THIS AND ANY OTHER ELECTRONIC MEDIA COUNTERPART IS AN INSTRUMENT OF SERVICE PREPARED BY MERRICK AND COMPANY FOR A DEFINED PROJECT. IT IS NOT INTENDED OR REPRESENTED TO BE SUITABLE FOR REUSE BY OWNER OR THIRD PARTIES ON OTHER PROJECTS OR FOR ANY OTHER PURPOSE, AS SUBSTANTIALLY ALTERED OR MODIFIED, OR ADAPTED FOR ANY PURPOSE OTHER THAN THE SPECIFIC PROJECT FOR WHICH IT WAS PREPARED WITHOUT THE PRIOR EXPRESS WRITTEN CONSENT OF MERRICK AND COMPANY SHALL BE AT THE SOLE RISK FOR THE UNAUTHORIZED USER WITHOUT LIABILITY OR LOSS EXPOSURE TO MERRICK AND COMPANY.

CIVIL CONSTRUCTION PLANS

A PORTION OF OUTLOT P, MILLENNIUM EAST 10TH SUBDIVISION

MRG, LP OIL AND GAS CE PAD

BEING A PART OF SECTION 11, TOWNSHIP 5 NORTH,
RANGE 68 WEST OF THE 6TH PRINCIPAL MERIDIAN
CITY OF LOVELAND, COUNTY OF LARIMER, STATE OF COLORADO

NOTE:

PRIOR TO THE ISSUANCE OF A SITE WORK PERMIT OR ANY CONSTRUCTION ACTIVITY WITHIN COUNTY ROAD 3 RIGHT-OF-WAY, A RIGHT-OF-WAY WORK PERMIT AND APPROVED CONSTRUCTION TRAFFIC CONTROL PLAN SHALL BE OBTAINED FROM THE CITY PUBLIC WORKS DEPARTMENT.

LEGEND

- PROPOSED WATER LINE
- EXISTING WATER LINE
- PROPOSED FIRE HYDRANT
- PROPOSED VALVE
- EXISTING WATER WELL
- PROPOSED WATER METER
- EXISTING WATER METER
- EXISTING CLEANOUT
- PROPOSED SANITARY MANHOLE
- PROPOSED STORM SEWER W/ RIPRAP
- EXISTING STORM SEWER W/ RIPRAP
- PROPOSED TYPE R INLET
- PROPOSED SANITARY SEWER
- EXISTING SANITARY SEWER
- PROPOSED UNDERDRAIN
- EXISTING ELECTRIC LINE
- EXISTING TELEPHONE LINE
- EXISTING CABLE TV LINE
- EXISTING FIBER OPTICS LINE
- EXISTING GAS LINE
- PROPOSED GUARD RAIL
- PROPOSED DRAINAGE SWALE
- EXISTING UNDERGROUND COMMUNICATION LINE
- EXISTING UNDERGROUND ELECTRIC LINE
- EXISTING SANITARY SEWER LINE
- EXISTING WATER LINE

VICINITY MAP
1" = 1000'

N

STORMWATER MANAGEMENT PLAN ADMINISTRATOR:

WILLIAM (BILL) IRWIN, PE
ADMINISTRATOR (PRIMARY) — SIGNATURE

2725 ROCKY MTN AVENUE — LOVELAND — COLORADO — 80538
ADDRESS — CITY — STATE — ZIP

970-776-4052
PHONE

CASEY MILLIGAN
ADMINISTRATOR (SECONDARY) — SIGNATURE

1627 E. 18TH STREET — LOVELAND — COLORADO — 80538
ADDRESS — CITY — STATE — ZIP

970-669-3611
PHONE

LEGAL DESCRIPTION

A PORTION OF OUTLOT P MILLENNIUM EAST 10TH SUBDIVISION BEING A PORTION OF THE NORTHEAST QUARTER AND SOUTHEAST QUARTER OF SECTION 11, TOWNSHIP 5 NORTH, RANGE 68 WEST OF THE 6TH PRINCIPAL MERIDIAN, CITY OF LOVELAND, COUNTY OF LARIMER, STATE OF COLORADO

BENCHMARK

BEARINGS ARE ASSUMED AND ARE BASED ON THE SOUTH LINE OF THE NORTHEAST QUARTER OF SAID SECTION 11, AS BEARING S89 °10'22"W A DISTANCE OF 2642.94 FEET BETWEEN THE EAST QUARTER CORNER OF SAID SECTION 11 BEING MONUMENTED BY A FOUND 2" ALUMINUM CAP STAMPED "CITY OF LOVELAND BENCHMARK 95-06" SET IN A HEADWALL 500' N OF HWY 34 INTERSECTION AT AN ELEVATION OF 4967.15' (NGVD 29).

DIRECTORY

OWNER/DEVELOPER	LANDSCAPE ARCHITECT	MUNICIPALITY	STORM DRAINAGE
CENTERRA EAST DEVELOPMENT, LLC 2725 ROCKY MOUNTAIN AVE, STE 200 LOVELAND, CO 80538 (970) 776-4046 TROY MCWHINNEY	TB GROUP 444 MOUNTAIN AVENUE BERTHOUD, CO 80513 (970) 532-5891 CHRISTINE MYERS	CITY OF LOVELAND DEVELOPMENT SERVICES DEPARTMENT 500 EAST THIRD STREET LOVELAND, CO 80537 (970) 962-2579 TROY BLISS	CITY OF LOVELAND PUBLIC WORKS DEPARTMENT 2525 W. 1ST STREET LOVELAND, CO 80537 (970) 962-2531 SUZETTE SCHAFF, P.E.
CIVIL ENGINEER	**SURVEYOR**	**FIRE PROTECTION**	
MERRICK & COMPANY 5970 GREENWOOD PLAZA BLVD GREENWOOD VILLAGE, CO. 80111 (303) 353-3617 TYLER SCARLETT, P.E.	LAT40, INC. 6250 W. 10TH STREET, UNIT #2 GREELEY, CO 80634 (970) 515-5294 BRIAN ROTTINGHAUS, PLS	LOVELAND FIRE AND RESCUE 410 EAST 5TH STREET LOVELAND, CO 80537 (970) 962-2518 CARIE DANN, DEPUTY FIRE MARSHAL	
GOETECHNICAL ENGINEER	**OIL & GAS REGULATORY SPECIALIST**	**KEY CONTACT PERSON**	
SOILOGIC, INC 3522 DRAFT HORSE COURT LOVELAND, CO 80538 (970) 535-6144 CONTACT: DARREL DICARLO, P.E.	ARDOR ENVIRONMENTAL (303) 503-7539 CONTACT: TRISHA FANNING	PETERSON ENERGY OPERATING, INC P.O. BOX 2169 LOVELAND, CO 80537 (970) 203-4263 CONTACT: ANDY PETERSON, P.E. EMAIL: ANDY@PETERSONENERGYOPERATING.COM	

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CITY OF LOVELAND - CIVIL CONSTRUCTION PLANS APPROVAL BLOCK

THESE PLANS HAVE BEEN APPROVED BY:

PUBLIC WORKS - TRANSPORTATION DEVELOPMENT DIVISION (FOR PUBLIC IMPROVEMENTS ONLY)

BY: _____ DATE: _____

LOVELAND FIRE RESCUE AUTHORITY

BY: _____ DATE: _____

WATER AND POWER DEPARTMENT - WATER/WASTEWATER

BY: _____ DATE: _____

WATER AND POWER DEPARTMENT - POWER

BY: _____ DATE: _____

PUBLIC WORKS DEPARTMENT - STORMWATER DIVISION

BY: _____ DATE: _____

PARKS AND RECREATION DEPARTMENT

BY: _____ DATE: _____

DEVELOPMENT SERVICES DEPARTMENT - CURRENT PLANNING DIVISION

BY: _____ DATE: _____

THE CITY OF LOVELAND REVIEW CONSTITUTES COMPLIANCE WITH THE CITY'S DEVELOPMENT STANDARDS, SUBJECT TO THESE PLANS BEING STAMPED, SIGNED, AND DATED BY THE PROFESSIONAL ENGINEER OF RECORD. REVIEW BY THE CITY DOES NOT CONSTITUTE APPROVAL OF THE PLAN DESIGN. ERRORS IN THE DESIGN OR CALCULATIONS REMAIN THE RESPONSIBILITY OF THE ENGINEER OF RECORD.

THESE PLANS ARE INTENDED TO BE FOR CITY REVIEW OR PUBLIC AND PRIVATE INFRASTRUCTURE IMPROVEMENTS ASSOCIATED WITH THE DEVELOPMENT PROJECT. CONSTRUCTION OF IMPROVEMENTS CANNOT COMMENCE UNTIL REQUIRED SITE DEVELOPMENT PLANS AND SUBDIVISION PLATS ARE COMPLETE, APPROVED, AND ON FILE WITH THE CITY.

THESE PLANS SHALL BE VALID FOR A PERIOD OF THREE YEARS FROM THE DATE OF APPROVAL BY THE TRANSPORTATION DEVELOPMENT DIVISION. IF THE NEXT APPROVAL OR PERMIT REQUIRED TO COMMENCE CONSTRUCTION THAT IS AUTHORIZED BY THE CITY'S APPROVAL OF THESE PLANS HAS NOT BEEN APPLIED FOR WITHIN THREE YEARS OF THE DATE OF APPROVAL, THE PLANS SHALL EXPIRE AND SHALL BE DEEMED NULL AND VOID.

REV	REVISION DESCRIPTION	DATE	CHND	CHKD	APPR
A	ISSUED FOR REVIEW	9/1/2022	TVG	SWC	TS
B	ISSUED FOR REVIEW	2/3/2023	TVG	TS	TS

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811 Know what's below. Call before you dig.

CITY APPROVAL
ACCEPTED BY: _____
CITY ENGINEER (or Desginee) — DATE

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ISSUED FOR REVIEW
FOR AND ON BEHALF OF MERRICK & COMPANY

TITLE
MRG, LP OIL AND GAS CE PAD
CITY OF LOVELAND, COLORADO
CIVIL CONSTRUCTION PLANS
COVER SHEET

JOB NUMBER 65120236-10
DATE 9/1/2022
SHEET C-000
1 of 19

File Location:Q:\DEN\Projects\0178-00 CMD Centerra\Projects\0236-08 MRG Misc Oil and Gas\Design\CDs\Civil\PIC\P\023608-C\R & GN.dwg Plot Date:2/3/2023 9:05 AM Last Saved By: TSCARLETT

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A. CITY OF LOVELAND GENERAL NOTES

1. ALL MATERIALS, WORKMANSHIP, AND CONSTRUCTION OF PUBLIC IMPROVEMENTS SHALL MEET OR EXCEED THE STANDARDS AND SPECIFICATIONS SET FORTH IN THE LARIMER COUNTY URBAN AREA STREET STANDARDS AND APPLICABLE STATE AND FEDERAL REGULATIONS. WHERE THERE IS CONFLICT BETWEEN THESE PLANS AND THE SPECIFICATIONS, OR ANY APPLICABLE STANDARDS, THE MOST RESTRICTIVE STANDARD SHALL APPLY. ALL WORK SHALL BE INSPECTED AND APPROVED BY THE LOCAL ENTITY.

2. THE DEVELOPER IS SPECIFICALLY CAUTIONED THAT THE LOCATION AND/OR ELEVATION OF EXISTING UTILITIES, AS SHOWN ON THESE PLANS, IS BASED ON RECORDS OF THE VARIOUS UTILITY COMPANIES AND, WHERE POSSIBLE, MEASUREMENTS TAKEN IN THE FIELD. THE INFORMATION IS NOT TO BE RELIED UPON AS BEING EXACT OR COMPLETE. THE ENGINEER SHALL CONTACT THE UTILITY NOTIFICATION CENTER OF COLORADO (UNCC) AT 1-800-922-1987, AT LEAST 2 WORKING DAYS PRIOR TO BEGINNING EXCAVATION OR GRADING, TO HAVE ALL REGISTERED UTILITY LOCATIONS MARKED. OTHER UNREGISTERED UTILITY ENTITIES (I.E. DITCH / IRRIGATION COMPANY) ARE TO BE LOCATED BY CONTACTING THE RESPECTIVE REPRESENTATIVE. UTILITY SERVICE LATERALS ARE ALSO TO BE LOCATED PRIOR TO BEGINNING EXCAVATION OR GRADING. IT SHALL BE THE RESPONSIBILITY OF THE DEVELOPER TO RELOCATE ALL EXISTING UTILITIES THAT CONFLICT WITH THE PROPOSED IMPROVEMENTS SHOWN ON THESE

3. NO WORK MAY COMMENCE WITHIN ANY IMPROVED PUBLIC RIGHT-OF-WAY UNTIL A RIGHT-OF WAY PERMIT OR DEVELOPMENT CONSTRUCTION PERMIT IS OBTAINED, IF APPLICABLE. THE DEVELOPER SHALL SUBMIT A CONSTRUCTION TRAFFIC CONTROL PLAN, IN ACCORDANCE WITH MUTCD, TO THE APPROPRIATE RIGHT-OF-WAY AUTHORITY, (LOCAL ENTITY, COUNTY OR STATE), FOR APPROVAL, PRIOR TO ANY CONSTRUCTION ACTIVITIES WITHIN, OR AFFECTING, THE RIGHT-OF-WAY. THE DEVELOPER SHALL BE RESPONSIBLE FOR PROVIDING ANY AND ALL TRAFFIC CONTROL DEVICES AS MAY BE REQUIRED BY THE CONSTRUCTION ACTIVITIES.

4. THE DEVELOPER SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS FOR ALL APPLICABLE AGENCIES. THE DEVELOPER SHALL NOTIFY THE LOCAL ENTITY ENGINEER AT LEAST 2 WORKING DAYS PRIOR TO THE START OF ANY EARTH DISTURBING ACTIVITY, OR CONSTRUCTION ON ANY AND ALL PUBLIC IMPROVEMENTS. IF THE LOCAL ENTITY ENGINEER IS NOT AVAILABLE AFTER PROPER NOTICE OF CONSTRUCTION ACTIVITY HAS BEEN PROVIDED, THE DEVELOPER MAY COMMENCE WORK IN THE ENGINEER ABSENCE. HOWEVER, THE LOCAL ENTITY RESERVES THE RIGHT NOT TO ACCEPT THE IMPROVEMENT IF SUBSEQUENT TESTING REVEALS AN IMPROPER INSTALLATION. LARIMER COUNTY URBAN AREA STREET STANDARDS – REPEALED AND REENACTED AUGUST 1, 2021 ADOPTED BY LARIMER COUNTY, CITY OF LOVELAND, CITY OF FORT COLLINS PAGE E-1-LOV-2

5. THE ENGINEER WHO HAS PREPARED THESE PLANS, BY EXECUTION AND/OR SEAL HEREOF, DOES HEREBY AFFIRM RESPONSIBILITY TO THE CITY OF LOVELAND, AS BENEFICIARY OF SAID ENGINEER'S WORK, FOR ANY ERRORS AND OMISSIONS CONTAINED IN THESE PLANS, AND APPROVAL OF THESE PLANS BY THE CITY ENGINEER SHALL NOT RELIEVE THE ENGINEER WHO HAS PREPARED THESE PLANS OF ALL SUCH RESPONSIBILITY. FURTHER, TO THE EXTENT PERMITTED BY LAW, THE ENGINEER HEREBY AGREES TO HOLD HARMLESS AND INDEMNIFY THE CITY, AND ITS OFFICERS AND EMPLOYEES, FROM AND AGAINST ALL LIABILITIES, CLAIMS, AND DEMANDS WHICH MAY ARISE FROM ANY ERRORS AND OMISSIONS CONTAINED IN THESE PLANS.

6. ALL UTILITY INSTALLATIONS WITHIN OR ACROSS THE ROADBED OF NEW RESIDENTIAL ROADS MUST BE COMPLETED PRIOR TO THE FINAL STAGES OF ROAD CONSTRUCTION. FOR THE PURPOSES OF THESE STANDARDS, ANY WORK EXCEPT C/G ABOVE THE SUBGRADE IS CONSIDERED FINAL STAGE WORK. ALL SERVICE LINES MUST BE STUBBED TO THE PROPERTY LINES AND MARKED SO AS TO REDUCE THE EXCAVATION NECESSARY FOR BUILDING CONNECTIONS.

7. THE DEVELOPER SHALL COORDINATE AND COOPERATE WITH THE LOCAL ENTITY, AND ALL UTILITY COMPANIES INVOLVED, WITH REGARD TO RELOCATIONS, ADJUSTMENTS, EXTENSIONS AND REARRANGEMENTS OF EXISTING UTILITIES DURING CONSTRUCTION, AND TO ASSURE THAT THE WORK IS ACCOMPLISHED IN A TIMELY FASHION AND WITH A MINIMUM DISRUPTION OF SERVICE. THE DEVELOPER SHALL BE RESPONSIBLE FOR CONTACTING, IN ADVANCE, ALL PARTIES AFFECTED BY ANY DISRUPTION OF ANY UTILITY SERVICE AS WELL AS THE UTILITY COMPANIES.

8. NO WORK MAY COMMENCE WITHIN ANY PUBLIC STORM WATER, SANITARY SEWER OR POTABLE WATER SYSTEM UNTIL THE DEVELOPER NOTIFIES THE UTILITY PROVIDER. NOTIFICATION SHALL BE A MINIMUM OF TWO (2) WORKING DAYS PRIOR TO COMMENCEMENT OF ANY WORK. AT THE DISCRETION OF THE WATER UTILITY PROVIDER, A PRE-CONSTRUCTION MEETING MAY BE REQUIRED PRIOR TO COMMENCEMENT OF ANY WORK.

9. THE DEVELOPER SHALL BE RESPONSIBLE FOR PROTECTING ALL UTILITIES DURING CONSTRUCTION AND FOR COORDINATING WITH THE APPROPRIATE UTILITY COMPANY FOR ANY UTILITY CROSSINGS REQUIRED.

10. THE TYPE, SIZE, LOCATION AND NUMBER OF ALL KNOWN UNDERGROUND UTILITIES ARE APPROXIMATE WHEN SHOWN ON THE DRAWINGS. IT SHALL BE THE RESPONSIBILITY OF THE DEVELOPER TO VERIFY THE EXISTENCE AND LOCATION OF ALL UNDERGROUND UTILITIES ALONG THE ROUTE OF THE WORK BEFORE COMMENCING NEW CONSTRUCTION. THE DEVELOPER SHALL BE RESPONSIBLE FOR UNKNOWN UNDERGROUND UTILITIES.

11. WHEN APPLICABLE, THE DEVELOPER SHALL HAVE ONSITE AT ALL TIMES, EACH OF THE FOLLOWING:

- THE NOTICE OF INTENT (NOI)
- BEST MANAGEMENT PRACTICES (BMP) MAINTENANCE FOLDER
- UP TO DATE STORMWATER MANAGEMENT PLAN (SWMP) THAT ACCURATELY REPRESENTS CURRENT FIELD CONDITIONS
- ONE (1) SIGNED COPY OF THE APPROVED PLANS
- ONE (1) COPY OF THE APPROPRIATE STANDARDS AND SPECIFICATIONS
- A COPY OF ANY PERMITS AND EXTENSION AGREEMENTS NEEDED FOR THE JOB.

LARIMER COUNTY URBAN AREA STREET STANDARDS – REPEALED AND REENACTED AUGUST 1, 2021 ADOPTED BY LARIMER COUNTY, CITY OF LOVELAND, CITY OF FORT COLLINS PAGE E-1-LOV-3

12. THE DEVELOPER SHALL BE RESPONSIBLE FOR ALL ASPECTS OF SAFETY INCLUDING, BUT NOT LIMITED TO, EXCAVATION, TRENCHING, SHORING, TRAFFIC CONTROL, AND SECURITY. REFER TO OSHA PUBLICATION 2226, EXCAVATING AND TRENCHING.

13. IF, DURING THE CONSTRUCTION PROCESS, CONDITIONS ARE ENCOUNTERED WHICH COULD INDICATE A SITUATION THAT IS NOT IDENTIFIED IN THE PLANS OR SPECIFICATIONS, THE DEVELOPER SHALL CONTACT THE DESIGNER AND THE LOCAL ENTITY ENGINEER IMMEDIATELY.

14. ALL REFERENCES TO ANY PUBLISHED STANDARDS SHALL REFER TO THE LATEST REVISION OF SAID STANDARD, UNLESS SPECIFICALLY STATED OTHERWISE.

15. THE DEVELOPER SHALL SUBMIT A CONSTRUCTION TRAFFIC CONTROL PLAN, IN ACCORDANCE WITH MUTCD, TO THE APPROPRIATE RIGHT-OF-WAY AUTHORITY. (LOCAL ENTITY, COUNTY OR STATE), FOR APPROVAL, PRIOR TO ANY CONSTRUCTION ACTIVITIES WITHIN, OR AFFECTING, THE RIGHT-OF-WAY. THE DEVELOPER SHALL BE RESPONSIBLE FOR PROVIDING ANY AND ALL TRAFFIC CONTROL DEVICES AS MAY BE REQUIRED BY THE CONSTRUCTION ACTIVITIES.

16. THE DEVELOPER IS RESPONSIBLE FOR PROVIDING ALL LABOR AND MATERIALS NECESSARY FOR THE COMPLETION OF THE INTENDED IMPROVEMENTS, SHOWN ON THESE DRAWINGS, OR DESIGNATED TO BE PROVIDED, INSTALLED, OR CONSTRUCTED, UNLESS SPECIFICALLY NOTED OTHERWISE.

CITY OF LOVELAND GENERAL NOTES (CONTINUED)

17. THE DEVELOPER SHALL BE RESPONSIBLE FOR ENSURING THAT NO MUD OR DEBRIS SHALL BE TRACKED ONTO THE EXISTING PUBLIC STREET SYSTEM. MUD AND DEBRIS MUST BE REMOVED BY THE END OF EACH WORKING DAY BY AN APPROPRIATE MECHANICAL METHOD (I.E. MACHINE BROOM SWEEP, LIGHT DUTY FRONT-END LOADER, ETC.) OR AS APPROVED BY THE LOCAL ENTITY STREET INSPECTOR.

18. THE DEVELOPER SHALL BE RESPONSIBLE FOR RECORDING AS-BUILT INFORMATION ON A SET OF RECORD DRAWINGS KEPT ON THE CONSTRUCTION SITE, AND AVAILABLE TO THE LOCAL ENTITY'S INSPECTOR AT ALL TIMES.

19. DIMENSIONS FOR LAYOUT AND CONSTRUCTION ARE NOT TO BE SCALED FROM ANY DRAWING. IF PERTINENT DIMENSIONS ARE NOT SHOWN, CONTACT THE DESIGNER FOR CLARIFICATION, AND ANNOTATE THE DIMENSION ON THE AS-BUILT RECORD DRAWINGS.

20. THE DEVELOPER SHALL COMPLY WITH ALL TERMS AND CONDITIONS OF THE COLORADO PERMIT FOR STORM WATER DISCHARGE, THE STORM WATER MANAGEMENT PLAN, AND THE EROSION CONTROL PLAN.

21. ALL STRUCTURAL EROSION CONTROL MEASURES SHALL BE INSTALLED, AT THE LIMITS OF CONSTRUCTION AND AT AREAS WITH DISTURBED SOIL, ON- OR OFF-SITE, PRIOR TO ANY OTHER GROUND-DISTURBING ACTIVITY. ALL EROSION CONTROL MEASURES SHALL BE MAINTAINED IN GOOD REPAIR BY THE DEVELOPER, UNTIL SUCH TIME AS THE ENTIRE DISTURBED AREAS IS STABILIZED WITH HARD SURFACE OR LANDSCAPING. TO MITIGATE EROSION, THE DEVELOPER SHALL USE STANDARD EROSION CONTROL TECHNIQUES DESCRIBED IN THE URBAN STORM DRAINAGE CRITERIA MANUAL, VOLUME 3 – BEST MANAGEMENT PRACTICES, AS PUBLISHED BY THE URBAN DRAINAGE AND FLOOD CONTROL DISTRICT (UDFCD).

22. THE DEVELOPER SHALL SEQUENCE INSTALLATION OF UTILITIES IN SUCH A MANNER AS TO MINIMIZE POTENTIAL UTILITY CONFLICTS. IN GENERAL, STORM SEWER AND SANITARY SEWER SHOULD BE CONSTRUCTED PRIOR TO INSTALLATION OF THE WATER LINES AND DRY UTILITIES. LARIMER COUNTY URBAN AREA STREET STANDARDS – REPEALED AND REENACTED AUGUST 1, 2021 ADOPTED BY LARIMER COUNTY, CITY OF LOVELAND, CITY OF FORT COLLINS PAGE E-1-LOV-4

23. THERE SHALL BE NO SITE CONSTRUCTION ACTIVITIES ON SATURDAYS, UNLESS SPECIFICALLY APPROVED BY THE LOCAL ENTITY ENGINEER, AND NO SITE CONSTRUCTION ACTIVITIES ON SUNDAYS OR HOLIDAYS, UNLESS THERE IS PRIOR WRITTEN APPROVAL BY THE LOCAL ENTITY.

24. THE DESIGNER SHALL PROVIDE ON THE COVER SHEET THE LOCATION OF THE NEAREST SURVEY BENCHMARK FOR THIS PROJECT AS WELL AS THE BASIS OF BEARING. THE BENCHMARKSHALL BE ON THE CURRENT CITY APPROVED DATUM.

25. UPON COMPLETION OF CONSTRUCTION, THE SITE SHALL BE CLEANED AND RESTORED TO A CONDITION EQUAL TO, OR BETTER THAN, THAT WHICH EXISTED BEFORE CONSTRUCTION, OR TO THE GRADES AND CONDITION AS REQUIRED BY THESE PLANS.

26. EXISTING FENCES, TREES, STREETS, SIDEWALKS, CURBS AND GUTTERS, LANDSCAPING, STRUCTURES, AND IMPROVEMENTS DESTROYED, DAMAGED OR REMOVED DUE TO CONSTRUCTION OF THIS PROJECT SHALL BE REPLACED OR RESTORED IN LIKE KIND AT THE DEVELOPER'S EXPENSE, UNLESS OTHERWISE INDICATED ON THESE PLANS.

27. OVERLOT GRADING CONSTRUCTION MUST COMPLY WITH THE STATE OF COLORADO PERMITTING PROCESS FOR "STORM WATER DISCHARGES ASSOCIATED WITH CONSTRUCTION ACTIVITY." CONTACT THE COLORADO DEPARTMENT OF PUBLIC HEALTH & ENVIRONMENT, WATER QUALITY CONTROL DIVISION, PHONE (303) 692-3500.

28. A STATE CONSTRUCTION DEWATERING WASTEWATER DISCHARGE PERMIT IS REQUIRED IF DEWATERING IS REQUIRED IN ORDER TO INSTALL UTILITIES OR BEFORE WATER IS DISCHARGED INTO A STORM SEWER, CHANNEL, IRRIGATION DITCH OR ANY WATERS OF THE UNITED STATES.

29. THE DEVELOPER IS RESPONSIBLE FOR FIELD LOCATING AND VERIFYING ELEVATIONS OF ALL EXISTING SEWER MAINS, WATER MAINS, CURBS, GUTTERS AND OTHER UTILITIES AT THE POINTS OF CONNECTION SHOWN ON THE PLANS, AND AT ANY UTILITY CROSSINGS PRIOR TO INSTALLING ANY OF THE NEW IMPROVEMENTS. IF A CONFLICT EXISTS AND/OR A DESIGN MODIFICATION IS REQUIRED, THE DEVELOPER SHALL COORDINATE WITH THE ENGINEER TO MODIFY THE DESIGN. DESIGN MODIFICATION(S) MUST BE APPROVED BY THE LOCAL ENTITY PRIOR TO BEGINNING CONSTRUCTION.

30. AFTER ACCEPTANCE BY THE LOCAL ENTITY, PUBLIC IMPROVEMENTS DEPICTED IN THESE PLANS SHALL BE GUARANTEED TO BE FREE FROM MATERIAL AND WORKMANSHIP DEFECTS FOR A PERIOD OF TWO YEARS FROM THE DATE OF ACCEPTANCE.

31. THESE PUBLIC IMPROVEMENT CONSTRUCTION PLANS SHALL BE VALID FOR A PERIOD OF THREE YEARS FROM THE DATE OF APPROVAL BY THE LOCAL ENTITY ENGINEER. USE OF THESE PLANS AFTER THE EXPIRATION DATE WILL REQUIRE A NEW REVIEW AND APPROVAL PROCESS BY THE LOCAL ENTITY PRIOR TO COMMENCEMENT OF ANY WORK SHOWN IN THESE PLANS.

32. PAVING SHALL NOT START UNTIL A SOILS REPORT AND PAVEMENT DESIGN IS ACCEPTED BY THE LOCAL ENTITY ENGINEER AND SUBGRADE COMPACTION TESTS ARE TAKEN AND ACCEPTED BY THE LOCAL ENTITY ENGINEER.

33. THE DEVELOPER SHALL BE RESPONSIBLE FOR OBTAINING SOILS TESTS WITHIN THE PUBLIC RIGHT OF-WAY AFTER RIGHT OF WAY GRADING AND ALL UTILITY TRENCH WORK IS COMPLETE. IF THE FINAL SOILS/PAVEMENT DESIGN REPORT DOES NOT CORRESPOND WITH THE RESULTS OF THE ORIGINAL GEOTECHNICAL REPORT, THE DEVELOPER SHALL BE RESPONSIBLE FOR A RE-DESIGN OF THE SUBJECT PAVEMENT SECTION OR, THE DEVELOPER MAY USE THE LOCAL ENTITY'S DEFAULT PAVEMENT THICKNESS SECTION(S). REGARDLESS OF THE OPTION USED, ALL FINAL SOILS/PAVEMENT DESIGN REPORTS LARIMER COUNTY URBAN AREA STREET STANDARDS – REPEALED AND REENACTED AUGUST 1, 2021 ADOPTED BY LARIMER COUNTY, CITY OF LOVELAND, CITY OF FORT COLLINS PAGE E-1-LOV-5SHALL BE PREPARED BY A LICENSED PROFESSIONAL ENGINEER. THE FINAL REPORT SHALL BE SUBMITTED TO THE INSPECTOR A MINIMUM OF TEN (10) WORKING DAYS PRIOR TO PLACEMENT OF BASE AND ASPHALT. PLACEMENT OF BASE AND ASPHALT SHALL NOT OCCUR UNTIL THE ENGINEERING DIVISION APPROVES THE FINAL REPORT.

34. ALL ROAD CONSTRUCTION IN AREAS DESIGNATED AS WILD FIRE HAZARD AREAS SHALL BE DONE IN ACCORDANCE WITH THE CONSTRUCTION CRITERIA AS ESTABLISHED IN THE WILD FIRE HAZARD AREA MITIGATION REGULATIONS IN FORCE AT THE TIME OF FINAL PLAT APPROVAL.

35. PORTIONS OF LARIMER COUNTY ARE WITHIN OVERLAY DISTRICTS. THE LARIMER COUNTY FLOODPLAIN RESOLUTION SHOULD BE REFERRED TO FOR ADDITIONAL CRITERIA FOR ROADS WITHIN THESE DISTRICTS.

36. STANDARD HANDICAP RAMPS ARE TO BE CONSTRUCTED AT ALL CURB RETURNS AND AT ALL "T" INTERSECTIONS.
37. ALL STATIONING IS BASED ON CENTERLINE OF ROADWAYS UNLESS OTHERWISE NOTED.

38. THE LOCAL ENTITY SHALL NOT BE RESPONSIBLE FOR THE MAINTENANCE OF ROADWAY AND APPURTENANT IMPROVEMENTS, INCLUDING STORM DRAINAGE STRUCTURES AND PIPES, FOR THE FOLLOWING PRIVATE STREETS: (LIST). IF THIS NOTE APPLIES, THEN THIS SPECIAL NOTE SHALL BE PLACED ON THE COVER SHEET OF THE CIVIL CONSTRUCTION PLANS.

39. APPROVED VARIANCES ARE LISTED AS FOLLOWS: (PLAN SET MUST HAVE A LIST OF ALL APPLICABLE VARIANCES FOR THE PROJECT). IF THIS NOTE APPLIES, THEN THIS SPECIAL NOTE SHALL BE PLACED ON THE COVER SHEET OF THE CIVIL CONSTRUCTION PLANS.

B. CITY OF LOVELAND STANDARD EROSION AND SEDIMENT CONTROL CONSTRUCTION PLAN NOTES:

1. THE EROSION CONTROL INSPECTOR MUST BE NOTIFIED AT LEAST TWENTY-FOUR (24) HOURS PRIOR TO ANYCONSTRUCTION ON THIS SITE.

2. THERE SHALL BE NO EARTH-DISTURBING ACTIVITY OUTSIDE THE LIMITS DESIGNATED ON THE ACCEPTEDPLANS.

3. ALL REQUIRED PERIMETER SILT AND CONSTRUCTION FENCING SHALL BE INSTALLED PRIOR TO ANY LAND DISTURBING ACTIVITY (STOCKPILING, STRIPPING, GRADING, ETC). ALL OTHER REQUIRED EROSION CONTROL MEASURES SHALL BE INSTALLED AT THE APPROPRIATE TIME IN THE CONSTRUCTION SEQUENCE AS INDICATED IN THE APPROVED PROJECT SCHEDULE, CONSTRUCTION PLANS, AND EROSION CONTROL REPORT.

4. AT ALL TIMES DURING CONSTRUCTION, THE DEVELOPER SHALL BE RESPONSIBLE FOR PREVENTING AND CONTROLLING ON-SITE EROSION INCLUDING KEEPING THE PROPERTY SUFFICIENTLY WATERED SO AS TO MINIMIZE WIND BLOWN SEDIMENT. THE DEVELOPER SHALL ALSO BE RESPONSIBLE FOR INSTALLING AND MAINTAINING ALL EROSION CONTROL FACILITIES SHOWN HEREIN.

5. PRE-DISTURBANCE VEGETATION SHALL BE PROTECTED AND RETAINED WHEREVER POSSIBLE. REMOVAL OR DISTURBANCE OF EXISTING VEGETATION SHALL BE LIMITED TO THE AREA(S) REQUIRED FOR IMMEDIATE CONSTRUCTION OPERATIONS, AND FOR THE SHORTEST PRACTICAL PERIOD OF TIME.

6. ALL SOILS EXPOSED DURING LAND DISTURBING ACTIVITY (STRIPPING, GRADING, UTILITY INSTALLATIONS,STOCKPILING, FILLING, ETC.) SHALL BE KEPT IN A ROUGHENED CONDITION BY RIPPING OR DISKING ALONG LAND CONTOURS UNTIL MULCH, VEGETATION, OR OTHER PERMANENT EROSION CONTROL BMPS ARE INSTALLED. NO SOILS IN AREAS OUTSIDE PROJECT STREET RIGHTS-OF-WAY SHALL REMAIN EXPOSED BY LAND DISTURBING ACTIVITY FOR MORE THAN FOURTEEN (14) DAYS BEFORE REQUIRED TEMPORARY OR PERMANENT EROSION CONTROL (E.G. SEED/MULCH, LANDSCAPING, ETC.) IS INSTALLED, UNLESS OTHERWISE APPROVED BY THE CITY OF LOVELAND

7. IN ORDER TO MINIMIZE EROSION POTENTIAL, ALL TEMPORARY (STRUCTURAL) EROSION CONTROL MEASURES SHALL:

   (A.) BE INSPECTED AT A MINIMUM OF ONCE EVERY TWO (2) WEEKS AND AFTER EACH SIGNIFICANT STORM EVENT AND REPAIRED OR RECONSTRUCTED AS NECESSARY IN ORDER TO ENSURE THE CONTINUED PERFORMANCE OF THEIR INTENDED FUNCTION.
   (B.) REMAIN IN PLACE UNTIL SUCH TIME AS ALL THE SURROUNDING DISTURBED AREAS ARE SUFFICIENTLY STABILIZED AS DETERMINED BY THE EROSION CONTROL INSPECTOR.
   (C.) BE REMOVED AFTER THE SITE HAS BEEN SUFFICIENTLY STABILIZED AS DETERMINED BY THE EROSION CONTROL INSPECTOR.

8. WHEN TEMPORARY EROSION CONTROL MEASURES ARE REMOVED, THE DEVELOPER SHALL BE RESPONSIBLE FOR THE CLEAN UP AND REMOVAL OF ALL SEDIMENT AND DEBRIS FROM ALL DRAINAGE INFRASTRUCTURE AND OTHER PUBLIC FACILITIES.

9. THE CONTRACTOR SHALL IMMEDIATELY CLEAN UP ANY CONSTRUCTION MATERIALS INADVERTENTLY DEPOSITED ON EXISTING STREETS, SIDEWALKS, OR OTHER PUBLIC RIGHTS OF WAY, AND MAKE SURE STREETS AND WALKWAYS ARE CLEANED AT THE END OF EACH WORKING DAY.

10. ALL RETAINED SEDIMENTS, PARTICULARLY THOSE ON PAVED ROADWAY SURFACES, SHALL BE REMOVED AND DISPOSED OF IN A MANNER AND LOCATION SO AS NOT TO CAUSE THEIR RELEASE INTO ANY WATERS OF THE UNITED STATES.

11. NO SOIL STOCKPILE SHALL EXCEED TEN (10) FEET IN HEIGHT. ALL SOIL STOCKPILES SHALL BE PROTECTED FROM SEDIMENT TRANSPORT BY SURFACE ROUGHENING, WATERING, AND PERIMETER SILT FENCING. ANY SOIL STOCKPILE REMAINING AFTER THIRTY (30) DAYS SHALL BE SEEDED AND MULCHED.

12. THE STORMWATER VOLUME CAPACITY OF DETENTION PONDS WILL BE RESTORED AND STORM SEWER LINES WILL BE CLEANED UPON COMPLETION OF THE PROJECT AND BEFORE TURNING THE MAINTENANCE OVER TO THE CITY OF LOVELAND OR HOMEOWNERS ASSOCIATION (HOA).

13. CITY ORDINANCE AND COLORADO DISCHARGE PERMIT SYSTEM (CDPS) REQUIREMENTS MAKE IT UNLAWFUL TO DISCHARGE OR ALLOW THE DISCHARGE OF ANY POLLUTANT OR CONTAMINATED WATER FROM CONSTRUCTION SITES. POLLUTANTS INCLUDE, BUT ARE NOT LIMITED TO DISCARDED BUILDING MATERIALS, CONCRETE TRUCK WASHOUT, CHEMICALS, OIL AND GAS PRODUCTS, LITTER, AND SANITARY WASTE. THE DEVELOPER SHALL AT ALL TIMES TAKE WHATEVER MEASURES ARE NECESSARY TO ASSURE THE PROPER CONTAINMENT AND DISPOSAL OF POLLUTANTS ON THE SITE IN ACCORDANCE WITH ANY AND ALL APPLICABLE LOCAL, STATE, AND FEDERAL REGULATIONS.

14. A DESIGNATED AREA SHALL BE PROVIDED ON SITE FOR CONCRETE TRUCK CHUTE WASHOUT. THE AREA SHALL BE CONSTRUCTED SO AS TO CONTAIN WASHOUT MATERIAL AND LOCATED AT LEAST FIFTY (50) FEET AWAY FROM ANY WATERWAY DURING CONSTRUCTION. UPON COMPLETION OF CONSTRUCTION ACTIVITIES,THE CONCRETE WASHOUT MATERIAL WILL BE REMOVED AND PROPERLY DISPOSED OF PRIOR TO THE AREA BEING RESTORED.

15. TO ENSURE THAT SEDIMENT DOES NOT MOVE OFF OF INDIVIDUAL LOTS ONE OR MORE OF THE FOLLOWING SEDIMENT/EROSION CONTROL BMPS SHALL BE INSTALLED AND MAINTAINED UNTIL THE LOTS ARE SUFFICIENTLY STABILIZED, AS DETERMINED BY THE EROSION CONTROL INSPECTOR, (LOVELAND GMA & CITY LIMITS ONLY).

   (A.) BELOW ALL GUTTER DOWNSPOUTS.
   (B.) OUT TO DRAINAGE SWALES.
   (C.) ALONG LOT PERIMETER.
   (D.) OTHER LOCATIONS, IF NEEDED.

16. CONDITIONS IN THE FIELD MAY WARRANT EROSION CONTROL MEASURES IN ADDITION TO WHAT IS SHOWN ON THESE PLANS. THE DEVELOPER SHALL IMPLEMENT WHATEVER MEASURES ARE DETERMINED NECESSARY, AS DIRECTED BY THE CITY OF LOVELAND.

17. A VEHICLE TRACKING CONTROL PAD SHALL BE INSTALLED WHENEVER IT IS NECESSARY FOR CONSTRUCTION EQUIPMENT INCLUDING BUT NOT LIMITED TO PERSONAL VEHICLES EXITING EXISTING ROADWAYS. NO EARTHEN MATERIALS, I.E., STONE, DIRT, ETC., SHALL BE PLACED IN THE CURB & GUTTER OR ROADWAY AS A RAMP TO ACCESS TEMPORARY STOCKPILE(S), STAGING AREA(S), CONSTRUCTION MATERIAL(S), CONCRETE WASHOUT AREA(S) AND/OR BUILDING SITE(S).

File Location:Q:\DEN\Projects\0178-00 CMD Centerra\Projects\0236-08 MRG Misc Oil and Gas\Design\CDs\Civil\PICP\023608-CVR & GN.dwg Plot Date:2/3/2023 9:05 AM Last Saved By: TSCARLETT

THIS AND ANY OTHER ELECTRONIC MEDIA COUNTERPART IS AN INSTRUMENT OF SERVICE PREPARED BY MERRICK AND COMPANY FOR A DEFINED PROJECT. IT IS NOT INTENDED OR REPRESENTED TO BE SUITABLE FOR REUSE BY OTHERS ON EXTENSIONS OF THE PROJECT OR ON ANY OTHER PROJECT. ANY REUSE OF THE INSTRUMENT OF SERVICE FOR ANY PURPOSE OTHER THAN THE SPECIFIC PROJECT WITHOUT THE PRIOR EXPRESS WRITTEN CONSENT OF MERRICK AND COMPANY SHALL BE AT THE SOLE RISK FOR THE UNAUTHORIZED USER WITHOUT LIABILITY OR LOSS EXPOSURE TO MERRICK AND COMPANY.

GENERAL NOTES

1.THE CONTRACTOR SHALL NOT CHANGE OR DEVIATE FROM THE PLANS WITHOUT FIRST OBTAINING WRITTEN APPROVAL FROM THE OWNER AND ENGINEER.

SAFETY

2. 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.

3. 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.

TOPSOIL, CLEARING AND GRUBBING

4. 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.

5. PERFORM ALL CLEARING, GRUBBING AND EARTHWORKS IN CONFORMANCE WITH APPLICABLE LOCAL, STATE, AND FEDERAL REQUIREMENTS, INCLUDING REQUIREMENTS FOR HANDLING, REMOVING AND DISPOSING OF CONTAMINATED SOIL, IF APPLICABLE.

6. NO VEGETATION OVERHANGING THE CONSTRUCTION AREA, BUT ROOTED OUTSIDE SAID AREA, SHALL BE REMOVED WITHOUT APPROVAL FROM THE CLIENT OR CONSTRUCTION MANAGER.

7. 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

8. 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.

9. 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 TO COMPLY WITH LOCAL, STATE, AND FEDERAL REQUIREMENTS.

10. 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.

11. 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 COMPACTED 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.

12. COMPACTION TO BE VERIFIED BY NUCLEAR METHOD PER ASTM D-6938 OR BY AN EQUIVALENT METHOD APPROVED BY THE ENGINEER.

13. 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.

14. COMPACTION TEST FREQUENCY FOR AREAS UNDER STRUCTURAL FOUNDATIONS SHALL BE 1 TEST (ASTM D-6938) FOR EACH 1,000 FT2/ OR FRACTION THEREOF PER 6" LIFT, UNLESS INDICATED OTHERWISE IN THESE PLANS OR IN THE ASSOCIATED GEOTECHNICAL REPORT.

15. 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 FT2/ OR FRACTION THEREOF PER 6" LIFT UNLESS INDICATED OTHERWISE IN THESE PLANS OR IN THE ASSOCIATED GEOTECHNICAL REPORT.

16. 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^2/ PER 6" LIFT IN FILL AREAS UNLESS INDICATED OTHERWISE IN THESE PLANS OR IN THE ASSOCIATED GEOTECHNICAL REPORT.

17. 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.

18. 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.

19. 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.

20. 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.

21. BLASTING IS NOT PERMITTED, UNLESS AUTHORIZED IN WRITING BY THE ENGINEER AND CLIENT.

22. 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.

23. 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.

24. 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.

24. 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.

25. 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.

26. CONTRACTOR TO PROVIDE BEST MANAGEMENT PRACTICES (BMP) FOR STORMWATER RUNOFF AND SEDIMENT CONTROL IN ACCORDANCE WITH LOCAL, 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.

27. 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.

28. IMPORTED, ENGINEERED FILL TO MEET ASTM D-1241 SPECIFICATION FOR TYPE I, GRADE B MATERIAL AS FOLLOWS UNLESS INDICATED OTHERWISE IN THIS DRAWING PACKAGE:

A. 100% SOIL MATERIAL FINER THAN 2-INCH SIEVE.
B. 75% - 95% SOIL MATERIALS FINER THAN 1-INCH SIEVE.
C. 40% - 75% SOIL MATERIALS FINER THAN NO. 3/8 SIEVE.
D. 30% - 60% SOIL MATERIALS FINER THAN NO. 4 SIEVE.
E. 20% - 45% SOIL MATERIALS FINER THAN NO. 10 SIEVE.
F. 15% - 30% SOIL MATERIALS FINER THAN NO. 40 SIEVE.
G. 5% - 15% SOIL MATERIALS FINER THAN NO. 200 SIEVE.
H. MAXIMUM LIQUID LIMIT OF 25.
I. PLASTICITY INDEX (PI) 6 (MAX).
J. MAXIMUM EXPANSIVE POTENTIAL 0.5%.

29. CONTRACTOR TO BE ADVISED THAT IN THE EVENT CAD GRADING FILES ARE PROVIDED TO THE CONTRACTOR, OR ANY OTHER PARTY INVOLVED WITH EARTHWORKS ACTIVITIES, THAT THE CAD FILES ARE NOT TYPICALLY PRODUCED TO A LEVEL APPROPRIATE FOR DIRECT USE BY HEAVY EQUIPMENT GPS "AUTO-PILOT" GRADING ACTIVITIES. THE PROVIDE CAD FILES MUST TYPICALLY BE PREPARED AND/OR REVISED BEFORE BEING USED FOR HEAVY EQUIPMENT GPS "AUTO-PILOT" GRADING USE.

FINAL GRADE AND ACCEPTANCE

30. FINAL GRADE TO MAINTAIN POSITIVE (I.E. OFFSITE) DRAINAGE ACROSS THE ENTIRE PROJECT SITE UNLESS SPECIFICALLY INDICATED OTHERWISE IN THIS DRAWING PACKAGE.

31. 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".

PROJECT SPECIFIC NOTES

32. PAD TO BE CAPPED WITH CDOT CLASS 6 AGGREGATE BASE COURSE (ABC) UNLESS INDICATED OTHERWISE IN THESE PLANS OR BY THE CLIENT. ABC TO BE COMPACTED IN 4" (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.

33. AS OF THE TIME THIS DRAWING PACKAGE WAS ISSUED, NO INFORMATION REGARDING TANK LOCATION, SIZE, WEIGHT (IF APPLICABLE) WAS NOT AVAILABLE. THE PREFERRED LOCATION(S) FOR TANK PLACEMENT ARE IN AREAS OF CUT. IF ANY LARGE TANKS (E.G. MLTS, MINION TANKS, ETC.) ARE INTENDED TO BE PLACED ON THE PAD IN FILL AREAS, THE TANK(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 INSTABILITY ISSUES AND TO PROVIDE SAFE WORKING CONDITIONS IN ACCORDANCE WITH ENGINEERING BEST PRACTICES. IF THERE ARE ANY QUESTIONS OR CONCERNS REGARDING SAFE PLACEMENT OF LARGE TANK OR TANK LIKE STRUCTURES (I.E. LARGE LOADS) PLEASE CONTACT MERRICK & COMPANY INFRASTRUCTURE DIVISION (DENVER OFFICE) ENGINEERING DEPARTMENT TO OBTAIN GUIDANCE AS TO WHERE THE TANK(S) CAN BE SAFELY LOCATED.

34. HORIZONTAL LIFTS OF FILL SOIL MATERIAL (NON-GRAVELS) DIRECTLY BENEATH AND WITHIN 5.0 FT. OF THE 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 TANK TO CONFIRM THAT THE REQUIRED COMPACTION HAS BEEN ACHIEVED.

35. GRADING INSPECTION TO BE PERFORMED BY A QUALIFIED PERSON AT LEAST ONCE EVERY 3 MONTHS OR AFTER A LARGE STORM EVENT. INSPECTOR TO VERIFY THAT SOFT SPOTS, EROSION, UNDERMINING OF THE CDOT CLASS 6 SURFACE COURSE CAP, ETC. DOES NOT OCCUR. ANY DAMAGE TO THE GRADING THAT IS IDENTIFIED WILL NEED TO BE REPAIRED IN A TIMELY FASHION TO PREVENT COMPROMISING THE STRUCTURAL INTEGRITY OF THE GRADING.

STANDARD CONCRETE NOTES:

1. A CONCRETE PERMIT IS REQUIRED FOR ALL NEW UTILITY SERVICE AND IRRIGATION LINES CROSSING UNDER THE PUBLIC CURB, GUTTER AND SIDEWALK UNLESS INSTALLATION IS MADE BY A MECHANICAL BORE. DIGGING OR TUNNELING UNDER THE CONCRETE IS NOT ALLOWED.

2. CONCRETE AND ASPHALT PAVEMENTS SHALL BE SAW CUT TO FULL DEPTH AT THE NEAREST JOINT OR AS MARKED BY THE ENGINEER AND ALONG THE JOINT BETWEEN CONCRETE AND ASPHALT PAVEMENTS SHALL BE SAW CUT FOR THE FULL DEPTH OF THE CONCRETE. ALL ADVANCE SAWING SHALL BE PERFORMED WITH A WET SAW. ALL WATER AND CONCRETE DUST RESIDUE SHALL BE CLEANED FROM SITE AT THE TIME OF SAWING. ASPHALT SHALL BE SAWCUT A MINIMUM OF NINE (9) INCHES AND A MAXIMUM OF TWELVE (12) INCHES AWAY FROM THE LIP AND THE ASPHALT REMOVED. AFTER CONCRETE HAS BEEN PLACED, CURED AND FORMS REMOVED, THE AREA SHALL BE THOROUGHLY CLEANED AND COMPACTED AND PATCHED WITH ASPHALT.

3. ALL SUBGRADE UPON WHICH CONCRETE IS TO BE PLACED SHALL BE THOROUGHLY COMPACTED AND MOISTENED. THIS WORK SHALL BE INCLUDED IN THE UNIT BID PRICE FOR THE VARIOUS UNITS REQUIRING TAMPING BY THE ENGINEER ON CITY PROJECTS. CONCRETE SHALL BE PLACED ONLY WHEN THE SUBGRADE IS MOIST AND NOT WHEN IT IS TOO WET OR DRY OR UNSTABLE. JUMPING-JACK AND PLATE TAMPERS MUST BE ON SITE AT ALL TIMES DURING SUB GRADE PREPARATIONS.

4. METAL OR WOODEN FORMS MAY BE USED. THEY SHALL BE FREE FROM WARP, OF SUFFICIENT STRENGTH TO RESIST SPRINGING OUT OF SHAPE. FORMS SHALL BE CLEANED OF ALL MORTAR AND DIRT AND OILED BEFORE THEY ARE USED. THEY SHALL BE SET TO THE ESTABLISHED LINE AND GRADE, BEING WELL STAKED, BRACED, OR OTHERWISE HELD IN PLACE. FORMS SHALL REMAIN IN PLACE AT LEAST TWELVE (12) HOURS AFTER CONCRETE HAS BEEN PLACED AGAINST THEM OR FOR A LONGER PERIOD IF SO DIRECTED BY THE ENGINEER. MAXIMUM DEVIATION OF THE TOP SURFACE SHALL NOT EXCEED ONE-EIGHTH (1/8) INCH IN TEN (10) FEET OR THE INSIDE FACE NOT MORE THAN ONE-QUARTER (¼) INCH IN TEN (10) FEET. THE METHOD OF CONNECTIONS BETWEEN SECTIONS SHALL BE SUCH THAT THE JOINT THUS FORMED IS TIGHT AND FREE FROM MOVEMENT IN ANY DIRECTION. APPROVED FLEXIBLE FORMS SHALL BE USED FOR CONSTRUCTION WHERE THE RADIUS IS ONE HUNDRED FIFTY (150) FEET OR LESS.

5. AFTER THE INSPECTOR HAS APPROVED THE FORMS AND SUBGRADE, THEN CONCRETE SHALL BE DEPOSITED ON THE SUBGRADE TO THE REQUIRED DEPTH AND WIDTH IN SUCCESSIVE BATCHES AND IN A CONTINUOUS OPERATION. THE CONCRETE SHALL BE PLACED AS UNIFORMLY AS POSSIBLE TO MINIMIZE THE AMOUNT OF SPREADING NECESSARY. WHILE BEING PLACED, THE CONCRETE SHALL BE SPADED AND/OR VIBRATED WITH SUITABLE TOOLS TO PREVENT THE FORMATION OF VOIDS OR HONEYCOMB.WIRE FABRIC SHALL BE PLACED AT A POINT THREE (3) INCHES BELOW THE SURFACE OF A CROSS PAN AND SQUARED-OUT RETURN. THE FABRIC SHALL BE FULLY SUPPORTED ON PRECAST MORTAR BLOCKS PRIOR TO PLACING THE CONCRETE.

6. ALL SIDEWALKS, CURB, GUTTERS AND DRIVEWAYS SHALL HAVE THE NAME OF THE CONTRACTOR AND THE YEAR OF CONSTRUCTION IMPRESSED THEREIN, USING BLOCK LETTERS ONE (1) INCH HIGH AND THREE-EIGHTH (3/8) INCH DEEP. ONE IMPRESSION SHALL BE MADE IN EACH DRIVEWAY. IMPRESSIONS SHALL BE MADE IN SIDEWALKS, CURBS, GUTTERS AT EACH END OF THE CONSTRUCTION, OR AT ONE HUNDRED (100) FOOT INTERVALS AND AT EACH EXTENSION TO CURBING.

7. ANY ADJUSTMENT TO UTILITY COVERS, STOP BOXES, METER PITS, MANHOLE LIDS, SPLICE BOXES, VALVE BOXES ETC WILL BE COMPLETED BY THE CONTRACTOR. ANY STOP BOXES BROKEN OR UNABLE TO BE ADJUSTED WILL BE IDENTIFIED FOR REPLACEMENT BY THE ENGINEER AT TIME OF INSPECTION AND WILL BE MEASURED AND PAID FOR IN ACCORDANCE WITH SECTION 3.2.1 OF THESE STANDARD SPECIFICATIONS.

8. CONCRETE SHALL BE CDOT CLASS B (4,500 PSI) FROM A CDOT PRE-APPROVED SUPPLIER OR CONTRACTOR SHALL SUBMIT A MIX DESIGN TO THE CITY OF ENGLEWOOD FOR APPROVAL PRIOR TO CONSTRUCTION.

9. CONCRETE SHALL BE CURED BY PROTECTING IT AGAINST MOISTURE LOSS, RAPID TEMPERATURE CHANGE, RAIN, FLOWING WATER AND MECHANICAL INJURY FOR A PERIOD OF NOT LESS THAN FIVE (5) DAYS AFTER PLACEMENT.
   - 9.a. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO PROTECT FROM THE ELEMENTS AND TRAFFIC, AND IF NEGLECTED THE ENGINEER SHALL DIRECT THAT THE NECESSARY PROTECTIVE MEASURES BE TAKEN AT THE EXPENSE OF THE CONTRACTOR, AND NO FURTHER POURING WILL BE PERMITTED.
   - 9.b. MOIST CURING. MOIST CURING SHALL BE ACCOMPLISHED AFTER INITIAL SET BY COVERING WITH WET BURLAP, COTTON MATS, OR OTHER APPROVED FABRIC USED SINGLY OR IN COMBINATION. CURING MATS SHALL BE KEPT CONTINUOUSLY WET AND IN INTIMATE CONTACT WITH THE CONCRETE FOR THE DURATION OF THE MOIST CURE.
   - 9.c. WATERPROOF PAPER AND POLYETHYLENE SHEETS. THE SURFACE OF THE CONCRETE SHALL BE THOROUGHLY MOISTENED WITH A FINE SPRAY OF WATER AND THEN COVERED AFTER INITIAL SET WITH THE WATERPROOF PAPER OR SHEETING. PAPER OR SHEETING SHALL COVER THE ENTIRE WIDTH AND EDGES SHALL BE LAPPED AT LEAST TWELVE (12) INCHES TO INSURE COMPLETE COVERAGE. PAPER OR SHEETING SHALL BE ADEQUATELY WEIGHTED TO PREVENT DISPLACEMENT OR BILLOWING DUE TO WIND. ("SHEET MATERIALS FOR CURING CONCRETE", A.A.S.H.T.O. DESIGNATION: M 171-70.)
   - 9.d. LIQUID MEMBRANE CURING COMPOUND. ONLY WHITE PIGMENTED MEMBRANE CURING COMPOUND SHALL BE USED (PROTEX PROMULSION 50AW OR EQUIVALENT) AND SHALL BE APPLIED IMMEDIATELY AFTER THE WATER SHEEN HAS LEFT THE FINISHED CONCRETE. THE COMPOUND SHALL BE APPLIED AT A RATE OF ONE GALLON PER 200 SQUARE FEET. CLEAR CURING COMPOUND SHALL BE USED FOR ANY COLORED CONCRETE PLACED.

10. EXCEPT BY SPECIFIC WRITTEN AUTHORIZATION, CONCRETING SHALL CEASE WHEN AMBIENT AIR TEMPERATURE IN THE SHADE AND AWAY FROM ARTIFICIAL HEAT FALLS BELOW 40 DEGREES FAHRENHEIT. IT SHALL NOT BE RESUMED UNTIL THE AMBIENT AIR TEMPERATURE IN THE SHADE AND AWAY FROM ARTIFICIAL HEAT IS 35 DEGREES FAHRENHEIT AND RISING. CONCRETE SHALL NOT BE PLACE ON FROZEN GROUND. WHEN CONCRETE IS PERMITTED DURING COLD WEATHER, THE TEMPERATURE OF THE MIX SHALL BE NOT LESS THAN 50 DEGREES FAHRENHEIT OR MORE THAN 90 DEGREES FAHRENHEIT AT THE TIME OF PLACING. AGGREGATES OR WATER OR BOTH MAY BE HEATED, BUT SHALL NOT BE HEATED TO A TEMPERATURE GREATER THAN 150 DEGREES FAHRENHEIT. BEFORE CONCRETING IS STARTED, REMOVE ICE, SNOW AND FROST. WHEN CONCRETE IS BEING PLACED IN COLD WEATHER AND TEMPERATURE MAY BE EXPECTED TO DROP BELOW 35 DEGREES FAHRENHEIT, A SUPPLY OF STRAW, INSULATED CURING BLANKETS, OR OTHER SUITABLE MATERIAL SHALL BE PROVIDED ALONG THE LINE OF WORK. AT ANY TIME WHEN THE AIR TEMPERATURE MAY BE EXPECTED TO REACH THE FREEZING POINT DURING THE DAY OR NIGHT, THE MATERIALS SO PROVIDED SHALL BE SPREAD OVER THE CONCRETE TO A SUFFICIENT DEPTH TO PREVENT FREEZING OF THE CONCRETE. CONCRETE SHALL BE PROTECTED FROM FREEZING TEMPERATURES FOR A MINIMUM OF THREE (3) DAYS FROM THE TIME OF PLACEMENT. MAINTAIN CONCRETE SURFACE TEMPERATURES FOR THE PERIOD IN ACCORDANCE WITH COLUMN 2 OF ACI 306, TABLE 3.2.1. CONCRETE INJURED BY FROST ACTION SHALL BE REMOVED AND REPLACED AT THE CONTRACTOR'S EXPENSE. EXCEPT BY WRITTEN AUTHORIZATION, CONCRETE PLACING SHALL CEASE IF THE TEMPERATURE OF THE PLASTIC CONCRETE CANNOT BE MAINTAINED AT 90 DEGREES OR LOWER. TO FACILITATE THE PLACEMENT OF CONCRETE IN HOT WEATHER, THE AGGREGATES OR WATER OR BOTH MAY BE COOLED.

11. CONCRETE SHALL NOT BE OPENED TO TRAFFIC FOR A PERIOD OF AT LEAST THREE (3) DAYS AFTER THE LAST CONCRETE HAS BEEN PLACED OR UNTIL TEST RESULTS SHOW THAT CONCRETE HAS OBTAINED AT LEAST 3,000 PSI STRENGTH OR FOR A LONGER PERIOD OF TIME IF THE ENGINEER CONSIDERS IT NECESSARY. IF IT IS DESIRED TO OPEN NEWLY PLACED CONCRETE TO TRAFFIC EARLIER THAN THREE (3) DAYS, CONTRACTOR MAY ELECT TO PLACE AN ACCELERATED CURING MIX, AT NO ADDITIONAL COST TO THE CITY, AND OPEN THE AREA TO TRAFFIC ONCE STRENGTH HAS REACHED AT LEAST 3,000 PSI. CONTRACTOR MUST DEMONSTRATE THAT THE IN-PLACE CONCRETE HAS ACHIEVED A COMPRESSIVE STRENGTH ACCEPTABLE TO THE ENGINEER. IT SHALL BE THE OBLIGATION OF THE CONTRACTOR TO MAINTAIN SUITABLE BARRICADES WHILE CONCRETE CURES.

12. AT THE END OF EACH WORKDAY, IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO CHECK EACH CONCRETE LOCATION AND INSURE PROPER BARRICADING IS IN PLACE. BARRICADING SHALL BE IN CONFORMANCE WITH THE MUTCD FOR THE PROTECTION OF A WORK AREA. BARRICADES SHALL NOT BE REMOVED UNTIL THE CONCRETE HAS ATTAINED THE NECESSARY STRENGTH. ALL BARRICADES AND TRAFFIC CONTROL DEVICES MUST HAVE WORKING LIGHTS WHEN IN SERVICE.

13. UNLESS OTHERWISE STATED IN THESE PLANS, STEEL REINFORCEMENT BARS SHALL BE NEW, DEFORMED BILLET STEEL, MEETING ASTM A 615; GRADE 60. TIE WIRE: ANNEALED STEEL, FED. SPEC. QQ_W_461, 16 GAUGE MINIMUM.

14. BAR SUPPORTS: THE CONCRETE BLOCK SUPPORTS AT THE BASE OF THE WALL AND FOR THE SLAB-ON-GRADE SHALL BE SPECIALLY FABRICATED FOR THIS PROJECT, EITHER BY THE CONTRACTOR OR BY A SPECIALTY SUPPLIER ACCEPTABLE TO THE ENGINEER. THEY SHALL BE 4-INCHES SQUARE AND 2-3/8 INCHES THICK AND SHALL BE MADE OF SIMILAR CONCRETE AS SPECIFIED FOR THE STRUCTURE, ADJUSTED FOR ELIMINATION OF THE COURSE AGGREGATE.

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TITLE
MRG, LP OIL AND GAS CE PAD
CITY OF LOVELAND, COLORADO
CIVIL CONSTRUCTION PLANS
GENERAL NOTES

JOB NUMBER 65120236-10
DATE 9/1/2022
SHEET C-002
3 of 19

File Location: Q:\DEN\Projects\0178-00 CMD Centers\Projects\0236-08 MRG Misc Oil and Gas\Design\CDs\Civil\PCP\023608-CVR & GN.dwg Plot Date:2/3/2023 8:57 AM Last Saved By: TSCARLETT

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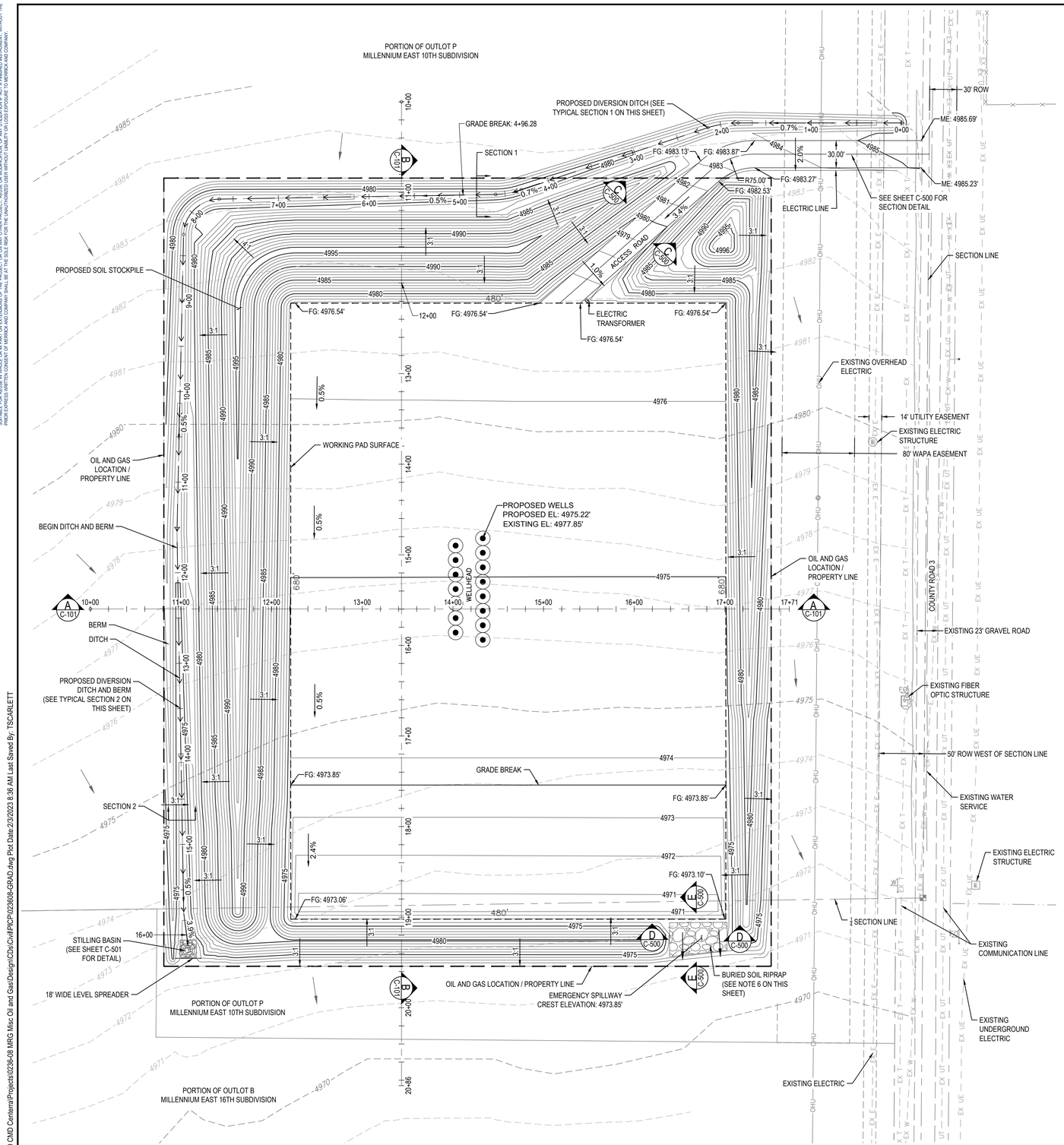
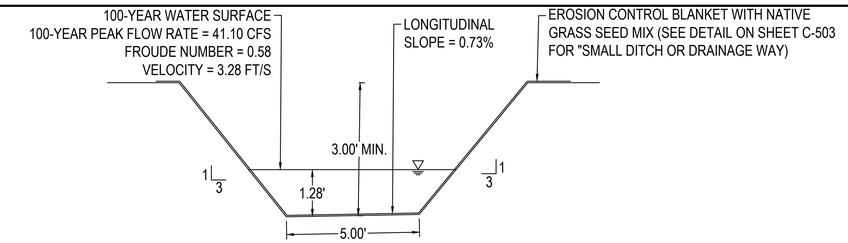
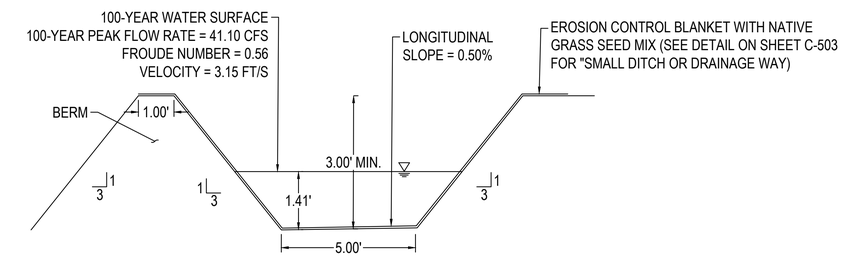




DIVERSION DITCH - TYPICAL SECTION 1



DIVERSION DITCH & BERM - TYPICAL SECTION 2

NOTES:

1. ALL ELEVATIONS AND CONTOURS SHOWN ARE TO TOP OF FINISHED GRADE.
2. WORKING PAD SURFACE AND ACCESS ROAD SHALL BE STABILIZED WITH 4-INCH DEPTH CDOT CLASS 6 AGGREGATE BASE COURSE (ABC).
3. ALL DISTURBED AREAS OUTSIDE THE LIMITS OF THE CDOT CLASS 6 ABC SHALL RECEIVE EROSION CONTROL SEEDING.
4. GROUND ELEVATIONS BASED ON NGVD 1929 DATUM.
5. CONTRACTOR TO REMOVE 4" OF TOPSOIL. SHOULD THE ACTUAL FIELD DEPTH OF THE TOPSOIL DIFFER, CONTACT ENGINEER.
6. REFERENCE MILE HIGH FLOOD DISTRICT "DIVISION 31 EARTHWORK - RIPRAP, BOULDERS, AND BEDDING" CONSTRUCTION SPECIFICATIONS (SECTION 31 37 00) FOR SOIL RIPRAP EXECUTION AND PLACEMENT. RIPRAP LAYER TO HAVE 18" THICKNESS. TOP OF RIPRAP TO HAVE 4" OF TOPSOIL COVER.

LEGEND:

A / 2 — CROSS SECTION / REFERENCE PAGE

N

60' 0 30' 60' 120'
1" = 60' HOR.

EARTHWORK VOLUMES

ALL REPORTED VOLUMES ARE BANK VOLUMES

TOTAL CUT: 34,693 CY
TOTAL FILL: 42,350 CY
CDOT CLASS 6 FILL IMPORT: 4,201 CY
TOTAL ESTIMATED TOPSOIL: 7,361 CY
RIPRAP (MHFD TYPE L: D_{50}= 9") : 363CY

DISTURBED AREA

OIL AND GAS LOCATION: ±13.4 AC
WORKING PAD SURFACE: ±7.49 AC
ACCESS ROAD: ±0.32 AC

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CITY OF LOVELAND, COLORADO
CIVIL CONSTRUCTION PLANS
DRILLING PHASE GRADING PLAN

JOB NUMBER 65120236-10
DATE 9/1/2022
SHEET C-100
4 of 19

File Location: O:\DEN\Projects\0178-00 CMD Centennial Projects\0236-08 MRG Misc Oil and Gas\Design\CDs\Civil\PICP\023608-GRAD.dwg Plot Date:2/3/2023 8:38 AM Last Saved By: TSCARLETT

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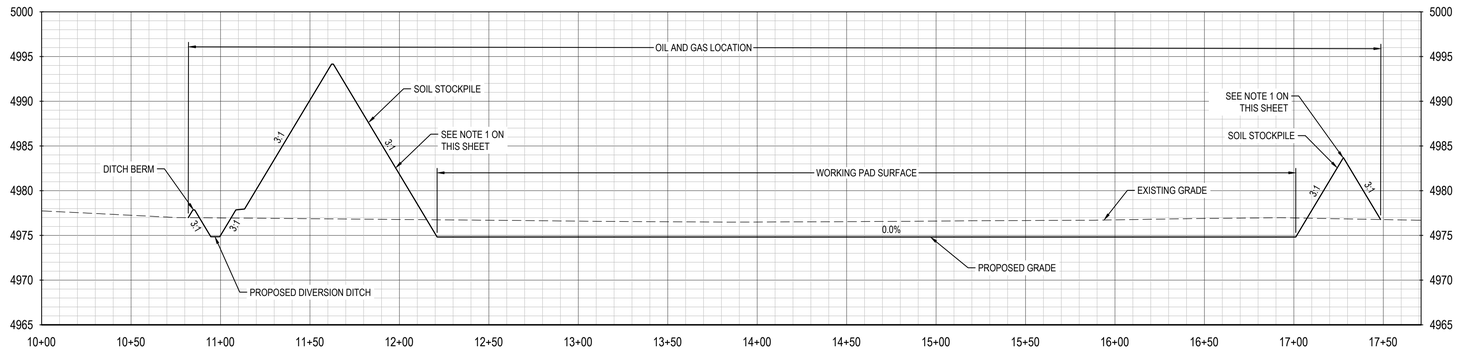
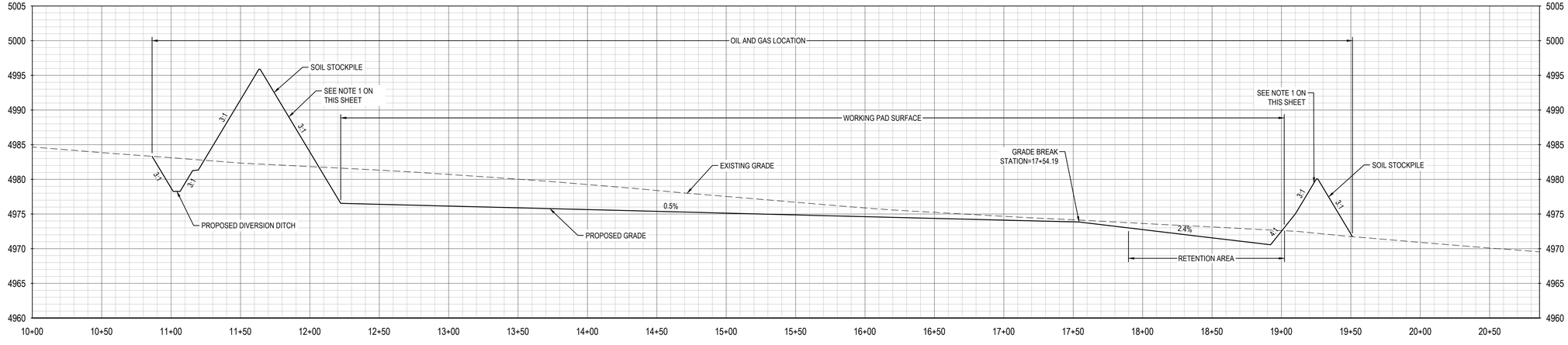


SECTION B (N-S)



NOTES:
1. UPON COMPLETION OF THE STOCKPILES, THE STOCKPILE SURFACE IS TO BE COATED WITH A BIODEGRADABLE, SOIL TACKIFIER SUITABLE FOR USE IN ENVIRONMENTS WITH AVERAGE HUMIDITY LEVELS IN THE 40%-50% RANGE TO RESIST WIND EROSION.

40' 0 20' 40' 80'
1" = 40' HOR.
1" = 8 VERT.

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CIVIL CONSTRUCTION PLANS
DRILLING PHASE SECTION VIEWS

JOB NUMBER 65120236-10
DATE 9/1/2022
SHEET C-101
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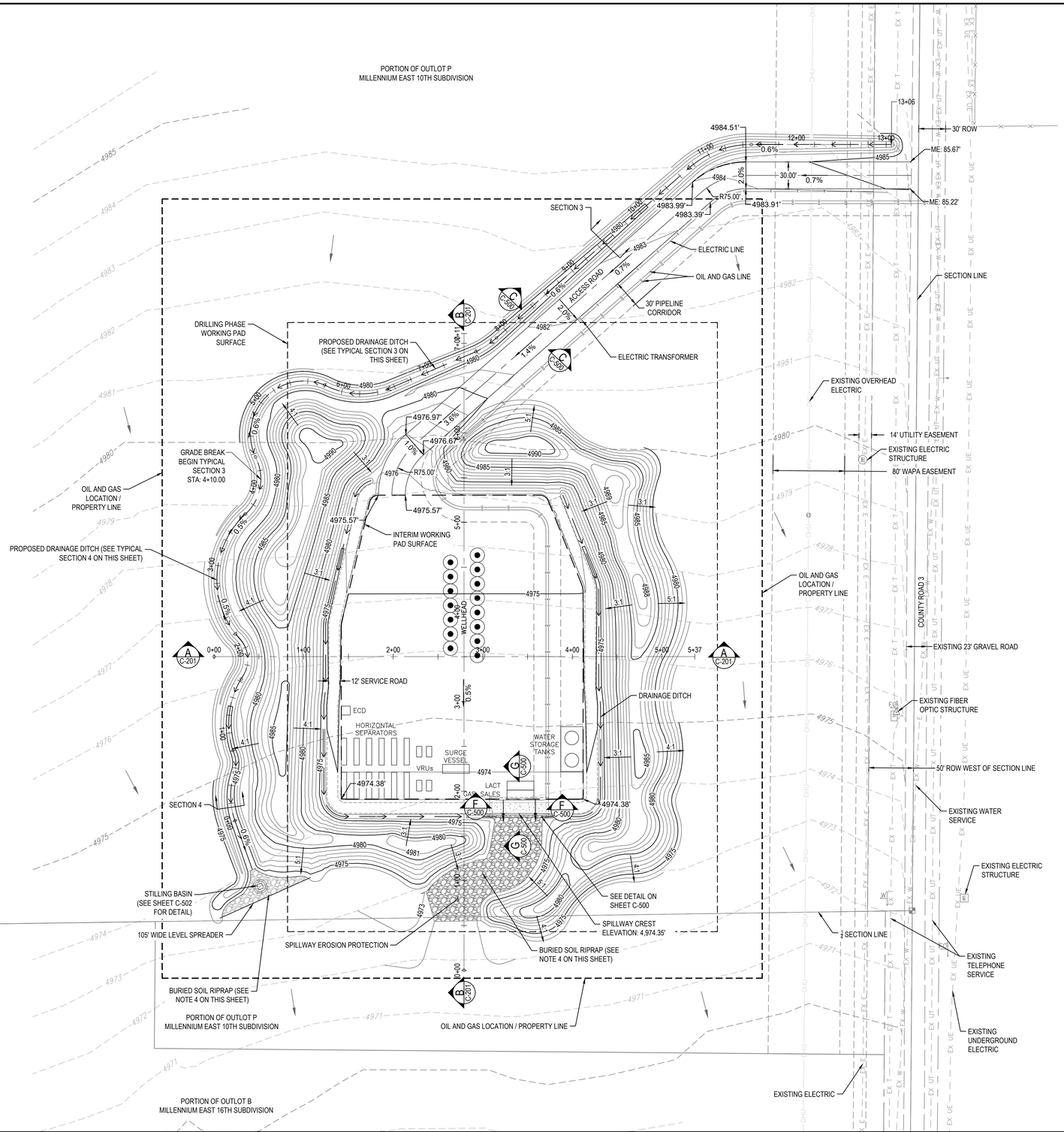
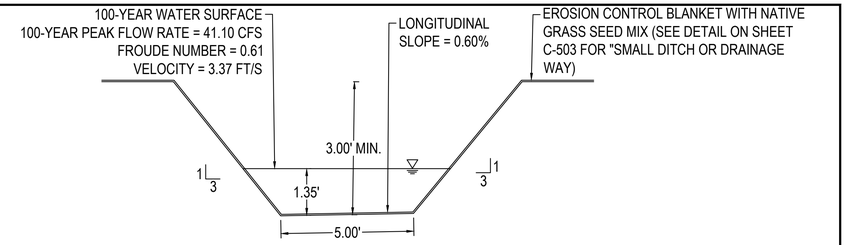
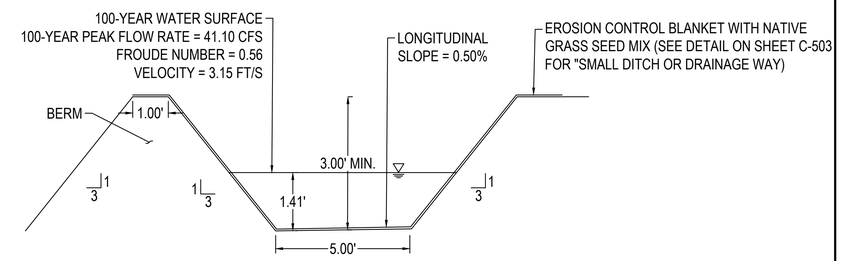




DIVERSION DITCH - TYPICAL SECTION 3



DIVERSION DITCH & BERM - TYPICAL SECTION 4

NOTES:

1. ALL ELEVATIONS AND CONTOURS SHOWN ARE TO TOP OF FINISHED GRADE.
2. ALL DISTURBED AREAS OUTSIDE THE LIMITS OF THE CDOT CLASS 6 ABC SHALL RECEIVE EROSION CONTROL SEEDING.
3. GROUND ELEVATIONS BASED ON NGVD 1929 DATUM.
4. REFERENCE MILE HIGH FLOOD DISTRICT "DIVISION 31 EARTHWORK - RIPRAP, BOULDERS, AND BEDDING" CONSTRUCTION SPECIFICATIONS (SECTION 31 37 00) FOR SOIL RIPRAP EXECUTION AND PLACEMENT. RIPRAP LAYER TO HAVE 18" THICKNESS. TOP OF RIPRAP TO HAVE 4" OF TOPSOIL COVER.

LEGEND:

A / 2 — CROSS SECTION / REFERENCE PAGE NUMBER

EARTHWORK VOLUMES

ALL REPORTED VOLUMES ARE BANK VOLUMES

TOTAL CUT: 40,438 CY
TOTAL FILL: 49,388 CY
RIPRAP (MHFD TYPE L: D_{50}= 9") : 1,341 CY

DISTURBED AREA

OIL AND GAS LOCATION: ±13.4 ACRES
INTERIM WORKING PAD SURFACE: ±2.0 ACRES
RECLAIMED AREA: ±6.2 ACRES
UNRECLAIMED AREA: ±5.2 ACRES

N

60' 0 30' 60' 120'
1" = 60' HOR.

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CITY OF LOVELAND, COLORADO
CIVIL CONSTRUCTION PLANS
PRODUCTION PHASE GRADING PLAN

JOB NUMBER: 65120236-10
DATE: 9/1/2022
SHEET: C-200
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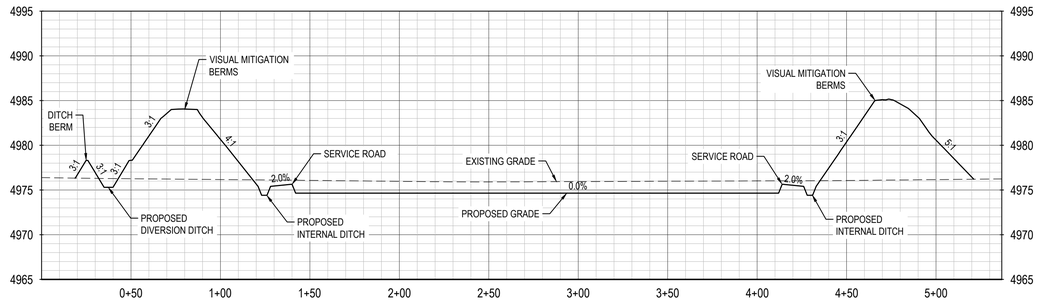

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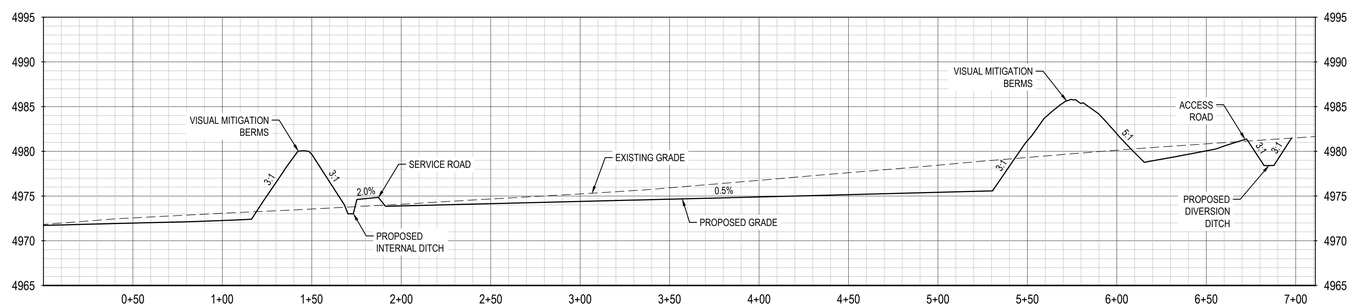

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1" = 40' HOR.
1" = 8 VERT.

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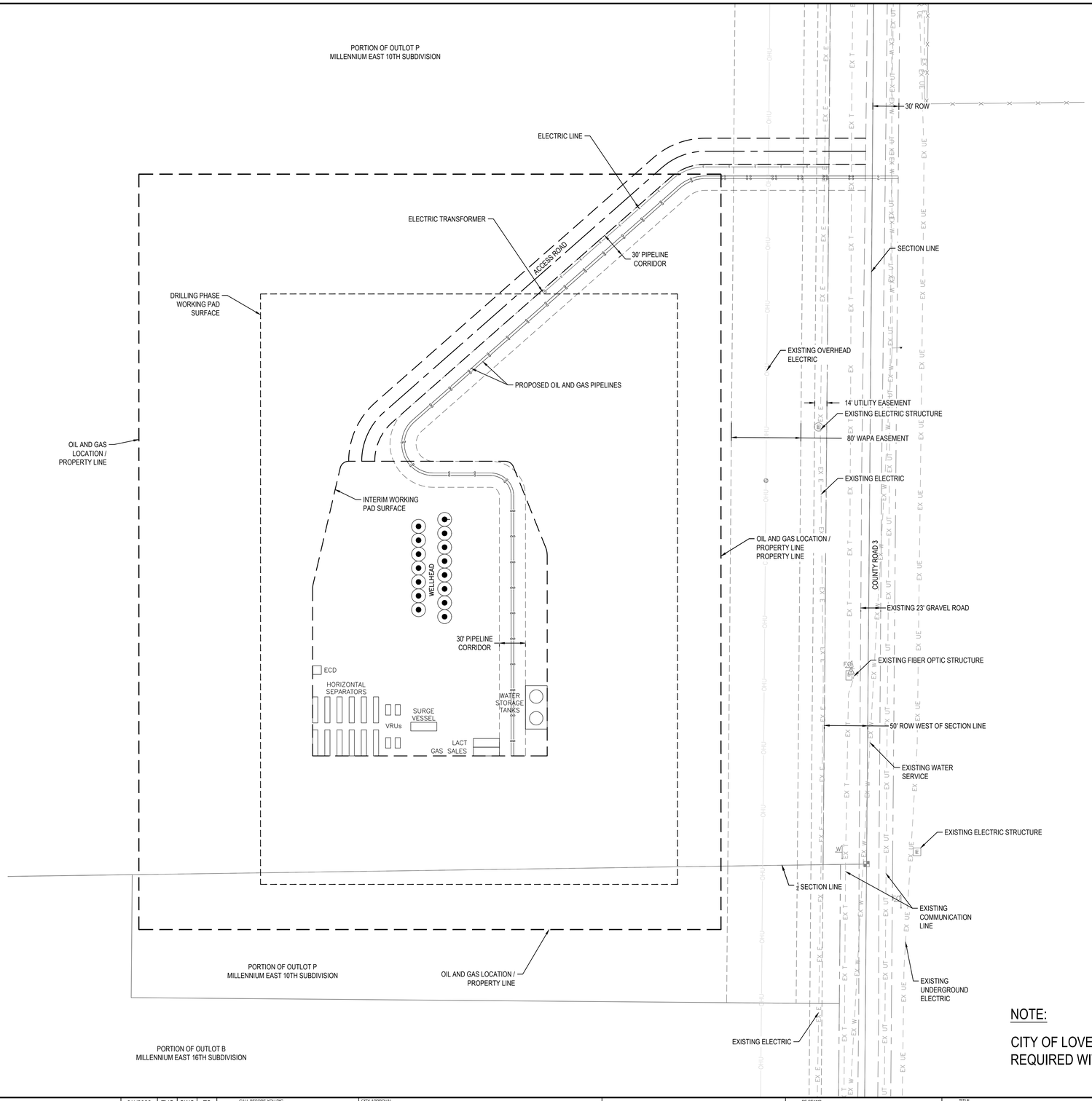

NOTE:

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1" = 60' HOR.

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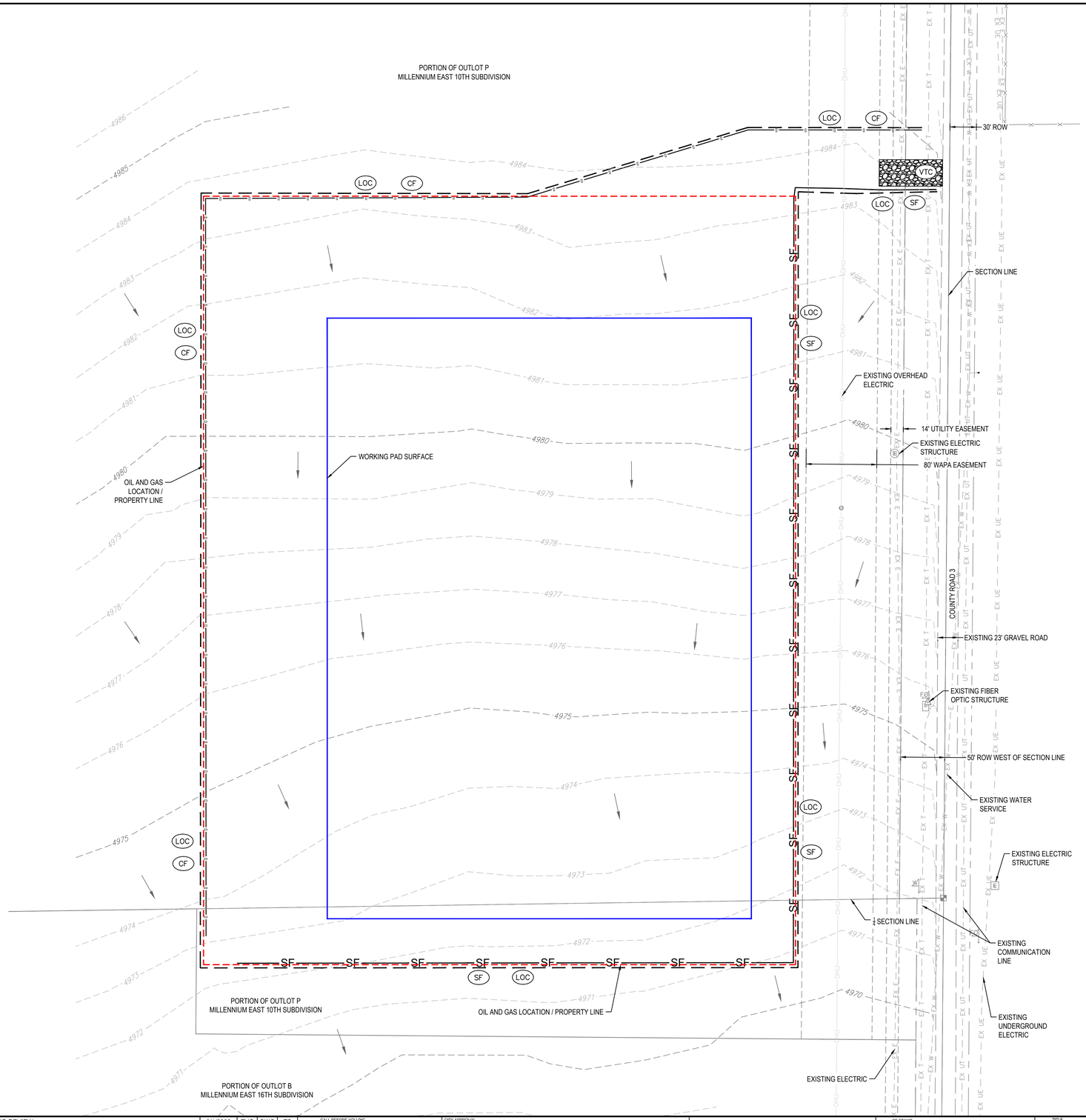

LEGEND

	WORKING PAD SURFACE
	OIL AND GAS LOCATION
VTC	VEHICLE TRACKING CONTROL
CF	CONSTRUCTION FENCE
SF	SILT FENCE
LOC	LIMIT OF CONSTRUCTION
SMC	SEEDING, MULCHING AND CRIMPING
TSB	TEMPORARY SEDIMENT BASIN
SB	STILLING BASIN
LS	LEVEL SPREADER
BRR	BURIED SOIL RIPRAP
SR	SURFACE ROUGHENING

N

60' 0 30' 60' 120'

1" = 60' HOR.

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CIVIL CONSTRUCTION PLANS

PHASE 1 SEDIMENT AND EROSION CONTROL PLAN

JOB NUMBER 65120236-10

DATE 9/1/2022

SHEET C-400

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File Location: Q:\DEN\Projects\0178-00 CMD Centennial\Projects\0236-08 MRG Misc Oil and Gas\Design\CDs\Civil\PICP\023608-GESC.dwg Plot Date:2/3/2023 8:59 AM Last Saved By: TSCARLETT

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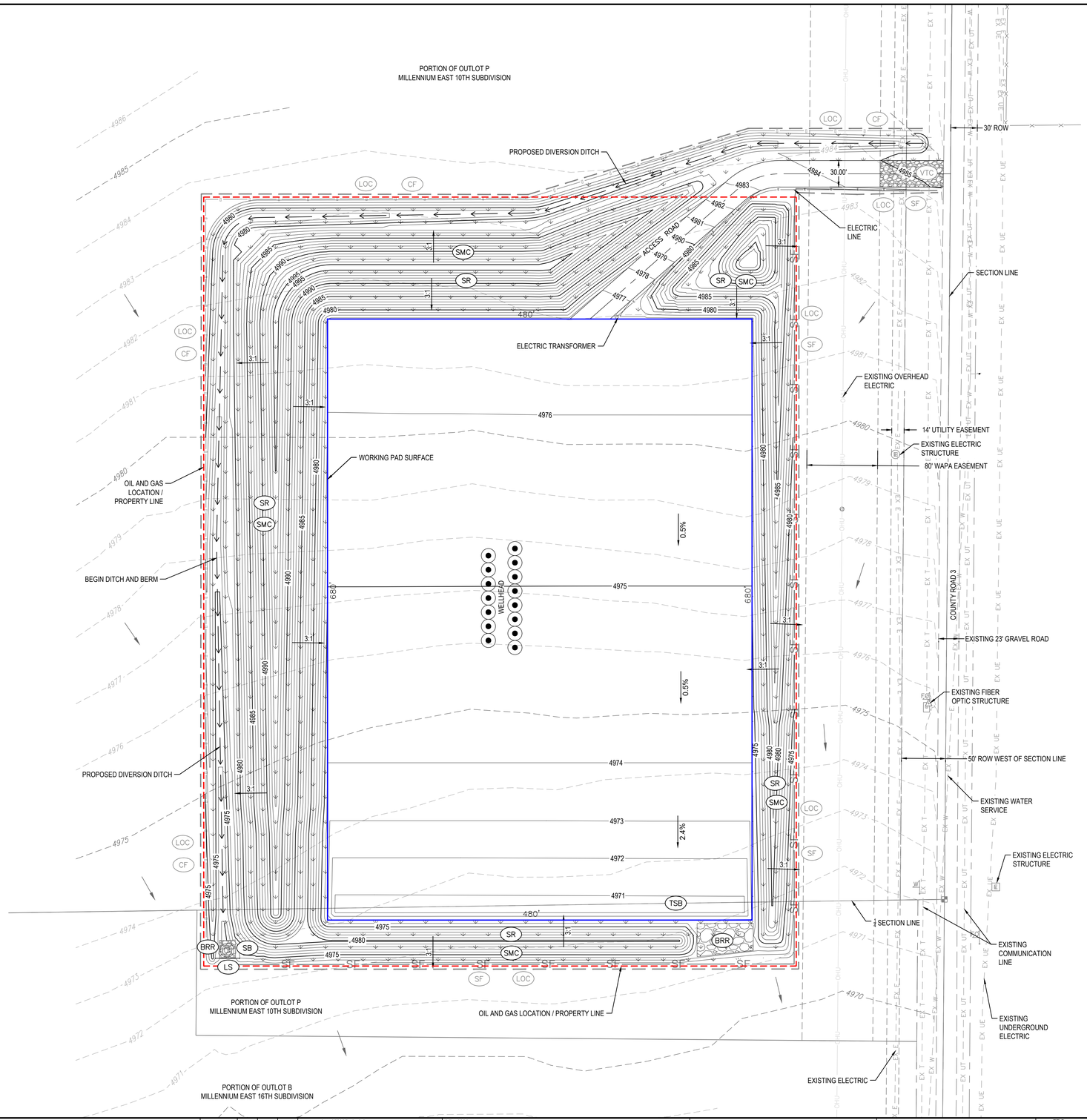

LEGEND

- WORKING PAD SURFACE
- OIL AND GAS LOCATION
- VTC — VEHICLE TRACKING CONTROL
- CF — CONSTRUCTION FENCE
- SF — SILT FENCE
- LOC — LIMIT OF CONSTRUCTION
- SMC — SEEDING, MULCHING AND CRIMPING
- TSB — TEMPORARY SEDIMENT BASIN
- SB — STILLING BASIN
- LS — LEVEL SPREADER
- BRR — BURIED SOIL RIPRAP
- SR — SURFACE ROUGHENING

N

60' 0 30' 60' 120'

1" = 60' HOR.

REV	REVISION DESCRIPTION	DATE	CHND	CHKD	APPR
A	ISSUED FOR REVIEW	9/1/2022	TVG	SWC	TS
B	ISSUED FOR REVIEW	2/3/2023	TVG	TS	TS

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MRG, LP OIL AND GAS CE PAD

CITY OF LOVELAND, COLORADO

CIVIL CONSTRUCTION PLANS

DRILLING PHASE SEDIMENT AND EROSION CONTROL PLAN

JOB NUMBER 65120236-10

DATE 9/1/2022

SHEET C-401

10 of 19

File Location:Q:\DEN\Projects\0178-00 CMD Centennial\Projects\0236-08 MRG Misc Oil and Gas\Design\CDs\Civil\PICP\023608-CESC.dwg Plot Date:2/3/2023 8:50 AM Last Saved By: TSCARLETT

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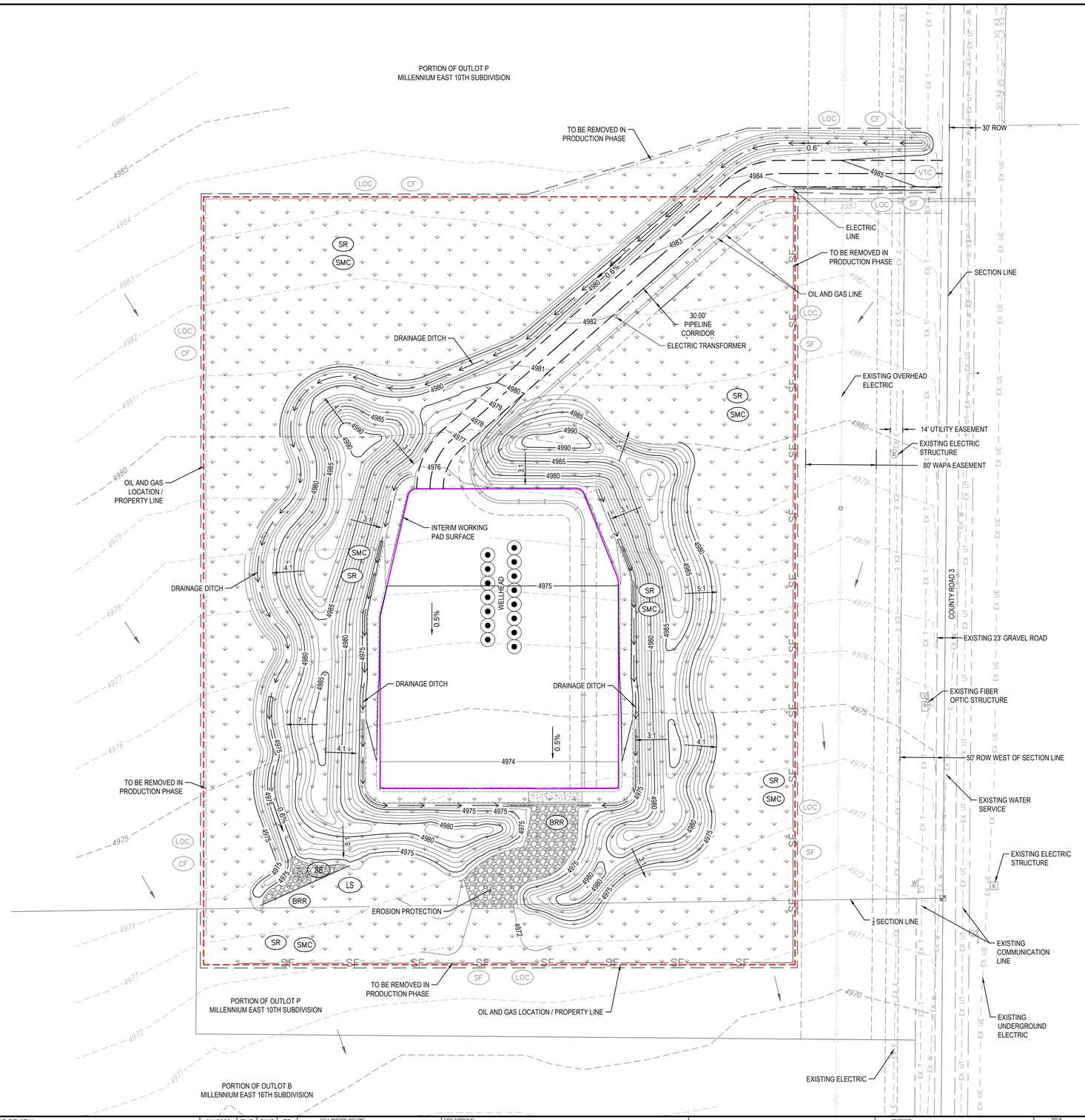

LEGEND

- INTERIM WORKING PAD SURFACE
- OIL AND GAS LOCATION
- VTC — VEHICLE TRACKING CONTROL
- CF — CONSTRUCTION FENCE
- SF — SILT FENCE
- LOC — LIMIT OF CONSTRUCTION
- SMC — SEEDING, MULCHING AND CRIMPING
- TSB — TEMPORARY SEDIMENT BASIN
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CITY OF LOVELAND, COLORADO
CIVIL CONSTRUCTION PLANS
PRODUCTION PHASE SEDIMENT AND EROSION CONTROL PLAN

JOB NUMBER 65120236-10
DATE 9/1/2022
SHEET C-402
11 of 19

File Location: O:\DEN\Projects\0178-00 CMD Centennial Projects\0236-08 MRG Misc Oil and Gas\Design\CDs\Civil\PICP\023608-SESC.dwg Plot Date:2/3/2023 8:52 AM Last Saved By: TSCARLETT

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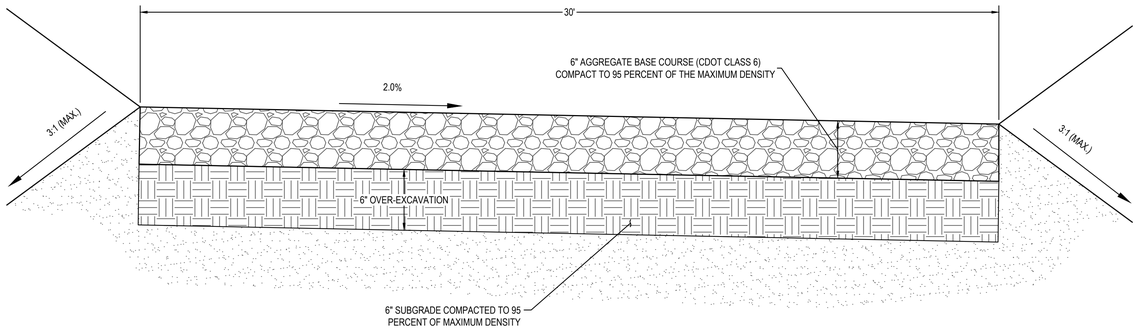
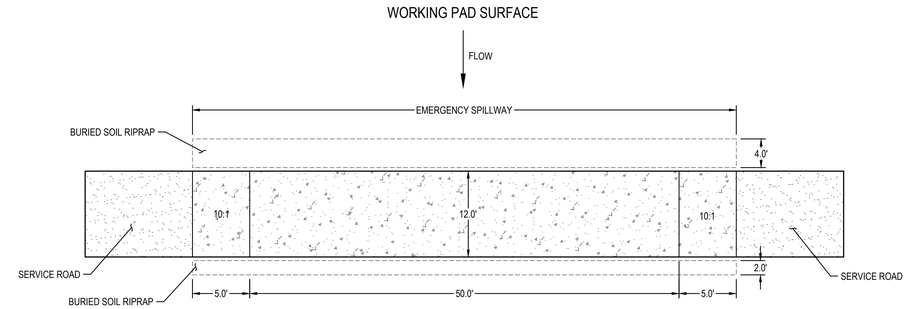


ACCESS DRIVE (C-C)
NTS

NOTES:
1. ACCESS ROAD SHALL MEET CITY OF LOVELAND MUNICIPAL CODE 18.10.02.03 OIL AND GAS ACCESS ROADS.
2. SEE NOTES 13 AND 19 ON SHEET C-002 FOR 6" AGGREGATE BASE COURSE
3. SEE NOTES 10, 18, 19 AND 31 ON SHEET C-002 FOR 6" SUBGRADE.



PRODUCTION PHASE CONCRETE EMERGENCY SPILLWAY PLAN - DETAIL 1
N.T.S.

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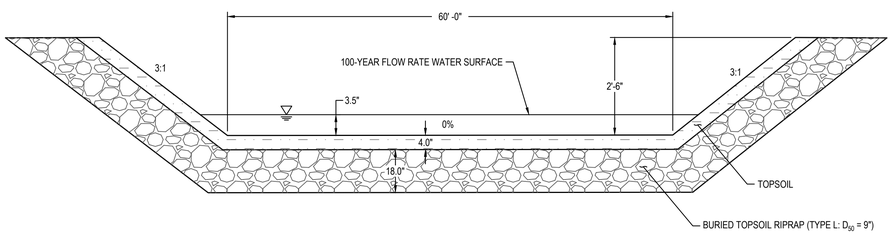

EMERGENCY SPILLWAY SECTION (D-D)
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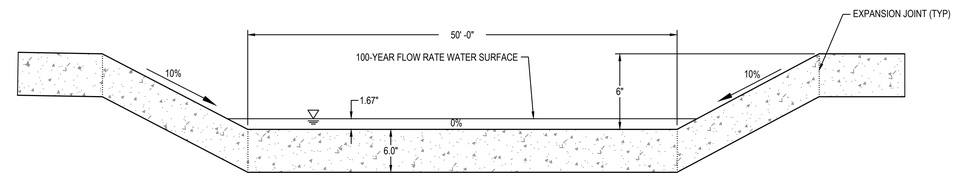

PRODUCTION PHASE CONCRETE EMERGENCY SPILLWAY SECTION (F-F)
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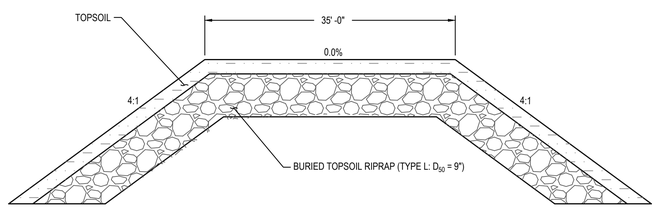

EMERGENCY SPILLWAY SECTION (E-E)
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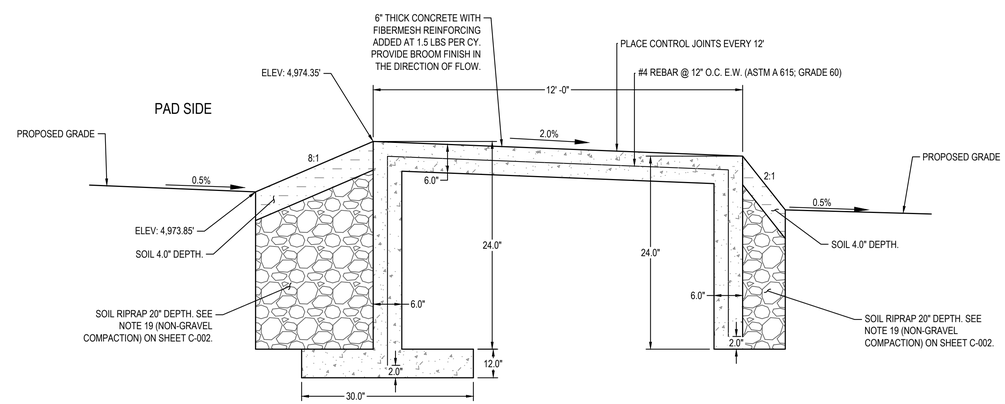

PRODUCTION PHASE CONCRETE EMERGENCY SPILLWAY SECTION (G-G)
N.T.S.

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CITY OF LOVELAND, COLORADO
CIVIL CONSTRUCTION PLANS
DETAIL SHEET

JOB NUMBER 65120236-10
DATE 9/1/2022
SHEET C-500

File Location: Q:\DEN\Projects\0178-00 CMD Centennial\Projects\0236-08 MRG Misc Oil and Gas\Design\CDs\Civil\PICP\023608-SECTIONS.dwg Plot Date:2/3/2023 8:34 AM Last Saved By: TSCARLETT

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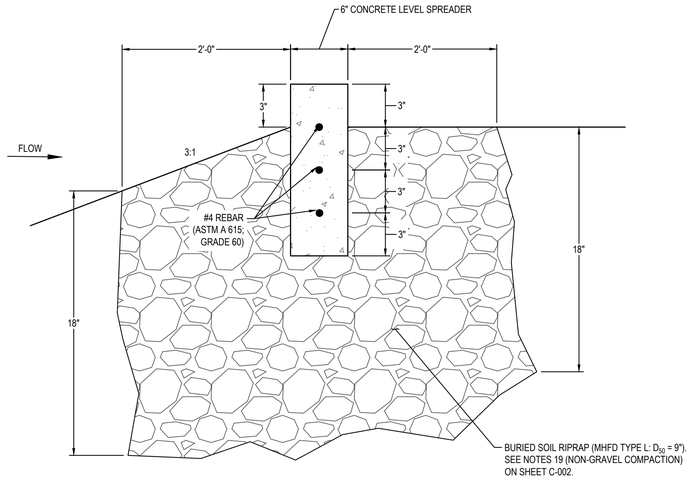

CONCRETE LEVEL SPREADER SECTION

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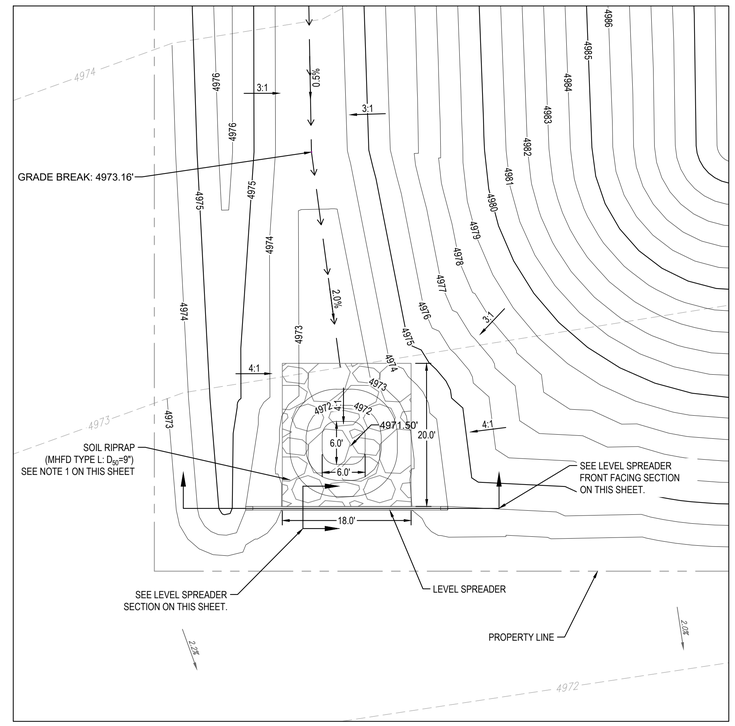
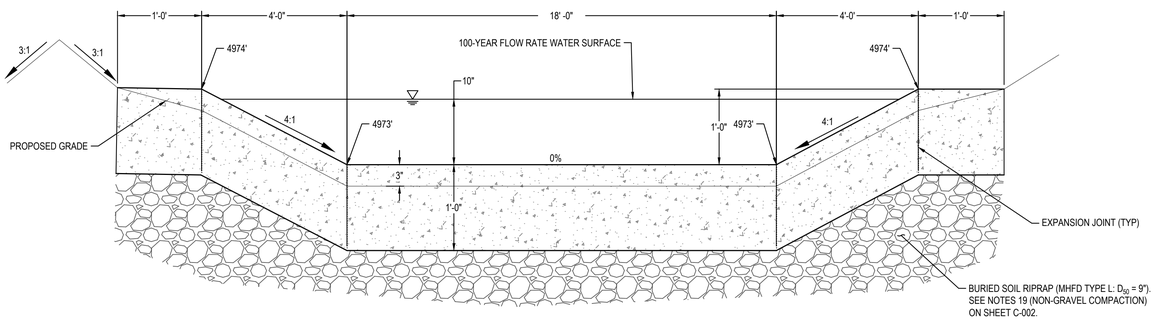


N

10' 0 5' 10' 20'

1" = 10' HOR.

DRILL PHASE STILLING BASIN AND LEVEL SPREADER DETAIL - PLAN VIEW



DRILL PHASE CONCRETE LEVEL SPREADER FRONT FACING SECTION

N.T.S.

NOTES

1. REFERENCE MILE HIGH FLOOD DISTRICT "DIVISION 31 EARTHWORK - RIPRAP, BOULDERS, AND BEDDING" CONSTRUCTION SPECIFICATION (SECTION 31 37 00) FOR SOIL RIPRAP EXECUTION AND PLACEMENT. RIPRAP LAYER TO HAVE 18" THICKNESS. TOP OF RIPRAP TO HAVE 4" OF TOPSOIL COVER.

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JOB NUMBER 65120236-10

DATE 9/1/2022

SHEET C-501

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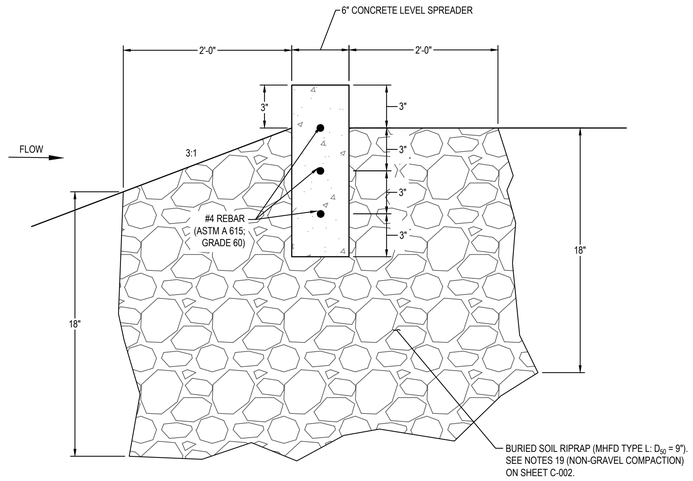
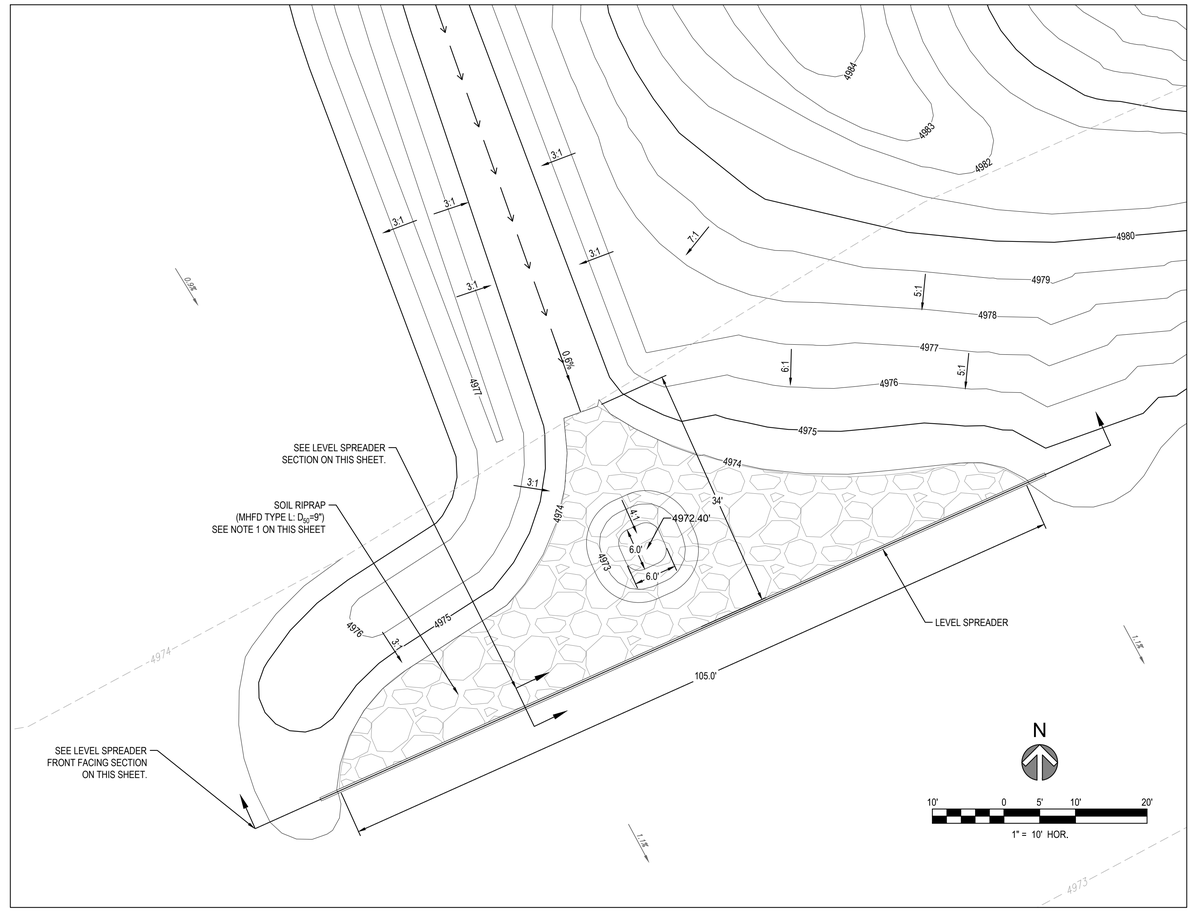
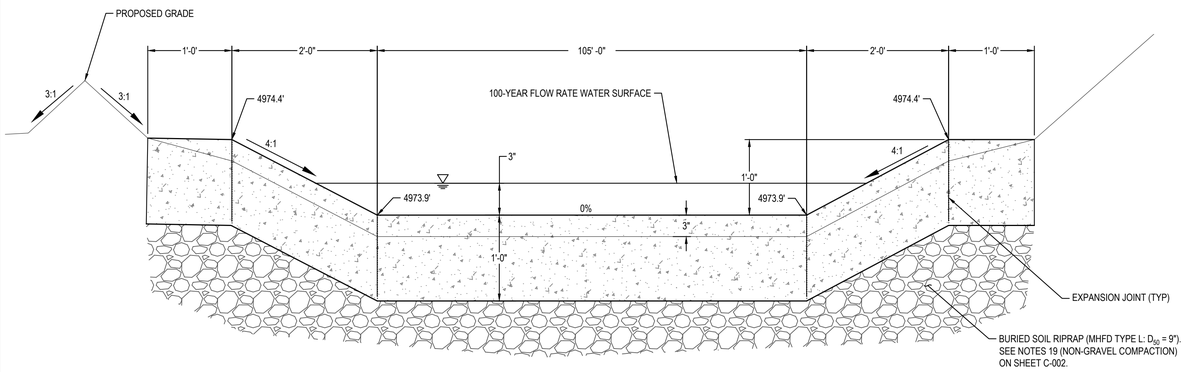


CONCRETE LEVEL SPREADER SECTION

N.T.S.



PRODUCTION PHASE STILLING BASIN AND LEVEL SPREADER DETAIL - PLAN VIEW



PRODUCTION PHASE CONCRETE LEVEL SPREADER FRONT FACING SECTION

N.T.S.

NOTES

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DETAIL SHEET

JOB NUMBER 65120236-10
DATE 9/1/2022
SHEET C-502
14 of 19

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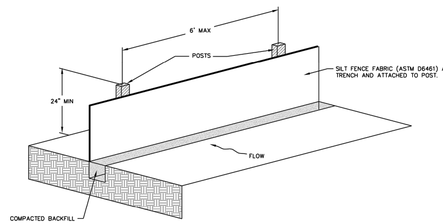
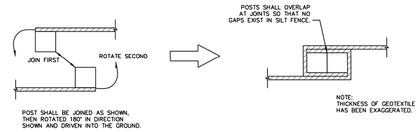
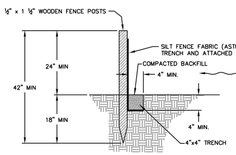




SILT FENCE JOINTS



PREASSEMBLED SILT FENCE

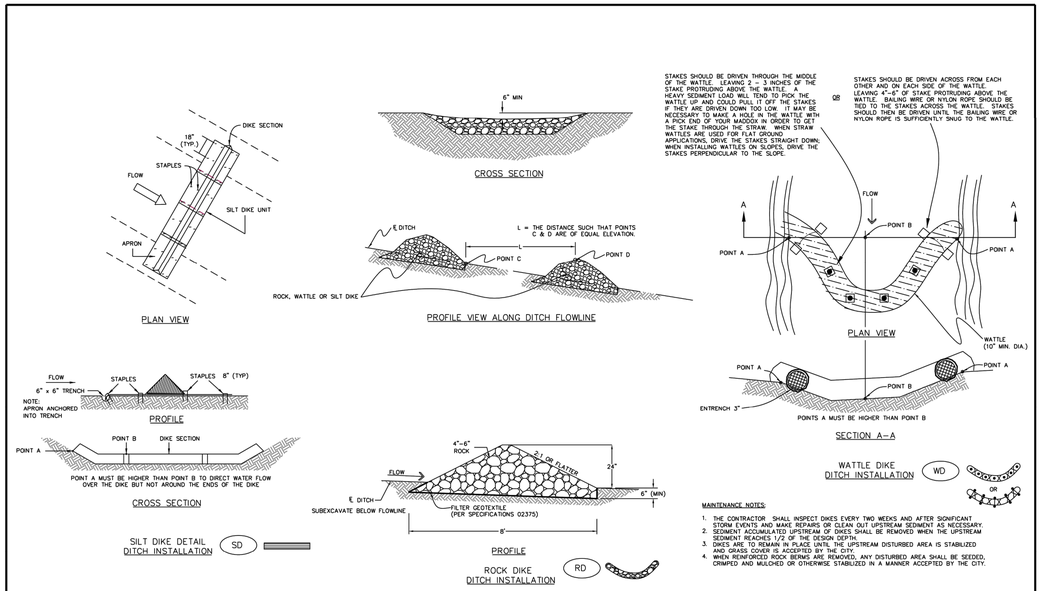
INSTALLATION NOTES:

1. DRIVE POSTS VERTICALLY INTO THE GROUND TO A MINIMUM DEPTH OF 18".
2. EXCAVATE A TRENCH APPROXIMATELY 4" WIDE AND 4" DEEP ALONG THE LINE OF POSTS AND UPSLOPE FROM THE BARRIER.
3. ANCHOR TRENCH SHALL BE EXCAVATED BY HAND, WITH TRENCHER, OR WITH SILT FENCE INSTALLATION MACHINE. NO ROAD GRADERS, BACKHOES, ETC. SHALL BE USED.
4. NOT LESS THAN THE BOTTOM 1" OF THE SILT FENCE FABRIC SHALL BE BURIED IN THE TRENCH.
5. THE TRENCH SHALL BE COMPACTED BY HAND, WITH "JUMPING JACK" OR BY WHEEL ROLLING. COMPACTION SHALL BE SUCH THAT THE SILT FENCE RESISTS BEING PULLED OUT OF ANCHOR TRENCH BY HAND.
6. SILT FENCE INDICATED IN THE PLANS SHALL BE INSTALLED PRIOR TO ANY LAND-DISTURBING ACTIVITIES.
7. USE WOOD POSTS OR OTHER MATERIAL AS ACCEPTED BY THE CITY.

MAINTENANCE NOTES:

1. THE CONTRACTOR SHALL INSPECT SILT FENCE EVERY TWO WEEKS AND AFTER SIGNIFICANT STORM EVENTS AND MAKE REPAIRS OR CLEAN OUT UPSTREAM SEDIMENT AS NECESSARY. SEDIMENT ACCUMULATED UPSTREAM OF SILT FENCE SHALL BE REMOVED WHEN THE
2. UPSTREAM SEDIMENT REACHES A DEPTH OF 6".
3. SILT FENCE SHALL BE REMOVED WHEN THE UPSTREAM DISTURBED AREA IS STABILIZED AND GRASS COVER IS ACCEPTED BY THE CITY. IF ANY DISTURBED AREA EXISTS AFTER REMOVAL, IT SHALL BE SEEDED AND MULCHED OR OTHERWISE STABILIZED IN A MANNER ACCEPTED BY THE CITY.

SILT FENCE (SF) — SF — SF —			
CITY OF LOVELAND PUBLIC WORKS DEPT. STORMWATER	STORMWATER CONSTRUCTION DRAWINGS	APPROVED: KWG DATE: 8/17/07 DRAWN BY: TBK	DRAWING SW-10



MAINTENANCE NOTES:

1. THE CONTRACTOR SHALL INSPECT DIKES EVERY TWO WEEKS AND AFTER SIGNIFICANT STORM EVENTS AND MAKE REPAIRS OR CLEAN OUT UPSTREAM SEDIMENT AS NECESSARY.
2. SEDIMENT ACCUMULATED UPSTREAM OF DIKES SHALL BE REMOVED WHEN THE UPSTREAM SEDIMENT REACHES 1/2 OF THE DESIGN DEPTH.
3. DIKES ARE TO REMAIN IN PLACE UNTIL THE UPSTREAM DISTURBED AREA IS STABILIZED AND GRASS COVER IS ACCEPTED BY THE CITY.
4. WHEN REINFORCED ROCK BERMS ARE REMOVED, ANY DISTURBED AREA SHALL BE SEEDED, CRIMPED AND MULCHED OR OTHERWISE STABILIZED IN A MANNER ACCEPTED BY THE CITY.

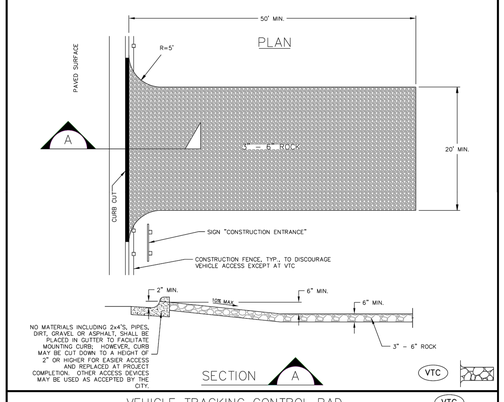
SILT, ROCK OR WATTLE DIKE			
CITY OF LOVELAND PUBLIC WORKS DEPT. STORMWATER	STORMWATER CONSTRUCTION DRAWINGS	APPROVED: KWG DATE: 8/17/07 DRAWN BY: TBK	DRAWING SW-14

INSTALLATION NOTES:

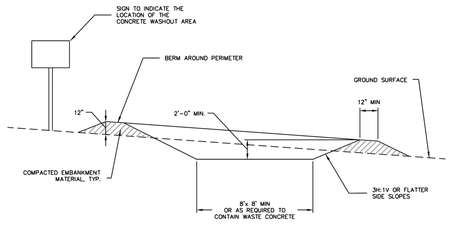
1. VEHICLE TRACKING CONTROL PAD SHALL BE LOCATED AT EVERY ACCESS POINT TO THE CONSTRUCTION SITE.
2. A SIGN SHALL BE PLACED NEXT TO THE VEHICLE TRACKING CONTROL PAD TO DESIGNATE THE LOCATION AS THE CONSTRUCTION ENTRANCE/EXIT.
3. VEHICLE TRACKING CONTROL (VTC) PADS SHALL CONSIST OF HARD, DENSE, DURABLE ROCK, ANGULAR IN SHAPE AND RESISTANT TO WEATHERING. ROUNDED STONE SHALL NOT BE USED, i.e., RIVER ROCK AND COBBLES. THE ROCK SHALL BE A MINIMUM OF 3" AND A MAXIMUM OF 6" DIAMETER. THE ROCK SHALL HAVE A SPECIFIC GRAVITY OF AT LEAST 2.6. CONTROL OF GRADATION WILL BE BY VISUAL INSPECTION. NOTE: OTHER MATERIALS, i.e., ROADBASE, MUD MATS, ETC., MAY BE USED IN PLACE OF ROCK UPON WRITTEN APPROVAL OF THE CITY INSPECTOR.
4. ANY CRACKED OR DAMAGED CURB AND GUTTER AND SIDEWALK SHALL BE REPLACED BY CONTRACTOR.
5. ALTHOUGH NOT NORMALLY USED, THE CITY RESERVES THE RIGHT TO REQUIRE VEHICLE TRACKING CONTROL WITH A TEMPORARY CATTLE GUARD AND/OR WHEEL WASH FACILITIES AT SITES WHERE TRACKING ONTO PAVED AREAS BECOMES A SIGNIFICANT PROBLEM AS DETERMINED BY THE CITY INSPECTOR.
6. IF VEHICLE TRACKING CONTROL WITH WHEEL WASH FACILITIES ARE REQUIRED, ALL WHEELS ON EVERY VEHICLE LEAVING THE SITE SHALL BE CLEANED OF MUD USING A PRESSURE-WASHER. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING A WATER SOURCE AND CONSTRUCTING A WASHWATER SEDIMENT TRAP.

MAINTENANCE NOTES:

1. CONTRACTOR SHALL INSPECT VEHICLE TRACKING CONTROL PAD DAILY. ROCK SURFACE SHALL BE CLEAN AND LOOSE ENOUGH TO RUT SLIGHTLY UNDER WHEEL LOADS AND CAUSE LOOSE ROCK TO DISLODGE MUD FROM TIRES. WHEN ROCK BECOMES COMPACTED OR FILLED WITH SEDIMENT SO THAT THE EFFECTIVENESS OF THE PAD IS DIMINISHED, CONTRACTOR SHALL RIP, TURN OVER, OR OTHERWISE LOOSEN ROCK, PLACE ADDITIONAL NEW ROCK, OR REPLACE WITH NEW ROCK AS NECESSARY TO RESTORE EFFECTIVENESS.
2. SEDIMENT AND OTHER MATERIAL SPILLED, DROPPED OR TRACKED ONTO PAVED SURFACES SHALL BE REMOVED IMMEDIATELY OR BY THE END OF EACH WORKING DAY.
3. VEHICLE TRACKING CONTROL PAD SHALL BE REMOVED AT THE END OF CONSTRUCTION. THE AREA SHOULD BE TOPSOILED, SEEDED, CRIMPED, AND MULCHED OR OTHERWISE STABILIZED.
4. IF VEHICLE WHEEL WASH FACILITIES ARE REQUIRED, CONTRACTOR SHALL INSPECT VEHICLE TRACKING CONTROL AND WHEEL WASH FACILITIES DAILY. ACCUMULATED SEDIMENTS SHALL BE REMOVED FROM THE PAD SURFACE.
5. ACCUMULATED SEDIMENT IN THE WASHWATER/SEDIMENT TRAP SHALL BE REMOVED WHEN THE SEDIMENT REACHES AN AVERAGE DEPTH OF 12-INCHES.



VEHICLE TRACKING CONTROL PAD (VTC)			
CITY OF LOVELAND PUBLIC WORKS DEPT. STORMWATER	STORMWATER CONSTRUCTION DRAWINGS	APPROVED: KWG DATE: 3/18/13 DRAWN BY: TBK	DRAWING SW-15

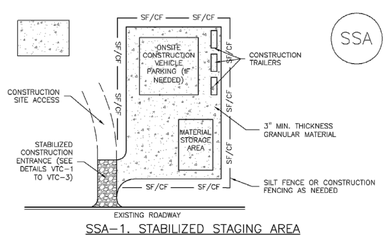


NOTES:

1. CONCRETE WASHOUT AREA SHALL BE INSTALLED PRIOR TO ANY CONCRETE PLACEMENT ON SITE.
2. VEHICLE TRACKING CONTROL (DETAIL SW-14) IS REQUIRED IF ACCESS TO CONCRETE WASHOUT AREA IS OFF PAVEMENT.
3. SIGNS SHALL BE PLACED AT THE CONSTRUCTION ENTRANCE, AT THE WASHOUT AREA, AND ELSEWHERE AS NECESSARY TO CLEARLY INDICATE THE LOCATION OF THE CONCRETE WASHOUT AREA TO OPERATORS OF CONCRETE TRUCKS AND PUMP RIGS.
4. THE CONCRETE WASHOUT AREA SHALL BE REPAIRED AND ENLARGED OR CLEANED OUT AS NECESSARY TO MAINTAIN CAPACITY FOR WASTED CONCRETE.
5. AT THE END OF CONSTRUCTION, ALL CONCRETE SHALL BE REMOVED FROM THE SITE AND DISPOSED OF AT AN ACCEPTED WASTE SITE.
6. WHEN THE CONCRETE WASHOUT AREA IS REMOVED, THE DISTURBED AREA SHALL BE SEEDED AND MULCHED OR OTHERWISE STABILIZED IN A MANNER ACCEPTED BY THE CITY.

CONCRETE WASHOUT AREA (CWA)			
CITY OF LOVELAND PUBLIC WORKS DEPT. STORMWATER	STORMWATER CONSTRUCTION DRAWINGS	APPROVED: KWG DATE: 8/17/07 DRAWN BY: TBK	DRAWING SW-17

Stabilized Staging Area (SSA) SM-6



SSA-1. STABILIZED STAGING AREA

STABILIZED STAGING AREA INSTALLATION NOTES

1. SEE PLAN VIEW FOR
   -LOCATION OF STAGING AREA(S).
   -CONTRACTOR MAY ADJUST LOCATION AND SIZE OF STAGING AREA WITH APPROVAL FROM THE LOCAL JURISDICTION.

2. STABILIZED STAGING AREA SHOULD BE APPROPRIATE FOR THE NEEDS OF THE SITE. OVERSIZING RESULTS IN A LARGER AREA TO STABILIZE FOLLOWING CONSTRUCTION.

3. STAGING AREA SHALL BE STABILIZED PRIOR TO OTHER OPERATIONS ON THE SITE.

4. THE STABILIZED STAGING AREA SHALL CONSIST OF A MINIMUM 3" THICK GRANULAR MATERIAL.

5. UNLESS OTHERWISE SPECIFIED BY LOCAL JURISDICTION, ROCK SHALL CONSIST OF DOT SECT. #703, AASHTO #3 COARSE AGGREGATE OR 6" (MINUS) ROCK.

6. ADDITIONAL PERIMETER BMPs MAY BE REQUIRED INCLUDING BUT NOT LIMITED TO SILT FENCE AND CONSTRUCTION FENCING.

STABILIZED STAGING AREA MAINTENANCE NOTES

1. 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.

2. FREQUENT OBSERVATIONS AND MAINTENANCE ARE NECESSARY TO MAINTAIN BMPs IN EFFECTIVE OPERATING CONDITION. INSPECTIONS AND CORRECTIVE MEASURES SHOULD BE DOCUMENTED THOROUGHLY.

3. WHERE BMPs HAVE FAILED, REPAIR OR REPLACEMENT SHOULD BE INITIATED UPON DISCOVERY OF THE FAILURE.

4. ROCK SHALL BE REAPPLIED OR REGRADED AS NECESSARY IF RUTTING OCCURS OR UNDERLYING SUBGRADE BECOMES EXPOSED.

SM-6 Stabilized Staging Area (SSA)

STABILIZED STAGING AREA MAINTENANCE NOTES

5. STABILIZED STAGING AREA SHALL BE ENLARGED IF NECESSARY TO CONTAIN PARKING, STORAGE, AND UNLOADING/LOADING OPERATIONS.

6. THE STABILIZED STAGING AREA SHALL BE REMOVED AT THE END OF CONSTRUCTION. THE GRANULAR MATERIAL SHALL BE REMOVED OR, IF APPROVED BY THE LOCAL JURISDICTION, USED ON SITE, AND THE AREA COVERED WITH TOPSOIL, SEEDED AND MULCHED OR OTHERWISE STABILIZED IN A MANNER APPROVED BY LOCAL JURISDICTION.

NOTE: MANY MUNICIPALITIES PROHIBIT THE USE OF RECYCLED CONCRETE AS GRANULAR MATERIAL FOR STABILIZED STAGING AREAS DUE TO DIFFICULTIES WITH RE-ESTABLISHMENT OF VEGETATION IN AREAS WHERE RECYCLED CONCRETE WAS PLACED.

NOTE: MANY JURISDICTIONS HAVE BMP DETAILS THAT VARY FROM UDFCD STANDARD DETAILS. CONSULT WITH LOCAL JURISDICTIONS AS TO WHICH DETAIL SHOULD BE USED WHEN DIFFERENCES ARE NOTED.

(DETAILS ADAPTED FROM DOUGLAS COUNTY, COLORADO, NOT AVAILABLE IN AUTOCAD)

REV	REVISION DESCRIPTION	DATE	CHND	CHKD	APPR
A	ISSUED FOR REVIEW	9/1/2022	TVG	SWC	TS
B	ISSUED FOR REVIEW	2/3/2023	TVG	TS	TS

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TITLE

MRG, LP OIL AND GAS CE PAD
CITY OF LOVELAND, COLORADO
CIVIL CONSTRUCTION PLANS
DETAIL SHEET

JOB NUMBER 65120236-10
DATE 9/1/2022
SHEET C-503
15 of 19

File Location:Q:\DEN\Projects\0178-00 CMD Centennial\Projects\0236-08 MRG Misc Oil and Gas\Design\CDs\Civil\PCP\023608-DTLS.dwg Plot Date:2/3/2023 9:13 AM Last Saved By: TSCARLETT

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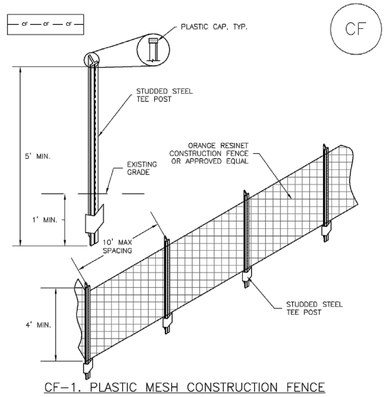
SM-3 Construction Fence (CF)

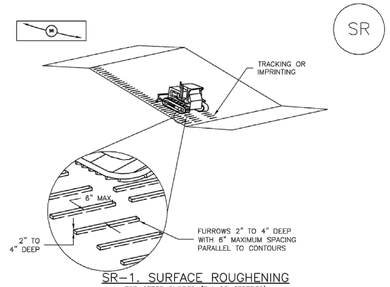


CF–1. PLASTIC MESH CONSTRUCTION FENCE

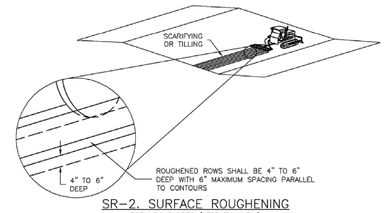
CONSTRUCTION FENCE INSTALLATION NOTES

1. SEE PLAN VIEW FOR:
   –LOCATION OF CONSTRUCTION FENCE.
2. CONSTRUCTION FENCE SHOWN SHALL BE INSTALLED PRIOR TO ANY LAND DISTURBING ACTIVITIES.
3. CONSTRUCTION FENCE SHALL BE COMPOSED OF ORANGE, CONTRACTOR–GRADE MATERIAL THAT IS AT LEAST 4' HIGH. METAL POSTS SHOULD HAVE A PLASTIC CAP FOR SAFETY.
4. STUDDED STEEL TEE POSTS SHALL BE UTILIZED TO SUPPORT THE CONSTRUCTION FENCE. MAXIMUM SPACING FOR STEEL TEE POSTS SHALL BE 10'.
5. CONSTRUCTION FENCE SHALL BE SECURELY FASTENED TO THE TOP, MIDDLE, AND BOTTOM OF EACH POST.

Surface Roughening (SR) EC-1

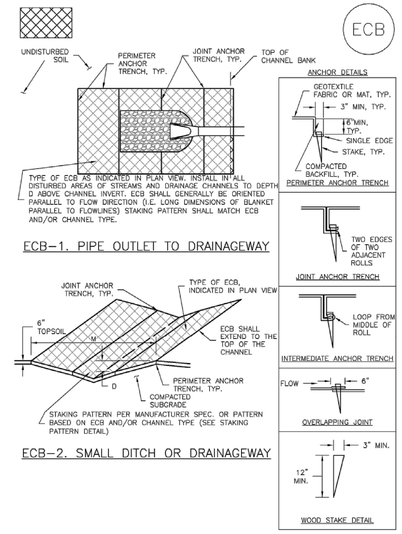


SR–1. SURFACE ROUGHENING
FOR STEEP SLOPES (3:1 OR STEEPER)



SR–2. SURFACE ROUGHENING
FOR LOW SLOPES (LESS THAN 3:1)

EC-6 Rolled Erosion Control Products (RECP)



Construction Fence (CF) SM-3

CONSTRUCTION FENCE MAINTENANCE NOTES

1. 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.
2. FREQUENT OBSERVATIONS AND MAINTENANCE ARE NECESSARY TO MAINTAIN BMPs IN EFFECTIVE OPERATING CONDITION. INSPECTIONS AND CORRECTIVE MEASURES SHOULD BE DOCUMENTED THOROUGHLY.
3. WHERE BMPs HAVE FAILED, REPAIR OR REPLACEMENT SHOULD BE INITIATED UPON DISCOVERY OF THE FAILURE.
4. CONSTRUCTION FENCE SHALL BE REPAIRED OR REPLACED WHEN THERE ARE SIGNS OF DAMAGE SUCH AS RIPS OR SAGS. CONSTRUCTION FENCE IS TO REMAIN IN PLACE UNTIL THE UPSTREAM DISTURBED AREA IS STABILIZED AND APPROVED BY THE LOCAL JURISDICTION.
5. WHEN CONSTRUCTION FENCES ARE REMOVED, ALL DISTURBED AREAS ASSOCIATED WITH THE INSTALLATION, MAINTENANCE, AND/OR REMOVAL OF THE FENCE SHALL BE COVERED WITH TOPSOIL, SEEDED AND MULCHED, OR OTHERWISE STABILIZED AS APPROVED BY LOCAL JURISDICTION.

NOTE: MANY JURISDICTIONS HAVE BMP DETAILS THAT VARY FROM UDFCD STANDARD DETAILS. CONSULT WITH LOCAL JURISDICTIONS AS TO WHICH DETAIL SHOULD BE USED WHEN DIFFERENCES ARE NOTED.

(DETAIL ADAPTED FROM TOWN OF PARKER, COLORADO, NOT AVAILABLE IN AUTOCAD)

EC-1 Surface Roughening (SR)

SURFACE ROUGHENING INSTALLATION NOTES

1. SEE PLAN VIEW FOR:
   –LOCATION(S) OF SURFACE ROUGHENING.
2. SURFACE ROUGHENING SHALL BE PROVIDED PROMPTLY AFTER COMPLETION OF FINISHED GRADING (FOR AREAS NOT RECEIVING TOPSOIL) OR PRIOR TO TOPSOIL PLACEMENT OR ANY FORECASTED RAIN EVENT.
3. AREAS WHERE BUILDING FOUNDATIONS, PAVEMENT, OR SOD WILL BE PLACED WITHOUT DELAY IN THE CONSTRUCTION SEQUENCE, SURFACE ROUGHENING IS NOT REQUIRED.
4. DISTURBED SURFACES SHALL BE ROUGHENED USING RIPPING OR TILLING EQUIPMENT ON THE CONTOUR OR TRACKING UP AND DOWN A SLOPE USING EQUIPMENT TREADS.
5. A FARMING DISK SHALL NOT BE USED FOR SURFACE ROUGHENING.

SURFACE ROUGHENING MAINTENANCE NOTES

1. 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.
2. FREQUENT OBSERVATIONS AND MAINTENANCE ARE NECESSARY TO MAINTAIN BMPs IN EFFECTIVE OPERATING CONDITION. INSPECTIONS AND CORRECTIVE MEASURES SHOULD BE DOCUMENTED THOROUGHLY.
3. WHERE BMPs HAVE FAILED, REPAIR OR REPLACE UPON DISCOVERY OF THE FAILURE.
4. VEHICLES AND EQUIPMENT SHALL NOT BE DRIVEN OVER AREAS THAT HAVE BEEN SURFACE ROUGHENED.
5. IN NON–TURF GRASS FINISHED AREAS, SEEDING AND MULCHING SHALL TAKE PLACE DIRECTLY OVER SURFACE ROUGHENED AREAS WITHOUT FIRST SMOOTHING OUT THE SURFACE.
6. IN AREAS NOT SEEDED AND MULCHED AFTER SURFACE ROUGHENING, SURFACES SHALL BE RE–ROUGHENED AS NECESSARY TO MAINTAIN GROOVE DEPTH AND SMOOTH OVER RILL EROSION.

(DETAILS ADAPTED FROM TOWN OF PARKER, COLORADO, NOT AVAILABLE IN AUTOCAD)

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MRG, LP OIL AND GAS CE PAD
CITY OF LOVELAND, COLORADO
CIVIL CONSTRUCTION PLANS
DETAIL SHEET

JOB NUMBER 65120236-10
DATE 9/1/2022
SHEET C-504
16 of 19

File Location: Q:\DEN\Projects\0178-00 CMD Centennial\Projects\0236-08 MRG Misc Oil and Gas\Design\CDs\Civil\PCP\023608-DTLS.dwg Plot Date:2/3/2023 9:13 AM Last Saved By: TSCARLETT

Landscape Architectural Plans for:

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Oil and Gas Pad Site

Loveland, Colorado

Plans Prepared For:

MRG, LP
2725 Rocky Mountain Avenue
Suite 200
Loveland, CO 80538

Project Manager: William Irwin

Plans Prepared By:

TB GROUP
landscape architecture | planning | illustration

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TEL 970.532.5891
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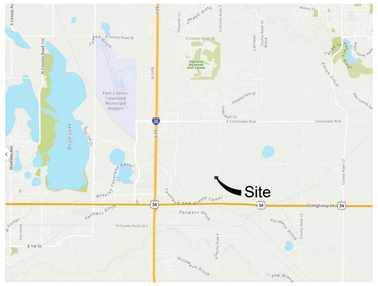
Vicinity Map:



Landscape Sheet Index:

SHEET LS 01	COVER SHEET
SHEET LS 02	LANDSCAPE AND BUFFER YARD PLAN
SHEET LS 03	FENCING DETAILS

General Notes:

1. GRADES DISTURBED SHALL MATCH OR IMPROVE EXISTING GRADES TO PROVIDE POSITIVE DRAINAGE AWAY FROM STRUCTURES OR TO DRAINAGE AREAS AND SWALES WHILE PROVIDING A SMOOTH TRANSITION BETWEEN ALL ADJACENT UNDISTURBED GRADES AND PROPOSED GRADES.
2. JOB SITE TO BE KEPT CLEAN AT ALL TIMES AND CONSTRUCTION AREAS ARE TO BE MAINTAINED FOR SAFETY.
3. ALL SOILS DISTURBED WITHIN AND ADJACENT TO WORK AREA, INCLUDING AREAS OUTSIDE OF CONSTRUCTION LIMITS, DUE TO NEW CONSTRUCTION ARE TO BE REGRADED AND SURFACE CONDITIONS REPAIRED BY RESEEDING THESE AREAS PER THE NATIVE GRASS SEED MIX NOTES THIS SHEET.
4. PROTECT EXISTING SURFACES AND SOILS, BOTH INSIDE AND OUTSIDE OF CONSTRUCTION LIMITS, DURING CONSTRUCTION. IF GRADES, CONCRETE OR ASPHALT ARE DAMAGED DUE TO CONSTRUCTION OPERATIONS OR WEATHER THE CONTRACTOR IS RESPONSIBLE FOR REPAIR TO THAT EQUIVALENT TO EXISTING CONDITIONS AT NO EXPENSE TO THE OWNER / CITY.
5. CONTRACTOR IS RESPONSIBLE FOR SETUP OF BARRICADES, WARNING SIGNAGE, OR OTHER PROTECTIVE DEVICES IF ANY EXCAVATIONS ARE LEFT EXPOSED AFTER ON-SITE WORK HOURS.
6. THE CONTRACTOR SHALL NOT PURPOSEFULLY PROCEED WITH ANY CONSTRUCTION PER PLANS PROVIDED WHEN OBSTRUCTIONS AND/OR GRADE DIFFERENCES EXIST THAT WERE NOT CONSIDERED OR CHANGED AFTER PLANS WERE SUBMITTED. CONTRACTOR SHALL NOTIFY OWNER OR OWNER'S REPRESENTATIVE AND THE CITY OF LOVELAND IF SITUATION ARISES AND REVISIONS ARE NECESSARY.
7. THE CONTRACTOR SHALL PREVENT SEDIMENT, DEBRIS AND OTHER POLLUTANTS FROM ENTERING ANY STORM WATER SEWER SYSTEM OR, ADJACENT WATER WAYS, ETC., DURING THE DEMOLITION OR CONSTRUCTION OPERATIONS THAT ARE PART OF THIS PROJECT. THE CONTRACTOR SHALL BE HELD RESPONSIBLE AND EXPENSE FOR THE CORRECTION OF ANY ADVERSE IMPACTS TO THE STORM WATER SEWER SYSTEM OR, ADJACENT WATER WAYS, WETLANDS ETC., RESULTING FROM THE WORK DONE AS PART OF THIS PROJECT/CONTRACT.
8. THE CONTRACTOR SHALL BE RESPONSIBLE PRIOR TO BIDDING AND CONSTRUCTION, OF BECOMING AWARE OF ALL EXISTING AND PROPOSED UTILITIES, PIPES, STRUCTURES, ETC. CALL UNCC THREE DAYS BEFORE SCHEDULED WORK AT 811 OR 1-800-922-1987.
9. CONTRACTOR IS RESPONSIBLE FOR BECOMING AWARE OF AND OBTAINING ANY AND ALL PERMITS AS REQUIRED FOR THIS PROJECT.

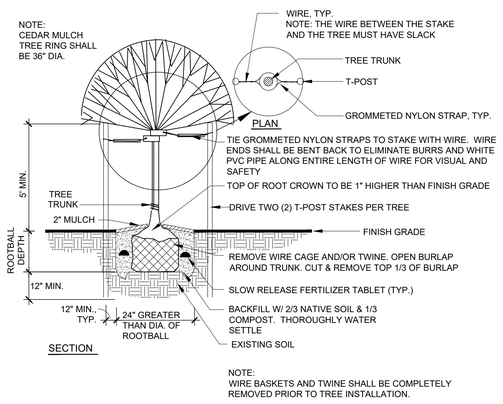
Irrigation Notes

1. CONTRACTOR TO SELECT AND UTILIZE AN IRRIGATION WATER TANK FOR THE AUTOMATIC IRRIGATION SYSTEM DESIGN. THIS DESIGN TO INCLUDE ELECTRONIC CONTROLLER AND BOOSTER PUMP AS A PART OF THEIR DESIGN AND SCOPE FOR THE PROPOSED LANDSCAPE DEPICTED ON PLANS.
2. THE DESIGN FOR THE AUTOMATIC IRRIGATION SYSTEM SHALL BE EQUIPPED WITH AN AUTOMATIC RAIN DETECTION DEVICE.
3. CONTRACTOR SHALL VERIFY THE MAXIMUM AVAILABLE P.S.I. AND GPM AND DESIGN THE IRRIGATION SYSTEM TO MEET THE REQUIRED P.S.I. AND GPM FOR THE PROPOSED LANDSCAPE.
4. ALL TREES AND SHRUBS ARE TO BE IRRIGATED WITH A PERMANENT DRIP IRRIGATION SYSTEM.
5. IRRIGATION SYSTEM WILL BE ADJUSTED TO THE MINIMUM WATER REQUIREMENT, BASED ON THE NEEDS OF EACH SELECTED PLANT MATERIAL.
6. QUICK COUPLERS SHALL BE PROVIDED AT EACH POINT OF CONNECTION AND AT REGULAR SPACING ALONG THE IRRIGATION MAINLINE. SPACING OF QUICK COUPLES SHALL NOT EXCEED 200 FEET. LOCATE QUICK COUPLING VALVE AT A POINT OF EASY ACCESS.
7. ALL IRRIGATION TRENCHES SHALL BE PROPERLY WATERED AND COMPACTED TO AVOID FUTURE SETTLING. ANY SETTLING DURING WARRANTY PERIOD WILL BE REPAIRED BY THE CONTRACTOR AT NO COST TO THE OWNER.
8. CONTRACTOR TO DETERMINE AND COORDINATE APPROPRIATE POWER SOURCE AND ASSOCIATED ELECTRICAL DESIGN FOR THE ELECTRONIC CONTROLLER AND BOOSTER PUMP.
9. ALL IRRIGATION SLEEVING SHALL BE PROVIDED AND INSTALLED BY GENERAL CONTRACTOR. IRRIGATION CONTRACTOR SHALL COORDINATE SLEEVING LOCATIONS WITH GENERAL CONTRACTOR. ALL IRRIGATION SLEEVING TO BE STAKED IN THE FIELD OR LOCATED ON DIMENSIONED "AS-BUILT" DRAWING BY THE GENERAL CONTRACTOR TO ALLOW FUTURE USE AND LOCATION.

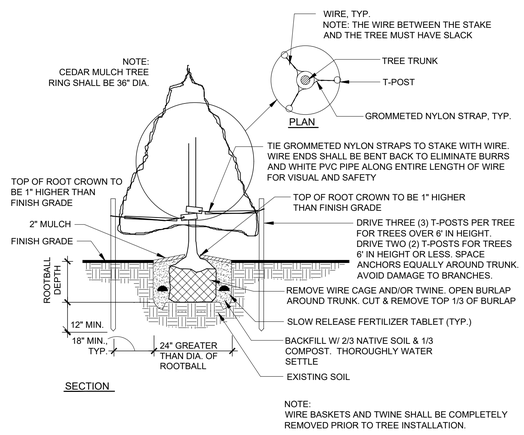
Landscape Notes

1. MAINTENANCE PERIOD: LANDSCAPE SHALL BE MAINTAINED, INCLUDING WATERING, MOWING, PRUNING, REPLACEMENT OF DEAD OR DYING PLANT MATERIALS, AND FERTILIZING BY CONTRACTOR FOR ONE (1) FULL YEAR AFTER FINAL ACCEPTANCE. AFTER MAINTENANCE PERIOD OWNER WILL MAINTAIN AS DESCRIBED ABOVE.
2. WARRANTY PERIOD: LANDSCAPE WILL BE WARRANTED FOR ONE (1) FULL YEAR AFTER MAINTENANCE PERIOD.
3. ANY DISCREPANCIES WITH THE DRAWINGS AND SITE CONDITIONS SHALL BE BROUGHT TO THE ATTENTION OF THE OWNERS REPRESENTATIVE PRIOR TO PROCEEDING WITH CONSTRUCTION.
4. CONTRACTOR TO VERIFY ALL FIELD CONDITIONS, EASEMENTS, PROPERTY LINES, FENCE LINES, ETC. PRIOR TO STARTING WORK. SHOULD ANY DISCREPANCIES, OMISSIONS, OR ERRORS OCCUR, NOTIFY THE OWNER'S REPRESENTATIVE IMMEDIATELY.
5. CONTRACTOR IS RESPONSIBLE FOR LOCATING ALL UTILITIES 48 HRS. PRIOR TO ANY EXCAVATION OR PLANTING.
6. LANDSCAPE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY COORDINATION WITH SUBCONTRACTORS AS REQUIRED TO ACCOMPLISH PLANTING OPERATIONS.
7. NO PLANT MATERIAL WITH MATURE GROWTH GREATER THAN THREE (3) FEET IN HEIGHT SHALL BE PLANTED WITHIN POTABLE WATER, SANITARY SEWER, OR NON-POTABLE IRRIGATION EASEMENTS. (VOLUME III, SECTION 2.05.A)
8. NO SHRUBS SHALL BE PLANTED WITHIN FIVE (5) FEET OR TREES WITHIN TEN (10) FEET OF POTABLE AND NON-POTABLE WATER METERS, FIRE HYDRANTS, SANITARY SEWER MANHOLES, OR POTABLE WATER, SANITARY SEWER, AND NON-POTABLE IRRIGATION MAINS AND SERVICES. (VOLUME III, SECTION 2.05.B)
9. MINIMUM CLEARANCE OF THREE (3) FEET ON EACH SIDE OF FIRE DEPARTMENT CONNECTION (FDC). NO VEGETATION OTHER THAN TURF OR GROUND COVERS PLANTED IN FRONT OF FDC.
10. IF TREES OR SHRUBS ARE LOCATED ON TOP OF FIELD VERIFIED UTILITIES, CONTRACTOR SHALL NOTIFY OWNER BEFORE ANY DIGGING HAS COMMENCED. VERIFY WITH OWNER IF AND WHICH SHRUBS/TREES SHALL BE TAKEN OUT OF PROJECT/CONTRACT.
11. TO THE MAXIMUM EXTENT FEASIBLE, TOPSOIL THAT IS REMOVED DURING CONSTRUCTION ACTIVITY SHALL BE CONSERVED FOR LATER USE ON AREAS REQUIRING REVEGETATION AND LANDSCAPING.
12. EXCAVATED MATERIAL TO BE USED AS FILL WILL HAVE ALL ROCKS, DEBRIS, WASTE MATERIAL, FROZEN MATERIAL, VEGETATION LARGER THAN 3" IN ANY DIMENSION REMOVED BEFORE PLACEMENT AND COMPACTION OF SOIL.
13. PROVIDE POSITIVE DRAINAGE AWAY FROM STRUCTURES OR FOUNDATIONS CREATING A SMOOTH TRANSITION BETWEEN ALL ADJACENT EXISTING GRADES AND PROPOSED GRADES BEING SURE NOT TO DISTURB EXISTING DRAINAGE PATTERNS.
14. PRIOR TO NATIVE SEEDING OPERATIONS; FOOTHILLS NATIVE GRASS SEEDED AREAS AND THE PLANTING BEDS, SHALL BE THOROUGHLY LOOSENED AND FINE GRADED. REMOVE ALL UNSUITABLE SOIL, INCLUDING ALL ROCKS LARGER THAN 3 INCHES IN ANY DIRECTION, ALL CONCRETE, TRASH, DEBRIS, WEEDS, ROOTS AND OTHER WASTE MATERIALS.
15. ORGANIC AMENDMENTS SHALL BE INCORPORATED WITHIN THE FOOTHILLS NATIVE GRASS SEEDED AREAS AND PLANTING BEDS TO A MINIMUM 6" DEPTH AT THE MINIMUM OF RATE OF 2 CU. YDS. / 1,000 SQ.FT.
16. ALL PLANT MATERIALS ARE SIZED AND OUTLINED IN PLANT LIST. ALL PLANTS TO BE PLANTED IN AMENDED SOIL AND STAKED AS SHOWN IN DETAILS. ALL PLANT MATERIAL SHALL MEET OR EXCEED THE CODE OF STANDARDS CURRENTLY RECOMMENDED BY THE COLORADO NURSERY ACT FOR NUMBER ONE GRADE.
17. IF PLANTS ARE IN NEED OF REPLACEMENT DUE TO DECLINING HEALTH, DISEASE, OR DEATH, THE PLANTS MUST BE REPLACED WITH THE ORIGINAL SPECIES UNLESS APPROVED BY THE CITY.
18. CHANGES IN PLANT SPECIES OF PLANT LOCATIONS FROM WHAT IS LISTED ON THE LANDSCAPE PLAN WILL REQUIRE THE APPROVAL OF THE CITY PRIOR TO INSTALLATION OF REPLACEMENT. OVERALL QUANTITY AND QUALITY TO BE CONSISTENT WITH THE APPROVED PLANS. IN THE EVENT OF CONFLICT WITH THE QUANTITIES INCLUDED IN THE PLANT LIST, SPECIES AND QUANTITIES SHALL BE PROVIDED.
19. ALL TREES AND SHRUBS TO BE BALLED AND BURLAPPED, OR CONTAINERIZED.
20. ALL PLANT MATERIAL SHALL HAVE ALL WIRE, TWINE, BASKETS, BURLAP, AND ALL OTHER NON-BIODEGRADABLE CONTAINMENT MATERIAL REMOVED FROM THE TRUNK AND/OR ROOT BALL OF THE PLANT, PRIOR TO PLANTING.
21. ALL SHRUB BEDS SHALL HAVE MINIMUM 4" DEPTH OF WASHED RIVER ROCK OVER A CONTINUOUS LAYER OF TYPAR LANDSCAPE FABRIC OR APPROVED EQUAL SHALL BE INSTALLED IN ALL AREAS WITH 6" OVERLAP AT SEAMS WITH 4" STAPLES 4' O.C. IN ALL DIRECTIONS.

Planting Details



1 DECIDUOUS TREE PLANTING DETAIL
NOT TO SCALE 329343.15-01



2 CONIFER TREE PLANTING DETAIL
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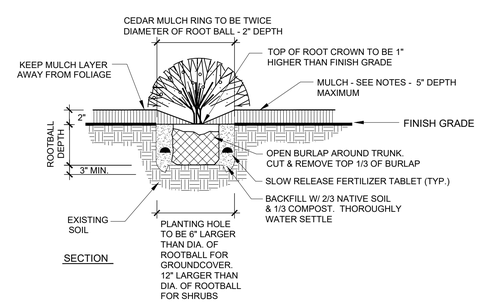

3 GROUND COVER AND SHRUB PLANTING DETAIL
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PROJECT TITLE

CE
Oil and Gas Pad Site

Landscape and Fencing Plan

Loveland, Colorado

PREPARED FOR

MRG, LP

2725 Rocky Mountain Avenue
Suite 200
Loveland, CO 80538

Contact: William Irwin

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2nd Submittal	02/03/23

DATE

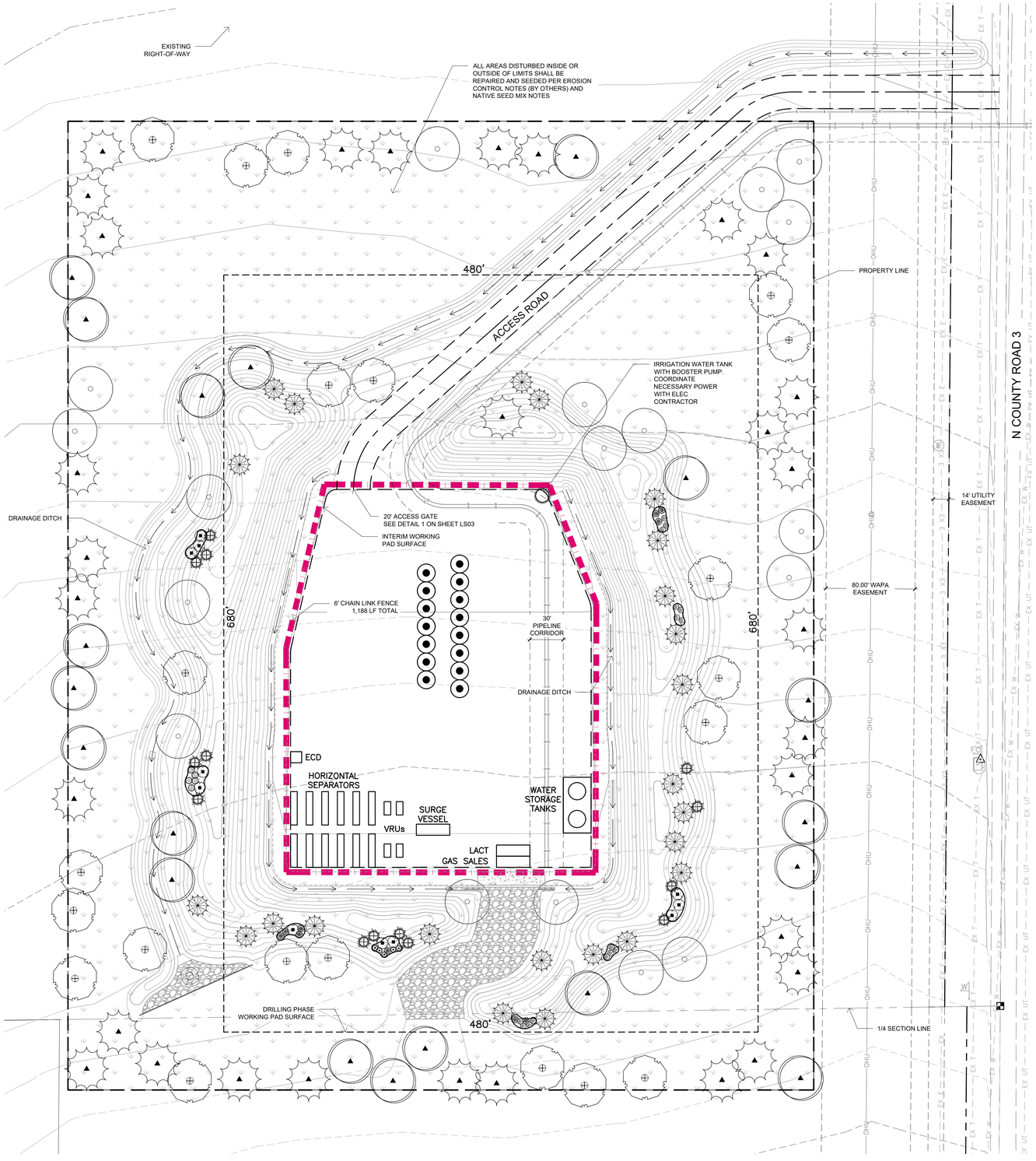
February 3, 2023

SHEET TITLE

Cover Sheet

SHEET INFORMATION

LS01



Landscape and Buffer Yard Plan

0 50' 75' 100'
SCALE 1" = 50'-0"

NORTH

NATIVE GRASS GROUNDCOVER SEE NATIVE SEED MIX NOTES

6' CHAIN LINK FENCE WITH FENCE SCREEN SEE FENCE DETAILS ON SHEET LS03

Native Grass Seed Mix

NON IRRIGATED NATIVE GRASS -

UPLAND NATIVE MIX (PER CENTERRA DESIGN GUIDELINES):
ALL AREAS DISTURBED SHALL BE A MIXTURE THAT MATCHES THE FOLLOWING:

COMMON NAME	Lbs. PLS/acre
SLENDER WHEATGRASS	3
WESTERN WHEATGRASS, ROSANA	3
GREEN NEEDLE GRASS, LODORM	1
CANADA WILDRYE, MANDAN	1
BEARDLESS WILDRYE, SHOSHONE	0.5
ANNUAL RYE	2
BLUE GRAMA, BAD RIVER	0.5
SIDEOATS GRAMA, VAUGHN	1.5
LITTLE BLUESTEM, CAMPER	1.5
YELLOW INDIANGRASS	1
TOMAHAWK OR NEB 54	
BIG BLUESTEM, PAWNEE	1
SWITCHGRASS, BLACKWELL	0.5
ALKALI SACATON	0.25
TOTAL	**16.75 pounds per live seed per acre**

1. SEED SHALL BE AS MANUFACTURED BY ARKANSAS VALLEY SEED SOLUTIONS, 4625 COLORADO BOULEVARD, DENVER, CO 80216, (877) 957-3337.
2. DRILLED IN TWO PERPENDICULAR DIRECTIONS WITH A TOTAL APPLICATION RATE: 16.75 LBS (PLS) PER ACRE
3. ADEQUATE TEMPORARY IRRIGATION OR BY WATER TRUCK WILL BE PROVIDED BY CONTRACTOR FOR THE ESTABLISHMENT AND MAINTENANCE OF THESE SEEDED AREAS, AND THAT NATIVE GRASSES SHALL BE MAINTAINED IN A CONDITION OF ACCEPTABLE HEIGHT, FREE OF WEEDS, TRASH AND DEBRIS, AND SHALL NOT REPRESENT A FIRE HAZARD NOR BECOME A NUISANCE SITE FOR WATER OR WIND EROSION.

MULCH IN ALL NATIVE SEED AREAS:

1. IMMEDIATELY FOLLOWING THE RAKING / SEEDING OPERATION, ADD STRAW MULCH TO THE SEEDED AREAS.
2. APPLY STRAW MULCH AT A MINIMUM OF 1.5 TONS PER ACRE OF AIR DRY MATERIAL. SPREAD STRAW MULCH UNIFORMLY OVER THE AREA WITH MECHANICAL MULCH SPREADER / CRIMPER. DO NOT MULCH WHEN WIND VELOCITY EXCEEDS 10 MPH.
3. WHEREVER THE USE OF CRIMPING EQUIPMENT IS PRACTICAL, PLACE MULCH IN THE MANNER NOTED ABOVE AND ANCHOR IT INTO THE SOIL. USE A DISC SUCH AS A MULCH TILLER, WITH A FLAT SERRATED DISC AT LEAS ½ INCH IN THICKNESS, HAVING DULL EDGES, AND SPACE NO MORE THAN 9 INCHES APART, WITH DISCS OF SUFFICIENT DIAMETER TO PREVENT THE FRAME OF THE EQUIPMENT FROM DRAGGING THE MULCH. ANCHOR MULCH A MINIMUM DEPTH OF 2 INCHES AND ACROSS THE SLOPE WHERE PRACTICAL WITH NO MORE THAN TWO PASSES OF THE ANCHORING EQUIPMENT.
4. IMMEDIATELY UPON COMPLETION OF THE MULCHING AND BINDING OPERATION, THE SEEDED AREAS SHALL BE IRRIGATED, KEEPING THE TOP 2 INCHES OF SOIL EVENLY MOIST UNTIL SEED HAS UNIFORMLY GERMINATED AND GROWN TO A HEIGHT OF 2-INCHES.
5. WATERING APPLICATION SHALL BE DONE IN A MANNER WHICH WILL PROVIDE UNIFORM COVERAGE BUT WHICH WILL NOT CAUSE EROSION, MOVEMENT, OR DAMAGE TO THE FINISHED SURFACE.

Bufferyard Standards and Calculations

BUFFER YARD REQUIREMENT - WIDTH: 150 FT., 1151 LF PERIMETER TOTAL
- 5 CANOPY TREES PER 100 LF
- 6 EVERGREEN TREES PER 100 LF
- 4 LARGE SHRUBS PER 100 LF

BUFFERYARD LANDSCAPING REQ'D:
58 CANOPY TREES
69 EVERGREEN TREES
46 SHRUBS

BUFFERYARD LANDSCAPING PROVIDED:
58 CANOPY TREES
69 EVERGREEN TREES
46 SHRUBS

Plant List

DECIDUOUS TREES	QTY	BOTANICAL / COMMON NAME	SIZE	HEIGHT	WIDTH
	18	Catalpa speciosa Western Catalpa	2.0" cal. BB	50`	40`
	19	Gleditsia triacanthos f. inermis 'Imperial' TM Imperial Honey Locust	2.0" cal. BB	50`	40`
	21	Quercus shumardii Shummard Red Oak	2.0" cal. BB	50`	40`

EVERGREEN TREES	QTY	BOTANICAL / COMMON NAME	SIZE	HEIGHT	WIDTH
	14	Juniperus scopulorum Rocky Mountain Juniper	6` B&B	30`	12`
	24	Pinus edulis Pinyon Pine	6` B&B	30`	20`
	31	Pinus nigra Austrian Pine	6` B&B	60`	40`

SHRUBS	QTY	BOTANICAL / COMMON NAME	SIZE	HEIGHT	WIDTH
	15	Cercocarpus intricatus Littleleaf Mountain Mahogony	5 gal.	6`	5`
	10	Cercocarpus montanus argenteus Silverleaf Mountain Mahogany	5 gal.	8`	6`
	5	Chrysothamnus viscidiflorus Yellow Rabbitbrush	5 gal.	5`	5`
	5	Rhus trilobata Three-leaf Sumac	5 gal.	6`	6`
	11	Shepherdia argentea Silver Buffaloberry	5 gal.	10`	10`

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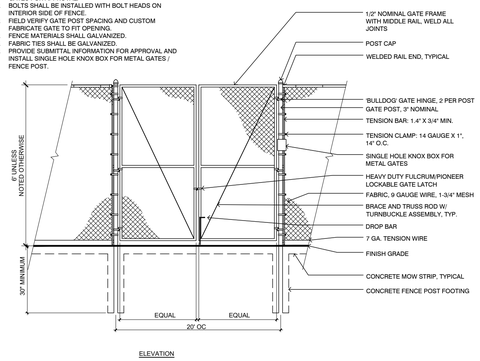
SHEET TITLE

Landscape and Buffer Yard Plan

SHEET INFORMATION

LS 02

NOTES:
1. CONTRACTOR SHALL PREPARE SHOP DRAWINGS OF GATES FOR APPROVAL.
2. BOLTS SHALL BE INSTALLED WITH BOLT HEADS ON INTERIOR SIDE OF FENCE.
3. FIELD VERIFY GATE POST SPACING AND CUSTOM FABRICATE GATE TO FIT OPENING.
4. FENCE MATERIALS SHALL GALVANIZED.
5. FABRIC TIES SHALL BE GALVANIZED.
6. PROVIDE SUBMITTAL INFORMATION FOR APPROVAL AND INSTALL SINGLE HOLE KNOX BOX FOR METAL GATES / FENCE POST.

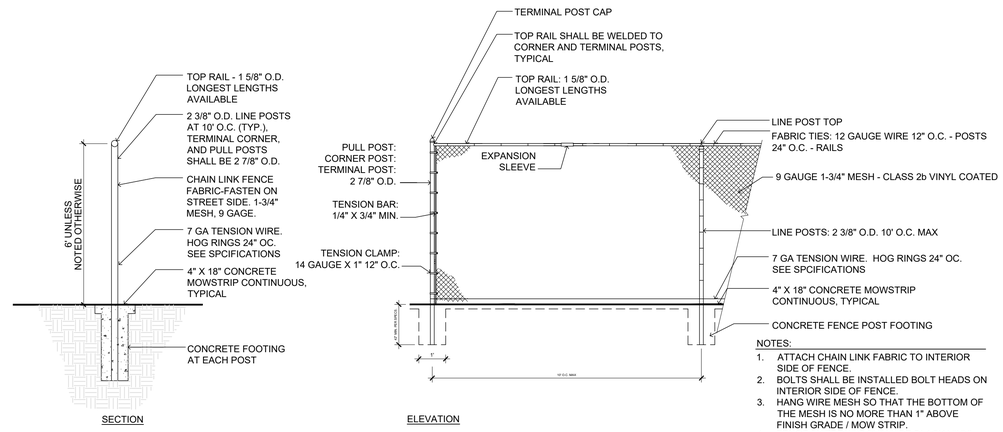


ELEVATION

1 20' WIDE CHAIN LINK GATE

NOT TO SCALE

TBG-FE-07



SECTION

ELEVATION

NOTES:
1. ATTACH CHAIN LINK FABRIC TO INTERIOR SIDE OF FENCE.
2. BOLTS SHALL BE INSTALLED BOLT HEADS ON INTERIOR SIDE OF FENCE.
3. HANG WIRE MESH SO THAT THE BOTTOM OF THE MESH IS NO MORE THAN 1" ABOVE FINISH GRADE / MOW STRIP.
4. FENCE MATERIALS SHALL BE BLACK VINYL COATED.

2 6' CHAIN LINK FENCE

NOT TO SCALE

TBG-FE-08

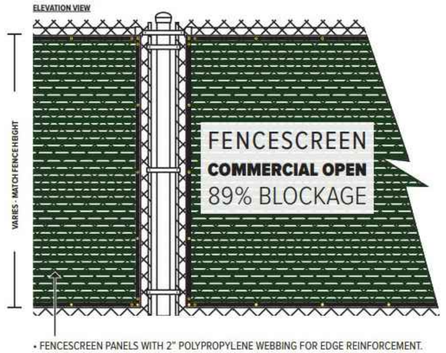
FENCING INSTALLATION NOTES

1. CONTRACTOR TO OBTAIN ALL INSTALLATION AND STRUCTURAL INFORMATION OR DRAWINGS FROM MANUFACTURER PRIOR TO INSTALLATION.
2. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO SUBMIT ALL NECESSARY PERMIT DOCUMENTS AS REQUIRED BY THE LOCAL JURISDICTIONS FOR THESE PRODUCTS.
3. CONTRACTOR TO SUBMIT PRODUCT INFORMATION FOR OWNER'S REVIEW AND APPROVAL PRIOR TO ORDERING
4. COORDINATE FINAL LOCATION OF ALL FENCING AND EQUIPMENT WITH OWNER PRIOR TO FINAL INSTALLATION / MOUNTING.
5. SUBSTITUTIONS ARE ALLOWED, FOR SPECIFIED PRODUCTS THAT ARE NO LONGER AVAILABLE, OR IF A SUBSTANTIAL COST SAVINGS CAN BE REALIZED FOR THE OWNER BY USE OF AN ALTERNATE AND EQUAL PRODUCT. IF SUCH SUBSTITUTION OCCURS IT MUST BE SUBMITTED IN WRITING AND APPROVED BY THE OWNER OR ANY GOVERNING AGENCIES.

GATE NOTES

1. GATES SHALL BE PROVIDED WITH A COMBINATION CATCH AND LOCKING ATTACHMENT DEVICE FOR A PAD LOCK, AND SHALL BE KEPT LOCKED EXCEPT WHEN BEING USED FOR ACCESS TO THE SITE.
2. THE OPERATOR MUST PROVIDE THE CHIEF OF THE APPROPRIATE FIRE PROTECTION DISTRICT WITH A "KNOX PADLOCK" OR "KNOX BOX WITH KEY" TO ACCESS THE WELL SITE TO BE USED IN CASE OF AN EMERGENCY.

ELEVATION VIEW



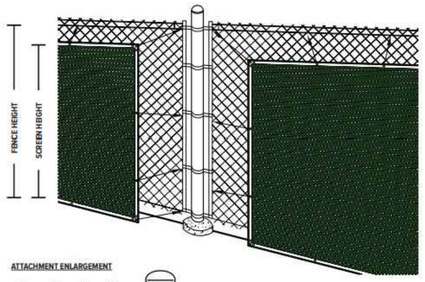
- FENCESCREEN PANELS WITH 2" POLYPROPYLENE WEBBING FOR EDGE REINFORCEMENT.
- 3/8" BRASS GROMMETS AT 24" ON CENTER ATTACH TO FENCE WITH FENCESCREEN FASTENERS OR GALVANIZED HOG RINGS.

FENCESCREEN MATERIAL SPECIFICATIONS

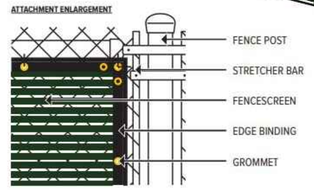
MATERIAL COMPOSITION: OPEN LENO WEAVE POLYPROPYLENE

PROPERTIES	RESULTS
Weight	300 g/m²
Construction	30 x 16 weave lath-leno Closed Mesh
Grab Tensile Strength	400/234 lbs.
Burst Strength	469 psi
Tear	120 x 95
Shade Percentage	89%

ATTACHMENT DETAIL 3D



ATTACHMENT ENLARGEMENT



NOTE:

- INSTALL PER FENCESCREEN MANUFACTURER RECOMMENDATION
- REFER TO STRUCTURAL PLANS FOR ALL FOOTING SIZE

AVAILABLE COLORS:

GREEN BLACK

3 FENCE SCREEN DETAILS

Scale: NTS

MANUFACTURER: FENCE SCREEN
MODEL: 600 SERIES
COLOR: BLACK
MATERIAL: KNITTED POLYPROPYLENE OPEN MESH

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Fencing Details

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LS 03