U.S. Department of the Interior
Bureau of Land Management
White River Field Office
220 E Market St
Meeker, CO 81641

ENVIRONMENTAL ASSESSMENT

NUMBER: DOI-BLM-CO-110-2011-0170-EA

CASEFILE/PROJECT NUMBER: COC75171 (water lines ROW)

PROJECT NAME: Williams' Water Containment and Storage System

LEGAL DESCRIPTION:
Mautz Ranch: T2S, R98W, Sec.19
Central Tank: RGU 12-14-298: T2S, R98W, Sec.14
Central Tank: RGU 31-24-198: T1S, R98W, Sec.24, NWSW
Central Tank: RGU 13-24-198: T1S, R98W, Sec.24, NWNE
Well Pad RG 24-14-298: T2S, R87W, Sec.14, SESW

APPLICANT: Williams Production RMT Company LLC

PURPOSE & NEED FOR THE ACTION:
The purpose of the action is to allow the development of Federal leases on Bureau of Land Management (BLM) surface through the development of a centralized water transportation system. The need for the action is established by the BLM's responsibility under the authority of the Mineral Leasing Act of 1920 as amended by the Federal Land Policy and Management Act of 1976 (FLPMA) to respond to the request to develop the Federal leases.

Decision to be Made:
Whether to implement the Proposed Action, as mitigated in DOI-BLM-CO-2011-0170-EA authorizing the (a) construction and placement, operation, and maintenance of four 35,700 barrel (bbl) tanks (to function as an ancillary frac water storage facility) on existing federal well locations (b) issuance of ROWs on and off lease to allow for the transport of these collected water, and (c) transportation of federal water to and from a multi-well pit on Mautz Ranch, and if so, under what conditions.

SCOPING, PUBLIC INVOLVEMENT, AND ISSUES:

Scoping: Scoping was the primary mechanism used by the BLM to initially identify issues. Internal scoping was initiated when the project was presented to the White River Field Office (WRFO) interdisciplinary team on 9/20/2011. External scoping was conducted by posting this project on the WRFO's on-line National Environmental Policy Act (NEPA) register on 10/3/2011.

DESCRIPTION OF PROPOSED ACTION AND ALTERNATIVES:

Background/Introduction:

Williams' Production RMT Company LLC (Williams) has plans to build and operate a centralized water facility. The herein proposed centralized tanks would no longer be needed after the Ryan Gulch facility is built and operational; the operator claims this work would be complete in 2-4 years.

Proposed Action:

Williams proposes a containment and storage water management system for the Ryan Gulch Unit. The system involves: (a) locating four 37,500 bbl frac tanks at central location throughout the Ryan Gulch Unit area, (b) installing pipeline infrastructure around that field that allows for transport of flowback water to and from different facilities, (c) construction and use of a multi-well pit on Williams' private Mautz Ranch Property to recycle produced water for new well completions.

The proponent claims that the use of the large frac tanks would replace the setting of 180 standard frac tanks which, in turn, would eliminate 360 truck trips required to deliver water to a given well for completions, or 750 - 1000 loads every week. The operator indicates that 70,000 bbls of recycled produced water is required to complete each well. Approximately 60 wells are planned for 2012. The operator indicates that they have 27 deferred completions but do not have the water containment capacity to complete the wells. The operator also indicates that their current frac water storage capacity is 158,000 bbls. They are able to drill four wells per month with this volume. The four proposed frac tanks would be expected to provide a total usable volume of 178,500 bbls, and the addition of the Mautz Ranch pit is expected to increase the usable volumes of water for well completions by 100,000 bbls. The operator's anticipation is that they would be able to complete up to six wells per month with the addition of the frac tanks, Mautz Ranch pit, and the herein proposed 14 inch gathering lines.

Installation of Large Frac Tanks on RGU 12-14-298
Williams Production RMT Company LLC (Williams) proposes to place two 37,500 bbl tanks on the surface of the Federal Ryan Gulch Unit (RGU) 12-14-298 well pad to function as a centralized frac water facility for completing currently approved and proposed future wells (See Table 1. Williams' 2012 Plan of Development). A 2.5 ft high perimeter berm would be constructed around the working surface of the well pad for secondary containment, and a smaller 12 inch high berm would be placed around each of the tanks for leak detection and containment of minor spills.

Installation of Large Frac Tank on RGU 13-24-198 Well Pad
Williams Production RMT Company LLC (Williams) proposes to place one 37,500 bbl tank on the surface of the RGU 13-24-198 well pad to function as a centralized frac water facility for completing currently approved and proposed future wells (See Table 1. Williams' 2012 Plan of Development). A 3 ft high delineated perimeter berm would be constructed around the working surface of the well pad, and a 12 inch high leak detection berm would be placed below the tank.

Williams' Installation of Large Frac Tank on RGU 31-24-198 Well Pad
Williams proposes to place one 37,500bbl tanks on the surface of the RGU 31-24-198 well pad to function as a centralized frac water facility for completing currently approved and proposed future wells

(See Table 1. Williams' 2012 Plan of Development). A 2.5 ft high berm would be constructed around the perimeter of the working surface of the well pad, and an additional 12 in high berm would be placed below the tank along with leak detection.

Design Features unique to proposed materials and methods at each proposed Large Frac Tank sites: Williams will submit for General Permit Number 5 (GP 05) for produced water tanks from the Colorado Department of Health and the Environment to address air emissions. Williams proposes to leave the tanks on the well pads until such time that they are longer required for frac water transport and staging.

Interim reclamation, as laid forth in the plans and conditions for the approved pads, would commence after the large frac tanks have been removed from the location. In order to ensure adequate topsoil viability and improved interim reclamation of this pad, existing topsoil would be stabilized and seeded until it is needed for reclamation. Topsoil would be seeded with an approved BLM seed mix and straw mulch would be applied. At the time of interim reclamation, topsoil would be sampled to ensure biological viability. If needed, soil would be amended to restore viability before it is utilized in reclamation. Amendment recommendations would be submitted for approval to the BLM prior to implementation.

A leak detection perimeter berm would be installed around each tank and would include a polyethylene liner and collection sump. An impermeable liner would be installed underneath the entire base of the large frac tanks which would also be bermed with a one foot high berm along the outside of the tank to enable it to hold fluids. The collection sump, consisting of 12 inches of gravel, geotextile bedding, and the second poly liner, would be installed under the base of the frac tank. The leak detection berm would contain a perforated collection pipe used to monitor fluid accumulation. Fluid present in the leak detection, if any, would be monitored daily and tested with a conductivity meter to determine if the liquid contains hydrocarbons or if it is simply precipitation. Any accumulated fluids determined to be precipitation would be pumped into the tank via a sump pump.

In addition, a water level monitoring system consisting of a water level pressure transducer and telemetry equipment would be installed inside each tank to monitor tank volumes. Each tank would be fitted with a pressure transducer which sits inside the tank and is linked to a transmitter sitting on top of the tank. The transducer monitors the fluid levels inside the tank, and the attached transmitter sends this data to the Remote Telemetry Unit (Remote Telemetry Unit) located in one of the separators on each pad. The RTU then sends this data to the Operations Center where it is continuously monitored and linked to an alarm. A sudden / unexplained drawdown would be detected by the pressure transducer, sent to the RTU via the connected transmitter, and then sent by the RTU to the Operations Center where it is linked into Williams' well automation and alarm systems. Data is collected by the transmitter every minute and sent by the RTU every three minutes. Refer to the Attachment 1 Proposed Leak Detection System for information about the proposed leak detection system.

In the event of a slow leak, up to six bbls per minute can be pumped through the existing four inch water lines from this pad into the existing water line infrastructure, where it can be recovered at another location. Williams also has plans to install two 14 inch water lines in the existing rights-of-way (ROWs) to this location. Once the infrastructure is installed 25 to 35 bbls of water per minute could be pumped into the existing water line infrastructure and be recovered at another location. In the event of a high volume leak that cannot be handled by evacuating water through the existing buried water lines, the

large frac tank would be emptied by water trucks, which would require one to three hours for mobilization.

To remain in compliance with all SPCC regulations, specifically *40 C.F.R. Part 112*, a 3 ft berm would be installed around the perimeter of the pad, as shown in Attachment 2. Proposed Secondary Containment. The site berm has been sized to ensure that 110 percent of the large frac tank volume could be contained on location. Additional material for construction of this berm would be obtained by re-leveling the pad and incorporating material gained into the existing berm. The new berm would be compacted during construction to ensure that it is capable of keeping fluids on location in the event of a release.

The use of produced waters generated from federal mineral estate and stored at the Mautz Ranch private property is proposed for use as a water stream to complete the wells listed in Table 1; thus, the Mautz Ranch multi-use water pit would be ancillary to the completions of the wells listed in Table 1. Water stored in the large frac tanks would be transported via existing and proposed pipeline infrastructure for completing the wells listed in Table 1.

Reclamation Features

Reclamation/reseeding would comply with Federal (BLM) and Colorado Oil and Gas Conservation Commission (COGCC) regulations. On BLM lands, Williams will comply with seeding requirements as established by the appropriate BLM office.

The following standards will apply to final reclamation.

A. Re-contouring: Unless an agreement is made with the landowner to keep the road and/or pad in place, the disturbed areas surrounding the well location, including the access road will be re-contoured to blend as nearly as possible with the natural topography. Final grading of back-filled and cut slopes will be done to prevent erosion and encourage establishment of vegetation. Existing drainages will be re-established.
B. Re-vegetation: The long term objective is to establish a self-perpetuating plant community that is compatible with and capable of supporting the pre-disturbance land use.

The rate of application of the seed mix listed in the Surface Use Plan in the Master APD is listed in pounds of pure live seed (PLS)/acre. The seed will be certified and there will be no primary or secondary noxious weeds in the seed mixture. The operator shall notify the Authorized Officer (AO) 24 hours prior to seeding and shall provide evidence of certification of the above seed mix to the AO.

All compacted portions of the pad, road, and pipeline route would be ripped to a depth of 18 inches unless in solid rock. Prior to seeding, stockpiled topsoil (stripped surface material) would be spread to a uniform depth that will allow the establishment of desirable vegetation. All unused disturbed areas would be seeded within 24 hours after completing dirt work unless a change is requested by the operator and approved by the AO. If the seed bed has begun to crust over or seal, the seed bed would be prepared by disking or some other mechanical means sufficient to allow penetration of the seed into the soil. In addition, the broadcast seed should be covered by using a harrow, drag bar, or chain.

This Reclamation Plan is subject to all disturbances including pipelines and roads. If it is determined by the AO that the above reclamation standards are not being met, Williams would submit a plan to correct

the problem. Approval of the plan may require special reclamation practices such as mulching, the method and time of planting, the use of different plant species, soil analysis to determine the need for fertilizer, fertilizing, seed-bed preparation, contour furrowing, watering, terracing, water barring, and the replacement of topsoil.

Table 1. Williams' 2012 Plan of Development

Federal RGU 23-25-198 Pad:
Federal RGU 13-35-198
Federal RGU 33-35-198
Federal RGU 413-35-198
Federal RGU 523-35-198

Federal RGU 24-25-198 Pad:
Federal RGU 413-25-198
Federal RGU 314-25-198
Federal RGU 423-25-198
Federal RGU 24-25-198
Federal RGU 424-25-198
Federal RGU 11-36-198
Federal RGU 321-36-198
Federal RGU 521-36-198

Federal RG 24-14-298 Pad:
Federal RG 314-14-298
Federal RG 334-14-298
Federal RG 433-14-298
Federal RG 33-14-298
Federal RG 513-14-298
Federal RG 13-14-298
Federal RG 622-14-298
Federal RG 23-14-298
Federal RG 523-14-298

Federal RGU 41-1-298 Pad:
Federal RGU 432-1-298
Federal RGU 441-1-298
Federal RGU 542-1-298
Federal RGU 411-6-297
Federal RGU 342-1-298
Federal RGU 331-1-298
Federal RGU 531-1-298
Federal RGU 41-1-298

Federal RGU 13-24-198 Pad:
Federal RGU 24-24-198
Federal RGU 423-24-198
Federal RGU 23-24-198
Federal RGU 422-24-198
Federal RGU 14-24-198
Federal RGU 413-24-198
Federal RGU 13-24-198
Federal RGU 412-24-198

Federal RGU 31-24-198 Pad:
Federal RGU 421-24-198
Federal RGU 22-24-198
Federal RGU 332-24-198
Federal RGU 21-24-198
Federal RGU 331-24-198

Federal RG 12-14-298 Pad:
Federal RG 313-14-298
Federal RG 512-14-298
Federal RG 412-14-298
Federal RG 12-14-298
Federal RG 312-14-298
Federal RG 611-14-298
Federal RG 511-14-298
Federal RG 11-14-298
Federal RG 42-15-298
Federal RG 541-15-298
Federal RG 341-15-298
Federal RG 411-14-298

Federal RGU 32-25-198 Pad:
Federal RGU 23-25-198
Federal RGU 22-25-198
Federal RGU 422-25-198
Federal RGU 531-25-198
Federal RGU 332-25-198
Federal RGU 532-25-198
Federal RG 42-25-198
Federal RGU 442-25-198
Federal RGU 43-25-198

Water Pipelines: Williams Production RMT Company, LLC requests the construction of two 14 inch water pipelines within existing natural gas and water pipeline ROWs. The water pipelines would be added to transport water used in hydraulic fracturing operations at Williams' federal wells throughout the Ryan Gulch area. The construction width of the ROW would be 50 ft, and the permanent width would be 25 ft. ROW COC75171 would be 195,640 ft (37.05 miles) long, 25 ft wide, and contain approximately 112.28 acres for the two 14-inch water pipelines. The additional water lines would be constructed adjacent to existing natural gas and water pipeline ROWs. A temporary use permit would be issued for the additional 25 feet needed during construction. Temporary use permit COC75171-01 would be 195,640 feet (37.05 miles) long, 25 ft wide, and contain approximately 112.28 acres (See Attachment 6).

In addition to construction of the up to 14 inch water pipelines, Williams requests construction of two 4-inch water pipelines to serve the RGU 12-14-298, RGU 32-14-298, and RGU 31-2-298. The construction would occur simultaneously with the 14 inch water pipelines. ROW COC74741 would be 20,394 ft (3.86 miles) long, 15 ft wide, and contain approximately 7.02 acres for the 4 inch lines to serve RGU 12-14-298 and RGU 32-14-298. ROW COC74206 would be 3,300 feet long, 15 feet wide, and contain approximately 1.14 acres for the two 4 inch pipelines to serve RGU 31-2-298. The additional

water lines would be constructed along existing pipeline ROWs and is included in the total disturbance (112.28 acres) for the 14 inch water pipeline system.

Standard pipeline construction techniques and equipment (e.g., trackhoes, crawler-type tractors, and maintainers) would be utilized. Topsoil would be removed and stockpiled (windrowed), the trenches would be reopened, and the new pipelines would be placed in the trenches. The trenches would be backfilled, topsoil returned, and the ROW reseeded. Williams does not anticipate having to cut any gravel roads and bore any paved roads in order to install the water lines. However, Williams will coordinate all road cutting, boring, and closure activities with Rio Blanco County Road and Bridge Department and will proceed according to their instructions. Where the existing grant authorizes the placement of two produced water lines that have not yet been installed, the new ROW will allow for the additional placement of the herein proposed 14 inch-diameter lines.

Approximately 154,395 ft (29.24 miles) of the proposed water pipeline system has existing pipelines constructed to date, so Williams will be installing approximately 79 percent of the proposed 14 inch water pipelines in existing disturbance. In most locations, the existing and proposed pipelines follow existing roads which would be utilized during construction. Where the ROW does not parallel an existing road, construction equipment will be brought in along the existing ROW (i.e., the portion of the ROW being constructed) to avoid making any new disturbance. After completion of construction, the disturbed areas not used as roadways would be reclaimed following plans, conditions, and stipulations required in the original grants.

The temporary work areas that do not parallel an existing road will be reclaimed. On portions of the ROWs that parallel existing roads, the road surface will be utilized as the temporary work area to the greatest extent possible, and would not be reclaimed after construction, in order to preserve their primary function as a road.

No Action Alternative: Construction and placement, operation, and maintenance of four 35,700 bbl tanks (including issuance of ROWs on and off lease to allow for the transport of these collected water), and transportation of federal water to and from a multi-well pit on Mautz Ranch would not occur. Truck traffic would remain unchanged.

PLAN CONFORMANCE REVIEW: The Proposed Action is subject to and has been reviewed for conformance with the following plan (43 CFR 1610.5, BLM 1617.3):

Name of Plan: White River Record of Decision and Approved Resource Management Plan (White River ROD/RMP).

Date Approved: July 1, 1997

Decision Number/Page: Page 2-5

Decision Language: "Make federal oil and gas resources available for leasing and development in a manner that provides reasonable protection for other resource values."

AFFECTED ENVIRONMENT & ENVIRONMENTAL CONSEQUENCES

Standards for Public Land Health: In January 1997, the Colorado BLM approved the Standards for Public Land Health. These standards cover upland soils, riparian systems, plant and animal communities, special status species, and water quality. Standards describe conditions needed to sustain public land health and relate to all uses of the public lands. Because a standard exists for these five categories, a finding must be made for each of them in an environmental assessment (EA). These findings are located in specific elements listed below.

Cumulative Effects Analysis Assumptions: Cumulative effects are defined in the Council on Environmental Quality (CEQ) regulations (40 CFR 1508.7) as "...the impact on the environment that results from the incremental impact of the action when added to other past, present, and reasonably foreseeable actions regardless of what agency (Federal or non-Federal) or person undertakes such other actions." Table 2 lists the past, present, and reasonably foreseeable future actions within the area that might be affected by the Proposed Action; for this project the area considered was the Natural Resources Conservation Service (NRCS) 5th Level Watershed. However, the geographic scope used for analysis may vary for each cumulative effects issue and is described in the Affected Environment section for each resource.

Table 2. Past, Present, and Reasonably Foreseeable Actions

Action Description	STATUS		
	Past	Present	Future
Livestock Grazing	X	X	X
Wild Horse Gathers	X	X	X
Recreation	X	X	X
Invasive Weed Inventory and Treatments	X	X	X
Range Improvement Projects : Water Developments Fences & Cattleguards	X	X	X
Wildfire and Emergency Stabilization and Rehabilitation	X	X	X
Wind Energy Met Towers			X
Oil and Gas Development: Well Pads Access Roads Pipelines Gas Plants Facilities	X	X	X
Power Lines	X	X	X
Oil Shale	X	X	X
Seismic	X	X	X
Vegetation Treatments	X	X	X

Affected Resources:

The CEQ Regulations state that NEPA documents "must concentrate on the issues that are truly significant to the action in question, rather than amassing needless detail" (40 CFR 1500.1(b)). While

many issues may arise during scoping, not all of the issues raised warrant analysis in an environmental assessment (EA). Issues will be analyzed if: 1) an analysis of the issue is necessary to make a reasoned choice between alternatives, or 2) if the issue is associated with a significant direct, indirect, or cumulative impact, or where analysis is necessary to determine the significance of the impacts. Table 3 lists the resources considered and the determination as to whether they require additional analysis.

Table 3. Resources and Determination of Need for Further Analysis

Determination[1]	Resource	Rationale for Determination
Physical Resources		
PI	Air Quality	See discussion below.
PI	Geology and Minerals	See discussion below.
PI	Soil Resources*	See discussion below.
PI	Surface and Ground Water Quality*	See discussion below.
Biological Resources		
NI	Wetlands and Riparian Zones*	Placement of the four frac tanks on existing locations would have no conceivable influence on riparian communities. A portion of the proposed pipeline system would involve Ryan Gulch, an ephemeral channel comprised of basin big sagebrush and greasewood communities (no riparian character). One of the proposed waterlines crosses Yellow Creek, just below the Stake Springs-Corral Gulch confluence. This portion of pipeline lies adjacent to an existing pipeline ROW and roughly 25 meters from and existing gravel road. Although possible that this system supports riparian communities, the entire area is privately-owned.
PI	Vegetation*	See discussion below.
PI	Invasive, Non-native Species	See discussion below.
PI	Special Status Animal Species*	See discussion below.
PI	Special Status Plant Species*	See discussion below.
PI	Migratory Birds	See discussion below.
PI	Aquatic Wildlife*	The potential effects of the Proposed Action on native (non-special status) fish species are adequately represented by the discussion for endangered Colorado River fish in the Special Status Animal Species section.
PI	Terrestrial Wildlife*	See discussion below.
PI	Wild Horses	See discussion below.
Heritage Resources and the Human Environment		
PI	Cultural Resources	See discussion below.
PI	Paleontological Resources	See discussion below.

Determination[1]	Resource	Rationale for Determination
NP	Native American Religious Concerns	No Native American Religious Concerns are known in the area, and none have been noted by Northern Ute tribal authorities. Should recommended inventories or future consultations with Tribal authorities reveal the existence of such sensitive properties, appropriate mitigation and/or protection measures may be undertaken.
PI	Visual Resources	See discussion below.
PI	Hazardous or Solid Wastes	Spilled or released product would be considered a waste if not properly mitigated.
NI	Fire Management	The Proposed Action lies within B6 and C6 fire management polygon, the sites would require point protection efforts during the management (using AMR) of naturally ignited fires in the C6 polygon and aggressive fire suppression in the B6 polygon.
NI	Social and Economic Conditions	There would not be any substantial changes to local social or economic conditions.
NP	Environmental Justice	According to the most recent Census Bureau statistics (2000), there are no minority or low income populations within the WRFO.
Resource Uses		
NP	Forest Management	The disturbance will occur in previously disturbed areas where there is little to no woody species to manage.
PI	Rangeland Management	See discussion below.
NI	Floodplains, Hydrology, and Water Rights	None of the tank locations are located in a floodplain. Tanks will have two perimeter berms designed to contain stormwater and will be pumped out as water accumulates. As long as the integrity of these berms is maintained and there are no tank failures, stored produced water is will not impact hydrology or water rights.
PI	Realty Authorizations	See discussion below.
PI	Recreation	See discussion below.
PI	Access and Transportation	See discussion below.
NP	Prime and Unique Farmlands	There are no Prime and Unique Farmlands within the project area.
Special Designations		
NP	Areas of Critical Environmental Concern	The Proposed Action is more than 700 m to the west of the Ryan Gulch ACEC and over 1,000 m to the south of the Duck Creek ACEC. This is outside of the life-history buffers of the threatened plant species (*Physaria congesta* and *Physaria obcordata*) that these areas are designated to protect.
NP	Wilderness	There are no designated Wilderness Areas in the WRFO.
NP	Wild and Scenic Rivers	There are no Wild and Scenic Rivers in the WRFO.
NP	Scenic Byways	There are no Scenic Byways within the project area.

[1] NP = Not present in the area impacted by the Proposed Action or Alternatives. NI = Present, but not affected to a degree that detailed analysis is required. PI = Present with potential for impact analyzed in detail in the EA.
* Public Land Health Standard

AIR QUALITY

Affected Environment: The Proposed Action is an attainment area for national and state air quality standards, based on a review of designated non-attainment areas for criteria pollutants, published by the Environmental Protection Agency (EPA 2011). The Proposed Action is located more than 10-miles from any special designation airsheds or non-attainment areas. Non-attainment areas are areas designated by U.S. Environmental Protection Agency (EPA) as having air pollution levels that persistently exceed the national ambient air quality (NAAQ) standards. Projects that could impact special designation areas and non-attainment areas may require special consideration from the air quality regulatory agencies of Colorado Department of Public Health and Environment (CDPHE) and the EPA. The closest special designation areas include Dinosaur National Monument which is located northwest of the project area (designated Class II airshed with Prevention of Significant Deterioration (PSD) with thresholds for sulfur oxides and visibility), and the Mount Zirkel and Flat Tops Wilderness Areas located to north and east of the Proposed Action (designated Class I areas). General conformity regulations require that federal activities do not cause or contribute to a new violation of NAAQ standards; that actions do not cause additional or worsen existing violations of the NAAQ standards; and that attainment of these standards is not delayed by federal actions in non-attainment areas.

The Proposed Action is in Rio Blanco County, which along with Garfield County is called the two County area within the Western Counties Monitoring Region of Colorado. The 2010 CDPHE monitoring assessment for this area showed there were 11 particulate monitors in the western Counties region (APCD 2010). This regional assessment did not include two new BLM sponsored air quality monitoring sites established in 2010 located near Rangley and near Meeker. Local air quality parameters including particulates are being measured at monitoring sites located at Meeker, Rangely, Dinosaur and Ripple Creek Pass near the Flat Tops Wilderness Area. Ozone data have been collected in Meeker and Rangely since 2010 and at Colorado National Monument in Mesa County since 2007. To a limited extent ozone is also measured at Dinosaur National Monument. The closest location for an Interagency Monitoring of Protected Visual Environments (IMPROVE) site is near the Flat Tops Wilderness, northeast of the Project Area. IMPROVE sites measure visibility impairment from air borne particles.

Environmental Consequences of the Proposed Action:

Direct and Indirect Effects: Installation of the proposed facilities would result in short-term impacts on air quality during construction and during operation of the tanks. Increases in the following criteria pollutants are expected to occur due to combustion of fossil fuels during construction activities: carbon monoxide, ozone (secondary pollutant formed photochemically from volatile organic compounds (VOCs) and nitrogen oxides (NOx)), nitrogen dioxide, and sulfur dioxide. NAAQ standards have not been set for non-criteria pollutants. Non-criteria pollutants such as nitric oxide, air toxics (e.g. benzene), and total suspended particulates, among others, would experience slight, temporary increases as a result of the Proposed Action.

The tanks will be used to store produced water that is to be reused for hydraulic fracturing and completion operations of currently drilled and wells to be drilled in the future. The pipeline system will transport this water to and from storage in the tanks to well pads. Produced water stored in the tanks may have been used in drilling operations. Water that is unsuitable for use in field activities will be disposed on in a class II injection well.

CDPHE has a general permit for tanks that store produced water and estimates the expected emissions based on default factors. The amount of emissions can be calculated from Table 4 if it is known how many times the tanks may be filled or emptied. Assuming that each of the tanks may be filled and drained on average monthly, the amount of emissions can be estimated as Volatile Organic Compound (VOC) = 26,700 lbs, Benzene = 600 lbs and n-Hexane = 1,500 lbs per month. The general permit will require the capture of 95% of these emissions and therefore 1,335 lbs of VOCs, 30 lbs of Benzene and 75 lbs of n-Hexane would be emitted monthly from the tanks. In tons per year this would be 8 tons of VOCs, 0.18 tons of Benzene and 0.45 tons of n-Hexane.

Table 4: State approved default emission factors for produced water tanks published in frequently asked questions as detailed in PS Memo 09-02, Rev. 1 on February 8, 2010.

Counties	Produced Water Tank Default Emission Factors[1] (lb/bbl)[2]		
	VOC	Benzene	n-Hexane
Garfield, Mesa, Rio Blanco, & Moffat	0.178	0.004	0.01

[1] Testing may be performed at any site to determine site-specific emissions factors. These default emission factors may be revised by the Division in the future, pending approved data and testing results.
[2] Units of lb/bbl means pounds of emissions per barrel of produced water throughput.

General permit 5 requires that air pollutant emission notices be filed for projects that may result in 2 tons per year of VOCs, since this is in an attainment area. Based on the assumptions above each tank could emit more than 2 tons per year of VOCs, so it is assumed Williams will submit an Air Pollutant Emission Notice to CDPHE. The estimated emissions based on Table 4 are within the general permit requirements (GP 05) of 10 tons per year of VOCs, 8 tons for individual hazardous air pollutants (HAPs), and 20 tons per year for the total of all HAPs.

Additional low, short-term impacts to air quality may occur due to venting or flaring of gas from capture equipment. VOCs including HAPs commonly associated with oil and gas production such as benzene, toluene, ethylbenzene, xylene, and n-hexane, among others, will be released during storage of the water in tanks, from separation and capture equipment, and during transportation of produced water by pipeline or trucks.

According to CDPHE, the majority of dust pollution in Colorado is from miscellaneous fugitive dust sources (CAQCC 2010). Soil disturbance resulting from construction, heavy equipment, and drill rigs is expected to cause increases in fugitive dust and inhalable particulate matter, specifically for particulate matter (PM) 10 microns (μm) or less in diameter (PM_{10}) and particles 2.5 μm or less in diameter ($PM_{2.5}$). During construction and drilling phases, dust production is likely, especially when conditions are dry and/or windy. Fugitive dust emissions due to construction would cause low, short-term impacts to local air quality, specifically visibility. Dust particles are major contributors to visibility problems because of their ability to scatter or absorb light and can also have human health effects. The increase in airborne particulate matter from this project is not expected to exceed Colorado ambient air quality (CAAQ) or NAAQ standards on an hourly, 8-hour average or daily basis, with the exception of ozone.

Winter inversions at the air quality monitoring site near Rangely have led to several exceedances of 1 hour and 8 hour ozone. These exceedances occurred in February 2011, during the first year of monitoring at the Rangely site. Since inversions and high ozone events were not persistent, these exceedances have not led to a violation of NAAQ standards for 2011. Monitoring throughout the life of

the project is expected at the Rangely Air Quality Monitoring Site and therefore violations would likely be measured and dealt with through CDPHE and EPA, as described in the Affected Environment section. This project is more than 50 miles southeast of Rangely, and due to prevailing winds that come from the southwest this project is unlikely to contribute to high ozone values in Rangely. There are currently no measurements of ozone in Piceance or Yellow Creek near the proposed action.

In summary, soil disturbance resulting from construction of containment berms and installation of tanks and pipelines is expected to cause increases in fugitive dust and inhalable particulate matter (specifically PM_{10} and $PM_{2.5}$) in the project area and immediate vicinity and may contribute to reductions in visibility. In addition, increases in the following criteria pollutants: carbon monoxide, VOCs, ozone, nitrogen dioxide, and sulfur dioxide would also occur due to combustion of fossil fuels during construction. Non-criteria pollutants such as carbon dioxide, methane and nitrous oxide, air toxics (e.g. benzene), total suspended particulates (TSP), and increased impacts to visibility and atmospheric deposition may also increase. Even with these increased pollutants the Proposed Action is likely to comply with applicable NAAQ standards.

Cumulative Effects: The Proposed Action is in Rio Blanco County; principal air pollution sources include emissions from motor vehicles, oil and gas development, coal-fired power plants, coal mines, sand and gravel operations, windblown dust, and wildfires and prescribed burns (CAQCC 2010). Facility emissions in the two-county area are dominated by emissions related to oil and gas exploration, processing, or transportation. Due to these emission sources in the White River and in the nearby Unita and Yampa River Basins, VOCs, nitrogen oxides, and dust (particulate matter) are likely to increase into the future. However, with the exception of ozone, overall air quality conditions in the White River Basin are likely to continue to be in attainment of NAAQ standards as a result of effective atmospheric dispersion and limited transport of air pollutants from outside the area. Although the air quality site at Rangely has measured exceedances in standards for 1-hour and 8-hour values for ozone (120 ppb and 75 ppb, respectively), too date these exceedances have not been persistent enough to result in a violation of NAAQ standards and this project is unlikely to contribute to ozone at this site due to prevailing winds from the southwest.

Environmental Consequences of the No Action Alternative:

Direct and Indirect Effects: The No-Action Alternative would likely result in increased truck traffic associated with hauling water and temporary tanks to the well sites to support hydraulic fracturing operations. Increased truck traffic would likely increase the use of roads and may result in increased impacts from dust and emissions.

Cumulative Effects: Impacts would be similar to those described for the action alternative.

Mitigation: The following should be added as conditions of approval (COAs):

1. The operator shall employ dust suppression techniques (i.e. freshwater use) whenever there is a visible dust trail behind construction vehicles or during pipeline installation. Any technique other than the use of freshwater as a dust suppressant on BLM lands will require prior written approval from BLM.

2. Williams will provide BLM a copy of the Air Pollutant Emission Notice submitted to CDPHE in accordance with requirements of the general permit 5 for each tank in order to assess if emissions are within the potential emissions analyzed. Williams will notify the BLM if a significant change in annual actual emissions occurs for these tanks.

GEOLOGY AND MINERALS

Affected Environment: The proposed project is located in the central part of the Piceance Creek Basin. Portions of northern half of the proposed pipelines are located on three of Natural Soda Inc.'s federal sodium leases. Rio Blanco County Road (RBC) 31 serves as the main access for Natural Soda's processing and shipping facility and in the NWNW of Section 36, Township 1 South, Range 97 West, 6th P. M. one of proposed pipelines crosses RBC 31.

Shell Frontier's (Shell) Oil Shale Research Development and Demonstration (RD,D) Lease COC69166 located in Section 4, Township 2 South, Range 97 West, 6th P. M. is commencing construction activities for test facility. The pipeline project crosses the access to the Shell facility site in the north half of Section 4. The proposed project also intersects access to Shell geo-hydro well pads' ROW COC67069 listed in Table 5.

Table 5. Project Line Intersections With Shell Geo-hydro Well Pads on ROW COC67069

Facility Type	Name	Location
Geo-Hydro pad	5-18-298	T2S, R98W, Section 18, SESE
Geo-Hydro pad	7-18-298	T2S, R98W, Section 18, NENE
Geo-Hydro pad	10-32-198	T1S, R98W, Section 32, SENE
Geo-Hydro pad	13-14-298	T2S, R98W, Section 14, NWSE

Environmental Consequences of the Proposed Action:

Direct and Indirect Effects: In the short term, pipeline construction activities could temporarily limit access to existing facilities. The additional pipelines would allow for more efficient development of multi well pads, and reduce the number of truck trips required for well completion activities.

Cumulative Effects: Since pipeline construction is within an existing pipeline ROW disturbance and tanks would be located on existing well pads, cumulative effects to mineral resources would essentially remain the same or be reduced due to the decrease in water truck traffic.

Environmental Consequences of the No Action Alternative:

Direct and Indirect Effects: Increased truck traffic could indirectly affect Natural Soda's shipping capabilities.

Cumulative Effects: Increased truck traffic could cumulatively impact the road system by requiring more road maintenance, and delaying round trip time for shipping and receiving of other mineral facilities.

Mitigation:

1. To prevent disruption to operations of other minerals the project proponent should contact and coordinate with Natural Soda Inc. and Shell Frontier prior to construction activity in the areas listed in Table 6.

Table 6. Recommended Notification to Mineral Operators

Facility Type	ID	Company	Location
Bicarb Plant Shipping Facility	Access RBC 31	Natural Soda Inc.	T1S, R97W, Section 36, NW
Oil Shale RDD	Access off RBC 24	Shell Frontier	T2S, R98W, Section 4, NE
Geo-Hydro pad	5-18-298	Shell Frontier	T2S, R98W, Section 18, SESE
Geo-Hydro pad	7-18-298	Shell Frontier	T2S, R98W, Section 18, NENE
Geo-Hydro pad	10-32-198	Shell Frontier	T1S, R98W, Section 32, SENE
Geo-Hydro pad	13-14-298	Shell Frontier	T2S, R98W, Section 14, NWSE

SOIL RESOURCES

Affected Environment: The classifications of soils within 30 meters of the proposed surface disturbance that could be impacted by the Proposed Action are shown in Table 7. There are no fragile soils or lands prone to landslides on Federal lands that will be impacted by this project.

The Proposed Action for pipeline installation is to re-disturb pipeline ROWs that are in various states of reclamation for installation of water lines. Most of the road ROWs can be used as a working surface for the pipeline installation, but in some cases a new working disturbance will be constructed to install the water lines.

Table 7. Soil Classifications within 30 Meters of the Surface Disturbance Proposed and/or the Centerline of Roads and Pipelines

Soil Classification	Range Site Description	Slopes	Potentially Impacted Acres
Forelle loam	Rolling Loam	3-8% slopes	4
Forelle loam	Rolling Loam	8-15% slopes	2
Glendive fine sandy loam	Foothills Swale	0-4% slopes	27
Havre loam	Foothill Swale	0-4% slopes	11
Piceance fine sandy loam	Rolling Loam	5-15% slopes	71
Redcreek-Rentsac complex	PJ woodlands	5-30% slopes	189
Rentsac channery loam	PJ woodlands	5-50% slopes	260
Rentsac-Piceance complex	PJ woodland/Rolling Loam	2-30% slopes	113
Torriorthents-Rock Outcrop, complex	Stoney Foothills	15-90% slopes	14
Yamac Loam	Rolling Loam	2-15% slopes	104
Barcus channery loamy sand	Foothills Swale	2-8% slopes	47

The majority of the disturbance is in Renstac soils (66%) that are characterized by medium to rapid runoff characteristics with moderate to very high water erosion hazard. An additional acreage is in loamy sands and loams (33%), these areas are deeper soils, shallower slopes and less prone to erosion. A small section of the soils (1%) are rock outcrops and have steep slopes. Many of the soils are channery meaning that they have large rock fragments that can become concentrated when soils are disturbed.

Environmental Consequences of the Proposed Action:

Direct and Indirect Effects: The Proposed Action would disturb an estimated 122 acres for pipeline installation. About 79 percent of these acres will be in previously disturbed pipeline ROWs. With proper Best Management Practices (BMPs) for stormwater, construction, and reclamation practices and implementation of mitigation described below, impacts outside the estimated disturbance area is not expected.

Direct impacts from pipeline installation and construction on the pads for perimeter tank berms would include compaction of soils, removal of vegetation, exposure of subsoil, mixing of soil horizons, loss of topsoil productivity, and an increase in the susceptibility of soils to wind and water erosion. Compaction due to construction activities would reduce aeration, permeability, and water-holding capacities of soils in some locations. An increase in surface runoff could be expected from compacted soils, and these soils are likely to be less resilient to erosion from surface runoff after disturbance. Removal of vegetation exposes soils to erosion from rainfall, wind, and surface runoff. Exposure of subsoil and mixing of soil horizons can change the physical characteristics of subsoil and may reduce the productivity of these soils into the future. Loss of topsoil productivity can occur during storage due to nutrient loss through percolation of precipitation through the soils, physical loss, mixing of less productive soil layers during moving, and a loss of structure.

This project could result in contamination of surface and subsurface soils due to unintentional leaks or spills from pipelines, construction equipment, storage tanks, and production equipment; if these spills occurred they would affect the productivity of soils. Earthen berms are proposed for secondary containment of tank batteries. Without a liner these secondary containments may fail and result in releases of hydrocarbons into the soils in the advent of a leak or spill from the tanks. With the leak detection berm, everything but a catastrophic failure of the tank would likely be contained in the double lined section and pumped back to the tank for containment.

Cumulative Effects: Well pads in the general area are likely to occur at about a 2-3 well pads per square mile, and will include surface disturbance and reclamation of other well pads, pipelines, roads, and support facilities. There is one operating and one former nacholite mining facility, and there are various activities to support research and development activities for oil shale in-situ development. Livestock grazing occurs on public and private lands in the area and may reduce canopy cover and lead to localized erosion in some areas. In general, soil disturbance in the Proposed Action and other activities are likely to reduce soil productivity, and may lead to increased erosion and instability of soils in local areas.

Environmental Consequences of the No Action Alternative:

Direct and Indirect Effects: The No-Action Alternative would likely result in increased truck traffic associated with hauling water and temporary tanks to the well sites to support hydraulic fracturing

operations. Increased truck traffic would likely increase the use of roads and may result in increased impacts from this road use to soil resources.

Cumulative Effects: Impacts would be similar to those described for the action alternative.

Mitigation:

1. Williams will bury pipelines to provide a minimum cover of 36 inches through normal terrain. A minimum cover of 30 inches will be provided in rocky areas. In areas next to or crossing access roads, stream channels, and alluvial areas pipelines shall be buried a minimum of four feet below the natural grade.

2. During pipeline construction, Williams will leave the ROW undisturbed to the maximum extent possible. That is, only the minimum necessary disturbance to make the working surface safe and passable. Do not remove topsoil under areas used for the storage of soils, and do not remove topsoil from working surfaces, if possible.

3. All areas where the topsoil has been removed and soils have become compacted Williams will de-compact areas by disking to prepare the soils for reclamation. Alternate methods of de-compaction may be used, with the approval of the Authorized Officer (AO).

4. If, after initial construction activities are completed and if soil productivity is diminished from its pre-disturbance condition, Williams will regrade, de-compact, reseed, hydro-mulch, or initiate with BLM approval other efforts to re-establish soil productivity.

5. In order to protect rangeland health standards, erosion features such as rilling, gullying, piping, and mass wasting on the ROW or adjacent to the ROW as a result of this action will be addressed immediately by Williams after observation by submitting a mitigation plan to the BLM for approval and implement BMPs to correct the problem.

6. After pipeline construction activities are completed Williams will be responsible for taking measures to prevent off-road vehicle use along the pipeline ROW until reclamation has been successful or for a longer period, as directed by the AO.

7. All construction activity shall cease when soils or road surfaces become saturated to a depth of three inches unless otherwise approved by the AO.

Finding on the Public Land Health Standard #1 for Upland Soils: With mitigation, this action is unlikely to reduce the productivity of soils on public lands.

SURFACE & GROUND WATER QUALITY

Affected Environment: Surface Water: This project is in the tributaries to Yellow and Piceance Creek. Two of the tanks will be in tributaries to Yellow Creek, and the other tank will be in a tributary to Ryan Gulch. Table 8 describes water segments that may be impacted by this project.

Table 8. Water Quality Classification*

Segment	Segment Name	Use Protected	Protected Beneficial Uses			
			Aquatic Life	Recreation	Agriculture	Water Supply
13b	Yellow Creek and tributaries from the source to the confluence with Barcus Creek	No	Warm 2	Not Primary Contact Recreation	Yes	No
16	All tributaries to Piceance Creek from the source to the confluence with the White River	No	Warm 1	Potential Primary Contact Recreation	Yes	No

* Colorado Department Of Public Health And Environment, Water Quality Control Commission, Regulation No. 37 Classifications and Numeric Standards For Lower Colorado River Basin, Effective June 30, 2011

Segment 13b and 16 are protected for warm water aquatic life (Warm 2). The warm designation means the classification standards would be protective of aquatic life normally found in waters where the summer weekly average temperatures frequently exceeds 20 °C. The Warm 2 designation means that it has been determined that these waters are not capable of sustaining a wide variety of warm water biota. These segments are also protected for recreation and agricultural use.

Groundwater: Precipitation in this area generally moves from areas of recharge to surface waters via alluvial aquifers and on the surface during spring melt and rain storms. A substantial portion of annual precipitation infiltrates to deeper bedrock aquifers that contribute to contact springs. Springs and ground water inputs generally occur in both bedrock and alluvial aquifers along valley bottoms.

Contact springs are common in the area and are often the result of upper bedrock aquifers consisting of fractured, lean oil shale zones and siltstones of the Green River Formation above and below the Mahogany Zone or from fractured marlstone and sandstones of the saturated portions of the overlying Uinta Formation. Perched groundwater zones occur locally within the Uinta Formation when these saturated zones contact the surface. These perched zones can occur in the ridges between surface water drainages and may be manifested as springs and seeps above the valley floor in outcrop areas.

Environmental Consequences of the Proposed Action:

Direct and Indirect Effects: Surface Waters: Clearing, grading, and soil stockpiling activities associated with the Proposed Action would alter overland flow and natural infiltration patterns. Potential direct impacts include surface soil compaction caused by construction equipment and vehicles, removal of vegetation and disturbance of surface soils, which would increase rainsplash erosion and reduce the soil's ability to absorb water and increase the volume and rate of surface runoff, which in turn would increase surface erosion. Steep-sloped hillsides adjacent and along the road route are the most likely area for this surface erosion to occur. Stormwater measures and best management practices including periodic monitoring of any erosion problems would be essential to avoid erosion and increased sedimentation to surface waters.

Surface runoff associated with storm events may increase sediment/salt loads in surface waters down gradient of disturbed areas. Sediment is typically deposited and stored in minor drainages where it may move into Yellow and Piceance Creek during heavy convection storms. Surface erosion for this project would most likely occur during the construction and early production phases of the project and could be mitigated using BMPs for stormwater.

Groundwaters: No impacts are expected due to the leak detection and secondary containment features in the proposed action. Some impacts to shallow groundwater would occur due to disturbance from the pipeline installation. Mixing of soil horizons is likely to change the physical properties of soils in the trench and may change the ability of groundwater to move uniformly in the subsurface.

Cumulative Effects: Well pads in the general area are likely to occur at about a 2-3 well pads per square mile and will include surface disturbance and reclamation of other well pads, pipelines, roads and support facilities. Livestock grazing occurs on public and private lands in the area and may reduce canopy cover and lead to localized erosion in some areas. Oil shale research and development activities and nacholite mining will continue in this area and will result in surface disturbance in some locations and may impact groundwaters. In general, the Proposed Action and other activities could increase sedimentation, but it is unlikely that water quality would be impacted in Yellow or Piceance Creek.

Environmental Consequences of the No Action Alternative:

Direct and Indirect Effects: The No-Action Alternative would likely result in increased truck traffic associated with hauling water and temporary tanks to the well sites to support hydraulic fracturing operations. Increased truck traffic would likely increase the use of roads and may result in increased impacts from this road use.

Cumulative Effects: Impacts would be similar to those described for the action alternative, but would not include the impacts from the Proposed Action.

Mitigation: None.

Finding on the Public Land Health Standard #5 for Water Quality: It is unlikely that installation of the tanks and pipelines would result in an exceedence of state water quality standards.

VEGETATION

Affected Environment: The proposed water containment and storage system primarily follows areas of previous disturbance including pipeline ROWs and roads. Undisturbed vegetation within the project area includes pinyon/juniper woodlands and sagebrush shrublands dominated by Wyoming big sagebrush on the uplands, and basin big sagebrush in the bottomlands. Understory vegetation includes western wheatgrass, Indian ricegrass, bluebunch wheatgrass, thickspike wheatgrass, needle and thread, sandberg bluegrass, junegrass, and a variety of annual and perennial forb species. Previously disturbed pipeline ROWs are dominated by mixed grass/forb vegetation communities.

Environmental Consequences of the Proposed Action:

Direct and Indirect Effects: The proposed pipeline system would follow existing ROWs; in these areas the natural vegetation community has been previously disturbed by construction. Construction of

the proposed water pipelines would re-disturb approximately 208 acres which has been reclaimed, 104 acres for temporary ROW, and 104 acres for the permanent ROW.

Direct impacts of vegetation removal include short-term loss of vegetation and the modification of vegetation structure, plant species composition, and temporary reduction of basal and aerial vegetative cover. Removal of vegetation would also result in increased soil exposure, short-term loss of wildlife habitat, reduced plant diversity, and loss of livestock forage. Indirect impacts include the increased potential for non-native/noxious plant establishment and introduction, accelerated wind and water erosion, changes in water runoff due to construction, soil impacts that affect plant growth (soil erosion or siltation), shifts in species composition changes in vegetative density away from desirable conditions, and changes in visual aesthetics.

Cumulative Effects: Construction of the proposed water management system would occur within previously disturbed ROWs therefore would not add substantially to current or future disturbances within the project area. Undisturbed vegetation within the project area is currently composed of healthy and diverse plant communities. The re-disturbance of approximately 208 acres of disturbed and reclaimed rangeland is not expected to have any measurable influence on the overall plant community. It is expected that the construction of the proposed pipelines would reduce truck traffic within the project area, and that reduction of traffic would likely reduce impacts to vegetation from dust settling on plants.

Environmental Consequences of the No Action Alternative:

Direct and Indirect Effects: There would be No Action authorized that would influence the upland vegetation on these sites.

Cumulative Effects: There would be no additional contribution to previous, existing, or future disturbances under this alternative. Traffic would likely not be reduced in the project area; therefore, indirect impacts from dust would not be changed.

Mitigation:

1. Promptly revegetate all disturbed areas associated with pipeline construction with the recommended seed mixes below (Tables 9 and 10). For portions of the pipeline that lie within a Foothill Swale ecological site, BLM recommends seed mix # 5. Attachment 7 shows these areas, including latitude and longitude of the end points. For all other areas, BLM recommends seed mix # 3.

Table 9. Seed Mix #3

Cultivar	Species	Scientific Name	Application Rate (lbs PLS/acre)
Rosanna	Western Wheatgrass	Pascopyrum smithii	4
Whitmar	Bluebunch Wheatgrass	Pseudoroegneria spicata ssp. inermis	3.5
Rimrock	Indian Ricegrass	Achnatherum hymenoides	3
	Needle and Thread Grass	Hesperostipa comata ssp. comata	2.5
Maple Grove	Lewis Flax	Linum lewisii	1
	Scarlet Globemallow	Sphaeralcea coccinea	0.5
Alternates:			
Critana	Thickspike Wheatgrass	Elymus lanceolatus ssp. lanceolatus	3
	Sulphur Flower	Eriogonum umbellatum	1.5

Table 10. Seed Mix #5

Cultivar	Species	Scientific Name	Application Rate (lbs PLS/acre)
Magnar	Basin Wildrye	Leymus cinereus	3.5
Rosanna	Western Wheatgrass	Pascopyrum smithii	3.5
San Luis	Slender Wheatgrass	Elymus trachycaulus ssp. trachycaulus	3
Critana	Thickspike Wheatgrass	Elymus lanceolatus ssp. lanceolatus	3
Timp	Northern Sweetvetch	Hedysarum boreale	4.5
Maple Grove	Lewis Flax	Linum lewisii	1
Alternates:			
Sodar	Streambank Wheatgrass	Elymus lanceolatus ssp. psammophilus	3
	Scarlet Globemallow	Sphaeralcea coccinea	0.5

Seeding rates are shown as pounds of Pure Live Seed (PLS) per acre and apply to drill seeding; for broadcast application double the seeding rate and then harrow to insure seed coverage. The recommended seeding time is between September 1st and March 15th. Applied seed must be certified and free of noxious weeds, and seed certification tags must be submitted to the AO.

2. Woody debris will not be scattered on the pipeline until after seeding operations are completed.

Finding on the Public Land Health Standard #3 for Plant and Animal Communities: Undisturbed plant communities in the project area are currently meeting Standard #3 which states that plant and animal communities of native and desirable species should be maintained at viable population levels to sustain public land health. Disturbed sites within the project area which have been reclaimed, are currently meeting, or naturally moving toward meeting the standards for public land health With implementation of mitigation measures and successful re-vegetation, the Proposed Action is not expected to affect the status of Land Health Standard 3 in regards to vegetation in the project area and/or at a landscape scale.

INVASIVE, NON-NATIVE SPECIES

Affected Environment: Invasive and non-native species known to occur in the project area include: cheatgrass (*Bromus tectorum),* common mullein (*Verbascum thapsus*), houndstongue (*Cynoglossum*

officianale), spotted knapweed (*Centaurea maculosa)*, bull thistle *(Cirsium vulgare)*, scotch thistle *(Onopordum acanthium)*, Canada thistle (*Cirsium arvense*), kochia (*Kochia scoparia*), halogeton (*Halogeton glomeratus*), and Russian thistle (*Salsola iberica*). Invasive and non-native species found in the area are known to establish within disturbed areas which lack reclamation with desirable native species.

Environmental Consequences of the Proposed Action:

Direct and Indirect Effects: Implementation of the Proposed Action will create approximately 208 acres of re-disturbance. Unvegetated areas resulting from re-disturbance will provide safe-sites for the establishment and proliferation of invasive, non-native species. There is also the risk of additional noxious weed species currently not found in the area being transported on the site by construction and/or support equipment.

Prompt reclamation with successful establishment would aid in the prevention of noxious weeds establishing on disturbed sites. If noxious weeds are detected on the site, prompt spot control would prevent invasion of the site and movement to adjacent plant communities.

Cumulative Effects: Implementation of the Proposed Action in conjunction with existing and future activities is not expected to result in increased risk of establishment and spread of non-native/invasive species within the project area. It is not expected that the ability to detect, treat, and/or control non-native/invasive species will be affected following implementation of the Proposed Action.

Environmental Consequences of the No Action Alternative:

Direct and Indirect Effects: There will be no change from the present situation.

Cumulative Effects: There would be no construction activities which would contribute to establishment, proliferation, or treatment efficiency of non-native/invasive species.

Mitigation:

1. The area should be surveyed for the presence of noxious/invasive species before and after construction. If undesirable species are found, they shall be promptly controlled/eradicated using materials and methods approved in advance by the BLM AO. If invasive, non-native species establish within the project area and spread onto adjoining BLM lands, the applicant will be responsible for control of those populations, also using materials and methods approved by the AO.

2. If herbicide is to be used on public land, the applicant shall submit a pesticide use proposal (PUP) before herbicide is applied.

3. The applicant shall clean all off-road equipment to remove seed and soil prior to commencing operations on public lands within the project area.

SPECIAL STATUS ANIMAL SPECIES

Affected Environment: There are no threatened or endangered animal species that are known to inhabit or derive important use from the project area. The only listed species that has potential to be directly influenced by development of the proposed leases is the Colorado pikeminnow. While the species occurs in the White River below Taylor Draw Dam and Kenney Reservoir, the White River and its 100-year floodplain from Rio Blanco Lake to the Utah state line are designated critical habitat for the pikeminnow. The White River in Colorado does not appear to support spawning activity, young-of-year nurseries, or juvenile concentrations areas for the Colorado pikeminnow. Additionally, while the listed bonytail, humpback chub, and razorback sucker do not occur in the White River, water depletions in the White River adversely affect these species' downstream habitats in the Green River.

Several BLM-sensitive animal species are known to inhabit or may be indirectly influenced by the Proposed Action including northern goshawk, Brewer's sparrow, Townsend's big-eared bat, big free-tailed bat and fringed myotis.

Northern goshawk: The WRFO has about six recent records of goshawk nesting in the Piceance Basin, the nearest being over five miles from the project area. Based on BLM's experience, goshawks nest at low densities throughout the Basin in mature pinyon-juniper (PJ) woodlands above 6, 500 ft and Douglas-fir and aspen stands. Goshawks establish breeding territories as early as March and begin nesting by the end of April. Nestlings are normally fledged and independent of the nest stand by mid-August. An influx of migrant goshawk appears to elevate densities in this resource area during the winter months.

BLM sensitive bat species: Although the distribution of bats in the WRFO is incompletely understood, recent acoustic surveys in the Piceance Basin and along the lower White River have documented the localized presence of Townsend's big-eared and big free-tailed bats along larger perennial waterways. These bats typically use caves, mines, bridges, and unoccupied buildings for night, nursery, and hibernation roosts, but in western Colorado, single or small groups of bats use rock crevices and tree cavities. Although rock outcrops and mature conifers suitable as temporary daytime roosts for small numbers of bats are widely available in the project area, there are no underground mines or known caves, and unoccupied buildings are extremely limited in the project area. Birthing and rearing of young for these bats occurs in May and June, and young are capable of flying by the end of July. The big free-tailed bat is not known to breed in Colorado.

Brewer's sparrow: Brewer's sparrows are common and widely distributed in virtually all big sagebrush, greasewood, saltbush, and mixed brush communities throughout the project area. These birds are typically one of the most common members of these avian communities and breeding densities generally range between 10-40 pairs per 100 acres. Although most abundant in extensive stands of sagebrush, the birds appear regularly in small (one to two acre) sagebrush parks scattered among area woodlands. Typical of most migratory passerines in this area, nesting activities normally take place between mid-May and mid-July.

Environmental Consequences of the Proposed Action:

Direct and Indirect Effects: The Proposed Action would involve the short-term (2-3 years) removal of approximately 208 acres of reclaimed grassland habitats, with minimal sagebrush or PJ

involvement. Direct and indirect impacts to Brewer's sparrow and northern goshawk are adequately represented in the *Migratory Bird and Terrestrial Wildlife* (woodland raptors) sections, respectively.

Impacts of pipeline installation to sensitive bat species would likely be discountable due to the limited involvement with woodland habitats as roost substrate. It is unlikely that the project area offers habitat suitable for hibernation or rearing of young for the three species of bat (big free-tailed bat not known to reproduce in Colorado).

Cumulative water depletions from the Colorado River Basin are considered likely to jeopardize the continued existence of the Colorado pikeminnow, humpback chub, bonytail, and razorback sucker and result in the destruction or adverse modification of their critical habitat. In 2008, BLM prepared a Programmatic Biological Assessment (PBA) that addressed water depleting activities associated with BLM's fluid minerals program in the Colorado River Basin in Colorado, including water used for well drilling, hydrostatic testing of pipelines, and dust abatement on roads. In response, the U.S. Fish and Wildlife Service (FWS) prepared a Programmatic Biological Opinion (PBO) that addressed water depletions associated with fluid minerals development on BLM lands. The PBO included reasonable and prudent alternatives which allowed BLM to authorize oil and gas wells that result in water depletion while avoiding the likelihood of jeopardy to the endangered fishes and avoiding destruction or adverse modification of their critical habitat. The reasonable and prudent alternative authorized BLM to solicit a one-time contribution to the Recovery Implementation Program for Endangered Fish Species in the Upper Colorado River Basin (Recovery Program) in an amount based on the average annual acre-feet depleted by fluid minerals activities on BLM lands. This contribution was ultimately provided to the Recovery Program through an oil and natural gas development trade association. Development associated with the Proposed Action would be covered by this agreement and water-use values associated with this project would be entered into the WRFO fluid minerals water depletion log that is submitted to the Colorado State Office at the end of each Fiscal Year. Implementation of State and federally-imposed design measures to control erosion and spills would limit the risk of contaminants migrating off-site and degrading water quality in the White River.

The Proposed Action would result in an incremental reduction in the amount of water needed for drilling and completion, which although difficult to measure, may provide some benefit to endangered Colorado River fish and other aquatic species.

Cumulative Effects: Cumulative impacts to special status animal species would be similar to those described in the *Migratory Bird and Terrestrial Wildlife* sections.

Environmental Consequences of the No Action Alternative:

Direct and Indirect Effects: Direct and indirect impacts to terrestrial special status species would be similar to those described in the *Migratory Bird and Terrestrial Wildlif*e sections. Under the No Action Alternative, there would be no potential to recycle/reduce the amount of water necessary for drilling and completion of new wells, resulting in water depletions remaining at current levels.

Cumulative Effects: Cumulative impacts would be similar to those described above in *Direct and Indirect Effects of the No Action Alternative*.

Mitigation: See mitigation in *Terrestrial Wildlife* section regarding woodland raptors.

Finding on the Public Land Health Standard #4 for Special Status Species: The Land Health Standards for special status animal communities are currently being met in the project area. Pipeline installation would result in short-term habitat loss; however, following successful reclamation neither the Proposed nor No Action Alternatives would be expected to detract from the continued meeting of Land Health Standards.

SPECIAL STATUS PLANT SPECIES

Affected Environment: The Proposed Action is more than 1,000m to the west and south of known populations of two federally listed threatened plant species, the Dudley Bluffs bladderpod (*Physaria congesta*) and the Dudley Bluffs twinpod (*Physaria obcordata*). The special status plant species are badland or rock outcrop soil associates, and are considered "oil shale endemics" or edaphic (soil-related) endemic species. The bladderpod grows on barren white shale outcrops on tongues of the Green River Formation where it has been exposed along down-cut drainages or windswept ridges. It often grows on level surfaces at the points of ridges or in PJ savannah areas where outcrops of the white shale geology has been exposed. The twinpod also grows on barren white shale outcrops on tongues of the Green River Formation where it is exposed along down-cut drainages, sometimes occurring below, or interspersed with the bladderpod habitats.

Special status plant species surveys are required for the eastern end of the project area and must be conducted in the locations listed below during the 2012 blooming season. The surveys must be reviewed and approved by WRFO-BLM prior to initiating construction. Areas to survey within 600 m of the Proposed Action include: 1S 98 W Sections 24, 25, 26, 27, 35, and 36; all sections within 600 m of the project area in 1 S 97 W and 2S 97 W; and 2 S 98 W Sections 1, 2, 11, 12, 13, and 14.

Environmental Consequences of the Proposed Action:

Direct and Indirect Effects: Plant surveys of the Proposed Action in spring 2012 are necessary to determine the measure of effects this project will have on the special status plant species. There will be no effect to both *P. congesta* and *P. obcordata* if the project area is outside of their 600 m life history buffer. If special status plant species are found within 600 m of the Proposed Action area there are several possible effects to consider:

- If suitable habitat is found within proposed treatment areas, habitat disturbance or loss could potentially affect both special status species.
- If the special status plant species are downwind of a treatment area, fugitive dust created by the project could impact the species and associated pollinators.
- Ground disturbance may create an opportunity for invasive species to establish and threaten special status plant species habitat.

Cumulative Effects: With ground and vegetation disturbance there may be the potential in an increase of a non-native or exotic plant species in the project area. Habitat of the Dudley Bluff species is limited to specific geologic formations and any invasions of non-native species could potentially negatively impact suitable habitat. There is suitable habitat within 50m of Project 1 and there is the potential that either of the threatened *Physaria* species could expand their range into this previously unoccupied habitat. When considering the recovery and persistence of these species, it is important to reduce invasions of non-native and exotic plant species. The traffic associated with water hauling would

be reduced in the long-term, contributing to less pollution, fugitive dust, and other potential negative impacts to special status plant species.

Environmental Consequences of the No Action Alternative:

Direct and Indirect Effects: The No Action alternative would result in no potential impacts associated with construction, as described above, on special status plant species. However, the traffic associated with water hauling would remain unchanged in the long-term, contributing to more pollution, fugitive dust, and other potential negative impacts to special status plant species. While the construction of the Proposed Action would create an initial short-term disturbance, it would reduce traffic levels which would benefit special status plant species in the long-term.

Cumulative Effects: Cumulative impacts would be similar to those discussed above in *Direct and Indirect Impacts of No Action Alternative*.

Mitigation:

1. Special status plant species surveys are required before proceeding with construction of the eastern end of the Proposed Action (see locations above). Consultation with The U.S. Fish and Wildlife Service (FWS) must be initiated for special status plant species population found within 600m of the project area before proceeding with construction and any mitigation required by the FWS in the consultation process must be adhered to.

2. The project proponent must control invasive weeds infestations for the life of the project after disturbance to avoid cumulative impacts on nearby special plant species habitats. If either the twinpod or the bladderpod are found within 600 m of the project area, Section 7 consultation must be initiated with the FWS for weed management as well.

Finding on the Public Land Health Standard #4 for Special Status Species: The Proposed and No Action alternatives should have no influence on populations or habitats of plants, contingent on mitigation measures, associated with the Endangered Species Act or BLM sensitive species and, as such, would have no influence on the status of applicable land health standards.

MIGRATORY BIRDS

Affected Environment: The proposed pipeline system encompasses predominately PJ woodlands (interspersed with serviceberry, snowberry), and Wyoming big sagebrush (uplands) and basin big sagebrush (valley bottoms) communities. Nearly all of the proposed water system parallels previously disturbed areas (e.g., existing pipeline ROWs, roads etc.). Herbaceous understories along these existing ROWs are generally comprised of both introduced and native grasses with a forb component.

Several species of migratory birds fulfill nesting functions throughout the project area during the breeding season (typically May 15 – July 15). The BLM lends increased management attention to migratory birds listed by the U.S. Fish and Wildlife Service (FWS) as Birds of Conservation Concern (BOCC). These are bird populations that monitoring suggests are undergoing range-wide declining trends and are considered at risk for becoming candidates for listing under the Endangered Species Act if not given due consideration in land use decisions. These species include juniper titmouse, Cassin's finch and pinyon jay (PJ associates) and Brewer's sparrow (sagebrush shrubland associate) which is

discussed in the Special Status Animal Species section. In general, birds associated with the project area are well distributed in extensive suitable habitats throughout the WRFO and northwest Colorado and habitat-specific bird assemblages appear to be composed and distributed appropriately to the normal range of habitat variability.

Environmental Consequences of the Proposed Action:

Direct and Indirect Effects: The Proposed Action would involve the direct removal of approximately 208 acres of predominately native and introduced grasses, with minimal PJ and sagebrush involvement. Habitat loss would be short-term (2-3 years) following reclamation. Nearly all of the proposed water line system follows existing disturbances (roads and/or pipeline corridors). These previously disturbed habitats, particularly when immediately adjacent to roadways, typically do not provide high quality nesting or forage habitat for most migratory birds, although some ground nesting species may use these reclaimed areas if understories are well intact (adequate vertical and horizontal structure). If earthwork (vegetation removal) and pipeline installation is confined to time frames outside of the nesting season (~ late July to early May), there would be no direct impacts to nesting activities and/or outcomes. Should pipeline installation take place during the breeding season, there would be greater potential to influence nesting activities/outcomes including displacement, nest abandonment and possible nestling mortality. Indirectly, functional forage and nesting habitats within 100 meters may be impacted due to reductions in nest densities and avoidance of habitats associated with increased human activity, vehicle traffic and construction activities. As stated above, it is likely that nest densities in the immediate vicinity of the water lines are reduced to a certain degree due to the proximity to existing disturbances.

Vehicle traffic associated with water hauling is expected to be greatly reduced (up to 90 percent) following pipeline installation. Although difficult to measure, reductions in water truck traffic associated with the Proposed Action may promote a modest response in migratory bird densities on up to 2,100 acres of adjacent habitats. It should be noted however, that use of these habitats would be highly dependent on condition of ground cover (annual dominated vs. perennial dominated).

Cumulative Effects: Installation of the proposed water system is not anticipated to add substantially to existing or proposed disturbances in the area. The short-term removal of 208 acres of predominately disturbed/reclaimed habitat (pipeline corridors) and/or habitats immediately adjacent to well-traveled roadways is not anticipated to have a measurable influence on local bird populations. Prompt and effective reclamation would promote a healthier, diverse plant community which may potentially benefit local wildlife populations as a whole.

Environmental Consequences of the No Action Alternative:

Direct and Indirect Effects: There would be no surface disturbing activities or habitat removal that would influence migratory bird species under the No Action Alternative. The most notable impact resulting from failure to implement the Proposed Action would be that traffic volumes associated with water hauling would remain unchanged. Disturbance associated with heavy truck traffic would likely continue to suppress bird densities (to some degree) in habitats immediately adjacent to roadways.

Cumulative Effects: Cumulative impacts would be similar to those discussed above in *Direct and Indirect Impacts of No Action Alternative*.

Mitigation: See reclamation provisions addressed in *Vegetation* section.

TERRESTRIAL WILDLIFE

Affected Environment: The low elevation PJ and big sagebrush communities that encompass the project area are classified by Colorado Parks and Wildlife (CPW) as big game general winter and severe winter range (eastern portion of project area). These ranges are typically occupied from October through April, with more concentrated use (severe winter range) from January through April.

Rock outcrops and mature components of PJ woodlands which occur throughout the project area may provide suitable nesting substrate for woodland raptors (red-tailed hawk, accipiter species and long-eared owl) and golden eagle. There are several recently active (e.g., 2009 and 2010) nests that occur between 50m to 300m from several of the proposed pipeline corridors.

The distribution and abundance of small mammal populations are poorly documented within the resource area. Recent trapping efforts undertaken throughout Piceance Basin indicate a high tendency in both sagebrush and PJ communities for more generalized species such as deer mouse and least chipmunk and it is suspected that these species would be relatively abundant in the project area. There are no small mammal species that are narrowly endemic or highly specialized species known to inhabit the project area.

Environmental Consequences of the Proposed Action

Direct and Indirect Effects: The Proposed Action would involve the short-term removal (~2-3 years) of approximately 208 acres of recently disturbed or reclaimed grassland habitats, with minimal PJ or sagebrush involvement. The water system, in nearly all its entirety, parallels existing roadways or pipeline corridors. Typically, wildlife tend to avoid or make limited use of habitats immediately adjacent to more well-traveled roads due to disruption from traffic.

Should pipeline installation take place during the winter months, there would be a higher tendency to displace big game (mainly mule deer) as the surrounding habitats are more heavily occupied during these time frames. In November 2009 an agreement was reached by the CPW, Williams, and BLM that supports CPWs research that is designed to better define deer response to applied Best Management Practices (BMPs) and intense, but spatially confined natural gas development. To provide the necessary contrast in experimental design, gas development projects within a pre-defined area of William's Ryan Gulch Unit have been excepted from big game winter timing limitations through year 2013. The exception area encompasses about 11 percent of the deer severe winter range encompassed by Williams' leaseholdings in Piceance Basin or about 1 percent of the total severe winter range available within Game Management Unit (GMU) 22. Those pipeline segments that lie in severe winter range are located within that 7680 acre exception area.

There would be no direct impacts to raptor nesting activities if pipeline installation occurred during the winter months. Pipeline installation during the raptor breeding season (~ March 15 through August 15) could potentially disrupt nesting activities or cause nest abandonment, depending on proximity of nest sites to pipeline corridors. Due to the high density of known nest sites in the area, a raptor survey will be required for those portions of the pipeline where construction is initiated after March 15. Appropriate timing stipulations may be applied pending survey results.

As stated above, local wildlife would be displaced during pipeline installation. Construction activities involved with pipeline installation are generally short-term (several weeks per segment) and animals would be expected to return to adjacent habitats once construction has been completed.

Prompt and effective reclamation along the pipeline corridors may benefit local wildlife populations, particularly nongame (small mammal) species. Big game may benefit to a certain degree, but due to the proximity of these lines to existing roads, traffic levels on given roads may dictate the amount of use. Installation of the proposed water system is expected to reduce water hauling traffic by as much as 90 percent. Reductions in traffic volumes may elicit a modest increase in use of adjacent habitat by local wildlife.

Cumulative Effects: Cumulative impacts would be similar to those discussed in the *Migratory Bird* section.

Environmental Consequences of the No Action Alternative:

Direct and Indirect Effects: Direct and indirect impacts would be similar to those discussed in the *Migratory Bird* section. Although the No Action Alternative would not result in vegetation removal/habitat alteration which is typically considered short-term for pipeline installation, traffic levels associated with water hauling would remain unchanged over the long-term. Reductions in traffic levels would be expected to benefit local wildlife populations (e.g., decreased vehicle-related mortality, reduced energetic demands) to a certain degree.

Cumulative Effects: Cumulative impacts would be similar to those discussed above in *Direct and Indirect Effects of No Action Alternative*.

Mitigation:

1. A raptor survey will be required within 100 meters of those pipeline corridors which follow existing roadways or pipelines and 300 meters for cross-country segments (north-south portion in R2S 98W sections 17 and 8) if construction is initiated after March 15. White River timing stipulations may be applied pending survey results (WRRA ROD TL-01 and 04).

2. See reclamation provisions provided in Vegetation section.

Finding on the Public Land Health Standard #3 for Plant and Animal Communities: The Land Health Standards for animal communities are currently being met in the project area. Pipeline installation would result in short-term habitat loss; however, following successful reclamation neither the Proposed nor No Action Alternatives are expected to detract from the continued meeting of Land Health Standards.

WILD HORSES

Affected Environment: A portion of the Proposed Action is located in the Piceance-East Douglas Herd Management Area (PEDHMA) which covers 190,130 acres of public and private lands. The

WRFO manages this herd of wild horses in a manner designed to ensure a healthy, viable breeding population.

The portion of the Proposed Action that is located within PEDHMA crosses what is known as 84 Mesa down into the Yellow Creek drainage at the intersection of Stake Springs Draw, while the remainder of the proposed project is outside of the PEDHMA. That portion of the project proposed for this project that lies within the PEDHMA is all located on previously disturbed landscapes. These areas include mixed-aged pinyon/juniper woodland with pockets of sagebrush and an open bench (84 Mesa) dominated by forb/grass communities. The woodland provides cover for the wild horses while the sagebrush and forb/grass communities provide foraging habitat. Generally, year round wild horse use is made in these areas; however, during summer months several bands will migrate to the south or areas with higher elevations for vegetation as well as the ability to get away from insects such as gnats.

The appropriate management level (AML) is between 135-235 wild horses. To maintain the AML, the WRFO occasionally gathers wild horses and removes some from the range. In September 2011 a wild horse gather was conducted within and adjacent to the PEDHMA, and 260 wild horses were removed. WRFO estimates that the current herd size within the PEDHMA is approximately 135 wild horses, as well as, an estimated population of 70 wild horses located outside of the PEDHMA.

Environmental Consequences of the Proposed Action:

Direct and Indirect Effects: The proposed project would impact approximately seven acres of habitat within the PEDHMA that has previously been disturbed by prior energy related development. The primary impact would be removal of existing vegetation contributing to a loss of forage. The loss of seven acres would be minimal in relation to the entire herd area and would amount to the loss of vegetation available to grazing animals of less than one animal unit months (AUMs). Generally, the impacts to the vegetation would be expected to be long-term until complete reclamation of the project is achieved; however, short term impacts could be realized during reclamation efforts that would be considered marginal.

Construction activities associated with this project may cause short-term displacement of wild horses from the immediate area due to human activity, equipment operation, noise, and fugitive dust; however, it is believed they will make an effort to avoid the area during construction and return when the project is complete. Due to nearby county roads and other existing energy development related activities; wild horses in the area are likely to be habituated to human activity to some degree. Wild horses that do not avoid development activities and cattle guards could increase the potential for injuries to wild horses (e.g., hooves and legs caught in or through either the cattle guard or brace assembly). There is also potential for wild horses to be become trapped should they fall into an open trench. Increased traffic on access roads in the area could also increase the potential for harassment of and vehicle collisions with wild horses. Further, increased traffic in the area could result in young foals becoming dislocated from their mares.

The two fences located in Section 29, T1S, R98W also serve as boundary fence lines for the PEDHMA. These two fences require that functionality be continual due to the fact that wild horses would be able to relocate outside the PEDHMA if these fences are left down or non-functional.

Cumulative Effects: There is suitable habitat and forage near the proposed project area so wild horses would utilize other areas until such time that this previously disturbed location achieves some level of vegetative reclamation. There is however, the potential for additional impacts from non-native species of which some would be considered toxic to wild horses. It is not expected at this time that wild horses would utilize those species until the rangeland were to become completely depleted of native species. WRFO estimates that wild horses would attempt to expand their range beyond the PEDHMA in order to avoid the intake of less than desirable species.

Environmental Consequences of the No Action Alternative:

Direct and Indirect Effects: Under this alternative there would be no additional impacts to the previously disturbed areas within the PEDHMA or the wild horse herd.

Cumulative Effects: Under this alternative there would be no additional cumulative effects to the previously disturbed areas within the PEDHMA or the wild horse herd. WRFO could expect that reclamation efforts on the previously disturbed sites would continue and provide or retain vegetative cover and forage for wild horse utilization.

Mitigation:

1. Should the Proposed Action occur simultaneous with a wild horse gather, all project-related traffic would need to be coordinated with the BLM and the contractor for the gather.

2. Any range improvement projects such as fences or water developments that are damaged or destroyed as a result of implementation of the Proposed Action shall be promptly repaired or replaced to the degree of functionality prior to commencement of work associated with the Proposed Action.

3. To minimize the incidents of young foals becoming dislocated from their mare, crews would be required to slow or stop when wild horses are encountered, allowing the bands to move away at a pace slow enough so that the foal can keep pace and is not separated.

4. Place earthen trench plugs and/or ramps along the trench at well-defined wild horse trails intersected by open trench. Regularly inspect open trench for trapped animals and if injured animals are found contact the BLM.

5. All installed cattle guards associated with access roads and/or pipeline will be upgraded to a horse proof cattle guard so that the risk of wild horses being trapped in any of the installed cattle guards is reduced.

CULTURAL RESOURCES

Affected Environment: Development in the Ryan Gulch Unit, not all of it related to well drilling such as long pipelines that transit the area, have resulted in approximately 45 inventories that intersect the proposed water project for Williams (Berg et al 2007 compliance dated 6/26/2008, Brown et al. 2002 compliance dated 2/5/2009, Collins 2004 compliance dated 7/12/2004, Conner 1990 compliance dated 4/24/1990, 1998 compliance dated.10/5/1998, 2004 compliance dated 7/19/2004, 2005 compliance dated

6/17/2005, 2006 compliance dated 10/24/2006, 2008a compliance dated, 6/13/2008, 2008b compliance dated 12/17/2008, 2009a compliance dated 4/6/2009, 2009b compliance dated 9/9/2009, Conner and Davenport 1999a compliance dated 8/23/1999, 1999b compliance dated 11/8/1999, 2005 compliance dated 7/12/2005, 2006a compliance dated 2/28/2007, 2006b compliance dated 9/18/2006, 2007 compliance dated 6/14/2007, 2010 compliance dated 10/4/2010, Conner, Martin, Davenport, Darnell and Conner 2004 compliance dated 9/13/2004, Conner, Davenport, Archuleta and Conner 2005 compliance dated 9/13/2005, Conner, Martin, Davenport and Darnell 2005 compliance dated 7/19/2005, Conner, Darnell, Martin, Davenport, Miller and Rome 2008 compliance dated 5/26/2008, Conner, Davenport and Darnell 2006 compliance dated 9/18/2006, Conner, Davenport and Darnell 2007 compliance dated 8/11/2007, Conner, Davenport and Darnell 2009 compliance dated 10/7/2009, Conner and Darnell 2010 compliance dated 7/12/2010, Darnell 2011 compliance dated 10/24/2011, Greenberg and Kester-Tallman 2006 compliance dated 10/2006, Hadden 1999 compliance dated 4/5/1999, 2000 compliance dated 4/19/2000, Hauck 2001 compliance dated 6/22/2001, Highland 2005 compliance dated 7/2005, Martin, Conner, Conner, Darnell and Davenport 2003 Compliance dated 8/5/2003, McDonald 2006 compliance dated 10/25/2006, O'Brien 2006 compliance dated 7/12/2006, O'Neil 1995 compliance dated 5/9/1995, 1996 compliance dated 5/31/1996, Pennefather-O'Brien, Lubinski and Metcalf 1992 compliance dated 12/17/1992, Scott 1992 compliance dated 5/12/1992, Tate 1981 compliance dated 6/3/1981, Weston and Welch 2006 compliance dated 11/30/2006, Winters and Lucero 1993 compliance dated 8/30/1993, Wolfe 1999 compliance dated 12/28/1999). These inventories have resulted in the identification of 44 cultural resources of various types within 1010 feet (~308 meters) of the proposed pipelines. Five of the resources identified are classified as Isolated Finds and will not be addressed any further in this analysis.

The remaining 39 sites are listed in Table 11 below with the type of site, the official Determination of Eligibility from the Colorado State Historic Preservation Office – where a determination has been made, and the distance from the pipeline centerline based on available GIS data.

Environmental Consequences of the Proposed Action:

Direct and Indirect Effects: The proposed water pipeline system has the potential to directly and indirectly impact cultural resources depending on the proximity to individual resources. If the proposed mitigation measures listed in the Site Table below are agreed to by the Colorado SHPO and strictly adhered to it is likely that direct impacts would be so minimal that there would not be any serious loss of scientific data. Any impacts to sites that are NRHP eligible or potentially NRHP eligible, should they occur, would represent the greatest loss to the regional database.

However, even with the strict implementation of mitigation measures there are some indirect impacts that likely cannot be fully mitigated that would result in some loss of data to the regional archaeological database. The impacts could result from increased human activity in the area during all phases of construction and reclamation which could lead to unauthorized collecting from the sites. Additional impacts that could occur are directly related to construction as a result of vibrations during trenching of the pipelines, such as dust from transporting construction equipment to the project area, dust from transporting, welding, possibly laying the pipeline in the trench, dust and possible vibrations from back filling the trench, and re-grading the right-of-way and reseeding.

Cumulative Effects: Any impacts to the cultural resource regional database will constitute an irreversible, irretrievable and cumulative loss. The degree of loss will depend largely on the scientific data lost from any sites that are adversely impacted by construction of the proposed water pipelines.

Environmental Consequences of the No Action Alternative:

Direct and Indirect Effects: If the proposed pipeline system is not constructed, there would be no new construction impacts to any of the cultural resources listed in the Site Table below. There would not be any indirect impacts from increased human traffic and activity related construction to any of the resources. However, without the water pipeline there would be a huge increase in the number of truck trips in the area which could cause adverse impacts to cultural resources, especially those closest to the roads from the vibrations of the truck traffic and the extra dust generated by the traffic. Vibrations can cause structural degeneration on standing architectural features and dust can mask features and introduce chemical elements that may not have necessarily been present in archaeological contexts before the dust was introduced to the site context. Changes to the chemical content in the site context may be particularly true if dust suppression agents such as magnesium chloride are used to attempt to reduce the dust generated by the truck traffic.

Cumulative Effects: The cumulative impacts to cultural resources under the No Action Alternative where the pipeline system for handling frac/produced water from field development of the Ryan Gulch Unit would potentially result in very large, serious direct and indirect impacts to cultural resources due to the significantly higher human activity in the project area over the two to four years of the proposed drilling program for the unit. Significantly more vibrations over a longer period of operations would compromise the integrity of standing architecture and increased dust deposition on sites and features could mask the features or change the chemical composition of the resource context which could cause increased deterioration of some susceptible resources.

It is unlikely that adequate mitigation could be developed to prevent or reduce direct and indirect impacts to cultural resources under the No Action Alternative. Therefore any losses to cultural resources would potentially be more severe, irreversible and irretrievable than the Proposed Action as a result of the No Action Alternative.

Mitigation:

1. Williams is responsible for informing all persons who are associated with the project that they will be subject to prosecution for knowingly disturbing archaeological sites or for collecting artifacts.

2. Site eligibility and proposed mitigation area as follows in Table 11.

Table 11. Site Table with Eligibility and Mitigation Recommendations

Smithsonian Number	Site Type	NRHP Eligibility	Date of last DOE	Distance from Pipeline	Proposed Mitigation or Treatment
5RB.2	Open Camp	Officially Not Eligible	8/2/2007	28 meters	Monitor initial ground clearing outside existing

					disturbance
5RB.3	Prehistoric Open Camp, Historic	Officially Eligible	10/23/2010	0 meters	Temporary fence and monitor during all phases of construction near site (CHS #58201)
5RB.24	Open Camp	Officially Not Eligible	1/30/2009	262 meters	No Further Work
5RB.26	Open Camp	Field Needs Data	6/19/1973	155 meters	No Further Work
5RB.27	Open Camp	Officially Needs Data	11/30/2009	284 meters	No Further Work
5RB.42	Open lithic	Officially Not Eligible	2/17/2009	32 meters	Avoid, No Further Work
5RB.76	Historic Ranch	Officially Not Eligible	1/22/2009	46 meters	No Further Work
5RB.392	Open Lithic	Officially Not Eligible	9/18/2006	0 meters	No Further Work
5RB.406	Open Camp	Officially Not Eligible	1/22/2009	211 meters	No Further Work
5RB.408	Open Lithic	Officially Not Eligible	7/26/2077	177 meters	No Further Work
5RB.431	Open Lithic	Officially Not Eligible	1/22/2009	42 meters	Avoid, No Further work
5RB.435	Open Lithic	Officially Not Eligible	1/22/2009	156 meters	No Further Work
5RB.436	Open Lithic	Officially Not Eligible	1/22/2009	176 meters	No Further Work
5RB.437	Open Lithic	Officially Not Eligible	1/22/2009	75 meters	No Further Work
5RB.440	Open Lithic	Officially Needs Data	2/17/2009	42 meters	A void, No Further Work
5RB.448	Open Lithic	Officially Not Eligible	1/22/2009	0 meters	No further Work
5RB.525	Open Camp	Officially Needs Data	2/16/2010	8 meters	Temporary fence and monitor during all phases of construction near site.

5RB.573	Open Lithic	Officially Not Eligible	1/22/2009	55 meters	Avoid, No Further Work
5RB.1097	Unknown (multicomponent?)	No Official evaluation	NA	142 meters	No Further Work
5RB.1109	Open Camp	Officially Not Eligible	2/17/2009	148 meters	No Further Work
5RB.1111	Open Lithic	Officially Not Eligible	2/14/2011	38 meters	Avoid, No Further Work
5RB.1880	Open Camp	Officially Not Eligible	1/22/2009	15 meters	Monitor initial ground clearing
5RB.2150	Open Architecture	Officially Not Eligible	7/25/2007	79 meters (or 484 meters)	Avoid, No Further Work
5RB.2500	Open Camp	Officially Need Data	1/22/2009	32 meters	Temporarily fence, Monitor all construction near site
5RB.3026	Open Camp	Officially Not eligible	1/22/2009	106 meters	No Further Work
5RB.4162	Open Camp	Officially Not Eligible	1/22/2009	0 meters	No Further Work
5RB.4164	Open Camp	Officially Not Eligible	2/14/2011	48 meters	Avoid, No Further Work
5RB.4165	Isolated Find	Field Not Eligible	9/13/1999	27 meters	No Further Work
5RB.4368	Open Lithic	Officially Not Eligible	2/17/2009	105 meters	No Further Work
5Rb.4649	Isolated Find	Field Not Eligible	7/01/2003	76 meters	No Further Work
5RB.4809	Historic O'Lloyd/Reigle/Mautz Ranch	Officially Not eligible	1/22/2009	0 meters	Private, No Further Work
5RB.5105	Open Architectural	Officially Needs Data	1/22/2009	213 meters	No Further Work
5RB.5114	Isolated Find	Field Not Eligible	6/07/2005	167 meters	No Further Work
5RB.5115	Isolated Find	Field Not Eligible	6/07/2005	122 meters	No Further Work
5RB.5167	Open Lithic	Officially Needs Data	1/22/2009	142 meters	No Further Work
5RB.5445	Open Camp	Officially Needs Data	1/22/2009	138 meters	No Further Work
5RB.5808	Open Lithic	Officially Not Eligible	1/22/2009	67 meters	No Further Work
5RB.5821	Open Camp	Officially Needs Data	1/22/2009	268 meters	No Further Work

5RB.5842	Unknown	Officially Needs Data	1/22/2009	238 meters	No Further Work
5RB.5895	Isolated Find	Field Not Eligible	7/19/2008	34 meters	No Further Work
5RB.5920	Open Lithic	Officially Not Eligible	2/17/2009	0 meters	No Further Work
5RB.5922	Open Lithic	Officially Not Eligible	2/17/2009	121 meters	No Further Work
5RB.5943	Open Lithic	Officially Not Eligible	2/17/2009	172 meters	No Further Work
5RB.5962	Open Lithic	Officially Not Eligible	11/30/2009	220 meters	No Further Work

PALEONTOLOGICAL RESOURCES

Affected Environment: The proposed pipeline and water storage system is located in an area generally mapped as the Uinta Formation (Tweto 1979) which the BLM, WRFO has classified as a PFYC 4/5 formation meaning it is known to contain scientifically noteworthy fossil resources (c.f. Armstrong and Wolny 1989). Paleontological inventory and monitoring has identified three fossil localities (Sandau 2010 compliance dated 5/26/2010, Winterfeld 2005a compliance dated 7/11/2005, 2005b compliance dated 7/22/2005) in the project's area of potential effect.

Environmental Consequences of the Proposed Action:

Direct and Indirect Effects: Any excavation into the underlying sedimentary rock formation has the potential to impact scientifically noteworthy fossil resources. Any impact, even if monitored and with fossil resources recovered, has the potential to result in a loss of scientific data from the regional paleontological database. Fossils nearest the surface are the most vulnerable as any vegetation is cleared from the proposed work area where small fossils are easily displaced and crushed by heavy equipment associated with construction. Larger fossils could also be impacted by initial ROW clearing though crushing would not necessarily totally destroy the fossil.

During excavation fossils of all sizes are potentially destroyed by rotary trenching machines as they grind through the rock formation. Sometimes remnants can be seen in the trench wall or in the spoil pile but major components of the individual fossil and the fossil context and environmental data are largely destroyed.

Cumulative Effects: Any impacts to fossil resources from construction of the proposed pipelines have the potential to irreversibly and irretrievably cause an important loss of scientific data to the regional database. The loss would be loss of individual fossils and would also include the loss of any environmental data that was associated with the fossils. Monitoring and fossil recovery may mitigate the loss to some extent; however, there is no way to prevent loss of data even with mitigation using current technology.

Environmental Consequences of the No Action Alternative:

Direct and Indirect Effects: There would be no new impacts to fossil resources under the No Action Alternative. Fossil resources would not be lost due to construction though the slow, natural weathering process would continue to expose any fossils that are present. Larger fossils would not be severely impacted except indirectly from livestock and wildlife activity or increased human activity in the area. Smaller fossils would likely be quickly lost as they are more fragile than larger fossils and weather has a greater impact on them. The process is natural and the loss is relatively slow compared to the loss due to development.

Cumulative Effects: There will be some loss of paleontological data without the proposed pipeline project. The cumulative loss would be far less than with construction of the buried pipeline as the underlying sedimentary rock formation is not disturbed by trenching to install the pipeline. The loss from the No Action Alternative is cumulative, irreversible and irretrievable though it is far less severe than if the proposed pipelines are constructed.

Mitigation:

1. Williams is responsible for informing all persons who are associated with the project operations that they will be subject to prosecution for disturbing or collecting vertebrate fossils, collecting large amounts of petrified wood (over 25 lbs./day, up to 250 lbs./year), or collecting fossils for commercial purposes on public lands.

2. If any paleontological resources are discovered as a result of operations under this authorization, Williams or any of its agents must stop work immediately at that site, immediately contact the BLM Paleontology Coordinator, and make every effort to protect the site from further impacts, including looting, erosion, or other human or natural damage. Work may not resume at that location until approved by the AO. The BLM or designated paleontologist will evaluate the discovery and take action to protect or remove the resource within 10 working days. Within 10 days, the operator will be allowed to continue construction through the site, or will be given the choice of either (a) following the Paleontology Coordinator's instructions for stabilizing the fossil resource in place and avoiding further disturbance to the fossil resource, or (b) following the Paleontology Coordinator's instructions for mitigating impacts to the fossil resource prior to continuing construction through the project area.

3. Any excavations into the underlying native sedimentary stone must be monitored by a permitted paleontologist. The monitoring paleontologist must be present before the start of excavations that may impact bedrock.

VISUAL RESOURCES

Affected Environment: Public lands administered by BLM in the project area have received VRM Class III designation. The management goal for this class is to partially retain the existing character of the landscape. The change brought about by activities on lands with VRM III designation may be evident. The visual contrast may be moderate but should not dominate the natural landscape character. Changes should repeat the basic elements found in the predominant natural features of the characteristic landscape.

The landscape in the project area has already undergone some transformation as several major oil and gas development and pipeline projects exist in the area. Public access to the proposed project area is unrestricted and the viewing public includes those who use Rio Blanco County Roads 5 (the Piceance Creek Road), 24, 83, 86, 68, and 31.

Environmental Consequences of the Proposed Action:

Direct and Indirect Effects: The construction of the pipelines and associated facilities in the proposed project would alter the landscape character. In areas where the pipelines would be placed in existing ROWs and disturbed areas, the degree of contrast would be minimized. However in areas where no previous disturbance exists, removal of vegetation and recontouring of the natural surface introduces linear features into the landscape, offering contrasting soil and vegetation colors and patterns that had not previously been there. This impact would lessen in the long-term as exposed areas would be reclaimed and bare soil would not be so evident. Removal of the pinyon/juniper and other vegetation on slopes would result in scarring that would be more visually prominent than on flat surfaced areas, until such a time when the pinyon/juniper community could be re-established.

The location of the frac tanks and other above ground structures would generate a strong effect in the foreground that would remain as long as the facilities are present. Above-ground structures would introduce man-made industrial facilities that would draw attention due to their size, color, and shape. The use of natural paint tones would help to reduce the visual impact of the facilities.

As viewers get further and further from the above ground facilities, the degree of change and contrast with the surrounding landscape would diminish. Overall, combined with the existing oil and gas related facilities in place, the degree of change in the landscape from the Proposed Action would be moderate and would not generally dominate the natural character of the landscape, thereby retaining the objectives of the VRM III classification.

Cumulative Effects: Combined with existing and future oil and gas development activities in the area, the Proposed Action would cumulatively contribute to a visually impacted landscape and a gradually increasing industrial appearance.

Environmental Consequences of the No Action Alternative:

Direct and Indirect Effects: Since no additional disturbance would occur or no additional facilities would be constructed, no visual impacts would be present.

Cumulative Effects: None.

Mitigation:

1. All permanent (onsite for six months or longer) structures, facilities and equipment placed onsite shall be low profile and painted Juniper Green from the BLM Standard Environmental Color Chart, within six months of installation.

2. Disturbed areas shall be restored as nearly as possible to their original contour. Additional mitigation measures, such as vegetative screening and contouring may also be required as deemed necessary by the AO.

HAZARDOUS OR SOLID WASTES

Affected Environment: There are no known hazardous or other solid wastes on the subject lands. No hazardous materials are known to have been used, stored, or disposed of at sites included in the project area.

Environmental Consequences of the Proposed Action:

Direct and Indirect Effects: The proposed activities may use regulated materials and will generate some solid and sanitary wastes. The potential for harm to human health or the environment is presented by the risks associated with spills of fuel, oil, and/or hazardous substances used during oil and gas operations. Other accidents and mechanical breakdowns of machinery are also possible.

Substances used in the completions process may be harmful to human health or the environment. However, freshwater-bearing formations and other resources suitable for human use or consumption are isolated from man-made materials used in oil and gas operations through the use and cementing of surface casing, see 43 CFR §3162.5-2(d).

Cumulative Effects: The Proposed Action should not contribute to adverse impacts to human health and/or the environment if the SUP as proposed for each well is properly implemented, and the following mitigation measures are adhered to.

Environmental Consequences of the No Action Alternative:

Direct and Indirect Effects: No hazardous or other solid wastes would be generated under the No Action Alternative.

Cumulative Effects: Not implementing the Proposed Action would increase the risk of spills and/or releases of potentially harmful substances due to traffic accidents on access roads. Failure to maintain the integrity of the pipeline or leak detection systems could result in an increased risk of spills and/or releases of potentially harmful substances along the ROW. Not implementing the No Action Alternative results in a sustained level of heavy truck traffic and the generation of dust.

Mitigation:

1. All lessees and/or operators and right-of-way holders shall comply with all federal, state and/or local laws, rules, and regulations, including but not limited to onshore orders and notices to lessees, addressing the emission of and/or the handling, use, and release of any substance that poses a risk of harm to human health or the environment.

2. Where required by law or regulation to develop a plan for the prevention of releases or the recovery of a release of any substance that poses a risk of harm to human health or the environment, provide a current copy of said plan to the BLM WRFO.

3. Through all phases of oil and gas exploration, development, and production, all lessees and/or operators and holders of rights-of-way shall employ, maintain, and periodically update to the best available technology(s) aimed at reducing: 1) emissions, 2) fresh water use, and 3) utilization, production, and release of hazardous material.

4. All substances that pose a risk of harm to human health or the environment shall be stored in appropriate containers. Fluids that pose a risk of harm to human health or the environment, including but not limited to produced water, shall be stored in appropriate containers and in secondary containment systems at 110% of the largest vessel's capacity. Secondary fluid containment systems, including but not limited to tank batteries shall be lined with a minimum 24 mil impermeable liner.

5. Construction sites and all facilities shall be maintained in a sanitary condition at all times; waste materials shall be disposed of promptly at an appropriate waste disposal site. "Waste" means all discarded matter including, but not limited to, human waste, trash, garbage, refuse, oil drums, petroleum products, ashes, and equipment.

6. As a reasonable and prudent lessee/operator in the oil and gas industry, acting in good faith, all lessees/operators and right-of-way holders will report all emissions or releases that may pose a risk of harm to human health or the environment, regardless of a substance's status as exempt or nonexempt and regardless of fault, to the BLM WRFO (970) 878-3800.

7. As a reasonable and prudent lessees/operator and/or right-of-way holder in the oil and gas industry, acting in good faith, all lessees/operators and right-of-way holders will provide for the immediate clean-up and testing of air, water (surface and/or ground) and soils contaminated by the emission or release of any substance that may pose a risk of harm to human health or the environment, regardless of that substance's status as exempt or non-exempt. Where the lessee/operator or right-of-way holder fails, refuses or neglects to provide for the immediate clean-up and testing of air, water (surface and/or ground) and soils contaminated by the emission or release of any quantity of a substance that poses a risk of harm to human health or the environment, the BLM WRFO may take measures to clean-up and test air, water (surface and/or ground) and soils at the lessee/operator's expense. Such action will not relieve the lessee/operator of any liability or responsibility.

8. With the acceptance of this authorization, the commencement of operations under this authorization, or within thirty calendar days from the issuance of this authorization, whichever occurs first, and during the life of the pipeline, the right-of-way holder and the lessee/operator, and through the right-of-way holder and lessee/operator, its agents, employees, subcontractors, successors and assigns, stipulate and agree to indemnify, defend and hold harmless the United States Government, its agencies, and employees from all liability associated with the emission or release of substances that pose a risk of harm to human health or the environment.

RANGELAND MANAGEMENT

Affected Environment: Construction of the proposed pipeline system would occur within three allotments managed by the WRFO, the Square S allotment (06027), The Yellow Creek allotment

(06030), and the Reagles allotment (06026). Each of the three allotments consists of pastures which are used in a deferred rotation grazing system. Pastures within the project area are generally used in the spring (May and June) and late fall (October through December). Within the Square S allotment construction would occur in the Upper Yellow Creek, Horse Draw, Ryan, C, and South Ryan pastures. Within the Yellow Creek allotment construction would occur in the Barcus/Pinto pasture and within the Reagles allotment, construction would occur in the Dry Ryan pasture. The total authorized grazing use for all pastures of each allotment is as follows: Square S 3,522 Animal Unit Months (AUMs), Yellow Creek 2,157 AUMs, and Reagles 952 AUMs.

Table 12 shows the location of range improvement projects within the project area which could be potentially impacted by the proposed pipeline system, and indicates if pipelines would parallel or cross the range improvements.

Table 12. Range Improvement Projects Potentially Impacted by Proposed Action

Township Range	Section	Range Improvement Type
T1S R97W	19	Crosses Water Line and Fence
T1S R98W	24	Crosses Water Line and Fence
	25	Parallels Water Line, Crosses Fence
	29	Crosses Fence
	32, 33	Parallels Fence
	35	Parallels and Crosses Water line, Crosses Fence
T2S R98W	1	Parallels Water Line, Crosses Fence
	4, 13, 23	Parallels and Crosses Fence
T2S R 97W	1	Parallels Fence

The functionality of the water line system is critical for achievement of vegetation management objectives on the Square S allotment. The proposed pipeline crosses several fences that are either pasture fences or boundary fences between grazing allotments or boundary fences between private and public land; these fences are also necessary for the proper management of livestock within the grazing allotments.

Environmental Consequences of the Proposed Action:

Direct and Indirect Effects: Implementation of the Proposed Action would initially remove forage vegetation on approximately 208 acres of public land within the Square S, Reagles, and Yellow Creek allotments. As described in the "Vegetation" section of this Environmental Assessment (EA) this forage loss is expected to be short term. Following successful reclamation forage production would likely return to pre-construction levels within three years. Temporary removal of fencing would be necessary to complete construction of the pipeline system. The Yellow Creek livestock waterline will likely be damaged by construction of the proposed pipeline system.

Cumulative Effects: Implementation of the Proposed Action in conjunction with existing and future uses is not expected to impede or affect the proper management of livestock on rangelands within the grazing allotments in which the Proposed Action occurs. The expected reduction of truck traffic within the area would likely reduce the risk of vehicle collisions with livestock on the project area.

Environmental Consequences of the No Action Alternative:

Direct and Indirect Effects: There would be no change from the present situation.

Cumulative Effects: There would be no vegetation disturbing activities which would contribute to short term reduction of forage within the project area. There would be no potential for damage to range improvement projects as a result of the proposed project.

Mitigation:

1. Any range improvement projects such as fences, water developments, or other livestock handling/distribution facilities that are damaged or destroyed either directly or indirectly as a result of implementation of the Proposed Action shall be promptly repaired or replaced by the applicant to restore pre-disturbance functionality.

2. Any fence crossing and gates encountered on existing roads on public land that are utilized in construction of the pipeline would require placement of a temporary cattleguard constructed to BLM specifications to keep cattle from straying into other areas. Proper fence bracing and construction must be in place when going through a fence so as to maintain proper wire tensions. The effectiveness (control of cattle) of these fences at these crossing points must be maintained at all times during construction and operation of the pipeline.

REALTY AUTHORIZATIONS

Affected Environment: The proposed water pipelines would cross private lands and federally owned lands administered by the BLM. The proposed project would share existing ROW corridors located on BLM land.

A search of the BLM LR2000 database indicates several ROWs are located near the Proposed Action. These ROWs are associated with natural gas pipelines, roads, oil and gas facilities, power lines, telephone lines, communications sites, temporary use permits (TUPs), and water pipelines and facilities.

The following are the current ROW holders near the Proposed Action: White River Electric Association, Qwest Corporation, Union Telephone Company, BOPCO, Public Service Company of Colorado, Williams Production RMT Company, Puckett Land Company, Exxon Mobil Corporation, Enterprise Products Operating LP, Enterprise Gas Processing, LLC, Mesa Energy Partners, LLC, EnCana Oil and Gas (USA) Inc., Industrial Resources, Williams Northwest Pipeline, Colorado Interstate Gas Company, Questar Pipeline Company, Bargath,LLC, Natural Soda, Inc., Shell Frontier Oil & Gas, BLM, American Shale Oil LLC, Rio Blanco County, and Natec Mines LTD. Table 13 below describes the existing Williams' water pipelines authorized adjacent to the proposed water pipelines.

Table 13. Authorized Williams Water Pipelines Adjacent to the Proposed Water Pipelines.

Case File	Description	Authorized Facilities	Length (ft)	Permanent ROW (acres)
COC73033	Ryan Gulch Plant to RGU 23-6-297	Two 4-inch water lines	3,910	2.2
COC73180	RG 22-27-198, 31-24-198, 31-34-198, 42-3-298	Two up to 8-inch water lines	24,512	14.07

COC73845	Pitcher's Mound	Two up to 10-inch water lines	63,871	36.66
COC73904	Black Sulphur/Dry Gulch	Two up to 10-inch water lines	6,010	3.45
COC73933	Ryan Ridge	Up to three 4-inch to 10-inch water lines	27,684	15.89
COC74123	RGU 13-24-198	Two 4-inch water lines	3,305	1.9
COC74155	RGU 33-24-198	Two 4-inch water lines	8,559	4.91
COC74318	Water Fork (Corridors 6A-1a, 6A-1b, and 6A-2)	Two up to 10-inch water lines	17,118	9.82
COC74533	RGU 31-25-198	Two 4-inch water lines	692	0.4
COC75078	RGU 32-25-198 and 24-25-198	Two up to 8-inch water lines	1,046	0.6
	New Authorizations			
COC74741	RGU 12-14-298 and 32-14-298	Pipeline ROW COC72895	20,394	7.02
COC75206	RGU 31-2-298	Pipeline ROW COC67991	3,300	1.14

Environmental Consequences of the Proposed Action:

Direct and Indirect Effects: The water pipeline ROW (COC75171) would be 195,640 ft (37.05 miles) long, 25 feet wide, and contain approximately 112.28 acres for the two up to 14-inch water pipelines. The additional water lines would be constructed adjacent to existing natural gas and water pipeline ROWs. A TUP would be issued for the additional 25 ft needed during construction. The TUP (COC75171-01) would be 195,640 ft (37.05 miles) long, 25 ft wide, and contain approximately 112.28 acres.

In addition to construction of the up to 14-inch water pipelines, Williams would construct two 4-inch water pipelines to serve the RGU 12-14-298, RGU 32-14-298, and RGU 31-2-298. The construction would occur simultaneously with the 14-inch water pipelines. ROW COC74741 would be 20,394 feet (3.86 miles) long, 15 ft wide, and contain approximately 7.02 acres for the 4-inch lines to serve RGU 12-14-298 and RGU 32-14-298. ROW COC75206 would be 3,300 feet long, 15 ft wide, and contain approximately 1.14 acres for the two 4-inch pipelines to serve RGU 31-2-298. The additional water lines would be constructed along existing pipeline ROWs and would be part of the total disturbance included in the water pipeline system (ROW COC75171).

A plant survey will be required and a **Notice to Proceed** will be issued prior to construction in: T1S, R97W; T2S, R97W; T1S, R98W, sections 24, 25, 26, 27, 35, and 36; and T2S, R98W, sections 1, 2, 11, 12, 13, and 14. Construction of the proposed pipelines has the potential to intersect ROWs held by other parties, such as access roads, water lines, pipelines, power lines, telephone lines, and county roads. Damage to the facilities or rights of existing ROW holders could occur if construction activities are not properly planned and other ROW facilities are not properly identified prior to construction. Damage to county roads from trenching and heavy equipment use may also occur. If accurate "as built" mapping is not provided to BLM, conflicts may develop in the future with other ROW holders.

Cumulative Effects: As the number of ROW holders in the project area increases so would competition for suitable locations for facilities. Increased ROW densities would also lead to a higher probability of conflict between ROW users.

Environmental Consequences of the No Action Alternative:

Direct and Indirect Effects: None

Cumulative Effects: None

Mitigation:

1. All activities would be required to comply with all applicable local, state, and federal laws, statutes, regulations, standards, and implementation plans. This would include acquiring all required State and Rio Blanco County permits, implementing all applicable mitigation measures required by each permit, and effectively coordinating with existing facility ROW holders.

2. The holder shall provide the BLM AO with data in a format compatible with the WRFO's ESRI ArcGIS Geographic Information System (GIS) to accurately locate and identify the ROW and all constructed infrastructure, (as-built maps) within 60 days of construction completion.

3. Acceptable data formats are: (1) corrected global positioning system (GPS) files with sub-meter accuracy or better; (2) ESRI shapefiles or geodatabases; or at last resort, (3) AutoCAD .dwg or .dxf files. Option 2 is highly preferred. In ALL cases the data must be submitted in Universal Transverse Mercator (UTM) Zone 13N, NAD 83, in units of meters. Data may be submitted as: (1) an email attachment; or (2) on a standard compact disk (CD) in compressed (WinZip only) or uncompressed format. All data shall include metadata, for each submitted layer, that conforms to the Content Standards for Digital Geospatial Metadata from the Federal Geographic Data Committee standards. Questions should be directed to WRFO BLM GIS staff at (970) 878-3800.

4. Rio Blanco County Road & Bridge Department shall be contacted and any permits obtained prior to any construction activity adjacent to or within the ROWs for County Roads 26, 29, 68, 70, and 85.

5. Construction activity should take place entirely within the areas authorized in the ROW grant and temporary use permit.

6. Construction shall not proceed on the eastern portion (see attached map) until a written Notice to Proceed is issued. The Notice to Proceed can be issued when the required plant surveys are conducted, reviewed, and approved by the WRFO BLM.

RECREATION

Affected Environment: The Proposed Action occurs within the White River Extensive Recreation Management Area (ERMA). BLM custodially manages the ERMA to provide for unstructured recreation activities such as hunting, dispersed camping, hiking, horseback riding, wildlife viewing, and off-highway vehicle use. The most intense recreation activity in the area is hunting during the big game fall seasons.

The proposed project falls within two Recreation Opportunity Spectrum (ROS) classes: Roaded Natural (RN) and Semi-Primitive Motorized (SPM). RN settings are characterized by a generally natural environment with evidence of rural residences and agricultural land uses. Resource manipulations are noticeable and are harmonious with the natural environment but substantial modifications may be

encountered. The areas provide about equal opportunities for interaction with other visitors and to experience isolation from the sights and sounds of man. The ridges along these drainages most closely resemble the class. A natural appearing environment with few administrative controls typically characterizes an SPM recreation setting; there is low interaction between users but evidence of other users may be present. An SPM recreation experience is characterized by a high probability of isolation from the sights and sounds of humans that offers an environment with challenge and risk.

Environmental Consequences of the Proposed Action:

Direct and Indirect Effects: The public would most likely not recreate in the vicinity of the pipeline and associated facilities route during construction. This would especially be the case if construction were to occur during the big game hunting season (September through December), because it would disrupt the experience sought by those recreationists and may cause game to disperse to other areas, reducing the chance for a successful hunt. After construction however, if big game returns to the area, the presence of the pipelines and facilities is not likely to deter hunters from recreating in the area.

After construction, the pipeline would not materially conflict with the either the SPM or RN settings or the experience to be expected in each setting. Pipeline maintenance activities would be infrequent and would not measurably increase the likelihood of interaction with others while recreating in the area.

Cumulative Effects: Over time, combined with existing and future oil and gas development activities, the proposed project may cumulatively contribute to a diminished primitive recreation experience due to the increased disturbance and presence of added facilities.

Environmental Consequences of the No Action Alternative:

Direct and Indirect Effects: Since no disturbance or construction of facilities would occur as a result of the Proposed Action, no impacts would be created.

Cumulative Effects: None.

Mitigation: None.

ACCESS AND TRANSPORTATION

Affected Environment: Much of the Proposed Action would occur along Rio Blanco County roads including CR 24; CR 68; CR 83; CR 86; CR 31; BLM Road 1019; BLM Road 1148; as well as a series of un-named and un-numbered primitive BLM roads and two tracks.

The amount of travel along the county roads is moderate, limited primarily to oil and gas personnel, local ranchers and residents, and the occasional recreationist. Recreational traffic increases noticeably during the fall big game hunting seasons. Travel along the BLM roads is slightly less frequent than that on the county roads.

Motorized vehicle travel on public lands within the area of the Proposed Action is limited to existing roads from October 1 to April 30 each year. Cross-country motorized vehicle travel is allowed from May 1 to September 30 as long as no resource damage occurs as a result.

Environmental Consequences of the Proposed Action:

Direct and Indirect Effects: Construction of the proposed facilities would contribute to increased heavy truck traffic along the county and BLM roads during the period of construction. At those points where the pipeline route intersects county or BLM roads and is to be bored under the road, traffic may be temporarily disrupted; however, no roads closures are expected. When existing roadways are being utilized for construction, temporary disruptions in traffic flow may occur, but are not likely. At any points where the pipeline may be trenched across county roads, traffic may be impeded and would be managed according to the traffic control conditions of the applicant's county permit. Overall the impact should be low. The condition of the roadway should be returned to its previous condition by the applicant. Where the pipeline route follows a BLM road, the applicant would be required to install the pipeline within the roadway so as to minimize disturbance to vegetation. Disruption in traffic flow during fall big game hunting season may cause delays for recreationists reaching their destinations.

Cumulative Effects: None.

Environmental Consequences of the No Action Alternative:

Direct and Indirect Effects: Since no project would take place, no additional impacts would occur.

Cumulative Effects: None.

Mitigation:

1. Signs should be posted at all locations where construction is occurring along roadways, warning motorists of delays and safety concerns.

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TRIBES, INDIVIDUALS, ORGANIZATIONS, OR AGENCIES CONSULTED:

INTERDISCIPLINARY REVIEW:

Name	Title	Area of Responsibility	Date Signed
Bob Lange	Hydrologist	Air Quality; Surface and Ground Water Quality; Floodplains, Hydrology, and Water Rights; Soils	12/06/2011
Zoe Miller	Ecologist	Areas of Critical Environmental Concern; Special Status Plant Species, Forest Management	10/28/2011
Michael Selle	Archaeologist	Cultural Resources; Native American Religious Concerns; Paleontological Resources	11/2/2011
Tyrell Turner	Rangeland Management Specialist	Invasive, Non-Native Species; Vegetation; Rangeland Management	11/08/2011
Christina Barlow	Natural Resource Specialist	Hazardous or Solid Wastes	12/1/2011
Chad Schneckenberger	Outdoor Recreation Planner	Wilderness; Visual Resources; Access and Transportation; Recreation,	11/3/2011
Will Hutto	Fuels Specialist	Fire Management	10/11/2011
Paul Daggett	Mining Engineer	Geology and Minerals	11/08/2011
Stacey Burke	Realty Specialist	Realty	11/07/2011
Melissa J. Kindall	Range Technician	Wild Horse Management	11/03/11
Christina Barlow	Natural Resource Specialist	Project Lead – Document Preparer	12/8/2011

ATTACHMENTS:

Attachment 1. Proposed Leak Detection System
Attachment 2. Proposed Secondary Containment RGU 31-24-198 Tank
Attachment 3. Proposed Secondary Containment RGU 12-14-298 Tanks
Attachment 4. Proposed Secondary Containment RGU 13-24-198 Tank
Attachment 5. Williams Water Lines for Water Transportation and Storage System
Attachment 6. Notice to Proceed: Williams Water Line System COC 75171
Attachment 7. Locations for Recommended Seed Mix

U.S. Department of the Interior
Bureau of Land Management
White River Field Office
220 E Market St
Meeker, CO 81641

Finding of No Significant Impact (FONSI)

DOI-BLM-CO-110-2011-0070-EA

BACKGROUND

Williams' Production RMT Company LLC (Williams) proposes a containment and storage water management system for the Ryan Gulch Unit. The system involves: (a) locating four 37,500 barrel (bbl) frac tanks at central location throughout the Ryan Gulch Unit area, (b) installing pipeline infrastructure around that field that allows for transport of flowback water to and from different facilities, (c) construction and use of a multi-well pit on Williams' private Mautz Ranch Property to recycle produced water for new well completions.

FINDING OF NO SIGNFICANT IMPACT

Based upon a review of the EA and the supporting documents, I have determined that the Proposed Action is not a major federal action and will not have a significant effect on the quality of the human environment, individually or cumulatively with other actions in the general area. No environmental effects meet the definition of significance in context or intensity, as defined at 40 CFR 1508.27 and do not exceed those effects as described in the White River Resource Area Proposed Resource Management Plan and Final Environmental Impact Statement (1996). Therefore, an environmental impact statement is not required. This finding is based on the context and intensity of the project as described below.

Context

The project is a site-specific action directly involving BLM administered public lands that do not in and of itself have international, national, regional, or state-wide importance. Implementation of the Proposed Action would allow for full development of the Ryan Gulch Unit, and for the completions of 27 approved but deferred wells. The Proposed Actions would shift the management emphasis of the Ryan Gulch Unit from the development to full-production phase.

Intensity

The following discussion is organized around the 10 Significance Criteria described at 40 CFR 1508.27. The following have been considered in evaluating intensity for this Proposed Action:

1. Impacts that may be both beneficial and adverse. Potential adverse impacts to federally-managed surface resources have been described as being of low-intensity and short-duration. While vegetation and soils would be temporarily disturbed, the Proposed Action and associated reduction in truck traffic has been recognized as a beneficial impact for wildlife, wild horses, air quality, cultural resources, and rangeland resources.

2. The degree to which the Proposed Action affects public health or safety. There would be no impact to public health and safety if the remote telemetry alarm system effectively alerts the operator of any spills or releases, and the proposed mitigation for solid and hazardous waste management is properly implemented.

3. Unique characteristics of the geographic area such as proximity to historic or cultural resources, park lands, prime farmlands, wetlands, wild and scenic rivers, or ecologically critical areas. No parks, prime farmlands, wild and scenic rivers, or other areas of special environmental concern have been identified within the project area. One of the proposed waterlines crosses Yellow Creek, just below the Stake Springs-Corral Gulch confluence. This portion of the pipeline lies adjacent to an existing pipeline right-of-way (ROW) and roughly 25 meters from an existing gravel road. Although possible that this system supports riparian communities, the entire area is privately-owned.

4. Degree to which the possible effects on the quality of the human environment are likely to be highly controversial. Storage and disposal of produced water is a necessary component of oil and gas drilling operations in the Piceance Basin, and the federal action of authorizing these reoccurring operations have been routinely analyzed in site-specific environmental assessments (EAs) as well as in the White River Resource Management. No public comment has been received to indicate the possible effects of the proposed action would be controversial, as the associated reduction in truck traffic resulting from the pipeline infrastructure is likely viewed as a positive outcome that reduces overall surface impacts while also allowing for the extraction of the petroleum resource.

5. Degree to which the possible effects on the quality of the human environment are highly uncertain or involve unique or unknown risk. No highly uncertain or unknown risks to the human environment were identified during analysis of the Proposed Action. Risk of harm to human health or the environment would be substantially reduced if the recommended mitigation for solid and hazardous waste management is properly implemented and/or adhered to.

6. Degree to which the action may establish a precedent for future actions with significant effects or represents a decision in principle about a future consideration. The Proposed Action establishes a precedent of using centralized facilities for water storage, handling, transport, and disposal. The use of centralized facilities minimizes surface disturbance throughout the field and implementation of this Proposed Action may encourage similar future developments.

7. Whether the action is related to other actions with individually insignificant but cumulatively significant impacts. The Proposed Action relates to how water may be transported and recycled for future wells in the Ryan Gulch Unit (See Table 1. Williams' 2012 Plan of Development for the wells associated with the proposed water transportation and storage system).

8. The degree to which the action may adversely affect districts, sites, highways, structures, or objects listed on the National Register of Historic Places or may cause loss or destruction of significant scientific, cultural, or historical resources. Mitigation developed through

consultation with SHPO has been provided to protect any cultural resources listed on the National Register of Historic Places. And potential adverse effects have been mitigated.

9. The degree to which the action may adversely affect an endangered or threatened species or its habitat that has been determined to be critical under the Endangered Species Act (ESA) of 1973. There are no threatened or endangered animal species that are known to inhabit or derive important use from the project area. The Proposed Action is more than 700 m to the west of the Ryan Gulch Area of Critical Environmental Concern (ACEC) and over 1,000 m to the south of the Duck Creek ACEC. This is outside of the life-history buffers of the threatened plant species (*Physaria congesta* and *Physaria obcordata*) that these areas are designated to protect.

10. Whether the action threatens a violation of Federal, State, or local law or requirements imposed for the protection of the environment.
Neither the Proposed Action nor impacts associated with it violate any laws or requirements imposed for the protection of the environment. The operator certified in their Surface Use Plan (SUP) they are aware of all existing local, state, and federal rules and regulations related to the proposed oil and gas
development.

SIGNATURE OF AUTHORIZED OFFICIAL: _____
Field Manager

DATE SIGNED: 12/16/2011

U.S. Department of the Interior
Bureau of Land Management
White River Field Office
220 E Market St
Meeker, CO 81641

DECISION RECORD

PROJECT NAME: Williams' Water Containment and Storage System

ENVIRONMENTAL ASSESSMENT NUMBER: DOI-BLM-CO-2011-0070-EA

DECISION

It is my decision to implement the Proposed Action (Alternative A), as mitigated in DOI-BLM-CO-2011-0070-EA, authorizing the (a) construction and placement, operation, and maintenance of four 35,700 barrel (bbl) tanks (to function as an ancillary frac water storage facility) on existing federal well locations (b) issuance of rights-of-way (ROWs) on and off lease to allow for the transport of these collected water, and (c) transportation of federal water to and from a multi-well pit on Mautz Ranch.

Mitigation Measures:

Air Quality

1) The operator shall employ dust suppression techniques (i.e. freshwater use) whenever there is a visible dust trail behind construction vehicles or during pipeline installation. Any technique other than the use of freshwater as a dust suppressant on BLM lands will require prior written approval from BLM.

2) Williams will provide BLM a copy of the Air Pollutant Emission Notice submitted to CDPHE in accordance with requirements of the general permit 5 for each tank in order to assess if emissions are within the potential emissions analyzed. Williams will notify the BLM if a significant change in annual actual emissions occurs for these tanks.

Geology and Minerals

3) To prevent disruption to operations of other minerals the project proponent should contact and coordinate with Natural Soda Inc. and Shell Frontier prior to construction activity in the areas listed in Table 6.

Soil Resources

4) Williams will bury pipelines to provide a minimum cover of 36 inches through normal terrain. A minimum cover of 30 inches will be provided in rocky areas. In areas next to or crossing access roads, stream channels, and alluvial areas pipelines shall be buried a minimum of four feet below the natural grade.

5) During pipeline construction, Williams will leave the ROW undisturbed to the maximum extent possible. That is, only the minimum necessary disturbance to make the working surface safe and passable. Do not remove topsoil under areas used for the storage of soils, and do not remove topsoil from working surfaces, if possible.

6) All areas where the topsoil has been removed and soils have become compacted Williams will de-compact areas by disking to prepare the soils for reclamation. Alternate methods of de-compaction may be used, with the approval of the Authorized Officer (AO).

7) If, after initial construction activities are completed and if soil productivity is diminished from its pre-disturbance condition, Williams will regrade, de-compact, reseed, hydro-mulch, or initiate with BLM approval other efforts to re-establish soil productivity.

8) In order to protect rangeland health standards, erosion features such as rilling, gullying, piping, and mass wasting on the ROW or adjacent to the ROW as a result of this action will be addressed immediately by Williams after observation by submitting a mitigation plan to the BLM for approval and implement BMPs to correct the problem.

9) After pipeline construction activities are completed Williams will be responsible for taking measures to prevent off-road vehicle use along the pipeline ROW until reclamation has been successful or for a longer period, as directed by the AO.

10) All construction activity shall cease when soils or road surfaces become saturated to a depth of three inches unless otherwise approved by the AO.

Vegetation

11) Promptly revegetate all disturbed areas associated with pipeline construction with the recommended seed mixes below (Tables 9 and 10). For portions of the pipeline that lie within a Foothill Swale ecological site, BLM recommends seed mix # 5 (Attachment 7) shows these areas, including latitude and longitude of the end points. For all other areas, BLM recommends seed mix # 3.

Table 9. Seed Mix #3

Cultivar	Species	Scientific Name	Application Rate (lbs PLS/acre)
Rosanna	Western Wheatgrass	Pascopyrum smithii	4
Whitmar	Bluebunch Wheatgrass	Pseudoroegneria spicata ssp. inermis	3.5
Rimrock	Indian Ricegrass	Achnatherum hymenoides	3
	Needle and Thread Grass	Hesperostipa comata ssp. comata	2.5
Maple Grove	Lewis Flax	Linum lewisii	1
	Scarlet Globemallow	Sphaeralcea coccinea	0.5
Alternates:			
Critana	Thickspike Wheatgrass	Elymus lanceolatus ssp. lanceolatus	3
	Sulphur Flower	Eriogonum umbellatum	1.5

Table 10. Seed Mix #5

Cultivar	Species	Scientific Name	Application Rate (lbs PLS/acre)
Magnar	Basin Wildrye	Leymus cinereus	3.5
Rosanna	Western Wheatgrass	Pascopyrum smithii	3.5
San Luis	Slender Wheatgrass	Elymus trachycaulus ssp. trachycaulus	3
Critana	Thickspike Wheatgrass	Elymus lanceolatus ssp. lanceolatus	3
Timp	Northern Sweetvetch	Hedysarum boreale	4.5
Maple Grove	Lewis Flax	Linum lewisii	1
Alternates:			
Sodar	Streambank Wheatgrass	Elymus lanceolatus ssp. psammophilus	3
	Scarlet Globemallow	Sphaeralcea coccinea	0.5

*Seeding rates are shown as pounds of Pure Live Seed (PLS) per acre and apply to drill seeding; for broadcast application double the seeding rate and then harrow to insure seed coverage. The recommended seeding time is between September 1st and March 15th. Applied seed must be certified and free of noxious weeds, and seed certification tags must be submitted to the AO.

12) Woody debris will not be scattered on the pipeline until after seeding operations are completed.

Invasive and Noxious Weeds

13) The area should be surveyed for the presence of noxious/invasive species before and after construction. If undesirable species are found, they shall be promptly controlled/eradicated using materials and methods approved in advance by the BLM AO. If invasive, non-native species establish within the project area and spread onto adjoining BLM lands, the applicant will be responsible for control of those populations, also using materials and methods approved by the AO.

14) If herbicide is to be used on public land, the applicant shall submit a pesticide use proposal (PUP) before herbicide is applied.

15) The applicant shall clean all off-road equipment to remove seed and soil prior to commencing operations on public lands within the project area.

Special Status Plant Species

16) Special status plant species surveys are required before proceeding with construction of the eastern end of the Proposed Action (see locations above). Consultation with The U.S. Fish and Wildlife Service (FWS) must be initiated for special status plant species population found within 600m of the project area before proceeding with construction and any mitigation required by the FWS in the consultation process must be adhered to.

17) The project proponent must control invasive weeds infestations for the life of the project after disturbance to avoid cumulative impacts on nearby special plant species habitats. If either the twinpod or the bladderpod are found within 600 m of the project area, Section 7 consultation must be initiated with the FWS for weed management as well.

Wildlife

18) A raptor survey will be required within 100 meters of those pipeline corridors which follow existing roadways or pipelines and 300 meters for cross-country segments (north-south portion in R2S 98W sections 17 and 8) if construction is initiated after March 15. White River timing stipulations may be applied pending survey results (WRRA ROD TL-01 and 04).

Wild Horses

19) Should the Proposed Action occur simultaneous with a wild horse gather, all project-related traffic would need to be coordinated with the BLM and the contractor for the gather.

20) Any range improvement projects such as fences or water developments that are damaged or destroyed as a result of implementation of the Proposed Action shall be promptly repaired or replaced to the degree of functionality prior to commencement of work associated with the Proposed Action.

21) To minimize the incidents of young foals becoming dislocated from their mare, crews would be required to slow or stop when wild horses are encountered, allowing the bands to move away at a pace slow enough so that the foal can keep pace and is not separated.

22) Place earthen trench plugs and/or ramps along the trench at well-defined wild horse trails intersected by open trench. Regularly inspect open trench for trapped animals and if injured animals are found contact the BLM.

23) All installed cattle guards associated with access roads and/or pipeline will be upgraded to a horse proof cattle guard so that the risk of wild horses being trapped in any of the installed cattle guards is reduced.

Cultural Resources

24) Williams is responsible for informing all persons who are associated with the project that they will be subject to prosecution for knowingly disturbing archaeological sites or for collecting artifacts.

25) Site eligibility and proposed mitigation area as follows in Table 11.

Table 11. Site Table with Eligibility and Mitigation Recommendations

Smithsonian Number	Site Type	NRHP Eligibility	Date of last DOE	Distance from Pipeline	Proposed Mitigation or Treatment
5RB.2	Open Camp	Officially Not Eligible	8/2/2007	28 meters	Monitor initial ground clearing outside existing disturbance
5RB.3	Prehistoric Open Camp, Historic	Officially Eligible	10/23/2010	0 meters	Temporary fence and monitor during all phases of construction near site (CHS #58201)
5RB.24	Open Camp	Officially Not Eligible	1/30/2009	262 meters	No Further Work
5RB.26	Open Camp	Field Needs Data	6/19/1973	155 meters	No Further Work
5RB.27	Open Camp	Officially Needs Data	11/30/2009	284 meters	No Further Work
5RB.42	Open lithic	Officially Not Eligible	2/17/2009	32 meters	Avoid, No Further Work
5RB.76	Historic Ranch	Officially Not Eligible	1/22/2009	46 meters	No Further Work
5RB.392	Open Lithic	Officially Not Eligible	9/18/2006	0 meters	No Further Work
5RB.406	Open Camp	Officially Not Eligible	1/22/2009	211 meters	No Further Work
5RB.408	Open Lithic	Officially Not Eligible	7/26/2077	177 meters	No Further Work
5RB.431	Open Lithic	Officially Not Eligible	1/22/2009	42 meters	Avoid, No Further work
5RB.435	Open Lithic	Officially Not Eligible	1/22/2009	156 meters	No Further Work
5RB.436	Open Lithic	Officially Not Eligible	1/22/2009	176 meters	No Further Work
5RB.437	Open Lithic	Officially Not Eligible	1/22/2009	75 meters	No Further Work
5RB.440	Open Lithic	Officially Needs Data	2/17/2009	42 meters	A void, No Further Work
5RB.448	Open Lithic	Officially	1/22/2009	0 meters	No further

		Not Eligible			Work
5RB.525	Open Camp	Officially Needs Data	2/16/2010	8 meters	Temporary fence and monitor during all phases of construction near site.
5RB.573	Open Lithic	Officially Not Eligible	1/22/2009	55 meters	Avoid, No Further Work
5RB.1097	Unknown (multicomponent?)	No Official evaluation	NA	142 meters	No Further Work
5RB.1109	Open Camp	Officially Not Eligible	2/17/2009	148 meters	No Further Work
5RB.1111	Open Lithic	Officially Not Eligible	2/14/2011	38 meters	Avoid, No Further Work
5RB.1880	Open Camp	Officially Not Eligible	1/22/2009	15 meters	Monitor initial ground clearing
5RB.2150	Open Architecture	Officially Not Eligible	7/25/2007	79 meters (or 484 meters)	Avoid, No Further Work
5RB.2500	Open Camp	Officially Need Data	1/22/2009	32 meters	Temporarily fence, Monitor all construction near site
5RB.3026	Open Camp	Officially Not eligible	1/22/2009	106 meters	No Further Work
5RB.4162	Open Camp	Officially Not Eligible	1/22/2009	0 meters	No Further Work
5RB.4164	Open Camp	Officially Not Eligible	2/14/2011	48 meters	Avoid, No Further Work
5RB.4165	Isolated Find	Field Not Eligible	9/13/1999	27 meters	No Further Work
5RB.4368	Open Lithic	Officially Not Eligible	2/17/2009	105 meters	No Further Work
5Rb.4649	Isolated Find	Field Not Eligible	7/01/2003	76 meters	No Further Work
5RB.4809	Historic O'Lloyd/Reigle/Mautz Ranch	Officially Not eligible	1/22/2009	0 meters	Private, No Further Work
5RB.5105	Open Architectural	Officially Needs Data	1/22/2009	213 meters	No Further Work
5RB.5114	Isolated Find	Field Not Eligible	6/07/2005	167 meters	No Further Work
5RB.5115	Isolated Find	Field Not Eligible	6/07/2005	122 meters	No Further Work

5RB.5167	Open Lithic	Officially Needs Data	1/22/2009	142 meters	No Further Work
5RB.5445	Open Camp	Officially Needs Data	1/22/2009	138 meters	No Further Work
5RB.5808	Open Lithic	Officially Not Eligible	1/22/2009	67 meters	No Further Work
5RB.5821	Open Camp	Officially Needs Data	1/22/2009	268 meters	No Further Work
5RB.5842	Unknown	Officially Needs Data	1/22/2009	238 meters	No Further Work
5RB.5895	Isolated Find	Field Not Eligible	7/19/2008	34 meters	No Further Work
5RB.5920	Open Lithic	Officially Not Eligible	2/17/2009	0 meters	No Further Work
5RB.5922	Open Lithic	Officially Not Eligible	2/17/2009	121 meters	No Further Work
5RB.5943	Open Lithic	Officially Not Eligible	2/17/2009	172 meters	No Further Work
5RB.5962	Open Lithic	Officially Not Eligible	11/30/2009	220 meters	No Further Work

Paleontological Resources

26) Williams is responsible for informing all persons who are associated with the project operations that they will be subject to prosecution for disturbing or collecting vertebrate fossils, collecting large amounts of petrified wood (over 25 lbs./day, up to 250 lbs./year), or collecting fossils for commercial purposes on public lands.

27) If any paleontological resources are discovered as a result of operations under this authorization, Williams or any of its agents must stop work immediately at that site, immediately contact the BLM Paleontology Coordinator, and make every effort to protect the site from further impacts, including looting, erosion, or other human or natural damage. Work may not resume at that location until approved by the AO. The BLM or designated paleontologist will evaluate the discovery and take action to protect or remove the resource within 10 working days. Within 10 days, the operator will be allowed to continue construction through the site, or will be given the choice of either (a) following the Paleontology Coordinator's instructions for stabilizing the fossil resource in place and avoiding further disturbance to the fossil resource, or (b) following the Paleontology Coordinator's instructions for mitigating impacts to the fossil resource prior to continuing construction through the project area.

28) Any excavations into the underlying native sedimentary stone must be monitored by a permitted paleontologist. The monitoring paleontologist must be present before the start of excavations that may impact bedrock.

Visual Resources

29) All permanent (onsite for six months or longer) structures, facilities, and equipment placed onsite shall be low profile and painted Juniper Green from the BLM Standard Environmental Color Chart, within six months of installation.

30) Disturbed areas shall be restored as nearly as possible to their original contour. Additional mitigation measures, such as vegetative screening and contouring may also be required as deemed necessary by the AO.

Hazardous or Solid Waste

31) All lessees and/or operators and right-of-way holders shall comply with all federal, state and/or local laws, rules, and regulations, including but not limited to onshore orders and notices to lessees, addressing the emission of and/or the handling, use, and release of any substance that poses a risk of harm to human health or the environment.

32) Where required by law or regulation to develop a plan for the prevention of releases or the recovery of a release of any substance that poses a risk of harm to human health or the environment, provide a current copy of said plan to the BLM WRFO.

33) Through all phases of oil and gas exploration, development, and production, all lessees and/or operators and holders of rights-of-way shall employ, maintain, and periodically update to the best available technology(s) aimed at reducing: 1) emissions, 2) fresh water use, and 3) utilization, production, and release of hazardous material.

34) All substances that pose a risk of harm to human health or the environment shall be stored in appropriate containers. Fluids that pose a risk of harm to human health or the environment, including but not limited to produced water, shall be stored in appropriate containers and in secondary containment systems at 110% of the largest vessel's capacity. Secondary fluid containment systems, including but not limited to tank batteries shall be lined with a minimum 24 mil impermeable liner.

35) Construction sites and all facilities shall be maintained in a sanitary condition at all times; waste materials shall be disposed of promptly at an appropriate waste disposal site. "Waste" means all discarded matter including, but not limited to, human waste, trash, garbage, refuse, oil drums, petroleum products, ashes, and equipment.

36) As a reasonable and prudent lessee/operator in the oil and gas industry, acting in good faith, all lessees/operators and right-of-way holders will report all emissions or releases that may pose a risk of harm to human health or the environment, regardless of a substance's status as exempt or nonexempt and regardless of fault, to the BLM WRFO (970) 878-3800.

37) As a reasonable and prudent lessees/operator and/or right-of-way holder in the oil and gas industry, acting in good faith, all lessees/operators and right-of-way holders will provide for the immediate clean-up and testing of air, water (surface and/or ground) and soils contaminated by the emission or release of any substance that may pose a risk of harm to human health or the environment, regardless of that substance's status as exempt or non-exempt. Where the lessee/operator or right-of-way holder fails, refuses or neglects to provide for the immediate clean-up and testing of air, water (surface and/or ground) and soils contaminated by the emission or release of any quantity of a substance that poses a risk of harm to human health or the environment, the BLM WRFO may take measures to

clean-up and test air, water (surface and/or ground) and soils at the lessee/operator's expense. Such action will not relieve the lessee/operator of any liability or responsibility.

38) With the acceptance of this authorization, the commencement of operations under this authorization, or within thirty calendar days from the issuance of this authorization, whichever occurs first, and during the life of the pipeline, the right-of-way holder and the lessee/operator, and through the right-of-way holder and lessee/operator, its agents, employees, subcontractors, successors and assigns, stipulate and agree to indemnify, defend and hold harmless the United States Government, its agencies, and employees from all liability associated with the emission or release of substances that pose a risk of harm to human health or the environment.

Rangeland Management

39) Any range improvement projects such as fences, water developments, or other livestock handling/distribution facilities that are damaged or destroyed either directly or indirectly as a result of implementation of the Proposed Action shall be promptly repaired or replaced by the applicant to restore pre-disturbance functionality.

40) Any fence crossing and gates encountered on existing roads on public land that are utilized in construction of the pipeline would require placement of a temporary cattleguard constructed to BLM specifications to keep cattle from straying into other areas. Proper fence bracing and construction must be in place when going through a fence so as to maintain proper wire tensions. The effectiveness (control of cattle) of these fences at these crossing points must be maintained at all times during construction and operation of the pipeline.

Realty Authorizations

41) All activities would be required to comply with all applicable local, state, and federal laws, statutes, regulations, standards, and implementation plans. This would include acquiring all required State and Rio Blanco County permits, implementing all applicable mitigation measures required by each permit, and effectively coordinating with existing facility ROW holders.

42) The holder shall provide the BLM AO with data in a format compatible with the WRFO's ESRI ArcGIS Geographic Information System (GIS) to accurately locate and identify the ROW and all constructed infrastructure, (as-built maps) within 60 days of construction completion.

43) Acceptable data formats are: (1) corrected global positioning system (GPS) files with sub-meter accuracy or better; (2) ESRI shapefiles or geodatabases; or at last resort, (3) AutoCAD .dwg or .dxf files. Option 2 is highly preferred. In ALL cases the data must be submitted in Universal Transverse Mercator (UTM) Zone 13N, NAD 83, in units of meters. Data may be submitted as: (1) an email attachment; or (2) on a standard compact disk (CD) in compressed (WinZip only) or uncompressed format. All data shall include metadata, for each submitted layer, that conforms to the Content Standards for Digital Geospatial Metadata from the Federal Geographic Data Committee standards. Questions should be directed to WRFO BLM GIS staff at (970) 878-3800.

44) Rio Blanco County Road & Bridge Department shall be contacted and any permits obtained prior to any construction activity adjacent to or within the ROWs for County Roads 26, 29, 68, 70, and 85.

45) Construction activity should take place entirely within the areas authorized in the ROW grant and temporary use permit.

46) Construction shall not proceed on the eastern portion (see attached map) until a written Notice to Proceed is issued. The Notice to Proceed can be issued when the required plant surveys are conducted, reviewed, and approved by the WRFO BLM.

Access and Transportation

47) Signs should be posted at all locations where construction is occurring along roadways, warning motorists of delays and safety concerns.

COMPLIANCE WITH LAWS & CONFORMANCE WITH THE LAND USE PLAN

This decision is in compliance with the Endangered Species Act and the National Historic Preservation Act. It is also in conformance with the 1997 White River Record of Decision/Approved Resource Management Plan.

ENVIRONMENTAL ANALYSIS AND FINDING OF NO SIGNIFICANT IMPACT

The Proposed Action was analyzed in DOI-BLM-CO-2011-0070-EA and it was found to have no significant impacts, thus an EIS is not required.

PUBLIC INVOLVEMENT

Scoping was the primary mechanism used by the BLM to initially identify issues. Internal scoping was initiated when the project was presented to the White River Field Office (WRFO) interdisciplinary team on 9/20/2011. External scoping was conducted by posting this project on the WRFO's on-line National Environmental Policy Act (NEPA) register on 10/3/2011.

RATIONALE

Analysis of the Proposed Action has concluded that there are no significant negative impacts and that it meets Colorado Standards for Public Land Health.

ADMINISTRATIVE REMEDIES

State Director Review

Under regulations addressed in 43 CFR 3165.3(b), any adversely affected party that contests a decision of the Authorized Officer may request an administrative review, before the State Director, either with or without oral presentation. Such request, including all supporting documentation, shall be filed in writing with the BLM Colorado State Office at 2850 Youngfield Street, Lakewood, Colorado 80215 within 20 business days of the date such decision was received or considered to have been received. Upon request and showing of good cause, an extension may be granted by the State Director. Such review shall include all factors or circumstances relevant to the particular case.

Appeal

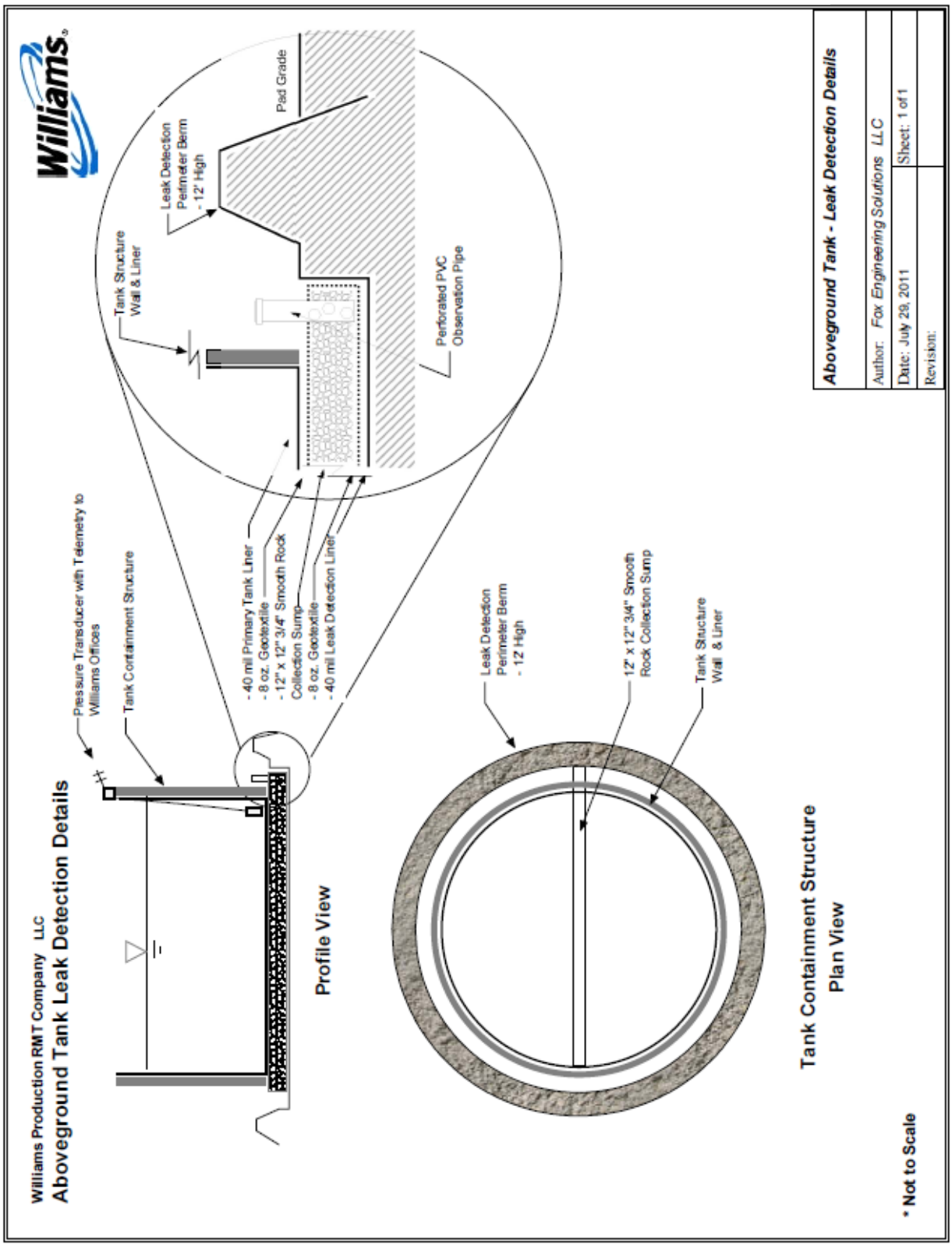
Any party who is adversely affected by the decision of the State Director after State Director review, under 43 CFR 3165.3(b), of a decision may appeal that decision to the Interior Board of Land Appeals
pursuant to the

SIGNATURE OF AUTHORIZED OFFICIAL: _____
Field Manager

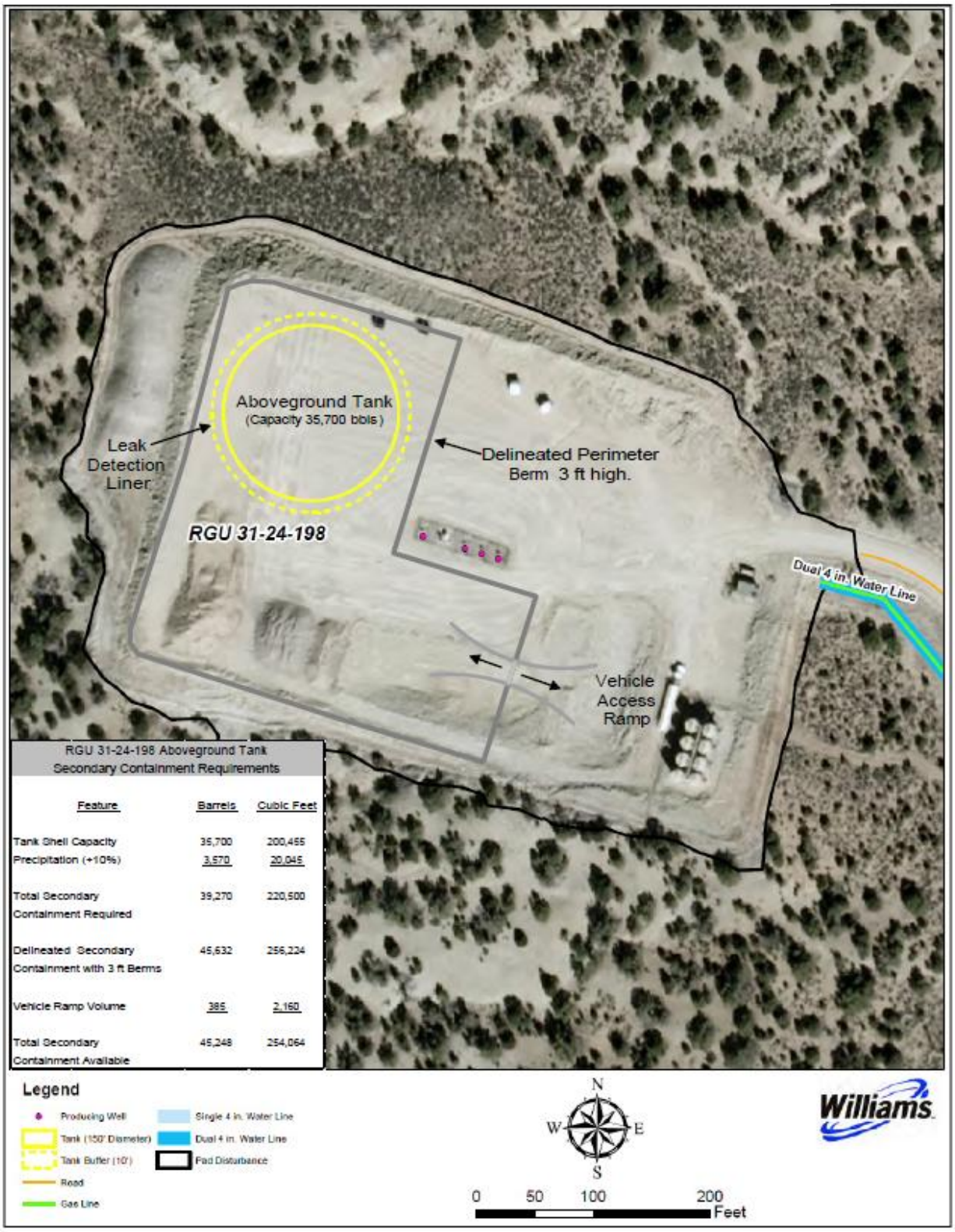
DATE SIGNED: 12/16/2011

regulations set out in 43 CRF Part 4.

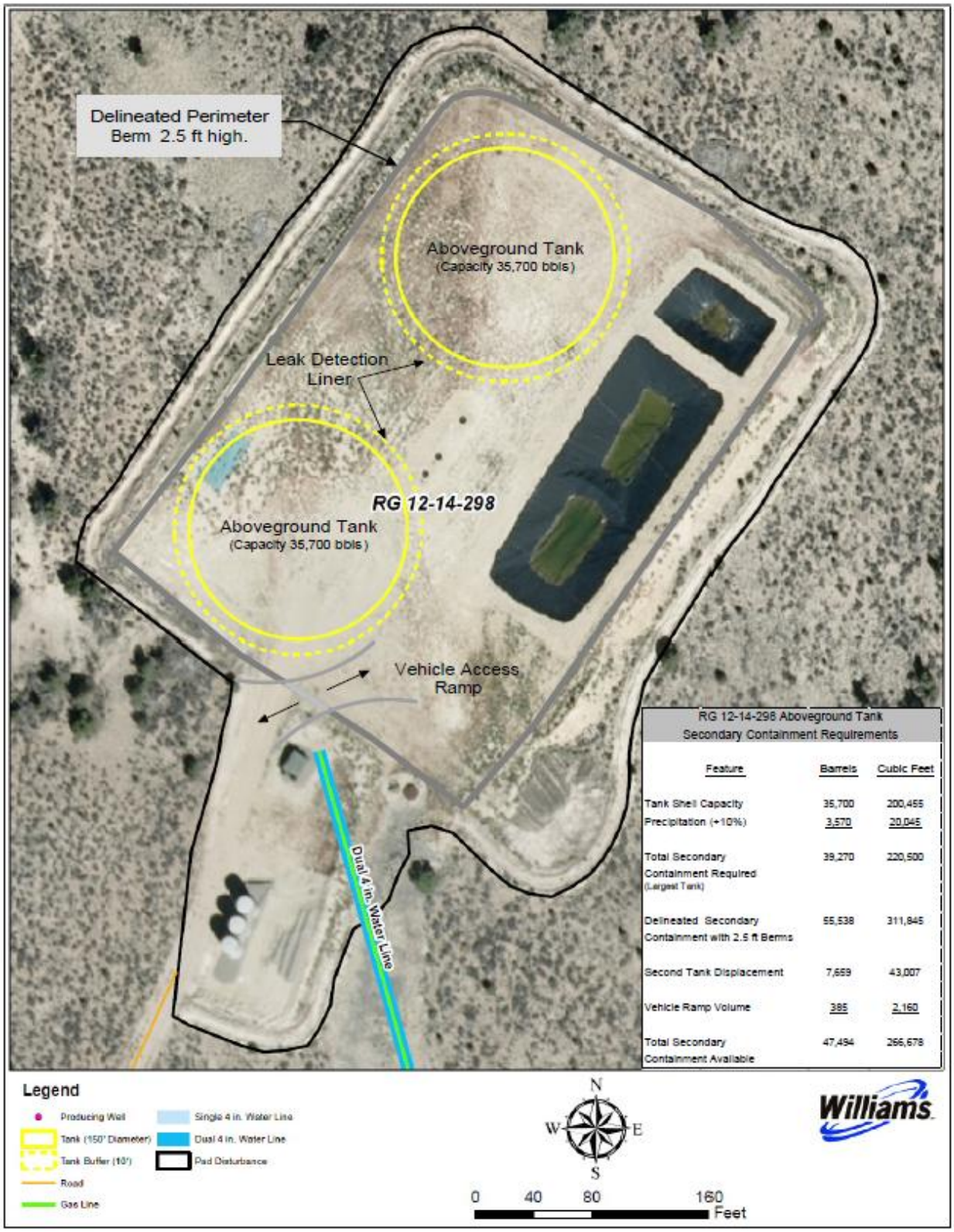
Attachment 1. Proposed Leak Detection



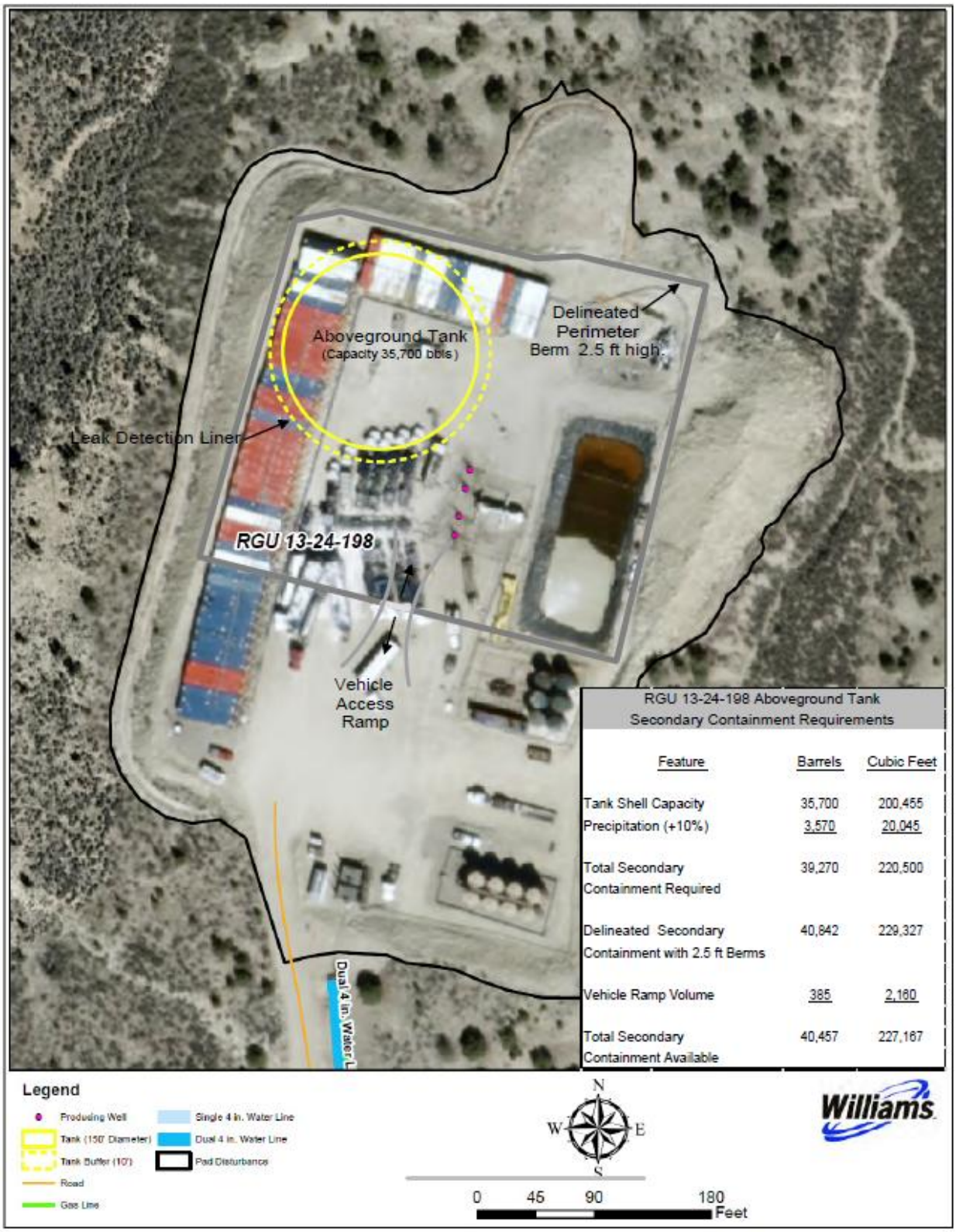
Attachment 2. Proposed Secondary Containment for the RGU 31-24-198 Tank



Attachment 3. Proposed Secondary Containment for the RG 12-14-298 Tanks

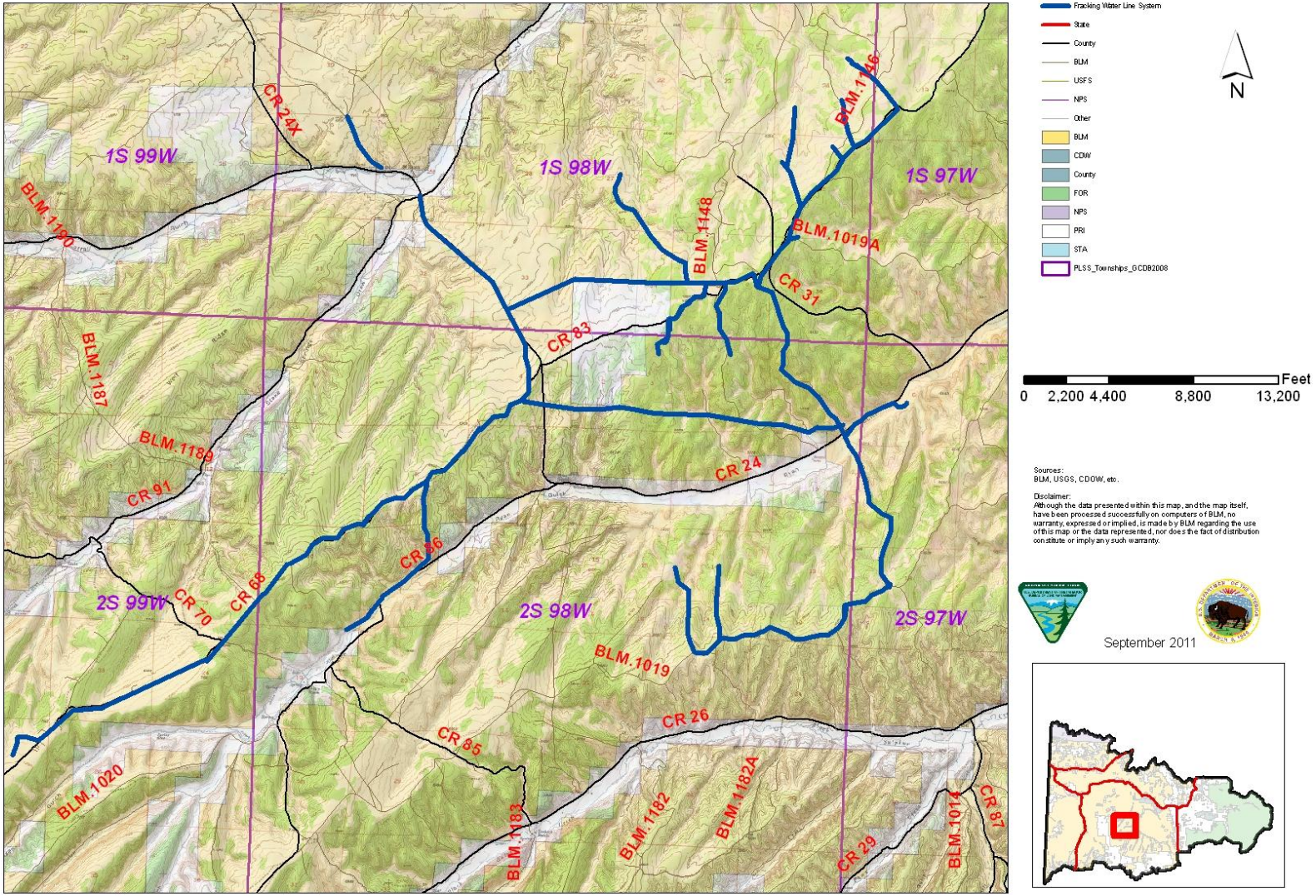


Attachment 4. Proposed Secondary Containment for the RGU 13-24-198 tank



Attachment 5.

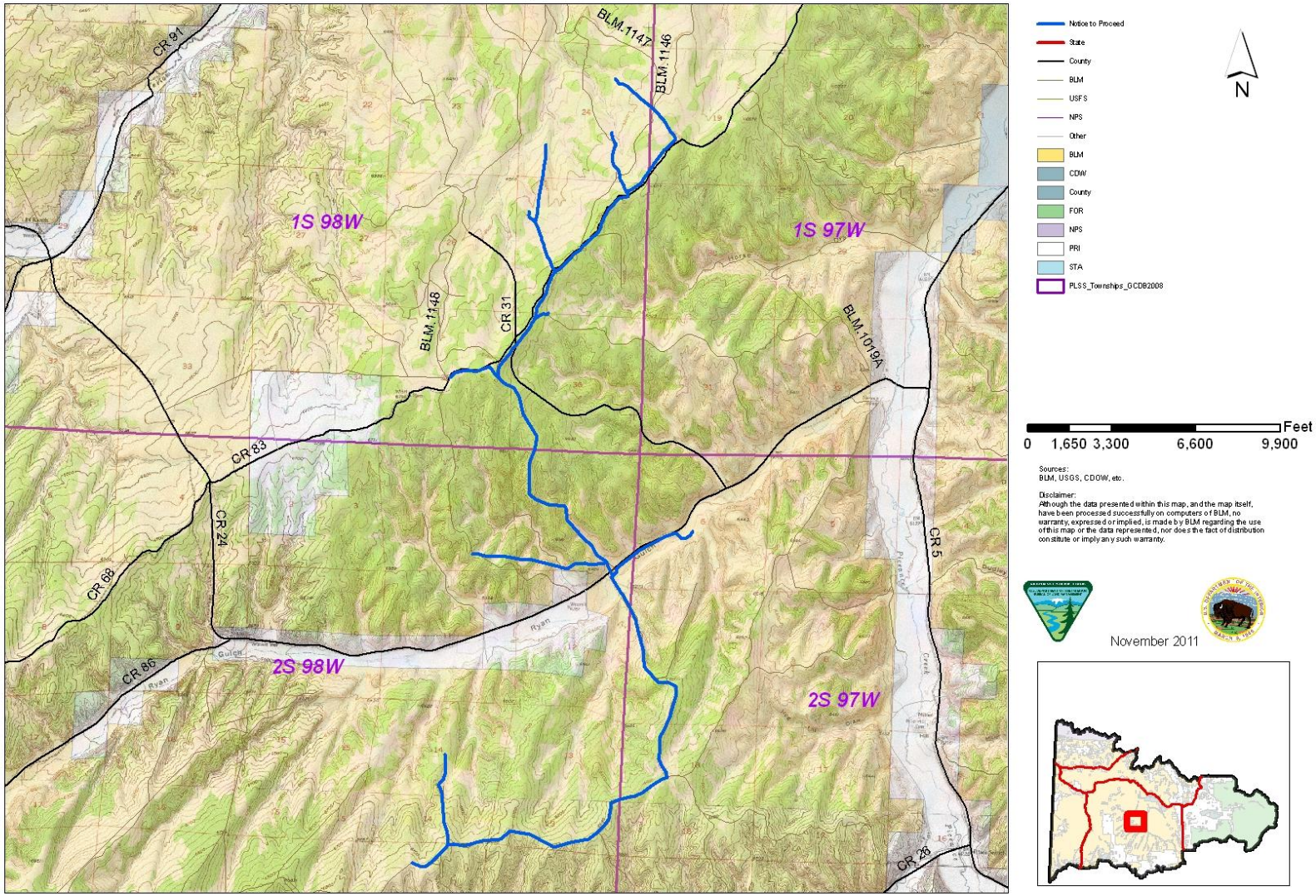
Williams Water Lines for Water Transportation and Storage System



Attachment 6.

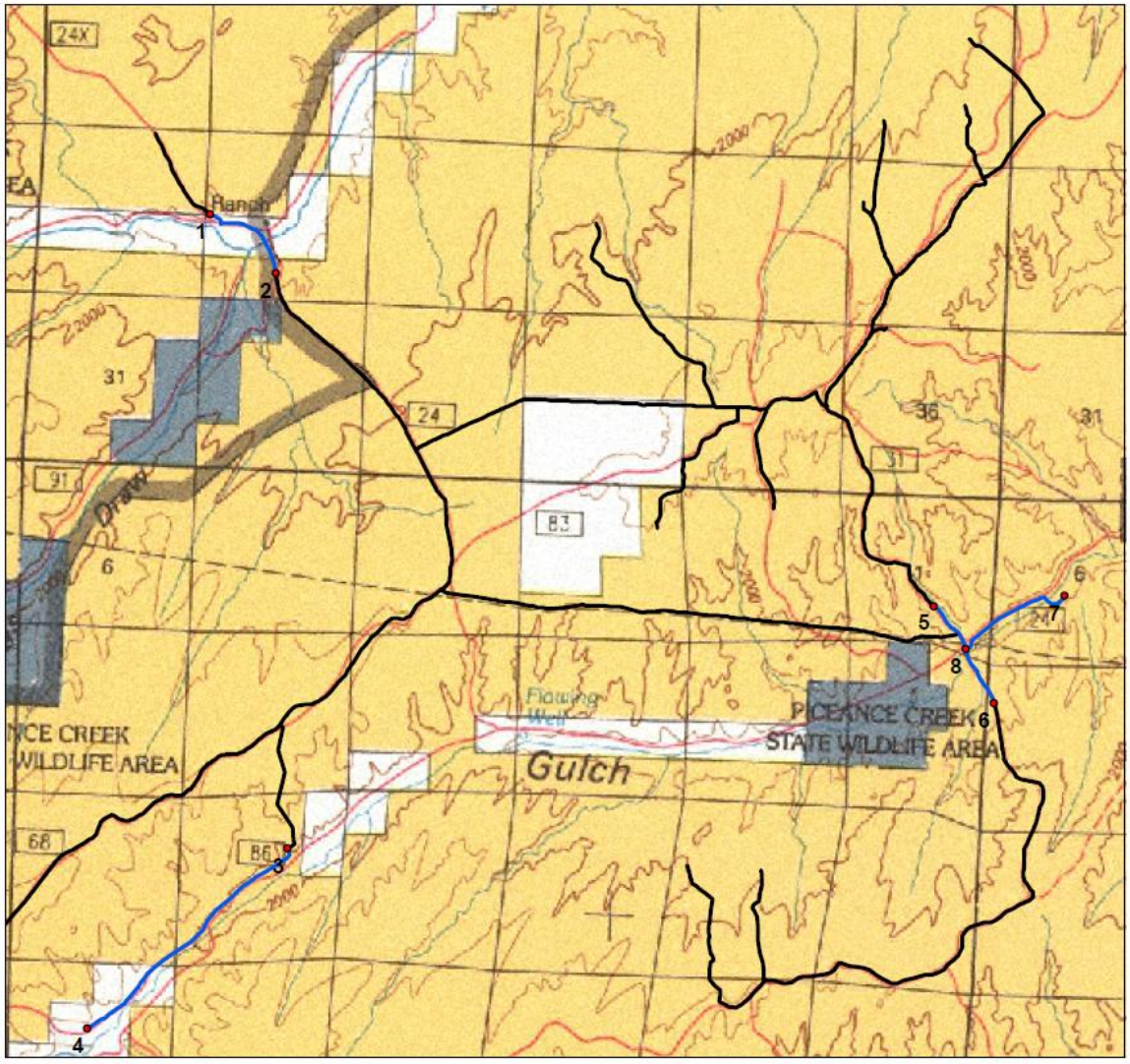
EXHIBIT A

NOTICE TO PROCEED
Williams water line system COC75171



Attachment 7.

Locations For Recommended Seed Mixes



- Lat/Long
- Seed Mix #5
- Seed Mix #3
- FieldOffice_Boundary_WRFO

1) -108.4238701 x 39.93481496
2) -108.4162031 x 39.92988909
3) -108.4123339 x 39.87970463
4) -108.4342933 x 39.86328894
5) -108.3400794 x 39.90301283
6) -108.3328279 x 39.89468648
7) -108.3252828 x 39.90434293
8) -108.3362178 x 39.89933061

0 0.25 0.5 1 Miles

N

Sources:
BLM, USGS, CDOW, etc.

Disclaimer:
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