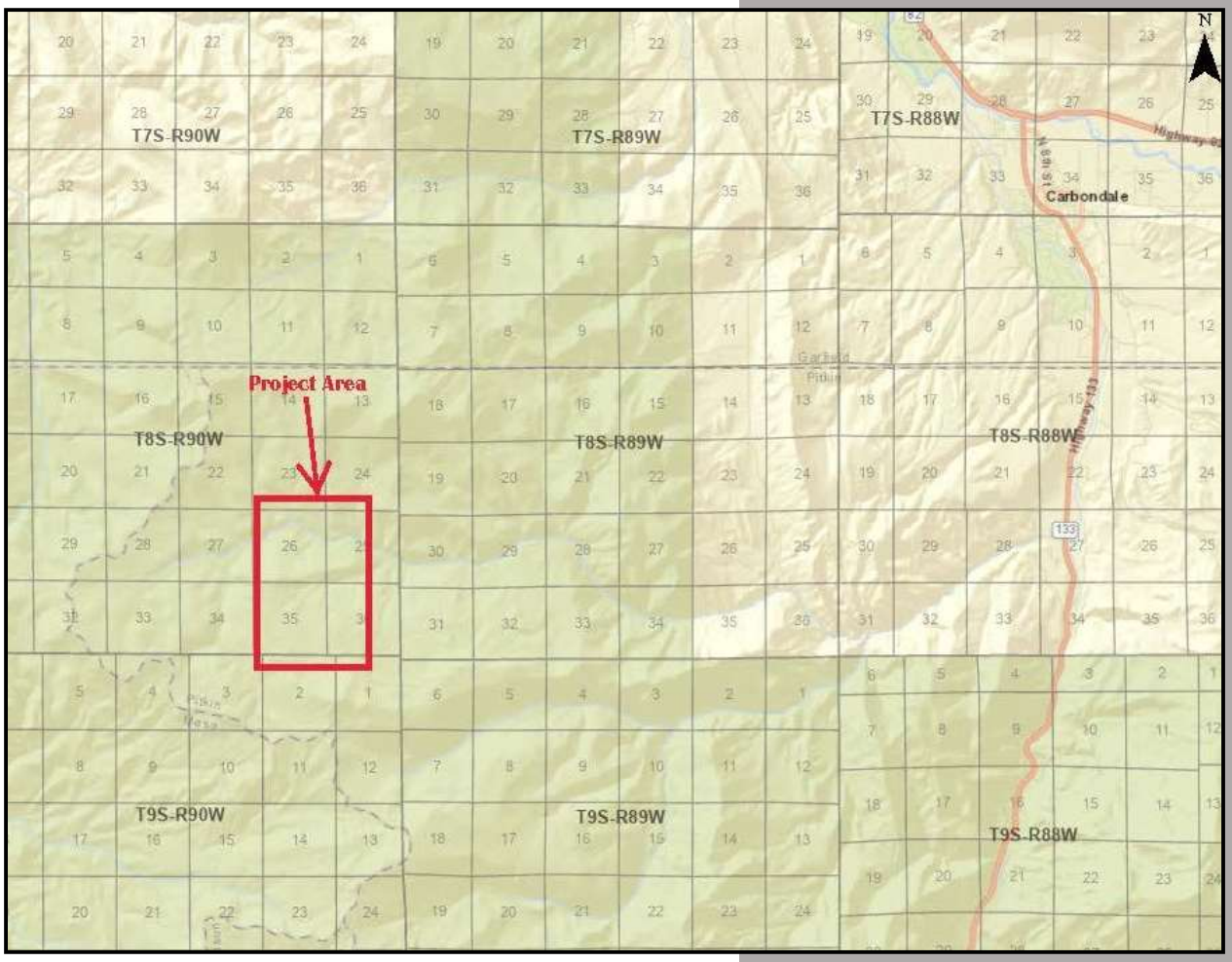
RMNG Wolf Creek Storage Area 10-inch Pipeline on USFS Lands

Plan of Development



Rocky Mountain Natural Gas LLC

(dba Black Hills Energy)

April 6, 2023

Updated May 18, 2023

Updated June 26, 2023

PRINCIPLES

Rocky Mountain Natural Gas LLC
dba Black Hills Energy
7001 Mt. Rushmore Road
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PROJECT CONTACTS

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PROPERTY OWNER

Federal Lands (USFS-managed)

LEASE

Per Lease #14080001181141, RMNG is authorized to operate and maintain on lands managed by the U.S. Forest Service (USFS) the Wolf Creek Storage Area with associated well pads, pipelines, and other related above-/below-ground appurtenances.

CONTRACTOR

Construction – TBD

ISSUES

- Safety hazards: Vintage and top of ground pipe
- Reliability: Inefficient, reduced reliability of product delivery

PURPOSE AND NEED

Rocky Mountain Natural Gas LLC (RMNG), doing business as (dba) Black Hills Energy (BHE), owns, operates, and maintains the Wolf Creek Storage Area (WCSA) of well pads, pipelines, and other related above-/below-ground appurtenances for the storage and transportation of natural gas to and from the Storage Field. The WCSA is situated all on federal lands managed by the USFS as follows:

- T8S, R90W: Sections 23, 26, 35, and 36
- T9S, R90W: Sections 1 and 2

All in the 6th Principal Meridian, Pitkin County, Colorado and located approximately 18 miles south of Glenwood Springs and approximately 12 miles southwest of Carbondale.

Please refer to ***Appendix A*** for the **Vicinity Map.**

The purpose of the Proposed Action (PA) in this Plan of Development (POD) is to address: 1) the safety hazards associated with 1960s vintage 3-inch steel pipe that is shallow and exposed along certain sections, and 2) the reliability issues this vintage 3-inch pipe poses within the WCSA. Since the establishment of the Wolf Creek Unit in the 1960s as a producing oil and gas field and then its conversion to a storage field in 1972, some of WCSA's existing infrastructure is considered vintage, based on their initial installation dates, and is no longer compliant with newer regulations and

requirements from the Federal Department of Transportation's Pipeline and Hazardous Materials Safety Administration (PHMSA). Therefore, in order to remain compliant with PHMSA and continue providing safe, reliable energy to customers, RMNG needs to replace the vintage 3-inch transmission pipe sections between the Wolf Creek Master (WCM) and Well #71. Consequently, with the replacement of vintage pipe, additional requirements in 49 CFR 192 for onshore transmission pipelines are triggered that RMNG must also comply with.

NOTE: The proposed improvements discussed herein would not increase the storage capacity of the WCSA; the proposed improvements pertain only to the deliverability of natural gas to and from the WCSA.

PROPOSED ACTION (PA)

Rocky Mountain Natural Gas LLC's PA is to install approximately 15,200 LF of new 10-inch diameter transmission steel line to be buried within minimum cover depth of 42-inches along the existing pipeline route between WCM (Latitude 39.338114° Longitude -107.412702° in Section 26, T8S, R90W) and Well #71 (Latitude 39.309108° Longitude -107.396216° in Section 36, T9S, R90W). Please refer to the **Overview Site Plan Map** in ***Appendix B***. The new 10-inch pipeline would replace segments of existing 3-inch pipeline, which will be abandoned in place once the new 10-inch is in-service. The route of the new 10-inch pipe would run parallel with the existing 3-inch, 4-inch, and 8-inch pipelines and would connect at the existing 4x3 (Latitude 39.307693° Longitude -107.405888° in Section 2, T9S, R90W) and 8x4 (Latitude 39.315617° Longitude -107.405553° in Section 35, T8S, R90W) above-ground valve assemblies as well as at the Well #35-1 tie-in location (Latitude 39.324169° Longitude -107.403739° in Section 26, T8S, R90W) along the designated route. Please refer to the **Alignment Sheets** in ***Appendix B*** for a more zoomed-in view of the route.

The PA also includes: 1) the installation of approximately 60 LF of new 4-inch lateral steel pipe, buried within minimum cover depth of 42-inches, between the new 10-inch pipe and existing 4x3 above-ground block valve, converting it to a 4x4 valve assembly; 2) the installation of a new above-ground 10-inch block valve assembly adjacent to the 8x4 valve assembly; 3) the removal of most buildings and above-ground valve assemblies at Well #4 (Latitude 39.323067° Longitude -107.402872° in Section 35, T8S, R90W); 4) the installation of two (2) bi-directional launcher/receiver barrels, one at WCM, the other at Well #71; 5) the reconfiguration of valve assemblies at WCM to accommodate the connection of the new 10-inch pipeline, and 6) the installation of approximately 15,200 LF of 4-inch conduit for fiber optic cable with 5 associated underground vaults all in the same pipeline trench of the new 10-inch pipeline route. All associated reconfiguration at WCM would occur within the fenced limits of WCM and no new disturbance would occur outside the existing pipeline corridor. The installation of the bi-directional barrels would provide RMNG the capability to perform in-line inspections (ILI) on the 10-inch pipeline between WCM and Well #71, a capability not currently possibly on the existing 3-inch pipeline segments.

Temporary Workspace/Staging Areas

To accommodate the equipment for this project, RMNG is proposing two (2) temporary workspace areas (TWAs) on already disturbed well pad locations. The two TWAs, located in Section 35, T8S, R90W, total approximately 1.18 acres (51,448 sqft) in size.

- TWA #1: 0.62 acre (27,035 sqft) on active Well #35-1, and
- TWA #2: 0.54 acre (23,630 sqft) on abandoned Well #7.

Please refer to ***Appendix C*** for zoomed-in maps of these TWAs.

Access Routes and Traffic Control

RMNG and its contractors would utilize existing roads and pipeline ROW as access routes, as depicted on the ***Overview Site Plan Map*** in ***Appendix B***. Access routes to be utilized for construction equipment between Wolf Creek Master, Well #71 and the ROW work limits would be: Fourmile (FS 300.3), Wolf Creek (FS 329.1), Well No 5 (FS 300.4), and Twin Peaks (FS 321.1). Approximately 3,010 LF of the new 10-inch pipeline would be installed in Twin Peaks Rd (FS 321.1) resulting in little or no vegetation removal along this section of the pipeline route.

For the section of 10-inch pipe to be installed within Twin Peaks Road (FS 321.1), RMNG proposes to close Twin Peaks Road at its intersection with Fourmile Rd (FS 300.3) for the length of time installation in the road occurs. For this road closure, appropriate traffic control signage would be placed along Fourmile Rd (FS 300.3) ahead of the intersection and at the intersection to inform the public of the road closure.

Traffic control signage would also be installed along the other roads noted above as well as on either side of intersections with the TWAs to advise the public of the presence of construction activities/equipment.

Waterways

From WCM to Well #71, the proposed route of the 10-inch pipeline would cross the North Thompson Creek, a drainage leading to Wolf Creek, and the Thompson Creek Ditch. Please refer to **Photo 1** below. Due to steep terrains on the north and south sides of Thompson Creek and on the north side of the drainage leading to Wolf Creek, both locations would be temporarily flumed to allow for continued water flow while the 10-inch pipeline is installed via open trenching. The temporary flumes will be sized accordingly for both locations to ensure the pre-construction course, condition, capacity, and location of open waters are maintained. All impacts are expected to be temporary in nature, nonetheless, during the summer of 2023, a wetland delineation would be performed to quantify the anticipated impacts to Waters of the United States (WOTUS). Based on the presence of the existing 3-inch, 4-inch, and 8-inch pipelines, the PA may qualify for coverage under the U.S. Army Corps of Engineer's Nationwide Permit 3 Maintenance (NWP 3), a copy of which is included in ***Appendix D***. Construction activities will comply with NWP 3 and the 2022 Regional Conditions to Nationwide Permits in the State of Colorado.

The proposed 10-inch pipeline would also be installed via open trenching through the Thompson Creek Ditch. At this location, if a culvert is not already in place, the PA would be to permanently flume the Ditch with the installation of a 6-ft wide diameter culvert, extending approximately 5 feet on either side of the pipeline work limits, to be topped with road base and soil. This permanent improvement would be the width of the Ditch by approximately 60 feet long. If a culvert is already in place, RMNG and its contractor would trench below the existing culvert to cross the ditch with the pipeline.

If dewatering is necessary in the trench, water will be pumped out to a filter bag structure and allowed to infiltrate to groundwater in the immediate vicinity. Uncontaminated groundwater will be discharged to the ground at a rate slow enough to control the discharge; no ponding, erosion, or runoff to state waters or other drainage conveyance systems will occur. No chemicals or processing will be utilized to treat water prior to discharge. There will be no direct discharge to any WOTUS, including Thompson

Creek Ditch, and control measures will be in place to manage potential for sedimentation, erosion, and runoff.

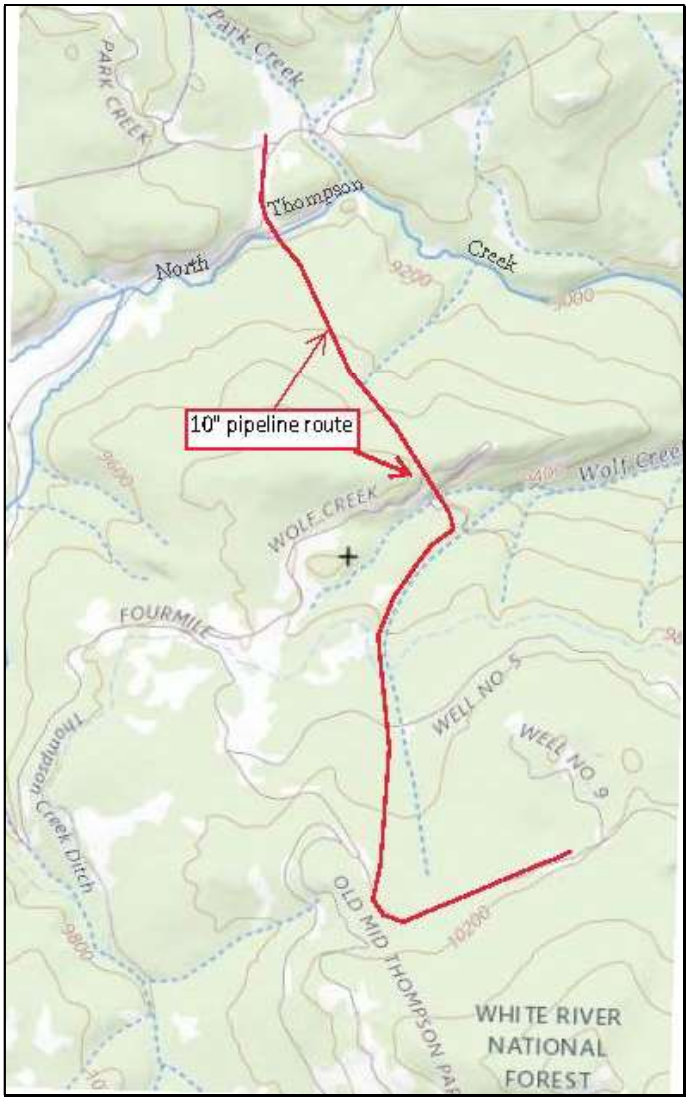


Photo 1

TIMELINE

The following describes RMNG's project-related activities for the next three years (2025, 2026, and 2027) for the PA. RMNG's intent is to complete the installation of all pipelines, valve assemblies, and bi-directional barrels in 2026, however, these activities could extend into 2027 in the event of unforeseen delays. Additionally, the timeframes noted below are weather dependent.

2025 – June to October

- Pothole:
  - In order to survey the exact location of existing below-ground infrastructure at tie-in locations along the pipeline route, RMNG will need to perform a total of approximately 56 potholes. The following is a breakdown of locations and the estimated number of potholes:
    - Well #71: 8 potholes

- 4x3 Valve set: 4 potholes
- 8x4 Valve set: 10 potholes
- Well #4: up to 12 potholes
- Well #35-1 tie-in: 6 potholes
- Master and surrounding area: Approximately 16 potholes

The water for the potholing would be trucked in and stored in clean water frac tanks temporarily situated at one or both of the well pad locations. RMNG seeks approval as a part of this PA to dispose of the used water at the Forest Service's gravel pit.

- Survey:
  - Survey pipeline route and tie-in locations for the development of construction alignment sheets and tie-in details.

2026 – June to October

- Cleaning ROW:
  - Downed trees within the designated pipeline route would be shifted to the edge of work limits to allow for equipment to access/travel the route. At the time of reclamation, these downed trees would be redistributed across the pipeline route to deter motorized use on the corridor. Any standing trees removed during this project would be in accordance with USFS Timber sales process.
- Construction:
  - Install 15,200 LF of 10-inch pipeline and 60 LF of 4-inch pipeline via open trench method.
  - Install 15,200 LF of 4-inch conduit for fiber optic cable with 5 underground vaults, if construction budget allows.
  - Assemble and install 10-inch above-ground facilities (valve assemblies, tie-ins at WCM, Well #71, and Well 35-1 Tie-in).
  - Remove all above-grade features at Well #4, including buildings, except the well-head, its building, and the panel for the deep well rectifier.
  - Replace or add culverts within roads, if needed, and resurface during final reclamation.
  - Temporarily flume North Thompson Creek and drainage leading to Wolf Creek to install 10-inch pipeline via open trenching.
  - If needed, permanently flume Thompson Creek Ditch to install 10-inch pipeline via open trenching.
  - Utilize Well #7 and Well #35-1 as TWAs (51,448 sqft, 1.18 acres in size).
  - Final reclamation of pipeline route.

Total anticipated disturbance for the pipeline work locations: 50 feet by 15,260 feet (763,000 sqft, 17.52 ac).

TOTAL DISTURBANCE: approximately 814,400.8 sqft (18.70 ac).

2027 – June to October

- Completion of pipeline construction work if delayed from 2024.
- Completion of reclamation if delayed from 2024.
- Complete any needed metering at: WCM, Well #71, Well 35-1 Tie-in as well as at the 10-inch, 4x4, and 8x4 valve assemblies.

Estimated Construction Equipment
The anticipated equipment and total days of use onsite would vary based on the selected contractors' preference, site conditions, and weather. Expected equipment is itemized below.

Line locators
Bulldozers
Forklift
Front-end loaders
Lowboy truck
Motor grader
Office/Tool trailer
Pickup trucks
Semi-trucks (delivery of pipe)
Sidebooms
Skid Trucks
Backhoes
Trackhoes/Excavators
Pipeline Bending Machine
Hydroseeder
Pothole truck
Pothole trailer equipment
Side-by-Sides
30-60 – Personnel on site at one time (estimated and depending on number of crews)

Refueling of construction equipment would occur at the TWAs, well pads, and via designated fuel trucks in predetermined re-fueling areas along the proposed route identified in stages by the construction contractor as construction progresses. Refueling contractor will maintain a spill kit either onsite or in the truck. Secondary containment would be placed under fueling stations and onsite fuel tanks. The use of concrete is anticipated for pad supports for the bi-directional barrels and valve assemblies, therefore a concrete wash-out area will be designated within the disturbed boundaries of Well #7 and WCM.

RESOURCE PROTECTION MEASURES

- RMNG and its contractor shall comply with all lease permit terms as well as all applicable federal, state, and local environmental laws, orders, and regulations.
- To avoid the spread of noxious weeds, equipment will be washed prior to entering the work areas for the first time and prior to each subsequent return, if removed from site. There are no plans to reroute, change the dimensions of, place excavated materials within, or install facility structures or components within natural drainage channels.
- Prior to work activities commencing, all personnel will be instructed on the protection of cultural resources with reference to relevant laws and penalties, and the need to cease work in the location if cultural resource items are discovered.
- Should any previously unknown historic/prehistoric sites or artifacts be encountered during work activities, all land altering activities at that location will be immediately suspended and the discovery left intact until such time the appropriate land management agency is notified and appropriate measures taken to assure compliance with the National Historic Preservation Act and enabling legislation.

- To ensure compliance with the Migratory Bird Treaty Act, RMNG will incorporate USFS, Colorado Parks and Wildlife (CPW), and US Fish and Wildlife Service (USFWS) guidelines for raptor protection if work activities will occur during the breeding season. Raptor nest surveys will be conducted prior to work activities commencing. Migratory bird survey will be completed 1 week prior to work related activities commencing. If an active avian nest is found within the project area, seasonal buffers and timing restrictions will be determined through coordination with the affected agency and will utilize guidance as outlined in CPW's Recommended Buffer Zones and Seasonal Restrictions for Colorado Raptors (CPW 2008) on USFS administered lands. Buffers will be determined according to species, existing disturbance in the area, and line of sight. If complete avoidance of a buffer is not feasible, a qualified biological monitor could be used to observe the nest during construction activities to ensure the activity does not disturb nesting activities. The biological monitor will have the authority to halt or modify construction if an activity is likely to result in nest abandonment.
- RMNG and its contractor will take all precautions to prevent a wild-land fire from starting as a result of work activities. In the event fire restrictions are implemented affecting work within the designated work areas, RMNG and its contractor will adhere to any and all conditions.
- In fire season, care will be given to make sure vehicles do not park in areas that would block ingress/egress access for emergency vehicles.
- To prevent fires from being started by the vehicles, vehicles would not park in areas with tall grass or brush.
- Whether fire restrictions are in place or not, a fire cache of tools will be maintained onsite and will contain at a minimum:
  - One shovel per person;
  - One water-filled 4 or 5 gallon backpack pump ("Indian" or equivalent); and
  - One axe or Pulaski.
  - Type ABC rated fire extinguishers are required and will be available during all operations at the following capacities:
    - One 2 pound per pickup;
    - One 5 pound for trucks over 1 ton Gross Vehicle Weight; and
    - One 10 pound per dozer, motor patrol, scraper or other earthmoving equipment.
- A water tanker trailer can be made available onsite if determined it is necessary by USFS and RMNG personnel.
- RMNG/BHE operates under a safety program in compliance with all applicable federal, state, and local safety standards and requirements, RMNG/BHE general practices and policies. The safety program includes: procedures for accident prevention, use of protective equipment, medical care of injured employees, safety education, fire protection, and general health and safety of employees.
- A Colorado Department of Public Health and Environment (CDPHE) Construction Stormwater Permit will be obtained prior to construction. The Stormwater Management Plan (SWMP) will be available for review after the summer of 2023 to allow time for site visits and thoughtful control measure design. Control measures will be designed with good engineering hydrologic and pollution control practices in mind.
- Appropriate erosion control measures (ECMs), such as straw wattles, silt fence, check dams, or straw bales as outlined in the Stormwater Management Plan (SWMP) will be installed. Vegetative slash, if any, may be utilized to assist in the stabilization of disturbed areas or construction boundaries.
- Prior to construction, only necessary vegetation will be brush hogged or removed.
- Topsoil will be segregated as necessary to be utilized during post-construction reclamation.
- Remaining spoil materials left over after installation will be spread evenly along the ROW.

- Reclaim all work-related disturbance areas to approximate pre-construction conditions/contours.
- Scarify soil to assist with vegetation establishment.
- Reseed with the USFS-specified weed-free seed mix. Soil amendments could be added, if determined necessary.
- Install ECMs, including but not limited to biodegradable blankets, wattles, straw bales, etc. in reclaimed areas to encourage regrowth and soil stability.
- Avoid driving/operating equipment on or disturbing saturated soils that would create ruts deeper than 3 inches. Vehicular use in such areas will cease until ground conditions are drier.
- Work activities will be restricted to the defined staging areas, access routes, and pipeline ROW.
- Conduct stormwater inspections during installation work activities and post-installation to identify and address erosion, noxious weed, and/or vegetation regrowth issues.

ALTERNATIVES CONSIDERED BUT NOT SELECTED

The following are the two alternative actions considered but not selected:

No Build Alternative

The "No Build" alternative was not selected for two reasons:

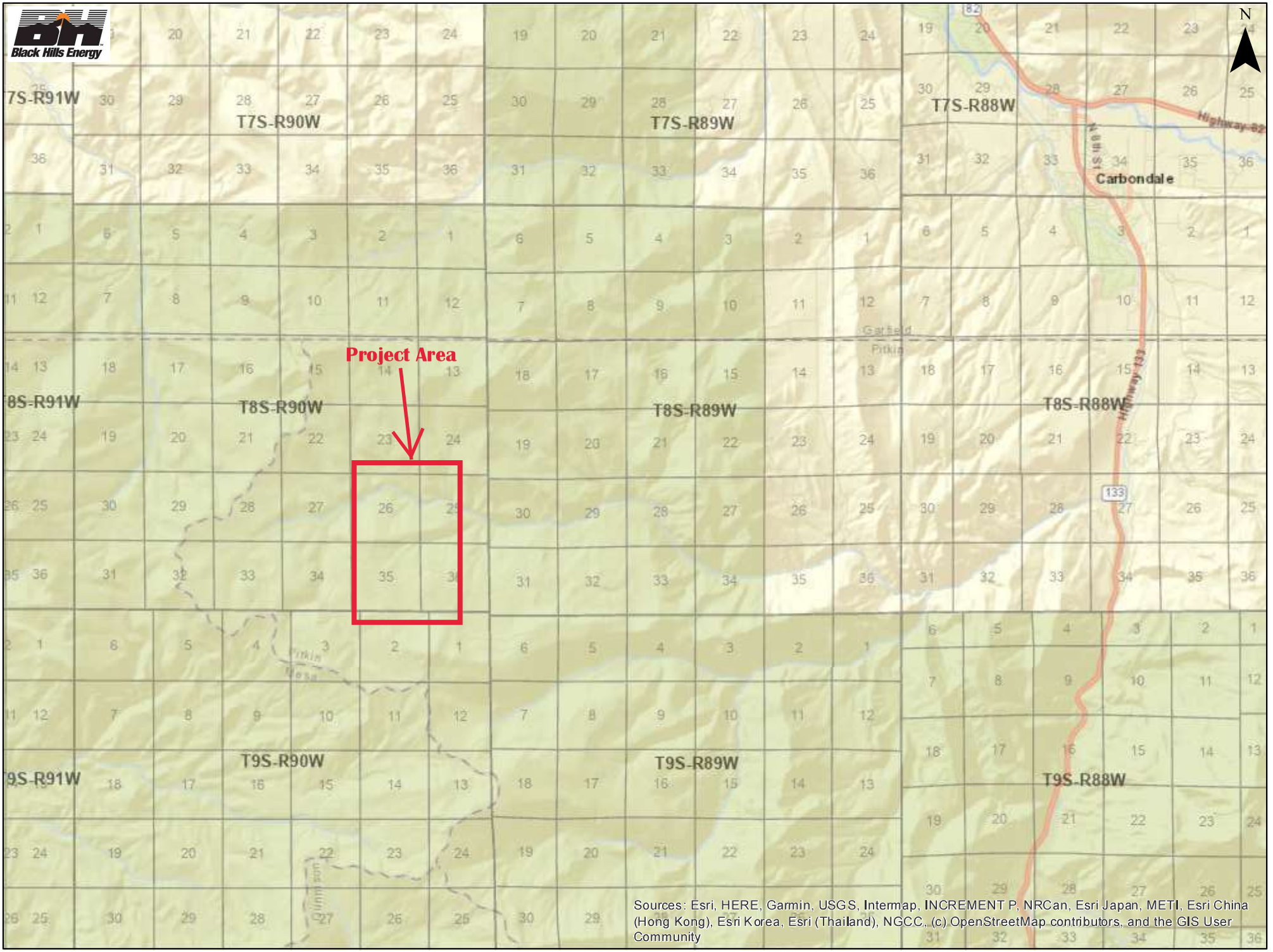
1. The inherent risk of operating vintage pipe that is shallow and exposed in certain locations. If not replaced, could be a high risk to lives, property, and the environment.
2. RMNG is required to comply with new PHMSA regulations, thus the need for the PA.

Alternative Route

RMNG considered the alternative of installing approximately 27,170 LF of new 10-inch pipeline along/within the existing roads of Fourmile (FS 300.3) and Twin Peaks (FS 321.1) to connect WCM and Well #71. For this alternative action, longer connecting lateral pipelines within Well No 5 (FS 300.4) and Wolf Creek (FS 329.1), approximately 3,230 LF and 5,150 LF respectively, would also be necessary to connect the 10-inch pipeline to the existing 8x4 and 35-1 tie-in valve assemblies. As this would necessitate the full closure of all affected roads from public access for the duration of construction activities, this alternative was not selected.

APPENDIX A

Vicinity Map



1 inch = 12,037 feet

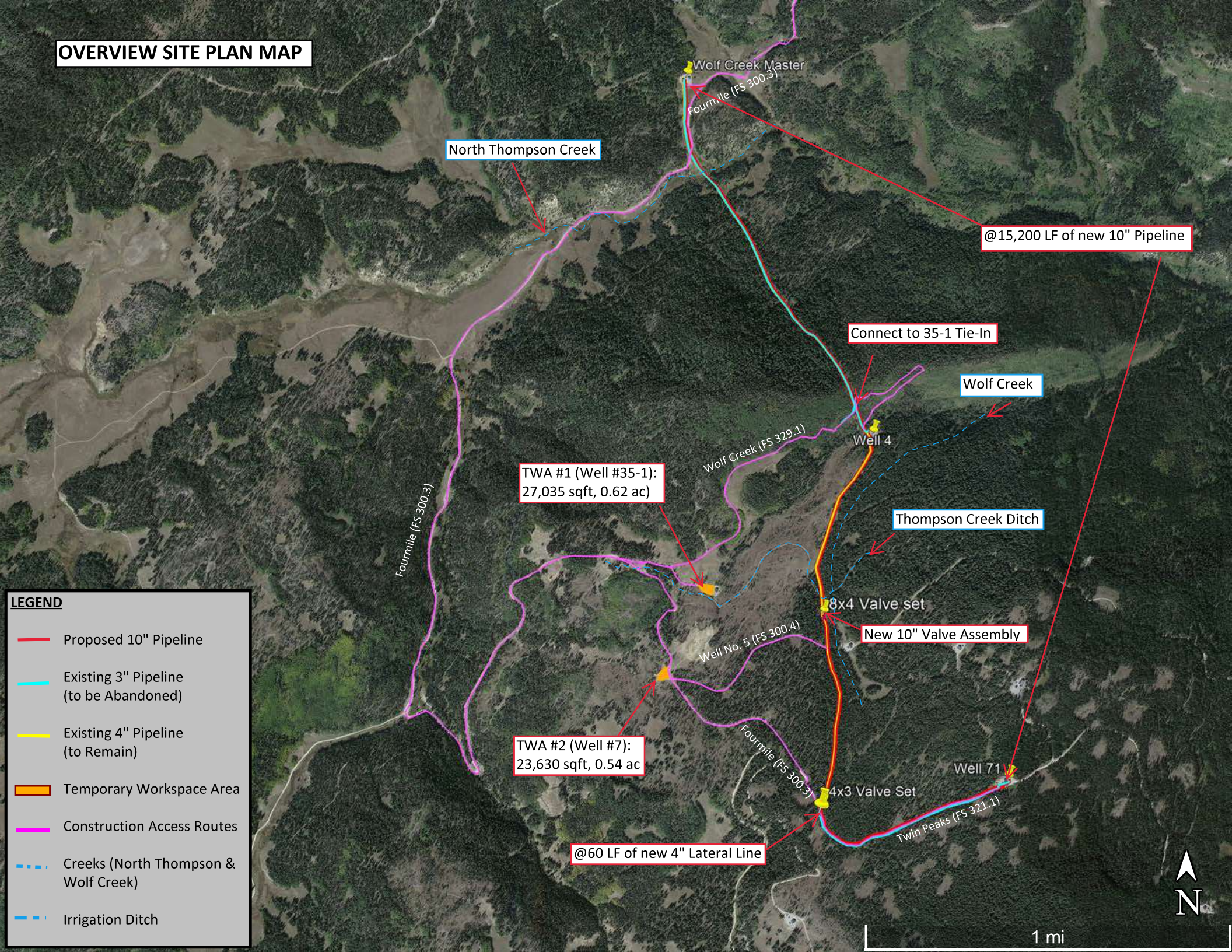
Author: Web Map User

ArcGIS Web Map

Date: 3/9/2023

APPENDIX B

Overview Site Plan Map
Alignment Sheets


OVERVIEW SITE PLAN MAP
Wolf Creek Master
Fourmile (FS 300.3)
North Thompson Creek
@15,200 LF of new 10" Pipeline
Connect to 35-1 Tie-In
Wolf Creek
Well 4
Wolf Creek (FS 329.1)
TWA #1 (Well #35-1):
27,035 sqft, 0.62 ac)
Fourmile (FS 300.3)
Thompson Creek Ditch
8x4 Valve set
New 10" Valve Assembly
Well No. 5 (FS 300.4)
TWA #2 (Well #7):
23,630 sqft, 0.54 ac
Fourmile (FS 300.3)
Well 71
4x3 Valve Set
Twin Peaks (FS 321.1)
@60 LF of new 4" Lateral Line
LEGEND
Proposed 10" Pipeline
Existing 3" Pipeline
(to be Abandoned)
Existing 4" Pipeline
(to Remain)
Temporary Workspace Area
Construction Access Routes
Creeks (North Thompson &
Wolf Creek)
Irrigation Ditch
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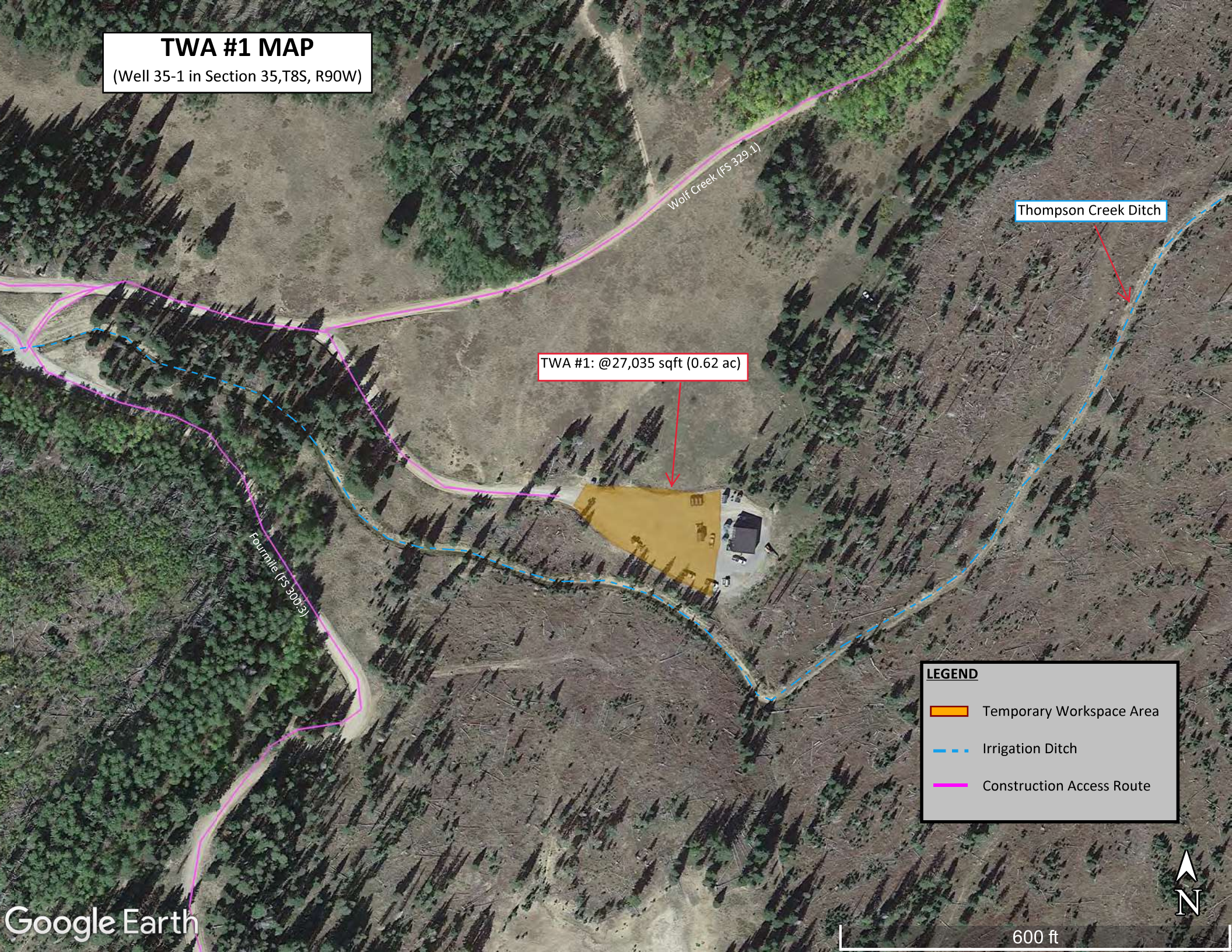
APPENDIX C

Temporary Workspace Area Maps


TWA #1 MAP
(Well 35-1 in Section 35,T8S, R90W)
Wolf Creek (FS 329.1)
Thompson Creek Ditch
TWA #1: @27,035 sqft (0.62 ac)
Fourmile (FS 300.3)
LEGEND
Temporary Workspace Area
Irrigation Ditch
Construction Access Route
N
600 ft
Google Earth


TWA #2 MAP
(Well 7 in Section 35,T8S, R90W)
Fourmile (FS 300.3)
TWA #2: 23,630 sqft (0.54 ac)
Well No. 5 (FS 300.4)
Fourmile (FS 300.3)
LEGEND
Temporary Workspace Area
Construction Access Route
N
600 ft
Google Earth