷	Various	5.5	0.7
<i>Colorado Subtotal^{7,8}</i>		<i>1,064.3</i>	<i>577.1</i>
Wyoming			
Pipeline Facilities			
Pipeline ROW	94.7 - 152.2	522.8	348.6
Additional TWAs	Various	69.3	0.0
Aboveground Facilities ³			
MLVs	Various	0.0	0.0
Receiver	152.2	0.0	0.0
Access Roads ⁷	Various	0.8	0.0
<i>Wyoming Subtotal^{7,8}</i>		<i>592.9</i>	<i>348.6</i>
Project Total^{7,8}		1,657.2	925.7

¹Standard construction ROW would be 75 feet wide with extra width as needed to accommodate construction in rough terrain, on side slopes, for topsoil segregation, and for preparation of road and waterbody crossings.

²Standard operation ROW would be 50 feet wide.

³Construction and operational land use impacts for several aboveground facilities (e.g., MLVs) would occur entirely within the ROW and therefore are included with the pipeline ROW and additional TWA totals.

⁴Does not include total temporary disturbance of 0.5 acre during construction and additional 0.3 acre of permanent disturbance during operations already accounted for under pipeline facilities.

⁵Construction and operational land use impacts would occur entirely within the existing J. L. Davis gas processing facility.

⁶Does not include the potential disturbance of 1.8 acres for construction and operation of the potential future build-out of the midpoint pump station.

⁷Values include one new access road and existing access and haul roads that would need to be widened for construction.

⁸Slight discrepancies in acreage totals are due to rounding.

permanent easement centered on the proposed pipeline centerline. This permanent ROW would be maintained (e.g., by periodic clearing) by OPPC for aerial observation and maintenance of the pipeline. Of the ancillary facilities described previously, only the new and widened access roads, the J. L. Davis lateral, and the potential future pump station would require new land disturbance; the remaining facilities would be constructed within the permanent ROW for the pipeline or within already disturbed areas associated with existing facilities.

Of the approximately 1,599 acres total necessary for construction of the proposed ROW (excluding the contractor/pipe yard and access roads), approximately 673 acres are considered temporary disturbance for construction. All acreage would be reclaimed. However, a 50-foot-wide permanent ROW would be maintained encompassing approximately 926 acres. Low-growing grasses, shrubs, and forbs would be allowed. Trees over the pipeline may be removed to allow for aerial inspections.

Approximately 47.5 percent of the proposed pipeline route would cross federal land managed by the BLM, 5.8 percent would cross state land (SWAs or state trust lands) and 46.7 percent would cross private land.

Approximately 96 percent of the pipeline route is adjacent to existing pipeline or other utility corridors. In these areas, the pipeline would be constructed such that a 25-foot-wide offset is maintained from the edge of the nearest pipeline or utility easement. This offset area would not be used for equipment during construction of the Project. Disturbed lands would be restored and allowed to revert to former use. **Table 2.1-4** lists locations where the proposed pipeline route would not be collocated with other existing pipeline or utility corridors and would therefore be crossing land not previously developed, hereafter referred to as greenfields. Within the first 5 miles of the route, the pipeline would cross greenfields before joining with the existing WIC Piceance pipeline ROW. The remaining deviations from existing ROWs are limited to areas where site-specific environmental or engineering constraints justify routing away from the existing ROW.

Table 2.1-4 Pipeline Segments not Collocated with Other Pipeline or Utility ROWs

Begin MP	End MP	Length (miles)
0.8	3.1	2.3
3.2	4.7	1.5
18.9	20.8	1.9
92.5	93.0	0.5
142.5	143.0	0.5
Total New ROW		6.7

Most of the aboveground facilities associated with the pipeline would be constructed within the pipeline ROW. Only part of the mid-point pump station, the J. L. Davis lateral, one new access road, and the existing contractor/pipe yard to be used would be outside of the pipeline ROW. The new access road would require 0.7 acre of newly disturbed, private land. The 2,000-foot-long J. L. Davis lateral would require a 75-foot-wide construction ROW and a 50-foot-wide operational ROW for 3.4 acres and 2.3 acres, respectively, on previously disturbed land paralleling existing pipelines. The contractor/pipe yard is an existing yard located in Craig, Colorado, on private land. No new disturbances would be needed for this facility.

The mid-point pump station would be constructed in two stages. Phase 1 would be constructed concurrent with construction of the pipeline and utilize an area 75 feet wide and 200 feet long that would be centered along the pipeline centerline at MP 82.4. During construction, this area would exist within the temporary construction ROW. During operation, this facility would remain within the permanent ROW. During Phase 2, approximately 1.8 acres would be required to construct the pump station. This 274-foot by 284-foot area would encompass the Phase 1 area and would extend beyond the 75-foot ROW disturbed during construction.

In addition to the 75-foot nominal construction ROW, OPPC would utilize an additional 199 acres of TWAs for construction of the Proposed Action. These additional TWAs would be needed in areas requiring special construction techniques (e.g., river, wetland, and road crossings; horizontal directional drilling [HDD] entry and exit points; steep slopes; and sensitive or rocky soils) and construction staging areas. Dimensions and acreages of typical TWAs are identified in **Table 2.1-5**.

Table 2.1-5 Dimensions and Acreage of Typical Additional Temporary Workspace Areas

Feature	Dimensions (L x W in feet) ¹	TWA Required (acres) ¹
Steep hill or side slopes	Length of area x 75 to 100, dependent upon slope grade	Varies
Foreign pipeline crossovers	L-shaped	Varies
Foreign pipeline/utility/other buried feature ²	150 x 25	0.1
Stringing truck turnarounds	100 x 150	0.3
Two-lane roads/single railroad ²	200 x 75	0.3
Four-lane roads/multiple railroads/Interstate ²	(Length of feature + 50) x (50 to 75)	Varies
Open-cut waterbodies <25 feet wide ²	200 x 50 and 200 x 100	0.2 + 0.5
Open-cut waterbodies 25 to 50 feet wide ²	200 x 75 and 200 x 125	0.3
Open-cut waterbodies 50 to 100 feet wide ²	250 x 75 and 250 x 125	0.4
Directionally drilled waterbodies ²	300 x 25 to 100 + the length of the drill	+0.7

¹Values presented are for each workspace; some crossings require workspace on both sides of the feature.

²Multiple TWAs could be required at a single feature. Dimensions presented are the minimum required; actual dimensions would depend upon site-specific conditions.

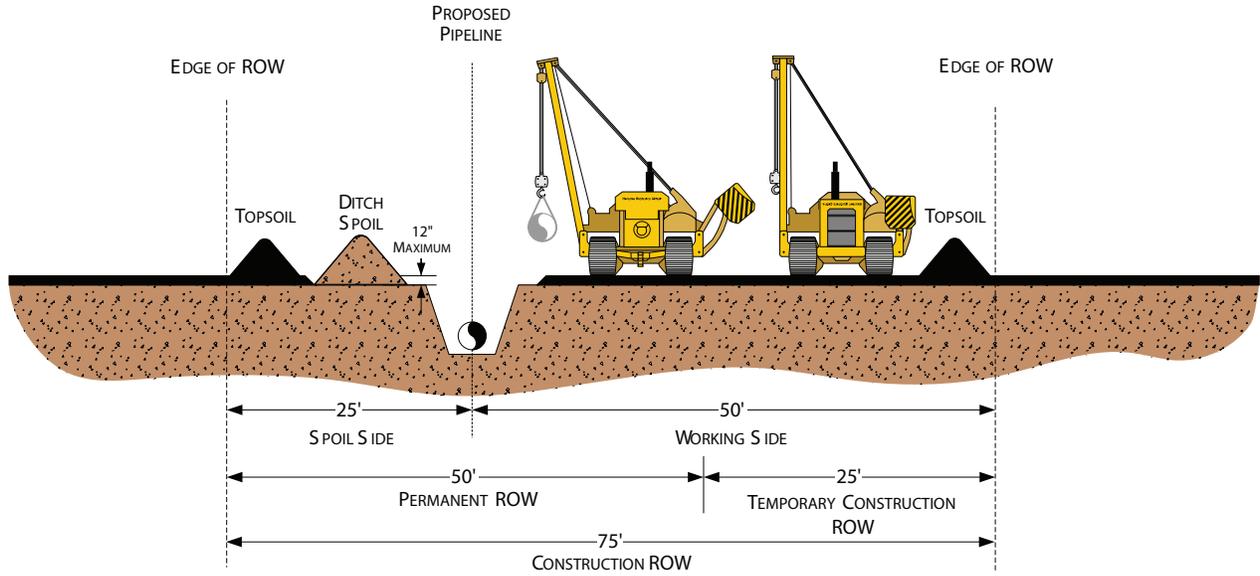
2.1.5 Construction Processes

This section describes the general sequence of actions required to construct a pipeline project. **Figure 2.1-4** illustrates the typical construction ROW and equipment work locations for the portions of the proposed route that would not be located adjacent to an existing pipeline ROW; **Figure 2.1-5** illustrates the proposed construction ROW where the pipeline would be collocated adjacent to an existing pipeline ROW.

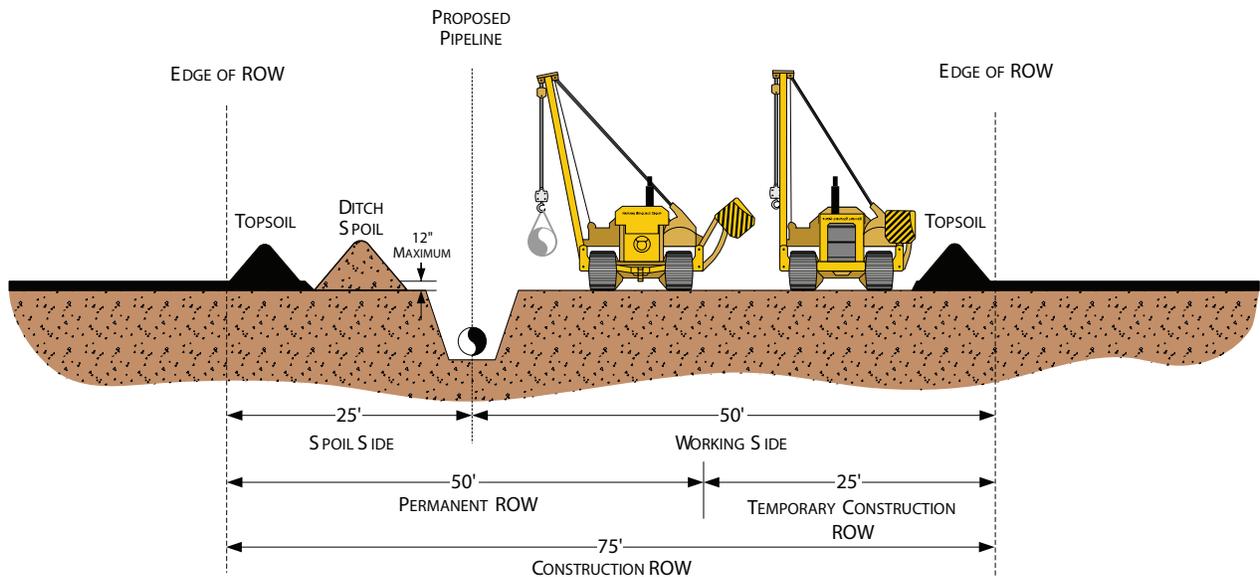
2.1.5.1 Construction Planning

Before starting construction, OPPC would finalize engineering surveys of the ROW centerline and extra workspaces, and complete land or easement acquisition on private and state land. On federal land, OPPC would need to obtain a ROW grant from the BLM.

TRENCH AND SPOIL SIDE STRIPPING



FULL ROW TOPSOIL STRIPPING



PROFILE

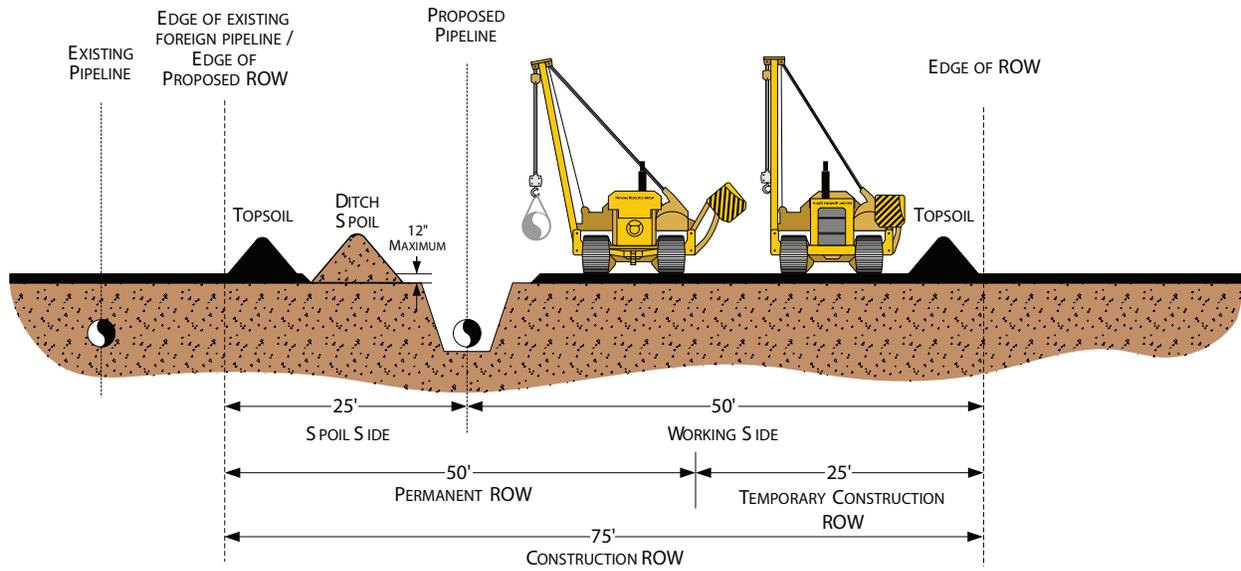
NOTES:

1. CONSTRUCTION RIGHT-OF-WAY WILL TYPICALLY BE 75' WIDE. THE PERMANENT RIGHT-OF-WAY WILL BE 50' WIDE. ADDITIONAL TEMPORARY WORKSPACE WILL BE NECESSARY AT MAJOR ROAD AND RIVER CROSSINGS, SIDESLOPES, AND OTHER SPECIAL CIRCUMSTANCES AS REQUIRED.
2. STOCKPILE TOPSOIL SEPARATELY FROM DITCH SPOIL AS SHOWN OR IN ANY CONFIGURATION APPROVED BY THE INSPECTOR.
3. 2' SETBACK FROM SPOIL TO EDGE OF TRENCH.

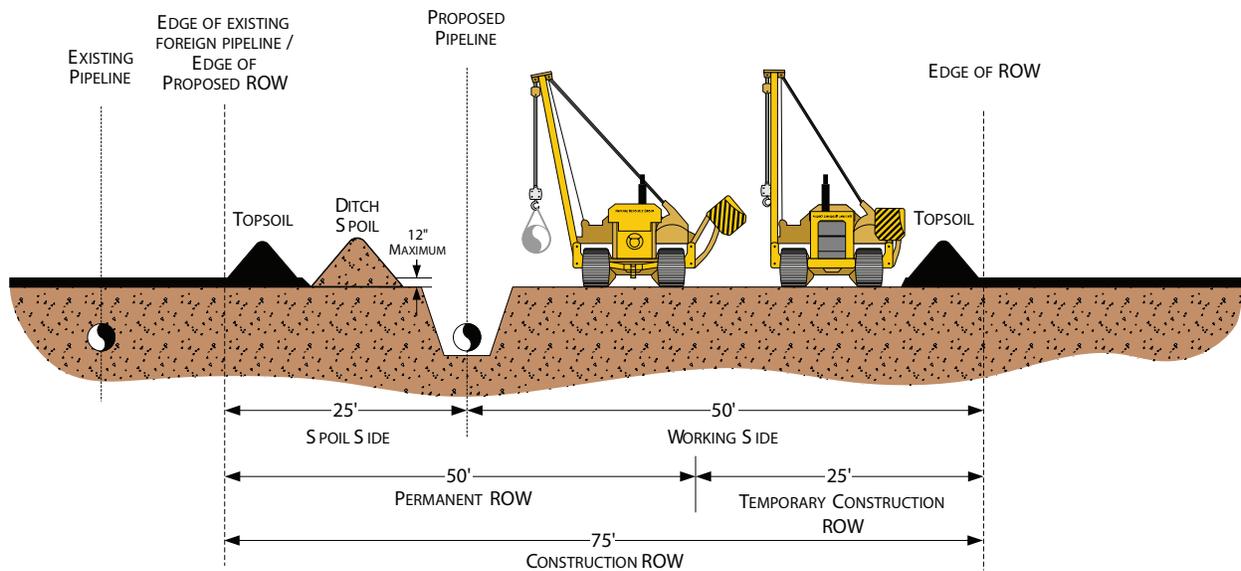
Overland Pass Pipeline
Piceance Basin Lateral EA

Figure 2.1-4
Typical
Construction ROW

TRENCH AND SPOIL SIDE STRIPPING



FULL ROW TOPSOIL STRIPPING



NOTES:

1. CONSTRUCTION RIGHT-OF-WAY WILL TYPICALLY BE 75' WIDE. THE PERMANENT RIGHT-OF-WAY WILL BE 50' WIDE. ADDITIONAL TEMPORARY WORKSPACE WILL BE NECESSARY AT MAJOR ROAD AND RIVER CROSSINGS, SIDESLOPES, AND OTHER SPECIAL CIRCUMSTANCES AS REQUIRED.
2. STOCKPILE TOPSOIL SEPARATELY FROM DITCH SPOIL AS SHOWN OR IN ANY CONFIGURATION APPROVED BY THE INSPECTOR.
3. THE OFFSET FROM ACTIVE PIPELINE, WHERE APPLICABLE, WILL BE 50' (CENTERLINE TO CENTERLINE) FOR MOST LOCATIONS BUT MAY BE INCREASED OR DECREASED DEPENDING ON THE SITE-SPECIFIC CONSTRUCTION REQUIREMENTS.
4. 2' SETBACK FROM SPOIL TO EDGE OF TRENCH.

**Overland Pass Pipeline
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**Figure 2.1-5
Typical Construction
ROW - Adjacent to
Existing Pipeline**

At a minimum, the proposed facilities would be designed, constructed, tested, and operated in accordance with all applicable requirements included in the USDOT regulations in 49 CFR 195, Transportation of Hazardous Liquids by Pipeline, and other applicable federal and state regulations. These regulations are intended to ensure adequate protection for the public and to prevent pipeline accidents and failures. Among other design standards, Part 195 specifies pipeline material and qualification, minimum design requirements, and protection from internal, external, and atmospheric corrosion.

OPPC has prepared a draft POD that outlines construction procedures, project-specific plans, and applicant-committed environmental protection measures that would be implemented during construction of the proposed Project (CH2M Hill Trigon, Inc. 2008). This document describes routine construction and reclamation procedures in upland areas as well as construction methods for crossing wetlands and waterbodies. Site-specific stipulations not included in the final POD but determined to be necessary on federal lands would be included in any ROW grant issued by the BLM.

Included in the POD, OPPC has prepared several specific plans that include measures to minimize or eliminate potential environmental impacts. These plans are intended to serve as overall BMPs for construction and operation of the entire Project, on both federally managed and non-federally managed lands.

The following plans are included as appendices to the draft POD and will hereafter be referenced by the plan names throughout this EA:

- *Biological Resources Protection Plan*
- *Blasting Plan*
- *Cultural Resources Protection Plan*
- *Environmental Compliance Management Plan*
- *Fire Prevention and Suppression Plan*
- *Fugitive Dust Control Plan*
- *Hazardous Materials Management and Spill Prevention, Containment and Countermeasure Plan*
- *Hydrostatic Test Plan*
- *Weed Management Plan*
- *Safety Plan*
- *Transportation Management Plan*
- *Environmental Protection Plan*
- *Winter Contingency Plan*
- *Drill Fluid Contingency Plan*
- *Paleontological Resources Protection Plan*

2.1.5.2 General Pipeline Construction Procedure

Standard pipeline construction would be employed along the pipeline route and typically involve the following sequential operations: surveying and staking of the ROW, clearing and grading, trenching, pipe stringing and bending, welding, joint coating, lowering-in and backfilling, hydrostatic testing, and cleanup and restoration. A complete description of pipeline construction procedures is provided in the POD (CH2M Hill Trigon, Inc. 2008).

2.1.5.3 Special Construction Procedures

In addition to standard pipeline construction methods, OPPC would use special construction procedures where warranted by site-specific conditions. These special techniques would be used when constructing across major paved roads, railroads, steep terrain, significant waterbodies or wetlands, and when blasting through rock.

Road Crossings

Construction across paved roads and highways would be in accordance with the requirements in road crossing permits and approvals obtained by OPPC. In general, most dirt roads would be open-cut, while major gravel and paved roads would be crossed by boring beneath the road. Each boring would be expected to take 2 to 10 days. A complete list of road crossings and the proposed crossing method for each is provided in the *Transportation Management Plan*.

Steep Terrain

Additional grading may be required in areas where the proposed pipeline route would cross steep slopes. Steep slopes often need to be graded down to a gentler slope to accommodate pipe-bending limitations. In such areas, the slopes would be cut away and, after the pipeline is installed, reconstructed to their original contours during restoration. Construction in areas with steep terrain would potentially require up to 25 feet of additional ROW width.

In areas where the proposed pipeline route would cross laterally along the side of a slope, cut and fill grading may be required to obtain a safe, flat work terrace. Topsoil would be stripped from the entire ROW and stockpiled prior to cut and fill grading on steep terrain. In general, on steep side-slopes, soil from the high side of the ROW would be excavated and moved to the low side of the ROW to create a safe and level work terrace. After the pipeline is installed, the soil from the low side of the ROW would be returned to the high side, and the original contours of the slope would be restored. Topsoil from the stockpile would be spread over the surface, erosion control features installed, and seeding implemented.

Waterbody Crossings

The pipeline would cross three major waterbodies and three perennial streams. The White, Yampa, and Little Snake rivers would be crossed using HDD. The HDD method involves drilling a pilot hole under the waterbody and banks, then enlarging the hole through successive reamings until the hole is large enough to accommodate a prefabricated segment of pipe. Throughout the process of drilling and enlarging the hole, slurry (i.e., drilling mud) made of non-toxic fluids (e.g., bentonite and water) would be circulated through the drilling tools to lubricate the drill bit, remove drill cuttings, and hold the bore open. Pipe sections long enough to span the entire crossing would be staged and welded in the construction work area on the opposite side of the waterbody and then pulled through the drilled hole. Ideally, use of the HDD method results in no impacts on the banks, bed, or water quality of the waterbody being crossed.

At ditches lined with concrete and aqueducts made out of pipe, OPPC would use the HDD crossing method described above. When crossing waterbodies, OPPC would adhere to the guidelines outlined in the draft POD and the requirements of its waterbody crossing permits.

2.1.5.4 Aboveground Facility Construction Procedures

Construction activities at the mid-point pump station, if constructed, would follow a standard sequence of activities: clearing and grading, installing foundations for the pump and control buildings, and erecting the structures to house the pumps and associated facilities. Construction activities and the storage of building materials would be confined to the pump station construction site.

If constructed, the NGL piping to the pump station, both aboveground and belowground, would be installed and pressure-tested using methods similar to those used for the main pipeline. After testing is successfully completed, the piping would be tied in to the main pipeline. Piping installed below grade would be coated for corrosion protection before backfilling. In addition, all below-grade facilities would be protected by a cathodic protection system. Cathodic protection would be provided by an impressed current. Before being put into service, pumps, controls, and safety devices would be checked and tested to ensure proper system operation and activation of safety mechanisms.

After the completion of startup and testing, the pump station site would be graded and landscaped, and a permanent security fence would be installed around the pump station. The station buildings would be designed to be as consistent as possible with the character of the surrounding land uses. The pump stations would be painted a color to enable the structures to blend into the surrounding landscape, native vegetation would be used for landscaping, and the minimum lighting necessary for safe operation of the facilities would be installed.

The construction of the pig launcher and receivers would be concurrent with the construction of the meter stations and MLVs. These facilities would all be constructed within the permanent ROW. Activities such as clearing, grading, trenching, clean-up, and restoration would occur simultaneously with construction activities associated with the pipeline. Where practical, MLVs typically would be located near public roads to allow year-round access. Permanent access roads or approaches may be constructed within the permanent ROW to some MLV sites.

2.1.5.5 Reclamation

Once the construction ROW and temporary access roads have been restored to approximate pre-construction grades and contours, to the extent possible, these areas of disturbance would be reclaimed in accordance with the *Environmental Protection Plan*. The plan identifies the seed mixes that have been developed in coordination with the appropriate jurisdictional agencies and describes the techniques that would be used for revegetation of disturbed lands resulting from construction of the proposed Project. In addition, the *Environmental Protection Plan* describes the subsequent monitoring and remediation that would be implemented during the operational phase of the Project to ensure long-term reclamation success and erosion control. The *Weed Management Plan* would be implemented in conjunction with the *Environmental Protection Plan* to control the spread of noxious weed species within the permanent ROW and ancillary facilities following construction. The plan identifies target species, determined in conjunction with the jurisdictional agencies; treatment methods; procedures for controlling the spread of weed species during construction; and post-construction monitoring and treatment methods. The use of pesticides for the treatment of noxious weed species would be in accordance with federal, state and local laws and regulations. Prior to use of pesticides on the ROW or within the ancillary facilities, OPPC would obtain any necessary approvals for use from the appropriate jurisdictional agency, if required.

2.1.5.6 Operation and Maintenance

OPPC would maintain the ROW in accordance with methods outlined in the POD and stipulations contained in the ROW Grant. Inspections of the ROW would be conducted as defined in 49 CFR Part 195. Subsequent inspection and maintenance of the ROW would include, but would not be limited to, soil stabilization, reseeding, and noxious weed control. Inspections for vegetation, weeds, and erosion control would be conducted annually until the success criteria have been achieved, at which time it would be inspected every 5 years for the life of the Project. The life of the Project would be a minimum of 50 years.

2.2 No Action Alternative

Under the No Action Alternative, the BLM would not issue a ROW grant for the proposed Project. Without a ROW grant across federal lands, the proposed pipeline could not be constructed due to the federal land ownership patterns in the region.

Despite the lack of sufficient transportation capacity, the extraction of natural gas (and associated NGL) would continue due to the nationwide demand for these products. Since the amount of NGL being produced in the region is expected to exceed the existing pipeline transportation capacity and given the market values of NGL, alternative proposals to transport or store the NGL likely would be developed under this alternative. ONEOK, Williams, OPPC, or other companies could submit a new ROW grant application to the BLM for a different pipeline route. This would initiate a new and separate NEPA process. To date, the BLM has not received any new NGL transmission pipeline applications in this region.

2.3 GRP Land Re-route Alternative

A 0.8-mile section of the proposed pipeline route from approximate MP 86.7 to 87.5 was recently designated as Grassland Reserve Program (GRP) land in August 2007. The GRP is a voluntary program, run by the NRCS, Farm Service Agency, and the U.S. Forest Service offering landowners the opportunity to protect, restore, and enhance grasslands on their property and providing assistance for rehabilitating grasslands. This portion of the Proposed Action route is at a location where it would parallel the existing pipeline corridor containing three other pipelines; including the recently constructed WIC Piceance and Entrega pipelines. However, lands that have been designated under the GRP cannot have any new easements overlying their existing easement even though there are other previously existing ROW easements. According to the NRCS, there are no regulatory variances to this policy allowed under the GRP. The purpose of this re-route alternative is to avoid the GRP land in the event that OPPC and NRCS are not able to come to a resolution that would allow the pipeline route to remain as proposed.

No aboveground facilities would be constructed along the GRP Land Re-route Alternative; it would consist of a pipeline re-route only. Approximately 2.7 miles of this 3.3-mile long alternative would cross BLM-managed land and 0.6 miles would cross State-managed land. The GRP Land Re-route Alternative would diverge from the Proposed Action route for approximately 2.0 miles in order to avoid crossing this 0.8-mile portion of GRP land. As shown in **Figure 2.3-1**, the GRP Land Re-route Alternative would leave the proposed route at approximate MP 86.4. It would traverse west for approximately 1.1 miles, then north for approximately 1.1 miles, and finally northeast for approximately 1.1 miles. It would rejoin the proposed route at approximate MP 88.4 adding approximately 1.3 miles to the total length of the project. Should the GRP Land Re-route Alternative be constructed, this additional 1.3 miles would represent an increase of less than 1 percent to the total 152.2 miles of the Proposed Action.

The primary differences between impacts under the GRP Land Re-route Alternative and the Proposed Action would be in the amount and type of lands and resources crossed. The key resources impacted would include those associated with surface disturbance such as soils, vegetation, and wildlife habitat. A summary comparison of the key resources that would result in a change in impacts under the GRP Land Re-route Alternative compared to the Proposed Action is presented in **Table 2.3-1** and the text below. Further detail regarding the affected environment and impacts associated with the GRP Land Re-route Alternative for each resource is presented in Chapters 3 and 4, respectively.

Construction of the GRP Land Re-route Alternative would increase the total amount of land disturbed during construction by approximately 11.8 acres from 1,599 acres to 1,611 acres. The entire length of the GRP Land Re-route Alternative would cross greenfields (i.e. previously undisturbed lands), increasing the amount of non-collocated ROW from 6.7 miles to 10.0 miles for the length of the project and potentially initiating a new corridor for pipelines and other utilities along this 3.3 mile alternative route. Additionally, construction activities involving vegetation removal and soil disturbance through previously undisturbed areas often contribute to the spread of noxious weeds by creating optimal conditions for the establishment and growth of such plant species. Construction along the Proposed Action route would avoid these impacts associated with opening a new corridor by following previously disturbed existing pipeline ROWs through the area.

Construction of the GRP Land Re-route Alternative would increase the total temporary disturbance of highly wind erodible soils by 13.4 acres (project total from 212.9 acres to 226.3 acres), highly water erodible soils by

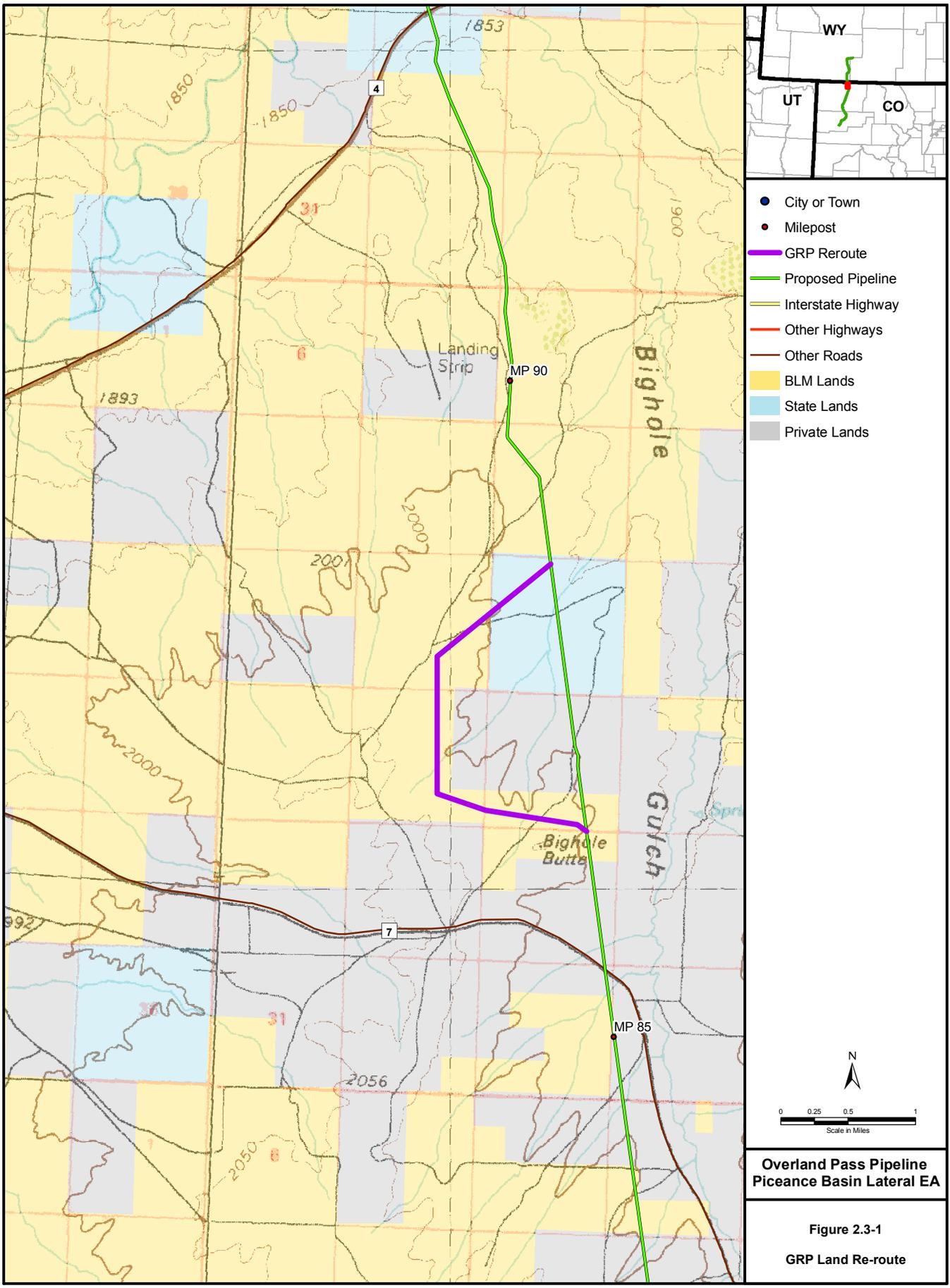


Table 2.3-1 Comparison of Key Resources Impacted by the GRP Land Re-route Alternative and the Proposed Action (MP 86.4 to MP 88.4)

Resource	Analysis Parameter	Proposed Action	GRP Land Re-route Alternative
Miles Crossed			
Project Total		152.2	153.5
Per Route Alternative		2.0	3.3
BLM Managed Lands		0.3	2.7
State Managed Lands		0.9	0.6
Private Lands		0.8	0.0
Co-location	Adjacent to Existing Utilities (e.g. pipelines, transmission lines)	2.0	0.0
Acres of Impact (during construction)			
Project Total		1,599	1,611
Colorado Total		1,007	1,019
Re-route Segment Total		19.0	30.8
Soils (Route Alt. only)	Wind Erodible	5.4	18.8
	Water Erodible	12.7	23.6
	Droughty	10.4	23.5
Wildlife	Sage-grouse habitat	19.0	30.8
Vegetation	Shrubland	19.0	30.8
Number of Occurrences			
Oil and Gas Wells	Wells within 400 feet of centerline	0	1
Wildlife	Active sage-grouse leks within 0.6 miles	0	1
Surface Water Crossings	Ephemeral Unnamed Tributaries to Bighole Gulch	1	6

10.9 acres (project total from 807.0 acres to 817.9 acres), and droughty soils by 13.1 acres (project total from 445.5 acres to 458.6 acres). These soils also support shrubland vegetation which provides habitat for greater sage-grouse.

The GRP Land Re-route Alternative would pass through an area designated by CDOW as “core sage-grouse habitat” (CDOW 2008c). The proposed re-route travels within 0.6 miles of an active sage-grouse lek. The original pipeline route travels through core habitat as well, but this previously disturbed habitat has already impacted local wildlife populations. The total area of two CDOW-designated sage-grouse core habitats that would be crossed in the proposed Project vicinity is approximately 647,900 acres. The Proposed Action construction would impact a total of approximately 421 acres (less than 0.07 percent) of that core habitat. The proposed re-route would impact an additional 11.8 acres of that core habitat.

Other resources impacted by construction of the GRP Land Re-route Alternative include the presence of one oil and gas well within 400 feet of the alternative route and the crossing of five additional ephemeral unnamed tributaries. The well is an exploratory well that was plugged and abandoned in 1995 (COGCC 2008) and the tributaries are small headwater tributaries to Bighole Gulch.

2.4 Alternatives Considered but Eliminated

To minimize impacts across greenfields, OPPC identified pipeline routes that parallel existing utility ROWs. The Willow Creek Gas Plant, which is the starting point of the proposed Project, is located near two existing pipeline routes: the WIC Piceance pipeline and the Entrega pipeline. The Proposed Action Alternative follows the WIC Piceance pipeline route along the southern-most part of the route. The South Connector Route Alternative would parallel the Entrega pipeline route along Piceance Creek and around the west side of Colorow Mountain until it would join with the WIC Piceance pipeline corridor and the Proposed Action route at approximately MP 42.0 (**Figure 2.4-1**). The North Connector Route Alternative would follow the Proposed Action Alternative route to approximately MP 136.5, at which point it would turn and trend in a northeasterly direction toward the Echo Springs pump station (**Figure 2.4-1**). The following sections discuss the issues with each alternative and why they were eliminated from consideration.

2.4.1 South Connector Route Alternative

The proposed facilities needed for this alternative would not change substantially from the Proposed Action. The pump station, meter station, and pigging facility configurations would be the same. The total number of MLVs would remain the same, but the locations between MP 0.0 and MP 42.0 would change. The primary differences between this alternative and the Proposed Action would be the amount and type of land and resources crossed. A summary comparison of the key resources that would be impacted by the South Connector Route Alternative compared to the Proposed Action is presented in **Table 2.4-1**.

The South Connector Route Alternative would be approximately 3 miles shorter than the Proposed Action. However, it is unlikely that this alternative would result in a significant reduction in total acreage impact due to the steep slopes and side slope construction that would be required, as well as multiple waterbody crossings that would require additional TWAs for construction. In addition, the corridor around Colorow Mountain is extremely crowded with existing pipelines and there is limited room for an additional pipeline. It is anticipated that construction along this route would require additional ROW associated with the increase in side-slope construction.

Under this alternative, the ROW would parallel Piceance Creek for approximately 20 miles. Due to meanders in the creek, the creek itself would be crossed numerous times. A number of tributaries also would be crossed near their confluences with Piceance Creek. This would increase the number of stream crossings by 32 beyond those of the Proposed Action within the first 42 miles. Many of the additional crossings would involve open cuts near the Piceance Creek mainstem. In spite of BMPs to control erosion, sedimentation, and spills, adverse water quality impacts during construction likely would be more significant than the potential impacts from the Proposed Action. Additionally, the proximity of this alternative to a long segment of Piceance Creek increases the potential risks for adverse water quality impacts from pipeline rupture, leaks, or maintenance activities during operations.

Due to the proximity to Piceance Creek, the South Connector Route Alternative would impact more wetland/riparian habitat and hydric soils than the Proposed Action route. Hydric soils are generally an indicator of the presence of wetlands, which are sensitive to disturbance and typically prone to compaction and displacement by heavy equipment. The increased presence of wetlands and waterbodies and the associated crossing locations along the South Connector Route Alternative increases the overall likelihood of adverse impacts to surface water quality, wetlands, and aquatic and riparian-associated plant and wildlife species over those associated with the Proposed Action.

Table 2.4-1 Comparison of Key Resources Impacted by the South Connector Route Alternative and the Proposed Action (MP 0.0 to MP 42.0)

Resource	Analysis Parameter	Proposed Action	South Connector Route Alternative
Miles Crossed			
Project Total		152.2	149.2
Per Route Alternative		42.0	39.0
Co-location	Parallel to Existing Utilities (e.g., pipelines, transmission lines)	36.3	36.0
Wildlife	Mule Deer Severe Winter Range	13.6	24.5
Visual	Visual Resource Management (VRM) II	0.1	0.8
Acres of Impact			
Project Total		1,599	1,553
Colorado Total		1,007	955
Soils (Colorado only)	Topsoil Depth >18 inches	95	134
	Hydric Soils	2	58
Number of Occurrences			
Oil and Gas Wells	Wells within 400 feet of centerline	8	15
Surface Water Crossings	Perennial Stream Crossings	3	7
	Stream Crossings	20	43
	Piceance Creek Crossings	1	6
	Dry Fork Piceance Creek	1	1
	White River	1	1

The primary land uses crossed by the South Connector Route Alternative would be rangeland and forest. This alternative would impact previously undisturbed forested and shrubland communities as well as critical habitat (i.e., Severe Winter Range) for big game species such as mule deer. More than half the length of this Alternative would be within Mule Deer Severe Winter Range habitat, compared to less than a third of the length of the comparable section of the Proposed Action.

There are 15 oil and gas wells within 400 feet of the pipeline centerline of the South Connector Route Alternative while between MP 0.0 and MP 42.0 along the Proposed Action route there are only eight oil and gas wells. The increased number of oil and gas wells in close proximity presents a greater safety concern and increases the potential that the pipeline would need to be re-routed to avoid these wells.

The landscape that would be crossed by the South Connector Route Alternative consists of gently rolling landforms with vegetation limited to shrubs or grasses, diverse riparian landscape, and steeply sided

landforms with shrubs and coniferous vegetation. View distances range from foreground, to middleground, and background (more than 5 miles). Compared to the Proposed Action, approximately 0.7 additional miles of VRM Class II and 1.1 fewer miles of VRM Class III would be dedicated to operational pipeline ROW for the Project life.

Considering the anticipated undesirable residual impacts associated with this route as noted above, as well as the problems encountered during construction of the recent Entrega pipeline along that route, the South Connector Route Alternative was eliminated from detailed analysis.

2.4.2 North Connector Route Alternative

Like the South Connector Route Alternative, the proposed facilities needed for this alternative would not change substantially from the Proposed Action. The pump and meter station configurations would be the same as would the pigging facilities. The total number of MLVs and their locations would remain the same. The primary concern with this alternative is that it would open a new corridor for pipelines and other utilities. The Proposed Action avoids impacts associated with opening a new corridor by following an existing utility ROW as the route turns northeast south of Wamsutter toward the Echo Springs Pump Station. A summary comparison of the key resources that would be impacted by the North Connector Route Alternative compared to the Proposed Action is presented in **Table 2.4-2**.

This alternative would shorten the overall length of the pipeline by approximately 3 miles, resulting in less total surface disturbance; however, the entire 13-mile length of the alternative route would be across greenfields rather than running parallel to existing previously disturbed areas.

Construction activities through previously undisturbed areas often contribute to the spread of noxious weeds. Vegetation removal and soil disturbance during construction can create optimal conditions for the establishment of noxious weeds. Constructing through previously disturbed areas would limit the potential spread of noxious weeds to previously undisturbed areas.

The North Connector Route Alternative would be located immediately adjacent to Echo Spring, and excavation in the vicinity is likely to have adverse impacts on the duration or timing of flows from this feature. Given that surface water resources are sparse in the area, any such effect would be an adverse impact to the available resource.

During operations, any spills or leaks that occurred would be isolated in the enclosed basins nearby. Although such events are unlikely, they may adversely impact temporary habitats associated with dry or seasonal lakes in the area. Due to the isolated and intermittent or ephemeral nature of ponding in these features, a spill or leak would have minimal effect on surface water resources in the dry lakes. However, if an operational event were to reduce flow or water quality at Echo Spring, it would result in adverse impacts.

Although this alternative would impact previously undisturbed forested and shrubland communities, no additional big game critical winter habitat would be crossed. Total miles crossed and acreages impacted for big game critical winter habitat would be the same as the Proposed Action. However, this alternative would cross 60 percent more previously undisturbed habitat for the mountain plover, a BLM sensitive species.

There are 15 oil and gas wells within 400 feet of the pipeline centerline of the North Connector Route Alternative while between MP 136.5 and MP 152.2, along the Proposed Action route, there are only 2 oil and gas wells.

When compared to the Proposed Action, the North Connector Route Alternative would disturb less land; however, it would generally have a greater impact on resources. Considering the anticipated undesirable residual impacts associated with this route as noted above, the North Connector Route Alternative was eliminated from detailed analysis.

Table 2.4-2 Comparison of Key Resources Impacted by the North Connector Route Alternative and the Proposed Action (MP 136.5 to MP 152.2)

Resource	Analysis Parameter	Proposed Action	North Connector Route Alternative
Miles Crossed			
Project Total		152.2	149.2
Per Route Alternative		15.7	12.7
Co-location	Parallel to Existing Utilities (e.g., pipelines, transmission lines).	15.2	0.0
Wildlife	Mountain Plover Habitat	3.5	5.7
Acres of Impact			
Project Total		1,599	1,562
Wyoming Total		592	574
Number of Occurrences			
Oil and Gas Wells	Wells within 400 feet of centerline	2	15
Surface Water Crossings	Stream Crossings	5	8
	Echo Springs Draw	0	2