



Gieck Ranch Main Stem (Channel A) and Gieck Ranch Tributary #2 (Channel B) Stormwater Management Plan (SWMP)

April 30, 2024

HR Green Project No: 201662.03

El Paso County No. CDR-228

Prepared For (Applicant/Owner):

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Engineer's Statement

The Stormwater Management Plan was prepared under my direction and supervision and is correct to the best of my knowledge and belief. Said Plan has been prepared according to the criteria established by the County and State for Stormwater Management Plans.

Name: Greg Panza, P.E. Date: 04/30/2024

Phone Number: 720-602-4999

Seal

I. Site Location & Description

Location

The Gieck Ranch Main Stem (Channel A) and Gieck Ranch Tributary #2 (Channel B) site is located in unincorporated El Paso County, Colorado. The Channel A and Channel B location (referred to as the site herein) is located within and adjacent to Grandview Reserve Filings 1-4, and southeast of the intersection of Eastonville Road & Rex Road. These two streams drain to Black Squirrel Creek, which in turn drains to the Arkansas River. There are no other streams that cross within the project limits.

The site lies within a tract of land within Sections 21 and 28, Township 12 South, Range 64 West of the 6th Principal Meridian, in El Paso County, State of Colorado. A Vicinity Map is included in **Appendix A**.

The site is bound by a segment of Rex Road to be developed with this project to the northeast and undeveloped land that has historically been used as ranching lands. The east of the site will be a future phase of the Grandview Reserve Subdivision. The south of the site is bound by Grandview Reserve Filings 1-4.

The Gieck Ranch Tributary #2 "Channel B" is a part of the Gieck Ranch Drainage Basin tributary to Black Squirrel Creek. The channel will be constructed according to its CLOMR report, and the Grandview Reserve improvements will follow any requirements of that report.

Description of Property

The site is approximately 84 acres of proposed stream channelization. The channelization is being studied in a CLOMR report which is ongoing and pending approval.

The existing groundcover and topography of the site is native grasses/weeds and exposed soil on gently rolling hillside with slopes ranging from 2% to 4%.

Per a NRCS soil survey, the site is made up of Type A Columbine gravelly sandy loam. The NRCS soil survey is presented in **Appendix A**.

There are no known irrigation facilities in the area.

There are no known existing utilities or other encumbrances on site.

Neighboring Areas

The surrounding area to the north is a parcel of land currently zoned A35 and dedicated to grazing with an area of 186.58 acres. To the west and south of the property is Grandview Phase 1, Filings 1-4, which has a dedicated land use of single family residential. To the east is the future phase 3 of Grandview Reserve which will also be dedicated to single family residential.

Construction Activity

The proposed channelization is to only include grading activities and construction of riffle/pool drop structures and three culverts for future roadway crossing and one pedestrian low water crossing. There are multiple transitions between cut and fill regions. Careful attention must be paid to final elevations in order to determine where to cut or fill. No utilities or proposed roadways will be installed during this time. No grading will take place within the FEMA identified 100-year zone A floodplain, map number 08041C0553G, effective date 12/7/2018, until the appropriate CLOMR permit has been approved.

Construction will begin with setting up perimeter erosion control measures and construction fencing. Temporary erosion control measures such as silt fence installation and vehicle tracking control will be installed prior to construction. Stabilized staging area(s) and stockpile management area(s) are shown on the GEC plans. During construction, temporary stabilization measures such as check dams will be utilized to control stormwater runoff. Once construction activities have been completed, all areas not within limits of disturbance will receive seeding and mulching. Upon stabilization, permanent erosion control measures will be left in place.

No off-site disturbance is anticipated. No control measures will be located outside the property line and limits of disturbance.

II. Construction Phasing

Phasing and Sequence Schedule

The proposed sequence of major construction activities and Construction Control Measures for the project as are follows:

1. Install VTC, SSA, SF, CD and other perimeter erosion and stormwater control measures (i.e. silt fence, construction fence etc.) (Fall/Winter 2024) All vehicles exiting the construction site must drive over the VTC to ensure on-site soil is not tracked off-site.
2. Clear grub and grade site for improvements. Install the initial phase control measures for perimeter control and temporary conditions stormwater diversion including silt fence and check dams. ((Fall/Winter 2024)
3. Landscaping, restoration and final stabilization. Ensuring final stabilizations is achieved prior to site closure is to take place as part of a future full construction phasing SWMP and is not within the scope of this report.
4. Dispose of any waste in locations and by means approved by the CDPHE.

Construction Documentation

Construction drawings are provided with this document showing the Erosion Control plan for this project and are intended to be a “living” document used by the SWMP Manager to document construction activities. See Appendix E for record log. There will be no dedicated batch plants used on this project.

III. Pre-Development Conditions and Soils

Floodplain

The channelization of Channel B impacts the Effective Floodplain and therefore will not begin until the submitted CLOMR is approved by FEMA.

Existing Vegetation

The existing vegetative cover is 90 percent as evidenced by a field survey and aerial imagery. The existing vegetation includes native grasses and weeds, and shrubs.

Soils

According to the US Department of Agriculture Natural Resources Conservation Service Soil Survey of El Paso County, Colorado, the primary soil through site is Type A columbine gravelly sandy loam.

The existing soil type has a slight potential for erosion which can be mitigated by employing appropriate downstream construction BMPs before/during/after construction to limit potential impacts to stormwater discharges. The potential impacts are sediment discharge into the existing Gieck Ranch Tributary #3 and downstream properties.

IV. Description of Potential Pollutants

Potential sources of sediment to stormwater runoff include earth moving and concrete activities associated with grading, trail construction, and landscaping.

Potential pollutants and sources other than sediment to stormwater runoff include trash, debris, fueling and equipment failure. Materials of significance stored on the project site include: sediment, concrete washout, cement, trash & debris, fuels and oils.

Construction activities can produce a variety of pollutants that can potentially cause stormwater contamination. Grading activities remove rocks, vegetation and other erosion controlling surfaces and can result in the exposure of underlying soil to the elements, which can then be displaced into water sources.

Wind, erosion and vehicular transport can produce sediment debris. No control measures from other entities are to be employed by this construction project. Use of batch plants are not anticipated for this project.

Potential Sources of Pollution:

1. Potential sources of pollution from construction activities include:
 - a. Disturbed or stored soils
 - b. Vehicle tracking of sediment
 - c. Loading & unloading operations
 - d. Outdoor Storage activities
 - e. Vehicle and Equipment Maintenance/Fueling
 - f. Dust or Particulate Generating Processes
 - g. Routine maintenance activities involving fertilizers, pesticides, detergents, fuels, solvents etc.
 - h. On-site waste management (waste piles, liquid wastes, dumpsters)
 - i. Concrete truck/equipment washing (washing truck chute and associated fixtures)
 - j. Non-industrial waste (worker trash and portable toilets)
2. Non-stormwater discharges – no discharge from springs or landscape irrigation return flows are anticipated for this project.
 - a. Contractor must apply to the Colorado Department of Public Health and Environment for a Dewatering General Permit for any construction dewatering that will occur during the construction phase.
 - b. Any other non-stormwater discharges that the contractor determines is necessary during the construction phase shall be submitted to the Engineer of Record for approval prior to commencement.

V. Areas and Volumes

A total of 105 acres is expected to be disturbed. Portable toilets will be located a minimum of 10 feet from stormwater inlets and 50 feet from state waters. They will be secured at all four corners to prevent overturning and cleaned on a weekly basis. Portable toilets are to be inspected for spills daily.

Grading Earthwork Quantities:

Cut Quantity: 12,000 c.y.

Fill Quantity: 305,500 c.y.

Net: 292,500 c.y. Fill

VI. Self-Inspections

Self-inspections of the Construction Control Measures must be completed by the certified GEC Administrator. An erosion control inspection log with a signature sheet is to be kept onsite for the entirety of the construction process. The GEC Administrator is to affirm inspection by signing this log every time the Construction Control Measures are inspected. The below provides the minimum to satisfy the El Paso County self-inspection requirements. A more frequent self-inspection schedule may be required to ensure Control Measures are operating in compliance with the approved GEC plan.

1. Inspection Schedules:

a. The GEC Administrator shall make a thorough inspection of the Control Measures:

- i. At least once every fourteen (14) calendar days.
- ii. Within 24 hours following any precipitation event (i.e. rain, snow, hail etc.) that causes surface erosion.
 - Alternatively, the GEC Administrator can perform a thorough inspection of the Control Measures once every seven (7) days and forego post-precipitation inspections.

b. For sites where construction activities have completed and final stabilization measures installed but final stabilization has not yet been achieved, the GEC Administrator shall make a thorough inspection of the Control Measures:

- i. At least once every month
- ii. Within 72 hours following any precipitation event that causes surface erosion

2. Inspection Procedures:

a. Site Inspection & Observation Items:

- i. Limits of disturbance perimeter and stormwater discharge points
- ii. All disturbed areas to ensure necessary Construction Control Measures are in place to control potential stormwater runoff.
- iii. Areas used for material/waste storage.
- iv. Any areas having a signification potential for storm water pollution (i.e., site entrances, concrete washout areas etc.)
- v. All Construction Control Measures identified on the GEC plans.

b. Inspection Requirements:

- i. Determine any locations, or potential locations, where pollutants and stormwater may be exiting the site/entering the receiving waters.
 - ii. Evaluate Construction Control measures and determine if they are constructed in accordance with the latest revision of the approved GEC plan and operate effectively.
 - iii. Provide recommendations for the need of additional Construction Control measures and the maintenance of existing measures in disrepair to ensure complication with the El Paso County Stormwater Construction Manual.
 - c. Construction Control Measure Maintenance/Replacement:
 - i. The GEC administrator shall ensure sediment has been removed from perimeter controls and relocated to an area without the potential for sediment to discharge from the site.
 - ii. The GEC administrator shall ensure that failed Control Measures are repaired/reinstalled within three (3) calendar days, according to the El Paso County Stormwater Control Measure details, to ensure pollutants and/or sediment do not discharge from the site. GEC details are provided in Appendix B.
 - d. Documentation:
 - i. Update the GEC plan to document the installation/revision of Control Measures
 - ii. Identify Control Measure deficiencies and that noncompliance is resolved within three (3) calendar days.
 - iii. Identify Self-Inspection schedule in most recent inspection form.
 - iv. Complete and submit Self-Inspection forms to the El Paso County within five (5) business days of the completed inspection.
 - v. Ensure Self-Inspections are available, either physically or electronically, throughout the duration of the project
 - vi. Self-Inspection Report shall contain at least the following:
 - Inspection Date
 - Name, signature and title of the GEC Administrator performing inspection
 - Location(s) of illicit discharges of stormwater, sediment or pollutants from the site
 - Location(s) of Construction Control Measures in need of maintenance/repair
 - Location(s) of Construction Control Measures that failed to operate as designed or proved inadequate.
 - Location(s) of additional Construction Control Measures not shown on the latest, approved revision of the GEC plan.
 - Any deviations from the minimum inspection schedule

VII. Materials Handling

1. General Materials Handling Practices:
 - a. Potential pollutants shall be stored and used in a manner consistent with the manufacturer's instructions in a secure location. To the extent practical, material storage areas should be located away from storm drain inlets and should be equipped with covers, roofs or secondary containment as required to prevent stormwater from contacting stored materials. Chemicals that are not compatible shall be stored in segregated areas so that spill materials cannot combine and react.

- b. Disposal of materials shall be in accordance with the manufacturer's instructions and applicable local, state, and federal regulations.
 - c. Materials no longer required for construction shall be removed from the site as soon as possible.
 - d. Adequate garbage, construction waste, and sanitary waste handling and disposal facilities shall be provided as necessary to keep the site clear of obstruction and Control Measures clear and functional. All storage methods, including bins and containers shall be checked on a daily basis to ensure no possibility of leakage is occurring or overflow will occur. Bins and containers shall be emptied prior to fill reaching 80% of capacity.
2. Specific Materials Handling Practices:
- a. All pollutants, including waste materials and demolition debris, that occur onsite during construction shall be handled in a way that does not contaminate stormwater.
 - b. All chemicals including liquid products, petroleum products, water treatment chemicals, and wastes stored onsite shall be covered and protected from vandalism.
 - c. Maintenance, fueling, and repair of all equipment and vehicles involving oil changes, hydraulic system drain down, degreasing operation, fuel tank drain down and removal, and other activities which may result in the accidental release of contaminants, shall be conducted under cover during wet weather and on an impervious surface to prevent release of contaminants onto the ground. Materials spilled during maintenance operations shall be cleaned up immediately and properly disposed of.
 - d. Wheel wash water shall be settled and discharged onsite by infiltration.
 - e. Application of agricultural chemicals, including fertilizers and pesticides, shall be conducted in a manner and at application rates that will not result in loss of chemical to stormwater runoff. Follow manufacturer's recommendations for application rates and procedures.
 - f. pH-modifying sources shall be managed to prevent contamination of runoff and stormwater collected onsite. The most common sources of pH-modifying materials are bulk cement, cement kiln dust (CKD), fly ash, new concrete washing and curing waters, waste streams generated from concrete grinding and sawing, exposed aggregate processes, and concrete pumping and mixer washout waters.

VIII. Spill Prevention & Response Plan

1. The primary objective in responding to a spill is to quickly contain the material and prevent or minimize their mitigation into stormwater runoff and conveyance systems. If the release has impacted onsite stormwater, it is critical to contain the released materials onsite and prevent their release into receiving waters.
2. Spill Response Procedures:
 - a. Notify site superintendent immediately when a spill, or the threat of a spill, is observed. The superintendent shall assess the situation and determine the appropriate response.
 - b. If spills represent an imminent threat of escaping onsite facilities and entering the receiving waters, site personnel shall respond immediately to contain the release and notify the superintendent once the situation has stabilized.
 - c. The site superintendent shall be responsible for completing a spill reporting form and for reporting the spill to the appropriate agency.

- d. Spill response equipment shall be inspected and maintained as necessary to replace any materials used in spill response activities.
3. Spill kits shall be on-hand at all fueling sites. Spill kit locations shall be reported to the GEC administrator.
4. Absorbent materials shall be on-hand at all fueling areas for use in containing advertent spills. Containers shall be on-hand at all fueling sites for disposal of used absorbents.
5. Recommended components of spill kits include the following:
 - a. Oil absorbent pads
 - b. Oil absorbent booms
 - c. 55-gallon drums
 - d. 9-mil plastic bags
 - e. Personal protective equipment including gloves and goggles
6. Concrete wash water: unless confined in a pre-defined, bermed containment area, the cleaning of concrete truck delivery chutes is prohibited at the job site.
7. Notification procedures:
 - a. In the event of an accident or spill, the GEC administrator shall be notified.
 - b. Depending on the nature of the spill and material involved, the Colorado Department of Public Health and Environment, downstream water users, or other agencies may also need to be notified.
 - c. Any spill of oil which 1) violates water quality standards, 2) produces a “sheen” on a surface water, or 3) causes a sludge or emulsion, or any hazardous substance release, or hazardous waste release which exceeds the reportable quantity, must be reported immediately by telephone to the National Response Center Hotline at (800) 424-8802.

IX. Implementation of Control Measures

Stormwater control measures must be installed according to El Paso County design specifications, presented in Appendix D, and the approved Grading and Erosion Control plan this report supports. Within the context of this SWMP’s construction activities the following control measures, at a minimum, are required:

- Perimeter Silt Fence
- Vehicle Tracking Control
- Stabilized Staging Area
- Concrete Washout
- Stockpile Management
- Rock Socks
- Check Dams
- Erosion Control Blanket

Additional control measures may be required at the discretion of the County Stormwater Inspector.

X. Final Stabilization & Long-Term Stormwater Management

Plan

1. Ensure stabilization is achieved prior to site closure. Final stabilization is to take place as a part of a future construction phasing SWMP and is not within the scope of this report.
2. Final stabilization will be achieved at time of final landscaping. See approved landscaping plans for final stabilization details. Final stabilization is met when 70% of pre disturbance levels, not including noxious weeds, are stabilized. Final stabilization must be achieved prior to removal of temporary stormwater control measures. Anticipated date of final stabilization is Spring 2025; however this is subject to change. See below for seeding and mulching details:
 - a. Prior to seeding, fill any eroded rills and gullies with topsoil.
 - b. Ensure all areas are seeded and mulched per the County Stormwater Construction Manual.
 - c. Continue monthly self-inspections of final stabilization methods and the stormwater management system to ensure proper function. If repairs are needed, reseed and re-mulch as needed.
 - d. Control noxious weeds in a manner acceptable to the GEC inspector.
 - e. Seed Mix: See Landscape Architecture Construction Documents for approved seed mixes.
 - f. Seeding Requirements:
 - i. Drill seed whenever possible, seed depth must be 1/3 to 1/2 inch when drill-seeding. Cross drilling should be used whenever possible with the seed divided between the two operations. The second drilling should be perpendicular to the first.
 - ii. When drill seeding is not possible or on slopes greater than 3:1, hydro-seeding with tackifier may be substituted at the discretion of the GEC inspector. Hydro-seeding must be lightly raked into soil. Seeding rates are presented in Appendix D.
 - iii. All seeded areas must be mulched.
 - g. Mulching Requirements:
 - i. Mulching shall be completed as soon as practical after seeding but no more than fourteen (14) days after planting. Erosion control blankets can be used in place of the below mulching methods.
 - ii. Hay or straw mulch:
 1. Only certified weed-free and certified-seed free mulch may be used. Must be applied at 2 tons/acre and adequately secured.
 2. Crimping shall not be used on slopes greater than 3:1, tackifier must be used in place.
 - iii. Hydraulic mulching:
 1. Allowable on steep slopes or areas with limited access
 2. If hydro-seeding is used, mulching must be applied secondarily.
 3. Wood cellulose fibers mixed with water must be applied at a rate of 2,000-2,500 lbs/acre, and tackifier applied at a rate of 100 lbs/acre.

XI. References

El Paso County – Drainage Criteria Manual, latest revision October 31, 2018

El Paso County – Engineering Criteria Manual, latest revision October 14, 2020



Mile High Flood District Urban Storm Drainage Criteria Manual Volumes 1, 2, and 3; latest revisions



Grandview Reserve Channel A
and Channel B
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APPENDIX A – VICINITY MAP & NRCS SOIL SURVEY & FEMA MAP





Grandview Reserve Channel A
and Channel B
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El Paso County, Colorado

APPENDIX B – GEC PLANS





Grandview Reserve Channel A
and Channel B
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APPENDIX C – EL PASO COUNTY CONSTRUCTION CONTROL MEASURES





Grandview Reserve Channel A
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APPENDIX D – SPILL PREVENTION PLAN





Grandview Reserve Channel A
and Channel B
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APPENDIX E – CSWMP REPORT REVISION LOG





SWMP REPORT REVISION LOG

REVISION #	DATE	BY	COMMENTS

