

WOODMOOR WSD

WELL NO. 22

EL PASO COUNTY, COLORADO

SWMP, GRADING AND EROSION CONTROL PLAN

Set No. _____

CONTACTS

OWNER:	WOODMOOR WATER AND SANITATION DISTRICT NO. 1 1846 WOODMOOR DRIVE MONUMENT, CO 80132	JESSE SHAFFER (719) 449-2525 JESSE@WOODMOORWATER.COM
ENVRIO/CIVIL ENGINEER:	JVA, INC 1319 SPRUCE STREET BOULDER, CO 80302	JOSH MCGIBBON, P.E. (303) 444-1951 JMC@BONJVA.COM
STRUCTURAL ENGINEER:	JVA, INC 1319 SPRUCE STREET BOULDER, CO 80302	ADAM TEUNISSEN, P.E. (303) 444-1951 ATEUNISSEN@JVA.COM
ELECTRICAL ENGINEER:	BROWNS HILL ENGINEERING AND CONTROLS, LLC 8119 SHAFER PARKWAY, UNIT C LITTLETON, CO 80127	TED WILLE, P.E. (720) 344-7771 TWILLE@BROWNSHILLENG.COM



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Boulder • Fort Collins • Winter Park
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MAY 2022

PREPARED UNDER THE SUPERVISION OF

JVA, Inc.

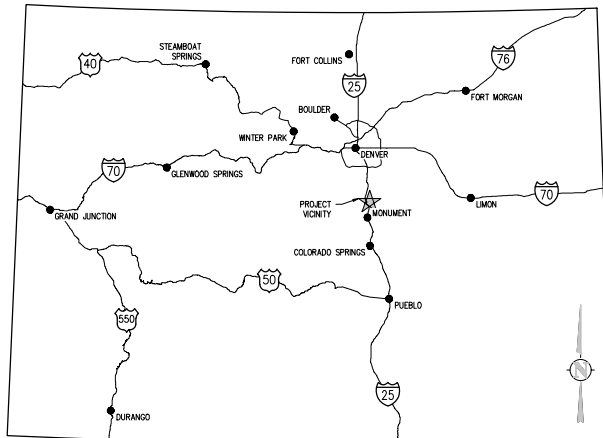
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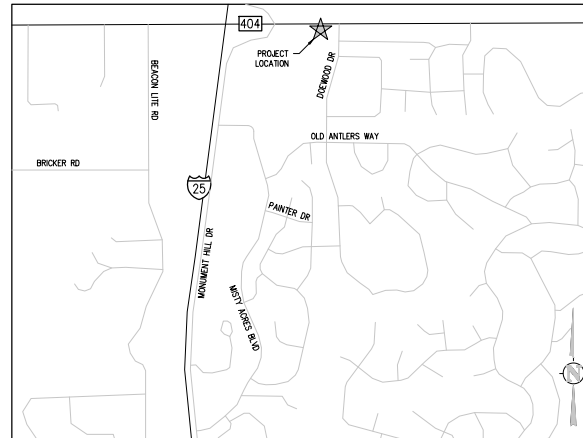
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CE1.2
CE1.3
CE1.4

TITLE

COVER SHEET
LEGEND, NOTES AND ABBREVIATIONS
GRADING AND EROSION CONTROL PLAN
SWMP AND GEC NOTES
EROSION CONTROL DETAILS
EROSION CONTROL DETAILS



VICINITY MAP
NTS



PROJECT LOCATION MAP
NTS

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 MY NEGLIGENCE, ACTS, ERRORS OR OMISSIONS ON MY PART IN PREPARING THIS PLAN.

ENGINEER OF RECORD SIGNATURE _____ DATE _____



OWNER'S STATEMENT:

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

Jessie J. Shaffer _____

OWNER SIGNATURE _____

DATE _____

EL PASO COUNTY:

COUNTY PLAN REVIEW IS PROVIDED ONLY FOR GENERAL CONFORMANCE WITH THE 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 ECOM SECTION 1.1.2, 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.

GEC Plan **APPROVED**
Engineering Department
6/31/2022 3:00:48 PM
JVA

SWMP ACCEPTED for FILE
Engineering Review
6/31/2022 3:00:48 PM
JVA

EPC Planning & Community
Development Department











EPC Planning & Community
Development Department

FILE NO. CDR-223

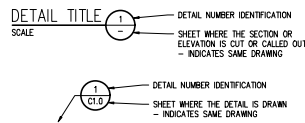
ABBREVIATIONS

ASHTO	ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS	INCL	INCLUDED
ABAN	ABANDON	INLET	INSIDE DIAMETER
ADCL	ASPHALTIC CONCRETE PAVING	INSL	INSULATION
ADCL	ADDITIONAL	INV	INVERT
ADCL	ADJUNCTION	IRR	IRRIGATION
ADJ	ADJUSTABLE	JTS	JOINTS
AL	ALUMINUM		
ALT	ALTERNATE	KD	KNOCKOUT
AMT	AMOUNT	KFL	KICK FLATE
APPROX	APPROXIMATE	KRY	KEYWAY
ARCH	ARCHITECTURAL		
ARV	AIR RELIEF VALVE	L	LEFT OR LITER
ASPH	AMERICAN SOCIETY FOR TESTING AND MATERIALS	L	LANDSCAPING
ASPH	ASPHALT	LF	LINEAR FOOT
ASSY	ASSEMBLY	LP	LOW POINT OR LIGHT POLE
ASPM	ASPHALT	LT	LIGHT
AUTO	AUTOMATIC	LWL	LOW WATER LEVEL
AVG	AVERAGE		
AWWA	AMERICAN WATER WORKS ASSOC.	MAINT	MAINTENANCE
		MAN	MATERIAL
BC	BACK OF CURB	MAX	MAXIMUM
BFV	BUTTERFLY VALVE	MECH	MACHINE
BM	FINISHED GRADE ADJACENT TO BOTTOM OF WALL	MFG	MANUFACTURING
BUDG	BUILDING	MFR	MECHANICAL
BLK	BLOCK	MFR	MANUFACTURER
BM	BENCH MARK	MN	MANHOLE
BMP	BEST MANAGEMENT PRACTICE	MN	MINIMUM
BS	BACKSIGHT	MSC	MISCELLANEOUS
BOS	BOTTOM OF STEP	MJC	MECHANICAL JOINT
BOT	BOTTOM		
BSMT	BASEMENT	N	NORTH
BVC	BEGIN VERTICAL CURVE ELEVATION	NA	NOT APPLICABLE
BVMS	BEGIN VERTICAL CURVE STATION	N	NOT IN CONTRACT
BT	BOTTOM OF WALL	NPT	NATIONAL PIPE THREAD
		NT	NOT TO SCALE
CB	CATCH BASIN	OC	ON CENTER
CCW	COUNTER CLOCKWISE	OD	OUTSIDE DIAMETER
CDOT	COLORADO DEPARTMENT OF TRANSPORTATION	OP	OPTIONAL
CE	CAST IRON PIPE	OPT	OPTIONAL
CJ	CONSTRUCTION JOINT		
CL	CENTER LINE OR CHAIN LINE	PC	POINT OF CURVATURE
CLR	CLEAR	PCD	PRESSURE CLEAN OUT
CM	CORRUGATED METAL PIPE	PCR	POINT OF CURVE RETURN
CMU	CONCRETE MASONRY UNIT	PCH	POINT OF INTERSECTION
CNG	CLEANOUT	PI	POINT OF CURVE INTERSECTION
CONC	CONCRETE	PL	PROPERTY LINE
CONT	CONTINUOUSLY	PL	POLYETHYLENE
CONR	CORNER	PREAB	PREFABRICATED
CR	CONCENTRIC REDUCER	PRELIM	PRELIMINARY
CTR	CENTER	PREP	PREPARATION
CT	CURB TARDS	PROP	PROPOSED
		PRV	PRESSURE REDUCING VALVE OR PRESSURE RELIEF VALVE
DEMO	DEMOLITION	PS	POUNDS PER SQUARE FOOT
DEAG	DIAMETER	PSF	POUNDS PER SQUARE INCH
DIAG	DIAGONAL	PT	POINT OF TANGENCY
DP	DUCTILE IRON PIPE	PLV	PLUG VALVE
DOM	DOMESTIC	PVC	POLYVINYL CHLORIDE OR POINT OF VERTICAL CURVATURE
DN	DOWN	PMT	PAVEMENT
DR	DRAIN		
DWL	DRAWING		
DWL	DOWEL	QTY	QUANTITY
E	EAST	R	RIGHT
EA	EACH	RAD	RADIUS
ECC	ECCENTRIC	RC	REINFORCED CONCRETE PIPE
EXP	EXPANSION JT	RD	ROAD
EL	ELEVATION	REF	REFERENCE
ELB	ELBOW	RECT	RECTANGULAR
ELC	ELECTRICAL	REIN	REINFORCE (D) (WG) (MENT)
ENGR	ENGINEER	REQD	REQUIRED
ENR	EDGE OF PAVEMENT	RGW	RIGHT OF WAY
EQ	EQUAL		
EQPT	EQUIPMENT	SAN	SANITARY
EQVNT	EQUIVALENT	SD	STORM DRAIN
ESMT	EASEMENT	SECT	SECTION
EST	ESTIMATE	SPD	STANDARD PROCTOR DENSITY
EVS	EVE	SPEC	SPECIFICATION
EVST	EVEN VERTICAL CURVE ELEVATION	SQ	SQUARE
EVST	EVEN VERTICAL CURVE STATION	SQ IN	SQUARE INCH
EXP	EACH WAY	SQ FT	SQUARE FOOT
EXP	JT EXPANSION JOINT	SO	SANITARY SEWER
EXIST	EXISTING	SS	STAINLESS STEEL
		STA	STATION
FND	FOUNDATION	STD	STANDARD
FES	FLAMED END SECTION	STL	STEEL
FF	FINISH FLOOR	STRUCT	STRUCTURAL
FG	FINISH GRADE	SVC	SERVICE
FI	FIRE HYDRANT	SWMP	STORMWATER MANAGEMENT PLAN
FL	FLOW LINE	SW	SWATH
FL	FLOW LINE		
FN	FENCE	TB	THRUST BLOCK
FM	FACE OF CONCRETE	TBC	TOP BACK OF CURB
FT	FEET PER MINUTE	TEMP	TEMPERARY BENCH MARK
FT	FEET PER SECOND	TEMP	TEMPERARY
FTG	FOOTING OR FITTING	TF	TO FINISHED GRADE ADJACENT TO TOP OF WALL
		THK	THICK
G	GAS	TOB	TOP OF BANK
GA	GAUGE	TOS	TOP OF CONCRETE OR TOP OF CURBS
GAL	GALLON	TOT	TOP OF STEP
GALV	GALVANIZED	TOT	TOTAL
GALV	GRADE CLEAVOUT	TOT	TOTAL
GALV	GALVANIZED IRON PIPE	TOP	TOP OF BUILD OR CAP OF WALL
GRD	GROUND	TYP	TYPICAL
GPD	GALLONS PER DAY		
GPM	GALLONS PER MINUTE	UNF	UNIFORM BUILDING CODE
GRATE	GRATE	USE	UTILITY
GRT	GRATING	UTL	UNDERGROUND ELECTRIC
GSG	GALVANIZED STEEL PIPE	VERT	VERTICAL
GV	GATE VALVE	VC	POINT OF VERTICAL CURVATURE
		WCP	WETTED CLAY PIPE
H	HIGH		
HB	HOSE BIB	W	WIDE OR WIDTH
HDL	HORIZONTAL, ELLIPTICAL	W/	WITH
HDL	HEADWALL	W/O	WITHOUT
HNDRLL	HAND RAIL	WCV	WATER QUALITY CONTROL VOLUME
HNDRLL	HORIZONTAL	WS	WATER SURFACE ELEVATION
HP	HIGH POINT	WST	WASTEWATER
HR	HOUR		</

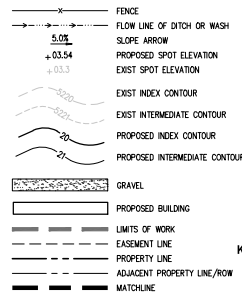
DESIGN LEGEND

	BENCHMARK
	MANHOLE
	FLARED END SECTION W/ RIFRAP
	TEE W/ THRUST BLOCK
	BEND W/ THRUST BLOCK
	END CAP W/ THRUST BLOCK
	GATE VALVE
	REDUCER/INCREASER
	WATER METER
	FIRE HYDRANT
SD	STORM - 12" AND SMALLER
SD	STORM - LARGER THAN 12"
RD	ROAD DRAIN
TD	TRENCH DRAIN
UD	UNDERGROUND
SS	SANITARY SEWER
FM	FORCE MAIN
W	WATER
NPW	NON POTABLE WATER
PW	POTABLE WATER
JRR	IRRIGATION
SD	IRRIGATION - LARGER THAN 12"
CATV	CABLE TV
D	DRAIN
E	ELECTRIC
UE	UNDERGROUND ELECTRIC
OE	OVERHEAD ELECTRIC
T	TELEPHONE
FO	FIBER OPTIC
FUEL	FUEL
G	GAS
PVC	PVC PIPE (MISC)

DETAIL TITLE



DESIGN LEGEND

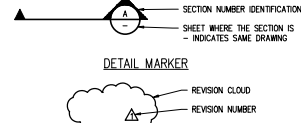


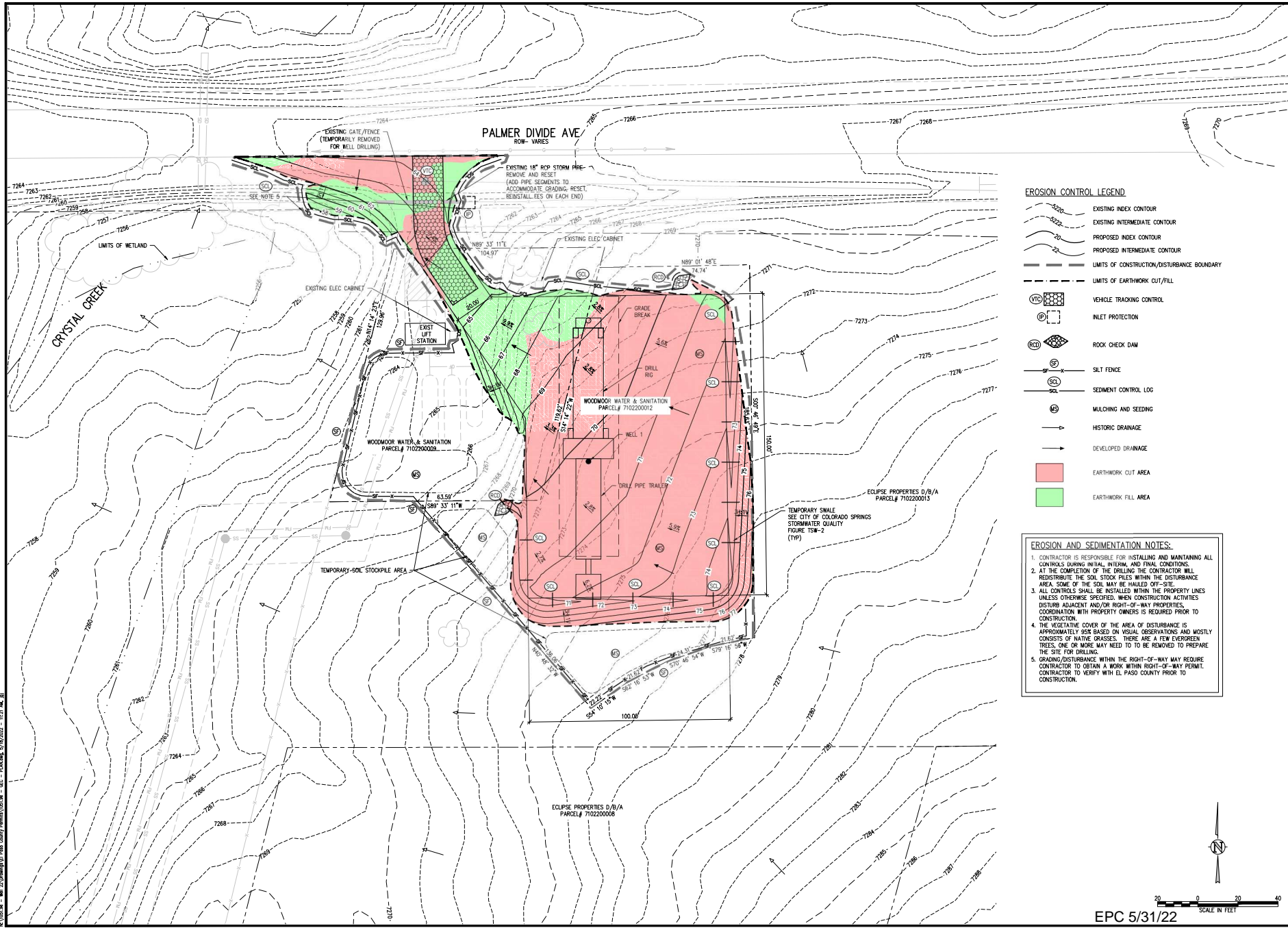
GENERAL NOTES

1. ALL MATERIALS AND WORKMANSHIP SHALL BE IN CONFORMANCE WITH THE LATEST STANDARDS AND SPECIFICATIONS OF EL PASO COUNTY, COLORADO, WOODMOOR WATER AND SANITATION DISTRICT, COLORADO DEPARTMENT OF TRANSPORTATION, TR-LINKS LANDFIRE PROTECTION DISTRICT REQUIREMENTS, AND APPLICABLE STATE AND LOCAL STANDARDS AND SPECIFICATIONS. THE CONTRACTOR SHALL HAVE IN POSSESSION AT THE JOB SITE AT ALL TIMES ONE (1) SIGNED COPY OF APPROVED PLANS, STANDARDS AND SPECIFICATIONS. CONTRACTOR SHALL CONSTRUCT AND MAINTAIN EMERGENCY ACCESS ROUTES TO THE SITE AND STRUCTURE AT ALL TIMES FOR THE APPLICABLE TR-LINKS LANDFIRE PROTECTION DISTRICT REQUIREMENTS. THE CONTRACTOR SHALL OBTAIN WRITTEN APPROVAL FOR ANY VARIATIONS TO THE ABOVE DOCUMENTS. NOTIFY ENGINEER OF ANY CONFLICTING STANDARDS OR SPECIFICATIONS. IN THE EVENT OF ANY CONFLICTING STANDARD OR SPECIFICATION, THE MORE STRINGENT OR HIGHER QUALITY STANDARD, DETAIL OR SPECIFICATION SHALL APPLY.
2. THE CONTRACTOR SHALL OBTAIN, AT HIS OWN EXPENSE, ALL APPLICABLE CODES, LICENSES, STANDARD SPECIFICATIONS, PERMITS, BONDS, ETC., WHICH ARE NECESSARY TO PERFORM THE PROPOSED WORK, INCLUDING, BUT NOT LIMITED TO A LOCAL AND STATE GROUNDWATER DISCHARGE AND COLORADO DEPARTMENT OF HEALTH AND ENVIRONMENT (CDHE) STORMWATER DISCHARGE PERMIT ASSOCIATED WITH CONSTRUCTION ACTIVITY.
3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR NOTIFYING THE REQUIRED PARTY (OWNER AND ENGINEER) AT LEAST 48 HOURS PRIOR TO START OF ANY CONSTRUCTION, PRIOR TO BACKFILLING, AND AS REQUIRED BY JURISDICTIONAL AUTHORITY AND/OR PROJECT SPECIFICATIONS. THE CONTRACTOR SHALL COMPLY WITH NOTIFICATIONS THROUGHOUT THE PROJECT AS REQUIRED BY THE STANDARDS AND SPECIFICATIONS.
4. THE LOCATIONS OF EXISTING UTILITIES ARE SHOWN IN THE APPROXIMATE LOCATION BASED ON INFORMATION BY OTHERS. NOT ALL UTILITIES MAY BE SHOWN. THE CONTRACTOR SHALL DETERMINE THE EXACT SIZE, LOCATION AND TYPE OF ALL EXISTING UTILITIES WHETHER SHOWN OR NOT BEFORE COMMENCING WORK. THE ENGINEER AND/OR OWNER ASSUMES NO RESPONSIBILITY FOR THE ACCURACY OR COMPLETENESS SHOWN ON PLANS. THE CONTRACTOR SHALL BE FULLY AND SOLELY RESPONSIBLE FOR ANY AND ALL DAMAGES AND COSTS WHICH MIGHT OCCUR BY THE CONTRACTOR'S FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UTILITIES. THE CONTRACTOR SHALL NOTIFY ALL PUBLIC AND PRIVATE UTILITY COMPANIES AND DETERMINE THE LOCATION OF ALL EXISTING UTILITIES PRIOR TO PROCEEDING WITH GRADING AND CONSTRUCTION. ALL WORK PERFORMED IN THE AREA OF UTILITIES SHALL BE PERFORMED AND INSPECTED ACCORDING TO THE REQUIREMENTS OF THE UTILITY OWNER. LICENSE, THE CONTRACTOR SHALL BE RESPONSIBLE FOR LOCATING AND MAPPING ANY EXISTING UTILITY (INCLUDING DEPTHS) WHICH MAY CONFLICT WITH THE PROPOSED CONSTRUCTION. PRIOR TO ANY RELOCATING, ENCOUNTED UTILITIES AS DECREED BY THE ENGINEER. CONTRACTOR SHALL CONTACT AND RECEIVE APPROVAL FROM UTILITY OWNER AND ENGINEER BEFORE RELOCATING ANY ENCOUNTED UTILITIES. CONTRACTOR RESPONSIBLE FOR SERVICE CONNECTIONS, AND RELOCATING AND RECONNECTING AFFECTED UTILITIES AS COORDINATED WITH UTILITY OWNER AND/OR ENGINEER, INCLUDING NON-MUNICIPAL UTILITIES (TELEPHONE, GAS, CABLE, ETC.) WHICH SHALL BE COORDINATED WITH THE UTILITY OWNER(s). THE CONTRACTOR SHALL IMMEDIATELY CONTACT UTILITY OWNER DISCOVERY OF A UTILITY DISCREPANCY OR CONFLICT. AT LEAST 48 HOURS PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL NOTIFY THE UTILITY NOTIFICATION CENTER OF COLORADO (1-800-822-8877, WWW.UCCO.ORG). SEE SURVEY UTILITY LOCATION INFORMATION BELOW.
5. THE CONTRACTOR SHALL BE SOLELY AND COMPLETELY RESPONSIBLE FOR CONDITIONS AT AND ADJACENT TO THE JOB SITE, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY DURING THE PERFORMANCE OF THE WORK. THE CONTRACTOR SHALL PREPARE A TRAFFIC CONTROL PLAN FOR OWNER AND/OR CITY APPROVAL, AND PROVIDE ALL LIGHTS, SIGNS, BARRICADES, TRAFFIC, FLAGMEN OR OTHER DEVICES NECESSARY TO PROVIDE FOR PUBLIC SAFETY. THIS REQUIREMENT SHALL APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS. THE CONTRACTOR AGREES TO COMPLY WITH THE PROVISIONS OF THE TRAFFIC CONTROL PLAN AND THE LATEST EDITION OF THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES", PART V, FOR CONSTRUCTION SIGNS AND COLORADO, ALL TEMPORARY AND PERMANENT TRAFFIC SIGNS SHALL COMPLY TO THE MANUAL, ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) WITH REGARD TO SIGN SHAPE, COLOR, SIZE, LETTERING, ETC. UNLESS OTHERWISE SPECIFIED. IF APPLICABLE, PART NUMBER(S) ON SIGNAGE DETAILS REFER TO MUTCD SIGN NUMBERS.
6. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REMOVING ANY GROUNDWATER ENCOUNTED DURING THE CONSTRUCTION OF ANY PORTION OF THIS PROJECT. GROUNDWATER MUST BE PUMPED, PIPED, REMOVED AND DISPOSED OF IN A MANNER WHICH DOES NOT CAUSE FLOODING OF EXISTING STREETS NOR OBSTRUCTING OR ABUTTING PROPERTIES IN ORDER TO CONTRIBUTE TO IMPROVING THE STABILITY ON THESE PLANS. GROUNDWATER TO BE PUMPED SHALL BE TESTED, PERMITTED, AND PUMPED FOR THE STATE OF COLORADO AND LOCAL GROUNDWATER DISCHARGING PERMIT REQUIREMENTS.
7. ANY EXISTING MOUNTING WELLS, CLEANOUTS, WAVE BOXES, ETC. TO BE PROTECTED AND TO REMAIN IN SERVICE, IF FEATURES EXIST, EXTEND OR LOWER TO FINAL SURFACE WITH LINE KID CAP WITH STANDARD CATCH ACCESS LID WITH SAME MARKINGS.
8. ALL SURPLUS MATERIALS, TOOLS, AND TEMPORARY STRUCTURES, FURNISHED BY THE CONTRACTOR, SHALL BE REMOVED FROM THE PROJECT SITE BY THE CONTRACTOR. ALL DEBRIS AND EXCESS GRADING SHALL BE REMOVED BY THE CONTRACTOR. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE REMOVAL OF THE CONTRACTOR SHALL BE RESTORED TO ITS ORIGINAL CONDITION, WITHIN 48 HOURS OF PROJECT COMPLETION, UNLESS OTHERWISE DIRECTED BY THE MUNICIPALITY OR OWNER'S REPRESENTATIVE.
9. THE CONTRACTOR IS REQUIRED TO PROVIDE AND MAINTAIN EROSION AND SEDIMENT CONTROL MEASURES IN ACCORDANCE WITH THE LOCAL JURISDICTION, THE STATE OF COLORADO, THE M-2 STANDARD PLANS OF THE COLORADO DEPARTMENT OF TRANSPORTATION, AND THE APPROVED EROSION CONTROL PLAN. JURISDICTIONAL AUTHORITY MAY REQUIRE THE CONTRACTOR TO PROVIDE ADDITIONAL EROSION CONTROL MEASURES AT THE CONTRACTOR'S EXPENSE DUE TO UNFORESEEN EROSION PROBLEMS OR IF THE PLANS DO NOT FUNCTION AS INTENDED. THE CONTRACTOR IS RESPONSIBLE FOR PROHIBITING SLOPES AND DEBRIS LAIDEN RUMOR FROM LEAVING THE SITE, AND FOR KEEPING ALL PUBLIC AREAS FREE OF MUD AND DEBRIS. THE CONTRACTOR IS RESPONSIBLE FOR RE-ESTABLISHING GRASSES AND FOR REMOVING ACCUMULATED SEDIMENTATION FROM ALL AREAS INCLUDING SHOALS AND DETERMINING WATER QUALITY AREAS. CONTRACTOR SHALL PROVIDE TEMPORARY EROSION CONTROL MEASURES AND AS REQUIRED FOR EROSION CONTROL MEASURES ESTABLISHED AND ACCEPTED BY OWNER AND MUNICIPALITY.
10. PROTECT ALL TREES AND VEGETATION. PLACE CONSTRUCTION UTILITY AT DRIP LINE OF TREES AND PLANTS NEAR THE WORK ZONE. DEEP WATER TREES WEEKLY. HAND EXCAVATION REQUIRED AT ROOT ZONES WHERE PROPOSED PAVING OR FENCING WORK IS WITHIN DRIFLINE OF TREES.



SECTION CALLOUT





- EROSION CONTROL LEGEND**
- EXISTING INDEX CONTOUR
 - EXISTING INTERMEDIATE CONTOUR
 - PROPOSED INDEX CONTOUR
 - PROPOSED INTERMEDIATE CONTOUR
 - LIMITS OF CONSTRUCTION/DISTURBANCE BOUNDARY
 - LIMITS OF EARTHWORK CUT/FILL
 - VEHICLE TRACKING CONTROL
 - INLET PROTECTION
 - ROCK CHECK DAM
 - SILT FENCE
 - SEDIMENT CONTROL LOG
 - MULCHING AND SEEDING
 - HISTORIC DRAINAGE
 - DEVELOPED DRAINAGE
 - EARTHWORK CUT AREA
 - EARTHWORK FILL AREA

- EROSION AND SEDIMENTATION NOTES:**
1. CONTRACTOR IS RESPONSIBLE FOR INSTALLING AND MAINTAINING ALL CONTROLS DURING INITIAL, INTERIM, AND FINAL CONDITIONS.
 2. AT THE COMPLETION OF THE DRILLING THE CONTRACTOR WILL REDISTRIBUTE THE SOIL STOCK PILES WITHIN THE DISTURBANCE AREA. SOME OF THE SOIL MAY BE HAULED OFF-SITE.
 3. ALL CONTROLS SHALL BE INSTALLED WITHIN THE PROPERTY LINES UNLESS OTHERWISE SPECIFIED. WHEN CONSTRUCTION ACTIVITIES DISTURB ADJACENT AND/OR RIGHT-OF-WAY PROPERTIES, COORDINATION WITH PROPERTY OWNERS IS REQUIRED PRIOR TO CONSTRUCTION.
 4. THE VEGETATIVE COVER OF THE AREA OF DISTURBANCE IS APPROXIMATELY 50% GRASS BASED ON VISUAL OBSERVATIONS AND MOSTLY CONSISTS OF NATIVE GRASSES. THERE ARE A FEW EVERGREEN TREES, ONE OR MORE MAY NEED TO BE REMOVED TO PREPARE THE SITE FOR DRILLING.
 5. GRADING/DISTURBANCE WITHIN THE RIGHT-OF-WAY MAY REQUIRE CONTRACTOR TO OBTAIN A WORK WITHIN RIGHT-OF-WAY PERMIT. CONTRACTOR TO VERIFY WITH EL PASO COUNTY PRIOR TO CONSTRUCTION.

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DRAWN BY: MHT/UGJ
CHECKED BY: KJC
JOB #: 10515e
DATE: MAY 2022
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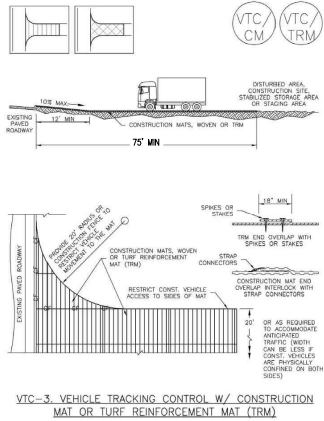
WOODMOOR WSD NO. 1
WELL NO. 22
EL PASO COUNTY, COLORADO
GRADING AND EROSION CONTROL PLAN

SHEET NO.
CE1.1

EPC 5/31/22

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SCALE IN FEET

Vehicle Tracking Control (VTC) SM-4



November 2010 Urban Drainage and Flood Control District VTC-5
Urban Storm Drainage Criteria Manual Volume 3

SM-4 Vehicle Tracking Control (VTC)

STABILIZED CONSTRUCTION ENTRANCE/EXIT INSTALLATION NOTES

- 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)
- CONSTRUCTION MAT OR TRM STABILIZED CONSTRUCTION ENTRANCES ARE ONLY TO BE USED ON SHORT LATERAL DISTANCES (TYPICALLY RANGING FROM A FEET TO A YARD) WHERE THERE WILL BE LIMITED VEHICULAR ACCESS.
- A STABILIZED CONSTRUCTION ENTRANCE/EXIT SHALL BE LOCATED AT ALL ACCESS POINTS WHERE VEHICLES ACCESS THE CONSTRUCTION SITE FROM PAVED RIGHT-OF-WAYS.
- STABILIZED CONSTRUCTION ENTRANCE/EXIT SHALL BE INSTALLED PRIOR TO ANY LAND DISTURBING ACTIVITIES.
- A NON-WOVEN GEOTEXTILE FABRIC SHALL BE PLACED UNDER THE STABILIZED CONSTRUCTION ENTRANCE/EXIT PRIOR TO THE PLACEMENT OF ROCK.
- UNLESS OTHERWISE SPECIFIED BY LOCAL JURISDICTION, ROCK SHALL CONSIST OF DOT SECT. #703, MASHED #3 COARSE AGGREGATE OR 4" (MAX) RADIUS.

STABILIZED CONSTRUCTION ENTRANCE/EXIT MAINTENANCE NOTES

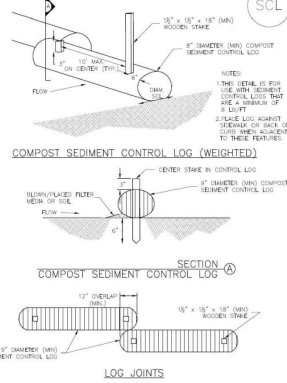
- INSPECT BARS EACH WORKDAY, AND MAINTAIN THEM IN EFFECTIVE OPERATING CONDITION. MAINTENANCE OF BARS SHOULD BE PROACTIVE, NOT REACTIVE. REPAIR BARS AS SOON AS POSSIBLE (AND ALWAYS WITHIN 24 HOURS) FOLLOWING A STORM THAT CAUSES SURFACE EROSION, AND PERFORM NECESSARY MAINTENANCE.
- REGULANT OPERATIONS AND MAINTENANCE ARE NECESSARY TO MAINTAIN BARS IN EFFECTIVE OPERATING CONDITION. INSPECTIONS AND CORRECTIVE MEASURES SHOULD BE DOCUMENTED THOROUGHLY.
- WHERE BARS HAVE FAILED, REPAIR OR REPLACEMENT SHOULD BE INITIATED UPON DISCOVERY OF THE FAILURE.
- ROCK SHALL BE REAPPLIED OR REFINISHED AS NECESSARY TO THE STABILIZED ENTRANCE/EXIT TO MAINTAIN A CONSISTENT DEPTH.
- SEMENT TRACKED OVER PAVED ROADS IS TO BE REMOVED THOROUGHLY THE DAY AND AT THE END OF THE DAY BY BRUSHING OR OTHER MEANS. SEMENT MAY NOT BE WASHED DOWN DRAIN SLOPES.

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

(DETAILS ADAPTED FROM CITY OF BIRMINGHAM, COLORADO, NOT AVAILABLE IN ARIZONA)

VTC-6 Urban Drainage and Flood Control District November 2010
Urban Storm Drainage Criteria Manual Volume 3

SC-2 Sediment Control Log (SCL)



SC-2 COMPOST SEDIMENT CONTROL LOG (WEIGHTED)

SC-4 Urban Drainage and Flood Control District November 2015
Urban Storm Drainage Criteria Manual Volume 3

SC-2 Sediment Control Log (SCL)

SEDIMENT CONTROL LOG INSTALLATION NOTES

- SEE PLAN VIEW FOR LOCATION AND LENGTH OF SEDIMENT CONTROL LOGS.
- SEDIMENT CONTROL LOGS THAT ACT AS A PERIMETER CONTROL SHALL BE INSTALLED PRIOR TO ANY UPSTREAM LAND-USE/CONSTRUCTION ACTIVITIES.
- SEDIMENT CONTROL LOGS SHALL CONSIST OF STRAW, COMPOST, EXCELLOXOR OR COCONUT FIBER, AND SHALL BE FREE OF ANY NOXIOUS WEED SEEDS OR OBJECTS INCLUDING RILLS, HOLES AND CIRCULAR WEBS.
- SEDIMENT CONTROL LOGS MAY BE USED AS SMALL CHECK DAMS IN DITCHES AND SWALES. HOWEVER, THEY SHOULD NOT BE USED IN PERMANENT STREAMS.
- IT IS RECOMMENDED THAT SEDIMENT CONTROL LOGS BE TRENCHED INTO THE GROUND TO A DEPTH OF APPROXIMATELY 4" OF THE DIAMETER OF THE LOG. IF TRENCHING TO THIS DEPTH IS NOT FEASIBLE AND/OR DESIRABLE, SHORT TERM INSTALLATION WITH DESIRE NOT TO DAMAGE LANDSCAPE) A LESSER TRENCHING DEPTH MAY BE ACCEPTABLE WITH MORE ROBUST STAKING. COMPOST LOGS THAT ARE 4" LIGHT DO NOT NEED TO BE TRENCHED.
- THE UPSTREAM SIDE OF THE SEDIMENT CONTROL LOG SHALL BE BACKFILLED WITH SOIL OR FILLER MATERIAL THAT IS FREE OF ROCKS AND DEBRIS. THE SOIL SHALL BE TIGHTLY COMPACTED INTO THE SHAPE OF A RIGHT TRIANGLE USING A SHOVEL OR WEIGHTED LAWN ROLLER OR ROLLER IN PLACE.
- FOLLOW MANUFACTURER'S GUIDANCE FOR STAKING. IF MANUFACTURER'S INSTRUCTIONS DO NOT SPECIFY SPACING, STAKES SHALL BE PLACED ON 4' CENTERS AND EMBEDDED A MINIMUM OF 4" INTO THE GROUND. 3" OF THE STAKE SHALL PROTRUDE FROM THE TOP OF THE LOG. STAKES THAT ARE BROKEN PRIOR TO INSTALLATION SHALL BE REPLACED. COMPOST LOGS SHOULD BE STAKED 10' ON CENTER.

SEDIMENT CONTROL LOG MAINTENANCE NOTES

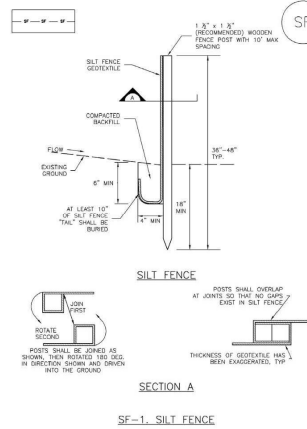
- INSPECT BARS EACH WORKDAY, AND MAINTAIN THEM IN EFFECTIVE OPERATING CONDITION. MAINTENANCE OF BARS SHOULD BE PROACTIVE, NOT REACTIVE. REPAIR BARS AS SOON AS POSSIBLE (AND ALWAYS WITHIN 24 HOURS) FOLLOWING A STORM THAT CAUSES SURFACE EROSION, AND PERFORM NECESSARY MAINTENANCE.
- REGULANT OPERATIONS AND MAINTENANCE ARE NECESSARY TO MAINTAIN BARS IN EFFECTIVE OPERATING CONDITION. INSPECTIONS AND CORRECTIVE MEASURES SHOULD BE DOCUMENTED THOROUGHLY.
- WHERE BARS HAVE FAILED, REPAIR OR REPLACEMENT SHOULD BE INITIATED UPON DISCOVERY OF THE FAILURE.
- SEDIMENT ACCUMULATED UPSTREAM OF THE BARS, TYPICALLY WHEN DEPTH OF ACCUMULATED SEDIMENT IS APPROXIMATELY 4" OF THE HEIGHT OF THE SEDIMENT CONTROL LOG.
- SEDIMENT CONTROL LOGS SHALL BE REMOVED AT THE END OF CONSTRUCTION/COMPOST FROM COMPOST LOGS MAY BE LEFT IN PLACE AS LONG AS BAGS ARE REMOVED AND THE AREA REVEALED. IF DISTURBED AREAS EXIST AFTER REMOVAL, THEY SHALL BE COVERED WITH TOP SOIL, SEEDING AND MULCHED OR OTHERWISE STABILIZED IN A MANNER APPROVED BY THE LOCAL JURISDICTION.

(DETAILS ADAPTED FROM CITY OF BIRMINGHAM, COLORADO, APPROVED COUNTY, COLORADO, DOUGLAS COUNTY, COLORADO, AND CITY OF ARIZONA, COLORADO, NOT AVAILABLE IN ARIZONA)

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

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Silt Fence (SF)



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

SC-1 Silt Fence (SF)

SILT FENCE INSTALLATION NOTES

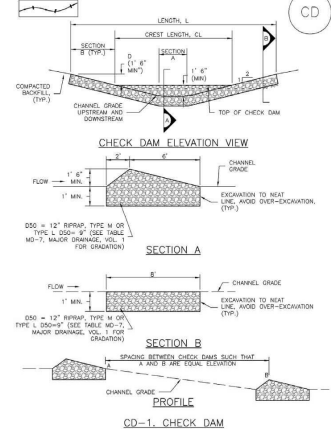
- SILT FENCE MUST BE PLACED AWAY FROM THE TOE OF THE SLOPE TO ALLOW FOR WATER SPREADING. SILT FENCE IS THE TOE OF A SLOPE SHOULD BE INSTALLED IN A FLAT LOCATION AT LEAST SEVEN FEET (2-3 FT) FROM THE TOE OF THE SLOPE TO ALLOW ROOM FOR PONDING AND SEDIMENTATION.
- A UNIFORM 6" X 4" ANCHOR TRENCH SHALL BE EXCAVATED USING TRENCHER OR SILT FENCE INSTALLATION SHOULD BE DONE USING SHOVELS, BACKHOES, OR SIMILAR EQUIPMENT SHALL BE USED.
- COMPACT ANCHOR TRENCH BY HAND WITH A "JUMPING JACK" OR BY ROLLING COMPACTOR SHALL BE SUCH THAT SILT FENCE RESISTS BEING PULLED OUT OF ANCHOR TRENCH BY WIND.
- SILT FENCE SHALL BE PULLED TIGHT AS IT IS ANCHORED TO THE STAKES. THERE SHOULD BE NO GAPS 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 A SILT FENCE ALONG A CONTOUR, THE SILT FENCE SHOULD BE PERPENDICULAR TO THE CONTOUR TO CREATE A "J" SHAPED. THE "J" SHOULD EXTENDING PERPENDICULAR TO THE CONTOUR SHOULD BE OF SUFFICIENT LENGTH TO KEEP STAKES 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 BARS EACH WORKDAY, AND MAINTAIN THEM IN EFFECTIVE OPERATING CONDITION. MAINTENANCE OF BARS SHOULD BE PROACTIVE, NOT REACTIVE. REPAIR BARS AS SOON AS POSSIBLE (AND ALWAYS WITHIN 24 HOURS) FOLLOWING A STORM THAT CAUSES SURFACE EROSION, AND PERFORM NECESSARY MAINTENANCE.
- REGULANT OPERATIONS AND MAINTENANCE ARE NECESSARY TO MAINTAIN BARS IN EFFECTIVE OPERATING CONDITION. INSPECTIONS AND CORRECTIVE MEASURES SHOULD BE DOCUMENTED THOROUGHLY.
- WHERE BARS 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 BARS. TYPICALLY WHEN DEPTH OF ACCUMULATED SEDIMENT IS APPROXIMATELY 4".
- REPAIR OR REPLACE SILT FENCE WHEN THERE ARE SIGNS OF WEAR, SUCH AS SAGGING, TEARING, OR COLLAPSE.
- WHEN SILT FENCE IS REMOVED, ALL DISTURBED AREAS SHALL BE COVERED WITH TOPSOIL, SEEDING AND MULCHED OR OTHERWISE STABILIZED AS APPROVED BY LOCAL JURISDICTION.
- LOCAL JURISDICTIONS HAVE BMP DETAILS THAT VARY FROM USED STANDARD DETAILS. CONSULT WITH LOCAL JURISDICTIONS AS TO WHICH DETAIL SHOULD BE USED WHEN DIFFERENCES ARE NOTED.

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Urban Storm Drainage Criteria Manual Volume 3

Check Dams (CD)



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

EC-12 Check Dams (CD)

CHECK DAM INSTALLATION NOTES

- SEE PLAN VIEW FOR:
-LOCATION OF CHECK DAMS
-CHECK DAM TYPE (CHECK DAM OR REINFORCED CHECK DAM)
-LENGTH (L) (CHECK LENGTH (CL) AND DEPTH (D))
- CHECK DAMS INDICATED ON INITIAL SWAP SHALL BE INSTALLED AFTER CONSTRUCTION FENCE, BUT PRIOR TO ANY UPSTREAM LAND DISTURBING ACTIVITIES.
- REPAIR UTILIZED FOR CHECK DAMS SHOULD BE OF APPROPRIATE SIZE FOR THE APPLICATION. TYPICAL TYPES OF REPAIR UTILIZED FOR CHECK DAMS ARE TYPE W (DOT 503) OR TYPE L (DOT 507).
- REPAIR PAD SHALL BE TRENCHED INTO THE GROUND A MINIMUM OF 1'.
- THE DEPTH OF THE CHECK DAM SHALL BE A MINIMUM OF 1" HIGHER THAN THE CENTER OF THE CHECK DAM.

CHECK DAM MAINTENANCE NOTES

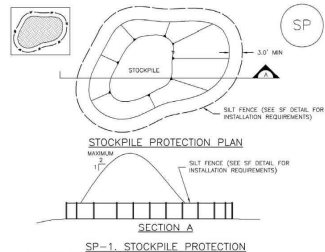
- INSPECT BARS EACH WORKDAY, AND MAINTAIN THEM IN EFFECTIVE OPERATING CONDITION. MAINTENANCE OF BARS SHOULD BE PROACTIVE, NOT REACTIVE. REPAIR BARS AS SOON AS POSSIBLE (AND ALWAYS WITHIN 24 HOURS) FOLLOWING A STORM THAT CAUSES SURFACE EROSION, AND PERFORM NECESSARY MAINTENANCE.
- REGULANT OPERATIONS AND MAINTENANCE ARE NECESSARY TO MAINTAIN BARS IN EFFECTIVE OPERATING CONDITION. INSPECTIONS AND CORRECTIVE MEASURES SHOULD BE DOCUMENTED THOROUGHLY.
- WHERE BARS HAVE FAILED, REPAIR OR REPLACEMENT SHOULD BE INITIATED UPON DISCOVERY OF THE FAILURE.
- SEDIMENT ACCUMULATED UPSTREAM OF THE CHECK DAMS SHALL BE REMOVED WHEN THE SEDIMENT DEPTH IS APPROX 4" OF THE HEIGHT OF THE CHECK DAM.
- CHECK DAMS ARE TO REMAIN IN PLACE UNTIL THE UPSTREAM DISTURBED AREA IS STABILIZED AND APPROVED BY THE LOCAL JURISDICTION.
- WHEN CHECK DAMS ARE REMOVED, EXCAVATIONS SHALL BE FILLED WITH SUITABLE COMPACTED SOIL OR OTHERWISE STABILIZED IN A MANNER APPROVED BY THE LOCAL JURISDICTION.
- LOCAL JURISDICTIONS HAVE BMP DETAILS THAT VARY FROM USED STANDARD DETAILS. CONSULT WITH LOCAL JURISDICTIONS AS TO WHICH DETAIL SHOULD BE USED WHEN DIFFERENCES ARE NOTED.

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Stockpile Management (SP)

MM-2



SP-1 STOCKPILE PROTECTION

STOCKPILE PROTECTION INSTALLATION NOTES

1. SEE PLAN VIEW FOR:
 - LOCATION OF STOCKPILES
 - TYPE OF STOCKPILE PROTECTION
2. INSTALL PERIMETER CONTROLS IN ACCORDANCE WITH THEIR RESPECTIVE DESIGN DETAILS. SILT FENCE IS SHOWN IN THE STOCKPILE PROTECTION DETAILS HOWEVER, OTHER TYPES OF PERIMETER CONTROLS INCLUDING SEGMENT CONTROL LOSS OR ROCK SOCKS MAY BE SUITABLE IN SOME CIRCUMSTANCES. CONSIDERATIONS FOR DETERMINING THE APPROPRIATE TYPE OF PERIMETER CONTROL FOR A STOCKPILE INCLUDE WHETHER THE STOCKPILE IS LOCATED ON A PERVIOUS OR IMPERVIOUS SURFACE, THE RELATIVE HEIGHTS OF THE PERIMETER CONTROL AND STOCKPILE, THE ABILITY OF THE PERIMETER CONTROL TO CONTAIN THE STOCKPILE WITHOUT FAILING IN THE EVENT THAT MATERIAL FROM THE STOCKPILE SHIFTS OR SLIPS, AND THE TYPE OF OTHER ADJACENT FEATURES.
3. STABILIZE THE STOCKPILE SURFACE WITH SURFACE ROUGHENING, TEMPORARY SEEDING AND MULCHING, EROSION CONTROL BLANKETS, OR SOIL BINDERS. SOLID STOCKPILES FOR AN EXTENDED PERIOD (TYPICALLY FOR MORE THAN 60 DAYS) SHOULD BE SEEDS AND MULCHED WITH A TEMPORARY GRASS COVER ONCE THE STOCKPILE IS PLACED (TYPICALLY WITHIN 14 DAYS). USE OF MULCH ONLY OR A SOIL BINDER IS ACCEPTABLE IF THE STOCKPILE WILL BE IN PLACE FOR A WORK LIMITED TIME PERIOD (TYPICALLY 30-60 DAYS).
4. FOR TEMPORARY STOCKPILES ON THE INTERIOR PORTION OF A CONSTRUCTION SITE, WHERE OTHER DISBURGMENT CONTROLS, INCLUDING PERIMETER CONTROL, ARE IN PLACE, STOCKPILE PERIMETER CONTROLS MAY NOT BE REQUIRED.

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Urban Storm Drainage Criteria Manual Volume 3 SP-3

MM-2

Stockpile Management (SM)

STOCKPILE PROTECTION MAINTENANCE NOTES

1. RESPECT 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.

STOCKPILE PROTECTION MAINTENANCE NOTES

4. IF PERIMETER PROTECTION MUST BE MOVED TO ACCESS SOLID STOCKPILE, REPLACE PERIMETER CONTROLS BY THE END OF THE WORKDAY.
5. STOCKPILE PERIMETER CONTROLS CAN BE REMOVED ONCE ALL THE MATERIAL FROM THE STOCKPILE HAS BEEN USED.

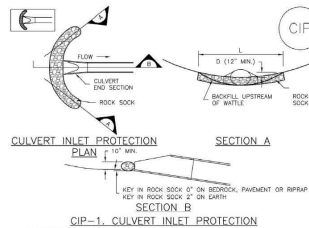
(DETAILS ADAPTED FROM PARALLEL CIRCULARS, NOT AVAILABLE IN ARIZONA)

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

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

Inlet Protection (IP)

SC-6



CIP-1 CULVERT INLET PROTECTION

CULVERT INLET PROTECTION INSTALLATION NOTES

1. SEE PLAN VIEW FOR:
 - LOCATION OF CULVERT INLET PROTECTION
2. SEE ROCK SOCK DESIGN DETAIL FOR ROCK GRADATION REQUIREMENTS AND JOINTING DETAILS.
3. WHERE BMPs HAVE FAILED, REPAIR OR REPLACEMENT SHOULD BE INITIATED UPON DISCOVERY OF THE FAILURE.
4. SEGMENT ACCUMULATED UPSTREAM OF THE CULVERT SHALL BE REMOVED WHEN THE SEGMENT DEPTH IS 1/2 THE HEIGHT OF THE ROCK SOCK.
5. CULVERT INLET PROTECTION SHALL REMAIN IN PLACE UNTIL THE UPSTREAM DISTURBED AREA IS PERMANENTLY STABILIZED AND APPROVED BY THE LOCAL JURISDICTION.

(DETAILS ADAPTED FROM PARALLEL CIRCULARS, NOT AVAILABLE IN ARIZONA)

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

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SC-6

Inlet Protection (IP)

GENERAL INLET PROTECTION INSTALLATION NOTES

1. SEE PLAN VIEW FOR:
 - LOCATION OF INLET PROTECTION
 - TYPE OF INLET PROTECTION (P.1, P.2, P.3, P.4, P.5, P.6)
2. INLET PROTECTION SHALL BE INSTALLED PROMPTLY AFTER INLET CONSTRUCTION OR PAVING IS COMPLETE (TYPICALLY WITHIN 48 HOURS) OF A BANKSLIDE/SLURRY EVENT IS FORECAST. INSTALL INLET PROTECTION PRIOR TO ONSET OF DRAIN.
3. MANY JURISDICTIONS HAVE BMP DETAILS THAT VARY FROM USFCD STANDARD DETAILS. CONSULT WITH LOCAL JURISDICTIONS AS TO WHICH DETAIL SHOULD BE USED WHEN DIFFERENCES ARE NOTED.

INLET PROTECTION MAINTENANCE NOTES

1. RESPECT 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. SEGMENT ACCUMULATED UPSTREAM OF INLET PROTECTION SHALL BE REMOVED AS NECESSARY TO MAINTAIN BMP EFFECTIVENESS, TYPICALLY WHEN STORAGE VOLUME REACHES 50% OF CAPACITY, A DEPTH OF 4" WHEN SILT FENCE IS USED, OR 6" OR THE HEIGHT FOR STRAW BALES.

5. INLET PROTECTION IS TO REMAIN IN PLACE UNTIL THE UPSTREAM DISTURBED AREA IS PERMANENTLY STABILIZED, UNLESS THE LOCAL JURISDICTION APPROVES EARLIER REMOVAL OF INLET PROTECTION IN STREETS.

6. WHEN INLET PROTECTION AT AREA INLETS IS REMOVED, THE DISTURBED AREA SHALL BE COVERED WITH TOP SOIL, SEEDS AND MULCHED, OR OTHERWISE STABILIZED IN A MANNER APPROVED BY THE LOCAL JURISDICTION.

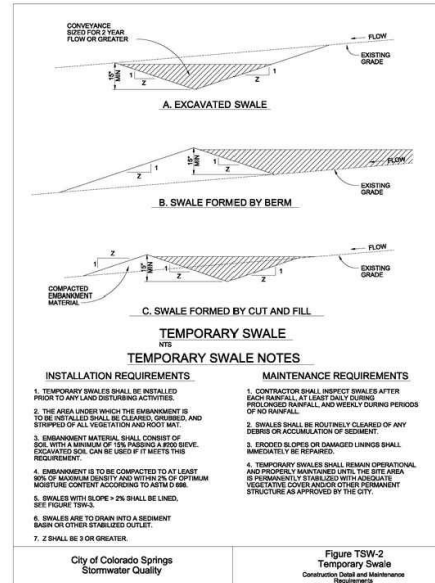
(DETAILS ADAPTED FROM PARALLEL CIRCULARS AND CITY OF ARIZONA, COLORADO, NOT AVAILABLE IN ARIZONA)

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

NOTE: THE DETAILS INCLUDED WITH THIS FACT SHEET SHOW COMMONLY USED CONVENTIONAL METHODS OF INLET PROTECTION IN THE DENVER METROPOLITAN AREA. THERE ARE MANY PROPRIETARY INLET PROTECTION METHODS ON THE MARKET. USFCD NEUTRAL ENDORSES NOR DISCOURAGES USE OF PROPRIETARY INLET PROTECTION. HOWEVER, IN THE EVENT PROPRIETARY METHODS ARE USED, THE APPROVED DETAIL FROM THE MANUFACTURER MUST BE INCLUDED IN THE BMP. A BMP MUST BE INSTALLED AND MAINTAINED AS SHOWN IN THE MANUFACTURER'S DETAILS.

NOTE: SOME MUNICIPALITIES DISCOURAGE OR PROHIBIT THE USE OF STRAW BALES FOR INLET PROTECTION. CHECK WITH LOCAL JURISDICTION TO DETERMINE IF STRAW BALE INLET PROTECTION IS ACCEPTABLE.

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Urban Storm Drainage Criteria Manual Volume 3 August 2013



TEMPORARY SWALE
TEMPORARY SWALE NOTES

INSTALLATION REQUIREMENTS

1. TEMPORARY SWALES SHALL BE INSTALLED PRIOR TO ANY LAND DISTURBING ACTIVITIES.
2. THE AREA UNDER WHICH THE EMBANKMENT IS TO BE INSTALLED SHALL BE CLEARED, GRUBBED, AND STRIPPED OF ALL VEGETATION AND ROOT MAT.
3. EMBANKMENT MATERIAL SHALL CONSIST OF SOIL WITH A MINIMUM OF 10% PASSING A #20 SIEVE. EXCAVATED SOIL CAN BE USED IF IT MEETS THIS REQUIREMENT.
4. EMBANKMENT IS TO BE COMPACTED TO AT LEAST 90% OF MAXIMUM DENSITY AND WITHIN 2% OF OPTIMUM MOISTURE CONTENT ACCORDING TO ASTM D 1557.
5. SWALES WITH SLOPE > 2% SHALL BE LINED. SEE FIGURE TSW-3.
6. SWALES ARE TO DRAIN INTO A SEGMENT BARR OR OTHER STABILIZED OUTLET.
7. Z SHALL BE 3 OR GREATER.

MAINTENANCE REQUIREMENTS

1. CONTRACTOR SHALL INSPECT SWALES AFTER EACH RAINFALL AT LEAST DAILY DURING PROLONGED RAINFALL AND WEEKLY DURING PERIODS OF NO RAINFALL.
2. SWALES SHALL BE ROUTINELY CLEARED OF ANY DEBRIS OR ACCUMULATION OF SEDIMENT.
3. ERODED SLOPES OR DAMAGED LININGS SHALL IMMEDIATELY BE REPAIRED.
4. TEMPORARY SWALES 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 TSW-2
Temporary Swale
Construction Detail and Maintenance Requirements