STORM WATER MANAGEMENT PLAN

FOR

MVEA VOLLMER TIES

EL PASO COUNTY, COLORADO

July 2022

PCD Filing No.: CDR2210

OWNER/CONTRACTOR:

MOUNTAIN VIEW ELECTRIC
11140 E Woodmen Road
Falcon, CO 80831
Amy Carlsen (719) 494-2699

PREPARED BY:

TERRA NOVA ENGINEERING, INC.
721 S. 23rd ST.
Colorado Springs, CO 80904
L. Ducett, P.E. (719) 635-6422

QUALIFIED STORMWATER MANAGER/ CSWMP ADMINISTRATOR:

MOUNTAIN VIEW ELECTRIC
11140 E Woodmen Road
Falcon, CO 80831
Amy Carlsen (719) 494-2699

Job No. 2238.00

CSWMP is to be maintained on site in the construction trailer whenever work is occurring. If construction trailer is not available, another alternative must be provided.

COLORADO DISCHARGE PERMIT SYSTEM (CDPS)

TO: Site Inspector Responsible For All CDPS Requirements

The following storm water pollution management plan (SWMP) is a detailed account of the requirements for the CDPS permit. The main objective of this plan is to prevent any contamination of the storm water while construction activity is taking place.

This document must be kept at the construction site at all times and be made available to the public and any representative of the Colorado Department of Health – Water Quality Control Division, if requested.

Enclosed are temporary erosion control details for the construction site and storm sewer outfall points (Detail A). The operation and maintenance inspection record should be used as a guideline for the inspection of permanent and temporary control devices. Items to be inspected are not limited to those listed. The inspections should be made at regular intervals and before and after storm events. The inspection records must be signed and kept in this binder for no less than three (3) years.

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MVEA VOLLMER TIES

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STORM WATER MANAGEMENT PLAN
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SITE DESCRIPTION & EXISTING CONDITIONS

This Storm Water Management Plan for MVEA Vollmer Ties is an analysis of an approximately 6.65 acre area west of the intersection of Stapleton Drive and Towner Avenue which is designated for the installation of underground electric utilities. The underground installation will be approximately 2 miles in length and will begin near that intersection travelling south with an open cut installation of about 300 feet. The installation will then bore beneath a pond for about 400' and then continue south with open cut installation for another 3,300.' Here a second 400' bore will place beneath a natural drainage area. The underground line will then be installed by open cut installation for another 800'where it will then turn to the west. This last section will all be done by open cut installation and will be about 1 mile in length. The north/south installation will take place inside a 30' limit of disturbance within a 20' MVEA easement and a 10' portion of a 50' Tri-State easement. The east/west installation will take place inside of a 30' limit of disturbance all within a 100' MVEA easement. 3 vehicle tracking pads will be installed to access the site; One at end of asphalt off of Stapleton Drive, one at the end of asphalt off of Woodmen Hills Drive, and one off of Raygor Road. The area to be disturbed currently consists of mostly undeveloped land. There are three stream crossings that appear to cross this site per USGS maps. Those streams are draw on the plans as they appear on the USGS website. The two crossings made by the north/south line will be crossed by directional bore with sediment control log placed at either end of the directional bore. The stream made by the east/west line was found not to exist in the location shown and no special measures are necessary.

The site is located within multiple sections in Township 12 South, Range 65 West of the 6th Principal Meridian currently within El Paso, Colorado. This site is located within both the Sand Creek and Falcon drainage basins. The area generally drains from the north towards the south, travelling by sheet flow until it enters unnamed creeks or drainage channels. Drainage will then continue along a series of creeks until they join the Arkansas River.

The soils on this site are noted as about 65% Columbine gravelly sandy loam (19), about 10% Pring Coarse sandy loam (29), and about 25% Blakeland Loamy Sand (8). The Blakeland soils are in hydrologic soil group A, the Pring Coarse soils are in hydrologic soil group B, and the Columbine soils are in hydrologic soil group A. Therefore, the site has low to moderate runoff potential, depending on the location. The study area consists of mostly undeveloped land that has natural vegetative cover of about 70% based on a site visit. The existing topographic slopes for these soils group range from 1% to 9%.

CONSTRUCTION ACTIVITY AND STORAGE

No known toxic materials have been treated, stored, disposed, spilled or leaked onto the construction site. Practices to minimize contact of construction materials, equipment and vehicles within the storm water include installation of sediment control log and sub-contractor cleaning and hauling of excess debris and material upon completion of work. Construction material loading and unloading, and access to such areas occur from gravel staging areas as shown or noted on the plans. Potential pollutants such as adhesives, sediment, porta potty runoff, and oil spills will also be dealt with as required. Soils are not to be tracked offsite and any soils tracked offsite should be swept up.

There will be no on-site mobile fueling. Contractor shall have the Hazardous Material emergency response number posted on the site. No concrete or asphalt batch plants are planned for the construction site. The site will be considered stabilized when all lines have been installed and site vegetation is at 70% established. There will be approximately 6.65 acres of disturbed soil area. There is no cut or fill for this project. No non-stormwater discharges are anticipated at the site. No portion of this construction site is within a designated 100-year floodplain.

BEST MANAGEMENT PRACTICES AND OTHER CONTROLS

Erosion control measures shall be implemented in a manner that will protect properties and public facilities from the adverse effects of erosion and sedimentation as a result of construction and earthwork activities.

Installation of the electric line will begin in Summer of 2022 with completion of the work anticipated to be in Fall of 2022. The 70% established vegetation is estimated to be in Spring of 2023.

Before clearing and grubbing may begin the first level of BMP'S are to be installed. These measures include sediment control log (SCL). The Staging Area (SSA) is also to be setup with appropriate measures to protect downstream (i.e., sediment control log). Private driveways will be used for access to the project. The driveways will be cleared/swept as necessary to remove any significant sediment accumulation and prevent migration of uneven dirt clods/mud.

The Second and Third level of BMP'S are to check all installed BMP's for conformance and adjust appropriately.

Fourth level of BMP'S shall be installed once the previous BMP'S and construction are completed. This level includes any disturbed areas and stockpiles which are not at final grade, but will remain dormant for longer than 30 days to be mulched within 21 days after interim grading. Any area that is going to remain in an interim state for more than 60 days shall also be seeded. All temporary soil erosion control measures and BMP'S shall be maintained until permanent soil erosion control measures are implemented and vegetation has been established to 70% on areas not to be covered with gravel. These temporary BMPS's are to be removed once the 70% of pre-disturbed levels of vegetation has been established.

POTENTIAL SOURCES OF POLLUTION

The potential sources of pollution associated with this development are:

- Disturbed and stored soils
- Vehicle tracking of sediments
- Management of contaminated soils (if exist)
- Loading and unloading operations
- Significant dust or particulate generating processes
- Onsite waste management practices (waste piles, liquid wastes, dumpsters)
- Non-industrial waste sources such as worker trash and portable toilets
- Vehicle/equipment fueling and maintenance

IMPLEMENTATION OF CONTROL MEASURES

BMP design specifications and implementation information can be found in the UDFCD BMP Description

Sheets included in the Appendix. This project does not rely on control measures owned or operated by another entity.

MATERIALS HANDLING

All construction materials shall be handled in a manner to minimize the chance of stormwater contamination. Additional info is included in the Spill Prevention and Control Plan section.

WASTE MANAGEMENT AND DISPOSAL

All waste and debris created by construction activities at the site shall be disposed of in compliance with all laws, regulations, and ordinances of the federal, state and local agencies. Waste disposal bins should be checked weekly for leaks and overflowing capacity and should be emptied when they reach 75% of capacity.

SPILL PREVENTION AND CONTROL PLAN

The Site Superintendent will act as the point of contact for any spill that occurs at this jobsite. The Construction Manager will be responsible for implementation of prevention practices, spill containment / cleanup, worker training, reporting and complete documentation in the event of a spill. The Site Superintendent shall immediately notify the Owner, /Construction Manager, State and the Local Fire Department in addition to the legally required Federal, State, and Local reporting channels (including the National Response Center, 800.424.8802) if a reportable quantity is released to the environment.

SPILL PREVENTION BEST MANAGEMENT PRACTICES

This section describes spill prevention methods Best Management Practices (BMP) that will be practiced to eliminate spills before they happen.

<u>Equipment Staging and Maintenance</u>

- Store and maintain equipment in a designated area.
- Keep spill kits readily accessible.

- Check incoming vehicles for leaking oil and fluids.
- Inspect equipment routinely for leaks and spills.
- Repair equipment immediately, if necessary, implement a preventative maintenance schedule for equipment and vehicles.

Fueling Area

- Perform fueling in designated fueling area minimum 50’ away from federal waters.
- Use secondary containment (drain pan) to catch spills.
- Use proper equipment (pumps, funnels) to transfer fluids.
- Keep spill kits readily accessible.
- Inspect fueling areas routinely for leaks and spills.
- Hazardous Material Storage Areas: Reduce the amount of hazardous materials by substituting non-hazardous or less hazardous materials.

Hazardous Material Storage Areas

- Minimize the quantity of hazardous materials brought onsite.
- Store hazardous materials in a designated area away from drainage points.

Unexpected Contaminated Soil and Water

- Investigate historical site use.
- Perform all excavation activities carefully and only after the Owner/Construction.
- Manager directs any activities.

Toilets

- Portable toilets will be located a minimum of 10 feet from stormwater inlets and 50 feet from state waters They shall be adequately staked and cleaned on a weekly basis. They will be inspected daily for spills.

SPILL CONTAINMENT METHODS

The following discussion identifies the types of secondary containment that will be used in the event of a spill. Table 1 summarizes the containment methods for each potential source.

- Equipment Staging and Maintenance Area: An equipment leak from a fuel tank, equipment seal, or hydraulic line will be contained within a spill containment cell placed beneath all stationary potential leak sources. An undetected leak from parked equipment will be cleaned up using hand shovels and containerized in a 55-gallon steel drum for offsite disposal.
- Fueling Area: A small spill during fueling operations will be contained using fuel absorbent pads at the nozzle. The transfer of fuel into portable equipment will be performed using a funnel and/or hand pump and a spill pad used to absorb any incidental spills/drips. Any leaking tanks or drums will have fluids removed and transferred to another tank, drum, or container for the fluids. A spill response kit will be located near the fueling area or on the fuel truck for easy access. The spill response kit will include plastic sheeting, tarps, over pack drums, absorbent litter, and shovels.
- Hazardous Material Storage Area: A spill from containers or cans in a hazardous material storage area will be contained within the storage cabinet these materials are kept in.
- Unexpected Contaminated Soil: If contaminated soil is encountered during the project, the Owner/Construction Manager will be notified immediately. Small quantities of suspected contaminated soil will be placed on a 6-mil plastic liner and covered with 6-mil plastic. A soil berm or silt fence will be used to contain the stockpile and prevent migration of contaminated liquids in the soil.

Table 1: Spill Prevention and Containment Methods

Potential Spill Source	Containment Method(s)
Equipment staging and maintenance area	Spill containment pad, spill kit, pumps, funnels

Fueling area (site equipment only)	Spill containment pad, spill kit, pumps, funnels
Hazardous material staging area	Spill containment pad, spill kit, pumps, funnels
Unexpected contaminated soil	Plastic liner, plastic cover, soil berm, hay bales, lined super sacks

SPILL COUNTERMEASURES

Every preventative measure shall be taken to keep contaminated or hazardous materials contained. If a release occurs, the following actions shall be taken:

1. **Stop the Spill**: The severity of a spill at the site is anticipated to be minimal as large containers/quantities of Hazardous Materials are not anticipated. The type of spill would occur while dispensing material at the hazardous materials storage facility and would likely be contained in secondary containment. Thus, the use spill kits or other available absorbent materials should stop the spill.

2. **Warn Others**: Notify co-workers and supervisory personnel of the release. Notify emergency responders if appropriate. For site personnel, an alarm system will consist of three one second blasts on an air horn sounded by the person discovering a spill or fire. In the event of any spill, the Superintendent and Project Manager shall be notified if the spill is 5 gallons or more the STATE will be contacted along with the Fire Department.

3. **Isolate the Area**: Prevent public access to the area and continue to minimize the spread of the material. Minimize personal exposure throughout emergency response actions.

4. **Containment**: A spill shall only be contained by trained personnel and if it is safe to do so. DO NOT

PLACE YOURSELF IN DANGER. Attempt to extinguish a fire only if it is in the incipient stage; trash can size or smaller. For larger spills, wait for the arrival of emergency response personnel and provide directions to the location of the emergency.

5. **Complete a Spill and Incident Report**: For each spill of a Hazardous Material a spill and incident report shall be completed and submitted to the Owner/Construction Manager and if applicable to the Engineer and the State of Colorado Department of Public Health and Environment.

MAINTENANCE, INSPECTION AND REPAIR

The owner or his representative shall inspect and monitor all drainage facilities using the enclosed "Monitoring and Maintenance Inspection Record" checklist in the appendix. In order to ensure that all graded surfaces, structures, vegetation, erosion and sediment control measures and other protective devices identified in the erosion control plan are maintained in good and effective condition, an Operation and Maintenance Inspection Monitoring Program will be implemented by the permit holder during the construction phase. A systematic inspection of all the above-mentioned protective devices will be performed by a qualified stormwater manager (who is sufficiently qualified for the required duties per the ECM Appendix 1.5) using the operation and maintenance inspection record form in the appendix every 14 days. Also, post-storm event inspections must be conducted within 24 hours after the end of any precipitation or snowmelt event that causes surface erosion. Provided the timing is appropriate, the post-storm inspections may be used to fulfill the 14-day routine inspection requirement. A more frequent inspection schedule than the minimum inspections described may be necessary to ensure that BMPs continue to operate as needed to comply with the plan. All monitoring records are to be kept with the SWMP for a period of no less than three (3) years. The inspection logs shall be signed by the stormwater inspector. All maintenance of temporary and permanent erosion and sediment control facilities shall be per the details included in this report.

This lot will be considered stabilized when all construction activities have been completed and vegetation has been established to 70% of pre-disturbed levels. Erosion control measures such as sedimentation control log must be removed after final stabilization following EPC approval.

Any major revisions or modification to this Storm Water Management Plan will require a report addendum and erosion control map revision. Minor revisions may be made by the Stormwater Manager by redlining the Storm Water Management Plan or inserting additional pages. The SWMP should be viewed as a "living document" that is continuously being reviewed and modified as a part of the overall process of evaluating and managing stormwater quality issues at the site. The Qualified Stormwater Manager shall amend the SWMP when there is a change in design, construction, operation or maintenance of the site which would require the implementation of new or revised BMPs or if the SWMP proves to be ineffective in achieving the general objectives of controlling pollutants in stormwater discharges associated with construction activity or when BMPs are no longer necessary and are removed.

The onsite SWMP will be located at: _____

FINAL STABILIZATION AND LONGTERM STORMWATER MANAGEMENT

Permanent stabilization measures include seeding, and mulching. These temporary BMPS's are to be removed once the 70% of pre-disturbed levels vegetation has been established following EPC approval.

STATE REQUIREMENTS THAT ARE NOT APPLICABLE

The requirement for a phasing plan is not applicable as only one construction phase is proposed.

The requirement for spill prevention and pollution controls for dedicated batch plants is not applicable as no batch plants are proposed.

The requirement to show the location of any dedicated asphalt / concrete batch plants is no applicable as no batch plants are proposed.

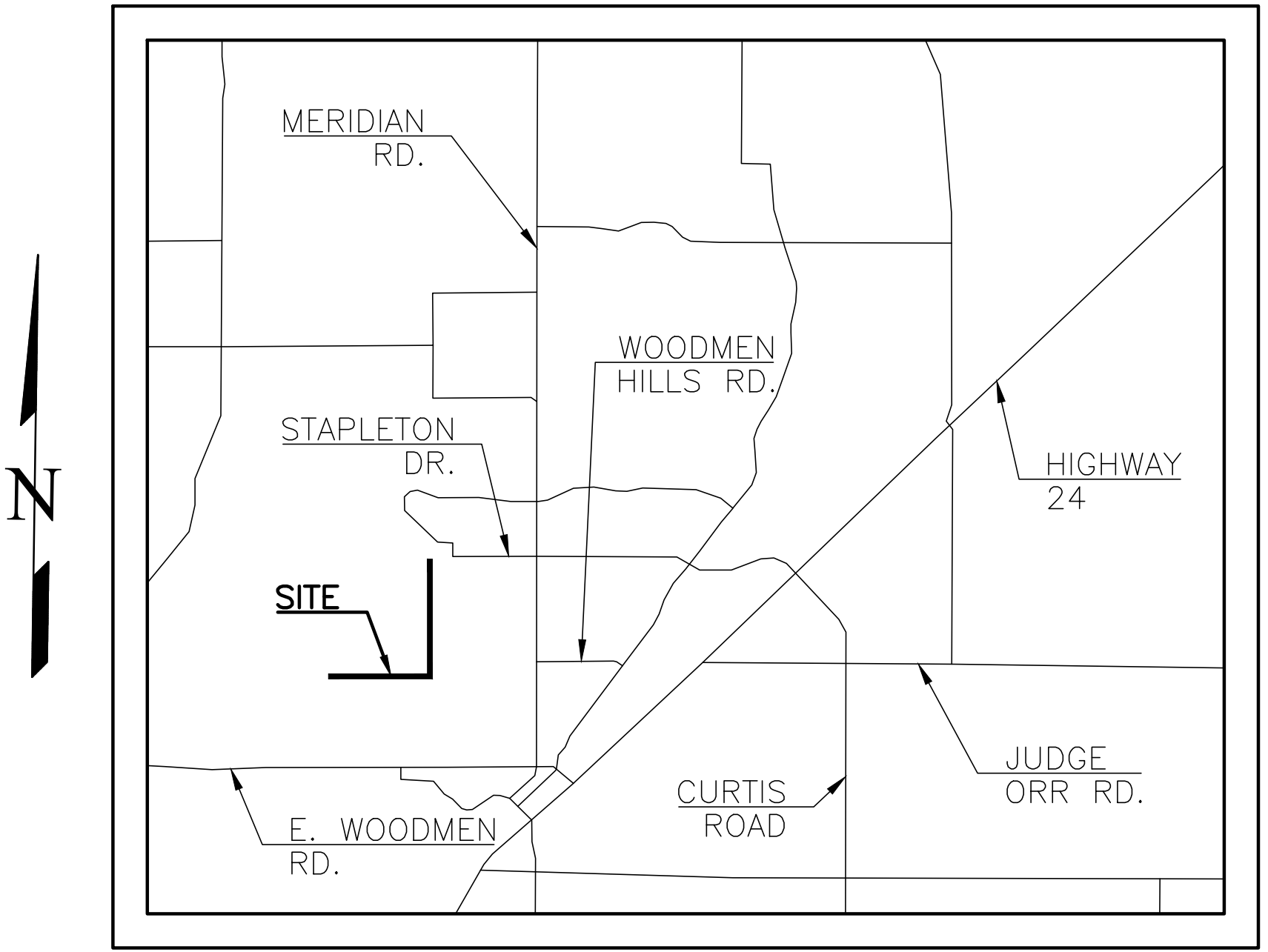
PREPARED BY:

7/24/2022

Terra Nova Engineering, Inc.
L Ducett, P.E.
Project Manager
Jobs/223800/Word/223800 SWMP-RPT.doc

APPENDIX

GENERAL LOCATION MAP



VICINITY MAP

N.T.S.

TEMPORARY EROSION CONTROL DETAILS
(See Sheets 6 & 7 of Grading & Erosion Control Plan)

CONSTRUCTION SCHEDULE AND SEQUENCE

Erosion control measures shall be implemented in a manner that will protect properties and public facilities from the adverse effects of erosion and sedimentation as a result of construction and earthwork activities.

Installation of the underground lines will begin in Summer of 2022 with completion of the work anticipated to be in Fall of 2022. The 70% established vegetation is estimated to be in Spring of 2022.

Before clearing and grubbing may begin the first level of BMP'S are to be installed. These measures include sediment control log (SCL). The Staging Area (SSA) is also to be setup with appropriate measures to protect downstream (i.e., sediment control log). Streets will be cleared/swept as necessary to remove any significant sediment accumulation and prevent migration of uneven dirt clods/mud.

The Second & Third level of BMP'S are to check all installed BMP's for conformance and adjust appropriately.

Fourth level of BMP'S shall be installed once the previous BMP'S and construction are completed. This level includes any disturbed areas and stockpiles which are not at final grade, but will remain dormant for longer than 30 days to be mulched within 21 days after interim grading. Any area that is going to remain in an interim state for more than 60 days shall also be seeded. All temporary soil erosion control measures and BMP'S shall be maintained until permanent soil erosion control measures are implemented and vegetation has been established to 70% on areas not to be covered with gravel. These temporary BMPS's are to be removed once the 70% vegetation or permanent landscaping has been established.

GENERAL PERMIT APPLICATION

OPERATION AND MAINTENANCE INSPECTION RECORD

The following inspection records are to be used at each bi-monthly stormwater management system inspection and after any precipitation or snowmelt event that causes surface runoff. As a result of these inspections, the SWMP may need to be revised. The inspection records and revised SWMP shall be made available to the division upon request. If the construction activity lasts more than 12 months, a copy of the inspection records and revised SWMP shall be sent to the division by May 1 of each year covering April 1 to March 31.

EROSION CONTROL PLAN

(see back pocket)

OPERATION AND MAINTENANCE INSPECTION RECORD

CONSTRUCTION STORMWATER SITE INSPECTION REPORT

Facility Name		Permittee	
Date of Inspection		Weather Conditions	
Permit Certification #		Disturbed Acreage	
Phase of Construction		Inspector Title	
Inspector Name			

	YES	NO
Is the above inspector a qualified stormwater manager? (permittee is responsible for ensuring that the inspector is a qualified stormwater manager)	☐	☐

INSPECTION FREQUENCY	
Check the box that describes the minimum inspection frequency utilized when conducting each inspection	
At least one inspection every 7 calendar days	☐
At least one inspection every 14 calendar days, with post-storm event inspections conducted within 24 hours after the end of any precipitation or snowmelt event that causes surface erosions	☐
• This is this a post-storm event inspection. Event Date: _____	☐
Reduced inspection frequency - Include site conditions that warrant reduced inspection frequency	☐
• Post-storm inspections at temporarily idle sites	☐
• Inspections at completed sites/area	☐
• Winter conditions exclusion	☐

	YES	NO
Have there been any deviations from the minimum inspection schedule? If yes, describe below.	☐	☐

INSPECTION REQUIREMENTS*
i. Visually verify all implemented control measures are in effective operational condition and are working as designed in the specifications
ii. Determine if there are new potential sources of pollutants
iii. Assess the adequacy of control measures at the site to identify areas requiring new or modified control measures to minimize pollutant discharges
iv. Identify all areas of non-compliance with the permit requirements, and if necessary, implement corrective action
*Use the attached **Control Measures Requiring Routine Maintenance** and **Inadequate Control Measures Requiring Corrective Action** forms to document results of this assessment that trigger either maintenance or corrective actions

AREAS TO BE INSPECTED

Is there evidence of, or the potential for, pollutants leaving the construction site boundaries, entering the stormwater drainage system or discharging to state waters at the following locations?

	NO	YES	If "YES" describe discharge or potential for discharge below. Document related maintenance, inadequate control measures and corrective actions **Inadequate Control Measures Requiring Corrective Action** form
Construction site perimeter	☐	☐	
All disturbed areas	☐	☐	
Designated haul routes	☐	☐	
Material and waste storage areas exposed to precipitation	☐	☐	
Locations where stormwater has the potential to discharge offsite	☐	☐	
Locations where vehicles exit the site	☐	☐	
Other: _____	☐	☐	

CONTROL MEASURES REQUIRING ROUTINE MAINTENANCE

Definition: Any control measure that is still operating in accordance with its design and the requirements of the permit, but requires maintenance to prevent a breach of the control measure. These items are not subject to the corrective action requirements as specified in Part I.B.1.c of the permit.

Are there control measures requiring maintenance?	NO	YES	
	☐	☐	If "YES" document below

Date Observed	Location	Control Measure	Maintenance Required	Date Completed

INADEQUATE CONTROL MEASURES REQUIRING CORRECTIVE ACTION

Definition: Any control measure that is not designed or implemented in accordance with the requirements of the permit and/or any control measure that is not implemented to operate in accordance with its design. This includes control measures that have not been implemented for pollutant sources. If it is infeasible to install or repair the control measure immediately after discovering the deficiency the reason must be documented and a schedule included to return the control measure to effective operating condition as possible.

	NO	YES	
Are there inadequate control measures requiring corrective action?	☐	☐	If "YES" document below

	NO	YES	
Are there additional control measures needed that were not in place at the time of inspection?	☐	☐	If "YES" document below

Date Discovered	Location	Description of Inadequate Control Measure	Description of Corrective Action	Was deficiency corrected when discovered? YES/NO if "NO" provide reason and schedule to correct	Date Corrected

REPORTING REQUIREMENTS

The permittee shall report the following circumstances orally within twenty-four (24) hours from the time the permittee becomes aware of the circumstances, and shall mail to the division a written report containing the information requested within five (5) working days after becoming aware of the following circumstances. The division may waive the written report required if the oral report has been received within 24 hours.

All Noncompliance Requiring 24-Hour Notification per Part II.L.6 of the Permit

a. Endangerment to Health or the Environment

Circumstances leading to any noncompliance which may endanger health or the environment regardless of the cause of the incident (See Part II.L.6.a of the Permit)

This category would primarily result from the discharge of pollutants in violation of the permit

b. Numeric Effluent Limit Violations

- o Circumstances leading to any unanticipated bypass which exceeds any effluent limitations (See Part II.L.6.b of the Permit)
- o Circumstances leading to any upset which causes an exceedance of any effluent limitation (See Part II.L.6.c of the Permit)
- o Daily maximum violations (See Part II.L.6.d of the Permit)

Numeric effluent limits are very uncommon in certifications under the COR400000 general permit. This category of noncompliance only applies if numeric effluent limits are included in a permit certification.

Has there been an incident of noncompliance requiring 24-hour notification?	NO	YES	
	☐	☐	If "YES" document below

Date and Time of Incident	Location	Description of Noncompliance	Description of Corrective Action	Date and Time of 24 Hour Oral Notification	Date of 5 Day Written Notification *

*Attach copy of 5 day written notification to report. Indicate if written notification was waived, including the name of the division personnel who granted waiver.

After adequate corrective action(s) and maintenance have been taken, or where a report does not identify any incidents requiring corrective action or maintenance, the individual(s) designated as the Qualified Stormwater Manager, shall sign and certify the below statement:

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

Name of Qualified Stormwater Manager	Title of Qualified Stormwater Manager
Signature of Qualified Stormwater Manager	Date

Notes/Comments

NOTE: ALL EXISTING UNDERGROUND AND ABOVE GROUND UTILITY LOCATIONS, INVERTS AND SIZES ARE APPROXIMATE ONLY AND MUST BE FIELD VERIFIED PRIOR TO CONSTRUCTION. TIE IN POINTS SHALL BE POTHOLED AND LOCATIONS, INVERTS AND SIZES SHALL BE FIELD VERIFIED BY THE CONTRACTOR PRIOR TO CONSTRUCTION.

MVEA VOLLMER TIES

EL PASO COUNTY, CO

GRADING, EROSION, & SEDIMENT CONTROL PLAN

JULY 2022

Standard Notes for El Paso County Grading and Erosion Control Plans

1. Stormwater discharges from construction sites shall not cause or threaten to cause pollution, contamination, or degradation of State Waters. All work and earth disturbance shall be done in a manner that minimizes pollution of any on-site or off-site waters, including wetlands.

2. Notwithstanding anything depicted in these plans in words or graphic representation, all design and construction related to roads, storm drainage and erosion control shall conform to the standards and requirements of the most recent version of the relevant adopted El Paso County standards, including the Land Development Code, the Engineering Criteria Manual, the Drainage Criteria Manual, and the Drainage Criteria Manual Volume 2. Any deviations from regulations and standards must be requested, and approved, in writing.

3. A separate Stormwater Management Plan (SMWP) for this project shall be completed and an Erosion and Stormwater Quality Control Permit (ESQCP) issued prior to commencing construction. Management of the SWMP during construction is the responsibility of the designated Qualified Stormwater Manager or Certified Erosion Control Inspector. The SWMP shall be located on site at all times during construction and shall be kept up to date with work progress and changes in the field.

4. Once the ESQCP is approved and a "Notice to Proceed"has been issued, the contractor may install the initial stage erosion and sediment control measures as indicated on the approved GEC. A Preconstruction Meeting between the contractor, engineer, and El Paso County will be held prior to any construction. It is the responsibility of the applicant to coordinate the meeting time and place with County staff.

5. Control measures must be installed prior to commencement of activities that could contribute pollutants to stormwater. Control measures for all slopes, channels, ditches, and disturbed land areas shall be installed immediately upon completion of the disturbance.

6. All temporary sediment and erosion control measures shall be maintained and remain in effective operating condition until permanent soil erosion control measures are implemented and final stabilization is established. All persons engaged in land disturbance activities shall assess the adequacy of control measures at the site and identify if changes to those control measures are needed to ensure the continued effective performance of the control measures. All changes to temporary sediment and erosion control measures must be incorporated into the Stormwater Management Plan.

7. Temporary stabilization shall be implemented on disturbed areas and stockpiles where ground disturbing construction activity has permanently ceased or temporarily ceased for longer than 14 days.

8. Final stabilization must be implemented at all applicable construction sites. Final stabilization is achieved when all ground disturbing activities are complete and all disturbed areas either have a uniform vegetative cover with individual plant density of 70 percent of pre-disturbance levels established or equivalent permanent alternative stabilization method is implemented. All temporary sediment and erosion control measures shall be removed upon final stabilization and before permit closure.

9. All permanent stormwater management facilities shall be installed as designed in the approved plans. Any proposed changes that affect the design or function of permanent stormwater management structures must be approved by the ECM Administrator prior to implementation.

10. Earth disturbances shall be conducted in such a manner so as to effectively minimize accelerated soil erosion and resulting sedimentation. All disturbances shall be designed, constructed, and completed so that the exposed area of any disturbed land shall be limited to the shortest practical period of time. Pre-vegetation stabilization shall be protected and maintained within 50 horizontal feet of a waters of the state unless shown to be infeasible and specifically requested and approved.

11. Compaction of soil must be prevented in areas designated for infiltration control measures or where final stabilization will be achieved by vegetative cover. Areas designated for infiltration control measures shall also be protected from sedimentation during construction until final stabilization is achieved. If compaction prevention is not feasible due to site constraints, all areas designated for infiltration and vegetation control measures must be loosened prior to installation of the control measure(s).

12. Any temporary or permanent facility designed and constructed for the conveyance of stormwater around, through, or from the earth disturbance area shall be a stabilized conveyance designed to minimize erosion and the discharge of sediment off site.

13. Concrete wash water shall be contained and disposed of in accordance with the SWMP. No wash water shall be discharged to or allowed to enter State Waters, including any surface or subsurface storm drainage system or facilities. Concrete washouts shall not be located in an area where shallow groundwater may be present, or within 50 feet of a surface water body, creek or stream.

14. During dewatering operations of uncontaminated ground water may be discharged on site, but shall not leave the site in the form of surface runoff unless an approved State dewatering permit is in place.

15. Erosion control blanketing or other protective covering shall be used on slopes steeper than 3:1.

16. Contractor shall be responsible for the removal of all wastes from the construction site for disposal in accordance with local and State regulatory requirements. No construction debris, tree slash, building material wastes or unused building materials shall be buried, dumped, or discharged at the site.

17. Waste materials shall not be temporarily placed or stored in the street, alley, or other public way, unless in accordance with an approved Traffic Control Plan. Control measures may be required by El Paso County Engineering if deemed necessary, based on specific conditions and circumstances.

18. Tracking of soils and construction debris off-site shall be minimized. Materials tracked off-site shall be cleaned up and properly disposed of immediately.

19. The owner/developer shall be responsible for the removal of all construction debris, dirt, trash, rock, sediment, soil, and sand that may accumulate in roads, storm drains and other drainage conveyance systems and stormwater appurtenances as a result of site development.

20. The quantity of materials stored on the project site shall be limited, as much as practical, to that quantity required to perform the work in an orderly sequence. All materials stored on-site shall be stored in a neat, orderly manner, in their original containers, with original manufacturer's labels.

21. No chemical(s) having the potential to be released in stormwater are to be stored or used onsite unless permission for the use of such chemical(s) is granted in writing by the ECM Administrator. In granting approval for the use of such chemical(s), special conditions and monitoring may be required.

22. Bulk storage of allowed petroleum products or other allowed liquid chemicals in excess of 55 gallons shall require adequate secondary containment protection to contain all spills onsite and to prevent any spilled materials from entering State Waters, any surface or subsurface storm drainage system or other facilities.

23. No person shall cause the impediment of stormwater flow in the curb and gutter or ditch except with approved sediment control measures.

24. Owner/developer and their agents shall comply with the "Colorado Water Quality Control Act"(Title 25, Article 8, CRS), and the "Clean Water Act"(33 USC 1344), in addition to the requirements of the Land Development Code, DCM Volume II and the ECM Appendix I. All appropriate permits must be obtained by the contractor prior to construction (1041, NPDES, Floodplain, 404, fugitive dust, etc.). In the event of conflicts between these requirements and other laws, rules, or regulations of other Federal, State, local, or County agencies, the most restrictive laws, rules, or regulations shall apply.

25. All construction traffic must enter/exit the site only at approved construction access points.

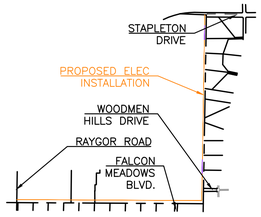
26. Prior to construction the permittee shall verify the location of existing utilities.

27. A water source shall be available on site during earthwork operations and shall be utilized as required to minimize dust from earthwork equipment and wind.

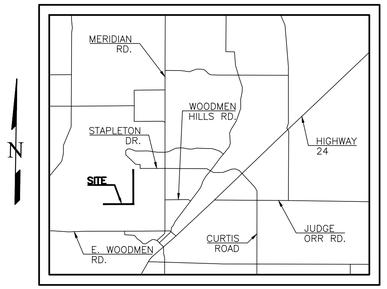
28. The soils report for this site has been prepared by _____N/A_____ and shall be considered a part of these plans.

29. At least ten (10) days prior to the anticipated start of construction, for projects that will disturb one (1) acre or more, the owner or operator of construction activity shall submit a permit application for stormwater discharge to the Colorado Department of Public Health and Environment, Water Quality Division. The application contains certification of completion of a stormwater management plan (SWMP), of which this Grading and Erosion Control Plan may be a part. For information or application materials contact:

Colorado Department of Public Health and Environment
Water Quality Control Division
WQCD -Permits
4300 Cherry Creek Drive South
Denver, CO 80246-1530
Attn: Permits Unit



SITE MAP
SCALE: 1"=2,000'



VICINITY MAP
N.T.S.

COLORADO 811
KNOW WHAT'S BELOW. CALL BEFORE YOU DIG.

GENERAL NOTES

1. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY THE EXISTENCE AND LOCATION OF ALL UNDERGROUND UTILITIES ALONG THE SITE. THE OMISSION FROM OR THE INCLUSION OF UTILITY LOCATIONS ON THE PLANS IS NOT TO BE CONSIDERED AS THE NON-EXISTENCE OF OR A DEFINITE LOCATION OF EXISTING UNDERGROUND UTILITIES.

2. THE CONTRACTOR WILL TAKE THE NECESSARY PRECAUTIONS TO PROTECT EXISTING UTILITIES, BUILDINGS, FENCES, AND ROADWAYS FROM DAMAGE DUE TO THIS OPERATION. ANY DAMAGE TO THE ABOVE WILL BE REPAIRED AT THE CONTRACTOR'S EXPENSE, AND ANY SERVICE DISRUPTION WILL BE SETTLED BY THE CONTRACTOR.

3. AS DETERMINED BY THE FLOOD INSURANCE RATE MAP, COMMUNITY PANEL #'S 08041C0551G, 08041C0535G, & 08041C0553G, EFFECTIVE DATES DECEMBER 7, 2018, NO PORTION OF THIS SITE IS LOCATED WITHIN A DESIGNATED 100-YEAR F.E.M.A. FLOODPLAIN.

4. NO BATCH PLANTS ARE PROPOSED FOR THIS PROJECT.

EROSION CONTROL COST OPINION

1.	140 LF-SEDIMENT CONTROL LOGS $2.75/LF	$	385
2.	6.65 AC-SEEDING & MULCH @ $785/AC	$	5,220
3.	1 EA.-FUEL SPILL KIT @ $200.00/EA	$	200
4.	3 EA.-VEHICLE TRACKING CONTROL @ $1325.00/EA	$	3,975
5.	40% MAINTENANCE AND REPLACEMENT	$	3,912
	TOTAL	$	13,692

DESCRIPTION OF ACTIVITIES:

THE DEVELOPER PROPOSES TO INSTALL UNDERGROUND ELECTRIC UTILITIES AS WELL AS ASSOCIATED ELECTRIC VAULTS FROM AN AREA BEGINNING CLOSE TO WHERE STAPLETON DRIVE DEAD ENDS NEAR ITS INTERSECTION WITH TOWNER AVENUE AND CONTINUING SOUTH WITHIN AN UPLATTED TRACT OF LAND FOR ABOUT ONE MILE. APPROXIMATELY 800' OF THIS WILL BE INSTALLED BY DIRECTIONAL BORE AND THE REST WILL INSTALLED BY OPEN CUT. THE INSTALLATION WILL THEN CONTINUE WEST FOR APPROXIMATELY ONE MILE THROUGH THREE UNPLATTED LOTS AND WILL ALL BE INSTALLED BY OPEN CUT, ENDING AT RAYGOR ROAD. THE SITE CONSISTS OF APPROXIMATELY 6.65 ACRES OF UNDEVELOPED PRAIRIE LOCATED IN EL PASO COUNTY.

THE SITE CURRENTLY CONSISTS OF NATIVE GRASSES WITH AN ESTIMATED COVERAGE AREA OF APPROXIMATELY 70% BASED ON A SITE VISIT.

EROSION CONTROL MEASURES SHALL BE IMPLEMENTED IN A MANNER THAT WILL PROTECT PROPERTIES AND PUBLIC FACILITIES FROM THE ADVERSE EFFECTS OF EROSION AND SEDIMENTATION AS A RESULT OF CONSTRUCTION AND EARTHWORK ACTIVITIES. VEHICLE TRACKING WILL BE INSTALLED AT THE END OF STAPLETON ROAD NEAR THE BEGINNING OF THE SITE, AT THE END OF WOODMEN HILLS DRIVE NEAR THE NEAR THE END OF THE NORTH/SOUTH INSTALLATION, AND AT RAYGOR ROAD WHERE THE INSTALLATION ENDS. THESE WILL BE THE THREE LOCATIONS USED FOR ACCESS TO THE SITE. THE STAGING AREA FOR THIS PROJECT WILL BE LOCATED OFFSITE. IT IS ANTICIPATED THAT CONSTRUCTION ACTIVITIES WILL OCCUR BETWEEN SUMMER OF 2022 AND FALL OF 2022, AT WHICH POINT IT WILL BE CONSIDERED COMPLETED.

CONSTRUCTION PHASING IS ANTICIPATED TO OCCUR AS FOLLOWS:
PHASE 1:
PRIOR TO START OF CONSTRUCTION, INITIAL EROSION CONTROL MEASURES TO BE INSTALLED INCLUDE SEDIMENT CONTROL LOG (SCL) ALONG THE DOWNHILL SIDE OF DISTURBED AREA. ALSO INCLUDED IN THIS PHASE WILL BE INSTALLATION OF SEDIMENT CONTROL LOG (SCL) AROUND THE BASE OF ANY DIRT STOCKPILE AREAS. UNTIL THE STOCKPILE HAS BEEN REMOVED, THE SEDIMENT CONTROL LOG SHALL REMAIN IN PLACE AND BE MAINTAINED IN SUCH A WAY AS TO REDUCE TRANSFERENCE OF SEDIMENTATION OVER THE SITE.

PHASE 2:
ALL PREVIOUSLY INSTALLED BMP'S SHALL REMAIN IN PLACE UNTIL A LATER PHASE.

PHASE 3:
ANY AREA THAT IS GOING TO REMAIN IN AN INTERIM STATE FOR MORE THAN 60 DAYS SHALL BE SEEDED IN ORDER TO ESTABLISH A VEGETATIVE COVER UNTIL THE FINAL LANDSCAPING IS INSTALLED. ALL TEMPORARY SOIL EROSION CONTROL MEASURES AND BMP'S SHALL BE MAINTAINED UNTIL PERMANENT SOIL EROSION CONTROL MEASURES ARE IMPLEMENTED AND VEGETATION HAS BEEN ESTABLISHED TO 70% ON AREAS NOT COVERED BY GRAVEL. ONCE VEGETATIVE COVER HAS BEEN ESTABLISHED AT 70% OF THE DISTURBED AREAS, SEDIMENT CONTROL LOG WILL BE REMOVED FROM ANY DIRT STOCKPILE AREAS. THE DIRT STOCKPILES (SP) WILL BE REMOVED AND RE-VEGETATED AS PART OF THIS PHASE.

PHASE 4:
FINAL CONSTRUCTION ACTIVITIES HAVE BEEN COMPLETED AT THIS POINT. THE PERMANENT EROSION CONTROL MEASURES HAVE BEEN ESTABLISHED.

THE SOILS ON THIS SITE ARE NOTED AS ABOUT 65% COLUMBINE GRAVELLY SANDY LOAM (19), 3% TO 8% SLOPES, ABOUT 25% BLAKELAND LOAMY SAND (8), 1% TO 9% SLOPES, AND ABOUT 10% PRING COARSE SANDY LOAM (29), 3% TO 8% SLOPES. HE BLAKELAND SOIL IS IN HYDROLOGIC SOIL GROUP A, THE PRING COARSE SOIL IS IN HYDROLOGIC SOIL GROUP B, AND THE COLUMBINE SOIL IS IN HYDROLOGIC SOIL GROUP A. THEREFORE, THERE ARE LOW TO MODERATE RUNOFF POTENTIALS. THERE ARE NO WETLANDS ON THIS SITE.

THE SITE CONSISTS OF UNDEVELOPED LAND THAT HAS NATURAL VEGETATIVE COVER OF ABOUT 70% CONSISTING OF NATIVE GRASSES BASED ON A SITE VISIT.

THERE ARE NO POTENTIAL POLLUTANTS EXISTING OR PROPOSED FOR STORAGE ON THIS SITE.

THIS SITE IS WITHIN BOTH THE FALCON AND SAND CREEK DRAINAGE BASINS. DRAINAGE TYPICALLY FLOWS FROM THE NORTH TOWARDS THE SOUTH ON THIS SITE.

THE PROPERTY OWNER OR OWNERS REPRESENTATIVE IS RESPONSIBLE FOR INSPECTING AND MAINTAINING THE SITE ON A REGULAR BASIS. INITIAL CRITERIA FOR THE OCCURRENCE OF INSPECTIONS IS AS FOLLOWS:
ONCE EVERY 14 DAYS OR
AFTER ANY PRECIPITATION OR SNOWMELT EVENT THAT SIGNIFICANT ENOUGH TO CAUSE SURFACE EROSION.
A WRITTEN RECORD OF INSPECTIONS SHALL BE KEPT BY THE OWNER OR OWNERS REPRESENTATIVE AND MADE AVAILABLE TO THE COUNTY UPON REQUEST. THIS WILL CONTINUE UNTIL THE SITE IS STABILIZED AND THE STOCKPILE IS NO LONGER NEEDED.

SHEET INDEX

SITE DATA

OWNER/PETITIONER:
MOUNTAIN VIEW ELECTRIC ASSOCIATION
11140 E. WOODMAN RD
PEYTON, CO 80931
MR. DAVID WALDNER, (719) 495-2283

PREPARER:
TERRA NOVA ENGINEERING, INC.
721 S 23RD STREET
COLORADO SPRINGS, CO 80904
(719) 635-6422 OFFICE
(719) 499-2255 MOBILE

AREA

TOTAL AREA TO BE CLEARED, EXCAVATED, GRADED OR DISTURBED IS 6.65± ACRES.

VOLUME

EARTHWORK VOLUMES: N/A

ENGINEER'S STATEMENT

THIS GRADING AND EROSION CONTROL PLAN WAS PREPARED UNDER MY DIRECTION AND SUPERVISION AND IS CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF. SAID PLAN HAS BEEN PREPARED ACCORDING TO THE CRITERIA ESTABLISHED BY THE COUNTY FOR GRADING AND EROSION CONTROL. I ACCEPT RESPONSIBILITY FOR ANY LIABILITY CAUSED BY ANY NEGLIGENT ACTS, ERRORS OR OMISSIONS ON MY PART IN PREPARING THIS REPORT.

COLORADO LICENSED L DUCETT 32339 PROFESSIONAL ENGINEER

L DUCETT, P.E. #32339
FOR AND ON BEHALF OF TERRA NOVA ENGINEERING, INC.
7/24/2022

OWNER'S STATEMENT

I, THE OWNER/DEVELOPER HAVE READ AND WILL COMPLY WITH THE REQUIREMENTS OF THE GRADING AND EROSION CONTROL PLAN.

OWNER NAME: Amy Carlsen DATE: 07-25-2022

EL PASO COUNTY APPROVAL

COUNTY PLAN REVIEW IS PROVIDED ONLY FOR GENERAL CONFORMANCE WITH COUNTY DESIGN CRITERIA. THE COUNTY IS NOT RESPONSIBLE FOR THE ACCURACY AND ADEQUACY OF THE DESIGN, DIMENSIONS, AND/OR ELEVATIONS WHICH SHALL BE CONFIRMED AT THE JOB SITE. THE COUNTY THROUGH THE APPROVAL OF THIS DOCUMENT ASSUMES NO RESPONSIBILITY FOR COMPLETENESS AND/OR ACCURACY OF THIS DOCUMENT.

FILED IN ACCORDANCE WITH THE REQUIREMENTS OF THE EL PASO COUNTY LAND DEVELOPMENT CODE, DRAINAGE CRITERIA MANUAL VOLUMES 1 AND 2, AND ENGINEERING CRITERIA MANUAL AS AMENDED.

IN ACCORDANCE WITH ECM SECTION 1.12, THESE CONSTRUCTION DOCUMENTS WILL BE VALID FOR CONSTRUCTION FOR A PERIOD OF 2 YEARS FROM THE DATE SIGNED BY THE EL PASO COUNTY ENGINEER. IF CONSTRUCTION HAS NOT STARTED WITHIN THOSE 2 YEARS, THE PLANS WILL NEED TO BE RESUBMITTED FOR APPROVAL, INCLUDING PAYMENT OF REVIEW FEES AT THE PLANNING AND COMMUNITY DEVELOPMENT DIRECTORS DISCRETION.

COUNTY ENGINEER / ECM ADMINISTRATOR _____ DATE _____

PCD FILE NO. CDR-22-010

REVISIONS

NO.	DESCRIPTION	DATE

UNTIL SUCH TIME AS THESE PLANS ARE APPROVED BY THE APPROPRIATE REVIEWING AGENCIES, TERRA NOVA ENGINEERING, INC. APPROVES THEIR USE ONLY FOR THE PURPOSES DESIGNATED BY WRITTEN AUTHORIZATION.

PREPARED FOR:
MVEA
ATTN: DAVE WALDNER
11140 E. WOODMEN RD
PEYTON, CO 80831
(719) 495-2283

Terra Nova Engineering, Inc. "Creative Civil Engineering Solutions"
721 S. 23RD STREET
COLORADO SPRINGS, CO 80904
OFFICE: 719-635-6422
FAX: 719-635-6426
www.tneainc.com

MVEA VOLLMER TIES

GRADING, EROSION, & SEDIMENT CONTROL PLAN
COVER SHEET

DESIGNED BY JF
DRAWN BY JF
CHECKED BY LD

H-SCALE AS SHOWN
V-SCALE NA

JOB NO. 2238.00
DATE ISSUED 7/24/22
SHEET NO. 1 OF 7

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MVEA VOLLMER TIES

EL PASO COUNTY, CO

GRADING, EROSION, & SEDIMENT CONTROL PLAN

JULY 2022

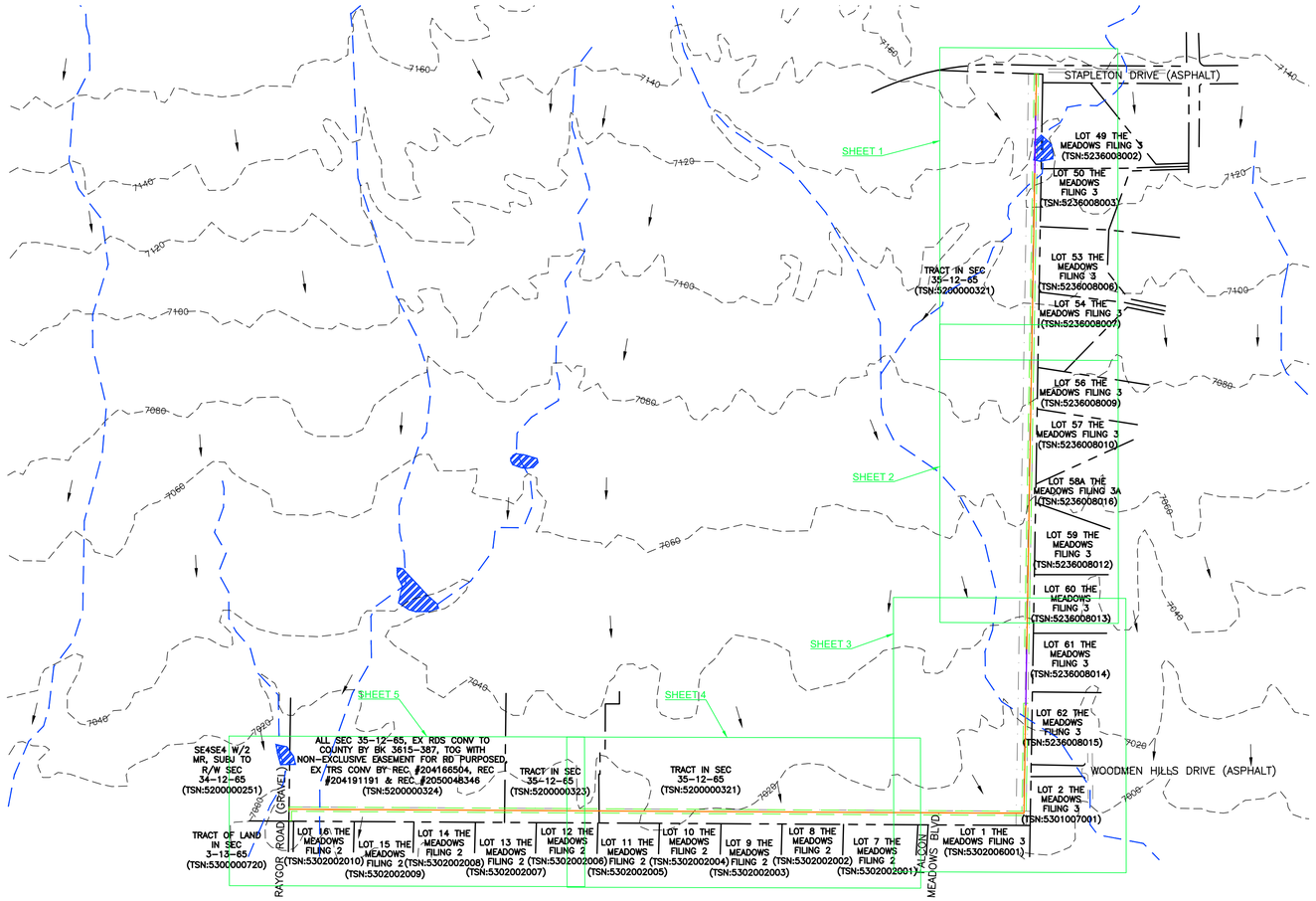
GRADING PLAN NOTES

1. PROJECT LOCATION IS IN EL PASO COUNTY COLORADO. APPROXIMATE SITE LOCATION IS AT LATITUDE 38.9688°, LONGITUDE -104.6261°.
2. ALL MEASUREMENTS ARE IN FEET, UNLESS SPECIFIED OTHERWISE.
3. FINAL STABILIZATION REQUIREMENTS SHALL BE BASED ON THE REQUIREMENTS OF THE STORM WATER POLLUTION PREVENTION PLAN.
4. THE CONTRACTOR SHALL VERIFY ALL EXISTING CONDITIONS, UTILITIES AND CULVERTS PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL INFORM THE ENGINEER OF ANY DISCREPANCIES BETWEEN THE EXISTING CONDITIONS AND THE PLANS.
5. CONTRACTOR TO PROTECT EXISTING UTILITIES AND MAINTAIN EXISTING DRAINAGE PATTERNS AT ALL TIMES.
6. CONTRACTOR TO VERIFY RIGHT OF WAY LIMITS PRIOR TO CONSTRUCTION.
7. EXISTING FEATURES (FENCE, MAILBOX, SIGN, ETC.) THAT ARE DISTURBED AS PART OF THE TEMPORARY IMPROVEMENT SHALL BE REINSTALLED OR REPLACED IN A CONDITION EQUAL TO OR BETTER THAN THE PRECONSTRUCTION CONDITION.
8. CONTRACTOR SHALL CALL 811, ONE CALL ENTITIES PRIOR TO CONSTRUCTION. ALL HAZARDS SHALL BE ASSESSED PRIOR TO CONSTRUCTION.
9. EXCAVATED SOIL SHALL BE PLACED ON THE UPSTREAM SIDE OF THE TRENCH.
10. WORK ALONG THE N/S LINE WILL BE DONE WITHIN A 20' MVEA EASEMENT AND AN ADDITIONAL 10' PORTION OF A TRI-STATE EASEMENT. WORK ALONG THE E/W LINE WILL BE DONE WITHIN THE NORTHERN PORTION OF A 100' MVEA EASEMENT.
11. SOIL WILL BE PLACED BESIDE THE TRENCH WHEN IT IS DUG UP AND PLACED BACK IN THE TRENCH ONCE WORK IN THAT AREA IS COMPLETED.
12. STAGING AREA WILL BE LOCATED OFFSITE.

N

500' 0 500' 1,000'

SCALE: 1"=500'



LEGEND

- EXISTING CHANNEL
- 7200 EXISTING 100' CONTOUR
- 7260 EXISTING 20' CONTOUR
- EXISTING FLOW DIRECTION
- PROPOSED U/G ELECTRIC BY OPEN CUT EXCAVATION
- PROPOSED U/G ELEC BY DIRECTIONAL BORE (APPROXIMATE LOCATIONS)
- EXISTING PROPERTY LINE/ROW
- EXISTING EDGE OF ASPHALT
- EXISTING EASEMENT
- LIMITS OF DISTURBANCE/CONSTRUCTION

THIS DESIGN WAS PREPARED UNDER MY DIRECT SUPERVISION FOR AND ON BEHALF OF TERRA NOVA ENGINEERING, INC.

L DUCETT COLORADO LICENSED 32339 PROFESSIONAL ENGINEER

L. DUCETT, P.E.
COLORADO P.E. NO. 32339

7/24/2022

REVISIONS

NO.	DESCRIPTION	DATE

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PREPARED FOR:
MVEA
ATTN: DAVE WALDNER
11140 E. WOODMEN RD
PEYTON, CO 80831
(719) 495-2283

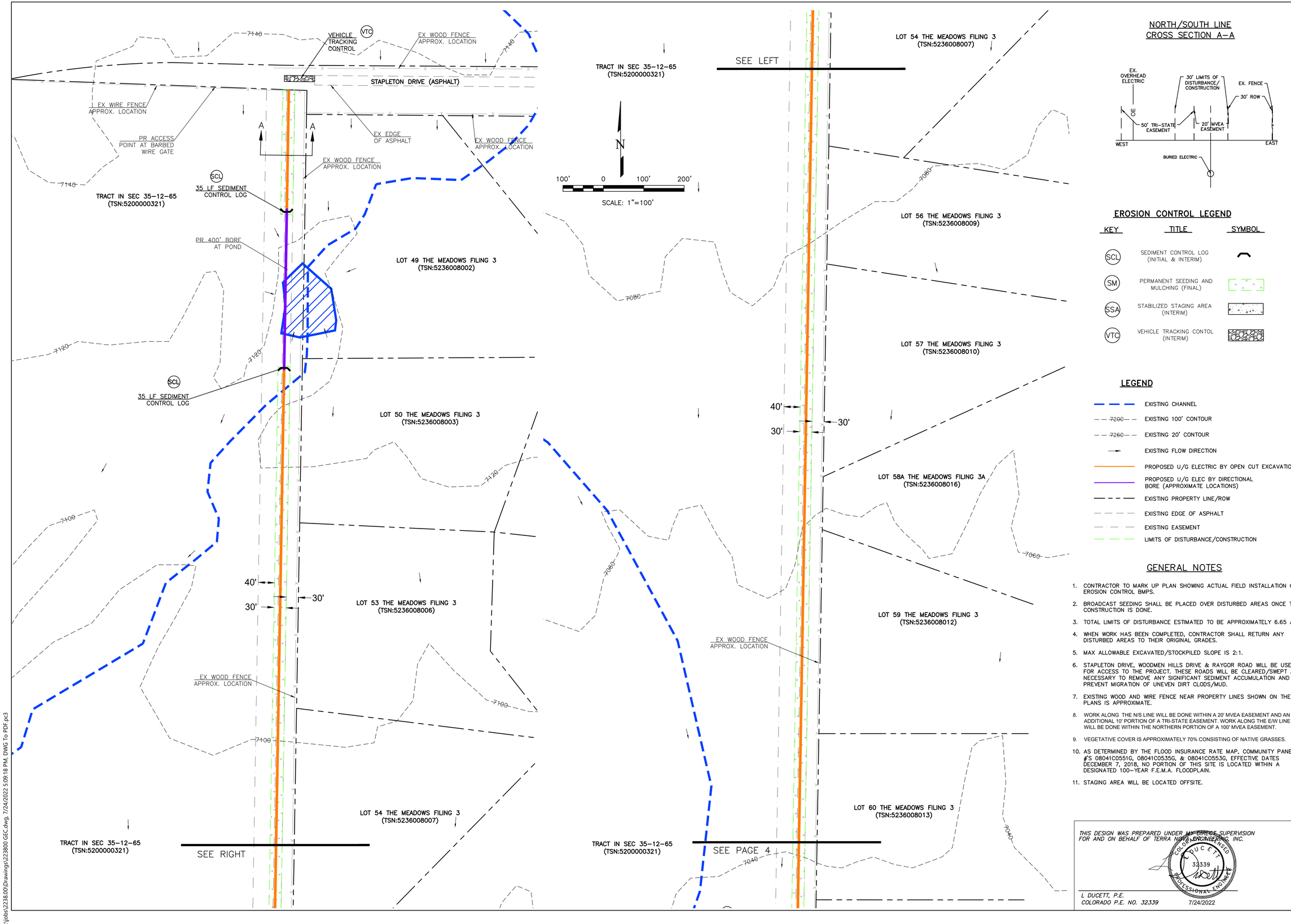
Terra Nova Engineering, Inc. Creative Civil Engineering Solutions
721 S. 23RD STREET
COLORADO SPRINGS, CO 80904
OFFICE: 719-635-6422
FAX: 719-635-6426
www.tnesinc.com

MVEA VOLLMER TIES

GRADING, EROSION, & SEDIMENT CONTROL PLAN
SITE MAP

DESIGNED BY JF
DRAWN BY JF
CHECKED BY LD
H-SCALE AS SHOWN
V-SCALE NA
JOB NO. 2238.00
DATE ISSUED 7/24/22
SHEET NO. 2 OF 7

N:\jobs\2238.00\Drawings\223800 GEC.dwg, 7/24/2022 5:08:56 PM, DWG To PDF.pc3



NORTH/SOUTH LINE CROSS SECTION A-A

EROSION CONTROL LEGEND

KEY	TITLE	SYMBOL
SCL	SEDIMENT CONTROL LOG (INITIAL & INTERIM)	
SM	PERMANENT SEEDING AND MULCHING (FINAL)	
SSA	STABILIZED STAGING AREA (INTERIM)	
VTC	VEHICLE TRACKING CONTOL (INTERIM)	

LEGEND

- EXISTING CHANNEL
- 7200 EXISTING 100' CONTOUR
- 7260 EXISTING 20' CONTOUR
- EXISTING FLOW DIRECTION
- PROPOSED U/G ELECTRIC BY OPEN CUT EXCAVATION
- PROPOSED U/G ELEC BY DIRECTIONAL BORE (APPROXIMATE LOCATIONS)
- EXISTING PROPERTY LINE/ROW
- EXISTING EDGE OF ASPHALT
- EXISTING EASEMENT
- LIMITS OF DISTURBANCE/CONSTRUCTION

GENERAL NOTES

1. CONTRACTOR TO MARK UP PLAN SHOWING ACTUAL FIELD INSTALLATION OF EROSION CONTROL BMPS.
2. BROADCAST SEEDING SHALL BE PLACED OVER DISTURBED AREAS ONCE THE CONSTRUCTION IS DONE.
3. TOTAL LIMITS OF DISTURBANCE ESTIMATED TO BE APPROXIMATELY 6.65 AC.
4. WHEN WORK HAS BEEN COMPLETED, CONTRACTOR SHALL RETURN ANY DISTURBED AREAS TO THEIR ORIGINAL GRADES.
5. MAX ALLOWABLE EXCAVATED/STOCKPILED SLOPE IS 2:1.
6. STAPLETON DRIVE, WOODMEN HILLS DRIVE & RAYGOR ROAD WILL BE USED FOR ACCESS TO THE PROJECT. THESE ROADS WILL BE CLEARED/SWEPT AS NECESSARY TO REMOVE ANY SIGNIFICANT SEDIMENT ACCUMULATION AND PREVENT MIGRATION OF UNEVEN DIRT CLODS/MUD.
7. EXISTING WOOD AND WIRE FENCE NEAR PROPERTY LINES SHOWN ON THE PLANS IS APPROXIMATE.
8. WORK ALONG THE N/S LINE WILL BE DONE WITHIN A 20' MVEA EASEMENT AND AN ADDITIONAL 10' PORTION OF A TRI-STATE EASEMENT. WORK ALONG THE E/W LINE WILL BE DONE WITHIN THE NORTHERN PORTION OF A 100' MVEA EASEMENT.
9. VEGETATIVE COVER IS APPROXIMATELY 70% CONSISTING OF NATIVE GRASSES.
10. AS DETERMINED BY THE FLOOD INSURANCE RATE MAP, COMMUNITY PANEL #'S 08041C0551G, 08041C0535G, & 08041C0553G, EFFECTIVE DATES DECEMBER 7, 2018, NO PORTION OF THIS SITE IS LOCATED WITHIN A DESIGNATED 100-YEAR F.E.M.A. FLOODPLAIN.
11. STAGING AREA WILL BE LOCATED OFFSITE.

THIS DESIGN WAS PREPARED UNDER MY DIRECT SUPERVISION FOR AND ON BEHALF OF TERRA NOVA ENGINEERING, INC.

COLORADO LICENSED L. DUCETT 32339 PROFESSIONAL ENGINEER

L DUCETT, P.E.
COLORADO P.E. NO. 32339 *7/24/2022*

REVISIONS		
NO.	DESCRIPTION	DATE

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MVEA VOLLMER TIES

GRADING, EROSION, & SEDIMENT CONTROL PLAN
EROSION CONTROL PLAN

DESIGNED BY	LD
DRAWN BY	JF
CHECKED BY	LD
H-SCALE	AS SHOWN
V-SCALE	NA
JOB NO.	2238.00
DATE ISSUED	7/24/22
SHEET NO.	3 OF 7

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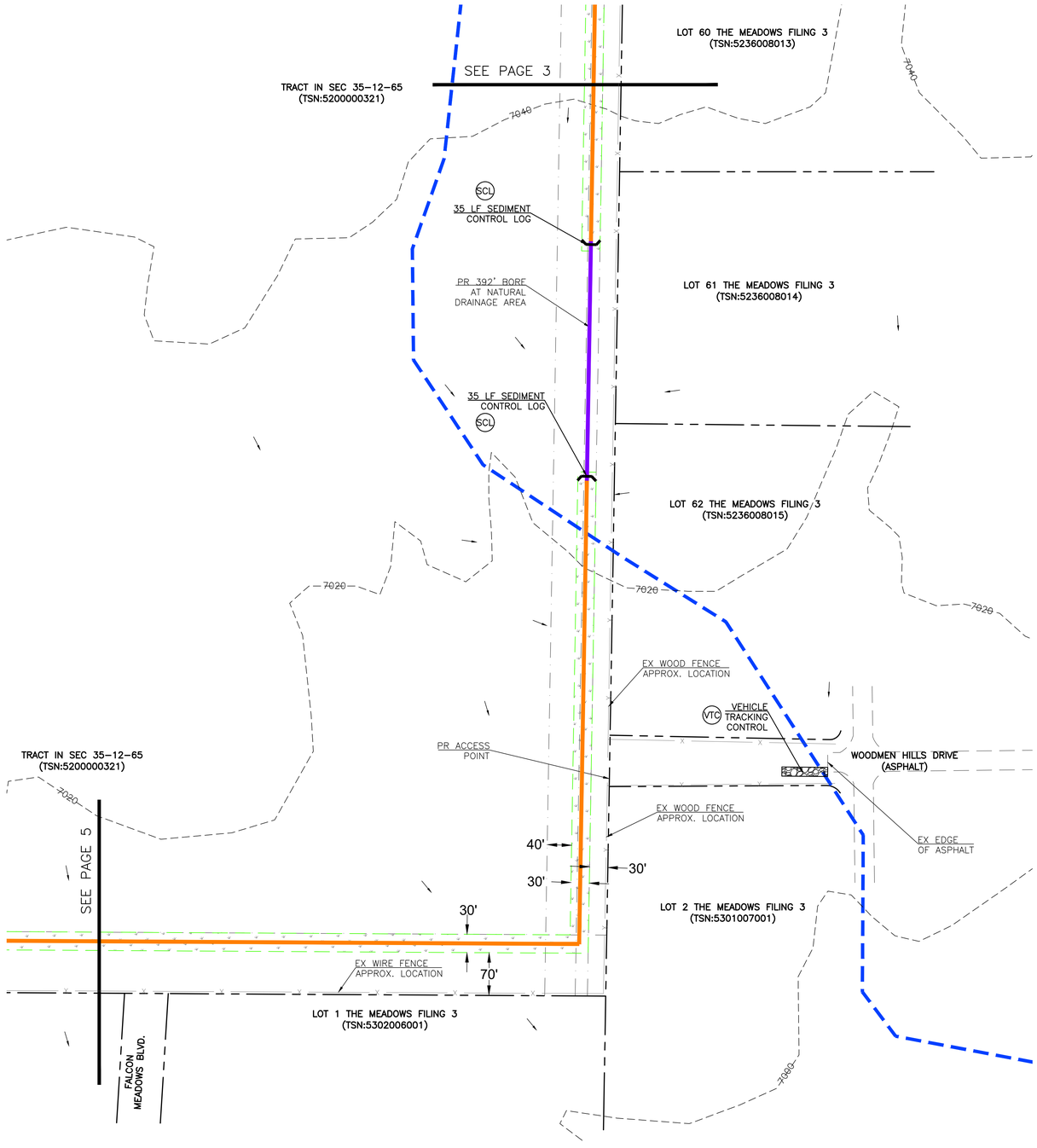

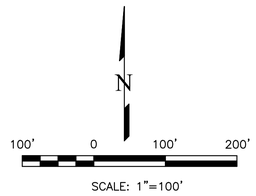

EROSION CONTROL LEGEND

KEY	TITLE	SYMBOL
SCL	SEDIMENT CONTROL LOG (INITIAL & INTERIM)	
SM	PERMANENT SEEDING AND MULCHING (FINAL)	
SSA	STABILIZED STAGING AREA (INTERIM)	
VTC	VEHICLE TRACKING CONTOL (INTERIM)	

LEGEND

- EXISTING CHANNEL
- EXISTING 100' CONTOUR
- EXISTING 20' CONTOUR
- EXISTING FLOW DIRECTION
- PROPOSED U/G ELECTRIC BY OPEN CUT EXCAVATION
- PROPOSED U/G ELEC BY DIRECTIONAL BORE (APPROXIMATE LOCATIONS)
- EXISTING PROPERTY LINE/ROW
- EXISTING EDGE OF ASPHALT
- EXISTING EASEMENT
- LIMITS OF DISTURBANCE/CONSTRUCTION

GENERAL NOTES

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11. STAGING AREA WILL BE LOCATED OFFSITE.

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COLORADO LICENSED L DUCETT 32339 PROFESSIONAL ENGINEER

L DUCETT, P.E.
COLORADO P.E. NO. 32339 *7/24/2022*

REVISIONS

NO.	DESCRIPTION	DATE

UNTIL SUCH TIME AS THESE DRAWINGS ARE APPROVED BY THE APPROPRIATE REVIEWING AGENCIES, TERRA NOVA ENGINEERING, INC. APPROVES THEIR USE ONLY FOR THE PURPOSES DESIGNATED BY WRITTEN AUTHORIZATION.

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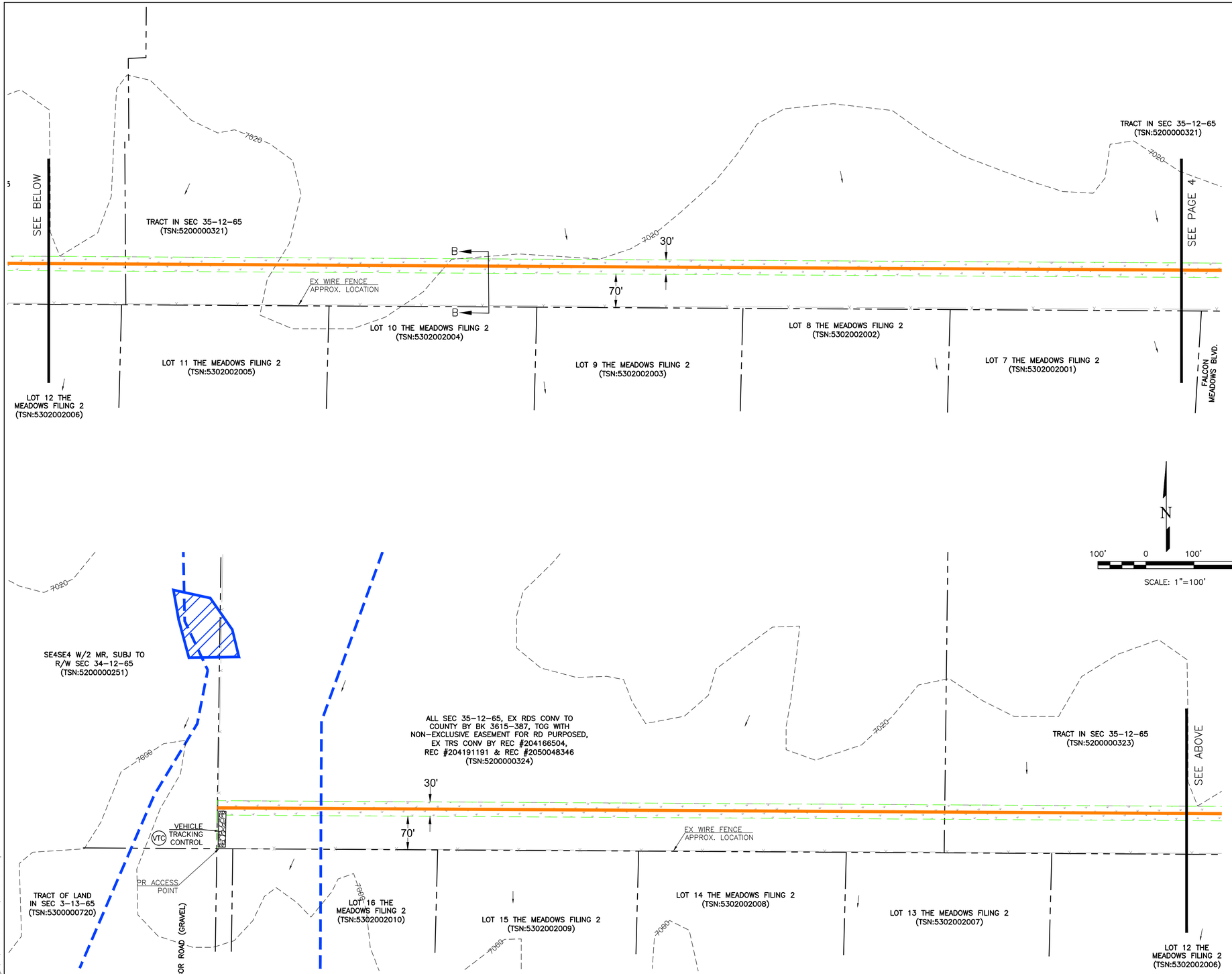
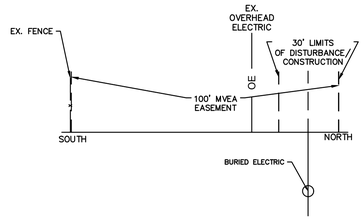
MVEA VOLLMER TIES

GRADING, EROSION, & SEDIMENT CONTROL PLAN
EROSION CONTROL PLAN

DESIGNED BY	LD
DRAWN BY	JF
CHECKED BY	LD
H-SCALE	AS SHOWN
V-SCALE	NA
JOB NO.	2238.00
DATE ISSUED	7/24/22
SHEET NO.	4 OF 7



EAST/WEST LINE
CROSS SECTION B-B



EROSION CONTROL LEGEND

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- PROPOSED U/G ELECTRIC BY OPEN CUT EXCAVATION
- PROPOSED U/G ELEC BY DIRECTIONAL BORE (APPROXIMATE LOCATIONS)
- EXISTING PROPERTY LINE/ROW
- EXISTING EDGE OF ASPHALT
- EXISTING EASEMENT
- EXISTING FENCE
- LIMITS OF DISTURBANCE/CONSTRUCTION

GENERAL NOTES

1. CONTRACTOR TO MARK UP PLAN SHOWING ACTUAL FIELD INSTALLATION OF EROSION CONTROL BMPS.
2. BROADCAST SEEDING SHALL BE PLACED OVER DISTURBED AREAS ONCE THE CONSTRUCTION IS DONE.
3. TOTAL LIMITS OF DISTURBANCE ESTIMATED TO BE APPROXIMATELY 6.65 AC.
4. WHEN WORK HAS BEEN COMPLETED, CONTRACTOR SHALL RETURN ANY DISTURBED AREAS TO THEIR ORIGINAL GRADES.
5. MAX ALLOWABLE EXCAVATED/STOCKPILED SLOPE IS 2:1.
6. STAPLETON DRIVE, WOODMEN HILLS DRIVE & RAYGOR ROAD WILL BE USED FOR ACCESS TO THE PROJECT. THESE ROADS WILL BE CLEARED/SWEPT AS NECESSARY TO REMOVE ANY SIGNIFICANT SEDIMENT ACCUMULATION AND PREVENT MIGRATION OF UNEVEN DIRT CLODS/MUD.
7. EXISTING WOOD AND WIRE FENCE NEAR PROPERTY LINES SHOWN ON THE PLANS IS APPROXIMATE.
8. WORK ALONG THE N/S LINE WILL BE DONE WITHIN A 20' MVEA EASEMENT AND AN ADDITIONAL 10' PORTION OF A TRI-STATE EASEMENT. WORK ALONG THE E/W LINE WILL BE DONE WITHIN THE NORTHERN PORTION OF A 100' MVEA EASEMENT.
9. VEGETATIVE COVER IS APPROXIMATELY 70% CONSISTING OF NATIVE GRASSES.
10. AS DETERMINED BY THE FLOOD INSURANCE RATE MAP, COMMUNITY PANEL #'S 08041C0551G, 08041C0535G, & 08041C0553G, EFFECTIVE DATES DECEMBER 7, 2018, NO PORTION OF THIS SITE IS LOCATED WITHIN A DESIGNATED 100-YEAR F.E.M.A. FLOODPLAIN.
11. STAGING AREA WILL BE LOCATED OFFSITE.

THIS DESIGN WAS PREPARED UNDER MY DIRECT SUPERVISION FOR AND ON BEHALF OF TERRA NOVA ENGINEERING, INC.

L DUCETT
COLORADO LICENSED
32339
PROFESSIONAL ENGINEER

L DUCETT, P.E.
COLORADO P.E. NO. 32339
7/24/2022

REVISIONS

NO.	DESCRIPTION	DATE

UNTIL SUCH TIME AS THESE PLANS ARE APPROVED BY THE APPROPRIATE REVIEWING AGENCIES, TERRA NOVA ENGINEERING, INC. APPROVES THEIR USE FOR PURPOSES DESIGNATED BY WRITTEN AUTHORIZATION.

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MVEA VOLLMER TIES

GRADING, EROSION, & SEDIMENT CONTROL PLAN
EROSION CONTROL PLAN

DESIGNED BY	LD
DRAWN BY	JF
CHECKED BY	LD
H-SCALE	AS SHOWN
V-SCALE	NA
JOB NO.	2238.00
DATE ISSUED	7/24/22
SHEET NO.	5 OF 7

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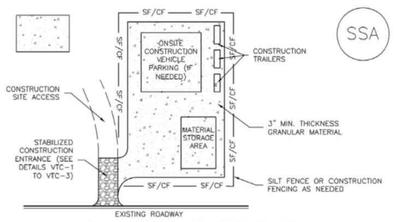
Stabilized Staging Area (SSA) SM-6



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.

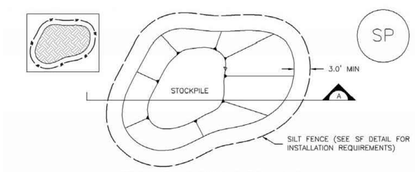
6. THE STABILIZED STAGING AREA SHALL BE REMOVED AT THE END OF CONSTRUCTION. THE GRANULAR MATERIAL SHALL BE REMOVED OR, IF APPROVED BY THE LOCAL JURISDICTION, USED ON SITE, AND THE AREA COVERED WITH TOPSOIL, SEEDED AND MULCHED OR OTHERWISE STABILIZED IN A MANNER APPROVED BY LOCAL JURISDICTION.

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)

Stockpile Management (SP) MM-2



SP–1. STOCKPILE PROTECTION

STOCKPILE PROTECTION INSTALLATION NOTES

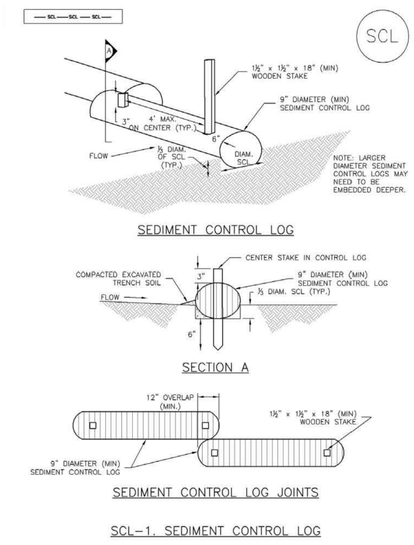
1. SEE PLAN VIEW FOR:
   –LOCATION OF STOCKPILES.
   –TYPE OF STOCKPILE PROTECTION.

2. INSTALL PERIMETER CONTROLS IN ACCORDANCE WITH THEIR RESPECTIVE DESIGN DETAILS. SILT FENCE IS SHOWN IN THE STOCKPILE PROTECTION DETAILS; HOWEVER, OTHER TYPES OF PERIMETER CONTROLS INCLUDING SEDIMENT CONTROL LOGS OR ROCK SOCKS MAY BE SUITABLE IN SOME CIRCUMSTANCES. CONSIDERATIONS FOR DETERMINING THE APPROPRIATE TYPE OF PERIMETER CONTROL FOR A STOCKPILE INCLUDE WHETHER THE STOCKPILE IS LOCATED ON A PERVIOUS OR IMPERVIOUS SURFACE, THE RELATIVE HEIGHTS OF THE PERIMETER CONTROL AND STOCKPILE, THE ABILITY OF THE PERIMETER CONTROL TO CONTAIN THE STOCKPILE WITHOUT FAILING IN THE EVENT THAT MATERIAL FROM THE STOCKPILE SHIFTS OR SLUMPS AGAINST THE PERIMETER, AND OTHER FACTORS.

3. STABILIZE THE STOCKPILE SURFACE WITH SURFACE ROUGHENING, TEMPORARY SEEDING AND MULCHING, EROSION CONTROL BLANKETS, OR SOIL BINDERS. SOILS STOCKPILED FOR AN EXTENDED PERIOD (TYPICALLY FOR MORE THAN 60 DAYS) SHOULD BE SEEDED AND MULCHED WITH A TEMPORARY GRASS COVER ONCE THE STOCKPILE IS PLACED (TYPICALLY WITHIN 14 DAYS). USE OF MULCH ONLY OR A SOIL BINDER IS ACCEPTABLE IF THE STOCKPILE WILL BE IN PLACE FOR A MORE LIMITED TIME PERIOD (TYPICALLY 30–60 DAYS).

4. FOR TEMPORARY STOCKPILES ON THE INTERIOR PORTION OF A CONSTRUCTION SITE, WHERE OTHER DOWNGRADIENT CONTROLS, INCLUDING PERIMETER CONTROL, ARE IN PLACE, STOCKPILE PERIMETER CONTROLS MAY NOT BE REQUIRED.

Sediment Control Log (SCL) SC-2



SCL–1. SEDIMENT CONTROL LOG

MM-2 Stockpile Management (SM)

STOCKPILE PROTECTION 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.

STOCKPILE PROTECTION MAINTENANCE NOTES

4. IF PERIMETER PROTECTION MUST BE MOVED TO ACCESS SOIL STOCKPILE, REPLACE PERIMETER CONTROLS BY THE END OF THE WORKDAY.

5. STOCKPILE PERIMETER CONTROLS CAN BE REMOVED ONCE ALL THE MATERIAL FROM THE STOCKPILE HAS BEEN USED.

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

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.

Sediment Control Log (SCL) SC-2

SEDIMENT CONTROL LOG INSTALLATION NOTES

1. SEE PLAN VIEW FOR LOCATION AND LENGTH OF SEDIMENT CONTROL LOGS.

2. SEDIMENT CONTROL LOGS THAT ACT AS A PERIMETER CONTROL SHALL BE INSTALLED PRIOR TO ANY UPGRADIENT LAND-DISTURBING ACTIVITIES.

3. SEDIMENT CONTROL LOGS SHALL CONSIST OF STRAW, COMPOST, EXCELSIOR OR COCONUT FIBER, AND SHALL BE FREE OF ANY NOXIOUS WEED SEEDS OR DEFECTS INCLUDING RIPS, HOLES AND OBVIOUS WEAR.

4. SEDIMENT CONTROL LOGS MAY BE USED AS SMALL CHECK DAMS IN DITCHES AND SWALES. HOWEVER, THEY SHOULD NOT BE USED IN PERENNIAL STREAMS OR HIGH VELOCITY DRAINAGE WAYS.

5. IT IS RECOMMENDED THAT SEDIMENT CONTROL LOGS BE TRENCHED INTO THE GROUND TO A DEPTH OF APPROXIMATELY ½ OF THE DIAMETER OF THE LOG. IF TRENCHING TO THIS DEPTH IS NOT FEASIBLE AND/OR DESIRABLE (SHORT TERM INSTALLATION WITH DESIRE NOT TO DAMAGE LANDSCAPE) A LESSER TRENCHING DEPTH MAY BE ACCEPTABLE WITH MORE ROBUST STAKING

6. THE UPHILL SIDE OF THE SEDIMENT CONTROL LOG SHALL BE BACKFILLED WITH SOIL THAT IS FREE OF ROCKS AND DEBRIS. THE SOIL SHALL BE TIGHTLY COMPACTED INTO THE SHAPE OF A RIGHT TRIANGLE USING A SHOVEL OR WEIGHTED LAWN ROLLER.

7. FOLLOW MANUFACTURERS' GUIDANCE FOR STAKING. IF MANUFACTURERS' INSTRUCTIONS DO NOT SPECIFY SPACING, STAKES SHALL BE PLACED ON 4' CENTERS AND EMBEDDED A MINIMUM OF 6" INTO THE GROUND. 3" OF THE STAKE SHALL PROTRUDE FROM THE TOP OF THE LOG. STAKES THAT ARE BROKEN PRIOR TO INSTALLATION SHALL BE REPLACED.

SEDIMENT CONTROL LOG 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. SEDIMENT ACCUMULATED UPSTREAM OF SEDIMENT CONTROL LOG SHALL BE REMOVED AS NEEDED TO MAINTAIN FUNCTIONALITY OF THE BMP, TYPICALLY WHEN DEPTH OF ACCUMULATED SEDIMENTS IS APPROXIMATELY ½ OF THE HEIGHT OF THE SEDIMENT CONTROL LOG.

5. SEDIMENT CONTROL LOG SHALL BE REMOVED AT THE END OF CONSTRUCTION. IF DISTURBED AREAS EXIST AFTER REMOVAL, THEY SHALL BE COVERED WITH TOP SOIL, SEEDED AND MULCHED OR OTHERWISE STABILIZED IN A MANNER APPROVED BY THE LOCAL JURISDICTION.

(DETAILS ADAPTED FROM TOWN OF PARKER, COLORADO, JEFFERSON COUNTY, COLORADO, DOUGLAS COUNTY, COLORADO, AND CITY OF AURORA, COLORADO, NOT AVAILABLE IN AUTOCAD)

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.

REVISIONS

NO.	DESCRIPTION	DATE

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MVEA VOLLMER TIES

GRADING, EROSION, & SEDIMENT CONTROL PLAN
EROSION CONTROL DETAILS

THIS DESIGN WAS PREPARED UNDER MY DIRECT SUPERVISION FOR AND ON BEHALF OF TERRA NOVA ENGINEERING, INC.

COLORADO L. DUCETT 32339 PROFESSIONAL ENGINEER

L. DUCETT, P.E.
COLORADO P.E. NO. 32339 7/24/2022

DESIGNED BY	LD
DRAWN BY	JF
CHECKED BY	LD
H-SCALE	AS SHOWN
V-SCALE	NA
JOB NO.	2238.00
DATE ISSUED	7/24/22
SHEET NO.	6 OF 7

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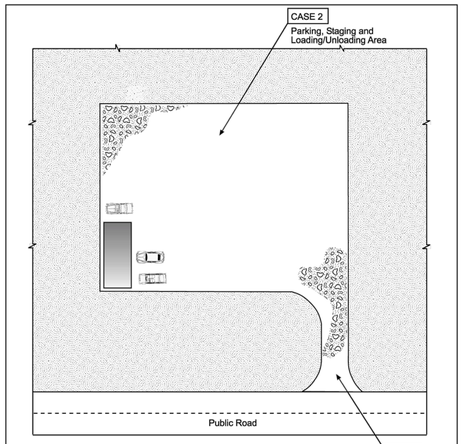

Table VT-1

	Case 1	Case 2
Gravel Thickness	9"	3"
Filter Fabric	YES	NO

City of Colorado Springs
Storm Water Quality

Figure VT-1
Vehicle Tracking
Application Examples

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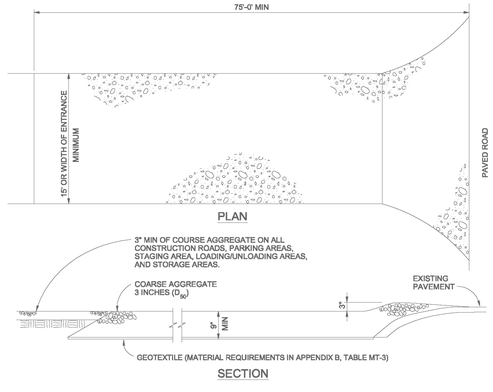
or irrigation to wet and settle the seed bed. Firming of the seedbed following seeding will improve results during dry or warm seeding times.

Table 14-9. Recommended Seed Mix for High Water Table Conditions[1]

Common Name (Variety)	Scientific Name	Growth Season	Growth Form	Seeds/Lb	Lbs PLS/ Acre Drilled	Lbs PLS/Acre Broadcast or Hydroseeded
Redtop[2]	*Agrostis alba*	Warm	Sod	5,000,000	0.1	0.2
Switchgrass (Pathfinder)	*Panicum virgatum*	Warm	Sod/ Bunch	389,000	2.2	4.4
Western wheatgrass (Arriba)	*Pascopyrum smithii*	Cool	Sod	110,000	7.9	15.8
Indian saltgrass	*Distichlis spicata*	Warm	Sod	520,000	1.0	2.0
Wooly sedge	*Carex lanaginose*	Cool	Sod	400,000	0.1	0.2
Baltic rush	*Juncus balticus*	Cool	Sod	109,300,000	0.1	0.2
Prairie cordgrass	*Spartina pectinata*	Cool	Sod	110,000	1.0	2.0
Annual rye	*Lolium multiflorum*	Cool	Cover crop	227,000	10.0	20.0
				TOTAL	**22.4**	**44.8**
Wildflowers						
Nuttall's sunflower	*Helianthus nuttallii*	---	—	250,000	0.10	0.20
Wild bergamot	*Monarda fistulosa*	---	—	1,450,000	0.12	0.24
Yarrow	*Achillea millefolium*	---	—	2,770,000	0.06	0.12
Blue vervain	*Verbena hastata*	---	—		0.12	0.24
				TOTAL	**0.40**	**0.80**

[1]For portions of facilities located near or on the bottom or where wet soil conditions occur. Planting of potted nursery stock wetland plants 2-foot on-center is recommended for sites with wetland hydrology.
[2] Non-native



VEHICLE TRACKING
NTS

VEHICLE TRACKING NOTES

INSTALLATION REQUIREMENTS

1. ALL ENTRANCES TO THE CONSTRUCTION SITE ARE TO BE STABILIZED PRIOR TO CONSTRUCTION BEGINNING.

2. CONSTRUCTION ENTRANCES ARE TO BE BUILT WITH AN APRON TO ALLOW FOR TURNING TRAFFIC, BUT SHOULD NOT BE BUILT OVER EXISTING PAVEMENT EXCEPT FOR A SLIGHT OVERLAP.

3. AREAS TO BE STABILIZED ARE TO BE PROPERLY GRADED AND COMPACTED PRIOR TO LAYING DOWN GEOTEXTILE AND STONE.

4. CONSTRUCTION ROADS, PARKING AREAS, LOADING/UNLOADING ZONES, STORAGE AREAS, AND STAGING AREAS ARE TO BE STABILIZED.

5. CONSTRUCTION ROADS ARE TO BE BUILT TO CONFORM TO SITE GRADES, BUT SHOULD NOT HAVE SIDE SLOPES OR ROAD GRADES THAT ARE EXCESSIVELY STEEP.

MAINTENANCE REQUIREMENTS

1. REGULAR INSPECTIONS ARE TO BE MADE OF ALL STABILIZED AREAS, ESPECIALLY AFTER STORM EVENTS.

2. STONES ARE TO BE REAPPLIED PERIODICALLY AND WHEN REPAIR IS NECESSARY.

3. SEDIMENT TRACKED ONTO PAVED ROADS IS TO BE REMOVED DAILY BY SHOVELING OR SWEEPING. SEDIMENT IS NOT TO BE WASHED DOWN STORM SEWER DRAINS.

4. STORM SEWER INLET PROTECTION IS TO BE IN PLACE, INSPECTED, AND CLEANED IF NECESSARY.

5. OTHER ASSOCIATED SEDIMENT CONTROL MEASURES ARE TO BE INSPECTED TO ENSURE GOOD WORKING CONDITION.

City of Colorado Springs
Stormwater Quality

Figure VT-2
Vehicle Tracking
Application Examples

Table 14-10. Recommended Seed Mix for Transition Areas[1]

Common Name (Variety)	Scientific Name	Growth Season	Growth Form	Seeds/Lb	Lbs PLS/Acre Drilled	Lbs PLS/Acre Broadcast or Hydroseeded
Sheep fescue (Durar)	*Festuca ovina*	Cool	Bunch	680,000	1.3	2.6
Western wheatgrass (Arriba)	*Pascopyrum smithii*	Cool	Sod	110,000	7.9	15.8
Alkali sacaton	*Spolobolus airoides*	Warm	Bunch	1,758,000	0.5	1.0
Slender wheatgrass	*Elymus trachycaulus*	Cool	Bunch	159,000	5.5	11.0
Canadian bluegrass (Ruebens)[1]	*Poa compressa*	Cool	Sod	2,500,000	0.3	0.6
Switchgrass (Pathfinder)	*Panicum virgatum*	Warm	Sod/ Bunch	389,000	1.3	2.6
Annual rye	*Lolium multiflorum*	Cool	Cover crop	227,000	10.0	20.0
				TOTAL	**26.8**	**53.6**
Wildflowers						
Blanket flower	*Faillardia aristata*	---	---	132,000	0.25	0.50
Prairie coneflower	*Ratibida columnaris*	---	---	1,230,000	0.20	0.40
Purple prairie clover	*Petalostemum purpurea*	---	---	210,000	0.20	0.40
Gayfeather	*Liatris punctata*	---	---	138,000	0.06	0.12
Flax	*Linum lewisii*	---	---	293,000	0.20	0.40
Penstemon	*Penstemon strictus*	---	---	592,000	0.20	0.40
Yarrow	*Achillea millefolium*	---	---	2,770,000	0.03	0.06
				TOTAL	**1.14**	**2.28**

[1]For side slopes or between wet and dry areas.
[2]Substitute 1.7 lbs PLS/acre of inland saltgrass (*Distichlis spicata)* in salty soils.

THIS DESIGN WAS PREPARED UNDER MY DIRECT SUPERVISION FOR AND ON BEHALF OF TERRA NOVA ENGINEERING, INC.

L. DUCETT, P.E.
COLORADO P.E. NO. 32339

7/24/2022

REVISIONS

NO.	DESCRIPTION	DATE

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MVEA VOLLMER TIES

GRADING, EROSION, & SEDIMENT CONTROL PLAN
EROSION CONTROL DETAILS

DESIGNED BY	LD
DRAWN BY	JF
CHECKED BY	LD
H-SCALE	AS SHOWN
V-SCALE	NA
JOB NO.	2238.00
DATE ISSUED	7/24/22
SHEET NO.	7 OF 7

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