Construction Activities Stormwater Management Plan (SWMP)
Grading, Erosion and Stormwater Quality Control Plan
Lorson Ranch
Fontaine Boulevard Bridge and Channel Design
El Paso County, Colorado
38.742243°N, -104.628328°W

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Kiowa Project No. 16031

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SWMP Administrator: _____

Contractor: _____

I. STORMWATER MANAGEMENT PLAN OBJECTIVES

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

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

should

This SWMP should be viewed as a "living document" that is continuously being reviewed and modified as a part of the overall process of evaluating and managing stormwater quality issues at the site. The SWMP Administrator shall amend the SWMP when there is a change in design, construction, operation or maintenance of the site which would require the implementation of new or revised BMPs or if the SWMP proves to be ineffective in achieving the general objectives of controlling pollutants in stormwater discharges associated with construction activity or when BMPs are no longer necessary and are removed. If the SWMP Administrator feels that modifications to the BMPs shown on the SWMP are necessary to provide for a more effective plan, the SWMP Administrator shall contact the County Inspector to obtain acceptance of the proposed modifications prior to installing the BMPs. The process will include: 1) Evaluate pollutant sources, 2) Select BMPs, 3) Document BMPs, 4) Implement BMPs. Minor field modifications to the BMPs may be approved by the County inspector. All other requested major modifications shall be in writing and submitted to the County for approval.

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

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

An El Paso County Erosion and Stormwater Quality Control Permit (ESQCP) is required along with a Colorado Discharge Permit System (CDPS), Stormwater Discharge Associated with Construction

Disturbance Area Determination: Aside from clearing, grading and excavation activities, disturbed areas also include areas receiving overburden (e.g., stockpiles), demolition areas, and areas with heavy equipment/vehicle traffic and storage that disturb existing vegetative cover.

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

SWMP Drawings: Also known as the SWMP Site Map.

C. Contractor Required Items

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

- ☐ Add the SWMP Administrator and Alternate with phone numbers to this plan.
- ☐ Construction Dates – Verify the construction dates indicated in this report. Update as necessary to reflect the planned schedule.
- ☐ Material Handling and Spill Prevention procedures – See Section IV-4.
- ☐ Application - Insert Application for CDPS Stormwater Discharge Associated with Construction Activities Permit into Appendix.
- ☐ Permit - Insert Permit for CDPS Stormwater Discharge Associated with Construction Activities into Appendix.

location of SWMP and inspection records

II. SITE DESCRIPTION

A. Nature of the Construction Activity

The proposed development will be the Fontaine Boulevard bridge over the East Fork Jimmy Camp Creek which will be a 48-foot span, 126-foot long by 14-foot high arched pre-cast bridge and pre-cast headwall and cast-in-place wingwalls. Drainageway through the bridge is an un-grouted rock invert. Included in the project is the stabilization of the existing floodplain along the East Fork Jimmy Camp Creek. Stabilization measures include soil/riprap bank linings, low flow channel with grade controls, turf reinforcement and native revegetation. Bank lining is designated at outside bends of the natural floodplain, Low flow channel grade control is accomplished by three small sloping grouted boulder drop structures, 6-foot long. The bottom width of the low-flow channel will be 25-feet and the top width will be 43-feet.

i. Site Location

The site is located at the crossing of Fontaine Boulevard over the East Fork of Jimmy Camp Creek. The site is located within the southeast corner of Section 8-14, Township 15 South, Range 65 West of the 6th Principal Meridian, in El Paso County, Colorado. The location of the site is shown on the Vicinity Map (Figure 1).

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H. Receiving Waters

In the existing condition, the site drains by the East Fork Jimmy Camp Creek via a natural upland channel flowing from the northeast in a southerly manner to join the mainstem of Jimmy Camp Creek about a mile downstream.

Immediate Receiving water(s): East Fork Jimmy Camp Creek

Ultimate Receiving Water(s): Jimmy Camp Creek

East Fork Jimmy Camp Creek is a major drainageway that crosses through the northwest portion of the site from northeast to southwest. The subject property is located within a Zone AE FEMA regulated floodplain based on Flood Insurance Rate Map 08041C07947F, dated March 17, 1997. The planned improvements to East Fork Jimmy Camp Creek will modify the existing floodplain. A Conditional Letter of Map Revision (CLOMR) has been submitted to FEMA for approval of the floodplain modifications. The proposed 100 year floodplain will be contained within the proposed channel section and will not extend into the proposed lots.

III. SWMP SITE MAP CONTENTS

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

1. Construction site boundaries;
2. All areas of ground disturbance;
3. Areas of cut and fill;
4. Areas used for storage of building materials, equipment, soil, or waste;
5. Locations of dedicated asphalt or concrete batch plants;
6. Locations of all structural BMPs;
7. Locations of non-structural BMPs where applicable;
8. Locations of springs, streams, wetlands, detention basins, irrigation canals, roadside ditches and other surface waters.

The SWMP Site Map must be updated/red lined by the SWMP Administrator on a regular basis to reflect current conditions of the site at all times.

IV. STORMWATER MANAGEMENT CONTROLS

A. SWMP Administrator

The Permittee shall designate the SWMP Administrator. The SWMP Administrator is typically the Contractor or his/her designated representative and is responsible for developing, implementing, maintaining and revising the SWMP. The SWMP Administrator is the contact person with the County and State for all matters pertaining to the SWMP. The SWMP Administrator is the person responsible for the SWMP 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 at the site. The SWMP Administrator shall have the authority to act on behalf of the Permittee(s) to ensure the site remains in compliance with the CDPS Stormwater Discharge Associated with Construction Activities Permit and the County's ESQCP. An Alternate SWMP Administrator who is able to serve in the same capacity as the SWMP Administrator shall also be selected.

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

provide all standard details for BMPs listed

Yes	Concrete truck/equipment washing, including the concrete truck chute and associated fixtures and equipment	Concrete washout area, stabilized staging area, vehicle tracking control, silt fence
No	Dedicated asphalt and concrete batch plants	
Yes	Non-industrial waste sources such as worker trash and portable toilets	Stabilized staging area, construction fence, non-structural BMPs
Yes	Other areas or procedures where potential spills can occur	Non-structural BMPs, construction fence

The Air Pollution Control Division of the Colorado Department of Public Health and Environment (CDPHE) has passed air quality regulations consistent with Federal legislation. Regulation No. 3 requires submittal of an Air Pollutant Emission Notice (APEN) for sources of fugitive dust from construction sites, as well as other sources. Regulation No. 1 defines particulate emission control regulations for haul roads and roadways. Additional controls, such as road watering, may be necessary to fully comply with these regulations at a construction site. The Contractor should contact CDPHE about APENs and other air quality requirements.

C. Best Management Practices (BMPs) for Pollution Prevention

1. A list of the Structural BMPs for erosion and sediment control implemented on the site to minimize erosion and sediment are as follows. Refer to the SWMP Drawings for Installation and Maintenance requirements for each structural BMP and refer to the SWMP drawings for the location of the BMPs.

   a) Concrete Washout Area (CWA): A shallow excavation with a small perimeter berm to isolate concrete truck washout operations.
   b) Construction Fence (CF): Installed to delineate the perimeter of the site.
   c) Drainage Swale / Earth Dike (DS): A small earth, riprap or erosion control blanket lined channel used to divert and convey runoff.
   d) Erosion Control Blanket (ECB): Slopes steeper than or equal to 4 (horizontal) to 1 (vertical) shall be protected with an erosion control blanket.
   e) Inlet Protection (IP): Installed to filter stormwater before entering any watercourses
   f) Reinforced Sock (RS): Consists of a linear mass of gravel enclosed in wire mesh to form a porous filter, able to withstand overtopping.
   g) Sediment Basin (SB): An impoundment that captures sediment laden runoff and releases it slowly, providing prolonged settling times to capture coarse and fine grained soil particles.
   h) Sediment Control Log (SCL): Consists of a cylindrical bundle of wood, coconut, compost, excelsior, or straw fiber designed to form a semi-porous filter able to withstand overtopping.
   i) Seeding and Mulching (SM): Temporary seeding and mulching can be used to stabilize disturbed areas that will be inactive for an extended period of time. Permanent seeding should be used to stabilize areas at final grade that will not otherwise be stabilized.
   j) Silt Fence (SF): A temporary sediment barrier constructed of woven fabric stretched across supporting posts.

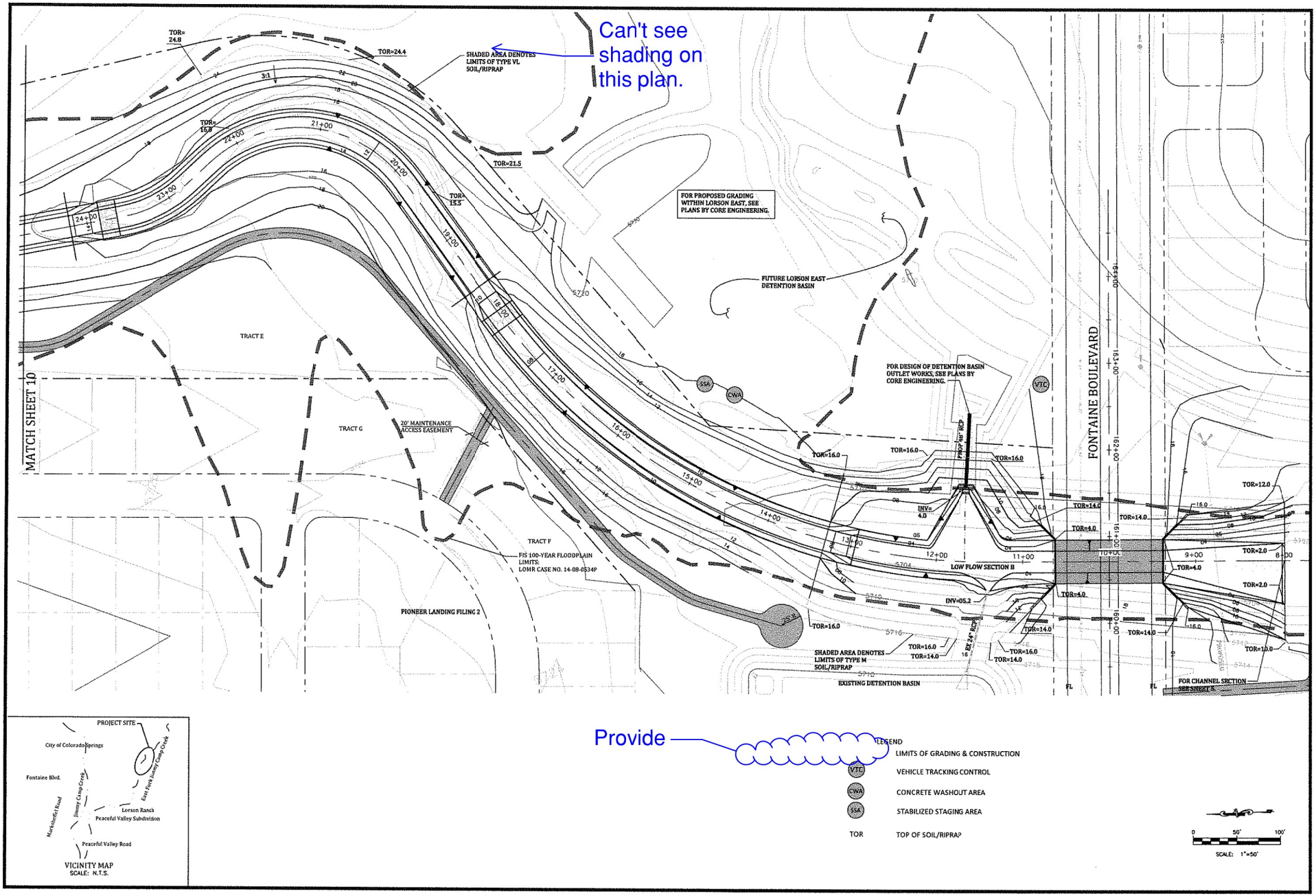
leaks, inspections, etc. is a requirement of the State Stormwater Construction Permit; therefore, enforcement action, including fines, could result if records are not adequate. Second, by keeping accurate and detailed records, you will have documentation of events which could prove invaluable should complications arise concerning the permit, lawsuits, etc.

6. Inspection Checklist/Report. The Permittee must document inspection results and maintain a record of the results for a period of 3 years following expiration or inactivation of permit coverage. These records must be made available to CDPHE, the County or EPA upon request. The SWMP Administrator should record the inspection results on a site-specific standardized inspection report or County Inspection Checklist to be maintained and kept on the construction site. An example template for the inspection report format is included in the Appendix. The SWMP Administrator should develop a site-specific inspection report that itemizes the selected Construction BMP's for their site. At a minimum the following information from each inspection should be recorded on the site-specific report:
   a) Date of inspection;
   b) Name and title of inspector;
   c) Location(s) of discharges of sediment or other pollutants from the site;
   d) Location(s) of BMPs that need to be maintained;
   e) Location(s) of BMPs that failed to operate as designed or proved inadequate for a particular location;
   f) Location(s) where additional BMPs are needed that were not in place at the time of inspection;
   g) Deviations from the minimum inspection schedule as provided in the permit;
   h) Descriptions of corrective actions for any item above, date(s) of corrective actions taken, and measures taken to prevent future violations, including requisite changes to the SWMP, as necessary and
   i) After adequate corrective action(s) has been taken, or where a report does not identify any incidents requiring corrective actions, the report shall contain a signed statement indicating the site is in compliance with the permit to the best of the signer's knowledge and belief.

7. Inspection Checklists/Reports to County: Completed Inspection Checklists will be submitted electronically to the assigned County Engineering inspector within 5 business days of the inspection. The inspections checklists must also be kept on-site. in the location designated.

B. BMP Operation and Maintenance.

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



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LORSON RANCH
FONTAINE BOULEVARD BRIDGE AND CHANNEL DESIGN
GRADING PLAN & EROSION CONTROL PLAN
EL PASO COUNTY, COLORADO

Project No:	16031
Date:	11/15/17
Design:	RNW
Drawn:	EAK
Check:	RNW
Revisions:	

9