CONTACT INFORMATION:

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Engineer:	Brett Louk, P.E. SMH Consultants 620 N. Tejon Street Suite 201 Colorado Springs, CO 80903 (719) 465-2145
Qualified Stormwater Manager:	
Contractor:	

SWMP Preparation Date: October 2024

Estimated Project Dates Start of Construction: November 2024

End of Construction: April 2025



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1.0 SITE DESCRIPTION

The site is located in the SW and SE ¼ of Section 8, Township 14 South, Range 65 West in El Paso County, State of Colorado. The subject site is approximately 7.6 acres in size and is zoned I-2 CAD-O (light industrial, airport overlay). The site is bordered by Air Lane to the east, State Highways 24 and 94 to the north, and industrial and commercial properties to the west and south. The surrounding properties are zoned CS, I-2 and I-3. All adjacent properties are also in the airport overlay district. Proposed improvements to the site include enlarging the existing asphalt millings parking lot and the addition of two new modular units for office space.

The subject property lies within the Peterson Field Drainage Basin, which was studied in 1985 by URS/NES. The site currently consists of existing asphalt millings parking lot, sand/gravel areas, a modular office unit, and two shipping containers used as storage. Existing vegetation on the site consists of native grasses and a few trees. The subject property lies within the Peterson Field Drainage Basin. Existing runoff travels south offsite towards Peterson Field Detention Ponds #1 and #2, and would then be discharged to Fountain Creek. Proposed runoff generated from the site improvements will now be detained by the proposed sand filter basin located in the southwest corner of the property. No outlet structures are proposed, as runoff will be fully infiltrated into the subsurface within the sand filter basin. The primary soil on the site is *Blakeland Loamy Sand*, which is classified as Hydrologic Soil Group A.

2.0 CONSTRUCTION ACTIVITIES

Construction activities for the proposed project include installation of BMPs, construction of the proposed trailer buildings, parking lot, widening of the existing entrance driveway, and construction of the sand filter basin.

3.0 PHASING PLAN

The project is not planned to be constructed in phases; therefore, no phasing plan has been provided.

4.0 CONSTRUCTION SEQUENCING

Construction activities for this project include installation of the proposed office trailers, parking lot improvements, and construction of the sand filter basin. Ultimately, construction sequencing will be dependent on the contractor selected and their schedule. The selected contractor shall provide their construction sequencing schedule and attach it to the appendix of this report. Typical construction sequencing for a project similar to this is described below.

- 1) Install initial/perimeter BMPs (Fall 2024) Initial Phase
- 2) Clearing and grubbing (Fall 2024) Initial Phase
- 3) Building, parking lot, and utility services (Fall 2024) Interim Phase
- 4) Installation of temporary erosion control BMPs (i.e. temporary seeding, erosion control blankets, etc.) (Fall 2024) Interim Phase



5) Final Stabilization (Spring 2025) – Final Phase

The anticipated start of construction is Fall 2024, with final stabilization by Spring 2025. This schedule could vary depending on weather and contractor availability.

5.0 DISTURBED AREA

The existing site is 7.6 acres in size. Total site disturbance is anticipated to be 1.62 acres. The total volume of earthwork cut/fill operation is expected to be approximately 1,988 CY. The selected contractor is responsible for updating this SWMP, during construction, with disturbed area changes.

6.0 SOIL PROPERTIES

Based on information obtained from the Natural Resources Conservation Service (NRCS) Web Soil Survey (WSS) website, the site is made up of Blakeland Loamy Sand soils. These soils range in slope from 1% to 9% and are classified as hydrologic soils group A. Group A soils include soils that have a high infiltration rate (low runoff potential), consist of mainly deep, well-drained soil, and have a high rate of water transmission.

7.0 EXISTING COVER

The existing site is currently 81% covered in native vegetation based on satellite imagery and a topographic survey created for the site. Existing slopes range from 1% to 6%.

8.0 POTENTIAL POLLUTION SOURCES

The following list of potential pollutants, which may reasonably be expected to affect the quality of stormwater discharges associated with construction activity, may be present onsite during construction:

- Disturbed and stored soils;
- Vehicle tracking of sediments;
- Management of contaminated soils, if known to be present, or if contaminated soils are found during construction;
- Loading and unloading operations;
- Outdoor storage activities (erodible building materials, fertilizers, chemical, etc.);
- Vehicle and equipment maintenance and fueling;
- Significant dust or particulate generating processes (e.g., saw cutting material, including dust);
- Routine maintenance activities involving fertilizers, pesticides, herbicides, detergents, fuels, solvents, oils, etc.;
- Onsite waste management practices (waste piles, liquid wastes, dumpsters);
- Concrete truck/equipment washing, including washing of the concrete truck chute and associated fixtures and equipment;
- Dedicated asphalt, concrete batch plants and masonry mixing stations;



• Non-industrial waste sources such as worker trash and portable toilets;

Refer to the Grading & Erosion Control Plan/SWMP Map located in the appendix of this report for locations and descriptions.

9.0 MATERIAL HANDLING AND SPILL PREVENTION AND RESPONSE PLAN

The following handling procedures may be implemented as control measures at the site to minimize impacts from handling significant materials that could contribute pollutants to runoff. These handling procedures can include control measures for pollutants and activities such as, exposed storage of building materials, paints and solvents, landscape materials, fertilizers or chemicals, sanitary waste material, trash and equipment maintenance or fueling procedures, and etc.

- Waste Disposal: All waste materials will be collected and stored in a securely lidded
 metal dumpster rented from a local waste hauler. The dumpster will meet all local and
 state solid waste management regulations. All waste and construction debris from the
 site will be deposited in the dumpster. The dumpster will be emptied on a periodical
 basis. No construction waste materials will be buried onsite.
- Sanitary Waste: Portable toilets shall be located on site in a location determined by the contractor. All sanitary waste will be collected from portable units on a frequent, periodical basis by a licensed sanitary waste management contractor.
- Concrete Waste from Concrete Trucks: Excess concrete and concrete wash water shall be returned to the concrete plant or deposited at a designated containment area onsite. The containment area shall be constructed in a manner that prevents runoff from entering the street, storm water drainage systems, or waterways. Wash water may not be deposited in streets, curbs, gutters, storm drains, or waterways.
- Hazardous Substances and Hazardous Waste: All hazardous waste materials will be
 disposed of in the manner specified by local and state regulation or by the
 manufacturer. The contractor's site personnel will be instructed in these practices and
 the contractor's site manager will be responsible for seeing that these practices are
 followed. All equipment will be kept in good/clean working order to minimize
 discharge of pollutants. This includes all vehicles and storage containers.
- Good Housekeeping:
 - o An effort will be made to store only enough products required to do the job.
 - o All materials stored onsite will be stored in a neat, orderly manner and, if possible, under a roof or other enclosure.
 - o Products will be kept in their original containers with the original manufacturer's label in legible condition.
 - O Substances will not be mixed with one another unless recommended by the manufacturer.
 - Whenever possible, all of a product will be used up before disposing of the container.
 - o Manufacturer's recommendations for proper use and disposal will be followed.
 - o The contractor will be responsible for daily inspections to ensure proper use and disposal of materials.



o If surplus product must be disposed of, manufacturer's or local/state/federal recommended methods for proper disposal will be followed.

All of the product in a container will be used before the container is disposed of. All such containers will be triple-rinsed with water prior to disposal. The rinse water used in these containers will be disposed of in a manner in compliance with state and federal regulations and will not be allowed to mix with storm water discharge.

The following are the material management practices that will be used to reduce the risk of spills or other accidental exposure of materials and substances to storm water runoff.

- 1. Manufacturer's recommended methods for spill cleanup will be clearly posted and site personnel will be trained regarding these procedures and the location of the information and cleanup supplies.
- 2. Materials and equipment necessary for spill cleanup will be kept in the material storage area onsite in a spill control and containment kit (containing, for example, absorbent such as kitty litter or sawdust, acid neutralizing powder, brooms, dust pans, mops, rags, gloves, goggles, plastic and metal trash containers, etc.)
- 3. All spills will be cleaned up immediately after discovery.
- 4. The spill area will be kept well-ventilated and personnel will wear appropriate protective clothing to prevent injury from contact with hazardous substances.

No batch plants are proposed for this project, so no batch plant spill prevention and pollution control plan has been provided.

10.0 ALLOWABLE NON-STORMWATER DISCHARGES

The following are a list of allowable non-stormwater discharges that may be present onsite during, or after, construction.

- Irrigation
- Ground Water
- Springs

11.0 RECEIVING WATERS

The subject property lies within the Peterson Field Drainage Basin. Existing runoff travels south offsite towards Peterson Field Detention Ponds #1 and #2, and would then be discharged to Fountain Creek. Proposed runoff generated from the site improvements will now be detained by the proposed sand filter basin located in the southwest corner of the property. No outlet structures are proposed, as runoff will be fully infiltrated into the subsurface within the sand filter basin. Onsite erosion control BMPs will be utilized to control erosion leaving the site and to maintain the existing natural drainage corridors, prior to runoff from the site entering Fountain Creek.



12.0 STREAM CROSSINGS

There are no planned stream crossings as part of this project.

13.0 STORMWATER MANAGEMENT PLAN MAP

The Grading & Erosion Control Plan (GEC) has been included in the appendix of this report to act as the stormwater management plan (SWMP) map. The GEC indicates all erosion control BMPs to be used on the site during construction of the proposed improvements. Erosion control details have also been included with the GEC in the appendix of this report.

14.0 STRUCTURAL CONTROL MEASURES

Structural control measures for the site can include, but are not limited to, silt fence, vehicle tracking control, stabilized staging area, stockpile management, concrete washout area, portable toilet, etc. The attached Grading & Erosion Control Plan indicates locations for the aforementioned structural control measures, as well as, providing details for installation and maintenance.

15.0 NON-STRUCTURAL CONTROL MEASURES

Non-structural control measures for the site can include, but are not limited to, seeding and mulching, slope tracking, chemical storage following the manufacturer's recommendations, wind erosion control by watering down disturbed areas, sweeping operations as vehicles leave the site, minimizing disturbed areas, protecting natural flow pathways, protecting existing vegetation, etc.

16.0 SWMP REVISION PROCEDURES

The selected contractor, and their Qualified Stormwater Manager, are responsible for inspecting and maintaining erosion control BMPs throughout the duration of the project. This includes notation of any additional BMPs or removal of BMPs. These changes shall be reflected on the SWMP map and shall be shown on the map prior to any changes in the field.

17.0 FINAL STABILIZATION & LONG-TERM STORMWATER QUALITY

Final stabilization of the site, after completion of construction, shall be achieved via permanent seeding and mulching. Depending on weather, and season, permanent seeding may be delayed until the following growing season for the specified seed. In this case, temporary seeding may be used until the next growing season. Any disturbed areas shall be seeded and mulched within 14 days. Final stabilization is achieved when construction is complete and the disturbed areas have achieved a vegetative cover density of 70% of pre-disturbance levels.



18.0 INSPECTION PROCEDURES

The Qualified Stormwater Manager, shall, at a minimum, make thorough inspection at least once every 14 calendar days. Also, post-storm event inspections must be conducted within 24 hours following the end of any precipitation or snowmelt event that causes surface erosion. Provided the timing is appropriate, the post-storm inspection may be used to fulfill the 14-day routine inspection requirement. Alternatively, the Qualified Stormwater Manager, may choose to perform self-inspections every 7 calendar days and forego post-storm event inspections. The self-inspection schedule must be identified in the Qualified Stormwater Manager's most recent self-inspection. A more frequent inspection schedule than the minimum described may be necessary to ensure that Control Measures continue to operate as needed to comply with this SWMP and GEC. Site conditions such as steep grades and close proximity to a state water are reasons for increasing the frequency of self-inspections.

The Qualified Stormwater Manager shall submit documentation of the self-inspections to the County of El Paso, CO. Completed self-inspection forms must be submitted within 5 business days of the self-inspection. The self-inspections must also be available either physically or electronically at the construction site at all times throughout the duration of the project. Qualified Stormwater Managers will review self-inspections during County compliance inspections. The use of third-party inspection programs does not remove this requirement. Additionally, the use of third-party inspection programs does not relieve the Permittee of the requirement to comply with all compliance inspections.

For sites or portions of sites where construction activities have been completed and final stabilization measures installed but final stabilization has not yet been achieved, the Qualified Stormwater Manager shall make a thorough inspection of their Control Measures at least once every month. Post-storm event inspections must be conducted within 72 hours following the end of any precipitation or snowmelt event that causes surface erosion. The SWMP and SWMP Map must be amended to indicate those areas where construction activities have been completed but final stabilization has not yet been achieved that will be inspected once a month.

When site conditions make the schedule required in this section impractical, the Permittee may petition the County to grant an alternate inspection schedule. The alternative inspection schedule may not be implemented prior to written approval by the County and incorporation into the SWMP.

The permittee is responsible to confirm that the frequency of inspections is sufficient to ensure that Control Measures remain in good working condition at all times.

19.0 RECORD KEEPING PROCEDURES

The Qualified Stormwater Manager is responsible for documenting the following items during inspections. This documentation shall be kept onsite at all times with the SWMP, SWMP Map, and Grading & Erosion Control Plan.



- Inspection Date
- Name, title, and signature of personnel performing inspections
- Locations of discharges of sediment and/or pollutants from the site
- Location of BMPs that require maintenance
- Location of BMPs not working properly or inadequate for the location
- Location where additional BMPs are needed
- Alteration from minimum inspection schedule
- Description of corrective actions and date completed
- Signed statement of compliance after corrective actions completed

20.0 Offsite Control Measures

There are no offsite control measures owned and operated by another entity, that are proposed to be used by this project/site.



Appendix

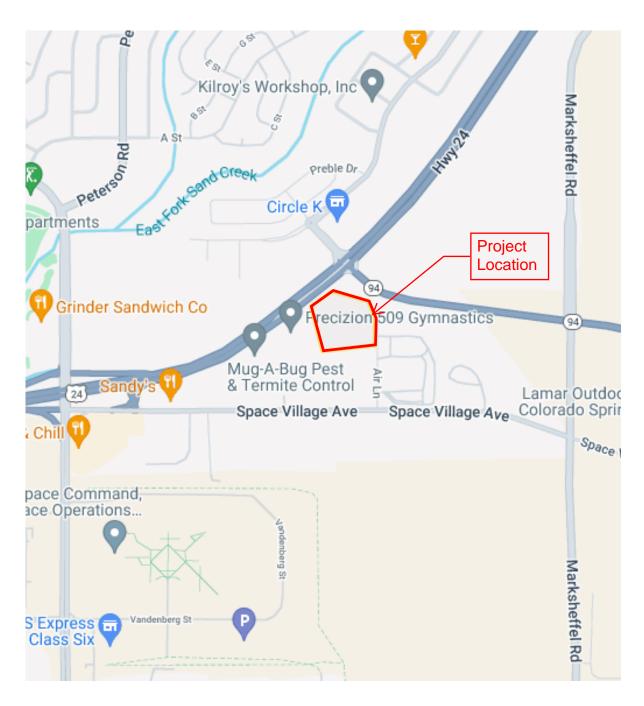


VICINITY MAP



Vicinity Map





PERMIT APPLICATION



CONTRACTOR SEQUENCING



Table CP-1. Typical Phased BMP Installation for Construction Projects

Project Phase	BMPs
	 Install sediment controls downgradient of access point (on paved streets this may consist of inlet protection).
D	Establish vehicle tracking control at entrances to paved streets. Fence as needed.
Pre- disturbance, Site Access	 Use construction fencing to define the boundaries of the project and limit access to areas of the site that are not to be disturbed.
	Note: it may be necessary to protect inlets in the general vicinity of the site, even if not downgradient, if there is a possibility that sediment tracked from the site could contribute to the inlets.
	 Install perimeter controls as needed on downgradient perimeter of site (silt fence, wattles, etc).
	 Limit disturbance to those areas planned for disturbance and protect undisturbed areas within the site (construction fence, flagging, etc).
	Preserve vegetative buffer at site perimeter.
	Create stabilized staging area.
	 Locate portable toilets on flat surfaces away from drainage paths. Stake in areas susceptible to high winds.
	Construct concrete washout area and provide signage.
Site Clearing	Establish waste disposal areas.
and Grubbing	■ Install sediment basins.
	Create dirt perimeter berms and/or brush barriers during grubbing and clearing.
	 Separate and stockpile topsoil, leave roughened and/or cover.
	Protect stockpiles with perimeter control BMPs. Stockpiles should be located away from drainage paths and should be accessed from the upgradient side so that perimeter controls can remain in place on the downgradient side. Use erosion control blankets, temporary seeding, and/or mulch for stockpiles that will be inactive for an extended period.
	 Leave disturbed area of site in a roughened condition to limit erosion. Consider temporary revegetation for areas of the site that have been disturbed but that will be inactive for an extended period.
	Water to minimize dust but not to the point that watering creates runoff.

In Addition to the Above BMPs:

Seed and mulch/tackify.

Seed and install blankets on steep slopes.

Project **BMPs** Phase In Addition to the Above BMPs: Close trench as soon as possible (generally at the end of the day). Use rough-cut street control or apply road base for streets that will not be promptly paved. Utility And Infrastructure Provide inlet protection as streets are paved and inlets are constructed. Installation Protect and repair BMPs, as necessary. Perform street sweeping as needed. In Addition to the Above BMPs: Implement materials management and good housekeeping practices for home building activities. Building Construction Use perimeter controls for temporary stockpiles from foundation excavations. For lots adjacent to streets, lot-line perimeter controls may be necessary at the back of In Addition to the Above BMPs: Remove excess or waste materials. Final Grading Remove stored materials.

Remove all temporary BMPs when site has reached final stabilization.

Final Stabilization

INSPECTION & MAINTENANCE



CONSTRUCTION STORMWATER SITE INSPECTION REPORT

Facility Name			Permittee			
Date of Inspection			Weather Conditions			
Permit Certification #			Disturbed Acreage			
Phase of Construction			Inspector Title			
Inspector Name						
Is the above inspector a qualified storm					YES	NO
(permittee is responsible for ensuring t	hat the ir	spector	is a qualified stormwater r	nanager)		
INSPECTION FREQUENCY						
Check the box that describes the minim	num inspe	ection fre	equency utilized when cond	ducting each insp	ection	
At least one inspection every 7 calenda	•					
At least one inspection every 14 calendary					Г	7
24 hours after the end of any precipitat	tion or sn	owmelt	event that causes surface e	erosions	L	_
 This is this a post-storm event i 	nspection	n. Event	Date:			
Reduced inspection frequency - Include	site cond	ditions t	hat warrant reduced inspec	ction frequency	Г	
Post-storm inspections at temporary	orarily idl	e sites			F	<u>-</u>
 Inspections at completed sites/ 						<u>-</u>
Winter conditions exclusion	area					
Have there been any deviations from the	ne minimu	ım inspe	ection schedule?		YES	NO
If yes, describe below.					Ш	
INSPECTION REQUIREMENTS*						
 i. Visually verify all implemented co designed in the specifications 	ontrol me	asures a	re in effective operational	condition and ar	e working	as
ii. Determine if there are new poter	itial sourc	es of no	Hutants			
iii. Assess the adequacy of control materials				a new or modifie	d control	measures
to minimize pollutant discharges	cusui es u	t the site	e to identify dreas requiring	g new or mounte	a control	measures
iv. Identify all areas of non-complian	ce with t	he perm	it requirements, and if neo	essary, impleme	nt correct	ive action
*Use the attached Control Measures		•				
Corrective Action forms to document re				-		-
To the second se		1113 4336.	sometic that thigger entirer h	inamice or c		300.01.3
AREAS TO BE INSPECTED						
Is there evidence of, or the potential f				ooundaries, ente	ring the st	tormwater
drainage system or discharging to state	waters a	t the fol				
			If "YES" describe discharç			
	NO	YES	Document related mainte			
			and corrective actions	•	Control	Measures
Construction site perimeter			Requiring Corrective Act	tion form		
All disturbed areas						
Designated haul routes						
<u> </u>		Ш				
Material and waste storage areas exposed to precipitation						
Locations where stormwater has the						
potential to discharge offsite						
Locations where vehicles exit the site						
Other:		1 Ш				

CONTROL MEASURES REQUIRING ROUTINE MAINTENANCE

Definition: Any control measure that is still operating in accordance with its design and the requirements of the permit, but requires maintenance to prevent a breach of the control measure. These items are not subject to the corrective action requirements as specified in Part I.B.1.c of the permit.

Are there control measures requiring maintenance?	NO	YES	
Are there control measures requiring maintenance:			If "YES" document below

Date Observed	Location	Control Measure	Maintenance Required	Date Completed

INADEQUATE CONTROL MEASURES REQUIRING CORRECTIVE ACTION

Definition: Any control measure that is not designed or implemented in accordance with the requirements of the permit and/or any control measure that is not implemented to operate in accordance with its design. This includes control measures that have not been implemented for pollutant sources. If it is infeasible to install or repair the control measure immediately after discovering the deficiency the reason must be documented and a schedule included to return the control measure to effective operating condition as possible.

Are there inadequate control measures requiring corrective action?	NO	YES	
Are there madequate control measures requiring corrective action:			If "YES" document below
Are there additional control measures needed that were not in place at the time of inspection?	NO	YES	
Are there additional control measures needed that were not in place at the time of inspections			If "YES" document below

Date Discovered	Location	Description of Inadequate Control Measure	Description of Corrective Action	Was deficiency corrected when discovered? YES/NO if "NO" provide reason and schedule to correct	Date Corrected

REPORTING REQUIREMENTS

The permittee shall report the following circumstances orally within twenty-four (24) hours from the time the permittee becomes aware of the circumstances, and shall mail to the division a written report containing the information requested within five (5) working days after becoming aware of the following circumstances. The division may waive the written report required if the oral report has been received within 24 hours.

All Noncompliance Requiring 24-Hour Notification per Part II.L.6 of the Permit
a. Endangerment to Health or the Environment
Circumstances leading to any noncompliance which may endanger health or the environment regardless of the cause of the incident (See Part II.L.6.a of the Permit)
This category would primarily result from the discharge of pollutants in violation of the permit
 b. Numeric Effluent Limit Violations Circumstances leading to any unanticipated bypass which exceeds any effluent limitations (See Part II.L.6.b of the Permit) Circumstances leading to any upset which causes an exceedance of any effluent limitation (See Part II.L.6.c of the Permit) Daily maximum violations (See Part II.L.6.d of the Permit) Numeric effluent limits are very uncommon in certifications under the COR400000 general permit. This category of noncompliance only applies if numeric effluent limits are included in a permit certification.

				NO	1/50	
Has there been an incident of percompliance requiring 24 hour notification?					YES	
nas there bee	Has there been an incident of noncompliance requiring 24-hour notification?					"YES" document below
Date and Time of	Location	Description of Noncompliance	Description of Corrective Action	24 I	and Time o Hour Oral	Date of 5 Day Written Notification *

Time of Incident	Location	Noncompliance	Description of Corrective Action	24 Hour Oral Notification	Notification *

^{*}Attach copy of 5 day written notification to report. Indicate if written notification was waived, including the name of the division personnel who granted waiver.

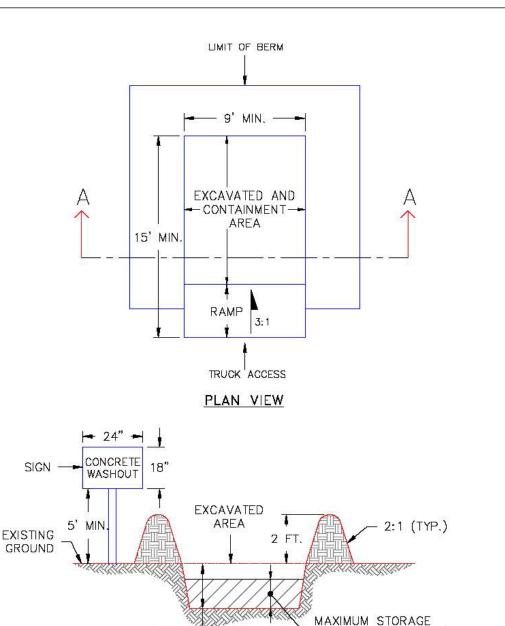
After adequate corrective action(s) and maintenance have been taken, or where a report does not identify any incidents requiring corrective action or maintenance, the individual(s) designated as the Qualified Stormwater Manager, shall sign and certify the below statement: "I verify that, to the best of my knowledge and belief, all corrective action and maintenance items identified during the inspection are complete, and the site is currently in compliance with the permit."					
Signature of Qualified Stormwater Manager	Date				
Notes/Comments					

COMPLETED INSPECTION & MAINTENANCE RECORDS



BMP DETAILS





SECTION A-A

ALTERNATIVE FOR THE BERM.

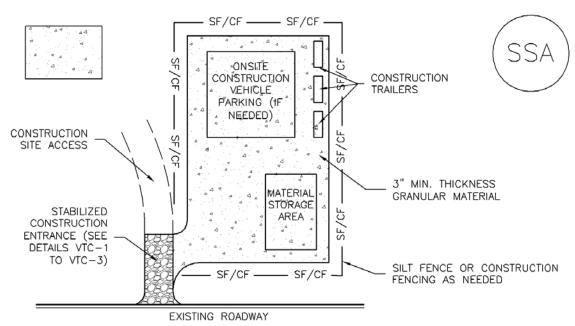
3' MIN.

- NOTES: 1. SIGN MATERIAL, EXCAVATION, AND RESTORATION ARE INCLUDED IN THE COST OF THE CONCRETE WASHOUT STRUCTURE.
- 2. EROSION BALES MAY BE USED AS AN

1/1/08	Concrete Washout Structure
LIE A M O	Standard Drawing



(% OF VOLUME AREA)



SSA-1. STABILIZED STAGING AREA

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.

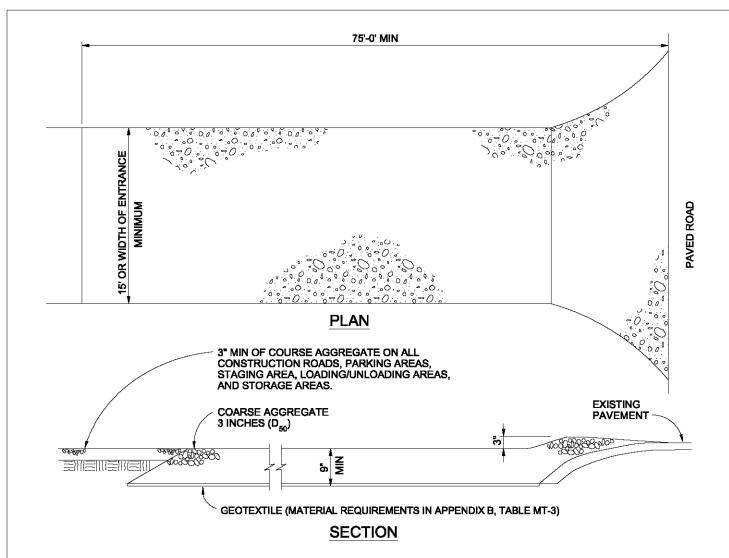
STABILIZED STAGING AREA MAINTENANCE NOTES

- 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.

 ${
m NOTE}$: 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)



VEHICLE TRACKING

VEHICLE TRACKING NOTES

INSTALLATION REQUIREMENTS

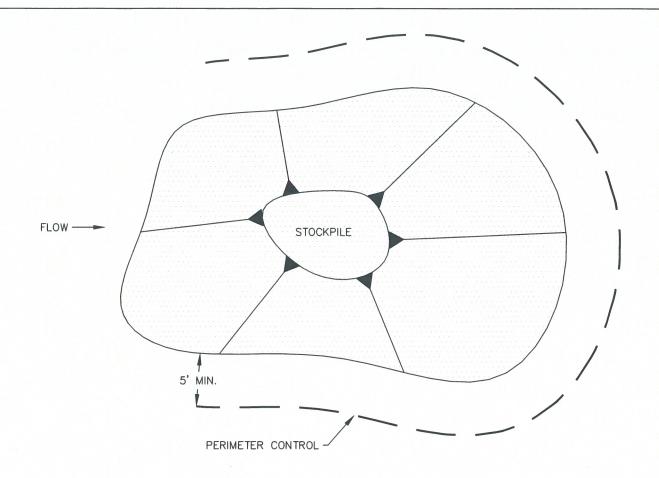
- 1. ALL ENTRANCES TO THE CONSTRUCTION SITE ARE TO BE STABILIZED PRIOR TO CONSTRUCTION BEGINNING.
- 2. CONSTRUCTION ENTRANCES ARE TO BE BUILT WITH AN APRON TO ALLOW FOR TURNING TRAFFIC, BUT SHOULD NOT BE BUILT OVER EXISTING PAVEMENT EXCEPT FOR A SLIGHT OVERLAP.
- 3. AREAS TO BE STABILIZED ARE TO BE PROPERLY GRADED AND COMPACTED PRIOR TO LAYING DOWN GEOTEXTILE AND STONE.
- 4. CONSTRUCTION ROADS, PARKING AREAS, LOADING/UNLOADING ZONES, STORAGE AREAS, AND STAGING AREAS ARE TO BE STABILIZED.
- 5. CONSTRUCTION ROADS ARE TO BE BUILT TO CONFORM TO SITE GRADES, BUT SHOULD NOT HAVE SIDE SLOPES OR ROAD GRADES THAT ARE EXCESSIVELY STEEP.

MAINTENANCE REQUIREMENTS

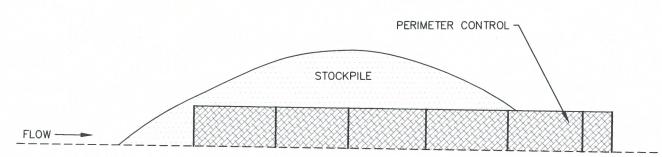
- 1. REGULAR INSPECTIONS ARE TO BE MADE OF ALL STABILIZED AREAS, ESPECIALLY AFTER STORM EVENTS.
- 2. STONES ARE TO BE REAPPLIED PERIODICALLY AND WHEN REPAIR IS NECESSARY.
- 3. SEDIMENT TRACKED ONTO PAVED ROADS IS TO BE REMOVED DAILY BY SHOVELING OR SWEEPING. SEDIMENT IS NOT TO BE WASHED DOWN STORM SEWER DRAINS.
- 4. STORM SEWER INLET PROTECTION IS TO BE IN PLACE, INSPECTED, AND CLEANED IF NECESSARY.
- 5. OTHER ASSOCIATED SEDIMENT CONTROL MEASURES ARE TO BE INSPECTED TO ENSURE GOOD WORKING CONDITION.

City of Colorado Springs Stormwater Quality Figure VT-2 Vehicle Tracking

Application Examples



STOCKPILE PROTECTION PLAN



STOCKPILE PROTECTION ELEVATION

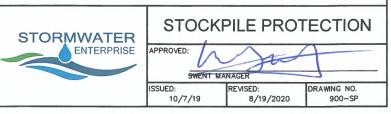
INSTALLATION NOTES

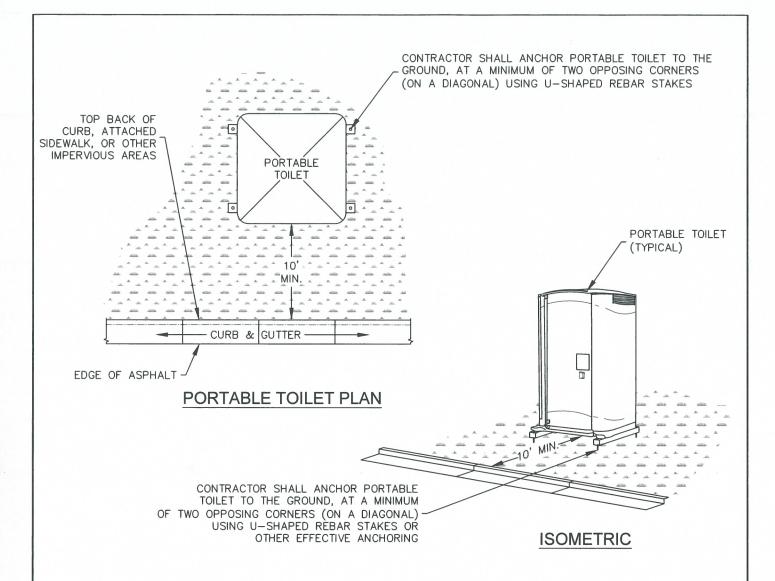
- INSTALL PERIMETER CONTROL AROUND STOCKPILE ON DOWNGRADIENT SIDE. PERIMETER CONTROL MUST BE SUITABLE TO SITE CONDITIONS AND INSTALLED ACCORDING TO THE RELEVANT DETAIL.
- 2. FOR STOCKPILES ON THE INTERIOR PORTION OF A CONSTRUCTION SITE, WHERE OTHER DOWNGRADIENT CONTROLS INCLUDING PERIMETER CONTROL ARE IN PLACE, STOCKPILE PERIMETER CONTROLS MAY NOT BE REQUIRED.

MAINTENANCE NOTES

- FREQUENT OBSERVATIONS AND MAINTENANCE ARE NECESSARY TO MAINTAIN CONTROL MEASURES IN EFFECTIVE OPERATING CONDITION. INSPECTIONS AND CORRECTIVE MEASURES SHOULD BE DOCUMENTED THOROUGHLY.
- 2. IF PERIMETER CONTROLS MUST BE MOVED TO ACCESS STOCKPILE, REPLACE PERIMETER CONTROLS BY THE END OF THE WORK DAY.
- 3. ACCUMULATED SEDIMENT MUST BE REMOVED ACCORDING TO PERIMETER CONTROL DETAIL.







INSTALLATION NOTES

- PORTABLE TOILETS SHALL BE PLACED A MINIMUM OF 10 FEET BEHIND ALL CURBS, SIDEWALKS, AND OTHER IMPERVIOUS AREAS; 50 FEET FROM STORM INLETS, AND 100 FEET FROM WATERWAYS.
- 2. PORTABLE TOILETS IN THE RIGHT-OF-WAY ARE REQUIRED TO BE PLACED ON MOBILE TRAILERS AND MUST BE ANCHORED OR WEIGHTED DOWN. PORTABLE TOILETS MAY BE INSTALLED IN ACCORDANCE WITH NOTE #1 IN STAGING AREAS/YARDS.
- PORTABLE TOILETS SHALL BE SECURELY ANCHORED TO THE GROUND USING U-SHAPED REBAR STAKES, OR OTHER EFFECTIVE ANCHORING.
- 4. ANCHORING SHALL BE POSITIONED ON AT LEAST TWO OPPOSING (DIAGONAL) CORNERS.
- 5. TOILET CONTAINMENT PANS MAY BE USED IN PLACE OF A TRAILER AT THE GEC INSPECTOR'S DISCRETION. TOILET CONTAINMENT PANS MUST BE ANCHORED IN PLACE AND MUST NOT BE USED WITHIN THE CITY R.O.W.



MAINTENANCE NOTES

- FREQUENT OBSERVATIONS AND MAINTENANCE ARE NECESSARY TO MAINTAIN CONTROL MEASURES IN EFFECTIVE OPERATING CONDITION. INSPECTIONS AND CORRECTIVE MEASURES SHOULD BE DOCUMENTED THOROUGHLY.
- 2. PORTABLE TOILETS SHALL BE SERVICED AT THE NECESSARY INTERVALS TO ELIMINATE THE POSSIBILITY OF OVERFLOW.
- 3. WHEN THE PORTABLE TOILETS ARE REMOVED, ANY DISTURBED AREAS ASSOCIATED WITH THE INSTALLATION, MAINTENANCE, AND/OR REMOVAL OF THE TOILETS MUST BE PERMANENTLY STABILIZED.

	PORTABLE TOILET APPROVED: SWENT MANAGER			
	ISSUED: 2/19/19	REVISED: 8/19/2020	DRAWING NO. 900-PTM	

MULCHING NOTES

INSTALLATION REQUIREMENTS

- 1. ALL DISTURBED AREAS MUST BE MULCHED WITHIN 21 DAYS AFTER FINAL GRADE AND SEEDED AREAS ARE TO BE MULCHED WITHIN 24 HOURS AFTER SEEDING.
- 2. MATERIAL USED FOR MULCH CAN BE CERTIFIED CLEAN, WEED- AND SEED-FREE LONG STEMMED FIELD OR MARSH HAY, OR STRAW OF OATS, BARLEY, WHEAT, RYE, OR TRITICALE CERTIFIED BY THE COLORADO DEPARTMENT OF AGRICULTURE WEED FREE FORAGE CERTIFICATION PROGRAM.
- 3. HYDRAULIC MULCHING MATERIAL SHALL CONSIST OF VIRGIN WOOD FIBER MANUFACTURED FROM CLEAN WHOLE WOOD CHIPS. WOOD CHIPS CANNOT CONTAIN ANY GROWTH OR GERMINATION INHIBITORS OR BE PRODUCED FROM RECYCLED MATERIAL. GRAVEL CAN ALSO BE USED.
- 4. MULCH IS TO BE APPLIED EVENLY AT A RATE OF 2 TONS PER ACRE.
- 5. MULCH IS TO BE ANCHORED EITHER BY CRIMPING (TUCKING MULCH FIBERS 4 INCHES INTO THE SOIL), USING NETTING (USED ON SMALL AREAS WITH STEEP SLOPES), OR WITH A TACKIFIER.
- 6. HYDRAULIC MULCHING AND TACKIFIERS ARE NOT TO BE USED IN THE PRESENCE OF FREE SURFACE WATER.

MAINTENANCE REQUIREMENTS

- 1. REGULAR INSPECTIONS ARE TO BE MADE OF ALL MULCHED AREAS.
- 2. MULCH IS TO BE REPLACED IMMEDIATELY IN THOSE AREAS IT HAS BEEN REMOVED, AND IF NECESSARY THE AREA SHOULD BE RESEEDED.

RECOMMENDED ANNUAL GRASSES

SPECIES	GROWTH	SEEDING	POUNDS OF PURE	PLANTING
(COMMON NAME)	SEASON	DATE	LIVE SEED (PLS)	DEPTH
			(PLS/ACRE)	(INCHES)
1. OATS	COOL	MARCH 16 - APRIL 30	35-50	1-2
2. SPRING WHEAT	COOL	MARCH 16 - APRIL 30	25-35	1-2
3. SPRING BARLEY	COOL	MARCH 16 - APRIL 30	25-35	1-2
4. ANNUAL RYEGRASS	COOL	MARCH 16 - JUNE 30	10-15	1/2
5. MILLET	WARM	MAY 16 - JULY 15	3-15	1/2-3/4
6. SUDANGRASS	WARM	MAY 16 - JULY 15	5-10	1/2-3/4
7. SORGHUM	WARM	MAY 16 - JULY 15	5-10	1/2-3/4
8. WINTER WHEAT	COOL	SEPTEMBER 1 - 30	20-35	1-2
9. WINTER BARLEY	COOL	SEPTEMBER 1 - 30	20-35	1-2
10. WINTER RYE	COOL	SEPTEMBER 1 - 30	20-35	1-2
11. TRITICALE	COOL	SEPTEMBER 1 - 30	25-40	1-2

THIS TABLE WAS TAKEN FROM UDFCD FOR RECOMMENDED ANNUAL GRASSES FOR THE DENVER METROPOLITAN AREA. THIS TABLE MAY BE USED UNLESS A SITE-SPECIFIC SEED MIX IS REQUESTED AND APPROVED.

TABLE TS-1

TEMPORARY SEEDING NOTES

INSTALLATION REQUIREMENTS

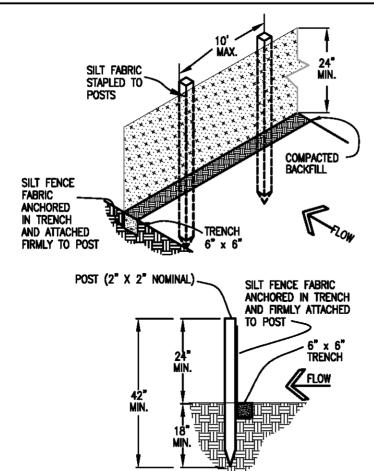
- 1. DISTURBED AREAS ARE TO BE SEEDED WITHIN 21 DAYS AFTER CONSTRUCTION ACTIVITY OR GRADING ENDS IF SEASON ALLOWS.
- IF NECESSARY, SOIL IS TO BE CONDITIONED FOR PLANT GROWTH BY APPLYING TOPSOIL, FERTILIZER, OR LIME.
- 3. SOIL IS TO BE TILLED IMMEDIATELY PRIOR TO APPLYING SEEDS. COMPACT SOILS ESPECIALLY NEED TO BE LOOSENED.
- 4. SEEDBED DEPTH IS TO BE 4 INCHES FOR SLOPES FLATTER THAN 2:1, AND 1 INCH FOR SLOPES STEEPER THAN 2:1.
- 5. ANNUAL GRASSES LISTED IN TABLE TS-1 ARE TO BE USED FOR TEMPORARY SEEDING. SEED MIXES ARE NOT TO CONTAIN ANY NOXIOUS WEED SKEDS INCLUDING RUSSIAN OR CANADIAN THISTLE, KNAPWEED, PURPLE LOOSESTRIFE, EUROPEAN BINDWEED, JOHNSON GRASS, AND LEAFY SPURGE.
- TABLE TS-1 ALSO PROVIDES REQUIREMENTS FOR SEEDING RATES, SEEDING DATES, AND PLANTING DEPTHS FOR THE APPROVED TYPES OF ANNUAL GRASSES.
- 7. SEEDING IS TO BE APPLIED USING MECHANICAL TYPE DRILLS EXCEPT WHERE SLOPES ARE STEEP OR ACCESS IS LIMITED THEN HYDRAULIC SEEDING MAY BE USED.
- 8. ALL SEEDED AREAS ARE TO BE MULCHED (SEE FACTSHEET ON MULCHING).
- IF HYDRAULIC SEEDING IS USED THEN HYDRAULIC MULCHING SHALL BE DONE SEPARATELY TO AVOID SEEDS BECOMING ENCAPSULATED IN THE MULCH.

MAINTENANCE REQUIREMENTS

- 1. REGULAR INSPECTIONS ARE TO BE MADE OF ALL SEEDED AREAS TO ENSURE GROWTH.
- 2. AREAS WHERE GROWTH IS NOT OCCURRING QUICKLY OR THE MULCH HAS BEEN REMOVED SHALL BE RE-SEEDED AS SOON AS POSSIBLE AND RE-MULCHED IF NEEDED.
- 3. SEEDED AREAS ARE NOT TO BE DRIVEN OVER WITH CONSTRUCTION EQUIPMENT OR VEHICLES.

City of Colorado Springs Stormwater Quality Figure TS-1 Temporary Seeding

Construction Detail and Maintenance Requirements



SILT FENCE

SILT FENCE NOTES

INSTALLATION REQUIREMENTS

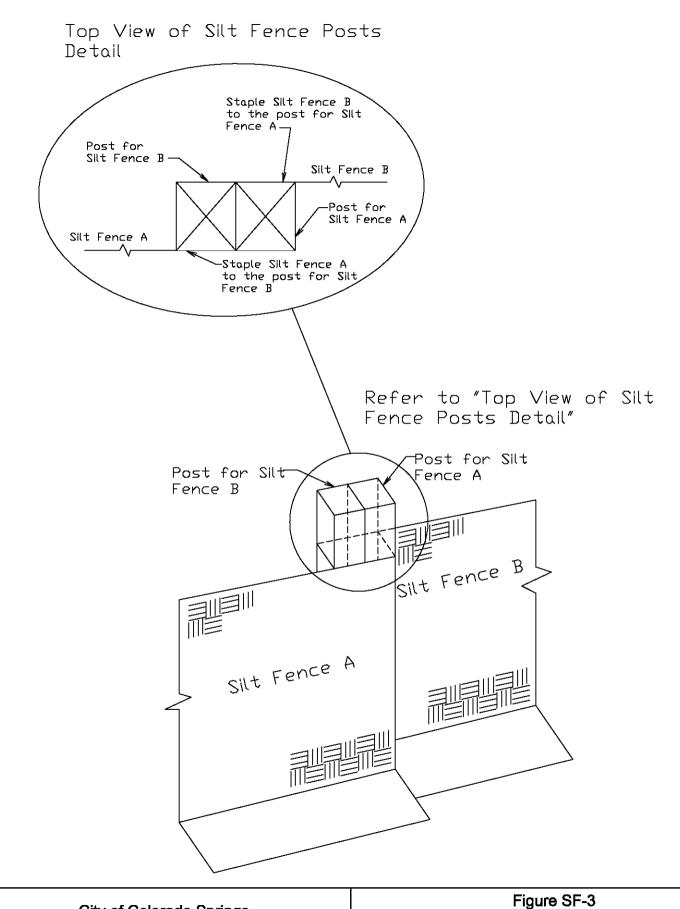
- 1. SILT FENCES SHALL BE INSTALLED PRIOR TO ANY LAND DISTURBING ACTIVITIES.
- 2. WHEN JOINTS ARE NECESSARY, SILT FENCE GEOTEXTILE SHALL BE SPLICED TOGETHER ONLY AT SUPPORT POST AND SECURELY SEALED.
- 3. METAL POSTS SHALL BE "STUDDED TEE" OR "U" TYPE WITH MINIMUM WEIGHT OF 1.33 POUNDS PER LINEAR FOOT. WOOD POSTS SHALL HAVE A MINIMUM DIAMETER OR CROSS SECTION DIMENSION OF 2 INCHES.
- 4. THE FILTER MATERIAL SHALL BE FASTENED SECURELY TO METAL OR WOOD POSTS USING WIRE TIES, OR TO WOOD POSTS WITH 3/4" LONG #9 HEAVY-DUTY STAPLES. THE SILT FENCE GEOTEXTILE SHALL NOT BE STAPLED TO EXISTING TREES.
- 5. WHILE NOT REQUIRED, WIRE MESH FENCE MAY BE USED TO SUPPORT THE GEOTEXTILE. WIRE FENCE SHALL BE FASTENED SECURELY TO THE UPSLOPE SIDE OF THE POSTS USING HEAVY-DUTY WIRE STAPLES AT LEAST 3/4" LONG, TIE WIRES OR HOG RINGS. THE WIRE SHALL EXTEND INTO THE TRENCH A MINIMUM OF 6" AND SHALL NOT EXTEND MORE THAN 3' ABOVE THE ORIGINAL GROUND SURFACE.

- 6. ALONG THE TOE OF FILLS, INSTALL THE SILT FENCE ALONG A LEVEL CONTOUR AND PROVIDE AN AREA BEHIND THE FENCE FOR RUNOFF TO POND AND SEDIMENT TO SETTLE. A MINIMUM DISTANCE OF 5 FEET FROM THE TOE OF THE FILL IS RECOMMENDED.
- 7. THE HEIGHT OF THE SILT FENCE FROM THE GROUND SURFACE SHALL BE MINIMUM OF 24 INCHES AND SHALL NOT EXCEED 36 INCHES; HIGHER FENCES MAY INPOUND VOLUMES OF WATER SUFFICIENT TO CAUSE FAILURE OF THE STRUCTURE.

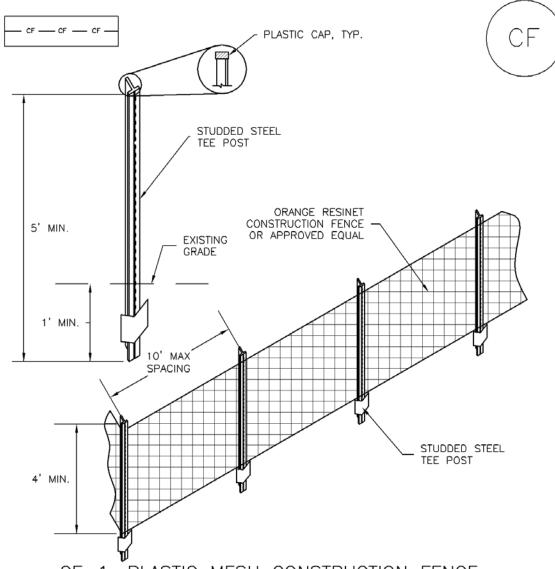
MAINTENANCE REQUIREMENTS

- 1. CONTRACTOR SHALL INSPECT SILT FENCES IMMEDIATELY AFTER EACH RAINFALL, AT LEAST DAILY DURING PROLONGED RAINFALL, AND WEEKLY DURING PERIODS OF NO RAINFALL. DAMAGED, COLLAPSED, UNENTRENCHED OR INEFFECTIVE SILT FENCES SHALL BE PROMPTLY REPAIRED OR REPLACED.
- 2. SEDIMENT SHALL BE REMOVED FROM BEHIND SILT FENCE WHEN IT ACCUMULATES TO HALF THE EXPOSED GEOTEXTILE HEIGHT.
- 3. SILT FENCES SHALL BE REMOVED WHEN ADEQUATE VEGETATIVE COVER IS ATTAINED AS APPROVED BY THE CITY.

City of Colorado Springs Stormwater Quality Figure SF-2
Silt Fence
Construction Detail and Maintenance
Requirements



City of Colorado Springs Stormwater Quality Figure SF-3
Silt Fence Joint Tying
Construction Detail and Maintenance
Requirements



<u>CF-1. PLASTIC MESH CONSTRUCTION FENCE</u>

CONSTRUCTION FENCE INSTALLATION NOTES

- SEE PLAN VIEW FOR:

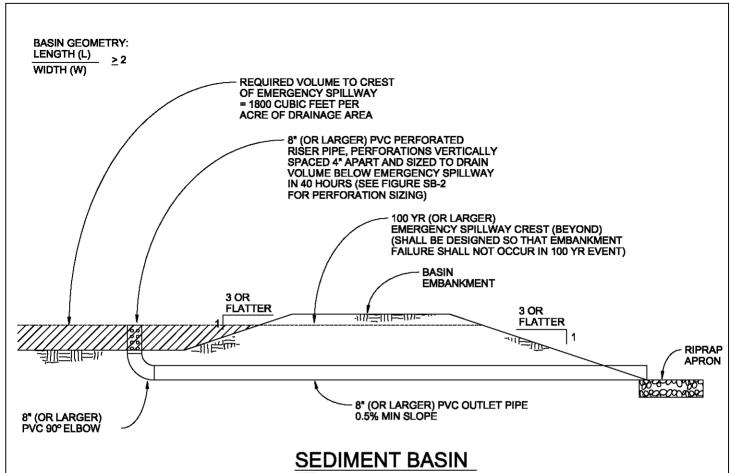
 LOCATION OF CONSTRUCTION FENCE.
- 2. CONSTRUCTION FENCE SHOWN SHALL BE INSTALLED PRIOR TO ANY LAND DISTURBING ACTIVITIES.
- 3. CONSTRUCTION FENCE SHALL BE COMPOSED OF ORANGE, CONTRACTOR—GRADE MATERIAL THAT IS AT LEAST 4' HIGH. METAL POSTS SHOULD HAVE A PLASTIC CAP FOR SAFETY.
- 4. STUDDED STEEL TEE POSTS SHALL BE UTILIZED TO SUPPORT THE CONSTRUCTION FENCE. MAXIMUM SPACING FOR STEEL TEE POSTS SHALL BE 10'.
- 5. CONSTRUCTION FENCE SHALL BE SECURELY FASTENED TO THE TOP, MIDDLE, AND BOTTOM OF EACH POST.

CONSTRUCTION FENCE 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. CONSTRUCTION FENCE SHALL BE REPAIRED OR REPLACED WHEN THERE ARE SIGNS OF DAMAGE SUCH AS RIPS OR SAGS. CONSTRUCTION FENCE IS TO REMAIN IN PLACE UNTIL THE UPSTREAM DISTURBED AREA IS STABILIZED AND APPROVED BY THE LOCAL JURISDICTION.
- 5. WHEN CONSTRUCTION FENCES ARE REMOVED, ALL DISTURBED AREAS ASSOCIATED WITH THE INSTALLATION, MAINTENANCE, AND/OR REMOVAL OF THE FENCE SHALL BE COVERED WITH TOPSOIL, SEEDED AND MULCHED, OR OTHERWISE STABILIZED AS APPROVED BY LOCAL JURISDICTION.

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.

(DETAIL ADAPTED FROM TOWN OF PARKER, COLORADO, NOT AVAILABLE IN AUTOCAD)



SEDMENT BASIN NOTES

INSTALLATION REQUIREMENTS

- 1. SEDIMENT BASINS SHALL BE INSTALLED BEFORE ANY CLEARING AND/OR GRADING IS UNDERTAKEN.
- 2. THE AREA UNDER WHICH THE EMBANKMENT IS TO BE INSTALLED SHALL BE CLEARED, GRUBBED, AND STRIPPED OF ALL VEGETATION AND ROOT MAT.
- 3. THE OUTLET OF THE BASIN SHALL BE DESIGNED TO DRAIN ITS VOLUME IN 40 HOURS.
- 4. THE OUTLET IS TO BE LOCATED AT THE FURTHEST DISTANCE FROM THE INLET OF THE BASIN. BAFFLES MAY BE NEEDED TO INCREASE THE FLOW LENGTH AND SETTLING TIME.
- 5. EMBANKMENT MATERIAL SHALL CONSIST OF SOIL WITH A MINIMUM OF 15% PASSING A #200 SIEVE. EXCAVATED SOIL CAN BE USED IF IT MEETS THIS REQUIREMENT.
- 6. EMBANKMENT IS TO BE COMPACTED TO AT LEAST 90% OF MAXIMUM DENSITY AND WITHIN 2% OF OPTIMUM MOISTURE CONTENT ACCORDING TO ASTM D 698.
- 7. WHEN A BASIN IS INSTALLED NEAR A RESIDENTIAL AREA, FOR SAFETY REASONS, A SIGN SHALL BE POSTED AND THE AREA SECURED WITH A FENCE.

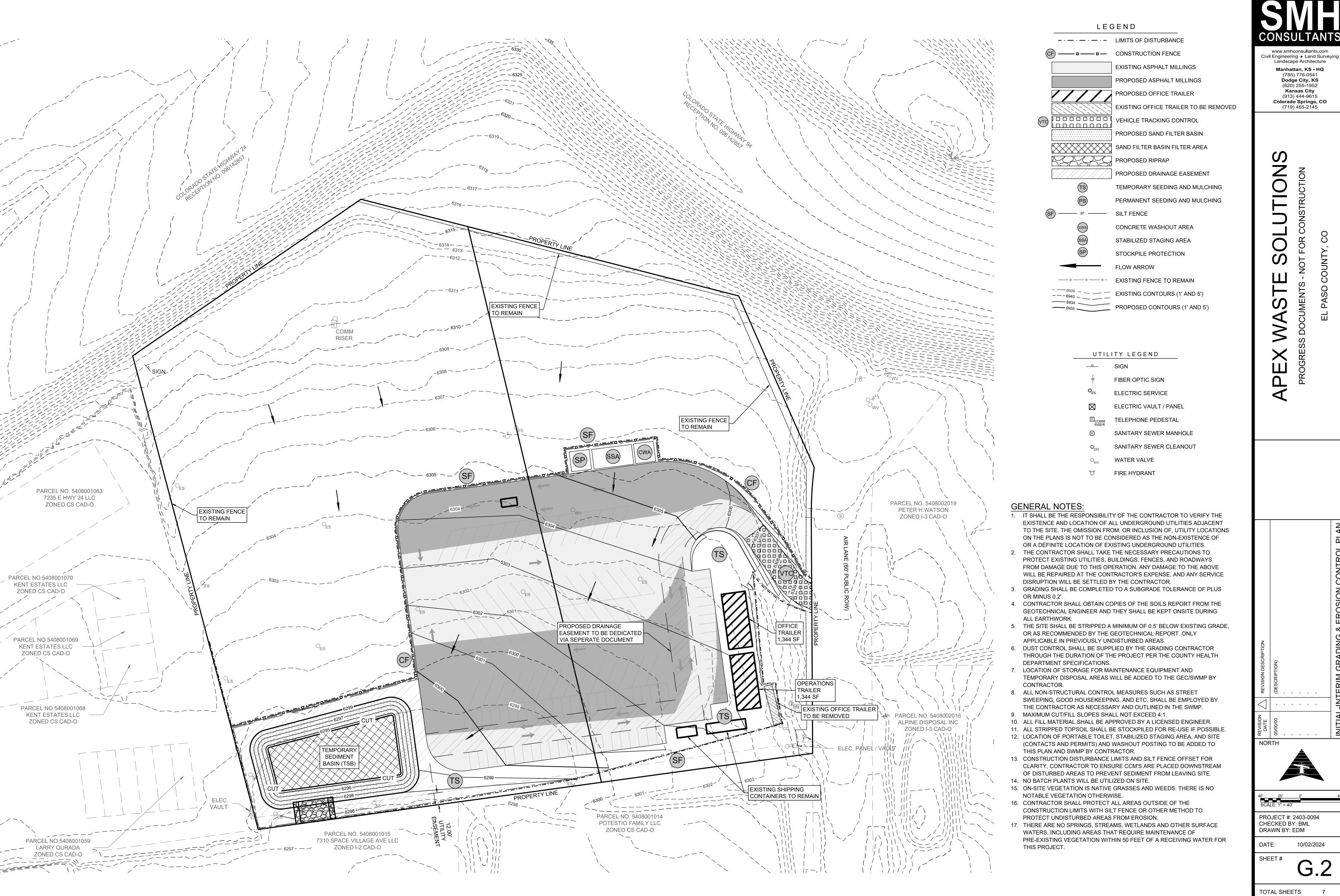
MAINTENANCE REQUIREMENTS

- 1. CONTRACTOR SHALL INSPECT SEDIMENT BASINS AFTER EACH RAINFALL, AT LEAST DAILY DURING PROLONGED RAINFALL, AND WEEKLY DURING PERIODS NO RAINFALL.
- 2. SEDIMENT BASINS SHALL BE CLEANED OUT BEFORE SEDIMENT HAS FILLED HALF THE VOLUME OF THE BASIN.
- 3. SEDIMENT BASINS SHALL REMAIN OPERATIONAL AND PROPERLY MAINTAINED UNTIL THE SITE AREA IS PERMANENTLY STABILIZED WITH ADEQUATE VEGETATIVE COVER AND/OR OTHER PERMANENT STRUCTURE AS APPROVED BY THE CITY.

City of Colorado Springs Stormwater Quality Figure SB-1
Sediment Basin
Construction Detail and Maintenance
Requirements

SWMP MAP/EROSION CONTROL PLANS

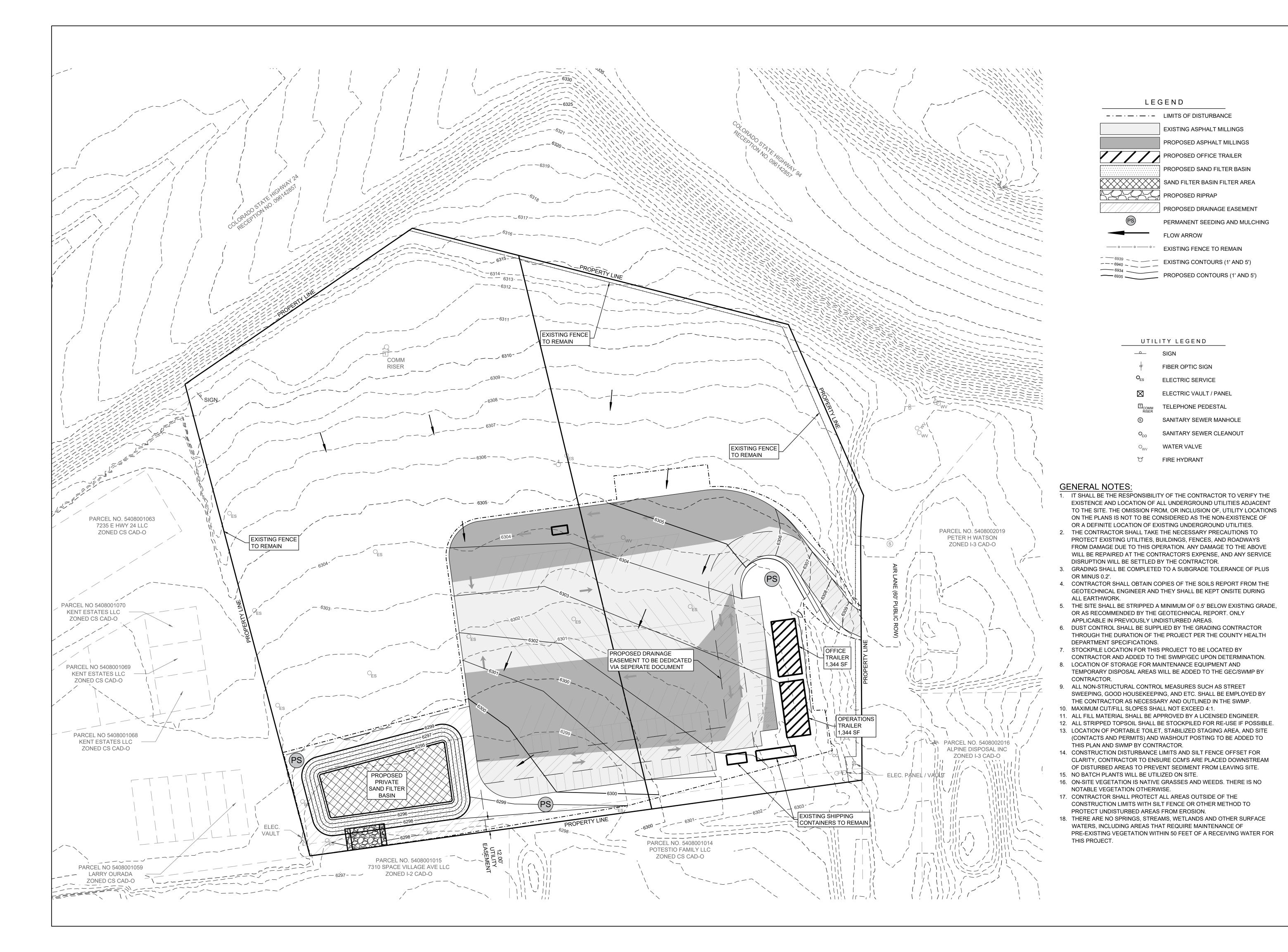






Manhattan, KS - HQ Colorado Springs, CO

10/02/2024





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NORTH

PROJECT #: 2403-0094 CHECKED BY: BML

DRAWN BY: EDM 10/02/2024

SHEET#

TOTAL SHEETS