INTERIM RECLAMATION PLAN

Rule 304.c.(16) and 1003.

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Site Description:

Provide a brief description of the oil and gas location, including whether on fee or federal surface; total acres of disturbance, working pad surface, and post-drilling and completion area (production pad); site elevation; proposed timeframes and duration of all oil and gas operations; and timeframe for interim reclamation (first favorable season).

PDC Energy (PDC) is proposing the construction, development, and operation of the Cameron 2 Oil and Gas Development Plan (OGDP), which includes the Windom Federal 5N67W24 1-46 Well Pad (Windom Pad). The legal and location descriptions for the Windom Well Pad are 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

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 Pad would be from County Road 54.

PDC is proposing a tankless facility design of the Windom Well Pad as it pertains to hydrocarbons. Under the tankless design there would be zero oil tanks, thereby eliminating hydrocarbon storage. The facilities would be constructed with two 538-bbl permanent water tanks, one 210-bbl produced water vault, two 538-bbl permanent maintenance tanks, and ten 400-bbl temporary water tanks. The maintenance tanks would only be utilized in the event of upset conditions or maintenance and would be used to divert fluids to in order to properly shut-in the facility. The two 538-bbl water tanks, one 210-bbl produced water vault, and two 538-bbl permanent maintenance tanks (totaling 2,362-bbls capacity) would remain onsite for the life of the Location. Under the tankless hydrocarbon design, produced oil and gas would be sent directly to pipelines.

Well Pad Location

The Windom Pad would support a total of 46 wells and their supporting production equipment. The well pads would be constructed from the native earthen materials present and leveled by standard cut-and-fill techniques. The well pad would be constructed by clearing vegetation, stripping, and stockpiling topsoil, and leveling the pad areas. Construction of a typical well pad 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 pads.

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 each 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 by location in Table 2.

Access Roads

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

Water Lines and Flowlines

The construction of the Windom 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.

Interim Reclamation

In accordance with COGCC Rule 1003, interim reclamation for the Project will commence as soon as practicable and, at minimum, within 3 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 returned to landowner for agricultural use. If any areas are not able to be returned to agricultural use, those areas will be seeded and mulched. 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.

Surface Disturbance Totals

Construction associated with the Project would result in an estimated initial disturbance of approximately 21.12 acres and residual disturbance of 8.55 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 pads not required for the continued operation of the well within 6 months of completion, weather permitting.

Table 2
Total Estimated Surface Disturbance
(Including Flowlines and Access Roads)

Pad Name	Length (miles)	Initial (acres)	Residual (acres)[1]
Windom Pad	N/A	21.12	6.32
Proposed Access Road	0.27	0.99	0.99
Water Lines and Flowlines	0	0	0
OGDP Scale Total3	--	22.11	7.31

[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.

Project Schedule

Pending OGDP approval from the COGCC, the Windom Location would likely be constructed in Q1 2024. Drilling would commence in Q4 2024, and completions in Q3 2025. The anticipated production life of each well is 29 years.

Soils Description:

Briefly describe the identified soil types and boundaries of the mapped units on the location and pertinent soil properties (drainage class, available water capacity, depth to restrictive feature [bedrock or confining layer]).

To determine anticipated site characteristics for the project site, Geographic Information System (GIS) data from the Natural Resource Conservation Service (NRCS) along with aerial photography was overlain on the site proposed disturbance boundary to derive potential ecological site descriptions (ESDs) and NRCS soil map units. A desktop review of the proposed project area indicates the presence of one soils map unit – 100% consisting of Colby-Adena loams (3 to 9 percent slopes).

The Colby-Adena loams (3 to 9 percent slopes) soils map unit shows an anticipated top soil depth of 0 to 7 inches. The depth to a restrictive feature is more than 80 inches. The drainage class is well drained, and the available water capacity is high (about 10.6 inches).

Slopes in the project area range from 3-9%. The risk of susceptibility to erosion/runoff is high based on K factor values; the overall erosion hazard is slight.

Soils and erosion maps and soils reports can be found in Appendix A and B, respectively.

Oil and Gas Location Pre-Disturbance Vegetation Composition:

Describe the predominant plant species based on both soil types and onsite survey, as well as the percent of vegetative cover.

The pre-disturbance land use at the subject location is agriculture.

During the interim reclamation phase for the Windom project, areas that can feasibly be farmed will again be ripped and returned to landowner for reincorporation into the surrounding agricultural field, while areas that cannot be farmed (due to physical machinery and/or irrigational constraints) will be seeded and mulched. It is anticipated that the majority or all of the reclamation at the Windom Pad will be returned to agriculture use.

No vegetation density or coverage assessments were conducted at the project location due to the project being located within agricultural land-use. There are no known noxious weed infestations onsite.

Land use maps and pre-existing conditions/vegetation photo series and maps can be found in Appendix A.

Identification of Reference Area and Vegetation Composition (Non-Crop Land):

Describe how and where the Reference Area was determined and describe the predominant plant species based on both soil types and onsite survey, as well as the percent of vegetative cover.

No reference area is needed as the pre-disturbance land use is agriculture.

Known Weed Infestations:

Identify any Colorado list A or B weed infestations at this location.

There are no known weed infestations as the entire project exists within an agricultural field.

Gathering Lines:

Identify the pipeline and utility corridors that will be reclaimed (if applicable).

Flowlines or utility corridors within the reclamation areas on the facility map (Appendix A) will be reclaimed during the interim reclamation phase. All wells will be located on the same working surface as the tank battery so there will be no flowline corridors off location. Other pipeline and utility corridors associated with the production facility in the permanent working space will not be reclaimed.

Any midstream tie-in work will be unassociated to the subject project and off-pad reclamation will be managed by the 3rd party responsible for the construction. On-pad reclamation will likely include reapplying road base to armor the on-pad disturbed pipeline corridor, and rebuilding perimeter BMPs (ditch/berm) after tie-in.

Access Road:

Identify if portions of the access road system can be reclaimed (if applicable).

The access road will remain for the long-term life of the oil and gas location. No portions of the access road will be reclaimed during interim reclamation.

Removal of Drilling, Re-entry, Completion Equipment and all Associated Debris and Waste Materials (1003.a.):

Debris and non-exploration and production (E&P) waste materials (concrete, sack bentonite and other drilling mud additives, sand, plastic, pipe and cable) should be removed and cellars, rat holes, and other boreholes unnecessary for further lease operations should be backfilled.

PDC will ensure the appropriate management, storage, transportation, and disposal requirements for non-E&P wastes are performed in accordance with State and Federal regulations. Non-E&P wastes anticipated to be generated onsite include used oil and TENORM scale and sludge. The site-specific management and storage procedures for these wastes are listed below, and in accordance with the Project Waste Management Plan. In addition, debris and other non-E&P wastes such as concrete, sack bentonite or other drilling mud additives, sand, plastic, pipe and cable will be removed as generated while cellars, rat holes, and other boreholes unnecessary for further lease operations will be backfilled.

Oil (Used)

If used oil is being disposed of or exhibits hazardous characteristics, it will be managed as a hazardous waste. Used Oil will be stored in a closed container, that is in good condition, and does not leak, or stored in a tank designated as a used oil container. Lids, funnels, and bungs will be kept closed when not adding used oil. Used oil containers will be stored inside containment pending disposal if disposal is not completed on the same day it is collected.

TENORM (Scale or Sludge)

Accumulate TENORM scale and sludge in sealed DOT-rated containers. Keep containers closed when not adding waste. Store TENORM scale and sludge containers in a secure area. TENORM pipe should be marked and kept in a separate area to prevent cross contamination and wrapped or stored in a closed container to prevent loose scale from contacting soil or contact with rain or snow. Ensure TENORM wastes are only disposed of at permitted disposal facilities, that can accept wastes with low level radiation and possible hydrocarbon content.

Management of Waste Material:

Assess and determine what steps are needed to ensure compliance with COGCC regulations; including Drilling Pit (both fluid and cuttings) Closure (1003.d.) and adherence to the 900-Series Rules in determining which materials can be left onsite or require offsite treatment or disposal.

Waste Determination Forms have been developed for waste streams anticipated to be generated at the Facility and are included in the Project Waste Management Plan to provide a description of the process that generates the waste, determination of waste type, details the characterization, treatment, management and storage, transport and disposal (or recycling) of each waste listed below. Records of waste that is transported off-site shall be maintained for 5-years including copies of each invoice, bill, or ticket and such other records as necessary to document waste disposal.

Produced Water (Completions and Production)

Water (brine) brought up from the hydrocarbon bearing strata during the extraction of oil and gas may include formation water (water that has been injected into the formation and any chemicals added down hole or during the oil/water separation process).

Onsite Treatment: The produced water will be separated from the total fluids extracted from the well by applying heat and possibly with the use of chemical emulsion breakers injected downhole.

Onsite Management and Storage: Accumulate produced water in storage tanks (aboveground, or partially buried vaults). Water levels in the tanks are monitored by pumpers and/or electronic gauging. Secondary containment for the produced water wastes tanks meets SPCC requirements.

Transport: Produced will then be transported for disposal via pipeline.

Records of waste that is transported off-site shall be maintained for 5-years including copies of each invoice, bill, or ticket and such other records as necessary to document waste disposal. Produced water will be transported for disposal under 905.c(2)A.

Drilling Fluids (Flowback and Workover)

Used flowback and workover fluids, muds, completion, treatment, stimulation, and packing fluid, blowdown, swabbing and bailing wastes, and pipe dope from well development and workover.

Onsite Treatment: Flowback fluids are not treated on-site, only temporary storage pending disposal.

Onsite Management and Storage: Flowback and Workover Fluid wastes will be stored in a container that is compatible with the waste. The waste storage location will have proper containment in the case of a spill, and be protected from run-off or storm drains, to comply with SPCC regulations. Flowback and Workover Fluid wastes will be stored nor more than 24 hours on-site. During active drilling hauling operates 12 hours per day to ensure adequate storage in tanks.

Transport: The waste container should be labeled "Non-Hazardous" with a description of the chemical waste listed on the label. Keep records of any test results, waste analysis, waste profiles, manifests, shipping papers and any waste determinations made for at least 3 years from the date the waste was sent off-site. Drilling fluids from flowback/completions and workovers will be transported for disposal under 905.d(2)B and 905.f(1).

Drilling Fluids (Oil and Water-Based)

Oil and water-based drilling fluids are used to lubricate and remove drill cuttings during the drilling process. Drilling fluids are processed to remove solids and recirculated. When drilling is complete, or the drilling fluid is spent the drilling fluids are sent for disposal.

Onsite Treatment: Drilling fluids/muds are recirculated and process through shakers to remove solids during the drilling process.

Onsite Management and Storage: Spent drilling fluids/muds are collected upon completion of the drilling phase into vac trucks for disposal. Drilling muds are stored in the recirculating equipment during the transport phase for less than 24 hours.

Transport: Drilling Fluids will be transported for disposal by licensed haulers with proper manifests, shipping papers, labels and placards, and waste determination or profiles approved by the disposal facility. PDC requires all transporters participate in an annual safety training provided by PDC. In addition, transporters are required to participate in and have a good rating in the ISNetworld contractor management program along with a drug testing program. Drilling fluids will be transported for disposal under 905.d(2)B.

Drill Cuttings (Oil and Water-based)

Small pieces of rock and soil (including spall and carvings) that break away from the well walls during drilling and are screened out of the liquid mud system.

Onsite Treatment: Drill cuttings will be separated from drilling muds to facilitate reuse of the mud through a mechanical shaker. Drill cuttings will be solidified on site by adding manure to the cuttings inside the cutting boxes to remove free liquids prior to offsite disposal.

Onsite Management and Storage: Drill cuttings will be stored in cutting bins at the rig until loaded for disposal in side-dump trailers. Drill cuttings are stored on location next to the rig shaker boxes. Cuttings are stored on-site less than 24 hours prior to disposal.

Transport: Drill cuttings will be transported for disposal by licensed haulers with proper manifests, shipping papers, labels and placards, and waste determination or profiles approved by the

disposal facility. PDC requires all transporters participate in an annual safety training provided by PDC. In addition, transporters are required to participate in and have a good rating in the ISNetworld contractor management program along with a drug testing program. Drill cuttings will be transported for disposal in accordance with 905.g(1)A and 905.g(2)A.

Identification of Interim Reclamation Areas no Longer in Use (1003.b.):

Identify the areas (and acreage) immediately around wellhead equipment, production tanks, separation equipment, air pollution control and treatment equipment, meter stations, and LACT units on location that will not be interim reclaimed.

Areas that are to be reclaimed during interim reclamation are shown in the interim reclamation construction layout drawing in Appendix A. Initial total construction disturbance is 21.12 acres (without access road). After interim reclamation is complete, the final interim pad disturbance area is 8.55 acres.

Areas that will not be reclaimed and that will remain as a permeant working surface are immediately around wellhead equipment, production tanks, separation equipment, air pollution control and treatment equipment, meter/monitoring stations, vapor recovery units, power generation units, LACT units and any other equipment needed to operate the Windom production facility. All areas needed for ongoing operations will be armored and stabilized for the long-term life of the facility. The permeant working surface can be seen on the interim reclamation construction layout drawing in Appendix A.

Compaction Alleviation (1003.c.):

Describe the proposed mechanical methods to be used and depths to un-compact the areas planned for interim reclamation in order to promote vegetation growth.

Compacted soils and areas of the location impacted by construction to be ripped to a minimum depth of 18 inches prior to topsoil replacement. Decompaction will be performed by a parabolic Ag style ripper capable of fracturing the soil ensuring soil layers are not mixed. Proper decompaction will allow for greater water infiltration and promote vegetation growth.

Recontouring:

Describe site-specific recontouring or land forming design; including how the reclaimed areas will blend with surrounding contours, historic hydrology patterns, erosion control measures, and topsoil spreading.

Working in conjunction with the site-specific storm water plan, PDC will complete interim reclamation by reestablishing all topography and contours on the reclaimed area to their pre-disturbance conditions.

PDC will document the existing topography, natural drainages, and contours at the site prior to disturbance, and will return the reclaimed areas to preexisting conditions during interim reclamation. The height of the well heads and tank battery will be set at native elevation, if not in

conflict with the site-specific stormwater plan. The outer limits of the location will be blended back to native topography by matching the surrounding area of the location, as this area will remain undisturbed from the construction phase. Recontouring will take place in such a way that the depth of the topsoil is accounted for with the initial regrading of the site, this will ensure that an even and adequate amount of topsoil is spread over the entire site in a way that will not inhibit any natural drainages.

PDC will cross-rip slopes and prepare the reclaimed areas for agricultural-use (areas that can be farmed) or seed/mulch the areas that cannot be farmed.

Re-establish and Stabilize Drainage Features:

Briefly describe the proposed stormwater management on this location to stabilize soils, prevent excessive erosion, soil instability, subsidence, and/or slumping. Details of stormwater and erosion control measures will be provided in the Stormwater Management Plan.

The proposed Windom Stormwater Management Plan will follow sound engineering practices outlined in the Urban Drainage manual and approved under PDC's Colorado Department of Public Health and Environment (CDPHE) basin-wide stormwater construction permit. Best Management Practices (BMPs) will be installed around the disturbance perimeter to prevent soil erosion, subsidence/slumping, and instability. Control measures and BMPs will be installed at the beginning of the construction phase and remain intact until interim reclamation stabilization requirements have been met.

BMPs used are approved by the CDPHE and will be installed following engineered guidelines. The Windom location and all stormwater control measures will be inspected on a bi-weekly basis for deficiencies. Any deficiencies found will be corrected in a timely manner to prevent offsite sediment transport. All plan details can be found under the Windom Stormwater Management Plan.

Establish Desired Self-Perpetuating Plant Community (1003.e.):

Describe the seed mix selected (BLM, CPW, surface owner, local soil conservation district), seed weight in pounds per acre, and the proposed seed application rate.

Interim reclamation at the subject location involves returning all areas that can feasibly be farmed to landowner for agricultural use and reincorporation into the surrounding field. For all areas that cannot be feasibly farmed due to shape of the disturbance and/or inability to get heavy farming equipment into these areas to cultivate crops, these areas will be seeded/mulched during interim reclamation/final stabilization.

Seed mix may be required by surface owner and/or local agency in some cases. If no requirement is stated, the seed mix should be determined based on land use and soil type. Seed composition should be a mix of both warm and cool season grasses to ensure plant diversity and reclamation success. Application rate and seed mix design should be developed based on local conditions including soil type, time of year, and historical precipitation data. The seed mix selected for the

Windom Pad interim reclamation is 20% Dahurian wildrye, 20% wildrye Amazon, 15% smooth brome, 15% pubescent wheatgrass, 15% intermediate wheatgrass and 15% orchard grass. PDC estimates application rate should be 40 pounds per acre.

Seedbed Preparation and Seeding (1003.e.):

Described the mechanical processes of seedbed prep, proposed amendments, moisture retention and soil stabilization methods, and timing and process of seeding.

After decompaction, recontouring, and topsoil application, if any areas cannot be feasibly farmed, the top 3-4 inches of soil will be prepared for seed application using a high-speed disk and/or a mulcher as needed. Straw mulch will be applied and crimped to topsoil adding further stabilization and increasing moisture retention. Seedbed will be void of earthen clods and firm enough to keep seed from being applied to deeply. Soil samples will be collected and analyzed prior to seed application to identify any amendments needed. Compost and fertilizer will be applied based on current site conditions and on an as needed basis.

Seed application will be performed using a disc seed drill equipped with depth bands, capable of direct seed placement no deeper than ¼ to ¾ inches, and functioning packer wheels with row spacing not exceeding 8 inches to adequately cover and stabilize the seed. Seeding will occur during interim reclamation – after compaction alleviation, topsoil application, recontouring, and seedbed preparation, and will be conducted during a spring or fall planting window to achieve maximum germination rates.

Fencing:

Identify the type (wildlife friendly, livestock, barbed-wire) and area to be fenced, if needed, to ensure that the interim reclaim does not get overgrazed.

Fencing will not be used at the subject location due to its location within a cultivated agricultural field with no risk of livestock grazing.

Management of Invasive Plants (1003.f.):

Describe how noxious and invasive weeds will be identified, inventoried and treated to control and reduce the spread of weed species.

Invasive plants will be managed by performing a site assessment during the spring and upon completion of the first growing season after interim reclamation. This assessment will identify and inventory any/all invasive plants on the location. The assessment will include GPS coordinates and maps detailing the location of the invasive plants. Management will be performed by either mowing or spraying and in some rare occasions both methods may be necessary. Routine inspections throughout the life of the pad will also aid in identifying when weed mitigation is needed.

Proposed Interim Reclamation Drawing:

This type of drawing is being required per guidance (forthcoming) for all locations regardless of site grade. All structural and non-structural BMPs should be shown on the plan drawing and labelled or put in a legend. Use arrows to show planned flow direction. Controls for stormwater flow entering pad should be identified. Cross sections should be included to show reclaimed location and grading. The operator can use the drawing provided in the Stormwater Management Plan.

The interim reclamation drawing is included in Construction Layout Drawings (Appendix A).

Reclamation Monitoring, Inspection, Maintenance, and Reporting:

Describe the frequency of routine site visits and active management over reclamation activities, along with annual reclamation reporting requirements. Operator will focus to further stabilize soils, preventing erosion and site degradation, and to monitor for and treat invasive species. Locations will remain in the interim reclamation phase until the well is plugged and abandoned, at which time final reclamation will take place.

Frequency

Active Construction Inspections: site inspections shall start within 7 calendar days of the commencement of construction activities at a new site. Inspections will then be conducted either, at least every 7 calendar days, or, at least every 14 calendar days and after precipitation and melting-events that cause surface erosion.

Non-Cropland Sites – Inactive/30-Day Inspections: at sites that are not located in cropland (if seed/mulch was used in final stabilization), once all ground disturbing activities have been completed and the location has been pulled-back and has been seeded/mulched (or is awaiting seeding/mulch), and all final stabilization measures have been implemented, the inspection frequency will be reduced to the 30-day/inactive frequency. Inspections will proceed until the site has met CDPHE final stabilization criteria, at which point it will move into the COGCC post-construction stormwater program.

Post-Construction Locations: when a location moves into the COGCC post-construction stormwater program, the location will be assessed against the COGCC Tier 1 criteria to determine COGCC Tier 1 exemption applicability. If the location is not Tier 1-exempted, risk-based criteria will be used to determine post-construction stormwater inspection frequencies (annual, bi-annual, quarterly), which will be conducted until final reclamation, or until conditions change to allow a transition to being Tier 1-exempted.

Inspection Scope

At a minimum, the following will be inspected for adequate protection of stormwater and compliance:

- Construction site perimeter
- All disturbed areas
- Designated haul routes

- Material and waste storage areas
- Discharge or potential discharge locations
- Vehicle access locations
- All BMPs

Inspection requirements:

- Visually verify whether all implemented control measures are in effective operational condition and are working as designed in their specifications to minimize pollutant discharges.
- Determine if there are new potential sources of pollutants.
- Assess the adequacy of control measures at the site to identify areas requiring new or modified control measures to minimize pollutant discharges.
- Identify all areas of non-compliance with the permit requirements and, if necessary, implement corrective action(s) in accordance with the general permit (Part I.B.1.c.).

At a minimum, the following information is recorded with each inspection:

- Inspection date
- Names and titles of personnel conducting the inspection
- Inspector needs to be a Qualified Stormwater Manager (see Section 6.5)
- Weather
- Phase of construction
- Estimate acreage of disturbance
- Location(s) and identification of control measures requiring routine maintenance
- Location(s) and identification of discharges of sediment or other pollutants from the site
- Location(s) and identification of inadequate control measures
- Location(s) and identification of additional control measures needed that were not in place at the time of inspection
- Description of corrective action(s) for previous three items above, dates corrective action(s) were completed, including requisite changes to the SWMP, as necessary
- Description of minimum inspection frequency
- Deviations from inspection schedule
- After adequate corrective action(s) and maintenance have been taken, or where a report does not identify any incidents requiring corrective action or maintenance, the report shall contain the following statement, to be signed by the Qualified Stormwater Manager (QSM):

I verify that, to the best of my knowledge and belief, that if any corrective action items were identified during the inspection, those corrective action are complete, and the site is currently in compliance with the permit.

Maintenance Procedures for BMPs

The operator is responsible for implementing control measures (inclusive of seeding/mulching and weed mitigation) and performing routine maintenance, as needed, to in ensure BMPs are in effective operating condition. BMPs requiring maintenance are identified in inspection reports and are addressed in the field as soon as practicable.

Interim Reclamation Completion Notice, Form 4 (1003.e.[3]):

Operators will submit a Form 4 Sundry Notice to describe reclamation procedures, associated mitigation measures, changes to final land use, and the total cover of live perennial vegetation to evaluate the success of interim reclamation.

Interim reclamation of all disturbed areas no longer in use shall be considered complete 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 minimize erosion to the extent practicable, or a uniform vegetative cover has been established that reflects pre-disturbance or reference area forbs, shrubs, and grasses with total percent plant cover of at least eighty percent (80%) of pre-disturbance levels or reference areas, excluding noxious weeds.

Once interim reclamation is achieved, a vegetation coverage assessment is conducted to confirm and document successful reclamation. In areas that were returned to cropland, this involves an assessment to show that crops are growing as well on the reclamation as in representative areas of the surrounding field. In the areas of the reclamation that cannot feasibly be farmed and will be seeded/mulched, this involves a vegetation coverage quantitative assessment. When a crop assessment and/or vegetation coverage assessment confirms that the requirements have been met, photos are collected to document interim reclamation completion. Four photos are taken from the pad reclamation during the growing season facing each cardinal direction, and one photo is taken to document the vegetation in an undisturbed/reference area adjacent to the pad. Each photograph is identified by date taken, well name or location number (for Weld County – location name), GPS coordinates, and direction of view. A COGCC Form 4 Sundry Notice is then submitted to document interim reclamation completion, accompanied by the requisite photos documenting the reclamation and vegetation analysis. The Form 4 submission will also outline a description of the reclamation procedures, associated mitigation measures, changes to final land use, and the total cover of live perennial vegetation to evaluate the success of interim reclamation.

Weld County Code Sec. 21-5-555 requires the operator to also notify Weld County via the 1041 WOGLA Sundry Form to document interim reclamation completion, with the same requirements and procedures as the COGCC.

Site-Specific Interim Reclamation BMPs:

Operators will submit, as part of this plan, a detailed list or narrative description of site-specific Best Management Practices (BMPs) for conducting interim reclamation on all areas of an Oil, and Gas Location that is not being used for production or processing of E&P materials, but has been disturbed, should be conducted through recontouring, topsoil replacement, and revegetation. BMPs shall include, but not limited to placement of soil (subsoil first, followed by top soil), packing of soil layers (pack each soil layer separately), erosion control, weed control, seed mix description, seeding methods, fencing (if needed), timing of reclamation, and landscape description (drainage pattern [streams, creeks, aquifers, contours, etc.], grade or slope).

The following is a list of site-specific BMPs related to PDC's interim reclamation approach at the Windom location, for areas that will be reclaimed (the reclamation), and not used for continuing oil and gas operations (the working interim pad).

- Compaction alleviation – compacted soils and areas of the location impacted by construction will be ripped to a minimum depth of 18 inches prior to topsoil replacement. Decompaction will be performed by a parabolic Ag style ripper capable of fracturing the soil ensuring soil layers are not mixed. Proper decompaction will allow for greater water infiltration and promote vegetation growth.

- Erosion control – seed/mulch application functions as erosion control during initial reclamation efforts until adequate vegetation establishment, at which point the reclamation will be deemed final stabilized. The interim working pad will be stabilized against potential erosion for the long-term with surface armoring.

- Grading – Grading involves reshaping the ground surface to planned grades. Grading provides more suitable topography for well pads and pipelines and helps to control runoff, soil erosion, and sediment during and after construction in these areas.

- Mulching – mulching is a temporary erosion control used to stabilize exposed soils while waiting for vegetation to establish. Mulch protects soils from rain impacts and wind erosion, increases infiltration, and helps regulate soil temperatures. Typically, agricultural straw or hay is mechanically applied and crimped in or wood splinters/fibers are surface applied by hand or machinery. Tackifiers may be sprayed over the applied mulch to enhance stabilization.

- Placement of soil – any subsoil used during interim reclamation is applied first, followed by top soil, in order to ensure that topsoil is not contaminated or adulterated and to ensure optimum germination efforts.

- Packing of soil layers – if multiple soil layers are applied during interim reclamation, each soil layer is packed separately and sequentially.

- Recontouring – documenting the existing topography and natural drainages and the site prior to disturbance, and reestablishing the topography and contours on the reclamation to pre-disturbance conditions.

- Routine inspections – PDC, and/or third-party contractors, conduct a number of routine and regularly scheduled inspections during which the reclamation and general site conditions are inspected and monitored.

- Seedbed preparation – after decompaction, recontouring, and topsoil application, the top 3-4 inches of soil will be prepared for seed application using a high-speed disk and/or a mulcher as needed. Seedbed will be void of earthen clods and firm enough to keep seed from being applied to deeply. Soil samples will be collected and analyzed prior to seed application to identify any amendments needed. Compost and fertilizer will be applied based on current site conditions and on an as needed basis.

- Seeding – seeding, to establish perennial vegetative cover following construction, is the best long term stabilization control for areas not stabilized with other permanent controls (pavement, concrete, road base, etc.). Establishing perennial vegetation stabilizes the soil, reduces wind and water erosion, minimizes sheet flow, increases infiltration, and reduces overall runoff volumes. Seeding can be used to establish temporary stabilization when dirt moving activities have ceased and will not resume for an extended period of time, or as a final stabilization technique as part of the reclamation plan for a site. Seed application at Windom location will be performed using a disc seed drill equipped with depth bands, capable of direct seed placement no deeper than ¼ to ¾ inches, and functioning packer wheels with row spacing not exceeding 8 inches to adequately cover and stabilize the seed.

- Seed mix – the seed mix selected for the Windom interim reclamation is 20% Dahurian wildrye, 20% wildrye Amazon, 15% smooth brome, 15% pubescent wheatgrass, 15% intermediate wheatgrass and 15% orchard grass. PDC estimates application rate should be 40 pounds per acre.

- Stockpile management – stockpile management is the protection of stockpiled erodible materials through structural and nonstructural practices.

- Surface armor – surface armor is a combination of various materials (e.g., clay, concrete, dirt, rock, etc.) used to stabilize a surface on location where erosion could occur. The armor reduces erosion caused by runoff and/or raindrop impact, and provides a stable working surface for various construction related activities. Surface armor is often utilized throughout the life of a location and can be incorporated on access roads, tank battery locations, and well head locations.

- Timing of reclamation – seeding will occur during interim reclamation – after compaction alleviation, topsoil application, recontouring, and seedbed preparation, and will be conducted during a spring or fall planting window to achieve maximum germination rates.

- Topsoil salvage – the salvage and proper handling of topsoil is one of the keys to reclamation success. Topsoil is vital for the revegetation of disturbed areas following final grading. Commonly accepted BMPs for topsoil stockpile construction call for a maximum height of ten feet and topsoil stockpile slope no greater than 3:1. PDC plans to follow these specifications with regards to the topsoil stockpile at the subject location.

- Training – employee training on spill prevention, stormwater, and associated practices and procedures is essential to ensuring that everyone has the knowledge needed to follow appropriate steps and be able to minimize potential impacts resulting from stormwater related incidents.

- Weed control – invasive plants will be managed by performing a site assessment during the spring and upon completion of the first growing season after interim reclamation. This assessment will identify and inventory any/all invasive plants on the location. The assessment will include GPS coordinates and maps detailing the location of the invasive plants.

Management will be performed by either mowing or spraying and in some rare occasions both methods may be necessary. Routine inspections throughout the life of the pad will also aid in identifying when weed mitigation is needed.

Appendix A – Stormwater Management Plan Maps

- Initial Construction SWMP Overview Map
- Construction Layout Drawings
  - Initial Construction
  - Interim Reclamation
- Soils/Erosion Maps
- Pre-Disturbance Land Use Map
- Pre-Disturbance Vegetation Identification/Analysis and Photo Series

PDC ENERGY

Stormwater Management Plan Overview Map

WINDOM 5N67W24 1-46

N W E S

0 1,550 3,100

Feet

Scale: 1:14,140

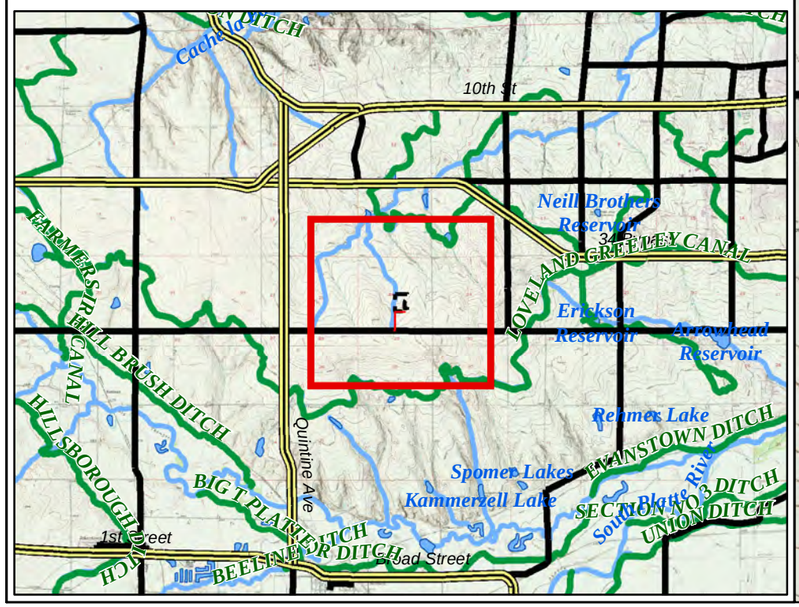
Prepared by:

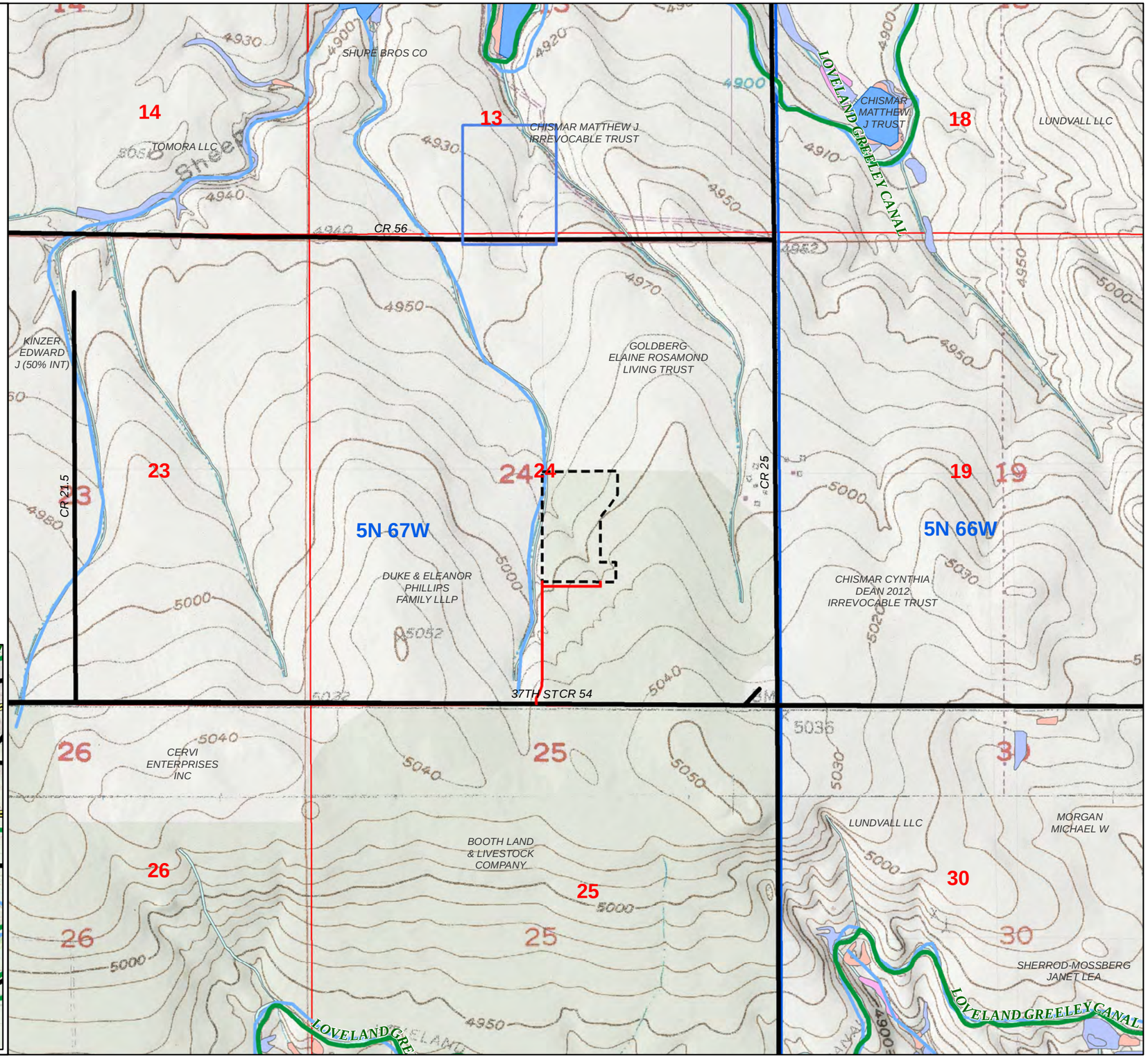
Editor: nwilson

Date: 3/8/2023

File: PDC_PreConstr_Overview_V2

- Map Figures
- Road - Access Road
- Construction Boundary
- Highway
- Major Roads
- County/Local Road
- Canal/Irrigation Ditch
- Waterway
- Waterbody
- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Freshwater Pond
- Riverine
- Townships
- Sections

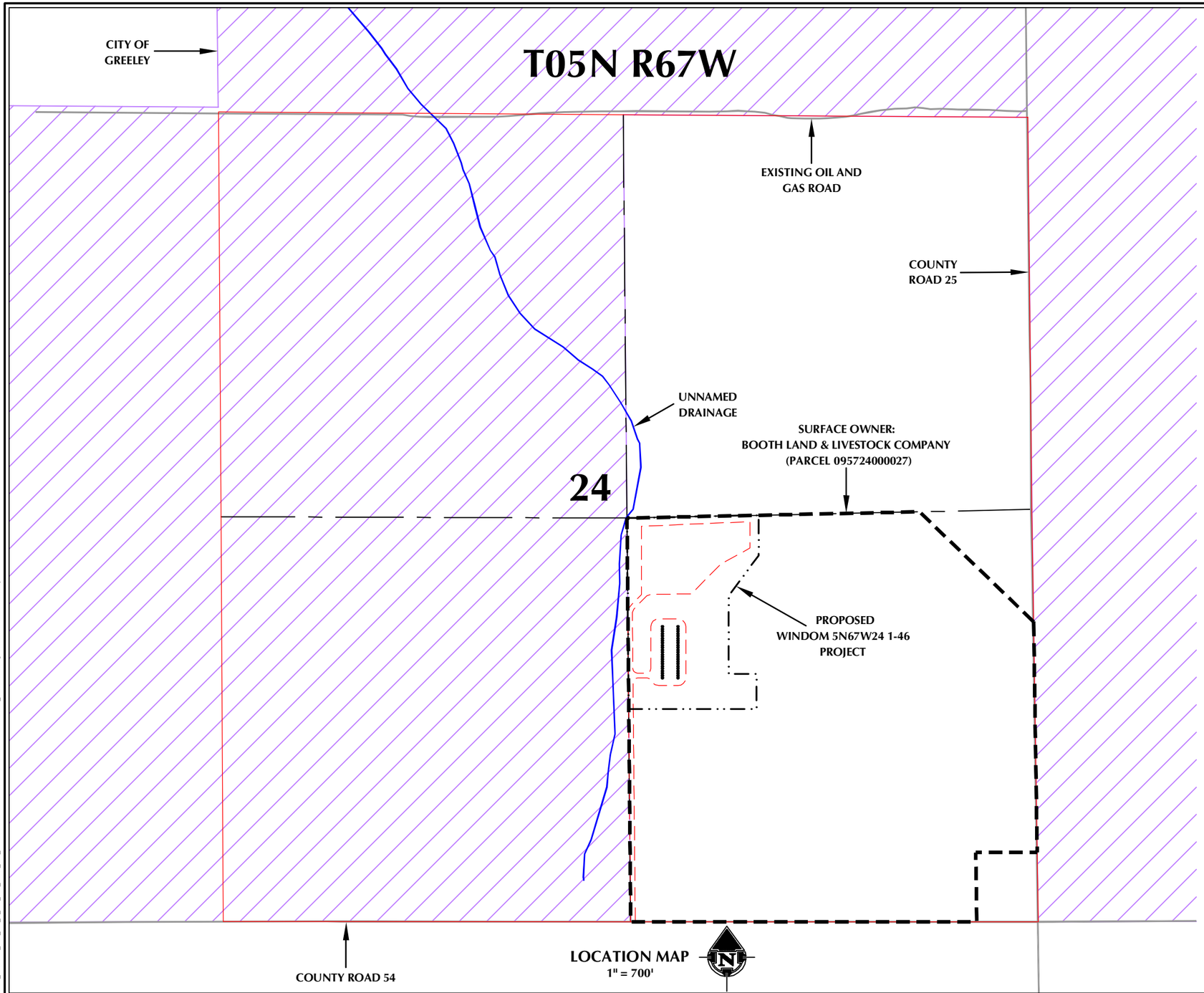


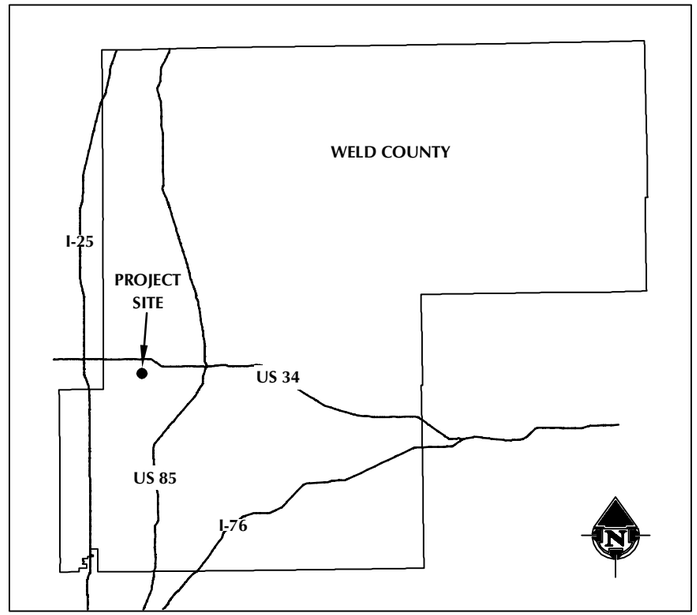


WINDOM 5N67W24 1-46
DRAINAGE AND EROSION CONTROL PLAN

LOCATED IN SECTION 24, T5N, R67W, 6TH P.M.
WELD COUNTY, COLORADO

1041WOGLA22-0025





VICINITY MAP

PAGE INDEX

GENERAL NOTES:

1. THIS DRAINAGE AND EROSION CONTROL PLAN WAS PREPARED FOLLOWING WELD COUNTY MUNICIPAL CODE WITH ADDITIONAL DESIGN GUIDANCE PROVIDED BY MILE HIGH FLOOD DISTRICT.
2. DISCLAIMER: THIS PLAN REPRESENTS AN APPROXIMATE LOCATION OF DRAINAGE AND EROSION CONTROL FEATURES; EXACT LOCATION MAY VARY DEPENDING UPON EXISTING EASEMENTS, PIPELINES, FLOWLINES, AND SETBACK REQUIREMENTS.
3. ORIGINAL DOCUMENT SIZE: 11" X 17"

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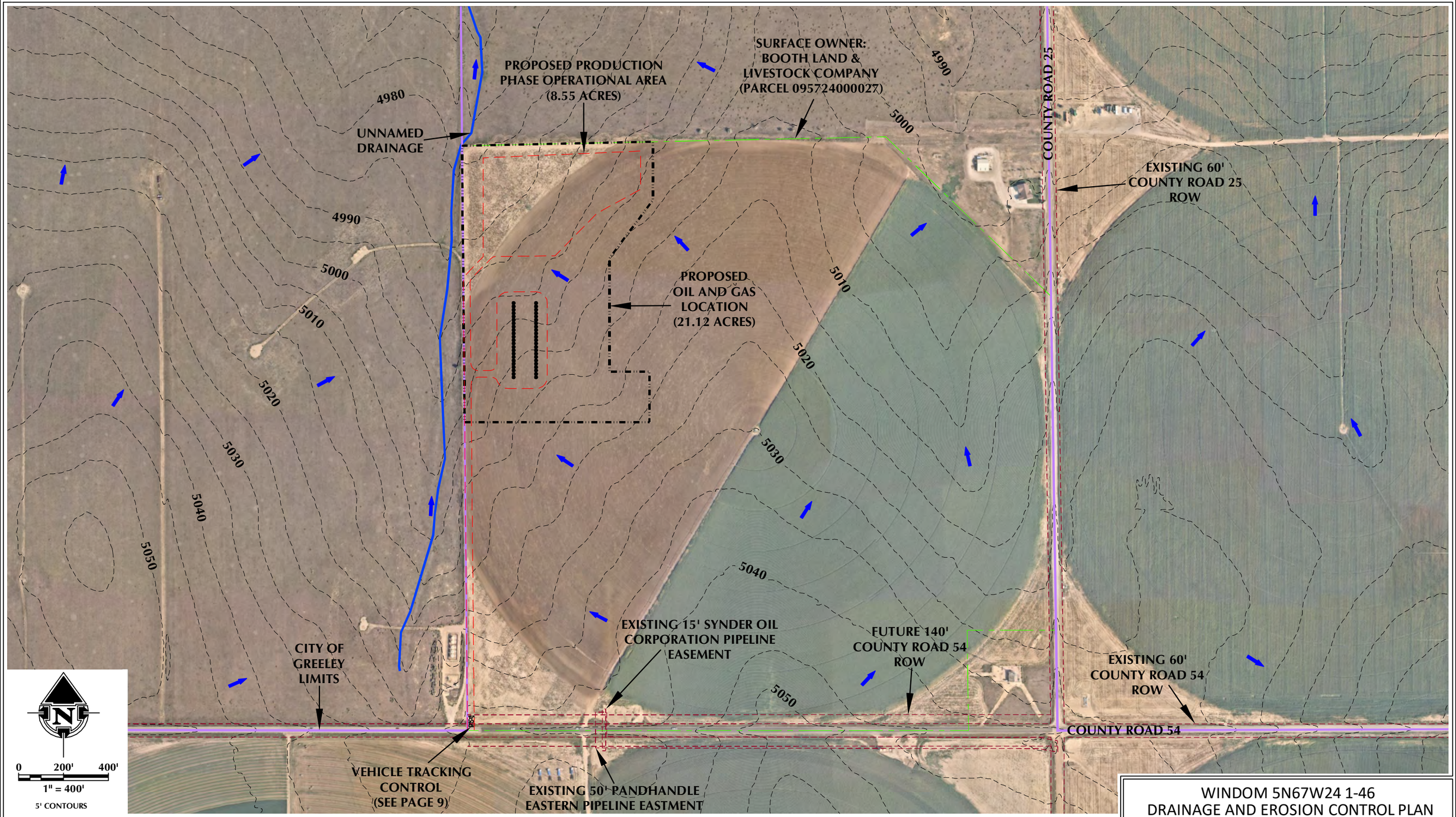
WINDOM 5N67W24 1-46
DRAINAGE AND EROSION CONTROL PLAN
COVER SHEET

SCALE:	VARIES	PAGE:	1 OF 10
JOB NUMBER:	18-55	DATE:	12/6/22
DRAFTED BY:	KMG	REVISED:	



N

0 200' 400'

1" = 400'

5' CONTOURS

LEGEND

- EXISTING CONTOUR
- EXISTING IRRIGATION DITCH/DRAINAGEWAY
- PROPOSED OIL AND GAS LOCATION
- PROPOSED ACCESS ROAD/PAD
- STORMWATER DRAINAGE
- EASEMENT/ROW

GENERAL NOTES:

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2. ELEVATIONS ARE BASED ON NAVD88 (GEOID18).

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WINDOM 5N67W24 1-46
DRAINAGE AND EROSION CONTROL PLAN
SITE OVERVIEW

SCALE:	1" = 400'	PAGE:	2 OF 10
JOB NUMBER:	18-55	DATE:	12/6/22
DRAFTED BY:	KMG	REVISED:	

K:\SYNERGY RESOURCES\2018\2018_55_WINDOM_OHOPPER_DSU_207_&_208_T5N_R67W_SEC_24\DRAINAGE STUDY\DWG - DRAINAGE PLAN\WINDOM_COMBINED.dwg, 12/6/2022 9:57:02 AM, katy

CULVERT ID	SIZE	LENGTH (FT)	ELEVATION (FT)		GRADE
			INLET INVERT	OUTLET INVERT	
PC1	One 12" CMP	35	5016.2	5015.9	0.9%
PC2	One 12" CMP	40	5001.8	5001.5	0.8%
PC3	Two 15" CMPs	35	5003.8	5003.4	1.1%

15' X 15' X 3' SEDIMENT TRAP #1 (ST1)

15' X 15' X 3' SEDIMENT TRAP #2 (ST2)

PROPOSED OIL AND GAS LOCATION (21.12 ACRES)

MLVT AREA
FLAT GRADED
ELEVATION = 5014.7'
FILL
CUT

SURFACE OWNER:
BOOTH LAND & LIVESTOCK COMPANY
(PARCEL 095724000027)

WINDOM 5N67W24 1-46 FACILITY

TOPSOIL STOCKPILE

TEMPORARY EQUIPMENT AREA

PROPOSED CULVERT #1 (PC1)

0.5% SLOPE

FILL CUT

WINDOM 5N67W24 1-46 WELL PAD

100-YEAR STORAGE ELEVATION 5000.2'

FACILITY SPILLWAY

FACILTY STORMWATER STORAGE (FSS) OUTLET PIPE

100-YEAR STORAGE ELEVATION 4982.0'

DETENTION BASIN AREA

0.25% SLOPE

TEMPORARY WELL PAD STORMWATER STORAGE (WPSS) OUTLET PIPE

PROPOSED CULVERT #2 (PC2)

PROPOSED CULVERT #3 (PC3)

15' X 15' X 3' SEDIMENT TRAP #3 (ST3)

TEMPORARY WELL PAD SPILLWAY

EXISTING DRAINAGE

4995 5000 5005 5010 5015 5020 5025 5030 4990 4985 4980

0 60' 120'
1" = 120'
1' CONTOURS

LEGEND

- EXISTING CONTOUR
- EXISTING ROAD
- STORMWATER DRAINAGE
- PROPOSED OIL AND GAS LOCATION
- PROPOSED CONTOUR
- PROPOSED ACCESS ROAD/PAD
- PROPOSED WELL
- PROPOSED STRAW WATTLE
- PROPOSED DIVERSION DITCH
- PROPOSED BERM / OFF-SITE FLOW DEFLECTION
- PROPOSED CULVERT PROTECTION / RIPRAP
- EROSION CONTROL BLANKET
- PROPOSED SEDIMENT TRAP WITH PROTECTED OUTLET
- PROPOSED SLOPE PROTECTION
- PROPOSED CAT-TRACKING
- 100-YEAR STORMWATER STORAGE FOOTPRINT

GENERAL NOTES:

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2. ELEVATIONS ARE BASED ON NAVD88 (GEOID18).
3. SLOPE PROTECTION, SUCH AS CAT-TRACKING, USED FOR TEMPORARY EROSION CONTROL ON CUT/FILL SLOPES AND SOIL STOCKPILES.

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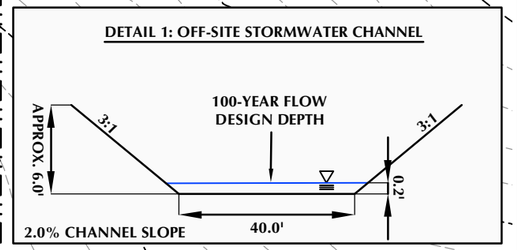
WINDOM 5N67W24 1-46
DRAINAGE AND EROSION CONTROL PLAN
CONSTRUCTION PHASE DRAINAGE PLAN

SCALE:	1" = 120'	PAGE:	3 OF 10
JOB NUMBER:	18-55	DATE:	12/6/22
DRAFTED BY:	KMG	REVISED:	

CULVERT ID	SIZE	LENGTH (FT)	ELEVATION (FT)		GRADE
			INLET INVERT	OUTLET INVERT	
PC4	Two 15" CMPs	35	4989.7	4988.3	4.0%
PC5	Two 15" CMPs	35	4999.9	4998.1	5.1%



SURFACE OWNER: BOOTH LAND & LIVESTOCK COMPANY (PARCEL 095724000027)

WINDOM 5N67W24 1-46 FACILITY

SEEDED TOPSOIL STOCKPILE (FOR FINAL REC)

PROPOSED OIL AND GAS LOCATION (21.12 ACRES)

OFF-SITE STORMWATER CHANNEL (SEE DETAIL 1)

FACILITY SPILLWAY

FACILTY STORMWATER STORAGE (FSS) OUTLET PIPE

100-YEAR STORAGE ELEVATION 4981.8'

DETENTION BASIN AREA

FILL CUT

WELL PAD STORMWATER STORAGE (WPSS) OUTLET PIPE

WINDOM 5N67W24 1-46 WELL PAD

100-YEAR STORAGE ELEVATION 5000.4'

DETENTION BASIN AREA

SEEDED TOPSOIL STOCKPILE (FOR FINAL REC)

PRODUCTION PHASE OPERATIONAL AREA (8.55 ACRES)

PROPOSED CULVERT #4 (PC4)

PROPOSED CULVERT #5 (PC5)

WELL PAD SPILLWAY

EXISTING DRAINAGE

0.5% SLOPE

4980 4985 4990 4995 5000 5005 5010 5015 5020 5030

0 60' 120'

1" = 120'

1' CONTOURS

LEGEND

- EXISTING CONTOUR
- EXISTING ROAD
- STORMWATER DRAINAGE
- PROPOSED OIL AND GAS LOCATION
- PROPOSED CONTOUR
- PROPOSED ACCESS ROAD/PAD
- PROPOSED WELL
- PROPOSED STRAW WATTLE
- PROPOSED BERM / OFF-SITE FLOW DEFLECTION
- PROPOSED CULVERT PROTECTION / RIPRAP
- EROSION CONTROL BLANKET
- PROPOSED PERMANENT SEEDING
- 100-YEAR STORMWATER STORAGE FOOTPRINT

GENERAL NOTES:

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2. ELEVATIONS ARE BASED ON NAVD88 (GEOID18).
3. RECLAIMED AREA WILL BE RE-SEEDED AND RE-VEGETATED.

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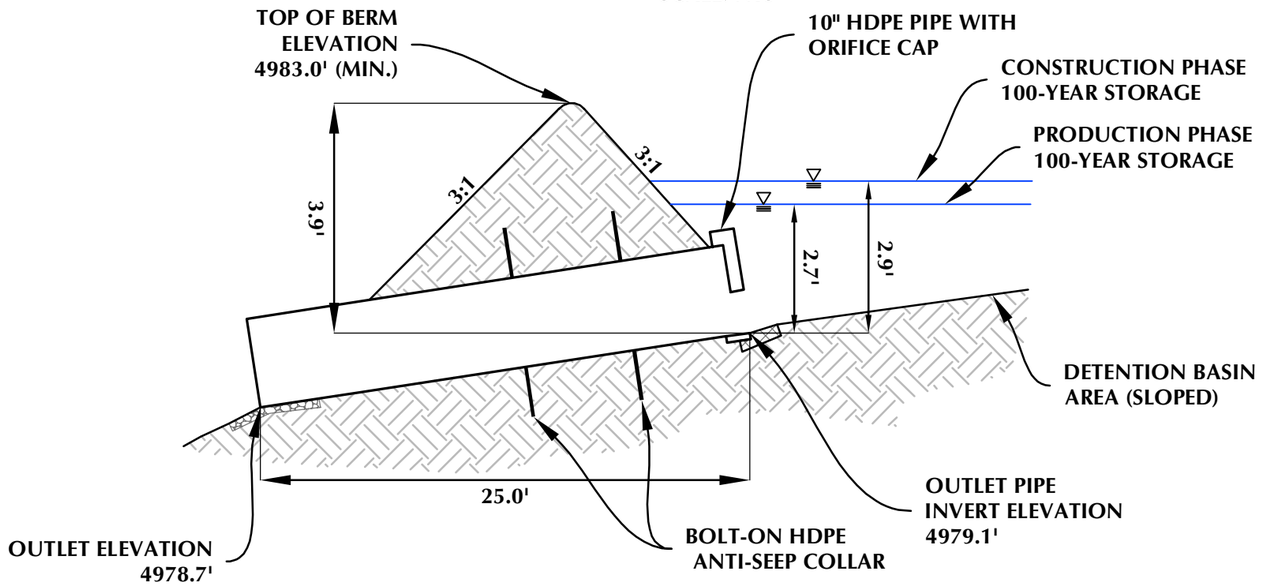
WINDOM 5N67W24 1-46
DRAINAGE AND EROSION CONTROL PLAN
PRODUCTION PHASE DRAINAGE PLAN

SCALE:	1" = 120'	PAGE:	4 OF 10
JOB NUMBER:	18-55	DATE:	12/6/22
DRAFTED BY:	KMG	REVISED:	

FACILITY STORMWATER STORAGE (FSS)

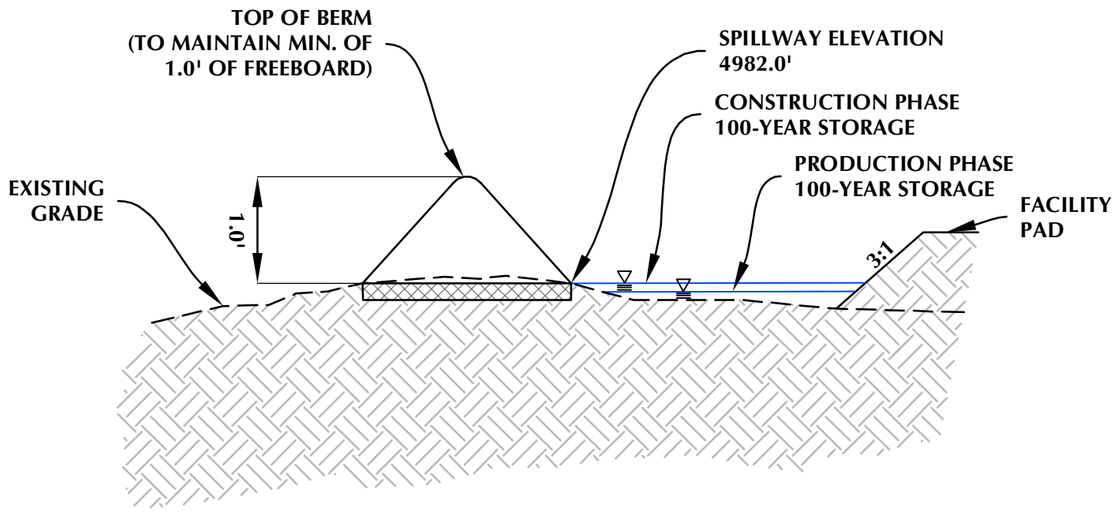
OUTLET PROFILE

SCALE: NTS



SPILLWAY PROFILE

SCALE: NTS



CONSTRUCTION PHASE OUTLET SECTION

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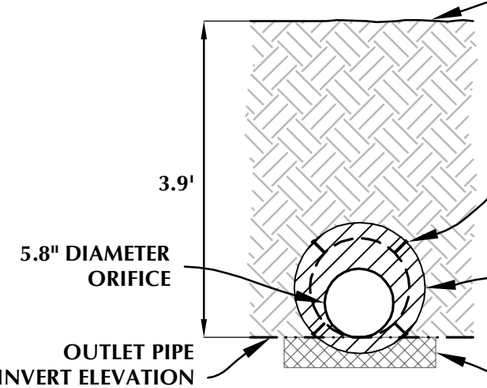

PRODUCTION PHASE OUTLET SECTION

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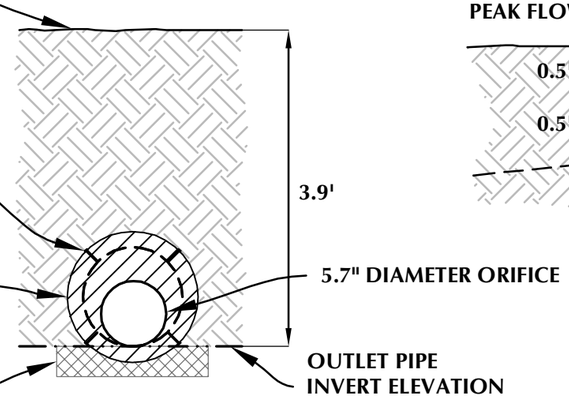

SPILLWAY SECTION

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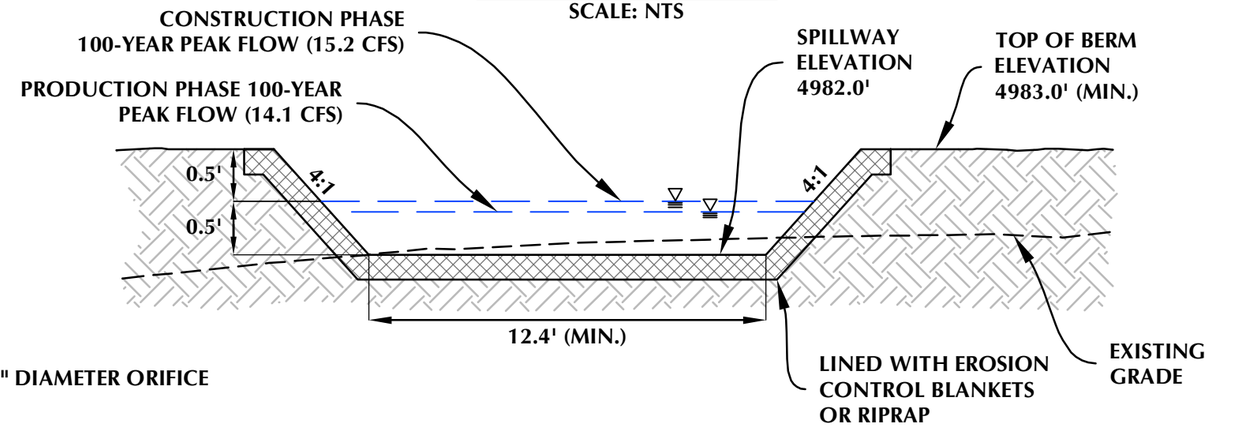

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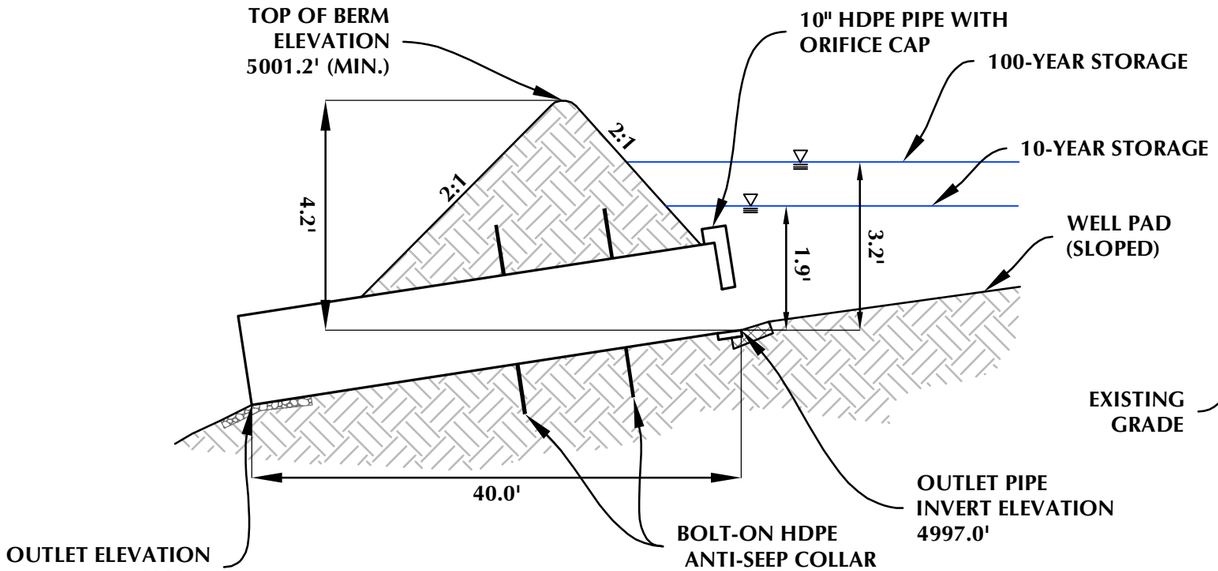
WINDOM 5N67W24 1-46
DRAINAGE AND EROSION CONTROL PLAN
FACILITY STORAGE

SCALE:	VARIES	PAGE:	5 OF 10
JOB NUMBER:	18-55	DATE:	12/6/22
DRAFTED BY:	KMG	REVISED:	

WELL PAD STORMWATER STORAGE (WPSS) - CONSTRUCTION PHASE

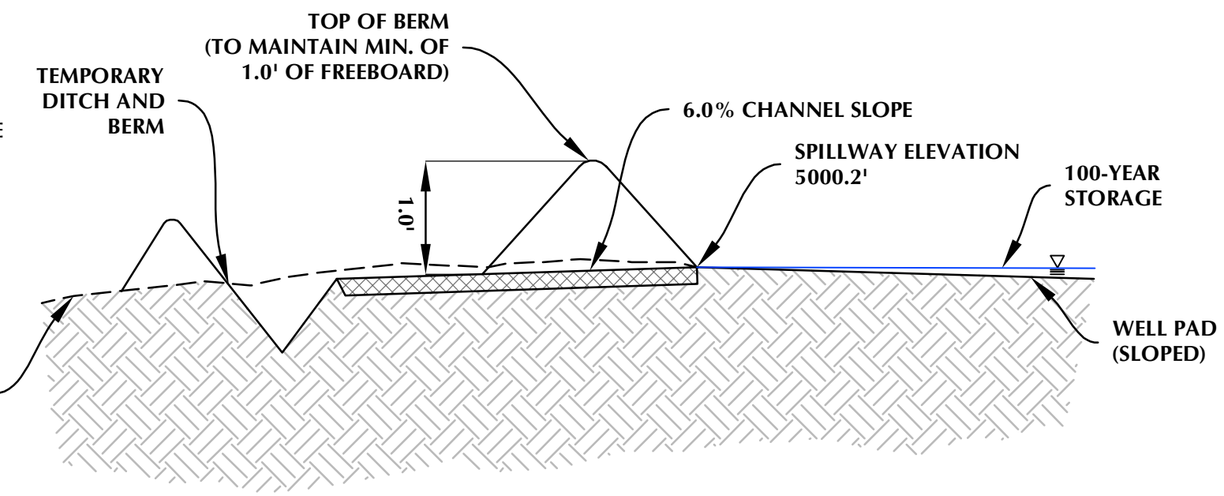
TEMPORARY OUTLET PROFILE

SCALE: NTS



TEMPORARY SPILLWAY PROFILE

SCALE: NTS



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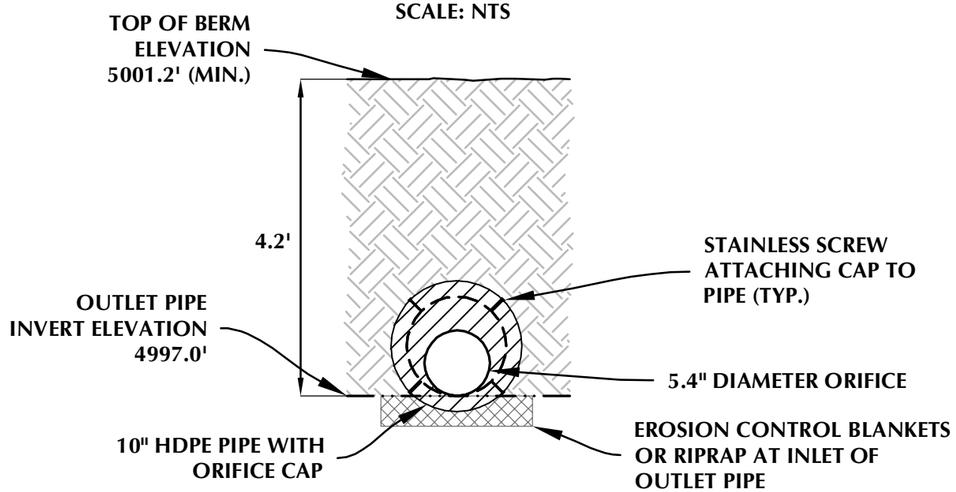

TEMPORARY SPILLWAY SECTION

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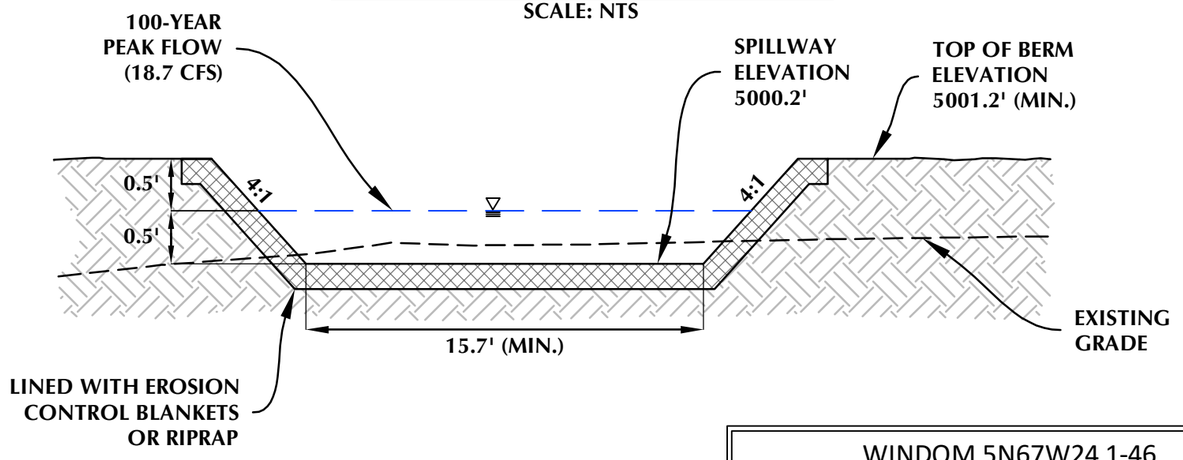

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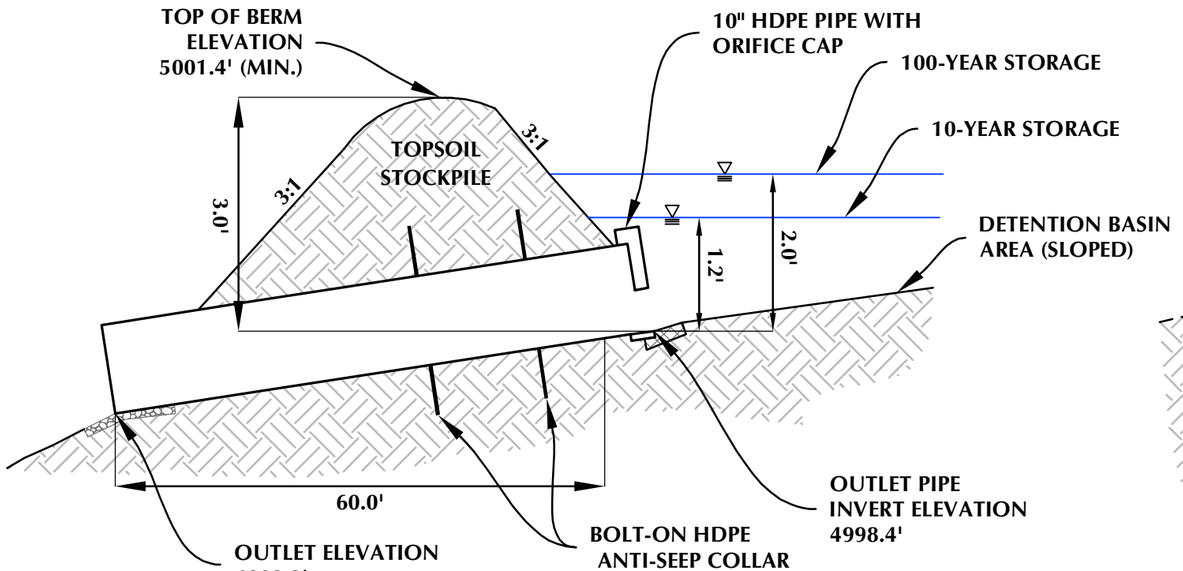
WINDOM 5N67W24 1-46
DRAINAGE AND EROSION CONTROL PLAN
WELL PAD STORAGE - CONSTRUCTION PHASE

SCALE:	VARIES	PAGE:	6 OF 10
JOB NUMBER:	18-55	DATE:	12/6/22
DRAFTED BY:	KMG	REVISED:	

WELL PAD STORMWATER STORAGE (WPSS) - PRODUCTION PHASE

OUTLET PROFILE

SCALE: NTS



SPILLWAY PROFILE

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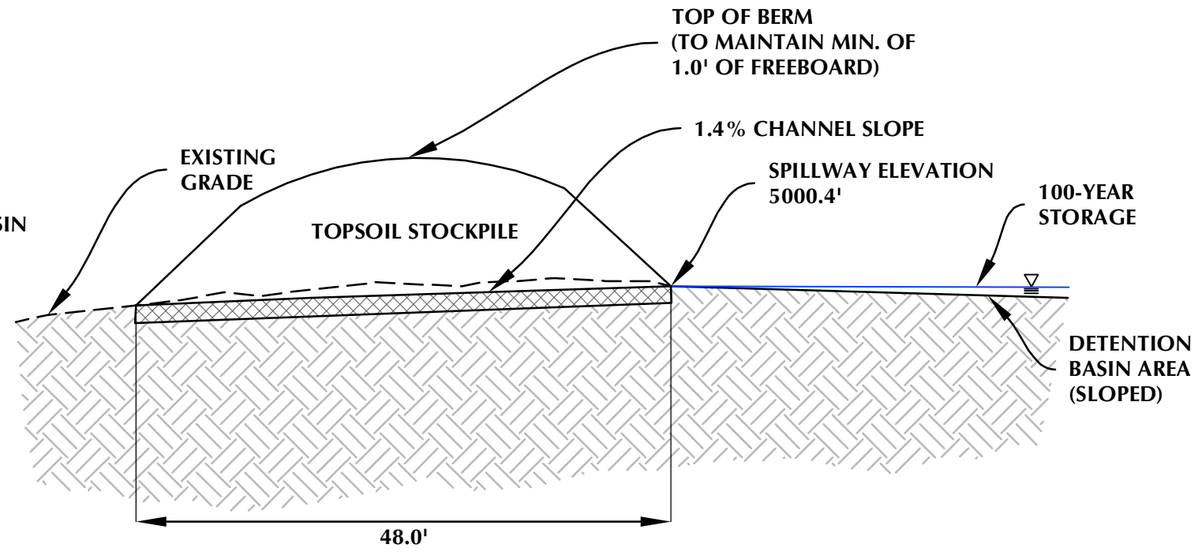

OUTLET SECTION

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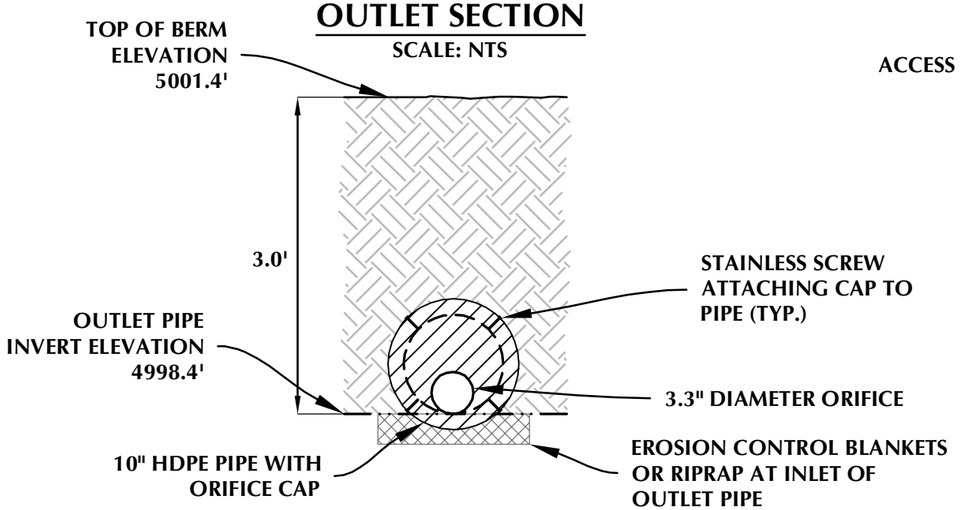

SPILLWAY SECTION

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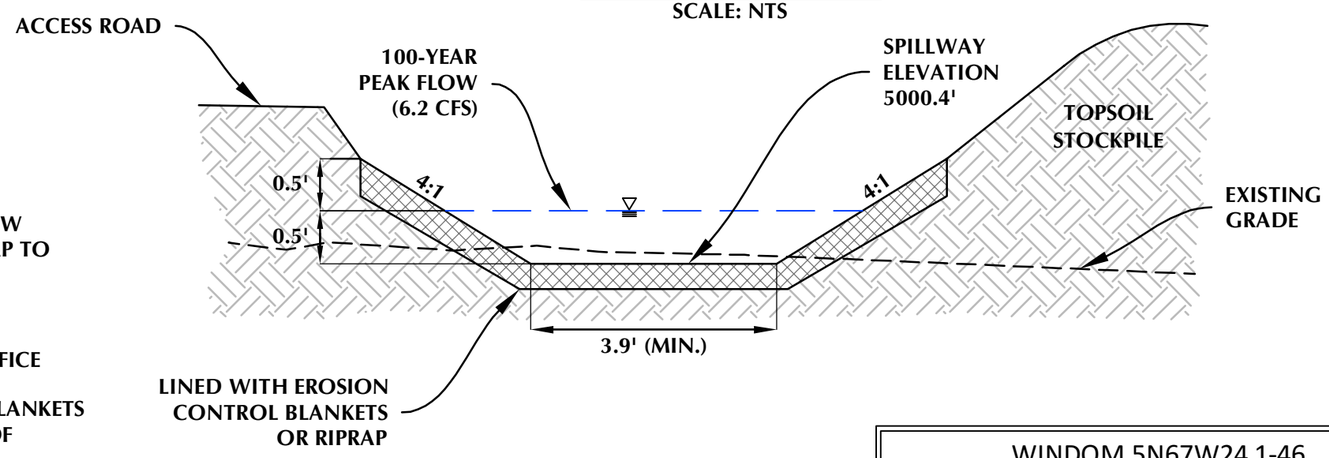

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DRAINAGE AND EROSION CONTROL PLAN
WELL PAD STORAGE - PRODUCTION PHASE

SCALE:	VARIES	PAGE:	7 OF 10
JOB NUMBER:	18-55	DATE:	12/6/22
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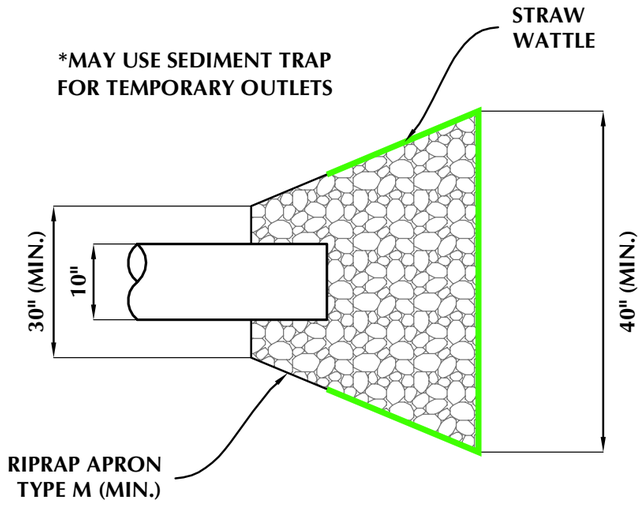
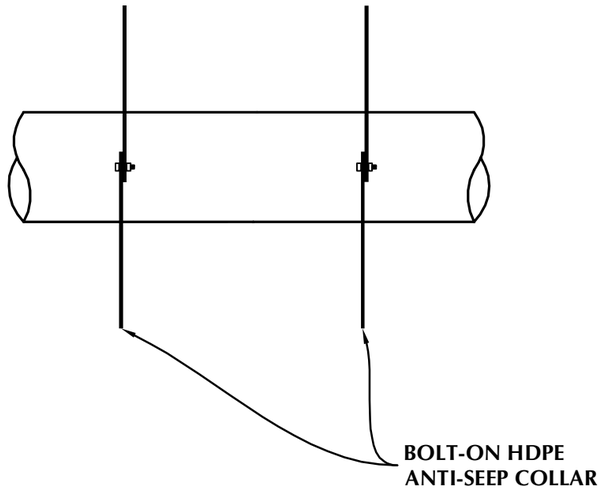
OUTLET PROTECTION

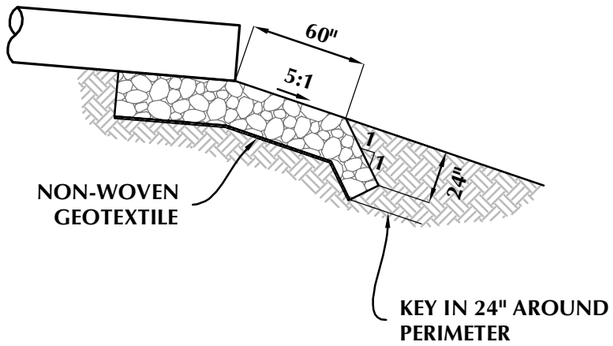
SCALE: NTS

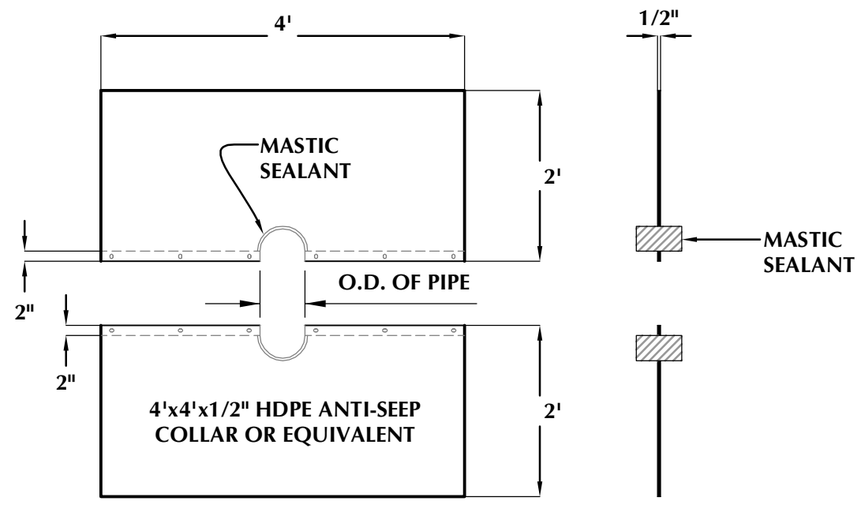


ANTI-SEEP COLLAR

SCALE: NTS







GENERAL NOTES:

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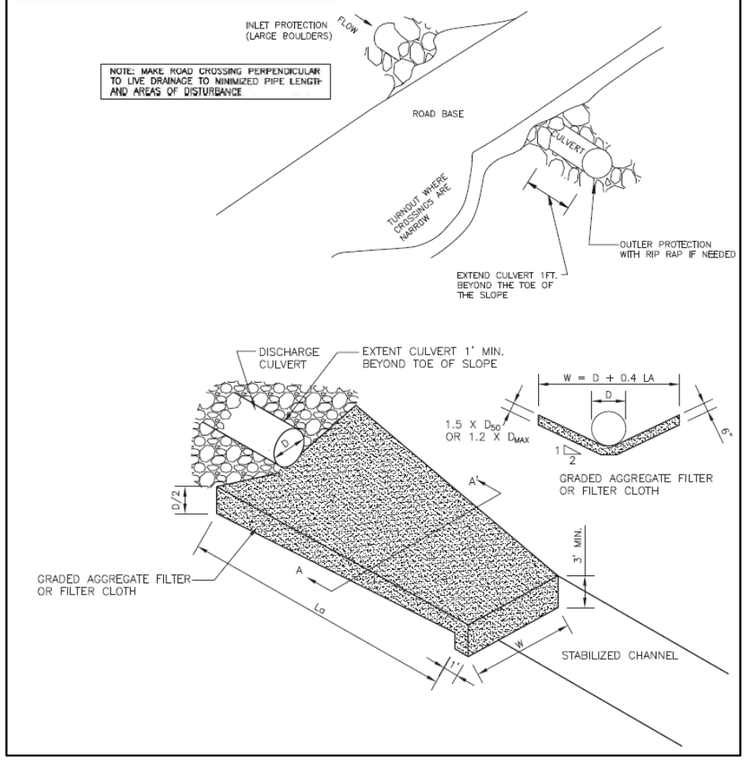
Evans, Colorado 80620

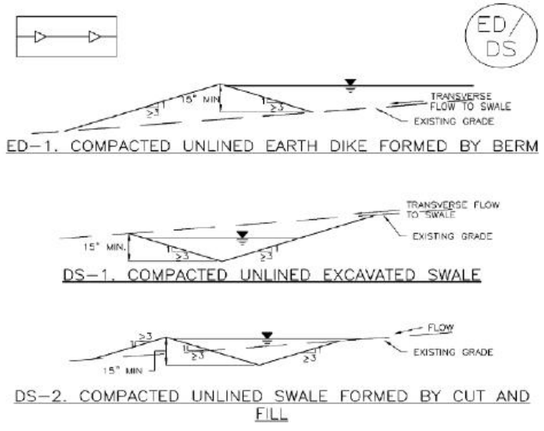
WINDOM 5N67W24 1-46
DRAINAGE AND EROSION CONTROL PLAN
OUTLET DETAILS

SCALE:	VARIES	PAGE:	8 OF 10
JOB NUMBER:	18-55	DATE:	12/6/22
DRAFTED BY:	KMG	REVISED:	

CULVERT



Off-site Stormwater Diversion Ditch Design



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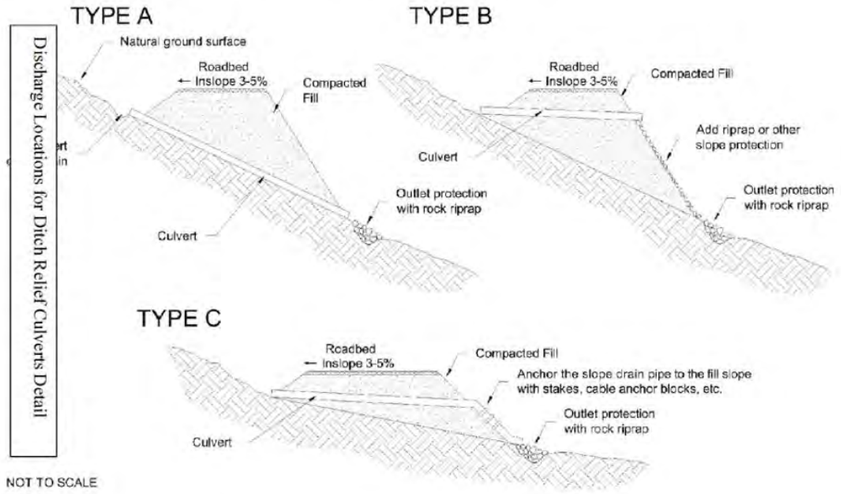
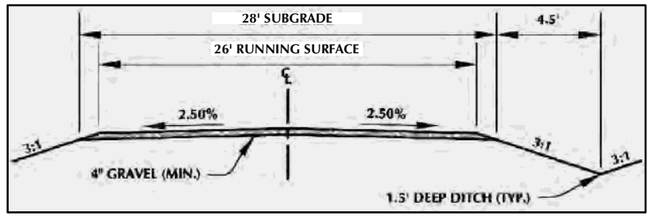
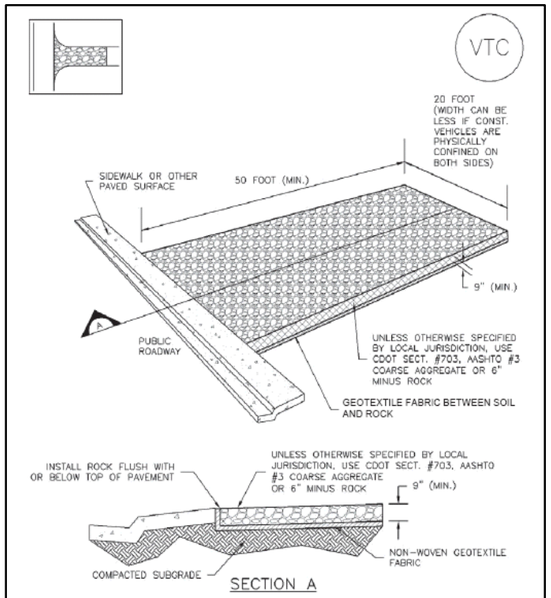




CROSS-SECTION
NTS



VTC - 1. AGGREGATE VEHICLE TRACKING CONTROL

Temporary and Permanent Seeding (TS/PS)

TS/PS

Table TS/PS-1. Minimum Drill Seeding Rates for Various Temporary Annual Grasses

Species[a] (Common name)	Growth Season[b]	Pounds of Pure Live Seed (PLS)/acre[c]	Planting Depth (inches)
1. Oats	Cool	35 - 50	1 - 2
2. Spring wheat	Cool	25 - 35	1 - 2
3. Spring barley	Cool	25 - 35	1 - 2
4. Annual ryegrass	Cool	10 - 15	½
5. Millet	Warm	3 - 15	½ - ¾
6. Sudangrass	Warm	5–10	½ - ¾
7. Sorghum	Warm	5–10	½ - ¾
8. Winter wheat	Cool	20–35	1 - 2
9. Winter barley	Cool	20–35	1 - 2
10. Winter rye	Cool	20–35	1 - 2
11. Triticale	Cool	25–40	1 - 2

[a] Successful seeding of annual grass resulting in adequate plant growth will usually produce enough dead-plant residue to provide protection from wind and water erosion for an additional year. This assumes that the cover is not disturbed or mowed closer than 8 inches.

Hydraulic seeding may be substituted for drilling only where slopes are steeper than 3:1 or where access limitations exist. When hydraulic seeding is used, hydraulic mulching should be applied as a separate operation, when practical, to prevent the seeds from being encapsulated in the mulch.

[b] Irrigation, if consistently applied, may extend the use of cool season species during the summer months.

[c] Seeding rates should be doubled if seed is broadcast, or increased by 50 percent if done using a Brillion Drill or by hydraulic seeding.

GENERAL NOTES:

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WINDOM 5N67W24 1-46
DRAINAGE AND EROSION CONTROL PLAN
BMP TYPICALS (A)

SCALE:	VARIES	PAGE:	9 OF 10
JOB NUMBER:	18-55	DATE:	12/6/22
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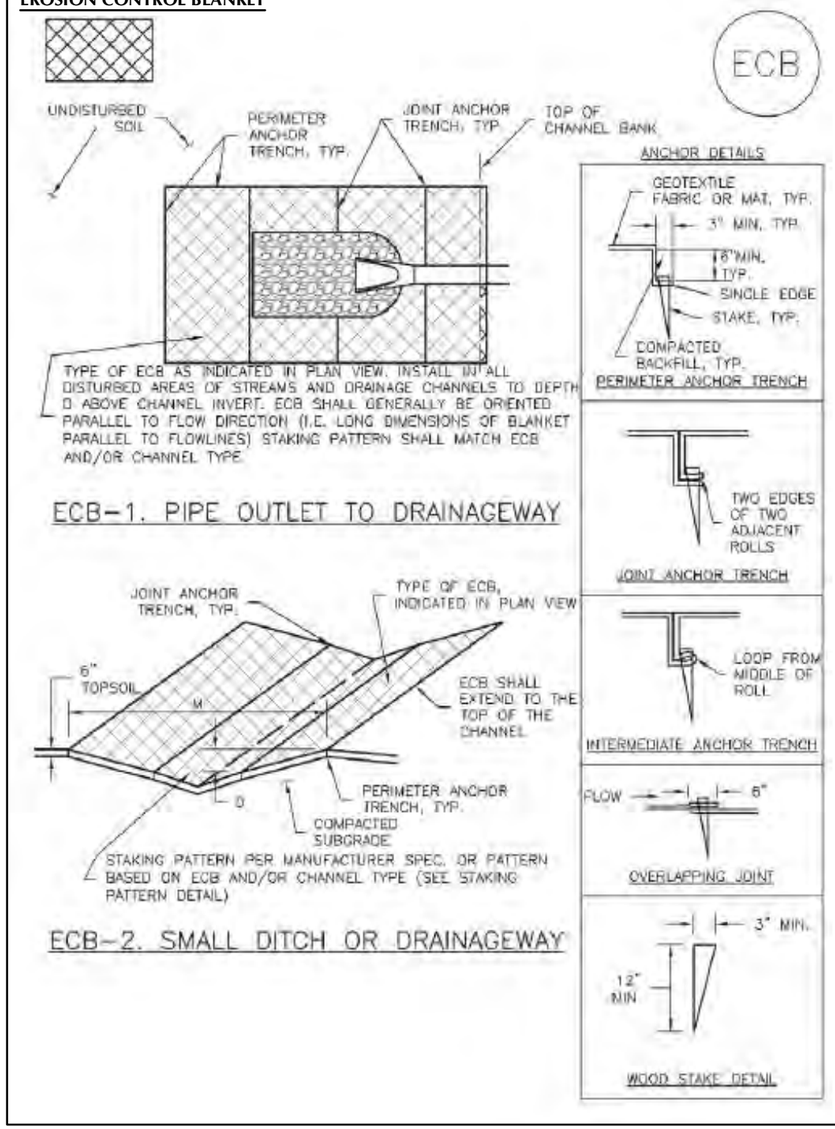
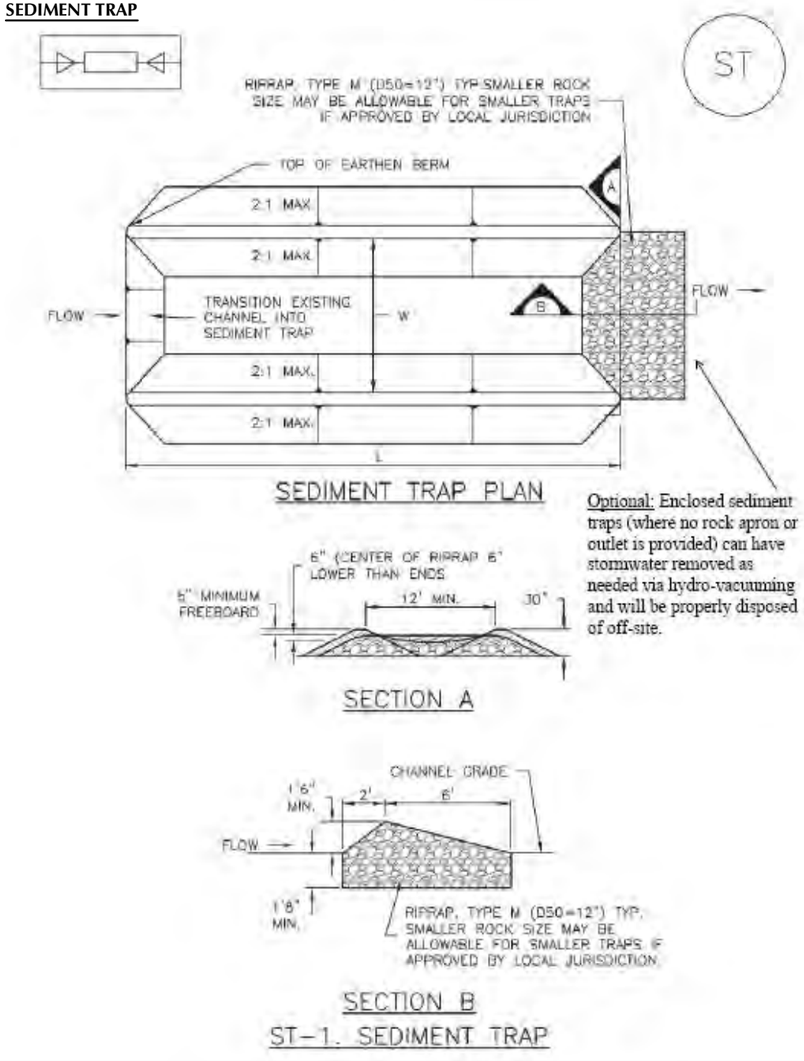
EROSION CONTROL BLANKET



SEDIMENT TRAP



Optional: Enclosed sediment traps (where no rock apron or outlet is provided) can have stormwater removed as needed via hydro-vacuuming and will be properly disposed of off-site.

GENERAL NOTES:

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WINDOM 5N67W24 1-46
DRAINAGE AND EROSION CONTROL PLAN
BMP TYPICALS (B)

SCALE:	VARIES	PAGE:	10 OF 10
JOB NUMBER:	18-55	DATE:	12/6/22
DRAFTED BY:	KMG	REVISED:	

PDC ENERGY

Stormwater Management Plan
Soils Map

WINDOM 5N67W24 1-46

Prepared by:

Date: 3/8/2023

0 0.2 0.4

Miles

1:12,000

Construction Boundary

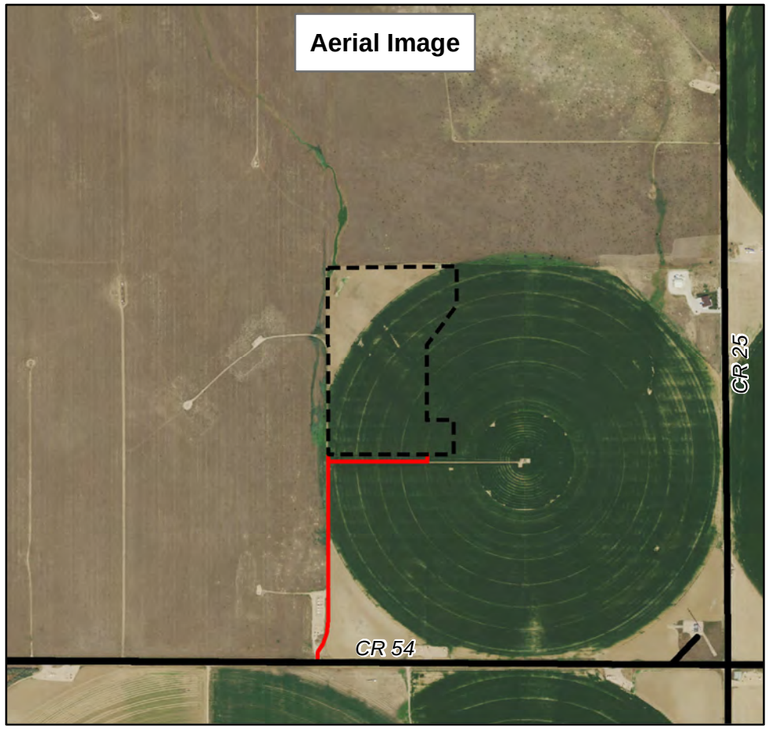
Map Unit Name

- Colby loam, 1 to 3 percent slopes | 95192
- Colby-Adena loams, 3 to 9 percent slopes | 95195
- Kim loam, 3 to 5 percent slopes | 95212
- Olney fine sandy loam, 1 to 3 percent slopes | 95227
- Olney fine sandy loam, 3 to 5 percent slopes | 95228
- Otero sandy loam, 5 to 9 percent slopes | 95234
- Thedalund loam, 1 to 3 percent slopes | 95246
- Vona sandy loam, 1 to 3 percent slopes | 95259
- Weld loam, 1 to 3 percent slopes | 95262
- Weld loam, 3 to 5 percent slopes | 95264

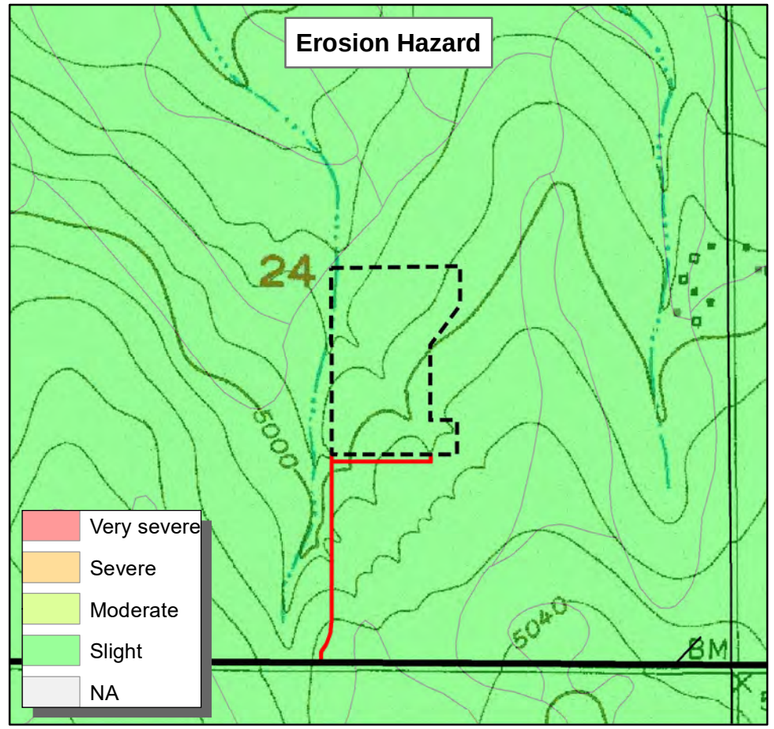
K Factor Value Groupings (Approximate):

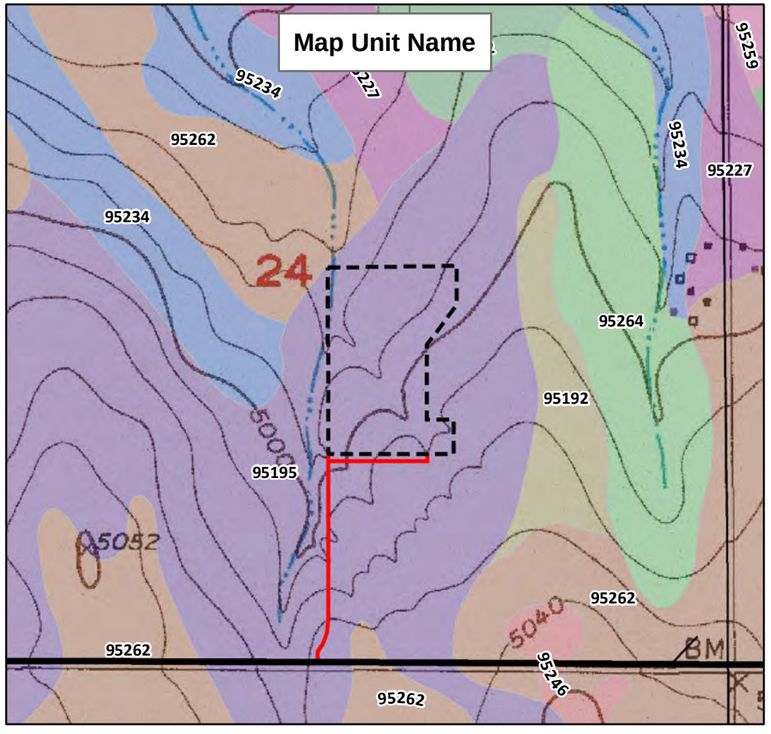
Low susceptibility to erosion/runoff: ≤ 0.2
Moderate susceptibility to erosion/runoff: > 0.2 - 0.4
High susceptibility to erosion/runoff: > 0.4

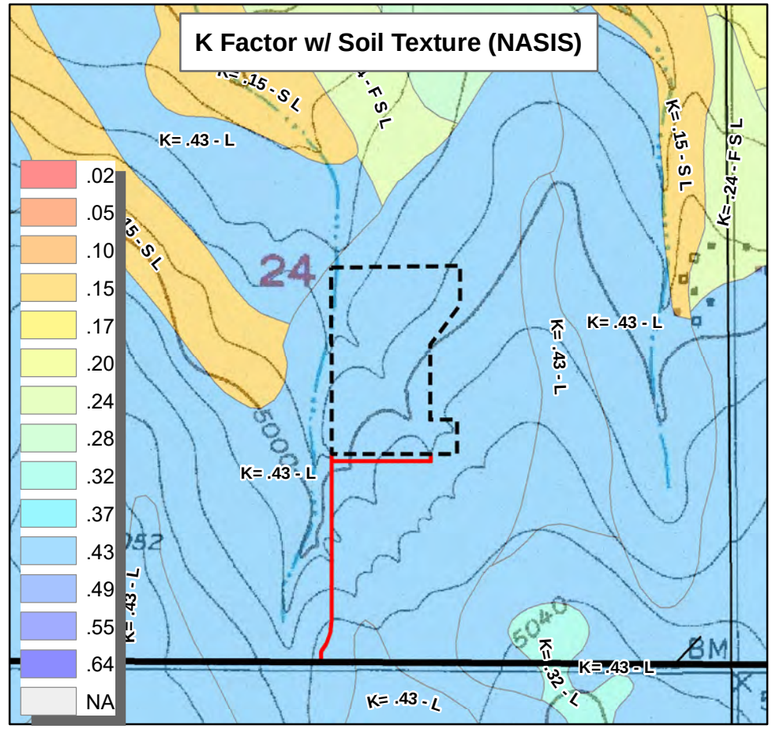
Document Name: PDC_Soils_V8 User Name: nwilson



All data is from the NRCS soil surveys and is useful for overview purposes only. Onsite verifications are required to confirm accuracy when used for planning.







PDC ENERGY

Stormwater Management Plan Land Use Map

WINDOM 5N67W24 1-46

N W E S

0 850 1,700

Feet

Scale: 1:7,760

Prepared by:

Editor: nwilson

Date: 3/8/2023

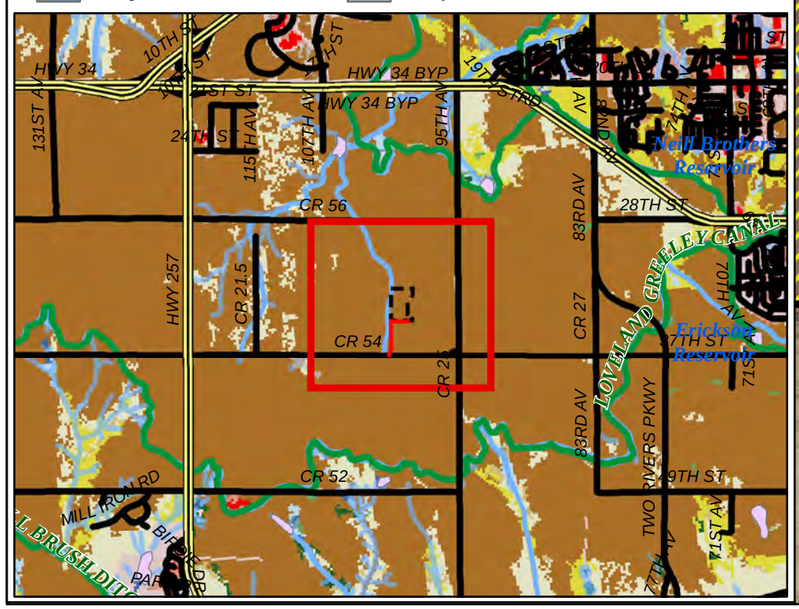
File: PDC_Land_Use_V1

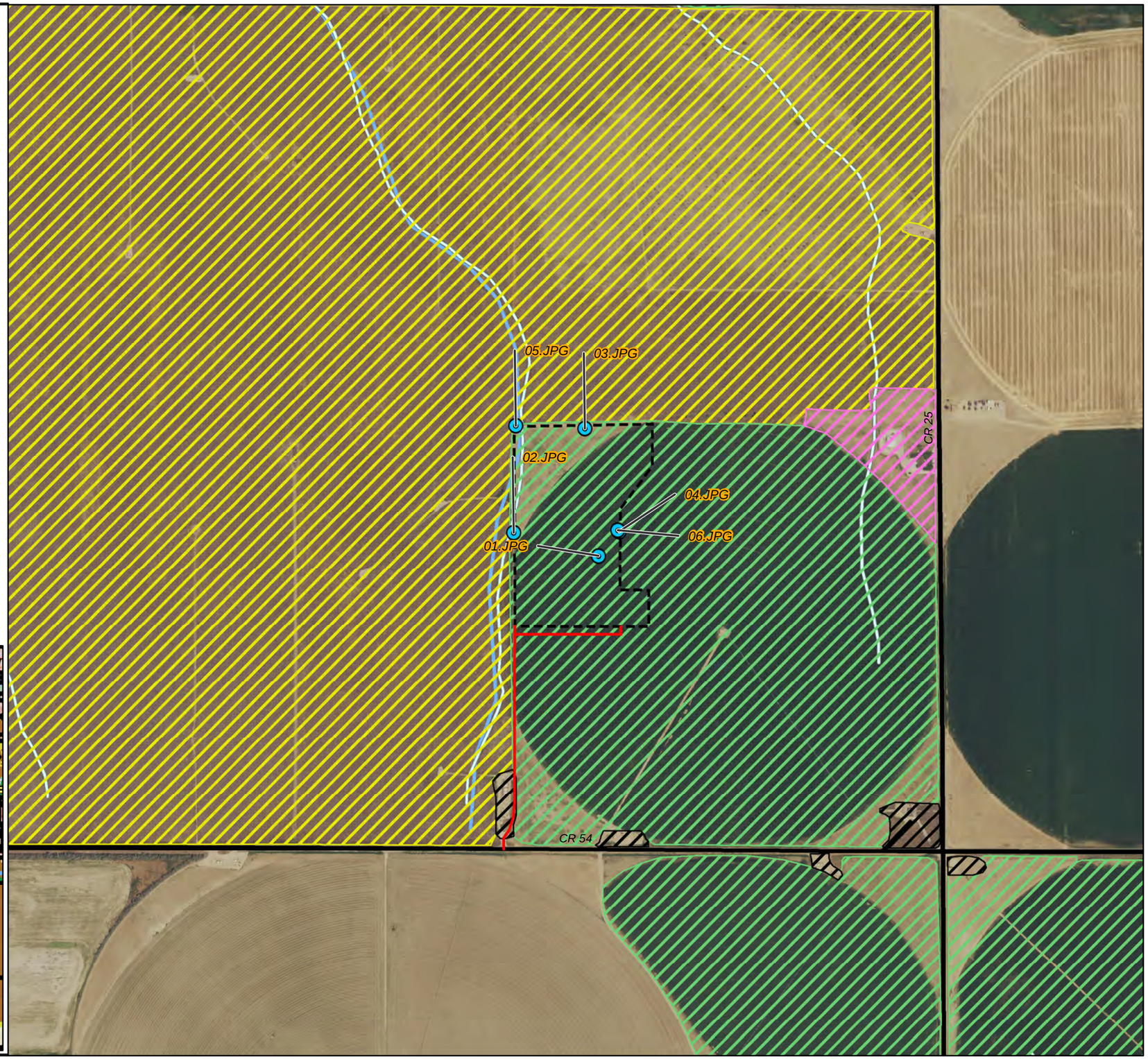
Main Map (H2E Gathered Data)

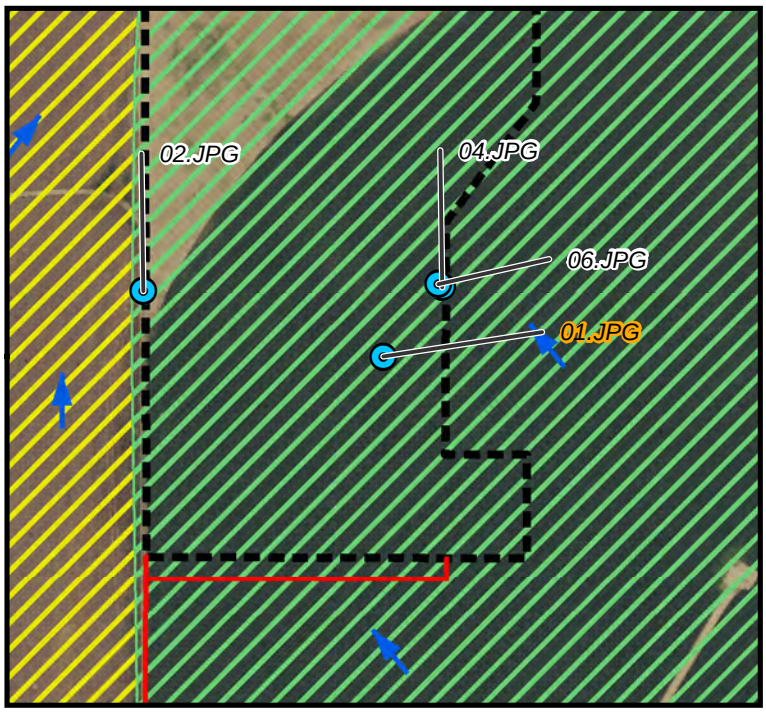
- Photo Point
- Road - Access Road
- Construction Boundary
- Cropland
- Disturbed Grassland
- Industrial
- Residential
- CO HIGHWAYS
- MAJOR_ROADS
- Weld Local
- Waterway
- Riverine

Inset Map (National Land Cover Data)

- Barren Land
- Cultivated Crops
- Deciduous Forest
- Developed, High Intensity
- Developed, Low Intensity
- Developed, Medium Intensity
- Developed, Open Space
- Emergent Herbaceuous Wetlands
- Evergreen Forest
- Hay/Pasture
- Herbaceuous
- Mixed Forest
- Open Water
- Perennial Snow/Ice
- Shrub/Scrub
- Woody Wetlands







PDC ENERGY

Stormwater Management Plan Map

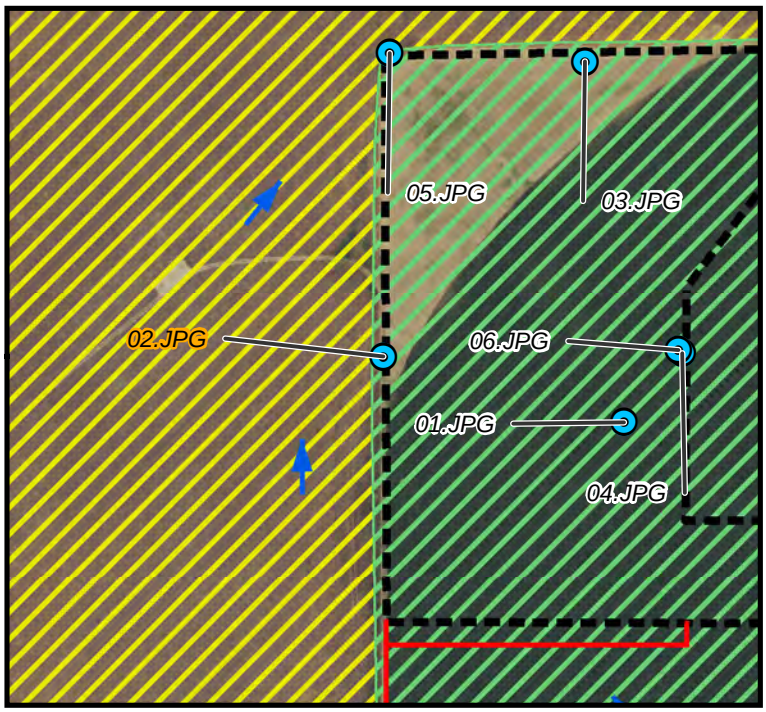
WINDOM 5N67W24 1-46

01.JPG

D_WGS_1984: 40.382780 -104.839700

- Photo Point
- Flow
- Access Road
- Construction Boundary
- Cropland
- Disturbed Grassland

Photo taken facing north across the future construction and irrigated agricultural field at the center of the expected construction boundary.



PDC ENERGY

Stormwater Management Plan Map

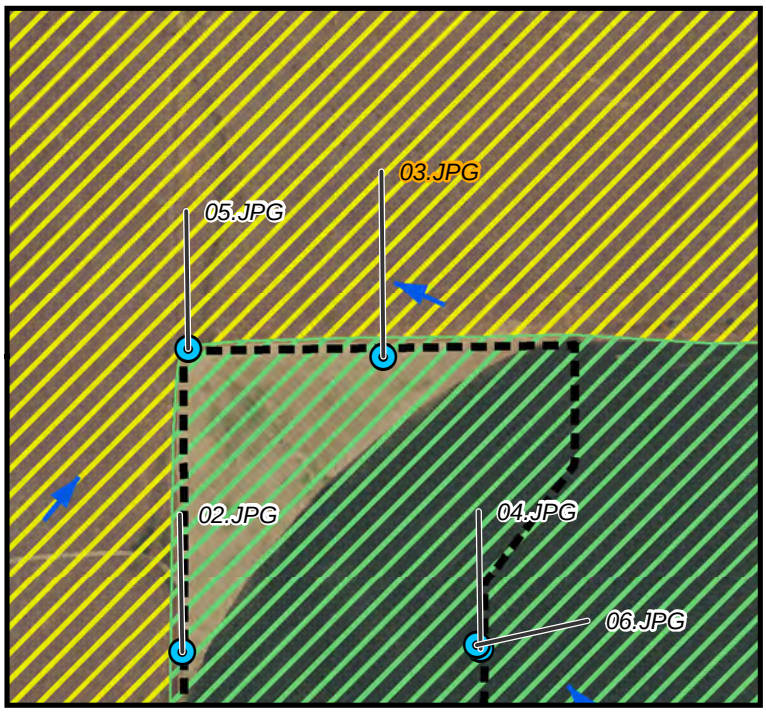
WINDOM 5N67W24 1-46

02.JPG

D_WGS_1984: 40.383170 -104.841600

- Photo Point
- Flow
- Access Road
- Construction Boundary
- Cropland
- Disturbed Grassland

Photo taken facing east across the future construction and agricultural field at the western edge of the expected construction boundary. In the foreground, an fallow agricultural quadrant is shown. In the background, a freshly tilled and irrigated agricultural field can been seen.



PDC ENERGY

Stormwater Management Plan Map

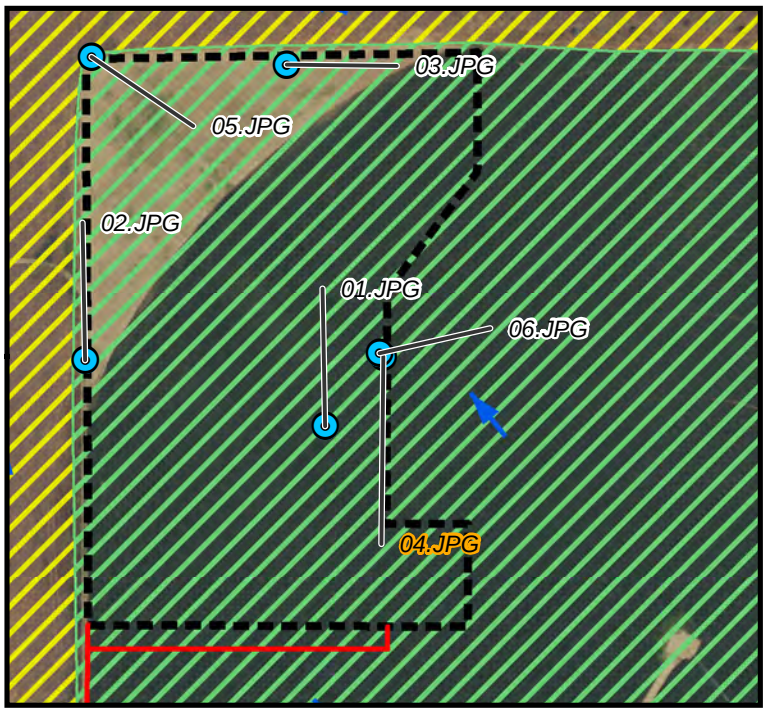
WINDOM 5N67W24 1-46

03.JPG

D_WGS_1984: 40.384930 -104.840000

- Photo Point
- Flow
- Construction Boundary
- Cropland
- Disturbed Grassland

Photo taken facing south across the future construction and agricultural field at the northern edge of the expected construction boundary. In the foreground, an fallow agricultural quadrant is shown. In the background, a freshly tilled and irrigated agricultural field can been seen.



PDC ENERGY

Stormwater Management Plan Map

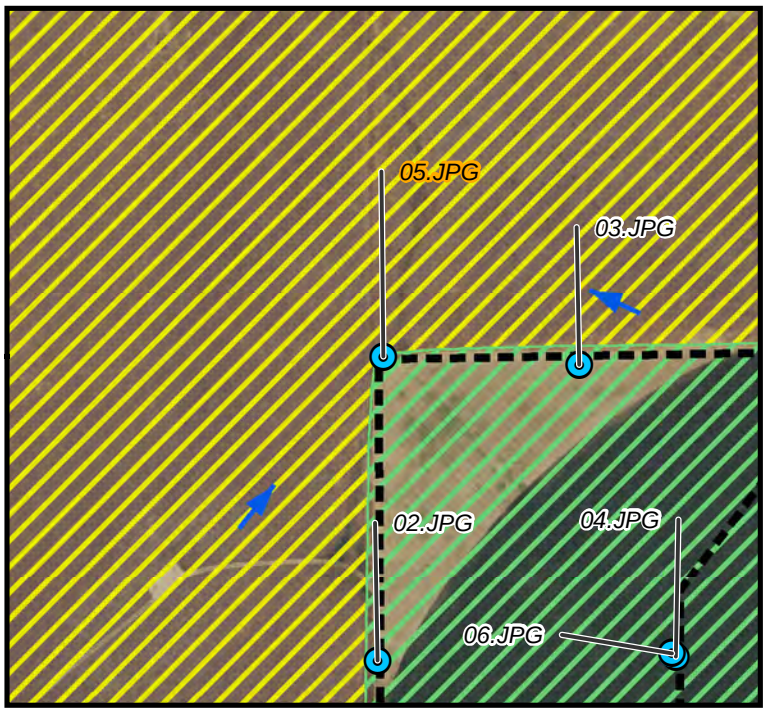
WINDOM 5N67W24 1-46

04.JPG

D_WGS_1984: 40.383190 -104.839200

- Photo Point
- Flow
- Access Road
- Construction Boundary
- Cropland
- Disturbed Grassland

Photo taken facing west across the future construction and tilled, seeded and irrigated agricultural field at the eastern edge of the expected construction boundary.



PDC ENERGY

Stormwater Management Plan Map

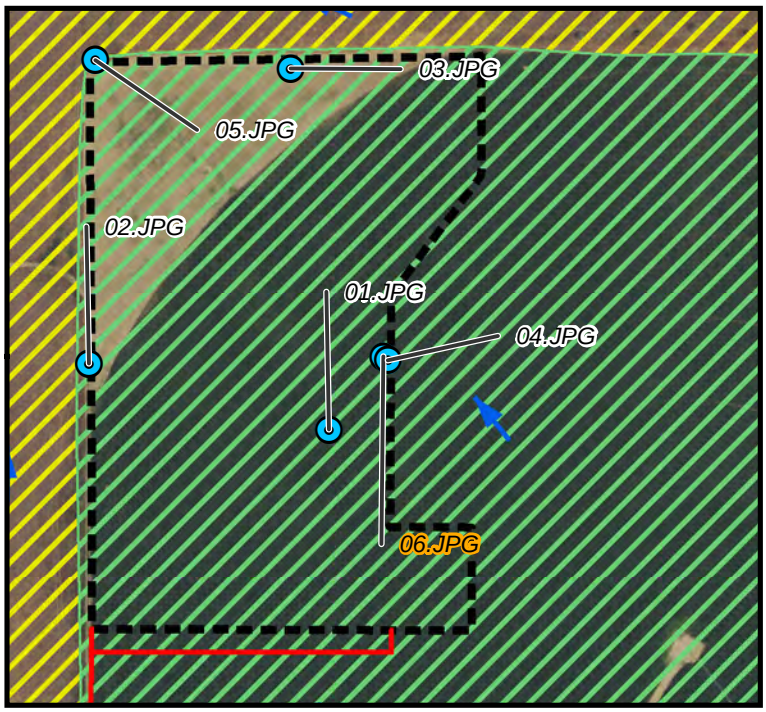
WINDOM 5N67W24 1-46

05.JPG

D_WGS_1984: 40.384980 -104.841500

- Photo Point
- Flow
- Construction Boundary
- Cropland
- Disturbed Grassland

Photo taken facing southeast across the future construction and agricultural field at the northwestern corner of the expected construction boundary. In the foreground, a fallow agricultural quadrant is shown. In the background, a freshly tilled and irrigated agricultural field can been seen.



PDC ENERGY

Stormwater Management Plan Map

WINDOM 5N67W24 1-46

06.JPG

D_WGS_1984: 40.383210 -104.839300

- Photo Point
- Flow
- Access Road
- Construction Boundary
- Cropland
- Disturbed Grassland

Photo taken facing south across the future construction and tilled, seeded and irrigated agricultural field at the western edge of the expected construction boundary.

Appendix B – Soils Reports

Weld County, Colorado, Southern Part

18—Colby-Adena loams, 3 to 9 percent slopes

Map Unit Setting

National map unit symbol: 361t
Elevation: 4,750 to 4,900 feet
Mean annual precipitation: 12 to 16 inches
Mean annual air temperature: 48 to 55 degrees F
Frost-free period: 120 to 160 days
Farmland classification: Not prime farmland

Map Unit Composition

Colby and similar soils: 55 percent
Adena and similar soils: 30 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Colby

Setting

Landform: Ridges, hills, plains
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Calcareous eolian deposits

Typical profile

H1 - 0 to 7 inches: loam
H2 - 7 to 60 inches: silt loam

Properties and qualities

Slope: 5 to 9 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Runoff class: Medium
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.57 to 2.00 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 15 percent
Available water supply, 0 to 60 inches: High (about 10.6 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 4e
Hydrologic Soil Group: B
Ecological site: R067BY008CO - Loamy Slopes
Hydric soil rating: No

Description of Adena

Setting

Landform: Hills, plains, ridges
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Calcareous eolian deposits

Typical profile

H1 - 0 to 6 inches: loam
H2 - 6 to 9 inches: clay loam
H3 - 9 to 60 inches: silt loam

Properties and qualities

Slope: 3 to 7 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Runoff class: Medium
Capacity of the most limiting layer to transmit water (Ksat): Moderately high (0.20 to 0.60 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 15 percent
Available water supply, 0 to 60 inches: High (about 10.1 inches)

Interpretive groups

Land capability classification (irrigated): 3e
Land capability classification (nonirrigated): 4e
Hydrologic Soil Group: C
Ecological site: R067BY002CO - Loamy Plains
Hydric soil rating: No

Minor Components

Kim

Percent of map unit: 5 percent
Hydric soil rating: No

Keith

Percent of map unit: 4 percent
Hydric soil rating: No

Weld

Percent of map unit: 3 percent
Hydric soil rating: No

Wiley

Percent of map unit: 3 percent

Hydric soil rating: No

Data Source Information

Soil Survey Area: Weld County, Colorado, Southern Part
Survey Area Data: Version 20, Aug 31, 2021