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Eastonville Road – Londonderry Dr. to Rex Rd.
Segment 1 & 2 Improvements
Stormwater Management Plan (SWMP)
For El Paso County Improvements

January 2025

HR Green Project No: 201662.08

El Paso County No. CDR2321

Prepared For:

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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: Colleen Monahan, P.E., LEED AP Date:

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Seal

I. Site Location & Description

Location

Eastonville Road from Londonderry Drive to Rex Road, referred to as 'the site' herein, is an existing road in El Paso County, Colorado. 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.

Description of Property

The Eastonville Road Improvement Project (CDR-2321) is for the roadway improvements to a 1.23-mile length of Eastonville Road from Londonderry Drive to Rex Road, referred to as 'the site' herein. The project is split into Segments 1 and 2 but is considered all one project. Currently Eastonville Road in this location is an existing 26' wide treated gravel road in El Paso County, Colorado. The site lies in an existing 60' wide El Paso County Right-of-Way within Sections 21 and 28, Township 12 South, Range 64 West of the 6th Principal Meridian, in El Paso County, State of Colorado.

The site is bound by undeveloped land to the east and west that has historically been used as ranching lands. Falcon Regional Park, which contains ballparks and parking, and Falcon High School also border the site to the west. All lands to the east and west of the site are unplatted. A vicinity map is presented in Appendix A.

The site is approximately 1.23 miles of treated gravel road north of Londonderry Drive and to the north side of future Rex Road. The existing 26' wide treated gravel road has 4' wide gravel shoulders and native landscaped swales located on both sides of the roadway. Offsite stormwater is bypassed under the road through a series of existing culverts. See Appendix A for existing condition photo.

Gieck Ranch Tributary #1 (Channel A) traverses the site in the west to east direction through an existing culvert under Eastonville Road. The channel is a mapped wetland and a wetland permit will be required for Segment 2 of this Eastonville Road improvement project. Segment 2 construction will impact an existing jurisdictional wetland at the proposed Dawlish Road and Eastonville Road roundabout. A Nationwide Wetland Permit 14 PCN for Eastonville Road Improvements (SPA-2024-207) has been approved and can be found in CDR-2321. Channel A is not within a FEMA floodplain.

Gieck Ranch Tributary #2 is located north of the project site and is a mapped floodplain. The storm pipe outfall of Storm-07 of Segment 2 lies within the 100-year floodplain. A CLOMR application has been approved (Case No. 24-08-0201R) and can be found in CDR-2321.

The ultimate receiving waters for stormwater runoff and detained sediment basin discharge is Gieck Range Tributary #2, which flows southeast along the southern border of the Grandview Phase 2 property boundary.

There is no anticipated allowable non-stormwater discharge from natural springs, irrigation, or any other discharge covered by CDPHE Low Risk Guidance. Ground Water is anticipated and will be discharged to temporary sediment basins where it can be infiltrated back into the ground.

Existing utilities include an underground gas line that runs within Eastonville Road and along the east and west sides of Eastonville, an existing raw water line that follows the west side of Eastonville north of Falcon Regional Park, and an existing underground and aboveground electrical line along the east and west sides of Eastonville Road. An grading and erosion control plan with these facilities can be found in CDR-2321.

Neighboring Areas

The site is bound by undeveloped land to the east and west that has historically been used as ranching lands. Falcon Regional Park, which contains ballparks and parking, and Falcon High School also border the site to the west. All lands to the east and west of the site are unplatted. The land to the east of the site will be developed as Grandview Reserve and Waterbury neighborhoods. A vicinity map is presented in Appendix A.

Construction Activity

This SWMP Report includes the full scope of the development from the initial grading phase to the interim conditions of the fully developed roadway. Approximately 28.13 acres are expected to be disturbed in total. Construction activities include the initial roadway corridor earthwork and overlot grading with drainage swales and temporary sediment basins to be done during the initial Grading phase. Construction will begin with setting up perimeter controls, followed by grading activities. Construction will be completed with final stabilization including seeding. Any disturbance of areas outside of the proposed 100' right-of-way will be covered by a temporary construction easement. Stormwater facilities outside of the proposed right-of-way will be covered by a drainage easement. All grading that will take place within the FEMA identified 100-year zone A floodplain, map number 08041C0553G, effective date 12/7/2018, will be in accordance with the approved CLOMR permit. All grading or other work that will take place within the jurisdictional wetland will be in accordance with the approved Nationwide Permit 14 PCN (SPA-2024-207).

Construction will begin with staking the wetland no-disturbance area boundary and setting up perimeter erosion control measures and construction fencing, which will then be followed by the excavation of roadway corridor. Temporary stabilization 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 sediments basins, earth dikes and drainage swales, check dams, and temporary erosion control blankets will be utilized to control stormwater runoff. The proposed pond and sand filters will serve as temporary sediment basins to collect stormwater runoff and sediment during construction activities for disturbed areas. One other temporary sediment basin will capture runoff and sediment for the areas of disturbance greater than one acre that are not tributary to the larger permanent ponds. Once construction activities have been completed, all disturbed areas within the site will receive temporary seeding and mulching. Upon stabilization, temporary erosion control measures will be left in place until the next stage of construction activities are completed.

The interim phase of construction includes utility trenching and installation including public storm infrastructure, roadway and hardscape paving, construction of the permanent detention pond and sand filters, as shown within the limits of disturbance/construction in the GEC plans. Construction control measures utilized during this phase include a concrete washout, and erosion control blanket for the permanent seeding of the permanent ponds. Final control measures will be installed at the end of construction. This will include control measures such as permanent facilities and permanent seeding and mulching.

Any required offsite construction easements will be obtained prior to disturbance of these areas. No concrete batch plants are 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. Stake wetland area not to be disturbed. (April 2025)
2. Install VTC, SSA, CWA, TSB and other perimeter erosion and stormwater control measures (i.e. silt fence, construction fence etc.) (April 2025)
3. Clear, grub and grade site for improvements. Install the initial phase control measures for perimeter control and temporary conditions stormwater diversion including silt fence, diversion ditches, check dams, and the required temporary sediment basins per GEC and Drainage plans. (Spring 2025)
4. Utility and Storm Sewer Installations, Permanent Detention Pond Construction, Roadway Paving. Install and maintain perimeter controls and interim/final phase CCM's. (Summer/Fall 2025)
5. Landscaping, restoration and final stabilization (Spring 2026). Ensure final stabilization achieved prior to site closure (Spring 2027).

Construction Documentation

Construction drawings are provided with this document showing the Grading and 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.

III. Pre-Development Conditions and Soils

Floodway

Based on FEMA Firm map 08041C0552G & 08041C0556G (eff. 12/7/2018), the site contains flood Zone A through the site which is part of the Gieck Ranch Tributary #2. See FEMA Firm Maps in **Appendix A**. This floodplain (Channel B) is being studied and revised in the Gieck Ranch Tributary # 2 CLOMR report. A copy of the current revised floodplain map is also provided in **Appendix A**. A CLOMR application has been approved (Case No. 24-08-0201R) and can be found in CDR-2321.

Wetlands

Gieck Ranch Tributary #1 (Channel A) traverses the site in the west to east direction through an existing culvert under Eastonville Road. The channel is a mapped wetland and a wetland permit will be required for Segment 2 of this Eastonville Road improvement project. A Nationwide Wetland Permit 14 PCN for Eastonville Road Improvements (SPA-2024-207) has been approved and can be found in CDR-2321.

Existing Vegetation

Existing vegetation and soils were determined from in-person field site visits and existing aerial inspection from Google Earth and the United States Department of Agriculture Natural Resources Conservation Service (NRCS) Web Soil Survey. The site currently contains vegetation consists primarily of native grasses and

weeds. Existing vegetation is estimated at 70% density by visual inspection during the in-person field site visit.

Existing Drainage Patterns

The site is located in the Gieck Ranch Drainage Basin which is a 22.05 square mile watershed located in El Paso County, Colorado. Gieck Ranch Drainage Basin is tributary to Black Squirrel Creek which drains to the Arkansas River. Stormwater from the site flows generally to the east towards a Gieck Ranch tributary through existing culverts and swales that run along the west side of Eastonville Road. Gieck Ranch Tributary #2 (Channel B) traverses the site just north of Segment 1, and forms the southwest boundary for Grandview Reserve Phase 2. The channel is being studied in a separate project, a CLOMR application has been approved (Case No. 24-08-0201R) and can be found in CDR-2321

Existing Slopes

The existing roadway has slopes ranging from 0.3% up to about 4%. The general topography of the surrounding area is typical of high desert, short prairie grass with gently rolling hillside with slopes ranging from 2% to 4%. The project site drains generally from the west to the east and is tributary to Black Squirrel Creek.

Soils

Per a NRCS soil survey, the site is made up of Type A Columbine gravelly sandy loam, Type A Blakeland loamy sand and Type B Stapleton sandy loam. The NRCS soil survey is presented in Appendix A.

The existing soil types have 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 and proposed stormwater conveyance system, Gieck Ranch Tributary #3 and downstream properties.

IV. Description of Potential Pollutants

Potential sources of sediment to stormwater runoff include earth moving and concrete/paving activities associated with grading, roadway 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, 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 and erosion and vehicular transport can produce sediment debris.

Allowable Non-Stormwater Discharge Management

Non-stormwater discharges (NSWDs) are flows that do not consist entirely of stormwater. Some allowable discharges that are not considered pollutants include irrigation, fire hydrant flushing, landscape watering, emergency firefighting, and natural springs. There are no visible natural springs or irrigation sources

anticipated to be encountered. Other discharges, such as those pollutants discussed below, are unauthorized and will need to be detected and addressed through a combination of efforts discussed in the following sections.

Potential Sources of Pollution and Best Management Strategies

The following sections highlight the potential sources of pollution at the Project Site and list the "Best Management" strategies that will be used to prevent migration of pollution offsite. This Project Site does not rely on control measures owned or operated by another entity. Chemical materials stored indoors or that have no reasonable chance of impacting storm water quality will not be discussed in this plan.

Materials of significance stored on the project site include:

- Sediment
- Trash & Debris
- Sanitary Wastes
- Fuels & Oils

Wind Erosion & Dust Control

Pollutant: Sediment
Best Management Strategies:

- Daily inspections will occur for areas experiencing excessive winds, vehicle traffic, or precipitation events.
- Water trucks will spray down dust on the project Site as needed to not impact adjacent properties.
- Attention will be given to prevent the over-use of water in dust control operations to minimize any muddying of the surface and possible sediment transportation.

Vehicular Transport

Pollutant: Sediment Tracking
Best Management Strategies:

- Construct a stabilized construction entrance to provide ingress and egress of the site.
- Restrict access to the stabilized construction entrance.
- Fencing will be erected if problems with access control are evident.
- Maintain track out pads by fluffing up the rock material or by adding additional rock as needed.
- Inspect, sweep and clean adjacent streets where track out is evident.

Stockpiles

Pollutant: Sediment
Best Management Strategies:

- Locate stockpiles clear of any water flow paths.
- Locate stockpiles within the property boundary.
- Stockpiles will have erosion control devices as needed installed around the base

to prevent the migration of soil.

- Topsoil stock-piles and disturbed portions of the site where construction activity temporarily ceases for at least 14 days will be stabilized with temporary seed and mulch no later than 14 days from the last construction activity in the area.

Grading/Trenching/Import/Export

Pollutant: Sediment Best management Strategies:

- Earth moving will be minimized by the engineering balancing of the site.
- Disturbed portions of the site where construction activity temporarily ceases for at least 14 days will be stabilized with temporary seed and mulch no later than 14 days from the last construction activity in the area.
- Seed bed preparation is not required if soil is in loose condition.
- Prior to seeding, fertilizer shall be applied to each acre to be stabilized in accordance with the manufacturer's specifications.
- If required seeding areas shall be mulched with straw to a uniformed cover. The straw mulch is to be tacked into place by a disk with blades set nearly straight.
- A site specific erosion control drawing has been developed showing the location of Best Management practices to be used during site construction.
- Where indicated on the erosion control plan, Best Management Practices will be installed.
- Material shall be in accordance with the plans and specifications and all construction shall be provided in accordance with the manufacturer's specifications.
- All BMP's will be inspected bi-weekly and cleaned/maintained as required.

Waste, Residual Concrete

Pollutant: Concrete, paint, and Phosphoric Acid Best Management Strategies:

- A cleanup and washout area will be designated and posted.
- Subcontractors will be instructed on the locations and importance of the washout and cleanup areas. No on-site disposal is allowed.
- Instruct subcontractors to remove waste for which proper onsite disposal facilities are not provided back to their own facilities for ultimate transport, storage & disposal.
- Subcontractors and subcontractor employees are held responsible for improper washout.

Sanitary Facilities, Trash Containers & Littering

Pollutant: Bacteria, Ammonia, Trash
Best Management Strategies:

- Portable facilities will be regularly serviced to prevent excessive waste containment and overflow.
- Portable facilities will be located a minimum of 50 feet from state waters. They shall be adequately staked and cleaned on a weekly basis. They will be inspected

daily for spills.

- All waste materials will be collected and stored in a container which will meet all local and any state solid waste management regulations.
- Trash dumpsters will be emptied prior to becoming 90% full or when debris control becomes an issue.
- Employees will be instructed on the importance of recycling and waste management and will be held responsible for improper waste management.

Fueling, Hazardous Materials, Equipment Leakage, Fertilizer

Pollutant: Petroleum Hydrocarbons, Ethylene Glycol, Sediment
Best Management Strategies:

- MSDS sheets will be maintained in the project trailer for all onsite materials
- All dry materials such as cement will be covered and protected from rain.
- Secondary containment will be provided for stored fuel, oil, paint and any material classified as hazardous.
- Subcontractors are responsible for hazardous waste removal back to their own facilities for ultimate transportation, storage and disposal.
- Supplies will be kept onsite as necessary to control any potential spill.
- Employees will be held responsible for any illegal dumping.
- Seals will be checked by a qualified professional on all equipment and containers containing significant materials that could contribute potential pollutants and will be replaced as necessary.
- Equipment will be inspected by a qualified professional.
- Drip pans will be available for minor leaks and during fueling operations.
- Fueling nozzles, gauges, hoses, seals, and emergency shutoff valves will be inspected for leaks prior to use.
- Under no circumstances during fueling will the fueling hose/nozzle be left unattended.
- Fertilizers used will be applied only in the minimum amounts recommended by soil tests.
- Once applied, fertilizers will be worked into the soil to limit exposure to storm water.
- Stored fertilizer will be protected from exposure to precipitation and storm water runoff.

There are no major potential pollutants anticipated to be used on the site.

Additional (non-Structural) Best Management Practices for Sediment:

1. Earth moving will be minimized by the engineering balancing of the site.
2. Disturbed portions of the site where construction activity temporarily ceases for at least 14 days will be stabilized with temporary seed and mulch no later than 14 days from the last construction activity in the area.
3. Seed bed preparation is not required if soil is in loose condition.
4. Prior to seeding, fertilizer shall be applied to each acre to be stabilized in accordance with the manufacturer's specifications.

5. If required seeding areas shall be mulched with straw to a uniformed cover. The straw mulch is to be tacked into place by a disk with blades set nearly straight.
6. A site-specific erosion control drawing has been developed showing the location of Best Management practices to be used during site construction.
7. Where indicated on the erosion control plan, Best Management Practices will be installed.
8. Material shall be in accordance with the plans and specifications and all construction shall be provided in accordance with the manufacturer's specifications.
9. All BMP's will be inspected bi-weekly and cleaned/maintained as required.

V. Areas and Volumes

The phase total 28.13 acres is expected to be disturbed for the construction of the 1.23 mile Eastonville Road Segments 1 and 2 from Londonderry Drive to Rex Road.

Earthwork Quantities:

Cut Quantity : 31,043 c.y.

Fill Quantity: 126,089 c.y.

Net: 95,046 c.y. Fill

Note: The total disturbed area shall be updated on the SWMP and GEC Plan as changes occur.

VI. Inspection and Record Keeping

The SWMP is a "living document" that is continuously reviewed and modified and is to be kept on-site. The GEC Administrator shall make changes to the SWMP, including but not limited to: additions, deletions, changing locations of BMP's shall be marked in the plans, dated and initialed at time of occurrence.

Self-inspections of the Construction Control Measures must be completed by the certified SWMP Administrator who is sufficiently qualified for the required duties per the El Paso County ECM Appendix 1.5. The below provides the minimum to satisfy the 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 operating 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 City of Colorado Springs 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 diversion ditches and temporary sediment ponds have not accumulated excess sediment that impedes their functionality.
        iii. The GEC administrator shall ensure that failed Control Measures are repaired/reinstalled within three (3) calendar days, according to the City of Colorado Springs 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. Inspection form to be provided by contractor/QSM and/or the CO State Inspection Form can be used as a go-by for Self-Monitoring Inspections or used directly. Form will be added to SWMP at a later date.
        iv. Complete and submit Self-Inspection forms to the City of Colorado Springs 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 Repost shall contain at least the following:
            - Inspection Date
            - Name, title, and signature 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. Waste disposal facilities shall be checked weekly for leaks and emptied on a weekly basis (or when facility is at capacity). Appearance of leaks/overflow will be cleaned and cleared immediately.
    e. 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. They will be inspected daily for spills.
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
- Construction Fence
- Stockpile Management
- Inlet Protection
- Culvert Inlet Protection
- Check Dams
- Erosion Control Blanket
- Surface Roughening
- Diversion Ditches (Earth Dikes & Drainage Swales)
- Temporary Sediment Basins
- Temporary Seeding & Mulching

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. Temporary seeding and mulching will be installed to provide interim stabilization prior to final landscaping installation (Refer to approved Landscape Plan). 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 May 2027; however this is subject to change. Long term stormwater management will be provided in the onsite, public full spectrum detention pond and sand filters. See the Construction Drawings (CDR-2321) for construction details of the permanent full spectrum detention pond and sand filters. 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 Appendix D for approved seed mixes.

f. Seeding Requirements:
    i. Drill seed whenever possible, seed depth must be 1/3 to ½ 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 blanket 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 no 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 secondly.
        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

APPENDIX A – VICINITY MAP & NRCS SOIL SURVEY & FEMA MAP

MERIDIAN RANCH

FALCON REGIONAL PARK

GIECK RANCH TRIBUTARY 2

REX RD

REX ROAD

DAWLISH DRIVE

EASTONVILLE ROAD

MODIFIED CROSS-SECTION WITH 48' PAVEMENT AND TYPE A EPC CURB (53' BACK OF CURB TO BACK OF CURB)

PROP. ROW

100.00'

EX. ROW

60.00'

GIECK RANCH TRIBUTARY 1

GRANDVIEW RESERVE METROPOLITAN DISTRICT NO. 2

GRANDVIEW RESERVE FILING 1

KATE MEADOW LN

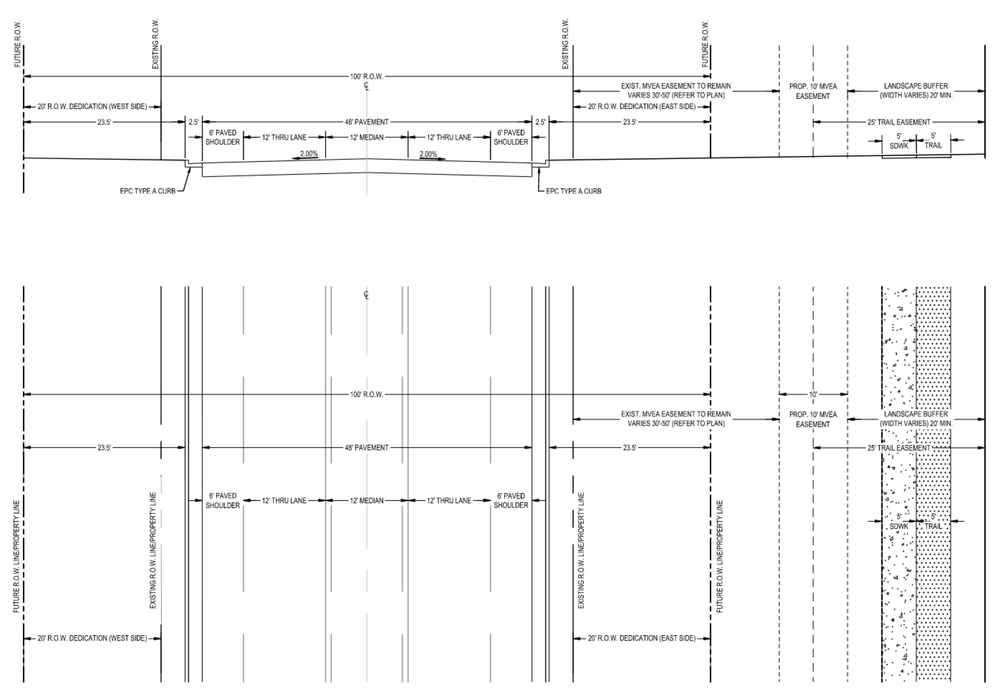
BRIXHAM DR

FALCON HIGH SCHOOL

LONDONDERRY DR

LONDONDERRY DRIVE

EPC RURAL MAJOR COLLECTOR ROADWAY WIDTH WITH EXSTING SIDE DITCHES



EASTONVILLE RD ULTIMATE CROSS SECTION
(MINOR ARTERIAL)
SCALE: N.T.S.
*TRAIL AND SIDEWALK TO MEANDER WITHIN TRAIL EASEMENT

VICINITY MAP

N.T.S.

NORTH
0 150
75

DRAWN BY: CPM JOB DATE: 8/29/2023
APPROVED: JOB NUMBER: 201662.08
CAD DATE: 8/29/2023
CAD FILE: J:\2020\201662.08\CAD\Dwgs\Exhibits\-Overall-Exhibit

BAR IS ONE INCH ON OFFICIAL DRAWINGS. 0 1"
IF NOT ONE INCH, ADJUST SCALE ACCORDINGLY.

NO.	DATE	BY	REVISION DESCRIPTION

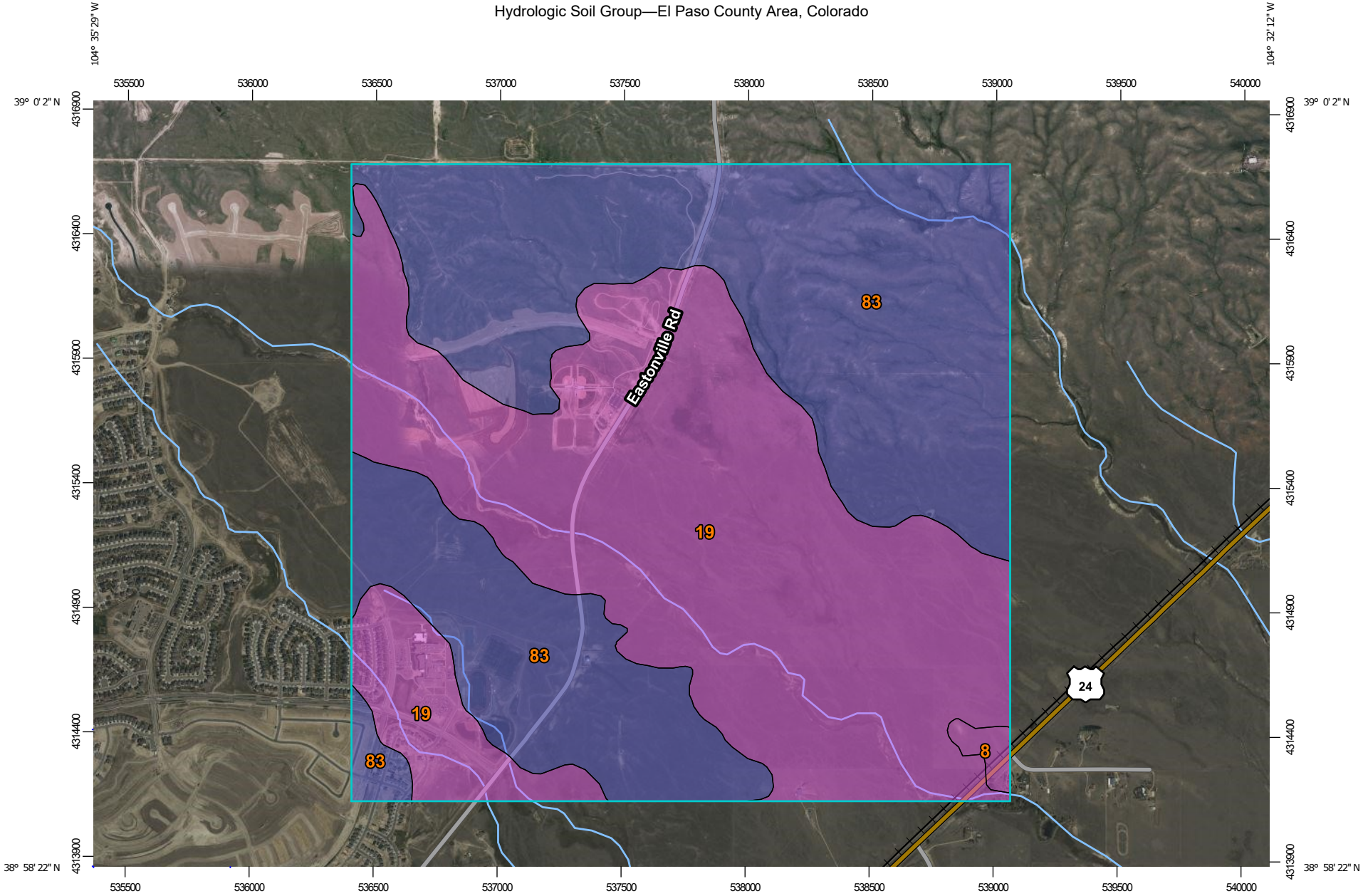
HR GREEN - COLORADO SPRINGS
7222 COMMERCE CENTER DR. SUITE 220
COLORADO SPRINGS CO 80919
PHONE: 719.622.6222
FAX: 844.273.1057

EASTONVILLE ROAD
DR HORTON
EL PASO COUNTY, CO

OVERALL EASTONVILLE PLAN

SHEET 1 | 1

Photo - at Londonderry and Eastonville looking north


104° 35' 29" W
104° 32' 12" W
39° 0' 2" N
38° 58' 22" N
535500
536000
536500
537000
537500
538000
538500
539000
539500
540000
4316900
4316400
4315900
4315400
4314900
4314400
4313900
Eastonville Rd
83
19
83
19
83
8
24
Map Scale: 1:21,700 if printed on A landscape (11" x 8.5") sheet.
N
0 300 600 1200 1800 Meters
0 1000 2000 4000 6000 Feet
Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 13N WGS84

MAP LEGEND

Area of Interest (AOI)

Area of Interest (AOI)

Soils

Soil Rating Polygons

A

A/D

B

B/D

C

C/D

D

Not rated or not available

Soil Rating Lines

A

A/D

B

B/D

C

C/D

D

Not rated or not available

Soil Rating Points

A

A/D

B

B/D

C

C/D

D

Not rated or not available

Water Features

Streams and Canals

Transportation

Rails

Interstate Highways

US Routes

Major Roads

Local Roads

Background

Aerial Photography

MAP INFORMATION

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

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

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

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

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

Soil Survey Area: El Paso County Area, Colorado
Survey Area Data: Version 19, Aug 31, 2021

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

Date(s) aerial images were photographed: Sep 11, 2018—Jun 12, 2021

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

Hydrologic Soil Group

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
8	Blakeland loamy sand, 1 to 9 percent slopes	A	10.4	0.6%
19	Columbine gravelly sandy loam, 0 to 3 percent slopes	A	839.5	49.8%
83	Stapleton sandy loam, 3 to 8 percent slopes	B	835.7	49.6%
Totals for Area of Interest			**1,685.6**	**100.0%**

Description

Hydrologic soil groups are based on estimates of runoff potential. Soils are assigned to one of four groups according to the rate of water infiltration when the soils are not protected by vegetation, are thoroughly wet, and receive precipitation from long-duration storms.

The soils in the United States are assigned to four groups (A, B, C, and D) and three dual classes (A/D, B/D, and C/D). The groups are defined as follows:

Group A. Soils having a high infiltration rate (low runoff potential) when thoroughly wet. These consist mainly of deep, well drained to excessively drained sands or gravelly sands. These soils have a high rate of water transmission.

Group B. Soils having a moderate infiltration rate when thoroughly wet. These consist chiefly of moderately deep or deep, moderately well drained or well drained soils that have moderately fine texture to moderately coarse texture. These soils have a moderate rate of water transmission.

Group C. Soils having a slow infiltration rate when thoroughly wet. These consist chiefly of soils having a layer that impedes the downward movement of water or soils of moderately fine texture or fine texture. These soils have a slow rate of water transmission.

Group D. Soils having a very slow infiltration rate (high runoff potential) when thoroughly wet. These consist chiefly of clays that have a high shrink-swell potential, soils that have a high water table, soils that have a claypan or clay layer at or near the surface, and soils that are shallow over nearly impervious material. These soils have a very slow rate of water transmission.

If a soil is assigned to a dual hydrologic group (A/D, B/D, or C/D), the first letter is for drained areas and the second is for undrained areas. Only the soils that in their natural condition are in group D are assigned to dual classes.

Rating Options

Aggregation Method: Dominant Condition

Component Percent Cutoff: None Specified

Tie-break Rule: Higher

NOTES TO USERS

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

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

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

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

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

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

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

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

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

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

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

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

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

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

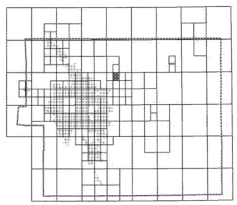
If you have **questions about this map** or questions concerning the National Flood Insurance Program in general, please call **1-877-FEMA MAP** (1-877-336-2627) or visit the FEMA website at http://www.fema.gov/business/nfip.

El Paso County Vertical Datum Offset Table

Flooding Source	Vertical Datum Offset (ft)

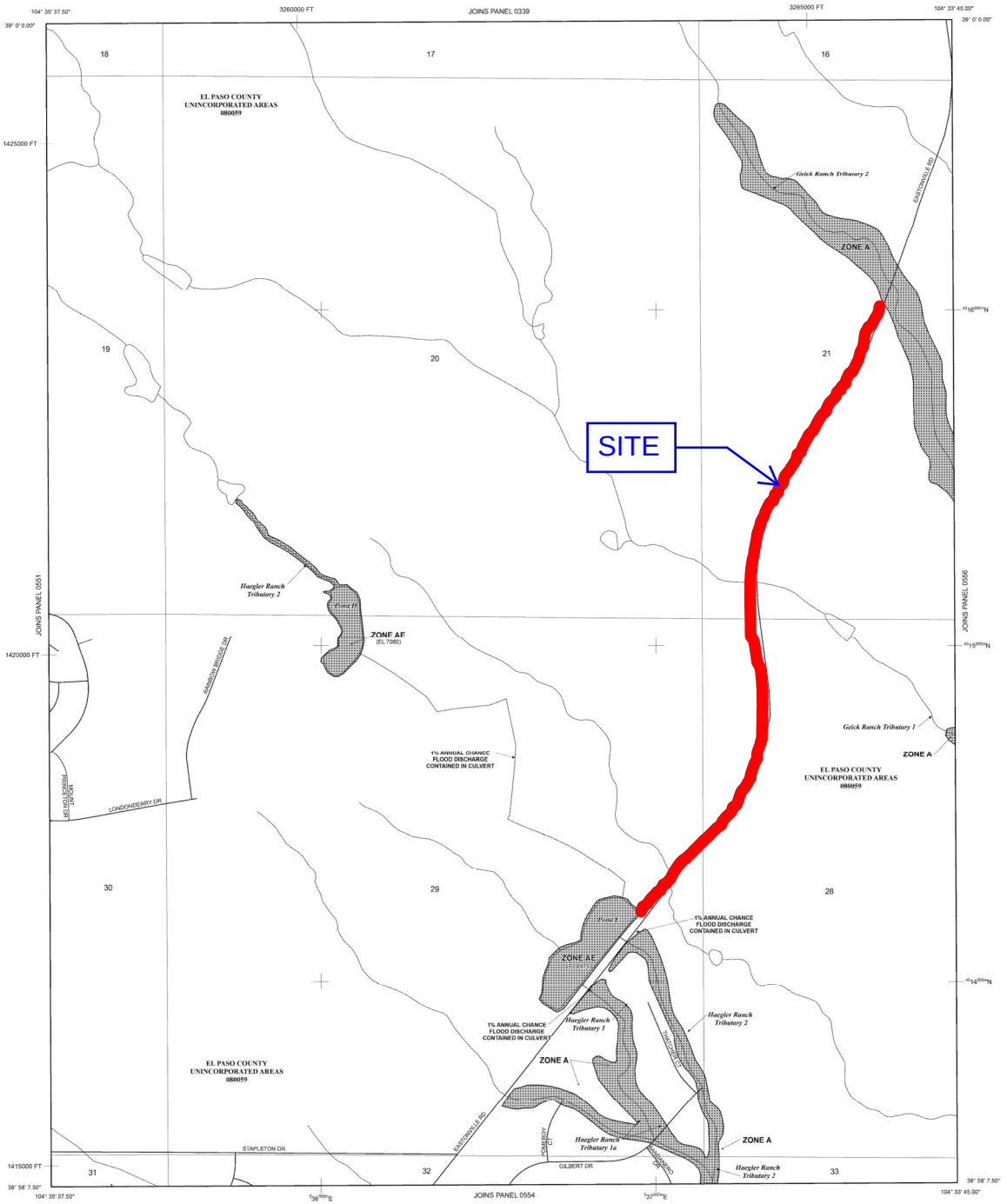
REFER TO SECTION 3.3 OF THE EL PASO COUNTY FLOOD INSURANCE STUDY FOR STREAM BY STREAM VERTICAL DATUM CONVERSION INFORMATION

Panel Location Map



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

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



NOTE: MAP AREA SHOWN ON THIS PANEL IS LOCATED WITHIN TOWNSHIP 12 SOUTH, RANGE 64 WEST.

LEGEND

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

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

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

FLOODWAY AREAS IN ZONE AE

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

OTHER FLOOD AREAS

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

OTHER AREAS

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

COASTAL BARRIER RESOURCES SYSTEM (CBRS) AREAS

OTHERWISE PROTECTED AREAS (OPAs)

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

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

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

A — A Cross section line
23 — 23 Transect line
97° 07' 30.00" / 32° 22' 30.00" Geographic coordinates referenced to the North American Datum of 1983 (NAD 83)
4175000mN 1000-meter Universal Transverse Mercator grid ticks, zone 13
6000000 FT 5000-foot grid ticks: Colorado State Plane coordinate system, central zone (FIPSZONE 0502), Lambert Conformal Conic Projection
DX5510 Bench mark (see explanation in Notes to Users section of this FIRM panel)
M1.5 River Mile

MAP REPOSITORIES
Refer to Map Repositories list on Map Index

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

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

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

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

MAP SCALE 1" = 500'

250 0 500 1000 FEET
150 0 150 300 METERS

NFIP

PANEL 0552G

NATIONAL FLOOD INSURANCE PROGRAM

FIRM

FLOOD INSURANCE RATE MAP

EL PASO COUNTY, COLORADO AND INCORPORATED AREAS

PANEL 552 OF 1300

(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

COMMUNITY	NUMBER	PANEL	SUFFIX
EL PASO COUNTY	080059	0552	G

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

MAP NUMBER
08041C0552G

MAP REVISED
DECEMBER 7, 2018

Federal Emergency Management Agency

APPENDIX B –GEC PLANS (see GEC Plans in CDR-2321)

APPENDIX C – CALCULATIONS

SEDIMENT BASIN A - POND A INITIAL PHASE
SEDIMENT BASIN STAGE-STORAGE CALCULATIONS

Elevation	Area S.F.	Area Acre	Volume Cu. Ft.	Volume Acre-Ft	Cumm Vol Cu. Ft.	Cumm Vol Acre-Ft	Proration Enter Vol. in Cu-Ft*	Proration Enter Vol. in Acre-Ft*	Elev. ft.
6981.0	**902**				**0**	0	2,844		**6,981.935**
6982.0	**5914**		3,042		**3,042**	**0.070**	5,688		**6,982.405**
6983.0	**7188**		6,541		**9,583**	**0.220**			
6984.0	**8563**		7,865		**17,448**	**0.401**			
6985.0	**9301**		8,929		**26,377**	**0.606**			
6986.0									
6987.0									
6988.0									
6989.0									
6990.0									
6991.0									
6992.0									
6993.0									
6994.0									
6995.0									
6996.0									
6997.0									
6998.0									
6999.0									
7000.0									
7001.0									
7002.0									

COLUMN 1	**CENTROID EL.**
ORIFICE 1	6,981.93
ORIFICE 2	6,982.26
ORIFICE 3	6,982.59

SED Basin riser pipe orifice calculations				
A_0 =	area per row of orifices spaved on 4" centers (in^2)			
V=	0.0653	design volume (acre feet) *<15 ac.		
T_D=	72	time to drain the prescribed colume (hrs) (Typically 72 hours for EURV)		
H=	0.470	depth of volume (ft)		
S=	0.0001	Trickel channel slope (ft/ft) [Use 0.0001 for flat slope]		
			S=0%	
$A_{0=}$	0.1997	in^2	**0.1991**	**in^2**
Dia	0.50	in		
	1.01	Dia=/2	**0.46 in = 7/16 in. dia.**	
	2.01	Dia=/4		
	4.03	Dia=/8		
	8.06	Dia=/16		
	16.11	Dia=/32		

SEDIMENT VOLUME CALCULATIONS				
Disturbed area-acres	1.580	Acres		
Undisturbed area-acres	0.000	Acres		
Total Area-acres	1.580	Acres		
Sediment volume	5,688	cu-ft	0.1306	Acres-ft
Volume below lowest hole	2,844	cu-ft	0.0653	Acres-ft
Volume above lowest hole	2,844	cu-ft	0.0653	Acres-ft
Total Volume	5,688	cu-ft	0.1306	Acres-ft

Note: **Enter values in highlighted cells only.**

SEDIMENT BASIN B - POND B INITIAL PHASE
SEDIMENT BASIN STAGE-STORAGE CALCULATIONS

Elevation	Area S.F.	Area Acre	Volume Cu. Ft.	Volume Acre-Ft	Cumm Vol Cu. Ft.	Cumm Vol Acre-Ft	Proration Enter Vol. in Cu-Ft*	Proration Enter Vol. in Acre-Ft*	Elev. Cu-Ft
6983.5	**10**								
6984.0	**211**		44		**44**	**0.001**			
6985.0	**4539**		1,910		**1,954**	**0.045**	7,110		**6,985.869**
6986.0	**7443**		5,931		**7,885**	**0.181**	14,220		**6,986.767**
6987.0	**9104**		8,260		**16,145**	**0.371**			
6988.0	**10914**		9,995		**26,140**	**0.600**			
6989.0	**12910**		11,898		**38,038**	**0.873**			
6990.0	**15069**		13,976		**52,014**	**1.194**			
6991.0	**17408**		16,224		**68,238**	**1.567**			
6991.5	**18407**		8,953		**77,191**	**1.772**			

COLUMN 1	**CENTROID EL.**
ORIFICE 1	6,985.87
ORIFICE 2	6,986.20

SED Basin riser pipe orifice calculations				
A_0 =	area per row of orifices spaved on 4" centers (in^2)			
V=	0.1632	design volume (acre feet)	*<15 ac.	
T_D=	72	time to drain the prescribed colume (hrs) (Typically 72 hours for EURV)		
H=	0.898	depth of volume (ft)		
S=	0.0001	Trickel channel slope (ft/ft) [Use 0.0001 for flat slope]		
			S=0%	
$A_{0=}$	0.5013	in^2	**0.4998**	**in^2**
Dia	0.80	in		
	1.60	Dia=/2	**3.05 in^2 = 2.0 in. dia.**	
	3.19	Dia=/4		
	6.38	Dia=/8		
	12.76	Dia=/16		
	25.53	Dia=/32		

SEDIMENT VOLUME CALCULATIONS				
Disturbed area-acres	3.950	Acres		
Undisturbed area-acres	0.000	Acres		
Total Area-acres	3.950	Acres		
Sediment volume	14,220	cu-ft	0.3264	Acres-ft
Volume below lowest hole	7,110	cu-ft	0.1632	Acres-ft
Volume above lowest hole	7,110	cu-ft	0.1632	Acres-ft
Total Volume	14,220	cu-ft	0.3264	Acres-ft

Note: Enter values in highlighted cells only.

SEDIMENT BASIN D - POND D INITIAL PHASE
SEDIMENT BASIN STAGE-STORAGE CALCULATIONS

Elevation	Area S.F.	Area Acre	Volume Cu. Ft.	Volume Acre-Ft	Cumm Vol Cu. Ft.	Cumm Vol Acre-Ft	Proration Enter Vol. in Cu-Ft*	Proration Enter Vol. in Acre-Ft*	Elev. Cu-Ft
6962.5	**791**								
6963.0	**2006**		676		**676**	**0.016**			
6964.0	**2909**		2,444		**3,120**	**0.072**	5,199		**6,964.621**
6965.0	**3809**		3,349		**6,469**	**0.148**	10,397		**6,965.913**
6966.0	**4821**		4,305		**10,774**	**0.247**			
6967.0	**6018**		5,408		**16,182**	**0.371**			
6968.0	**7383**		6,689		**22,871**	**0.525**			
6969.0	**8831**		8,096		**30,967**	**0.711**			
6970.0	**10405**		9,607		**40,574**	**0.931**			

COLUMN 1	**CENTROID EL.**	
ORIFICE 1	6,964.62	6,963.37
ORIFICE 2	6,964.95	
ORIFICE 3	6,965.28	
ORIFICE 4	6,965.61	

SED Basin riser pipe orifice calculations				
A_0 =	area per row of orifices spaved on 4" centers (in^2)			
V=	0.1193	design volume (acre feet) *<15 ac.		
T_D=	72	time to drain the prescribed colume (hrs) (Typically 72 hours for EURV)		
H=	6,964.621	depth of volume (ft)		
S=	0.0001	Trickel channel slope (ft/ft) [Use 0.0001 for flat slope]		
			S=0%	
$A_{0=}$	0.2531	in^2	**0.2525**	**in^2**
Dia	0.57	in		
	1.13	Dia=/2	**1.02 in^2 = 0.57 in. dia.**	
	2.27	Dia=/4		
	4.54	Dia=/8		
	9.07	Dia=/16		
	18.14	Dia=/32		

SEDIMENT VOLUME CALCULATIONS				
Disturbed area-acres	2.720	Acres		
Undisturbed area-acres	1.210	Acres		
Total Area-acres	3.930	Acres		
Sediment volume	10,397	cu-ft	0.2387	Acres-ft
Volume below lowest hole	5,199	cu-ft	0.1193	Acres-ft
Volume above lowest hole	5,199	cu-ft	0.1193	Acres-ft
Total Volume	10,397	cu-ft	0.2387	Acres-ft

Note: Enter values in highlighted cells only.

SEDIMENT BASIN C - POND C INITIAL PHASE
SEDIMENT BASIN STAGE-STORAGE CALCULATIONS

Elevation	Area	Area	Volume	Volume	Cumm Vol	Cumm Vol	Proration	Proration	Elev.
	S.F.	Acre	Cu. Ft.	Acre-Ft	Cu. Ft.	Acre-Ft	Enter Vol.	Enter Vol.	ft.
							in Cu-Ft*	in Acre-Ft*	
7021.0	**461**				**0**	0			
7022.0	**973**		701		**701**	**0.016**	1,134		**7,022.351**
7023.0	**1509**		1,231		**1,932**	**0.044**	2,268		**7,023.184**
7024.0	**2165**		1,827		**3,760**	**0.086**			
7024.5	**2960**		1,276		**5,036**	**0.116**			

COLUMN 1	**CENTROID EL.**
ORIFICE 1	7,022.35
ORIFICE 2	7,022.68
ORIFICE 3	7,023.01

SED Basin riser pipe orifice calculations				
A_0 =	area per row of orifices spaved on 4" centers (in^2)			
V=	0.0260	design volume (acre feet)	*<15 ac.	
T_D=	72	time to drain the prescribed colume (hrs) (Typically 72 hours for EURV)		
H=	0.832	depth of volume (ft)		
S=	0.0001	Trickel channel slope (ft/ft) [Use 0.0001 for flat slope]		
			S=0%	
A_0 =	0.0854	in^2	**0.0851**	**in^2**
Dia	0.33	in		
	0.66	Dia=/2	**0.27 in = 1/4 in. dia.**	
	1.32	Dia=/4		
	2.63	Dia=/8		
	5.27	Dia=/16		
	10.53	Dia=/32		

SEDIMENT VOLUME CALCULATIONS				
Disturbed area-acres	0.630	Acres		
Undisturbed area-acres	0.000	Acres		
Total Area-acres	0.630	Acres		
Sediment volume	2,268	cu-ft	0.0521	Acres-ft
Volume below lowest hole	1,134	cu-ft	0.0260	Acres-ft
Volume above lowest hole	1,134	cu-ft	0.0260	Acres-ft
Total Volume	2,268	cu-ft	0.0521	Acres-ft

Note: **Enter values in highlighted cells only.**

APPENDIX D – EL PASO COUNTY CONSTRUCTION CONTROL MEASURES

(see Details in GEC Plans in CDR-2321)

APPENDIX E – SPILL PREVENTION PLAN

Spill Prevention, Control and Countermeasure (SPCC) Plan

Facility Name: _____
Address: _____
_____

Contact Name: _____
Phone: _____
Fax: _____
Email: _____

Certification: I hereby certify that I have examined the facility, and, being familiar with the provisions of 40 CFR part 112, attest that this SPCC plan has been prepared, or updated within 5 years, in accordance with good engineering practices and meets the requirements listed in 40 CFR part 112.

This plan has been certified by:

Date of certification: _____ *Engineer's Seal*

Copies of this plan are located at the facility and are available to all employees.

Location(s) of plan(s): _____

I. FACILITY INFORMATION

a. Facility Name: _____

b. Mailing Address: _____
_____

c. Physical address if different: _____
_____
_____

d. Owner Name: _____

e. Owner Address: _____
_____

f. Primary Contact Name: _____
Work Phone Number: _____
Home Phone Number: _____
Mobile Phone Number: _____

g. Secondary Contact Name:
Work Phone Number: _____
Home Phone Number: _____
Mobile Phone Number: _____

h. Date of Initial Operation: _____

II. SITE ASSESSMENT

a. Location:
Describe where facility is located. For example, "This site is located along Broad Creek about 2 miles north of its confluence with the Choptank River at Holland Point. Road access is from. . . . The site is located on Talbot County ADC map 22 (H5). Latitude is ___ and longitude is ___ ."

_____
_____
_____
_____
_____
_____
_____
_____
_____
_____
_____

III. FACILITY DESCRIPTION

a. Acres of land: ____

b. Facilities and Equipment:
Place an X beside all that apply.

____ Garage for vehicle processing
____ Parts store
____ On-site crushcr
____Impervious crush pad for crusher
____ Impervious pad for outside vehicle processing
____ Spill kit/emergency equipment
____ Refrigerant (Freon) extractor
____ Parts washer
____ Other structures and major equipment:

Please list: _____
_____
_____
_____
_____

c. Services:
Place an X beside all that apply.

____ Dismantler/Recycler
____ Sell used parts
____ Sell vehicles for scrap
____Crushing
____ Auto body/repair shop
____ Sell used cars
____ Other services:

Please list: _____
_____
_____
_____

d. Fixed Storage:
List capacity and contents of each storage container. For example, "One 6,000 gallon above ground tank containing diesel fuel." Be sure to include diesel, gasoline, waste oil, heating oil, kerosene, paint thinner and other solvents. Also describe the construction of the containers, secondary containment for each, liquid level indicators, alarms and method of corrosion protection for each container._____

e. Non-Fixed Storage:
List capacity and contents of each storage container. For example, "One 55 gallon drum for recycled oil." Be sure to indicate what each container is used for, its condition and construction and how secondary containment is provided. _____

f. Total quantity of stored materials:
The combined quantity of the materials listed above: _____ gallons

IV. OIL SPILL HISTORY

Place an X on the appropriate line and proceed accordingly.

___ There has never been a significant spill at the above named facility.

___ There have been one or more significant spills at the above named facility. Details of such spill(s) are described below.

For each spill that occurred, supply the following information:

- Type and amount of oil spilled
- Location, date and time of spill(s)
- Watercourse affected
- Description of physical damage
- Cost of damage
- Cost of clean-up
- Cause of spill
- Action taken to prevent recurrence

V. POTENTIAL SPILL VOLUMES AND RATES

Fill in all applicable blanks. Be prepared to show the engineer documentation of flow rates. Your fuel vendor and the manufacturer of your storage and dispensing equipment should be able to provide this documentation.

Potential Event	Volume Released	Spill Rate
Complete failure of a full tank*	____ gallons	instantaneous
Partial failure of a full tank*	1 to ____ gallons	gradual to instantaneous
Tank overflow**	1 to ____ gallons	up to ____ gallons per minute
Leaking during unloading***	up to ____ gallons	up to ____ gallons per minute
Pipe failure****	up to ____ gallons	up to ____ gallons per minute
Leaking pipe or valve****	several ounces to gallons	up to ____ gallons per minute
Fueling operations****	several ounces to gallons	up to ____ gallons per minute
Oil and grease	several ounces to quarts	spotting

* Volume of largest tank
** Calculate using the rate at which fuel is dispensed from the delivery truck into your tank(s).
*** Calculate using the rate at which petroleum would be withdrawn from the tank if it should have to be emptied (*e.g.*, if it was being taken out of service).
**** Calculate based on the specifications of your equipment.

VI. SPILL PREVENTION AND CONTROL

a. Spill Prevention:
Provide specific descriptions of containment facilities and practices. Include description of items such as double-walled tanks, containment berms, emergency shut-offs, drip pans, fueling procedures and spill response kits. Also, describe how and when employees are trained in proper handling procedures and spill prevention and response procedures.

b. Spill discharge and flow:
For each potential spill source, describe where petroleum would flow in the event of a spill. For example, "The 6,000 gallon diesel tank has a pre-manufactured secondary containment system capable of holding 110 percent of the total volume of the tank" and, "A spill from engine repair would be contained inside the shop building and quickly cleaned up with oil absorbents." Incorporate site map by reference (see instructions under *Appendices*).

c. Spill response:
Identify what equipment would be deployed by whom and in what situation. Also, include phone numbers for response agencies, *e.g.*, U.S. Coast Guard, fire department, spill response contractors, etc. A copy of your spill response plan may be attached as an appendix to this SPCC plan in lieu of completing this section.

d. Security
Provide a description of how all containers are protected when the facility is not in operation or unattended. Include a description of fencing, access control, gates, locks, etc. that prevent access by unauthorized individuals.

VII. FACILITY INSPECTIONS

a. Routine Inspections

Name facilities and the frequency with which they are inspected. For example, "The fuel pumps are inspected daily. The materials storage area is inspected monthly." Describe all facility containers, piping, etc. that is to be inspected. Name the person who has responsibility to implement preventative maintenance programs, oversee on-site inspections, coordinate employee training, maintain records, update the plan as necessary, and ensure that reports are submitted to the proper authorities.

b. Annual Inspections

Include a description of annual comprehensive inspections. For example, "A site inspection is also conducted annually by appropriate responsible personnel to verify that the description of potential pollutant sources are accurate, that the map reflects current site conditions, and that the controls to reduce the pollutants identified in this plan are being implemented and are adequate. This annual inspection will be conducted above and beyond the routine inspections done focusing on designated equipment and areas where potential sources are located."

VIII. RECORD KEEPING

Describe record keeping procedures. For example, "Record keeping procedures consist of maintaining all records a minimum of three years. The following items will be kept on file: current SPCC plan, internal site reviews, training records, and documentation of any spills or maintenance conducted in regards to these sites." *Maintenance Inspection*, *Employee Training*, and *Record Keeping* logs are included in this template for your use.

IX. MAINTENANCE INSPECTIONS

Maintenance Coordinator: _____. Maintenance Coordinator responsibilities include implementation of preventative maintenance programs and oversight of on-site inspections.

Use this table to record inspections:

Facility Inspected	Date of Inspection	Name of Inspector	Result Pass/Fail	Comments

X. RECORD KEEPING OF INCIDENTAL SPILLS

Record Keeper: _____. Record Keeper responsibilities include maintaining records of incidents, updating the SPCC plan as necessary and ensuring reports are submitted to the proper authorities when necessary.

Incident No.	Type of Incident	Date of Occurrence	How it was Cleaned Up

APPENDIX F – CSWMP REPORT REVISION LOG

SWMP REPORT REVISION LOG

REVISION #	DATE	BY	COMMENTS

APPENDIX G – CERTIFICATIONS

EnviroCert International, Inc.®

certifies that

Staci Kahl

Subscribes to the Code of Ethics and Professional Conduct and has met the requirements established for the CPESC® Program as a

Certified Professional in Erosion and Sediment Control®

CPESC® Number: 14953

Certificate Date: 25-Sep-2023

Robert Anderson, EnviroCert Board President

Jim O'Tousa, EnviroCert Technical Advisory Council

The CPESC® Certification was established in 1983

CISEC, Inc.
P.O. Box 188
Parker, CO 80134
Ph: (720) 235-2783
Fax: 303-841-6383
E-mail: contactus@cisecinc.org

CISEC, Inc. Wallet Card

Name: Staci Kahl

Order Date February 2023

Below is your wallet card.

Please print this card and keep it in your wallet or your files.

CISEC, Inc.
Board of Directors
certifies that

Staci Kahl

has demonstrated satisfactory evidence of sediment and erosion control inspection skills and successfully passed the certification examination and therefore, as required by CISEC, Inc., is authorized to use the title of

Certified Inspector of Sediment and Erosion Control

3561		*February 28, 2024*
CISEC #	***CISEC, Inc. President***	***Expiration Date***

As a CISEC Registrant, I agree to the following:

- At all times, strictly abide by the CISEC, Inc. Code of Ethics,
- Perform all services in a professional manner and uphold professional standards in relating to the public, to other CISEC, Inc. registrants and to other professionals within the industry,
- Earn at least 12 CDH's each year after becoming a CISEC registrant and
- Pay CISEC, Inc. annual renewal fees.

Signature (required)

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