

Colorado Springs Police Department Firing Range

GRADING, EROSION AND STORMWATER QUALITY CONTROL PLAN

15095 Sniper Road
Fountain / El Paso County, Colorado 80817

PROJECT SPECIFIC GRADING AND EROSION CONTROL NOTES

- 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 (SMWP) 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 affect 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 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 loosened prior to installation of the control measure(s).
- 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 wash water 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 of uncontaminated ground water 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 appurtenances 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 onsite 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 containment protection to contain all spills onsite 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 26, Article 8, CRS), and the "Clean Water Act" (33 USC 1344), in addition to the requirements of the Land Development Code, DCM Volume II 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 Kumar & Assoc. Inc. 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.

SEED MIX

AREAS DISTURBED BY THE EARTHWORK ACTIVITIES AND NOT RECEIVING OTHER TREATMENT SHALL BE PERMANENTLY REVEGETATED WITH THE FOLLOWING SEED MIX.

SPECIES	VARIETY	lbs/acre
SIDE-OATS GRAMA	<i>El Reno</i>	3.0
WESTERN WHEAT GRASS	<i>Barton</i>	2.5
SLENDER WHEAT GRASS	<i>Native</i>	2.0
LITTLE BLUESTEM	<i>Pastura</i>	2.0
SAND DROPSIED	<i>Native</i>	0.5
SWITCH GRASS	<i>Nebraska</i>	3.0
WEeping LOVE GRASS	<i>Morpha</i>	1.0

14.0 lbs
SEEDING APPLICATION: DRILL SEED 1/4" TO 1/2" INTO TOPSOIL. IN AREAS INACCESSIBLE TO A DRILL, HAND BROADCAST AT DOUBLE THE RATE AND RAKE 1/4" TO 1/2" INTO THE TOPSOIL. MULCHING APPLICATION: 1-1/2 TONS NATIVE HAY PER ACRE, MECHANICALLY CRIMPED INTO THE TOPSOIL.

LEGEND

	EXISTING SANITARY MANHOLE
	EXISTING FIRE HYDRANT
	EXISTING WATER VALVE
	PROPOSED WATER VALVE
	EXISTING ELECTRIC TRANSFORMER
	EXISTING POWER POLE
	EXISTING FIBER OPTIC PEDESTAL
	EXISTING TELEPHONE PEDESTAL
	EXISTING GAS TEST STATION
	EXISTING DECIDUOUS TREE
	EXISTING SIGN
	EXISTING CONTOUR
	PROPOSED CONTOUR
	EXISTING SANITARY SEWER
	PROPOSED SANITARY SEWER
	PROPOSED STORM SEWER W/STRUCTURES
	EXISTING WATER LINE
	PROPOSED WATER LINE
	EXISTING GAS MAIN
	EXISTING ELECTRIC LINE (UNDERGROUND)
	EXISTING ELECTRIC LINE (OVERHEAD)
	EXISTING FIBER OPTIC LINE
	EXISTING TELEPHONE LINE
	EXISTING FENCE
	PROPOSED FENCE
	EXISTING CURB & GUTTER
	PROPOSED CURB & GUTTER
	EXISTING CONCRETE (TO BE REMOVED)
	PROPOSED CONCRETE
	PROPOSED BUILDING
	PROPOSED GRAVEL SURFACE

SHEET INDEX

C-100	Grading and Erosion Control Plan -- Cover Sheet
C-101	Grading and Erosion Control Plan
C-102	Grading and Erosion Control Details 1 of 2
C-103	Grading and Erosion Control Details 2 of 2

VICINITY MAP
NOT TO SCALE

SITE

INTERSTATE 25

OLD PUEBLO RD

WINNER RD

PPR RACEWAY

GRADING LEGEND

	SILT FENCE		STABILIZED STAGING AREA
	ROCK SOCK		VEHICLE TRACKING CONTROL
	INLET PROTECTION		EROSION CONTROL BLANKET
	CONCRETE WASHOUT AREA		PERMANENT SEEDING & MULCH
	RIPRAP		ROCK
	8 FT WIDE EARTHEN BERM AT POND PERIMETER 4:1 SIDE SLOPES MIN		RIPRAP
	4 FT WIDE EARTHEN BERM AT PARKING AREA 4:1 INSIDE SLOPE MIN. (RUNOFF INTERCEPT)		FLOW DIRECTION ARROW
	CUT/FILL DELINEATION		LIMITS OF SOIL DISTURBANCE
	CONSTRUCTION FENCING		PROPERTY LINE
	EXISTING CONTOUR		PROPOSED CONTOUR

SEE DETAILS ON SHEET C-102 & 103

SITE SOIL TYPE NOTE:

According to the Soil Survey for El Paso County, Colorado, Soils within the subject site are classified to be within Hydrologic Soils Group C (Limon Clay #47) (See Figure 2). The soils all well drained, typical of alluvial fans, and have a low hazard of erosion and soil blowing.

PRE-EXCAVATION CHECKLIST

- ☐ Gas and other utility lines of record shown on the plans.
- ☐ Utilities Central Locating called at least 2 business days ahead. (1-800-922-1987)
- ☐ Utilities located and marked.
- ☐ Employees briefed on marking and color codes.*
- ☐ Employees trained on excavation and safety procedures for natural gas lines.
- ☐ When excavation approaches gas lines, employees expose lines by careful probing and hand digging.

*A.G.A./A.P.W.A. STANDARD UTILITY MARKING COLOR CODE

Natural Gas	Yellow
Electric	Red
Water	Blue
Wastewater	Green

OPINION OF COST FOR EROSION CONTROL REQUIREMENTS

ITEM	QUANTITY	UNIT	UNIT COST	AMOUNT
Vehicle Tracking Control	2	EA	\$ 2,370.00	\$ 4,740.00
Silt Fence	3,218	LF	\$ 2.50	\$ 8,045.00
Concrete Washout	1	EA	\$ 760.00	\$ 760.00
Permanent Seeding	4	AC	\$ 800.00	\$ 3,200.00
Roller Erosion Control Product	20,855	SF	\$ 0.40	\$ 8,342.00
Inlet Protection	3	EA	\$ 200.00	\$ 600.00
Maintenance (40% OF E.C.)	1	LS	\$ 10,275.00	\$ 10,275.00
			TOTAL	\$ 35,962.00

GENERAL GRADING AND EROSION CONTROL NOTES

TIMING
Anticipated starting and completion time period of site grading: Spring 2020 - Winter 2020
Expected date on which the final stabilization will be completed: Spring 2021

AREAS
Total area of the site to be cleared, excavated, or graded: 17.20 Acres

RECEIVING WATERS
Name of receiving waters: Jimmy Camp Creek / Fountain Creek

EARTHWORKS
3,053 CY CUT, 133,276 CY FILL, NET 130,224 CY FILL

STATEMENTS

ENGINEER'S STATEMENT

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.

ANDREW W. McCORD, P.E. 25057
FOR AND ON BEHALF OF KIOWA ENGINEERING CORPORATION

DATE

OWNER'S STATEMENT

THE OWNER WILL COMPLY WITH THE REQUIREMENTS OF THE GRADING AND EROSION CONTROL PLAN.

BY: PAT RIGDON

TITLE: COLORADO SPRINGS POLICE DEPARTMENT

ADDRESS: CSPD, FIRING RANGE
15095 SNIPER LANE
FOUNTAIN, COLORADO 80817

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 AND ENGINEERING CRITERIA MANUAL, AS AMENDED.

JENNIFER IRVINE, P.E.
COUNTY ENGINEER/ECM ADMINISTRATOR

DATE

Unresolved. Add PCD Project Number PPR-19-043

HB&A

Architecture
AND
Planning

102 E. Moreno Avenue
Colorado Springs, CO 80903
719.473.7063
www.hbaa.com

Kiowa

Engineering Corporation

1604 South 21st Street
Colorado Springs, Colorado 80904
(719) 630-7342

COLORADO SPRINGS POLICE
DEPT. FIRING RANGE

15905 SNIPER LANE
FOUNTAIN, CO 80817

Issue / revision date:

DEVEL. PLAN 08/14/19

DP RESUBMIT 02/21/2020

19007

MJK

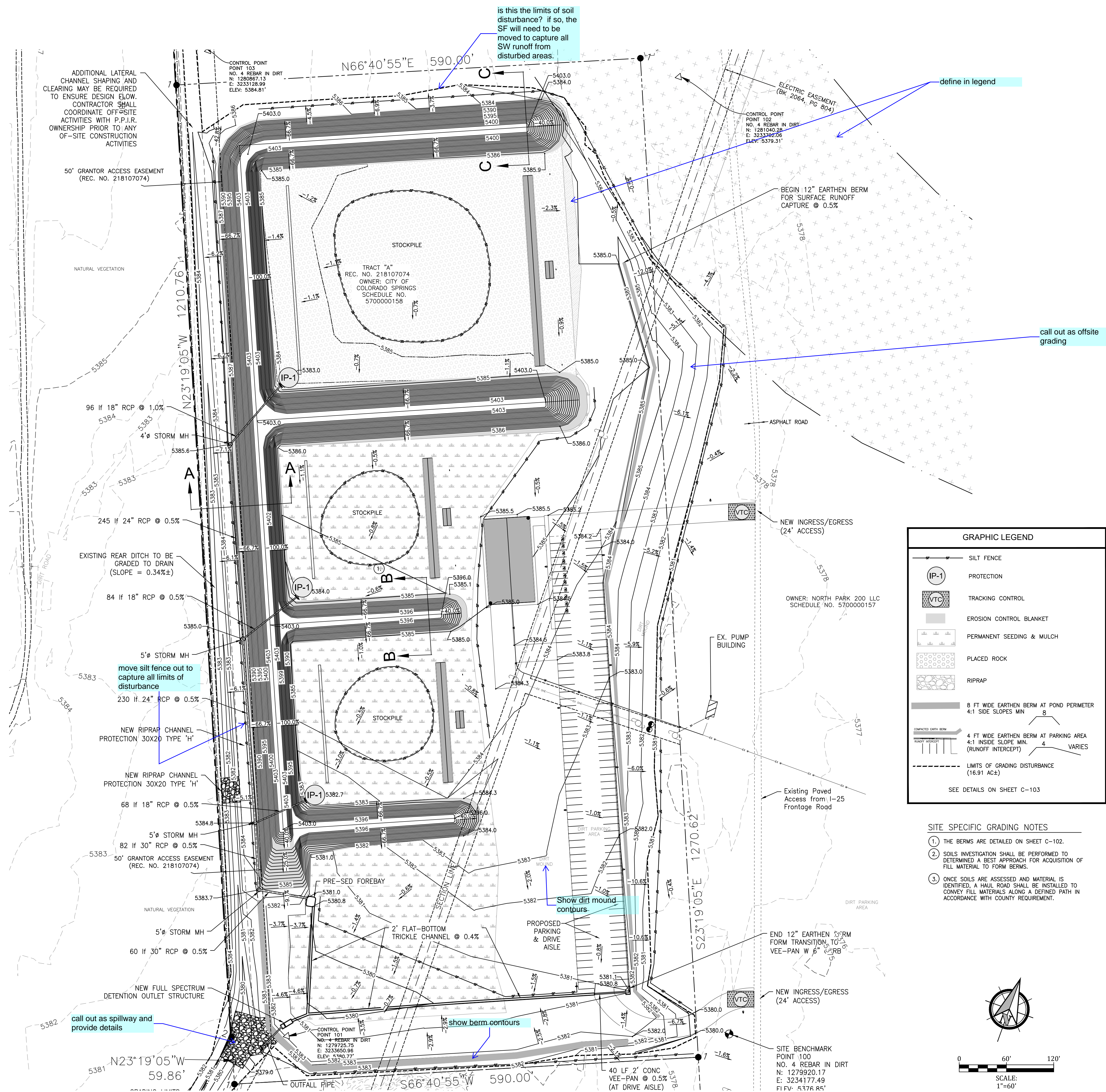
AWMc

GRADING,
EROSION &
STORMWATER
MGMT COVER

C-100



Know what's below.
Call before you dig.



Add a note stating that there are not proposed batch plants for this project

Add a note about existing vegetation

Show limits of disturbance

GRAPHIC LEGEND

- SILT FENCE
- IP-1 PROTECTION
- VTC TRACKING CONTROL
- EROSION CONTROL BLANKET
- PERMANENT SEEDING & MULCH
- PLACED ROCK
- RIPRAP
- 8 FT. WIDE EARTHEN BERM AT POND PERIMETER
4:1 SIDE SLOPES MIN
- 4 FT. WIDE EARTHEN BERM AT PARKING AREA
4:1 INSIDE SLOPE MIN. (RUNOFF INTERCEPT)
- LIMITS OF GRADING DISTURBANCE (16.91 AC±)

SEE DETAILS ON SHEET C-103

- SITE SPECIFIC GRADING NOTES
- THE BERMS ARE DETAILED ON SHEET C-102.
 - SOILS INVESTIGATION SHALL BE PERFORMED TO DETERMINE A BEST APPROACH FOR ACQUISITION OF FILL MATERIAL TO FORM BERMS.
 - ONCE SOILS ARE ASSESSED AND MATERIAL IS IDENTIFIED, A HAUL ROAD SHALL BE INSTALLED TO CONVEY FILL MATERIALS ALONG A DEFINED PATH IN ACCORDANCE WITH COUNTY REQUIREMENT.

Engineer's Statement:
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 report.

Engineer of Record Signature _____ Date _____

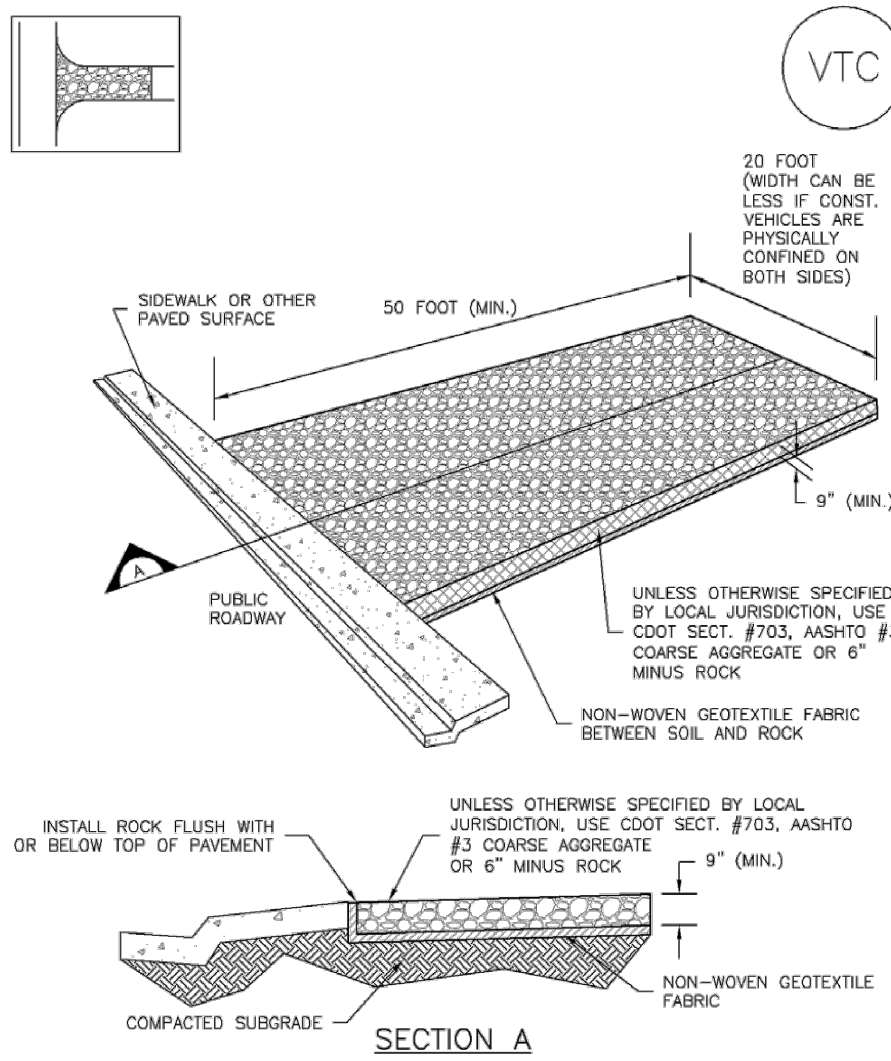
Owner's Statement:
The Owner will comply with the requirements of the Grading and Erosion Control Plan.

Owner Signature _____ Date _____



Know what's below.
Call before you dig.

replace with EPC approved VTC detail (DCM Vol. 2)



VTC-1. AGGREGATE VEHICLE TRACKING CONTROL

STABILIZED CONSTRUCTION ENTRANCE/EXIT INSTALLATION NOTES

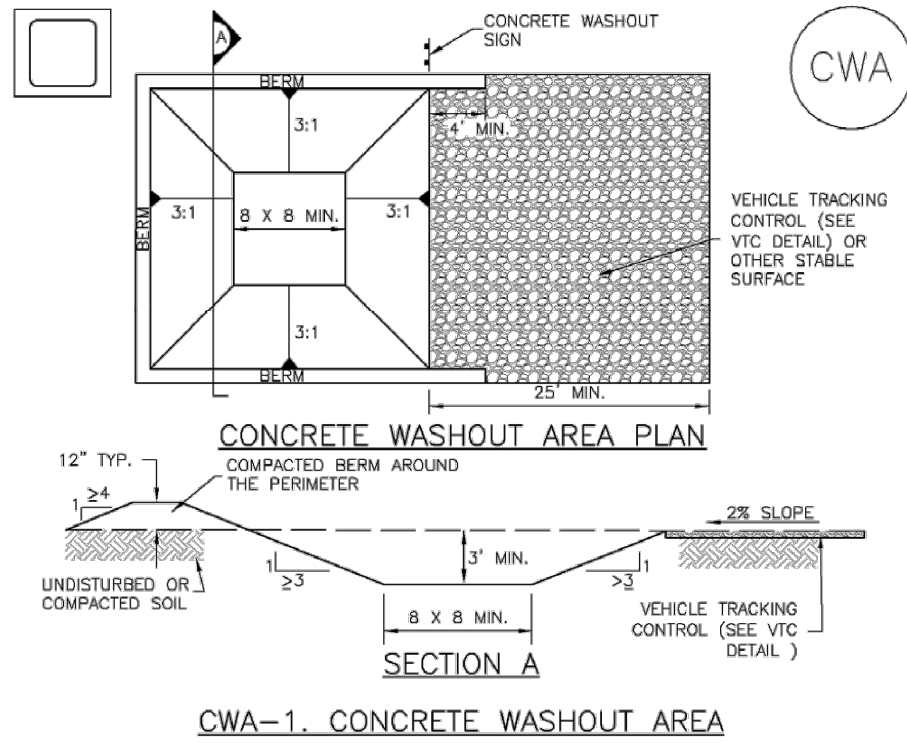
1. SEE PLAN VIEW FOR
- LOCATION OF CONSTRUCTION ENTRANCE(S)/EXIT(S).
- TYPE OF CONSTRUCTION ENTRANCE(S)/EXIT(S) (WITH/WITHOUT WHEEL WASH, CONSTRUCTION MAT OR TRM).
2. CONSTRUCTION MAT OR TRM STABILIZED CONSTRUCTION ENTRANCES ARE ONLY TO BE USED ON SHORT DURATION PROJECTS (TYPICALLY RANGING FROM A WEEK TO A MONTH) AND SHALL NOT BE LIMITED TO THE FOLLOWING:
 - a. A STABILIZED CONSTRUCTION ENTRANCE/EXIT SHALL BE LOCATED AT ALL ACCESS POINTS WHERE VEHICLES ACROSS THE CONSTRUCTION SITE FROM PAVED RIGHT-OF-WAYS.
 - b. STABILIZED CONSTRUCTION ENTRANCE/EXIT SHALL BE INSTALLED PRIOR TO ANY LAND DISTURBING ACTIVITIES.
3. A NON-WOVEN GEOTEXTILE FABRIC SHALL BE PLACED UNDER THE STABILIZED CONSTRUCTION ENTRANCE/EXIT PRIOR TO THE PLACEMENT OF ROCK.
6. UNLESS OTHERWISE SPECIFIED BY LOCAL JURISDICTION, ROCK SHALL CONSIST OF DOT SPEC. #703, #M30 (3) coarse aggregate or #7 (minus) rock.

STABILIZED CONSTRUCTION ENTRANCE/EXIT MAINTENANCE NOTES

1. INSPECT EACH WORK AREA AND MAINTAIN THEM IN EFFECTIVE OPERATIONAL CONDITION AT ALL TIMES TO AVOID ACCIDENTS OR DAMAGE TO EQUIPMENT. IT IS POSSIBLE (AND ALWAYS WITHIN 24 HOURS) FOLLOWING A STORM THAT CAUSES SURFACE WATER TO FLOOD THE ROADWAY. IF THIS OCCURS, STOP TRAFFIC IMMEDIATELY.
2. FREQUENT OBSERVATIONS AND MAINTENANCE ARE NECESSARY TO MAINTAIN BARS IN EFFECTIVE OPERATIONAL CONDITION. INSPECTIONS AND CORRECTIVE MEASURES SHOULD BE INITIATED AS SOON AS THEY ARE IDENTIFIED.
3. WHERE BARS HAVE FAILED, REPAIR OR REPLACEMENT SHOULD BE INITIATED UPON DISCOVERY OF THE FAILURE.
4. ROCK SHALL BE REAPPLIED OR REGRADED AS NECESSARY TO THE STABILIZED ENTRANCE/EXIT TO MAINTAIN A CONSISTENT DEPTH.
5. SEDIMENT TRACKED OUTSIDE PAVED ROADS IS TO BE REMOVED THROUGHOUT THE DAY AND AT THE END OF THE DAY BY SHOVELING OR SWEEPING. SEDIMENT MAY NOT BE WASHED OFF THE ROADWAY.
- NOTE: MANY JURISDICTIONS HAVE BAR DETAILS THAT VARY FROM UNIFORM STANDARD DETAILS. CONSULT WITH LOCAL JURISDICTIONS AS TO WHICH DETAIL SHOULD BE USED WHEN DIFFERENCES EXIST.
- (DETAILS ADAPTED FROM CD OF BROOKFIELD, COLORADO; NOT AVAILABLE IN AUTOCAD)

(DETAILS ADAPTED FROM CITY OF BROOMFIELD, COLORADO, NOT AVAILABLE IN AUTOCAD)

VEHICLE TRACKING
CONTROL
NTS



CWA-1. CONCRETE WASHOUT AREA

CWA INSTALLATION NOTES

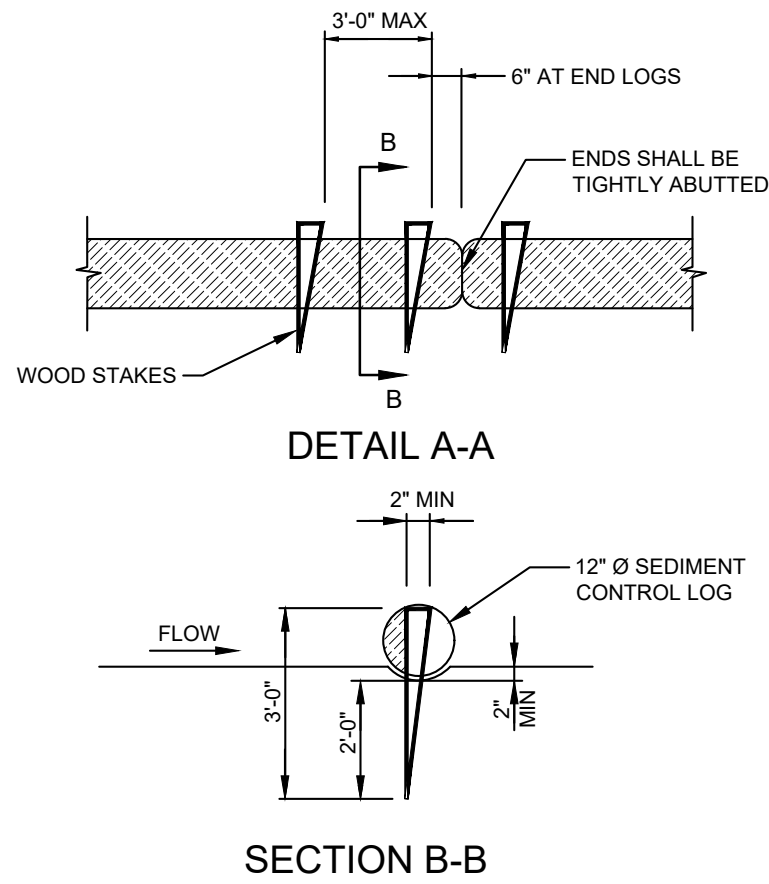
1. SEE PLAN VIEW FOR:
 - a. CWA INSTALLATION LOCATION.
2. DO NOT LOCATE AN UNLINED CWA WITH 400' OF ANY NATURAL, DRAINAGE PATHWAY OR WATERBODY. DO NOT LOCATE WITHIN 1,000' OF ANY WELLS OR DRINKING WATER SOURCE. SITE CONSTRAINTS MAKE THIS INFEASIBLE, OR IF HIGHLY PERMISSIBLE SLOES EXIST ON SITE, THE CWA SHALL BE INSTALLED WITH AN IMPERMEABLE LINER (E.G. MIN. THICKNESS OF 2 MILS) TO PREVENT CWA FROM LEAKING INTO THE GROUND. CONSIDER ALTERNATE SURFACE STORAGE ALTERNATIVES USING PREFABRICATED CONCRETE WASHOUT DEVICES OR A FENCED AREA WITH A DRAINAGE SYSTEM TO PREVENT CWA FROM LEAKING INTO THE GROUND.
3. THE CWA SHALL BE INSTALLED PRIOR TO CONCRETE PLACEMENT ON SITE.
4. CWA SHALL INCLUDE A FLAT SURFACE PIT BE AT LEAST 8" BY 8" BY SLOPES LEADING OUT OF THE SURFACEPIT SHALL BE 3:1 OR FLATTER. THE PIT SHALL BE AT LEAST 3' DEEP.
5. BERN SURROUNDING SIDES AND BACK OF THE CWA SHALL HAVE MINIMUM HEIGHT OF 1'.
6. VEHICLE TRAILING PAD SHALL BE SLOPED 2% TOWARDS THE CWA.
7. SIGNS SHALL BE PLACED AT THE CONSTRUCTION ENTRANCE, AT THE CWA, AND AT THE BURNING AREA. THESE SIGNS SHALL INDICATE THE LOCATION OF THE CWA TO OPERATORS OF CONCRETE TRUCKS AND PUMP TRIPS.
8. USE EXCAVATED MATERIAL FOR PERMITS BURN CONSTRUCTION.

CWA MAINTENANCE NOTES:

1. INSPECT EACH QUOT WORKMAN, AND MAINTAIN THEM IN EFFECTIVE OPERATING CONDITION THROUGHOUT THE PROJECT. INSPECTIONS AND CORRECTIVE MEASURES SHOULD BE POSSIBLE (AND ALWAYS WITHIN 24 HOURS) FOLLOWING A STORM THAT CAUSES SURFACE DAMAGE TO THE PAVEMENT.
2. FREQUENT OBSERVATIONS AND MAINTENANCE ARE NECESSARY TO MAINTAIN BIDS IN EFFECTIVE OPERATING CONDITION. INSPECTIONS AND CORRECTIVE MEASURES SHOULD BE INITIATED IMMEDIATELY UPON DETECTION OF DAMAGE.
3. WHERE BIDS HAVE FAILED, REPAIR OR REPLACEMENT SHOULD BE INITIATED UPON DISCOVERY OF THE FAILURE.
4. THE CHA SHALL BE REPAIRED, CLEANED, OR ENLARGED AS NECESSARY TO MAINTAIN THE SURFACE FOR THE COLLECTION OF MATERIALS. ACCUMULATED IN POT SHALL BE REMOVED ONCE THE MATERIALS HAVE REACHED A DEPTH OF 2".
5. CONCRETE WASHWATER, WASTED PESTS OF CONCRETE AND ALL OTHER DEBRIS SHALL BE SUBMITTED TO THE APPROPRIATE AGENCY AS A WATER-TIGHT CONTAINER AND DISPOSAL OF PROPERLY.
6. THE CHA SHALL REMAIN IN PLACE UNTIL THE CONCRETE FOR THE PROJECT IS PLACED. THE CHA SHALL BE REMOVED AND DESTROYED WITHIN 30 DAYS OF THE END OF MUCH OR OTHERWISE STABILIZED IN A PERMAN APPROVED BY THE 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.

CONCRETE WASHOUT AREA



SEDIMENT CONTROL LOG



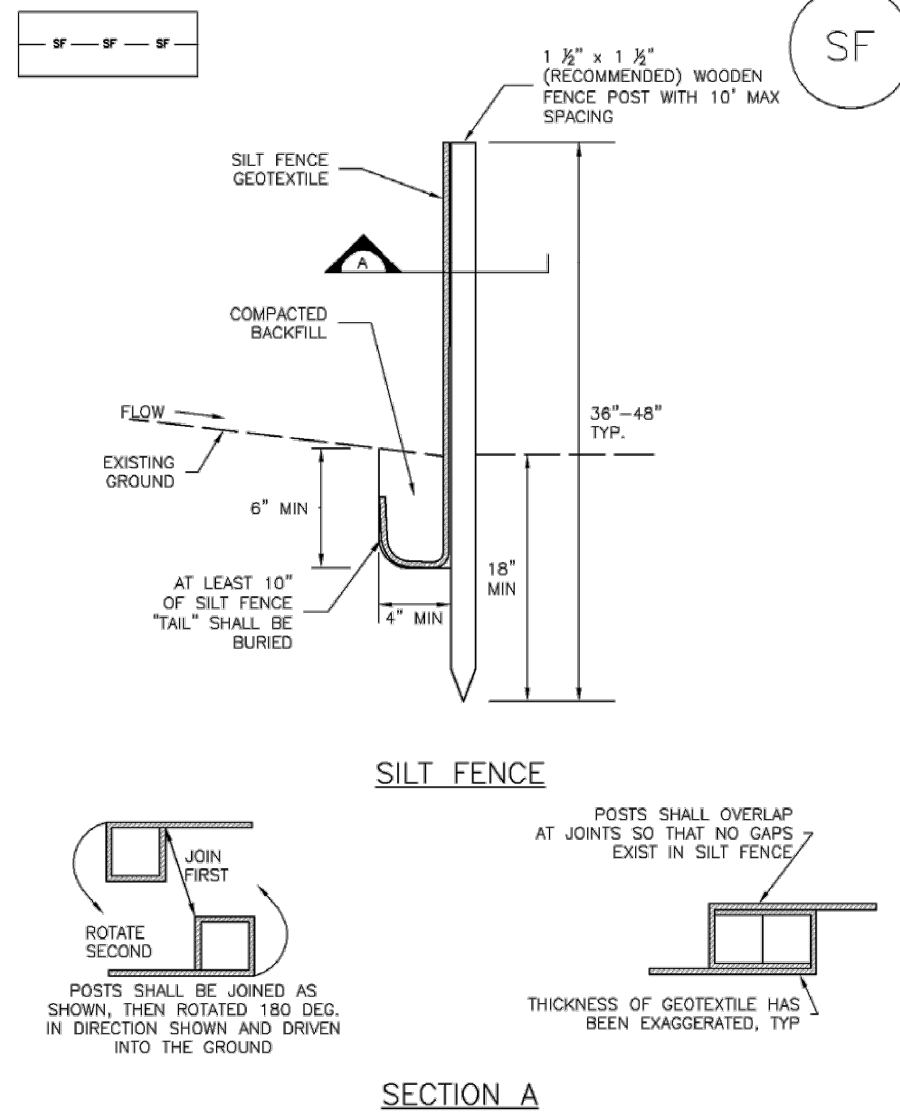
SILT FENCE DETAIL

- ## INSTALLATION REQUIREMENTS

1. SEE GEC FOR;
— LOCATION, LENGTH AND WIDTH OF SEDIMENT CONTROL LOG.
2. SEDIMENT CONTROL LOGS INDICATED ON INITIAL GESC PLAN SHALL BE INSTALLED PRIOR TO ANY LAND-DISTURBING ACTIVITIES.
3. SEDIMENT CONTROL LOGS SHALL CONSIST OF STRAW, COMPOST, EXCELISOR, OR COCONUT FIBER.
4. NOT FOR USE IN CONCENTRATED AREAS.
5. THE SEDIMENT CONTROL LOG SHALL BE TRENCHED INTO THE GROUND A MINIMUM OF 2".

MAINTENANCE REQUIREMENTS

1. THE GESC MANAGER SHALL INSPECT SEDIMENT CONTROL LOGS DAILY, DURING AND AFTER ANY STORM EVENT AND, MAKE REPAIRS OR CLEAN OUT UPSTREAM SEDIMENT AS NECESSARY.
2. SEDIMENT ACCUMULATED UPSTREAM OF SEDIMENT CONTROL LOGS SHALL BE REMOVED WHEN THE UPSTREAM SEDIMENT DEPTH IS WITHIN HALF THE HEIGHT OF THE CREST OF LOG.
3. SEDIMENT CONTROL LOGS SHALL BE REMOVED AT THE END OF CONSTRUCTION. IF ANY DISTURBED AREA EXISTS AFTER REMOVAL, IT SHALL BE DRILLED, SEEDED AND CRIMP MULCHED OR OTHERWISE STABILIZED IN A MANNER APPROVED BY THE COUNTY.



SF-1. SILT FENCE

SILT FENCE INSTALLATION NOTES

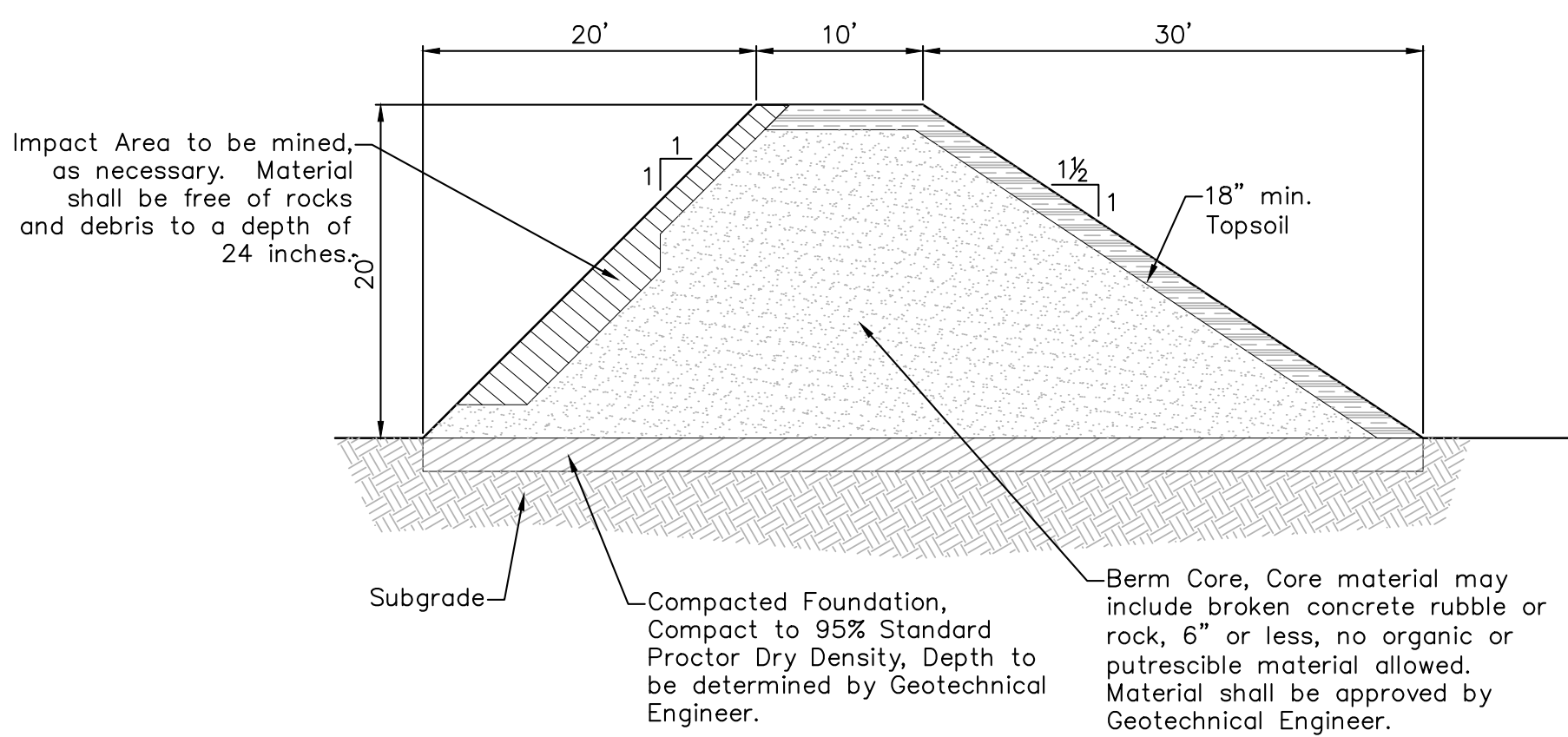
1. SILT FENCE MUST BE PLACED AWAY FROM THE TOE OF THE SLOPE TO ALLOW FOR WATER TO RUN OFF THE SLOPE AND NOT BE TRAPPED AT THE TOE OF THE SLOPE. LOCATION AT LEAST SEVERAL FEET (2-5') FROM THE TOE OF THE SLOPE TO ALLOW FOR FLOODING AND POUNDING AND DISINTEGRATION.
2. A UNIFORM 6" X 4" ANCHOR TRENCH MUST BE EXCAVATED USING FRENCHES OR SIMILAR EQUIPMENT. NO ROAD GRADERS, BACKHOES, OR SIMILAR EQUIPMENT MUST BE USED.
3. COMPACT ANCHOR TRENCH BY HAND WITH A "JUMPING JACK" OR BY WHEEL ROLLING. ANCHOR TRENCH MUST BE SUFFICIENTLY FIRM. FENCE RESISTS BEND ANCHORS OUT OF ANCHOR TRENCH BY HAND.
4. SILT FENCE SHALL BE BUILT THICK AT IT IS ANCHORED TO THE STAKES. THERE SHOULD BE NO GAPS OR WEAK SPOTS.
5. SILT FENCE 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 FENCE LINE.
6. 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" SHOULD BE BUILT THICK AND ANCHORED TO THE STAKES. THE "J-HOOK" SHOULD BE KEPT RUNOFF FROM FLOWING AROUND THE END OF THE SILT FENCE (TYPICALLY 10' - 20').
7. SILT FENCE SHALL BE INSTALLED PERPENDICULAR TO ANY LAND DISTURBING ACTIVITIES.

SILT FENCE MAINTENANCE NOTES

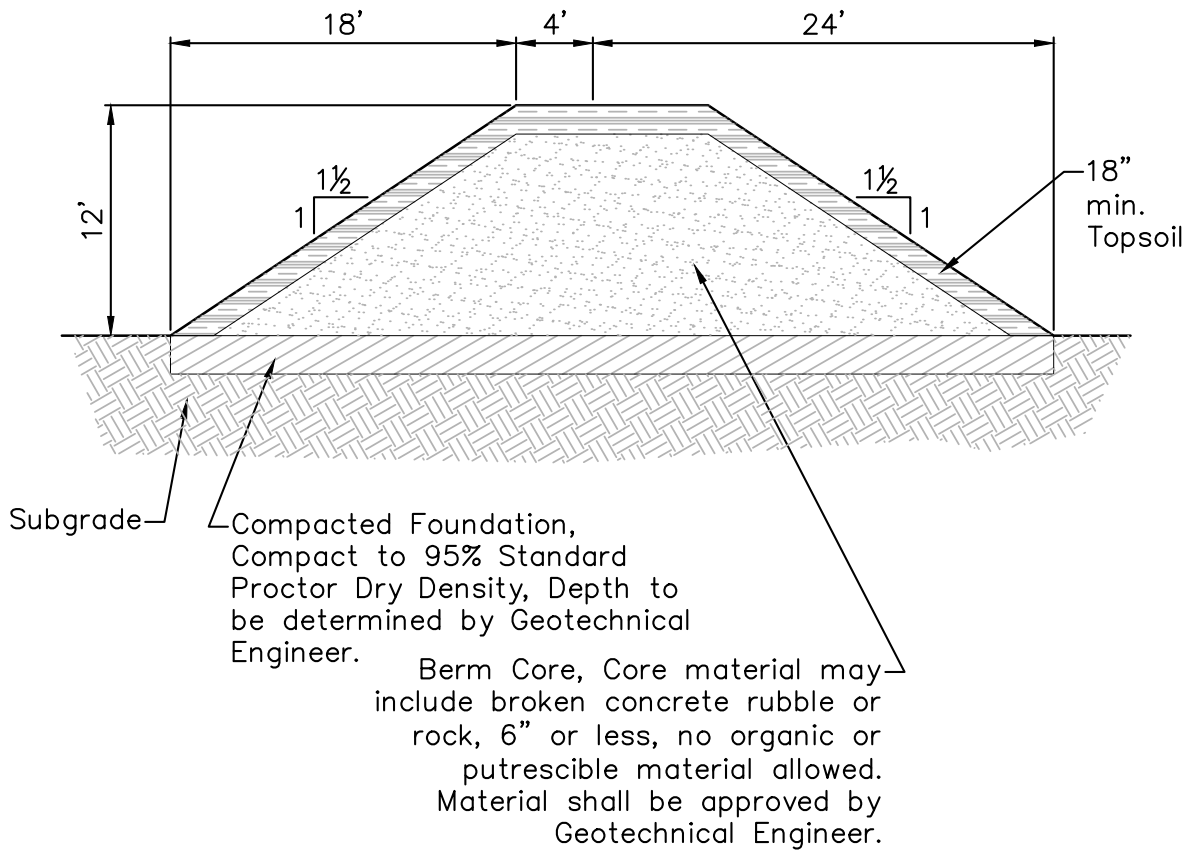
1. INSPECT BMPs EACH WORKDAY, AND MAINTAIN THEM IN EFFECTIVE OPERATING CONDITION. EFFECTIVE OPERATING CONDITION MEANS THAT THE BMP IS NOT DAMAGED BY SUCH AS POSSIBLE, (AND ALWAYS WITHIN 24 HOURS) FOLLOWING A STORM THAT CAUSES SURFACE EROSION, AND PERFORMS NECESSARY MAINTENANCE.
2. PREVENT OPERATIONS 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 RECEIVING A REPORT OF A PROBLEM.
4. 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".
5. REPAIR OR REPLACE SILT FENCE WHEN THERE ARE SIGNS OF WEAR, SUCH AS SAGGING, TEARING, OR COLLAPSE.
6. 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 PERMITTED MEASURE.
7. WHEN SILT FENCE IS REMOVED, ALL DISTURBED AREAS SHALL BE COVERED WITH TOPSOIL, SEED, AND MULCHED OR OTHERWISE STABILIZED AS APPROVED BY LOCAL JURISDICTION.

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

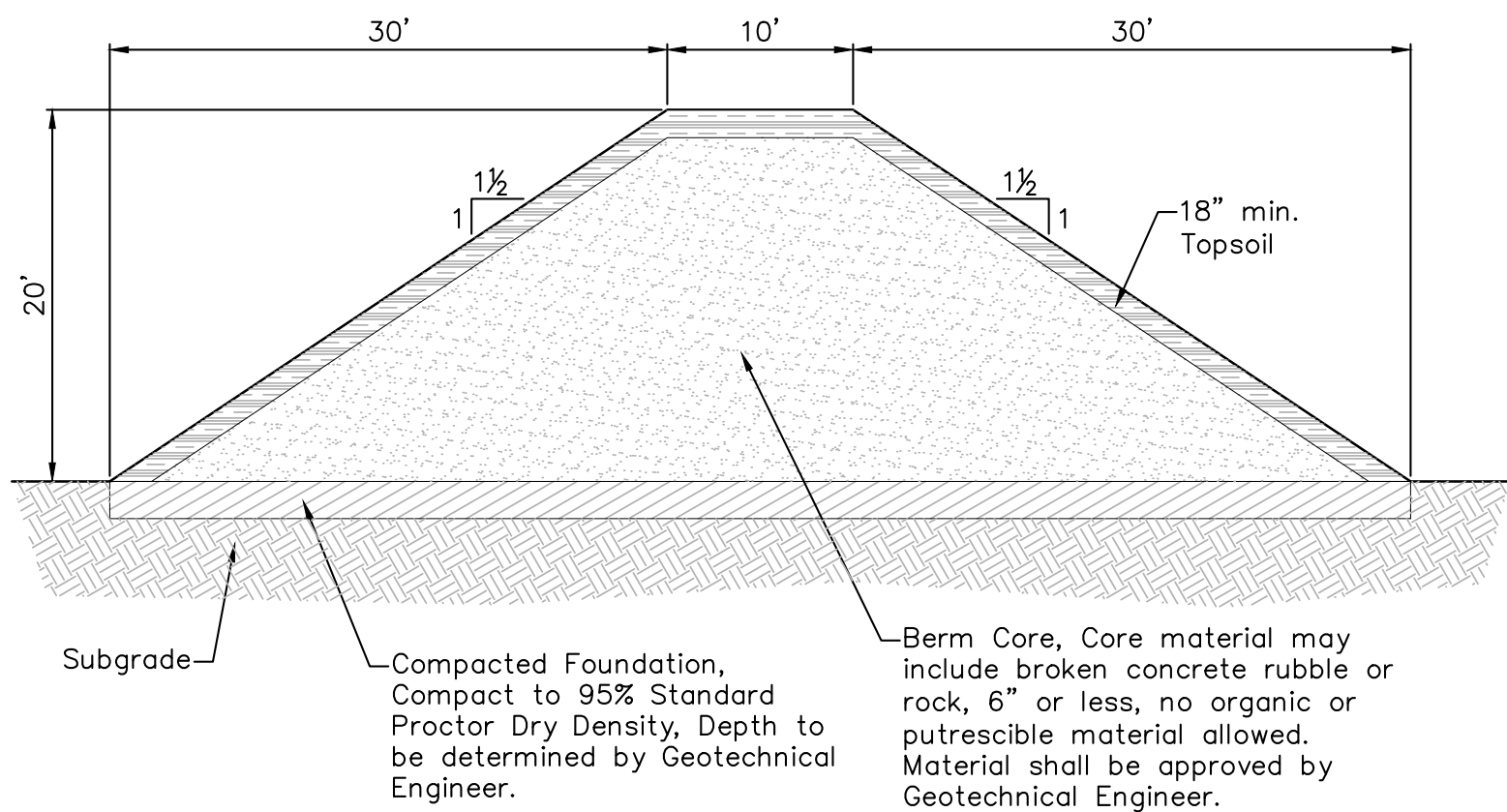
NOTE: MANY JURISDICTIONS HAVE BMP DETAILS THAT VARY FROM UDFCD STANDARD DETAILS. CONSULT WITH LOCAL JURISDICTIONS AS TO WHICH DETAIL SHOULD BE USED WHEN DIFFERENCES ARE NOTED.



TYPICAL BACKSTOP CROSS-SECTION (A-A)
SCALE: 1"=10' (H) 1"=10' (V)



TYPICAL 12' SIDE BERM CROSS-SECTION (B-B)
SCALE: 1"=10' (H) 1"=10' (V)




TYPICAL 20' SIDE BERM CROSS-SECTION (C-C)
SCALE: 1"=10' (H) 1"=10' (V)

TYPICAL BERM CROSS-SECTIONS

HB&A
Architecture
AND
Planning

102 E. Moreno Avenue
Colorado Springs, CO 80903
719.473.7063
www.hbaa.com



Kiowa
Engineering Corporation

1604 South 21st Street
Colorado Springs, Colorado 80904
(719) 630-7342

COLORADO SPRINGS POLICE
DEPT. FIRING RANGE

15905 SNIPER LANE
FOUNTAIN, CO 80817

number	description	chd	draw	job #	issue / revision	<div> <div>issue / revision</div> <div>date:</div> </div> <div> <div>DEVEL. PLAN</div> <div>08/14/19</div> </div> <div> <div>DP RESUBMIT</div> <div>02/21/2020</div> </div> <div> <div></div> <div></div> </div> <div> <div></div> <div></div> </div> <div> <div></div> <div></div> </div> <div> <div></div> <div></div> </div>
						<div>19007</div> <div>MJK</div> <div>AWMc</div>
	<div>GRADING, EROSION & STORMWATER MGMT DETAIL 1</div>					
						C-102

