County /City Stormwater Management Plan (SWMP / CSWMP)
Rock Island Trail
Waynoka Pl to Constitution Ave
Capital Project
Colorado Springs, Colorado

Permittee:
City of Colorado Springs
Parks, Recreation and Cultural Services
1401 Recreation Way
Colorado Springs, CO 80905
(719) 385-6951

GEC Administrator and Qualified Stormwater Manager
Emily Duncan 719-385-6951
City of Colorado Springs
Parks, Recreation and Cultural Services
1401 Recreation Way
Colorado Springs, CO 80905
Emily.Duncan@coloradosprings.gov

Contractor:

Company Name:

SWMP Point of Contact Name:

Phone:

Address:

CSWMP /SWMP Preparing Engineer:

Kiowa Engineering Corporation
1604 South 21st Street
Colorado Springs, Colorado 80904
(719) 630-7342
Contact: Todd Cartwright, P.E.

Kiowa Project No. 16028
Project Dox: STM-REV24-0296
EPC Project Number: CDR193

August 7, 2024

Engineer's Statement

This SWMP / CSWMP was prepared under my direction and supervision and is correct to the best of my knowledge and belief. If such work is performed in accordance with the SWMP / CSWMP, the work will not become a hazard to life and limb, endanger property, or adversely affect the safety, use, or stability of a public way, drainage channel, or other property.

Printed Name: Todd Cartwright, PE Date: .

Phone Number: (719) 694-0012

Seal

City Project Manager's Statement

I hereby certify that the drainage, grading, and erosion control for Rock Island Trail – Constitution Avenue to Sand Creek shall be constructed according to the design presented in this SWMP / CSWMP. I further understand that field changes must be reviewed by the SWENT Review Engineer to ensure conformance with the original design intent. I am employed by and perform engineering services solely for the City of Colorado Springs, and therefore am exempt from Colorado Revised Statute Title 12, Article 25, Part 1 according to § 12-25-103(1), C.R.S.

Name of City Project Manager: _____

Signature: _____ _____Date: _____

Contractor's Statement

I will comply with the requirements of the Grading and Erosion Control Plan SWMP / CSWMP including Construction Control Measure inspection requirements and final stabilization requirements. I acknowledge the responsibility to determine whether the construction activities on these plans require Colorado Discharge Permit System (CDPS) permitting for stormwater discharges associated with construction activity.

Name of Contractor: _____

Authorized Signature: _____Date: _____

Title: _____

Phone Number: _____

Address: _____

Email Address: _____

City of Colorado Springs Grading and Erosion Control Review

This SWMP / CSWMP is filed in accordance with the City Code. This plan is reviewed in accordance with the Stormwater Construction Manual; latest revisions.

Date:

For the SWENT Manager

Notes: _____

_____

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STATE STORMWATER DISCHARGE PERMIT REQUIREMENTS

At least ten days prior to the anticipated start of construction activities (i.e. the initial disturbance of soils associated with clearing, grading, excavation activities, installation of structural Construction Control Measures, or other activities), for projects that will disturb one (1.0) acre or more, the owner or operator of the construction activity must submit an application as provided by the Colorado Department of Public Health and Environment, Water Quality Control Division (Division). This form may be reproduced and is also available from the Division's web site. Applications received by the Division are processed and a permit certification and other relevant materials will be sent to the attention of the legally responsible person. The application contains certification of completion of a storm water management plan (SWMP / CSWMP). Do not include a copy of the Stormwater Management Plan, unless requested by the Division.

For information or application materials contact:

Colorado Department of Public Health and Environment
Water Quality Control Division
WQCD-P-B2
4300 Cherry Creek Drive South
Denver, Colorado 80246-1530
https://www.colorado.gov/pacific/cdphe/wq-construction-general-permits

Electronic Application – CDPHE website:
https://www.colorado.gov/pacific/cdphe/WQ%20permits%20construction%20electronic%20application

I. STORMWATER MANAGEMENT PLAN OBJECTIVES

The objective of the Stormwater Management Plan (SWMP / CSWMP) is "to identify possible pollutant sources that may contribute pollutants to stormwater and identify Construction Control Measures (CCMs) that, when implemented, will reduce or eliminate any possible water quality impacts. The SWMP / CSWMP must be completed and implemented at the time the project breaks ground and revised as construction proceeds, to accurately reflect the conditions and practices at the site (CDPHE *Stormwater Management Plan Preparation Guidance*)". A general schedule or phasing of CCMs will be determined by construction schedule and ground disturbances necessitating required erosion control methods/CCMs. The SWMP / CSWMP shall be implemented until expiration or inactivation of permit coverage. Evaluations of and modifications to this plan may be necessary during the length of the construction project until the site is finally stabilized.

SWMP / CSWMP Plan Availability: A copy of the Stormwater Discharge Permit from the State of Colorado, SWMP / CSWMP Report, SWMP / CSWMP Site Map, SWMP / CSWMP Notes and Details; and inspection reports shall be kept on site by the GEC Administrator at all times, as to be available for use by the operator/ GEC Administrator and to be available for inspection by federal, state and local agencies. If an office location is not available at the site, the SWMP / CSWMP must be managed so that it is available at the site when construction activities are occurring (for example: by keeping the SWMP / CSWMP in the superintendent's vehicle). The permittee shall retain copies of the SWMP / CSWMP and all reports required by the Permit and records of all data used to complete the Permit application for three (3) years minimum after expiration or inactivation of permit coverage, unless the community requires a longer period.

This SWMP / CSWMP 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 GEC Administrator shall amend the SWMP / CSWMP when there is a change in design, construction, operation or maintenance of the site which would require the implementation of new or revised CCMs or if the SWMP / CSWMP proves to be ineffective in achieving the general objectives of controlling pollutants in stormwater discharges associated with construction activity or when CCMs are no longer necessary and are removed. If the GEC Administrator feels that modifications to the CCMs shown on the SWMP / CSWMP are necessary to provide for a more effective plan, the process will include: 1) Evaluate pollutant sources, 2) Select CCMs, 3) Document CCMs, 4) Implement CCMs.

SWMP / CSWMP revisions must be made prior to changes in the site conditions, except for "Responsive SWMP / CSWMP Changes" as follows:

- SWMP / CSWMP revision must be made immediately after changes are made in the field to address CCM installation and/or implementation issues; or
- SWMP / CSWMP revisions must be made as soon as practicable, but in no case more than 72 hours, after change(s) in CCM installation and/or implementation occur at the site that require development of materials to modify the SWMP / CSWMP
    - ◊ A notation must be included in the SWMP / CSWMP prior to the site change(s) that includes the time and date of the change(s) in the field, and identification of the CCM(s) removed or added and the location(s) of the CCM(s). Modifications to the SWMP / CSWMP shall be submitted to the City within seven days.

An El Paso County Erosion and Stormwater Quality Control Permit (ESQCP) is required along with a Colorado Discharge Permit System (CDPS), Stormwater Discharge Associated with Construction Activities Permit from the Colorado Department of Public Health and Environment for this project. The general conditions associated with the permits must be followed through the duration of the

land disturbing activities at the site. For additional details or more specific information on the CDPS permit, consult the CDPS General Permit No. COR-030000.

A. State Permit Applicant

The State Permit applicant (also referred to as the Permittee) must be a legal entity that meets the definition of the owner and/or operator of the construction site, in order for this application to legally cover the activities occurring at the site. The applicant must have day-to-day supervision and control over activities at the site and implementation of the SWMP / CSWMP. Although it is acceptable for the applicant to meet this requirement through the actions of a contractor, as discussed in the examples below, the applicant remains liable for violations resulting from the actions of their contractor and/or subcontractors. Examples of acceptable applicants include:

Owner or Developer - An owner or developer who is operating as the site manager or otherwise has supervision and control over the site, either directly or through a contract with an entity such as those listed below.

General Contractor or Subcontractor - A contractor with contractual responsibility and operational control (including SWMP / CSWMP implementation) to address the impacts construction activities may have on stormwater quality.

Other Designated Agents/Contractors - Other agents, such as a consultant acting as construction manager under contract with the owner or developer, with contractual responsibility and operational control (including SWMP / CSWMP implementation) to address the impacts construction activities may have on stormwater quality.

Refer to the CDPHE, *Stormwater Management Plan Preparation Guidance* for additional information.

The Permittee shall be legally responsible for compliance with the State Permit.

B. SWMP / CSWMP Terms

Construction Control Measures (CCMs): CCMs encompass a wide range of erosion and sediment control practices, both structural and non-structural in nature, that are intended to reduce or eliminate any possible water quality impacts from stormwater leaving a construction site. The individual CCMs appropriate for a particular construction site are largely dependent of the types of potential pollutant sources present, the nature of the construction activity, and specific-site conditions.

> Nonstructural CCMs, such as preserving natural vegetation, preventive maintenance and spill response procedures, schedules of activities, prohibition of specific practices, education, and other management practices are mainly operational or managerial techniques.
>
> Structural CCMs include treatment processes and practices ranging from diversion structures and silt fences, to retention ponds and inlet protection.

Construction Start Date: This is the day when ground disturbing activities are expected to begin, including grubbing, stockpiling, excavating, demolition, and grading activities.

Disturbance Area Determination: Aside from clearing, grading and excavation activities, disturbed areas also include areas receiving overburden (e.g., stockpiles), demolition areas,

and areas with heavy equipment/vehicle traffic and storage that disturb existing vegetative cover.

Final Stabilization Date: In terms of permit coverage, this is when the site is finally stabilized. This means that all ground surface disturbing activities at the site have been completed, and all disturbed areas have been either built on, paved, or a uniform vegetative cover has been established with an individual plant density of at least 70 percent of pre-disturbance levels (refer to Final Stabilization Section). Permit coverage must be maintained until the site has reached Final Stabilization. Even if only one part of the project is being done, the estimated final stabilization date must be for the overall project. If permit coverage is still required once your part is completed, the permit certification may be transferred or reassigned to a new responsible entity(s).

SWMP / CSWMP Drawings: Also known as the SWMP / CSWMP Site Map.

C. Contractor Required Items

The Contractor shall include and/or provide the following items prior to beginning land disturbing activities:

☐ Add the GEC Administrator and Alternate with phone numbers to this plan.

☐ Construction Dates – Verify the construction dates indicated in this report. Update as necessary to reflect the planned schedule.

☐ Material Handling and Spill Prevention procedures – See Section IV-4. Review and modify as necessary.

II. SITE DESCRIPTION

A. Nature of the Construction Activity

The proposed project will construct approximately 10,900 linear feet of concrete trail. In the final disposition of the project, the City of Colorado Springs will own and maintain the installation.

i. Site Description

Rock Island Trail is comprised of 36.8 acres, located in southeast Colorado Springs, Colorado between Sand Creek and Constitution Ave. The property is bordered multiple commercial and residential lots and city property. The project is anticipated disturb 18.2 Acres.

The property is located in Sections 5 and 6, Township 14, Range 65 of the 6th Principal Meridian, in Colorado Springs, El Paso County, Colorado. The vegetation in the site consists of native grasses. A vicinity map showing the general location of the site is presented in Appendix A.

The property is primarily the abandoned Rock Island Railroad alignment. And is now an almost 2 mile long narrow strip of land that is city owned open space. The total disturbed area associated with this project is approximately 18.2 acres. There is no proposed development within any streamside buffer zone or in any designated floodplain, as indicated on FEMA panel 08041C0752G. A FEMA firmette for the site is located in Appendix A.

The project and the trail include the erection of a 210 long single span pedestrian bridge over Sand Creek. The Bridge and abutments are intended to be above and outside the 100-year flood plain.

ii. Adjacent Areas

The proposed trail is surrounded by parks, residential and commercial properties.

B. Sequence of Major Activities

Prior to the commencement of the majority of clearing and grubbing activities, minimal clearing and grubbing may be necessary to install initial erosion control devices such as silt fencing and vehicle tracking control, clearing and grubbing will commence, and grading will proceed as shown on the SWMP / CSWMP Site Plan. When the finished grades are attained, the concrete pavement will begin. In general, the GEC Administrator will identify the precise schedule.

The major construction activities associated with this project are shown in the table below along with an approximate timing of the sequence. In general, the GEC Administrator and the Contractor will identify the precise schedule to be used during the term of this project and modify this schedule as needed. Minimal clearing and grubbing may be necessary to install the initial erosion control features.

Approximate Sequence of Major Construction Activities:

Installation of initial CCMs	Oct 1, 2024
Clearing, grubbing and earthworks	December 1, 2024
Site work	December 2024- June 2025
End Construction (refer to *Final Stabilization*… section)	September 2025

The temporary erosion control measures can be removed when Final Stabilization has occurred. Refer to the Final Stabilization section for a description of the requirements.

C. Estimate of Area and Volume Disturbed

The total site area associated with the project is approximately 36.2 acres. The estimated area of disturbance is 18.2 acres. The estimated area of disturbance corresponds to that necessary to construct the concrete trails as shown on the SWMP / CSWMP Site Maps. Most of the existing trails will be restored to vegetative areas. All other areas are to remain undisturbed.

Earthwork cut and fill operations will be roughly 605 cubic yards of Cut and 2,777 cubic yards of Fill.

D. Soil Data

Soils within the property are classified to be within Hydrologic Soils Group A and B as shown in the El Paso County Soils Survey. The soil type is identified as Ellicott Soils and Blakeland Loamy which is a somewhat excessively drained loamy coarse sand of floodplains and terraces. Both series has a moderate to high erosion hazard. The other native soil found on site is the Blendon soils which is a well-drained soil of fans and terraces. The Blendon soil has a moderate erosion hazard.

E. Existing Vegetation and Ground Cover

A survey including a general description of existing vegetation shall be conducted by the GEC Administrator for Construction prior to any ground disturbance on the project. The manager shall photo document existing vegetation where all work will be occurring. The manager shall

also perform the vegetation survey transect(s)including photo documentation as outlined in Chapter 4. 11.2 of CDOT's Erosion Control and Stormwater Quality Guide. The overall existing vegetative cover is estimated at about 50% by field observation.

It is recommended that the contractor take pictures of the existing vegetative cover prior to construction and any calculations they feel necessary to make the Final Stabilization comparison (refer to Final Stabilization section for additional information). The contractor will be responsible for providing the documentation to make this comparison to the City and the State of Colorado, Water Quality Control Division.

F. Potential Pollution Sources

The potential pollution sources for the site that may have an impact to stormwater include the following items:

1. Concrete washouts – Concrete, slurry
2. Construction Dewatering – Sediment
3. Ground disturbing activities and grading - Sediment
4. Haul routes – Sediment, fuel, oil
5. Landscaping – Fertilizers, sediment, over-watering, pesticides
6. Loading and unloading operations
7. Management of contaminated soils
8. Off-site vehicle tracking - Sediment
9. Outdoor storage activities
10. Portolet – Chemicals, human waste
11. Significant dust or particulate generating processes
12. Soil, aggregate and sand stockpiling – Sediment
13. Storage of disposal items – Sediment
14. Storage of fertilizers, materials or chemicals - Chemicals
15. Vehicle maintenance or fueling – Fuel, oil, chemicals

G. Non-stormwater Discharges

In the existing condition there are no known non-stormwater discharges from the project site, such as springs and landscape irrigation return flows. During construction, the following non-stormwater discharges from the project site could occur.

1. Release of concrete washout water – Not anticipated. The washout water should be contained within the concrete washout CCM.
2. Runoff from water used for dust control – Not anticipated. The contractor should limit the amount of water used for dust control to an amount less than would result in runoff. Perimeter control CCMs are planned to filter water that may runoff.

If any other non-stormwater discharges from the site become apparent during the term of construction, the occurrence and mitigation shall be addressed by the GEC Administrator.

H. Receiving Waters

The Rock Island Trail, Constitution Avenue to Waynoka Tl discharges directly to Sand Creek by overland flow in both the existing condition and proposed condition. The project spans Sand Creek and the 100 year flood plain with a 210 foot pedestrian bridge.

Immediate Receiving water(s): Sand Creek

Ultimate Receiving Water(s): Fountain Creek

The site is located within FEMA flood zone X based on FEMA maps 08041C0752G effective December 7, 2018. The site is within the 100-year flood plain.

III. SWMP / CSWMP SITE MAP CONTENTS

The SWMP / CSWMP Site Map and SWMP / CSWMP Drawings are considered a part of this plan. It identifies the following:

1. Construction site boundaries;
2. All areas of ground disturbance;
3. Existing and proposed topography;
4. Areas used for storage of building materials, equipment, soil, stockpiles or waste;
5. Locations of all structural CCMs;
6. Locations of non-structural CCMs where applicable;
7. Locations of springs, streams, wetlands, detention basins, roadside ditches and other surface waters.

The SWMP / CSWMP Site Map must be updated and or red-lined by the GEC Administrator on a regular basis to reflect current conditions of the site at all times. The SWMP / CSWMP site maps are contained at the rear of this report.

IV. STORMWATER MANAGEMENT CONTROLS

A. GEC Administrator

The Permittee shall designate the GEC Administrator. The GEC Administrator is typically the Contractor or his/her designated representative and is responsible for developing, implementing, maintaining and revising the SWMP / CSWMP. The GEC Administrator is the contact person with the City and State for all matter pertaining to the SWMP / CSWMP. The GEC Administrator is the person responsible for the SWMP / CSWMP accuracy, completeness and implementation. Therefore, the GEC Administrator should be a person with authority to adequately manage and direct day to day stormwater quality management activities at the site. The GEC Administrator shall have the authority to act on behalf of the Permittee(s) to ensure the site remains in compliance with the CDPS Stormwater Discharge Associated with Construction Activities Permit and the City's Grading Permit. An Alternate GEC Administrator who is able to serve in the same capacity as the GEC Administrator shall also be selected.

The GEC Administrator shall be present at the project site a majority of the time and (along with the Alternate GEC Administrator) shall provide the City with a 24-hour emergency contact number.

If the GEC Administrator or Alternate changes for any reason, it shall be noted/redlined on this Plan. The City shall be notified in writing of any change.

GEC Administrator: Emily Duncan

Phone: (719) 385-6951

Alternate GEC Administrator: _____

Phone: _____

B. Identification of Potential Pollutant Sources:

At a minimum, the following sources and activities shall be evaluated for the potential to contribute pollutants to stormwater discharges and identified in the SWMP / CSWMP if found to have such potential. The sources of any potential pollutants must be controlled through CCM selection and implementation. Each pollutant source recognized through this process as having the potential to contribute pollutants to stormwater, must be identified in the SWMP / CSWMP along with the specific stormwater management control (CCMs) that will be implemented to adequately control the source. (Note: the actual evaluation of the potential pollutant sources does NOT need to be included in the SWMP / CSWMP – just the resultant pollutant sources and their associated CCMs.). The GEC Administrator shall determine the need for and locations of each of the following potential pollutant sources during the course of the construction project.

Could it Contribute?	Potential Pollutant Source	CCM Implemented to Control Source
Yes	All disturbed and stored soils	Silt fence, sediment control logs, rock socks, seed and mulch
Yes	Vehicle tracking of sediments	Vehicle tracking control, street sweeping
No	Management of contaminated soils	
Yes	Loading and unloading operations	Stabilized staging area, materials storage area, vehicle tracking control, silt fence
Yes	Outdoor storage activities (building materials, fertilizers, chemicals, etc.)	Stabilized staging area, materials storage area, silt fence
Yes	Vehicle and equipment maintenance and fueling	Stabilized staging area, materials storage area, silt fence
Not expected	Significant dust or particulate generating processes	Control by sprinkling with water and other appropriate means.
Yes	Routine maintenance activities involving fertilizers, pesticides, detergents, fuels, solvents, oils, etc	Use as recommended by manufacturer and in areas specified, silt fence
Yes	On-site waste management practices (waste piles, liquid wastes, dumpsters, etc)	Stabilized staging area, silt fence, non-structural CCMs
Yes	Concrete truck/equipment washing, including the concrete truck chute and associated fixtures and equipment	Concrete washout area, stabilized staging area, vehicle tracking control, silt fence
No	Dedicated asphalt and concrete batch plants	
Yes	Non-industrial waste sources such as worker trash and portable toilets	Stabilized staging area, construction fence, non-structural CCMs

Yes	Other areas or procedures where potential spills can occur	Non-structural CCMs, construction fence

C. Construction Control Measures (CCMs) for Pollution Prevention

1. A list of the Structural CCMs for erosion and sediment control implemented on the site to minimize erosion and sediment are as follows. Refer to the GEC Plan for Installation and Maintenance requirements for each structural CCM and refer to the GEC Plan for the location of the CCMs.

    a) Concrete Washout Area (CWA): An approved portable concrete washout system, or a shallow excavation with a small perimeter berm to isolate concrete truck washout operations.
    b) Inlet protection (IP): Installed at appropriate inlets.
    c) Erosion Control Blanket (ECB): At selected areas steeper than 3-to-1 as indicated on the plans shall be protected with an erosion control blanket.
    d) Seeding and Mulching (SM): Temporary seeding and mulching can be used to stabilize disturbed areas that will be inactive for an extended period of time. Permanent seeding should be used to stabilize areas at final grade that will not otherwise be stabilized.
    e) Silt Fence (SF): A temporary sediment barrier constructed of woven fabric stretched across supporting posts.
    f) Stabilized Staging Area (SSA): Consists of stripping topsoil and spreading a layer of granular material in the area to be used for a trailer, parking, storage, unloading and loading.
    g) Temporary Stockpile Areas (SP): Temporary stockpiles of excess excavated material and stockpiles for imported materials shall be shown on the SWMP / CSWMP drawings. Slopes shall not be steeper than 3H to 1V. Temporary soil stockpile areas will require approved erosion protection such as silt fence or sediment control logs.
    h) Vehicle Tracking Control (VTC): Consists of a rock pad that is intended to help strip mud from tires prior to vehicles leaving the construction site. Installed at all entrance/exit points to the site. The number of access points shall be minimized.

Minimal clearing and grubbing may be necessary prior to installing the initial erosion control features.

2. Non-structural practices for erosion and sediment control to be used to minimize erosion and sediment transport are:

Seeding and mulching in areas that will not be hard surfaced. Minimize the amount of existing vegetation to be removed during construction, leaving native vegetation in place when possible. Only the existing vegetation that is specified or requiring removal shall be disturbed or removed. If possible, leave existing ground cover in place or remove just prior to grading to minimize the length of soil exposure.

3. Phased CCM Implementation:

The GEC Administrator shall update the CCM Implementation if necessary to meet and/or address the Contractor's schedule. The SWMP / CSWMP shall be updated as necessary to reflect the CCMs installed.

    a) Installation of Initial CCMs.

Prior to any construction activities, erosion control facilities shall be installed. Minimal clearing and grubbing may be necessary prior to installing the initial erosion control features. Stabilization of cleared or grubbed areas to be completed the same day if possible. The "initial" CCMs include, but may not be limited to, construction fence, silt fence, vehicle tracking control, stabilized staging area, materials storage area, concrete washout area, and inlet protection. Designate areas for construction trailer (if used), trash container, portolets, vehicle and equipment parking and material storage. If these areas are not indicated on the plan, the contractor must "red line" the plan with the locations. Provide a confined area for maintenance and fueling of equipment from which runoff will be contained and filtered. CCM / Erosion Control facility waste shall be disposed of properly.

b) Clearing, grubbing and earthworks

The measures included in the previous sequence shall be maintained and continue. The removed cleared and grubbed items, soil, storm sewer pipe and fence shall be disposed of properly. If a soil stockpile area is needed, the area shall be protected as shown in the Details and the stockpile area shall be redlined onto the plan. Existing vegetation to remain shall be protected with construction fence. Wind erosion shall be controlled on the site by sprinkling and other appropriate means.

c) Site Grading, Retaining Walls, Utility Infrastructure, and Stormwater Facility Construction

The measures included in the previous sequence shall be maintained and continue. This phase includes overall site work. Other than dewatering for surface runoff, it is not expected that a subsurface dewatering system will be required to complete the work shown on the plans. A CDPHE construction dewatering permit is required prior to performing the dewatering activities. Materials site and building construction shall be stored in the designated areas delineated on the plan. If an area is not delineated on the plan, the contractor shall "red line" the plan to show the location. Material waste from the detention basin construction shall be disposed of properly. Solvents, paints and chemicals shall be stored and disposed properly.

d) Building construction.
The measures included in the previous sequence shall be maintained and continue, unless the work requiring the measure is completed.

e) Seeding and mulching.
The measures included in the previous sequence shall be maintained and continue, unless the work requiring the measure is completed. Seeding, mulching and blanketing shall be installed. Avoid excess watering and placing of fertilizers and chemicals.

f) Final Stabilization.
The necessary erosion control measures included in the previous sequence shall continue until Final Stabilization is reached. Refer to Final Stabilization section for requirements.

The GEC Administrator shall amend the SWMP / CSWMP if necessary and as required, refer to Section I.

4. Materials handling and spill prevention:

The GEC Administrator will inspect daily to ensure proper use and disposal of materials on-site including solvents, fertilizers, chemicals, waste materials and equipment maintenance or fueling procedures. All materials stored on-site will be stored in a neat and orderly manner in the original containers with the original manufacturer's label, and if possible under a roof or other enclosure to prevent contact with stormwater. Chemicals should be stored within berms or other secondary containment devices to prevent leaks and spills from contacting stormwater runoff. Before disposing of the container, all of a product will be used up whenever possible and manufacture's recommendations for proper disposal will be followed according to state and local regulations.

Material and equipment necessary for spill cleanup will be kept in the material storage area on-site. Manufacturer's recommendations for spill cleanup will be posted and site personnel will be made aware of the procedures along with the location of the information and cleanup supplies.

The contractor shall have spill prevention and response procedures that include the following:

a) Notification procedures to be used in the event of an accident. At the very least, the GEC Administrator should be notified. Depending on the nature of the spill and the material involved, the Colorado Department of Public Health and Environment (24-hour spill reporting line – 877-518-5608), downstream water users or other agencies may also need to be notified.
b) Instructions for clean-up procedures and identification of spill kit location(s).
c) Provisions for absorbents to be made available for use in fuel areas and for containers to be available for used absorbents.
d) Procedures for properly washing out concrete truck chutes and other equipment in a manner and location so that the materials and wash water cannot discharge from the site and never into a storm drain system or stream.

5. Dedicated concrete or asphalt batch plants:

No dedicated concrete or asphalt batch plants will be used.

6. Vehicle tracking control:

Off-site vehicle tracking of sediment shall be minimized and is as shown on the SWMP / CSWMP Site Map. Vehicle Tracking Control shall be installed at the construction access points. The contractor shall minimize the number of construction access points to reduce the amount of sediment tracked from the site. Streets shall be kept clean and free of mud, soil and construction waste. Street sweeping or other acceptable methods shall be used to prevent sediment from being washed from the project site. Streets shall not be washed down with water. Street cleaning operations shall occur if necessary or as directed by the City.

7. Waste management and disposal including concrete washout:

A concrete washout area is specified on the SWMP / CSWMP. Concrete wash water shall not be discharged to state waters, to storm sewer systems or from the site as surface runoff. The washout area shall be an approved portable concrete washout system or a shallow excavation with a small perimeter berm to isolate concrete truck washout operations. At the end of construction, all concrete shall be removed from the site and disposed of at an approved waste site. Signs shall be placed at the washout to clearly indicate the concrete washout area to operators of concrete trucks and pump rigs. Refer to the standard detail for requirements.

All construction site waste both liquid and solid must be contained in approved waste containers and disposed of off-site according to state and local regulations. Portable sanitary facilities shall be provided at the site throughout the construction phase and must comply with state and local sanitary or septic system.

Waste disposal bins will be inspected daily for leaks and capacity. The bins will be placed on a surface that would indicate if there were a leak in the bin and prevent the leak from infiltrating the ground. If a leak is identified the bin will be repaired or replaced within 24 hours. No leakage will be allowed into the ground. Bins will be inspected for capacity by marking the bins with a level line at 80% of the internal height at the lowest rim. When any debris exceeds the 80% line, The bin will be closed or covered and no more debris will be inserted and the bin will be emptied with in 48 hours. No debris will be allowed to extend past the rim of the container.

Portable toilets will be located a minimum of 10ft from stormwater inlets and 50ft from state waters. They will be secured at all four corners to prevent overturning and cleaned on a weekly basis. They will be inspected daily for spills.

8. Groundwater and stormwater dewatering:

Groundwater dewatering is not anticipated on the site work or building construction. Locations and practices to be implemented to control stormwater pollution from excavations, etc. must be noted on the SWMP / CSWMP. A separate CDPHE construction discharge (dewatering) permit will be required for groundwater dewatering and shall be obtained by the GEC Administrator. Construction dewatering water cannot be discharged to surface water or to storm sewer systems without separate permit coverage. The discharge of Construction Dewatering water to the ground, under specific conditions, may be allowed by the Stormwater Construction Permit when appropriate CCMs are implemented. Refer to USDCM Volume III (UDFCD) for City acceptable means of dewatering.

9. Control Measures Owner and Operator.

If this project relies on control measures owned or operated by another entity, a documented agreement must be included in the SWMP that identifies location, installation and design specifications, and maintenance requirements and responsibility of the control measure(s).

Unresolved: SWMP text needs to identify if the project does or not, This should note be the exact checklist text. If the project does not rely on a control measure owned/operated from another entity provide a statement saying that. Because this project does not require treatment it is most likely that the project does not but the SWMP writer should verify.

V. FINAL STABILIZATION AND LONG-TERM STORMWATER MANAGEMENT

"Final stabilization is reached when all ground surface disturbing activities at the site have been completed and uniform vegetative cover has been established with an individual plant density of at least 70 percent of pre-disturbance levels, or equivalent permanent, physical erosion reduction methods have been employed." When vegetation is used to achieve final stabilization, the 70% vegetation requirement applies to a uniform plant density, which means that all areas of the site that rely on a vegetative cover to achieve stabilization must be uniformly vegetated. Noxious weeds are not to be counted toward the 70% requirement. The contractor will be responsible for providing the documentation to make this comparison to the City and the State of Colorado, Water Quality Control Division. The stormwater permit allows the permittee to use alternatives to vegetation to achieve final stabilization. All alternatives to vegetation must meet specific criteria to be considered equivalent to vegetation, specifically: stabilization must be permanent, all disturbed areas must be stabilized, and alternatives must follow good practices as described in the CDPHE Memo, dated March 5, 2013 (see References).

Temporary seeding for the project site shall include seeding and mulching. For the application methods, soil preparation and seeding and mulching requirements, refer to SWMP / CSWMP Drawings. All slopes of three-to-one (3:1) or steeper must be covered with an erosion control blanket.

Management of storm water after completion of construction will be accomplished by utilizing the practices listed below.

- Upon completion of construction, the site shall be inspected to ensure that all equipment, waste materials and debris have been removed.
- The site will be inspected to make certain that all graded surfaces have been landscaped or seeded with an appropriate ground cover.
- All silt fence, rock socks, etc. and all other control practices and measures that are to remain after completion of construction will be inspected to ensure their proper functioning.
- The contractor shall remove erosion control measures that are not required to remain.

After all construction activities are completed on the site, but final stabilization has not been achieved, the contractor shall make a thorough inspection of the stormwater management system at least once every month.

The contractor shall be responsible for maintaining the CCMs and stormwater controls in good working order and shall also be responsible for the costs incurred until final stabilization is reached. Once final stabilization has been achieved the contractor shall be responsible for removal of the erosion control measures.

Should any of the erosion control facilities (CCMs) become in disrepair prior to the establishment of the native or natural erosion control measures, the Contractor is responsible for the cost of such maintenance. The Contractor is also responsible for the clean-up of offsite areas affected by any sediment that may leave the site. Control of erosion from areas disturbed by project construction will be the responsibility of the respective contractor. All erosion control measures shown on the plan shall be installed and maintained in accordance with Construction Control Measures.

Inactivation of permit coverage: Coverage under the Stormwater Construction Permit may be inactivated by the permittee when the site has attained final stabilization, all temporary erosion and sediment control measures have been removed, and all components of the SWMP / CSWMP are complete.

VI. RECOMMENDED INSPECTION AND MAINTENANCE PROCEDURES

A. Minimum Inspection Schedule

1. Frequency. Contractor should inspect and document Construction CCM's at the following times and intervals.
   a) After installation of any Construction CCM;
   b) At least once every 14 days, but a more frequent inspection schedule may be necessary to ensure that CCMs continue to operate as needed to comply with the permit.
   c) Within 24 hours after a precipitation or snowmelt event that produces runoff or causes surface erosion.
2. Consult State Permit No. COR-030000 for alternate inspection requirements at temporarily idle sites, at completed sites, or for winter conditions.
3. Refer to the Standard Details for the maintenance procedures associated with each CCM.
4. Inspection Procedures. The inspection must include observation of:
   a) The construction site perimeter and discharge points (including discharges into a storm sewer system);
   b) All disturbed areas;
   c) Areas used for material/waste storage that are exposed to precipitation
   d) Other areas determined to have a significant potential for stormwater pollution, such as concrete washout locations, or locations where vehicles enter or leave the site;
   e) Erosion and sediment control measures identified in the SWMP / CSWMP; and any other structural CCMs that may require maintenance, such as secondary containment around fuel tanks, or the condition of spill response kits.

   The inspection must determine if there is evidence of, or the potential for, pollutants entering the drainage system. CCMs should be reviewed to determine if they still meet the design and operational criteria in the SWMP / CSWMP, and if they continue to adequately control pollutants at the site. Any CCMs not operating in accordance with the SWMP / CSWMP must be addressed as soon as possible, immediately in most cases, to minimize the discharge of pollutants, and the SWMP / CSWMP must be updated as described.
5. Record Keeping and Documenting Inspections: Keeping accurate and complete records serves several functions. First, keeping records of spills, leaks, inspections, etc. is a requirement of the State Stormwater Construction Permit; therefore, enforcement action, including fines, could result if records are not adequate. Second, by keeping accurate and detailed records, you will have documentation of events which could prove invaluable should complications arise concerning the permit, lawsuits, etc.
6. Inspection Checklist/Report. The Permittee must document inspection results and maintain a record of the results for a period of 3 years following expiration or inactivation of permit coverage. These records must be made available to CDPHE, the City or EPA upon request. The GEC Administrator should record the inspection results on a site-specific standardized inspection report or City Inspection Checklist to be maintained and kept on the construction site. An example template for the inspection report format is

included in Appendix. The GEC Administrator should develop a site-specific inspection report that itemizes the selected Construction CCMs for their site. At a minimum the following information from each inspection should be recorded on the site-specific report. This report should be located within 8 feet of the main entrance to job site trailer and within sight of the entrance. If within a cabinet of drawer, there needs to be a sign on the enclosure with a minimum of ½ inch tall letters indicting "SWMP /CSWMP Inspection Report Inside":

a) Date of inspection,
b) Name and title of inspector,
c) Signature of inspector,
d) Location(s) of discharges of sediment or other pollutants from the site,
e) Location(s) of CCMs that need to be maintained,
f) Location(s) of CCMs that failed to operate as designed or proved inadequate for a particular location,
g) Location(s) where additional CCMs are needed that were not in place at the time of inspection,
h) Deviations from the minimum inspection schedule as provided in the permit,
i) Descriptions of corrective actions for any item above, date(s) of corrective actions taken, and measures taken to prevent future violations, including requisite changes to the SWMP / CSWMP, as necessary and
j) After adequate corrective action(s) has been taken, or where a report does not identify any incidents requiring corrective actions, the report shall contain a signed statement indicating the site is in compliance with the permit to the best of the signer's knowledge and belief.

7. Inspection Checklists/Reports to City: Completed Inspection Checklists will be submitted electronically to the assigned City Engineering inspector within 5 business days of the inspection. The inspections checklists must also be kept on-site.
8. GEC Administrator to perform self-inspections at a minimum once every 14 calendar days, and within 24 hours of storm events or snowmelt event that causes surface erosion. The GEC Administrator must complete and submit self-inspection form within 5 business days of the self-inspections.

B. CCM Operation and Maintenance.

The GEC Administrator is responsible for operation and maintenance of construction CCMs. The GEC Administrator will inspect the site per inspection and monitoring protocol outlined above and will make any necessary repairs to construction CCMs immediately after a defect or other need for repair is discovered. The project site and the adjacent streets impacted by the construction shall be kept neat, clean and free of debris. The erosion control measures and facilities will be maintained in good working order until final stabilization. Any items that are not functioning properly or are inadequate will be promptly repaired or upgraded. Records of inspections must be kept and be available for review by the State of Colorado Water Quality Control Division or the City.

VII. REFERENCES

1) CDPS General Permit: Stormwater Discharges Associated with Construction Activity Permit No. COR-030000, Colorado Department of Public Health and Environment, dated July 1, 2007. Administratively continued effective July 1, 2012.

2) CDPHE, Stormwater Discharges Associated with Construction Activity, Stormwater Management Plan Preparation Guidance, prepared by CDPHE, dated April 2011.

3) CDPHE Memorandum, Final Stabilization requirements for stormwater construction permit termination, Alternatives to the 70% plant density re-vegetation requirement, prepared by CDPHE, dated March 5, 2013.

4) Volume 1 and 2, City of Colorado Springs, Drainage Criteria Manual, by City of Colorado Springs, current edition.

5) Volume 3, Urban Storm Drainage Criteria Manual, by Urban Drainage and Flood Control District, current edition.

6) El Paso County Area Soil Survey, prepared by the Natural Resources Conservation Service.

7) City of Colorado Springs and El Paso County Flood Insurance Study, prepared by the Federal Emergency Management Agency, dated March 1997.

APPENDIX TABLE OF CONTENTS

APPENDIX A

Vicinity Map
Soil Survey Map
Flood Insurance Rate Map

NOTES TO USERS

This map is for use in administering the National Flood Insurance Program. It does not necessarily identify all areas subject to flooding, particularly from local drainage sources of small size. The **community map repository** should be consulted for possible updated or additional flood hazard information.

To obtain more detailed information in areas where **Base Flood Elevations** (BFEs) and/or **floodways** have been determined, users are encouraged to consult the Flood Profiles and Floodway Data and/or Summary of Stillwater Elevations tables contained within the Flood Insurance Study (FIS) report that accompanies this FIRM. Users should be aware that BFEs shown on the FIRM represent rounded whole-foot elevations. These BFEs are intended for flood insurance rating purposes only and should not be used as the sole source of flood elevation information. Accordingly, flood elevation data presented in the FIS report should be utilized in conjunction with the FIRM for purposes of construction and/or floodplain management.

Coastal Base Flood Elevations shown on this map apply only landward of 0.0' North American Vertical Datum of 1988 (NAVD88). Users of this FIRM should be aware that coastal flood elevations are also provided in the Summary of Stillwater Elevations table in the Flood Insurance Study report for this jurisdiction. Elevations shown in the Summary of Stillwater Elevations table should be used for construction and/or floodplain management purposes when they are higher than the elevations shown on this FIRM.

Boundaries of the **floodways** were computed at cross sections and interpolated between cross sections. The floodways were based on hydraulic considerations with regard to requirements of the National Flood Insurance Program. Floodway widths and other pertinent floodway data are provided in the Flood Insurance Study report for this jurisdiction.

Certain areas not in Special Flood Hazard Areas may be protected by **flood control structures**. Refer to section 2.4 "Flood Protection Measures" of the Flood Insurance Study report for information on flood control structures for this jurisdiction.

The **projection** used in the preparation of this map was Universal Transverse Mercator (UTM) zone 13. The **horizontal datum** was NAD83, GRS80 spheroid. Differences in datum, spheroid, projection or UTM zones zones used in the production of FIRMs for adjacent jurisdictions may result in slight positional differences in map features across jurisdiction boundaries. These differences do not affect the accuracy of this FIRM.

Flood elevations on this map are referenced to the **North American Vertical Datum of 1988 (NAVD88)**. These flood elevations must be compared to structure and ground elevations referenced to the same **vertical datum**. For information regarding conversion between the National Geodetic Vertical Datum of 1929 and the North American Vertical Datum of 1988, visit the National Geodetic Survey website at http://www.ngs.noaa.gov/ or contact the National Geodetic Survey at the following address:

NGS Information Services
NOAA, N/NGS12
National Geodetic Survey
SSMC-3, #9202
1315 East-West Highway
Silver Spring, MD 20910-3282

To obtain current elevation, description, and/or location information for **bench marks** shown on this map, please contact the Information Services Branch of the National Geodetic Survey at (301) 713-3242 or visit its website at http://www.ngs.noaa.gov/.

Base Map information shown on this FIRM was provided in digital format by El Paso County, Colorado Springs Utilities, City of Fountain, Bureau of Land Management, National Oceanic and Atmospheric Administration, United States Geological Survey, and Anderson Consulting Engineers, Inc. These data are current as of 2006.

This map reflects more detailed and up-to-date **stream channel configurations and floodplain delineations** than those shown on the previous FIRM for this jurisdiction. The floodplains and floodways that were transferred from the previous FIRM may have been adjusted to conform to these new stream channel configurations. As a result, the Flood Profiles and Floodway Data tables in the Flood Insurance Study Report (which contains authoritative hydraulic data) may reflect stream channel distances that differ from what is shown on this map. The profile baselines depicted on this map represent the hydraulic modeling baselines that match the flood profiles and Floodway Data Tables if applicable, in the FIS report. As a result, the profile baselines may deviate significantly from the new base map channel representation and may appear outside of the floodplain.

Corporate limits shown on this map are based on the best data available at the time of publication. Because changes due to annexations or de-annexations may have occurred after this map was published, map users should contact appropriate community officials to verify current corporate limit locations.

Please refer to the separately printed **Map Index** for an overview map of the county showing the layout of map panels; community map repository addresses; and a Listing of Communities table containing National Flood Insurance Program dates for each community as well as a listing of the panels on which each community is located.

Contact **FEMA Map Service Center** (MSC) via the FEMA Map Information eXchange (FMIX) 1-877-336-2627 for information on available products associated with this FIRM. Available products may include previously issued Letters of Map Change, a Flood Insurance Study Report, and/or digital versions of this map. The MSC may also be reached by Fax at 1-800-358-9620 and its website at http://www.msc.fema.gov/.

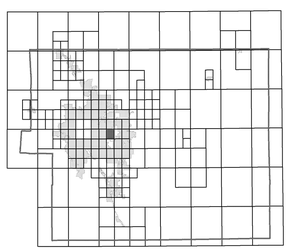
If you have **questions about this map** or questions concerning the National Flood Insurance Program in general, please call **1-877-FEMA MAP** (1-877-336-2627) or visit the FEMA website at http://www.fema.gov/business/nfip.

El Paso County Vertical Datum Offset Table

Flooding Source	Vertical Datum Offset (ft)

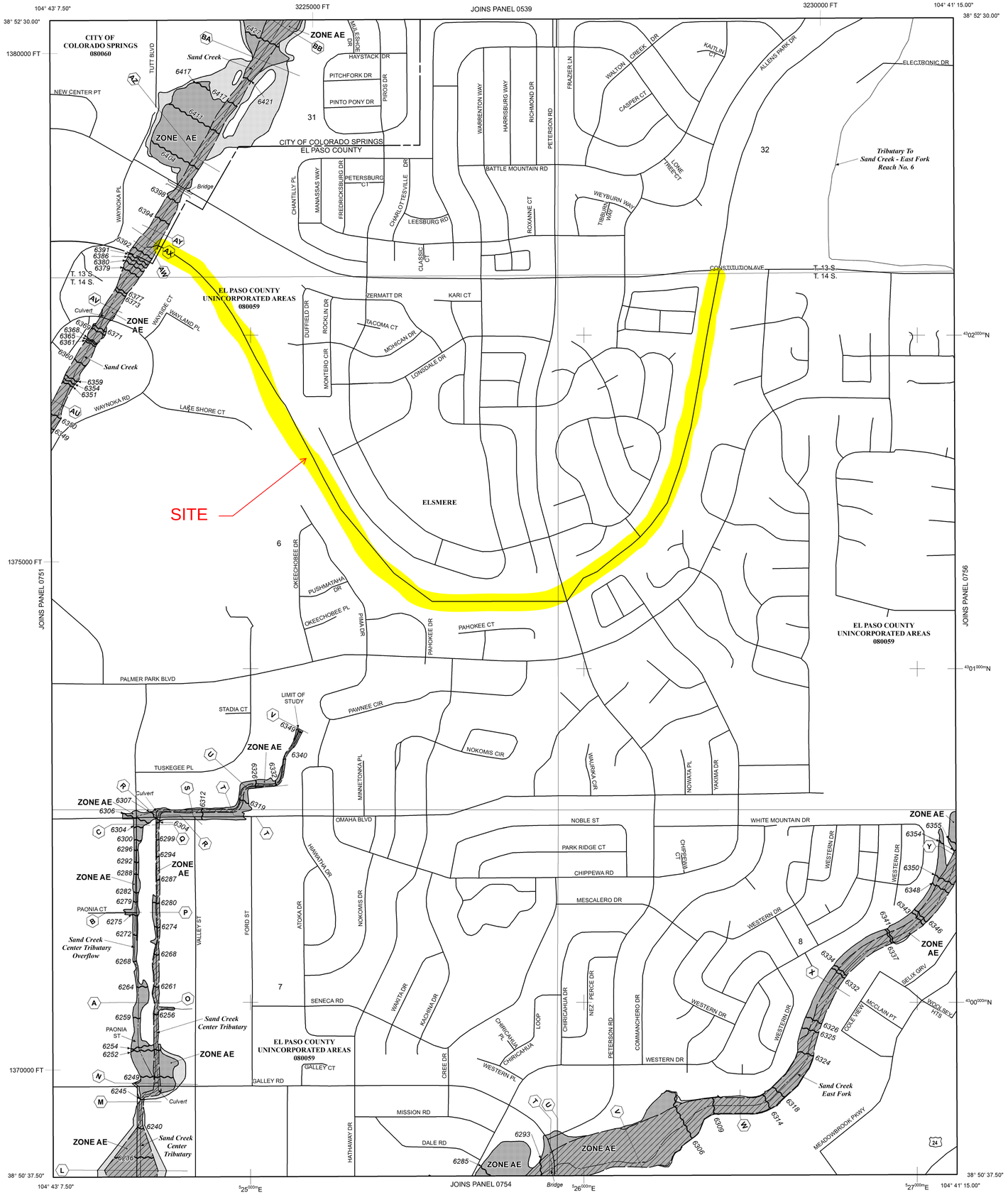
REFER TO SECTION 3.3 OF THE EL PASO COUNTY FLOOD INSURANCE STUDY FOR STREAM BY STREAM VERTICAL DATUM CONVERSION INFORMATION

Panel Location Map



This Digital Flood Insurance Rate Map (DFIRM) was produced through a Cooperating Technical Partner (CTP) agreement between the State of Colorado Water Conservation Board (CWCB) and the Federal Emergency Management Agency (FEMA).

Additional Flood Hazard information and resources are available from local communities and the Colorado Water Conservation Board.



NOTE: MAP AREA SHOWN ON THIS PANEL IS LOCATED WITHIN TOWNSHIP 13 SOUTH, RANGE 65 WEST, AND TOWNSHIP 14 SOUTH, RANGE 65 WEST.

LEGEND

SPECIAL FLOOD HAZARD AREAS (SFHAS) SUBJECT TO INUNDATION BY THE 1% ANNUAL CHANCE FLOOD

The 1% annual chance flood (100-year flood), also known as the base flood, is the flood that has a 1% chance of being equaled or exceeded in any given year. The Special Flood Hazard Area is the area subject to flooding by the 1% annual chance flood. Areas of Special Flood Hazard include Zones A, AE, AH, AO, AR, A99, V, and VE. The Base Flood Elevation is the water-surface elevation of the 1% annual chance flood.

ZONE A No Base Flood Elevations determined.
ZONE AE Base Flood Elevations determined.
ZONE AH Flood depths of 1 to 3 feet (usually areas of ponding); Base Flood Elevations determined.
ZONE AO Flood depths of 1 to 3 feet (usually sheet flow on sloping terrain); average depths determined. For areas of alluvial fan flooding, velocities also determined.
ZONE AR Special Flood Hazard Area Formerly protected from the 1% annual chance flood by a flood control system that was subsequently decertified. Zone AR indicates that the former flood control system is being restored to provide protection from the 1% annual chance or greater flood.
ZONE A99 Area to be protected from 1% annual chance flood by a Federal flood protection system under construction; no Base Flood Elevations determined.
ZONE V Coastal flood zone with velocity hazard (wave action); no Base Flood Elevations determined.
ZONE VE Coastal flood zone with velocity hazard (wave action); Base Flood Elevations determined.

FLOODWAY AREAS IN ZONE AE

The floodway is the channel of a stream plus any adjacent floodplain areas that must be kept free of encroachment so that the 1% annual chance flood can be carried without substantial increases in flood heights.

OTHER FLOOD AREAS

ZONE X Areas of 0.2% annual chance flood; areas of 1% annual chance flood with average depths of less than 1 foot or with drainage areas less than 1 square mile; and areas protected by levees from 1% annual chance flood.

OTHER AREAS

ZONE X Areas determined to be outside the 0.2% annual chance floodplain.
ZONE D Areas in which flood hazards are undetermined, but possible.

COASTAL BARRIER RESOURCES SYSTEM (CBRS) AREAS

OTHERWISE PROTECTED AREAS (OPAs)

CBRS areas and OPAs are normally located within or adjacent to Special Flood Hazard Areas.

Floodplain boundary
Floodway boundary
Zone D Boundary
CBRS and OPA boundary
Boundary dividing Special Flood Hazard Areas of different Base Flood Elevations, flood depths or flood velocities.
513 — Base Flood Elevation line and value; elevation in feet*
(EL 987) — Base Flood Elevation value where uniform within zone; elevation in feet*

* Referenced to the North American Vertical Datum of 1988 (NAVD 88)

A — A — Cross section line
23 — 23 — Transect line
97° 07' 30.00" / 32° 22' 30.00" — Geographic coordinates referenced to the North American Datum of 1983 (NAD 83)
4275000mN — 1000-meter Universal Transverse Mercator grid ticks, zone 13
6000000 FT — 5000-foot grid ticks: Colorado State Plane coordinate system, central zone (FIPSZONE 0502), Lambert Conformal Conic Projection
DX5510 — Bench mark (see explanation in Notes to Users section of this FIRM panel)
M1.5 — River Mile

MAP REPOSITORIES
Refer to Map Repositories list on Map Index

EFFECTIVE DATE OF COUNTYWIDE FLOOD INSURANCE RATE MAP
MARCH 17, 1997

EFFECTIVE DATE(S) OF REVISION(S) TO THIS PANEL
DECEMBER 7, 2018 - to update corporate limits, to change Base Flood Elevations and Special Flood Hazard Areas, to update map format, to add roads and road names, and to incorporate previously issued Letters of Map Revision.

For community map revision history prior to countywide mapping, refer to the Community Map History Table located in the Flood Insurance Study report for this jurisdiction.

To determine if flood insurance is available in this community, contact your insurance agent or call the National Flood Insurance Program at 1-800-638-6620.

MAP SCALE 1" = 500'
250 0 500 1000 FEET
150 0 150 300 METERS

NFIP

PANEL 0752G

NATIONAL FLOOD INSURANCE PROGRAM

FIRM

FLOOD INSURANCE RATE MAP

EL PASO COUNTY, COLORADO AND INCORPORATED AREAS

PANEL 752 OF 1300

(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

COMMUNITY	NUMBER	PANEL	SUFFIX
COLORADO SPRINGS, CITY OF	080060	0752	G
EL PASO COUNTY	080059	0752	G

Notice: This map was reissued on 05/15/2020 to make a correction.This version replaces any previous versions. See the Notice-to-User Letter that accompanied this correction for details.

Notice to User: The **Map Number** shown below should be used when placing map orders; the **Community Number** shown above should be used on insurance applications for the subject community.

MAP NUMBER
08041C0752G

MAP REVISED
DECEMBER 7, 2018

Federal Emergency Management Agency

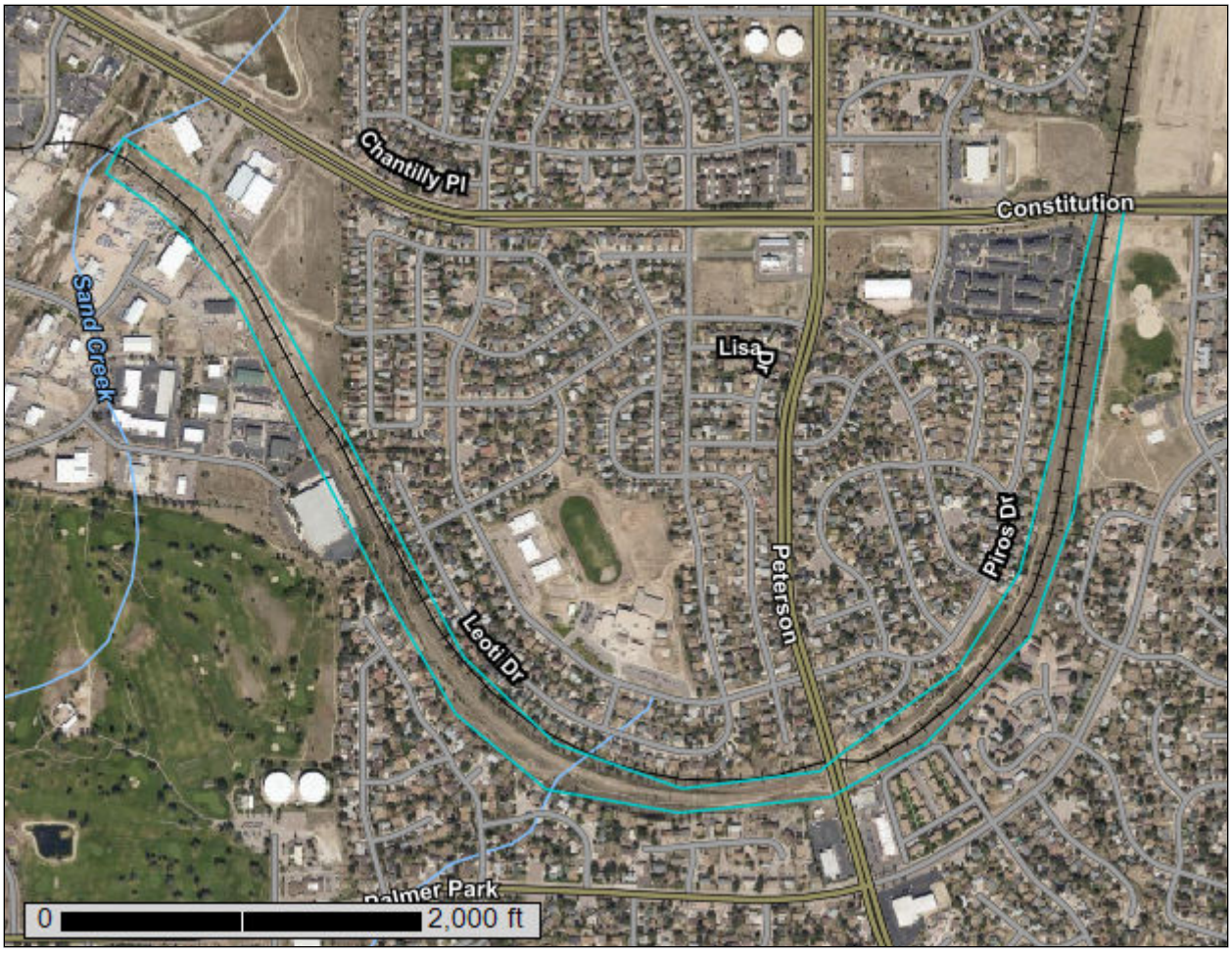
United States Department of Agriculture

NRCS

Natural Resources Conservation Service

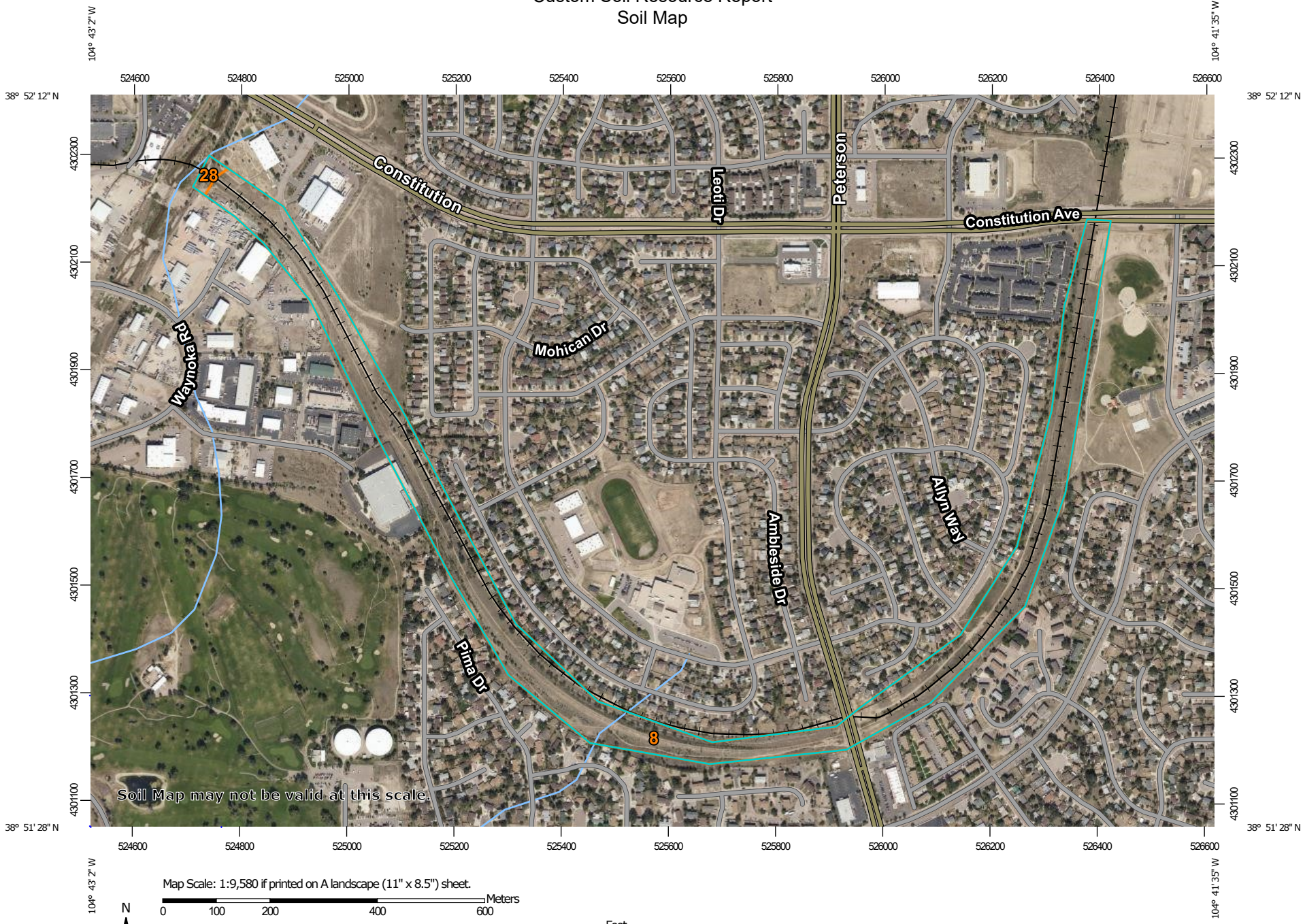
A product of the National Cooperative Soil Survey, a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local participants

Custom Soil Resource Report for El Paso County Area, Colorado



February 29, 2024

Custom Soil Resource Report
Soil Map



Map Scale: 1:9,580 if printed on A landscape (11" x 8.5") sheet.

N

Meters: 0 100 200 400 600

Feet: 0 450 900 1800 2700

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 13N WGS84

MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils
- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

Special Point Features
- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

Water Features
- Streams and Canals

Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background
- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: El Paso County Area, Colorado
Survey Area Data: Version 21, Aug 24, 2023

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Aug 19, 2018—Sep 23, 2018

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
8	Blakeland loamy sand, 1 to 9 percent slopes	41.7	98.8%
28	Ellicott loamy coarse sand, 0 to 5 percent slopes	0.5	1.2%
Totals for Area of Interest		**42.2**	**100.0%**

Map Unit Descriptions

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. If included in the database for a given area, the contrasting minor components are identified in the map unit descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however,

El Paso County Area, Colorado

8—Blakeland loamy sand, 1 to 9 percent slopes

Map Unit Setting

National map unit symbol: 369v
Elevation: 4,600 to 5,800 feet
Mean annual precipitation: 14 to 16 inches
Mean annual air temperature: 46 to 48 degrees F
Frost-free period: 125 to 145 days
Farmland classification: Not prime farmland

Map Unit Composition

Blakeland and similar soils: 98 percent
Minor components: 2 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Blakeland

Setting

Landform: Hills, flats
Landform position (three-dimensional): Side slope, talf
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Alluvium derived from sedimentary rock and/or eolian deposits derived from sedimentary rock

Typical profile

A - 0 to 11 inches: loamy sand
AC - 11 to 27 inches: loamy sand
C - 27 to 60 inches: sand

Properties and qualities

Slope: 1 to 9 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Somewhat excessively drained
Runoff class: Low
Capacity of the most limiting layer to transmit water (Ksat): High to very high (5.95 to 19.98 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 5 percent
Available water supply, 0 to 60 inches: Low (about 4.5 inches)

Interpretive groups

Land capability classification (irrigated): 3e
Land capability classification (nonirrigated): 6e
Hydrologic Soil Group: A
Ecological site: R049XB210CO - Sandy Foothill
Hydric soil rating: No

Minor Components

Other soils

Percent of map unit: 1 percent

Hydric soil rating: No

Pleasant

Percent of map unit: 1 percent
Landform: Depressions
Hydric soil rating: Yes

28—Ellicott loamy coarse sand, 0 to 5 percent slopes

Map Unit Setting

National map unit symbol: 3680
Elevation: 5,500 to 6,500 feet
Mean annual precipitation: 13 to 15 inches
Mean annual air temperature: 47 to 50 degrees F
Frost-free period: 125 to 145 days
Farmland classification: Not prime farmland

Map Unit Composition

Ellicott and similar soils: 97 percent
Minor components: 3 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Ellicott

Setting

Landform: Flood plains, stream terraces
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Sandy alluvium

Typical profile

A - 0 to 4 inches: loamy coarse sand
C - 4 to 60 inches: stratified coarse sand to sandy loam

Properties and qualities

Slope: 0 to 5 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Somewhat excessively drained
Runoff class: Very low
Capacity of the most limiting layer to transmit water (Ksat): High to very high (5.95 to 19.98 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: Frequent
Frequency of ponding: None
Available water supply, 0 to 60 inches: Low (about 4.1 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 7w
Hydrologic Soil Group: A

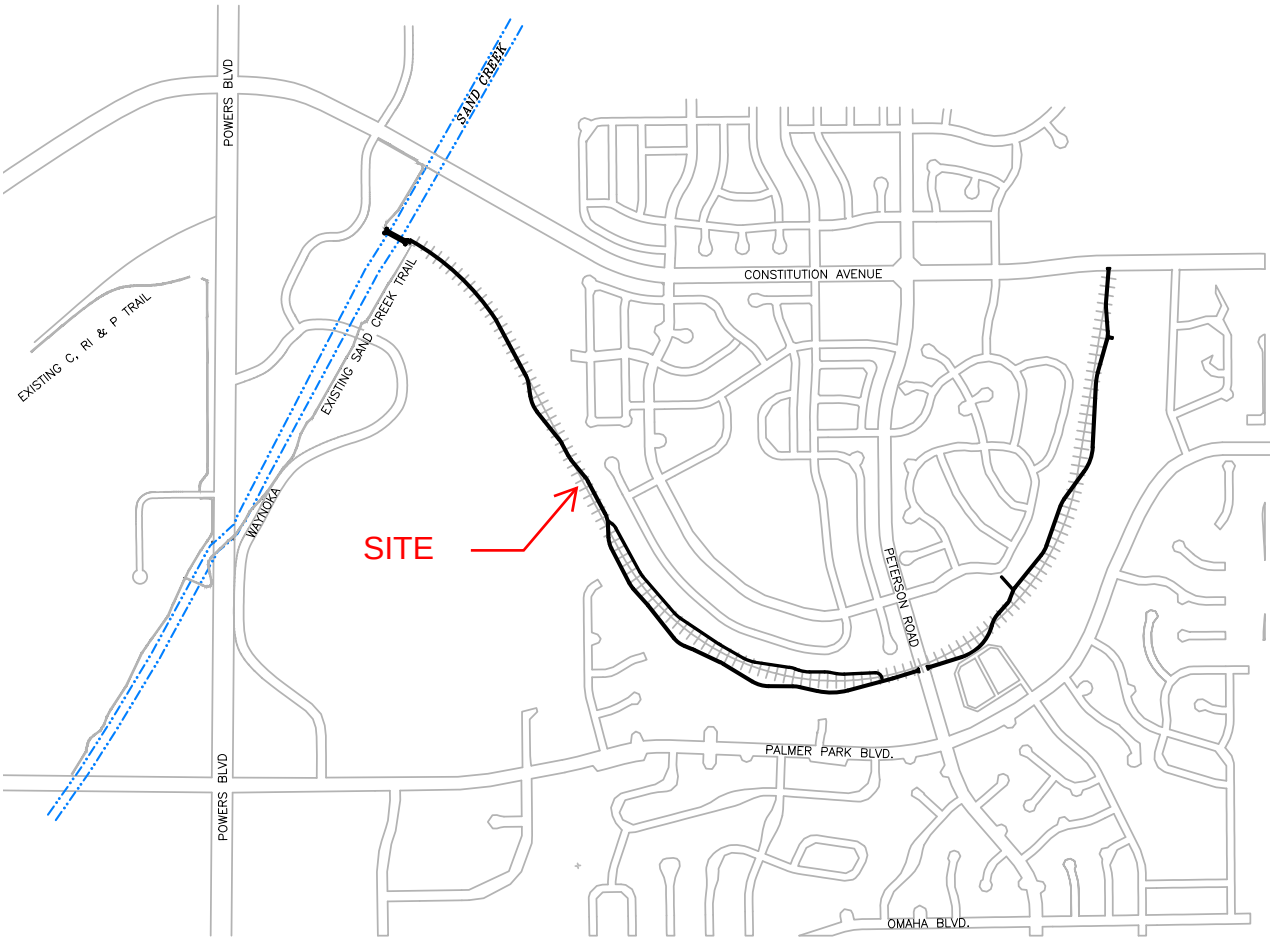
Ecological site: R069XY031CO - Sandy Bottomland
Other vegetative classification: SANDY BOTTOMLAND (069AY031CO)
Hydric soil rating: No

Minor Components

Fluvaquentic haplaquoll
Percent of map unit: 1 percent
Landform: Swales
Hydric soil rating: Yes

Other soils
Percent of map unit: 1 percent
Hydric soil rating: No

Pleasant
Percent of map unit: 1 percent
Landform: Depressions
Hydric soil rating: Yes



N

SCALE: 1"=1500'

0 1500' 3000'

FIGURE 1
VICINITY MAP
ROCK ISLAND MULTI-USE TRAIL

APPENDIX B

Example – Exhibit A: Erosion and Sediment Control Field Inspection Report

Example – Exhibit B: Corrective Action Report

Exhibit A
Erosion and Sediment Control Field Inspection Report

Project Name:	Date of Inspection:
Project Address/Location:	Time of Inspection:
Contractor:	Name of Inspector:

Reason for Inspection:

BMP for Erosion Control	Practice Used		Maintenance or Sediment Removal Required		Explain Required Action
	Yes	No	Yes	No	
Check Dams					
Concrete Washout Area					
Construction Fence					
Diversion Ditch/Swales/Berms					
Erosion Control Blankets					
Inlet Protection					
Reinforced Rock Berms					
Reinforced Rock Berms - Culvert					
Sediment Basin					
Sediment Control Log					
Seed & Mulch (Temp. or Permanent)					
Silt Fence					
Sodding					
Stabilized Staging Area					
Straw Bale Barrier					
Surface Roughening					
Vehicle Tracking Control Pad					

Contractor's Comments:
Inspector's Comments:

I certify this Erosion and Sediment Control Field Inspection Report is complete and accurate, to my knowledge and belief.	
Inspector Signature and Date:	Reviewed By:

Exhibit B
Corrective Action Report

Site: _____

Inspector: _____

Date: _____

Erosion Control Measure/Facility Requiring Attention:

_____

_____

_____

Recommended Corrective Action:

_____

_____

_____

Scheduled Completion Date: _____ Date Completed: _____

Erosion Control Measure/Facility Requiring Attention:

_____

_____

_____

Recommended Corrective Action:

_____

_____

_____

Scheduled Completion Date: _____ Date Completed: _____

Erosion Control Measure/Facility Requiring Attention:

_____

_____

_____

Recommended Corrective Action:

_____

_____

_____

Scheduled Completion Date: _____ Date Completed: _____

APPENDIX C

Stormwater Certificate

Altitude Training Associates

Awards this Certificate of Completion to

Emily Duncan

Who on October 5, 2021 Successfully Completed
The Following Training Class:

Stormwater Management and Erosion Control During Construction - GEC Administrator

Certificate Number: 123

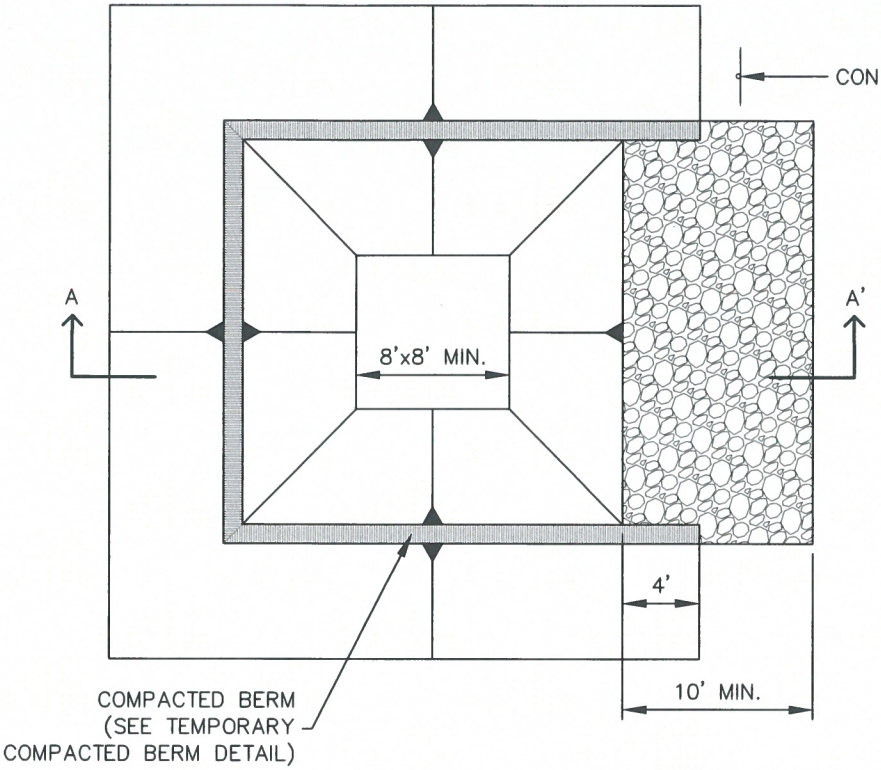
Instructor
Altitude Training Associates

altitudeta.com

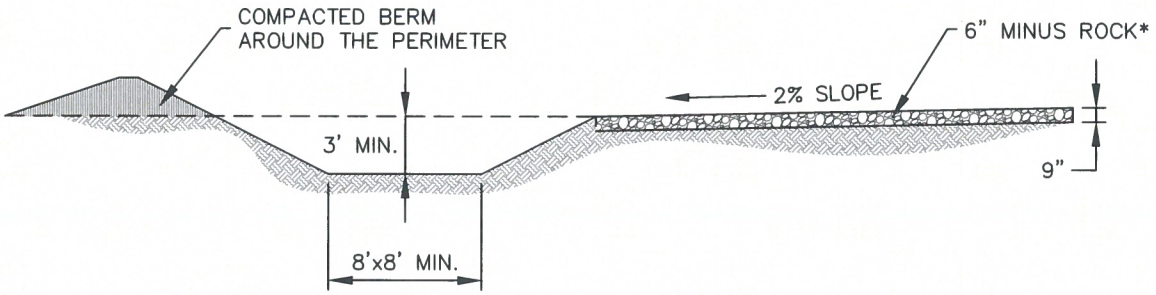
ALTITUDE TRAINING ATA ASSOCIATES

APPENDIX D

CCM Details



CONCRETE WASHOUT AREA PLAN



SECTION A-A'

*ROCK REQUIRED BASED ON SITE CONDITIONS AT THE DISCRETION OF THE GEC INSPECTOR

CWA

STORMWATER ENTERPRISE

CONCRETE WASHOUT AREA

APPROVED:

SWENT MANAGER

ISSUED:	REVISED:	DRAWING NO.
10/7/19	8/19/2020	900-CWA-1

INSTALLATION NOTES

1. SEE PLAN VIEW FOR:
   –LOCATION OF CONCRETE WASHOUT AREA
2. LOCATE AT LEAST 50' AWAY FROM STATE WATERS MEASURED HORIZONTALLY.
3. AN IMPERMEABLE LINER (16 MIL. MINIMUM THICKNESS) IS REQUIRED IF CONCRETE WASH AREA IS LOCATED WITHIN 400' OF STATE WATERS OR 1000' OF WELLS OR DRINKING WATER SOURCES.
4. DO NOT LOCATE IN AREAS WHERE SHALLOW GROUNDWATER MAY BE PRESENT.
5. THE CONCRETE WASH AREA SHALL BE INSTALLED PRIOR TO CONCRETE PLACEMENT ON SITE.
6. CONCRETE WASH AREA SHALL INCLUDE A FLAT SUBSURFACE PIT THAT IS AT LEAST 8' BY 8'.
7. BERM SURROUNDING SIDES AND BACK OF CONCRETE WASH AREA SHALL HAVE A MINIMUM HEIGHT OF 2 FEET.
8. CONCRETE WASH AREA ENTRANCE SHALL BE SLOPED 2% TOWARDS THE CONCRETE WASH AREA.
9. SIGNS SHALL BE PLACED AT THE CONCRETE WASH AREA.
10. USE EXCAVATED MATERIAL FOR PERIMETER BERM CONSTRUCTION.

MAINTENANCE NOTES

1. FREQUENT OBSERVATIONS AND MAINTENANCE ARE NECESSARY TO MAINTAIN CONTROL MEASURES IN EFFECTIVE OPERATING CONDITION. INSPECTIONS AND CORRECTIVE MEASURES SHOULD BE DOCUMENTED THOROUGHLY.
2. THE CONCRETE WASH AREA SHALL BE REPAIRED, CLEANED, OR ENLARGED AS NECESSARY TO MAINTAIN CAPACITY FOR CONCRETE WASTE. CONCRETE MATERIALS ACCUMULATED IN THE PIT SHALL BE REMOVED ONCE THE MATERIALS HAVE REACHED A DEPTH OF ⅔ THE HEIGHT OF THE CONCRETE WASH AREA.
3. CONCRETE WASHOUT WATER, WASTED PIECES OF CONCRETE, AND ALL OTHER DEBRIS IN THE SUBSURFACE PIT SHALL BE TRANSPORTED FROM THE JOB SITE IN A WATER–TIGHT CONTAINER AND DISPOSED OF PROPERLY.
4. THE CONCRETE WASH AREA SHALL REMAIN IN PLACE UNTIL ALL CONCRETE FOR THE PROJECT IS PLACED.
5. PERMANENTLY STABILIZE AREA AFTER CONCRETE WASH AREA IS REMOVED.

CWA

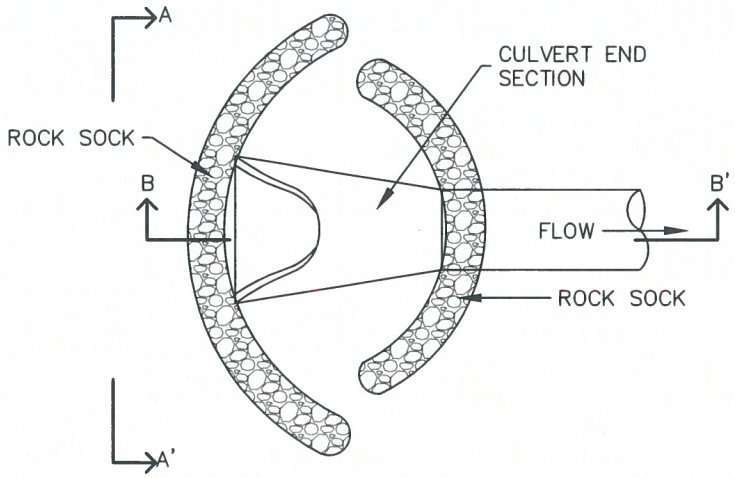
STORMWATER ENTERPRISE

CONCRETE WASHOUT AREA

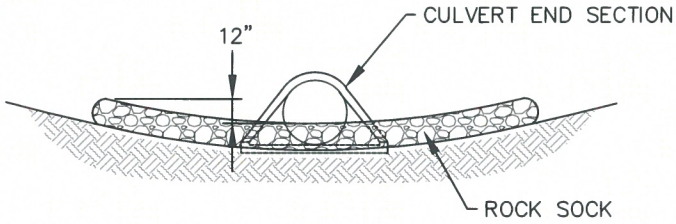
APPROVED:

SWENT MANAGER

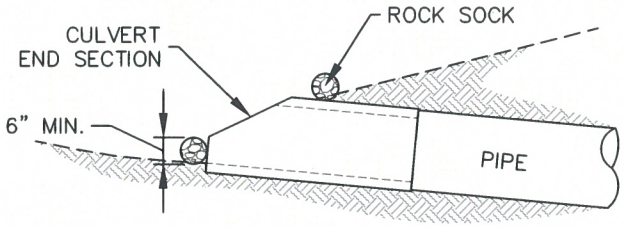
ISSUED:	REVISED:	DRAWING NO.
10/7/19	8/19/2020	900–CWA–2



CULVERT INLET PROTECTION PLAN



SECTION A-A'



SECTION B-B'

INSTALLATION NOTES

1. SEE ROCK SOCK DETAIL.

MAINTENANCE NOTES

1. FREQUENT OBSERVATIONS AND MAINTENANCE ARE NECESSARY TO MAINTAIN CONTROL MEASURES IN EFFECTIVE OPERATING CONDITION. INSPECTIONS AND CORRECTIVE MEASURES SHOULD BE DOCUMENTED THOROUGHLY.
2. ACCUMULATED SEDIMENT UPSTREAM OF THE CULVERT SHALL BE REMOVED WHEN THE SEDIMENT DEPTH IS ½ HEIGHT OF THE ROCK SOCK.
3. CULVERT INLET PROTECTION SHALL REMAIN UNTIL THE UPSTREAM AREA IS PERMANENTLY STABILIZED.

CIP

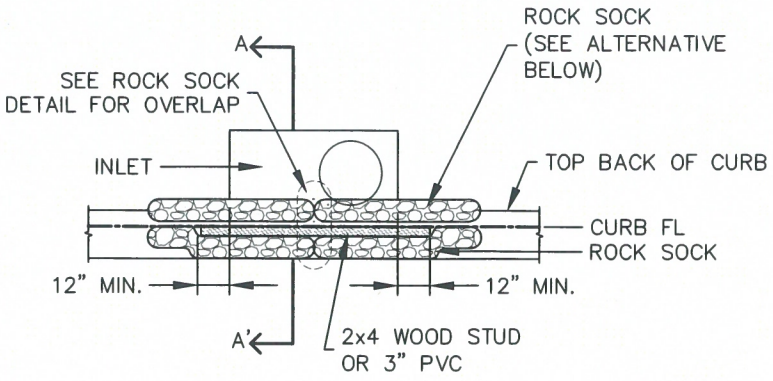
STORMWATER ENTERPRISE

CULVERT INLET PROTECTION

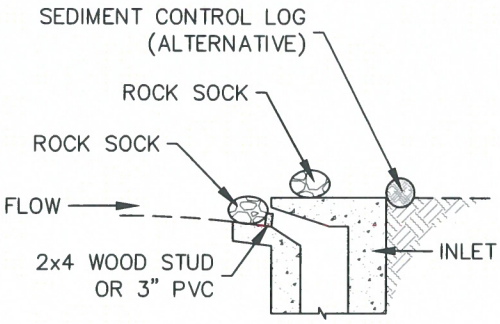
APPROVED:

SWENT MANAGER

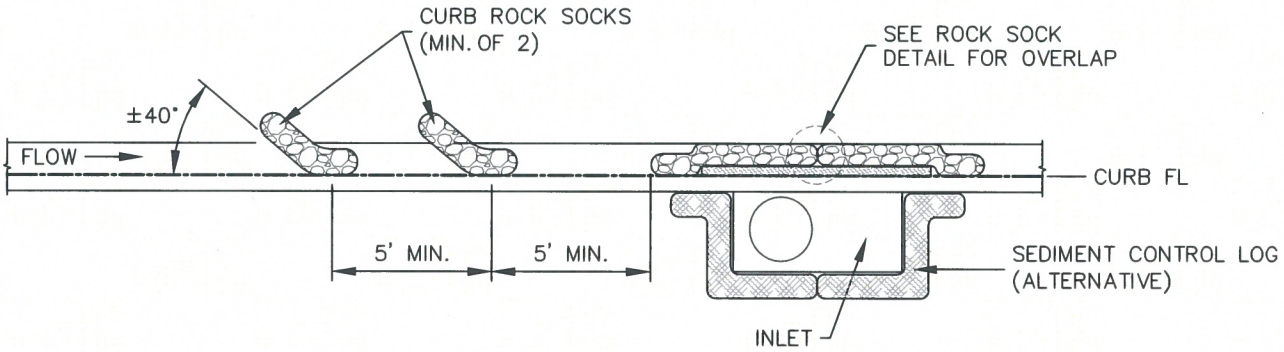
ISSUED:	REVISED:	DRAWING NO.
10/7/19	8/19/2020	900-CIP



CURB INLET PROTECTION PLAN



SECTION A-A'



CURB ROCK SOCKS UPSTREAM OF INLET PROTECTION

INSTALLATION NOTES

1. SEE ROCK SOCK DETAIL FOR INSTALLATION REQUIREMENTS.
2. PLACEMENT OF THE ROCK SOCK SHALL BE APPROXIMATELY 40 DEGREES FROM THE CURB.
3. ROCK SOCKS ARE TO BE FLUSH WITH THE CURB AND SPACED A MINIMUM OF 5' APART.
4. AT LEAST TWO CURB ROCK SOCKS IN SERIES ARE REQUIRED UPSTREAM OF ON-GRADIENT INLETS.
5. ADDITIONAL ROCK SOCKS MAY BE REQUIRED AT GEC INSPECTOR'S DISCRETION.

MAINTENANCE NOTES

1. FREQUENT OBSERVATIONS AND MAINTENANCE ARE NECESSARY TO MAINTAIN CONTROL MEASURES IN EFFECTIVE OPERATING CONDITION. INSPECTIONS AND CORRECTIVE MEASURES SHOULD BE DOCUMENTED THOROUGHLY.
2. ACCUMULATED SEDIMENT MUST BE REMOVED WHEN THE HEIGHT REACHES ½ OF THE DESIGN DEPTH OF THE INLET BARRIER.
3. ROCK SOCKS MUST REMAIN UNTIL THE UPSTREAM DISTURBANCE AREA IS STABILIZED.
4. PERMANENTLY STABILIZE AREA BEHIND INLET AFTER ROCK SOCKS ARE REMOVED WHEN REMOVAL IS APPROPRIATE.

IP-1

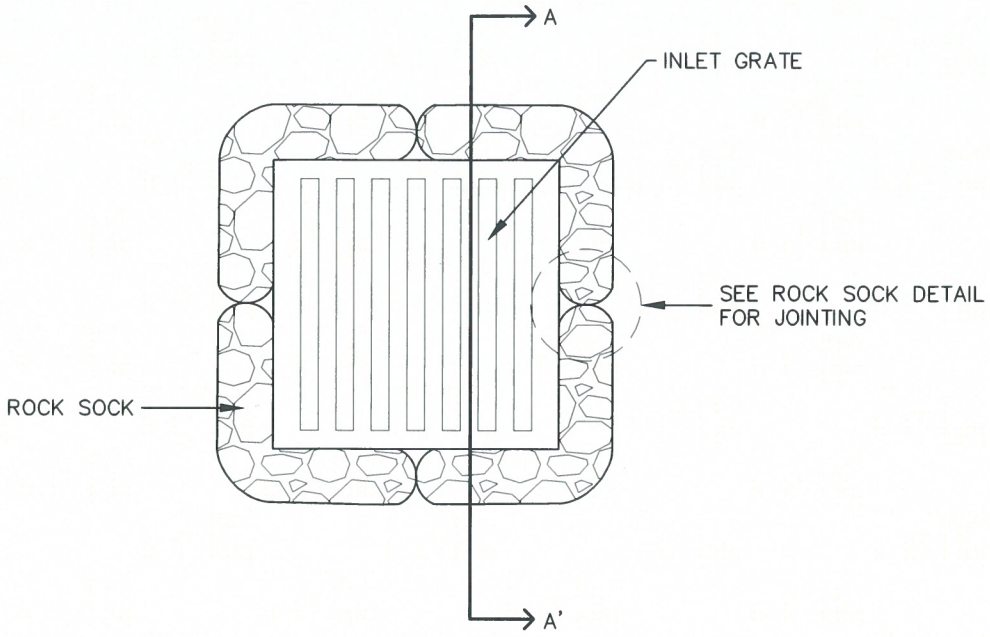
STORMWATER ENTERPRISE

ON-GRADE INLET PROTECTION

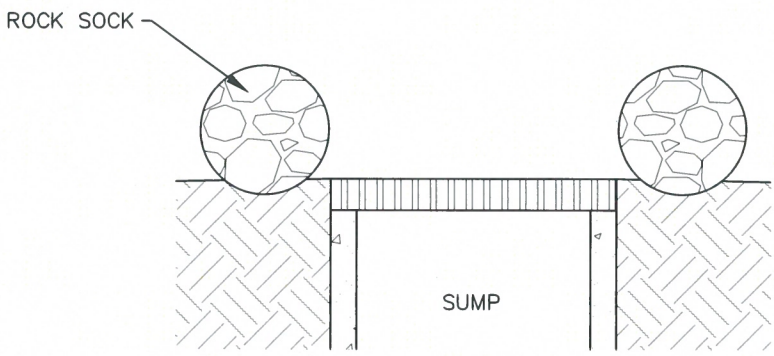
APPROVED:

SWENT MANAGER

ISSUED:	REVISED:	DRAWING NO.
10/7/19	8/19/2020	900-IP-1



ROCK SOCK SUMP INLET PROTECTION PLAN



SECTION A-A'

INSTALLATION NOTES

1. SEE ROCK SOCK DETAIL FOR INSTALLATION REQUIREMENTS.
2. SEDIMENT CONTROL LOGS MAY BE USED IN PLACE OF ROCK SOCKS IN PERVIOUS AREAS. INSTALL PER SEDIMENT CONTROL LOG DETAIL
3. CONTROL MEASURES MUST BE WRAPPED AROUND INLET AS TIGHTLY AS POSSIBLE.

MAINTENANCE NOTES

1. FREQUENT OBSERVATIONS AND MAINTENANCE ARE NECESSARY TO MAINTAIN CONTROL MEASURES IN EFFECTIVE OPERATING CONDITION. INSPECTIONS AND CORRECTIVE MEASURES SHOULD BE DOCUMENTED THOROUGHLY.
2. ACCUMULATED SEDIMENT MUST BE REMOVED WHEN THE HEIGHT REACHES ½ OF THE DESIGN DEPTH OF THE INLET BARRIER.
3. ROCK SOCKS MUST REMAIN UNTIL THE UPSTREAM DISTURBANCE AREA IS STABILIZED.
4. PERMANENTLY STABILIZE AREA AROUND INLET AFTER ROCK SOCKS ARE REMOVED WHEN REMOVAL IS APPROPRIATE.

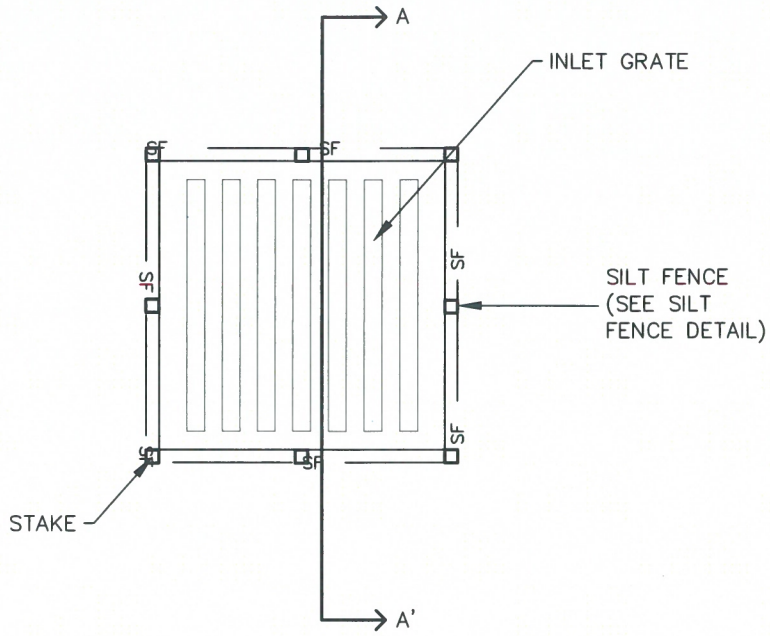
IP-2

STORMWATER ENTERPRISE

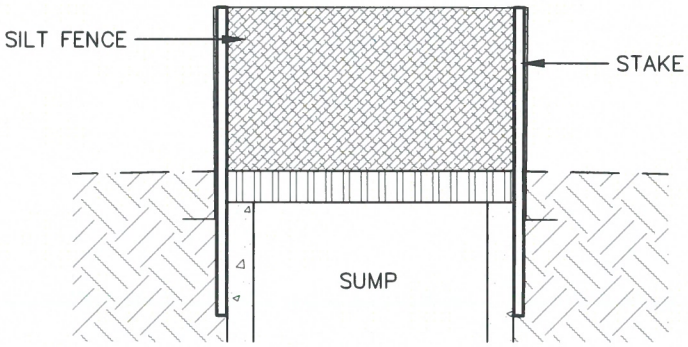
SUMP INLET PROTECTION

APPROVED: SWENT MANAGER

ISSUED:	REVISED:	DRAWING NO.
10/7/19	8/19/2020	900-IP-2



SILT FENCE SUMP INLET PROTECTION PLAN



SECTION A-A'

INSTALLATION NOTES

1. SEE SILT FENCE DETAIL FOR INSTALLATION REQUIREMENTS.
2. POSTS SHALL BE PLACED AT EACH CORNER OF THE INLET AND AROUND THE EDGES AT A MAXIMUM SPACING OF THREE FEET.
3. SILT FENCE FABRIC SHOULD HAVE A FLOW RATE IN EXCESS OF 30 GALLONS PER MINUTE PER SQUARE YARD SO AS TO ALLOW SOME WATER FLOW AND NOT DAM THE WATER. STANDARD, LOW-FLOW SILT FENCE FABRIC WILL NOT BE ALLOWED.

MAINTENANCE NOTES

1. FREQUENT OBSERVATIONS AND MAINTENANCE ARE NECESSARY TO MAINTAIN CONTROL MEASURES IN EFFECTIVE OPERATING CONDITION. INSPECTIONS AND CORRECTIVE MEASURES SHOULD BE DOCUMENTED THOROUGHLY.
2. ACCUMULATED SEDIMENT MUST BE REMOVED WHEN THE HEIGHT REACHES ½ OF THE DESIGN DEPTH OF THE INLET BARRIER.
3. SILT FENCE MUST REMAIN UNTIL THE UPSTREAM DISTURBANCE AREA IS STABILIZED.
4. PERMANENTLY STABILIZE AREA AROUND INLET AFTER SILT FENCE IS REMOVED WHEN REMOVAL IS APPROPRIATE.

IP-3

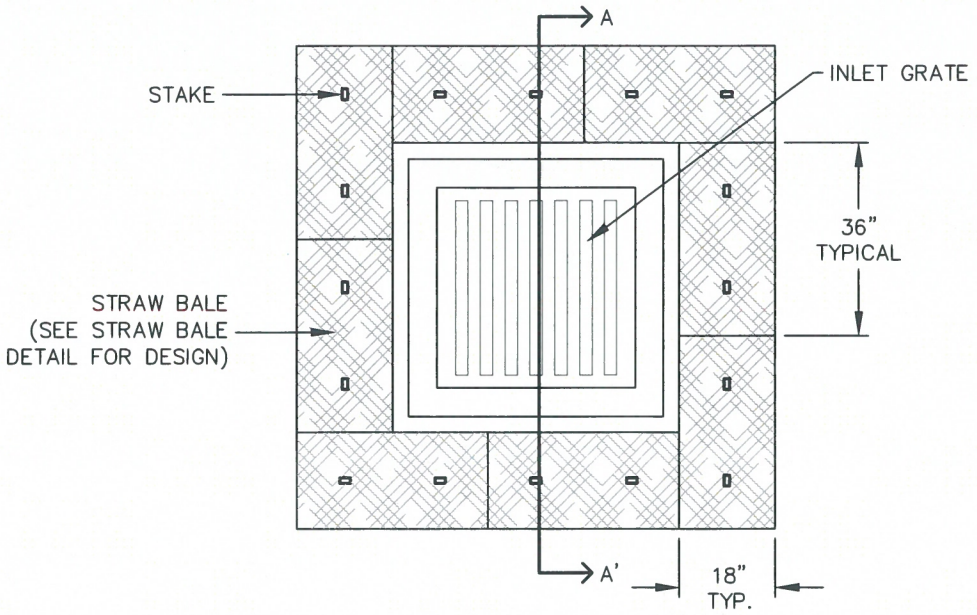
STORMWATER ENTERPRISE

SUMP INLET PROTECTION

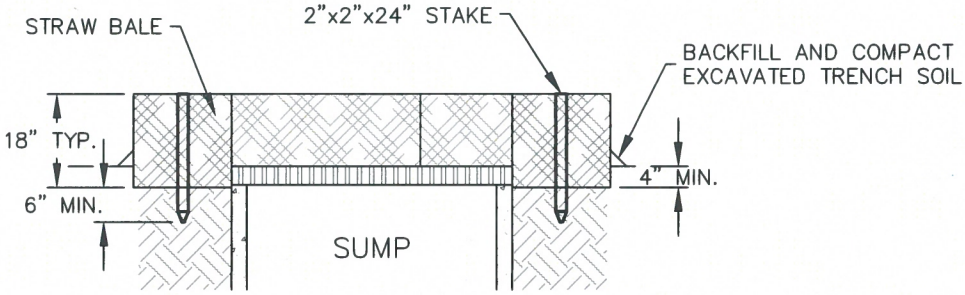
APPROVED:

SWENT MANAGER

ISSUED:	REVISED:	DRAWING NO.
10/7/19	8/19/2020	900-IP-3



STRAW BALE SUMP INLET PROTECTION PLAN



SECTION A-A'

INSTALLATION NOTES

1. BALES SHALL BE PLACED IN A SINGLE ROW AROUND THE INLET WITH THE ENDS OF THE BALES TIGHTLY ABUTTING ONE ANOTHER.
2. STRAW BALES SHALL CONSIST OF CERTIFIED WEED FREE STRAW OR HAY. LOCAL JURISDICTIONS MAY REQUIRE PROOF THAT BALES ARE WEED FREE.
3. STRAW BALES SHALL CONSIST OF APPROXIMATELY 5 CUBIC FEET OF STRAW OR HAY AND WEIGH NOT LESS THAN 35 POUNDS.
4. STRAW BALE DIMENSIONS SHALL BE APPROXIMATELY 36"x18"x18".
5. A UNIFORM ANCHOR TRENCH SHALL BE EXCAVATED TO A DEPTH OF 4". STRAW BALES SHALL BE PACED SO THAT THE BINDING TWINE IS ENCOMPASSING THE VERTICAL SIDES OF THE BALE(S).
6. TWO (2) WOODEN STAKES SHALL BE USED TO HOLD EACH BALE IN PLACE. WOODEN STAKED SHALL BE 2"x2"x24 (MIN.)". WOODEN STAKES SHALL BE DRIVEN A MINIMUM OF 6" INTO THE GROUND.

MAINTENANCE NOTES

1. FREQUENT OBSERVATIONS AND MAINTENANCE ARE NECESSARY TO MAINTAIN CONTROL MEASURES IN EFFECTIVE OPERATING CONDITION. INSPECTIONS AND CORRECTIVE MEASURES SHOULD BE DOCUMENTED THOROUGHLY.
2. ACCUMULATED SEDIMENT MUST BE REMOVED WHEN THE HEIGHT REACHES ½ OF THE DESIGN DEPTH OF THE INLET BARRIER.
3. STRAW BALES MUST REMAIN UNTIL THE UPSTREAM DISTURBANCE AREA IS STABILIZED.
4. PERMANENTLY STABILIZE AREA AROUND INLET AFTER STRAW BALES ARE REMOVED WHEN REMOVAL IS APPROPRIATE.
5. STRAW BALES SHALL BE REPLACED IF THEY BECOME HEAVILY SOILED, ROTTEN OR DAMAGED BEYOND REPAIR.

IP-4

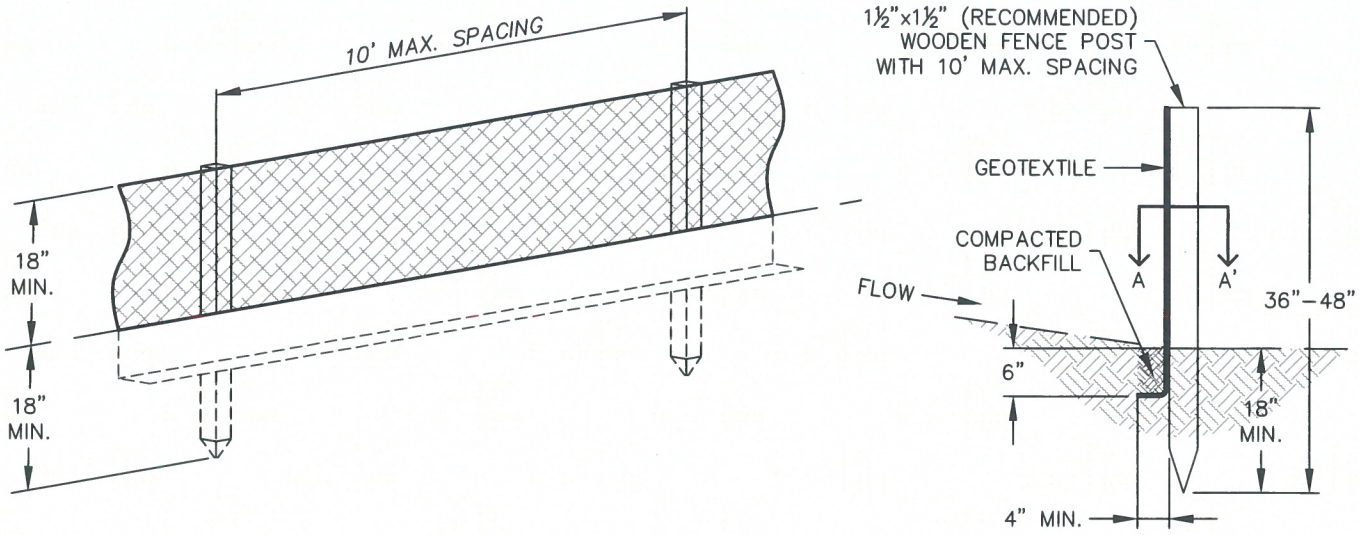
STORMWATER ENTERPRISE

SUMP INLET PROTECTION

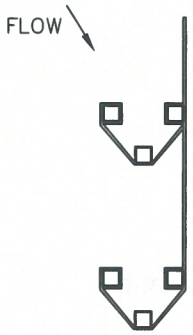
APPROVED:

SWENT MANAGER

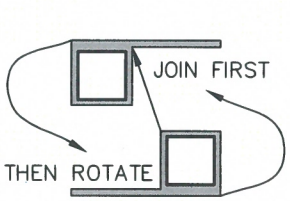
ISSUED:	REVISED:	DRAWING NO.
10/7/19	8/19/2020	900-IP-4



SILT FENCE



J-HOOK INSTALLATION



SECTION A-A'

INSTALLATION NOTES

1. SILT FENCE MUST BE PLACED ON A FLAT SURFACE 2'–5' AWAY FROM TOE OF THE SLOPE TO ALLOW FOR PONDING AND DEPOSITION.
2. COMPACT THE TRENCH USING A JUMPING JACK OR WHEEL ROLLING TO THE POINT THAT THE FENCE RESISTS BEING PULLED OUT OF THE GROUND BY HAND.
3. SILT FENCE SHALL BE TAUT WITH NO SAGS AFTER IT HAS BEEN ANCHORED.
4. FABRIC SHALL BE ATTACHED TO POSTS WITH 1" HEAVY DUTY STAPLES OR 1" NAILS. THESE SHOULD BE PLACED VERTICALLY DOWN THE POST, 3" APART.
5. THE PREFERRED INSTALLATION METHOD USES A TRENCHER OR SILT FENCE INSTALLATION DEVICE.
6. INSTALL SILT FENCE ALONG THE CONTOUR OF THE SLOPES OR IN A MANNER TO AVOID CREATING CONCENTRATED FLOW (SUCH AS A "J–HOOK" INSTALLATION).

MAINTENANCE NOTES

1. FREQUENT OBSERVATIONS AND MAINTENANCE ARE NECESSARY TO MAINTAIN CONTROL MEASURES IN EFFECTIVE OPERATING CONDITION. INSPECTIONS AND CORRECTIVE MEASURES SHOULD BE DOCUMENTED THOROUGHLY.
2. ACCUMULATED SEDIMENT MUST BE REMOVED WHEN THE HEIGHT REACHES ½ OF THE DESIGN HEIGHT OF THE SILT FENCE.
3. SILT FENCE MUST REMAIN UNTIL THE UPSTREAM DISTURBANCE AREA IS STABILIZED.
4. PERMANENTLY STABILIZE AREA AFTER SILT FENCE IS REMOVED.

SF

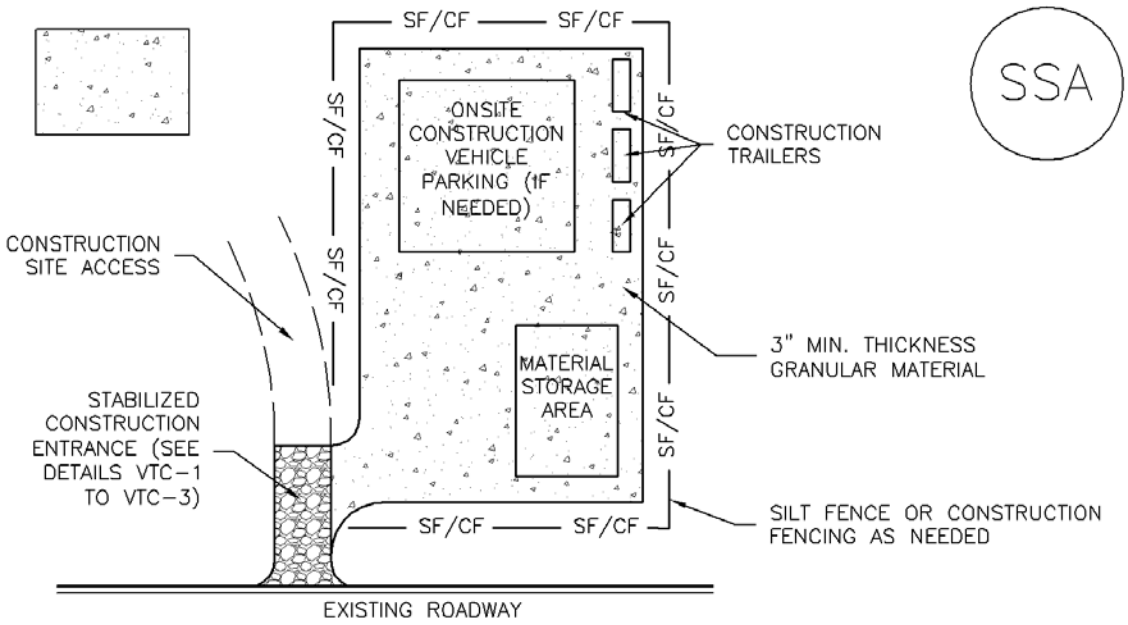
STORMWATER ENTERPRISE

SILT FENCE

APPROVED:

SWENT MANAGER

ISSUED:	REVISED:	DRAWING NO.
10/7/19	8/19/2020	900–SF



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.

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)

Stabilized Staging Area (SSA) SM-6

Description

A stabilized staging area is a clearly designated area where construction equipment and vehicles, stockpiles, waste bins, and other construction-related materials are stored. The contractor office trailer may also be located in this area. Depending on the size of the construction site, more than one staging area may be necessary.

Photograph SSA-1. Example of a staging area with a gravel surface to prevent mud tracking and reduce runoff. Photo courtesy of Douglas County.

Appropriate Uses

Most construction sites will require a staging area, which should be clearly designated in SWMP drawings. The layout of the staging area may vary depending on the type of construction activity. Staging areas located in roadways due to space constraints require special measures to avoid materials being washed into storm inlets.

Design and Installation

Stabilized staging areas should be completed prior to other construction activities beginning on the site. Major components of a stabilized staging area include:

- Appropriate space to contain storage and provide for loading/unloading operations, as well as parking if necessary.
- A stabilized surface, either paved or covered, with 3-inch diameter aggregate or larger.
- Perimeter controls such as silt fence, sediment control logs, or other measures.
- Construction fencing to prevent unauthorized access to construction materials.
- Provisions for Good Housekeeping practices related to materials storage and disposal, as described in the Good Housekeeping BMP Fact Sheet.
- A stabilized construction entrance/exit, as described in the Vehicle Tracking Control BMP Fact Sheet, to accommodate traffic associated with material delivery and waste disposal vehicles.

Over-sizing the stabilized staging area may result in disturbance of existing vegetation in excess of that required for the project. This increases costs, as well as requirements for long-term stabilization following the construction period. When designing the stabilized staging area, minimize the area of disturbance to the extent practical.

Stabilized Staging Area	
Functions	
Erosion Control	Yes
Sediment Control	Moderate
Site/Material	Yes

Minimizing Long-Term Stabilization Requirements

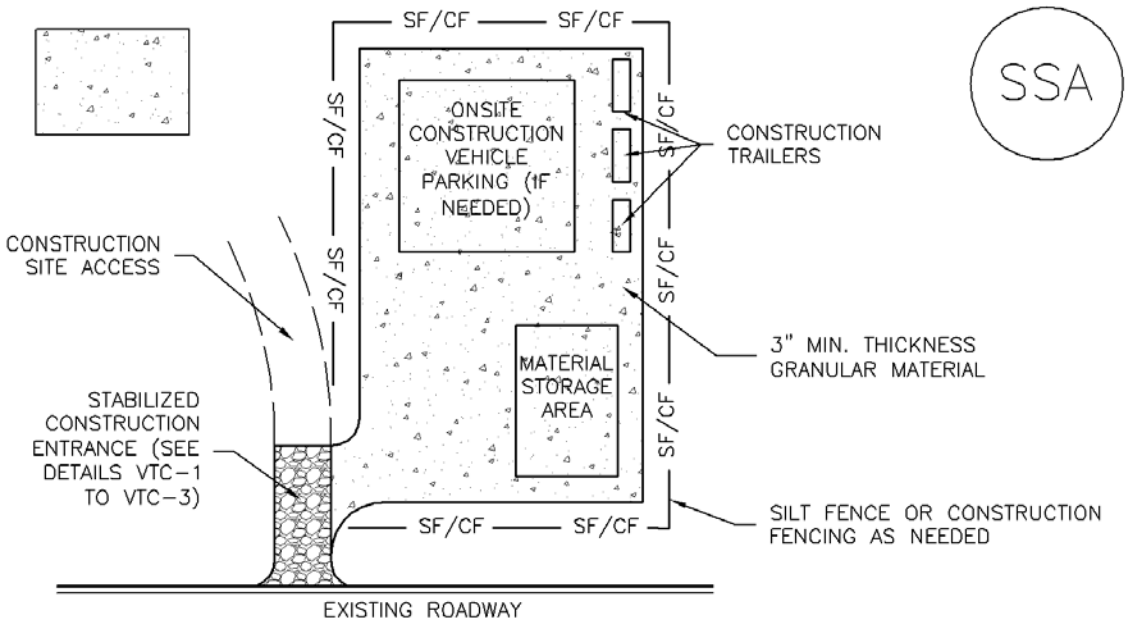
- Utilize off-site parking and restrict vehicle access to the site.
- Use construction mats in lieu of rock when staging is provided in an area that will not be disturbed otherwise.
- Consider use of a bermed contained area for materials and equipment that do not require a stabilized surface.
- Consider phasing of staging areas to avoid disturbance in an area that will not be otherwise disturbed.

See Detail SSA-1 for a typical stabilized staging area and SSA-2 for a stabilized staging area when materials staging in roadways is required.

Maintenance and Removal

Maintenance of stabilized staging areas includes maintaining a stable surface cover of gravel, repairing perimeter controls, and following good housekeeping practices.

When construction is complete, debris, unused stockpiles and materials should be recycled or properly disposed. In some cases, this will require disposal of contaminated soil from equipment leaks in an appropriate landfill. Staging areas should then be permanently stabilized with vegetation or other surface cover planned for the development.



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.

STABILIZED STAGING AREA MAINTENANCE NOTES

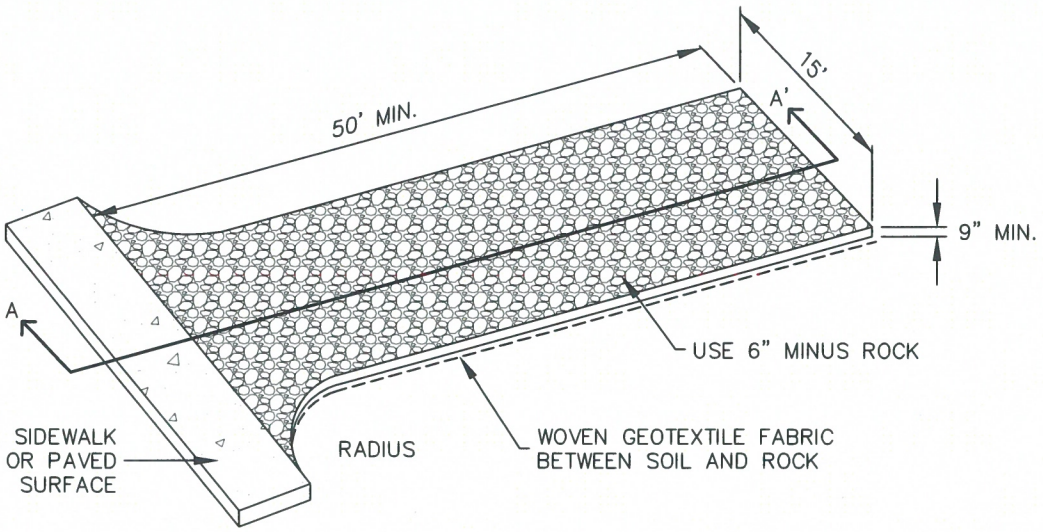
5. STABILIZED STAGING AREA SHALL BE ENLARGED IF NECESSARY TO CONTAIN PARKING, STORAGE, AND UNLOADING/LOADING OPERATIONS.

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.

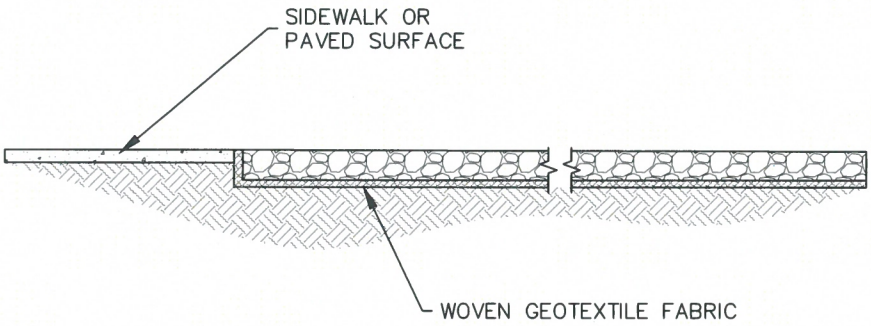
NOTE: MANY MUNICIPALITIES PROHIBIT THE USE OF RECYCLED CONCRETE AS GRANULAR MATERIAL FOR STABILIZED STAGING AREAS DUE TO DIFFICULTIES WITH RE-ESTABLISHMENT OF VEGETATION IN AREAS WHERE RECYCLED CONCRETE WAS PLACED.

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)



AGGREGATE VEHICLE TRACKING CONTROL



SECTION A-A'

INSTALLATION NOTES

1. A STABILIZED CONSTRUCTION ENTRANCE/EXIT SHOULD BE LOCATED AT ALL POINTS WHERE VEHICLES EXIT THE CONSTRUCTION SITE TO ADJACENT ROADWAY.
2. STABILIZED CONSTRUCTION ENTRANCE/EXITS SHALL BE INSTALLED PRIOR TO ANY LAND DISTURBING ACTIVITIES.
3. RADIUS MUST BE ADEQUATE FOR INTENDED CONSTRUCTION VEHICLE TURNING.
4. ROCK SHOULD CONSIST OF 6" MINUS ROCK.
5. INSTALL CONSTRUCTION FENCE ON BOTH SIDES OF VEHICLE TRACKING CONTROL PAD WHEN NEEDED OR REQUIRED BY INSPECTOR.

MAINTENANCE NOTES

1. FREQUENT OBSERVATIONS AND MAINTENANCE ARE NECESSARY TO MAINTAIN CONTROL MEASURES IN EFFECTIVE OPERATING CONDITION. INSPECTIONS AND CORRECTIVE MEASURES SHOULD BE DOCUMENTED THOROUGHLY.
2. SEDIMENT TRACKED ONTO THE ADJACENT ROAD SHALL BE REMOVED DAILY, BY SWEEPING OR SHOVELING, AND NEVER WASHED DOWN STORM DRAINS.
3. ROUGHEN, REPLACE AND/OR ADD ROCK AS NEEDED TO MAINTAIN CONSISTENT DEPTH AND TO PREVENT SEDIMENT TRACKING ONTO ADJACENT STREET.
4. PERMANENTLY STABILIZE AREA AFTER VEHICLE TRACKING CONTROL IS REMOVED.

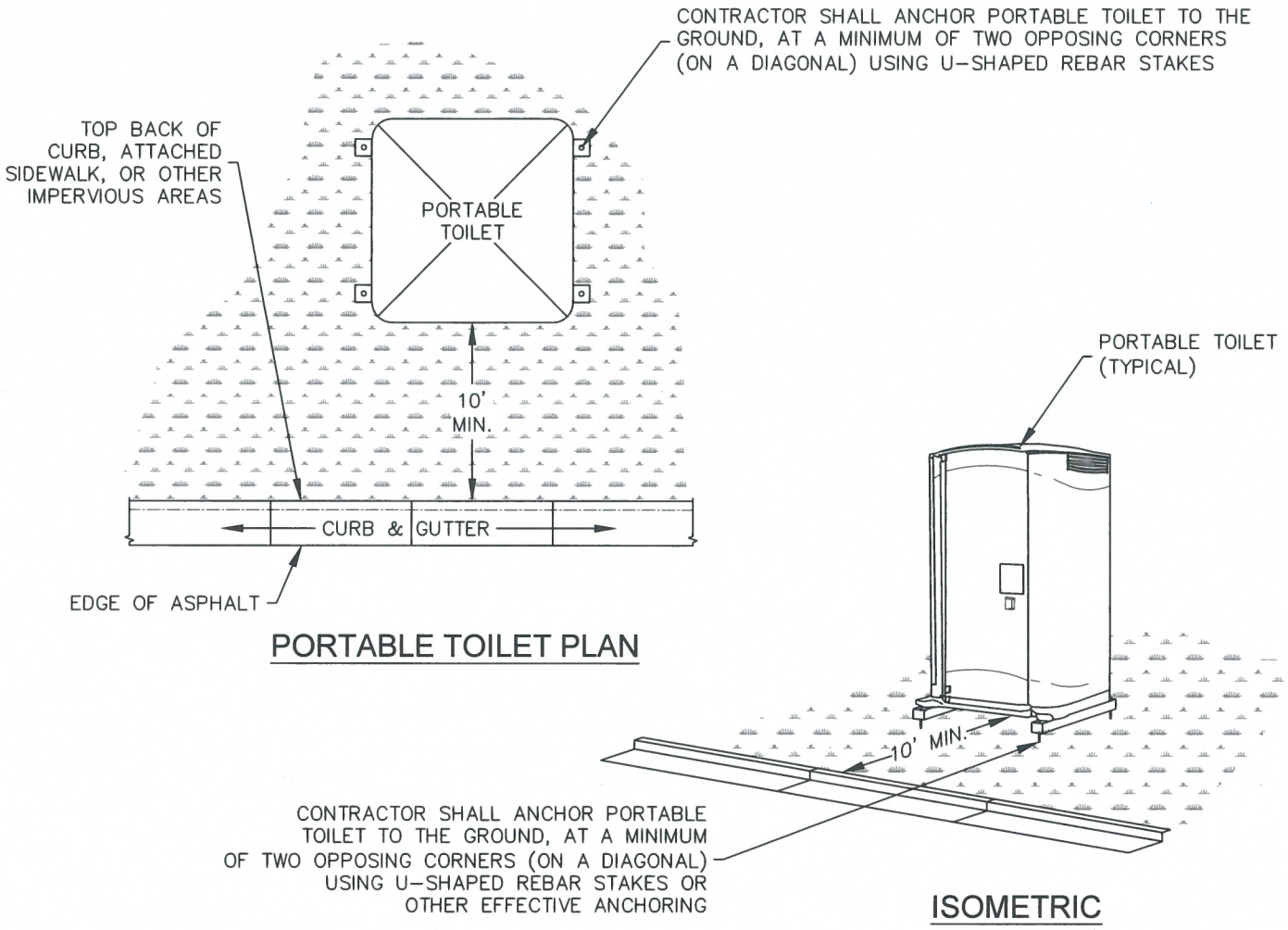
VTC

STORMWATER ENTERPRISE

VEHICLE TRACKING CONTROL

APPROVED: SWENT MANAGER

ISSUED:	REVISED:	DRAWING NO.
10/7/19	8/19/2020	900-VTC



PORTABLE TOILET PLAN

ISOMETRIC

INSTALLATION NOTES

1. PORTABLE TOILETS SHALL BE PLACED A MINIMUM OF 10 FEET BEHIND ALL CURBS, SIDEWALKS, AND OTHER IMPERVIOUS AREAS; 50 FEET FROM STORM INLETS, AND 100 FEET FROM WATERWAYS.
2. PORTABLE TOILETS IN THE RIGHT-OF-WAY ARE REQUIRED TO BE PLACED ON MOBILE TRAILERS AND MUST BE ANCHORED OR WEIGHTED DOWN. PORTABLE TOILETS MAY BE INSTALLED IN ACCORDANCE WITH NOTE #1 IN STAGING AREAS/YARDS.
3. PORTABLE TOILETS SHALL BE SECURELY ANCHORED TO THE GROUND USING U-SHAPED REBAR STAKES, OR OTHER EFFECTIVE ANCHORING.
4. ANCHORING SHALL BE POSITIONED ON AT LEAST TWO OPPOSING (DIAGONAL) CORNERS.
5. TOILET CONTAINMENT PANS MAY BE USED IN PLACE OF A TRAILER AT THE GEC INSPECTOR'S DISCRETION. TOILET CONTAINMENT PANS MUST BE ANCHORED IN PLACE AND MUST NOT BE USED WITHIN THE CITY R.O.W.

MAINTENANCE NOTES

1. FREQUENT OBSERVATIONS AND MAINTENANCE ARE NECESSARY TO MAINTAIN CONTROL MEASURES IN EFFECTIVE OPERATING CONDITION. INSPECTIONS AND CORRECTIVE MEASURES SHOULD BE DOCUMENTED THOROUGHLY.
2. PORTABLE TOILETS SHALL BE SERVICED AT THE NECESSARY INTERVALS TO ELIMINATE THE POSSIBILITY OF OVERFLOW.
3. WHEN THE PORTABLE TOILETS ARE REMOVED, ANY DISTURBED AREAS ASSOCIATED WITH THE INSTALLATION, MAINTENANCE, AND/OR REMOVAL OF THE TOILETS MUST BE PERMANENTLY STABILIZED.

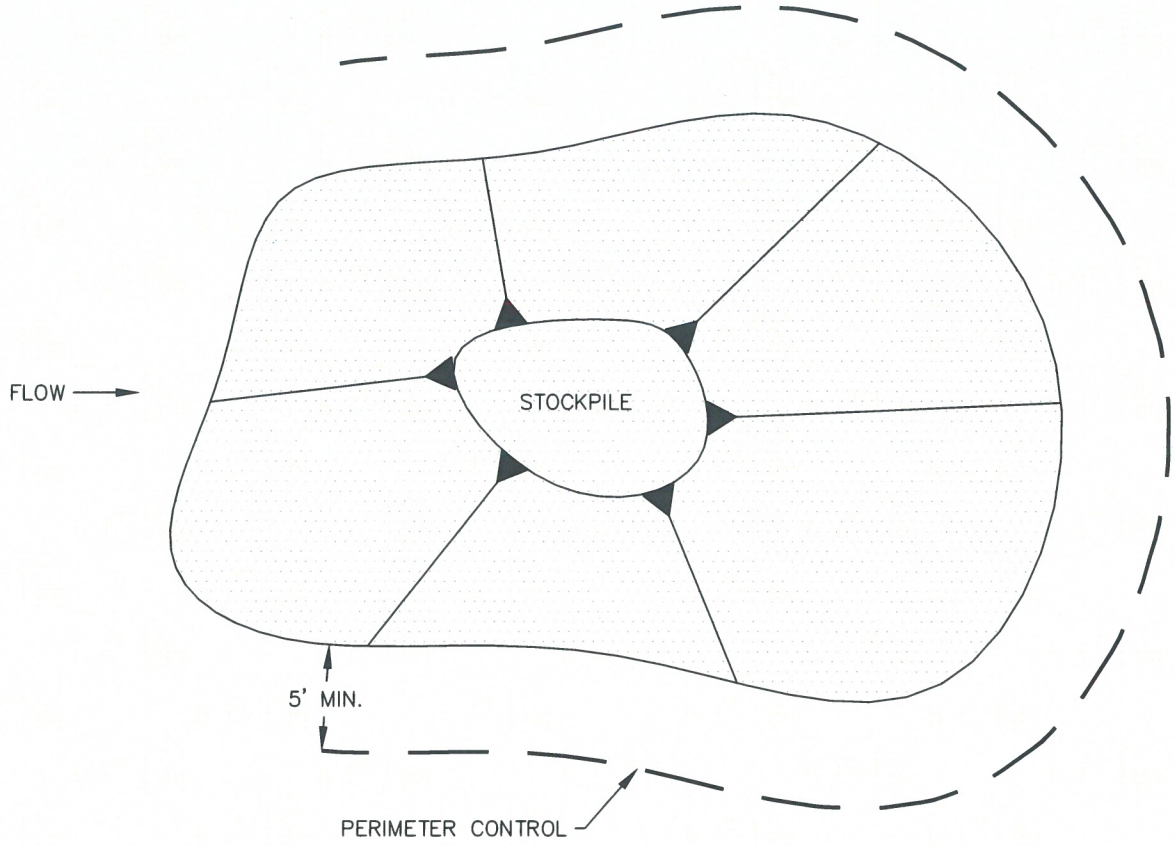
PT

PORTABLE TOILET

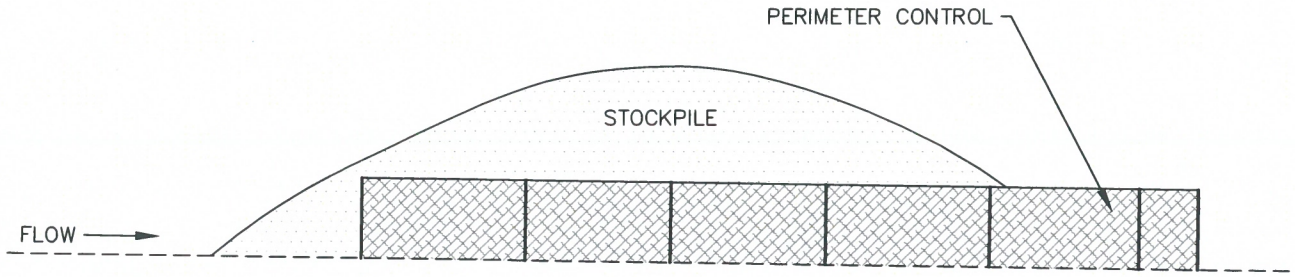
APPROVED:

SWENT MANAGER

ISSUED:	REVISED:	DRAWING NO.
2/19/19	8/19/2020	900-PTM



STOCKPILE PROTECTION PLAN



STOCKPILE PROTECTION ELEVATION

INSTALLATION NOTES

1. INSTALL PERIMETER CONTROL AROUND STOCKPILE ON DOWNGRADIENT SIDE. PERIMETER CONTROL MUST BE SUITABLE TO SITE CONDITIONS AND INSTALLED ACCORDING TO THE RELEVANT DETAIL.
2. FOR 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.

MAINTENANCE NOTES

1. FREQUENT OBSERVATIONS AND MAINTENANCE ARE NECESSARY TO MAINTAIN CONTROL MEASURES IN EFFECTIVE OPERATING CONDITION. INSPECTIONS AND CORRECTIVE MEASURES SHOULD BE DOCUMENTED THOROUGHLY.
2. IF PERIMETER CONTROLS MUST BE MOVED TO ACCESS STOCKPILE, REPLACE PERIMETER CONTROLS BY THE END OF THE WORK DAY.
3. ACCUMULATED SEDIMENT MUST BE REMOVED ACCORDING TO PERIMETER CONTROL DETAIL.

SP

STORMWATER ENTERPRISE

STOCKPILE PROTECTION

APPROVED:

SWENT MANAGER

ISSUED:	REVISED:	DRAWING NO.
10/7/19	8/19/2020	900-SP

APPENDIX E

SWMP Plan (GEC Plan)

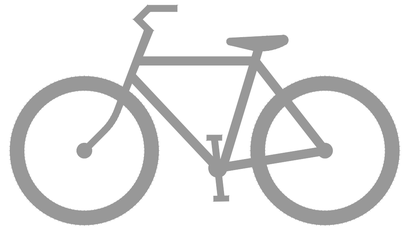
STATE OF COLORADO
DEPARTMENT OF TRANSPORTATION
CITY OF COLORADO SPRINGS
Parks, Recreation and Cultural Services Department

CAPITAL IMPROVEMENT PROJECT
TRAIL IMPROVEMENT PROGRAM
COMBINED FEDERAL AID PROJECT No. TAP M240-162, SubAccT. No.20391

GRADING AND EROSION CONTROL

PLAN of the **ROCK ISLAND** MULTI-USE TRAIL
SAND CREEK TO CONSTITUTION AVENUE
COLORADO SPRINGS & EL PASO COUNTY, COLORADO

21 JULY 2024



SHEET INDEX

TRAIL DATA DESIGN

BEGIN STATION ROCK ISLAND TRAIL	8+00
END STATION ROCK ISLAND TRAIL	106+15
MAXIMUM GRADE	8.33%
MINIMUM HORIZONTAL CURVE	25'
MINIMUM WIDTH	8'
TYPICAL WIDTH	10' (+ 2' Shoulder)
MAXIMUM WIDTH	12' (+ 2' Shoulder)
CROSS-SLOPE	2% (towards drainage)
LENGTH SAND CREEK TRAIL	10,900 LF
SITE AREA	36.8 ACRES
AREA OF DISTURBANCE	18.2 ACRES
CONSTRUCTION AREA	18.2 ACRES

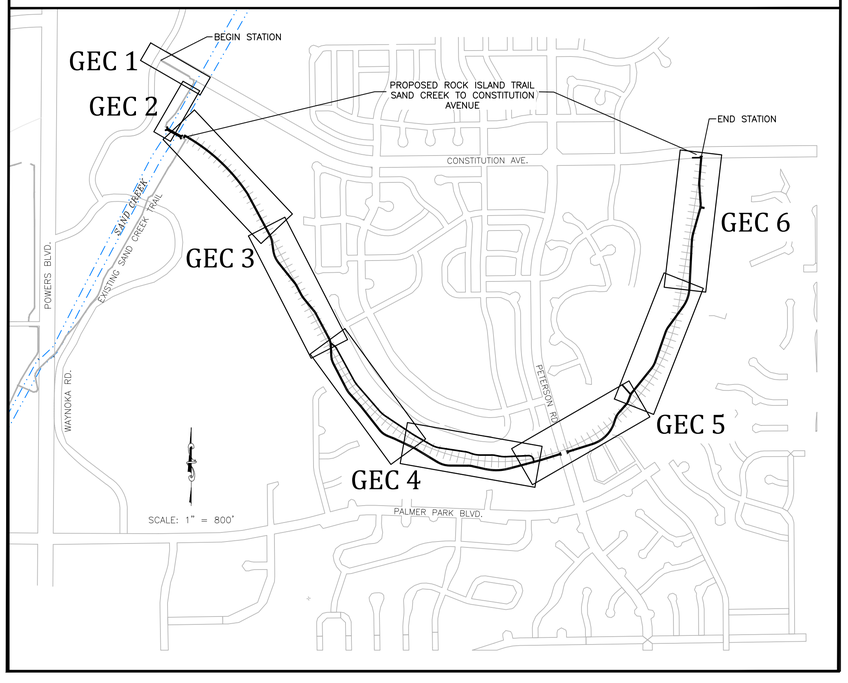
BENCHMARK: FIMS MONUMENT SR10 IS A 2-INCH DIAMETER ALUMINUM CAP STAMPED "CSU FIMS CONTROL SR10" ON TOP OF THE NORTH CURB OF CONSTITUTION AVENUE AT THE NORTHWEST CORNER OF THE BRIDGE OVER SAND CREEK.

*A.G.A./A.P.W.A. STANDARD UTILITY MARKING COLOR CODE

NATURAL GAS	YELLOW
ELECTRIC	RED
WATER	BLUE
WASTEWATER	GREEN

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

VICINITY AND SHEET INDEX MAP



APPROVAL SIGNATURES

TITLE	NAME	SIGNATURE	DATE
DIRECTOR, PARKS, REC. & CULT. SVS PARKS	BRITT HALEY		
OPERATION & DEVELOPMENT MANAGER			
CITY FORESTER			
REG. SUPERVISOR, PARKS, TRAILS & OPEN SPACE	SCOTT ABBOTT		
CONSTRUCTION PROJECT MANAGER	EMILY DUNCAN		
COLORADO DEPARTMENT OF TRANSPORTATION			
EL PASO COUNTY DEPARTMENT OF PUBLIC WORKS	JENNIFER IRVINE, PE		

STATEMENTS

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 Plans. I accept responsibility for any liability caused by any negligent acts or omissions on my part in preparing this Plan.

Engineer of Record signature _____ Date _____

Owner's Statement:

I , the owner/developer have read and will comply with the requirements of this Grading and Erosion Control Plan.

Signature _____ Date _____

El Paso County:

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 withing those 2 years, the Plans will need to be resubmitted for approval, including payment of review fees at the Planning and Community Development Director's discretion.

County Engineer/ECM Administrator _____ Date _____

COLORADO SPRINGS

IN PROGRESS
NOT FOR CONSTRUCTION

For and on Behalf of
Kiowa Engineering Corporation Date

Celebrating 30 years
Kiowa Engineering Corporation
1604 South 21st Street
Colorado Springs, Colorado 80904
(719) 630-7342

Sheet Revisions	90% BID SET
	No Revisions:
	Revised:
	Void:

ROCK ISLAND TRAIL
GRADING AND EROSION CONTROL PLAN
COVER SHEET

Designer:	RNW
Detailer:	RNW
Date:	08/06/2024

Kiowa Proj. No. 16028
TAP M240-162
SubAcct No. 20391
Sheet Number G1

16028-G1-G2.dwg/Aug 15, 2024

EL PASO COUNTY STANDARD NOTES FOR GRADING & 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 / CSWMP during construction is the responsibility of the designated Qualified Stormwater Manager or Certified Erosion Control Inspector. The SWMP / CSWMP 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 effect 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-existing vegetation 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 / CSWMP. 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, uncontaminated groundwater 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 the original manufacturer's labels.

EL PASO COUNTY STANDARD NOTES FOR GRADING & EROSION CONTROL PLANS (cont)

21. No chemical(s) having the potential to be released in stormwater are to be stored or used on-site 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 on-site 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 Kumar & Assoc., 3/29/11 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 / CSWMP), of which this Grading And Erosion Control Plan may be a part. For information or application materials contact:

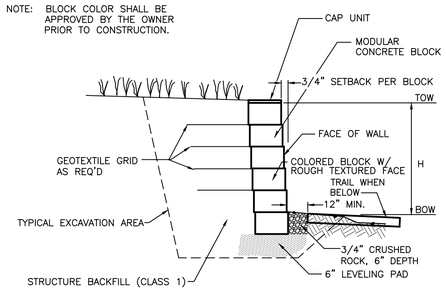
Colorado Department of Public Health and Environment
Water Quality Control Division
WQCD - permits
4300 Cherry Creek Drive South
Denver, CO 80246-1530
Attn: permits unit

PROJECT SPECIFIC NOTES

1. Where El Paso County and Colorado Springs notes contradict, El Paso County notes shall supersede.
2. The SWMP and CSWMP are the same document, one document.
3. ANTICIPATED START 10/01/2024
4. ANTICIPATED CONSTRUCTION END 10/31/2025
5. ANTICIPATED STABILIZATION 8/01/2025
6. RECIEVING WATER SAND CREEK
7. SITE IS NATIVE GRASS AND WILL REMAIN NATIVE GRASS
8. There are no on site aspahalt or concretee batch plants anticipated.

COLORADO SPRINGS STANDARD GRADING & EROSION CONTROL PLAN NOTES

1. No clearing, grading, excavation, or other land disturbing activities shall be allowed (except for work directly related to the installation of Initial Control Measures) until a City GEC Permit has been issued.
2. All land disturbing activities must be performed in accordance with and the approved GEC Plan and CSWMP.
3. Initial Control Measures shall be installed and inspected prior to any land disturbance activities taking place. An initial site inspection will not be scheduled until a City GEC Permit has been "conditionally approved." Call City Stormwater Inspections, 385-5980, at least 48 hours prior to construction to schedule an initial inspection and obtain full permit approval.
4. Individuals shall comply with the "Colorado Water Quality Control Act" (Title 25, Article 8, CRS) and the "Clean Water Act" (33 USC 1344), including regulations promulgated and certifications or permits issued, in addition to the requirements included in the City's MS4 Permit, Stormwater Construction Manual. In the event of conflicts between these requirements and water quality control laws, rules, or regulations of other Federal or State agencies, the more restrictive laws, rules, or regulations shall apply.
5. Stormwater discharges from construction sites shall not cause or threaten to cause pollution, contamination, or degradation of State Waters.
6. All Construction Control Measures shall be maintained until permanent stabilization measures are implemented. Temporary Construction Control Measures must be removed prior to permit closeout.
7. Concrete wash water shall not be discharged to or allowed to runoff to State Waters or any surface or subsurface storm drainage system or facilities.
8. Building, construction, excavation, or other 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. Construction Control Measures may be required by the GEC Inspector if deemed necessary based on specific conditions and circumstances (e.g., estimated time of exposure, season of the year, etc.).
9. All wastes composed of building materials must be removed from the construction site for disposal in accordance with local and state regulatory requirements. No building material wastes or unused building materials shall be buried, dumped, or discharged at the site.
10. The permittee shall be responsible for the removal of all construction debris, dirt, trash, rock, sediment, and sand that may accumulate in the storm sewer or other drainage conveyance system as a result of construction activities.
11. 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. Materials shall not be stored in a location where they may be carried by stormwater runoff into the storm sewer system at any time.
12. Spill prevention and containment measures shall be used at all storage, equipment fueling, and equipment servicing areas so as to contain all spills and prevent any spilled material from entering the MS4, including any surface or subsurface storm drainage system or facility. Bulk storage structures for petroleum products and other chemicals shall have secondary containment or equivalent adequate protection. All spills shall be cleaned up immediately after discovery, or contained until appropriate cleanup methods can be employed. Manufacturer's recommended methods for spill cleanup shall be followed, along with proper disposal methods.
13. Sediment (mud and dirt) transported onto a public road, regardless of the size of the site, shall be cleaned as soon as possible after discovery.
14. No chemicals are to be added to the discharge unless permission for the use of a specific chemical is granted by the State. In granting the use of such chemicals, special conditions and monitoring may be required.
15. Control Measures for all slopes, channels, ditches, or any disturbed land area shall be completed within fourteen (14) calendar days after final grading or final land disturbance has been completed. Disturbed areas which are not at final grade but will remain dormant for longer than fourteen (14) days shall be roughened, mulched, tackified, or stabilized with tarps within fourteen (14) days after interim grading. An area that is going to remain in an interim state for more than sixty (60) days shall also be seeded, unless an alternative stabilization measure is accepted at the inspector's discretion. All temporary Construction Control Measures shall be maintained until final stabilization is achieved.
16. The GEC Plan will be subject to re-review and re-acceptance by the Stormwater Enterprise should any of the following occur: grading does not commence within twelve (12) months of the City's acceptance of the plan, the construction site is idle for twelve (12) consecutive months, a change in property ownership occurs, the planned development changes, or any other major modifications are proposed as defined in the Stormwater Construction Manual.
17. It is not permissible for any person to modify the grade of the earth on any utility easement or utility right-of-way without written approval from the utility owner. City acceptance of the GEC Plan and CSWMP does not satisfy this requirement. The plan shall not increase or divert water towards utility facilities. Any changes to existing utility facilities to accommodate the plan must be approved by the affected utility owner prior to implementing the plan. The cost to relocate or protect existing utilities or to provide interim access shall be at the applicant's expense.
18. Applicant represents and warrants that they have the legal authority to grade and/or construct improvements on adjacent property. The City has not reviewed the developer's authority to modify adjacent property. An approved GEC Permit does not provide approval for the Applicant to perform work on adjacent property.



2 CONCRETE BLOCK FACING MSE WALL CROSS SECTION
NOT TO SCALE

WALL NOTES:

1. SHOP DRAWINGS DEPICTING THE DESIGN OF BLOCK WALL SHALL BE SUBMITTED TO ENGINEER PRIOR TO CONSTRUCTION PER THE PROJECT SPECIFICATIONS. DESIGN SHALL BE COMPLETED UNDER THE DIRCT SUPERVISION OF A PROPERLY REGISTERED PROFESSIONAL ENGINEER WITH THE STATE OF COLORADO. FINAL CONSTRUCTION DRAWINGS SHALL BEAR HIS/HER SEAL AND SIGNATURE.
2. BUILDING PERMITS FOR THE INSTALLATION OF THE MSE WALL MAY BE REQUIRED THROUGH THE PIKES PEAK REGIONAL BUILDING DEPARTMENT.
3. CONTRACTOR TO OBTAIN EPC–DPW ROAD CUT WORK PERMIT FOR WORK IN RIGHT–OF–WAY.
4. CONTRACTOR TO SUPPLY TO EPC–DPW CONSTRUCTION TRAFFIC CONTROL PLAN FOR REVIEW AND APPROVAL PRIOR TO COMMENCING WITH ANY WORK WITHIN THE PETERSON ROAD RIGHT–OF–WAY.

COLORADO SPRINGS

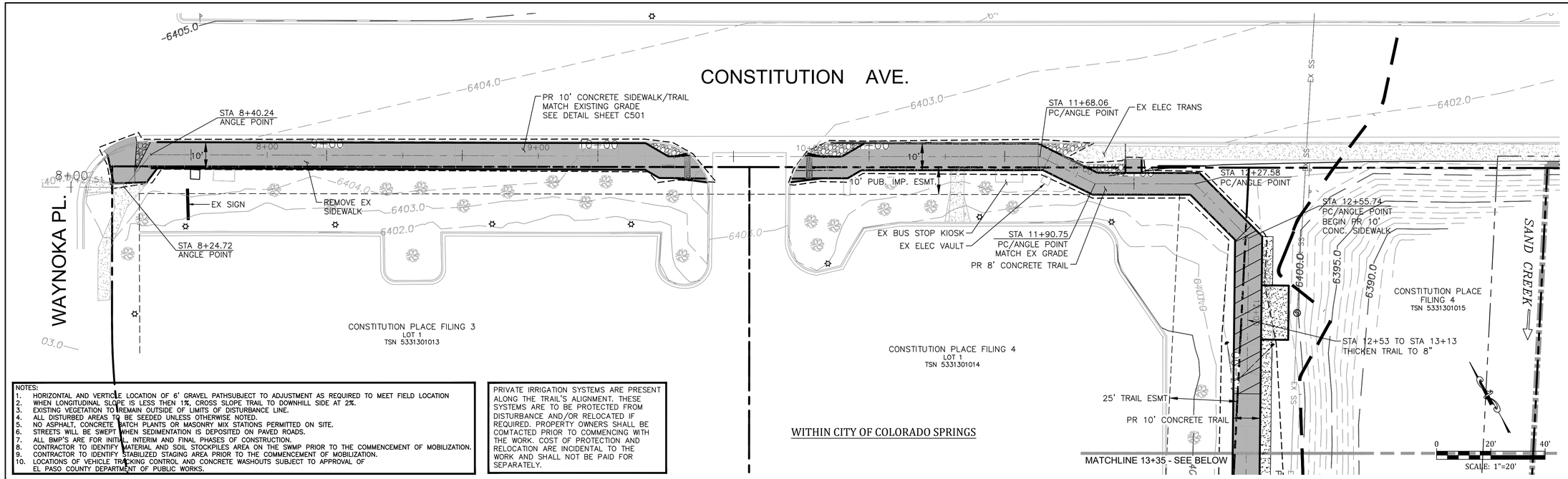
IN PROGRESS
NOT FOR CONSTRUCTION

For and on Behalf of
Kiowa Engineering Corporation Date

Celebrating 30 years
Kiowa Engineering Corporation
1604 South 21st Street
Colorado Springs, Colorado 80904
(719) 630-7342

Sheet Revisions	90% BID SET	ROCK ISLAND TRAIL	Kiowa Proj. No. 16028
	No Revisions:	GRADING AND EROSION CONTROL PLAN	TAP M240–162
	Revised:	STANDARD NOTES & DETAILS	SubAcct No. 20391
	Void:	Designer: RNW / Detailer: RNW / Date: 08/06/2024	Sheet Number G2

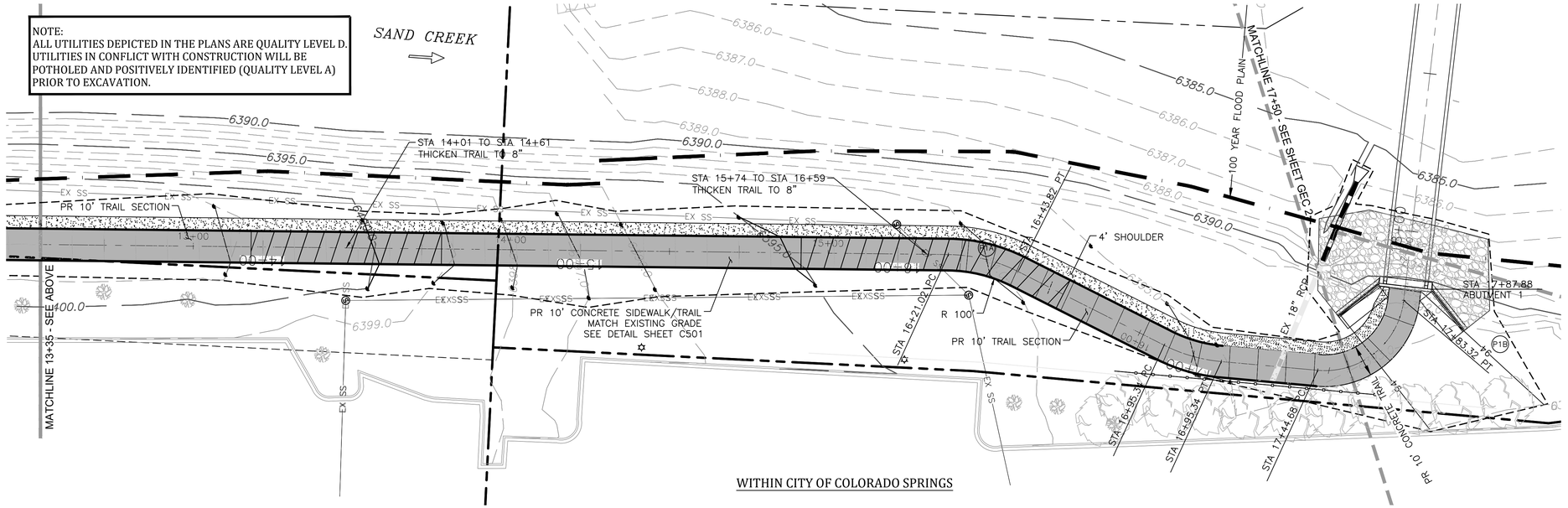
16028–G1–G2.dwg/Aug 15, 2024



NOTES:
1. HORIZONTAL AND VERTICLE LOCATION OF 6' GRAVEL PATHSUBJECT TO ADJUSTMENT AS REQUIRED TO MEET FIELD LOCATION
2. WHEN LONGITUDINAL SLOPE IS LESS THEN 1%, CROSS SLOPE TRAIL TO DOWNHILL SIDE AT 2%.
3. EXISTING VEGETATION TO REMAIN OUTSIDE OF LIMITS OF DISTURBANCE LINE.
4. ALL DISTURBED AREAS TO BE SEEDED UNLESS OTHERWISE NOTED.
5. NO ASPHALT, CONCRETE, BATCH PLANTS OR MASONRY MIX STATIONS PERMITTED ON SITE.
6. STREETS WILL BE SWEPT WHEN SEDIMENTATION IS DEPOSITED ON PAVED ROADS.
7. ALL BMP'S ARE FOR INITIAL, INTERIM AND FINAL PHASES OF CONSTRUCTION.
8. CONTRACTOR TO IDENTIFY MATERIAL AND SOIL STOCKPILES AREA ON THE SWMP PRIOR TO THE COMMENCEMENT OF MOBILIZATION.
9. CONTRACTOR TO IDENTIFY STABILIZED STAGING AREA PRIOR TO THE COMMENCEMENT OF MOBILIZATION.
10. LOCATIONS OF VEHICLE TRACKING CONTROL AND CONCRETE WASHOUTS SUBJECT TO APPROVAL OF EL PASO COUNTY DEPARTMENT OF PUBLIC WORKS.

PRIVATE IRRIGATION SYSTEMS ARE PRESENT ALONG THE TRAIL'S ALIGNMENT. THESE SYSTEMS ARE TO BE PROTECTED FROM DISTURBANCE AND/OR RELOCATED IF REQUIRED. PROPERTY OWNERS SHALL BE COMTACTED PRIOR TO COMMENCING WITH THE WORK. COST OF PROTECTION AND RELOCATION ARE INCIDENTAL TO THE WORK AND SHALL NOT BE PAID FOR SEPARATELY.

NOTE:
ALL UTILITIES DEPICTED IN THE PLANS ARE QUALITY LEVEL D. UTILITIES IN CONFLICT WITH CONSTRUCTION WILL BE POTHOLED AND POSITIVELY IDENTIFIED (QUALITY LEVEL A) PRIOR TO EXCAVATION.



CAUTION!!!
EXISTING UTILITIES TO BE PROTECTED FROM DISTURBANCE WHEN INSTALLING ALL DRAINAGE INFRASTRUCTURE.

CURVE DATA

P1A	Δ=12°49'16" R=100.00' L=22.38'
P1B	Δ=104°52'04" R=50.00' L=91.51'

SCALE: 1"=20'

IN PROGRESS
NOT FOR CONSTRUCTION

For and on Behalf of
Kiowa Engineering Corporation Date

COLORADO SPRINGS

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Kiowa Engineering Corporation Date

Celebrating 30 years
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1604 South 21st Street
Colorado Springs, Colorado 80904
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Sheet Revisions	90% BID SET
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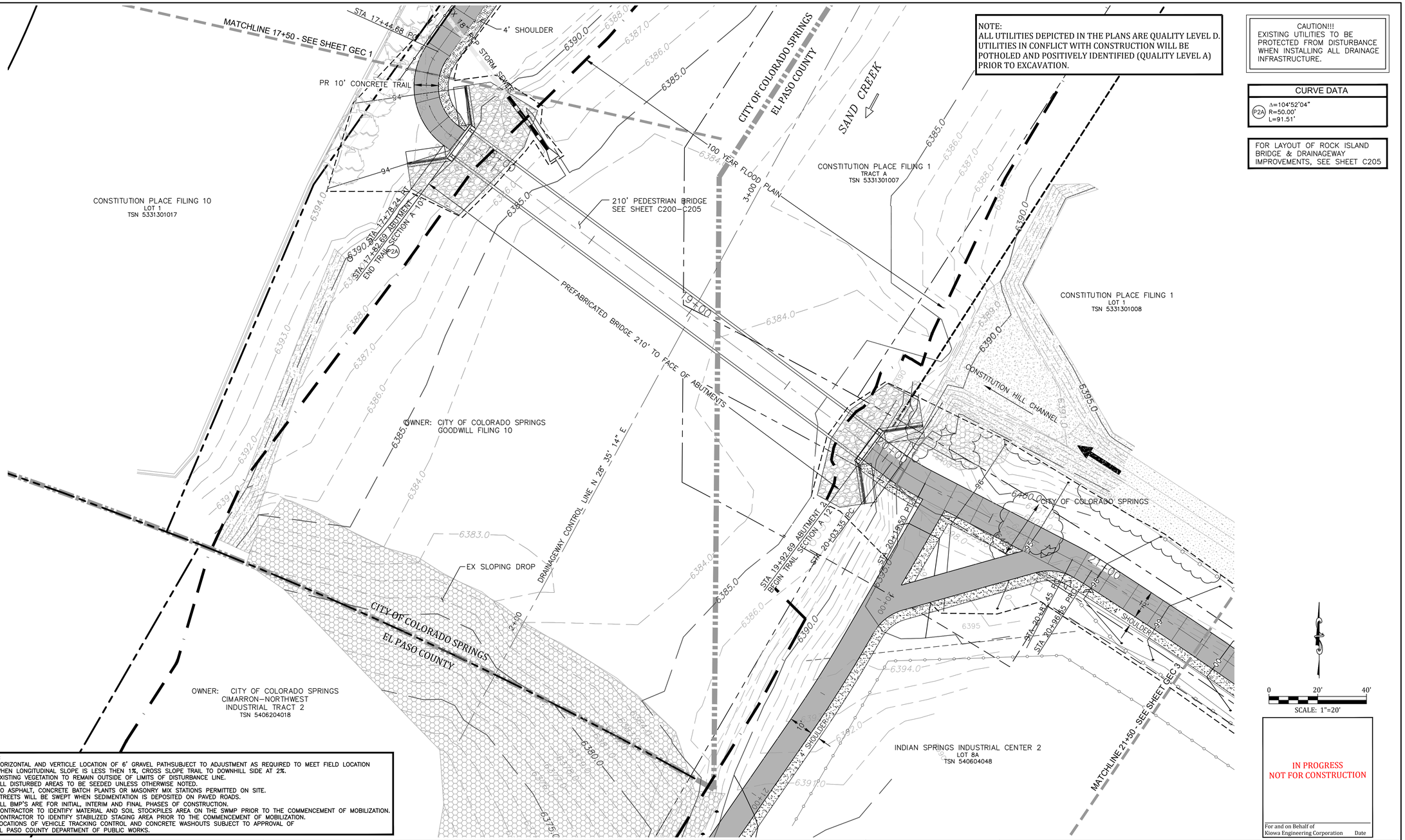
	Revised:
	Void:

ROCK ISLAND TRAIL
GRADING AND EROSION CONTROL PLAN
STA 8+00 TO 17+50

Designer:	RNW		
Detailer:	RNW		
Date:	08/06/2024		

Kiowa Proj. No. 16028
TAP M240-162
SubAcct No.20391
Sheet Number GEC 1

16028-GEC1-GEC2.dwg/Aug 15, 2024



NOTE:
ALL UTILITIES DEPICTED IN THE PLANS ARE QUALITY LEVEL D. UTILITIES IN CONFLICT WITH CONSTRUCTION WILL BE POTHOLED AND POSITIVELY IDENTIFIED (QUALITY LEVEL A) PRIOR TO EXCAVATION.

CAUTION!!!
EXISTING UTILITIES TO BE PROTECTED FROM DISTURBANCE WHEN INSTALLING ALL DRAINAGE INFRASTRUCTURE.

CURVE DATA	
F2A	Δ=104°52'04" R=50.00' L=91.51'

FOR LAYOUT OF ROCK ISLAND BRIDGE & DRAINAGEWAY IMPROVEMENTS, SEE SHEET C205

NOTES:
1. HORIZONTAL AND VERTICLE LOCATION OF 6' GRAVEL PATHSUBJECT TO ADJUSTMENT AS REQUIRED TO MEET FIELD LOCATION
2. WHEN LONGITUDINAL SLOPE IS LESS THEN 1%, CROSS SLOPE TRAIL TO DOWNHILL SIDE AT 2%.
3. EXISTING VEGETATION TO REMAIN OUTSIDE OF LIMITS OF DISTURBANCE LINE.
4. ALL DISTURBED AREAS TO BE SEEDED UNLESS OTHERWISE NOTED.
5. NO ASPHALT, CONCRETE BATCH PLANTS OR MASONRY MIX STATIONS PERMITTED ON SITE.
6. STREETS WILL BE SWEPT WHEN SEDIMENTATION IS DEPOSITED ON PAVED ROADS.
7. ALL BMP'S ARE FOR INITIAL, INTERIM AND FINAL PHASES OF CONSTRUCTION.
8. CONTRACTOR TO IDENTIFY MATERIAL AND SOIL STOCKPILES AREA ON THE SWMP PRIOR TO THE COMMENCEMENT OF MOBILIZATION.
9. CONTRACTOR TO IDENTIFY STABILIZED STAGING AREA PRIOR TO THE COMMENCEMENT OF MOBILIZATION.
10. LOCATIONS OF VEHICLE TRACKING CONTROL AND CONCRETE WASHOUTS SUBJECT TO APPROVAL OF EL PASO COUNTY DEPARTMENT OF PUBLIC WORKS.

0 20' 40'
SCALE: 1"=20'

IN PROGRESS
NOT FOR CONSTRUCTION
For and on Behalf of Kiowa Engineering Corporation Date

COLORADO SPRINGS

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NOT FOR CONSTRUCTION
For and on Behalf of Kiowa Engineering Corporation Date

Celebrating 30 years
Kiowa Engineering Corporation
1604 South 21st Street
Colorado Springs, Colorado 80904
(719) 630-7342

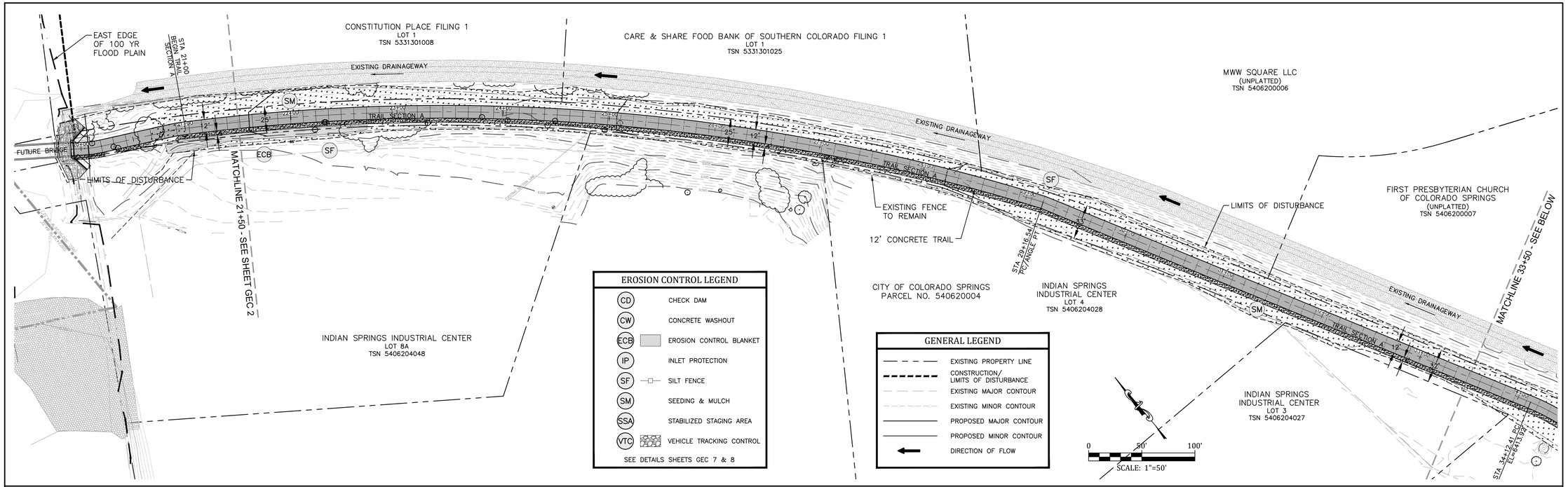
Sheet Revisions	90% BID SET
	No Revisions:
	Revised:
	Void:

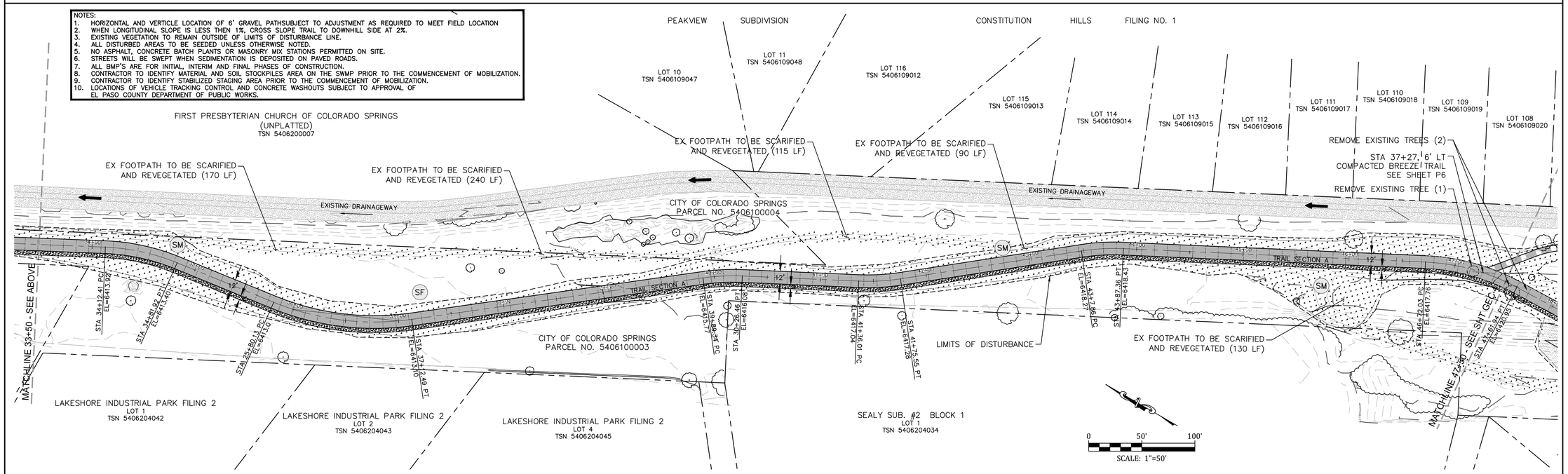
ROCK ISLAND TRAIL
GRADING AND EROSION CONTROL PLAN
STA 17+50 TO 21+50

Designer:	RNW		
Detailer:	RNW		
Date:	08/06/2024		

Kiowa Proj. No. 16028
TAP M240-162
SubAcct No.20391
Sheet Number GEC 2

16028-GEC1-GEC2.dwg/Aug 15, 2024





COLORADO SPRINGS

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Kiowa Engineering Corporation
1604 South 21st Street
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(719) 630-7342

Sheet Revisions	90% BID SET
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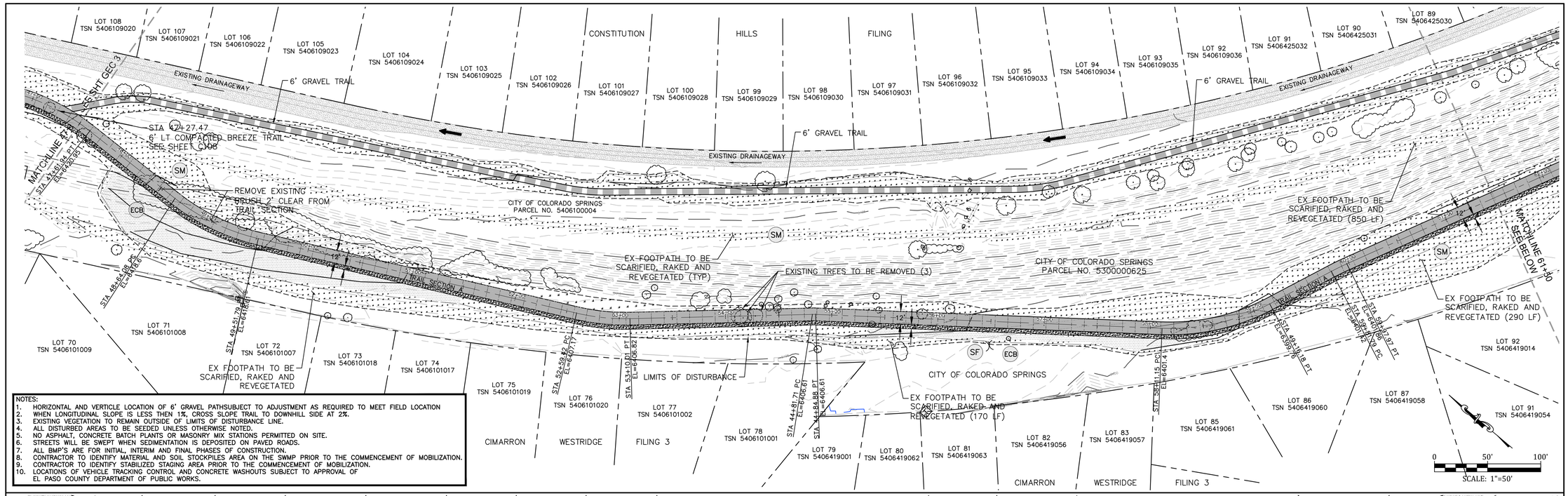
	Revised:
	Void:

ROCK ISLAND TRAIL
GRADING AND EROSION CONTROL PLAN
STA 21+50 TO 47+50

Designer:	RNW		
Detailer:	RNW		
Date:	08/06/2024		

Kiowa Proj. No. 16028
TAP M240-162
SubAcct No.20391
Sheet Number GEC 3

16028-GEC3-GEC8.dwg/Aug 15, 2024



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COLORADO SPRINGS

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Colorado Springs, Colorado 80904
(719) 630-7342

Sheet Revisions

90% BID SET

No Revisions:

Revised:

Void:

ROCK ISLAND TRAIL
GRADING AND EROSION CONTROL PLAN
STA 47+50 TO 75+00

Designer: RNW
Detailer: RNW
Date: 08/06/2024

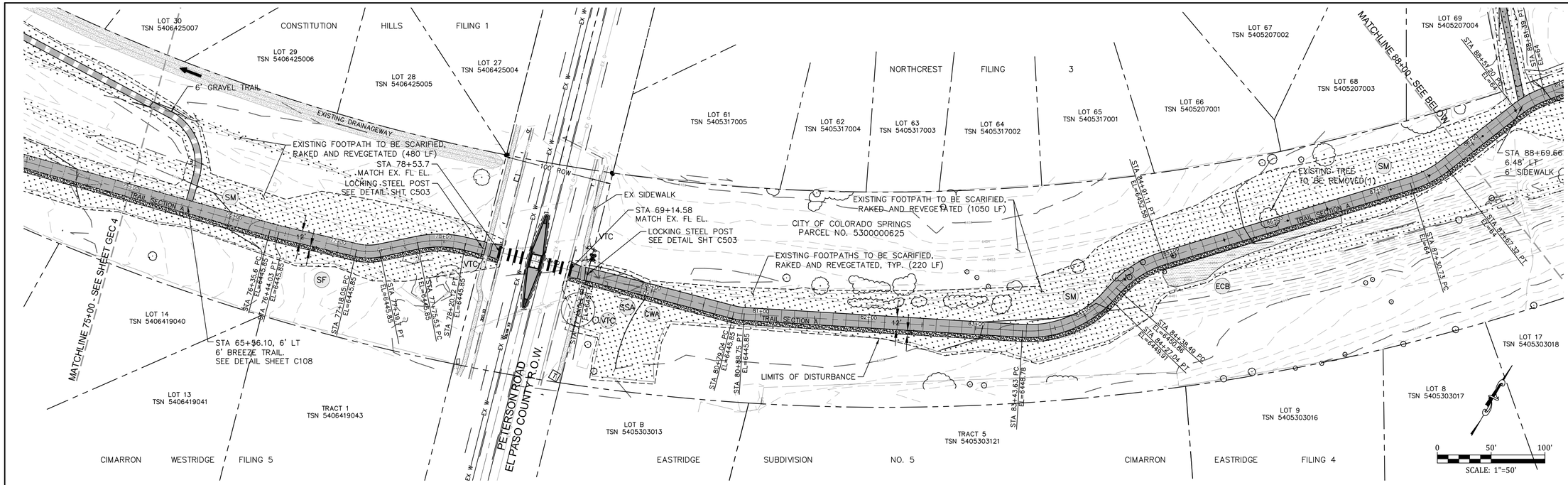
Kiowa Proj. No. 16028

TAP M240-162

SubAcct No.20391

Sheet Number GEC 4

16028-GEC3-GEC8.dwg/Aug 15, 2024



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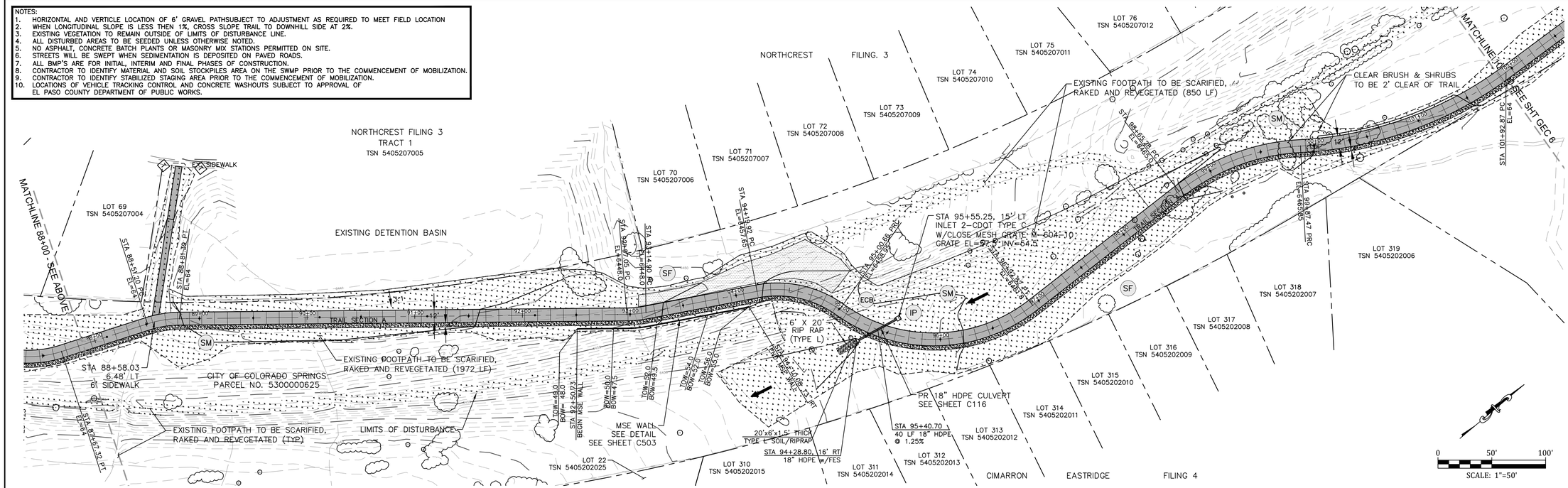

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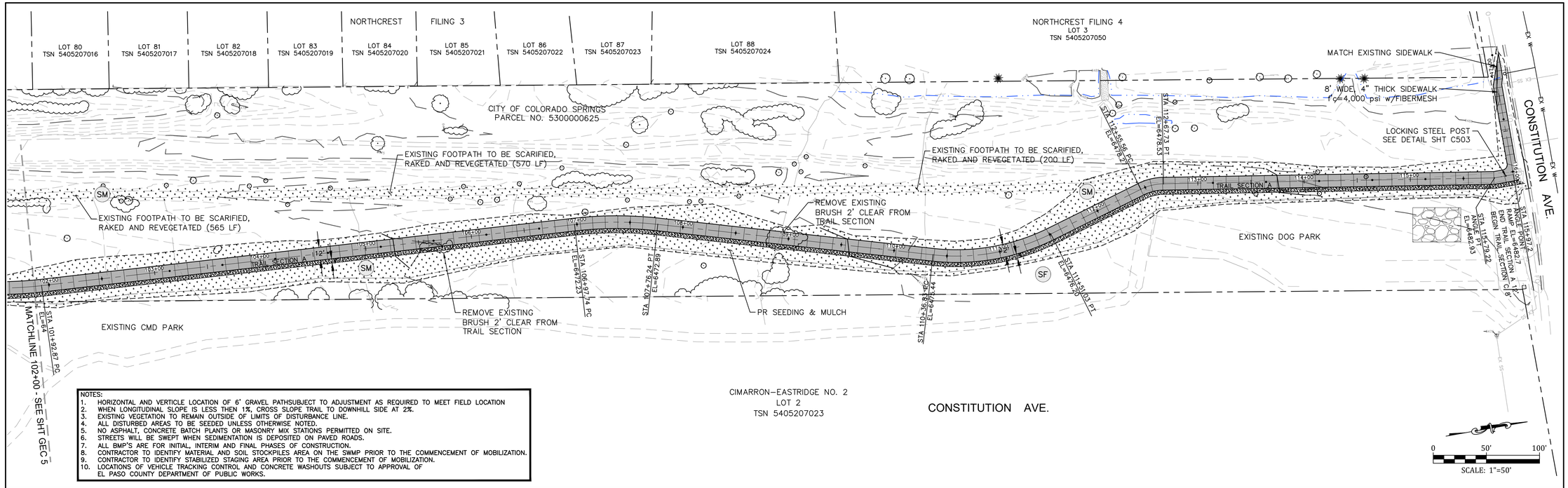
Sheet Revisions	90% BID SET	ROCK ISLAND TRAIL	Kiowa Proj. No. 16028
	No Revisions:	GRADING AND EROSION CONTROL PLAN	TAP M240-162
	Revised:	STA 75+00 TO 102+00	SubAcct No.20391
	Void:	Designer: RNW / Detailer: RNW / Date: 08/06/2024	Sheet Number GEC 5

16028-GEC3-GEC8.dwg/Aug 15, 2024



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CIMARRON–EASTRIDGE NO. 2
LOT 2
TSN 5405207023

CONSTITUTION AVE.

COLORADO SPRINGS

IN PROGRESS
NOT FOR CONSTRUCTION

For and on Behalf of
Kiowa Engineering Corporation Date

Celebrating 30 years
Kiowa Engineering Corporation
1604 South 21st Street
Colorado Springs, Colorado 80904
(719) 630-7342

Sheet Revisions

90% BID SET

No Revisions:

Revised:

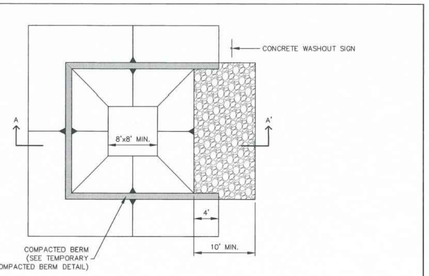
Void:

ROCK ISLAND TRAIL
GRADING AND EROSION CONTROL PLAN
STA 102+00 TO 117+50

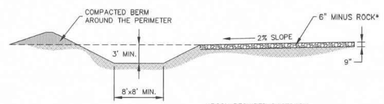
Designer: RNW
Detailer: RNW
Date: 08/06/2024

Kiowa Proj. No. 16028
TAP M240–162
SubAcct No.20391
Sheet Number GEC 6

16028–GEC3–GEC8.dwg/Aug 15, 2024



CONCRETE WASHOUT AREA PLAN



SECTION A-A'

*ROCK REQUIRED BASED ON SITE CONDITIONS AT THE DISCRETION OF THE GEC INSPECTOR

CWA

STORMWATER ENTERPRISE

CONCRETE WASHOUT AREA

APPROVED: CMENT MANAGER

ISSUED: 10/7/19 | REVISED: 8/19/2020 | DRAWING NO. 900-CWA-1

INSTALLATION NOTES:

1. SEE PLAN VIEW FOR:
   -LOCATION OF CONCRETE WASHOUT AREA
2. LOCATE AT LEAST 50' AWAY FROM STATE WATERS MEASURED HORIZONTALLY.
3. AN IMPERMEABLE LINER (16 MIL MINIMUM THICKNESS) IS REQUIRED IF CONCRETE WASH AREA IS LOCATED WITHIN 400' OF STATE WATERS OR 1000' OF WELLS OR DRINKING WATER SOURCES.
4. DO NOT LOCATE IN AREAS WHERE SHALLOW GROUNDWATER MAY BE PRESENT.
5. THE CONCRETE WASH AREA SHALL BE INSTALLED PRIOR TO CONCRETE PLACEMENT ON SITE.
6. CONCRETE WASH AREA SHALL INCLUDE A FLAT SUBSURFACE PIT THAT IS AT LEAST 8' BY 8'.
7. BERM SURROUNDING SIDES AND BACK OF CONCRETE WASH AREA SHALL HAVE A MINIMUM HEIGHT OF 2 FEET.
8. CONCRETE WASH AREA ENTRANCE SHALL BE SLOPED 2% TOWARDS THE CONCRETE WASH AREA.
9. SIGNS SHALL BE PLACED AT THE CONCRETE WASH AREA.
10. USE EXCAVATED MATERIAL FOR PERIMETER BERM CONSTRUCTION.

MAINTENANCE NOTES:

1. FREQUENT OBSERVATIONS AND MAINTENANCE ARE NECESSARY TO MAINTAIN CONTROL MEASURES IN EFFECTIVE OPERATING CONDITION. INSPECTIONS AND CORRECTIVE MEASURES SHOULD BE DOCUMENTED THOROUGHLY.
2. THE CONCRETE WASH AREA SHALL BE REPAIRED, CLEANED, OR ENLARGED AS NECESSARY TO MAINTAIN CAPACITY FOR CONCRETE WASTE. CONCRETE MATERIALS ACCUMULATED IN THE PIT SHALL BE REMOVED ONCE THE MATERIALS HAVE REACHED A DEPTH OF ⅔ THE HEIGHT OF THE CONCRETE WASH AREA.
3. CONCRETE WASHOUT WATER, WASTED PIECES OF CONCRETE, AND ALL OTHER DEBRIS IN THE SUBSURFACE PIT SHALL BE TRANSPORTED FROM THE JOB SITE IN A WATER-TIGHT CONTAINER AND DISPOSED OF PROPERLY.
4. THE CONCRETE WASH AREA SHALL REMAIN IN PLACE UNTIL ALL CONCRETE FOR THE PROJECT IS PLACED.
5. PERMANENTLY STABILIZE AREA AFTER CONCRETE WASH AREA IS REMOVED.

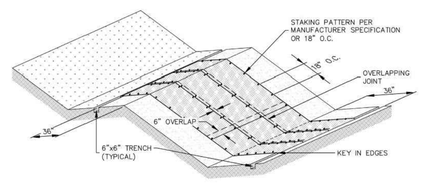
CWA

STORMWATER ENTERPRISE

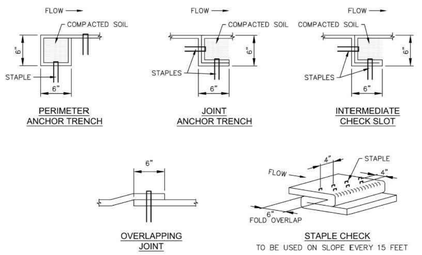
CONCRETE WASHOUT AREA

APPROVED: CMENT MANAGER

ISSUED: 10/7/19 | REVISED: 8/19/2020 | DRAWING NO. 900-CWA-2



EROSION CONTROL BLANKET



ECB

STORMWATER ENTERPRISE

EROSION CONTROL BLANKET

APPROVED: CMENT MANAGER

ISSUED: 10/7/19 | REVISED: 8/19/2020 | DRAWING NO. 900-ECB-1

INSTALLATION NOTES:

1. 100% NATURAL AND BIODEGRADABLE MATERIALS ARE REQUIRED FOR EROSION CONTROL BLANKETS. TRM PRODUCTS MAY ME USED WHERE APPROPRIATE AS DESIGNATED BY THE ENGINEER.
2. IN AREAS WHERE EROSION CONTROL BLANKETS ARE SHOWN ON THE PLANS, THE PERMITTEE SHALL PLACE TOPSOIL AND PERFORM FINAL GRADING, SURFACE PREPARATION, AND SEEDING AND MULCHING. SUBGRADE SHALL BE SMOOTH AND MOIST PRIOR TO EROSION CONTROL BLANKET INSTALLATION, AND THE EROSION CONTROL BLANKET SHALL BE IN FULL CONTACT WITH THE SUBGRADE. NO GAPS OR VOIDS SHALL EXIST UNDER THE BLANKET.
3. PERIMETER ANCHOR TRENCH SHALL BE USED ALONG THE OUTSIDE PERIMETER OF ALL BLANKET AREAS.
4. JOINT ANCHOR TRENCH SHALL BE USED TO JOIN ROLLS OF EROSION CONTROL BLANKETS TOGETHER (LONGITUDINALLY AND TRANSVERSELY) FOR ALL EROSION CONTROL BLANKETS.
5. INTERMEDIATE CHECK SLOT OR STAPLE CHECK SHALL BE INSTALLED EVERY 15' DOWN SLOPES. IN DRAINAGEWAYS, INSTALL CHECK SLOTS EVERY 25' PERPENDICULAR TO FLOW DIRECTION.
6. OVERLAPPING JOINT DETAIL SHALL BE USED TO JOIN ROLLS OF EROSION CONTROL BLANKETS TOGETHER FOR EROSION CONTROL BLANKETS ON SLOPES.
7. MATERIAL SPECIFICATIONS OF EROSION CONTROL BLANKETS SHALL CONFORM TO TABLE ECB-1.
8. ANY AREAS OF SEEDING AND MULCHING DISTURBED IN THE PROCESS OF INSTALLING EROSION CONTROL BLANKETS SHALL BE RESEEDED AND MULCHED.
9. STRAW EROSION CONTROL BLANKETS SHALL NOT BE USED WITHIN STREAMS AND DRAINAGE CHANNELS.
10. COMPACT ALL TRENCHES.

MAINTENANCE NOTES:

1. FREQUENT OBSERVATIONS AND MAINTENANCE ARE NECESSARY TO MAINTAIN CONTROL MEASURES IN EFFECTIVE OPERATING CONDITION. INSPECTIONS AND CORRECTIVE MEASURES SHOULD BE DOCUMENTED THOROUGHLY.
2. EROSION CONTROL BLANKETS SHALL BE LEFT IN PLACE TO EVENTUALLY BIODEGRADE. TRM MUST BE REMOVED AT THE DISCRETION OF THE GEC INSPECTOR.
3. ANY EROSION CONTROL BLANKET PULLED OUT, TORN, OR OTHERWISE DAMAGED SHALL BE REPAIRED OR REINSTALLED. ANY SUBGRADE AREAS BELOW GEOTEXTILE THAT HAVE ERODED TO CREATE A VOID UNDER THE BLANKET, OR THAT REMAIN DEVOID OF GRASS SHALL BE REPAIRED, RESEEDED AND MULCHED AND THE EROSION CONTROL BLANKET REINSTALLED.

TABLE ECB-1, EROSION CONTROL BLANKET MATERIAL SPECIFICATIONS

TYPE	COCONUT CONTENT	STRAW CONTENT	EXCELSIOR CONTENT	RECOMMENDED NETTING
STRAW	–	100%	–	DOUBLE/ NATURAL
STRAW-COCONUT	30% MIN.	70% MAX.	–	DOUBLE/ NATURAL
COCONUT	100%	–	–	DOUBLE/ NATURAL
EXCELSIOR	–	–	100%	DOUBLE/ NATURAL

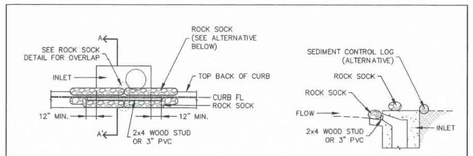
ECB

STORMWATER ENTERPRISE

EROSION CONTROL BLANKET

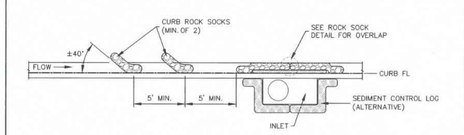
APPROVED: CMENT MANAGER

ISSUED: 10/7/19 | REVISED: 8/19/2020 | DRAWING NO. 900-ECB-2



CURB INLET PROTECTION PLAN

SECTION A-A'



CURB ROCK SOCKS UPSTREAM OF INLET PROTECTION

INSTALLATION NOTES:

1. SEE ROCK SOCK DETAIL FOR INSTALLATION REQUIREMENTS.
2. PLACEMENT OF THE ROCK SOCK SHALL BE APPROXIMATELY 40 DEGREES FROM THE CURB.
3. ROCK SOCKS ARE TO BE FLUSH WITH THE CURB AND SPACED A MINIMUM OF 5' APART.
4. AT LEAST TWO CURB ROCK SOCKS IN SERIES ARE REQUIRED UPSTREAM OF ON-GRADIENT INLETS.
5. ADDITIONAL ROCK SOCKS MAY BE REQUIRED AT GEC INSPECTOR'S DISCRETION.

MAINTENANCE NOTES:

1. FREQUENT OBSERVATIONS AND MAINTENANCE ARE NECESSARY TO MAINTAIN CONTROL MEASURES IN EFFECTIVE OPERATING CONDITION. INSPECTIONS AND CORRECTIVE MEASURES SHOULD BE DOCUMENTED THOROUGHLY.
2. ACCUMULATED SEDIMENT MUST BE REMOVED WHEN THE HEIGHT REACHES ½ OF THE DESIGN DEPTH OF THE INLET BARRIER.
3. ROCK SOCKS MUST REMAIN UNTIL THE UPSTREAM DISTURBANCE AREA IS STABILIZED.
4. PERMANENTLY STABILIZE AREA BEHIND INLET AFTER ROCK SOCKS ARE REMOVED WHEN REMOVAL IS APPROPRIATE.

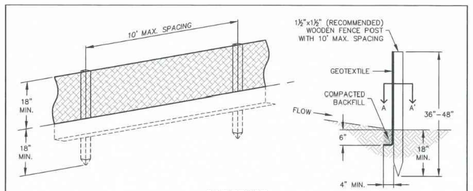
IP-1

STORMWATER ENTERPRISE

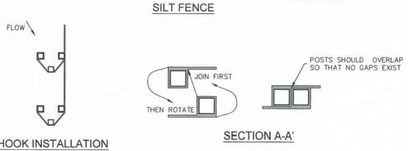
ON-GRADE INLET PROTECTION

APPROVED: CMENT MANAGER

ISSUED: 10/7/19 | REVISED: 8/19/2020 | DRAWING NO. 900-IP-1



SILT FENCE



J-HOOK INSTALLATION

SECTION A-A'

INSTALLATION NOTES:

1. SILT FENCE MUST BE PLACED ON A FLAT SURFACE 2'-5' AWAY FROM TOE OF THE SLOPE TO ALLOW FOR PONDING AND DEPOSITION.
2. COMPACT THE TRENCH USING A JUMPING JACK OR WHEEL ROLLING TO THE POINT THAT THE FENCE RESISTS BEING PULLED OUT OF THE GROUND BY HAND.
3. SILT FENCE SHALL BE TAUT WITH NO SAGS AFTER IT HAS BEEN ANCHORED.
4. FABRIC SHALL BE ATTACHED TO POSTS WITH 1" HEAVY DUTY STAPLES OR 1" NAILS. THESE SHOULD BE PLACED VERTICALLY DOWN THE POST, 3" APART.
5. THE PREFERRED INSTALLATION METHOD USES A TRENCHER OR SILT FENCE INSTALLATION DEVICE.
6. INSTALL SILT FENCE ALONG THE CONTOUR OF THE SLOPES OR IN A MANNER TO AVOID CREATING CONCENTRATED FLOW (SUCH AS A "J-HOOK" INSTALLATION).

MAINTENANCE NOTES:

1. FREQUENT OBSERVATIONS AND MAINTENANCE ARE NECESSARY TO MAINTAIN CONTROL MEASURES IN EFFECTIVE OPERATING CONDITION. INSPECTIONS AND CORRECTIVE MEASURES SHOULD BE DOCUMENTED THOROUGHLY.
2. ACCUMULATED SEDIMENT MUST BE REMOVED WHEN THE HEIGHT REACHES ½ OF THE DESIGN HEIGHT OF THE SILT FENCE.
3. SILT FENCE MUST REMAIN UNTIL THE UPSTREAM DISTURBANCE AREA IS STABILIZED.
4. PERMANENTLY STABILIZE AREA AFTER SILT FENCE IS REMOVED.

SF

STORMWATER ENTERPRISE

SILT FENCE

APPROVED: CMENT MANAGER

ISSUED: 10/7/19 | REVISED: 8/19/2020 | DRAWING NO. 900-SF

COLORADO SPRINGS

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For and on Behalf of
Kiowa Engineering Corporation Date

Celebrating 30 years
Kiowa Engineering Corporation
1604 South 21st Street
Colorado Springs, Colorado 80904
(719) 630-7342

Sheet Revisions

No Revisions:

Revised:

Void:

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ROCK ISLAND TRAIL
GRADING AND EROSION CONTROL PLAN
EROSION CONTROL DETAILS

Designer: RNW
Detailer: RNW
Date: 08/06/2024

Kiowa Proj. No. 16028
TAP M240-162
SubAcct No.20391
Sheet Number GEC 7

SEEDING & MULCHING

ALL SOIL TESTING, SOILS AMENDMENT AND FERTILIZER DOCUMENTATION, AND SEED LOAD AND BAG TICKETS MUST BE ADDED TO THE CSWMP.

SOIL PREPARATION

1. IN AREAS TO BE SEEDED, THE UPPER 6 INCHES OF THE SOIL MUST NOT BE HEAVILY COMPACTED, AND SHOULD BE IN FRIABLE CONDITION. LESS THAN 85% STANDARD PROCTOR DENSITY IS ACCEPTABLE. AREAS OF COMPACTION OR GENERAL CONSTRUCTION ACTIVITY MUST BE SCARIFIED TO A DEPTH OF 6 TO 12 INCHES PRIOR TO SPREADING TOPSOIL TO BREAK UP COMPACTED LAYERS AND PROVIDE A BLENDING ZONE BETWEEN DIFFERENT SOIL LAYERS.
2. AREAS TO BE PLANTED SHALL HAVE AT LEAST 4 INCHES OF TOPSOIL SUITABLE TO SUPPORT PLANT GROWTH.
3. THE CITY RECOMMENDS THAT EXISTING AND/OR IMPORTED TOPSOIL BE TESTED TO IDENTIFY SOIL DEFICIENCIES AND ANY SOIL AMENDMENTS NECESSARY TO ADDRESS THESE DEFICIENCIES. SOIL AMENDMENTS AND/OR FERTILIZERS SHOULD BE ADDED TO CORRECT TOPSOIL DEFICIENCIES BASED ON SOIL TESTING RESULTS.
4. TOPSOIL SHALL BE PROTECTED DURING THE CONSTRUCTION PERIOD TO RETAIN ITS STRUCTURE AVOID COMPACTION, AND TO PREVENT EROSION AND CONTAMINATION. STRIPPED TOPSOIL MUST BE STORED IN AN AREA AWAY FROM MACHINERY AND CONSTRUCTION OPERATIONS, AND CARE MUST BE TAKEN TO PROTECT THE TOPSOIL AS A VALUABLE COMMODITY. TOPSOIL MUST NOT BE STRIPPED DURING UNDESIRABLE WORKING CONDITIONS (E.G. DURING WET WEATHER OR WHEN SOILS ARE SATURATED). TOPSOIL SHALL NOT BE STORED IN SWALES OR IN AREAS WITH POOR DRAINAGE.

SEEDING

1. ALLOWABLE SEED MIXES ARE INCLUDED IN THE CITY OF COLORADO SPRINGS STORMWATER CONSTRUCTION MANUAL. ALTERNATIVE SEED MIXES ARE ACCEPTABLE IF INCLUDED IN AN APPROVED LANDSCAPING PLAN.
2. SEED SHOULD BE DRILL-SEEDED WHENEVER POSSIBLE
   - •SEED DEPTH MUST BE ¼ TO ½ INCHES WHEN DRILL-SEEDING IS USED.
3. BROADCAST SEEDING OR HYDRO-SEEDING WITH TACKIFIER MAY BE SUBSTITUTED ON SLOPES STEEPER THAN 3:1 OR ON OTHER AREAS NOT PRACTICAL TO DRILL SEED.
   - •SEEDING RATES MUST BE DOUBLED FOR BROADCAST SEEDING OR INCREASED BY 50% IF USING A BRILLION DRILL OR HYDRO-SEEDING
   - •BROADCAST SEEDING MUST BE LIGHTLY HAND-RAKED INTO THE SOIL

MULCHING

1. MULCHING SHOULD BE COMPLETED AS SOON AS PRACTICABLE AFTER SEEDING, HOWEVER PLANTED AREAS MUST BE MULCHED NO LATER THAN 14 DAYS AFTER PLANTING.
2. MULCHING REQUIREMENTS INCLUDE:
   - •HAY OR STRAW MULCH
     - ONLY CERTIFIED WEED-FREE AND CERTIFIED SEED-FREE MULCH MAY BE USED. MULCH MUST BE APPLIED AT 2 TONS/ACRE AND ADEQUATELY SECURED BY CRIMPING AND/OR TACKIFIER.
     - CRIMPING MUST NOT BE USED ON SLOPES GREATER THAN 3:1 AND MULCH FIBERS MUST BE TUCKED INTO THE SOIL TO A DEPTH OF 3 TO 4 INCHES.
     - TACKIFIER MUST BE USED IN PLACE OF CRIMPING ON SLOPES STEEPER THAN 3:1.
   - •HYDRAULIC MULCHING
     - HYDRAULIC MULCHING IS AN OPTION ON STEEP SLOPES OR WHERE ACCESS IS LIMITED.
     - IF HYDRO-SEEDING IS USED, MULCHING MUST BE APPLIED AS A SEPARATE, SECOND OPERATION.
     - WOOD CELLULOSE FIBERS MIXED WITH WATER MUST BE APPLIED AT A RATE OF 2,000 TO 2,500 POUNDS/ACRE, AND TACKIFIER MUST BE APPLIED AT A RATE OF 100 POUNDS/ACRE.
   - •EROSION CONTROL BLANKET
     - EROSION CONTROL BLANKET MAY BE USED IN PLACE OF TRADITIONAL MULCHING METHODS.

SM

STORMWATER ENTERPRISE — SEEDING & MULCHING

APPROVED: CMENT MANAGER

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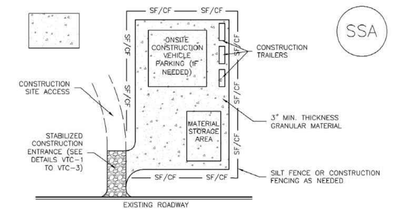


SSA-1. STABILIZED STAGING AREA

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.

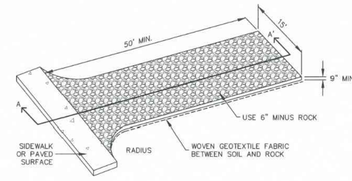
STABILIZED STAGING AREA MAINTENANCE NOTES

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.

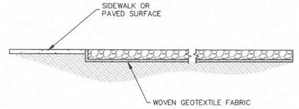
NOTE: MANY MUNICIPALITIES PROHIBIT THE USE OF RECYCLED CONCRETE AS GRANULAR MATERIAL FOR STABILIZED STAGING AREAS DUE TO DIFFICULTIES WITH RE-ESTABLISHMENT OF VEGETATION IN AREAS WHERE RECYCLED CONCRETE WAS PLACED.

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)



AGGREGATE VEHICLE TRACKING CONTROL



SECTION A-A'

INSTALLATION NOTES

1. A STABILIZED CONSTRUCTION ENTRANCE/EXIT SHOULD BE LOCATED AT ALL POINTS WHERE VEHICLES EXIT THE CONSTRUCTION SITE TO ADJACENT ROADWAY.
2. STABILIZED CONSTRUCTION ENTRANCE/EXITS SHALL BE INSTALLED PRIOR TO ANY LAND DISTURBING ACTIVITIES.
3. RADIUS MUST BE ADEQUATE FOR INTENDED CONSTRUCTION VEHICLE TURNING.
4. ROCK SHOULD CONSIST OF 6" MINUS ROCK.
5. INSTALL CONSTRUCTION FENCE ON BOTH SIDES OF VEHICLE TRACKING CONTROL PAD WHEN NEEDED OR REQUIRED BY INSPECTOR.

MAINTENANCE NOTES

1. FREQUENT OBSERVATIONS AND MAINTENANCE ARE NECESSARY TO MAINTAIN CONTROL MEASURES IN EFFECTIVE OPERATING CONDITION. INSPECTIONS AND CORRECTIVE MEASURES SHOULD BE DOCUMENTED THOROUGHLY.
2. SEDIMENT TRACKED ONTO THE ADJACENT ROAD SHALL BE REMOVED DAILY, BY SWEEPING OR SHOVELING, AND NEVER WASHED DOWN STORM DRAINS.
3. ROUGHEN, REPLACE AND/OR ADD ROCK AS NEEDED TO MAINTAIN CONSISTENT DEPTH AND TO PREVENT SEDIMENT TRACKING ONTO ADJACENT STREET.
4. PERMANENTLY STABILIZE AREA AFTER VEHICLE TRACKING CONTROL IS REMOVED.

VTC

STORMWATER ENTERPRISE — VEHICLE TRACKING CONTROL

APPROVED: CMENT MANAGER

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For and on Behalf of
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Sheet Revisions	90% BID SET
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	Void:

ROCK ISLAND TRAIL
GRADING AND EROSION CONTROL PLAN
EROSION CONTROL DETAILS

Designer:	RNW		
Detailer:	RNW		
Date:	08/06/2024		

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