

**LAYOUT DRAWINGS S.E. COVER SHEET**

Date: September 15, 2021

Location: WR OGDP 1 / Wells Ranch CDP / A18-09 Pad

Legal Description: A18-09 Pad: NESE Section 18, Township 6 North, Range 64 West



**RULE 304.E. SUBSTANTIALLY EQUIVALENT INFORMATION COVER SHEET**

**Oil and Gas Development Plan WR OGDP 1**

**A18-09 Pad: NESE Section 18, Township 6 North, Range 64 West**

**Form 2A Doc #402099017**

**Weld County, Colorado**

The attached Grading Plan is being submitted as a substantially equivalent document to the Layout Drawings required by COGCC Rule 304.b.(7)B.

This document was developed for the Weld County Public Works.

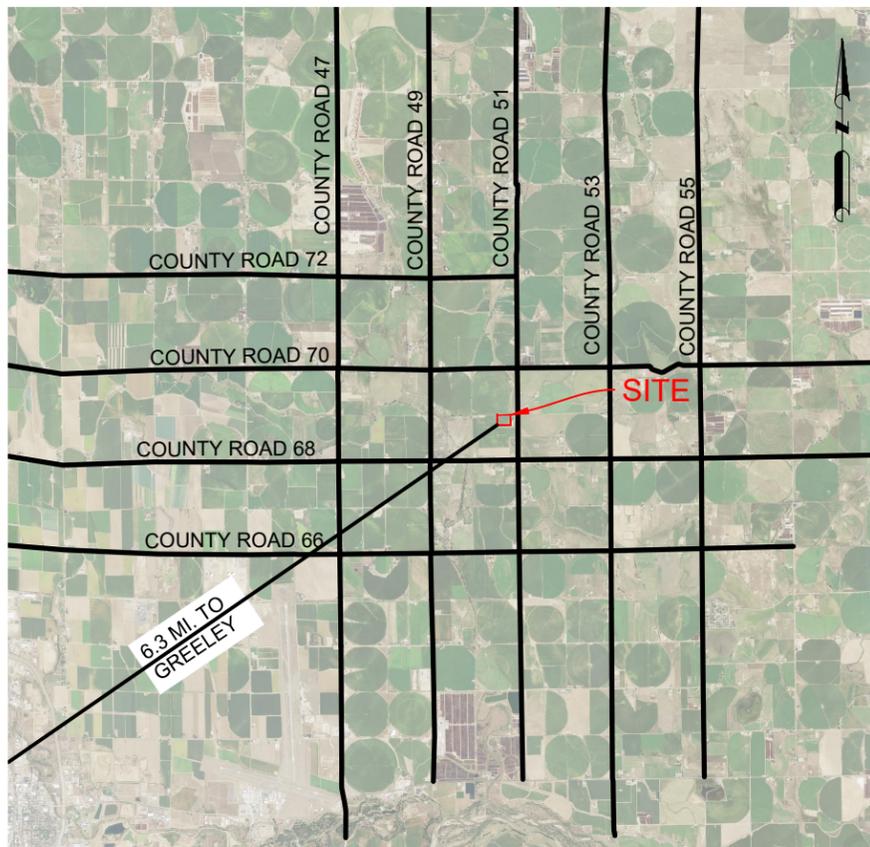
This document does not conform to COGCC rules or guidance in the following ways:

- None.

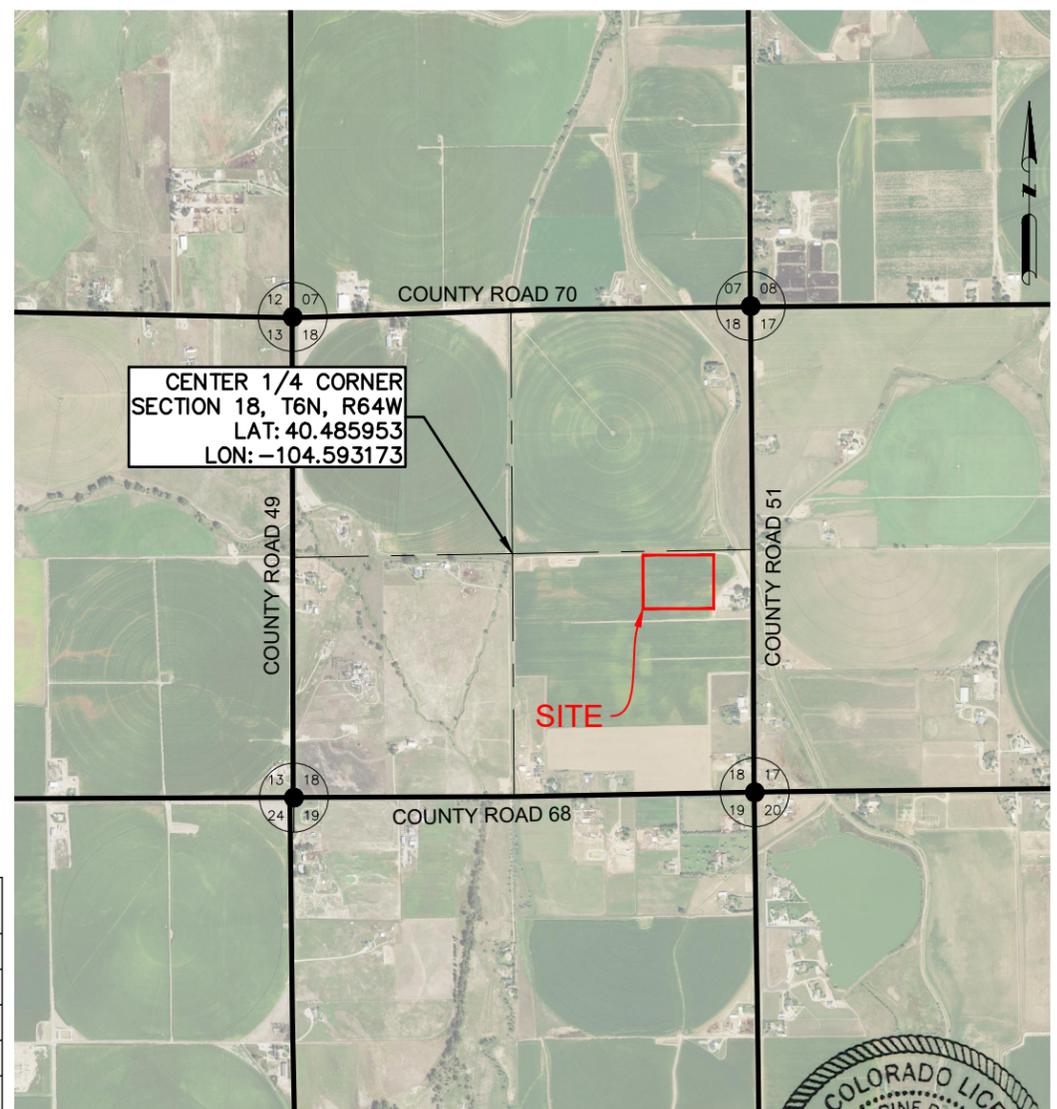
This document should be accepted as substantially equivalent:

- The attached Grading Plan to be submitted to Weld County Public Works is following WELD COUNTY ENGINEERING AND CONSTRUCTION CRITERIA. The drawing contains location construction and operations layout drawings, location construction, and operations cross-section plot (sheet 4) including location and finish grades. These drawings are included to show the Working Pad Surface and surrounding disturbed area making up the entirety of the Oil and Gas Location; A preliminary drill rig layout (Sheet 5); a Preliminary Well completion and Stimulation layout including the Flowback equipment (Sheet 6) including the equipment and connections to comply with reduced emission completion requirements pursuant to Rule 903.c.(1); and the location of all existing and proposed Oil and Gas Facilities (Sheet 7) listed on the Form 2A. Tertiary containment earthen berms are labeled as 'embankment' on the layout drawings.

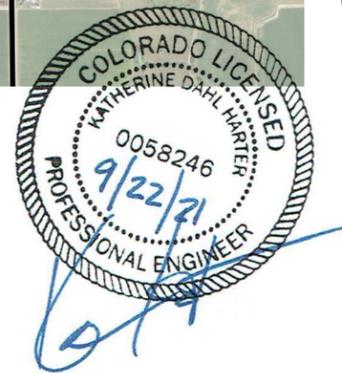
A18-09 PAD  
GRADING PLAN



**REGIONAL MAP**  
N.T.S.



**VICINITY MAP**  
N.T.S.



DATA SOURCE:  
AERIAL IMAGERY: NAIP 2019

PUBLICLY AVAILABLE DATA SOURCES HAVE NOT BEEN INDEPENDENTLY VERIFIED BY ASCENT.

DISCLAIMER:  
THIS PLOT DOES NOT REPRESENT A MONUMENTED LAND SURVEY AND SHOULD NOT BE RELIED UPON TO DETERMINE BOUNDARY LINES, PROPERTY OWNERSHIP OR OTHER PROPERTY INTERESTS. PARCEL LINES, IF DEPICTED HAVE NOT BEEN FIELD VERIFIED AND MAY BE BASED UPON PUBLICLY AVAILABLE DATA THAT ALSO HAS NOT BEEN INDEPENDENTLY VERIFIED.

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ITEM	SPECIFICATION	SIZE	UNIT	QUANTITY
RECLAIMED ROAD BASE			CY	5,563
AGGREGATE BASE COURSE	1-1/2" CRUSHED ANGULAR ROCK		CY	5,563
RIPRAP	TYPE 'L' (D50 = 9")		CY	6
RIPRAP	TYPE 'M' (D50 = 12")		CY	57
CULVERT	HDPE	24"	LF	63
CULVERT	HDPE	8"	LF	81
FLARED END SECTION		24"	EA	2
FLARED END SECTION		8"	EA	2
TRASH RACK	A36 STEEL	24"	EA	2
TRASH RACK	A36 STEEL	8"	EA	2
SEDIMENT CONTROL LOG			LF	2,580
SEED MIXTURE			SF	501,715
OUTLET PIPE	SCHEDULE 40 PVC	12"	LF	42
STANDPIPE	SCHEDULE 40 PVC	8"	LF	5
90° ELBOW	SCHEDULE 40 PVC	8"	EA	1
SHEET PILE	0.375" ASTM A 572 GRADE 60 GALVANIZED STEEL	96"x480"	EA	2
ANTI-SEEP COLLAR	HDPE	4"x4"x1/4"	EA	2

**ASCENT**  
GEOMATICS SOLUTIONS  
8620 WOLFF COURT  
WESTMINSTER, CO 80031  
(303) 928-7128

PREPARED FOR:  
**noble energy**  
NOBLE ENERGY, INC.  
1625 BROADWAY, SUITE 2200  
DENVER, CO 80202  
(303) 228-4000

SHEET NAME:  
**COVER SHEET**  
SURFACE LOCATION  
A18-09 PAD  
NE 1/4 SE 1/4 SECTION 18,  
T6N, R64W, 6TH P.M.,  
WELD COUNTY, COLORADO

REV.	DATE	DESCRIPTION	INT.	AMS	AMS	AMS	AMS	AMS
0	09/22/21	ISSUED FOR CONSTRUCTION						

FIELD DATE:  
04-15-2019  
DRAWING DATE:  
07-30-2021  
DRAFTED BY:  
AMS

**GENERAL NOTES**

- SHOULD ARTIFACTS OF POTENTIAL HISTORICAL SIGNIFICANCE BE ENCOUNTERED DURING EXCAVATION, THE CONTRACTOR SHALL IMMEDIATELY NOTIFY CLIENT AND DISCONTINUE EXCAVATION IN THE AFFECTED AREA UNTIL OTHERWISE NOTIFIED BY THE CLIENT OR ENGINEER. ANY DAMAGE TO A DESIGNATED ARCHEOLOGICAL SITE AS A RESULT OF CONTRACTOR NEGLIGENCE SHALL BE THE SOLE RESPONSIBILITY OF CONTRACTOR.
- DO NOT PERFORM ANY GRADING OR GRUBBING OPERATION SO AS TO CAUSE FALLING ROCKS, SOIL OR DEBRIS IN ANY FORM TO FALL, SLIDE OR FLOW ONTO ADJOINING PROPERTIES, STREETS, OR INTO NATURAL WATERCOURSES.
- THE CONTRACTOR SHALL NOT CHANGE OR DEVIATE FROM THE PLANS WITHOUT FIRST OBTAINING WRITTEN APPROVAL FROM THE OWNER AND ENGINEER.
- CONTRACTOR SHALL MAINTAIN A SET OF AS-BUILT DRAWINGS WITH ALL CHANGES IDENTIFIED. THE AS-BUILT FIELD DRAWINGS SHALL BE SUBMITTED TO CLIENT AT PROJECT COMPLETION.

**SAFETY**

- THE CONTRACTOR IS RESPONSIBLE FOR JOB SITE SAFETY OF HIS OWN PERSONNEL, ALL VISITORS TO THE SITE, AND THE GENERAL PUBLIC. CONTRACTOR SHALL FOLLOW THE REQUIREMENTS OF ALL APPLICABLE HEALTH AND SAFETY STANDARDS INCLUDING, BUT NOT LIMITED TO, OSHA 29 CFR PARTS 1910 AND 1926 FOR GENERAL CONSTRUCTION.
- CONTRACTOR SHALL PROVIDE ADEQUATE MEANS OF DUST CONTROL. CONTRACTOR SHALL BE RESPONSIBLE FOR DUST CONTROL DURING ALL PHASES OF SITE PREP, EARTHWORKS AND GRADING.
- UNLESS A SAFE EXCAVATION/TRENCH DEPTH IS SPECIFICALLY IDENTIFIED DURING THE PRECONSTRUCTION SAFETY ASSESSMENT BY QUALIFIED PERSONNEL, WHERE PERSONNEL ENTER EXCAVATIONS 4 FEET OR MORE IN DEPTH, PROTECT THE EXCAVATION WITH A SUPPORT SYSTEM OF SLOPING, SHORING, BRACING OR BY USE OF A TRENCH BOX MEETING OSHA SAFETY STANDARD; INSPECT SHORING AND/OR BRACING SYSTEMS DAILY AND AFTER RAINSTORMS OR OTHER HAZARD-INCREASING OCCURRENCE. ALSO PROVIDE SUCH PROTECTION IN EXCAVATIONS LESS THAN 4 FEET DEEP WHERE HAZARDOUS EARTH MOVEMENT MAY BE EXPECTED.
- ALL CONTRACTORS PERFORMING SUBSURFACE EARTHWORKS MUST CONTACT 811 AT LEAST 3 BUSINESS DAYS PRIOR TO EXCAVATION AND AS REQUIRED BY LAW.

**TOPSOIL, CLEARING AND GRUBBING**

- CONTRACTOR SHALL CLEAR AND GRUB PROJECT AREA PRIOR TO PERFORMING ANY EARTHWORKS. HOLES RESULTING FROM REMOVAL OF VEGETATION SHALL BE BACKFILLED, COMPACTED AND GRADED IN ACCORDANCE WITH THIS DRAWING PACKAGE, GENERAL NOTES AND SPECIFICATIONS WHERE APPLICABLE.
- CONTRACTOR IS RESPONSIBLE FOR DISPOSAL OF ALL WASTE MATERIAL INCLUDING, BUT NOT LIMITED TO VEGETATION, ROCK, DEBRIS, EXCESS SOILS, DEMOLITION MATERIALS, AND CONSTRUCTION MATERIALS. ACQUISITION OF OFF-SITE DISPOSAL AREA IS THE RESPONSIBILITY OF THE CONTRACTOR UNLESS OTHERWISE INDICATED BY CLIENT.
- PERFORM ALL CLEARING, GRUBBING AND EARTHWORKS IN CONFORMANCE WITH APPLICABLE STATE AND FEDERAL REQUIREMENTS, INCLUDING REQUIREMENTS FOR HANDLING, REMOVING AND DISPOSING OF CONTAMINATED SOIL, IF APPLICABLE.
- NO VEGETATION OVERHANGING THE CONSTRUCTION AREA, BUT ROOTED OUTSIDE SAID AREA, SHALL BE REMOVED WITHOUT APPROVAL FROM THE CLIENT OR CONSTRUCTION MANAGER.
- SHOULD THE CONTRACTOR DISCOVER THAT THE DEPTH OF TOPSOIL EXCEEDS THE DEPTH INDICATED ON THE PLANS, CONTRACTOR SHALL NOTIFY THE CLIENT AND ENGINEER IN WRITING TO DETERMINE IF ANY REVISIONS TO THE EARTHWORKS QUANTITIES AND DESIGN ARE REQUIRED. UNDER SUCH CIRCUMSTANCES THE CONTRACTOR SHALL NOT PROCEED WITH TOPSOIL REMOVAL UNTIL DIRECTED TO DO SO BY THE CLIENT OR CONSTRUCTION MANAGER.

**GRADING AND COMPACTION**

- WHERE A GEOTECHNICAL REPORT EXISTS FOR THIS PROJECT, CONTRACTOR IS RESPONSIBLE FOR REVIEWING AND ADHERING TO THE REQUIREMENTS OF THE REPORT. SHOULD A DISCREPANCY BETWEEN THE PROJECT SITE GEOTECHNICAL REPORT AND THESE PLANS EXIST, CONTRACTOR TO INFORM THE ENGINEER IN WRITING BEFORE PROCEEDING WITH EARTHWORKS ACTIVITIES. CONTRACTOR SHALL NOT PROCEED WITH EARTHWORKS ACTIVITIES UNTIL DIRECTED TO DO SO BY THE ENGINEER AND CLIENT.
- CONTRACTOR SHALL PROPERLY DISPOSE OF EXCESS EXCAVATED MATERIAL OFF SITE UNLESS DIRECTED OTHERWISE BY THE CLIENT OR ENGINEER.
- ONSITE EXCAVATED MATERIAL STORAGE SHALL BE IN THE LOCATION INDICATED BY THE CLIENT OR AS INDICATED ON THESE PLANS. CONTRACTOR SHALL PROVIDE EROSION CONTROL MEASURES FOR THE SOIL STOCKPILES AS APPROPRIATE.
- ANY ROCK UNEARTHED DURING EXCAVATION WITH A LONG AXIS LENGTH THAT EXCEEDS 5 INCHES AND IS NOT REQUIRED FOR SITE DEVELOPMENT, SHALL BE DISPOSED OF BY THE CONTRACTOR UNLESS INDICATED OTHERWISE BY THE CLIENT OR ENGINEER.
- CONTRACTOR TO PROVIDE AND VERIFY THAT ADEQUATE COMPACTION HAS BEEN ACHIEVED PRIOR TO INDEPENDENT CONFIRMATION OF COMPACTION BY A QUALIFIED INSPECTOR. OPTIMUM MOISTURE CONTENT AND MAXIMUM COMPACTION DENSITY TO BE INDICATED IN THESE DRAWINGS OR IN THE ASSOCIATED GEOTECHNICAL REPORT. ON SPEC MATERIAL TO BE PLACED AND COMPACTED IN 6-INCH HORIZONTAL LIFTS.
- COMPACTION TO BE VERIFIED BY NUCLEAR METHOD PER ASTM D-6938 OR BY AN EQUIVALENT METHOD APPROVED BY THE ENGINEER.
- COMPACTION TESTING FREQUENCY FOR ROADS AND PARKING AREAS SHALL BE 1 TEST (ASTM D-6938) PER 12 FT. OF WIDTH PER 500 FT. OF LENGTH, OR FRACTION THEREOF PER 6" LIFT UNLESS INDICATED OTHERWISE IN THESE PLANS OR IN THE ASSOCIATED GEOTECHNICAL REPORT.

**A18-09 PAD  
GRADING PLAN**

- COMPACTION TEST FREQUENCY FOR AREAS UNDER STRUCTURAL FOUNDATIONS SHALL BE 1 TEST (ASTM D-6938) FOR EACH 1,000 FT<sup>2</sup> OR FRACTION THEREOF PER 6" LIFT, UNLESS INDICATED OTHERWISE IN THESE PLANS OR IN THE ASSOCIATED GEOTECHNICAL REPORT.
- COMPACTION TEST FREQUENCY FOR DETENTION OR RETENTION POND FILL EMBANKMENTS OR ANY EMBANKMENT IMPOUNDING WATER SHALL BE A MINIMUM OF 1 TEST (ASTM D-6938) PER 2,500 FT<sup>2</sup> OR FRACTION THEREOF PER 6" LIFT UNLESS INDICATED OTHERWISE IN THESE PLANS OR IN THE ASSOCIATED GEOTECHNICAL REPORT.
- COMPACTION TEST FREQUENCY FOR REMAINING AREAS (NOT INCLUDING STRUCTURAL FOUNDATIONS, ROADS AND DETENTION POND EMBANKMENTS) IN NON-HEAVY LOADING AREAS SHALL BE 1 SPOT CHECKS PER 40,000 FT<sup>2</sup> PER 6" LIFT IN FILL AREAS UNLESS INDICATED OTHERWISE IN THESE PLANS OR IN THE ASSOCIATED GEOTECHNICAL REPORT.
- CONSTRUCTION MANAGER, INSPECTOR AND/OR ENGINEER MAY REQUIRE THAT MORE COMPACTION TESTS ARE NEEDED BASED ON FIELD OBSERVATIONS. THE RECOMMENDED NUMBER OF COMPACTION TESTS INDICATED IN THESE GENERAL NOTES CONSTITUTES THE MINIMUM NUMBER OF TESTS; MORE TESTS MAY BE WARRANTED BASED ON FINDINGS IN THE FIELD.
- THE CONTRACTOR SHALL SCARIFY SUBGRADE 6" (MIN.) WITH A MOISTURE CONDITION AND COMPACT TO 95% MAXIMUM ACHIEVABLE DENSITY IN ACCORDANCE WITH ASTM D-698 UNLESS INDICATED OTHERWISE IN THESE PLANS.
- HORIZONTAL LIFTS OF NON-GRAVEL MATERIAL TO BE COMPACTED IN 6" (MAX) LIFTS TO 95% MAXIMUM DENSITY (MINIMUM) AT OPTIMUM MOISTURE CONTENT (-2% TO +2%) TO ACHIEVE MAXIMUM DENSITY IN ACCORDANCE WITH ASTM D698 UNLESS INDICATED OTHERWISE IN THESE PLANS. HORIZONTAL LIFTS OF GRAVEL MATERIAL TO BE COMPACTED IN 6" (MAX) LIFTS TO 90% MAXIMUM DENSITY (MINIMUM) AT OPTIMUM MOISTURE CONTENT (+ OR - 2%) TO ACHIEVE MAXIMUM DENSITY IN ACCORDANCE WITH ASTM D-1557 UNLESS INDICATED OTHERWISE IN THESE PLANS. SHOULD A DISCREPANCY BETWEEN THE PROJECT SITE GEOTECHNICAL REPORT AND THESE PLANS EXIST, CONTRACTOR TO INFORM THE ENGINEER IN WRITING BEFORE PROCEEDING WITH SOIL LIFT PLACEMENT AND COMPACTION.
- WHERE SUFFICIENT EXCAVATION MATERIAL IS NOT AVAILABLE FOR FILL AND "BORROW MATERIAL" IS REQUIRED; BORROW MATERIAL SHALL BE OBTAINED FROM SOURCES SHOWN IN THIS DRAWING PACKAGE OR OTHER SOURCES APPROVED BY THE ENGINEER. OVERBURDEN TO BE REMOVED FROM BORROW SITE PRIOR TO OBTAINING BORROW MATERIAL. ENGINEER APPROVED BMP AND EROSION CONTROL MEASURES TO BE PROVIDED BY CONTRACTOR FOR ANY BORROW LOCATIONS.
- BLASTING IS NOT PERMITTED, UNLESS AUTHORIZED IN WRITING BY THE ENGINEER AND CLIENT.
- ALL ESTIMATES OF QUANTITIES ARE FOR INFORMATION PURPOSES ONLY. 12" OF TOPSOIL HAS BEEN REMOVED FROM THE EXISTING CAD SURFACE PRIOR TO PERFORMING EARTHWORKS CALCULATIONS UNLESS NOTED OTHERWISE IN THESE PLANS. CONTRACTOR AND SUBCONTRACTOR ARE RESPONSIBLE FOR DETERMINING ALL QUANTITIES.
- THE CUT AND FILL VOLUMES PROVIDED IN THIS DRAWING PACKAGE ARE LISTED AS BANK (I.E. IN-SITU) VOLUMES UNLESS INDICATED OTHERWISE. UNLESS STATED ELSEWHERE IN THIS DRAWING PACKAGE OR IN THE APPLICABLE GEOTECHNICAL REPORT, CONTRACTOR TO ASSUME A 25% VOLUMETRIC CHANGE OF EXCAVATED SOILS (BULKING/SHRINKAGE FACTOR) FOR THE PURPOSES OF EARTHWORKS TRANSPORT, STORAGE AND STOCKPILING. SOIL MATERIAL PLACED AND COMPACTED PER THE REQUIREMENTS OF THESE PLANS IS ASSUMED TO BE HAVE A 1:1 RATIO FOR EXCAVATED (BANK) TO PLACED EARTHWORKS VOLUMES; ANY OBSERVED VOLUMETRIC CHANGE IN THE SOILS (EXPANSION AND/OR SHRINKAGE) OF THE PLACED AND COMPACTED MATERIALS THAT IS NOT AT A 1:1 RATIO SHALL BE REPORTED TO THE CLIENT AND ENGINEER BY THE CONTRACTOR.
- ALL STOCKPILES SHOWN IN THESE PLANS ARE ASSUMED TO HAVE 2H:1V SIDE SLOPES. MAXIMUM STOCKPILE HEIGHT IS ASSUMED TO BE 10 FT. CONTRACTOR SHALL NOT CREATE STOCKPILES WITH SIDE SLOPES GREATER THAN 2:1 OR HEIGHTS GREATER THAN 10 FT. WITHOUT WRITTEN APPROVAL FROM THE ENGINEER OR UNLESS INDICATED OTHERWISE IN THESE PLANS. THE STOCKPILE FOOTPRINTS SHOWN IN THESE PLANS ARE ASSUMED TO HAVE AN EXPANSION FACTOR OF 1.25.
- CONTRACTOR TO FIELD VERIFY DIMENSIONS PRIOR TO CONSTRUCTION. ANY DISCREPANCIES IDENTIFIED SHALL BE BROUGHT TO THE INSPECTOR'S OR CONSTRUCTION MANAGER'S ATTENTION AND RECONCILED WITH THE ENGINEER PRIOR TO CONSTRUCTION.
- THE CONTRACTOR SHALL BE RESPONSIBLE TO REPAIR ALL EXISTING DISTURBED AREAS, FENCES, WALLS, SHEDS OR ANY OTHER STRUCTURES DAMAGED DURING CONSTRUCTION ACTIVITIES TO EQUAL OR BETTER CONDITION. ANY DAMAGE TO ADJACENT PROPERTY OFF OF THE CLIENT'S PROPERTY SHALL BE REPORTED TO THE CLIENT'S REPRESENTATIVE FOR AUTHORIZATION PRIOR TO SAID REPAIRS.
- ALL EARTHWORKS SHALL CONFORM TO ELEVATIONS AND GRADES DESIGNATED IN THIS DRAWING PACKAGE. ALLOWABLE TOLERANCES ARE ± 0.10 FEET OF FINISHED FINAL GRADE (FG) FOR ALL EARTHWORKS UNLESS INDICATED OTHERWISE IN THIS DRAWING PACKAGE OR BY THE ENGINEER.
- CONTRACTOR TO PROVIDE BEST MANAGEMENT PRACTICES (BMP) FOR STORMWATER RUNOFF AND SEDIMENT CONTROL IN ACCORDANCE WITH STATE AND FEDERAL GOVERNMENT REQUIREMENTS. IN PARTICULAR, BMP SHALL CONFORM WITH THE FEDERAL CLEAN WATER ACT'S NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) STORMWATER REGULATIONS REQUIREMENTS. DO NOT PERFORM ANY GRADING OR GRUBBING OPERATION SO AS TO CAUSE FALLING ROCKS, SOIL OR DEBRIS IN ANY FORM TO FALL, SLIDE OR FLOW ONTO ADJOINING PROPERTIES, STREETS, OR INTO NATURAL WATERCOURSES.
- ALL PERIMETER EROSION CONTROL MEASURES SHALL BE INSTALLED AND FUNCTIONAL PRIOR TO ANY OTHER EARTH DISTURBING ACTIVITY. ALL OTHER STRUCTURAL EROSION CONTROL MEASURES SHALL BE IMPLEMENTED AS SOON AS THE CONSTRUCTION ACTIVITIES, AROUND WHICH THEY ARE BASED, COMMENCE.

- IMPORTED FILL TO MEET ASTM D-1241 SPECIFICATION FOR TYPE I, GRADE B MATERIAL AS FOLLOWS UNLESS INDICATED OTHERWISE IN THIS DRAWING PACKAGE:
  - 100% SOIL MATERIAL FINER THAN 2-INCH SIEVE.
  - 75% - 95% SOIL MATERIALS FINER THAN 1-INCH SIEVE.
  - 40% - 75% SOIL MATERIALS FINER THAN NO. 3/8 SIEVE.
  - 30% - 60% SOIL MATERIALS FINER THAN NO. 4 SIEVE.
  - 20% - 45% SOIL MATERIALS FINER THAN NO. 10 SIEVE.
  - 15% - 30% SOIL MATERIALS FINER THAN NO. 40 SIEVE.
  - 5% - 15% SOIL MATERIALS FINER THAN NO. 200 SIEVE.
  - MAXIMUM LIQUID LIMIT OF 25.
  - PLASTICITY INDEX (PI) 6 (MAX).
  - MAXIMUM EXPANSIVE POTENTIAL 0.5%.

- THE SPOT CUT/FILL VALUES SHOWN ON THESE DRAWINGS (WHEN APPLICABLE) ARE FOR PROPOSED GROUND VS. SCRAPED (I.E. TOPSOIL REMOVED) GROUND (E.G. +0.7 MEANS THAT THE PROPOSED GROUND IS 0.7 FT ABOVE THE SCRAPED GROUND).
- THE PREFERRED LOCATION(S) FOR PLACEMENT OF HEAVY LOADS ARE IN AREAS OF CUT. IF ANY HEAVY LOADS (E.G. MLVTS, MINION TANKS, ETC.) ARE INTENDED TO BE PLACED ON THE PAD IN FILL AREAS, THE LOAD(S) MUST BE PLACED A MINIMUM OF 30 LINEAR FEET FROM THE EDGE OF THE PAD. THIS REQUIREMENT IS TO PROVIDE ADEQUATE SPACING TO PROTECT AGAINST SLOPE STABILITY ISSUES AND TO PROVIDE SAFE WORKING CONDITIONS IN ACCORDANCE WITH ENGINEERING BEST PRACTICES. CONTRACTOR SHALL CONTACT ASCENT GEOMATICS SOLUTIONS ENGINEERING DEPARTMENT SHOULD A DISCREPANCY BETWEEN THIS REQUIREMENT AND THESE PLANS BE IDENTIFIED AND/OR IF THE CONTRACTOR SEEKS CLARIFICATION ON WHAT CONSTITUTES "HEAVY LOADS".
- HORIZONTAL LIFTS OF FILL SOIL MATERIAL (NON-GRAVELS) DIRECTLY BENEATH AND WITHIN 5.0 FT OF THE WATER TANK TO BE COMPACTED IN 6" (MAX) LIFTS TO 95% MAXIMUM DENSITY (MINIMUM) AT OPTIMUM MOISTURE CONTENT (-2% TO +2%) TO ACHIEVE MAXIMUM DENSITY IN ACCORDANCE WITH ASTM D-1557; A MINIMUM OF THREE (3) COMPACTION TESTS PER 6" LIFT (COMPACTED THICKNESS) SHALL BE PERFORMED FOR THE FILL AREAS DIRECTLY BENEATH AND WITHIN 5.0 FT OF THE WATER TANK TO CONFIRM THAT THE REQUIRED COMPACTION HAS BEEN ACHIEVED.

**FINAL GRADE AND ACCEPTANCE**

- FINAL GRADE TO MAINTAIN POSITIVE (I.E. OFFSITE) DRAINAGE ACROSS THE ENTIRE PROJECT SITE UNLESS SPECIFICALLY INDICATED OTHERWISE IN THIS DRAWING PACKAGE.
  - SETTLEMENT OR WASHBOARDING THAT OCCURS IN GRADED OR BACKFILLED AREAS PRIOR TO ACCEPTANCE OF THE WORK SHALL BE REPAIRED AND GRADES REESTABLISHED TO THE REQUIRED ELEVATIONS AND SLOPES AT NO ADDITIONAL CHARGE TO CLIENT.
  - FINAL SUBGRADE (AS APPLICABLE) TO BE PROOF ROLLED BY A TRUCK WITH A REAR AXLE LOAD OF APPROXIMATE 16,000 LBS./AXLE AND ACCEPTED BY THE INSPECTOR OR CONSTRUCTION MANAGER PRIOR TO FINAL ACCEPTANCE OF SUBGRADE AND PLACEMENT OF GRAVEL TOP LAYER. REMOVE AND REPLACE ANY SOFT MATERIAL WHICH EXHIBITS PERMANENT SUBGRADE DEFORMATION EXCEEDING 0.5".
- SITE COORDINATES NOTES**
- SITE COORDINATES AND DESIGN ARE GRID VALUES BASED ON THE COLORADO STATE PLANE COORDINATE SYSTEM, NORTH AMERICAN DATUM OF 1983, NORTH ZONE, U.S. SURVEY FOOT.
  - AZIMUTHS SHOWN ARE GRID AZIMUTHS. DISTANCES SHOWN ARE GRID DISTANCE.
  - CONTRACTOR TO FIELD VERIFY LOCAL BENCHMARKS /MONUMENTS BEFORE STARTING CONSTRUCTION. CONTRACTOR MAY BE REQUIRED TO RECTIFY TRUE COORDINATES TO MATCH THE NORTHINGS AND EASTINGS SHOWN IN THIS PLAN SET. ANY CONFLICTS WITH LOCAL COORDINATES SHALL BE DISCUSSED WITH FIELD ENGINEER.

**GEOTECHNICAL REPORT**

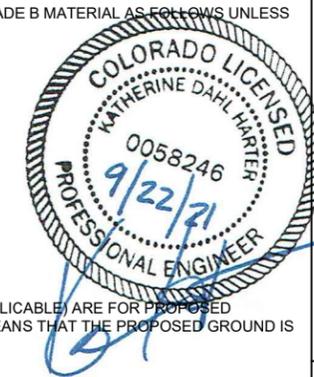
- ASCENT GEOMATICS WAS NOT PROVIDED WITH A GEOTECHNICAL REPORT TO AID IN THE PREPARATION OF THIS GRADING PLAN.

**TITLE REPORT**

- ASCENT GEOMATICS SOLUTIONS WAS NOT PROVIDED A TITLE REPORT FOR THIS SITE. ALL RECORDED DOCUMENTS REFERENCED ON THESE PLANS WERE DOWNLOADED FROM RESEARCH VIA THE WELD COUNTY CLERK AND RECORDER. ASCENT GEOMATICS SOLUTIONS MAKES NO GUARANTY OR WARRANTY, EITHER EXPRESSED OR IMPLIED, TO THE COMPLETENESS OF ENCUMBRANCES TO THE SUBJECT PROPERTY.

**PROJECT SPECIFIC NOTES**

- PAD TO BE CAPPED WITH 6" OF 1-1/2" CRUSHED, ANGULAR STONE AGGREGATE TO BE COMPACTED IN 6" (MAX.) LIFTS TO 95% MAXIMUM DENSITY (MINIMUM) AT OPTIMUM MOISTURE CONTENT (-2% TO +2%) TO ACHIEVE MAXIMUM DENSITY IN ACCORDANCE WITH ASTM D698 UNLESS INDICATED OTHERWISE IN THESE PLANS.



**ASCENT**  
GEOMATICS SOLUTIONS

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WESTMINSTER, CO 80031  
(303) 928-7128

PREPARED FOR:

**noble energy**

NOBLE ENERGY, INC.  
1625 BROADWAY, SUITE 2200  
DENVER, CO 80202  
(303) 228-4000

SHEET NAME:

**GENERAL NOTES**

SURFACE LOCATION  
A18-09 PAD  
NE 1/4 SE 1/4 SECTION 18,  
T6N, R64W, 6TH P.M.,  
WELD COUNTY, COLORADO

REV.	DATE	DESCRIPTION	ISSUED FOR CONSTRUCTION	INT.	AMS
0	09/22/21				

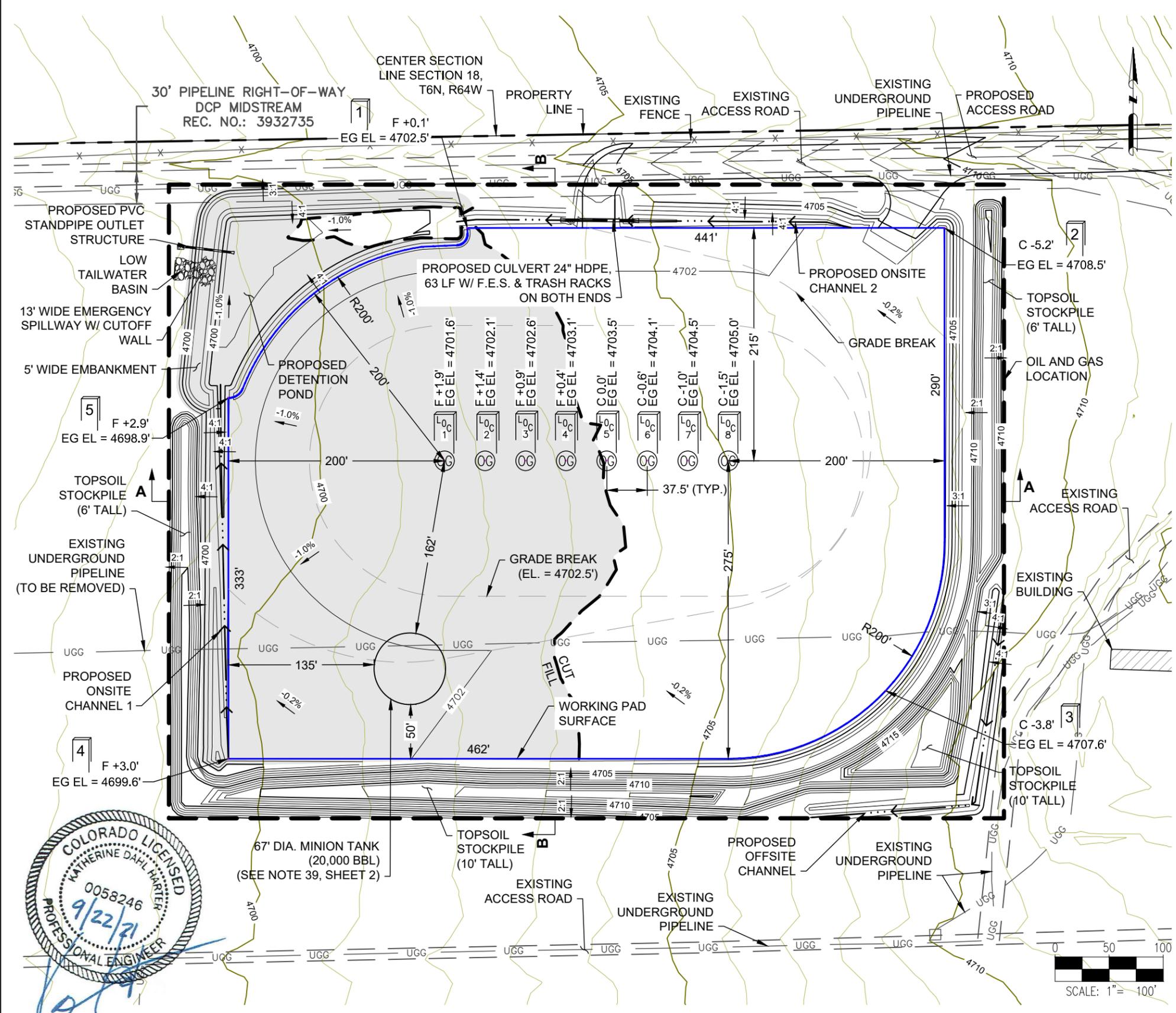
FIELD DATE:  
04-15-2019

DRAWING DATE:  
07-30-2021

DRAFTED BY:  
AMS

SHEET NO.  
02 OF 15

# A18-09 PAD GRADING PLAN



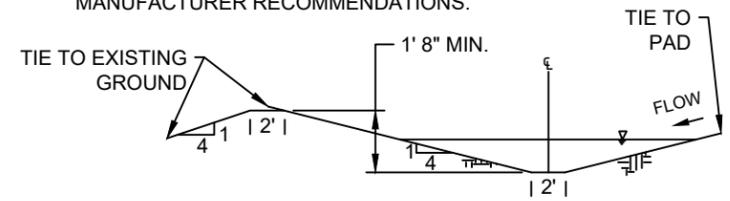
### SITE QUANTITIES

FINISHED GRADE ELEVATION	4702.6' - 4703.8'
ROUGH GRADE ELEVATION	4701.6' - 4702.8'
TOTAL CUT FOR SITE (BANK)	13,942 CY
TOTAL FILL FOR SITE	13,416 CY
NET EXCESS MATERIAL (BANK)	526 CY
TOPSOIL	14,499 CY
OIL AND GAS LOCATION AREA	10.4 ACRES
WORKING PAD SURFACE AREA	7.0 ACRES
ACCESS ROAD DISTURBANCE AREA	0.8 ACRES
PIPELINE CORRIDOR AREA	10.2 ACRES

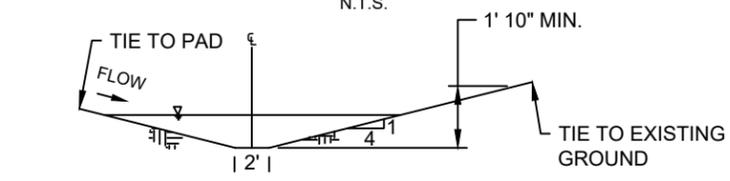
FOOSE A16-685	FOOSE A16-647
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FOOSE A16-656	FOOSE A16-618

#### NOTES:

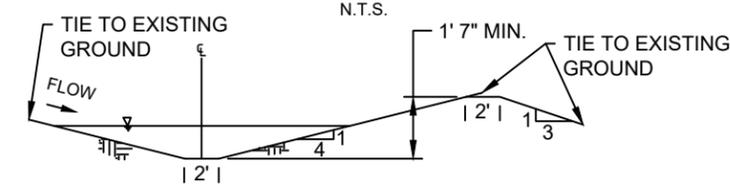
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- CULVERTS TO BE INSTALLED IN ACCORDANCE WITH MANUFACTURER RECOMMENDATIONS.



**ONSITE CHANNEL 1 DETAIL**  
N.T.S.



**ONSITE CHANNEL 2 DETAIL**  
N.T.S.



**OFFSITE CHANNEL DETAIL**  
N.T.S.

**DISCLAIMER:**  
THIS PLOT DOES NOT REPRESENT A MONUMENTED LAND SURVEY AND SHOULD NOT BE RELIED UPON TO DETERMINE BOUNDARY LINES, PROPERTY OWNERSHIP OR OTHER PROPERTY INTERESTS. PARCEL LINES, IF DEPICTED HAVE NOT BEEN FIELD VERIFIED AND MAY BE BASED UPON PUBLICLY AVAILABLE DATA THAT ALSO HAS NOT BEEN INDEPENDENTLY VERIFIED.



**ASCENT**  
GEOMATICS SOLUTIONS

ASCENT GEOMATICS SOLUTIONS  
8620 WOLFF COURT  
WESTMINSTER, CO 80031  
(303) 928-7128

PREPARED FOR:  
**noble energy**

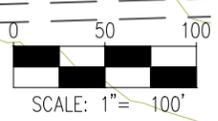
NOBLE ENERGY, INC.  
1625 BROADWAY, SUITE 2200  
DENVER, CO 80202  
(303) 228-4000

SHEET NAME:  
**PAD LAYOUT**

SURFACE LOCATION  
**A18-09 PAD**  
NE 1/4 SE 1/4 SECTION 18,  
T6N, R64W, 6TH P.M.  
WELD COUNTY, COLORADO

REV.	DATE	DESCRIPTION	INT.
0	09/22/21	ISSUED FOR CONSTRUCTION	AMS

FIELD DATE:	04-15-2019
DRAWING DATE:	07-30-2021
DRAFTED BY:	AMS
SHEET NO.	03 OF 15



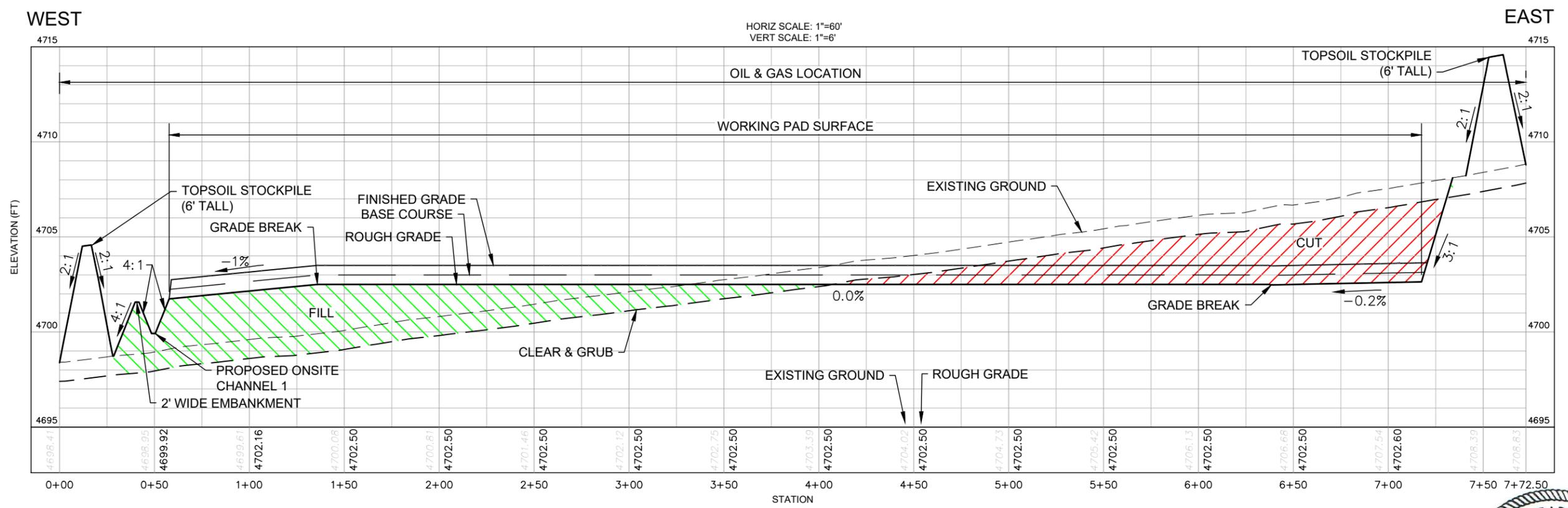
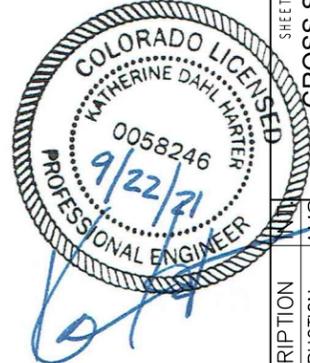
# A18-09 PAD GRADING PLAN

**ASCENT**  
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8620 WOLFF COURT  
WESTMINSTER, CO 80031  
(303) 928-7128

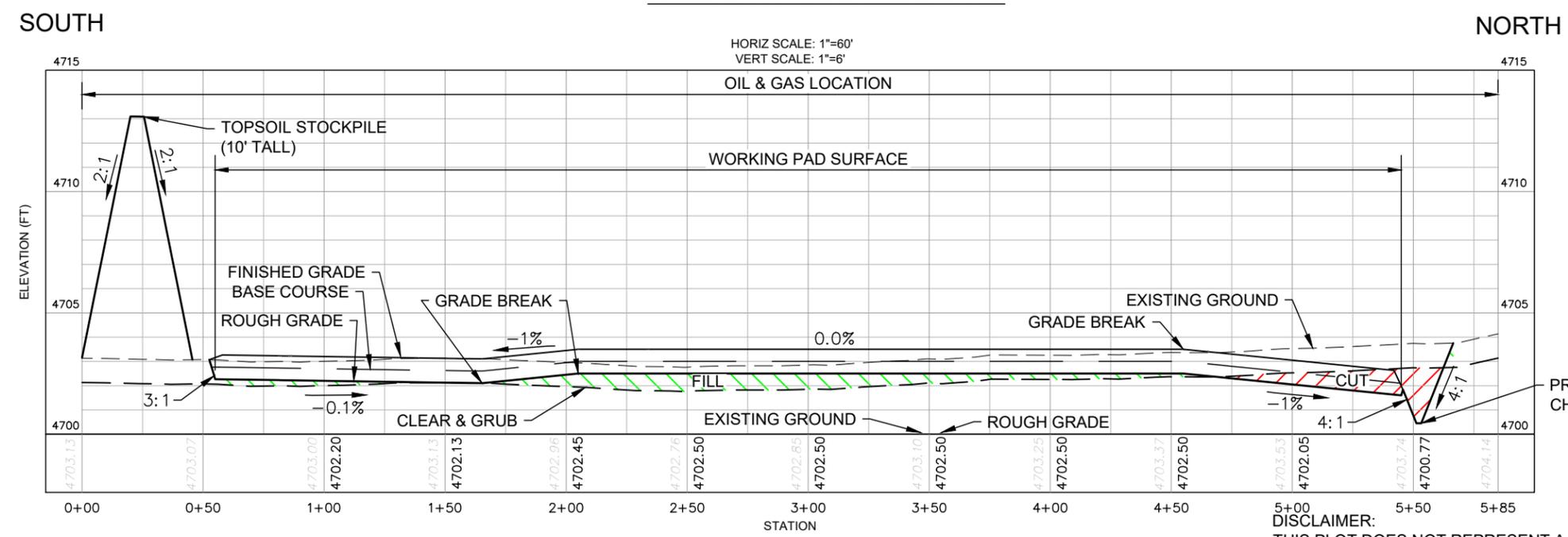
PREPARED FOR:  
**noble energy**

NOBLE ENERGY, INC.  
1625 BROADWAY, SUITE 2200  
DENVER, CO 80202  
(303) 228-4000

SHEET NAME: **CROSS SECTIONS**  
SURFACE LOCATION  
A18-09 PAD  
NE 1/4 SE 1/4 SECTION 18,  
T6N, R64W, 6TH P.M.,  
WELD COUNTY, COLORADO



**SECTION A - LOOKING NORTH**



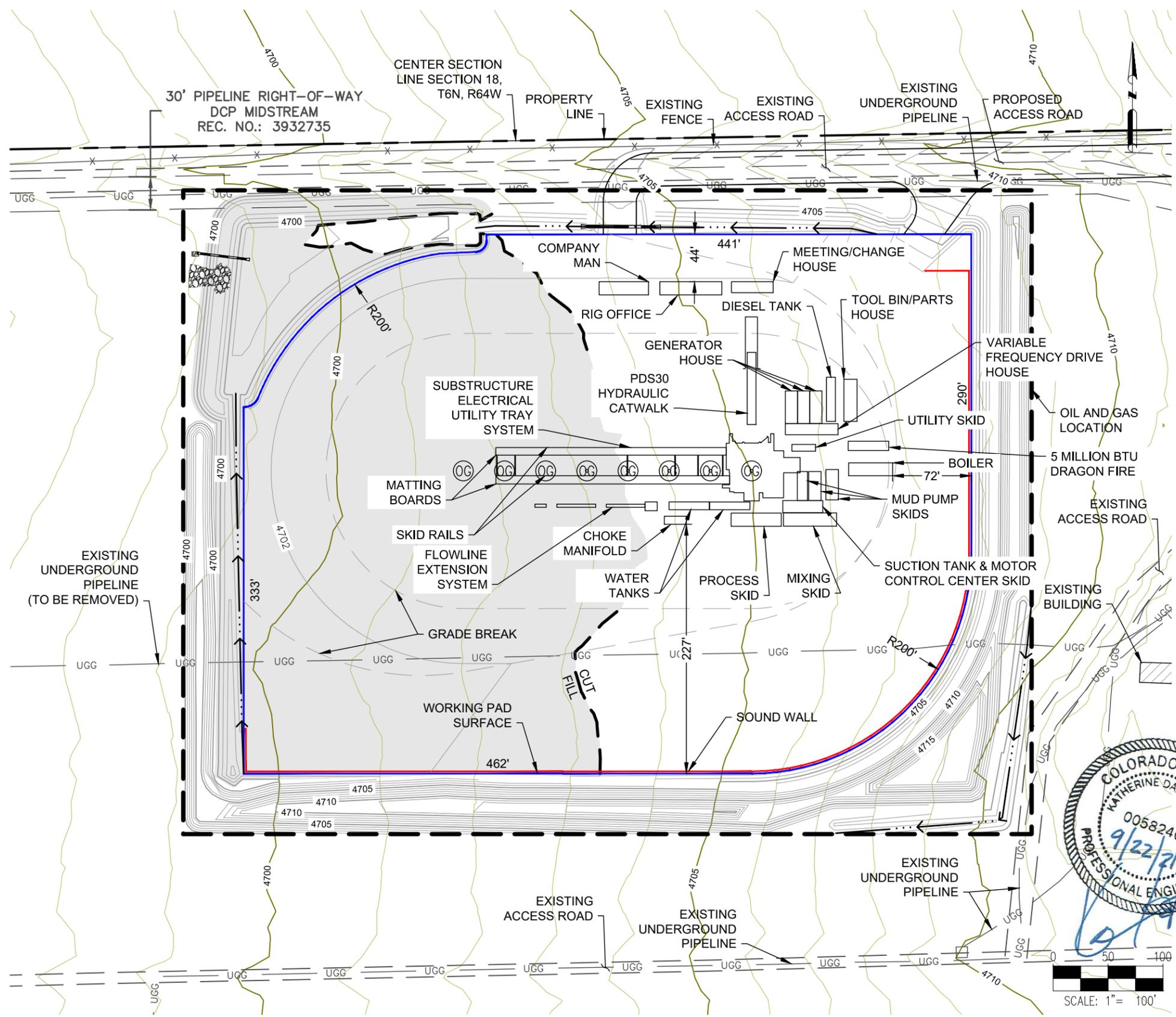
**SECTION B - LOOKING WEST**

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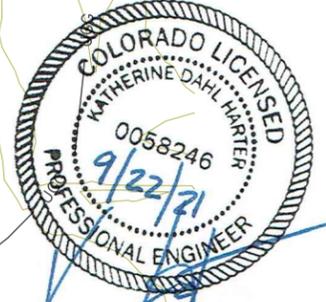
REV.	DATE	REVISION DESCRIPTION	ISSUED FOR CONSTRUCTION	AMS
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FIELD DATE: 04-15-2019  
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SHEET NO. 04 OF 15

# A18-09 PAD GRADING PLAN



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 (303) 928-7128

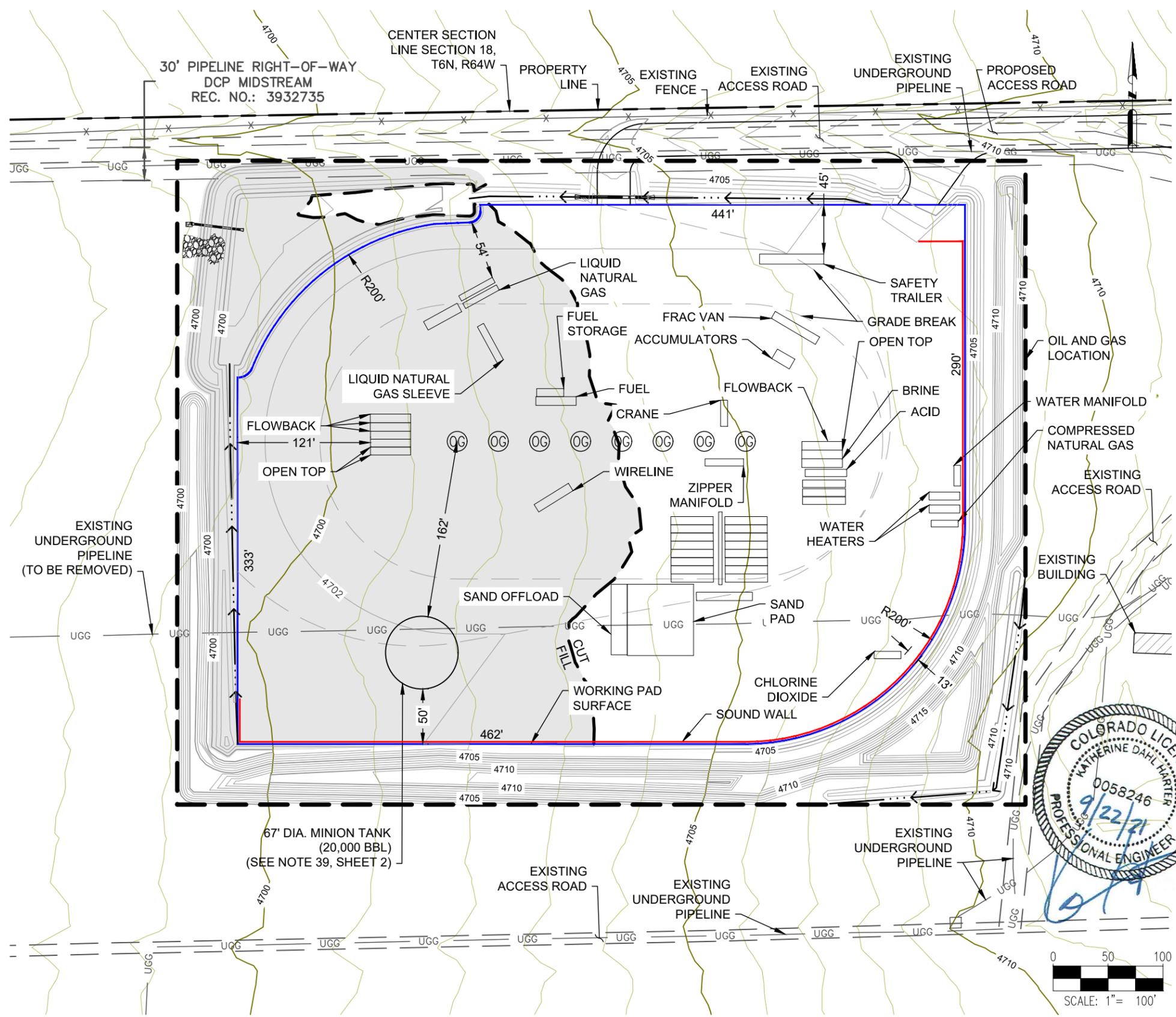
PREPARED FOR:  
**noble energy**  
 NOBLE ENERGY, INC.  
 1625 BROADWAY, SUITE 2200  
 DENVER, CO 80202  
 (303) 228-4000

SHEET NAME:  
**RIG LAYOUT**  
 SURFACE LOCATION  
 A18-09 PAD  
 NE 1/4 SE 1/4 SECTION 18,  
 T6N, R64W, 6TH P.M.,  
 WELD COUNTY, COLORADO

REV.	DATE	REVISION DESCRIPTION	INT.
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FIELD DATE:  
 04-15-2019  
 DRAWING DATE:  
 07-30-2021  
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 AMS  
 SHEET NO.  
 05 OF 15

# A18-09 PAD GRADING PLAN



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 GEOMATICS SOLUTIONS  
 8620 WOLFF COURT  
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 (303) 928-7128

PREPARED FOR:  
**noble energy**  
 NOBLE ENERGY, INC.  
 1625 BROADWAY, SUITE 2200  
 DENVER, CO 80202  
 (303) 228-4000

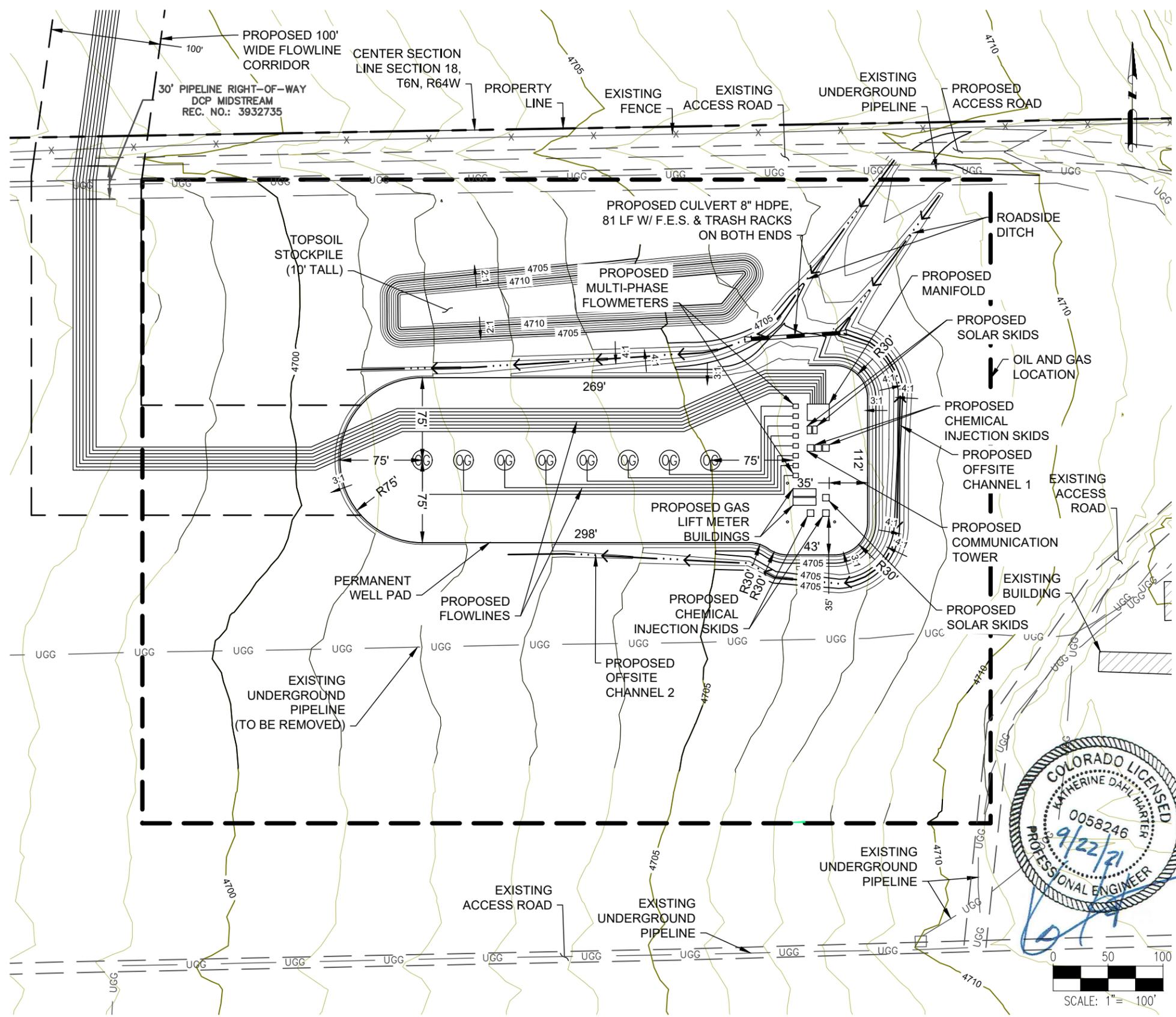
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 SURFACE LOCATION  
 A18-09 PAD  
 NE 1/4 SE 1/4 SECTION 18,  
 T6N, R64W, 6TH P.M.,  
 WELD COUNTY, COLORADO

REV.	DATE	DESCRIPTION	INT.
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FIELD DATE:  
 04-15-2019  
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# A18-09 PAD GRADING PLAN

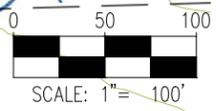
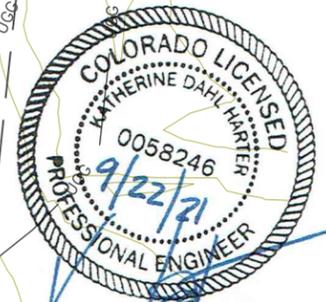
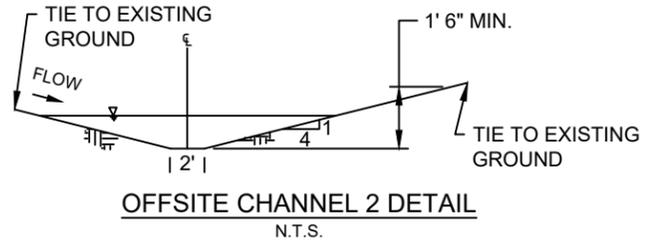
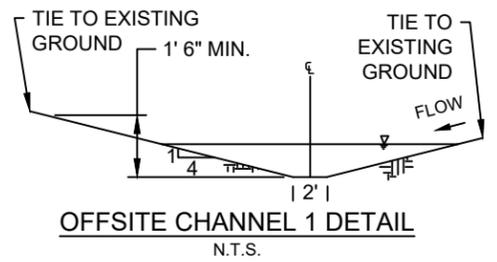


### SITE QUANTITIES

TOTAL CUT FOR SITE (BANK)	11,406 CY
TOTAL FILL FOR SITE	11,386 CY
NET EXCESS MATERIAL (BANK)	20 CY
RECLAIMED AREA	7.4 ACRES
PERMANENT DISTURBANCE AREA	3.0 ACRES
OIL AND GAS LOCATION AREA	10.4 ACRES

**NOTES:**

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2. CULVERTS TO BE INSTALLED IN ACCORDANCE WITH MANUFACTURER RECOMMENDATIONS.



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ASCENT GEOMATICS SOLUTIONS  
8620 WOLFF COURT  
WESTMINSTER, CO 80031  
(303) 928-7128

---

PREPARED FOR:  
**noble energy**

NOBLE ENERGY, INC.  
1625 BROADWAY, SUITE 2200  
DENVER, CO 80202  
(303) 228-4000

---

SHEET NAME:  
**INTERIM - RECLAMATION LAYOUT**

SURFACE LOCATION  
A18-09 PAD  
NE 1/4 SE 1/4 SECTION 18,  
T6N, R64W, 6TH P.M.  
WELD COUNTY, COLORADO

REV.	DATE	REVISION DESCRIPTION	INT.	AMS
0	09/22/21	ISSUED FOR CONSTRUCTION		

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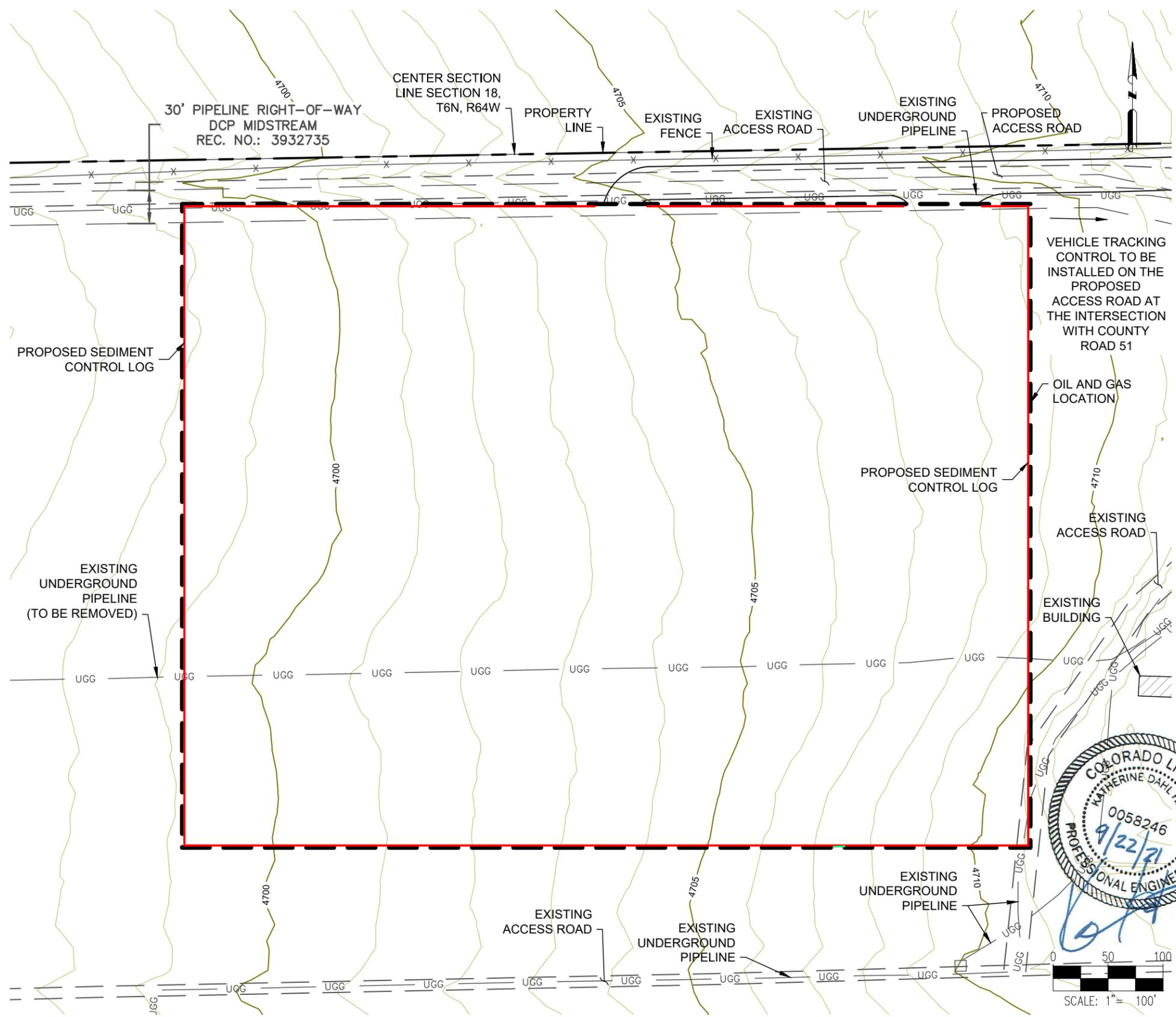
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DRAWING DATE:  
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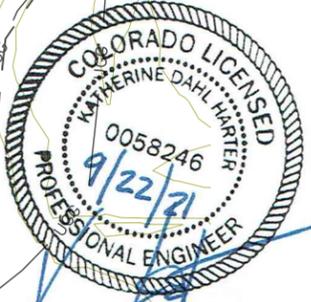
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SHEET NO.  
08 OF 15

A18-09 PAD  
GRADING PLAN



NOTES:  
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**ASCENT**  
GEOMATICS SOLUTIONS  
8620 WOLFF COURT  
WESTMINSTER, CO 80031  
(303) 928-7128

PREPARED FOR:  
**noble energy**

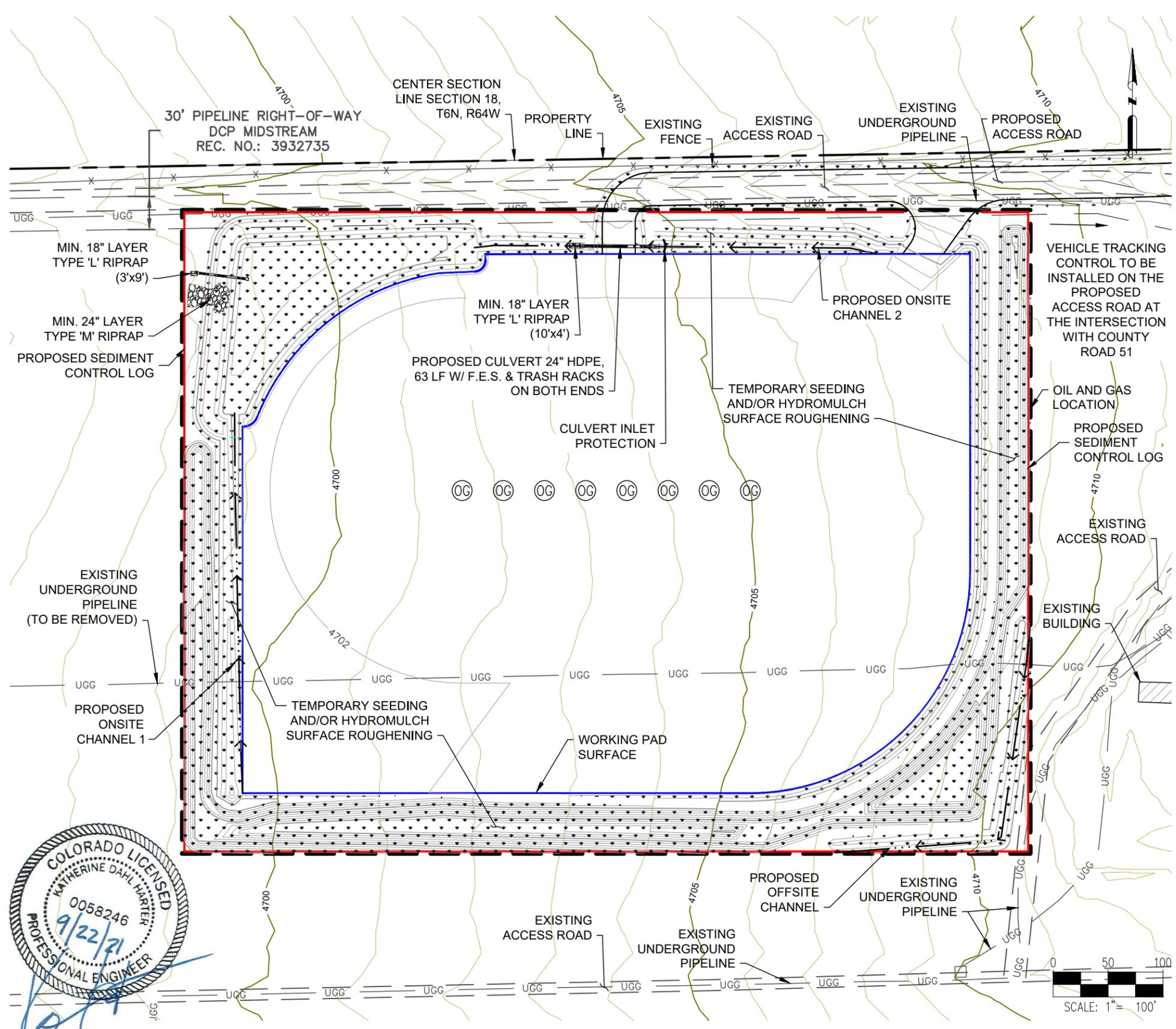
NOBLE ENERGY, INC.  
1625 BROADWAY, SUITE 2200  
DENVER, CO 80202  
(303) 228-4000

SHEET NAME:  
EROSION & SEDIMENT CONTROL PLAN - INITIAL  
SURFACE LOCATION  
A18-09 PAD  
NE 1/4 SE 1/4 SECTION 18,  
T6N, R64W, 6TH P.M.,  
WELD COUNTY, COLORADO

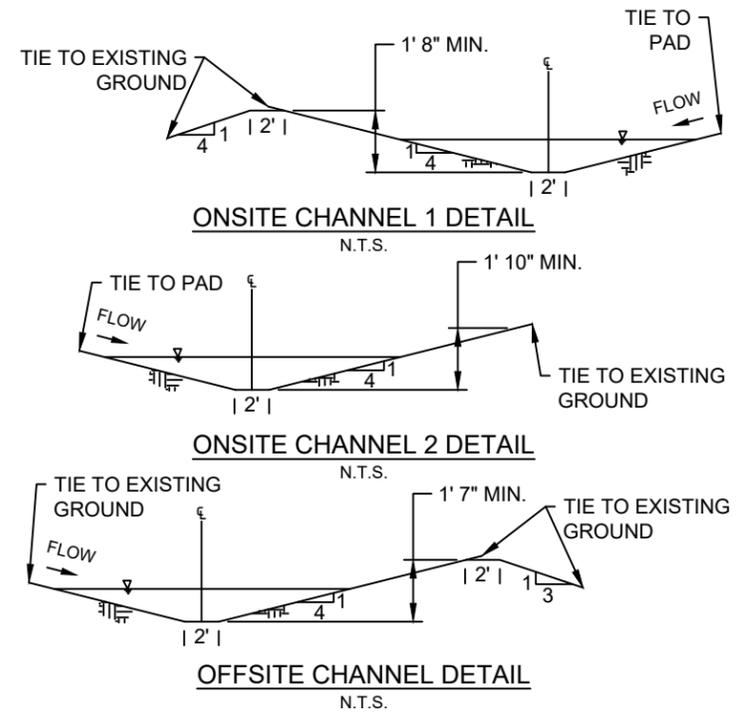
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0	09/22/21			AMS

FIELD DATE:  
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DRAFTED BY:  
AMS  
SHEET NO.  
09 OF 15

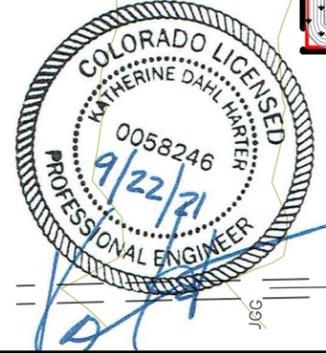
# A18-09 PAD GRADING PLAN



- NOTES:**
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  2. CULVERTS TO BE INSTALLED IN ACCORDANCE WITH MANUFACTURER RECOMMENDATIONS.

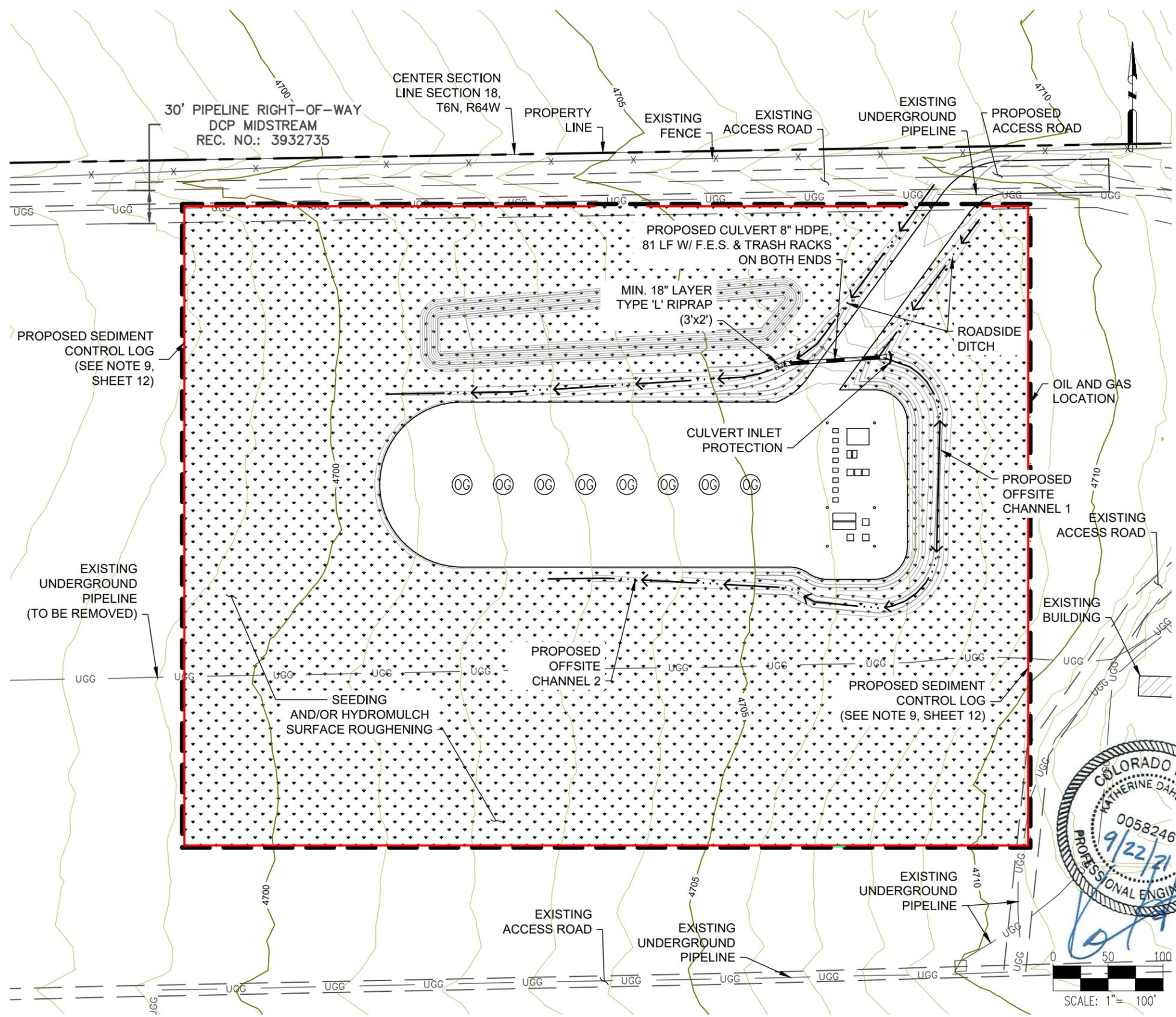


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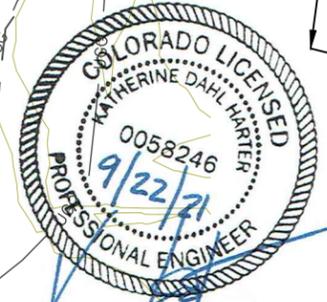
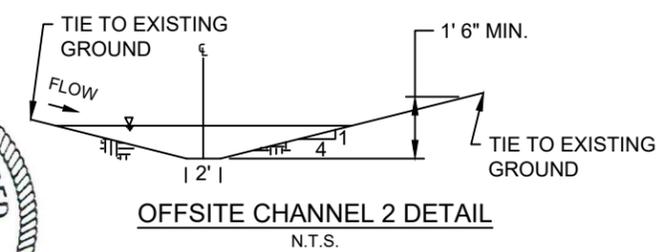
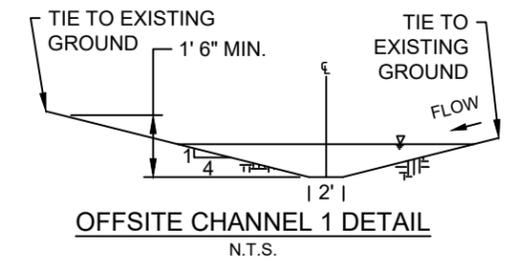


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# A18-09 PAD GRADING PLAN



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  2. CULVERTS TO BE INSTALLED IN ACCORDANCE WITH MANUFACTURER RECOMMENDATIONS.



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**ASCENT GEOMATICS SOLUTIONS**  
8620 WOLFF COURT  
WESTMINSTER, CO 80031  
(303) 928-7128

PREPARED FOR:  
**noble energy**  
NOBLE ENERGY, INC.  
1625 BROADWAY, SUITE 2200  
DENVER, CO 80202  
(303) 228-4000

SHEET NAME:  
**EROSION & SEDIMENT CONTROL PLAN - FINAL**  
SURFACE LOCATION  
A18-09 PAD  
NE 1/4 SE 1/4 SECTION 18,  
T6N, R64W, 6TH P.M.,  
WELD COUNTY, COLORADO

REV.	DATE	DESCRIPTION	ISSUED FOR CONSTRUCTION	INT.	AMS
0	09/22/21				

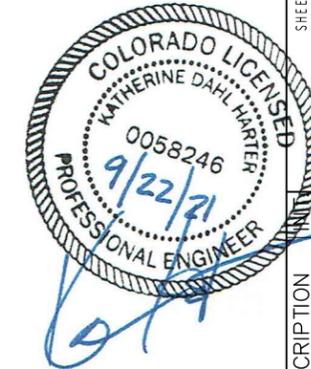
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04-15-2019  
DRAWING DATE:  
07-30-2021  
DRAFTED BY:  
AMS  
SHEET NO.  
11 OF 15

A18-09 PAD  
GRADING PLAN

STANDARD EROSION AND SEDIMENT CONTROL PLAN NOTES

1. THE OPERATOR HOLDS A CURRENT STORMWATER CONSTRUCTION PERMIT AND STORMWATER MANAGEMENT PLAN (SWMP) IN ACCORDANCE WITH COLORADO DEPARTMENT OF PUBLIC HEALTH AND ENVIRONMENT REQUIREMENTS. CONSTRUCTION, MATERIALS MANAGEMENT, AND BMP INSTALLING/MAINTENANCE WILL BE CONDUCTED ACCORDING THE SWMP. BMPS WILL BE ROUTINELY INSPECTED AS ESTABLISHED IN THE SWMP INSPECTION SCHEDULE. INSPECTION REPORTS, REPAIR LOGS, ETC. ARE MAINTAINED IN AN ONLINE DATABASE, AND AVAILABLE TO THE DEPARTMENT OR OTHER AGENCIES UPON REQUEST.
2. ALL EARTH DISTURBANCE ACTIVITIES SHALL PROCEED IN ACCORDANCE WITH THE SEQUENCE PROVIDED ON THE PLAN DRAWINGS. DEVIATION FROM THAT SEQUENCE MUST BE APPROVED IN WRITING FROM WELD COUNTY PUBLIC WORKS.
3. CLEARING, GRUBBING, AND TOPSOIL STRIPPED SHALL BE LIMITED TO THOSE AREAS DESCRIBED IN EACH STAGE OF THE CONSTRUCTION SEQUENCE. GENERAL SITE CLEARING, GRUBBING AND TOPSOIL STRIPPING MAY NOT COMMENCE IN ANY STAGE OR PHASE OF THE PROJECT UNTIL THE E&S BMPS SPECIFIED BY THE BMP SEQUENCE FOR THAT STAGE OR PHASE HAVE BEEN INSTALLED AND ARE FUNCTIONING AS DESCRIBED IN THE E&S PLAN.
4. AT NO TIME SHALL CONSTRUCTION VEHICLES BE ALLOWED TO ENTER AREAS OUTSIDE THE LIMIT OF DISTURBANCE BOUNDARIES SHOWN ON THE PLAN MAPS. THESE AREAS MUST BE CLEARLY MARKED AND FENCED OFF BEFORE CLEARING AND GRUBBING OPERATIONS BEGIN.
5. IMMEDIATELY UPON DISCOVERING UNFORESEEN CIRCUMSTANCES POSING THE POTENTIAL FOR ACCELERATED EROSION AND/OR SEDIMENT POLLUTION, CONTRACTOR SHALL IMPLEMENT APPROPRIATE BEST MANAGEMENT PRACTICES TO MINIMIZE THE POTENTIAL FOR EROSION AND SEDIMENT POLLUTION.
6. SEDIMENT TRACKED ONTO ANY PUBLIC ROADWAY OR SIDEWALK SHALL BE RETURNED TO THE CONSTRUCTION SITE BY THE END OF EACH WORK DAY AND DISPOSED IN THE MANNER DESCRIBED IN THIS PLAN. IN NO CASE SHALL THE SEDIMENT BE WASHED, SHOVELED, OR SWEEPED INTO ANY ROADSIDE DITCH, STORM SEWER, OR SURFACE WATER.
7. ALL SEDIMENT REMOVED FROM BMPS SHALL BE PLACED WITHIN THE RIGHT-OF-WAY EXCEPT IN WETLAND AREAS OR AS OTHERWISE DESCRIBED IN THE PLAN DRAWINGS.
8. AREAS WHICH ARE TO BE TOP SOILED SHALL BE SCARIFIED TO A MINIMUM DEPTH OF 3 TO 5 INCHES - 6 TO 12 INCHES ON COMPACTED SOILS - PRIOR TO PLACEMENT OF TOPSOIL. AREAS TO BE VEGETATED SHALL HAVE A MINIMUM 4 INCHES OF TOPSOIL IN PLACE PRIOR TO SEEDING AND MULCHING. FILL OUTSLOPES SHALL HAVE A MINIMUM OF 2 INCHES OF TOPSOIL.
9. E&S BMPS SHALL REMAIN FUNCTIONAL AS SUCH UNTIL ALL AREAS TRIBUTARY TO THEM ARE PERMANENTLY STABILIZED OR UNTIL THEY ARE REPLACED BY ANOTHER BMP APPROVED BY THE LOCAL CONSERVATION DISTRICT OR THE DEPARTMENT.
10. UPON COMPLETION OF ALL EARTH DISTURBANCE ACTIVITIES AND PERMANENT STABILIZATION OF ALL DISTURBED AREAS, THE OWNER AND/OR OPERATOR SHALL CONTACT THE LOCAL CONSERVATION DISTRICT FOR AN INSPECTION PRIOR TO REMOVAL/CONVERSION OF THE E&S BMPS.

11. UNDERGROUND UTILITIES CUTTING THROUGH ANY ACTIVE CHANNEL SHALL BE IMMEDIATELY BACKFILLED AND THE CHANNEL RESTORED TO ITS ORIGINAL CROSS-SECTION AND PROTECTIVE LINING. ANY BASE FLOW WITHIN THE CHANNEL SHALL BE CONVEYED PAST THE WORK AREA IN THE MANNER DESCRIBED IN THIS PLAN UNTIL SUCH RESTORATION IS COMPLETE.
12. AN AREA SHALL BE CONSIDERED TO HAVE ACHIEVED FINAL STABILIZATION WHEN IT HAS A MINIMUM UNIFORM 70% PERENNIAL VEGETATIVE COVER OR OTHER PERMANENT NON-VEGETATIVE COVER WITH A DENSITY SUFFICIENT TO RESIST ACCELERATED SURFACE EROSION AND SUBSURFACE CHARACTERISTICS SUFFICIENT TO RESIST SLIDING AND OTHER MOVEMENTS.
13. AT STREAM CROSSINGS, 50' BUFFER AREAS SHOULD BE MAINTAINED. ON BUFFERS, CLEARING, SOD DISTURBANCES, EXCAVATION, AND EQUIPMENT TRAFFIC SHOULD BE MINIMIZED. ACTIVITIES SUCH AS STACKING LOGS, BURNING CLEARED BRUSH, DISCHARGING RAINWATER FROM TRENCHES, WELDING PIPE SECTIONS, REFUELING AND MAINTAINING EQUIPMENT SHOULD BE ACCOMPLISHED OUTSIDE OF BUFFERS.
14. MULCH WITH NETTING OR EROSION CONTROL MATS MUST BE INSTALLED ON ALL SLOPES 3:1 AND STEEPER AND WITHIN 100' OF SPECIAL PROTECTION WATERS OR 50' OF SURFACE WATERS.
15. THE OPERATOR SHALL REMOVE FROM THE SITE, RECYCLE, OR DISPOSE OF ALL BUILDING MATERIALS AND WASTES IN ACCORDANCE WITH THE DEPARTMENT'S SOLID WASTE MANAGEMENT REGULATIONS. THE CONTRACTOR SHALL NOT ILLEGALLY BURY, DUMP, OR DISCHARGE ANY BUILDING MATERIAL OR WASTES AT THE SITE.



**ASCENT**  
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WESTMINSTER, CO 80031  
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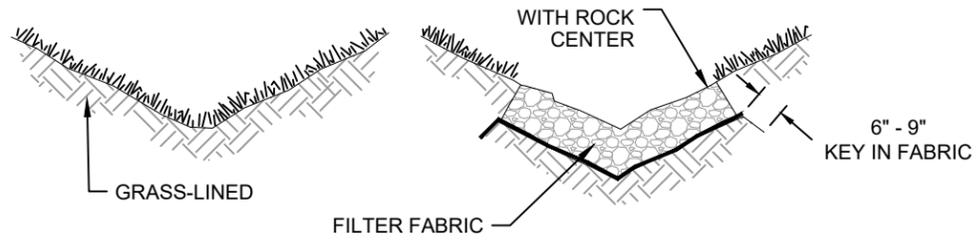
PREPARED FOR:  
**noble energy**  
NOBLE ENERGY, INC.  
1625 BROADWAY, SUITE 2200  
DENVER, CO 80202  
(303) 228-4000

SHEET NAME:  
**STANDARD EROSION & SEDIMENT CONTROL NOTES**  
SURFACE LOCATION  
A18-09 PAD  
NE 1/4 SE 1/4 SECTION 18,  
T6N, R64W, 6TH P.M.,  
WELD COUNTY, COLORADO

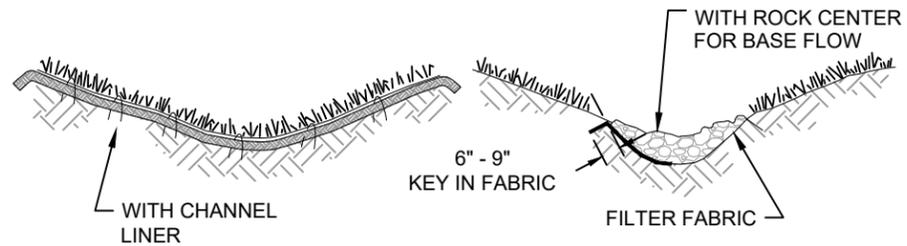
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0	09/22/21					

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AMS  
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12 OF 15

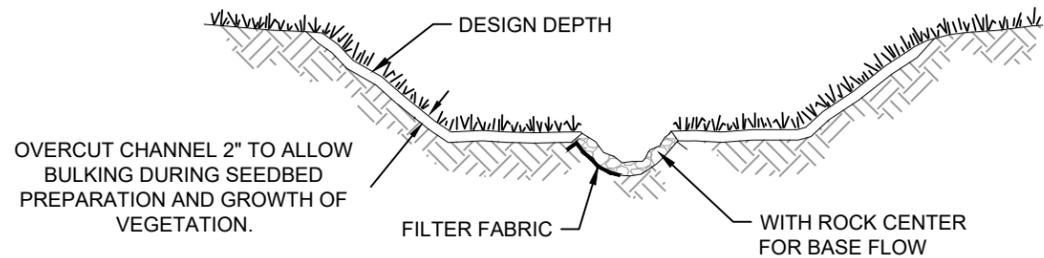
TYPICAL V-SHAPED CHANNEL CROSS-SECTION



TYPICAL PARABOLIC CHANNEL CROSS-SECTION

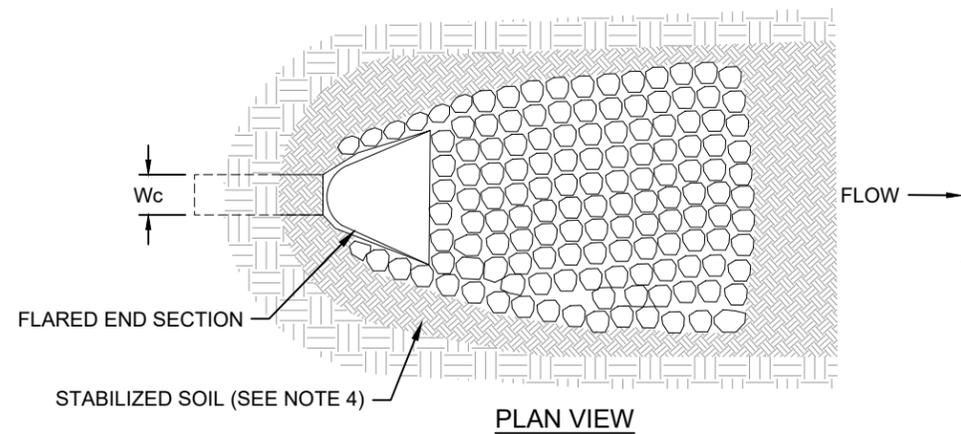


TYPICAL TRAPEZOIDAL CHANNEL CROSS-SECTION

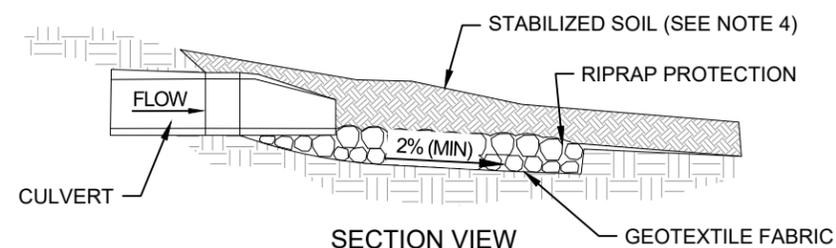


TYPICAL GRASS-LINED CHANNELS

SCALE: NOT TO SCALE



PLAN VIEW



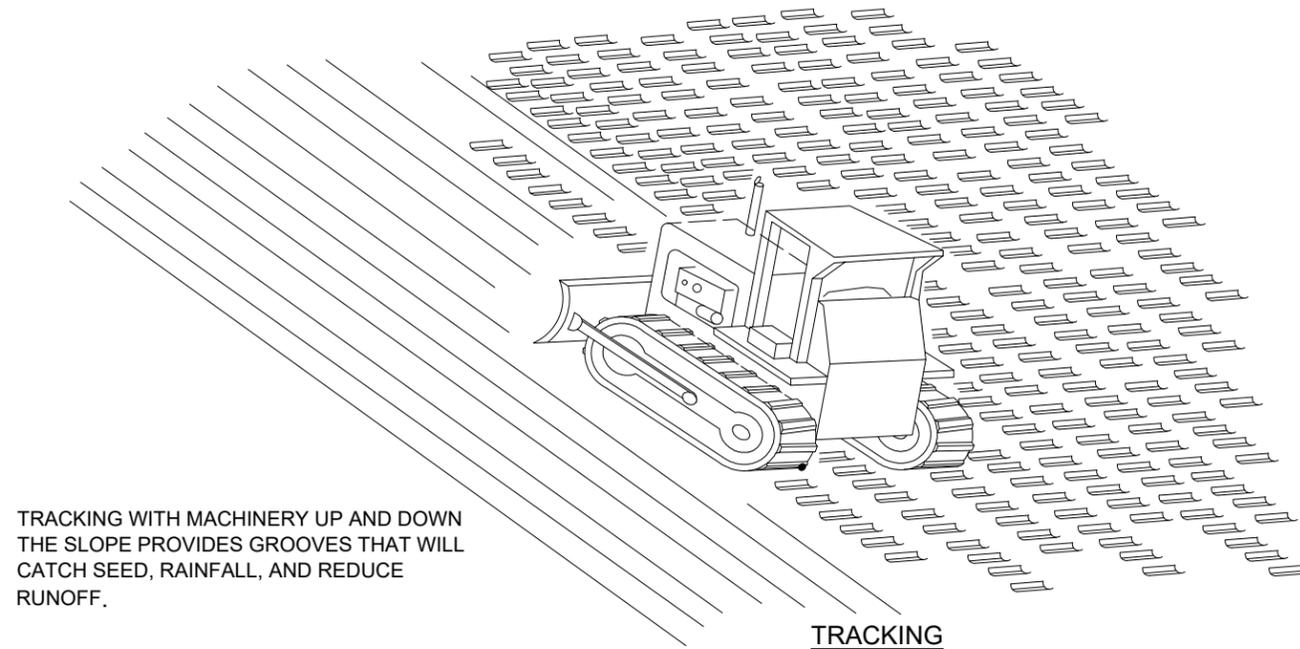
SECTION VIEW

OUTLET PROTECTION

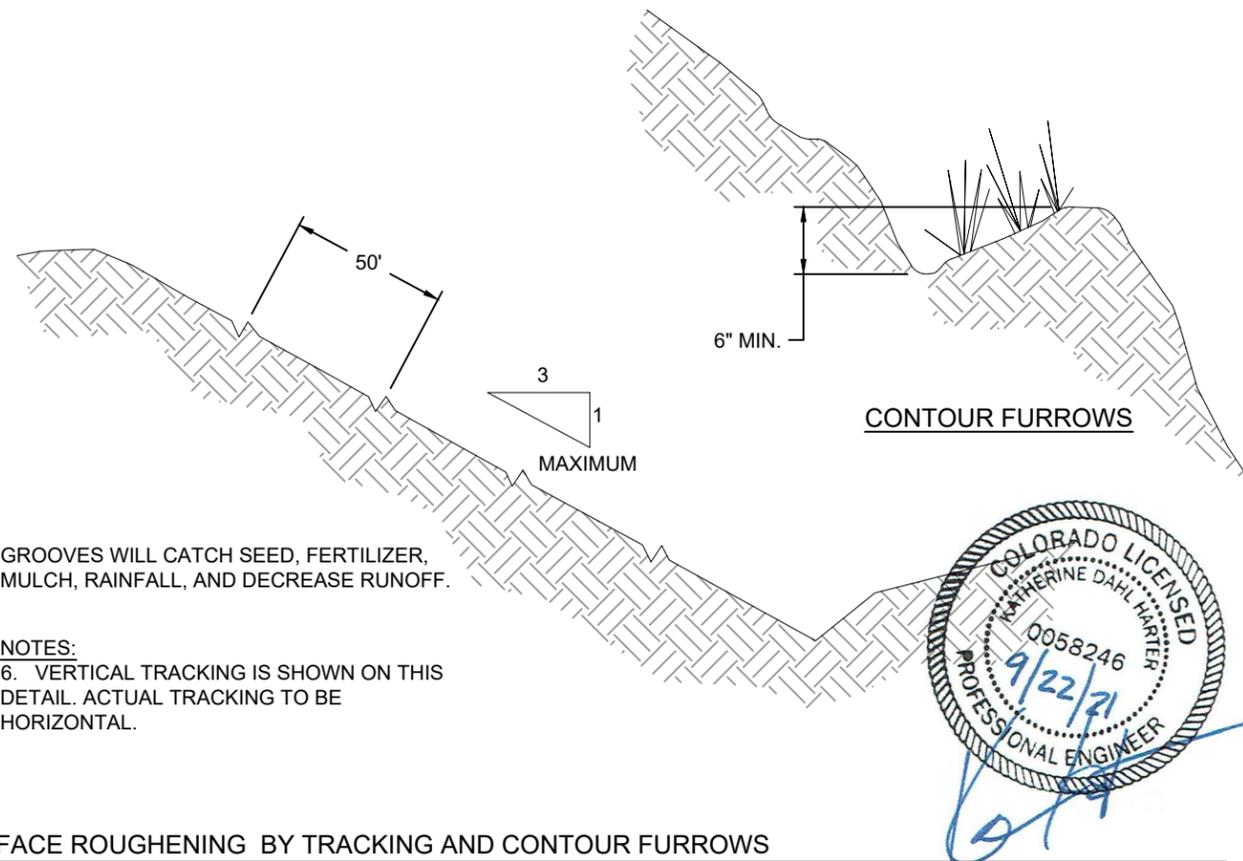
SCALE: NOT TO SCALE

- OUTLET PROTECTION NOTES:**
1. THE MINIMUM THICKNESS OF RIPRAP SHOULD BE 1.5 TIMES THE MAXIMUM STONE DIAMETER, BUT NOT LESS THAN 4".
  2. INSTALL FABRIC TO PREVENT SOIL EROSION BENEATH RIPRAP.
  3. RIPRAP MAY BE INSTALLED USING MECHANICAL EQUIPMENT, AVOID DAMAGING FABRIC.
  4. STABILIZED ALL DISTRIBUTED AREAS IMMEDIATELY AFTER CONSTRUCTION.
  5. INSPECT RIPRAP OUTLET STRUCTURES AFTER HEAVY RAINS AND SPRING SNOWMELT. REPAIR AS REQUIRED.

A18-09 PAD  
GRADING PLAN



TRACKING WITH MACHINERY UP AND DOWN THE SLOPE PROVIDES GROOVES THAT WILL CATCH SEED, RAINFALL, AND REDUCE RUNOFF.



CONTOUR FURROWS

GROOVES WILL CATCH SEED, FERTILIZER, MULCH, RAINFALL, AND DECREASE RUNOFF.

**NOTES:**  
6. VERTICAL TRACKING IS SHOWN ON THIS DETAIL. ACTUAL TRACKING TO BE HORIZONTAL.

SURFACE ROUGHENING BY TRACKING AND CONTOUR FURROWS

SCALE: NOT TO SCALE

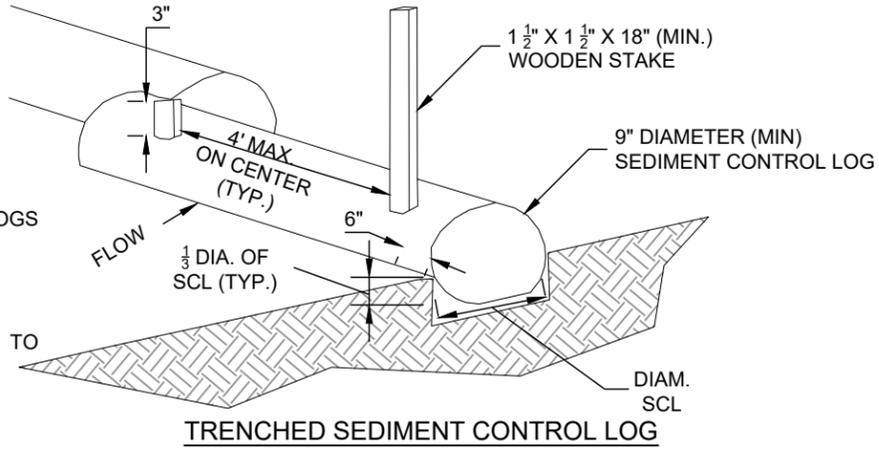


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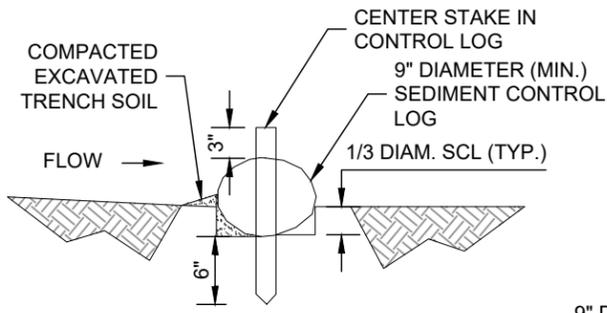
### A18-09 PAD GRADING PLAN

**NOTES:**

1. LARGER DIAMETER SEDIMENT CONTROL LOGS MAY NEED TO BE EMBEDDED DEEPER.
2. PLACE LOG AGAINST SIDEWALK OR BACK OF CURB WHEN ADJACENT TO THESE FEATURES.

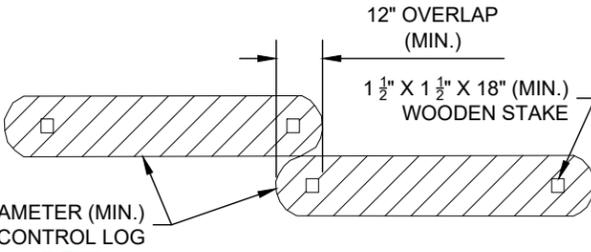


**TRENCHED SEDIMENT CONTROL LOG**



**SECTION A  
TRENCHED SEDIMENT CONTROL LOG**

**TRENCHED SEDIMENT CONTROL LOG**

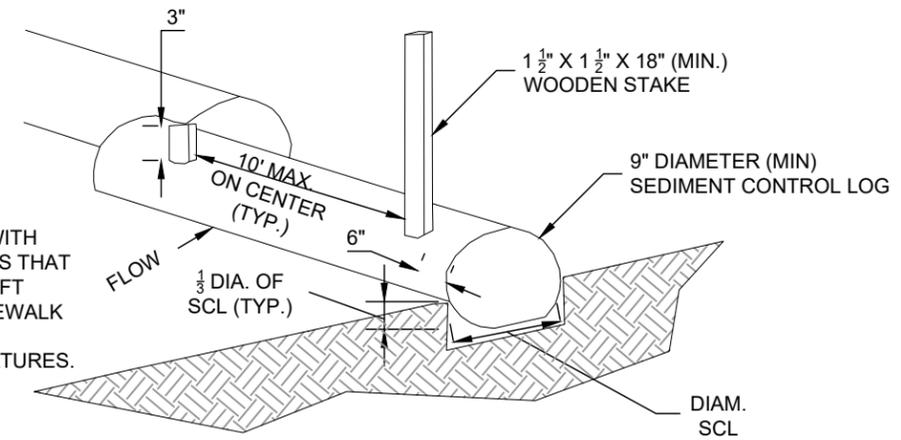


**LOG JOINTS**

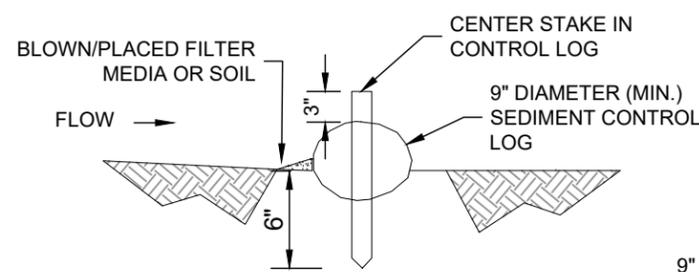
SCALE: NOT TO SCALE

**NOTES:**

3. THIS DETAIL IS FOR USE WITH SEDIMENT CONTROL LOGS THAT AREA A MINIMUM OF 8 LB/FT
4. PLACE LOG AGAINST SIDEWALK OR BACK OF CURB WHEN ADJACENT TO THESE FEATURES.

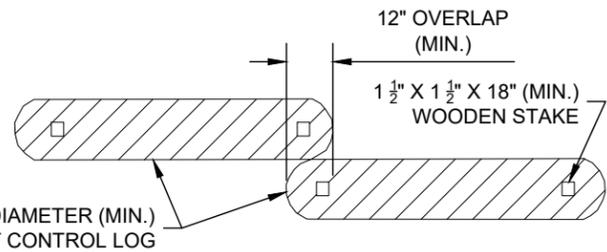


**COMPOST SEDIMENT CONTROL LOG  
(WEIGHTED)**



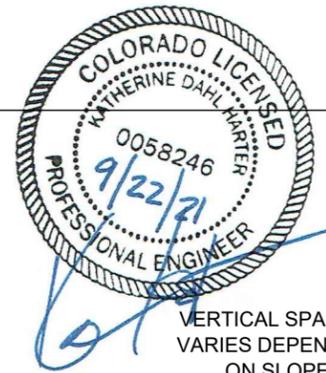
**SECTION A  
COMPOST SEDIMENT CONTROL LOG**

**COMPOST SEDIMENT CONTROL LOG (WEIGHTED)**



**LOG JOINTS**

SCALE: NOT TO SCALE

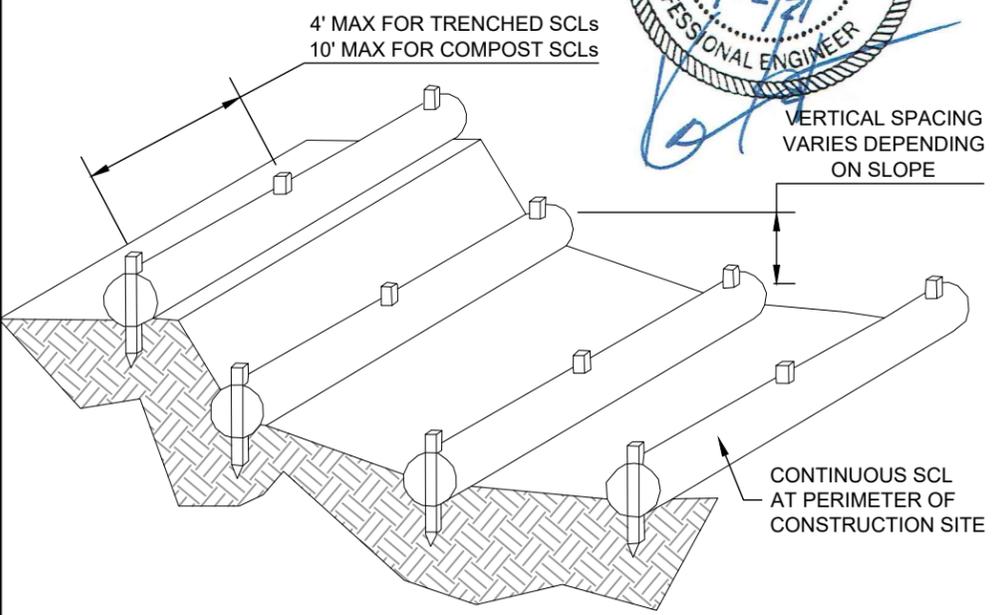


**SEDIMENT CONTROL LOG INSTALLATION NOTES:**

5. SEE PLAN VIEW FOR LOCATION AND LENGTH OF SEDIMENT CONTROL LOGS.
6. SEDIMENT CONTROL LOGS THAT ACT AS A PERIMETER CONTROL SHALL BE INSTALLED PRIOR TO ANY UPGRADIENT LAND-DISTURBING ACTIVITIES.
7. SEDIMENT CONTROL LOGS SHALL CONSIST OF STRAW, COMPOST, EXCELSIOR OR COCONUT FIBER, AND SHALL BE FREE OF ANY NOXIOUS WEED SEEDS OR DEFECTS INCLUDING RIPS, HOLES, AND OBVIOUS WEAR.
8. SEDIMENT CONTROL LOGS MAY BE USED AS SMALL CHECK DAMS IN DITCHES AND SWALES. HOWEVER, THEY SHOULD NOT BE USED IN PERENNIAL STREAMS.
9. IT IS RECOMMENDED THAT SEDIMENT CONTROL LOGS BE TRENCHED INTO THE GROUND TO A DEPTH OF APPROXIMATELY 1/3 OF THE DIAMETER OF THE LOG. IF TRENCHING TO THIS DEPTH IS NOT FEASIBLE AND/OR DESIRABLE (SHORT TERM INSTALLATION WITH DESIRE NOT TO DAMAGE LANDSCAPE) A LESSER TRENCHING DEPTH MAY BE ACCEPTABLE WITH MORE ROBUST STAKING. COMPOST LOGS THAT ARE 8 LB/FT DO NOT NEED TO BE TRENCHED.
10. THE UPHILL SIDE OF THE SEDIMENT CONTROL LOG SHALL BE BACKFILLED WITH SOIL OR FILTER MATERIAL THAT IS FREE OF ROCKS AND DEBRIS. THE SOIL SHALL BE TIGHTLY COMPACTED INTO THE SHAPE OF A RIGHT TRIANGLE USING A SHOVEL OR WEIGHTED LAWN ROLLER OR BLOWN IN PLACE.
11. FOLLOW MANUFACTURERS' GUIDANCE FOR STAKING. IF MANUFACTURERS' INSTRUCTIONS DO NOT SPECIFY SPACING, STAKES SHALL BE PLACED ON 4' CENTERS AND EMBEDDED A MINIMUM OF 6" INTO THE GROUND. 3" OF THE STAKE SHALL PROTRUDE FROM THE TOP OF THE LOG. STAKES THAT ARE BROKEN PRIOR TO INSTALLATION SHALL BE REPLACED. COMPOST LOGS SHOULD BE STAKED 10' ON CENTER.

**SEDIMENT CONTROL LOG MAINTENANCE NOTES:**

12. INSPECT BMPs EACH WORKDAY, AND MAINTAIN THEM IN EFFECTIVE OPERATING CONDITION. MAINTENANCE OF BMPs SHOULD BE PROACTIVE, NOT REACTIVE. INSPECT BMPs AS SOON AS POSSIBLE (AND ALWAYS WITHIN 24 HOURS) FOLLOWING A STORM THAT CAUSES SURFACE EROSION, AND PERFORM NECESSARY MAINTENANCE.
13. FREQUENT OBSERVATIONS AND MAINTENANCE ARE NECESSARY TO MAINTAIN BMPs IN EFFECTIVE OPERATING CONDITION. INSPECTIONS AND CORRECTIVE MEASURES SHOULD BE DOCUMENTED THOROUGHLY.
14. WHERE BMPs HAVE FAILED, REPAIR OR REPLACEMENT SHOULD BE INITIATED UPON DISCOVERY OF THE FAILURE.
15. SEDIMENT ACCUMULATED UPSTREAM OF SEDIMENT CONTROL LOG SHALL BE REMOVED AS NEEDED TO MAINTAIN FUNCTIONALITY OF THE BMP. TYPICALLY WHEN DEPTH OF ACCUMULATED SEDIMENTS IS APPROXIMATELY 1/2 OF THE HEIGHT OF THE SEDIMENT CONTROL LOG.
16. SEDIMENT CONTROL LOG SHALL BE REMOVED AT THE END OF CONSTRUCTION. COMPOST FROM COMPOST LOGS MAY BE LEFT IN PLACES AS LONG AS BAGS ARE REMOVED AND THE AREA SEEDED. IF DISTURBED AREAS EXIST AFTER REMOVAL, THEY SHALL BE COVERED WITH TOP SOIL, SEEDED AND MULCHED OR OTHERWISE STABILIZED IN A MANNER APPROVED BY THE LOCAL JURISDICTION.



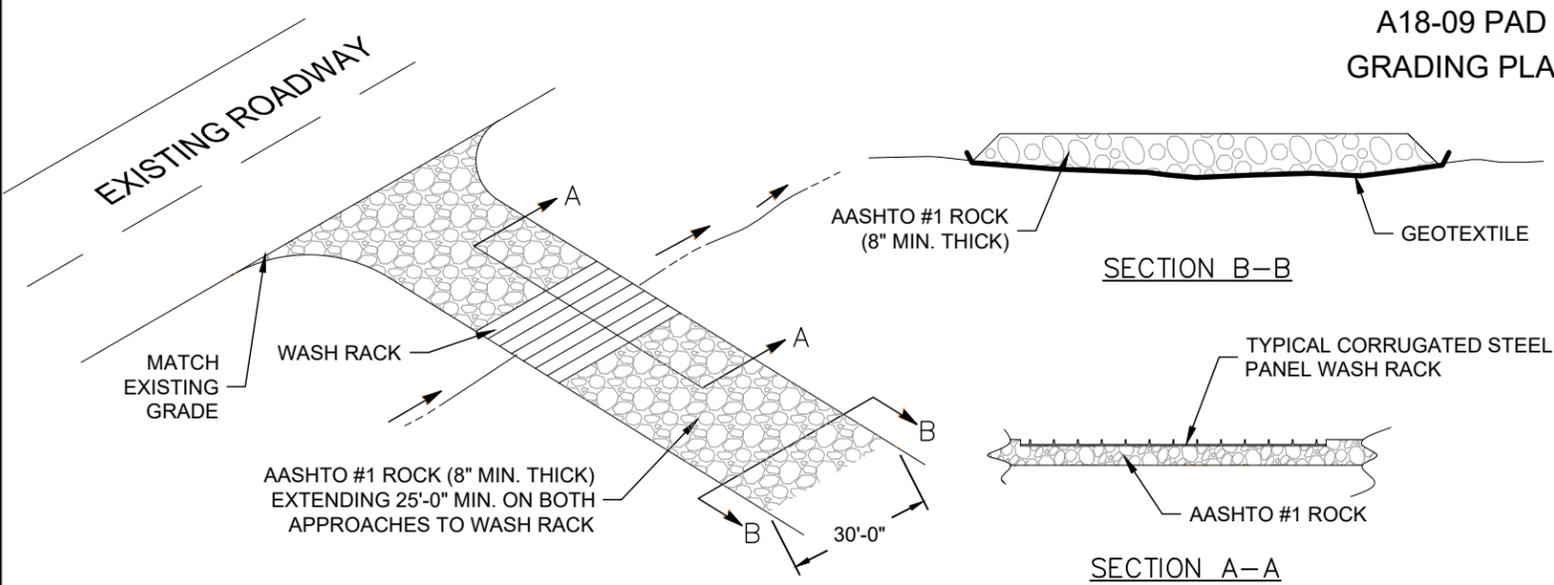
**SEDIMENT CONTROL LOGS TO CONTROL SLOPE LENGTH**

SCALE: NOT TO SCALE

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GRADING PLAN



AASHTO #1 ROCK CONSTRUCTION ENTRANCE

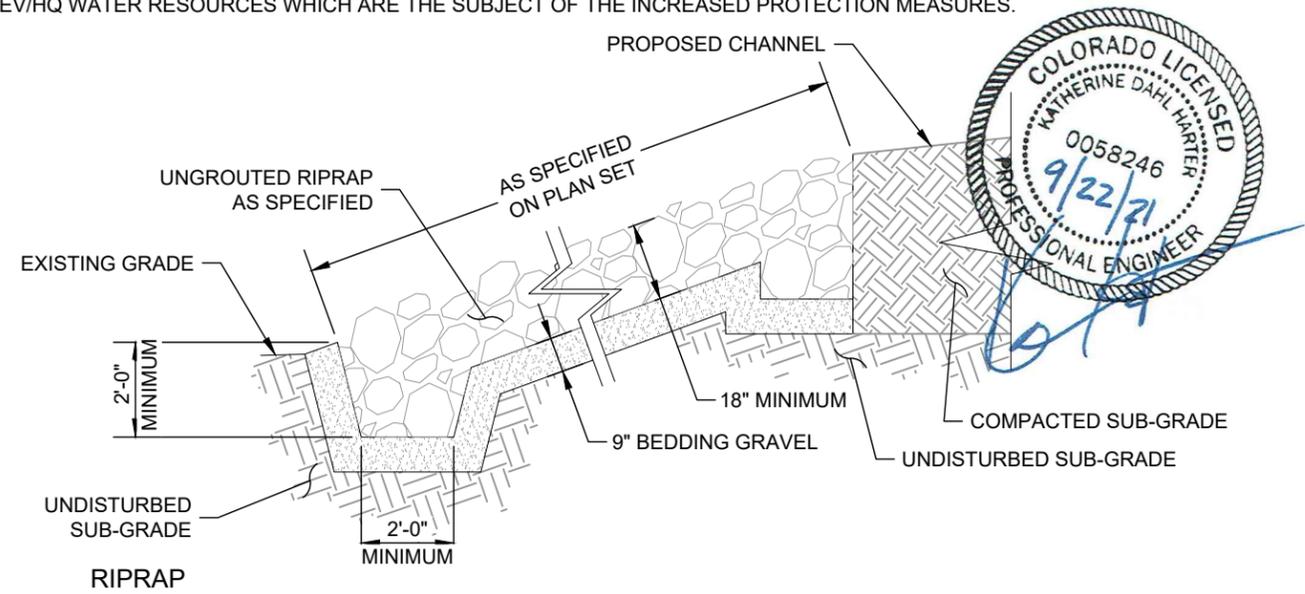
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**AASHTO #1 ROCK CONSTRUCTION ENTRANCE NOTE:**

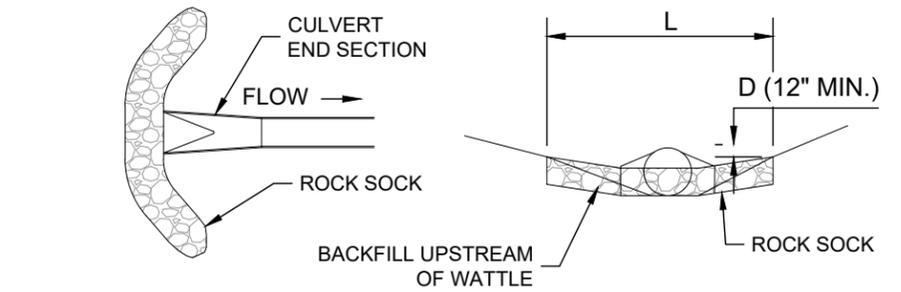
WASH RACK ONLY REQUIRED IN HQ OR EV WATERSHED AREAS. TYPICAL ROCK CONSTRUCTION ENTRANCE ACCEPTABLE IN ALL OTHER AREAS. REASONABLE METHODS WHICH ARE SANCTIONED BY THE LOCAL GOVERNING BODY AS ALTERNATIVES TO INSTALLATION OF TIRE WASH STATIONS ON PUBLIC ROAD ACCESS POINTS FOR GATHERING PIPELINE PROJECTS IN EV/HQ WATERSHEDS INCLUDE:  
 1. FOR PAVED SURFACE PUBLIC ROADS: USE OF A VACUUM TRUCK SWEEPER OR SWEEPER WITH A CATCH BIN ATTACHMENT.  
 2. FOR DIRT OR GRAVEL SURFACE PUBLIC ROADS: RIGOROUS MANUAL REMOVAL OF MUD/DIRT FROM VEHICLE/EQUIPMENT TIRES PRIOR TO EXITING CONSTRUCTION SITE, SUPPLEMENTED BY IMMEDIATE RECOVER, BY MANUAL OR MECHANICAL MEANS, OF SOIL WHICH MAY BECOME DISCHARGED ONTO PUBLIC ROADWAYS. DUST CONTROL AND/OR COMPACTION VIA ROLLING OF THE DIRT PUBLIC ROAD SURFACE WILL BE IMPLEMENTED AS NEEDED.

A PREDICATE FOR UTILIZING ALTERNATIVE 1 AND 2 ABOVE IS THAT THE ROCK PAD CONSTRUCTION ENTRANCE MUST BE EXTENDED TO A MINIMUM TOTAL LENGTH OF 100 FEET AND MUST BE CONSTANTLY MAINTAINED INCLUDING STRUCTURE THICKNESS TO INSURE ITS EFFECTIVENESS REMAINS INTACT AT ALL TIMES.

FREQUENCY OF MECHANICAL AND/OR MANUAL CONTROLS WILL BE DEPENDENT UPON CONSTRUCTION TRAFFIC INTENSITY, WEATHER AND SOIL MOISTURE CONDITIONS. AT A MINIMUM FOR PAVED ROADS - ANY DAY IN WHICH CONSTRUCTION TRAFFIC IS EXITING THE ROCK CONSTRUCTION ENTRANCE, THE VACUUM TRUCK SWEEPER OR SWEEPER WITH A CATCH BIN ATTACHMENT SHALL CLEAN THE ROADWAY AT THE END OF THE WORKDAY AND PRIOR TO ANY FORCASTED RAIN EVENT. THE REQUIREMENT IS TO NOT INTRODUCE SEDIMENT LOAD FROM CONSTRUCTION TRAFFIC ONTO PUBLIC ROAD SURFACES AND INTO ROAD DITCHES WHICH WILL FLOW INTO THE EV/HQ WATER RESOURCES WHICH ARE THE SUBJECT OF THE INCREASED PROTECTION MEASURES.

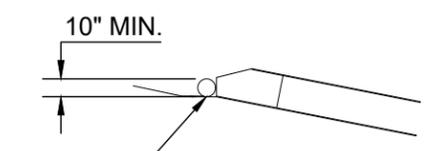


SCALE: NOT TO SCALE



CULVERT INLET PROTECTION PLAN

SECTION A



SECTION B

KEY IN ROCK SOCK 0" ON BEDROCK, PAVEMENT OR RIPRAP  
KEY IN ROCK SOCK 2" ON EARTH

CULVERT INLET PROTECTION

SCALE: NOT TO SCALE

GENERAL INLET PROTECTION INSTALLATION NOTES:

- SEE PLAN VIEW FOR:  
- LOCATION OF INLET PROTECTION.  
- TYPE OF INLET PROTECTION (IP.1, IP.2, IP.3, IP.4, IP.5, IP.6).
- INLET PROTECTION SHALL BE INSTALLED PROMPTLY AFTER INLET CONSTRUCTION OR PAVING IS COMPLETE (TYPICALLY WITHIN 48 HOURS). IF A RAINFALL/RUNOFF EVENT IS FORECAST, INSTALL INLET PROTECTION PRIOR TO ONSET OF EVENT.

INLET PROTECTION MAINTENANCE NOTES:

- INSPECT BMPs EACH WORKDAY, AND MAINTAIN THEM IN EFFECTIVE OPERATING CONDITION. MAINTENANCE OF BMPs SHOULD BE PROACTIVE, NOT REACTIVE. INSPECT BMPs AS SOON AS POSSIBLE (AND ALWAYS WITHIN 24 HOURS) FOLLOWING A STORM THAT CAUSES SURFACE EROSION, AND PERFORM NECESSARY MAINTENANCE.
- FREQUENT OBSERVATIONS AND MAINTENANCE ARE NECESSARY TO MAINTAIN BMPs IN EFFECTIVE OPERATING CONDITION. INSPECTIONS AND CORRECTIVE MEASURES SHOULD BE DOCUMENTED THOROUGHLY.
- WHERE BMPs HAVE FAILED, REPAIR OR REPLACEMENT SHOULD BE INITIATED UPON DISCOVERY OF THE FAILURE.
- SEDIMENT ACCUMULATED UPSTREAM OF INLET PROTECTION SHALL BE REMOVED AS NECESSARY TO MAINTAIN BMP EFFECTIVENESS, TYPICALLY WHEN STORAGE VOLUME REACHES 50% OF CAPACITY, A DEPTH OF 6" WHEN SILT FENCE IS USED, OR 1/4 OF THE HEIGHT FOR STRAW BALES.
- INLET PROTECTION IS TO REMAIN IN PLACE UNTIL THE UPSTREAM DISTURBED AREA IS PERMANENTLY STABILIZED, UNLESS THE LOCAL JURISDICTION APPROVES EARLIER REMOVAL OF INLET PROTECTION IN STREETS.
- WHEN INLET PROTECTION AT AREA INLET IS REMOVED, THE DISTURBED AREA SHALL BE COVERED WITH TOP SOIL, SEEDED AND MULCHED, OR OTHERWISE STABILIZED IN A MANNER APPROVED BY THE LOCAL JURISDICTION.

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