

**STORMWATER MANAGEMENT REPORT:
MARIAH TRAIL FILING NO. 1
MAJOR SUBDIVISION**

**A PORTION OF THE NORTHWEST QUARTER OF
SECTION 17, TOWNSHIP 14 SOUTH, RANGE 66 WEST OF
THE 6TH P.M.
COUNTY OF EL PASO, STATE OF COLORADO**

**LOTS 1-6 MARIAH TRAIL FILING No. 1
EL PASO COUNTY, COLORADO**

APPLICANT AND OWNER:

MR. THOMAS KIRK, JR.
19205 MARIAH TRAIL
COLORADO SPRINGS, CO
EMAIL:

QUALIFIED STORMWATER MANAGER AND CONTRACTOR:

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LATEST REVISION DATE: AUGUST 4, 2023
EDARP FILING No.: SF2315

ENGINEER OF RECORD:

PREPARED BY

CARLOS SERRANO, PE
ENGINEERING LOCAL XPERTS



PROJECT NO. 100678

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.

SIGNATURE (Affix Seal): _____
Carlos David Serrano, Colorado P.E. No.: 52048
For and on Behalf of Engineering Local Xperts

Date

SEAL:

REVIEW ENGINEER'S STATEMENT:

The Stormwater Management Plan was reviewed and found to meet the checklist requirements except where otherwise noted or allowed by an approved deviation request.

Review Engineer

Date

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1) INTRODUCTION

The purpose of this Stormwater Management report is to identify the required erosion and sediment control measures for the construction sequencing of the proposed major subdivision development. This report describes the existing and developed conditions of the Site, the initial, interim, and final construction phase and the timeframe for construction, as well as any potential pollution sources and mitigation including material handling and spill prevention. The report describes the surrounding and downstream locations such as any nearby waterways and the ultimate receiving waters from the Site. The Appendix contains the required information for a Stormwater Management Plan and Report including a Vicinity Map, Soils Information, Floodplain Information, the Grading and Erosion Control Plan, a Colorado Department of Public Health and Environment Brochure for responsible construction activities, a Stormwater Management Log, and Erosion and Sediment Control Details for the required control measures of the Site.

The purpose of the project is to subdivide an existing 35-acre RR-5 zoned parcel into six single-family residential lots as a Major Subdivision. A gravel roadway extension of the existing Mariah Trail right-of-way is to be constructed for access to the new lots.

2) EXISTING CONDITIONS

LOCATION

The property of interest, henceforth referred to as the Site, addressed as 19205 Mariah Trail, is an unplatted 35-acre RR-5 zoned parcel within El Paso County with Schedule No. 5100000511. The Site within the northwest quarter of Section 7, Township 11 South, Range 65 West of the sixth P.M.. The Site is south of the County's 60-foot right-of-way of Mariah Trail, a rural local gravel roadway. The property is accessed via a private access drive within a 16-foot width common access easement (Reception No. 213070061). The adjacent properties or subdivisions are as follows:

North: El Creek Ranches Filing No. 1 (Lots 24-26)

East: 19275 Mariah Trail, Schedule No. 5100000512, Zoned RR-5, Unplatted 40.23 acre property

South: 18885 Brown Road, Schedule No. 5100000447, Zoned RR-5, Unplatted 61.55 acre property

West: Part of Section 12-11-66, Schedule No. 6100000224, Zoned RR-5, Unplatted 80 acre property

The Site is currently zoned RR-5 (Rural Residential), allowing 5-acre minimum lots with 25-foot front, rear, and side setbacks for principal structures, and a 200-foot minimum lot frontage width.

EXISTING SOILS

The soils indicative to the site are classified as Brussett loam and Peyton-Print complex by the USDA Soil Conservation Service and are listed as NRCS (National Resources Conservation Service) Hydrologic Soil Group B. Per the Geotech Report developed by Vivid Engineering Group dated March 21, 2023, “soils with a sandy matrix, such as that encountered underlying the site, are susceptible to erosion when exposed.” To prevent erosion in areas of concern, EroNet P300 Permanent Erosion Control Blankets are being proposed to reduce soil loss and protect vegetation from being washed away or uprooted. Along with this, “the Dawson formation and moderate to gentle slopes on this site are not considered to be prone to slope instability and there are no published geologic maps that indicate these issues exist of this site.” A USDA Soil Map is provided in Appendix C.

EXISTING DRAINAGE CONDITIONS

The existing topography of the Site consists of slopes between 2.0 percent and 15 percent generally draining from the west to the east. There are several local topographic high points and grasslined swales across the property. The natural landscape comes to a swale located on the eastern property boundary, central to the Site. The majority of the Site drains to this point where it continues to flow due east. The stormwater runoff to this area is via overland sheet flow and remains generally as sheet flow until the swale reduces in width downstream to channelized flow. The ultimate outfall location is East Cherry Creek approximately 1.5 miles east of the Site.

There are no major drainageways or existing facilities on the Site.

The Site lies within the East Cherry Creek Drainage Basin according to the El Paso County Drainage Basins map. There are no known non-stormwater discharges that contribute to the storm water systems on site and downstream, both private and public.

The project site does not lie within a designated floodplain according to information published in the Federal Emergency Management Agency Floodplain Map No. 08041C0305G, dated December 7, 2018. The FEMA FIRM panel is provided in Appendix B.

The existing percent imperviousness of the Site is less than 0.1% as evidence by aerial photography and site visits. The only non-vegetation land is a dirt path within a common access easement at the north of the Site. The existing vegetative cover of the Site is approximately 99.9% with sparse native grasses and weeds, also as evidence by aerial photography and site visits.

3) PROPOSED DEVELOPMENT AND CONSTRUCTION ACTIVITIES

The proposed project scope is for a small subdivision for a total of six lots with a public 60' width right-of-way extension for the roadway of Mariah Trail. A Final Plat and Major Development Plan show Lots 1 through 6 with minimum areas of 5 acres to meet RR-5 rural residential zoning standards. A 32' width gravel surface roadway is proposed as an extension of Mariah Trail with a cul-de-sac at the termination point of the proposed right-of-way for an emergency vehicle

turnaround. The typical section of the roadway follows County Standard Detail SD-2-10, a 32' width gravel section with a 4% crown with roadside swales of minimum 2' depth within the 60' right-of-way section and an additional 5' of public improvement easement on each side.

The small subdivision is to remain zoned as RR-5, allowing for single-family residences and accessory structures within the El Paso County zoning code's allowed land uses. Covenants for the Mariah Trail Filing No. 1 subdivision shall meet El Paso County land use and development standards at a minimum with the following minimum criteria per the County:

- Minimum 200' width lot frontage
- 25' front, side, and rear principal building setbacks
- 25% maximum coverage
- 7% Imperviousness (Table 3-1, Appendix L)

Proposed construction activity for the major subdivision is for the Mariah Trail right-of-way extension of the gravel roadway section and roadside ditch. Future developed lots are to connect to the gravel roadway with future driveways and 18" CMP culvert pipes within the roadside ditches. No driveway connections or culverts are proposed at this time.

The limits of disturbance and construction is to establish the roadway is approximately 5.0 acres or 11.4% of the total Site area. The interim developed condition is the initial roadway buildout of a gravel section with roadside ditches. Further interim conditions are to include driveways and culvert pipes from the roadway and lot development of single-family residences. cutt

exceeding 4:1 slope require erosion control blankets to establish seeding. Permanent stabilization is anticipated to consist of the permanent seeding of any disturbed areas in which earthwork occurred to daylight topography as well as stabilization and seeding of the roadside ditches. A culvert pipe is proposed for drainage conveyance under the roadway and inlet and outlet protection via sediment control logs at both sides of the culvert pipe is proposed.

a) PROPOSED DRAINAGE CONDITIONS

The final drainage pattern of the ultimate buildout of the small subdivision generally follows the existing conditions by sheet flowing west to east and flowing to the concentrated swale within the central east area of the Site. The difference between existing patterns and developed is that a gravel roadway will capture upstream (west) runoff in its swale and convey it to a culvert pipe at the low point of the roadway which will flow due east to a level spreader so that the stormwater will continue due east via overland sheet flow.

Increases in stormwater runoff due to impervious areas are treated for water quality via grass buffers as is expected in rural settings with large areas of undeveloped land. The gravel roadway extension experiences 100% water quality runoff reduction via grass buffers as shown in the Appendix calculations (UD-BMP).

There are no stream crossings located within the construction site boundary. The lots are not within a streamside boundary and there are no preservation easements or existing no-build areas on or within the vicinity of construction/disturbance. There are no anticipated negative impacts to surrounding or downstream developments or infrastructure as a result of development of this small subdivision.

The downstream outfall location of the site is along the east property boundary where a natural grasslined swale is located per existing topography. The major storm event does not have excessive stormwater velocities that would scour the natural swale and therefore is deemed stabilized.

b) DOWNSTREAM STORM INFRASTRUCTURE EVALUATION

There are no known drainage reports on file with El Paso County for this property or any nearby subdivisions that account for this property as an offsite basin. However, due to the developed conditions of the Site remaining within the typical residential land use, it is anticipated that there will be no negative impacts to surrounding and downstream developments and infrastructure. An assessment of the existing natural drainage way on the east side of the Site is included within this report to demonstrate that the outfall of the major subdivision is stable and is an appropriate outfall that does not require detention or structural control measures to attenuate the stormwater runoff or provide additional energy dissipation.

4) STRUCTURAL EROSION AND SEDIMENT CONTROLS

The project will consist of clearing and grubbing with surface roughening of the area of the proposed roadway within the disturbance/construction limits and implementation of perimeter controls at the initial stage. The proposed perimeter control to be used is silt fence. Traffic control consist of signage at the existing Mariah Trail right-of-way for safe ingress and egress of construction vehicles and equipment.

Roadway grading and construction is for a new gravel roadway as an extension of Mariah Trail. Final stabilization is to take place as soon as possible after pavement and earthwork is completed for the roadway including installation of the culvert pipe. Check dams, erosion control blanket, and permanent seeding construction control measures are to be used during the interim and final phases of construction to stabilize the roadside ditches.

Any waste disposal is to be done off-site at the designation of the contractor at a location approved by the County. Waste disposal, spill prevention, and response procedures are to be according to CDPHE and El Paso County standards. Site specific plans and procedures are addressed per this report. A CDPHE brochure is included as an appendix item in this report.

Inlet protection needed for this project consists of sediment control logs at the inlet and outlet point of the culvert pipe. Inlet protection reduces sediment deposition in storm drains and culverts and reduces sediment pollution in stormwater by filtering out some of the sediment carried by runoff flowing through the inlet protection. The details for the installation and maintenance of the inlet protection are included in the Appendix. Inlet protection should be installed wherever the contractor deems them necessary or helpful in the prevention of sediment runoff during construction.

Prior to construction activity, vehicle tracking control will be installed at the designated access point. Vehicle tracking control helps reduce the deposition of sediment, dirt, mud, and debris by vehicles exiting the site onto the adjacent streets. The location of the site entrance called out for a gravel vehicle tracking control with wash rack is shown on the SWMP BMP site plan along with installation and maintenance of the controls within the details sheets.

Before any grading or other significant disturbance activities, silt fence is to be installed along any edge of an area to be disturbed where runoff would otherwise go untreated. Silt fence will be installed along those portions of the site perimeter where potentially sediment-laden runoff may flow into adjacent properties or into nearby private storm sewer grates. Silt fence is also to be installed as a perimeter around the stockpile area, especially on downstream sides. Silt fences help reduce pollution of stormwater by filtering out some of the sediment carried by runoff flowing through the fences and by facilitating deposition of sediment by slowing the runoff. These Construction control measures also assist in reducing erosion by slowing and distributing runoff. The locations in which to install silt fence are on the SWMP BMP site plan. As with other Construction control measures, silt fences can be installed wherever the contractor deems them to be necessary or helpful and these locations may not be shown on the site plan.

There are no offsite stormwater control measures proposed for use by this project or under the direct control or ownership of the Owner or Operator.

5) NON-STRUCTURAL EROSION AND SEDIMENT CONTROLS

Prior to commencement of construction activities, the construction vehicle traffic areas to and around the project site including all construction roads, parking areas, loading and unloading zones, storage areas, and staging areas, are to be stabilized through proper grading, compaction, and surfacing. Stabilization of large vehicle traffic areas reduces erosion and vehicle tracking thus helping to eliminate potential pollution of stormwater by sediment. Designated construction ingress and egress with tracking control is to be used as shown on the SWMP BMP site plan. Should significant soil still be deposited on the surrounding roadways, street sweeping will be utilized to remove the soil from roadways immediately following deposition. However, since the existing Mariah Trail roadway is compact dirt, no street sweeping is anticipated. Instead, any waste disposal and maintaining cleanliness of the existing site and surrounding area is to be performed on a daily basis.

Mulch is to be applied to all disturbed areas that are not otherwise stabilized immediately if possible or within 14 days of completion of final grading. Additionally, mulch is to be applied to all disturbed areas that are not yet at final grade but will remain dormant or undisturbed for longer than 30 days. Mulch helps prevent erosion by protecting bare soil from rainfall impact, increasing infiltration, and reducing runoff.

When seasonally appropriate, seed is to be applied to all disturbed areas that are not otherwise stabilized immediately if possible or within 14 days of completion of final grading. Additionally, seed is to be applied to all undisturbed areas that are not yet at final grade but will remain dormant or undisturbed for longer than one year. When the season is inappropriate for seed application, surface roughening and mulch is to be applied within 14 days and seed is to be applied as soon as the appropriate seasonality commences.

6) POTENTIAL EROSION AND DISCHARGE

The SWMP calls for control measures to be implemented for initial, interim, and final phases of construction to ensure that erosion and sediment runoff is minimized and that there is no negative impact on downstream water quality. There is no anticipated discharge of pollutants from the site as long as the contractor implements control measures appropriately. Similarly, the developed conditions of a commercial store property and parking lot are not anticipated to have erosion issues following permanent stabilization and seeding.

Any contaminated soils are to be properly disposed of by the contractor immediately. Loading and unloading operations are to occur on-site and large vehicular mobilization will require traffic control measures. Any waste disposal is to be done off-site at the designation of the contractor

at a location approved by the County. Waste disposal, spill prevention, and response procedures are to be according to the Colorado Department of Public Health and Environment (CDPHE), Hazardous Materials and Waste Management Division. A CDPHE brochure is included in the Appendix for contractor reference. Appropriate spill prevention and response measures will be implemented on the site and provided by the Contractor. Spill prevention and response measures will be documented and given to the Qualified Stormwater Manager. The details and specifications referenced within this section provide general and specific guidelines for spill prevention and response measures relating to the various potential non-sediment pollution sources.

Only chemicals and materials necessary for the described construction activities may be stored on site, and then only in the smallest amounts reasonable and for the shortest time possible. Fueling and major preventative maintenance of vehicles and equipment may occur only on areas specifically stabilized for construction vehicle traffic. Appropriate procedures will be taken to limit the potential of stormwater pollution from spills and leaks. No significant maintenance of vehicles and equipment and no vehicle and equipment washing will be allowed on site.

Batch plants are not anticipated at this site. The contractor is responsible for the cleaning of trash on site and prevention of any loose trash leaving the site at all times during construction. A portable toilet is required on site.

The contractor is responsible for dust control at all times during construction. Sediment runoff is controlled by use of silt fencing on all downstream sides of the disturbance area within the lot and the contractor is to prevent sediment flow off-site at all times. End of day procedures include BMP inspection by the contractor and removal of any sediment.

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.

The contractor shall not track mud/dirt off-site and project site cleanup including sweeping and waste disposal is to occur at the end of each working day.

No groundwater and/or stormwater dewatering activities are proposed or expected for the proposed construction activities. If groundwater is discovered during construction, all work is to cease and the contractor shall contact the engineer and County to await instructions.

No significant waste generation is expected as a result of the proposed construction activities. Any major waste that is produced is to be disposed of properly and promptly.

Appropriate spill prevention and response measures will be implemented on the site. The details and specifications referenced above in this section provide general and specific guidelines for spill prevention and response measures relating to the various potential non-sediment pollution sources. There are no batch plants on site to address spill prevention and pollution controls for dedicated batch plants.

7) NON-STORMWATER DISCHARGE

There is no anticipated non-stormwater surface discharge to and from the site. There is no proposed impervious area and all runoff is according to historic drainage patterns via overland flow over pervious native vegetation and soils. There are no springs, irrigation, groundwater discharge or any other discharge covered by CDPHE Low Risk Guidance that is associated with this site.

8) RECEIVING WATERS

The ultimate receiving waters from the Site is the East Cherry Creek as this project falls within the East Cherry Creek Drainage Basin according to the El Paso County Drainage Basin Map. The East Cherry Creek water way is located approximately 2.5 miles east of the Site.

9) PERMANENT STABILIZATION

All drainage measures are to be implemented according to the engineering plan set. Final stabilization will include seeding of drilled seeding and hydro mulch to revegetate the landscape of the lot and improve the site drainage and aesthetics.

The site will be stabilized at final grades as indicated by the engineering plan set with compaction to the standards according to El Paso County Engineering Criteria Manual. All berms and embankments are to be implemented according to the engineering plan set in order to convey storm water according to the historic drainage patterns consistent with the drainage report. Final stabilization will include seeding of hydro seed and hydro mulch to revegetate the landscape of the lot and improve the site drainage.

According to the Stormwater Construction Permit, final stabilization is reached when all soil disturbing activities at the site have been completed, and uniform vegetative cover has been established with a density of at least 70 percent of pre-disturbance levels or equivalent permanent, physical erosion reduction methods have been employed. This vegetative cover is to be established within one year of completion of construction activities on all disturbed areas not otherwise stabilized. Unless otherwise indicated on a landscape plan, revegetation will be achieved through seedbed preparation, including but not necessarily limited to soil roughening, seeding, mulching, and irrigating when specified.

A visual inspection and aerial mapping of the site shows that the entire 35 acre site consists of meadow/pasture with native grasses. There is a dirt trail within an existing 16' width access easement and there is some fenceline within the property.

The outfall point of the site is along the east boundary where the existing topography has a grasslined swale that conveys runoff due east toward East Cherry Creek. There are no permanent structural control measures to be installed for this outfall as it is determined that it is stabilized with the native grasses.

The structural Construction control measures described in the Structural Erosion and Sediment Controls section are to remain in place until final stabilization in order to prevent erosion and pollution of stormwater by sediment after completion of construction activities. Construction control measures that must remain in place until final stabilization shall be removed following final stabilization and the resulting disturbed areas shall be seeded and mulched.

The limits of disturbance/construction of soil will be mitigated with silt fence. Vehicle tracking can be found at the entrance to the construction site on the north and south side of the site. Street maintenance and waste removal is to be done daily. An Erosion Control Plan depicting erosion control measures, soil disturbance and stock pile locations can be found in Appendix A.

10) OWNER INSPECTIONS AND MAINTENANCE OF CONSTRUCTION CONSTRUCTION CONTROL MEASURES

The contractor is to be familiar with all requirements of the erosion and sediment control plans and notes. The contractor shall protect the existing structures and reroute any runoff as necessary during construction activities to prevent erosion and damage. All exposed and unworked soils shall be stabilized by suitable application of best management practices such as vegetative cover, mulching, plastic covering or application of gravel surfaces in areas to be graveled. No exposed and unworked soils shall remain unstabilized. Once construction activity is completed, permanent seeding shall be installed. All temporary and permanent erosion and sediment control facilities shall be inspected, maintained, and repaired by the contractor as needed to assure continued performance of their intended use. All on-site erosion and control measures shall be inspected by the contractor at least once every seven days and within 24 hours of any storm event equal to or greater than 0.25" of rain per 24-hour period or snowmelt event that causes surface erosion. An inspection report file shall be maintained by the contractor and kept on site. The owner is responsible for inspection and maintenance of Construction control measures after final stabilization.

The Stormwater Construction Permit requires that a thorough inspection of the stormwater management system be performed and documented at least every 14 days and after any precipitation or snowmelt event that results in stormwater running across the ground according to CDPHE App. A Section C.6 (a).

The regular inspections of the site are to include observation of the construction site perimeter and all stormwater discharge points including culverts that may be downstream. Construction control measures applied within the site perimeter or around stormwater discharge points include inlet protection, site entrance vehicle tracking control, silt fence, sediment control logs, and temporary sediment basins. Specific inspection and maintenance requirements for each of these Construction control measures are included in the Appendix.

The regular inspections of the site will also include observation of all disturbed areas and all stabilized and revegetated areas. Inspection of these areas should be given special attention to

identify any potential erosion issues. Specifications for surface stabilization and revegetation are included in the Appendix and provide specific inspection and maintenance requirements.

The regular inspections of the site will also include observation of material storage areas including waste collection areas and topsoil stockpiles. Inspection of these areas require special attention for potential leaks and spills. The topsoil stockpile is to be inspected for any potential runoff.

All structural Construction control measures on the site are to be thoroughly examined during each inspection to determine if they still meet the design and operational criteria in the SWMP and that they continue to adequately control pollutants on the site as directed in the CDPHE App. A, Section C.6 (b). Following each inspection, repairs will be performed on Construction control measures that are found to no longer function as needed and designed, and preventative maintenance will be exercised on Construction control measures as needed to ensure continued operation. Construction control measures that have failed or have the potential to fail without maintenance or modifications will be addressed immediately to prevent the discharge of pollutants. When a BMP is found to be ineffective in preventing discharge of pollutants, even though the BMP is in good repair and is functioning as designed, that BMP will be modified or an alternative or additional BMP will be installed promptly. Inspection Logs are to be signed after every inspection.

An Inspection Log is to be maintained on site and include a record of all stormwater management system inspections along with all BMP maintenance and repair activities. All inspection, maintenance, and repair requirements for each BMP, as described in this SWMP and as outlined in the details, will be performed as specified and will be recorded in the Inspection Log. The Inspection Log will also include a description of any incidence of non-compliance, such as uncontrolled releases of pollutants including mud, muddy water or measurable quantities of sediment found off the site along with a description of measures to be taken to prevent future pollutive discharges. Records of any spills, leaks, or overflows of non-sediment potential pollutants, whether or not such a spill, leak, or overflow results in pollution of stormwater, will be included.

Following an inspection that does not reveal any incidents of non-compliance, or following the completion of measures taken to correct any non-compliance issues, A Certification indicating the site is in compliance will be signed and dated.

In addition to regularly maintaining an Inspection Log and Certification, this SWMP will be updated regularly to reflect the actual stormwater management system as implemented on the site.

This project does not rely on control measures owned or operated by another entity other than the owner or its representative.

11) SWMP REVISIONS AND RECORD KEEPING PROCEDURES

The contractor and/or qualified stormwater manager (QSM) (the General Contractor) shall keep a log of all BMP inspections as well as revisions during all construction phases. The QSM will be sufficiently qualified for the required duties per the ECM Appendix I.5. The records shall be kept at the job trailer or a designated location on site such as a foreman's vehicle, a specified on site lockbox, etc. This designated location is to be communicated to the County and Owner. The SWMP inspection and revisions records are to include the date, description, and the signature of the qualified stormwater manager for each respective inspection or revision. An appendix document of the logs that may be utilized for the project is provided.

The SWMP should be viewed as a living document that is continuously being reviewed and modified as a part of the overall process of evaluating and managing Stormwater quality issues at the site. The QSM shall amend the SWMP when there is a change in design, construction, operation or maintenance of the site which would require the implementation of new or revised Construction control measures or if the SWMP proves to be ineffective in achieving the general objectives of controlling pollutants in stormwater discharges associated with the construction activity or when Construction control measures are no longer necessary and are removed.

12) SUMMARY

This Stormwater Management Report effectively speaks to the construction phasing for the project and the required construction control measures to be installed for erosion and sediment control and stormwater management within and from the Site. The report corresponds to the Grading and Erosion Control Plan design sheet within this report and filed with the County for this project. The QSM shall adhere to the design layout of the GEC Plan and instructions/guidance within this report. The QSM is to adhere to County and State standards for stormwater management to ensure compliance with standards and statutes.

a) COMPLIANCE WITH STANDARDS

The criteria used to design the stormwater management and construction control measures layout are within the El Paso County Engineering Criteria Manual, the El Paso County Drainage Criteria Manual, the City of Colorado Springs Drainage Manuals (DCM) Volumes 1 and 2. Typical erosion and sediment control details as provided within the Appendix are from the El Paso County Drainage Criteria Manual, some of which are from the Mile High Flood District Manuals.

13) REFERENCES

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

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

City of Colorado Springs Drainage Manual Volumes I & II (May 2014, Revised January 2021)

Mile High Flood District Drainage Criteria Manual, Volume I (January 2016)

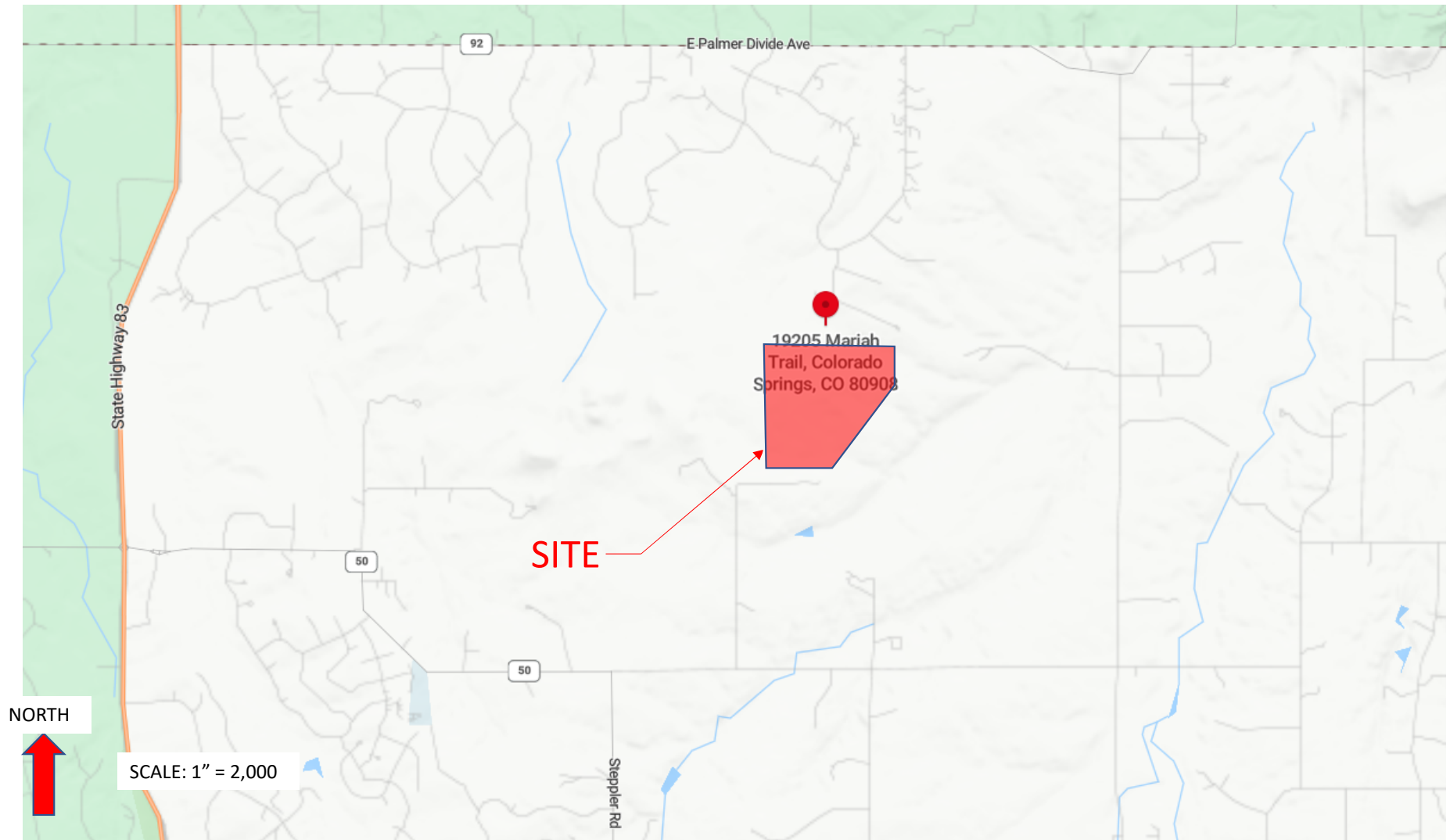
FEMA Flood Map Service Center

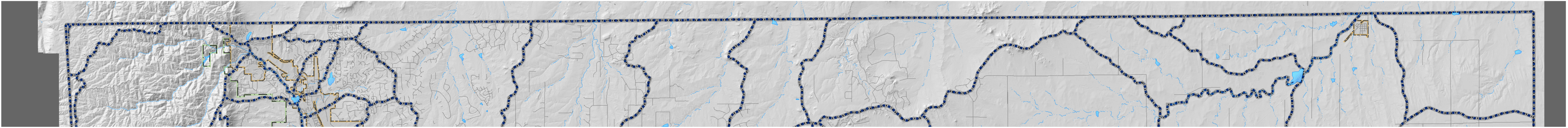
United States Department of Agriculture National Resources Conservation Service

Colorado Department of Public Health & Environment

Appendix A: Vicinity Map

**VICINITY MAP
MARIAH TRAIL FILING NO. 1
A PORTION OF THE NORTHWEST QUARTER OF
SECTION 7, TOWNSHIP 11 SOUTH, RANGE 65 WEST,
OF THE SIXTH PRINCIPAL MERIDIAN,
EL PASO COUNTY, COLORADO**





Appendix B: FEMA Floodplain Map

National Flood Hazard Layer FIRMette



104°43'24"W 39°7'8"N



0 250 500 1,000 1,500 2,000 Feet 1:6,000

Basemap: USGS National Map: Orthoimagery: Data refreshed October, 2020

Legend

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

SPECIAL FLOOD HAZARD AREAS		Without Base Flood Elevation (BFE) Zone A, V, A99
		With BFE or Depth Zone AE, AO, AH, VE, AR
		Regulatory Floodway
OTHER AREAS OF FLOOD HAZARD		0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile Zone X
		Future Conditions 1% Annual Chance Flood Hazard Zone X
		Area with Reduced Flood Risk due to Levee. See Notes. Zone X
		Area with Flood Risk due to Levee Zone D
OTHER AREAS		NO SCREEN Area of Minimal Flood Hazard Zone X
		Effective LOMRs
GENERAL STRUCTURES		Area of Undetermined Flood Hazard Zone D
		Channel, Culvert, or Storm Sewer
		Levee, Dike, or Floodwall
OTHER FEATURES		20.2 Cross Sections with 1% Annual Chance Water Surface Elevation
		17.5
		Coastal Transect
		Base Flood Elevation Line (BFE)
		Limit of Study
		Jurisdiction Boundary
		Coastal Transect Baseline
		Profile Baseline
		Hydrographic Feature
MAP PANELS		Digital Data Available
		No Digital Data Available
		Unmapped



The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location.

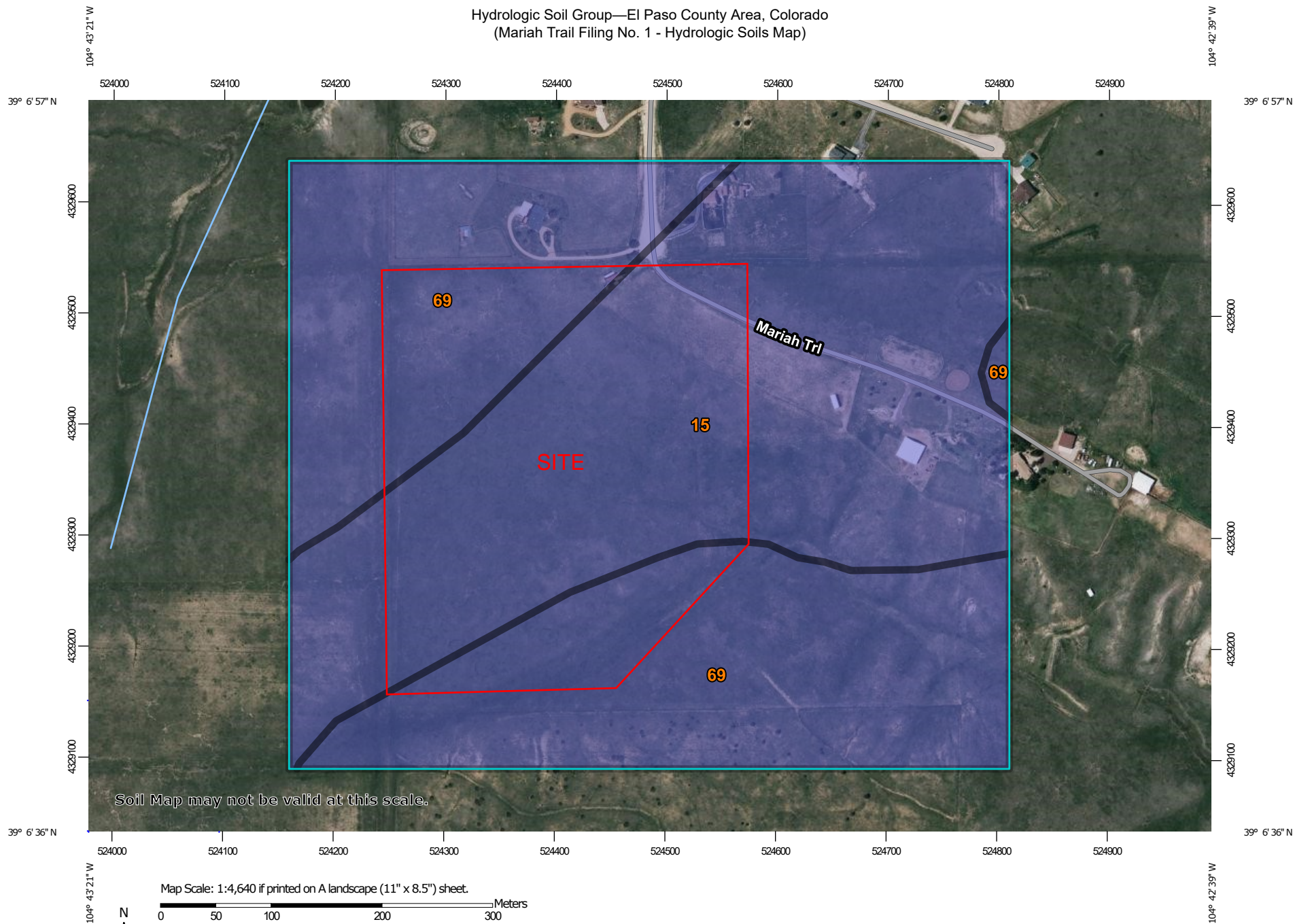
This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on **3/5/2023 at 10:49 AM** and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

This map image is void if the one or more of the following map elements do not appear: basemap imagery, flood zone labels, legend, scale bar, map creation date, community identifiers, FIRM panel number, and FIRM effective date. Map images for unmapped and unmodernized areas cannot be used for regulatory purposes.

Appendix C: NRCS Soils Map

Hydrologic Soil Group—El Paso County Area, Colorado (Mariah Trail Filing No. 1 - Hydrologic Soils Map)



Soil Map may not be valid at this scale.

Map Scale: 1:4,640 if printed on A landscape (11" x 8.5") sheet.

0 50 100 200 300 Meters

0 200 400 800 1200 Feet

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 13N WGS84



**Natural Resources
Conservation Service**

Web Soil Survey
National Cooperative Soil Survey

3/5/2023
Page 1 of 4

Hydrologic Soil Group—El Paso County Area, Colorado
(Mariah Trail Filing No. 1 - Hydrologic Soils Map)

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.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

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 20, Sep 2, 2022

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

Date(s) aerial images were photographed: Jun 9, 2021—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
15	Brussett loam, 3 to 5 percent slopes	B	44.8	50.6%
69	Peyton-Pring complex, 8 to 15 percent slopes	B	43.7	49.4%
Totals for Area of Interest			88.5	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

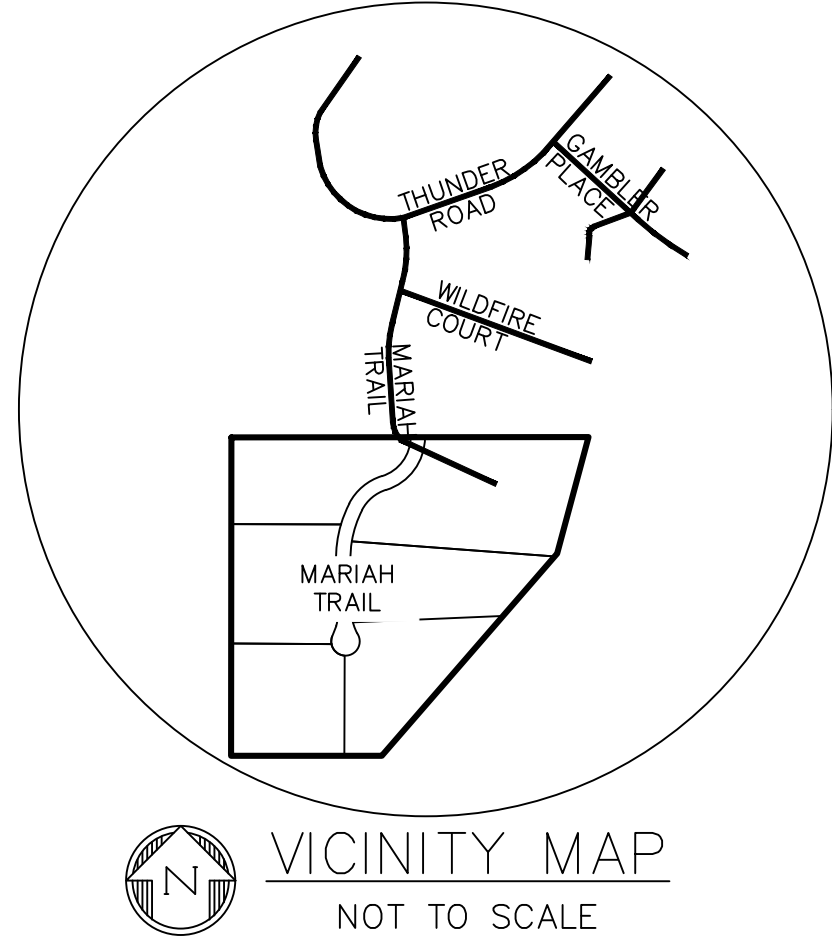
Aggregation Method: Dominant Condition

Component Percent Cutoff: None Specified

Tie-break Rule: Higher

Appendix D: Replat

A PORTION OF THE NORTHWEST QUARTER OF SECTION 7,
TOWNSHIP 11 SOUTH, RANGE 65 WEST, OF THE 6th PRINCIPAL MERIDIAN,
EL PASO COUNTY, COLORADO.



BY: _____ DEPUTY

PARK FEE: _____

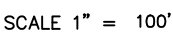
SCHOOL FEE: _____

BRIDGE FEE: _____

DRAINAGE FEE: _____

DATE OF PREPERATION: 02/21/23 PCD FILE NO.

A PORTION OF THE NORTHWEST QUARTER OF SECTION 7,
TOWNSHIP 11 SOUTH, RANGE 65 WEST, OF THE 6th PRINCIPAL MERIDIAN,
EL PASO COUNTY, COLORADO.



FINAL PLAT
OWNER: THOMAS D KIRK JR
19205 MARIAH TRAIL, CO.SPR. 80908

SHEET 1 OF

Appendix E: CDPHE Brochure

REPORTING CHEMICAL SPILLS AND RELEASES IN COLORADO

General

For all hazardous substance incidents, local emergency response agencies must be notified.

Releases from Fixed Facilities

The Superfund Amendments and Reauthorization Act (SARA) Title III, requires reporting releases from fixed facilities

Refer to the SARA Title III List of Lists, available from the Environmental Protection Agency (EPA), for the reportable quantity.

The party that owns the spilled material must immediately notify the following agencies or organizations:

- National Response Center (NRC) 1-800-424-8802;
- Colorado Emergency Planning Committee (CEPC), represented by the Colorado Department of Public Health and Environment (CDPHE) 1-877-518-5608; and
- Local Emergency Planning Committee (LEPC) 1-720-852-6600.

In addition to telephone notification, the responsible party must also send written notification describing the release and associated emergency response to both the CEPC (in this case, CDPHE) and the LEPC.

Releases from RCRA Facilities

Emergency releases from facilities permitted under the Resource Conservation and Recovery Act (RCRA) are reportable according to the permit requirements.

The permit often requires reporting to CDPHE, even if the amount of the release is less than a reportable quantity under SARA Title III (6 CCR 1007-3 Part 264).

Permitted facilities and large quantity generators (LQGs) of hazardous waste are required to have and implement a contingency plan that describes the actions facility personnel must take in response to fires, explosions or any unplanned sudden or non-sudden release of hazardous waste or hazardous waste constituents to air, soil, surface or ground water at the facility (6 CCR 1007-3 Sections 264.52/265.52).

Whenever there is an imminent or actual emergency situation, appropriate state or local agencies, with designated response roles as described in the contingency plan, must be notified immediately.

The National Response Center or government official designated as the regional on-scene coordinator must be notified immediately if it is determined that the facility has had a release, fire or explosion that could threaten human health or the environment outside the facility (6 CCR 1007-3 Sections 264.56/265.56).

CDPHE and local authorities must be notified when the facility is back in compliance and ready to resume operations. In addition, the facility must send a written report to CDPHE within 15 days of any incident that requires implementation of the contingency plan. The contingency plan should include current contact information for notification and submittal of written reports.

Permitted facilities and LQGs that store hazardous waste in tanks must notify CDPHE within 24 hours of any release to the environment that is greater than one (1) pound and must submit a written report to CDPHE within 30 days of the release (6 CCR 1007-3 Section 264.196 (d)/265.196(d)).

Transportation Accidents

Transportation accidents that require reporting:

- Result in a spill or release of a hazardous substance in excess of the reportable quantity (40 CFR Part 302.6)
- Cause injury or death or cause estimated property damage exceeding \$50,000.

- Cause an evacuation of the general public lasting one or more hours.

Those that close or shut down one or more major transportation arteries or facilities or result in fire, breakage, spillage, or suspected contamination from radioactive or infectious substances must immediately be reported to the National Response Center.

Refer to the EPA SARA Title III List of Lists for those substances that have reportable quantities.

In addition to the NRC being notified, the local emergency number (9-1-1) must be called and CDPHE should be notified.

Written notification of any transportation accident involving a release of hazardous materials must be provided to the U.S. Department of Transportation within 30 days (49 CFR Part 171.16)

Since hazardous waste is a subset of hazardous materials, transporters who have discharged hazardous waste must notify the NRC and provide a written report to the US Department of Transportation as noted in the above reporting requirements.

The transporter must give immediate notice to the nearest Colorado State Patrol office (8 CCR 1507-8 HMP 5) and the nearest law enforcement agency if the accident or spill involved a vehicle (42-20-113(3) CRS).

Notification and a written report detailing the ultimate disposition of the discharge of hazardous waste must also be provided to CDPHE (6 CCR 1007-2 Section 263.30). This may be a duplicate copy of the US Department of Transportation report

In the event of a spill or discharge of hazardous waste at a transfer facility, the transporter must notify CDPHE within 24 hours if the spill exceeds 55 gallons or if there is a fire or explosion.

Within 15 days of a reportable incident, the transporter must submit a written report of the incident to CDPHE, including the final disposition of the material (6 CCR 1007-2 Section 263.40).

Releases of hazardous waste at a transfer facility may also require notification to the National Response Center and a written report to the U.S. Department of Transportation.

Releases to Water

A release of any chemical, oil, petroleum product, sewage, etc., which may enter waters of the State of Colorado (which include surface water, ground water and dry gullies or storm sewers leading to surface water) must be reported to CDPHE immediately (25-8-601 CRS).

Written notification to CDPHE must follow within five (5) days (5 CCR 1002-61, Section 61.8(5)(d)).

Any accidental discharge to the sanitary sewer system must be reported immediately to the local sewer authority and the affected wastewater treatment plant.

Releases of petroleum products and certain hazardous substances listed under the Federal Clean Water Act (40 CFR Part 116) must be reported to the National Response Center as well as to CDPHE (1-877-518-5608) as required under the Clean Water Act and the Oil Pollution Act.

Releases to Air

Any unpredictable failure of air pollution control or process equipment that results in the violation of emission control regulations should be reported CDPHE by 10 a.m. of the following working day, followed by a written notice explaining the cause of the occurrence and describing action that has been or is being taken to correct the condition causing the violation and to prevent such excess emissions in the future (5 CCR 1001-2 Common Provisions Regulations Section II.E).

If emergency conditions cause excess emissions at a permitted facility, the owner/operator must provide notice to CDPHE no later than noon of the next working day following the emergency, and follow by written notice within one month of the time when emission limitations were exceeded due to the emergency (5 CCR 1001-5, Regulation 3 Part C, Section VII.C.4).

Releases from Oil and Gas Wells

All spills and releases of exploration and production wastes or produced fluids which meet the reporting thresholds of the Colorado Oil and Gas Conservation Commission (COGCC) Rule 906 shall be reported verbally to the COGCC within 24 hours of discovery and on the COGCC Spill/Release Report Form 19 within 72 hours of discovery.

Spills are reportable to the COGCC in the following circumstances:

- 1) the spill or release impacts or threatens to impact any waters of the state, a residence or occupied structure, livestock or a public byway;
- 2) a spill or release in which 1 barrel or more is released outside of berms or other secondary containment; or
- 3) any spill or release of 5 barrels or more. If the spill impacts or threatens to impact waters of the state (which include surface water, ground water and dry gullies or storm sewers leading to surface water), it must also be reported immediately to CDPHE (25-8-601 CRS).

COGCC also requires reportable spills be reported to the surface owner and local government. Whether or not they are reportable, spills or releases of any size must be cleaned up as soon as practicable.

Releases from Storage Tanks

Petroleum releases of 25 gallons or more (or that cause a sheen on nearby surface waters) from regulated aboveground and underground fuel storage tanks must be reported to the State Oil Inspector within 24 hours (after-hours contact CDPHE Emergency and Incident Reporting Line). This includes spills from fuel pumps.

Spills or releases of hazardous substances from regulated storage tanks in excess of the reportable quantity (40 CFR Part 302.6) must be reported to the National Response Center and the local fire authority

immediately, and to the State Oil Inspector within 24 hours. (8-20.5-208 CRS and 7 CCR 1101-14 Article 4).

Owners/operators of regulated storage tanks must contain and immediately clean up a spill or overfill of less than 25 gallons of petroleum and a spill or overfill of a hazardous substance that is less than the reportable quantity.

If cleanup cannot be accomplished within 24 hours, the State Inspector of Oils must be notified immediately (7 CCR 1101-14 Article 4-4).

CDPHE should also be notified in the case of hazardous substance releases as cleanup activities may be covered by state solid or hazardous waste requirements (6 CCR 1007-2, 6 CCR 1007-3).

Any release that has or may impact waters of the state (which include surface water, ground water and dry gullies or storm sewers leading to surface water), no matter how small, must be reported immediately to CDPHE (25-8-601 CRS).

Releases from Pipelines

Releases of five or more gallons of hazardous liquids or carbon dioxide from a pipeline that result in explosion or fire, cause injury or death or cause estimated property damage (including cost of clean-up and recovery, value of lost product and property damage) exceeding \$50,000 must be reported immediately to the US Department of Transportation Office of Pipeline Safety (49 CFR Part 195 Subpart B) and the National Response Center.

Releases of five or more gallons of hazardous liquids or carbon dioxide from interstate pipelines that do not involve explosion or fire, injury or death or property damage exceeding \$50,000 should be reported to the US Department of Transportation Office of Pipeline Safety within 30 days after the incident.

Releases of natural gas from intrastate pipelines that cause injury or death, property damage in excess of \$50,000 (including the cost of lost product), closure of a public road, or evacuation of 50 or more people must be reported immediately to the Colorado Public Utilities Commission, Pipeline Safety Group (4 CCR 723-11-2).

Releases of natural gas or liquefied natural gas (LNG) from interstate pipelines that cause injury or death,

property damage in excess of \$50,000 (including the cost of lost product), or results in an emergency shutdown of the facility must be reported immediately to the National Response Center and the US Dept of Transportation Office of Pipeline Safety.

Releases of oil, petroleum products or other hazardous liquids from interstate and intrastate pipelines that have or may enter waters of the State of Colorado (which include surface water, ground water and dry gullies or storm sewers leading to surface water) must be reported to CDPHE immediately (25-8-601 CRS). CDPHE should also be notified of releases to soil bas cleanup activities may be covered by state solid or hazardous waste requirements (6 CCR 1007-2, 6 CCR 1007-3).

Radiological Accidents, Incidents, and Events

CDPHE must be notified of any condition that has caused or threatens to cause an event, which meets or exceeds the criteria specified in (6 CCR 1007-1) RH 4.51 and RH 4.52 of the State of Colorado *Rules and Regulations Pertaining to Radiation Control*. Reportable events include lost radioactive materials, lost radiation producing machines, over-exposures to persons, contamination events and fires or explosions involving radioactive materials.

Depending upon the severity of the event, notification may be required immediately, within 24 hours, or within 30 days. In most cases, a written follow-up report is also required.

If you are unsure of the proper notification requirement, please contact CDPHE immediately. During normal business hours, the Laboratory and Radiation Services Division is available to receive telephone notifications at (303) 692-3300. After hours contact the CDPHE Emergency and Incident Reporting Line **1-877- 518-5608**.

NOTIFICATION NUMBERS

Colorado Department of Public Health and Environment toll-free 24-hour environmental emergency and incident reporting line: **(877) 518-5608 (24-hour)**

National Response Center
(800) 424-8802 (24-hour)

State Oil Inspector (Colorado Division of Oil & Public Safety-Above & Underground Storage Tank Regulators)
(303) 318-8547



Colorado Department of Public Health and Environment

**Office of Emergency
Preparedness & Response**

Environmental Spill Reporting

**24– Hour Emergency and
Incident Reporting Line
1-877-518-5608**

Updated February 2017

Appendix F: SWMP Inspection Log

STORMWATER MANAGEMENT PLAN INSPECTION AND REVISIONS LOG

Project Name: IMariah Trail Filing No. 1

EPC Project #: PPR23-XXXX

Qualified Stormwater Manager: Daryn Stroup - Wayne Anthony Custom Homes

[illegible]

Appendix G: GEC Plan

STANDARD NOTES FOR EL PASO COUNTY GRADING AND EROSION CONTROL PLANS

- STORMWATER DISCHARGES FROM CONSTRUCTION SITES SHALL NOT CAUSE OR THREATEN TO CAUSE POLLUTION, CONTAMINATION, OR DEGRADATION OF STATE WATERS. ALL WORK AND EARTH DISTURBANCE SHALL BE DONE IN A MANNER THAT MINIMIZES POLLUTION OF ANY ON-SITE OR OFF-SITE WATERS, INCLUDING WETLANDS.
- NOTWITHSTANDING ANYTHING DEPICTED IN THESE PLANS IN WORDS OR GRAPHIC REPRESENTATION, ALL DESIGN AND CONSTRUCTION RELATED TO ROADS, STORM DRAINAGE AND EROSION CONTROL SHALL CONFORM TO THE STANDARDS AND REQUIREMENTS OF THE MOST RECENT VERSION OF THE RELEVANT ADOPTED EL PASO COUNTY STANDARDS, INCLUDING THE LAND DEVELOPMENT CODE, THE ENGINEERING CRITERIA MANUAL, THE DRAINAGE CRITERIA MANUAL, AND THE DRAINAGE CRITERIA MANUAL VOLUME 2. ANY DEVIATIONS FROM REGULATIONS AND STANDARDS MUST BE REQUESTED, AND APPROVED, IN WRITING.
- A SEPARATE STORMWATER MANAGEMENT PLAN (SWMP) FOR THIS PROJECT SHALL BE COMPLETED AND AN EROSION AND STORMWATER QUALITY CONTROL PERMIT (ESQCP) ISSUED PRIOR TO COMMENCING CONSTRUCTION. MANAGEMENT OF THE SWMP DURING CONSTRUCTION IS THE RESPONSIBILITY OF THE DESIGNATED QUALIFIED STORMWATER MANAGER OR CERTIFIED EROSION CONTROL INSPECTOR. THE SWMP SHALL BE LOCATED ON-SITE AT ALL TIMES DURING CONSTRUCTION AND SHALL BE KEPT UP TO DATE WITH WORK PROGRESS AND CHANGES IN THE FIELD.
- ONCE THE ESQCP IS APPROVED AND A "NOTICE TO PROCEED" HAS BEEN ISSUED, THE CONTRACTOR MAY INSTALL THE INITIAL STAGE EROSION AND SEDIMENT CONTROL MEASURES AS INDICATED ON THE APPROVED GEC. A PRECONSTRUCTION MEETING BETWEEN THE CONTRACTOR, ENGINEER, AND EL PASO COUNTY WILL BE HELD PRIOR TO ANY CONSTRUCTION. IT IS THE RESPONSIBILITY OF THE APPLICANT TO COORDINATE THE MEETING TIME AND PLACE WITH COUNTY STAFF.
- CONTROL MEASURES MUST BE INSTALLED PRIOR TO COMMENCEMENT OF ACTIVITIES THAT COULD CONTRIBUTE POLLUTANTS TO STORMWATER. CONTROL MEASURES FOR ALL SLOPES, CHANNELS, DITCHES, AND DISTURBED LAND AREAS SHALL BE INSTALLED IMMEDIATELY UPON COMPLETION OF THE DISTURBANCE.
- ALL TEMPORARY SEDIMENT AND EROSION CONTROL MEASURES SHALL BE MAINTAINED AND REMAIN IN EFFECTIVE OPERATING CONDITION UNTIL PERMANENT SOIL EROSION CONTROL MEASURES ARE IMPLEMENTED AND FINAL STABILIZATION IS ESTABLISHED. ALL PERSONS ENGAGED IN LAND DISTURBANCE ACTIVITIES SHALL ASSESS THE ADEQUACY OF CONTROL MEASURES AT THE SITE AND IDENTIFY IF CHANGES TO THOSE CONTROL MEASURES ARE NEEDED TO ENSURE THE CONTINUED EFFECTIVE PERFORMANCE OF THE CONTROL MEASURES. ALL CHANGES TO TEMPORARY SEDIMENT AND EROSION CONTROL MEASURES MUST BE INCORPORATED INTO THE STORMWATER MANAGEMENT PLAN.
- TEMPORARY STABILIZATION SHALL BE IMPLEMENTED ON DISTURBED AREAS AND STOCKPILES WHERE GROUND DISTURBING CONSTRUCTION ACTIVITY HAS PERMANENTLY CEASED OR TEMPORARILY CEASED FOR LONGER THAN 14 DAYS.
- FINAL STABILIZATION MUST BE IMPLEMENTED AT ALL APPLICABLE CONSTRUCTION SITES. FINAL STABILIZATION IS ACHIEVED WHEN ALL GROUND DISTURBING ACTIVITIES ARE COMPLETE AND ALL DISTURBED AREAS EITHER HAVE A UNIFORM VEGETATIVE COVER WITH INDIVIDUAL PLANT DENSITY OF 70 PERCENT OF PRE-DISTURBANCE LEVELS ESTABLISHED OR EQUIVALENT PERMANENT ALTERNATIVE STABILIZATION METHOD IS IMPLEMENTED. ALL TEMPORARY SEDIMENT AND EROSION CONTROL MEASURES SHALL BE REMOVED UPON FINAL STABILIZATION AND BEFORE PERMIT CLOSURE.
- ALL PERMANENT STORMWATER MANAGEMENT FACILITIES SHALL BE INSTALLED AS DESIGNED IN THE APPROVED plans. ANY PROPOSED CHANGES THAT EFFECT THE DESIGN OR FUNCTION OF PERMANENT STORMWATER MANAGEMENT STRUCTURES MUST BE APPROVED BY THE ECM ADMINISTRATOR PRIOR TO IMPLEMENTATION.
- EARTH DISTURBANCES SHALL BE CONDUCTED IN SUCH A MANNER SO AS TO EFFECTIVELY MINIMIZE ACCELERATED SOIL EROSION AND RESULTING SEDIMENTATION. ALL DISTURBANCES SHALL BE DESIGNED, CONSTRUCTED, AND COMPLETED SO THAT THE EXPOSED AREA OF ANY DISTURBED LAND SHALL BE LIMITED TO THE SHORTEST PRACTICAL PERIOD OF TIME. PRE-EXISTING VEGETATION SHALL BE PROTECTED AND MAINTAINED WITHIN 50 HORIZONTAL FEET OF A WATERS OF THE STATE UNLESS SHOWN TO BE INFEASIBLE AND SPECIFICALLY REQUESTED AND APPROVED.
- COMPACTION OF SOIL MUST BE PREVENTED IN AREAS DESIGNATED FOR INFILTRATION CONTROL MEASURES OR WHERE FINAL STABILIZATION WILL BE ACHIEVED BY VEGETATIVE COVER. AREAS DESIGNATED FOR INFILTRATION CONTROL MEASURES SHALL ALSO BE PROTECTED FROM SEDIMENTATION DURING CONSTRUCTION UNTIL FINAL STABILIZATION IS ACHIEVED. IF COMPACTION PREVENTION IS NOT FEASIBLE DUE TO SITE CONSTRAINTS, ALL AREAS DESIGNATED FOR INFILTRATION AND VEGETATION CONTROL MEASURES MUST BE LOADED PRIOR TO INSTALLATION OF THE CONTROL MEASURES.
- ANY TEMPORARY OR PERMANENT FACILITY DESIGNED AND CONSTRUCTED FOR THE CONVEYANCE OF STORMWATER AROUND, THROUGH, OR FROM THE EARTH DISTURBANCE AREA SHALL BE A STABILIZED CONVEYANCE DESIGNED TO MINIMIZE EROSION AND THE DISCHARGE OF SEDIMENT OFF-SITE.
- CONCRETE WASHOUTS SHALL BE CONTAINED AND DISPOSED OF IN ACCORDANCE WITH THE SWMP. NO WASH WATER SHALL BE DISCHARGED TO OR ALLOWED TO ENTER STATE WATERS, INCLUDING ANY SURFACE OR SUBSURFACE STORM DRAINAGE SYSTEM OR FACILITIES. CONCRETE WASHOUTS SHALL NOT BE LOCATED IN AN AREA WHERE SHALLOW GROUNDWATER MAY BE PRESENT, OR WITHIN 50 FEET OF A SURFACE WATER BODY, CREEK OR STREAM.
- DURING DEWATERING OPERATIONS, UNCONTAMINATED GROUNDWATER MAY BE DISCHARGED ON-SITE, BUT SHALL NOT LEAVE THE SITE IN THE FORM OF SURFACE RUNOFF UNLESS AN APPROVED STATE DEWATERING PERMIT IS IN PLACE.
- EROSION CONTROL, BLANKETING OR OTHER PROTECTIVE COVERING SHALL BE USED ON SLOPES STEEPER THAN 3:1.
- CONTRACTOR SHALL BE RESPONSIBLE FOR THE REMOVAL OF ALL WASTES FROM THE CONSTRUCTION SITE FOR DISPOSAL. IN ACCORDANCE WITH LOCAL AND STATE REGULATORY REQUIREMENTS, NO CONSTRUCTION DEBRIS, TREE SLASH, BUILDING MATERIAL WASTES OR UNUSED BUILDING MATERIALS SHALL BE BURIED, DUMPED, OR DISCHARGED AT THE SITE.
- WASTE MATERIALS SHALL NOT BE TEMPORARILY PLACED OR STORED IN THE STREET, ALLEY, OR OTHER PUBLIC WAY, UNLESS IN ACCORDANCE WITH AN APPROVED TRAFFIC CONTROL PLAN. CONTROL MEASURES MAY BE REQUIRED BY EL PASO COUNTY ENGINEERING IF DEEMED NECESSARY, BASED ON SPECIFIC CONDITIONS AND CIRCUMSTANCES.
- TRACKING OF SOILS AND CONSTRUCTION DEBRIS OFF-SITE SHALL BE MINIMIZED. MATERIALS TRACKED OFF-SITE SHALL BE CLEANED UP AND PROPERLY DISPOSED OF IMMEDIATELY.
- THE OWNER/DEVELOPER SHALL BE RESPONSIBLE FOR THE REMOVAL OF ALL CONSTRUCTION DEBRIS, DIRT, TRASH, ROCK, SEDIMENT, SOIL, AND SAND THAT MAY ACCUMULATE IN ROADS, STORM DRAINS AND OTHER DRAINAGE CONVEYANCE SYSTEMS AND STORMWATER APPEARANCES AS A RESULT OF SITE DEVELOPMENT.
- THE QUANTITY OF MATERIALS STORED ON THE PROJECT SITE SHALL BE LIMITED, AS MUCH AS PRACTICAL, TO THAT QUANTITY REQUIRED TO PERFORM THE WORK IN AN ORDERLY SEQUENCE. ALL MATERIALS STORED ON-SITE SHALL BE STORED IN A NEAT, ORDERLY MANNER, IN THEIR ORIGINAL CONTAINERS, WITH ORIGINAL MANUFACTURER'S LABELS.
- NO CHEMICAL(S) HAVING THE POTENTIAL TO BE RELEASED IN STORMWATER ARE TO BE STORED OR USED ON-SITE UNLESS PERMISSION FOR THE USE OF SUCH CHEMICAL(S) IS GRANTED IN WRITING BY THE ECM ADMINISTRATOR. IN GRANTING APPROVAL FOR THE USE OF SUCH CHEMICAL(S), SPECIAL CONDITIONS AND MONITORING MAY BE REQUIRED.
- BULK STORAGE OF ALLOWED PETROLEUM PRODUCTS OR OTHER ALLOWED LIQUID CHEMICALS IN EXCESS OF 55 GALLONS SHALL REQUIRE ADEQUATE SECONDARY CONTAMINANT PROTECTION TO CONTAIN ALL SPILLS ON-SITE AND TO PREVENT ANY SPILLED MATERIALS FROM ENTERING STATE WATERS, ANY SURFACE OR SUBSURFACE STORM DRAINAGE SYSTEM OR OTHER FACILITIES.
- NO PERSON SHALL CAUSE THE IMPEDIMENT OF STORMWATER FLOW IN THE CURB AND GUTTER OR DITCH EXCEPT WITH APPROVED SEDIMENT CONTROL MEASURES.
- OWNER/DEVELOPER AND THEIR AGENTS SHALL COMPLY WITH THE "COLORADO WATER QUALITY CONTROL ACT" (TITLE 25, ARTICLE 6, CRS), AND THE "CLEAN WATER ACT" (33 USC 1344), IN ADDITION TO THE REQUIREMENTS OF THE LAND DEVELOPMENT CODE, DCM APPENDIX I AND THE ECM APPENDIX I. ALL APPROPRIATE PERMITS MUST BE OBTAINED BY THE CONTRACTOR PRIOR TO CONSTRUCTION (1041, NPDES, FLOODPLAIN, 404, FUGITIVE DUST, ETC.). IN THE EVENT OF CONFLICTS BETWEEN THESE REQUIREMENTS AND OTHER LAWS, RULES, OR REGULATIONS OF OTHER FEDERAL, STATE, LOCAL, OR COUNTY AGENCIES, THE MOST RESTRICTIVE LAWS, RULES, OR REGULATIONS SHALL APPLY.
- ALL CONSTRUCTION TRAFFIC MUST ENTER/EXIT THE SITE ONLY AT APPROVED CONSTRUCTION ACCESS POINTS.
- PRIOR TO CONSTRUCTION THE PERMITTEE SHALL VERIFY THE LOCATION OF EXISTING UTILITIES.
- A WATER SOURCE SHALL BE AVAILABLE ON-SITE DURING EARTHWORK OPERATIONS AND SHALL BE UTILIZED AS REQUIRED TO MINIMIZE DUST FROM EARTHWORK EQUIPMENT AND WIND.
- THE SOILS REPORT FOR THIS SITE HAS BEEN PREPARED BY **WVIO ENGINEERING GROUP, INC.**, DATED **MARCH 2023** AND SHALL BE CONSIDERED A PART OF THESE PLANS.
- AT LEAST TEN (10) DAYS PRIOR TO THE ANTICIPATED START OF CONSTRUCTION, FOR PROJECTS THAT WILL DISTURB ONE (1) ACRE OR MORE, THE OWNER OR OPERATOR OF CONSTRUCTION ACTIVITY SHALL SUBMIT A PERMIT APPLICATION FOR STORMWATER DISCHARGE TO THE COLORADO DEPARTMENT OF PUBLIC HEALTH AND ENVIRONMENT, WATER QUALITY DIVISION. THE APPLICATION CONTAINS CERTIFICATION OF COMPLETION OF A STORMWATER MANAGEMENT PLAN (SWMP), OF WHICH THIS GRADING AND EROSION CONTROL PLAN MAY BE A PART. FOR INFORMATION OR APPLICATION MATERIALS CONTACT:
COLORADO DEPARTMENT OF PUBLIC HEALTH AND ENVIRONMENT WATER QUALITY CONTROL DIVISION
WQCD - PERMITS
4300 CHERRY CREEK DRIVE SOUTH DENVER, CO 80246-1530
ATTN: PERMITS UNIT

LEGEND

PROPERTY BOUNDARY LINE
EXISTING CONTOURS
PROPOSED CONTOURS
DRAINAGE FLOW ARROWS

CUT
(1.12 AC, 4,108 CY)

FILL
(1.58 AC, 3,851 CY)

GRADING AND EROSION CONTROL LEGEND

LOD LIMITS OF CONSTRUCTION (LIMITS OF DISTURBANCE)

VTC VEHICLE TRACKING CONTROL

SP STOCK PILE AREA

SSA STABILIZED STAGING AREA

SM SEEDING AND MULCHING

CD CHECK DAM

SCL SEDIMENT CONTROL LOG

TRM TURF REINFORCEMENT MAT

SF SILT FENCE

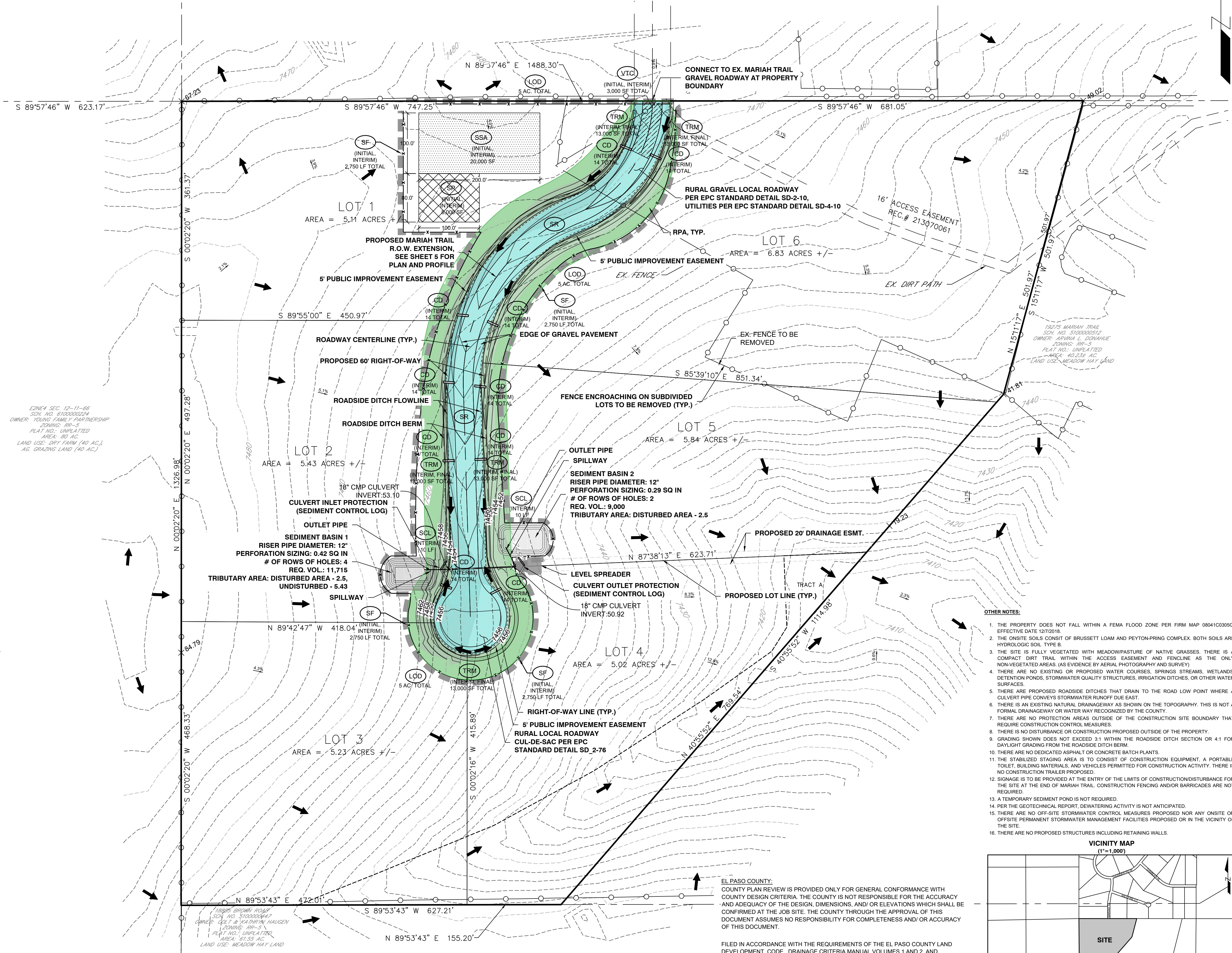
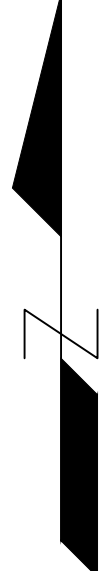
SR SURFACE ROUGHENING

GRADING AND EROSION CONTROL PLAN

MARIAH TRAIL FILING NO. 1

A PORTION OF THE NORTHWEST QUARTER OF SECTION 7,
TOWNSHIP 11 SOUTH, RANGE 65 WEST OF THE 6TH PRINCIPAL MERIDIAN,
PASO COUNTY, COLORADO.

80 0 80 160
(IN FEET)
1 inch = 80 ft.



OTHER NOTES:

- THE PROPERTY DOES NOT FALL WITHIN A FEMA FLOOD ZONE PER FIRM MAP 08041C0305G, EFFECTIVE DATE 12/7/2018.
- THE ON-SITE SOILS CONSIST OF BRUSSETT LOAM AND PEYTON-PRING COMPLEX. BOTH SOILS ARE HYDROLOGIC SOIL TYPE B.
- THE SITE IS FULLY VEGETATED WITH MEADOW/PASTURE OF NATIVE GRASSES. THERE IS A COMPACT DIRT TRAIL WITHIN THE ACCESS EASEMENT AND FENCELINE AS THE ONLY NON-VEGETATED AREAS. (AS EVIDENCE BY AERIAL PHOTOGRAPHY AND SURVEY)
- THERE ARE NO EXISTING OR PROPOSED WATER COURSES, SPRINGS, STREAMS, WETLANDS, DETENTION PONDS, STORMWATER QUALITY STRUCTURES, IRRIGATION DITCHES, OR OTHER WATER SURFACES.
- THERE ARE PROPOSED ROADSIDE DITCHES THAT DRAIN TO THE ROAD LOW POINT WHERE A CULVERT PIPE CONVEYS STORMWATER RUNOFF DUE EAST.
- THERE IS AN EXISTING NATURAL DRAINAGEWAY AS SHOWN ON THE TOPOGRAPHY. THIS IS NOT A FORMAL DRAINAGEWAY OR WATER WAY RECOGNIZED BY THE COUNTY.
- THERE ARE NO PROTECTION AREAS OUTSIDE OF THE CONSTRUCTION SITE BOUNDARY THAT REQUIRE CONSTRUCTION CONTROL MEASURES.
- THERE IS NO DISTURBANCE OR CONSTRUCTION PROPOSED OUTSIDE OF THE PROPERTY.
- GRADING SHOWN DOES NOT EXCEED 3:1 WITHIN THE ROADSIDE DITCH SECTION OR 4:1 FOR DAYLIGHT GRADING FROM THE ROADSIDE DITCH BERM.
- THERE ARE NO DEDICATED ASPHALT OR CONCRETE BATCH PLANTS.
- THE STABILIZED STAGING AREA IS TO CONSIST OF CONSTRUCTION EQUIPMENT, A PORTABLE TOILET, BUILDING MATERIALS, AND VEHICLES PERMITTED FOR CONSTRUCTION ACTIVITY. THERE IS NO CONSTRUCTION TRAILER PROPOSED.
- SONAGE IS TO BE PROVIDED AT THE ENTRY OF THE LIMITS OF CONSTRUCTION/DISTURBANCE FOR THE SITE AT THE END OF MARIAH TRAIL. CONSTRUCTION FENCING AND/OR BARRICADES ARE NOT REQUIRED.
- A TEMPORARY SEDIMENT POND IS NOT REQUIRED.
- PER THE GEOTECHNICAL REPORT, DEWATERING ACTIVITY IS NOT ANTICIPATED.
- THERE ARE NO OFF-SITE STORMWATER CONTROL MEASURES PROPOSED NOR ANY ON-SITE OR OFF-SITE PERMANENT STORMWATER MANAGEMENT FACILITIES PROPOSED OR IN THE VICINITY OF THE SITE.
- THERE ARE NO PROPOSED STRUCTURES INCLUDING RETAINING WALLS.

VICINITY MAP

(1"=1,000')



EL PASO COUNTY:
COUNTY PLAN REVIEW IS PROVIDED ONLY FOR GENERAL CONFORMANCE WITH
COUNTY DESIGN CRITERIA. THE COUNTY IS NOT RESPONSIBLE FOR THE ACCURACY
AND ADEQUACY OF THE DESIGN, DIMENSIONS, AND/OR ELEVATIONS WHICH SHALL BE
CONFIRMED AT THE JOB SITE. THE COUNTY THROUGH THE APPROVAL OF THIS
DOCUMENT ASSUMES NO RESPONSIBILITY FOR COMPLETENESS AND/OR ACCURACY
OF THIS DOCUMENT.

FILED IN ACCORDANCE WITH THE REQUIREMENTS OF THE EL PASO COUNTY LAND
DEVELOPMENT CODE, DRAINAGE CRITERIA MANUAL VOLUMES 1 AND 2, AND
ENGINEERING CRITERIA MANUAL, AS AMENDED.

IN ACCORDANCE WITH ECM SECTION 1.12, THESE CONSTRUCTION DOCUMENTS WILL BE
VALID FOR CONSTRUCTION FOR A PERIOD OF 2 YEARS FROM THE DATE SIGNED BY THE
EL PASO COUNTY ENGINEER. IF CONSTRUCTION HAS NOT STARTED WITHIN THOSE 2
YEARS, THE PLANS WILL NEED TO BE RESUBMITTED FOR APPROVAL, INCLUDING
PAYMENT OF REVIEW FEES AT THE PLANNING AND COMMUNITY DEVELOPMENT
DIRECTOR'S DISCRETION.

ENGINEER'S STATEMENT (FOR STANDALONE GEC PLAN):

THIS GRADING AND EROSION CONTROL 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 FOR GRADING AND EROSION CONTROL PLANS. I ACCEPT RESPONSIBILITY FOR
ANY LIABILITY CAUSED BY ANY NEGLIGENT ACTS, ERRORS OR OMISSIONS ON MY PART
IN PREPARING THIS PLAN.

OWNER'S STATEMENT (FOR STANDALONE GEC PLAN):

I, THE OWNER/DEVELOPER HAVE READ AND WILL COMPLY WITH THE REQUIREMENTS OF
THE GRADING AND EROSION CONTROL PLAN.

OWNER SIGNATURE (THOMAS KIRK, JR.)

DATE

ENGINEER OF RECORD SIGNATURE (CARLOS SERRANO, PE)

DATE

COUNTY ENGINEER/ECM ADMINISTRATOR

DATE

PCD FIL. NO.: SF-2315

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PROJECT NAME:

MARIAH TRAIL
FILING NO. 1

PROJECT LOCATION:

LOTS 1-6, MARIAH TRAIL
SUBDIVISION
FILING NO. 1
EL PASO COUNTY, COLORADO

CLIENT:

MR. THOMAS KIRK

CONTACT INFO:

THOMAS KIRK
19205 MARIAH TRAIL
COLORADO SPRINGS, CO
80908-1123

PROFESSIONAL SEAL:

DATE:	DESCRIPTION:
05/01/23	SUBMITTAL 1
08/04/23	SUBMITTAL 2

JOB # 100678

DRAWN BY:	CDS
REVIEWED BY:	CDS
PROJ. MNGR.:	CDS

PLAN SET:

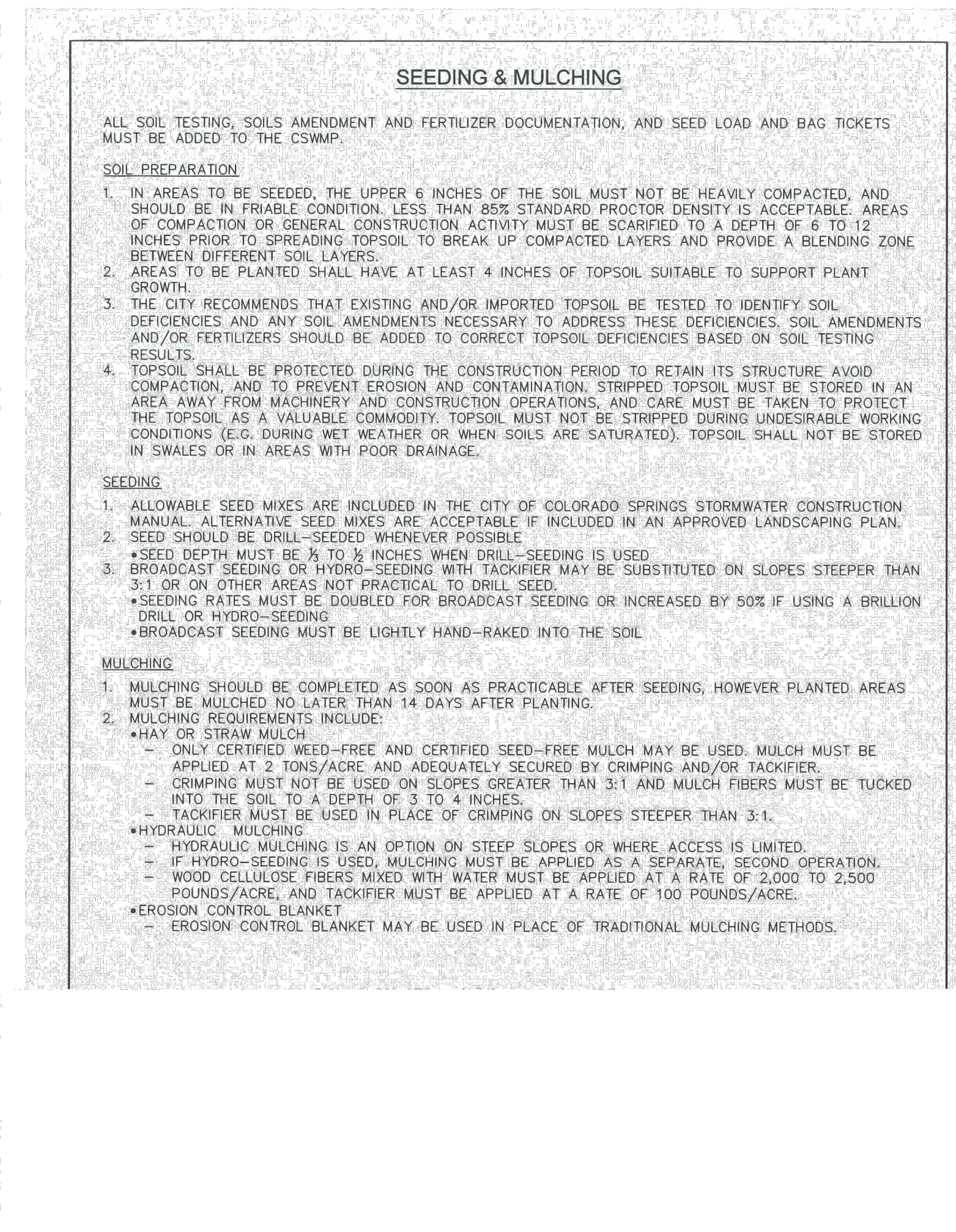
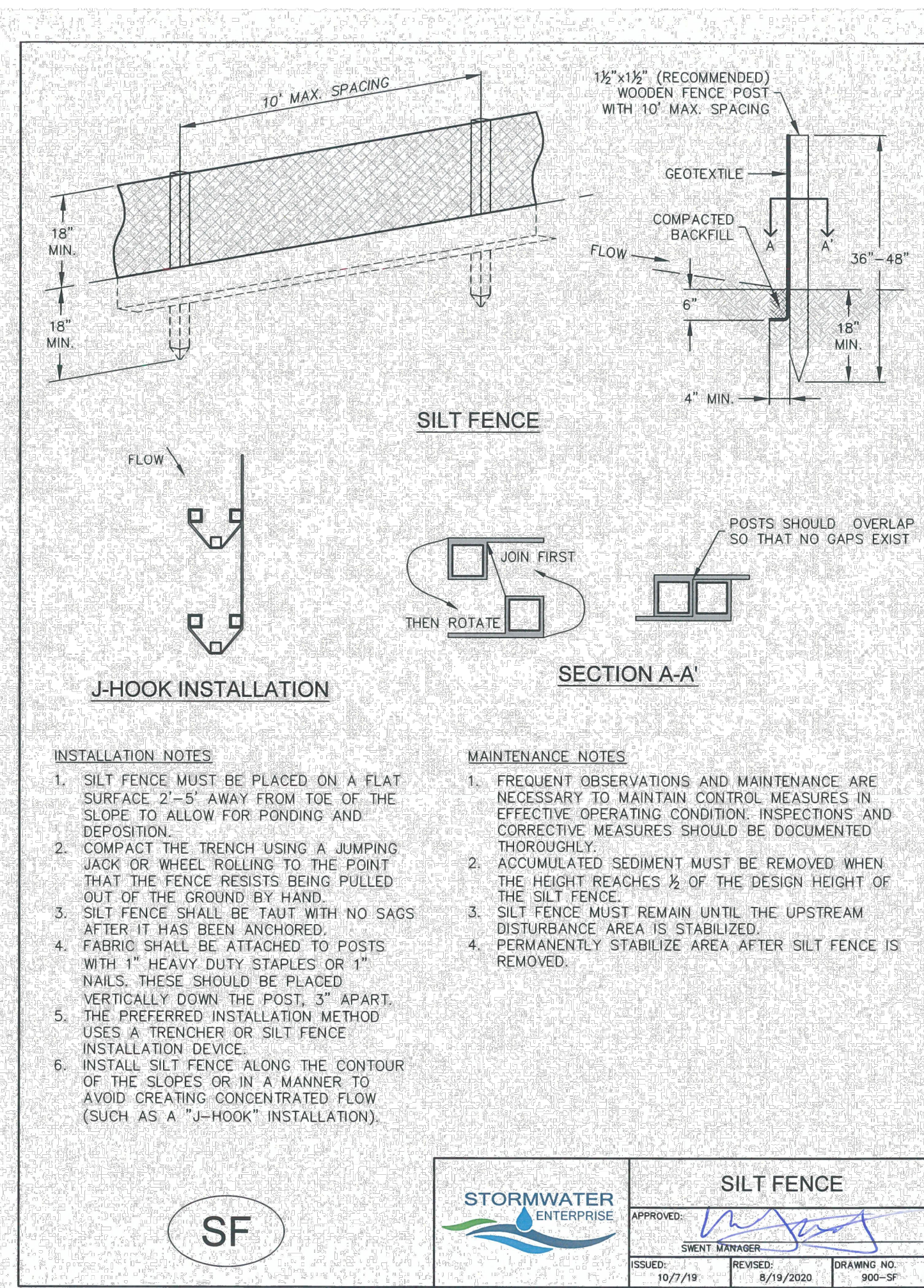
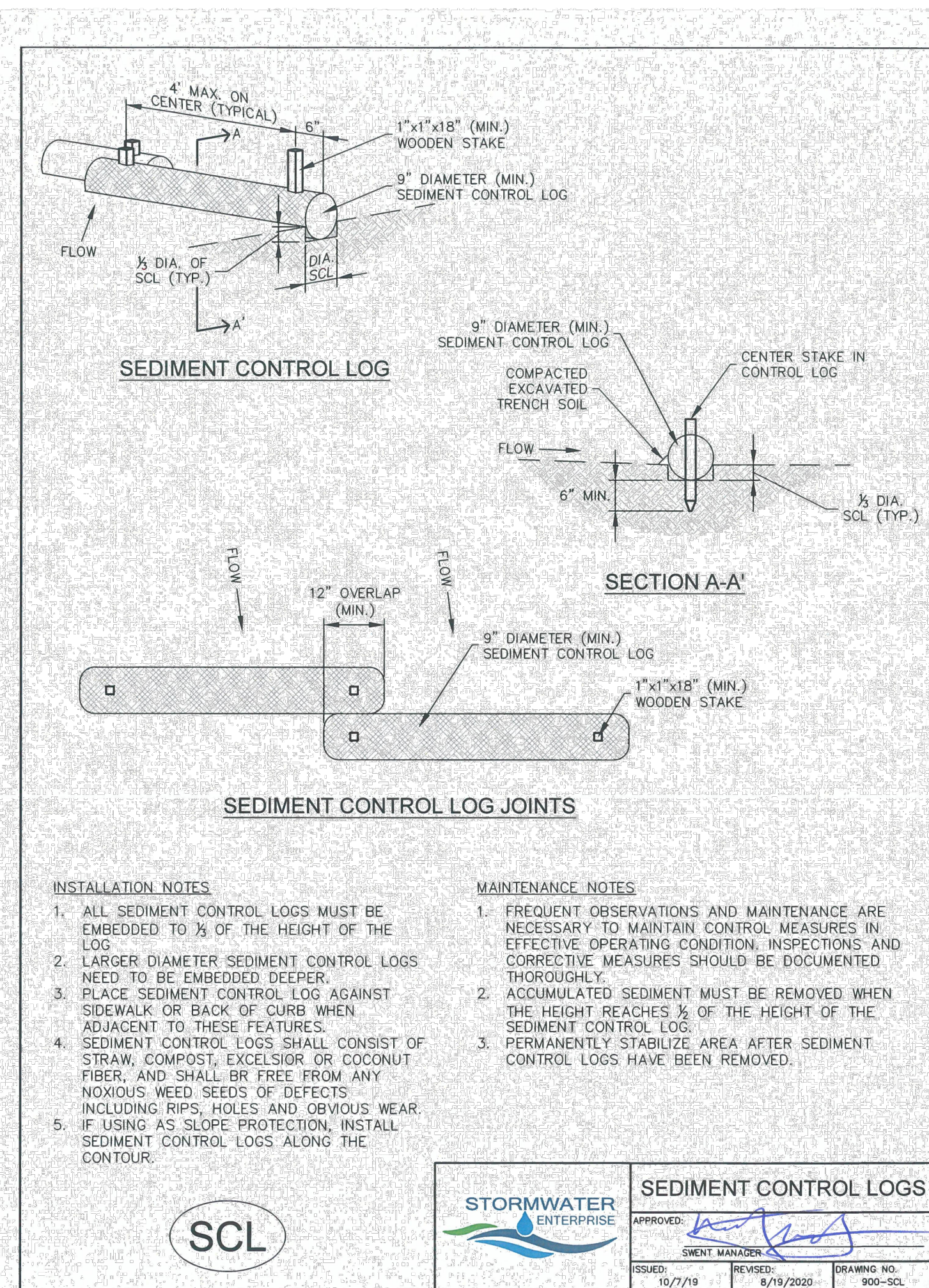
MAJOR SUBDIVISION
CONSTRUCTION DRAWINGS

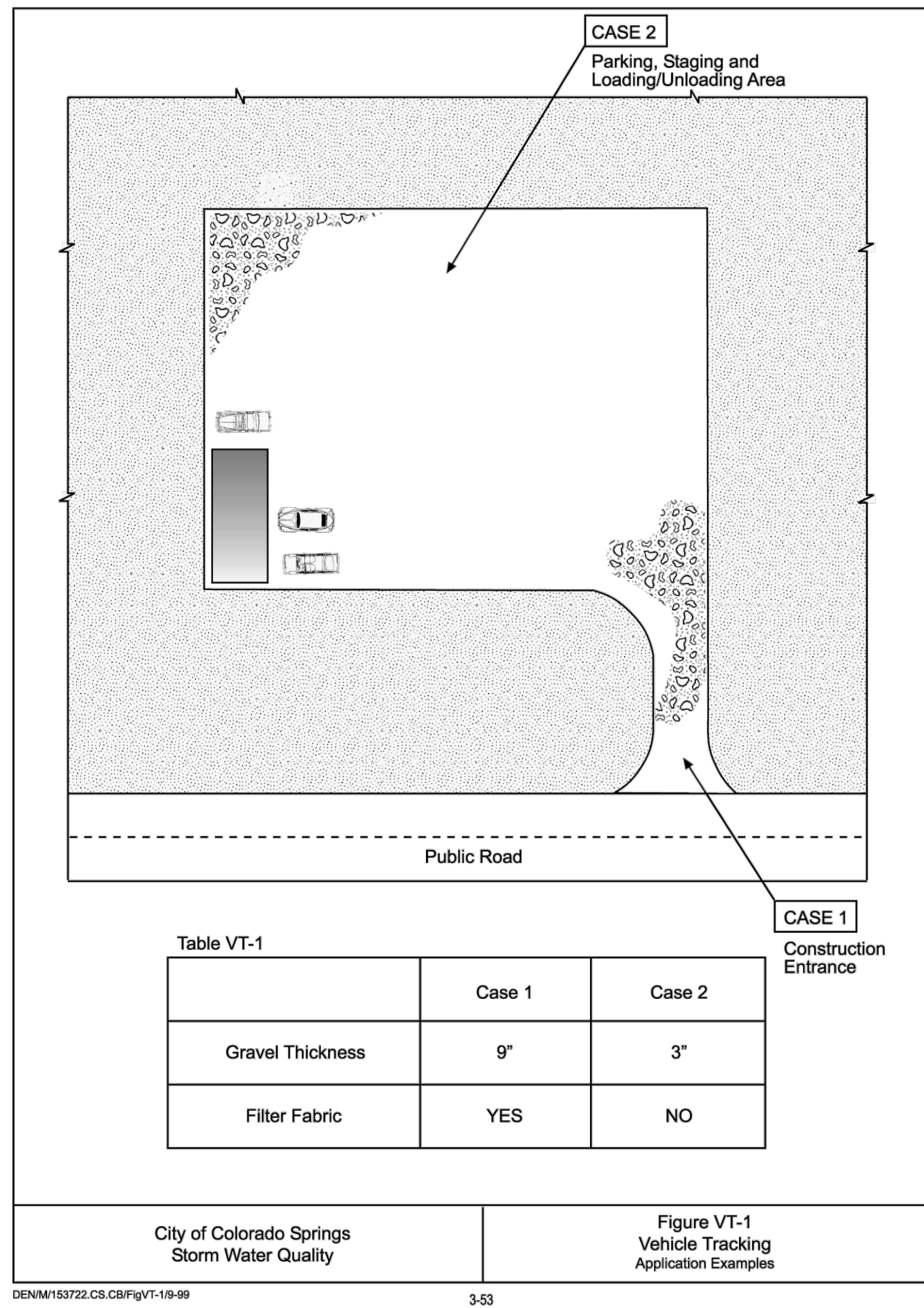
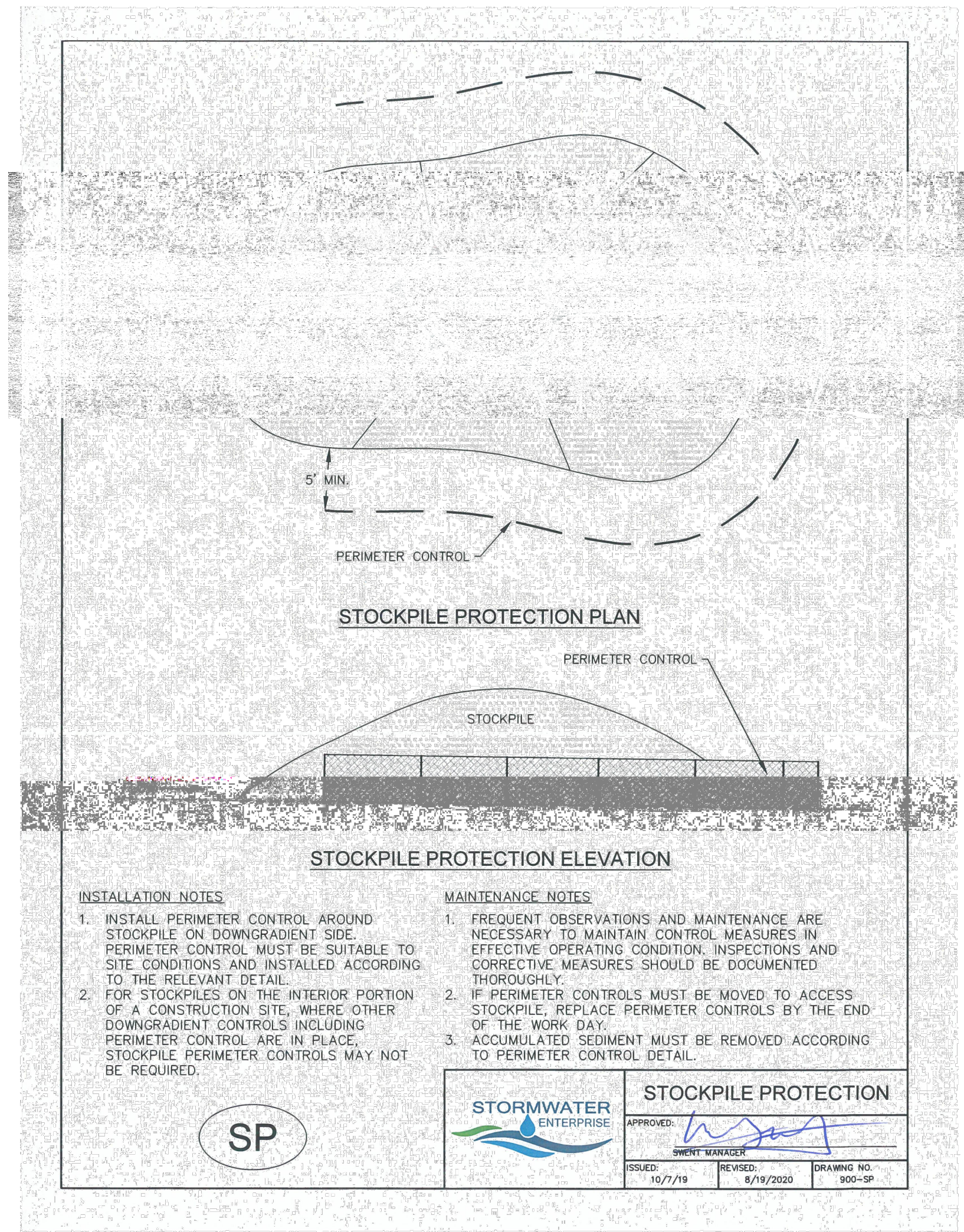
SHEET TITLE:

GRADING AND EROSION CONTROL
PLAN

SHEET NO.:

GEC-1



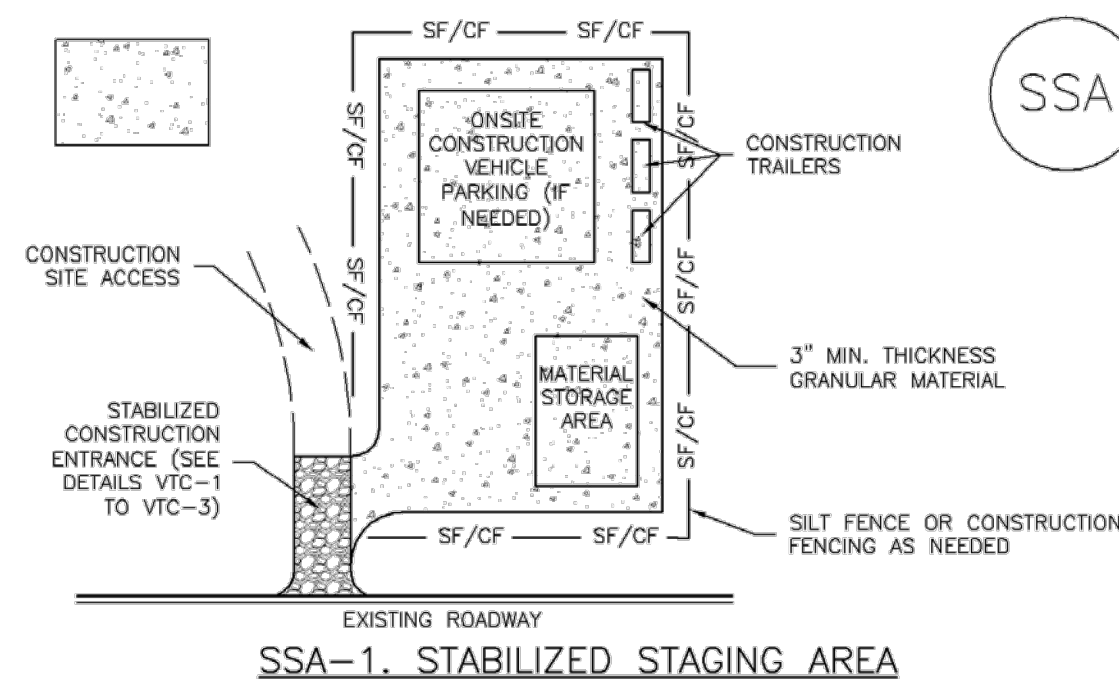


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3-53

Stabilized Staging Area (SSA)

SM-6



STABILIZED STAGING AREA INSTALLATION NOTES

1. SEE PLAN VIEW FOR
-LOCATION OF STAGING AREA(S).
-CONTRACTOR MAY ADJUST LOCATION AND SIZE OF STAGING AREA WITH APPROVAL FROM THE LOCAL JURISDICTION.
2. STABILIZED STAGING AREA SHOULD BE APPROPRIATE FOR THE NEEDS OF THE SITE. OVERSIZING RESULTS IN A LARGER AREA TO STABILIZE FOLLOWING CONSTRUCTION.
3. STAGING AREA SHALL BE STABILIZED PRIOR TO OTHER OPERATIONS ON THE SITE.
4. THE STABILIZED STAGING AREA SHALL CONSIST OF A MINIMUM 3" THICK GRANULAR MATERIAL.
5. UNLESS OTHERWISE SPECIFIED BY LOCAL JURISDICTION, ROCK SHALL CONSIST OF DOT SECT. #703, AASHTO #3 COARSE AGGREGATE OR 6" (MINUS) ROCK.
6. ADDITIONAL PERIMETER BMPs MAY BE REQUIRED INCLUDING BUT NOT LIMITED TO SILT FENCE AND CONSTRUCTION FENCING.

STABILIZED STAGING AREA MAINTENANCE NOTES

1. INSPECT BMPs EACH WORKDAY, AND MAINTAIN THEM IN EFFECTIVE OPERATING CONDITION. MAINTENANCE OF BMPs SHOULD BE PROACTIVE, NOT REACTIVE. INSPECT BMPs AS SOON AS POSSIBLE (AND ALWAYS WITHIN 24 HOURS) FOLLOWING A STORM THAT CAUSES SURFACE EROSION, AND PERFORM NECESSARY MAINTENANCE.
2. FREQUENT OBSERVATIONS AND MAINTENANCE ARE NECESSARY TO MAINTAIN BMPs IN EFFECTIVE OPERATING CONDITION. INSPECTIONS AND CORRECTIVE MEASURES SHOULD BE DOCUMENTED THOROUGHLY.
3. WHERE BMPs HAVE FAILED, REPAIR OR REPLACEMENT SHOULD BE INITIATED UPON DISCOVERY OF THE FAILURE.
4. ROCK SHALL BE REAPPLIED OR REGRADED AS NECESSARY IF RUTTING OCCURS OR UNDERLYING SUBGRADE BECOMES EXPOSED.

November 2010 Urban Drainage and Flood Control District
Urban Storm Drainage Criteria Manual Volume 3

SSA-3

SM-6

Stabilized Staging Area (SSA)

STABILIZED STAGING AREA MAINTENANCE NOTES

5. STABILIZED STAGING AREA SHALL BE ENLARGED IF NECESSARY TO CONTAIN PARKING, STORAGE, AND UNLOADING/LOADING OPERATIONS.

6. THE STABILIZED STAGING AREA SHALL BE REMOVED AT THE END OF CONSTRUCTION. THE GRANULAR MATERIAL SHALL BE REMOVED OR, IF APPROVED BY THE LOCAL JURISDICTION, USED ON SITE, AND THE AREA COVERED WITH TOPSOIL, SEEDED AND MULCHED OR OTHERWISE STABILIZED IN A MANNER APPROVED BY LOCAL JURISDICTION.

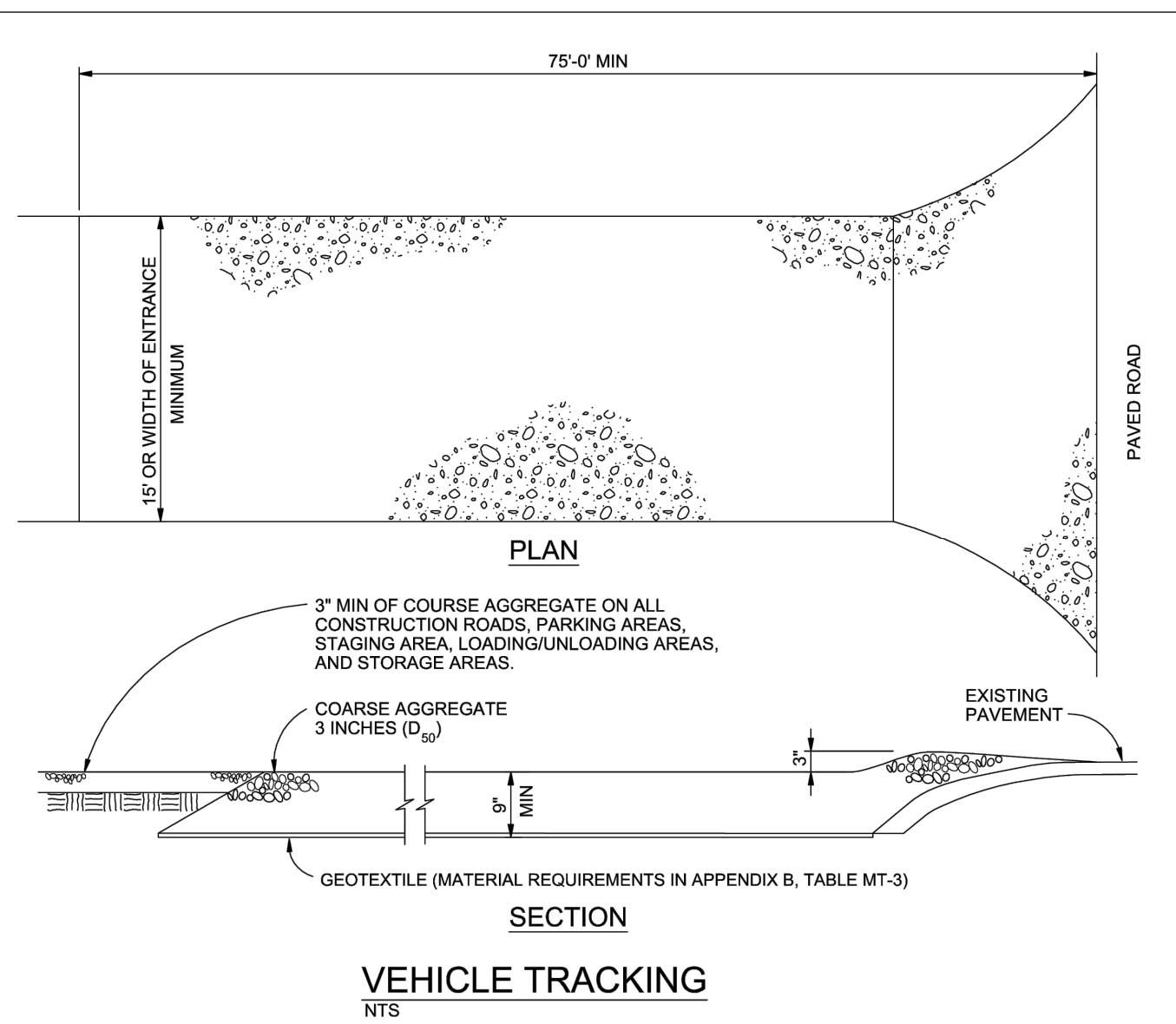
NOTE: MANY MUNICIPALITIES PROHIBIT THE USE OF RECYCLED CONCRETE AS GRANULAR MATERIAL FOR STABILIZED STAGING AREAS DUE TO DIFFICULTIES WITH RE-ESTABLISHMENT OF VEGETATION IN AREAS WHERE RECYCLED CONCRETE WAS PLACED.

NOTE: MANY JURISDICTIONS HAVE BMP DETAILS THAT VARY FROM UDFCD STANDARD DETAILS. CONSULT WITH LOCAL JURISDICTIONS AS TO WHICH DETAIL SHOULD BE USED WHEN DIFFERENCES ARE NOTED.

(DETAILS ADAPTED FROM DOUGLAS COUNTY, COLORADO, NOT AVAILABLE IN AUTOCAD)

SSA-4 Urban Drainage and Flood Control District
Urban Storm Drainage Criteria Manual Volume 3

November 2010



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SEDIMENT BASIN 1 - POND A INITIAL PHASE									
SEDIMENT BASIN STAGE-STORAGE CALCULATIONS									
Elevation	Area	Area	Volume	Volume	Cumm Vol	Cumm Vol	Proration	Proration	Elev.
S.F.	Acres	Acres	Cu. Ft.	Acres-Ft	Cu. Ft.	Acres-Ft	Enter Vol. in Cu-Ft*	Enter Vol. in Acres-Ft*	ft.
7455.0	1675								
7456.0	2212		1,937		1,937	0.044			
7457.0	2806		2,503		4,441	0.102			
7458.0	3457		3,126		7,566	0.174	5,858	0.134	7,457.55
7459.0	4164		3,805		11,371	0.261	11,715	0.269	7,459.08
7460.0	4164		4,164		15,535	0.357			

COLUMN 1
ORIFICE 1-1
ORIFICE 2-1
ORIFICE 3-1
ORIFICE 4-1

CENTROID EL.
7,457.55
7,457.88
7,458.21
7,458.54

SEDIMENT BASIN 1 - POND A INITIAL PHASE									
SEDIMENT BASIN STAGE-STORAGE CALCULATIONS									
Elevation	Area	Area	Volume	Volume	Cumm Vol	Cumm Vol	Proration	Proration	Elev.
S.F.	Acres	Acres	Cu. Ft.	Acres-Ft	Cu. Ft.	Acres-Ft	Enter Vol. in Cu-Ft*	Enter Vol. in Acres-Ft*	ft.
7455.0	1675								
7456.0	2212		1,937		1,937	0.044			
7457.0	2806		2,503		4,441	0.102			
7458.0	3457		3,126		7,566	0.174	5,858	0.134	7,457.55
7459.0	4164		3,805		11,371	0.261	11,715	0.269	7,459.08
7460.0	4164		4,164		15,535	0.357			

SEDIMENT VOLUME CALCULATIONS			
Disturbed area-acres	2,500	Acres	
Undisturbed area-acres	0,000	Acres	
Total Area-acres	2,500	Acres	
Sediment volume	11,715	cu-ft	0.2699 Acres-ft
Volume below lowest hole	5,858	cu-ft	0.1345 Acres-ft
Volume above lowest hole	5,858	cu-ft	0.1345 Acres-ft
Total Volume	11,715	cu-ft	0.2699 Acres-ft

Note: Enter values in highlighted cells only.

SEDIMENT BASIN 2 - POND B INITIAL PHASE									
SEDIMENT BASIN STAGE-STORAGE CALCULATIONS									
Elevation	Area	Area	Volume	Volume	Cumm Vol	Cumm Vol	Proration	Proration	Elev.
S.F.	Acres	Acres	Cu. Ft.	Acres-Ft	Cu. Ft.	Acres-Ft	Enter Vol. in Cu-Ft*	Enter Vol. in Acres-Ft*	Cu-Ft
7451.0	2212								
7452.0	2806		2,503		2,503	0.057	4,500		7,452.64
7453.0	3457		3,126		5,629	0.129	4,500		7,452.70
7454.0	4164		3,805		9,434	0.217			

COLUMN 1
ORIFICE 1-1
ORIFICE 2-1

CENTROID EL.
7,452.64
7,452.97

SEDIMENT BASIN 2 - POND B INITIAL PHASE									
SEDIMENT BASIN STAGE-STORAGE CALCULATIONS									
Elevation	Area	Area	Volume	Volume	Cumm Vol	Cumm Vol	Proration	Proration	Elev.
S.F.	Acres	Acres	Cu. Ft.	Acres-Ft	Cu. Ft.	Acres-Ft	Enter Vol. in Cu-Ft*	Enter Vol. in Acres-Ft*	Cu-Ft
7451.0	2212								
7452.0	2806		2,503		2,503	0.057	4,500		7,452.64
7453.0	3457		3,126		5,629	0.129	4,500		7,452.70
7454.0	4164		3,805		9,434	0.217			

SEDIMENT VOLUME CALCULATIONS			
Disturbed area-acres	2,500	Acres	
Undisturbed area-acres	0,000	Acres	
Total Area-acres	2,500	Acres	
Sediment volume	9,000	cu-ft	0.2066 Acres-ft
Volume below lowest hole	4,500	cu-ft	0.1033 Acres-ft
Volume above lowest hole	4,500	cu-ft	0.1033 Acres-ft
Total Volume	9,000	cu-ft	0.2066 Acres-ft

Note: Enter values in highlighted cells only.

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Email: info@localxperts.com
Hahamos Espanol

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THOMAS KIRK
19205 MARIAH TRAIL
COLORADO SPRINGS, CO
80908-1123

PROFESSIONAL SEAL:

DATE: DESCRIPTION:

05/01/23 SUBMITTAL 1
08/04/23 SUBMITTAL 2

JOB #: 100678

DRAWN BY: CDS
REVIEWED BY: CDS
PROJ. MNGR.: CDS

PLAN SET:

MAJOR SUBDIVISION
CONSTRUCTION DRAWINGS

SHEET TITLE:

GRADING AND EROSION CONTROL
DETAILS

SHEET NO.:

GEC-3

PCD FIL. NO.: SF-2315