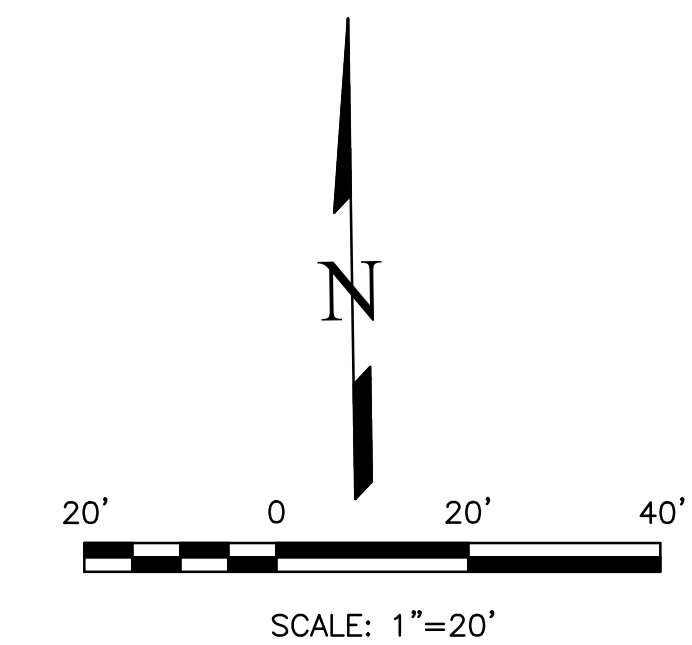


A-1 CHIPSEAL GRADING AND EROSION CONTROL PLAN GRADING PLAN JULY 2022



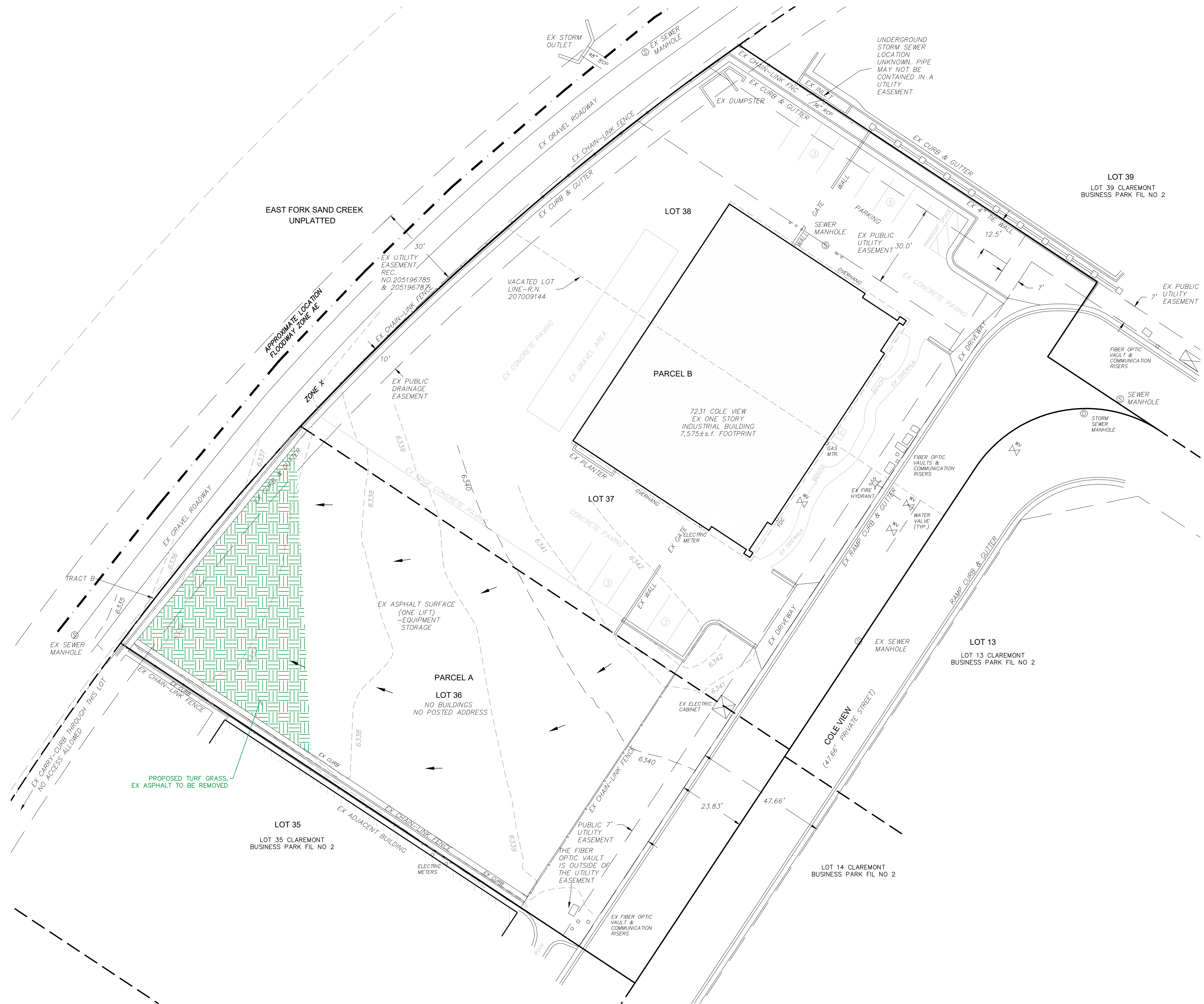
LEGEND

PROPERTY LINE	— — — — —
EXISTING CONTOURS - MINOR	--- 6132 ---
EXISTING CONTOURS - MAJOR	--- 6130 ---
GRADE & DIRECTION	2.2%
PROPOSED CONTOUR	
PROPOSED	PR
EXISTING	EX
WATER LINE	— W — W —
SEWER LINE	— SS — SS —
STORM LINE	— ST — ST —
OVERHEAD ELECTRICAL LINE	— OE — OE —
CHAIN LINK FENCE	— [] — [] —
FIRE HYDRANT	
CONCRETE EDGE	CE
FINISHED GROUND	FG
FINISHED SURFACE	FS
FLOWLINE	FL
SPOT ELEVATION	SE
ASPHALT EDGE	AE
LOW POINT	LP
HIGH POINT	HP
EXISTING ELEVATION	12.00*
EXISTING SPOT GRADE	× EX 7314.00
PROPOSED SPOT GRADE	× 7314.00

NOTES

1. NO GRADING IS PROPOSED. THE ONLY PROPOSED DEVELOPMENT IS THE INSTALLATION OF THE SAND FILTER.

NO GRADING IS PROPOSED.



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THIS DESIGN WAS PREPARED UNDER MY DIRECT SUPERVISION FOR AND ON BEHALF OF TERRA NOVA ENGINEERING, INC.

DANE FRANK
COLORADO P.E. # 50207

REVISIONS NO.	DESCRIPTION	DATE

UNTIL SUCH TIME AS THESE DRAWINGS ARE APPROVED BY THE APPROPRIATE REVIEWING AGENCIES, INCORPORATING THEIR USE ONLY FOR THE PURPOSES DESIGNATED BY WRITTEN AUTHORIZATION.

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A-1 CHIPSEAL
GRADING AND EROSION CONTROL PLAN
GRADING PLAN

DESIGNED BY	DLF
DRAWN BY	DLF
CHECKED BY	LD
H-SCALE	AS SHOWN
V-SCALE	N/A
JOB NO.	2173.00
DATE ISSUED	11/06/22
SHEET NO.	2 OF 4

A-1 CHIPSEAL

GRADING AND EROSION CONTROL PLAN

EROSION CONTROL PLAN

JULY 2022

LEGEND

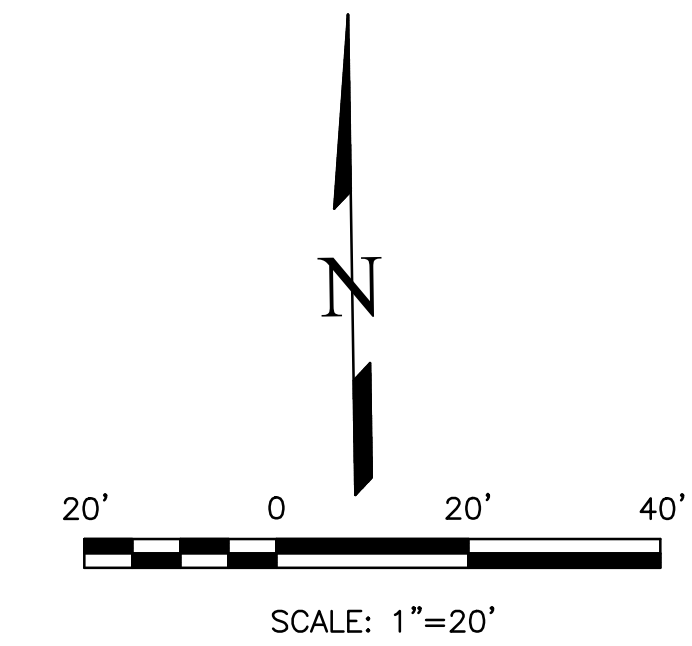
EXISTING CONTOURS - MINOR	---	6132	---
EXISTING CONTOURS - MAJOR	---	6130	---
GRADE & DIRECTION		2.2%	
PROPOSED CONTOUR	---	62	---
PROPOSED		PR	
EXISTING		EX	
WATER LINE	---	W	---
SEWER LINE	---	SS	---
STORM LINE	---	ST	---
OVERHEAD ELECTRICAL LINE	---	DE	---
CHAIN LINK FENCE	---		---
FIRE HYDRANT			
CONCRETE EDGE		CE	
FINISHED GROUND		FG	
FINISHED SURFACE		FS	
FLOWLINE		FL	
SPOT ELEVATION		SE	
ASPHALT EDGE		AE	
LOW POINT		LP	
HIGH POINT		HP	
EXISTING ELEVATION		12.00*	
EXISTING SPOT GRADE	×	EX 7314.00	
PROPOSED SPOT GRADE	×	7314.00	
CONSTRUCTION SITE BOUNDARY & AREA OF SOIL DISTURBANCE	---		---
CUT FILL AREA BOUNDARY	---		---
FLOODPLAIN BOUNDARY	---		---
PROPOSED DRAINAGE EASEMENT	---		---

EROSION CONTROL LEGEND

KEY	TITLE	SYMBOL	IMPLEMENTATION PHASE
SSA	STABILIZED STAGING AREA	[Symbol]	INTERIM
SS	STREET SWEEPING & VACUUMING	[Symbol]	INTERIM
SF	SILT FENCE	[Symbol]	INITIAL & INTERIM

Runoff Reduction Comments:

- All RPA/SPA areas will need to be within a no build/drainage easement (or tract). The easement should read: "No impervious improvements shall be constructed within the easement (i.e., patios, hardscape, gravel, raised garden beds, recreational facilities, etc.). Turf grass vegetation with a uniform density of at least 80% is required. In addition, the existing slope must be maintained".
- Show suitability of topsoil of RPA and steps for proper preparation of topsoil per recommendations in MHFD detail T-0 Table RR-3
- Provide a detail for the UIA:RPA interface that shows the recommended vertical drop of 4"
- Show signage to be posted in RPAs so maintenance personnel and owners know that the area is a water quality treatment area (not just a regular grassy area). The signage should say something like: "Water Quality Treatment Area, do not pollute. Area to remain vegetated and properly maintained per the O&M Manual."
- The runoff reduction RPA is considered a WQ Facility and requires a signed Maintenance Agreement



Runoff Reduction Requirement: Irrigation (temp or permanent) is necessary to establish sufficient vegetation and not just weeds.

provide dimensions

Show the slope of the runoff reduction area

Please add a note stating that runoff reduction turf grass requires 80% vegetation in order to close the permit.

NOTES

1. SEDIMENT CONTROL LOGS MAY BE SUBSTITUTED FOR SILT FENCE AND VICE VERSA.
2. SEED AND MULCH DISTURBED AREAS ONLY.
3. EXISTING SITE VEGETATION IS LANDSCAPING (PER AERIAL PHOTOS).
4. LOCATIONS OF WASTE CONTAINER, PORTABLE TOILETS, AND SWMP STORAGE ARE TBD.
5. THE ONLY PROPOSED DEVELOPMENT IS THE SAND FILTER. THE AREA AROUND THE SAND FILTER IS CURRENTLY PAVED OUT TO THE STREET.
6. AS THE ENTIRE WORK AREA IS ALREADY PAVED, NO VEHICLE TRACKING CONTROL IS PROPOSED. SOIL TRACKING SHALL BE CONTROLLED WITH SWEEPING.
7. NO SOIL STOCKPILE AREA IS PROPOSED AS THE PROPOSED WORK IS DIGGING A HOLE IN A PAVED AREA TO INSTALL A SAND FILTER. NO SOIL IS TO BE STOCKPILED ONSITE.
8. NO BATCH PLANTS WILL BE UTILIZED ONSITE.

EROSION CONTROL COST OPINION:

1. 110 LF--SEDIMENT CONTROL LOGS @ 3.00/LF	\$	330
2. 1 EA--FUEL SPILL KIT @ \$200/EA	\$	200
3. 40% MAINTENANCE AND REPLACEMENT	\$	212
TOTAL	\$	742

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COLORADO P.E. # 50207

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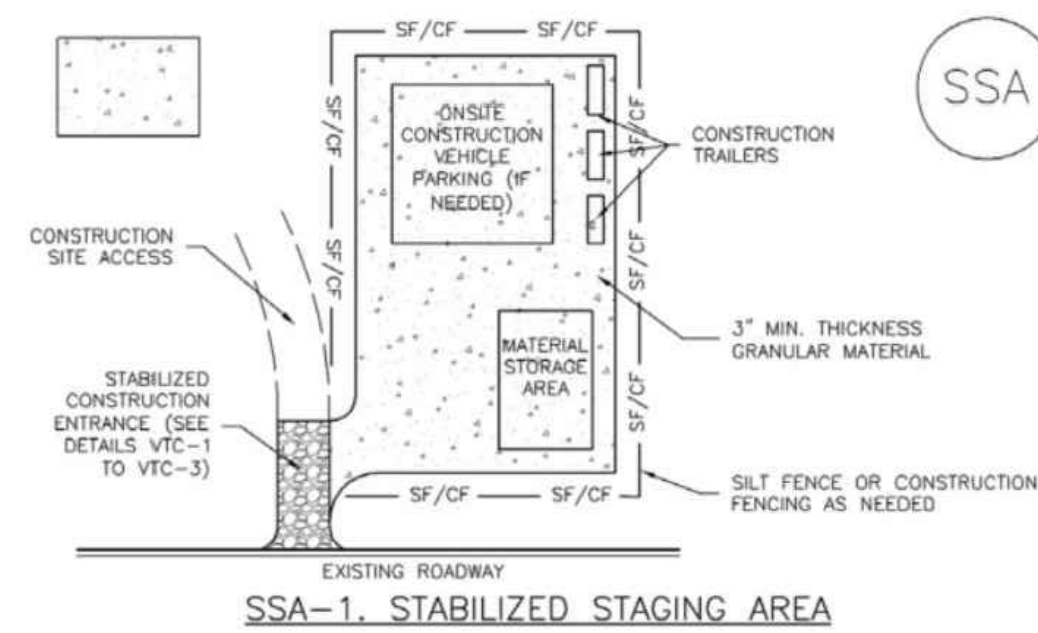
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EROSION CONTROL PLAN

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V-SCALE	N/A
JOB NO.	2173.00
DATE ISSUED	11/06/22
SHEET NO.	3 OF 4

Stabilized Staging Area (SSA) SM-6



- SSA-1. STABILIZED STAGING AREA**
- STABILIZED STAGING AREA INSTALLATION NOTES**
- SEE PLAN VIEW FOR LOCATION OF STAGING AREA(S). CONTRACTOR MAY ADJUST LOCATION AND SIZE OF STAGING AREA WITH APPROVAL FROM THE LOCAL JURISDICTION.
 - STABILIZED STAGING AREA SHOULD BE APPROPRIATE FOR THE NEEDS OF THE SITE. OVERSIZING RESULTS IN A LARGER AREA TO STABILIZE FOLLOWING CONSTRUCTION.
 - STAGING AREA SHALL BE STABILIZED PRIOR TO OTHER OPERATIONS ON THE SITE.
 - THE STABILIZED STAGING AREA SHALL CONSIST OF A MINIMUM 3" THICK GRANULAR MATERIAL.
 - UNLESS OTHERWISE SPECIFIED BY LOCAL JURISDICTION, ROCK SHALL CONSIST OF DOT SECT. #703, AASHTO #3 COARSE AGGREGATE OR 8" (MINUS) ROCK.
 - ADDITIONAL PERIMETER BMPs MAY BE REQUIRED INCLUDING BUT NOT LIMITED TO SILT FENCE AND CONSTRUCTION FENCING.
- STABILIZED STAGING AREA MAINTENANCE NOTES**
- 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.
 - FREQUENT OBSERVATIONS AND MAINTENANCE ARE NECESSARY TO MAINTAIN BMPs IN EFFECTIVE OPERATING CONDITION. INSPECTIONS AND CORRECTIVE MEASURES SHOULD BE DOCUMENTED THOROUGHLY.
 - WHERE BMPs HAVE FAILED, REPAIR OR REPLACEMENT SHOULD BE INITIATED UPON DISCOVERY OF THE FAILURE.
 - ROCK SHALL BE REAPPLIED OR REGRADED AS NECESSARY IF RUTTING OCCURS OR UNDERLYING SUBGRADE BECOMES EXPOSED.

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

SM-6 Stabilized Staging Area (SSA)

- STABILIZED STAGING AREA MAINTENANCE NOTES**
- STABILIZED STAGING AREA SHALL BE ENLARGED IF NECESSARY TO CONTAIN PARKING, STORAGE, AND UNLOADING/LOADING OPERATIONS.
 - 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 November 2010
Urban Storm Drainage Criteria Manual Volume 3

please provide seed mix for turf grass
Note: comment generated during the 3rd review due to the WQ design changes

Street Sweeping and Vacuuming (SS) SM-7

Description

Street sweeping and vacuuming remove sediment that has been tracked onto roadways to reduce sediment transport into storm drain systems or a surface waterway.

Appropriate Uses

Use this practice at construction sites where vehicles may track sediment offsite onto paved roadways.

Design and Installation

Street sweeping or vacuuming should be conducted when there is noticeable sediment accumulation on roadways adjacent to the construction site. Typically, this will be concentrated at the entrance/exit to the construction site. Well-maintained stabilized construction entrances, vehicle tracking controls and tire wash facilities can help reduce the necessary frequency of street sweeping and vacuuming.

On smaller construction sites, street sweeping can be conducted manually using a shovel and broom. Never wash accumulated sediment on roadways into storm drains.

Maintenance and Removal

- Inspect paved roads around the perimeter of the construction site on a daily basis and more frequently, as needed. Remove accumulated sediment, as needed.
- Following street sweeping, check inlet protection that may have been displaced during street sweeping.
- Inspect area to be swept for materials that may be hazardous prior to beginning sweeping operations.

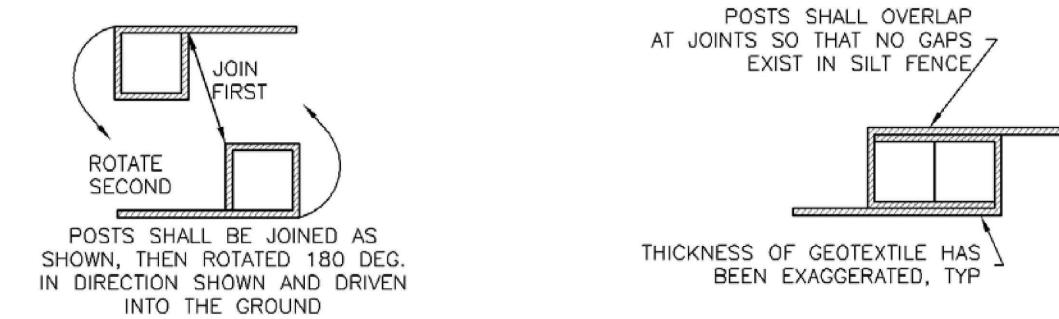
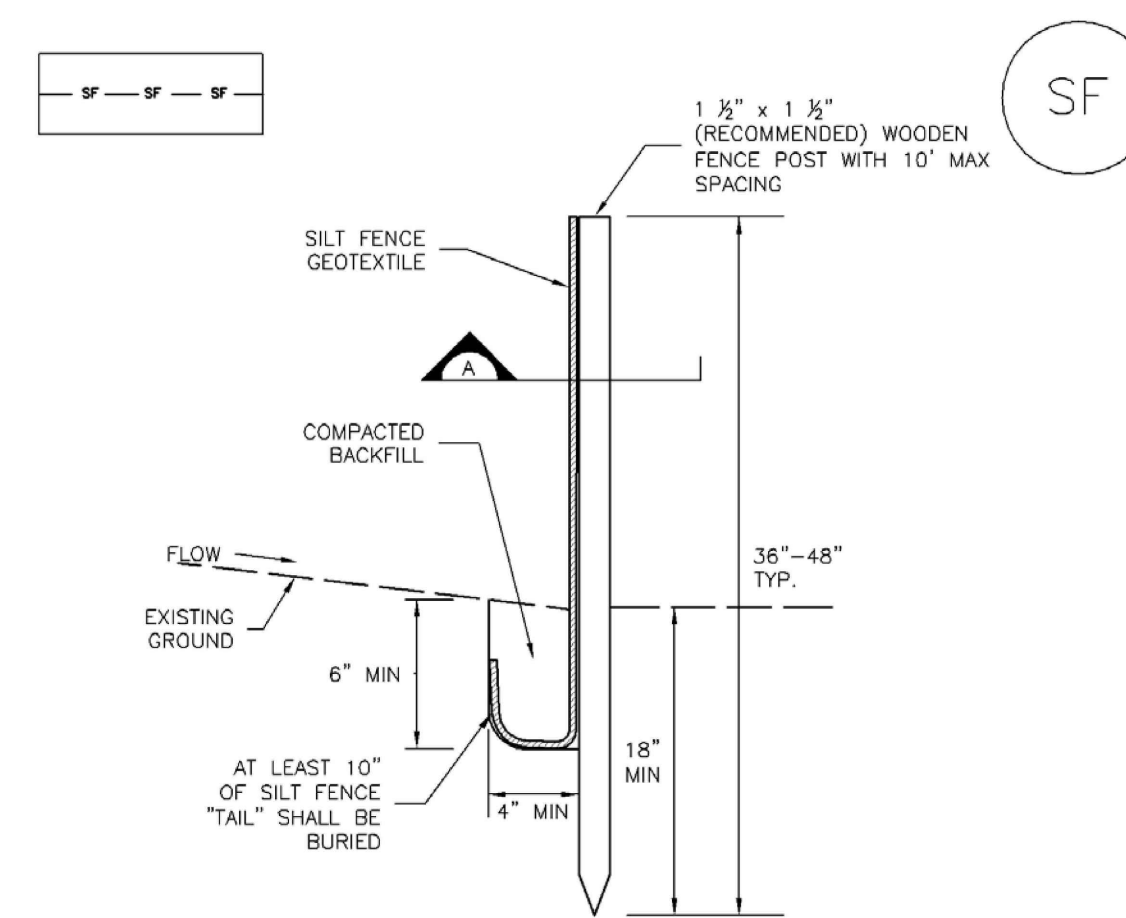


Photograph SS-1. A street sweeper removes sediment and potential pollutants along the curb line at a construction site. Photo courtesy of Tom Gore.

Street Sweeping/ Vacuuming	
Functions	
Erosion Control	No
Sediment Control	Yes
Site/Material Management	Yes

November 2010 Urban Drainage and Flood Control District SS-1
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Silt Fence (SF) SC-1



SECTION A
SF-1. SILT FENCE

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

SC-1 Silt Fence (SF)

- SILT FENCE INSTALLATION NOTES**
- SILT FENCE MUST BE PLACED AWAY FROM THE TOE OF THE SLOPE TO ALLOW FOR WATER PONDING. SILT FENCE AT THE TOE OF A SLOPE SHOULD BE INSTALLED IN A FLAT LOCATION AT LEAST SEVERAL FEET (2-5 FT) FROM THE TOE OF THE SLOPE TO ALLOW ROOM FOR PONDING AND DEPOSITION.
 - A UNIFORM 6" X 4" ANCHOR TRENCH SHALL BE EXCAVATED USING TRENCHER OR SILT FENCE INSTALLATION DEVICE. NO ROAD GRADERS, BACKHOES, OR SIMILAR EQUIPMENT SHALL BE USED.
 - COMPACT ANCHOR TRENCH BY HAND WITH A "JUMPING JACK" OR BY WHEEL ROLLING. COMPACTION SHALL BE SUCH THAT SILT FENCE RESISTS BEING PULLED OUT OF ANCHOR TRENCH BY HAND.
 - SILT FENCE SHALL BE PULLED TIGHT AS IT IS ANCHORED TO THE STAKES. THERE SHOULD BE NO NOTICEABLE SAG BETWEEN STAKES AFTER IT HAS BEEN ANCHORED TO THE STAKES.
 - SILT FENCE FABRIC SHALL BE ANCHORED TO THE STAKES USING 1" HEAVY DUTY STAPLES OR NAILS WITH 1" HEADS. STAPLES AND NAILS SHOULD BE PLACED 3" ALONG THE FABRIC DOWN THE STAKE.
 - AT THE END OF A RUN OF SILT FENCE ALONG A CONTOUR, THE SILT FENCE SHOULD BE TURNED PERPENDICULAR TO THE CONTOUR TO CREATE A "J-HOOK." THE "J-HOOK" EXTENDING PERPENDICULAR TO THE CONTOUR SHOULD BE OF SUFFICIENT LENGTH TO KEEP RUNOFF FROM FLOWING AROUND THE END OF THE SILT FENCE (TYPICALLY 10' - 20').
 - SILT FENCE SHALL BE INSTALLED PRIOR TO ANY LAND DISTURBING ACTIVITIES.

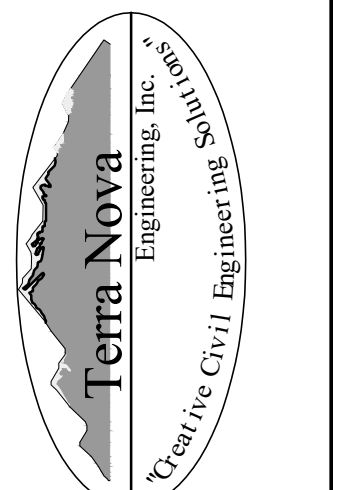
- SILT FENCE MAINTENANCE NOTES**
- INSPECT BMPs EACH WORKDAY, AND MAINTAIN THEM IN EFFECTIVE OPERATING CONDITION. MAINTENANCE OF BMPs SHOULD BE PROACTIVE, NOT REACTIVE. INSPECT BMPs AS SOON AS POSSIBLE (AND ALWAYS WITHIN 24 HOURS) FOLLOWING A STORM THAT CAUSES SURFACE EROSION, AND PERFORM NECESSARY MAINTENANCE.
 - FREQUENT OBSERVATIONS AND MAINTENANCE ARE NECESSARY TO MAINTAIN BMPs IN EFFECTIVE OPERATING CONDITION. INSPECTIONS AND CORRECTIVE MEASURES SHOULD BE DOCUMENTED THOROUGHLY.
 - WHERE BMPs HAVE FAILED, REPAIR OR REPLACEMENT SHOULD BE INITIATED UPON DISCOVERY OF THE FAILURE.
 - SEDIMENT ACCUMULATED UPSTREAM OF THE SILT FENCE SHALL BE REMOVED AS NEEDED TO MAINTAIN THE FUNCTIONALITY OF THE BMP, TYPICALLY WHEN DEPTH OF ACCUMULATED SEDIMENTS IS APPROXIMATELY 6".
 - REPAIR OR REPLACE SILT FENCE WHEN THERE ARE SIGNS OF WEAR, SUCH AS SAGGING, TEARING, OR COLLAPSE.
 - SILT FENCE IS TO REMAIN IN PLACE UNTIL THE UPSTREAM DISTURBED AREA IS STABILIZED AND APPROVED BY THE LOCAL JURISDICTION, OR IS REPLACED BY AN EQUIVALENT PERIMETER SEDIMENT CONTROL BMP.
 - WHEN SILT FENCE IS REMOVED, ALL DISTURBED AREAS SHALL BE COVERED WITH TOPSOIL, SEEDED AND MULCHED OR OTHERWISE STABILIZED AS APPROVED BY LOCAL JURISDICTION.
- (DETAIL ADAPTED FROM TOWN OF PARKER, COLORADO AND CITY OF ALBORA, NOT AVAILABLE IN AUTOCAD)
- 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.

SF-4 Urban Drainage and Flood Control District November 2010
Urban Storm Drainage Criteria Manual Volume 3

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A-1 CHIPSEAL
GRADING AND EROSION CONTROL PLAN EROSION CONTROL DETAILS

DESIGNED BY DLF
DRAWN BY DLF
CHECKED BY LD
H-SCALE AS SHOWN
V-SCALE N/A
JOB NO. 2173.00
DATE ISSUED 11/06/22
SHEET NO. 4 OF 4