



PDC
ENERGY

WILDLIFE PROTECTION PLAN

**CAMERON 2 OIL AND GAS DEVELOPMENT
PLAN**

**WINDOM 5N67W24 1-46 PAD
RULE 304.C.(17)AND RULE 1201**

March 2023

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TABLE OF CONTENTS

1	PROJECT INFORMATION	1
2	PROJECT DESCRIPTION	1
2.1	Well Pad Location	1
2.2	Access Roads.....	2
2.3	Water Lines and Flowlines.....	2
2.4	Interim Reclamation	2
2.5	Surface Disturbance Totals.....	2
2.6	Project Schedule.....	3
3	COGCC RULE 1202.A REQUIREMENTS	3
3.1	Black Bear Habitat [1202.a.(1)].....	4
3.2	Discharge into Surface Waters [1202.a.(2)].....	4
3.3	Wetlands and Waterways Buffer Requirements [1202.a.(3)]	4
3.4	Pit Requirements [1202.a.(4)]	4
3.5	Trench Requirements [1202.a.(5)]	5
3.6	Interim and Final Reclamation Requirements [1202.a.(6)].....	5
3.7	Fencing Requirements [1202.a.(7)]	5
3.8	Vegetation Removal Requirements [1202.a.(8)].....	5
3.9	Pit/Mosquito Requirements [1202.a.(9)].....	6
3.10	Proximity to HPH Requirements [1202.a.(10)]	7
3.11	Flowline and Utility Crossing Requirements [1202.b].....	7
4	MINIMIZATION AND MITIGATION MEASURES	7
4.1	Minimization Measures	7

4.2	Mitigation Measures.....	8
5	REFERENCES	8

1 PROJECT INFORMATION

This document was created to comply with the provisions of the Colorado Oil and Gas Conservation Commission’s (COGCC’s) 1200 Series Rules, effective January 15, 2021. COGCC Rule 1201.a states “Proposed Oil and Gas Operations on new or amended Oil and Gas Locations requiring a new Form 2A, Oil and Gas Location Assessment outside of High Priority Habitat require a Wildlife Protection Plan that includes a description of the Rule 1202.a operating requirements applicable to the Oil and Gas Location.”

2 PROJECT DESCRIPTION

PDC Energy (PDC) is proposing the construction, development, and operation of Cameron 2 Oil and Gas Development Plan (OGDP), which includes the Windom 5N67W24 1-46 Pad (Windom Well Pad, or Location). The legal and location description for the Windom Well Pad is summarized in Table 1.

Table 1
Location Information

Pad Name	Number of Wells	Formal Location Name	Legal Description
Windom Well Pad	46	WINDOM 5N67W24 1-46	NW ¼ SE ¼ S24 T5N R67W 6th Principal Meridian

The Project consists of the development of the Windom Well Pad and associated infrastructure to support the drilling and production of 46 new oil and gas wells. The proposed Location is in an area with other existing oil and gas operations as well as agricultural and rangeland activities. Construction of the new Location would consist of roughing in a new access road and then leveling the pad. The access road connection for the Windom Well Pad would be from County Road 54.

2.1 Well Pad Location

The Windom Well Pad would support a total of 46 wells and their supporting production equipment. The well pad would be constructed from the native earthen materials present and leveled by standard cut-and-fill techniques. Pad construction would also involve clearing vegetation, stripping, and stockpiling topsoil, and leveling. Construction equipment generally involves the use of heavy equipment, such as a dozer, flat blade, dump truck, and crane; however, equipment needs may vary depending on the site-specific conditions of the individual well pad.

Separate stockpiles for both topsoil and subsoil would be established within the permitted location boundaries and will be maintained for future backfilling and rehabilitation of the disturbed areas of the well pad for interim reclamation and final abandonment after the life of the wells.

Construction of the proposed location, with associated cut and fill slopes, would initially disturb approximately 21.12 acres. Following interim reclamation of 12.57 acres, the total Project residual surface disturbance would be reduced to approximately 8.55 acres. Total well pad surface disturbances are summarized in Table 2.

2.2 Access Roads

A total of approximately 0.27 miles of new access road would be required to provide access to the proposed location. The new access road would be constructed such that it provides an approximate 24-foot running surface within a 30-foot-wide corridor. The construction and maintenance of the permanent access road would disturb approximately 1.0 acres of land, which would be a residual disturbance for the life of the project. Total access road disturbance is summarized in Table 2.

2.3 Water Lines and Flowlines

The construction of the Windom Well Pad would require temporary surface-laid, lay-flat water lines, which will be located within existing ditch infrastructure. While these water lines would be surface laid and would not require a trench, it is conservatively assumed that a corridor of approximately 30-feet would be needed for the installation of the lay-flat water line. This 30-foot corridor would be temporarily maintained while the water lines are needed during completion operations but would not result in any initial or residual disturbance. Additionally, flowlines installed for production operations of this location would be installed within the footprint of well pad. Therefore, flowline disturbance is not calculated separately from the overall disturbance of the pad.

2.4 Interim Reclamation

In accordance with COGCC Rule 1003, interim reclamation for the Project will commence as soon as practicable and, at minimum, within 6 months following drilling and subsequent operations. Debris, waste material, and equipment associated with drilling, re-entry, and completion operations will be removed from the facility. All disturbed, non-working areas affected by drilling or subsequent operations, except those areas needed for production operations or for subsequent drilling operations to be commenced within 12 months, shall be reclaimed as nearly as practical to their original condition or their designated final land use. The disturbed areas will be reseeded with species consistent with the plant community identified during the baseline vegetation survey in the first favorable season following rig demobilization. Areas needed for production operations or for subsequent drilling operations to be commenced within 12 months will be stabilized and maintained to minimize dust and erosion to the extent possible.

2.5 Surface Disturbance Totals

Construction associated with the Windom Location would result in an estimated initial disturbance of approximately 22.12 acres and residual disturbance of 9.55 acres. Residual disturbance includes acreage that would remain disturbed for the life of the project (LOP), which is approximately 25-29 years plus the time required to successfully reestablish vegetation (those acres not subject to interim reclamation). As previously stated, site reclamation would be initiated for portions of the well pad not required for the continued operation of the well within 6 months of completion, weather permitting.

**Table 2
Total Estimated Surface Disturbance**

Pad Name	Length (miles)	Initial (acres)	Residual (acres)¹
Windom Well Pad	-	21.12	8.55
Access Road	0.27	1.00	1.00
Water Lines and Flowlines	0.00	0.00	0.00
Total Disturbance²	0.27	22.12	9.55

¹ Residual disturbance calculations assume that interim reclamation would be successful.

² Total acreage estimates are based on Geographic Information System (GIS) software calculations and match what is presented in the Form 2A Plat package. These totals may not equal the total summation when using mathematic equation due to rounding, removal of overlapping development and minute boundary discrepancies. GIS-based calculations are considered more accurate than estimates calculated using simple addition and therefore will be used throughout this document.

Additionally, the development of the Cameron 2 OGDG would result in the plugging and reclaiming (P&R) of 91 wells in the vicinity of the Windom Well Pad. This P&R activity equates to approximately 109.2 acres of vegetation and wildlife habitat that will be restored to the ecosystem surrounding the Windom Well Pad. The P&R of these older wells also reduces the spider web effect created by historic development of single, vertical wells, resulting in more connectivity of wildlife habitat.

2.6 Project Schedule

Pending OGDG approval from the COGCC, drilling at the Windom Well Pad would likely commence in Q2 2024. The anticipated production life of each well is 29 years.

3 COGCC RULE 1202.A REQUIREMENTS

This section outlines the operating requirements listed in COGCC Rule 1202.a and their applicability to the proposed Windom Well Pad. These operating requirements apply to Oil and Gas Operations statewide unless the COGCC Operator obtains a signed waiver from Colorado Parks and Wildlife (CPW) and the Director or Commission approves a Form 4, Sundry Notice or Form 2A documenting the relief. This assessment is preliminary and may change based on the final Project design and the results of future resource surveys.

PDC contracted Olsson to complete a desktop review and an on-site investigation to assess environmental resources on the proposed Location and a 0.50-mile buffer around it. A review of the National Wetland Inventory (NWI) database suggested that the Windom Well Pad Location has an NWI mapped riverine wetland (R4SBC) located approximately 30 feet west of the WPS. The National Hydrography data indicate this as an unnamed tributary. Olsson performed the on-site assessment on July 8, 2021 to ground-truth the desktop assessment and evaluate the presence of wetland or waters of the United States (WOUS) at the proposed Windom Well Pad. Based on Olsson's on-site investigation the NWI mapped riverine wetland does not exist within the Location. The Project site consists of cropland. The NWI mapped drainage to the north and west of the Project site consists of a general depression with no wetland vegetation or bed and bank that is typically associated with a drainage. The Project area is not located within the FEMA 100-year flood zone and would not require a Weld County Floodplain Development Permit.

The proposed Location is not located within Colorado Parks and Wildlife (CPW) mapped High Priority Habitat (HPH), does not contain any mapped critical habitat for protected species, and is not within 0.5 mile of any CPW mapped bald eagle nests or raptor nests within a 0.50-mile buffer.

The nearest HPH is an Aquatic Native Species Conservation Water located approximately 4,290 feet west of the proposed Location. The presence of migratory bird nests or raptor nests within 0.50 mile of the Location were not observed during the on-site investigation on July 8, 2021.

Therefore, a Wildlife Mitigation Plan is not needed per 1201.b. and this WPP fulfills the obligations of Rule 1201.a. The purpose of the WPP is to ensure the design, implementation, management, and maintenance of the proposed Windom Well Pad is in compliance with COGCC Rule 1202.a operating requirements.

3.1 Black Bear Habitat [1202.a.(1)]

In black bear habitat, Operators are required to install and utilize bear-proof dumpsters and trash receptacles for food-related trash at all facilities that generate trash. **The Windom Well Pad is not located within CPW mapped black bear habitat; therefore, the Project will not be required to install and utilize bear-proof dumpsters and trash receptacles.**

3.2 Discharge into Surface Waters [1202.a.(2)]

Operators are required to disinfect water suction hoses and water transportation tanks withdrawing from or discharging into surface waters (other than contained pits) used previously in another river, intermittent or perennial stream, lake, pond, or wetland and discard rinse water in an approved disposal facility. **PDC will withdraw from surface waters; therefore, PDC will disinfect water suction hoses. PDC will not discharge into surface water, all wastewater will be transported via pipelines or occasionally trucked offsite and disposed of at an approved disposal facility.**

3.3 Wetlands and Waterways Buffer Requirements [1202.a.(3)]

No new staging, refueling, or chemical storage areas can be situated within 500 feet of the Ordinary High-Water Mark (OHWM) of any river, perennial or intermittent stream, lake, pond, or wetland. **The WPS and chemical storage areas for the Windom Well Pad are located greater than 500 feet from the Ordinary High-Water Mark (OHWM) of any river, perennial or intermittent stream, lake, pond, or wetland. In addition, PDC will implement and maintain best management practices (BMPs) in a manner that minimizes erosion, transport of sediment offsite, and site degradation (in accordance with Rule 1002.f Stormwater Management) to limit wetland or stream impacts.**

3.4 Pit Requirements [1202.a.(4)]

Operators are required to install fences, nets, or other CPW-approved exclusion devices on new drilling pits, production pits, or other pits associated with oil and gas operations that are intended to contain fluids. **PDC's drilling methods and technologies do not use open top drilling pits, production pits, or other open top pits associated with oil and gas operations that are intended to contain fluids. Therefore, PDC will not be required to install fences, nets, or other CPW-approved exclusion devices associated with such pits.**

3.5 Trench Requirements [1202.a.(5)]

Operators are required to install wildlife escape ramps for trenches that are left open for more than five consecutive days during construction of pipelines. **The Project will include flowline construction and associated trenches that may be left open for more than five consecutive days. Flowline trenches will typically be less than 5 feet deep and open/sloped on one side to prevent entrapment. However, PDC will install wildlife escape ramps at a minimum of one ramp per 0.25 mile of trench for any trench that requires compliance with 1201.a(5).**

3.6 Interim and Final Reclamation Requirements [1202.a.(6)]

Operators are required to use a CPW-recommended seed mix for reclamation pursuant to Rules 1003 and 1004 when consistent with the Surface Owner's approval and any local soil conservation district requirements. **Any reclamation efforts undertaken by PDC will use seed mixes approved by Surface Owners, meet local conservation district requirements, and meet CPW recommendations.**

3.7 Fencing Requirements [1202.a.(7)]

Operators are required to use CPW-recommended fence designs when consistent with the Surface Owner's approval and any relevant local government requirements. **If PDC installs fencing, the fencing design will comply with CPW's Fencing with Wildlife in Mind guidance (Hanophy 2009).**

3.8 Vegetation Removal Requirements [1202.a.(8)]

Operators are required to implement appropriate hazing or other exclusion measures to avoid take of migratory birds if vegetation removal is scheduled between April 1 and August 31. If hazing or other exclusion measures are not implemented, Operators are required to conduct pre-construction nesting migratory bird surveys within the approved disturbance area prior to any vegetation removal during the nesting season. **PDC will adhere to their Avian Protection Plan, which includes the following guidance on avoidance, vegetation clearing, and surveys:**

Clearing and grubbing or brush hogging of vegetative cover should be conducted between September 1st and December 31st to avoid impacts or hazards to raptors and migratory birds. If clearing and grubbing or brush hogging cannot be completed prior to the primary migratory bird nesting season (April 1 to August 31) or the typical raptor and eagle nesting season (January 1 to July 31), a migratory bird nest survey must be conducted. If the vegetative cover is agricultural land, rangeland, or native grassland (with minimal cover) – a trained PDC employee can perform the survey within 7 days of the clearing activities and in accordance with the PDC Energy MBTA and Raptor Survey Protocol. If the Project site is more heavily vegetated with brush, shrubs, and/or trees, then consideration will be given to having a biologist conduct the MBTA survey within 7 days prior to land clearing or construction start.

Raptor Nests

Before commencing land clearing or construction (including grubbing and brush hogging) during the typical raptor nesting season (January 1 to July 31), a raptor nest survey must be conducted

in suitable raptor habitat (i.e., large trees, cliffs, rock outcrops) within 0.5 miles of the proposed construction location.

In Colorado, if an active raptor nest is located within 0.5 miles of the proposed construction location, consult the CPW recommendations for spatial and temporal restrictions which vary by species.

Eagle Nests

Before commencing land clearing or construction (including grubbing and brush hogging) during eagle nesting season (January 1 to July 31), an eagle nest survey must be conducted in suitable eagle habitat (rock outcrops, cliffs, ridges, stream banks, mature trees, dead standing trees, and manmade structures such as power poles) within 0.5 miles of the proposed construction location.

If an active or inactive bald or golden eagle nest is located within 0.5 miles of the proposed construction location, then the surveyor must contact the PDC Energy EHS representative for appropriate avoidance and monitoring guidance.

Migratory Bird Nests

Before commencing land clearing or construction (including grubbing and brush hogging) during migratory bird nesting season (April 1 – August 31), a nest survey must be conducted in suitable migratory bird habitat (grasslands, riparian areas, woodlands, cultivated crops, hayed/pastures, and shrub/scrub) within a 50-foot buffer of the proposed construction location. If an active nest of a migratory bird, other than a raptor or bald or golden eagle, is located within a 50-foot buffer of the proposed construction location, then the nest must be avoided and a PDC Energy EHS representative should be contacted for appropriate avoidance and monitoring guidance. Additional monitoring will be required to determine when the nest is no longer active.

Once an area has been surveyed for active migratory birds and raptor nests in accordance with the PDC MBTA and Raptor Survey Protocol and none are found, PDC Energy will have seven days to complete clearing/grubbing and/or commence construction. Once an area is cleared/grubbed, no further surveys will be needed as long as additional vegetation growth does not establish within those areas prior to construction.

If an area is not cleared/grubbed within 7 days following the migratory bird nest survey, an additional survey will be required for that area.

3.9 Pit/Mosquito Requirements [1202.a.(9)]

Operators are required to treat drilling pits, production pits, and any other pit associated with oil and gas operations containing water that provides a medium for breeding mosquitoes with Bti (*Bacillus thuringiensis v. israelensis*) or take other effective action to control mosquito larvae that may spread West Nile virus to wildlife resources. Such treatment will be conducted in a manner which will not adversely affect aquatic Wildlife Resources. **The Windom Well Pad will not contain any drilling pits, production pits, or other pits that are intended to contain fluids that provide habitat for mosquito larvae; therefore, PDC will not be required to treat for breeding mosquitos.**

3.10 Proximity to HPH Requirements [1202.a.(10)]

Operators are required to employ specific BMPs on a new oil and gas location if the working pad surface is located between 500 and 1,000 feet hydraulically upgradient from a HPH identified in Rule 1202.c.(1).Q-S. **The Windom Well Pad is not located within one-half mile of an HPH identified in Rule 1202.c.(1).Q-S. Therefore, associated BMPs will not be required for the Project.**

3.11 Flowline and Utility Crossing Requirements [1202.b]

Operators are required to bore flowline and utility crossings of perennial streams identified as aquatic HPH. When installing culverts or bridges, such structures are not permitted to impact or prevent the passage of fish unless otherwise directed by CPW. **The Project will not include any flowline or utility crossings of perennial streams. Therefore, associated design considerations will not be required for the Project.**

4 MINIMIZATION AND MITIGATION MEASURES

Additional impact minimization applicable to the Project to protect wildlife habitat and resources, include the following:

4.1 Minimization Measures

- Informing and educating employees and contractors on wildlife conservation practices, which includes no harassment or feeding of wildlife.
- Consolidating and centralizing fluid collection and distribution facilities to minimize impact to wildlife.
- Adequately sizing infrastructure and facilities to accommodate both current and future gas production, which reduces potential for future expansion of the Locations.
- Implementing fugitive dust control measures.
- Adherence to PDC's Avian Protection Plan.
- Installing screening or other devices on the stacks and on other openings of heater treaters or fired vessels to prevent entry by migratory birds.
- Minimizing rig mobilization and demobilization by completing or re-completing all wells from a given well pad before moving rigs to the next Location.
- Mowing or brush hogging vegetation where appropriate, leaving root structure intact, instead of scraping the surface, where allowed by the surface owner.
- Limiting access to oil and gas access roads as approved by surface owners, surface managing agencies, or local government.
- Posting speed limits and caution signs to the extent allowed by surface owners, federal and state regulations, local government, and land use policies.
- Using topographic features and vegetative screening to create seclusion areas, where acceptable to the surface owner.
- Using remote monitoring of well production to the extent practicable, which reduces vehicle trips to/from and human presence on the Locations.
- Reducing traffic associated with transporting drilling water and produced liquids by using pipelines.

- Installing automated emergency response systems (e.g., high tank alarms, emergency shutdown systems).

4.2 Mitigation Measures

As a result of the design features of the proposed OGD and the Minimization Measures listed above, additional Mitigation Measures are not required.

5 REFERENCES

Colorado Parks and Wildlife (CPW). 2020. Recommended Buffer Zones and Seasonal Restrictions for Colorado Raptors.

<https://cpw.state.co.us/Documents/WildlifeSpecies/LivingWithWildlife/Raptor-Buffer-Guidelines.pdf>.

Hanophy, W. 2009. Fencing with Wildlife in Mind. Colorado Parks and Wildlife, Denver, CO. 36 pp

National Wetlands Inventory (NWI). 2023. Wetlands Mapper.

<https://www.fws.gov/wetlands/data/mapper.html>.

Olsson, 2021. Technical Memorandum. *Desktop Review and Initial On-site Review of PDC Energy's Windom/Chopper 5N67W24 Pad Proposed Project Site*. July.