



INNOVATIVE DESIGN. CLASSIC RESULTS.

STORMWATER MANAGEMENT PLAN

FOR

REDTAIL RANCH FILING NO. 1

CDR-18-021

SF-18-021 ✓

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STORMWATER MANAGEMENT PLAN FOR REDTAIL RANCH FILING NO. 1

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

Site Inspector

as amended by
the ECM

The following Erosion and Stormwater Quality Control Plan (ESQCP) is a detailed account of the requirements of the City of Colorado Springs El Paso County 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/County Manual will prevail.



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APPENDIX

VICINITY MAP

COPY OF GENERAL PERMIT APPLICATION

CONTRACTOR SEQUENCE OF ACTIVITIES

OPERATION & MAINTENANCE INSPECTION RECORD

STANDARD BMP DETAILS w/ INSTALLATION & MAINTENANCE REQUIREMENTS



SITE DESCRIPTION

Redtail Ranch Filing No. 1 has a total acreage of 67.86 acres located in Section 9, Township 12 South, Range 65 West of the Sixth Principal Meridian in the County of El Paso, and State of Colorado. This site is bounded on the north, west and south by existing residential properties all within the County zoned RR-5 area and to the east by Vollmer Road. 12 single family large residential lots and associated public roadway are planned within this plat.

Of the 67.86 acres, approximately only 7.8 acres will be disturbed.

Do you mean within the limits of construction? Address existing ponds.

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.

Address current post-fire condition of the property and what will be done to stabilize and re-vegetate it prior to lot sales.

RECEIVING WATERS

Name of Receiving Water(s)

Kettle Creek and Upper Black Squirrel

Size/Type/Location of Outfall(s)

Existing culverts under Vollmer Road through Sand Filter Basin within the Kettle Creek Basin and natural drainageways through Sand Filter Basin within Upper Black Squirrel Basin.

Discuss discharge connection to Municipal system (include system name, location, and ultimate receiving water(s):

Two proposed Sand Filter Basins to existing outfall locations (Fountain Creek)

basins reversed?
and Black Squirrel Creek

PROPOSED CONSTRUCTION ACTIVITY

Proposed construction activities within this project include grading of residential lots, channel/detention facility and utility/road installation for the construction of single family homes.

?

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

Proposed construction activities within this project include grading and utility/road construction for the proposed residential subdivision. 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:

- 1) Install perimeter, interior & exterior BMPs
- 2) Clear and grub site
- 3) Grading and Erosion Control
- 4) Excavation & installation of utilities
- 5) Building construction
- 6) Paving, landscaping.

Revised
This sequence does not appear to be site-specific.

The anticipated start and completion time period for site grading operations is to start in Spring 2019 with site final site stabilization by Spring 2020. This time schedule could vary depending on individual home sales and construction schedules.

Revised
Isn't this excessive/
unnecessary on this project?

- **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 around the perimeter of the disturbed areas. 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/AREAS AND VOLUME STATEMENT**

Total Site Area ___67.86___ Acres
Initial Site area to be disturbed ___7.8___ Acres for roadway const/utility
Percent disturbance ___11.5___ %

The total volume of earthwork cut/fill operations is more than 500 CY.

- SOILS INFORMATION**

The average soil condition reflects Hydrologic Group "B" (Elbeth sandy loam and Kettle gravelly loamy sand) 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 100 year runoff coefficients would be realized:

Existing site runoff coefficient = = .39
Developed site runoff coefficient = .41 landscaped/ seeded areas
Percent disturbance = .90 street/paved areas

- EXISTING SITE CONDITIONS**

The site is located within both the Kettle Creek and Upper Black Squirrel Drainage Basins. Currently, the site has a general drainage pattern that flows in a southwesterly and southeasterly direction off-site.

This site is currently 95% vegetated with native grasses and sparse treed areas and has existing slopes ranging from approximately 2 to 5 percent.

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

Address current post-fire condition of the property and what will be done to stabilize and re-vegetate it prior to lot sales.

2 described in site description



PCD ✓

SITE MAP

With approval of this report is the approved grading, erosion and stormwater quality control 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 Development Review 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 walls, gas main, water main, wastewater main, electric and telecom vaults, fences, sidewalks, trails, curbs and streets) will be represented on this plan. 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 to the county in the amount listed on Financial Assurance Estimate Form. The site map/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.

and ECM... ✓

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 plants
- 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.

- **BMPS FOR POLLUTANT PREVENTION**

The following are common practices to mitigate potential pollutants:

- Wind erosion shall be controlled by 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. [Review ended here.](#)
- Sanitary facilities shall be placed at a minimum of 10' from any curblineline 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/El Paso County “Drainage Criteria Manual Volume 2”.

Revise from here down to
be site-specific.

Revised

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.

- **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, 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 must 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

