WINDERMERE EROSION CONTROL AND STORMWATER QUALITY PLAN

E 1/2 OF SECTION 29, T13S, R65W OF THE 6TH P.M.

EL PASO COUNTY, COLORADO **EPC Planning & Community Development Department**

Engineering Review

08/17/2020 9:35:34 PM

dsdrice

JeffRice@elpasoco.com

(719) 520-7877

SHEET INDEX

COVER SHEET

EROSION CONTROL DETAILS

EROSION CONTROL DETAILS

EROSION CONTROL DETAILS

WATER QUALITY CONTROL DIVISION

4300 CHERRY CREEK DRIVE SOUTH

DESIGN ENGINEER'S STATEMENT

THESE DETAILED PLANS AND SPECIFICATIONS.

DENVER, CO 80246-1530

ATTN: PERMITS UNIT

WQCD-PERMITS

TIM D. MCCONNELL

OWNER'S STATEMENT

P.E.# 33797

CONTROL PLAN.

JAMES TODD STEPHENS

EL PASO COUNTY

ACCURACY OF THIS DOCUMENT.

MANUAL AS AMENDED.

JENNIFER IRVINE, P.E.

COUNTY ENGINEER

EROSION CONTROL AND STORMWATER QUALITY PLAN

1. IN ACCORDANCE WITH ECM SECTION 1.12, THESE CONSTRUCTION DOCUMENTS

WILL BE VALID FOR CONSTRUCTION FOR A PERIOD OF 2 YEARS FROM THE DATE SIGNED BY THE EL PASO COUNTY ENGINEER. IF CONSTRUCTION HAS NOT STARTED WITHIN THOSE 2 YEARS, THE PLANS WILL NEED TO BE RESUBMITTED

FOR APPROVAL, INCLUDING PAYMENT OF REVIEW FEES AT THE PLANNING AND

2. AT LEAST 10 DAYS PRIOR TO THE ANTICIPATED STASRT OF CNSTRUCTION, FOR

AND ENVIRONMENT, WATER QUALITY CONTROL DIVISION. THE APPLICATION CONTAINS CERTIFICATION OF COMPLETION OF A STORMWATER MANAGEMENT

THESE DETAILED PLANS AND SPECIFICATIONS WERE PREPARED UNDER MY DIRECTION

ROADWAY, DRAINAGE, GRADING AND EROSION CONTROL PLANS AND SPECIFICATIONS,

MASTER DRAINAGE PLANS AND MASTER TRANSPORTATION PLANS. SAID PLANS AND

SPECIFICATIONS MEET THE PURPOSES FOR WHICH THE PARTICULAR ROADWAY AND

ANY NEGLIGENT ACTS, ERRORS OR OMISSIONS ON MY PART IN PREPARATION OF

THE OWNER WILL COMPLY WITH THE REQUIREMENTS OF THE GRADING AND EROSION

COUNTY PLAN REVIEW IS PROVIDED ONLY FOR GENERAL CONFORMANCE WITH

DOCUMENT ASSUMES NO RESPONSIBILITY FOR THE COMPLETENESS AND/OR

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

FILED IN ACCORDANCE WITH THE REQUIREMENTS OF THE EL PASO COUNTY LAND

DEVELOPMENT CODE, DRAINAGE CRITERIA MANUAL, AND ENGINEERING CRITERIA

DATE

DATE

AND SUPERVISION. SAID PLANS AND SPECIFICATIONS HAVE BEEN PREPARED

AND SAID PLANS AND SPECIFICATIONS ARE IN CONFORMITY WITH APPLICABLE

DRAINAGE FACILITIES ARE DESIGNED AND ARE CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF. I ACCEPT RESPONSIBILITY FOR ANY LIABILITY CAUSED BY

ACCORDING TO CRITERIA ESTABLISHED BY THE COUNTY FOR THE DETAILED

A PART. FOR INFORMATION OR APPLICATION MATERIALS CONTACT:

COLORADO DEPARTMENT OF PUBLIC HEALTH AND ENVIRONMENT

PROJECTS THAT WILL DISTURB 1 ACRE OR MORE, THE OWNER OR OPERATOR OF THE CONSTRUCTION ACTIVITY SHALL SUBMIT A PERMIT APPLICATION FOR

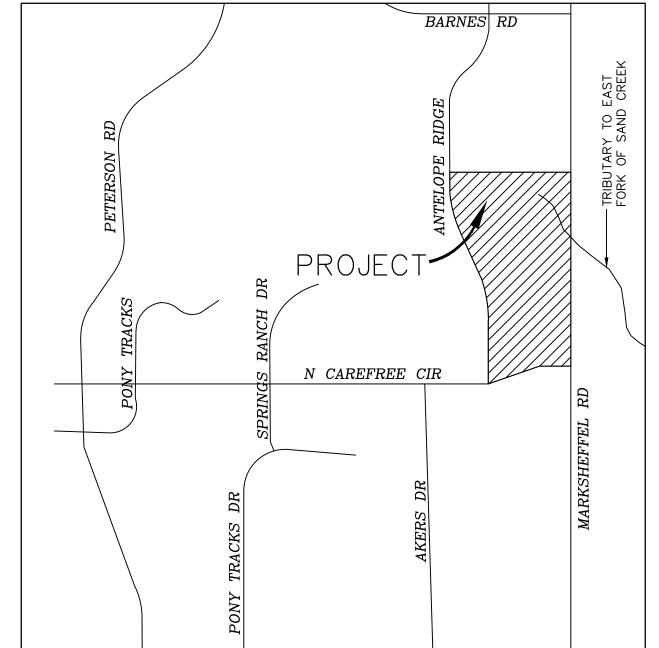
STORMWATER DISCHARGE TO THE COLORADO DEPARTMENT OF PUBLIC HEALTH

PLAN (SWMP), OF WHICH THIS GRADING AND EROSION CONTROL PLAN MAY BE

Complete construction plans and details are required for

the ponds if they are are being constructed with the EGP

COMMUNITY DEVELOPMENT DIRECTOR'S DISCRETION.



VICINITY MAP NOT TO SCALE

STRUCTURAL FILL

MOUNTAIN VIEW ELECTRIC ASSOCIATION

LES ULFERS

FALCON, CO 80831

(719) 495-2283

TODD STURTEVANT

(719) 668-3556

CENTURY LINK

PATTY MOORE

COMCAST

DALE STEWART

(719) 442-4733

213 N. UNION BLVD

(719) 636-6096

TELEPHONE

11140 E. WOODMEN ROAD

COLORADO SPRINGS UTILITIES

1521 HANCOCK EXPRESSWAY

COLORADO SPRINGS, CO 80947

(LOCATORS) (719) 597-8418

(LOCATORS) (719) 635-3674

COLORADO SPRINGS, CO 80909

MATERIAL, OR DEBRIS REMOVED. LOOSE, WET SOILS, ESPECIALLY THOSE FROM NOTED DRAINAGE AREAS, SHOULD BE EXCAVATED TO DRY SOLID MATERIAL, STOCKPILED AND EVALUATED FOR SUITABILITY OF RE-USE AS STRUCTURAL FILL. IF SOIL IS FOUND TO BE UNSUITABLE AS STRUCTURAL FILL, IT MAY STILL BE SUITABLE AS BACKFILL IN NON-STRUCTURAL APPLICATIONS.

STRUCTURAL FILL PLACED ON SLOPES SHOULD BE BENCHED INTO THE SLOPE. MAXIMUM BENCH HEIGHTS SHOULD NOT EXCEED 4 FEET, AND BENCH WIDTHS SHOULD BE WIDE ENOUGH TO ACCOMMODATE COMPACTION EQUIPMENT. MATERIALS USED FOR STRUCTURAL FILL SHOULD BE APPROVED BY RMG PRIOR TO USE. STRUCTURAL FILL SHOULD NOT BE PLACED ON FROZEN SUBGRADE OR ALLOWED TO FREEZE DURING MOISTURE CONDITIONING AND PLACEMENT.

"BLT100" IN SE CORNER OF CATCH BASIN ON EAST SIDE OF ANTELOPE RIDGE DRIVE 1500'± NORTH OF NORTH CAREFREE CIR., WITH AN ELEVATION OF 6607.03 (NGVD 29).

ACCORDING TO THE FEDERAL EMERGENCY MANAGEMENT AGENCY (FEMA) FLOOD INSURANCE RATE MAP (FIRM) PANEL #08041C0543 F (DECEMBER 7, 2018) THE PROJECT SITE IS WITHIN A DESIGNATED ZONE X AREA DESCRIBED AS "AREAS DETERMINED TO BE OUTSIDE 500-YEAR FLOODPLAIN".

TOTAL AREA OF THE SITE TO BE CLEARED, EXCAVATED OR GRADED: APPROXIMATELY 54.9 ACRES

SAND CREEK

PREPARED BY



Engineers • Surveyors 3 SOUTH 7TH STREET COLORADO SPGS, COLORADO 809 CONTACT: TIM D. McCONNELL, P. (719)260-0887 BOULDER • COLORADO SPRINGS • GREELE

CLIENT:

4164 AUSTIN BLUFFS PKWY. #36° COLORADO SPRINGS, CO 80918 (719) 200-9594 CONTACT: JAMES TODD STEVENS

ISSUE	DATE
INITIAL ISSUE	2/21/19
LATEST ISSUE	6/12/20

DESIGNED BY: DRAWN BY: CHECKED BY: TDM **FILE NAME:** 21187-01ECCV

PREPARED UNDER MY DIRECT SUPERVISION FOR AND ON BEHALF OF DREXEL, BARRELL & CO.

> DRAWING SCALE: HORIZONTAL: N/A VERTICAL: N/A

COVER SHEET

PROJECT NO. 21187-01CSCV DRAWING NO.

EC01

COUNTY FILE NO.: SP-19-003 | SHEET: 1 OF 5

DATE

. ANY LAND DISTURBANCE BY ANY OWNER, DEVELOPER, BUILDER, CONTRACTOR, OR OTHER PERSON SHALL COMPLY WITH THE BASIC GRADING, EROSION AND STORMWATER QUALITY CONTROL REQUIREMENTS AND GENERAL PROHIBITIONS NOTED IN THE DRAINAGE CRITERIA MANUAL VOLUME 2.

GRADING, EROSION AND STORMWATER QUALITY NOTES

JONATHON SMITH, SUPERINTENDENT OF WATER & WASTEWATER

JONATHON SMITH, SUPERINTENDENT OF WATER & WASTEWATER

EL PASO COUNTY PLANNING & COMMUNITY DEVELOPMENT

KARI PARSONS, PROJECT MANAGER/PLANNER II

2880 INTERNATIONAL CIRCLE, SUITE 110

COLORADO SPRINGS, CO 80910

STEVE CONNER, FIRE CHIEF

6250 PALMER PARK BLVD

6250 PALMER PARK BLVD

COLORADO SPRINGS, CO 80915

COLORADO SPRINGS, CO 80915

COLORADO SPRINGS, CO 80915

CIMARRON HILLS FIRE DEPARTMENT

CHEROKEE METROPOLITAN DISTRICT

(719) 520-6300

1835 TUSKEGEE PL

(719)591-0960

(719) 597-5080

(719) 597-5080

WASTEWATER CHEROKEE METROPOLITAN DISTRICT

2. NO CLEARING, GRADING, EXCAVATION, FILLING OR OTHER LAND DISTURBING ACTIVITIES SHALL BE PERMITTED UNTIL SIGN OFF AND ACCEPTANCE OF THE

GRADING PLAN AND EROSION AND STORMWATER CONTROL PLAN IS RECEIVED FROM EDRD.

3. THE INSTALLATION OF THE FIRST LEVEL OF TEMPORARY EROSION CONTROL FACILITIES AND BMP'S SHALL BE INSTALLED AND INSPECTED PRIOR TO ANY EARTH DISTURBANCE OPERATIONS TAKING PLACE. CALL CITY STORMWATER INSPECTIONS, 385-5977 HOURS PRIOR TO CONSTRUCTION.

4. SEDIMENT (MUD AND DIRT) TRANSPORTED ONTO A PUBLIC ROAD, REGARDLESS OF THE SIZE OF THE SITE, SHALL BE CLEANED IMMEDIATELY. 5. CONCRETE WASH WATER SHALL NOT BE DISCHARGED TO OR ALLOWED TO RUNOFF TO STATE WATERS, INCLUDING ANY SURFACE OR SUBSURFACE STORM

6. SOIL EROSION CONTROL MEASURES FOR ALL SLOPES, CHANNELS, DITCHES, OR ANY DISTURBED LAND AREA SHALL BE COMPLETED WITHIN TWENTY-ONE (21) CALENDAR DAYS AFTER FINAL GRADING OR FINAL EARTH DISTURBANCE HAS BEEN COMPLETED. DISTURBED AREAS AND STOCKPILES WHICH ARE NOT AT FINAL GRADE BUT WILL REMAIN DORMANT FOR LONGER THAN THIRTY (30) DAYS SHALL ALSO BE MULCHED WITHIN TWENTY-ONE (21) DAYS AFTER INTERIM GRADING. AN AREA THAT IS GOING TO REMAIN IN AN INTERIM STATE FOR MORE THAN SIXTY (60) DAYS SHALL ALSO BE SEÈDED. ALL TEMPORARY

7. THE GRADING AND EROSION CONTROL PLAN WILL BE SUBJECT TO RE-REVIEW AND RE-ACCEPTANCE BY EDRD SHOULD ANY OF THE FOLLOWING OCCUR: GRADING DOES NOT COMMENCE WITHIN TWELVE (12) MONTHS OF THE CITY ENGINEER'S ACCEPTANCE OF THE PLAN, A CHANGE IN PROPERTY OWNERSHIP, PROPOSED DEVELOPMENT CHANGES, OR PROPOSED GRADING REVISIONS.

SOIL EROSION CONTROL MEASURES AND BMP'S SHALL BE MAINTAINED UNTIL PERMANENT SOIL EROSION CONTROL MEASURES ARE IMPLEMENTED.

8. THE PLAN SHALL NOT SUBSTANTIALLY CHANGE THE DEPTH OF COVER, OR ACCESS EXISTING UTILITY LINES. ACCEPTANCE OF THIS PLAN DOES NOT CONSTITUTE APPROVAL TO GRADE IN ANY UTILITY EASEMENT OR RIGHT-OF-WAY. APPROVALS TO GRADE WITHIN UTILITY EASEMENTS MUST BE OBTAINED FROM THE APPROPRIATE UTILITY COMPANY. IT IS NOT PERMISSIBLE FOR ANY PERSON TO MODIFY THE GRADE OF THE EARTH ON ANY COLORADO SPRINGS UTILITIES EASEMENT OR UTILITY RIGHT-OF-WAY WITHOUT THEIR WRITTEN APPROVAL. THE PLAN SHALL NOT INCREASE OR DIVERT WATER TOWARDS UTILITY FACILITIES. ANY CHANGES TO EXISTING UTILITY FACILITIES TO ACCOMMODATE THE PLAN MUST BE APPROVED BY THE AFFECTED UTILITY OWNER PRIOR TO IMPLEMENTING THE PLAN. THE COST TO RELOCATE OR PROTECT EXISTING UTILITIES OR TO PROVIDE INTERIM ACCESS IS AT THE APPLICANT'S EXPENSE.

9. SEE NOTES IN SECTION 3.2 OF THE DRAINAGE CRITERIA MANUAL VOL. 2.

AGENCY CONTACTS

<u>FIRE</u>

ESIMATED COST OF TEMPORARY & PERMANENT BMPs INCLUDING INSTALLATION AND MAINTENANCE UNTIL FINAL STABILIZATION (FINAL & INTERIM STAGE)

				Unit				(with Pre-P	lat Co	nstruction)
Description	Quantity	Units		Cost			Total	% Complete	F	Remaining
SECTION 1 - GRADING AND EROSION CON	TROL (Constru	ction and P	erm	anent BMF	Ps)					
* Earthwork										
less than 1,000; \$5,300 min		CY	\$	8.00	=	\$	-		\$	-
1,000-5,000; \$8,000 min		CY	\$	6.00	=	\$	-		\$	-
5,001-20,000; \$30,000 min		CY	\$	5.00	=	\$	-		\$	-
20,001-50,000; \$100,000 min		CY	\$	3.50	=	\$	-		\$	-
50,001-200,000; \$175,000 min	140,000	CY	\$	2.50	=	\$	350,000.00		\$	350,000.0
greater than 200,000; \$500,000 min		CY	\$	2.00	=	\$	-		\$	-
* Permanent Seeding (inc. noxious weed mgmnt.)		AC	\$	800.00	=	\$	-		\$	-
* Mulching		AC	\$	750.00	=	\$	-		\$	-
* Permanent Erosion Control Blanket		SY	\$	6.00	=	\$	-		\$	-
* Permanent Pond/BMP Construction		CY	\$	20.00	=	\$	-		\$	-
* Permanent Pond/BMP (Spillway)		EA			=	\$	-		\$	-
* Permanent Pond/BMP (Outlet Structure)		EA			=	\$	-		\$	-
Safety Fence		LF	\$	3.00	=	\$	-		\$	-
Temporary Erosion Control Blanket		SY	\$	3.00	=	\$	-		\$	-
Vehicle Tracking Control	2	EA	\$	2,370.00	=	\$	4,740.00		\$	4,740.0
Silt Fence	3,470	LF	\$	2.50	=	\$	8,675.00		\$	8,675.0
Temporary Seeding	52	AC	\$	628.00	=	\$	32,656.00		\$	32,656.0
Temporary Mulch	52	AC	\$	750.00	=	\$	39,000.00		\$	39,000.0
Erosion Bales	75	EA	\$	25.00	=	\$	1,875.00		\$	1,875.0
Erosion Logs/Straw Waddle		LF	\$	5.00	=	\$	-		\$	-
Rock Check Dams		EA	\$	500.00	=	\$	-		\$	-
Inlet Protection	3	EA	\$	167.00	=	\$	501.00		\$	501.0
Sediment Basin	3	EA	\$	1,762.00	=	\$	5,286.00		\$	5,286.0
Concrete Washout Basin	1	EA	\$	900.00	=	\$	900.00		\$	900.0
					=	\$	-		\$	-
[insert items not listed but part of construction plans]					=	\$	-		\$	-
MA	INTENA NCE (35%	of Constr	uctio	on BMPs)	=	\$	32,771.55		\$	32,771.5
- Subject to defect w arranty financial assurance. A minimum of 20%	-									
hall be retained until final acceptance (MAXIMUM OF 80% COMPLETE LLOWED)		Section	n 1 :	Subtotal	=	\$4	76,404.55		\$ 4	76,404.5

DURING EARTHWORK BALANCING ACROSS THE SITE. AREAS TO RECEIVE STRUCTURAL FILL SHOULD HAVE TOPSOIL. ORGANIC

STRUCTURAL FILL COMPOSED OF ON-SITE SOILS SHOULD CONSIST OF GRANULAR, NIL TO LOW-EXPANSIVE MATERIAL. IF CLAYSTONE IS ELECTED TO BE RE-USED IT SHOULD BE THOROUGHLY PROCESSED, MOISTURE CONDITIONED AND BLENDED WITH SAND SOIL. FILL SHOULD BE SPREAD ACROSS THE SITE AND PLACED IN EVEN LOOSE LIFTS NOT EXCEEDING 10-INCHES, MOISTURE CONDITIONED TO FACILITATE COMPACTION (USUALLY WITHIN 2 PERCENT OF THE OPTIMUM MOISTURE CONTENT), AND COMPACTED TO A MINIMUM OF 95 PERCENT OF THE MAXIMUM DRY DENSITY AS DETERMINED BY THE STANDARD PROTOR TEST, ASTM D-698. THE MATERIALS SHOULD BE SPREAD AND COMPACTED BY MECHANICAL MEANS.

BENCHMARK

ELEVATIONS ARE BASED ON COLORADO SPRINGS UTILITIES FACILITIES INFORMATION SYSTEM (FIMS), A 2" ALUMINUM CAP STAMPED

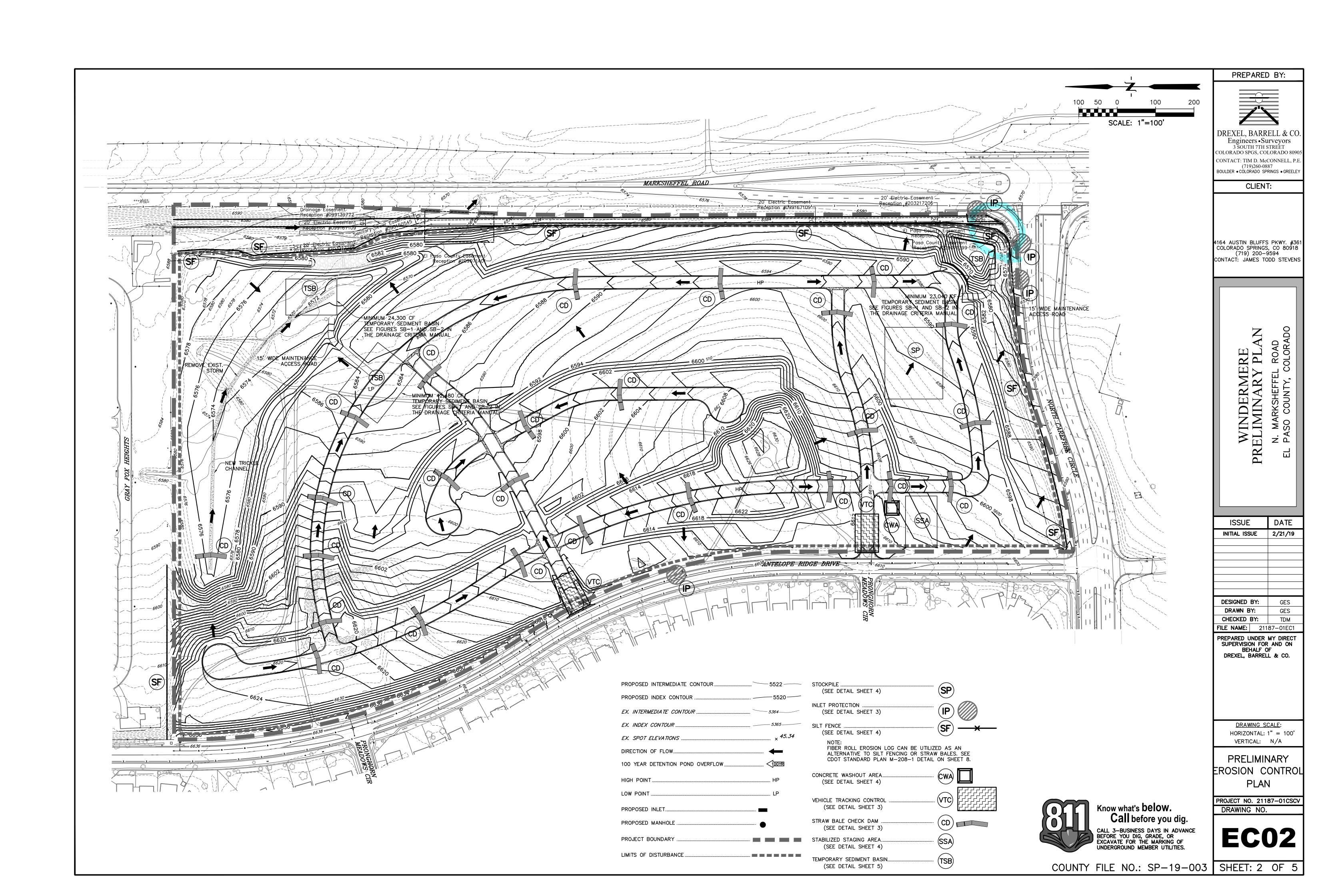
THE EAST HALF OF SECTION 29, TOWNSHIP 13 SOUTH, RANGE 65 WEST OF THE SIXTH PRINCIPAL MERIDIAN, COUNTY OF EL PASO, STATE OF COLORADO.

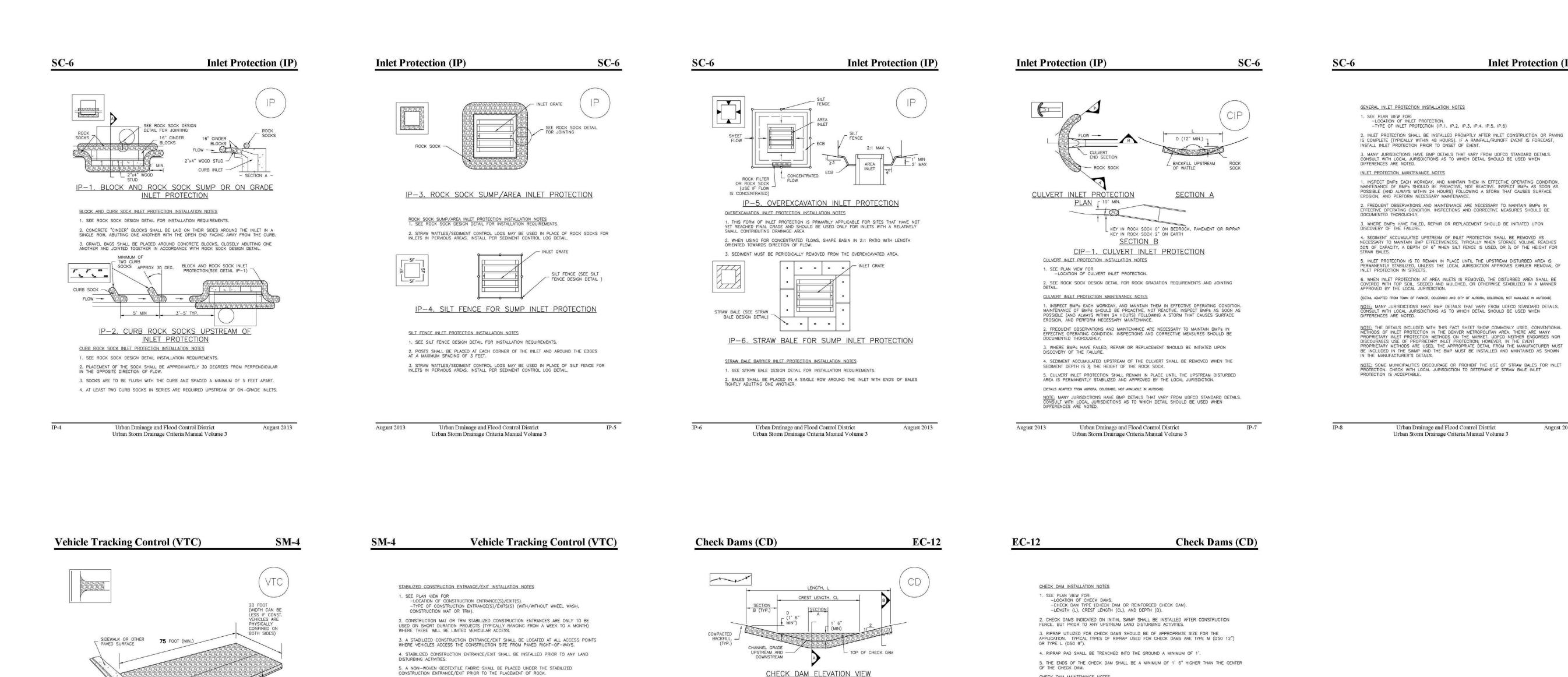
FLOODPLAIN STATEMENT

ANTICIPATED STARTING AND COMPLETION TIME PERIOD OF SITE GRADING: SUMMER 2020-FALL 2021

RECEIVING WATERS

HYDROLOGIC TYPE A: TRUCKTON SANDY LOAM





6. UNLESS OTHERWISE SPECIFIED BY LOCAL JURISDICTION, ROCK SHALL CONSIST OF DOT SECT. #703, AASHTO #3 COARSE AGGREGATE OR 6" (MINUS) ROCK.

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 \mbox{BMPs} 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.

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

Urban Drainage and Flood Control District

Urban Storm Drainage Criteria Manual Volume 3

November 2010

VTC-6

5. SEDIMENT TRACKED ONTO 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 DOWN STORM SEWER DRAINS.

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.

STABILIZED CONSTRUCTION ENTRANCE/EXIT MAINTENANCE NOTES

UNLESS OTHERWISE SPECIFIED BY LOCAL JURISDICTION, USE CDOT SECT. #703, AASHTO #3 COARSE AGGREGATE OR 6" MINUS ROCK

NON-WOVEN GEOTEXTILE

UNLESS OTHERWISE SPECIFIED BY LOCAL JURISDICTION, USE CDOT SECT. #703, AASHTO #3 COARSE AGGREGATE OR 6" MINUS ROCK 9" (MIN.)

COMPACTED SUBGRADE

SECTION A

VTC-1. AGGREGATE VEHICLE TRACKING CONTROL

Urban Drainage and Flood Control District

Urban Storm Drainage Criteria Manual Volume 3

CHECK DAM ELEVATION VIEW

SECTION A

SECTION B

PROFILE

CD-1. CHECK DAM

Urban Drainage and Flood Control District

Urban Storm Drainage Criteria Manual Volume 3

SPACING BETWEEN CHECK DAMS SUCH THAT

A AND B ARE EQUAL ELEVATION

D50 = 12" RIPRAP, TYPE M OR TYPE L D50= 9" (SEE TABLE MD-7, MAJOR DRAINAGE, VOL. 1 FOR GRADATION)

1' MIN. -

D50 = 12" RIPRAP, TYPE M OR TYPE L D50=9" (SEE TABLE MD-7, MAJOR DRAINAGE, VOL. 1 FOR GRADATION)

November 2010

CHECK DAM 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.

5. CHECK DAMS ARE TO REMAIN IN PLACE UNTIL THE UPSTREAM DISTURBED AREA IS STABILIZED AND APPROVED BY THE LOCAL JURISDICTION.

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

4. SEDIMENT ACCUMULATED UPSTREAM OF THE CHECK DAMS SHALL BE REMOVED WHEN THE SEDIMENT DEPTH IS WITHIN $\frac{1}{2}$ OF THE HEIGHT OF THE CREST.

6. WHEN CHECK DAMS ARE REMOVED, EXCAVATIONS SHALL BE FILLED WITH SUITABLE COMPACTED BACKFILL. DISTURBED AREA SHALL BE SEEDED AND MULCHED AND COVERED WITH GEOTEXTILE OR OTHERWISE STABILIZED IN A MANNER 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.

Urban Drainage and Flood Control District

Urban Storm Drainage Criteria Manual Volume 3

November 2010



PREPARED BY:

DREXEL, BARRELL & CO. Engineers • Surveyors

3 SOUTH 7TH STREET COLORADO SPGS, COLORADO 8090: CONTACT: TIM D. McCONNELL, P.E (719)260-0887 BOULDER • COLORADO SPRINGS • GREELEY

Inlet Protection (IP)

CLIENT:

4164 AUSTIN BLUFFS PKWY. #361 COLORADO SPRINGS, CO 80918 (719) 200-9594 CONTACT: JAMES TODD STEVENS

ISSUE DATE 2/21/19 INITIAL ISSUE LATEST ISSUE 6/12/20 DESIGNED BY: SBN DRAWN BY: SBN

FILE NAME: 21187-01ECDT PREPARED UNDER MY DIRECT SUPERVISION FOR AND ON BEHALF OF DREXEL, BARRELL & CO.

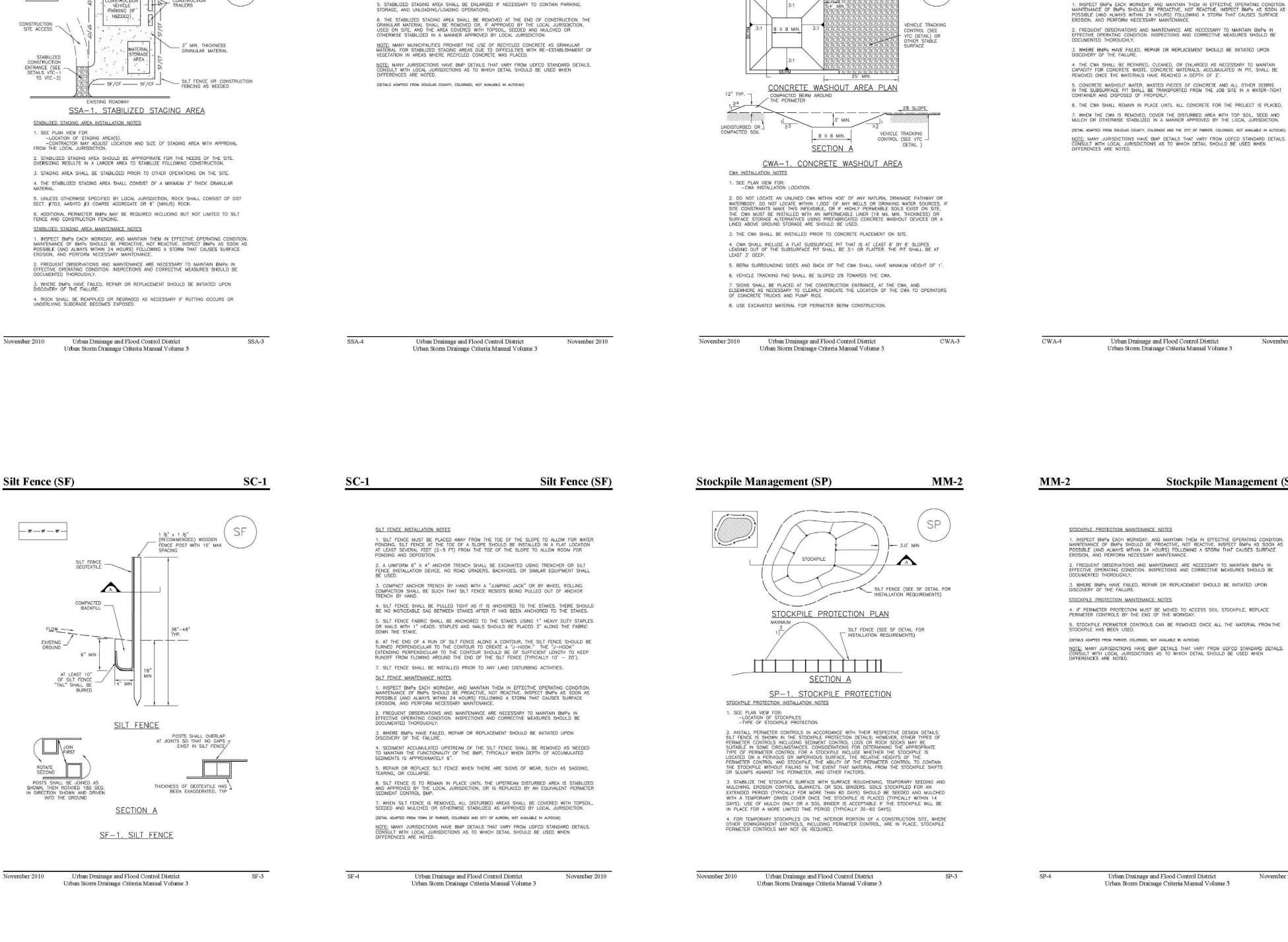
TDM

CHECKED BY:

DRAWING SCALE: HORIZONTAL: N/A VERTICAL: N/A

> **EROSION** CONTROL **DETAILS**

PROJECT NO. 21187-01CSCV DRAWING NO.



Stabilized Staging Area (SSA)

STABILIZED STAGING AREA MAINTENANCE NOTES

Stabilized Staging Area (SSA)

SM-6

MM-1

MM-1

Concrete Washout Area (CWA)

 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. THE CWA SHALL BE REPAIRED, CLEANED, OR ENLARGED AS NECESSARY TO MAINTAIN CAPACITY FOR CONCRETE WASTE. CONCRETE MATERIALS, ACCUMULATED IN PIT, SHALL BE REMOVED ONCE THE MATERIALS HAVE REACHED A DEPTH OF 2'. 5. CONCRETE WASHOUT WATER, WASTED PIECES OF CONCRETE AND ALL OTHER DEBRIS IN THE SUBSURFACE PIT SHALL BE TRANSPORTED FROM THE JOB SITE IN A WATER-TIGHT CONTAINER AND DISPOSED OF PROPERLY. 6. THE CWA SHALL REMAIN IN PLACE UNTIL ALL CONCRETE FOR THE PROJECT IS PLACED. 7. WHEN THE CWA IS REMOVED, COVER THE DISTURBED AREA WITH TOP SOIL, SEED AND MULCH OR OTHERWISE STABILIZED IN A MANNER APPROVED BY THE LOCAL JURISDICTION. (DETAIL ADAPTED FROM DOUGLAS COUNTY, COLORADO AND THE CITY OF PARKER, COLORADO, NOT AVAILABLE IN AUTOCAD).

Concrete Washout Area (CWA)

Stockpile Management (SM)

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.

3. WHERE ${\rm BMPs}$ HAVE FAILED, REPAIR OR REPLACEMENT SHOULD BE INITIATED UPON DISCOVERY OF THE FAILURE.

4. IF PERIMETER PROTECTION MUST BE MOVED TO ACCESS SOIL 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.

COMMON NAME	SCIENTIFIC NAME	LBS PLS/ACRE
SAND BLUESTEM V. ELIDA WESTERN WHEATGRASS V. ARRIBA SIDEOATS GRAMA V. VAUGHN GALLETA V. VIVA (CARYOPSIS) LITTLE BLUESTEM V. PASTURA PRARIE SANDREED V. GASHEN SWITCHGRASS V. NEBR 28 BLANKETFLOWER PRARIE CONEFLOWER BLUE FLAX OATS WINTER WHEAT	ANDROPOGON HALLII PASCOPYRUM SMITHII BOUTELOUA CURTIPENDULA HILARIA JAMESII SCHIZACHYRIUM SCOPARIUM CALAMOVILFA LONGIFOLIA PANICUM VIRGATUM GAILLARDIA ARISTATA RATIBIDA COLUMINIFERA LINUM LEWISII AVENA SATIVA TRITICUM AESTIVUM	2.0 7.0 4.0 1.0 3.0 2.0 1.0 0.5 1.0 3.0 3.0
TOTAL/POUNDS/ACRE		28.5

FERTILIZER	RATE PER ACRE
NITROGEN PHOSPHORUS (P205)	27 69

SEEDING APPLICATION: DRILL SEED 0.25"-0.5" INTO TOPSOIL. AREA NOT ACCESSIBLE

MULCHING APPLICATION: 1 1/2 TONS CERTIFIED WEED FREE NATIVE HAY PER ACRE MECHANICALLY CRIMED IN TOPSOIL IN COMBINATION WITH AN ORGANIC MULCH TACKIFIER.

1. SOIL IS TO BE CONDITIONED FOR PLANT GROWTH BY APPLYING TOPSOIL, FERTILIZER OR LIME.

2. SOIL IS TO BE TILLED IMMEDIATELY PRIOR TO APPLYING SEEDS. COMPACT SOILS ESPECIALLY

3. SEEDBED DEPTH IS TO BE 4 INCHES FOR SLOPES FLATTER THAN 2:1 AND 1 INCH FOR SLOPES

4. ANNUAL GRASSES LISTED IN THE TABLE BELOW ARE TO BE USED FOR TEMPORARY SEEDING. SEED MIXES ARE NOT TO CONTAIN ANY NOXIOUS WEED SEEDS INCLUDING RUSSIAN OR CANADIAN THISTLE, KNAPWEED, PURPLE LOOSESTRIFE, EUROPEAN BINDWEED, JOHNSON GRASS, AND LEAFY

5. THE TABLE BELOW ALSO PROVIDES REQUIREMENTS FOR SEEDING RATES, SEEDING DATES, AND PLANTING DEPTHS FOR THE APPROVED TYPES OF ANNUAL GRASSES.

6. SEEDING IS TO BE APPLIED USING MECHANICAL TYPE DRILLS EXCEPT WHERE SLOPES ARE STEEP OR ACCESS IS LIMITED THEN HYDRAULIC SEEDING MAY BE USED.

7. ALL SEEDED AREAS ARE TO BE MULCHED.

TEMPORARY SEEDING NOTES

8. IF HYDRAULIC SEEDING IS USED THEN HYDRAULIC MULCHING SHALL BE DONE SEPARATELY TO AVOID SEEDS BECOMING ENCAPSULATED IN THE MULCH.

MULCHING NOTES

NEED TO BE LOOSENED.

INSTALLATION REQUIREMENTS

1. 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.

2. 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.

3. MULCH IS TO BE APPLIED EVENLY AT A RATE OF 2 TONS PER ACRE.

4. 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.

5. 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.

SEEDING PLAN

NATIVE SEEDING MIX

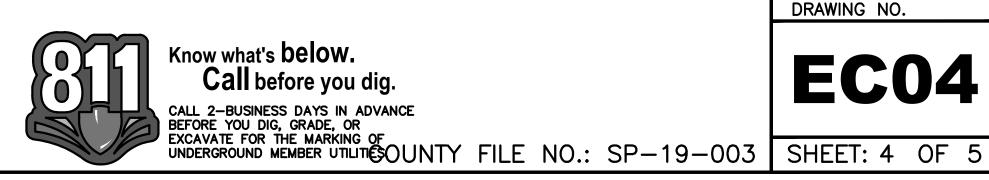
SOIL PREPARATION, FERTILIZER, SEEDING, MULCHING AND MULCH TACKIFIER WILL BE REQUIRED FOR DISTURBED AREAS EXCLUDING THE RIGHT-OF-WAYS.

THE FOLLOWING TYPES AND RATES SHALL BE USED:

COMMON NAME	SCIENTIFIC NAME	LBS PLS/ACRE
SAND BLUESTEM V. ELIDA WESTERN WHEATGRASS V. ARRIBA SIDEOATS GRAMA V. VAUGHN GALLETA V. VIVA (CARYOPSIS) LITTLE BLUESTEM V. PASTURA PRARIE SANDREED V. GASHEN SWITCHGRASS V. NEBR 28 BLANKETFLOWER PRARIE CONEFLOWER BLUE FLAX OATS WINTER WHEAT	ANDROPOGON HALLII PASCOPYRUM SMITHII BOUTELOUA CURTIPENDULA HILARIA JAMESII SCHIZACHYRIUM SCOPARIUM CALAMOVILFA LONGIFOLIA PANICUM VIRGATUM GAILLARDIA ARISTATA RATIBIDA COLUMINIFERA LINUM LEWISII AVENA SATIVA TRITICUM AESTIVUM	2.0 7.0 4.0 1.0 3.0 2.0 1.0 0.5 1.0 3.0 3.0
TOTAL/POUNDS/ACRE		28.5

FERTILIZER	RATE PER ACRE
NITROGEN	27
PHOSPHORUS (P205)	69

TO A DRILL SEEDER AND SLOPES STEEPER THAN 2:1 SHALL BE HAND BROADCAST AT DOUBLE THE ABOVE SEED RATE AND RAKED AT 1/4 TO 1/2 INTO THE TOPSOIL.



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DESIGNED BY: SBN DRAWN BY: CHECKED BY: TDM FILE NAME: | 21187-01ECDT

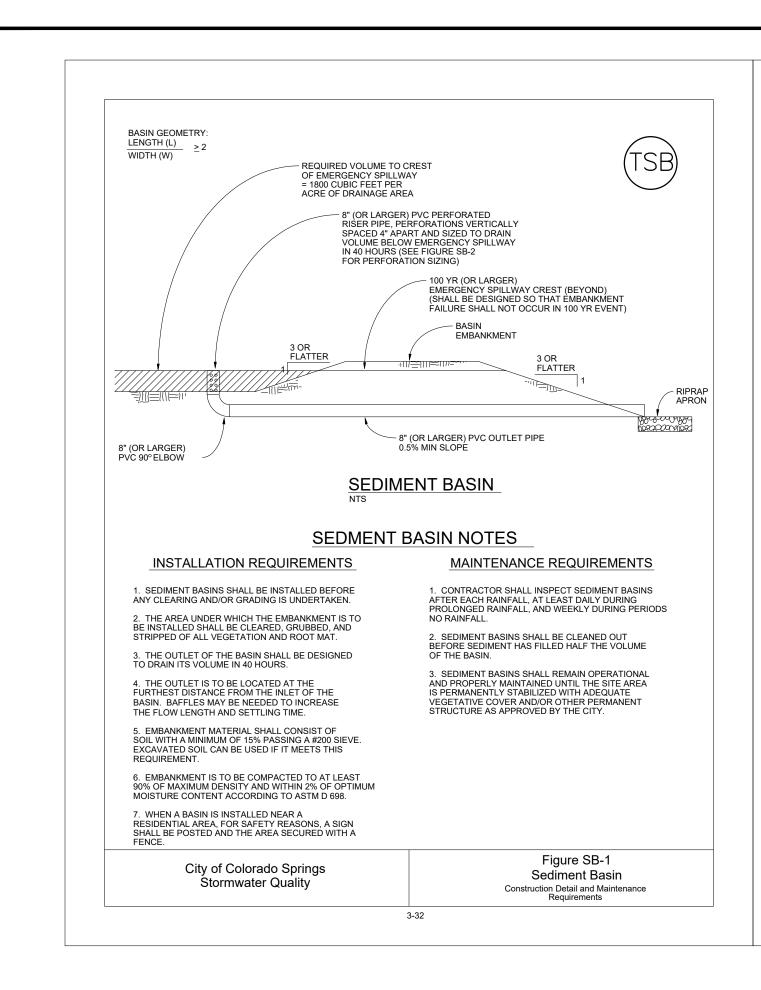
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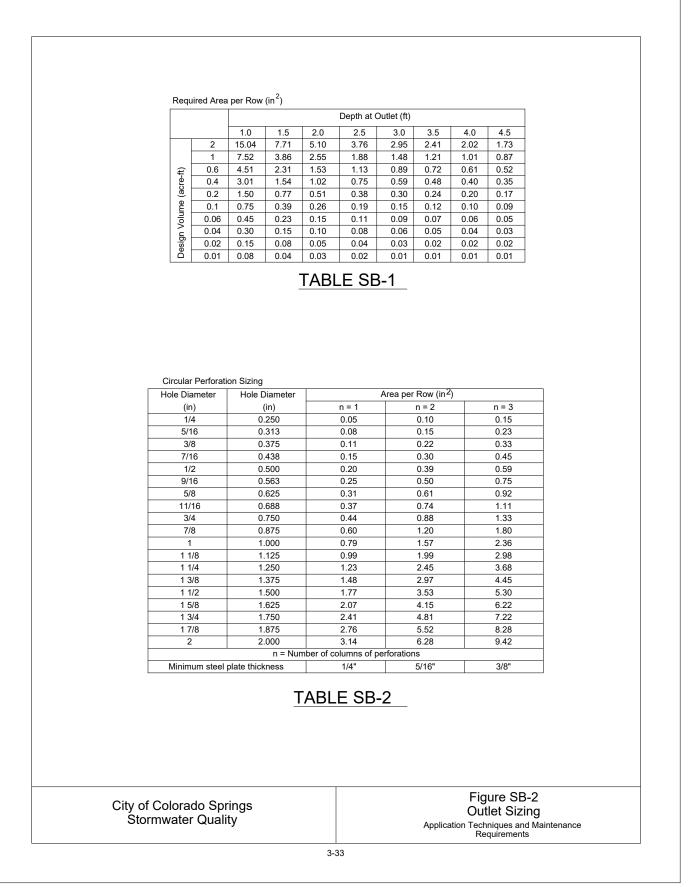
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EROSION CONTROL **DETAILS**

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CHECKED BY:

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> **EROSION** CONTROL **DETAILS**

PROJECT NO. 21187-01CSCV DRAWING NO.

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