



**Kerr-McGee Oil & Gas Onshore LP**

**Stormwater Management Plan**

**Paul Nelson 25-29HZ Well Pad and Facility  
SEC. 29, T5N, R67W**

**Weld County, Colorado**

**November 2021**

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## 1.0 INTRODUCTION

Kerr-McGee Oil & Gas Onshore LP (Kerr-McGee) has prepared this site-specific Stormwater Management Plan (SWMP) for construction activities in Weld, Colorado. The SWMP is intended to ensure construction activities adhere to good engineering, hydrologic, and pollution control practices, and to ensure erosion, sediment and stormwater control measures are selected, installed, implemented, and maintained to protect state waters, and minimize site erosion or degradation. This facility is a part of Kerr-McGee's Area 1 operations and is covered under CDPS Permit COR402542.

## 2.0 SITE DESCRIPTION

Operator / ID	Kerr-McGee Oil & Gas Onshore LP
Project / Site Name:	Paul Nelson 25-29HZ Well Pad and Facility
Location:	Sec. 29, T5N, R67W, Weld County, Colorado
Total Area of Project:	16.3 acres
Description of Existing Vegetation:	Existing vegetation on the location is alfalfa, land use is agriculture.
Percentage of Existing Vegetation Cover:	Percentage of existing vegetation cover on the location is 100%, with exception to seasonal planting/harvest and crop rotation.  Method for determination: National Resource Conservation Service (NRCS) soil survey data, and on-site assessment at the time of pit excavation for planning and permitting purposes.
Soil Type(s):	31 – Lim loam, 0-1% slopes, HSG: A 54 – Paili loam, 0-1% slopes, HSG: B
Primary Receiving Water:	Big Thompson River, 0.25 miles generally south of the location.
Operator ID:	47120
CDPS Permit:	COR402542
Stormwater Manager:	Lynna Scranton, HSE Manager Occidental Petroleum Corporation Office: (720) 929-6317
SWMP Administrator & Inspector:	Austin Lee, HSE Advisor Occidental Petroleum Corporation Cell: (970) 515-1058
Emergency Contact:	Integrated Operation Center (IOC) Office: (970) 506-5980

### 3.0 PROPOSED SEQUENCE OF MAJOR ACTIVITIES

<input checked="" type="checkbox"/> Delineation of Disturbance Limits	<input checked="" type="checkbox"/> Access Road Construction	<input checked="" type="checkbox"/> Perimeter /Control Measures Installation	<input checked="" type="checkbox"/> Grading, stripping, excavation, earthwork	<input checked="" type="checkbox"/> Well drilling & Completions
<input checked="" type="checkbox"/> Facility Construction	<input checked="" type="checkbox"/> Pipeline & Flowline Installation	<input checked="" type="checkbox"/> Disturbance Reduction	<input checked="" type="checkbox"/> Interim & Final Reclamation	<input checked="" type="checkbox"/> Return to Agriculture

All construction and development shall be in accordance with the Colorado Department of Public Health and Environment's CDPS General Permit for Stormwater Discharges Associated with Construction Activity, and the Colorado Oil and Gas Conservation Commission (COGCC) 304.c.15 and 1002.f rules and requirements.

### 4.0 POTENTIAL POLLUTANT SOURCES

Potential pollution sources shall be placed within the project construction boundary, designated staging area(s), working surface, contained by general or sized secondary containment, and stormwater perimeter controls. Anticipated pollution sources which will be managed by appropriate BMP fact sheets or operational best management standard operating procedures include, but are not limited to:

- |   |   |  |
|---|---|--|
| <input checked="" type="checkbox"/> Disturbed and stored soils    | <input checked="" type="checkbox"/> Vehicle/equipment maintenance and fueling | <input type="checkbox"/> Non-industrial waste          |
| <input checked="" type="checkbox"/> Vehicle tracking of sediments | <input checked="" type="checkbox"/> Dust generating processes                 | <input checked="" type="checkbox"/> Potential Spills   |
| <input type="checkbox"/> Management of contaminated soils         | <input checked="" type="checkbox"/> Routine maintenance activities            | <input type="checkbox"/> Spill prevention and response |
| <input checked="" type="checkbox"/> Loading/unloading ops         | <input checked="" type="checkbox"/> On-site waste management                  |  |
| <input checked="" type="checkbox"/> Outdoor storage activities    | <input type="checkbox"/> Concrete truck washing                               |  |

No dedicated concrete or asphalt batch plants will be at the project location. Safety Data Sheets (SDS) for materials to be used are maintained by Kerr-McGee. Pollutants shall be managed in accordance with waste regulations administered by COGCC 900 series rules.

### 5.0 STORMWATER, EROSION & SEDIMENT CONTROL MEASURES / BMPS

Measures for stormwater, erosion and sediment control will be accomplished through a combination of construction techniques, structural and non-structural controls, vegetation and re-vegetation, administrative controls, and good housekeeping practices. Control measures will be implemented and adjusted with changing site conditions, as well as phases of construction. All control measures deployed throughout construction shall be identified on the site-specific stormwater management plan (grading plan), as well on as-built plans verified in the field.

A summary of stormwater control measures can be found in Appendix C of this document. A detailed description of intended structural and non-structural stormwater control measure for Paul Nelson 25-29HZ is as follows.

## 5.1 Structural Control Measures / BMPs

Structural control measures are established to reduce erosion and site degradation, and to minimize or mitigate off-site sediment transport in a manner effective for development and operation of an oil and gas location. The following structural control measures will be implemented at the proposed location:

### 5.1.1 Limits of Construction (LOC)

- Limits of construction will be used to designate the area of intended development and areas intended for surface disturbing activities.
- The LOC will be identified prior to commencement of surface disturbing activities, on the location grading plan, and in-field with wooden survey lathe / staking to delineate the boundary.
- The LOC surrounds the entirety of Paul Nelson 25-29HZ.
- LOC will remain in-place until interim reclamation activities are complete.

### 5.1.2 Vehicle Tracking Control (VTC)

- Vehicle tracking controls will serve as a stabilized site access point which removes sediment from vehicle tires and mitigates off-site tracking onto paved surfaces.
- VTC will be installed prior to commencement of surface disturbing activities.
- VTC will be installed at the primary access for Paul Nelson 25-29HZ, which is in the southwestern corner of the facility pad. The access road adjoins / intersects Weld County Road 15 1/2.
- VTC will remain in place until interim reclamation activities are complete.

### 5.1.3 Temporary Diversion Ditch and Berm (DD)

- A diversion ditch and berm will be implemented to divert stormwater run-on & run-off throughout Paul Nelson 25-29HZ to a designated outlet structure(s).
- This BMP will be installed prior surface disturbing activities and will surround the entirety of the location to create continuous perimeter control.
- A diversion ditch and berm will serve as a continuous perimeter control for the location.
- Diversion ditch and berm will remain in-place until interim reclamation activities are complete.

### 5.1.4 Temporary Spillway and Outlet (SW/O)

- A temporary spillway and/or outlet are designed to capture sediment transported in surface runoff and slowly release flows to allow time for settling of sediment prior to discharge from the location.
- Spillway and/or outlet will be installed concurrently with the facility diversion ditch and berm, and prior to commencement of surface disturbing activities.
- A temporary spillway/outlet will be installed in the western & southwestern segments of the facility ditch and berm for Paul Nelson 25-29HZ.
- All spillways and outlets will remain in-place until interim reclamation activities are complete.

### 5.1.5 Culvert (C)

- Culverts are used to move water under a road or crossing, or to direct flow to a designated endpoint, and are sized to manage anticipated watershed and flow rates.
- Culverts will be installed at the Weld County Road 15 ½ access road crossing for Paul Nelson 25-29HZ. Culverts will be evaluated at the time of construction and installed as needed.
- Culverts will be reinforced with inlet and outlet protection to mitigate sediment transport and surface erosion.
- These BMPs will remain in place throughout the life of production for Paul Nelson 25-29HZ and removed during final reclamation.

#### **5.1.6 Inlet / Outlet Protection (IP/OP)**

- Inlet / outlet protection is a permeable barrier installed around a drain or culvert to filter runoff and remove sediment.
- This BMP will be installed prior to commencement of surface disturbing activities.
- Inlet and outlet protection will be installed for all culverts, temporary spillways, and temporary outlets at Paul Nelson 25-29HZ.
- Inlet and outlet protection will remain in place throughout the life of production for Paul Nelson 25-29HZ and removed with culverts and outlets during final reclamation.

#### **5.1.7 Seed & Mulch (SM)**

- Seed and mulch are utilized in disturbed areas to establish stabilization through vegetative cover.
- Seeding will take place once surface disturbing activities are complete. Topsoil stockpiles will be stabilized with seed and mulch no longer than 14-days after completion of stockpiling efforts unless weather or ground conditions are not suitable to properly create a seedbed and promote successful germination.
- Seed & mulch will be installed on all disturbed areas no longer utilized for construction, and on all topsoil stockpiles which will remain on Paul Nelson 25-29HZ for use during interim and final reclamation. Anticipated topsoil stockpiles will be situated along the southern and eastern perimeters of the well pad.
- Seed and mulch will be disturbed and re-applied during topsoil application and final reclamation practices.

### **5.2 Non-Structural Control Measures / BMPs**

Non-structural control measures / BMPs do not involve a structure or engineered solution. Non-structural control measures include:

#### **5.2.1 Construction Phasing & Sequencing**

- Construction phasing and sequencing will be implemented at Paul Nelson 25-29HZ to minimize the amount of surface disturbance and exposed soils to the greatest extent practicable.

#### **5.2.2 Construction Site Waste Management**

- All waste from materials imported to Paul Nelson 25-29HZ will be placed in containment bins, and removed for disposal/recycling at an approved, licensed facility.
- Self-contained port-o-lets will be placed on both the facility and well pad at Paul Nelson 25-29HZ and maintained by a licensed contractor at a frequency appropriate based on daily use.
- No waste materials will be buried or dumped on Paul Nelson 25-29HZ.

#### **5.2.3 Protection and Preservation of Existing Vegetation**

- Pre-existing vegetation cover will only be removed where necessary for the operation of construction and development at Paul Nelson 25-29HZ. Trees will only be cut or trimmed to facilitate clearing, grading and safe installation of the location.
- Vegetative buffers will be preserved to the greatest extent practicable for construction and development.

#### **5.2.4 Good Housekeeping**

- Good housekeeping measures will be implemented to prevent sediment, trash and toxic or hazardous substances from entering surface waters or impacting soils. Housekeeping practices include routine inspections, regular cleaning, site and equipment organization and maintenance, and appropriate chemical storage.

#### **5.2.5 Materials Management**

- Materials stored on Paul Nelson 25-29HZ will be kept away from direct traffic to prevent accidents.
- Dumpsters and trash receptacles will be enclosed and/or covered to prevent dissemination of rubbish when not in use.
- Storage areas will be swept for trash / rubbish, and cleanup coordinated by construction personnel.
- Drums and chemical storage containers will be clearly labeled, and an appropriate SDS kept on file to be made available for on-site personnel as needed.

#### **5.2.6 Training and Certification**

- All personnel involved with construction and stormwater activities will be adequately trained and familiarized with the applicable CDPS stormwater permit, local/State regulations, requirements for the stormwater permit, and identification of potential pollutant sources.
- Training(s) will cover information and procedures identified in this SWMP, and will be conducted prior to the start of construction, and as needed.
- Training is considered initial and ongoing for all personnel involved with construction and development at Paul Nelson 25-29HZ.

### **6.0 MATERIALS HANDLING AND SPILL PREVENTION**

Discharges of hazardous substances or oil resulting from spills or construction operations are not authorized under the Construction General Permit or this plan. Spills and leaks will be managed by Kerr-McGee personnel or their designee, and according to the Kerr-McGee *Wattenberg Field, Colorado Spill Prevention, Control and Countermeasures (SPCC)* Plan. Kerr-McGee personnel and designees are trained to prevent, mitigate, evaluate, and response to spills and releases. **In the event of a spill, notify the Stormwater Manager, after taking emergency and internal procedures for notification.** Depending on the nature of the spill and material involved, the Colorado Department of Public Health and Environment 24-hour spill reporting line (877-518-5608) will be contacted and/or downstream water users notified, as necessary.

### **7.0 NON-STORMWATER DISCHARGES**

Sources of non-stormwater discharges include emergency fire-fighting activities or a fire hydrant, uncontaminated springs which do not originate from an area of land disturbance, and construction dewatering. In the event of construction dewatering, control measures shall be implemented and Low Risk Discharge Guidance for Uncontaminated Groundwater to Land (WQP27) shall be followed.

### **8.0 FINAL STABILIZATION**

All soil horizons segregated for the purpose of construction shall be replaced to their original relative positions and contour for reclamation and final stabilization. Following topsoil re-distribution, the reclamation area shall be cross ripped to alleviate compaction. Soil amendments will be determined and applied as necessary, and incorporated by disking, harrowing or cultipacking during seedbed preparation.

Seed used for reclamation will be determined based on surface owner consultation, and consider soil type, land use, and adjacent reference area(s) vegetation. The approved seed mix, in combination with certified weed-free mulch, will be installed when seasonal or weather conditions are most favorable to take advantage of moisture, such as early spring or late fall, and never during windy or frozen conditions.

The Colorado Department of Health and Environment (CDPHE) defines final stabilization as, “finally stabilized means that all ground surface disturbing activities at the site have been completed, and all

disturbed areas have been either built on, paved, or a uniform vegetative cover has been established with an individual plant density of at least 70 percent of pre-disturbance levels, and the vegetation cover is capable of providing erosion control equivalent to pre-existing conditions, or equivalent permanent, physical erosion reduction methods have been employed.” Stabilized unpaved surfaces, such as gravel access roads or working surfaces, necessary for the operation of the facility or nearby facilities, also qualifies as “final stabilized”.

## **9.0 POST-CONSTRUCTION STORMWATER**

Following final stabilization, and pursuant of COGCC rule 1002.f and rule 1004, BMPs shall be maintained under Kerr-McGee’s Post-Construction Stormwater Program and evaluated for Tier 1 / Non-Tier 1 status as applicable and per COGCC 100 series definitions, until the facility is abandoned, and final reclamation is achieved.

## **10.0 INSPECTION AND MAINTENANCE PROCEDURES**

### **10.1 Inspections**

Inspections will be conducted to document the status of construction activities, stormwater control measure placement, maintenance needs, and effectiveness, to evaluate pollution sources, and to document reclamation / final stabilization progress. Inspections will be managed by the Stormwater Manager and SWMP Administrator and conducted by their designated representative(s). Inspection forms will document non-compliance conditions, including any release of sediment or other contaminants, additional control measures that are needed, or repair and maintenance work orders.

During construction, inspections shall be conducted every 14 days, and after a major precipitation or melt event, which has the potential to cause surface runoff.

For sites earthwork and construction is completed, but final stabilization is not achieved due to vegetative cover, inspections shall be conducted every 30 days and exclude precipitation or melt event response. Inspections will continue until all reclaimed areas have achieved a cover of 70% the pre-construction reference vegetation (i.e., final stabilization).

Findings, inspection records and site maps are documented electronically and available within 24 hours of any inspection. All inspection records are stored for a minimum of three years after the location has achieved final stabilization.

### **10.2 Maintenance**

For maintenance items discovered at active construction locations, action and documentation towards completing repairs identified at the time of inspection, shall be made within 24 hours of discovery.

Maintenance items discovered post-construction will be documented and coordinate with production personnel.

Timeline for completion of maintenance items is a priority and will depend on scope; but in all cases, shall not be completed until field conditions allow for safe access, and utility clearance has been confirmed for actions requiring ground disturbance / earthwork.



**APPENDIX A**

**CDPS STORMWATER GENERAL PERMIT CERTIFICATION**



**COLORADO**

Department of Public  
Health & Environment

**CERTIFICATION TO DISCHARGE  
UNDER  
CDPS GENERAL PERMIT COR400000  
STORMWATER ASSOCIATED WITH CONSTRUCTION ACTIVITIES**

Certification Number: **COR402542**

**This Certification to Discharge specifically authorizes:**

**Owner Kerr McGee Oil and Gas Onshore LP  
Operator Kerr McGee Oil and Gas Onshore LP  
to discharge stormwater from the facility identified as**

**Kerr Area 1**

**To the waters of the State of Colorado, including, but not limited to:**

**South Platte River**

**Facility Activity :** Oil and Gas Exploration and Well Pad Development

**Disturbed Acres:** 165.38 acres

**Facility Located at:** See Map in File Uninc CO 80537  
Larimer County  
Latitude 40.279 Longitude -104.54

**Specific Information  
(if applicable):**

**Certification is issued and effective: 9/30/2021  
Expiration date of general permit: 3/31/2024**

This certification under the permit requires that specific actions be performed at designated times. The certification holder is legally obligated to comply with all terms and conditions of the permit.

This certification was approved by:  
Meg Parish, Section Manager  
Permits Section  
Water Quality Control Division



## **APPENDIX B**

### **GRADING PLANS AND DRAINAGE REPORT**

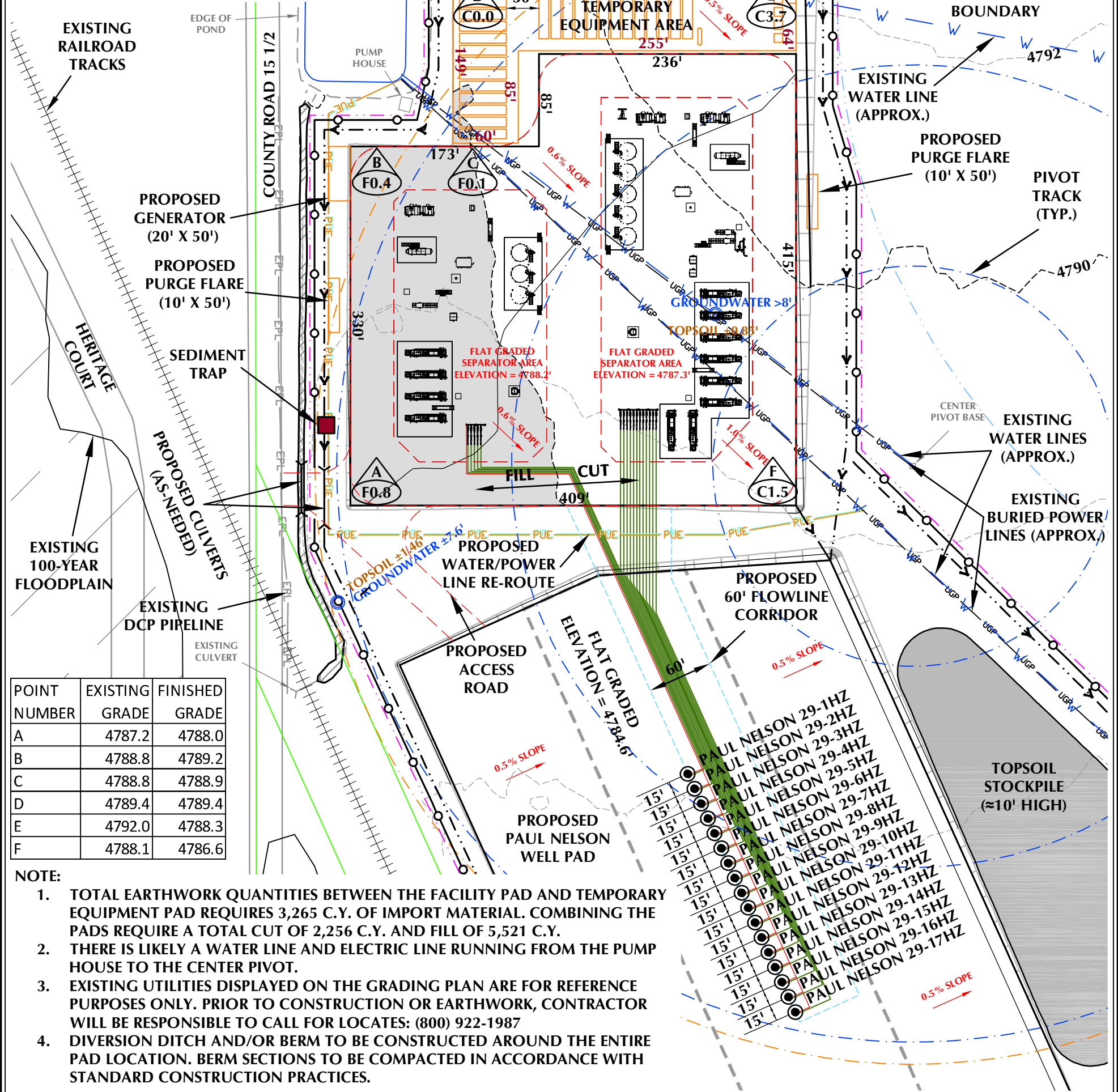
TEMPORARY EQUIPMENT PAD -  
PAUL NELSON DESIGN SUMMARY

PAD QUANTITIES AND DESIGN PARAMETERS

FINISHED GRADE ELEVATION = VARIES  
CUT SLOPES = 5:1  
FILL SLOPES = 5:1  
SHRINKAGE FACTOR = 1.10  
SWELL FACTOR = 1.00  
GRADED PAD AREA = 0.58 ACRES  
TOTAL PAD AREA = 0.67 ACRES

PAD QUANTITIES

TOTAL CUT FOR PAD = 630 C.Y.  
TOTAL FILL FOR PAD = 529 C.Y.  
TOPSOIL @ 15" DEPTH = 1,351 C.Y.  
TOTAL EXPORT = 101 C.Y.



FACILITY PAD - PAUL NELSON DESIGN SUMMARY

FACILITY PAD QUANTITIES AND DESIGN PARAMETERS

FINISHED GRADED ELEVATION = VARIES  
CUT SLOPES = 5:1  
FILL SLOPES = 5:1  
SHRINKAGE FACTOR = 1.10  
SWELL FACTOR = 1.00  
GRADED FACILITY PAD SURFACE AREA = 3.56 ACRES  
TOTAL FACILITY PAD AREA = 3.81 ACRES  
OPERATIONAL DISTURBANCE AREA = 16.30 ACRES

FACILITY PAD QUANTITIES

TOTAL CUT FOR FACILITY PAD = 1,626 C.Y.  
TOTAL FILL FOR FACILITY PAD = 4,992 C.Y.  
TOPSOIL @ 15" DEPTH = 7,686 C.Y.  
TOTAL IMPORT = 3,366 C.Y.

DRAFT

FACILITY PAD LEGEND

- EXISTING WELL LOCATION
- PROPOSED WELL LOCATION
- EXISTING CONTOURS (2' INTERVAL)
- PROPOSED CONTOURS (2' INTERVAL)
- EPL
- EXISTING PIPELINE
- PROPOSED FLOWLINE
- EXISTING FENCE
- PROPOSED UNDERGROUND ELECTRIC LINE
- DIVERSION DITCH AND/OR BERM
- BERM



HORIZONTAL 0 50' 100' 1" = 100'

SCALE: 1"=100' DATE: 4/1/2020 SHEET NO: 1 1 OF 1

FACILITY PAD - PAUL NELSON

FACILITY PAD - GRADING PLAN  
PAUL NELSON 29-1HZ, PAUL NELSON 29-2HZ,  
PAUL NELSON 29-3HZ, PAUL NELSON 29-4HZ, PAUL NELSON 29-5HZ,  
PAUL NELSON 29-6HZ, PAUL NELSON 29-7HZ, PAUL NELSON 29-8HZ,  
PAUL NELSON 29-9HZ, PAUL NELSON 29-10HZ, PAUL NELSON 29-11HZ,  
PAUL NELSON 29-12HZ, PAUL NELSON 29-13HZ, PAUL NELSON 29-14HZ,  
PAUL NELSON 29-15HZ, PAUL NELSON 29-16HZ & PAUL NELSON 29-17HZ  
LOCATED IN SECTION 29, T5N, R67W, 6TH P.M.  
WELD COUNTY, COLORADO

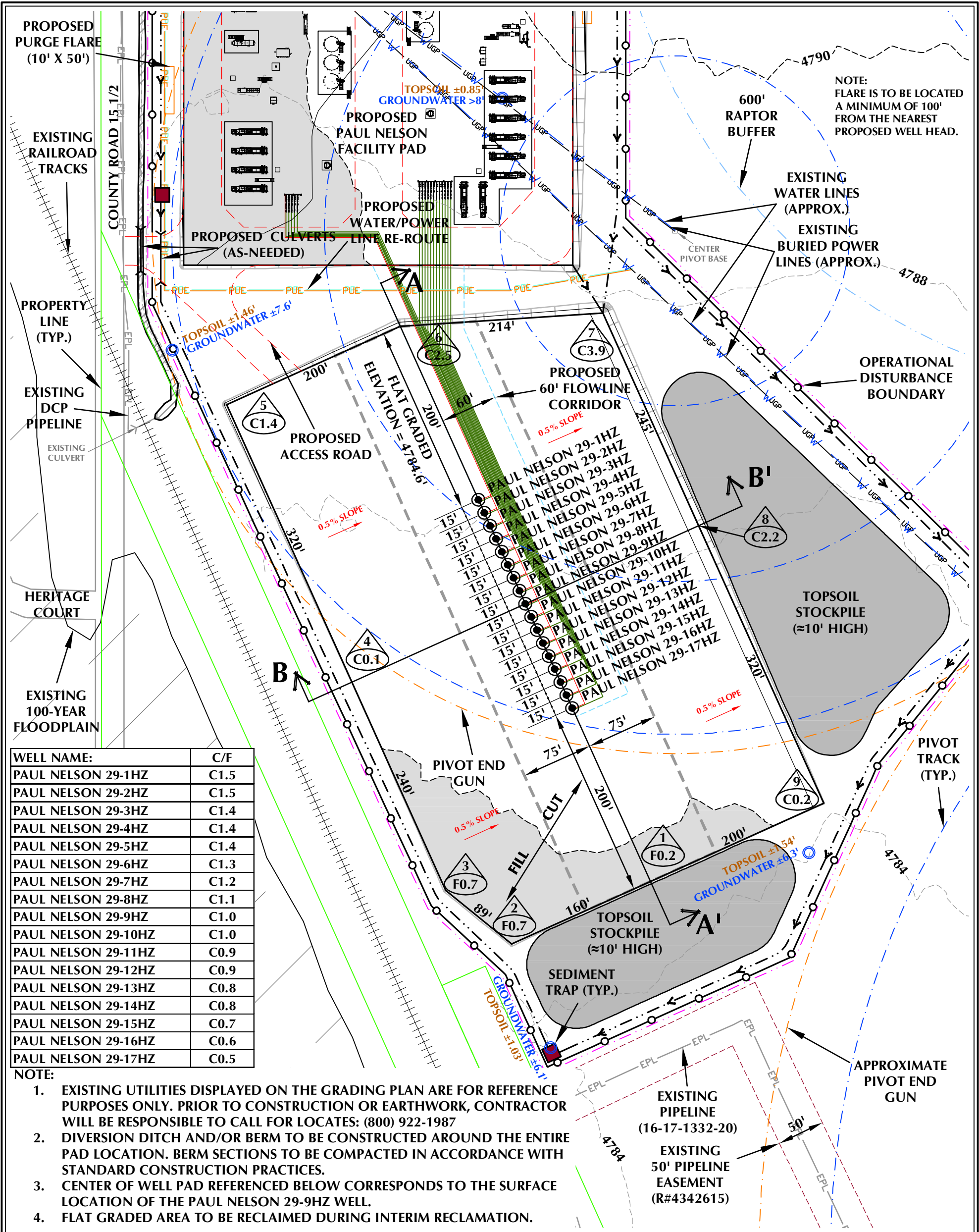
Kerr-McGee Oil &  
Gas Onshore L.P.  
1099 18th Street  
Denver, Colorado 80202



CONSULTING, LLC

LOVELAND OFFICE  
6706 North Franklin Avenue  
Loveland, Colorado 80538  
Phone 970-776-4331  
SHERIDAN OFFICE  
1095 Saberton Avenue  
Sheridan, Wyoming 82801  
Phone 307-674-0609





WELL PAD - PAUL NELSON DESIGN SUMMARY

WELL PAD QUANTITIES AND DESIGN PARAMETERS

EXISTING GRADE @ CENTER OF WELL PAD = 4785.6'  
FINISHED GRADE ELEVATION = 4784.6'  
CUT SLOPES = 3:1  
FILL SLOPES = 3:1  
SHRINKAGE FACTOR = 1.10  
SWELL FACTOR = 1.00  
GRADED WELL PAD SURFACE AREA = 5.67 ACRES  
TOTAL WELL PAD AREA = 5.85 ACRES  
OPERATIONAL DISTURBANCE AREA = 16.30 ACRES

WELL PAD QUANTITIES

TOTAL CUT FOR WELL PAD = 2,997 C.Y.  
TOTAL FILL FOR WELL PAD = 4,944 C.Y.  
TOPSOIL @ 15" DEPTH = 11,800 C.Y.  
IMPORT MATERIAL = 1,947 C.Y.

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WELL PAD - PAUL NELSON

WELL PAD - GRADING PLAN  
PAUL NELSON 29-1HZ, PAUL NELSON 29-2HZ,  
PAUL NELSON 29-3HZ, PAUL NELSON 29-4HZ, PAUL NELSON 29-5HZ,  
PAUL NELSON 29-6HZ, PAUL NELSON 29-7HZ, PAUL NELSON 29-8HZ,  
PAUL NELSON 29-9HZ, PAUL NELSON 29-10HZ, PAUL NELSON 29-11HZ,  
PAUL NELSON 29-12HZ, PAUL NELSON 29-13HZ, PAUL NELSON 29-14HZ,  
PAUL NELSON 29-15HZ, PAUL NELSON 29-16HZ & PAUL NELSON 29-17HZ  
LOCATED IN SECTION 29, T5N, R67W, 6TH P.M.  
WELD COUNTY, COLORADO

Kerr-McGee Oil &  
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WELL PAD LEGEND

- EXISTING WELL LOCATION
- PROPOSED WELL LOCATION
- EXISTING CONTOURS (2' INTERVAL)
- PROPOSED CONTOURS (2' INTERVAL)
- EPL
- EXISTING PIPELINE
- PROPOSED FLOWLINE
- EXISTING FENCE
- PROPOSED UNDERGROUND ELECTRIC LINE
- DIVERSION DITCH AND/OR BERM
- BERM



HORIZONTAL 0 50' 100' 1" = 100'

2' CONTOURS

SCALE: 1"=100' DATE: 4/1/2020 SHEET NO:

REVISED: HJL 2/2/21 1 1 OF 1

## **APPENDIX C**

### **SUMMARY OF SITE-SPECIFIC EROSION & SEDIMENT CONTROLS / BMPS**

## **SUMMARY OF SITE-SPECIFIC STORMWATER, EROSION & SEDIMENT CONTROLS / BMPs FOR CONSTRUCTION, DRILLING & COMPLETIONS PHASES**

Stormwater will be managed during construction by a combination of site-specific erosion and sediment control measures including: delineation of limits of construction to establish a work space; a vehicle tracking control placed along the western perimeter of the facility pad to mitigate off-site sediment migration from vehicle traffic onto WCR 15 ½; a temporary diversion ditch & berm around the entire location to manage run-on and run-off; temporary spillways and outlet structure placed along the western perimeter of the facility pad and southwestern corner of the well pad will allow for settling of sediment from stormwater prior to discharge; ~2 culverts with inlet and outlet protection will be installed in the access road to direct stormwater to designated discharge points; seed & mulch to stabilize areas no longer needed for construction, as well as for topsoil stockpiles which will remain in place until interim and final reclamation. During active construction, daily inspections will be completed by on-site personnel. A contractor will conduct stormwater compliance inspections every 14-days and/or following a rain event which produces 0.25" of precipitation or equivalent snow melt which causes surface erosion. Inspections will review all control measures / BMPs implemented, their status, and whether repair or replacement is needed. Maintenance and repair will be completed as soon as practicable, immediately in most cases.