EROSION CONTROL AND STORMWATER MANAGEMENT PLAN FOR HANNAH RIDGE AT FEATHERGRASS FILING NO. 3

Applicant:
Feathergrass Investments, LLC
4715 N. Chestnut Street
Colorado Springs, CO 80907

ATTN: Mr. Kenneth P. Driscoll

Prepared By:
Classic Consulting Engineers & Surveyors, LLC
619 N. Cascade Avenue, Suite 200
Colorado Springs, CO 80903

Job no. 1116.00

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EROSION & STORMWATER QUALITY CONTROL PLAN FOR HANNAH RIDGE AT FETHERGRASS FILING NO. 3

COLORADO DISCHARGE PERMIT SYSTEM STATEMENT (CDPS)/ EROSION AND STORMWATER QUALITY CONTROL PLAN (ESQCP)

Site Inspector

The following Erosion and Stormwater Quality Control Plan (ESQCP) is a detailed account of the requirements of the City of Colorado Springs Drainage Criteria Manual, Volume 2 – Stormwater Quality Policies, Procedures and Best Management Practices. The main objective of this plan is to help mitigate the increased soil erosion and subsequent deposition of sediment off-site and other potential stormwater quality impacts during the period of construction from start of earth disturbance until final landscaping and other potential permanent stormwater quality measures are effectively in place.

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

This report is also proposed to meet all requirements of the Colorado Discharge Permit System for Construction Activity. If any discrepancies between this report and Volume 2 exist, the City Manual will prevail.

EROSION & STORMWATER QUALITY CONTROL PLAN FOR HANNAH RIDGE AT FETHERGRASS FILING NO. 3

TABLE OF CONTENTS

APPENDIX

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EROSION & STORMWATER QUALITY CONTROL PLAN FOR HANNAH RIDGE AT FETHERGRASS FILING NO. 3

Revise or delete

SITE DESCRIPTION

The proposed Hannah Ridge development is located in the south one-half of Section 32, Township 13 South, Range 65 west of the 6th p.m. and the northeast one-quarter of Section 5, Township 14 South, Range 65 West of the 6th p.m., in El Paso County, Colorado. The project site is on Constitution Avenue, west of Marksheffel Road and east of the Old Rock Island Railroad right of way. The majority of the site is located on the north side of Constitution Avenue with a minor portion on the south side of Constitution Avenue, adjacent to Marksheffel Road. A portion of the land was previously platted as Akers-Acres Subdivision Filing No. 1.

The property is located in the south one-half of Section 32, Township 13 South, and in the northeast quarter of Section 5, Township 5 South Range 65 West of the 6th Principal Meridian, in County of El Paso, State of Colorado. The project site is shown on the Vicinity Map in the Appendix of this report.

No wetlands, springs, landscape irrigation return flows or construction dewatering is anticipated on this site. Should any of the above items occur unexpectedly, BMPs shall be implemented immediately. The local regulatory agency shall be notified for approval of the BMPs and methods.

- **RECEIVING WATERS**

Name of Receiving Water(s)	Sand Creek east fork
Size/Type/Location of Outfall(s)	Existing Concrete box culvert at Constitution Ave.
Discuss discharge connection to Municipal system (include system name, location, and ultimate receiving water(s):	Site runoff to be conveyed in existing channel north of Constitution Ave then discharged into existing box culvert

- **PROPOSED CONSTRUCTION ACTIVITY**

  Proposed construction activities within this project include overlot grading to of the project site, roadway infrastructure and utility infrastructure.

- **PROPOSED SEQUENCE OF ACTIVITY/CONSTRUCTION TIMING**

  Proposed construction activities within this project include overlot grading, installation of wastewater mainline, storm sewer pipe, water mainline, curb & gutter, asphalt, dry utilities (gas/electric/telecom) as

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well as future home building construction. Sequence of activities will be based upon site contractor timing and scheduling. Upon site contractor selection, contractor to include sequence of activities schedule in the section provided in the Appendix of this report. A standard sequence of events typically includes the following, as applicable:

1) Install perimeter, interior & exterior BMPs
2) Clear and grub site
3) Rough overlot grading
4) Excavation & installation of utilities
5) Building construction
6) Paving, curb & gutter, sidewalk, landscaping.

Add temporary and permanent seeding and mulching

- **EROSION AND SEDIMENT CONTROL**

Erosion control measures shall be implemented in a manner that will protect properties and public facilities from the adverse effects of erosion and sedimentation as a result of construction and earthwork activities. In order to prevent a net increase of sediment load, Best Management Practices will be implemented during the construction life of this project. A silt fence will be built as depicted on the plans. All roads will be inspected to ensure that sediment from on-site construction activity is not being discharged with the stormwater. Roadways shall be swept as needed for controlling tracking of mud onto public roadways. Vehicle tracking control pads will aid in minimizing soil tracking onto roadways. All disturbed areas, not sodded, will be reseeded with a native seed mix and watered until a mature stand is established. All areas disturbed will be protected with silt fence, diversion swales and temporary sediment traps until such time as the site has been re-vegetated. Vegetation and vegetated buffers shall be preserved as much as possible. Wherever feasible, vegetated buffers shall be maintained free from vehicle/equipment parking, storage, stockpiles, or other impacts.

- **DEVELOPMENT AREA**

Total Site Area	8.31	Acres
Site area to be disturbed	8.31	Acres
Percent disturbance	100	%

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- **SOILS INFORMATION**

The average soil condition reflects Hydrologic Group "A" and "B" (Blakeland, Blendon, Truckton sandy loam) as determined by the "Soil Survey of El Paso County Area", prepared by the Soil Conservation Service. Based upon the current proposed development of this site, the following runoff coefficients would be realized:

Existing site runoff coefficient = =___0.25_____

Developed site runoff coefficient =0.8/.35 lots & streets/ landscaped &seeded areas

- **EXISTING SITE CONDITIONS**

The site is located within the Sand Creek Drainage Basin. Currently, the majority of this site drains to the center of the site in a southerly direction. Stormwater drains to the south across this site and is conveyed to the east along existing Constitution Avenue. An existing concrete box culvert under Constitution Avenue will conveys the stormwater to the south along the historic drainage path.

This site is currently 80 % vegetated with native grasses and has existing slopes ranging from approximately 2% to 30% percent.

There are no areas designated as wetlands within the development limits for this report.

Are there batch plants in this filing?

SITE MAP

Included in the appendix of this report is the approved overlot grading plan for the subject property which will serve as the SWMP site map. This document contains site specific grading and erosion control BMP measures as required and approved by the El Paso County Engineering division. Limits of disturbance, areas of cuts/fills, proposed stockpile areas, areas used for storage of materials, equipment, soil, or waste, batch plants, minimum and maximum cut/fill slopes, existing limits of significant vegetation, locations of springs, streams, and/or wetlands, and existing facilities (including but not limited to: detention/drainage facilities, structures, retaining

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walls, gas main, water main, wastewater main, electric and telecom vaults, fences, sidewalks, trails, curbs and streets) will be represented on this plan as applicable. The site map will depict locations of specific interim and ultimate stormwater management BMPs throughout the lifetime of the project. Erosion control cost assurances must be posted with El Paso County in the amount listed on the EGF prior to approval of the overlot grading plan. The site map/overlot grading plan shall be amended to include any additional interim or phased BMPs over and above measures included on the site map, as required by contractor's construction schedule. All construction BMP details will be included in the appendix of this report. Detail sheets include installation and maintenance requirements. Also reference "Drainage Criteria Manual, Volume 2 Stormwater Quality Policies, Procedure, and Best Management Practices" for additional information and guidance regarding construction BMPs.

STORMWATER MANAGEMENT

- **SWMP ADMINISTRATOR**

  The SWMP Administrator can be an individual(s), position, or title – this entity is responsible for developing, implementing, maintaining, and revising the SWMP. The Administrator is the contact for all SWMP related issues and is the entity responsible for its accuracy, completeness, and implementation. Therefore, the SWMP Administrator should be a person with authority to adequately manage and direct day to day stormwater quality management activities on the subject site. Reference the Appendix of this report for the SWMP permit application which names the individual/entity applying for the permit and naming the Administrator of the SWMP.

- **POTENTIAL POLLUTANT SOURCES**

  Potential pollutant sources which shall be evaluated for potential to contribute pollutants to stormwater discharge from the subject site may include the following:

  - Disturbed and stored soils
  - Vehicle tracking of sediments
  - Management of contaminated soils
  - Loading and unloading operations
  - Outdoor storage activities (building materials, fertilizers, chemicals, etc.)
  - Vehicle and equipment maintenance and fueling

- Significant dust or particulate generating processes
- Routine maintenance activities involving fertilizers, pesticides, detergents, fuels, solvents, oils, etc.
- On-site waste management practices (waste piles, liquid wastes, dumpsters)
- Concrete truck/equipment washing, including the concrete truck chute associated fixtures and equipment
- Dedicated asphalt and concrete batch plans
- Non-industrial waste sources such as worker trash and portable toilets
- Other areas or procedures where potential spills can occur.

The location and description of these areas are shown on the attached SWMP Site Map, as applicable.

- **BMPS FOR POLLUTANT PREVENTION**

The following are common practices to mitigate potential pollutants:

- Wind erosion shall be controlled bye sprinkling site roadways and/or temporary stabilizing stockpiles. Each dump truck hauling material from the site will be required to be covered with a tarpaulin.
- Sanitary facilities shall be placed at a minimum of 10' from any curbline and 50' from any inlet. If not feasible for the project, use of a secondary containment shall be implemented.
- Equipment fueling and Maintenance Services – a designated fueling area will be established to contain any spill resulting from fueling, maintenance, or repair of equipment. Contractors will be responsible for containment, cleanup, and disposal of any leak or spill and any costs associated with the cleanup and disposal.
- Chemical products shall be protected from precipitation, free from ground contact, and stored properly to prevent damage from equipment or vehicles.
- Material stockpiles (soils, soil amendments, debris/trash piles) – All construction trash and debris will be deposited in the dumpster.
- Sediment and Migration of Sediment – Sweeping operations will take place as needed to keep roadways maintained. The perimeter of the site will be evaluated for any potential impact resulting from trucking operations or sediment migration from the site. BMP devices will be placed to protect storm system inlets should any roadway tracking or sediment migration occur.

- Snow removal and/or stockpiling will be considered prior to placement at the site. Snow stockpiles must be kept away from any stormwater conveyance system (i.e., inlets, ponds, outfall locations, roadway surfaces, etc.).

- **BMP SELECTION**

Selection of the appropriate BMP will limit the source of the pollutant. Guidance for the selection process can be found by referencing the City of Colorado Springs "Drainage Criteria Manual Volume 2".

During grading and construction activity for the subject site, silt fence will be installed along the perimeter of the site as well as at the limits of grading within the project. Check dams will be installed along all permanent and temporary diversion swales to minimize erosion in areas of concentrated stormwater. Temporary diversion swales will be installed to a minimum of 1% slope to divert stormwater to several proposed sediment basins intended to collect stormwater and filter the sediment before conveyance into the proposed storm systems. Inlet protection will be installed at all proposed and adjacent inlets to ensure no downstream pollutants will enter storm sewer facilities. Vehicle tracking control pads will be installed at all access points to the property. Regular maintenance and inspection of these facilities will be necessary throughout grading operations and until vegetation is reestablished to ensure proper function of the sediment basin temporary outlet structures.

- **MATERIAL HANDLING & SPILL PREVENTION**

Where materials can impact stormwater runoff, existing and planned practices that reduce the potential for pollution must be included in a spill prevention plan, to be provided by the contractor. Spill prevention plans shall include

- Notification procedures to be used in the event of an accident
- Instruction for clean-up procedures, and identification of a spill kit location
- Provisions for absorbents to be made available for use in fuel areas, and for containers to be available for used absorbents
- Procedures for properly washing out concrete truck chutes and other equipment in a manner and location so that the materials and wash water can not discharge from the site and never into a storm sewer system or stream.

- **CONCRETE/ASPHALT BATCH PLANTS**

  Where applicable, the SWMP must be amended by the contractor to describe and locate on the Site Map all practices used to control stormwater pollution from dedicated asphalt or concrete batch plants.

Are there batch plants in this filing?

- **WASTE MANAGEMENT AND DISPOSAL INCLUDING CONCRETE WASHOUT**

  Where applicable, the SWMP must be amended by the contractor to describe and locate on the Site Map all practices implemented at the site to control stormwater pollution from all construction site wastes (liquid and solid) including concrete washout activities.

- **DOCUMENTING SELECTED BMPS**

  As discussed in the SITE MAP section of this report, documentation of the selected BMPs will be included on the site map / overlot grading plan included in this report. The site map/overlot grading plan shall be amended to include any additional interim or phased BMPs over and above measures included on the site map, as required by contractor's construction schedule.

- **NON-STORMWATER DISCHARGES**

  Except for emergency fire fighting activities, landscape irrigation return flow, uncontaminated springs, construction dewatering and concrete washout water, the SWMP permit covers only discharges composed entirely of stormwater.

- **STORMWATER DEWATERING**

  The discharge of pumped water, ONLY from excavations, ponds, depressions, etc., to surface waters or to a municipal separate storm-sewer system is allowed by the Stormwater Construction Permit as long as the dewatering activity and associated BMPs are identified in the SWMP (including location of activity), and the BMPs are implemented in accordance with the SWMP. Where applicable, all stormwater and groundwater dewatering practices implemented to control stormwater pollution for dewatering must be amended in the SWMP and Site Map by the contractor.

- **REVISING BMPs AND THE SWMP**

  The implemented BMPs will need to be modified and maintained regularly to adapt to changing site conditions and to ensure that all potential stormwater pollutants are properly managed. The BMPs and pollutant sources much be reviewed on an ongoing basis by the Administrator as assigned by the Permit. With any construction project, special attention must be paid to construction phasing and therefore revisions to the SWMP to include any additional or modification to the BMPs and SWMP report. The SWMP must be modified or amended to accurately reflect the field conditions. Examples include - but are not limited to – removal of BMPs, identification of new potential pollutant procedures, and changes to information provided in the site map/overlot grading plan. SWMP revisions must be made prior to changes in site conditions. The SWMP should be viewed as a "living document" throughout the lifetime of the project.

FINAL STABILIZATION AND LONG-TERM STORMWATER MANAGEMENT

Permanent stabilization of the site includes seeding and mulching the site. Seeding and mulching consists of loosening soil, applying topsoil (if permanent seeding) and drill seeding disturbed areas with grasses and crimping in straw mulch to provide immediate protection from raindrop and wind erosion. As the grass cover becomes established, provide long term stabilization of exposed soils.

Once the construction activity ceases permanently, the area will be stabilized with permanent seed and mulch. All areas that will not be impacted by construction of buildings will be seeded and landscaped as feasible. After seeding, each area will be mulched with straw. The straw mulch is to be tacked into place by a disc with blades set nearly straight. Topsoil stockpiles will be stabilized with temporary seed and mulch. Areas of the site that are to be paved will be temporarily stabilized until asphalt is applied.

The temporary perimeter controls (silt fence or equivalent) will not be removed until all construction activities at the site are complete and soils have been stabilized. Upon completion of construction activities, the site shall be inspected to ensure all equipment, waste materials, and debris have been removed. All other BMPs or other control practices and measure that are to remain after completion of construction will be inspected to ensure they are properly functioning. Final stabilization is reached when all soil disturbing activities at the site have been

completed and uniform vegetative cover has been established with a density of at least 70% of pre-disturbance levels. For purposes of the SWMP, establishment of a vegetative cover capable of providing erosion control equivalent to the pre-existing conditions at the site can be considered final stabilized.

INSPECTION AND MAINTENANCE PROCEDURES

All drainage facilities will be monitored using the enclosed "Monitoring and Maintenance Inspection Record" checklist (Appendix II).

- **SWMP OWNER/ADMINISTRATOR INSPECTION PROCEDURES & SCHEDULES**

  The Owner/Administrator shall adhere to the following inspection procedures during the development of the site:

  1. Make thorough inspection of the stormwater management system at least every 14 days.
  2. Make thorough inspection of the stormwater management system within 24 hrs of each precipitation event that creates runoff.
  3. If any system deficiencies are noted, corrective actions must begin immediately. Documentation of inspection must be available if requested.
  4. Records of the site inspections or facility replacement modifications must be kept at the site within this report.
  5. 30 day inspections must take place on this site where construction activity is complete, but vegetative cover is still being established.

In this report's appendix, a site inspection form has been included for use by the Inspector. Upon completion of this form, the document is to be kept in the provided folder also in the rear of this report.

- **BMP MAINTENANCE / REPLACEMENT & FAILED BMPs**

  The Stormwater Construction Permit requires that all erosion and sediment control practices and other protective measures identified in the SWMP be maintained in effective and operation condition. A preventative maintenance program should be in place to prevent BMP breakdowns and failures by proactively maintaining or replacing BMPs and equipment. The inspections process should also include procedures to ensure that BMPs are replaced or new BMPs added to adequately manage the pollutant sources at the site. This procedure is part of the ongoing process of revising the BMPs and SWMP as previously discussed, and any changes shall be recorded in the SWMP.

- **RECORD KEEPING AND DOCUMENTING INSPECTIONS**

  The following items must be documented as part of the site inspections:

  - Inspection date
  - Name(s) and title(s) of personnel making inspection
  - Location(s) of discharges of sediment or other pollutants from site
  - Location(s) of BMPs that need to be maintained
  - Location(s) of BMPs that fail to operate as designed or proved inadequate in a particular location
  - Location(s) where additional BMPs are needed that were not in place at time of inspection
  - Deviations from the minimum inspection schedule
  - Descriptions of corrective action for items above including dates and measures taken to prevent future violations
  - Signed statement of compliance added to the report after correction action has been taken

PREPARED BY:

Classic Consulting Engineers & Surveyors, LLC

Kyle R. Campbell, P.E.
Division Manager

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VICINITY MAP

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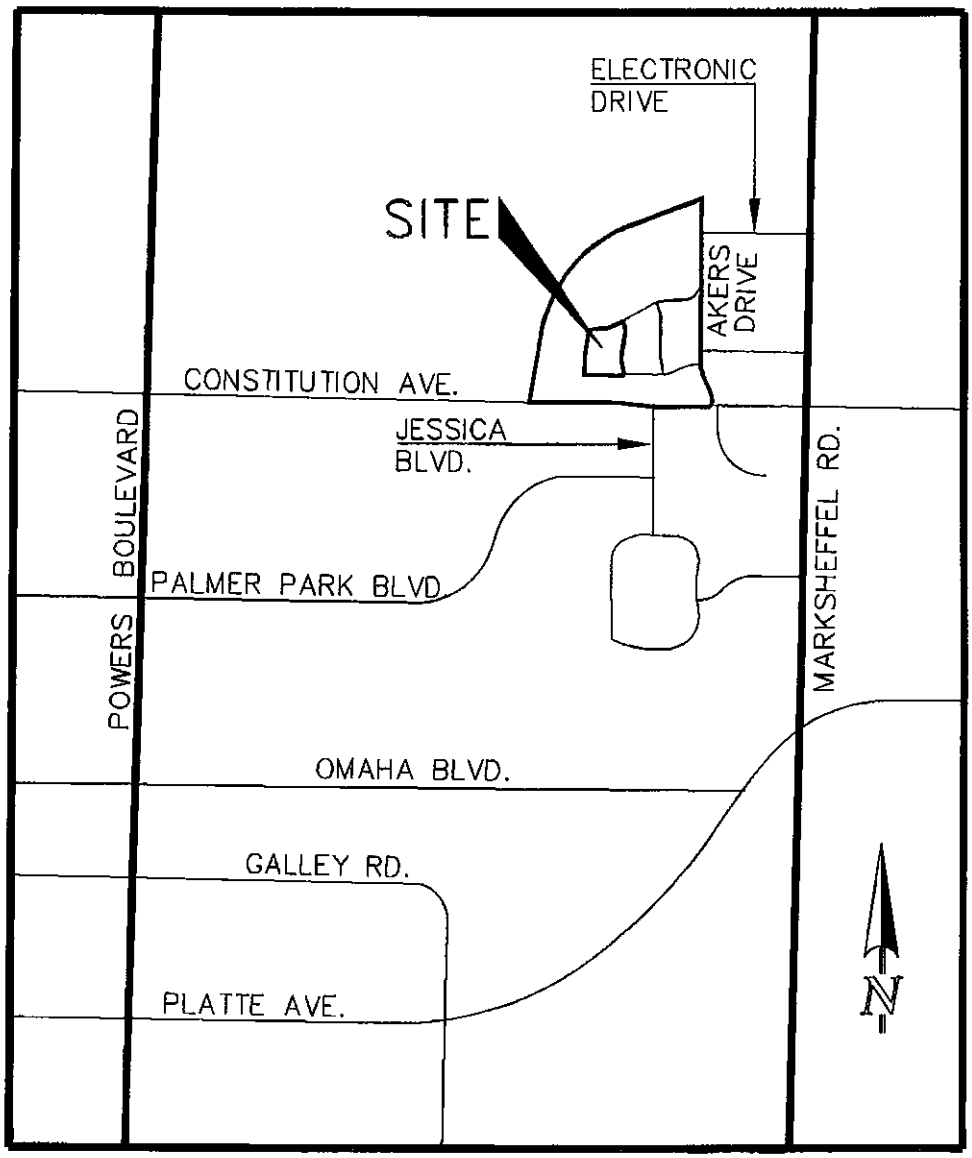

VICINITY MAP
NOT TO SCALE

COPY OF PERMIT APPLICATION

General permit application for stormwater discharges associated with construction activity.

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COLORADO
Department of Public Health & Environment

Dedicated to protecting and improving the health and environment of the people of Colorado

ASSIGNED PERMIT NUMBER
Date Received ___/___/___
Revised: 3-2016

STORMWATER DISCHARGE ASSOCIATED WITH CONSTRUCTION ACTIVITIES APPLICATION

COLORADO DISCHARGE PERMIT SYSTEM (CDPS)

PHOTO COPIES, FAXED COPIES, PDF COPIES OR EMAILS WILL NOT BE ACCEPTED.

For Applications submitted on paper - Please print or type. Original signatures are required.
All items must be completed accurately and in their entirety for the application to be deemed complete. Incomplete applications will not be processed until all information is received which will ultimately delay the issuance of a permit. If more space is required to answer any question, please attach additional sheets to the application form. Applications or signature pages for the application may be submitted by mail or hand delivered to:

Colorado Department of Public Health and Environment, 4300 Cherry Creek Drive South, WQCD-P-B2, Denver, CO 80246-1530

For Applications submitted electronically
Please note that you can ONLY complete the feedback form by downloading it to a PC or Mac/Apple computer and opening the Application with Adobe Reader or a similar PDF reader. The form will NOT work with web browsers, Google preview, Mac preview software or on mobile devices using IOS or Android operating systems.

If application is submitted electronically, processing of the application will begin at that time and not be delayed for receipt of the signed document.

Any additional information that you would like the Division to consider in developing the permit should be provided with the application. Examples include effluent data and/or modeling and planned pollutant removal strategies.

Beginning July 1, 2016, invoices will be based on acres disturbed.
DO NOT PAY THE FEES NOW - Invoices will be sent after the receipt of the application.

Disturbed Acreage for this application (see page 4)

- ☐ Less than 1 acre ($83 initial fee, $165 annual fee)
- ☐ 1-30 acres ($175 initial fee, $350 annual fee)
- ☐ Greater than 30 acres ($270 initial fee, $540 annual fee)

PERMIT INFORMATION

Reason for Application: ☑ NEW CERT ☐ RENEW CERT EXISTING CERT# _____

Applicant is: ☐ Property Owner ☐ Contractor/Operator

A. CONTACT INFORMATION - *Indicates required

*** PERMITTED ORGANIZATION FORMAL NAME:** Elite Properties of America/Classic Homes

1) * PERMIT OPERATOR - the party that has operational control over day to day activities - may be the same as owner.

Responsible Person (Title): Development Manager

Currently Held By (Person): FirstName: Ben LastName: Bustos

Telephone: 719-592-9333 Email Address: bbustos@classichomes.com

Organization: Elite Properties of America/Classic Homes

Mailing Address: 6385 Corporate Drive, Suite 200

City: Colorado Springs State: CO Zip Code: 80919

Per Regulation 61 : All reports required by permits, and other information requested by the Division shall be signed by the permittee or by a duly authorized representative of that person. A person is a duly authorized representative only if:

(i) The authorization is made in writing by the permittee

(ii) The authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility or activity such as the position of plant manager, operator of a well or a well field, superintendent, position of equivalent responsibility, or an individual or position having overall responsibility for environmental matters for the company. (A duly authorized representative may thus be either a named individual or any individual occupying a named position); and

(iii) The written authorization is submitted to the Division

2) OWNER - party has ownership or long term lease of property - may be the same as the operator.

☑ Same as 1) Permit Operator

Responsible Person (Title): Development Manager

Currently Held By (Person): FirstName: Ben LastName: Bustos

Telephone: 719-592-9333 Email Address: bbustos@classichomes.com

Organization: Elite Properties of America/Classic Homes

Mailing Address: 6385 Corporate Drive, Suite 200

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iii. The written authorization is submitted to the Division.

3) ***SITE CONTACT** local contact for questions relating to the facility & discharge authorized by this permit for the facility

☑ Same as 1) Permit Operator

Responsible Person (Title): Development Manager

Currently Held By (Person): FirstName: Ben LastName: Bustos

Telephone: 719-592-9333 Email Address: bbustos@classichomes.com

Organization: Elite Properties of America/Classic Homes

Mailing Address: 6385 Corporate Drive, Suite 200

City: Colorado Springs State: CO Zip Code: 80919

4) ***BILLING CONTACT** if different than the permittee.

☐ Same as 1) Permit Operator

Responsible Person (Title):

Currently Held By (Person): FirstName: LastName:

Telephone: Email Address:

Organization:

Mailing Address:

City: State: Zip Code:

5) **OTHER CONTACT TYPES (check below) Add pages if necessary:**

Responsible Person (Title):

Currently Held By (Person): FirstName: Kenneth LastName: Driscoll

Telephone: 719-593-8367 Email Address:

Organization: Feathergrass Investments, LLC

Mailing Address: 4715 N. Chestnut Street

City: Colorado Springs State: CO Zip Code: 80907

☐ Environmental Contact ☐ Consultant ☐ Stormwater MS4 Responsible Person

☐ Inspection Facility Contact ☐ Compliance Contact ☐ Stormwater Authorized Representative

B) PERMITTED PROJECT/FACILITY INFORMATION

Project/Facility Name: Hannah Ridge at Feathergrass Filing No. 3

Street Address or Cross Streets: Constitution and Akers Drive

(e.g., Park St and 5 Ave; CR 21 and Hwy 10; 44 Ave and Clear Creek) ; A street name without an address, intersection, mile marker, or other identifying information describing the location of the project is not adequate. For **linear projects**, the route of the project should be described as best as possible using the starting point for the address and latitude and longitude - more clearly defined in the required map)

City: Colorado Springs County: El Paso Zip Code: 80922

Facility Latitude/Longitude - List the latitude and longitude of the excavation(s) resulting in the discharge(s). If the exact soil disturbing location(s) are not known, list the latitude and longitude of the center point of the construction project. If using the center point, be sure to specify that it is the center point of construction activity. The preferred method is GPS and Decimal Degrees.

Latitude 38 . 86917 (Decimal Degrees (to 5 decimal places)) Longitude 104 . 6928 (Decimal Degrees (to 5 decimal places)) (e.g., 39.70312°, 104.93348°)

This information may be obtained from a variety of sources, including:

- **Surveyors or engineers** for the project should have, or be able to calculate, this information.
- **U.S. Geological Survey topographical map(s)**, available at area map stores.
- Using a **Global Positioning System (GPS) unit** to obtain a direct reading.
- **Google** - enter address in search engine, select the map, right click on location, and select "what's here".

***Note**: the latitude/longitude required above is not the directional degrees, minutes, and seconds provided on a site legal description to define property boundaries.*

C) MAP (Attachment) If no map is submitted, the application cannot be submitted.

Map: Attach a map that indicates the site location and that CLEARLY shows the boundaries of the area that will be disturbed. A vicinity map is not adequate for this purpose.

D) LEGAL DESCRIPTION - only for Subdivisions

Legal description: If subdivided, provide the legal description below, or indicate that it is not applicable (**do not** supply Township/Range/Section or metes and bounds description of site)

Subdivision(s): Hannah Ridge at Feathergrass Fil. 3 Lot(s): _____ Block(s) _____

OR ☐ Not applicable (site has not been subdivided)

E) AREA OF CONSTRUCTION SITE - SEE PAGE 1 - WILL DETERMINE FEE

Provide both the total area of the construction site, and the area that will undergo disturbance, in acres.

Total area of project disturbance site (acres): 8.31

Note: 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.

☐ Part of Larger Common Plan of Development or Sale, (i.e., total, including all phases, filings, lots, and infrastructure not covered by this application)

F) NATURE OF CONSTRUCTION ACTIVITY

Check the appropriate box(es) or provide a brief description that indicates the general nature of the construction activities. (The full description of activities must be included in the Stormwater Management Plan.)

☐ Commercial Development

☑ Residential Development

☐ Highway and Transportation Development

☐ Pipeline and Utilities (including natural gas, electricity, water, and communications)

☐ Oil and Gas Exploration and Well Pad Development

☐ Non-structural and other development (i.e. parks, trails, stream realignment, bank stabilization, demolition, etc.)

G) ANTICIPATED CONSTRUCTION SCHEDULE

Construction Start Date: Summer 2017 Final Stabilization Date: Summer 2018

- *Construction Start Date* - This is the day you expect to begin ground disturbing activities, including grubbing, stockpiling, excavating, demolition, and grading activities.
- *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. **Permit coverage must be maintained until the site is finally stabilized. Even if you are only doing one part of the project, 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).

H) RECEIVING WATERS (If discharge is to a ditch or storm sewer, include the name of the ultimate receiving waters)

Immediate Receiving Water(s): East fork of Sand Creek

Ultimate Receiving Water(s): Sand Creek

Identify the receiving water of the stormwater from your site. Receiving waters are any waters of the State of Colorado. This includes all water courses, even if they are usually dry. If stormwater from the construction site enters a ditch or storm sewer system, identify that system and indicate the ultimate receiving water for the ditch or storm sewer. **Note:** a stormwater discharge permit does not allow a discharge into a ditch or storm sewer system without the approval of the owner/ operator of that system.

I) SIGNATURE PAGE

1. You may print and sign this document and mail the hard copy to the State along with required documents (address on page one).

2. **Electronic Submission Signature**
   You may choose to submit your application electronically, along with required attachments. To do so, click the SUBMIT button below which will direct you, via e-mail , to sign the document electronically using the DocuSign Electronic Signature process. Once complete, you will receive via e-mail, an electronically stamped Adobe pdf of this application. Print the signature page from the electronically stamped pdf, sign it and mail it to the WQCD Permits Section to complete the application process (address is on page one of the application).
   - **The Division encourages use of the electronic submission of the application and electronic signature. This method meets signature requirements as required by the State of Colorado.**
   - **The ink signed copy of the electronically stamped pdf signature page is also required to meet Federal EPA Requirements.**
   - **Processing of the application will begin with the receipt of the valid electronic signature.**

☐ **STORMWATER MANAGEMENT PLAN CERTIFICATION**

By checking this box "I certify under penalty of law that a complete Stormwater Management Plan, as described in Appendix B of this application, has been prepared for my activity. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the Stormwater Management Plan is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for falsely certifying the completion of said SWMP, including the possibility of fine and imprisonment for knowing violations."

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."
"I understand that submittal of this application is for coverage under the State of Colorado General Permit for Stormwater Discharges Associated with Construction Activity **for the entirety of the construction site/project described and applied for, until such time as the application is amended or the certification is transferred, inactivated, or expired.**" [Reg 61.4(1)(h)]

For Docusign
Electronic Signature _____ Ink Signature _____ Date: _____

Signature of Legally Responsible Person or Authorized Agent (submission must include original signature)

Ben Bustos	Development Manager
Name (printed)	Title

Signature: The applicant must be either the owner and operator of the construction site. Refer to Part B of the instructions for additional information.
The application must be signed by the applicant to be considered complete. In all cases, it shall be signed as follows:
(Regulation 61.4 (1e))
a) In the case of corporations, by the responsible corporate officer is responsible for the overall operation of the facility from which the discharge described in the form originates
b) In the case of a partnership, by a general partner.
c) In the case of a sole proprietorship, by the proprietor.
d) In the case of a municipal, state, or other public facility, by either a principal executive officer, ranking elected official, (a principal executive officer has responsibility for the overall operation of the facility from which the discharge originates).

3rd Party Preparer: If this form was prepared by an authorized agent on behalf of the Permittee, please complete the field below.

Preparer Name (printed)	Email Address

DO NOT INCLUDE A COPY OF THE STORMWATER MANAGEMENT PLAN
DO NOT INCLUDE PAYMENT—AN INVOICE WILL BE SENT AFTER THE CERTIFICATION IS ISSUED.

	Attach Map
	Attach File
	Attach File
	Attach File
	Attach File

CONTRACTOR SEQUENCE OF ACTIVITIES

CLASSIC SM
CONSULTING
ENGINEERS & SURVEYORS

COLORADO DISCHARGE PERMIT

SYSTEM (CDPS) CHECKLIST
Operation & Maintenance Inspection Record

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

CLASSIC
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Action: Routine Inspection | Project Type: Subdivision | Zip Code:

Project Name: | Subdivision:

Address/Location: | Assigned Inspector: Todd Sturtevant

Action Date: 02/22/2010 | Date Next Routine: 03/08/2010 | Date Next Follow-up:

Owner: | Owner Phone: | Stage of Construction: BMP Installation

Rep. Name: | Rep. Phone: | Inspected By: Todd Sturtevant

Items	Is Used	Maint. Required	Remarks / Actions Necessary
1 Check Dam	No		
Has accumulated sediment and debris been removed per maintenance requirements?		No	
2 Erosion Control Blanket	No		
Is the erosion control blanket fabric damaged, loose or in need of repair?		No	
3 Inlet Protection	No		
Is the inlet protection damaged, ineffective or in need of repairs?		No	
Does sediment remain in inlets?		No	
4 Mulching	No		
Uneven mulch distribution on disturbed areas?		No	
Is the mulch application rate inadequate?		No	
Any evidence of mulch being blown or washed away?		No	
Do areas require additional mulching?		No	
5 Sediment Basin / Trap	No		
Is the sediment basin improperly constructed or inoperable?		No	
Is there sediment and/or debris in the basin?		No	
6 Silt Fence	No		
Is the silt fence damaged, collapsed, un-trenched or ineffective?		No	
Is there excess sediment against the barrier?		No	
Is the silt fence improperly located?		No	
7 Slope Drain	No		
Is water bypasssing or undercutting the inlet or pipe?		No	
Is there any evidence of erosion?		No	
8 Straw Bale Barrier	No		
Are the straw bales damaged, ineffective or un-trenched?		No	
Is there excess sediment against the barrier?		No	
Are the bales installed and positioned incorrectly?		No	
9 Surface Roughening	No		
Is the surface roughening inconsistent on slopes?		No	
Is there any evidence of surface roughening erosion?		No	
10 Seeding	No		
Are the seedbeds unprotected?		No	
Has any erosion occurred in the seeded area?		No	
Any evidence of vehicle tracking on seeded area?		No	
11 Temporary Swales	No		
Has any sediment or debris been deposited within the swales?		No	
Have the slopes of the swale eroded or has damage occurred to the lining?		No	
Are the swales improperly located?		No	
12 Vehicle Tracking	No		
Is gravel surface clogged with mud or sediment?		No	
Is the gravel surface sinking into the ground?		No	
Has sediment been tracked onto any roads?		No	
Is inlet protection missing around curb inlets near construction entrance?		No	
13 Diversion Structure	No		
Has the structure been damaged or show signs of erosion?		No	
Is the structure properly located?		No	
14 Outlet Protection	No		
Is erosion taking place?		No	
15 Rough-Cut Street Control	No		
Have structures been properly located and installed?		No	
Is there excess sediment against the structures?		No	
16 Concrete Washout	No		
Has material been removed per maintenance requirements?		No	
Does structure have adequate signage?		No	
Is there adequate tracking-pad material for access, if necessary?		No	
Is there adequate protection around the structure?		No	
17 Erosion Logs	No		
Are the erosion logs damaged, collapsed, or ineffective?		No	
Is there excess sediment against the barrier?		No	
Are the erosion logs improperly located?		No	
18 GEC Management	No		
Is the GEC notebook located on site?		No	
Are changes to the GEC documents noted and approved?		No	
Are the inspection reports retained on-site?		No	
Are corrective actions from the last inspection completed?		No	
19 Materials and Pollution	No		

Are stockpiles being managed properly?	No
Are materials being managed properly?	No
Is solid waste and trash being managed properly?	No
Is street sweeping being managed properly?	No
Are the sanitary facilities being managed properly?	No
Are the vehicles and equipment being managed properly?	No
Are there other materials or pollution issues being properly maintained?	No

Project Status: Active **Const. Start Date:** **Size of Disturbance (acres):**

Additional Comments:

COMPLETED OPERATION AND MAINTENANCE INSPECTION RECORDS

CLASSIC
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ENGINEERS & SURVEYORS

STANDARD BMP DETAILS
W/ INSTALLATION AND MAINTENANCE REQUIREMENTS

CLASSIC
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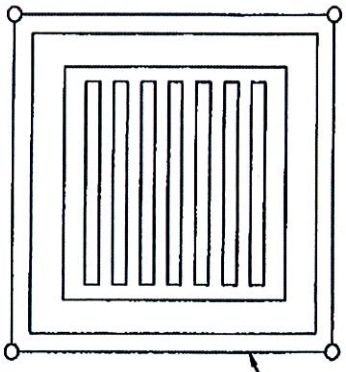


FILTER FABRIC INLET PROTECTION

NTS

FILTER FABRIC INLET PROTECTION NOTES

INSTALLATION REQUIREMENTS

1. INLET PROTECTION SHALL BE INSTALLED IMMEDIATELY AFTER CONSTRUCTION OF INLET.

2. SEE SILT FENCE FIGURE SF-2 FOR INSTALLATION REQUIREMENTS.

3. POSTS ARE TO BE PLACED AT EACH CORNER OF THE INLET AND AROUND THE EDGES AT A MAXIMUM SPACING OF 3 FEET.

MAINTENANCE REQUIREMENTS

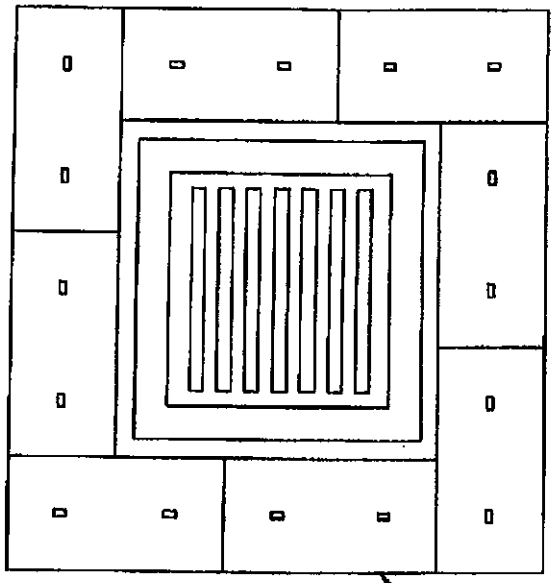
1. CONTRACTOR SHALL INSPECT INLET PROTECTION IMMEDIATELY AFTER EACH RAINFALL, AT LEAST DAILY DURING PROLONGED RAINFALL, AND WEEKLY DURING PERIODS NO RAINFALL.

2. DAMAGED, COLLAPSED, UNENTRENCHED OR INEFFECTIVE INLET PROTECTION SHALL BE PROMPTLY REPAIRED OR REPLACED.

3. SEDIMENT SHALL BE REMOVED FROM BEHIND FILTER FABRIC WHEN IT ACCUMULATES TO HALF THE EXPOSED GEOTEXTILE HEIGHT.

4. FILTER FABRIC PROTECTION SHALL BE REMOVED WHEN ADEQUATE VEGETATIVE COVER IS ATTAINED IN THE DRAINAGE AREA AS APPROVED BY THE CITY.

City of Colorado Springs Stormwater Quality	Figure IP-1 Filter Fabric Inlet Protection Construction Detail and Maintenance Requirements



STRAW BALE INLET PROTECTION

NTS

STRAW BALE INLET PROTECTION NOTES

INSTALLATION REQUIREMENTS

1. INLET PROTECTION SHALL BE INSTALLED IMMEDIATELY AFTER CONSTRUCTION OF INLET.

2. BALES ARE TO BE PLACED IN A SINGLE ROW AROUND THE INLET WITH THE END OF THE BALES TIGHTLY ABUTTING ONE ANOTHER.

3. SEE STRAW BALE BARRIER FIGURE SBB-2 FOR INSTALLATION REQUIREMENTS.

MAINTENANCE REQUIREMENTS

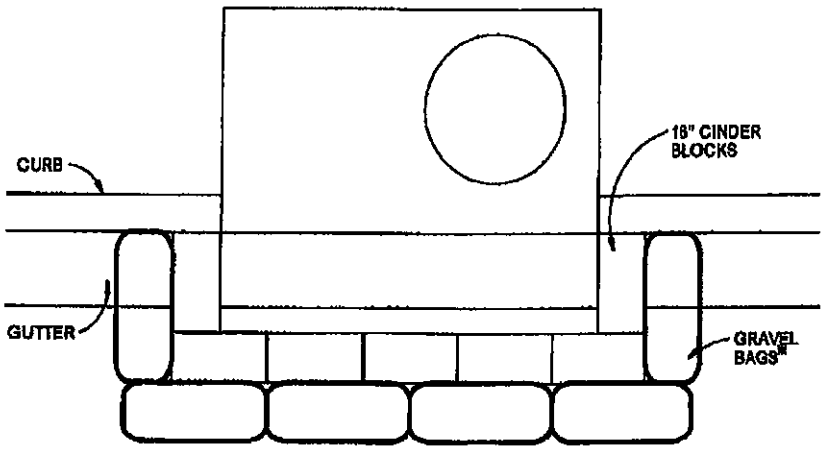
1. CONTRACTOR SHALL INSPECT STRAW BALE INLET PROTECTION IMMEDIATELY AFTER EACH RAINFALL, AT LEAST DAILY DURING PROLONGED RAINFALL, AND WEEKLY DURING PERIODS NO RAINFALL.

2. DAMAGED OR INEFFECTIVE INLET PROTECTION SHALL PROMPTLY BE REPAIRED, REPLACING BALES IF NECESSARY, AND UNENTRENCHED BALES NEED TO BE REPAIRED WITH COMPACTED BACKFILL MATERIAL.

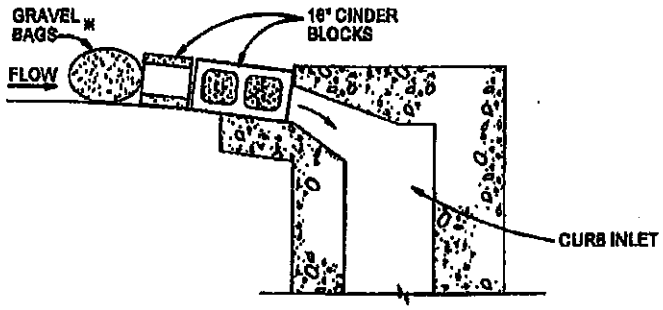
3. SEDIMENT SHALL BE REMOVED FROM BEHIND STRAW BALES WHEN IT ACCUMULATES TO APPROXIMATELY 1/3 THE HEIGHT OF THE BARRIER.

4. INLET PROTECTION SHALL BE REMOVED WHEN ADEQUATE VEGETATIVE COVER IS ATTAINED WITHIN THE DRAINAGE AREA AS APPROVED BY THE CITY.

City of Colorado Springs Stormwater Quality	Figure IP-2 Straw Bale Inlet Protection Construction Detail and Maintenance Requirements



PLAN



SECTION

BLOCK AND GRAVEL BAG*CURB INLET PROTECTION

NTS

BLOCK AND GRAVEL BAG*CURB INLET PROTECTION NOTES

INSTALLATION REQUIREMENTS

1. INLET PROTECTION SHALL BE INSTALLED IMMEDIATELY AFTER CONSTRUCTION OF INLET.

2. CONCRETE BLOCKS ARE TO BE LAID AROUND THE INLET IN A SINGLE ROW ON THEIR SIDES, ABUTTING ONE ANOTHER WITH THE OPEN ENDS OF THE BLOCK FACING OUTWARD.

3. GRAVEL BAGS ARE TO BE PLACED AROUND THE CONCRETE BLOCKS CLOSELY ABUTTING ONE ANOTHER SO THERE ARE NO GAPS.

4. GRAVEL BAGS ARE TO CONTAIN WASHED SAND OR GRAVEL APPROXIMATELY 3/4 INCH IN DIAMETER.

5. BAGS ARE TO BE MADE OF 1/4" INCH WIRE MESH (USED WITH GRAVEL ONLY) OR GEOTEXTILE.

MAINTENANCE REQUIREMENTS

1. CONTRACTOR SHALL INSPECT INLET PROTECTION IMMEDIATELY AFTER EACH RAINFALL, AT LEAST DAILY DURING PROLONGED RAINFALL, AND WEEKLY DURING PERIODS NO RAINFALL.

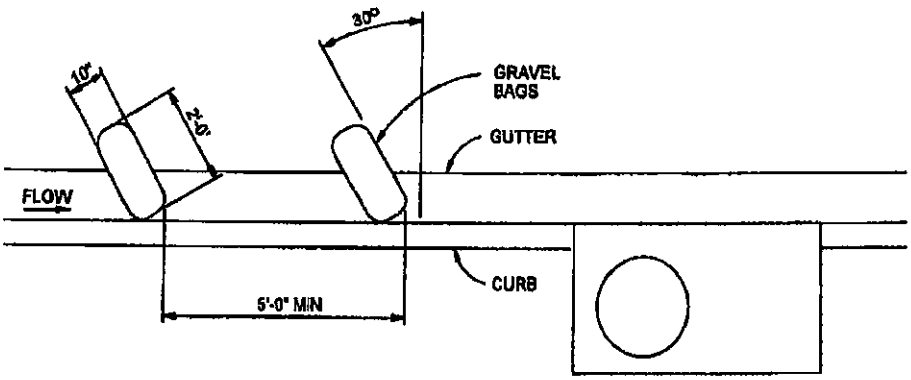
2. DAMAGED OR INEFFECTIVE INLET PROTECTION SHALL PROMPTLY BE REPAIRED OR REPLACED.

3. SEDIMENT SHALL BE REMOVED WHEN SEDIMENT HAS ACCUMULATED TO APPROXIMATELY 1/2 THE DESIGN DEPTH OF THE TRAP.

4. INLET PROTECTION SHALL BE REMOVED WHEN ADEQUATE VEGETATIVE COVER IS ATTAINED WITHIN THE DRAINAGE AREA AS APPROVED BY THE CITY.

* AN ALTERNATE 3/4" TO 1" GRAVEL FILTER OVER A WIRE SCREEN MAY BE USED IN PLACE OF GRAVEL BAGS. THE WIRE MESH SHALL EXTEND ABOVE THE TOP OF THE CONCRETE BLOCKS AND THE GRAVEL PLACED OVER THE WIRE SCREEN TO THE TOP OF THE CONCRETE BLOCKS.

City of Colorado Springs Stormwater Quality	Figure IP-3 Block & Gravel Bag Curb Inlet Protection Construction Detail and Maintenance Requirements



CURB SOCK INLET PROTECTION

NTS

CURB SOCK INLET PROTECTION NOTES

INSTALLATION REQUIREMENTS

1. INLET PROTECTION SHALL BE INSTALLED IMMEDIATELY AFTER CONSTRUCTION OF INLET.

2. SOCK IS TO BE MADE OF 1/4 INCH WIRE MESH (USED WITH GRAVEL ONLY) OR GEOTEXTILE.

3. WASHED SAND OR GRAVEL 3/4 INCH TO 4 INCHES IN DIAMETER IS PLACED INSIDE THE SOCK.

4. PLACEMENT OF THE SOCK IS TO BE 30 DEGREES FROM PERPENDICULAR IN THE OPPOSITE DIRECTION OF FLOW.

5. SOCKS ARE TO BE FLUSH WITH THE CURB AND SPACED AT A MINIMUM 5 FEET APART.

6. AT LEAST 2 CURB SOCKS IN SERIES IS REQUIRED.

MAINTENANCE REQUIREMENTS

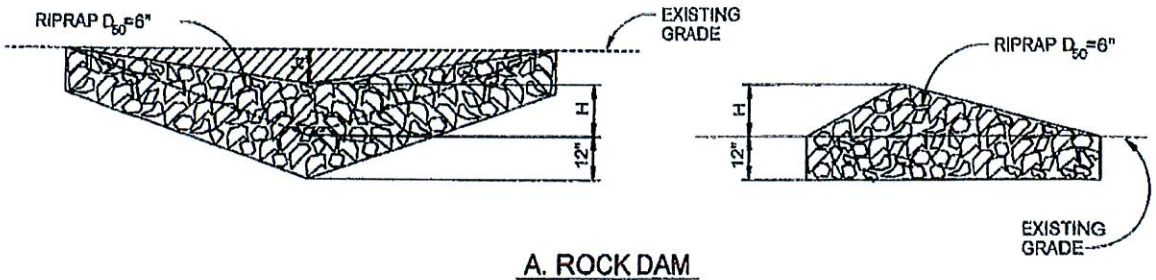
1. CONTRACTOR SHALL INSPECT INLET PROTECTION IMMEDIATELY AFTER EACH RAINFALL, AT LEAST DAILY DURING PROLONGED RAINFALL AND WEEKLY DURING PERIODS NO RAINFALL.

2. DAMAGED OR INEFFECTIVE INLET PROTECTION SHALL PROMPTLY BE REPAIRED OR REPLACED.

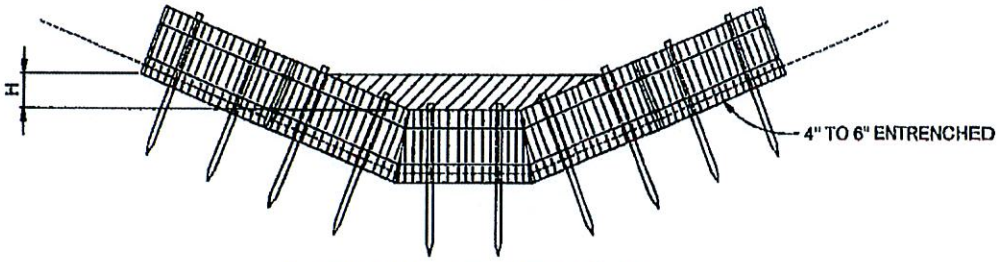
3. SEDIMENT SHALL BE REMOVED FROM BEHIND THE SOCK WHEN GUTTER WIDTH IS FILLED.

4. INLET PROTECTION SHALL BE REMOVED WHEN ADEQUATE VEGETATIVE COVER IS ATTAINED WITHIN THE DRAINAGE AREA AS APPROVED BY THE CITY.

City of Colorado Springs Stormwater Quality	Figure IP-4 Curb Sock Inlet Protection Construction Detail and Maintenance Requirements

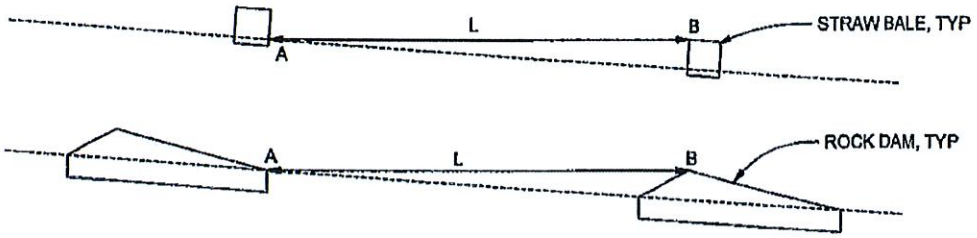


A. ROCK DAM



B. STRAW BALE CHECK DAM

(SEE STRAW BALE BARRIER INSTALATION)



L= THE DISTANCE SUCH THAT POINTS A AND B ARE AT THE SAME ELEVATION.

C. SPACING CHECK DAMS

CHECK DAM

NTS

CHECK DAM NOTES

INSTALLATION REQUIREMENTS

1. STRAW BALES USED AS CHECK DAMS ARE TO MEET THE REQUIREMENTS STATED IN FIGURE SBB-2.

2. THE "H" DIMENSION SHALL BE SELECTED TO PROVIDE WEIR FLOW CONVEYANCE FOR 2-YEAR FLOW OR GREATER.

MAINTENANCE REQUIREMENTS

1. REGULAR INSPECTIONS ARE TO BE MADE OF ALL CHECK DAMS, ESPECIALLY AFTER STORM EVENTS.

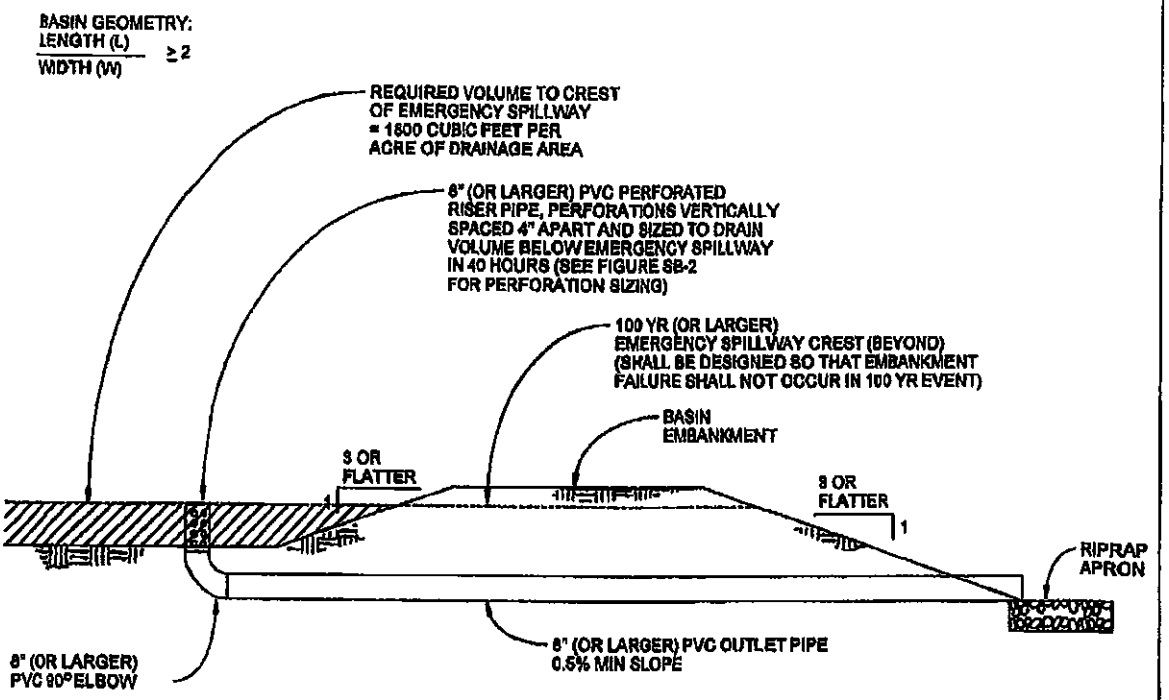
2. REPLACE STONE AS NECESSARY TO MAINTAIN THE CORRECT HEIGHT OF THE DAM.

3. ACCUMULATED SEDIMENT AND DEBRIS IS TO BE REMOVED FROM BEHIND THE DAMS AFTER EACH STORM OR WHEN 1/2 OF THE ORIGINAL HEIGHT OF THE DAM IS REACHED.

3. CHECK DAMS ARE TO REMAIN IN PLACE AND OPERATIONAL UNTIL THE DRAINAGE AREA AND CHANNEL ARE PERMANENTLY STABILIZED.

4. WHEN CHECK DAMS ARE REMOVED THE CHANNEL LINING OR VEGETATION IS TO BE RESTORED.

City of Colorado Springs Stormwater Quality	Figure CD-1 Check Dam Construction Detail and Maintenance Requirements



SEDIMENT BASIN

NTS

SEDMENT BASIN NOTES

INSTALLATION REQUIREMENTS

1. SEDIMENT BASINS SHALL BE INSTALLED BEFORE ANY CLEARING AND/OR GRADING IS UNDERTAKEN.

2. THE AREA UNDER WHICH THE EMBANKMENT IS TO BE INSTALLED SHALL BE CLEARED, GRUBBED, AND STRIPPED OF ALL VEGETATION AND ROOT MAT.

3. THE OUTLET OF THE BASIN SHALL BE DESIGNED TO DRAIN ITS VOLUME IN 40 HOURS.

4. THE OUTLET IS TO BE LOCATED AT THE FURTHEST DISTANCE FROM THE INLET OF THE BASIN. BAFFLES MAY BE NEEDED TO INCREASE THE FLOW LENGTH AND SETTLING TIME.

5. EMBANKMENT MATERIAL SHALL CONSIST OF SOIL WITH A MINIMUM OF 15% PASSING A #200 SIEVE. EXCAVATED SOIL CAN BE USED IF IT MEETS THIS REQUIREMENT.

6. EMBANKMENT IS TO BE COMPACTED TO AT LEAST 90% OF MAXIMUM DENSITY AND WITHIN 2% OF OPTIMUM MOISTURE CONTENT ACCORDING TO ASTM D 698.

7. WHEN A BASIN IS INSTALLED NEAR A RESIDENTIAL AREA, FOR SAFETY REASONS, A SIGN SHALL BE POSTED AND THE AREA SECURED WITH A FENCE.

MAINTENANCE REQUIREMENTS

1. CONTRACTOR SHALL INSPECT SEDIMENT BASINS AFTER EACH RAINFALL, AT LEAST DAILY DURING PROLONGED RAINFALL, AND WEEKLY DURING PERIODS NO RAINFALL.

2. SEDIMENT BASINS SHALL BE CLEANED OUT BEFORE SEDIMENT HAS FILLED HALF THE VOLUME OF THE BASIN.

3. SEDIMENT BASINS SHALL REMAIN OPERATIONAL AND PROPERLY MAINTAINED UNTIL THE SITE AREA IS PERMANENTLY STABILIZED WITH ADEQUATE VEGETATIVE COVER AND/OR OTHER PERMANENT STRUCTURE AS APPROVED BY THE CITY.

City of Colorado Springs Stormwater Quality	Figure SB-1 Sediment Basin Construction Detail and Maintenance Requirements

Required Area per Row (in^2)

Design Volume (acre-ft)	Depth at Outlet (ft)							
	1.0	1.5	2.0	2.5	3.0	3.5	4.0	4.5
2	15.04	7.71	5.10	3.76	2.95	2.41	2.02	1.73
1	7.52	3.86	2.55	1.88	1.48	1.21	1.01	0.87
0.6	4.51	2.31	1.53	1.13	0.89	0.72	0.61	0.52
0.4	3.01	1.54	1.02	0.75	0.59	0.48	0.40	0.35
0.2	1.50	0.77	0.51	0.38	0.30	0.24	0.20	0.17
0.1	0.75	0.39	0.26	0.19	0.15	0.12	0.10	0.09
0.06	0.45	0.23	0.15	0.11	0.09	0.07	0.06	0.05
0.04	0.30	0.15	0.10	0.08	0.06	0.05	0.04	0.03
0.02	0.15	0.08	0.05	0.04	0.03	0.02	0.02	0.02
0.01	0.08	0.04	0.03	0.02	0.01	0.01	0.01	0.01

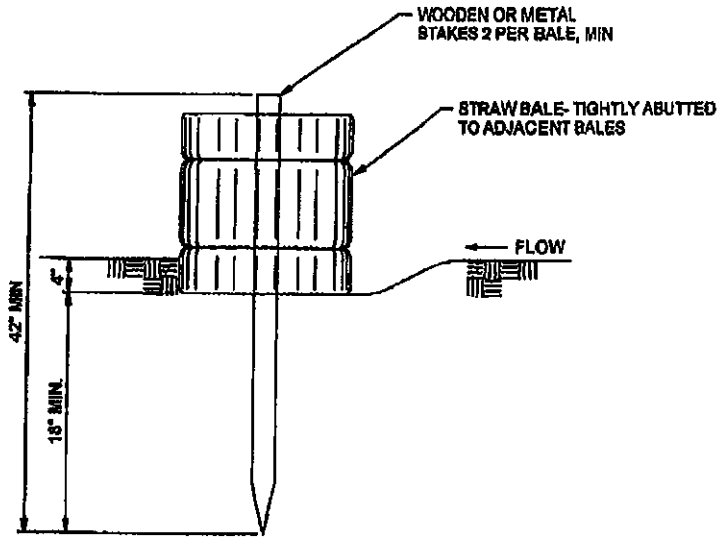
TABLE SB-1

Circular Perforation Sizing

Hole Diameter (in)	Hole Diameter (in)	Area per Row (in^2)		
		n = 1	n = 2	n = 3
1/4	0.250	0.05	0.10	0.15
5/16	0.313	0.08	0.15	0.23
3/8	0.375	0.11	0.22	0.33
7/16	0.438	0.15	0.30	0.45
1/2	0.500	0.20	0.39	0.59
9/16	0.563	0.25	0.50	0.75
5/8	0.625	0.31	0.61	0.92
11/16	0.688	0.37	0.74	1.11
3/4	0.750	0.44	0.88	1.33
7/8	0.875	0.60	1.20	1.80
1	1.000	0.79	1.57	2.36
1 1/8	1.125	0.99	1.99	2.98
1 1/4	1.250	1.23	2.45	3.68
1 3/8	1.375	1.48	2.97	4.45
1 1/2	1.500	1.77	3.53	5.30
1 5/8	1.625	2.07	4.15	6.22
1 3/4	1.750	2.41	4.81	7.22
1 7/8	1.875	2.76	5.52	8.28
2	2.000	3.14	6.28	9.42
n = Number of columns of perforations				
Minimum steel plate thickness		1/4"	5/16"	3/8"

TABLE SB-2

City of Colorado Springs Stormwater Quality	Figure SB-2 Outlet Sizing Application Techniques and Maintenance Requirements



STRAW BALE BARRIER

NTS

STRAW BALE BARRIER NOTES

INSTALLATION REQUIREMENTS

1. STRAW BALE BARRIERS SHALL BE INSTALLED PRIOR TO ANY LAND DISTURBING ACTIVITIES.

2. BALES SHALL CONSIST OF APPROXIMATELY 5 CUBIC FEET OF CERTIFIED WEED FREE HAY OR STRAW AND WEIGH NOT LESS THAN 35 POUNDS.

3. BALES ARE TO BE PLACED IN A SINGLE ROW WITH THE END OF THE BALES TIGHTLY ABUTTING ONE ANOTHER.

4. EACH BALE IS TO BE SECURELY ANCHORED WITH AT LEAST TWO STAKES AND THE FIRST STAKE IS TO BE DRIVEN TOWARD THE PREVIOUSLY LAID BALE TO FORCE THE BALES TOGETHER.

5. STAKES ARE TO BE A MINIMUM OF 42 INCHES LONG. METAL STAKES SHALL BE STANDARD "T" OR "U" TYPE WITH MINIMUM WEIGHT OF 1.33 POUNDS PER LINEAR FOOT. WOOD STAKES SHALL HAVE A MINIMUM DIAMETER OR CROSS SECTION DIMENSION OF 2 INCHES.

6. BALES ARE TO BE BOUND WITH EITHER WIRE OR STRING AND ORIENTED SUCH THAT THE BINDINGS ARE AROUND THE SIDES AND NOT ALONG THE TOPS AND BOTTOMS OF THE BALE.

7. GAPS BETWEEN BALES ARE TO BE CHINKED (FILLED BY WEDGING) WITH STRAW OR THE SAME MATERIAL OF THE BALE.

8. END BALES ARE TO EXTEND UPSLOPE SO THE TRAPPED RUNOFF CANNOT FLOW AROUND THE ENDS OF THE BARRIER.

MAINTENANCE REQUIREMENTS

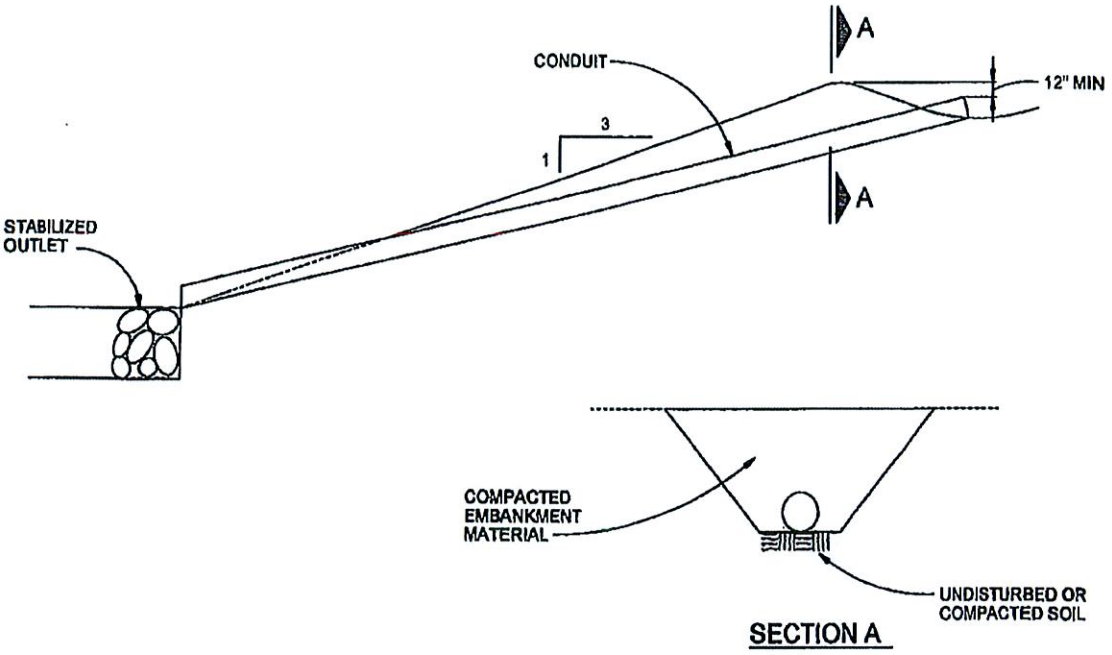
1. CONTRACTOR SHALL INSPECT STRAW BALE BARRIERS IMMEDIATELY AFTER EACH RAINFALL, AT LEAST DAILY DURING PROLONGED RAINFALL, AND WEEKLY DURING PERIODS NO RAINFALL.

2. DAMAGED OR INEFFECTIVE BARRIERS SHALL PROMPTLY BE REPAIRED, REPLACING BALES IF NECESSARY, AND UNENTRENCHED BALES NEED TO BE REPAIRED WITH COMPACTED BACKFILL MATERIAL.

3. SEDIMENT SHALL BE REMOVED FROM BEHIND STRAW BALE BARRIERS WHEN IT ACCUMULATES TO APPROXIMATELY 1/2 THE HEIGHT OF THE BARRIER.

4. STRAW BALE BARRIERS SHALL BE REMOVED WHEN ADEQUATE VEGETATIVE COVER IS ATTAINED AS APPROVED BY THE CITY.

City of Colorado Springs Stormwater Quality	Figure SBB-2 Straw Bale Barrier Construction Detail and Maintenance Requirements



SECTION A

SLOPE DRAIN

NTS

SLOPE DRAIN NOTES

INSTALLATION REQUIREMENTS

1. THE SLOPE DRAIN IS TO BE DESIGNED TO CONVEY THE PEAK RUNOFF FOR THE 2-YEAR STORM.

2. PIPE MATERIAL MAY INCLUDE CORRUGATED METAL, OR RIGID OR FLEXIBLE PLASTIC.

3. EMBANKMENT MATERIAL SHALL CONSIST OF SOIL WITH A MINIMUM OF 15% PASSING A #200 SIEVE. EXCAVATED SOIL CAN BE USED IF IT MEETS THIS REQUIREMENT.

4. EMBANKMENT IS TO BE COMPACTED TO AT LEAST 90% OF MAXIMUM DENSITY AND WITHIN 2% OF OPTIMUM MOISTURE CONTENT ACCORDING TO ASTM D 698.

5. SLOPE DRAIN SECTIONS ARE TO BE SECURELY FASTENED TOGETHER AND HAVE WATERTIGHT FITTINGS.

6. THE OUTLET IS TO BE STABILIZED AND, UNLESS THE DRAIN DISCHARGES DIRECTLY TO A SEDIMENT BASIN, A TEMPORARY SURFACE IS TO BE PROVIDED TO CONVEY FLOWS DOWN STREAM.

7. IMMEDIATELY STABILIZE ALL AREAS DISTURBED BY INSTALLATION OR REMOVAL OF THE PIPE SLOPE DRAIN.

MAINTENANCE REQUIREMENTS

1. INLET AND OUTLET POINTS ARE TO BE CHECKED REGULARLY, AND AFTER HEAVY STORMS FOR CLOGGING AND OVERCHARGING. ANY BREAKS IN THE PIPE ARE TO BE PROMPTLY REPAIRED, AND CLOGS REMOVED AS NEEDED.

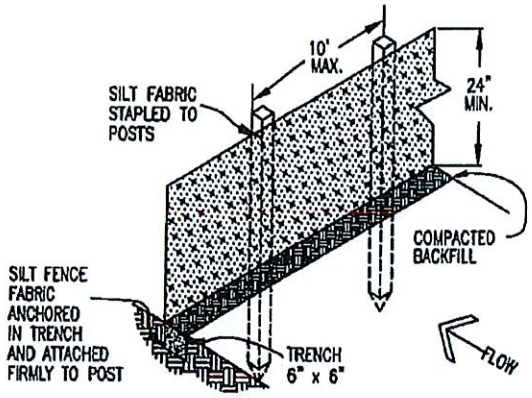
2. WATER IS NOT TO BYPASS OR UNDERCUT THE INLET OR PIPE. IF THESE PROBLEMS DO EXIST, THE HEADWALL NEEDS TO BE REINFORCED WITH COMPACT EARTH OR SANDBAGS.

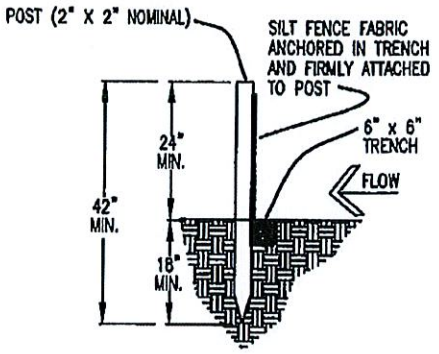
3. THE OUTLET POINT IS TO BE FREE OF EROSION, AND, IF NECESSARY, ADDITIONAL OUTLET PROTECTION SHOULD BE INSTALLED.

4. CONSTRUCTION TRAFFIC IS NOT TO CROSS THE SLOPE DRAIN AND MATERIALS ARE NOT TO BE PLACED ON IT.

5. THE SLOPE DRAIN IS TO REMAIN IN PLACE UNTIL THE SLOPE HAS BEEN COMPLETELY STABILIZED OR UP TO 30 DAYS AFTER PERMANENT SLOPE STABILIZATION.

City of Colorado Springs Stormwater Quality	Figure SD-1 Slope Drain Construction Detail and Maintenance Requirements





SILT FENCE

SILT FENCE NOTES

INSTALLATION REQUIREMENTS

1. SILT FENCES SHALL BE INSTALLED PRIOR TO ANY LAND DISTURBING ACTIVITIES.

2. WHEN JOINTS ARE NECESSARY, SILT FENCE GEOTEXTILE SHALL BE SPLICED TOGETHER ONLY AT SUPPORT POST AND SECURELY SEALED.

3. METAL POSTS SHALL BE "STUDDED TEE" OR "U" TYPE WITH MINIMUM WEIGHT OF 1.33 POUNDS PER LINEAR FOOT. WOOD POSTS SHALL HAVE A MINIMUM DIAMETER OR CROSS SECTION DIMENSION OF 2 INCHES.

4. THE FILTER MATERIAL SHALL BE FASTENED SECURELY TO METAL OR WOOD POSTS USING WIRE TIES, OR TO WOOD POSTS WITH 3/4" LONG #9 HEAVY-DUTY STAPLES. THE SILT FENCE GEOTEXTILE SHALL NOT BE STAPLED TO EXISTING TREES.

5. WHILE NOT REQUIRED, WIRE MESH FENCE MAY BE USED TO SUPPORT THE GEOTEXTILE. WIRE FENCE SHALL BE FASTENED SECURELY TO THE UPSLOPE SIDE OF THE POSTS USING HEAVY-DUTY WIRE STAPLES AT LEAST 3/4" LONG, TIE WIRES OR HOG RINGS. THE WIRE SHALL EXTEND INTO THE TRENCH A MINIMUM OF 6" AND SHALL NOT EXTEND MORE THAN 3' ABOVE THE ORIGINAL GROUND SURFACE.

6. ALONG THE TOE OF FILLS, INSTALL THE SILT FENCE ALONG A LEVEL CONTOUR AND PROVIDE AN AREA BEHIND THE FENCE FOR RUNOFF TO POND AND SEDIMENT TO SETTLE. A MINIMUM DISTANCE OF 5 FEET FROM THE TOE OF THE FILL IS RECOMMENDED.

7. THE HEIGHT OF THE SILT FENCE FROM THE GROUND SURFACE SHALL BE MINIMUM OF 24 INCHES AND SHALL NOT EXCEED 36 INCHES; HIGHER FENCES MAY INPOUND VOLUMES OF WATER SUFFICIENT TO CAUSE FAILURE OF THE STRUCTURE.

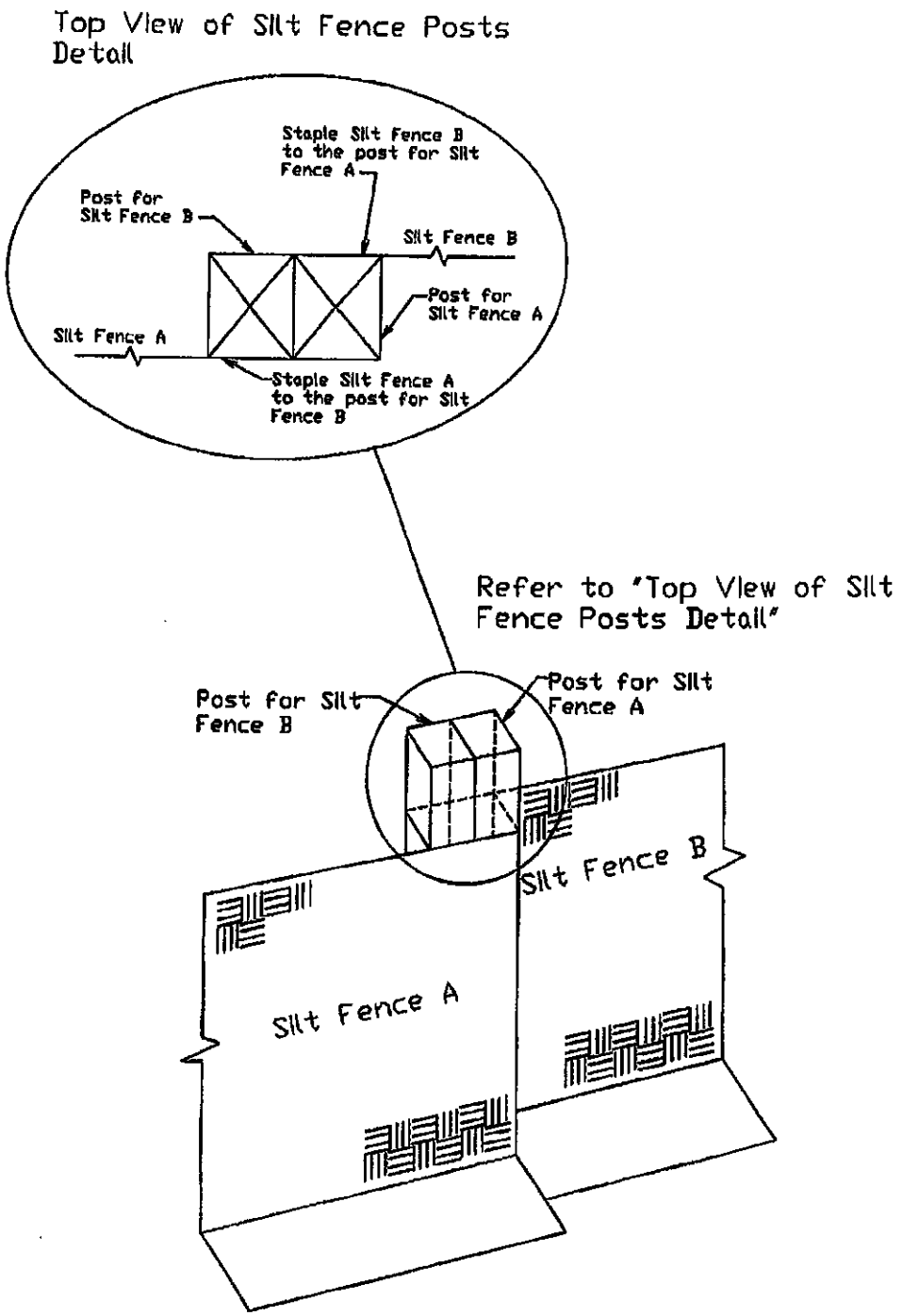
MAINTENANCE REQUIREMENTS

1. CONTRACTOR SHALL INSPECT SILT FENCES IMMEDIATELY AFTER EACH RAINFALL, AT LEAST DAILY DURING PROLONGED RAINFALL, AND WEEKLY DURING PERIODS OF NO RAINFALL. DAMAGED, COLLAPSED, UNENTRENCHED OR INEFFECTIVE SILT FENCES SHALL BE PROMPTLY REPAIRED OR REPLACED.

2. SEDIMENT SHALL BE REMOVED FROM BEHIND SILT FENCE WHEN IT ACCUMULATES TO HALF THE EXPOSED GEOTEXTILE HEIGHT.

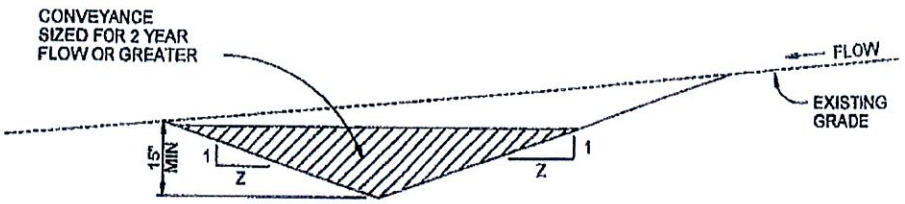
3. SILT FENCES SHALL BE REMOVED WHEN ADEQUATE VEGETATIVE COVER IS ATTAINED AS APPROVED BY THE CITY.

City of Colorado Springs Stormwater Quality	Figure SF-2 Silt Fence Construction Detail and Maintenance Requirements

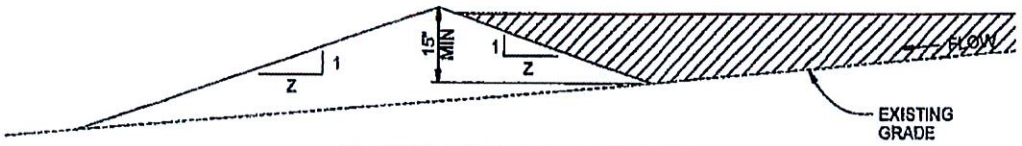


City of Colorado Springs
Stormwater Quality

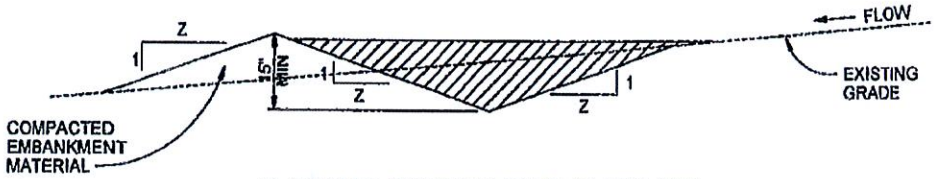
Figure SF-3
Silt Fence Joint Tying
Construction Detail and Maintenance Requirements



A. EXCAVATED SWALE



B. SWALE FORMED BY BERM



C. SWALE FORMED BY CUT AND FILL

TEMPORARY SWALE

NTS

TEMPORARY SWALE NOTES

INSTALLATION REQUIREMENTS

1. TEMPORARY SWALES SHALL BE INSTALLED PRIOR TO ANY LAND DISTURBING ACTIVITIES.

2. THE AREA UNDER WHICH THE EMBANKMENT IS TO BE INSTALLED SHALL BE CLEARED, GRUBBED, AND STRIPPED OF ALL VEGETATION AND ROOT MAT.

3. EMBANKMENT MATERIAL SHALL CONSIST OF SOIL WITH A MINIMUM OF 15% PASSING A #200 SIEVE. EXCAVATED SOIL CAN BE USED IF IT MEETS THIS REQUIREMENT.

4. EMBANKMENT IS TO BE COMPACTED TO AT LEAST 90% OF MAXIMUM DENSITY AND WITHIN 2% OF OPTIMUM MOISTURE CONTENT ACCORDING TO ASTM D 698.

5. SWALES WITH SLOPE > 2% SHALL BE LINED, SEE FIGURE TSW-3.

6. SWALES ARE TO DRAIN INTO A SEDIMENT BASIN OR OTHER STABILIZED OUTLET.

7. Z SHALL BE 3 OR GREATER.

MAINTENANCE REQUIREMENTS

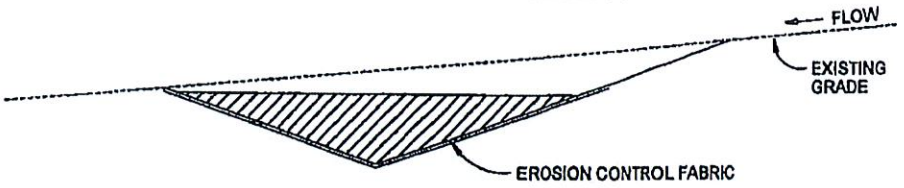
1. CONTRACTOR SHALL INSPECT SWALES AFTER EACH RAINFALL, AT LEAST DAILY DURING PROLONGED RAINFALL, AND WEEKLY DURING PERIODS OF NO RAINFALL.

2. SWALES SHALL BE ROUTINELY CLEARED OF ANY DEBRIS OR ACCUMULATION OF SEDIMENT.

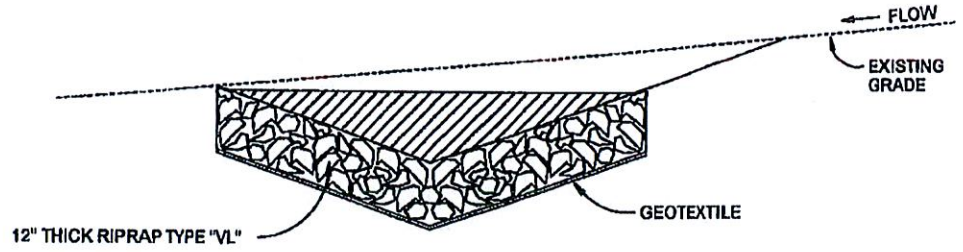
3. ERODED SLOPES OR DAMAGED LININGS SHALL IMMEDIATELY BE REPAIRED.

4. TEMPORARY SWALES SHALL REMAIN OPERATIONAL AND PROPERLY MAINTAINED UNTIL THE SITE AREA IS PERMANENTLY STABILIZED WITH ADEQUATE VEGETATIVE COVER AND/OR OTHER PERMANENT STRUCTURE AS APPROVED BY THE CITY.

City of Colorado Springs Stormwater Quality	Figure TSW-2 Temporary Swale Construction Detail and Maintenance Requirements



A. EROSION CONTROL FABRIC
2%≤SLOPE≤5% AND VELOCITY ≤ 8 FPS



B. RIPRAP
SLOPE>5% OR VELOCITY >8 FPS

SWALE LINING
NTS

SWALE LINING NOTES

INSTALLATION REQUIREMENTS

1. REFER TO THE EROSION CONTROL BLANKETS FACTSHEET FOR PROPER INSTALLATION OF EROSION CONTROL FABRIC LINING.

2. SWALES WITH EASILY EROSIVE SOILS AND SLOPES LESS THAN 2%, SHALL BE LINED WITH EROSION CONTROL FABRIC.

3. VELOCITIES FOR EROSION CONTROL FABRICS SHALL NOT EXCEED 8 FPS. SWALES WITH VELOCITIES GREATER THAN 8 FPS SHALL BE LINED WITH RIP RAP.

MAINTENANCE REQUIREMENTS

1. CONTRACTOR SHALL INSPECT SWALE LININGS AFTER EACH RAINFALL, AT LEAST DAILY DURING PROLONGED RAINFALL AND WEEKLY DURING PERIODS OF NO RAINFALL.

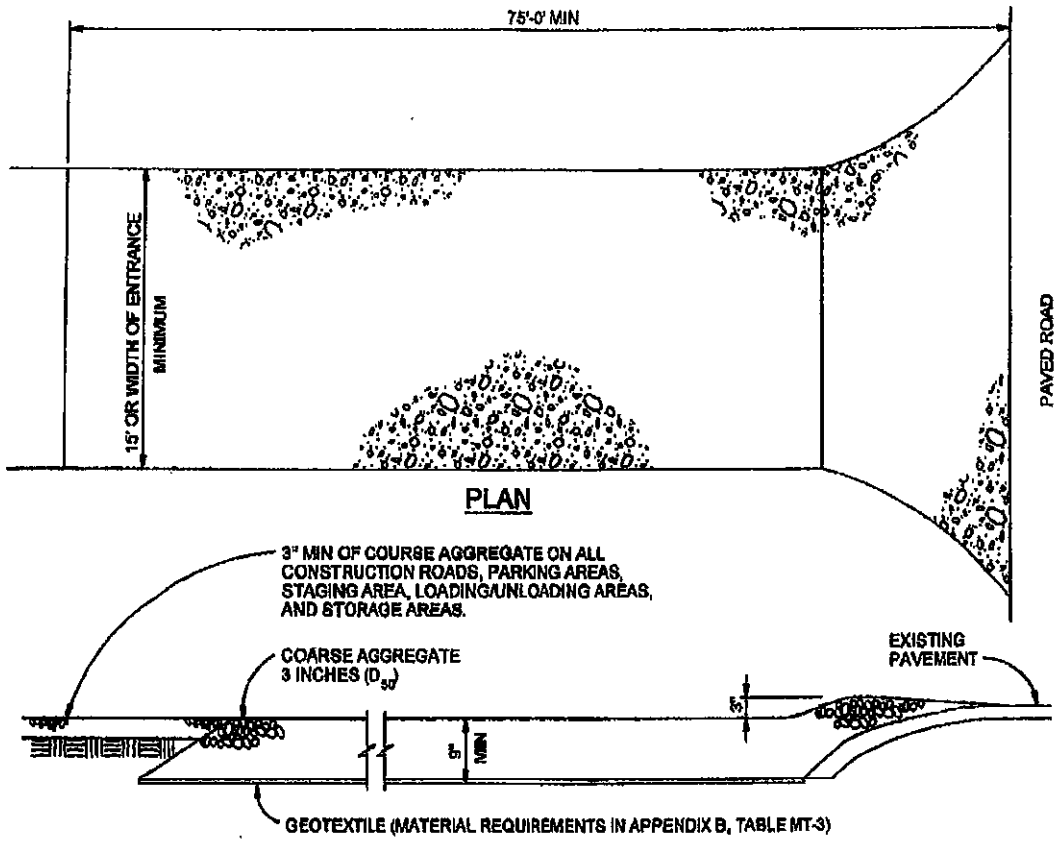
2. DAMAGED LININGS SHALL IMMEDIATELY BE REPAIRED.

3. REFER TO THE EROSION CONTROL BLANKETS FACTSHEET FOR PROPER MAINTENANCE.

4. DISPLACED RIPRAP OR COARSE AGGREGATE IS TO BE REPLACED AS SOON AS POSSIBLE.

5. SWALE LININGS ARE TO REMAIN IN PLACE AND BE PROPERLY MAINTAINED UNTIL THE TEMPORARY SWALE IS REMOVED.

City of Colorado Springs Stormwater Quality	Figure TSW-3 Swale Linings Construction Detail and Maintenance



VEHICLE TRACKING

NTS

VEHICLE TRACKING NOTES

INSTALLATION REQUIREMENTS

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

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

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

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

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

MAINTENANCE REQUIREMENTS

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

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

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

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

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

City of Colorado Springs Stormwater Quality	Figure VT-2 Vehicle Tracking Application Examples

SITE MAP/ EROSION AND STORMWATER QUALITY CONTROL PLAN

CLASSIC
CONSULTING
ENGINEERS & SURVEYORS

HANNAH RIDGE AT FEATHERGRASS FILING NO. 3

COUNTY OF EL PASO, STATE OF COLORADO

OVERLOT GRADING AND EROSION CONTROL PLAN

APRIL 2017

GENERAL CONSTRUCTION NOTES:

1. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY THE EXISTENCE AND LOCATION OF ALL UNDERGROUND UTILITIES ALONG THE ROUTE OF THE WORK. THE OMISSION FROM OR THE INCLUSION OF UTILITY LOCATIONS ON THE PLANS IS NOT TO BE CONSIDERED AS THE NONEXISTENCE OF OR A DEFINITE LOCATION OF EXISTING UNDERGROUND UTILITIES.
2. THE CONTRACTOR WILL TAKE THE NECESSARY PRECAUTIONS TO PROTECT EXISTING UTILITIES FROM DAMAGE DUE TO THIS OPERATION. ANY DAMAGE TO THE UTILITIES WILL BE REPAIRED AT THE CONTRACTOR'S EXPENSE, AND ANY SERVICE DISRUPTION WILL BE SETTLED BY THE CONTRACTOR.
3. ADDITIONAL EROSION CONTROL STRUCTURES MAY BE REQUIRED AT THE TIME OF CONSTRUCTION.
4. ALL BACKFILL, SUB-BASE AND/OR BASE COURSE (CLASS 6) MATERIAL SHALL BE COMPACTED TO THE SOILS ENGINEER'S RECOMMENDATIONS, AND APPROVED BY EL PASO COUNTY DEVELOPMENT SERVICES ENGINEERING DIVISION.
5. TYPE L RIP-RAP WITH MIRAFI FW 700 OR EQUAL IS REQUIRED UNDER ALL RIP-RAP PADS.
6. ALL MATERIALS AND INSTALLATION PROCEDURES SHALL BE IN COMPLIANCE WITH ANY AND ALL APPLICABLE EL PASO COUNTY STANDARDS.

EL PASO COUNTY GRADING AND EROSION CONTROL NOTES:

1. CONSTRUCTION MAY NOT COMMENCE UNTIL A CONSTRUCTION PERMIT IS OBTAINED FROM "PLANNING AND COMMUNITY DEVELOPMENT" AND A PRECONSTRUCTION CONFERENCE IS HELD WITH "PLANNING AND COMMUNITY DEVELOPMENT" INSPECTIONS.
2. 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.
3. 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 TO REGULATIONS AND STANDARDS MUST BE REQUESTED, AND APPROVED, IN WRITING.
4. A SEPARATE STORMWATER MANAGEMENT PLAN (SWMP) FOR THIS PROJECT SHALL BE COMPLETED AND AN EROSION AND STORMWATER QUALITY CONTROL PERMIT (ESQCP) ISSUED PRIOR TO COMMENCING CONSTRUCTION. DURING CONSTRUCTION THE SWMP IS THE RESPONSIBILITY OF THE DESIGNATED STORMWATER MANAGER, SHALL BE LOCATED ON SITE AT ALL TIMES AND SHALL BE KEPT UP TO DATE WITH WORK PROGRESS AND CHANGES IN THE FIELD.
5. ONCE THE ESQCP HAS BEEN ISSUED, THE CONTRACTOR MAY INSTALL THE INITIAL STAGE EROSION AND SEDIMENT CONTROL BMPS AS INDICATED ON THE 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 "PLANNING AND COMMUNITY DEVELOPMENT" INSPECTIONS STAFF.
6. SOIL EROSION CONTROL MEASURES FOR ALL SLOPES, CHANNELS, DITCHES, OR ANY DISTURBED LAND AREA SHALL BE COMPLETED WITHIN 21 CALENDAR DAYS AFTER FINAL GRADING, OR FINAL EARTH DISTURBANCE, HAS BEEN COMPLETED. DISTURBED AREAS AND STOCKPILES WHICH ARE NOT AT FINAL GRADE BUT WILL REMAIN DORMANT FOR LONGER THAN 30 DAYS SHALL ALSO BE MULCHED WITHIN 21 DAYS AFTER INTERIM GRADING. AN AREA THAT IS GOING TO REMAIN IN AN INTERIM STATE FOR MORE THAN 60 DAYS SHALL ALSO BE SEEDED. ALL TEMPORARY SOIL EROSION CONTROL MEASURES AND BMPS SHALL BE MAINTAINED UNTIL PERMANENT SOIL EROSION CONTROL MEASURES ARE IMPLEMENTED AND ESTABLISHED.
7. TEMPORARY SOIL EROSION CONTROL FACILITIES SHALL BE REMOVED AND EARTH DISTURBANCE AREAS GRADED AND STABILIZED WITH PERMANENT SOIL EROSION CONTROL MEASURES PURSUANT TO STANDARDS AND SPECIFICATION PRESCRIBED IN THE DCM VOLUME II AND THE ENGINEERING CRITERIA MANUAL (ECM) APPENDIX I.
8. ALL PERSONS ENGAGED IN EARTH DISTURBANCE SHALL IMPLEMENT AND MAINTAIN ACCEPTABLE SOIL EROSION AND SEDIMENT CONTROL MEASURES INCLUDING BMPS IN CONFORMANCE WITH THE EROSION CONTROL TECHNICAL STANDARDS OF THE DRAINAGE CRITERIA MANUAL (DCM) VOLUME II AND IN ACCORDANCE WITH THE STORMWATER MANAGEMENT PLAN (SWMP).
9. ALL TEMPORARY EROSION CONTROL FACILITIES INCLUDING BMPS AND ALL PERMANENT FACILITIES INTENDED TO CONTROL EROSION OF ANY EARTH DISTURBANCE OPERATIONS, SHALL BE INSTALLED AS DEFINED IN THE APPROVED PLANS, THE SWMP AND THE DCM VOLUME II AND MAINTAINED THROUGHOUT THE DURATION OF THE EARTH DISTURBANCE OPERATION.
10. ANY EARTH DISTURBANCE SHALL BE CONDUCTED IN SUCH A MANNER SO AS TO EFFECTIVELY REDUCE 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.
11. ANY TEMPORARY OR PERMANENT FACILITY DESIGNED AND CONSTRUCTED FOR THE CONVEYANCE OF STORMWATER AROUND, THROUGH, OR FROM THE EARTH DISTURBANCE AREA SHALL BE DESIGNED TO LIMIT THE DISCHARGE TO A NON-EROSIVE VELOCITY.
12. CONCRETE WASH WATER SHALL BE CONTAINED AND DISPOSED OF IN ACCORDANCE WITH THE SWMP. NO WASH WATER SHALL BE DISCHARGED TO OR ALLOWED TO RUNOFF TO STATE WATERS, INCLUDING ANY SURFACE OR SUBSURFACE STORM DRAINAGE SYSTEM OR FACILITIES.
13. EROSION CONTROL BLANKETING IS TO BE USED ON SLOPES STEEPER THAN 3:1.
14. 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. BMP'S MAY BE REQUIRED BY EL PASO COUNTY ENGINEERING IF DEEMED NECESSARY, BASED ON SPECIFIC CONDITIONS AND CIRCUMSTANCES.
15. VEHICLE TRACKING OF SOILS AND CONSTRUCTION DEBRIS OFF-SITE SHALL BE MINIMIZED. MATERIALS TRACKED OFFSITE SHALL BE CLEANED UP AND PROPERLY DISPOSED OF IMMEDIATELY.
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. THE OWNER, SITE DEVELOPER, CONTRACTOR, AND/OR THEIR AUTHORIZED AGENTS 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 AND STORMWATER APPURTENANCES AS A RESULT OF SITE DEVELOPMENT.
18. 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.
19. NO CHEMICALS ARE TO BE USED BY THE CONTRACTOR, WHICH HAVE THE POTENTIAL TO BE RELEASED IN STORMWATER UNLESS PERMISSION FOR THE USE OF A SPECIFIC CHEMICAL IS GRANTED IN WRITING BY THE ECM ADMINISTRATOR. IN GRANTING THE USE OF SUCH CHEMICALS, SPECIAL CONDITIONS AND MONITORING MAY BE REQUIRED.
20. BULK STORAGE STRUCTURES FOR PETROLEUM PRODUCTS AND OTHER CHEMICALS SHALL HAVE ADEQUATE PROTECTION SO AS TO CONTAIN ALL SPILLS AND PREVENT ANY SPILLED MATERIAL FROM ENTERING STATE WATERS, INCLUDING ANY SURFACE OR SUBSURFACE STORM DRAINAGE SYSTEM OR FACILITIES.
21. NO PERSON SHALL CAUSE THE IMPEDIMENT OF STORMWATER FLOW IN THE FLOW LINE OF THE CURB AND GUTTER OR IN THE DITCHLINE.
22. INDIVIDUALS 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 INCLUDED IN THE DCM VOLUME II AND THE ECM APPENDIX I. ALL APPROPRIATE PERMITS MUST BE OBTAINED BY THE CONTRACTOR PRIOR TO CONSTRUCTION (NPDES, FLOODPLAIN, 404, FUGITIVE DUST, ETC.). IN THE EVENT OF CONFLICTS BETWEEN THESE REQUIREMENTS AND LAWS, RULES, OR REGULATIONS OF OTHER FEDERAL, STATE, OR COUNTY AGENCIES, THE MORE RESTRICTIVE LAWS, RULES, OR REGULATIONS SHALL APPLY.
23. ALL CONSTRUCTION TRAFFIC MUST ENTER/EXIT THE SITE AT APPROVED CONSTRUCTION ACCESS POINTS.
24. PRIOR TO ACTUAL CONSTRUCTION THE PERMITEE SHALL VERIFY THE LOCATION OF EXISTING UTILITIES.
25. A WATER SOURCE SHALL BE AVAILABLE ON SITE DURING EARTHWORK OPERATIONS AND UTILIZED AS REQUIRED TO MINIMIZE DUST FROM EARTHWORK EQUIPMENT AND WIND.
26. THE SOILS REPORT FOR THIS SITE HAS BEEN PREPARED BY ENTECH ENGINEERING, INC., TITLED "SOIL, GEOLOGY, GEOLOGIC HAZARD AND PRELIMINARY SUBSURFACE SOIL INVESTIGATION – WATERBURY – PHASE 1", DATED MARCH 22, 2013, AND SHALL BE CONSIDERED A PART OF THESE PLANS.
27. AT LEAST TEN DAYS PRIOR TO THE ANTICIPATED START OF CONSTRUCTION, FOR PROJECTS THAT WILL DISTURB 1 ACRE OR MORE, THE OWNER OR OPERATOR OF CONSTRUCTION ACTIVITY SHALL SUBMIT A PERMIT APPLICATION FOR STORMWATER DISCHARGE TO THE COLORADO DEPARTMENT OF PUBLIC HEALTH AND ENVIRONMENT, WATER QUALITY DIVISION. THE APPLICATION CONTAINS CERTIFICATION OF COMPLETION OF A STORMWATER MANAGEMENT PLAN (SWMP), OF WHICH THIS GRADING AND EROSION CONTROL PLAN MAY BE A PART. FOR INFORMATION OR APPLICATION MATERIALS CONTACT:

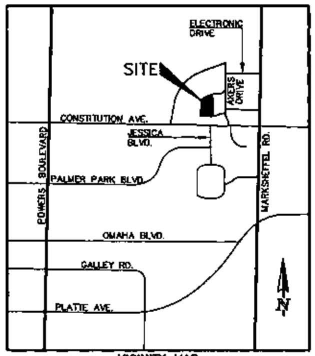
    COLORADO DEPARTMENT OF PUBLIC HEALTH AND ENVIRONMENT
    WATER QUALITY CONTROL DIVISION
    WQCD – PERMITS
    4300 CHERRY CREEK DRIVE SOUTH
    DENVER, CO 80246-1530
    ATTN: PERMITS UNIT

BENCHMARK:

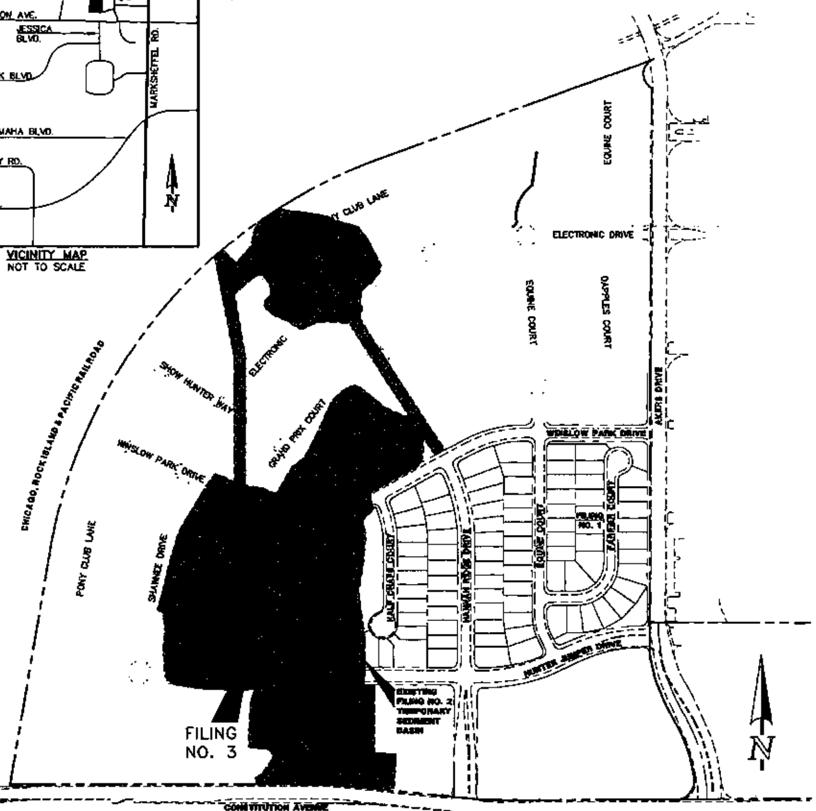
THE BENCHMARK FOR THESE PLANS IS THE TOP OF #4 REBAR, PANEL POINT NO. 1, LOCATED ON THE SOUTH EDGE OF CONSTITUTION AVE. AND THE WEST EDGE OF THE ROCK ISLAND TRAIL, 535 FEET WEST OF THE CENTERLINE OF SHAWNEE DR.
ELEVATION = 6486.63 (EPC DATUM ELEVATION = 6485.29)

BASIS OF BEARINGS:

BEARING REFERRED TO HEREIN ARE BASED ON THE SOUTH LINE OF TRACT FF, HANNAH RIDGE AT FEATHERGRASS FILING NO. 1. ASSUMED TO BEAR N89°28'18"W MONUMENTED AT EACH END W/ NO. 5 REBAR W/ ALUMN CAP MARKED "POLARIS, PLS 27605".



VICINITY MAP
NOT TO SCALE



KEY MAP
SCALE: 1" = 200'

AGENCIES:

OWNER:	FEATHERGRASS INVESTMENTS, LLC 4715 N. CHESTNUT STREET COLORADO SPRINGS, CO 80907 MR. KENNETH P. DRISCOLL (719) 593-8387
CIVIL ENGINEER:	CLASSIC CONSULTING ENGINEERS & SURVEYORS 6385 CORPORATE DRIVE SUITE 304 COLORADO SPRINGS, COLORADO 80919 MR. KYLE R. CAMPBELL, P.E. (719) 785-2800
ENGINEERING DIVISION:	EL PASO COUNTY DEVELOPMENT SERVICES 2880 INTERNATIONAL CIRCLE, SUITE 110 COLORADO SPRINGS, COLORADO 80910 MR. JEFF RICE, (719) 520-7877
GAS DEPARTMENT:	BLACK HILLS ENERGY 7060 ALEGRE ST. FOUNTAIN, COLORADO 80817 MR. GEORGE PETERSON (719) 383-8625
ELECTRIC DEPARTMENT:	MOUNTAIN VIEW ELECTRIC ASSOCIATION 11140 E. WOODMEN RD. FALCON, COLORADO 80831 MR. DARRYL EDWARDS, (719) 495-2283
TELEPHONE COMPANY:	A.T.& T. (LOCATORS) (719) 635-3674 CENTURY LINK (LOCATORS) 811
FIRE DEPARTMENT:	FALCON FIRE PROTECTION DISTRICT 7030 N. MERIDIAN RD. FALCON, COLORADO 80831 CHIEF HARWIG (719) 495-4050

APPROVALS:

ENGINEER'S STATEMENT:

GRADING AND EROSION CONTROL PLAN ENGINEER'S STATEMENT:
THESE GRADING AND EROSION CONTROL PLANS WERE 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, ERRORS OR OMISSIONS ON MY PART IN PREPARING THIS PLAN

KYLE R. CAMPBELL, COLORADO P.E. #29794 DATE:
FOR AND ON THE BEHALF OF CLASSIC CONSULTING ENGINEERS & SURVEYORS

OWNER/DEVELOPER STATEMENT:

THE OWNER WILL COMPLY WITH THE REQUIREMENTS OF THE DRAINAGE REPORT AND PLAN AND THIS SET OF CONSTRUCTION DOCUMENTS. THE OWNER WILL COMPLY WITH THE REQUIREMENTS OF THE GRADING AND EROSION CONTROL PLAN.

FEATHERGRASS INVESTMENTS, LLC DATE:
4715 N. CHESTNUT STREET
COLORADO SPRINGS, CO 80907
MR. KENNETH P. DRISCOLL

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, AND ENGINEERING CRITERIA MANUAL AS AMENDED.

JENNIFER E. IRVINE DATE:
COUNTY ENGINEER / ECM ADMINISTRATOR

SHEET INDEX

48 HOURS BEFORE YOU DIG,
CALL UTILITY LOCATORS
811
UTILITY NOTIFICATION OF COLORADO
IT'S THE LAW

THE LOCATIONS OF EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK. THE CONTRACTOR SHALL BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE CAUSED BY HIS FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES

NO	REVISION	DATE

REVIEW:

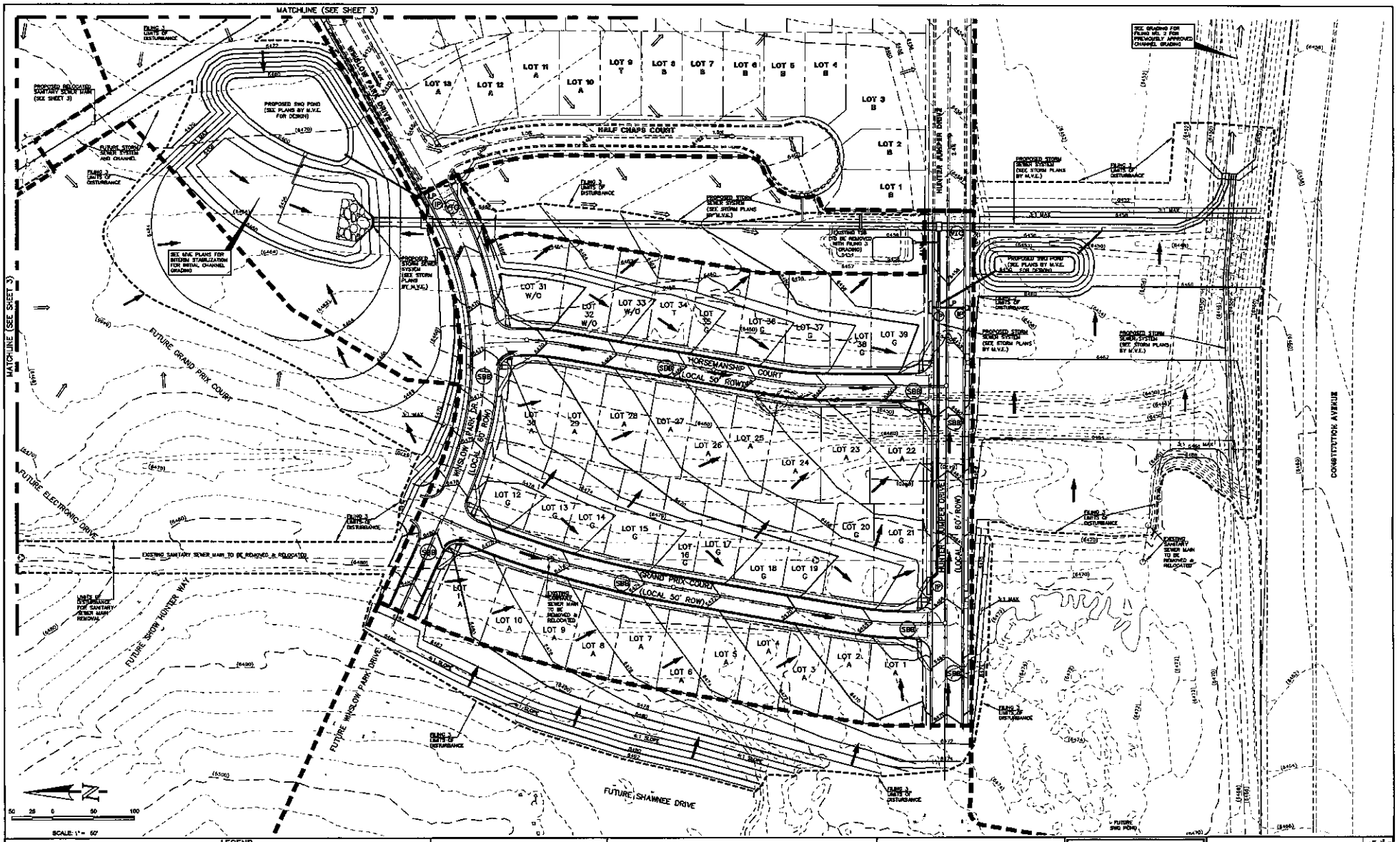
PREPARED UNDER MY DIRECT SUPERVISION FOR AND ON BEHALF OF CLASSIC CONSULTING ENGINEERS AND SURVEYORS, LLC

KYLE R. CAMPBELL, COLORADO P.E. #29794 DATE

CLASSIC CONSULTING ENGINEERS & SURVEYORS
6385 Corporate Drive, Suite 101 (719)785-0790
Colorado Springs, Colorado 80919 (719)785-0799(Fax)

HANNAH RIDGE AT FEATHERGRASS
FILING NO. 3
OVERLOT GRADING AND EROSION CONTROL PLAN
TITLE SHEET

DESIGNED BY	KRC	SCALE	DATE 04/11/17
DRAWN BY	MES	(H) 1"=VARIES	SHEET 1 OF 4
CHECKED BY		(V) 1"= N/A	JOB NO. 1116.00



LEGEND

EXISTING CONTOUR	(6060)	PROPOSED FLOW	
PROPOSED CONTOUR	6060	EXISTING FLOW	
PHASE LINE		INLET PROTECTION	IP
A LOT	"A"	SILT FENCE	SF
B LOT	"B"	VEHICLE TRACKING CONTROL	VTC
WALKOUT LOT	"W/O"	(2) STRAW BALE CHECK DAM (BOTH SIDES OF ROADWAY)	SBB
GARDEN LOT	"G"		
TRANSITION LOT	"T"		

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NO	REVISION	DATE

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PREPARED UNDER MY DIRECT SUPERVISION FOR AND ON BEHALF OF CLASSIC CONSULTING ENGINEERS AND SURVEYORS, LLC

KYLE W. CAMPBELL, COLORADO P.E. #29784 DATE

CLASSIC CONSULTING ENGINEERS & SURVEYORS
4305 Corporate Drive, Suite 101
Colorado Springs, Colorado 80919
(719)785-0790
(719)785-0799(Fax)

HANNAH RIDGE AT FEATHERGRASS
FILING NO. 3
OVERLOT GRADING AND EROSION CONTROL PLAN

DESIGNED BY	KRC	SCALE		DATE	04/11/17
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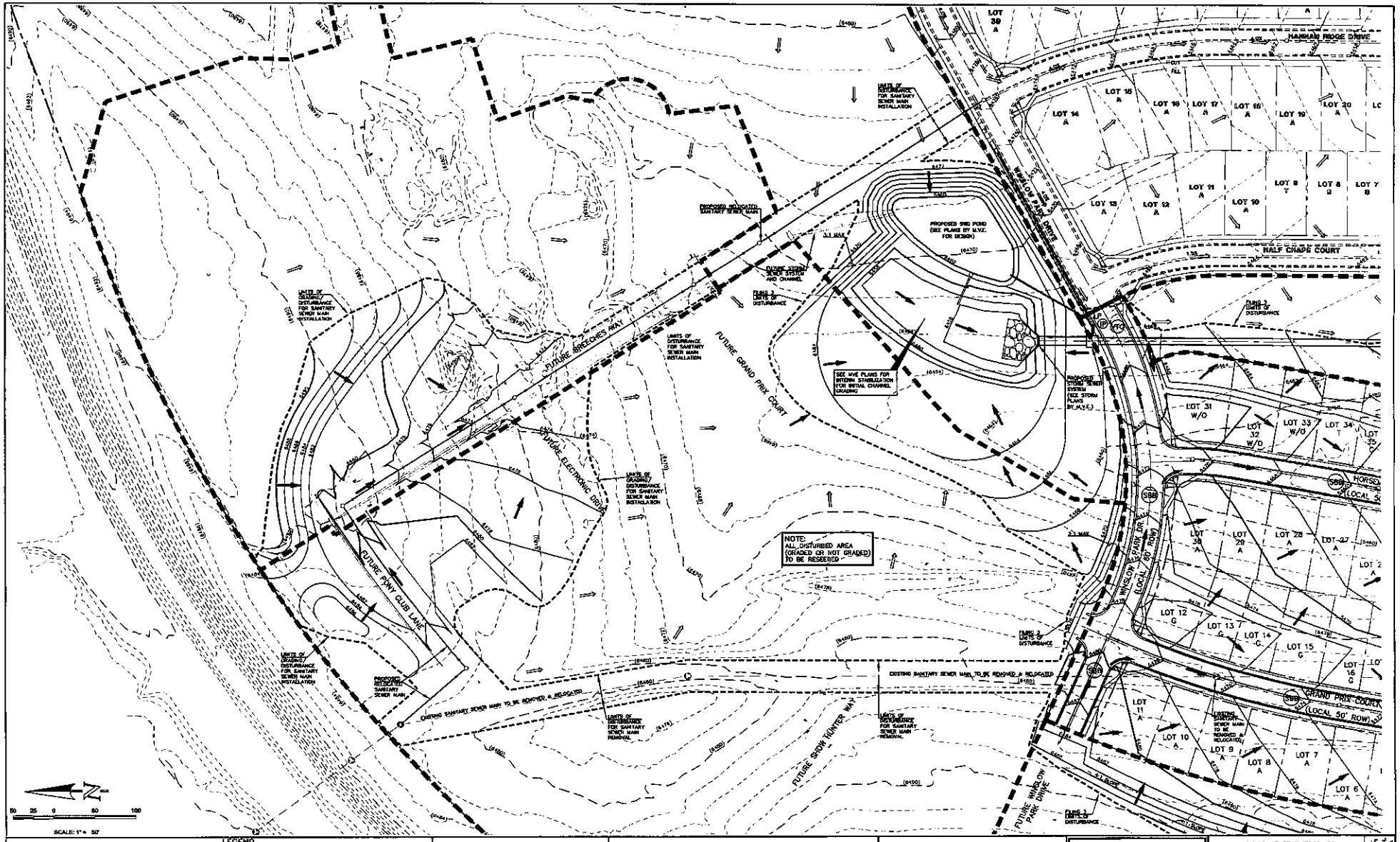

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REVIEW:

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KYLE W. CAMPBELL, COLORADO P.E. #39764 DATE

CLASSIC CONSULTING ENGINEERS & SURVEYORS
16385 Corporate Drive, Suite 101 (719)785-0790
Colorado Springs, Colorado 80919 (719)785-0799(Fax)

HANNAH RIDGE AT FEATHERGRASS
FILING NO. 3
OVERLOT GRADING AND EROSION CONTROL PLAN

DESIGNED BY	KRC	SCALE		DATE	04/11/12
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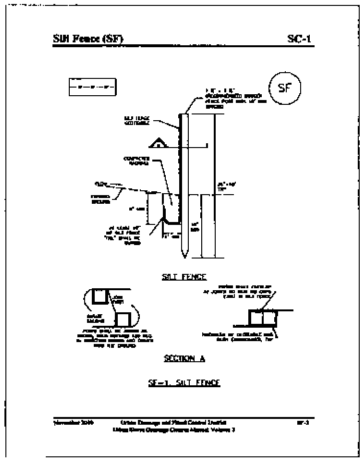
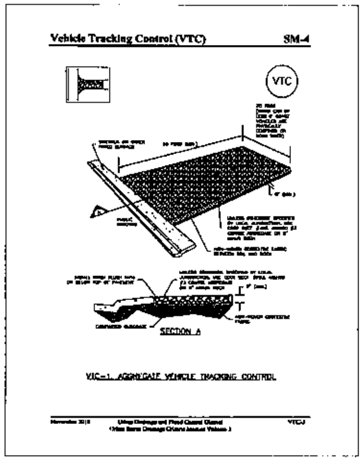
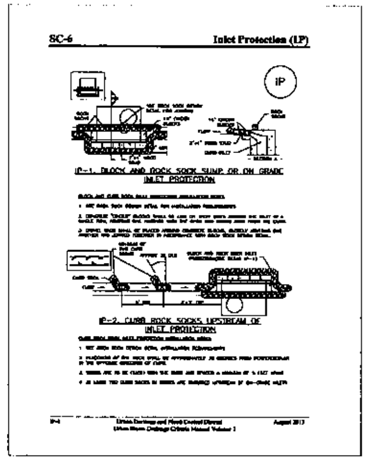
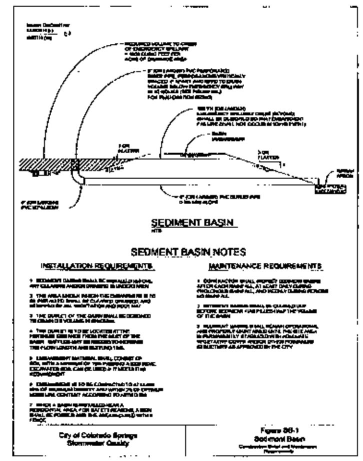
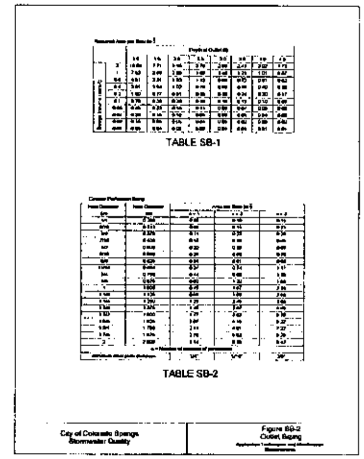
CHECKED BY		(V) 1"=	N/A	JOB NO.	1116.03

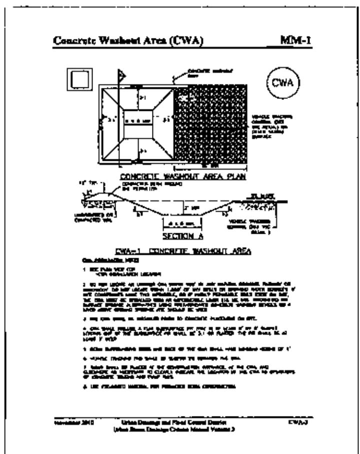


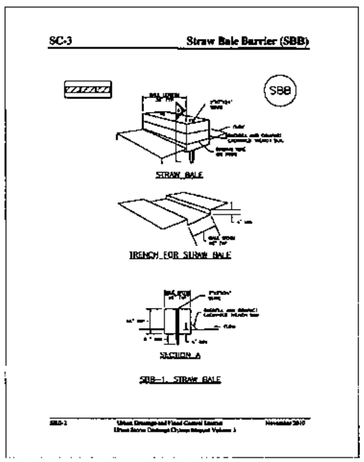


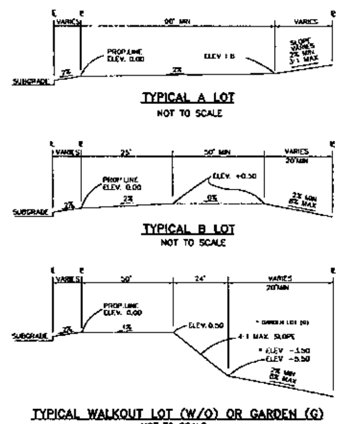


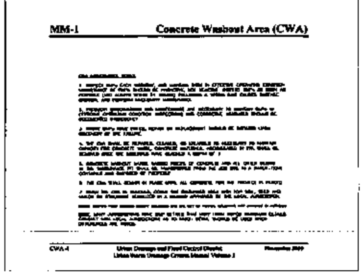












NOTE:
"T" LOTS OR "TRANSITION " LOTS OCCUR IN PLACES WHERE BOTH PROPERTY LINES CANNOT BE GRADED AS THE TYPICAL STANDARD LOT TEMPLATES SHOWN. THESE LOTS WILL STILL BE GRADED TO CREATE POSITIVE DRAINAGE AWAY FROM THE STRUCTURE.

SEEDING GUIDELINES

1. SEEDBED PREPARATION
THE SEEDBED SHOULD BE WELL-SETTLED AND FIRM, BUT FRIABLE ENOUGH THAT THE SEED CAN BE PLACED AT THE SPECIFIED DEPTHS. COMPETITIVE STANDS OF WEEDS THAT ARE PRESENT BEFORE SEEDING MUST BE CONTROLLED BY SHALLOW TILLAGE OR BY APPLICATION OF HERBICIDES. SOILS THAT HAVE BEEN OVER-COMPACTED BY TRAFFIC OR EQUIPMENT, ESPECIALLY WHEN WET, SHOULD BE TILLED TO BREAK UP ROOTING-RESTRICTIVE LAYERS, THAN HARROWED, ROLLED, OR PACKED TO PREPARE THE REQUIRED FIRM SEEDBED.

2. FERTILIZER
FERTILIZER SHOULD BE APPLIED AT A RATE OF 50 POUNDS OF AVAILABLE NITROGEN PER ACRE AND 40 POUNDS OF AVAILABLE PHOSPHATE PER ACRE. THE TIME OF APPLICATION SHOULD BE IMMEDIATELY PRIOR TO SEEDING, AT THE TIME OF SEEDING, OR IMMEDIATELY FOLLOWING SEEDING, DEPENDING ON THE KIND OF FERTILIZER AND TYPE OF EQUIPMENT USED.

3. SEEDING
SEED SHOULD BE PLANTED WITH A GRASS DRILL ON ALL SLOPES OF 33% (3:1) OR FLATTER. SEED MAY BE BROADCAST BY HAND, BY MECHANICAL SPREADER, OR BY HYDRAULIC EQUIPMENT ON AREAS THAT ARE SMALL, TOO STEEP, OR NOT ACCESSIBLE FOR SEED DRILL OPERATIONS.
SEED PLANTED WITH A DRILL SHOULD BE COVERED WITH SOIL TO A DEPTH OF 1/4 TO 3/4 INCH. SEED PLANTED BY THE BROADCAST METHOD SHALL BE INCORPORATED INTO THE SOIL SURFACE, NOT TO EXCEED A DEPTH OF 3/4 INCH, BY RAKING, HARROWING, OR OTHER PROVEN METHOD.

THE TIME OF SEEDING IS FROM OCTOBER 15TH – MAY 31ST. SEED PLANTED IN THE LATE FALL WILL REMAIN DORMANT UNTIL SPRING, WHEN IT WILL GERMINATE.

4. MULCHING
SEEDED AREAS SHOULD BE MULCHED TO CONSERVE MOISTURE; PREVENT SURFACE COMPACTION OR CRUSTING; REDUCE RUNOFF AND EROSION; CONTROL WEEDS; AND HELP ESTABLISH PLANT COVER.

NATIVE HAY OR STRAW SHOULD BE APPLIED AT A RATE OF 4,000 POUNDS PER ACRE AND CRIMPED INTO THE GROUND. ON SLOPES GREATER THAN 3:1, AN AGRONOMY BLANKET SHOULD BE USED.

5. SUPPLEMENTAL WATER
IN LOW RAINFALL AREAS, WHERE WATER IS AVAILABLE AND WHERE RAPID ESTABLISHMENT IS NEEDED, IRRIGATION OF NEW SEEDING SHOULD BE PERFORMED DURING THE FIRST GROWING SEASON. WATER SHOULD BE APPLIED AT APPROXIMATELY ONE WEEK INTERVALS, AT A RATE OF 3/4 TO 1 INCH PER APPLICATION, WHEN RAINFALL IS DEFICIENT FOR PLANT DEVELOPMENT.

EROSION CONTROL CRITERIA:

EROSION CONTROL MEASURES SHALL BE IMPLEMENTED IN A MANNER THAT WILL PROTECT PROPERTIES AND PUBLIC FACILITIES FROM THE ADVERSE EFFECTS OF EROSION AND SEDIMENTATION AS A RESULT OF CONSTRUCTION AND EARTHWORK ACTIVITIES WITHIN THE PROJECT SITE.

1.) THE OMISSION FROM OR THE INCLUSION OF UTILITY LOCATIONS ON THE PLANS IS NOT TO BE CONSIDERED AS THE NON-EXISTENCE OF OR A DEFINITE LOCATION OF EXISTING UNDERGROUND UTILITIES.

2.) DURING GRADING OPERATIONS, LOCATE AND SET THE STRAW BALE CHECK DAMS AND SILT FENCES AS SHOWN ON THE EROSION CONTROL PLAN. AT THIS TIME RESEED ALL DISTURBED AREAS WITH AN EL PASO COUNTY APPROVED SEED MIX.

3.) SEEDING APPLICATION: DRILLED TO A DEPTH OF .25" TO .50" INTO SOIL WHERE POSSIBLE. BROADCAST AND RAKED TO COVER ON STEEPER THAN 3:1 SLOPES WHERE ACCESS IS LIMITED OR UNSAFE FOR EQUIPMENT.

4.) MULCHING REQUIREMENT AND APPLICATION: 1.5 TONS PER ACRE NATIVE HAY MECHANICALLY CRIMPED INTO SOIL.

5.) THE STRAW BALE CHECK DAMS AND SILT FENCES SHALL BE KEPT IN PLACE AND MAINTAINED UNTIL EROSION AND SEDIMENTATION POTENTIAL IS MITIGATED. REMOVAL OF SILT AND SEDIMENT COLLECTED BY THE STRAW BALES IS REQUIRED ONCE IT REACHES HALF THE HEIGHT OF THE STRAW BALES OR SILT FENCE.

6.) DISTURBED SOIL SHALL BE VEGETATED WITHIN 60 DAYS AFTER SUBSTANTIAL FINAL GRADING IS COMPLETE. PROVIDE TEMPORARY VEGETATION TO DISTURBED AREAS THAT WILL HAVE A PERIOD OF EXPOSURE OF 6 MONTHS OR LONGER PRIOR TO FINAL STABILIZATION.

7.) ALL FACILITIES, VEGETATION AND OTHER ITEMS REQUIRED BY THE APPROVED FINAL GRADING, EROSION CONTROL AND RECLAMATION PLAN SHALL BE PROPERLY MAINTAINED BY THE OWNERS OF THE PROPERTY. SUCH MAINTENANCE SHALL INCLUDE, BUT NOT BE LIMITED TO KEEPING ALL EROSION CONTROL FACILITIES IN GOOD ORDER AND FUNCTIONAL, REPAIRING ANY EROSION DAMAGE THAT OCCURS, KEEPING ALL VEGETATION HEALTHY AND IN GROWING CONDITION AND REPLACING ANY DEAD VEGETATION AS SOON AS PRACTICABLE.

8.) ALL SILT FENCES ARE TO BE REGULARLY INSPECTED AND REPAIRED AS NEEDED.

9.) THE CONTRACTOR SHALL PROVIDE VEHICLE TRACKING CONTROL FACILITIES FOR EACH ENTRANCE/EXIT TO THE SITE. THE CONTRACTOR SHALL SUBMIT A PLAN WHICH WILL ASSURE USAGE OF THIS FACILITY BY ALL VEHICLES LEAVING THE SITE.

10.) EROSION CONTROL MEASURES SHALL BE CHECKED AFTER EACH STORM EVENT AND REPAIRED WHEN NECESSARY.

11.) CONTRACTOR SHALL MAINTAIN ALL TEMPORARY EROSION CONTROL FACILITIES IN GOOD WORKING ORDER UNTIL SUCH TIME AS PERMANENT FACILITIES ARE IN PLACE AND THE CONSTRUCTION MANAGER HAS APPROVED THEIR REMOVAL.

12.) ADDITIONAL EROSION CONTROL STRUCTURES MAY BE REQUIRED AT THE TIME OF CONSTRUCTION.

13.) THE EROSION CONTROL MEASURES OUTLINED ON THE PLAN ARE THE RESPONSIBILITY OF THE DEVELOPER TO MONITOR AND REPLACE, REGRADE AND REBUILD AS NECESSARY UNTIL VEGETATION IS ESTABLISHED.

14.) MAXIMUM ACREAGE OPEN AT ANY GIVEN TIME IS TO BE 30 ACRES.

SCHEDULE OF ANTICIPATED CONSTRUCTION ACTIVITY:

1. INSTALL INITIAL BMP'S
2. INSPECTION OF INITIAL BMP'S BY COUNTY STAFF
3. PRECONSTRUCTION MEETING WITH COUNTY STAFF

BEGIN CONSTRUCTION	ACTIVITY	COMPLETION	EROSION CONTROL
UPON APPROVAL	ALL SITE ROADWAY GRADING AND UTILITY INSTALLATION	8 MONTHS	ALL SHOWN ON GRADING PLAN

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DETAILS

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CHECKED BY		(V) 1"= N/A	JOB NO	1116.03

Markup Summary

dsdrice (4)

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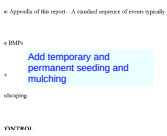

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Add temporary and permanent seeding and mulching

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Are there batch plants in this filing?

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