

# NueVida Resources, LLC's Site Best Management Practices Plan

For the  
Ardourel 33081718 Well Pad and Produced Water Pad  
&  
Ardourel 33081718 Pipeline  
January 2022

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Attachment II ..... NueVida’s Stormwater BMP Maps

Attachment III ..... NueVida’s Weed Management Plan

# 1 INTRODUCTION

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NueVida Resources, LLC (NueVida) is providing this Site Best Management Practices Plan to the La Plata County Planning Department, the La Plata County Planning Commission, and the La Plata County Board of County Commissioners (collectively LPC). This plan has been drafted in accordance with LPC's Land Use Code 90 and to satisfy the requirements under Section 90-41. It implements short-term and long-term solutions to address interim reclamation, weed control, drainage BMP's, wildlife, noise, and visual mitigation per Section II of the La Plata County Minor Oil and Gas Pipeline Permit Application for the proposed Ardourel 33081718 Pad project (Proposed Project).

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## 2 PROJECT DESCRIPTION

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NueVida plans to drill eight (8) wells on its leasehold, within La Plata County, to the Mancos Formation utilizing horizontal drilling technologies. To accommodate these wells, NueVida is proposing a multi-well gas location (well pad), access roads, pipeline, Ardourel Produced Water Pad (tank pad TUA), and temporary pump pad on private land owned by the Ardourel Trust. The legal location for the project is within the W/2 SW/4 of Section 18, Township 33 North, Range 8 West, N.M.P.M. Access to the location would be from an existing two-track road which begins off County Road 318 and travels northward, parallel to the proposed well pad, Ardourel Tank Pad TUA and temporary pump pad. Two short access roads onto and off of the well pad and the Ardourel tank pad TUA would be constructed to accommodate pass through traffic for both pads. NueVida would install an eight (8) inch HDPE (High Density Polyethylene) water pipeline from the northwestern corner of the well pad continuing north for 3,901.6 feet to an above ground header system where three different gathering companies in the area can tie to. Initially, NueVida plans to drill two (2) wells the first year for testing purposes. Based on results, the remaining six (6) wells may be drilled for a total of eight (8) wells.

Long-term operational equipment on the well pad would be two (2) 400-barrel steel water tanks, two (2) two-phase vertical indirect heated vessels, one (1) dehydrator skid, one (1) small vertical fuel gas separator, and one (1) enclosed combustor. The temporary produced water pad would have approximately fifteen (15) 40,000-gallon tanks and four (4) 20,000-gallon tanks. Once drilling operations begin, drilling for the two wells would take approximately forty (40) days. The drilling rig would then be removed, and a two-week period would begin for preparation to complete the wells. Once completion operations begin, it would take approximately thirty (30) days to complete. After completion, the tanks on the Ardourel tank pad TUA would be removed, however the Ardourel tank pad TUA would remain in place while testing of the wells takes place to determine additional wells that may be drilled.

## 2.1 Estimated Total Area of Disturbance

The Ardourel Project would result in approximately 34.51 acres of total disturbance, of which 29.31 acres would be considered new disturbance. The location of new surface disturbance has been planned and guided in concert with Colorado Oil and Gas Conservation Commission (COGCC), Colorado Parks and Wildlife (CPW), and LPC through consultation, as well as landowner requests, wildlife considerations, terrain characteristics, future planned NueVida infrastructure, and efforts to minimize ground/vegetative disturbance.

During interim reclamation, of the total 34.51 acres of surface disturbance, approximately 29.62 acres would be fully reclaimed once all wells are drilled, 2.90 acres would be left level and reseeded only, and 1.99 acres would be stabilized and used as a working surface throughout the life of the project. Upon decommissioning of all wells, NueVida's equipment and associated infrastructure would be removed, and the level working surfaces would be fully reclaimed to be similar to the original landscape.

### 2.1.1 Well Pad

The proposed well pad would be a 650-foot by 400-foot leveled area with a permitted construction zone on all sides of the pad for the establishment of cut and fill slopes (6.54 acres). There is an additional area around the well pad allotted for topsoil storage (1.55 acres). During the construction of the well pad, elevated areas within the pad area would be excavated and utilized as fill material on low areas of the pad to establish a level working surface. The well pad would require a maximum cut of 9.4 feet on the southwest corner and a maximum fill of 8.1 feet on the northeast corner of the pad. This entire area would be utilized during construction and setting of equipment. Once drilling and completion operations are finished, a small area encompassing the wells, facilities, and access road would be left level and stabilized for ongoing operations during the life of the wells. The new access road for the well pad (0.07 acres) and facility area (1.03 acres) would be graveled to stabilize soils and mitigate mud and dust. All other leveled areas surrounding the well heads would be reseeded only (2.90 acres). Beyond the level reseeded well pad and working areas, the remaining pad would be recontoured and reseeded to blend with the surrounding topography. All cut and fill slopes of the pad would be established at a 3:1 slope and would be reseeded with the CPW and landowner agreed upon seed mix.

### 2.1.2 Access Road for Well Pad

There would be two new proposed access roads that would be 156.4 feet and 75.2 feet long from the kick-off points at the edge of the proposed well pad to an existing oil and gas road and the two-track road on the west side of the proposed pad, respectively. The two roads totaling 231.6 feet would be constructed with 15-foot-wide running surface. The 665-foot existing two track on the west side of the pad would also be improved and utilized as access for the well pad. Construction of the two new access roads (0.07 acres) and utilization of the existing roads (0.30 acres) would result in 0.37 acres of total disturbance. For the long term, a 15-foot-wide graveled running surface, and the bottoms of the bar ditches along either side of the access road would remain for the life of the project.

### 2.1.3 Ardourel Tank Pad TUA

The tank pad TUA would be an irregular shaped, level pad measuring 1,006.48-foot by 193.01-foot by 403.97-foot by 1,009-foot by 95.58-foot by 424.54-foot with an additional permitted construction zone on all sides of the pad for the establishment of cut and fill slopes (14.34 acres). There would also be an additional 1.18 acres for topsoil storage. During the construction of the tank pad TUA, elevated areas within the pad area would be excavated and utilized as fill material on low areas of the pad to establish a

level working surface. The tank pad TUA would require a maximum cut of 11.1 feet on the southwest corner and a maximum fill of 10.4 feet on the northeast corner of the pad. This entire area would be utilized during construction, setting of equipment, drilling, and completion operations. The cut and fill slopes of the pad would be established at a 3:1 slope and would be reseeded with the CPW and landowner agreed upon seed mix. After all wells planned to be drilled are drilled and completed, this area would be fully reclaimed. The estimate timeframe for all eight wells to be drilled is not expected to be any longer than five years. When wells are not actively being drilled, disturbed areas within the tank pad TUA would be interim reclaimed and soils stabilized by reseeding with the CPW and landowner agreed upon seed mix and/or use of mats.

#### 2.1.4 Access Road for Tank Pad TUA

There would be two new proposed temporary access roads that would be 50 feet and 52.2 feet long from the kick-off points at the edge of the proposed tank pad TUA to the existing oil and gas road on the west side of the proposed pad, respectively. The two roads totaling 102.2 feet of road would be constructed with 15-foot-wide graveled running surface. Construction of the two new access roads would result in 0.02 acres of total disturbance. After all wells planned to be drilled are drilled and completed, these two access roads would be fully reclaimed.

#### 2.1.5 Onsite and Off-location Pipelines

##### **Onsite Flowlines**

From each wellhead on the Ardourel pad, approximately 300 feet of four (4)-inch, X-42 steel line pipe (coated and wrapped) would be buried at a minimum of four (4) feet below ground level and would be run and connected to the production facilities located on the north end of the pad. The four (4)-inch line would carry both natural gas and produced water to a two-phase hi-pressure separator. The water and gas would be separated with the water being transferred through a two (2)-inch buried steel line (approximately 100 feet) to two (2) 400-barrel water tanks. The gas would then flow into a dehydrator through a six (6)-inch above ground header system. The gas then would be delivered from the dehydrator into an above ground ten (10)-inch header system that would be connected to a custody meter run (onsite). The gathering company (Red Cedar Gathering Company – RCGC) would then transfer gas off-site from the custody meter to its main line located in SE/SE Section 13 of Township 33 North, Range 9 West. RCGC would be responsible for permitting and installing the gathering line from NueVida's Ardourel pad to their mainline. The produced water would be transported via truck and/or pipeline to a water disposal system within the area (see "*Off-Location Flowlines*" for specifics to water disposal). There is no oil or condensate production from the Mancos formation in this area. The wells produce only dry gas.

##### **Off-Location Flowlines**

NueVida would install 3,901.60 feet of eight (8)-inch HDPE water line and 3,901.60 feet of ten (10)-inch steel gas pipeline from the north end of the well pad, located in the NW/SW Section 18 of Township 33 North, Range 8 West, and then run parallel along the north-south corridor of Section 18 of Township 33 North, Range 8 West and Section 13 of Township 33 North, Range 9 West, within existing ROW's (refer to Ardourel Tank Pad TUA & Ardourel 33081718 Water Pipeline plats). The eight (8)-inch HDPE line would then be connected to an above ground header system, located in the SW/SW Section 7 of Township 33 North, Range 8 West. NueVida would connect its header system to the IKAV's six (6)-inch produced water system and to the Fassett SWD #1 site (both located in the SW/SW Section 7 of Township 33 North, Range 8 West). NueVida would install 966.90 feet of eight (8)-inch HDPE water

pipeline from the northwest corner of the tank pad TUA, located in the SW/SW Section 18 of Township 33 North, Range 8 West, northward and parallel to the proposed well pad where it would tie to the first proposed water pipeline. Both water pipelines would be buried pipeline and would be installed within existing disturbance.

Prior to the well completion, produced water from IKAV's six (6)-inch produced water pipeline and Arkoma's Fassett SWD #1 (located in SWSW Section 7-T33N-R8W) would be transported south to the Ardourel tank pad TUA (refer to plats). The produced water would be stored in above ground tanks and used in the fracture stimulation of the wells. After completion, produced water from the wells would then be pumped from the production tanks into the eight (8)-inch HDPE line and transferred north to the connection site for the IKAV six (6)-inch produced water pipeline system and the Fassett SWD #1 water site.

#### 2.1.6 Temporary Pump Pad

The proposed temporary pump pad would be a 127.32-foot by 132.76-foot by 130.34-foot by 160.44-foot leveled area and a permitted construction zone on all sides of the pad for the establishment of cut and fill slopes. The total resulting permitted area for the pad encompasses a 0.42-acre area. During the construction of the pad, elevated areas within the pad area would be excavated and utilized as fill material on low areas of the pad to establish a level working surface. The pad would require a maximum cut of 1.8 feet on the southwest corner and a maximum fill of 2.4 feet on the northeast corner of the pad. This area would be utilized during the drilling and completion of the wells for a primary staging water tank and transfer pump. This working surface would be fully reclaimed once drilling and completions are over for all wells planned. When wells are not actively being drilled, disturbed areas across the pump pad would be interim reclaimed and soils stabilized by reseeding with the CPW and landowner agreed upon seed mix.

**Table 2-1. Project Disturbance Estimates for the Proposed Ardourel 33081718 Pad**

Permitted Area Surface Disturbance (acres)					
Feature	Total Disturbance	New Disturbance	Fully Reclaimed	Reseeded Only	Long-term Disturbance
Well Pad	6.54	6.54	2.61	2.90	1.03
Tank Pad TUA	14.34	14.34	14.34*	-	-
Pump Pad	0.42	0.42	0.42*	-	-
Pipeline Corridor	0.1	0.1	0.1	-	-
New Access Roads for Well Pad	0.07	0.07	-	-	0.07
New Access Roads for Tank Pad TUA	0.02	0.02	0.02*	-	-
Existing Access Roads	0.3	-	-	-	0.3
TUA (Topsoil Storage for Well Pad)	1.55	1.55	1.55	-	-
TUA (Topsoil Storage for Tank Pad TUA)	1.18	1.18	1.18*	-	-
Permitted Area for Stormwater BMPs	5.09	5.09	5.09	-	-
<b>Permitted Area Disturbance Total:</b>	<b>29.61</b>	<b>29.31</b>	<b>25.31</b>	<b>2.90</b>	<b>1.40</b>
Outside Permitted Area Surface Disturbance (acres)					
Pipeline Corridor	4.31	-	4.31	-	-
Existing Access Roads	0.59	-	-	-	0.59
<b>Outside Permitted Area Disturbance Total:</b>	<b>4.9</b>	<b>-</b>	<b>4.31</b>	<b>-</b>	<b>0.59</b>
<b>Overall Disturbance Total:</b>	<b>34.51</b>	<b>29.31</b>	<b>29.62</b>	<b>2.90</b>	<b>1.99</b>

\* Blue text indicates temporary disturbance that may remain for up to 5 years, all other temporary disturbance would be reclaimed no later than 2 years from the start of construction.

### 3 EXISTING SITE CONDITION AND CONSULTATION

#### 3.1 Onsite Field Visits

NueVida and their contractors, EIS and Walsh Engineering, met at an onsite for the proposed location with the La Plata County Planner, COGCC, and CPW staff on February 17, 2021, to discuss the Proposed



Project, as well as any possible concerns, questions, alternatives, and mitigations. This Plan incorporates the agencies' comments, recommendations, and requests from that onsite consultation, as well as subsequent follow up and discussions.

During the onsite consultation, the location for the Ardourel tank pad TUA was closely looked at and discussed by all parties. Originally, it was located directly east of the proposed well pad and within suitable sagebrush habitat for mule deer. Through further discussion with CPW and the La Plata County Planner, it was their preference that the Ardourel tank pad TUA be moved directly south of the proposed well pad and closer to the existing access road, County Road 318, and an adjacent compressor station to the west in order to better consolidate the disturbance. One other location on another property to the North was looked at in Section 6, Township 33 North, Range 8 West for the Ardourel tank pad TUA where NueVida has leased acreage. Upon inspection of this location, CPW and La Plata County clearly preferred the location on the Ardourel property. CPW expressed that the location in Section 6 was even better mule deer habitat and more isolated from existing disturbance. Wildlife Mitigation and Noise Mitigation Procedures and BMP's are addressed in detail in NueVida's Wildlife Mitigation Plan and Noise Mitigation Plan currently being drafted in concert with the CPW and COGCC.

### 3.2 Vegetation Community

The proposed project is within the vegetation communities classified as mixed Pinyon/Juniper Woodlands and Sagebrush Shrubland. The dominant species throughout the proposed Project area is big sagebrush (*Artemisia tridentata*). Ground cover by the dominant species was visually estimated to be approximately 20 to 30 percent across the entire action area.

### 3.3 Identification of Reference Area

The reference area chosen for this project is one that has the most similarities to the impacted area in regard to vegetation, soils, and other ecological factors. It was also chosen due to its proximity to the project area. The reference area is at the same elevation and within the same vegetation community (sagebrush/ pinon juniper) and would best represent what the project area would be if it were to remain undisturbed. The reference area is located at Latitude: 37.103171 °N, Longitude: -107.767623 °W.

### 3.4 Proposed Reclamation Seed Mix

All disturbed areas not utilized for ongoing operations, would be reseeded once all drilling and completions are finished. Stockpiled topsoil would be redistributed on areas that are not being utilized as a working surface. These areas would be prepared for seeding by the construction contractor. Ripping, disking, and seeding of the site would be done by NueVida's construction contractor using the approved seed mix (Table 3-1).

**Table 3-1. Prescribed Pinyon/Juniper Woodlands-Sagebrush Community Seed Mix.**

Common Name	Scientific Name	Variety	Season	Form	PLS lbs/acre <sup>1</sup>
Fourwing saltbush	<i>Atriplex canescens</i>	VNS	Cool	Shrub	2.0
Winterfat	<i>Krascheninnikovia lanata</i>	VNS	Cool	Shrub	2.0
Sand dropseed	<i>Sporobolus cryptandrus</i>	VNS	Warm	Bunch	0.5

Galleta	<i>Pleuraphis jamesii</i>	Viva florets	Warm	Bunch/Sod-forming	3.0
Indian ricegrass	<i>Achnatherum hymenoides</i>	Paloma or Rimrock	Cool	Bunch	4.0
Bottle brush squirreltail	<i>Elymus elymoides</i>	Tusas or VNS	Cool	Bunch	3.0
Blue flax	<i>Linum lewisii</i>	Apar	Cool	Forb	0.25
Rocky Mtn. bee plant	<i>Cleome serrulate</i>	Local collection or VNS	Cool	Forb	0.25
Artemesia <sup>2</sup>	<i>Artemesia</i>	VNS	Cool	Shrub	0.25
<sup>1</sup> Based on 60 PLS per square foot, drill seeded; double this rate (120 PLS per square foot) if broadcast or hydro-seeded.					
<sup>2</sup> <i>Wyomingensis</i> or <i>nova</i> depending on site.					

### 3.5 Pre-Disturbance Weed Survey

During a visit on the September 1, 2021, EIS biologists inventoried the Ardourel property to establish an existing baseline of weed infestations and identify areas that may need treated and reseeded to mitigate adverse impacts from weeds (See the attached NueVida's Weed Management Plan). Three weedy species were identified on the property. Canadian thistle (*Arctium minus*), musk thistle (*Arctium minus*) and burdock (*Arctium minus*) were found within the sagebrush flats on the Ardourel property, particularly in the dry pond east of the project area. NueVida has proposed treatment of weeds across the entire Ardourel property, as well as inter-seeding of the treated areas to assist with revegetation of native species to replace weeds. More details can be found in NueVida's Weed Management Plan.

## 4 INTERIM RECLAMATION

All activities associated with the construction, use/operation, maintenance, and abandonment or termination of the Project are limited to the landowner Surface Use Agreement.

### 4.1 Vegetation and Site Clearing

Vegetation removed during construction, including trees that measure less than three (3) inches in diameter (at ground level) and slash/brush, would be chipped or mulched and incorporated into the topsoil as additional organic matter. If trees are present, all trees three (3) inches in diameter or greater (at ground level) would be cut to ground level and delimbed. Tree trunks (left whole) and cut limbs would be stacked near the landowner's camping area for their use. The subsurface portion of trees (tree stumps) would be disposed of appropriately.

### 4.2 Removal of Equipment and Associated Debris and Waste Materials

Once drilling and completion operations are complete, all debris and non-E&P waste would be removed from location by the rig company and disposed of properly in commercial waste containers in accordance with Rule 1003.a. All cellars, rat holes, and other boreholes unnecessary for production operations would be backfilled as per industry standards. No pits are proposed for this location. All cuttings would be

removed from location and hauled offsite for commercial disposal by a licensed third-party transportation company.

### 4.3 Topsoil Stripping, Storage, and Replacement

The upper six (6) inches of topsoil (if available) would be stripped following vegetation and site clearing during the construction of the location. This topsoil would not be mixed with the underlying subsoil horizons and would be stockpiled as a berm along the perimeter of the pads as designated on the plats, separate from subsoil horizons or other excavated material. During interim reclamation, the stockpiled topsoil and sub-surface soils would be replaced in the proper order, prior to final seedbed preparation. Once the level pad and slopes have been established, a portion of the stored topsoil would be redistributed at a depth of six (6) inches across all reseeded areas. The remaining topsoil would be stored as berms no greater than five (5) feet along the north, east and south side of the pads and marked with a permanent sign for final reclamation of the well pad. Spreading of topsoil shall not be done when the ground or topsoil is wet. Vehicle/equipment traffic would not be allowed to cross topsoil stockpiles. If topsoil is stored for a length of time such that nutrients are depleted from the topsoil, amendments would be added to the topsoil as advised by the NueVida environmental scientist or appropriate agent/contractor.

### 4.4 Water Management/Erosion Control Features

NueVida would install and maintain stormwater best management practices (BMPs) at the facility during and after construction of the project to protect water quality and restrict pollutants from leaving the site. This work would be conducted as discussed in Section 5 and illustrated in Attachment II - NueVida's Stormwater BMP Maps. NueVida would install BMPs prior to construction taking place. Both temporary and permanent stormwater BMPs would be utilized at the facility in order to address short- and long-term water quality impacts from the site. As is typical in stormwater management, the plan and its associated BMPs would be modified and amended as site conditions warrant and as is directed by the Colorado Department of Public Health and Environment (CDPHE) Stormwater Construction Permit.

### 4.5 Seedbed Preparation

Areas outside of the level working area of the well pad, would be recontoured to blend with the surrounding landscape, emphasizing restoration of the existing drainage patterns and landform to pre-construction condition, the extent practicable. All guy line anchors left buried for future use would be identified by a marker not less than four (4) feet in height and not greater than one (1)-foot east of the guy line anchor, as required by COGCC rule 1003.a.

Within areas that would be reseeded and recontoured, stockpiled topsoil would be evenly redistributed prior to final seedbed preparation. Topsoil would not be redistributed when the ground or topsoil is wet. In accordance with Rule 1003.c, seedbed preparation within compacted areas would include ripping to a minimum depth of 18 inches and spacing furrows two (2) feet apart. Ripping would be conducted perpendicularly in two phases, where practicable. If large clumps/clods result from the ripping process, disking would be conducted perpendicular to slopes in order to provide terracing and minimize runoff and erosion. Final seedbed preparation would consist of raking or harrowing the spread topsoil prior to seeding to promote a firm (but not compacted) seedbed without surface crusting.

### 4.6 Soil Amendments

Soil amendments would be added to the topsoil, if needed, as advised by the NueVida's environmental scientist or appropriate agent/contractor.

## 4.7 Seeding

The seed mix chosen for this project was designated and agreed upon with the CPW and landowner and is listed in Table 3-1. Re-seeding the additional areas beyond the project area but still on the Ardourel property is being done to assist in weed control and to assist in the revegetation of these areas and promote wildlife wintering grounds for mule deer. Reseeding would take place as soon as practicable within the first favorable season. A disc-type seed drill with two boxes for various seed sizes would be utilized for seeding the disturbed areas of the site. NueVida or its reclamation contractor would ensure that perennial grasses and shrubs are planted at the appropriate depth. Intermediate size seeds (such as wheatgrasses and shrubs) would be planted at a depth of 0.5-inch, larger seeds (such as Indian ricegrass) would be planted at a depth of one (1) to two (2) inches, and small seeds (such as sand dropseed) would be planted at a depth of 0.25 inch. In situations where differing planting depths are not practicable with the equipment being used, the entire mix would be planted no deeper than 0.25 inch. A drag, packer, or roller would follow the seeder to ensure uniform seed coverage and adequate compaction. Seed would be drilled perpendicular to slopes in order to minimize runoff and erosion.

Drill seeding may be used on well-packed and stable soils that occur on gentler slopes and where tractors and drills can safely operate. Where drill seeding is not practicable due to topography, the contractor would hand-broadcast seed using a “cyclone” hand seeder or similar broadcast seeder. Broadcast application of seed requires a doubling of the drill-seeding rate. The seed would then be raked into the ground so the seed is planted no deeper than 0.25 inch below the surface.

Inter-seeding areas sparsely vegetated and or being treated for weeds on the Ardourel property would be completed to promote foraging habitat for mule deer wintering range and to assist in weed management on the property. The areas have been selected by an EIS biologist and were identified for inter-seeding during a survey of the property on September 1, 2021. These areas total 0.84 acres and are illustrated in NueVida’s Weed and Reseeding Map as part of NueVida’s Weed Management Plan in Attachment II.

## 4.8 Mulching

Two (2) tons of certified weed free hay or two and half tons of certified weed free straw per acre would be applied and mechanically crimped into the soil after reseeded. Prior to the winter shutdown or the summer seeding window closure, unseeded slopes shall be mulched with two tons of mulching material (weed free) per acre and mechanically crimped into topsoil.

## 4.9 Interim Reclamation Completion Notice

NueVida would submit a Sundry Notice Form 4 which describes the interim reclamation procedures and any associated mitigation measures performed, any changes, if applicable in the landowner’s designated final land use, and at a minimum four (4) photographs taken during the growing season facing each cardinal direction which document the success of the interim reclamation and one (1) photograph which documents the total cover of live perennial vegetation of adjacent or nearby undisturbed land or the reference area. Each photograph shall be identified by date taken, well name, GPS location, and direction

# 5 SITE SPECIFIC BEST MANAGEMENT PRACTICES FOR STORMWATER

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The following best management practices concerning water management would be applied to the Ardourel 33081718 Pad Project. (Refer to NueVida’s Stormwater BMP Maps in Attachment II)

- Diversion ditches would be installed along the northern, eastern and western edge of the well pad to divert offsite stormwater from entering the pad area. This diversion ditch would outlet at a rip rap rundown located at the midpoints of the east side and north side of the pad.
- Diversion ditches would be installed along the southern and western edge of the tank pad TUA at the top of the cut slope and foot of fill slope to divert offsite stormwater from entering the pad area. This diversion ditch would outlet at a rip rap rundown located at the mid-east and northeast corner of the pad.
- Small diversion ditch installed between the pads and access roads along the eastern edge of both pads and north edge of the tank pad TUA and south side of the well pad. the pad would divert any onsite stormwater from pool at the base of the cut slope.
- A diversion berm would be constructed on the south side of the tank pad to divert water to the diversion ditch along the west side of the pad.
- Any stormwater that may accumulate on the pad would be directed to the north rip rap area on the well pad and the northwest corner rip rap of the tank pad TUA.
- Additionally, the topsoil storage pile/berm would have straw wattles installed along the outer edge and would serve as a diversion berm around the entire perimeter of the topsoil storage.
- Straw wattles would be placed around the entire perimeter of the well pad and tank pad TUA to prevent any soil loss during construction of the pad. These straw wattles would be placed along the outer edge of the topsoil berm. These straw wattles would be removed after reseeding of the cut and fill slopes has taken place and vegetation becomes re-established.
- The entire level pad area for both the well pad and tank pad TUA would be sloped at a .3% grade toward the north side to run to the rip rap areas to divert stormwater off the pad and avoid pooling.
- Upon interim reclamation, the area would be reseeded with the approved pinyon/juniper-sagebrush seed mix to reduce soil erosion.
- Four culverts would be installed during construction at the start of each access road.
- Tracking control would be installed at the beginning of the access road to reduce tracking of mud offsite.

## 6 SITE SPECIFIC BEST MANAGEMENT PRACTICES FOR VISUAL MITIGATION

---

The following best management practices concerning visual mitigation would be applied to the Ardourel 33081718 Pad Project.

- The location of the well pad, which would remain for the life of the wells, would be constructed in a location set back from the road and is in an area considered an open sagebrush shrubland with surrounding pinyon and juniper trees and hills.
- The tank pad TUA is located near County Road 318, but with a cut of approximately 11.1 feet at the southwest corner of the tank pad TUA and the topsoil storage berm of approximately five (5) feet above ground level, the visibility of the temporary water storage tanks would be shielded from visibility from the county road and visual impacts reduced.
- The Ardourel tank pad TUA was moved directly south of the proposed well pad to place it closer to the existing access road, County Road 318, and the adjacent compressor station to the west in order to better consolidate the disturbance and reduce visual impacts. This mitigation was recommended and preferred by both the CPW and the La Plata County Planner.

- Lighting used during drilling and completion phases of the project would be from downcast features with LED lighting directed only within the well pad area where crews would be actively working.
- No permanent lighting would be used on the well pad location during the production phase as work would be conducted during the daylight hours.
- Any potential lighting used in the case of any emergency operations would be used for safety and only directed to where crews are working.
- Timing restrictions for construction activities would limit activities in the area during the winter closure period of December 1 to April 30. This would reduce lighting impacts to mule deer utilizing the area during the winter closure period.
- Permanent facility equipment on the well pad and above ground pipeline infrastructure would be painted Juniper Green to blend in with the natural landscape colors in the area.
- The pipeline would be placed within existing ROW disturbance to reduce further vegetation clearance and visual impacts.
- All above ground storage tanks on the tank pad TUA are temporary and would be removed once the first two wells are drilled and completed.
- The tank pad TUA is temporary and would be interim reclaimed once drilling and completion phases are completed for the first two wells. The tank pad TUA would be fully reclaimed back to the natural landscape after all eight (8) wells planned to be drilled are drilled and completed, which is not expected to be any longer than five (5) years.
- Interim reclamation would also occur within the well pad area once the drilling and completion phases have been finished.

## 7 SITE SPECIFIC BEST MANAGEMENT PRACTICES FOR WILDLIFE MITIGATION

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NueVida would implement the following practices in its construction and operational design to mitigate potential impacts to wildlife:

### All Phases:

- Use existing routes and the existing well pad disturbance as much as possible to avoid new disturbance and habitat fragmentation and minimize new construction.
- No feeding of wildlife will be allowed on location.
- This location will have no pits.

### Construction Phase:

- Adhere to CPW's Mule Deer Winter Closer that restricts construction activities from occurring between December 1 and April 30 each year to protect wintering wildlife on the Ardourel.
- A migratory bird survey would be conducted before clearing and grubbing between March 15-August 31<sup>st</sup> on both pads.
- NueVida will install wildlife escape ramps at a minimum of one ramp per ¼ mile of trench if any trench is left open for more than 5 consecutive days as required by COGCC regulations.

### Drilling Phase:

- Operator will utilize a pit-less, closed loop system for drilling. Wells shall be drilled, completed, and operated using closed-loop pitless systems for containment and/or recycling of all drilling, completion, flowback and produced fluids.

#### Production Phase:

- Install exclusionary devices to prevent bird and other wildlife access to equipment stacks, vents, and openings.
- Install screening or other devices on the stacks and on other openings of heater treaters or fired vessels to prevent entry by migratory birds.
- During interim and final reclamation phases, a CPW approved, wildlife-friendly seed mix will be used.
- If needed, fence reclaimed areas to minimize livestock/wildlife impact until plant species are capable of sustaining grazing.
- If fencing is required, NueVida will use CPW-recommended fence designs with the Surface Owner's approval.

## 8 SITE SPECIFIC BEST MANAGEMENT PRACTICES FOR NOISE MITIGATION

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NueVida will bring in electricity to the well pad for use in its production facilities/operations. Therefore, there will be no exhaust from engines, motors, coolers and other mechanized equipment to be vented near any existing residences or subdivisions. This will reduce sound emissions. La Plata Electric Association (LPEA) has high voltage electricity available at the El Paso Compressor Station, located in the SE/SE of Section 13, Township 33 North, Range 9 West, N.M.P.M. There is currently a low voltage, 2-phase overhead line that runs west to east (approximately 380 feet) from the El Paso Station into the SW/SW of Section 18, Township 33 North, Range 8 West, N.M.P.M. This overhead line terminates and is located approximately 400 feet, north of County Road 318, along the lease access road to the well pad. LPEA will upgrade this 400-foot line to a higher voltage (TBD) 3-phase line. From this end point, LPEA will install approximately 1,670 feet of new high voltage, 3-phase overhead line to the NW end of the well pad. This new power line will run north paralleling the lease access road within existing ROW. LPEA will set an electric meter and supply 480 v, 3-phase service at the NW corner of the well pad. NueVida will set an electric panel from which it will run the electric supply to the various production units, motors/pumps and air supply.

## 9 VEGETATION RECLAMATION STANDARDS

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In accordance with LPCLUC §90-124.VI(C) and COGCC Rule 1003.e.2 interim reclamation of all disturbed areas is successful when all ground surface disturbing activities at the site have been completed, and all disturbed areas have been either built on, compacted, covered, paved, or otherwise stabilized in such a way as to permanently prevent erosion, or when all of the following criteria have been met.

1. A uniform vegetative cover has been established with total non-noxious percent plant cover of at least 80 percent of average surrounding area levels. Non-noxious plant cover is defined as the vertical projection of non-noxious plant canopies (including herbaceous and shrub species) when



viewed from above. Non-noxious plant cover shall be measured or estimated using a valid and reliable method, such as point-intercept. Sufficient data shall be collected to allow the operator to estimate the mean total non-noxious plant cover to within ten percent of the true mean with 80 percent confidence.

2. Vegetative cover is such that disturbed area for shrub and grass cover is expected to develop through plant successional processes. Expectation of plant succession shall be deemed adequate when the number of species having between three and 50 percent of relative plant cover is at least half that of the average surrounding area.
3. The total cover of noxious weeds (including species designated as "undesirable" by the county) is no greater than that which exist in the average surrounding area.

## 10 FINAL ABANDONMENT

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Once the Ardourel 33081718 Pad is no longer producing and is decommissioned, the wells would be plugged and abandoned, and all equipment and associate infrastructure would be removed from the site. The leveled gravel pad area would be recontoured, reseeded, and returned back to the natural landscape. An onsite to discuss reclamation plans and procedures more in depth would take place before final reclamation takes place. This discussion would include the proposed seed mix, topsoil preparation, and any site-specific conditions the landowner may want.

## 11 LOCATION PHOTOS

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**Figure 1. Well Head Looking North**





**Figure 2. Well Head Looking East**



**Figure 3. Well Head Looking South**





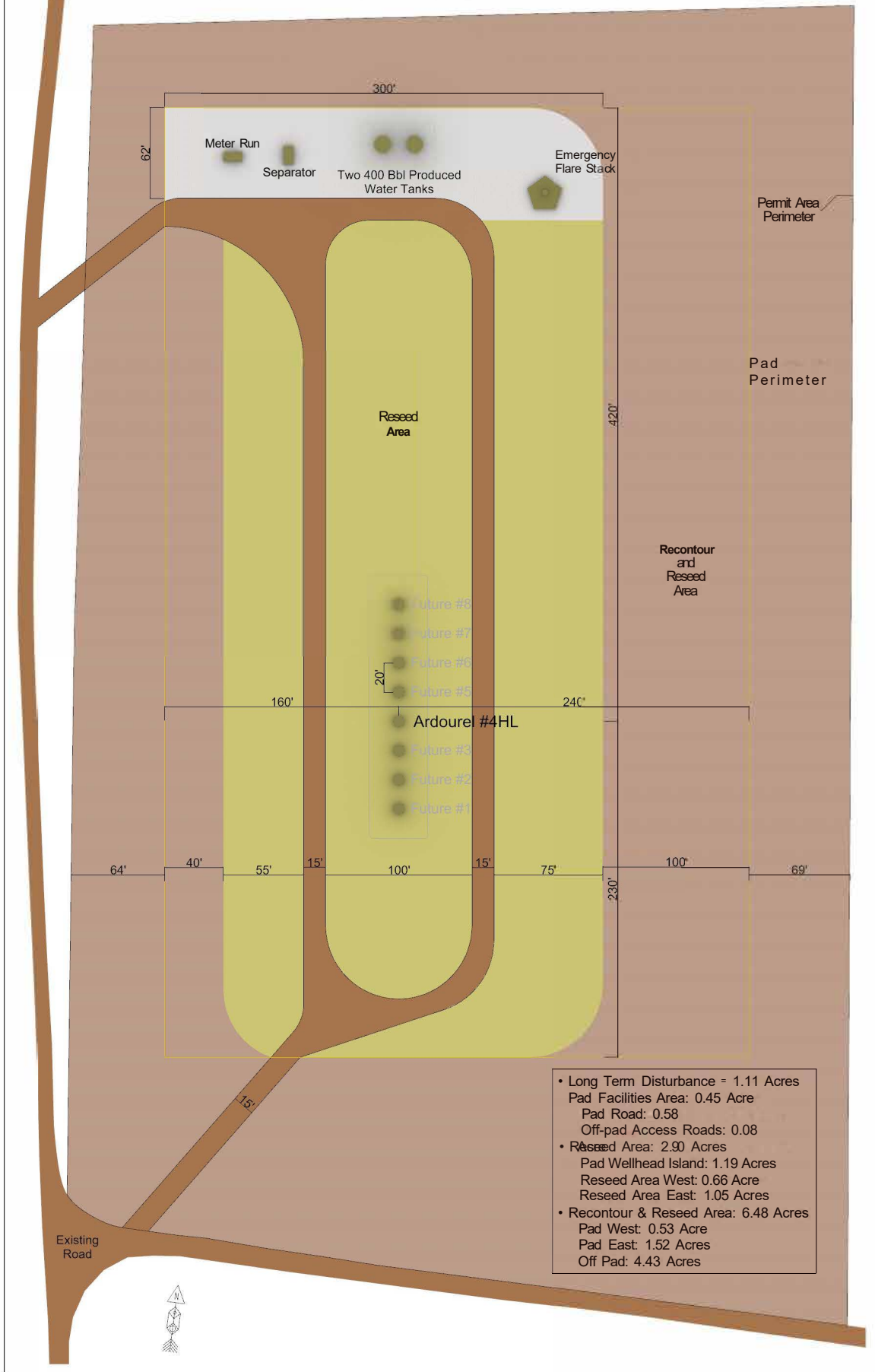
**Figure 4. Well Head Looking West**

## ATTACHMENT I – NUEVIDA’S WELL PAD RECLAMATION LAYOUT

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# NueVida Resources, LLC: Ardourel 33081718 #4U Well Pad Reclamation Layout

1793' FSL & 289' FWL, Section 18 -T33N - R8W, NMPM, La Plata County, Colorado  
Elevation: 6718.7' Lat: 37.101247, Long: 107.767606 NAD1983 Datum



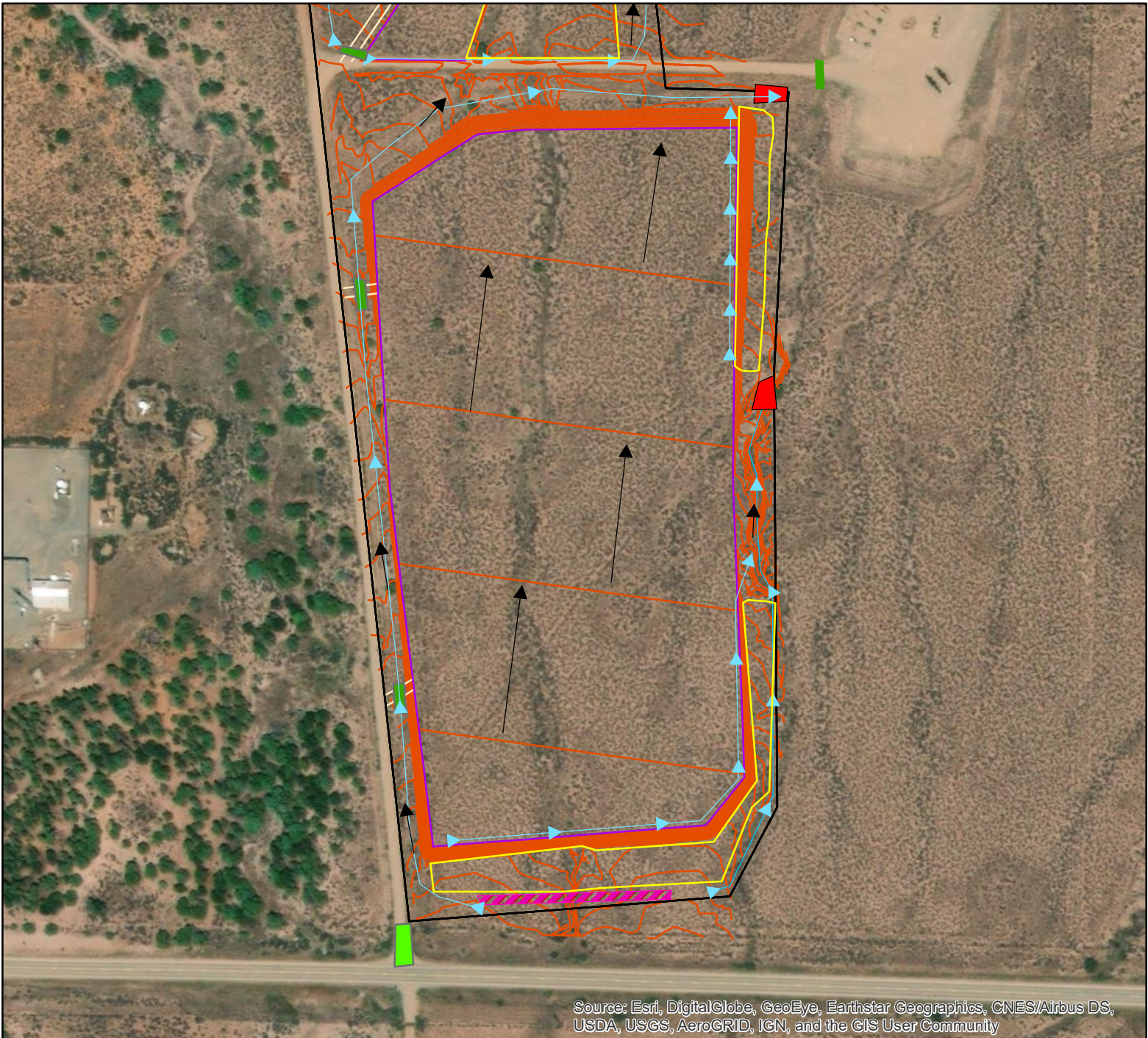
- Long Term Disturbance = 1.11 Acres
- Pad Facilities Area: 0.45 Acre
- Pad Road: 0.58
- Off-pad Access Roads: 0.08
- Reseed Area: 2.90 Acres
- Pad Wellhead Island: 1.19 Acres
- Reseed Area West: 0.66 Acre
- Reseed Area East: 1.05 Acres
- Recontour & Reseed Area: 6.48 Acres
- Pad West: 0.53 Acre
- Pad East: 1.52 Acres
- Off Pad: 4.43 Acres

## ATTACHMENT II – NUEVIDA’S STORMWATER BMP MAPS

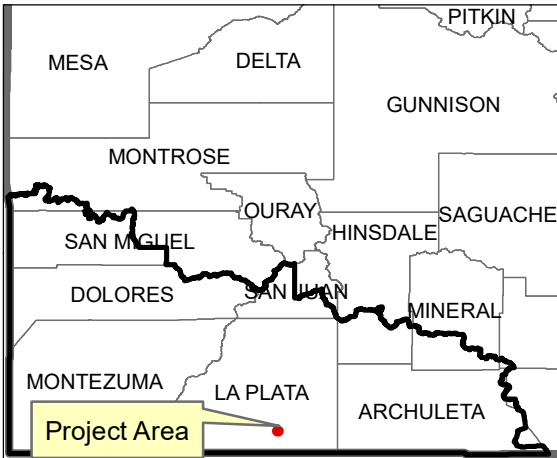
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# NueVida's Post Construction Stormwater Map for Tank Pad



Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



## Legend

- Flow Direction
- Diversion Berm (Temporary)
- Wattles (Temporary)
- Culvert (Permanent)
- Tracking Pad (Temporary)
- Rip Rap (Permanent)
- Diversion Ditch (Permanent)

## Ardourel Pad

- ACCESS
- GRADED PAD
- PERMITTED AREA
- Ardourel Contour Lines

Operator: NueVida

Contractor:

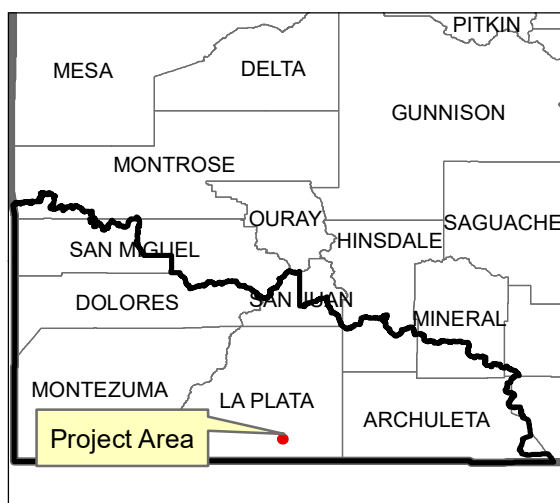
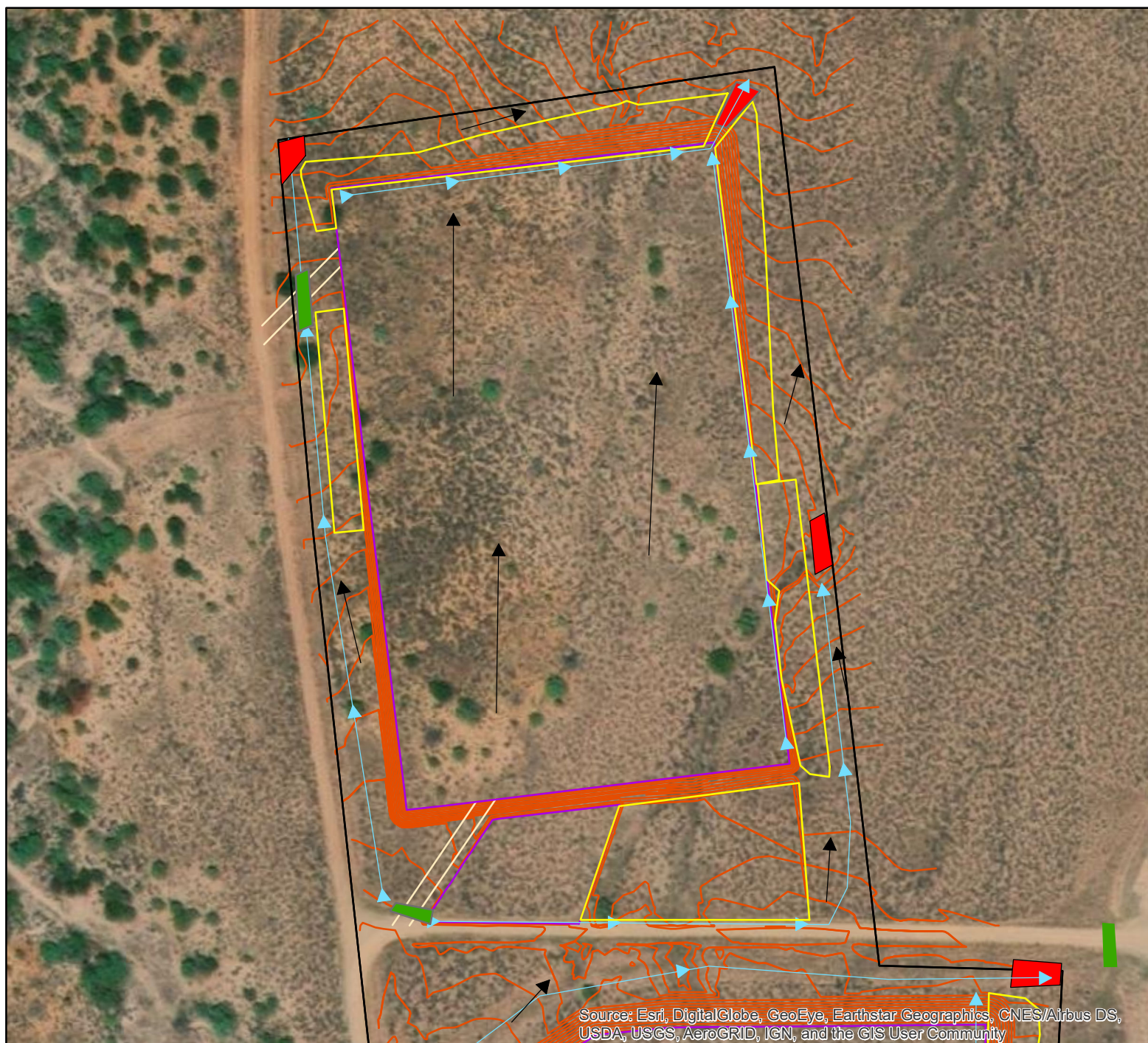


0 75 150 300 450 Feet





# NueVida's Post Construction Stormwater Map for Well Pad



## Legend

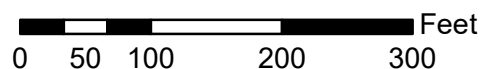
- ▶ Flow Direction
- Wattles (Temporary)
- Culvert (Permanent)
- Rip Rap (Permanent)
- ▶▶▶ Diversion Ditch (Permanent)

## Ardourel Pad

- ACCESS
- GRADED PAD
- PERMITTED AREA
- Ardourel Contour Lines

Operator: NueVida

Contractor:



NAD 1983 UTM Zone 13N

Author: TP (EIS - LLC)

Date: 12/27/2021

## ATTACHMENT III - NUEVIDA'S WEED MANAGEMENT PLAN

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# NueVida Resources, LLC's Weed Management Plan

For the  
Ardourel 33081718 Pad  
December 2021

## **Prepared for**

NueVida Resources, LLC  
5950 Cedar Spring Road, Suite 100  
Dallas, Texas 75235  
Phone: (214) 838-2768

## **Developed by**



479 Wolverine Drive  
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## 1 INTRODUCTION

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NueVida Resources, LLC (NueVida) is providing this Weed Management Plan to the Colorado Oil and Gas Conservation Commission (COGCC) and Colorado Parks and Wildlife (CPW), and also to the La Plata County Planning Department, the La Plata County Planning Commission, and the La Plata County Board of County Commissioners (the last three individually or collectively as appropriate to their roles, LPC) in compliance with requirements under COGCC's Rule 1003.f, as well as LPC's Land Use Code (LUC) Section 90-124.V. This plan provides a long-term solution to noxious weeds and strategies to be used by NueVida during all activities of this project. The guiding purpose of this noxious weed management plan is to preclude the inadvertent introduction, establishment, or infestation of noxious weed species due to NueVida activities for the duration of the proposed Ardourel 33081718 Pad (Project). Disturbed areas and bare soil can be a prime area for weeds to become established. Appendix A provides lists of noxious weed species for the State of Colorado, and Appendix B provides lists of noxious weed species that are specifically known to occur in La Plata County, Colorado.

The NueVida Contact personnel for this weed management plan are:

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505-327-4892

Dick Pate  
Chief Operating Officer (COO)  
NueVida Resources, LLC  
312 Jenkins Ranch Road  
Durango, CO 81301  
303-550-4880

## 2 PROJECT DESCRIPTION

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NueVida plans to drill eight (8) wells on its leasehold, within La Plata County, to the Mancos Formation utilizing horizontal drilling technologies. To accommodate these wells, NueVida is proposing to develop a multi-well gas location (well pad), access roads, pipeline, tank pad temporary use area (TUA), and a temporary pump pad on private land owned by the Ardourel Trust. The legal location for the project is within the W/2 SW/4 of Section 18, Township 33 North, Range 8 West, N.M.P.M. Access to the location would be from an existing two-track road which begins off County Road 318 and travels northward, parallel to the proposed well pad, tank pad TUA and temporary pump pad. Two short access roads onto and off of the well pad and the tank pad TUA would be constructed to accommodate pass through traffic for both pads. NueVida would install an 8" HDPE (High Density Polyethylene) buried water pipeline and a 10" steel buried gas pipeline from the northwestern corner of the well pad continuing north for 3,901.6 feet to an above ground header system where three different gathering companies would tie to. An additional 8" HDPE buried water pipeline would be installed from the northwestern corner of the tank pad TUA continuing north for 966.9 feet to the northwestern corner of the well pad where it would tie to the aforementioned proposed 8" HDPE buried water pipeline. Initially, NueVida plans to drill two (2) wells the first year for testing purposes. Based on results, the remaining six (6) wells may be drilled for a total of eight (8) wells.

Long-term operational equipment on the well pad would be two (2) 400-barrel steel water tanks, two (2) 2-phase vertical indirect heated vessels, one (1) dehydrator skid, one (1) small vertical fuel gas separator, and one (1) enclosed combustor. The tank pad TUA, for the purpose of temporary produced water storage, would have approximately fifteen (15) 40,000-barrel tanks and four (4) 20,000-barrel tanks. Once

drilling operations begin, drilling for the first two wells would take approximately forty (40) days. The drilling rig would then be removed, and a two-week period would begin for preparation to complete the wells. Once completion operations begin, it would take approximately thirty (30) days to complete the first two wells. After completion, the tanks on the tank pad TUA would be removed. The tank pad TUA would remain in place while testing of the first two wells takes place. The testing of the first two wells will guide the drilling schedule of the remaining 6 wells. While testing takes place, all disturbed areas on the tank pad TUA would be interim reclaimed by reseeding any bare ground surface and/or placement of mats to stabilize the surface. The tank pad TUA may remain in place for no more than 5 years while the potential drilling of all eight (8) wells takes place.

### 2.1 Estimated Total Area of Disturbance

The Ardourel Project would result in approximately 34.51 acres of total disturbance, of which 29.31 acres would be considered new disturbance. The location of new surface disturbance has been planned and guided in concert with COGCC, CPW, and LPC through consultation, as well as landowner requests, wildlife considerations, terrain characteristics, future planned NueVida infrastructure, and efforts to minimize ground/vegetative disturbance.

During interim reclamation, of the total 34.51 acres of surface disturbance, approximately 29.62 acres would be fully reclaimed once all wells are drilled, 2.90 acres would be left level and reseeded only, and 1.99 acres would be stabilized and used as a working surface throughout the life of the project. Upon decommissioning of all wells, NueVida's equipment and associated infrastructure would be removed, and the level working surfaces would be fully reclaimed to be similar to the original landscape.

#### 2.1.1 Well Pad

The proposed well pad would be a 650-foot by 400-foot leveled area with a permitted construction zone on all sides of the pad for the establishment of cut and fill slopes (6.54 acres). There is an additional area around the well pad allotted for topsoil storage (1.55 acres). During the construction of the well pad, elevated areas within the pad area would be excavated and utilized as fill material on low areas of the pad to establish a level working surface. The well pad would require a maximum cut of 9.4 feet on the southwest corner and a maximum fill of 8.1 feet on the northeast corner of the pad. This entire area would be utilized during construction and setting of equipment. Once drilling and completion operations are finished, a small area encompassing the wells, facilities, and access road would be left level and stabilized for ongoing operations during the life of the wells. The new access road for the well pad (0.07 acres) and facility area (1.03 acres) would be graveled to stabilize soils and mitigate mud and dust. All other leveled areas surrounding the well heads would be reseeded only (2.90 acres). Beyond the level reseeded well pad and working areas, the remaining pad would be recontoured and reseeded to blend with the surrounding topography. All cut and fill slopes of the pad would be established at a 3:1 slope and would be reseeded with the CPW and landowner agreed upon seed mix.

#### 2.1.2 Access Road for Well Pad

There would be two new proposed access roads that would be 156.4 feet and 75.2 feet long from the kick-off points at the edge of the proposed well pad to an existing oil and gas road and the two-track road on the west side of the proposed pad, respectively. The two roads totaling 231.6 feet would be constructed with 15-foot-wide running surface. The 665-foot existing two track on the west side of the pad would also be improved and utilized as access for the well pad. Construction of the two new access roads (0.07 acres) and utilization of the existing roads (0.30 acres) would result in 0.37 acres of total disturbance. For the

long term, a 15-foot-wide graveled running surface, and the bottoms of the bar ditches along either side of the access road would remain for the life of the project.

### 2.1.3 Ardourel Tank Pad TUA

The tank pad TUA would be an irregular shaped, level pad measuring 1,006.48-foot by 193.01-foot by 403.97-foot by 1,009-foot by 95.58-foot by 424.54-foot with an additional permitted construction zone on all sides of the pad for the establishment of cut and fill slopes (14.34 acres). There will also be an additional 1.18 acres for topsoil storage. During the construction of the tank pad TUA, elevated areas within the pad area would be excavated and utilized as fill material on low areas of the pad to establish a level working surface. The well pad would require a maximum cut of 11.1 feet on the northeast corner and a maximum fill of 10.4 feet on the southwest corner of the pad. This entire area would be utilized during construction, setting of equipment, drilling, and completion operations. The cut and fill slopes of the pad would be established at a 3:1 slope and would be reseeded with the CPW and landowner agreed upon seed mix. After all wells planned to be drilled are drilled and completed, this area will be fully reclaimed. The estimate timeframe for all eight wells to be drilled is not expected to be any longer than five years. When wells are not actively being drilled, disturbed areas within the tank pad TUA would be interim reclaimed and soils stabilized by reseeded with the CPW and landowner agreed upon seed mix and/or use of mats.

### 2.1.4 Access Road for Tank Pad TUA

There would be two new proposed temporary access roads that would be 50 feet and 52.2 feet long from the kick-off points at the edge of the proposed tank pad TUA to the existing oil and gas road on the west side of the proposed pad, respectively. The two roads totaling 102.2 feet of road would be constructed with 15-foot-wide graveled running surface. Construction of the two new access roads would result in 0.02 acres of total disturbance. After all wells planned to be drilled are drilled and completed, these two access roads will be fully reclaimed.

### 2.1.5 Onsite and Off-location Pipelines

#### Onsite Flowlines

From each wellhead on the Ardourel pad, approximately 300 feet of 4-inch, X-42 steel line pipe (coated and wrapped) will be buried at a minimum of 4 feet below ground level and will be run and connected to the production facilities located on the north end of the pad. The 4-inch line will carry both natural gas and produced water to a 2-phase hi-pressure separator. The water and gas will be separated with the water being transferred through a 2-inch buried steel line (approximately 100 feet) to two (2) 400-barrel water tanks. The gas will then flow into a dehydrator through a 6-inch above ground header system. The gas then will be delivered from the dehydrator into an above ground 10-inch header system that will be connected to a custody meter run (onsite). The gathering company (Red Cedar Gathering Company – RCGC) will then transfer gas off-site from the custody meter to its main line located in SE/SE Section 13 of Township 33 North, Range 9 West. RCGC will be responsible for permitting and installing the gathering line from NueVida's Ardourel pad to their mainline. The produced water will be transported via truck and/or pipeline to a water disposal system within the area (see "*Off-Location Flowlines*" for specifics to water disposal). There is no oil or condensate production from the Mancos formation in this area. The wells produce only dry gas.

#### Off-Location Flowlines

NueVida will install 3,901.60 feet of 8-inch HDPE water line and 3,901.60 feet of 10" steel gas pipeline from the north end of the well pad, located in the NW/SW Section 18 of Township 33 North, Range 8

## Ardourel 33081718 Pad Weed Management Plan

West, and then run parallel along the north-south corridor of Section 18 of Township 33 North, Range 8 West and Section 13 of Township 33 North, Range 9 West, within existing ROW's (refer to Ardourel Tank Pad TUA & Ardourel 33081718 Water Pipeline plats). The 8-inch HDPE line will then be connected to an above ground header system, located in the SW/SW Section 7 of Township 33 North, Range 8 West. NueVida will connect its header system to the IKAV's 6-inch produced water system and to the Fassett SWD #1 site (both located in the SW/SW Section 7 of Township 33 North, Range 8 West). NueVida will install 966.90 feet of 8-inch HDPE water pipeline from the northwest corner of the tank pad TUA, located in the SW/SW Section 18 of Township 33 North, Range 8 West, northward and parallel to the proposed well pad where it would tie to the first proposed water pipeline. Both water pipelines would be buried pipeline and would be installed within existing disturbance.

Prior to the well completion, produced water from IKAV's 6-inch produced water pipeline and Arkoma's Fassett SWD #1 (located in SWSW Section 7-T33N-R8W) will be transported south to the Ardourel tank pad TUA (refer to plats). The produced water will be stored in above ground tanks and used in the fracture stimulation of the wells. After completion, produced water from the wells will then be pumped from the production tanks into the 8-inch HDPE line and transferred north to the connection site for the IKAV 6-inch produced water pipeline system and the Fassett SWD #1 water site.

### 2.1.6 Temporary Pump Pad

The proposed temporary pump pad would be a 127.32-foot by 132.76-foot by 130.34-foot by 160.44-foot leveled area and a permitted construction zone on all sides of the pad for the establishment of cut and fill slopes. The total resulting permitted area for the pad encompasses a 0.42-acre area. During the construction of the pad, elevated areas within the pad area would be excavated and utilized as fill material on low areas of the pad to establish a level working surface. The pad would require a maximum cut of 1.8 feet on the southwest corner and a maximum fill of 2.4 feet on the northeast corner of the pad. This area would be utilized during the drilling and completion of the wells for a primary staging water tank and transfer pump. This working surface would be fully reclaimed once drilling and completions are over for all wells planned. When wells are not actively being drilled, disturbed areas across the pump pad would be interim reclaimed and soils stabilized by reseeding with the CPW and landowner agreed upon seed mix.

**Table 2-1. Project Disturbance Estimates for the Proposed Ardourel 33081718 Pad**

<b>Permitted Area Surface Disturbance (acres)</b>					
<b>Feature</b>	<b>Total Disturbance</b>	<b>New Disturbance</b>	<b>Fully Reclaimed</b>	<b>Reseeded Only</b>	<b>Long-term Disturbance</b>
Well Pad	6.54	6.54	2.61	2.90	1.03
Tank Pad TUA	14.34	14.34	14.34*	-	-
Pump Pad	0.42	0.42	0.42*	-	-
Pipeline Corridor	0.1	0.1	0.1	-	-
New Access Roads for Well Pad	0.07	0.07	-	-	0.07
New Access Roads for Tank Pad TUA	0.02	0.02	0.02*	-	-
Existing Access Roads	0.3	-	-	-	0.3
TUA (Topsoil Storage for Well Pad)	1.55	1.55	1.55	-	-
TUA (Topsoil Storage for Tank Pad TUA)	1.18	1.18	1.18*	-	-
Permitted Area for Stormwater BMPs	5.09	5.09	5.09	-	-
<b>Permitted Area Disturbance Total:</b>	<b>29.61</b>	<b>29.31</b>	<b>25.31</b>	<b>2.90</b>	<b>1.40</b>
<b>Outside Permitted Area Surface Disturbance (acres)</b>					
Pipeline Corridor	4.31	-	4.31	-	-
Existing Access Roads	0.59	-	-	-	0.59
<b>Outside Permitted Area Disturbance Total:</b>	<b>4.9</b>	<b>-</b>	<b>4.31</b>	<b>-</b>	<b>0.59</b>
<b>Overall Disturbance Total:</b>	<b>34.51</b>	<b>29.31</b>	<b>29.62</b>	<b>2.90</b>	<b>1.99</b>

\* Blue text indicates temporary disturbance that may remain for up to 5 years, all other temporary disturbance will be reclaimed no later than 2 years from the start of construction.

### 3 EXISTING SITE CONDITION AND CONSULTATION

#### 3.1 Onsite Field Visits

NueVida and NueVida's contractors, Energy Inspection Services, LLC (EIS) and Walsh Engineering, consulted with LPC, COGCC, and CPW staff on February 17, 2021 to discuss possible concerns and

## Ardourel 33081718 Pad Weed Management Plan

wildlife mitigation options. This plan incorporates the agencies' comments, recommendations, and requests.

During the consultation process, other areas on this property were reviewed, and NueVida, CPW, and LPC chose to move the temporary water storage pad closer to the access road and County Road 318 in order to consolidate the areas of disturbance. One other location on another property in Section 6 was considered for the temporary water storage pad by NueVida, CPW, and LPC, as NueVida has leases in this area. The Section 6 location was not preferred by the agencies for disturbance because it contains better mule deer habitat and because the ground disturbance would have been more extensive.

### 3.2 Pre-Disturbance Weed Survey

During a site visit on September 1, 2021, EIS biologists inventoried the existing condition of the area for evidence of weeds and provided recommendations for weed management at the Project location and across the Ardourel property (see attached weed map). Three weeds were consistently found: Canadian thistle (*Arctium minus*), musk thistle (*Arctium minus*), and burdock (*Arctium minus*). These three weed species were particularly prevalent in the sagebrush flats on the Ardourel property in the dry pond east of the project area.

Weed management & control that includes monitoring and reports for the next 4 years outside the permitted area within the Ardourel property. The areas identified during the baseline weed survey conducted on September 1, 2021, total an area of 1.17 acres and are illustrated in NueVida's Weed and Reseeding Map on the Ardourel in Attachment 1.

## 4 NOXIOUS AND INVASIVE WEED CONTROL

### 4.1 Prevention

To hinder the introduction and spread of specific noxious weed species in areas not currently infested, NueVida plans to clean all vehicles/equipment to be operated in the project area in a manner sufficient to prevent noxious weeds from being transported to the project area from outside La Plata County. This requirement would not apply to passenger vehicles or other equipment used exclusively on asphalt-paved roads.

NueVida is proposing to reseed disturbed areas with the seed mix shown in Table 4-2 in order to stabilize the site and keep weed infestations to a minimum. All disturbed areas of barren ground that are not stabilized for a working surface will either be recontoured and reseeded or reseeded only. Reseeding these areas and establishing more desirable vegetation will decrease the chances of noxious weeds coming in and infesting the project footprint. Weed control will also be done on the Ardourel property to help prevent noxious weeds from establishing near the project area.

**Table 4-2. Prescribed Pinyon/Juniper Woodlands-Sagebrush Community Seed Mix.**

Common Name	Scientific Name	Variety	Season	Form	PLS lbs/acre <sup>1</sup>
Fourwing saltbush	<i>Atriplex canescens</i>	VNS	Cool	Shrub	2.0
Winterfat	<i>Krascheninnikovia lanata</i>	VNS	Cool	Shrub	2.0
Sand dropseed	<i>Sporobolus cryptandrus</i>	VNS	Warm	Bunch	0.5



## Ardourel 33081718 Pad Weed Management Plan

Galleta	<i>Pleuraphis jamesii</i>	Viva florets	Warm	Bunch/Sod-forming	3.0
Indian ricegrass	<i>Achnatherum hymenoides</i>	Paloma or Rimrock	Cool	Bunch	4.0
Bottle brush squirreltail	<i>Elymus elymoides</i>	Tusas or VNS	Cool	Bunch	3.0
Blue flax	<i>Linum lewisii</i>	Apar	Cool	Forb	0.25
Rocky Mtn. bee plant	<i>Cleome serrulate</i>	Local collection or VNS	Cool	Forb	0.25
Artemesia <sup>2</sup>	<i>Artemesia</i>	VNS	Cool	Shrub	0.25
<sup>1</sup> Based on 60 PLS per square foot, drill seeded; double this rate (120 PLS per square foot) if broadcast or hydro-seeded.					
<sup>2</sup> <i>Wyomingensis</i> or <i>nova</i> depending on site.					

### 4.2 Treatment

NueVida would apply the appropriate weed treatment for the situation. Ways that NueVida would be handling weed control would include cultural, chemical and mechanical. For cultural an approved seed mix including native species would be seeded on disturbed areas to promote positive vegetation. Mechanical ways of controlling weeds would involve mowing, tilling and pulling. Mechanical is more costly and time consuming but in areas that may be a concern with chemical impacts to the environment this would be the best path to take. If chemical treatment is need herbicides would be applied two times per year. Spot spraying identified weeds would be conducted to prevent spraying of desirable plant species. These treatments would take place in early summer and early fall before seed heads can form. Specifically, the Canada thistle on the project would be treated either at bud or fall frost stage with a systemic herbicide.

### 4.3 Monitoring

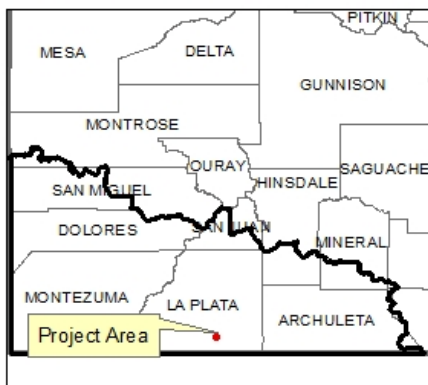
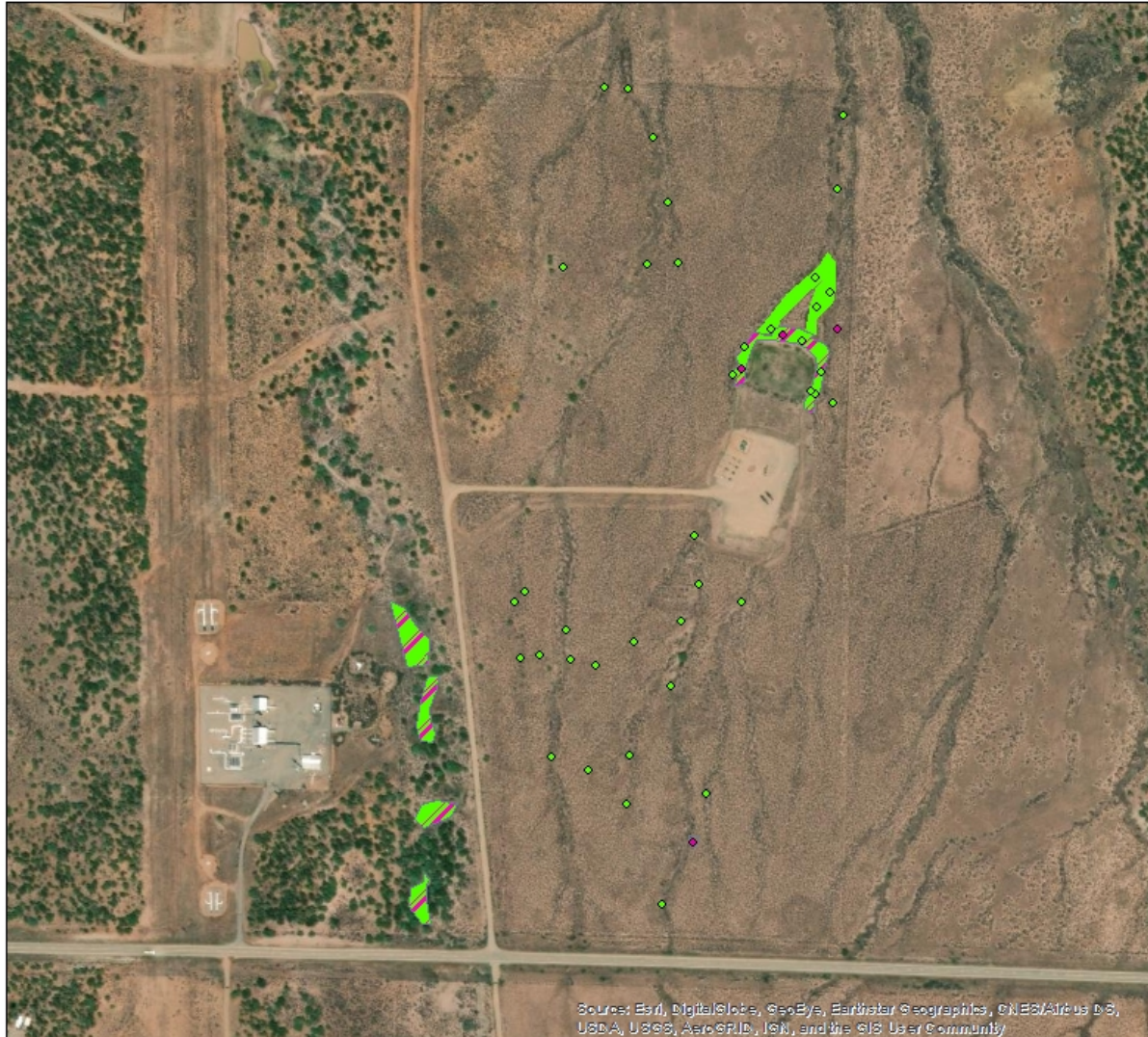
Monitoring of the Project area would happen for the life of the Project. During the first four years of the Project, the entire Ardourel property, including the Project area but excluding other operators' development areas, would be monitored twice a year for weeds. If any weeds are found within the monitoring area, they would be handled under the treatment plan.

### 4.4 Cooperation

Cooperation between NueVida, the landowner, COGCC, LPC, and CPW is key to making sure that risks, cost/benefits, appropriate strategies, and tactics have been evaluated. If issues arise regarding weed management, all parties would be notified and involved in making the decision that would best fit the problem. NueVida has specifically consulted with the La Plata County weed office and the mitigations proposed in this weed management plan are a result of their review and recommendations, as well as incorporating the requests of the landowner.

## WEED AND RESEEDING MAP

### NueVida's Weed and Reseeding Map on the Ardourel



#### Legend

- ◆ Reseeding Point
- ◆ Noxious Weeds Points
- ▨ Reseed Areas
- Weed Management Area

Operator: NueVida

Contractor:



0 150 300 600 900 Feet

NAD 1983 UTM Zone 13N | Author: TP (EIS - LLC) | Date: 5/17/2021

## APPENDIX A: COLORADO WEED LIST

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### List A Species

List A species in Colorado are designated by the Commissioner for eradication. These weeds are either relatively rare or have not been found in Colorado.

African rue (*Peganum harmala*)  
Bohemian knotweed (*Polygonum x bohemicum*)  
Camelthorn (*Alhagi maurorum*)  
Common crupina (*Crupina vulgaris*)  
Cypress spurge (*Euphorbia cyparissias*)  
Dyer's woad (*Isatis tinctoria*)  
Elongated mustard (*Brassica elongata*)  
Flowering rush (*Butomus umbellatus*)  
Giant knotweed (*Polygonum sachalinense*)  
Giant reed (*Arundo donax*)  
Giant salvinia (*Salvinia molesta*)  
Hairy willow-herb (*Epilobium hirsutum*)  
Hydrilla (*Hydrilla verticillata*)  
Japanese knotweed (*Polygonum cuspidatum*)  
Meadow knapweed (*Centaurea nigrescens*)  
Mediterranean sage (*Salvia aethiopsis*)  
Medusahead (*Taeniatherum caput-medusae*)  
Myrtle spurge (*Euphorbia myrsinites*)  
Orange hawkweed (*Hieracium aurantiacum*)  
Parrotfeather (*Myriophyllum aquaticum*)  
Purple loosestrife (*Lythrum salicaria*)  
Rush skeletonweed (*Chondrilla juncea*)  
Squarrose knapweed (*Centaurea virgata*)  
Tansy ragwort (*Senecio jacobaea*)  
Yellow starthistle (*Centaurea solstitialis*)

### List B Species

List B weed species are species for which the Commissioner (in consultation with the state noxious weed advisory committee, local governments, and other interested parties) develops and implements state noxious weed management plans designed to stop the continued spread of these species.

Absinth wormwood (*Artemisia absinthium*)  
Black henbane (*Hyoscyamus niger*)  
Bull thistle (*Cirsium vulgare*)  
Bouncingbet (*Saponaria officinalis*)  
Canada thistle (*Cirsium arvense*)  
Chinese clematis (*Clematis orientalis*)  
Common tansy (*Tanacetum vulgare*)  
Common teasel (*Dipsacus fullonum*)  
Corn chamomile (*Anthemis arvensis*)  
Cutleaf teasel (*Dipsacus laciniatus*)

## Ardourel 33081718 Pad Weed Management Plan

Dalmatian toadflax, broad-leaved (*Linaria dalmatica*)  
Dalmatian toadflax, narrow-leaved (*Linaria genistifolia*)  
Dame's rocket (*Hesperis matronalis*)  
Diffuse knapweed (*Centaurea diffusa*)  
Eurasian watermilfoil (*Myriophyllum spicatum*)  
Hoary cress (*Cardaria draba*)  
Houndstongue (*Cynoglossum officinale*)  
Jointed goatgrass (*Aegilops cylindrica*)  
Leafy spurge (*Euphorbia esula*)  
Mayweed chamomile (*Anthemis cotula*)  
Moth mullein (*Verbascum blattaria*)  
Musk thistle (*Carduus nutans*)  
Oxeye daisy (*Leucanthemum vulgare*)  
Perennial pepperweed (*Lepidium latifolium*)  
Plumeless thistle (*Carduus acanthoides*)  
Russian knapweed (*Acroptilon repens*)  
Russian-olive (*Elaeagnus angustifolia*)  
Salt cedar (*Tamarix chinensis*, *T. parviflora*, and *T. ramosissima*)  
Scentless chamomile (*Tripleurospermum perforata*)  
Spotted knapweed (*Centaurea stoebe*)  
Spotted x diffuse knapweed hybrid (*Centaurea x psammogena* = *C. stoebe* x *C. diffusa*)  
Sulfur cinquefoil (*Potentilla recta*)  
Wild caraway (*Carum carvi*)  
Yellow nutsedge (*Cyperus esculentus*)  
Yellow toadflax (*Linaria vulgaris*)  
Yellow x Dalmatian toadflax hybrid (*Linaria vulgaris* x *L. dalmatica*)

### List C Species

List C weed species are species for which the Commissioner (in consultation with the state noxious weed advisory committee, local governments, and other interested parties) will develop and implement state noxious weed management plans designed to support the efforts of local governing bodies to facilitate more effective integrated weed management on private and public lands. The goal of such plans will be to stop the continued spread of these species and provide additional education, research, and biological control resources to jurisdictions that choose to require management of List C species.

Bulbous bluegrass (*Poa bulbosa*)  
Chicory (*Cichorium intybus*)  
Common burdock (*Arctium minus*)  
Common mullein (*Verbascum thapsus*)  
Common St. Johnswort (*Hypericum perforatum*)  
Downy brome (*Bromus tectorum*)  
Field bindweed (*Convolvulus arvensis*)  
Halogeton (*Halogeton glomeratus*)  
Johnsongrass (*Sorghum halepense*)  
Perennial sowthistle (*Sonchus arvensis*)  
Poison hemlock (*Conium maculatum*)  
Puncturevine (*Tribulus terrestris*)

## Ardourel 33081718 Pad Weed Management Plan

Quackgrass (*Elymus repens*)  
Redstem filaree (*Erodium cicutarium*)  
Velvetleaf (*Abutilon theophrasti*)  
Wild proso millet (*Panicum miliaceum*)

### Watch List Species

Watch List Species that have been determined to pose a potential threat to the agricultural productivity and environmental values of the lands of the state. The Watch List is intended to serve advisory and educational purposes only. Its purpose is to encourage the identification and reporting of these species to the Commissioner in order to facilitate the collection of information to assist the Commissioner in determining which species should be designated as noxious weeds.

Asian mustard (*Brassica tournefortii*)  
Baby's breath (*Gypsophila paniculata*)  
Bathurst burr, Spiny cocklebur (*Xanthium spinosum*)  
Brazilian egeria, Brazilian elodea (*Egeria densa*)  
Common bugloss (*Anchusa officinalis*)  
Common reed (*Phragmites australis*)  
Garden loosestrife (*Lysimachia vulgaris*)  
Garlic mustard (*Alliaria petiolata*)  
Himalayan blackberry (*Rubus armeniacus*)  
Hoary alyssum (*Berteroa incana* L.)  
Japanese blood grass/cogongrass (*Imperata cylindrica*)  
Meadow hawkweed (*Hieracium caespitosum*)  
Onionweed (*Asphodelus fistulosus*)  
Purple pampas grass (*Cortaderia jubata*)  
Scotch broom (*Cytisus scoparius*)  
Sericea lespedeza (*Lespedeza cuneata*)  
Swainsonpea (*Sphaerophysa salsula*)  
Syrian beancaper (*Zygophyllum fabago*)  
Water hyacinth (*Eichhornia crassipes*)  
Water lettuce (*Pistia stratiotes*)  
White bryony (*Bryonia alba*)  
Woolly distaff thistle (*Carthamus lanatus*)  
Yellow flag iris (*Iris pseudacorus*)  
Yellow floatingheart (*Nymphoides peltata*)

## APPENDIX B: LA PLATA COUNTY, COLORADO WEED LIST

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### List A Species

List A species in Colorado are designated by the Commissioner for eradication.

Absinth wormwood (*Artemisia absinthium*)  
African rue (*Peganum harmala*)  
Black henbane (*Hyoscyamus niger*)  
Camelthorn (*Alhagi pseudalhagi*)  
Common crupina (*Crupina vulgaris*)  
Cypress spurge (*Euphorbia cyparissias*)  
Diffuse knapweed (*Centaurea diffusa*)  
Dyer's woad (*Isatis tinctoria*)  
Giant salvinia (*Salvinia molesta*)  
Hydrilla (*Hydrilla verticillata*)  
Meadow knapweed (*Centaurea pratensis*)  
Mediterranean sage (*Salvia aethiopis*)  
Medusahead (*Taeniatherum caput-medusae*)  
Myrtle spurge (*Euphorbia myrsinites*)  
Perennial pepperweed (*Lepidium latifolium*)  
Plumeless thistle (*Carduus acanthoides*)  
Purple loosestrife (*Lythrum salicaria*)  
Rush skeletonweed (*Chondrilla juncea*)  
Sericea lespedeza (*Lespedeza cuneata*)  
Squarrose knapweed (*Centaurea virgata*)  
Tansy ragwort (*Senecio jacobaea*)  
Yellow starthistle (*Centaurea solstitialis*)

### List B Species

List B noxious weed species have (or will have) a state noxious weed management plan developed to stop their spread.

Bouncingbet (*Saponaria officinalis*)  
Bull thistle (*Cirsium vulgare*)  
Canada thistle (*Cirsium arvense*)  
Chinese clematis (*Clematis orientalis*)  
Common tansy (*Tanacetum vulgare*)  
Common teasel (*Dipsacus fullonum*)  
Corn chamomile (*Anthemis arvensis*)  
Cutleaf teasel (*Dipsacus laciniatus*)  
Dalmatian toadflax, broad-leaved (*Linaria dalmatica*)  
Dalmatian toadflax, narrow-leaved (*Linaria genistifolia*)  
Hoary cress (*Cardaria draba*)  
Houndstongue (*Cynoglossum officinale*)  
Jointed goatgrass (*Aegilops cylindrica*)  
Leafy spurge (*Euphorbia esula*)  
Mayweed chamomile (*Anthemis cotula*)  
Moth mullein (*Verbascum blattaria*)  
Musk thistle (*Carduus nutans*)  
Orange hawkweed (*Hieracium aurantiacum*)



## Ardourel 33081718 Pad Weed Management Plan

Oxeye daisy (*Chrysanthemum leucanthemum*)  
Quackgrass (*Elytrigia repens*)  
Russian knapweed (*Acroptilon repens*)  
Russian-olive (*Elaeagnus angustifolia*)  
Scentless chamomile (*Matricaria perforata*)  
Scotch thistle (*Onopordum acanthium* L.)  
Spotted knapweed (*Centaurea maculosa*)  
Spurred anoda (*Anoda cristata*)  
Sulfur cinquefoil (*Potentilla recta*)  
Tamarisk (*Tamarix chinensis*, *T. parviflora*, and *T. ramosissima*)  
Venice mallow (*Hibiscus trionum*)  
Wild caraway (*Carum carvi*)  
Yellow nutsedge (*Cyperus esculentus*)  
Yellow toadflax (*Linaria vulgaris*)

### List C Species

Resources will be provided to jurisdictions that choose to require management of these species.

Chicory (*Cichorium intybus*)  
Common burdock (*Arctium inus*)  
Common mullein (*Verbascum thapsus*)  
Common St. Johnswort (*Hypericum perforatum*)  
Downy brome (*Bromus tectorum*)  
Field bindweed (*Convolvulus arvensis*)  
Halogeton (*Halogeton glomeratus*)  
Johnsongrass (*Sorghum halepense*)  
Perennial sowthistle (*Sonchus arvensis*)  
Poison hemlock (*Conium maculatum*)  
Puncturevine (*Tribulus terrestris*)  
Redstem filaree (*Erodium cicutarium*)  
Velvetleaf (*Abutilon theophrasti*)  
Wild proso millet (*Panicum miliaceum*)