

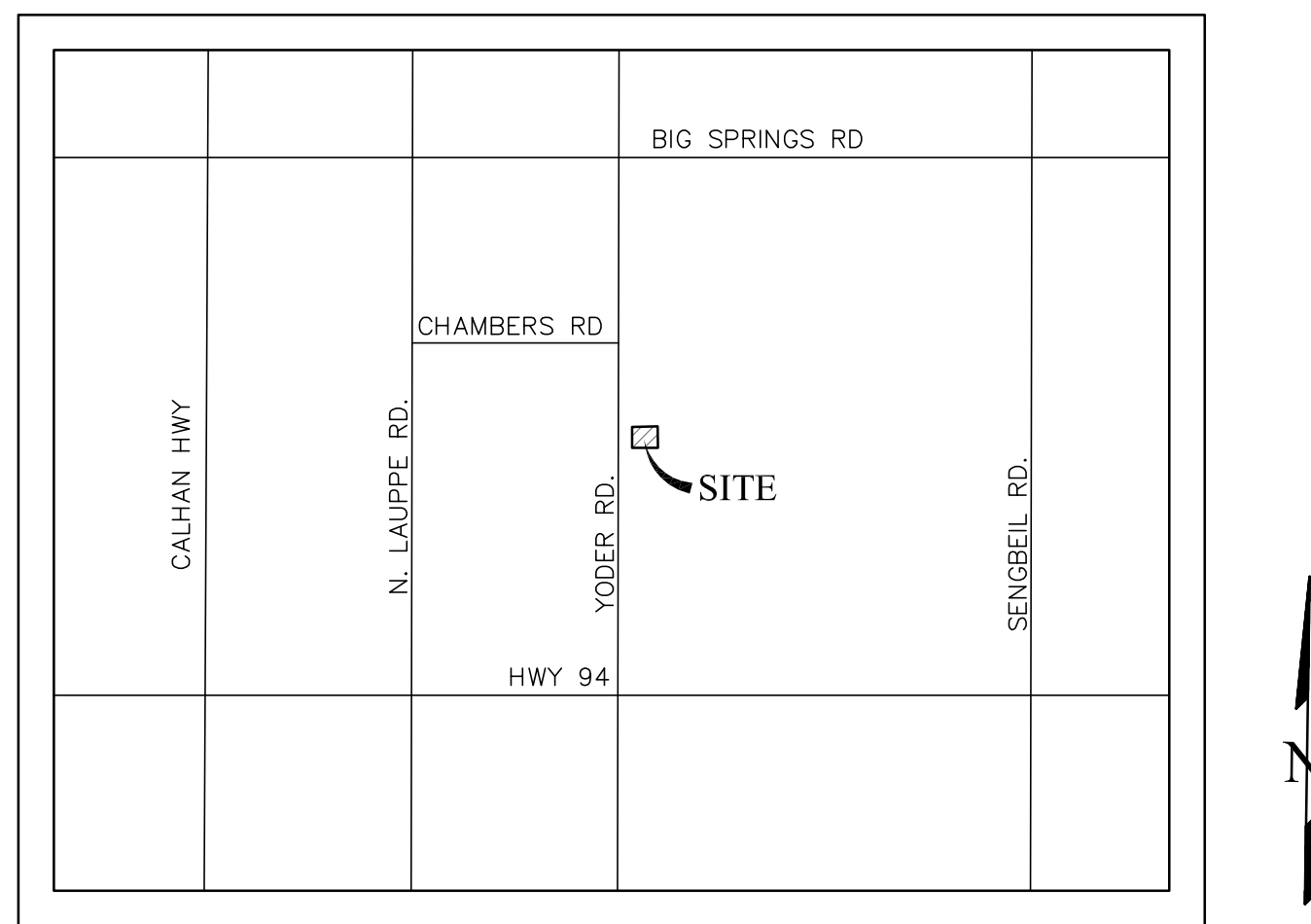
STANDARD NOTES FOR EL PASO COUNTY GRADING AND EROSION CONTROL NOTES

MVEA YODER SUBSTATION
EL PASO COUNTY, CO

Please refer to comments
provided with PPR 1827



GRADING, EROSION & SEDIMENT CONTROL PLAN
FEBRUARY 2018



VICINITY MAP
N.T.S.

- REVISD 8/24/16
1. CONSTRUCTION MAY NOT COMMENCE UNTIL A CONSTRUCTION PERMIT IS OBTAINED FROM PLANNING AND COMMUNITY DEVELOPMENT AND A PRECONSTRUCTION CONFERENCE IS HELD WITH PLANNING AND COMMUNITY DEVELOPMENT INSPECTIONS.
2. STORMWATER DISCHARGES FROM CONSTRUCTION SITES SHALL NOT CAUSE OR THREATEN TO CAUSE POLLUTION, CONTAMINATION, OR DEGRADATION OF STATE WATERS...

OWNER'S STATEMENT:

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

DAVID WALDNER, MANAGER OF ENGINEERING DATE

MOUNTAIN VIEW ELECTRIC ASSOCIATION
BUSINESS NAME

ADDRESS:
11140 E. WOODMAN RD
PEYTON, CO 80931

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.

FILED IN ACCORDANCE WITH THE REQUIREMENTS OF THE EL PASO COUNTY LAND DEVELOPMENT CODE, DRAINAGE CRITERIA, VOLUMES 1 AND 2, AND ENGINEERING CRITERIA MANUAL AS AMENDED.

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

EL PASO COUNTY STANDARD NOTES

- 1. ALL DRAINAGE AND ROADWAY CONSTRUCTION SHALL MEET THE STANDARDS AND SPECIFICATIONS OF THE CITY OF COLORADO SPRINGS/EL PASO COUNTY DRAINAGE CRITERIA MANUAL, VOLUMES 1 & 2 AND THE EL PASO COUNTY ENGINEERING CRITERIA MANUAL.
2. CONTRACTOR SHALL BE RESPONSIBLE FOR THE NOTIFICATION AND FIELD NOTIFICATION OF ALL EXISTING UTILITIES...

SITE DATA

OWNER/PETITIONER:
MOUNTAIN VIEW ELECTRIC ASSOCIATION
11140 E. WOODMAN RD
PEYTON, CO 80931
MR. DAVID WALDNER, (719) 495-2283

PREPARER:
TERRA NOVA ENGINEERING, INC.
125 N. WAHSATCH AVE.
COLORADO SPRINGS, CO 80903
(719) 635-6422 OFFICE
(719) 499-2255 MOBILE

DESCRIPTION OF ACTIVITIES:

THE DEVELOPER PROPOSES TO CONSTRUCT AN ELECTRIC SUBSTATION AND IMPROVE THE EXISTING DIRT ACCESS ROAD ALONG THE SOUTHERN BOUNDARY TO GRAVEL. THE SITE CONSISTS OF 5 ACRES OF UNDEVELOPED PRAIRIE AREA LOCATED WITHIN A 40 ACRE RESIDENTIAL PARCEL.

THE SITE CURRENTLY CONSISTS OF NATIVE GRASSES AND TREES WITH AN ESTIMATED COVERAGE AREA OF APPROXIMATELY 70%. THERE ARE NO EROSION CONTROL MEASURES CURRENTLY IN PLACE.

EROSION CONTROL MEASURES SHALL BE IMPLEMENTED IN A MANNER THAT WILL PROTECT PROPERTIES AND PUBLIC FACILITIES FROM THE ADVERSE EFFECTS OF EROSION AND SEDIMENTATION AS A RESULT OF CONSTRUCTION AND EARTHWORK ACTIVITIES.

CONSTRUCTION PHASING IS ANTICIPATED TO OCCUR AS FOLLOWS:

PHASE 1:
PRIOR TO START OF CONSTRUCTION, INITIAL EROSION CONTROL MEASURES TO BE INSTALLED INCLUDE, BUT NOT LIMITED TO VEHICLE TRACKING CONTROL (VTC) PADS AT THE SITE EXIT POINT ONTO PAVEMENT, SEDIMENT CONTROL LOGS (SCL) ALONG THE PROPERTY BOUNDARY ON THE SOUTH AND EAST SIDES OF THE SITE, A STAGING AREA (SSA) WHICH WILL REMAIN IN PLACE UNTIL CONSTRUCTION IS COMPLETED.

PHASE 2:
SEDIMENT CONTROL LOGS (SCL) AND STRAW BALE BARRIERS (SBB) ALONG THE NEWLY GRADED SWALES SHALL BE INSTALLED. THE PROPOSED EDB WILL BE GRADED IN AND THE INLET PROTECTION (IP) SHALL BE PLACED AT THE OUTLET STRUCTURE.

PHASE 3:
ANY AREA THAT IS GOING TO REMAIN IN AN INTERIM STATE FOR MORE THAN 60 DAYS SHALL BE SEEDED IN ORDER TO ESTABLISH A VEGETATIVE COVER UNTIL THE FINAL LANDSCAPING IS INSTALLED.

PHASE 4:
FINAL CONSTRUCTION ACTIVITIES HAVE BEEN COMPLETED AT THIS POINT. THE VEHICLE TRACKING CONTROL PADS, SEDIMENT CONTROL LOGS AND STAGING AREAS HAVE ALL BEEN REMOVED AND PERMANENT EROSION CONTROL MEASURES HAVE BEEN ESTABLISHED.

THE TOTAL SITE SIZE WITHOUT THE RIGHT-OF-WAY RESERVATION IS 3.4± ACRES. THE ENTIRE SITE IS DEVELOPED AND SHALL BE MAINTAINED TO REDUCE SEDIMENTATION FROM MIGRATING TO OFF-SITE OR DOWNSTREAM CREEK BEDS.

THE SOILS ON THIS SITE ARE NOTED AS TYPE 97, TRUCKTON SANDY LOAM W/3-9 PERCENT SLOPES. A SOILS MAP HAS BEEN INCLUDED IN THE FINAL DRAINAGE REPORT.

THERE ARE NO POTENTIAL POLLUTANTS EXISTING OR PROPOSED FOR STORAGE ON THIS SITE.

THE RECEIVING WATERS FOR THIS AREA IS SAND CREEK. PER THE FINAL DRAINAGE REPORT, THE MAJORITY OF THE SITE (APPROXIMATELY 70%) FLOWS TO THE EAST TOWARD CANADA DRIVE.

THE PROPERTY OWNER OR OWNERS REPRESENTATIVE IS RESPONSIBLE FOR INSPECTING AND MAINTAINING THE SITE ON A REGULAR BASIS. INITIAL CRITERIA FOR THE OCCURRENCE OF INSPECTIONS IS AS FOLLOWS:
1. ONCE EVERY 14 DAYS OR
2. AFTER ANY PRECIPITATION OR SNOWMELT EVENT THAT SIGNIFICANT ENOUGH TO CAUSE SURFACE EROSION.

A COST ESTIMATE FOR THE BMP'S ON THIS SITE IS INCLUDED ON THIS PLAN.

LEGAL DESCRIPTION

TRACT M; A PORTION OF THE SOUTHWEST QUARTER OF SECTION 3, TOWNSHIP 14 SOUTH, RANGE 61 WEST OF THE 6TH PRINCIPAL MERIDIAN, SITUATED IN EL PASO COUNTY, STATE OF COLORADO, DESCRIBED AS FOLLOWS: COMMENCING AT THE SOUTHWEST CORNER OF SAID SECTION 3; THENCE N89°07'57"E COINCIDENT WITH THE SOUTH LINE OF SAID SECTION 3, A DISTANCE OF 774.30 FEET TO THE POINT OF BEGINNING; THENCE N01°00'29"W, A DISTANCE OF 466.68 FEET; THENCE N89°07'57"E, A DISTANCE OF 466.70 FEET; THENCE S01°00'29"E, A DISTANCE OF 466.68 FEET TO THE SOUTH LINE OF SAID SECTION 3; THENCE S89°07'57"W COINCIDENT WITH SAID SOUTH LINE OF SECTION 3, A DISTANCE OF 466.70 FEET TO THE POINT OF BEGINNING, CONTAINING A CALCULATED AREA OF 5.000 ACRES MORE OR LESS.

AREA

TOTAL AREA TO BE CLEARED, EXCAVATED, GRADED OR DISTURBED IS 4.31 ACRES.

VOLUME

TOTAL SOIL TO BE MOVED W/ 20% COMPACTION, CUT=201 CY, FILL=8,118, NET=7,918 (F)

EROSION CONTROL COST OPINION:

Table with 2 columns: Item description and Cost. Includes items like Vehicle Tracking Control, Seeding, Erosion Control Logs, Concrete Washout, Straw Bale Check Dams, Inlet Protection, and Silt Fence.

SHEET INDEX

Table with 2 columns: Sheet description and Sheet number. Includes Site Grading Plan, Extended Detention Basin Plan, Erosion Control Plan, etc.

STATEMENTS

DESIGN ENGINEER'S STATEMENT:

THESE 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.

L DUCETT, P.E. #32339 DATE
FOR AND ON BEHALF OF TERRA NOVA ENGINEERING, INC.

OWNER/DEVELOPERS STATEMENT:

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

DAVID WALDNER DATE
MOUNTAIN VIEW ELECTRIC ASSOCIATION
11140 E. WOODMAN RD
PEYTON, CO 80831

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.

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

GENERAL NOTES

- 1. THE LOCATIONS OF EXISTING UTILITIES HAVE BEEN SHOWN ACCORDING TO THE BEST AVAILABLE INFORMATION. THE CONTRACTOR IS RESPONSIBLE FOR FIELD LOCATION AND VERIFICATION OF EXISTING UTILITIES PRIOR TO BEGINNING WORK.
2. THE PREPARED EROSION/SEDIMENT CONTROL PLAN IS TO BE CONSIDERED A PART OF THESE PLANS AND ITS REQUIREMENTS ADHERED TO DURING THE CONSTRUCTION OF THIS PROJECT.

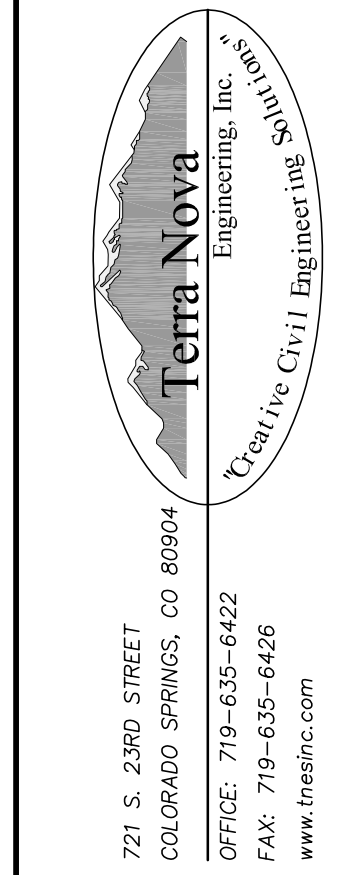
ENGINEER'S STATEMENT:
THIS GRADING AND EROSION CONTROL PLAN WAS PREPARED UNDER MY DIRECTION AND SUPERVISION AND IS CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF.

NAME, P.E. # DATE

Table with columns: REVISIONS, NO., DESCRIPTION, DATE.

UNTIL SUCH TIME AS THESE DRAWINGS ARE APPROVED BY THE LOCAL AND STATE ENGINEERING, TERRA NOVA ENGINEERING, INC. APPROVES THEIR USE ONLY FOR THE PROJECT AND SITE SPECIFIC AUTHORIZATION.

PREPARED FOR:
MVEA
ATTN: DAVID WALDNER
11140 E. WOODMAN RD
PEYTON, CO 80931
719-495-2283

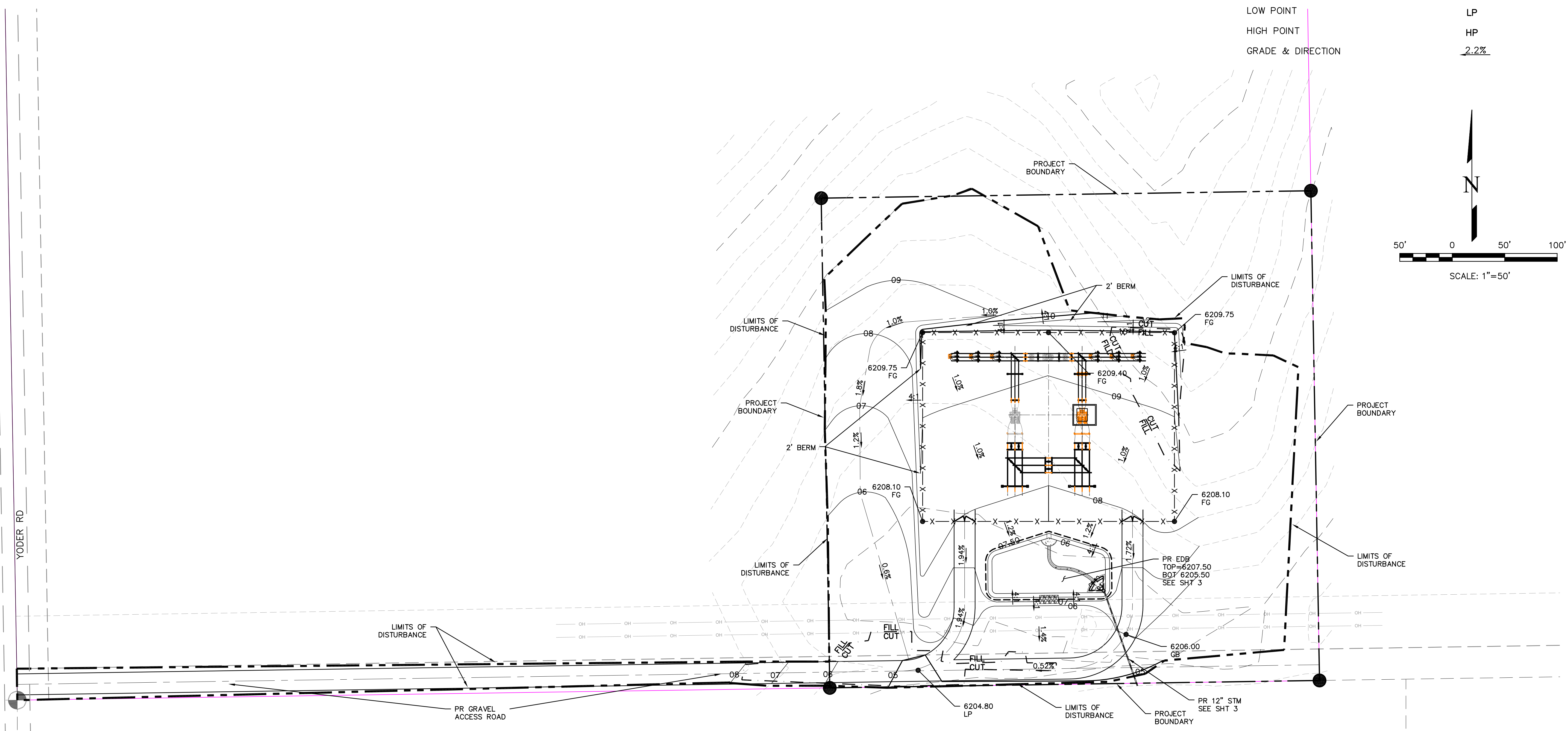
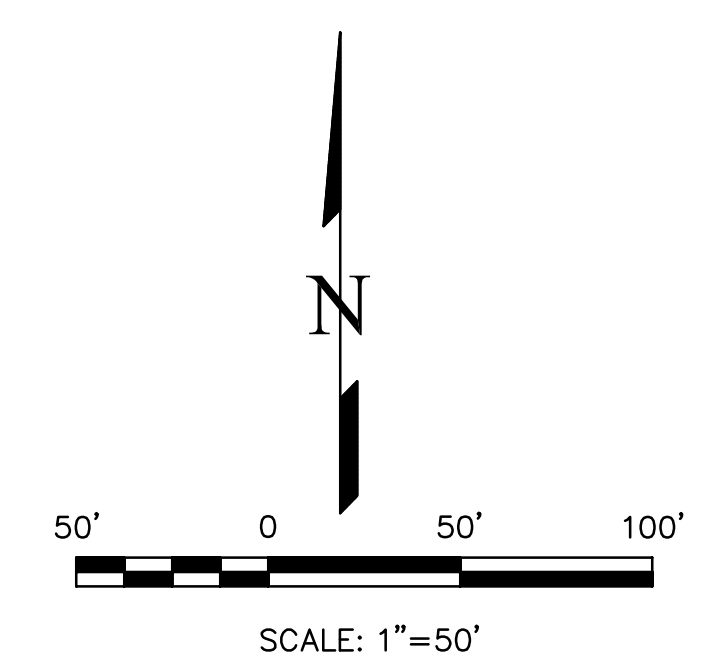


MVEA YODER SUBSTATION
EL PASO COUNTY, COLORADO
GRADING AND EROSION CONTROL PLAN

Table with columns: DESIGNED BY, DRAWN BY, CHECKED BY, H-SCALE, V-SCALE, JOB NO., DATE ISSUED, SHEET NO.

GRADING LEGEND

EXISTING CONTOURS - MINOR	---	6132
EXISTING CONTOURS - MAJOR	- - -	6130
PROPOSED CONTOURS - MAJOR	---	6132
PROPOSED CONTOURS - MAJOR	- - -	6130
LIMITS OF CONSTRUCTION	- - - - -	
EXISTING FINISHED GROUND	EX-FG	
PROPOSED FINISHED GROUND	FG	
PROPOSED FLOWLINE	FL	
LOW POINT	LP	
HIGH POINT	HP	
GRADE & DIRECTION		2.2%



UNPLATTED
NW 1/4 NW 1/4
SEC. 10 T14S R61W

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

L. DUCETT, P.E.
COLORADO P.E. NO. 32339

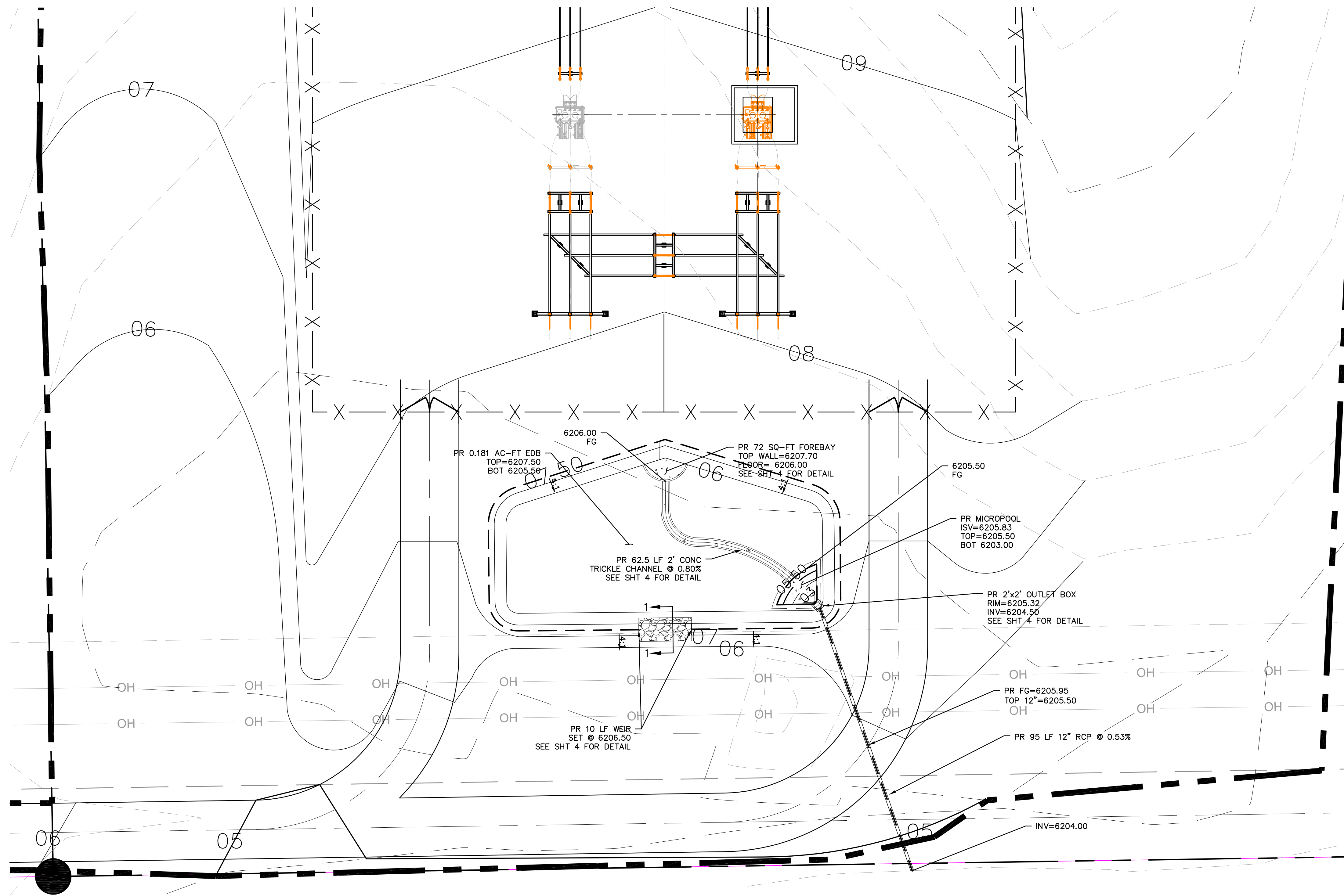
REVISIONS	NO.	DESCRIPTION	DATE
UNTIL SUCH TIME AS THESE DRAWINGS ARE APPROVED FOR CONSTRUCTION BY THE LOCAL JURISDICTION, TERRA NOVA ENGINEERING, INC. APPROVES THEIR USE ONLY FOR THE PROJECT AND SITE SPECIFICALLY AUTHORIZED BY WRITTEN AUTHORIZATION.			

PREPARED FOR:
MVEA
ATTN: DAVID WALDNER
11140 E. WOODMAN RD.
PEYTON, CO 80931
719-495-2283

721 S. 2900 STREET
COLORADO SPRINGS, CO 80904
OFFICE: 719-635-6422
FAX: 719-635-6426
www.tnengine.com

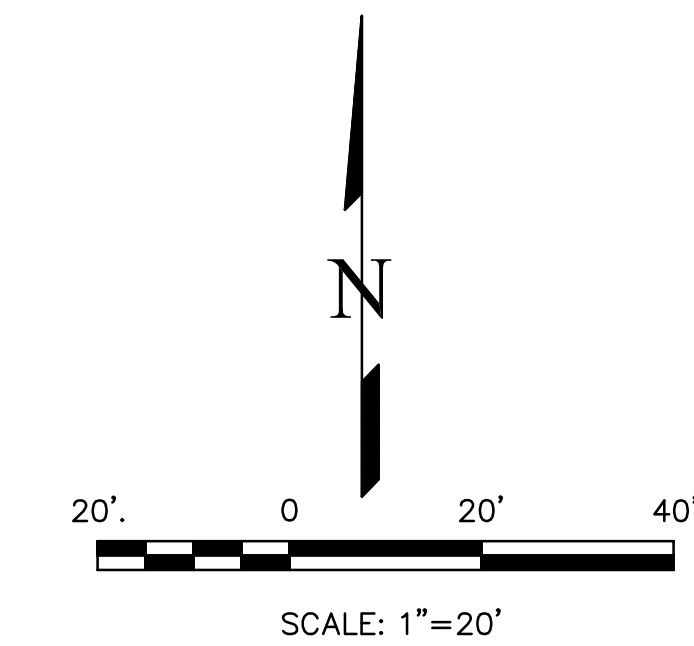
MVEA YODER SUBSTATION
& SEDIMENT CONTROL PLAN
GRADING PLAN

DESIGNED BY	QNA
DRAWN BY	QNA
CHECKED BY	
H-SCALE	1"=50'
V-SCALE	NA
JOB NO.	1802.00
DATE ISSUED	2/16/18
SHEET NO.	2 OF 7



GRADING LEGEND

EXISTING CONTOURS - MINOR	---	6132
EXISTING CONTOURS - MAJOR	---	6130
PROPOSED CONTOURS - MAJOR	---	6132
PROPOSED CONTOURS - MAJOR	---	6130
LIMITS OF CONSTRUCTION	---	
EXISTING FINISHED GROUND	---	EX-FG
PROPOSED FINISHED GROUND	---	FG
PROPOSED FLOWLINE	---	FL
LOW POINT	---	LP
HIGH POINT	---	HP
GRADE & DIRECTION	---	2.2%



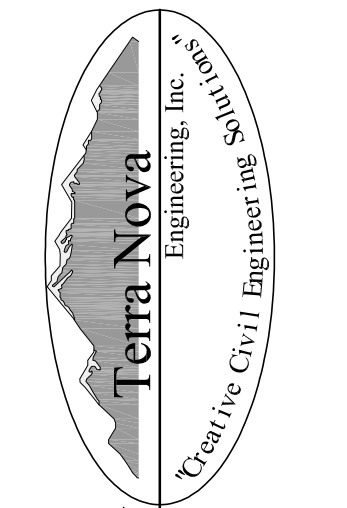
THIS DESIGN WAS PREPARED UNDER MY DIRECT SUPERVISION FOR AND ON BEHALF OF TERRA NOVA ENGINEERING, INC.

L. DUCETT, P.E.
COLORADO P.E. NO. 32339

REVISIONS NO.	DESCRIPTION	DATE

UNTIL SUCH TIME AS THESE DRAWINGS ARE APPROVED FOR THE PROJECT BY THE REVIEWING AGENCIES, TERRA NOVA ENGINEERING, INC. APPROVES THEIR USE ONLY FOR THE PROJECT AND FOR THE PURPOSES AUTHORIZED BY WRITTEN AUTHORIZATION.

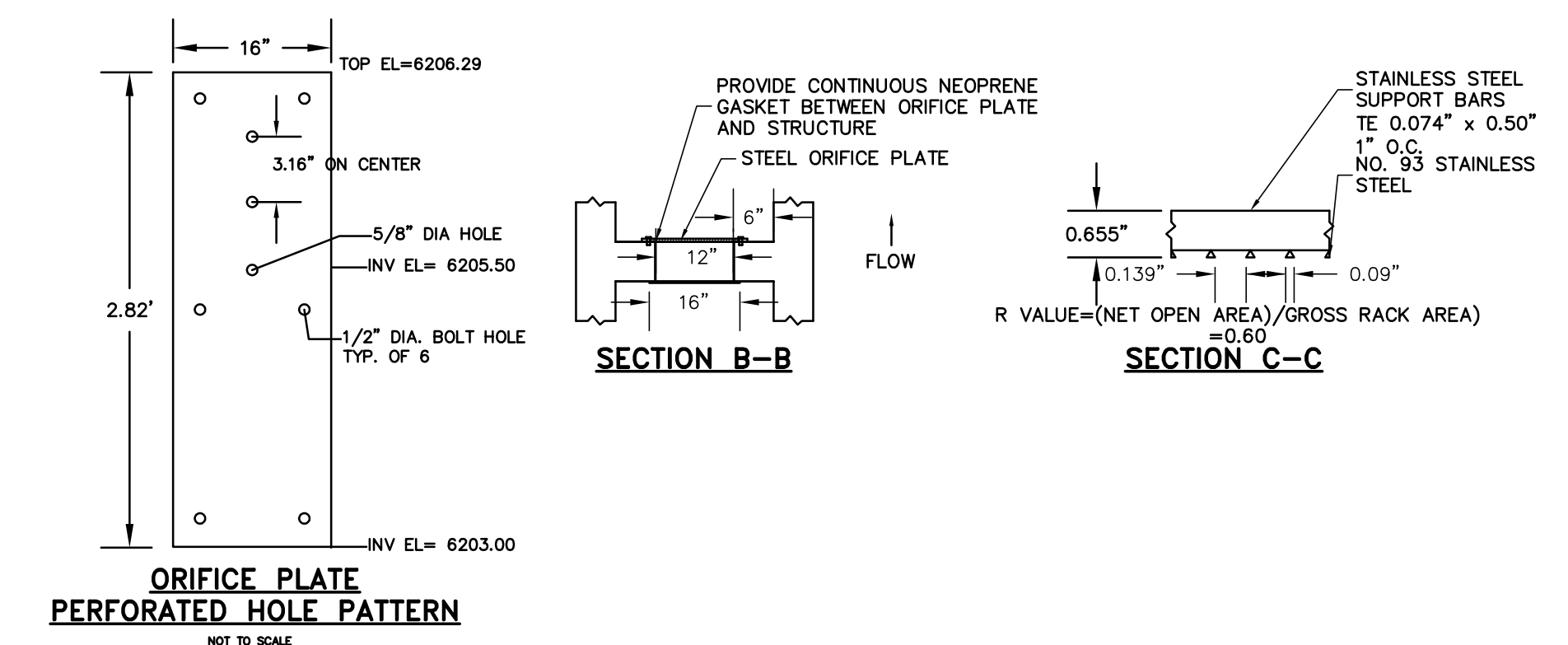
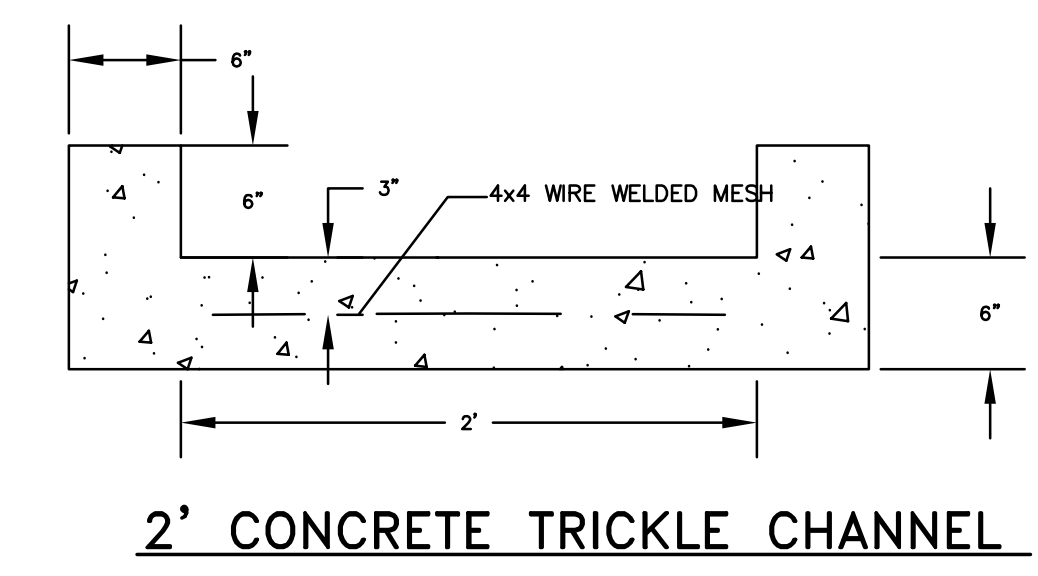
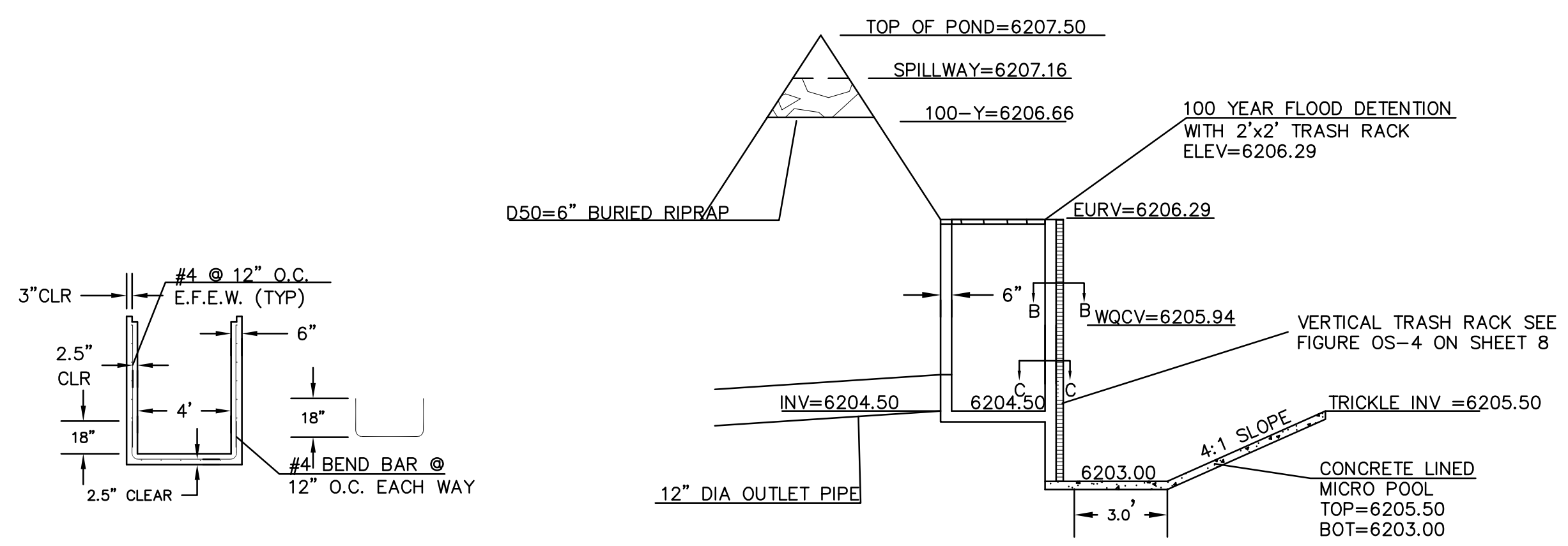
PREPARED FOR:
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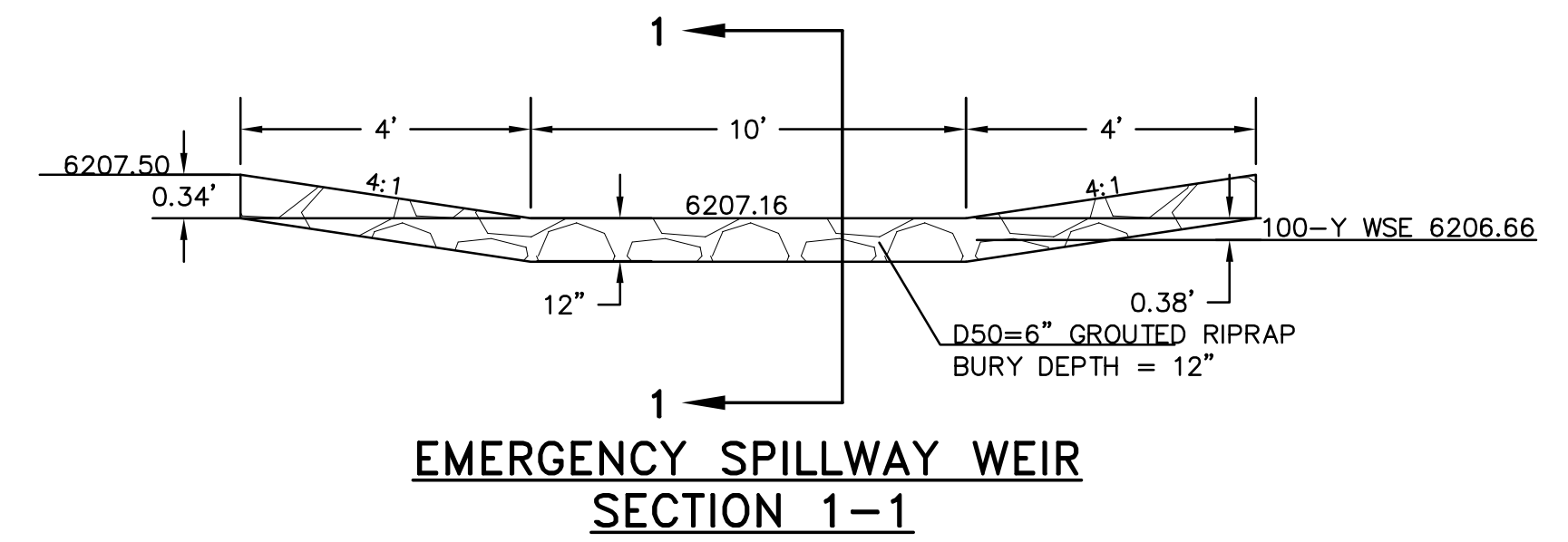
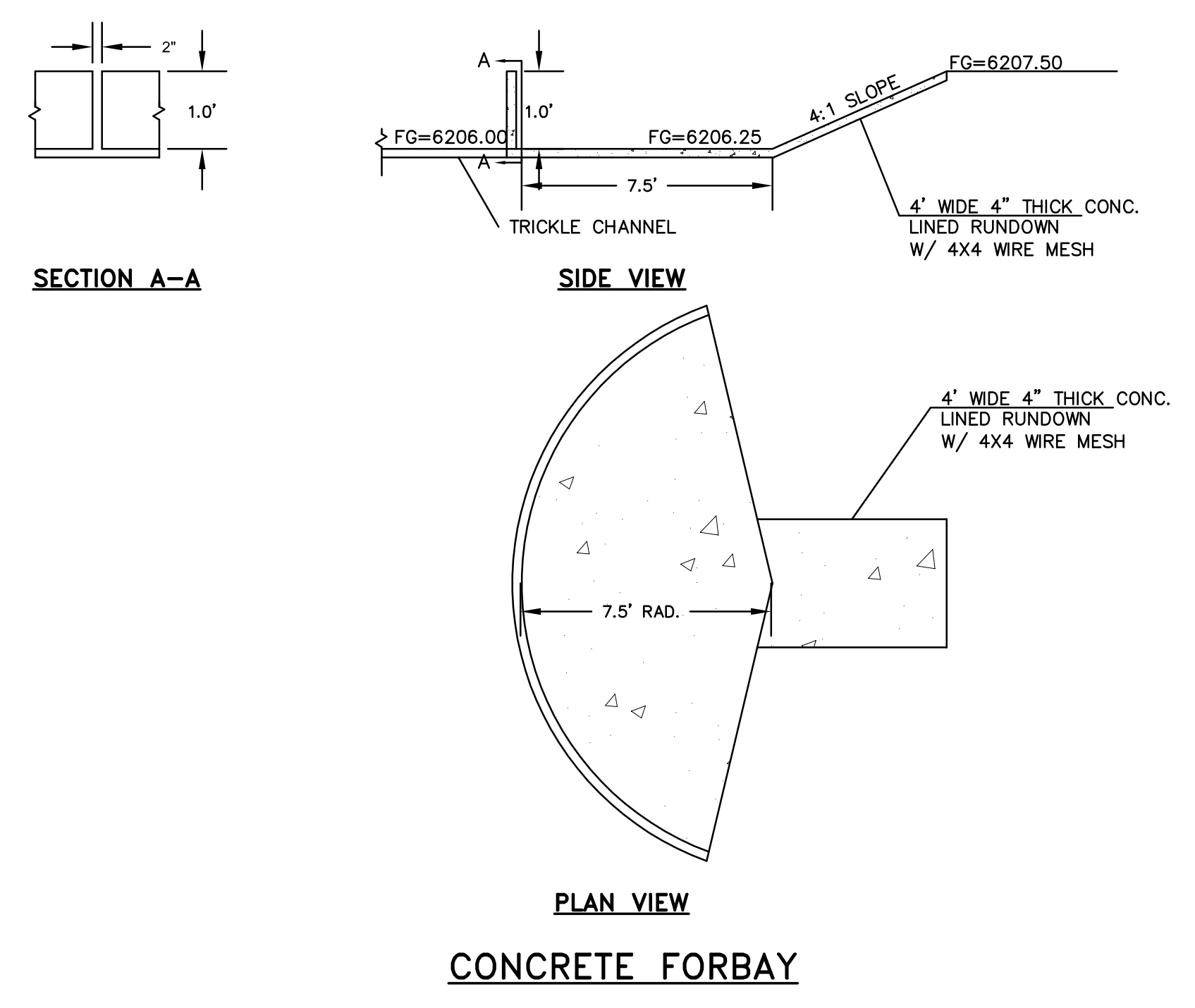
721 S. 2900 STREET
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MVEA YODER SUBSTATION
GRADING, EROSION & SEDIMENT CONTROL PLAN
EXTENDED DETENTION BASIN PLAN

DESIGNED BY	QNA
DRAWN BY	QNA
CHECKED BY	
H-SCALE	1"=100'
V-SCALE	NA
JOB NO.	1802.00
DATE ISSUED	2/16/18
SHEET NO.	3 OF 7



POND OUTLET OVERALL DETAIL



REVISIONS	DESCRIPTION	DATE

UNTIL SUCH TIME AS THESE DRAWINGS ARE APPROVED BY THE BOARD OF PROFESSIONAL ENGINEERS, TERRA NOVA ENGINEERING, INC. APPROVES THEIR USE ONLY FOR THE PROJECT AND FOR THE PURPOSES AUTHORIZED BY WRITTEN AUTHORIZATION.

PREPARED FOR:
MVEA
 ATTN: LES YODER
 11140 E. WOODMAN RD.
 PEYTON, CO 80831
 719-495-2283

MVEA YODER SUBSTATION
 GRADING, EROSION AND SEDIMENT CONTROL PLAN
 EDB DETAILS

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

L. DUCETT, P.E.
 COLORADO P.E. NO. 32339

DESIGNED BY QNA
DRAWN BY QNA
CHECKED BY
H-SCALE NA
V-SCALE NA
JOB NO. 1802.00
DATE ISSUED 2/5/18
SHEET NO. 4 OF 7

EROSION CONTROL LEGEND

THE CITY OF COLORADO SPRINGS ENGINEERING DEPARTMENT GENERAL SPECIFICATIONS SHOULD BE USED AS A RESOURCE WHEN DEVELOPING TECHNICAL SPECIFICATIONS FOR RE-VEGETATION. GENERAL GUIDELINES AND RECOMMENDATIONS FOR RE-VEGETATION INCLUDE:

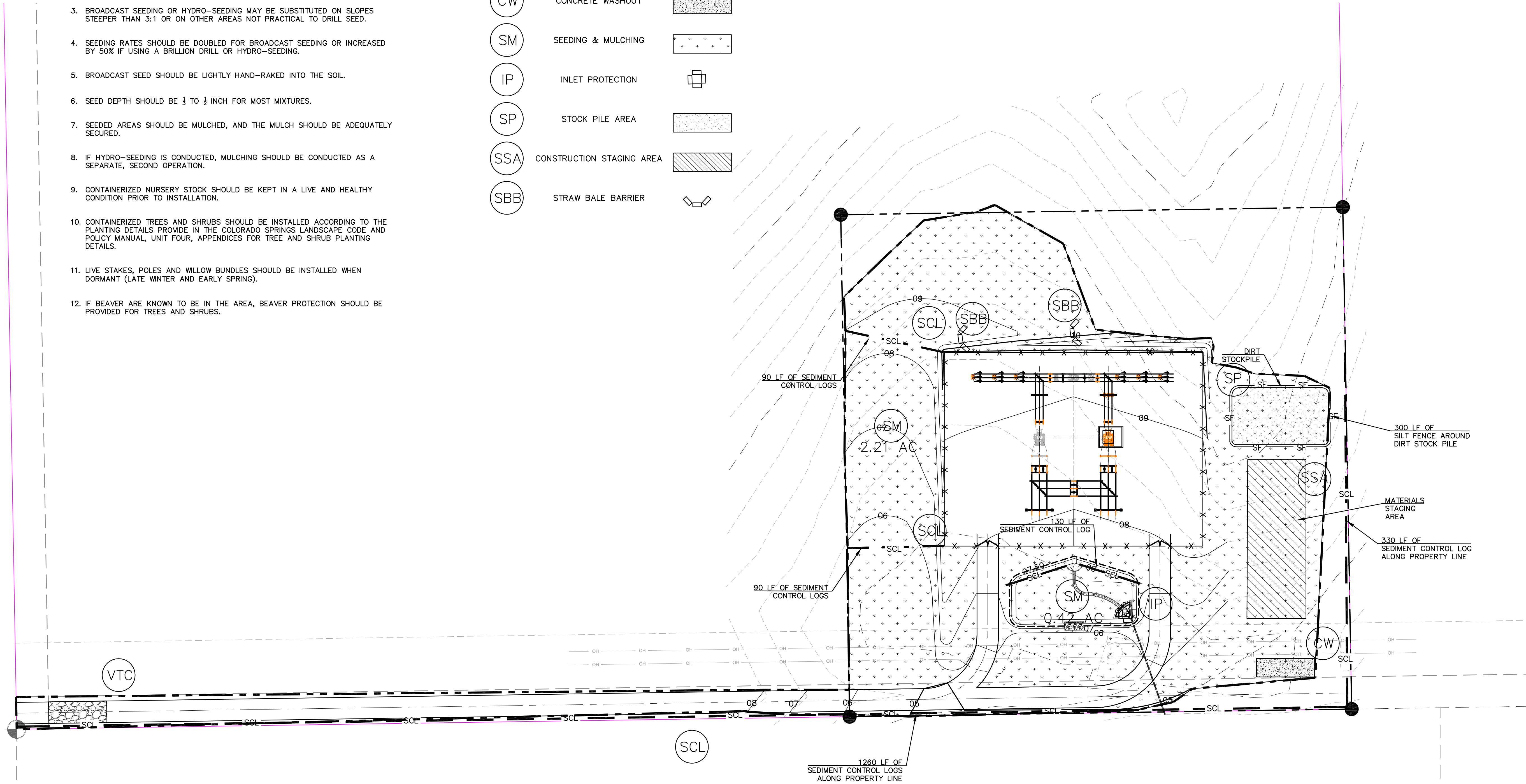
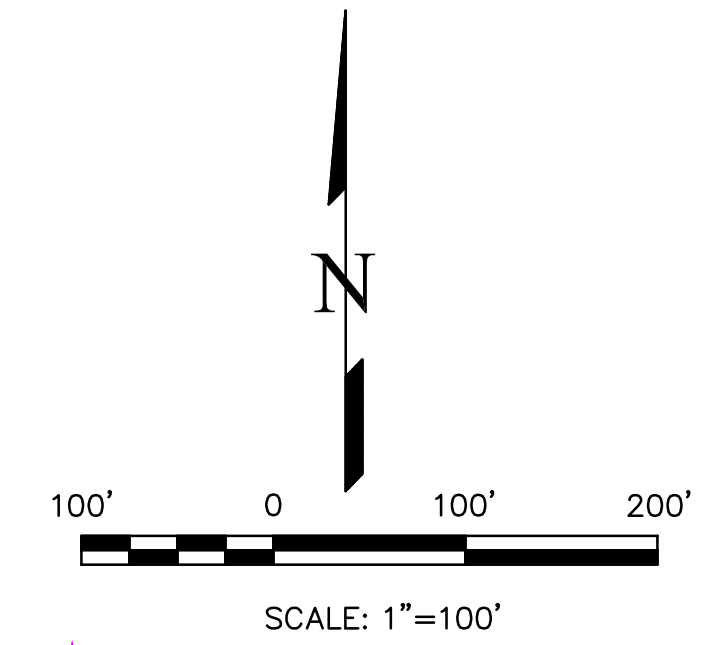
- SEED MIXTURES SHOULD BE SOWN AT THE PROPER TIME OF YEAR FOR THE MIXTURE. GENERALLY, THERE ARE TWO OPTIMAL SEEDING PERIODS DURING THE YEAR. THE FIRST PERIOD IS IN THE SPRING, MARCH TO MAY. THE SECOND PERIOD IS IN LATE SUMMER TO EARLY FALL, AUGUST TO SEPTEMBER.
- SEED SHOULD BE DRILL-SEEDED, WHENEVER POSSIBLE.
- BROADCAST SEEDING OR HYDRO-SEEDED MAY BE SUBSTITUTED ON SLOPES STEEPER THAN 3:1 OR ON OTHER AREAS NOT PRACTICAL TO DRILL SEED.
- SEEDING RATES SHOULD BE DOUBLED FOR BROADCAST SEEDING OR INCREASED BY 50% IF USING A BRILLION DRILL OR HYDRO-SEEDED.
- BROADCAST SEED SHOULD BE LIGHTLY HAND-RAKED INTO THE SOIL.
- SEED DEPTH SHOULD BE $\frac{1}{3}$ TO $\frac{1}{2}$ INCH FOR MOST MIXTURES.
- SEEDED AREAS SHOULD BE MULCHED, AND THE MULCH SHOULD BE ADEQUATELY SECURED.
- IF HYDRO-SEEDED IS CONDUCTED, MULCHING SHOULD BE CONDUCTED AS A SEPARATE, SECOND OPERATION.
- CONTAINERIZED NURSERY STOCK SHOULD BE KEPT IN A LIVE AND HEALTHY CONDITION PRIOR TO INSTALLATION.
- CONTAINERIZED TREES AND SHRUBS SHOULD BE INSTALLED ACCORDING TO THE PLANTING DETAILS PROVIDE IN THE COLORADO SPRINGS LANDSCAPE CODE AND POLICY MANUAL, UNIT FOUR, APPENDICES FOR TREE AND SHRUB PLANTING DETAILS.
- LIVE STAKES, POLES AND WILLOW BUNDLES SHOULD BE INSTALLED WHEN DORMANT (LATE WINTER AND EARLY SPRING).
- IF BEAVER ARE KNOWN TO BE IN THE AREA, BEAVER PROTECTION SHOULD BE PROVIDED FOR TREES AND SHRUBS.

EROSION CONTROL LEGEND

KEY	TITLE	SYMBOL
(SCL)	SEDIMENT CONTROL LOGS	- - - SCL - - -
(VTC)	VEHICLE TRACKING CONTROL	[Pattern]
(CW)	CONCRETE WASHOUT	[Pattern]
(SM)	SEEDING & MULCHING	[Pattern]
(IP)	INLET PROTECTION	[Symbol]
(SP)	STOCK PILE AREA	[Pattern]
(SSA)	CONSTRUCTION STAGING AREA	[Pattern]
(SBB)	STRAW BALE BARRIER	[Symbol]

GRADING LEGEND

EXISTING CONTOURS - MINOR	6132
EXISTING CONTOURS - MAJOR	6130
PROPOSED CONTOURS - MAJOR	6132
PROPOSED CONTOURS - MAJOR	6130
LIMITS OF CONSTRUCTION	[Symbol]



UNPLATTED
NW 1/4 NW 1/4
SEC 10, T14S, R61W

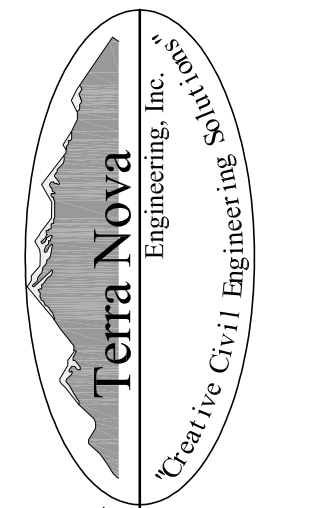
THIS DESIGN WAS PREPARED UNDER MY DIRECT SUPERVISION FOR AND ON BEHALF OF TERRA NOVA ENGINEERING, INC.

L. DUCETT, P.E.
COLORADO P.E. NO. 32339

REVISIONS	NO.	DESCRIPTION	DATE

UNTIL SUCH TIME AS THESE DRAWINGS ARE APPROVED BY THE REVIEWING AGENCIES, TERRA NOVA ENGINEERING, INC. APPROVES THEIR USE ONLY FOR THE PROJECT AND FOR THE PURPOSES AUTHORIZED BY WRITTEN AUTHORIZATION.

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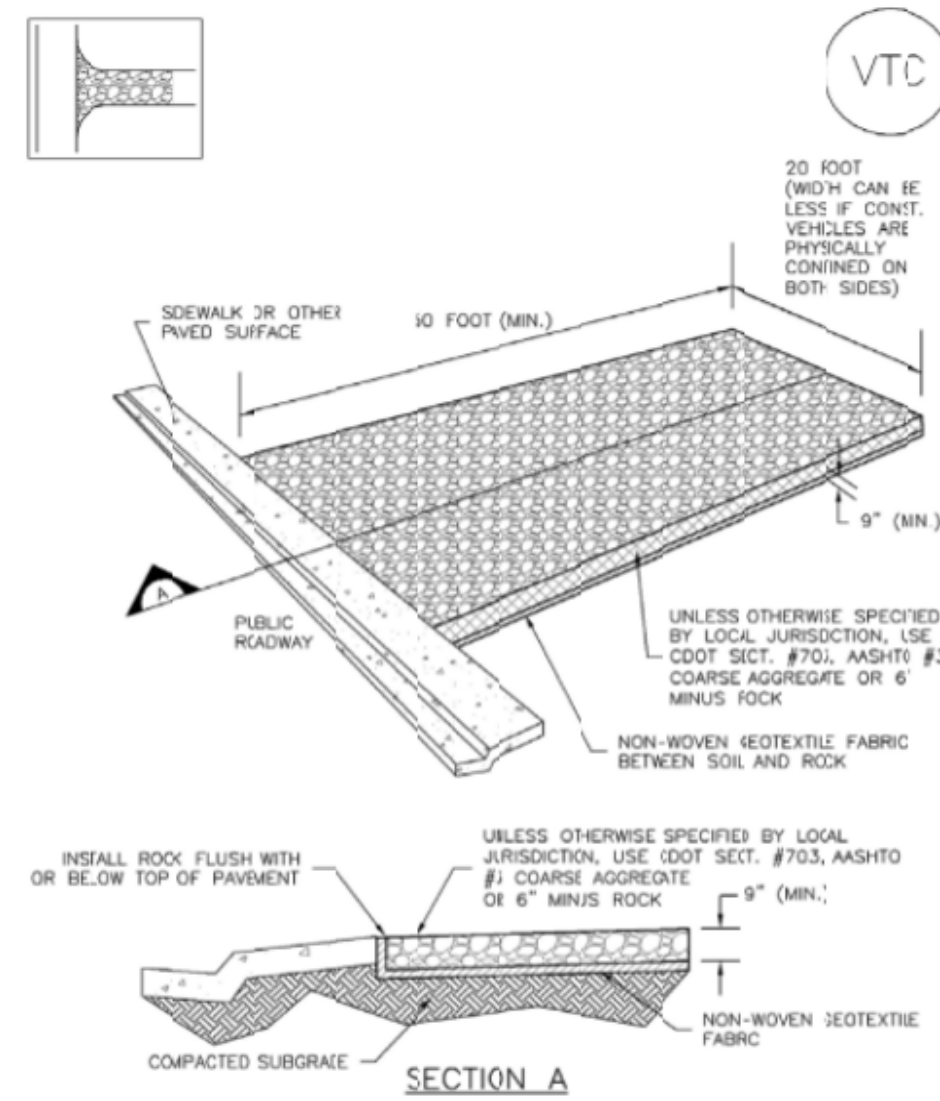


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MVEA YODER SUBSTATION
GRADING, EROSION AND SEDIMENT CONTROL PLAN
EROSION CONTROL PLAN

DESIGNED BY	QNA
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CHECKED BY	
H-SCALE	1"=20'
V-SCALE	NA
JOB NO.	1732.00
DATE ISSUED	2/16/18
SHEET NO.	5 OF 7

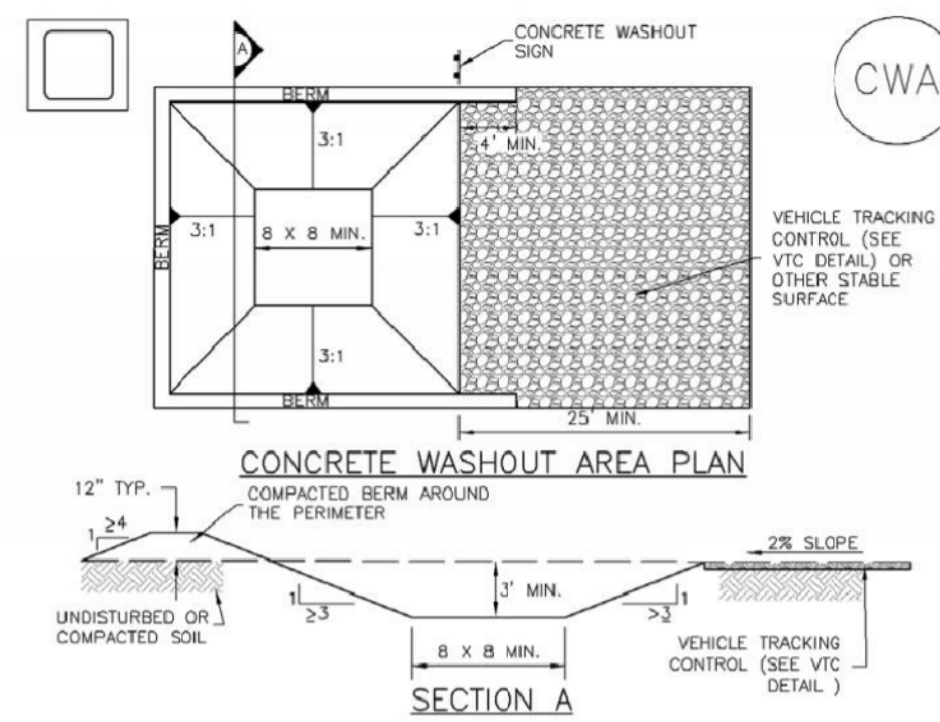
Vehicle Tracking Control (VTC) SM-4



VTC-1. AGGREGATE VEHICLE TRACKING CONTROL

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

Concrete Washout Area (CWA) MM-1



CWA-1. CONCRETE WASHOUT AREA

- CWA INSTALLATION NOTES**
- SEE PLAN VIEW FOR:
-CWA INSTALLATION LOCATION.
 - DO NOT LOCATE AN UNLINED CWA WITHIN 40' OF ANY NATURAL DRAINAGE PATHWAY OR WATERBODY. DO NOT LOCATE WITHIN 100' OF ANY WELLS OR DRINKING WATER SOURCES. IF SITE CONSTRAINTS MAKE THIS INFEASIBLE, OR IF HIGHLY PERMEABLE SOILS EXIST ON SITE, THE CWA MUST BE INSTALLED WITH AN IMPERMEABLE LINER (1/8 MIN. THICKNESS) OR SURFACE STORAGE ALTERNATIVES USING PREFABRICATED CONCRETE WASHOUT DEVICES OR A LINED ABOVE GROUND STORAGE ARE SHOULD BE USED.
 - THE CWA SHALL BE INSTALLED PRIOR TO CONCRETE PLACEMENT ON SITE.
 - CWA SHALL INCLUDE A FLAT SUBSURFACE PIT THAT IS AT LEAST 8' BY 8' SLOPES LEADING OUT OF THE SUBSURFACE PIT SHALL BE 3:1 OR FLATTER. THE PIT SHALL BE AT LEAST 3' DEEP.
 - BERM SURROUNDING SIDES AND BACK OF THE CWA SHALL HAVE MINIMUM HEIGHT OF 1'.
 - VEHICLE TRACKING PAD SHALL BE SLOPED 2% TOWARDS THE CWA.
 - SIGNS SHALL BE PLACED AT THE CONSTRUCTION ENTRANCE, AT THE CWA, AND ELSEWHERE AS NECESSARY TO CLEARLY INDICATE THE LOCATION OF THE CWA TO OPERATORS OF CONCRETE TRUCKS AND PUMP TRUCKS.
 - USE EXCAVATED MATERIAL FOR PERIMETER BERM CONSTRUCTION.

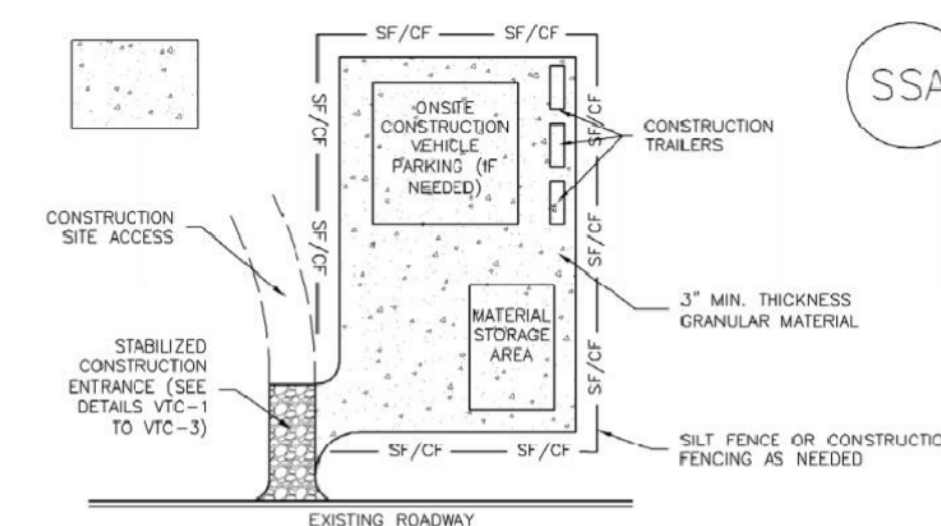
November 2010 Urban Drainage and Flood Control District
Urban Storm Drainage Criteria Manual Volume 3 CWA-3

MM-1 Concrete Washout Area (CWA)

- CWA 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.
 - 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'.
 - 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.
 - THE CWA SHALL REMAIN IN PLACE UNTIL ALL CONCRETE FOR THE PROJECT IS PLACED.
 - 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. (DETAILS ADAPTED FROM SOULAS COUNTY, COLORADO AND THE CITY OF PARKER, COLORADO, 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.

CWA-4 Urban Drainage and Flood Control District
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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.

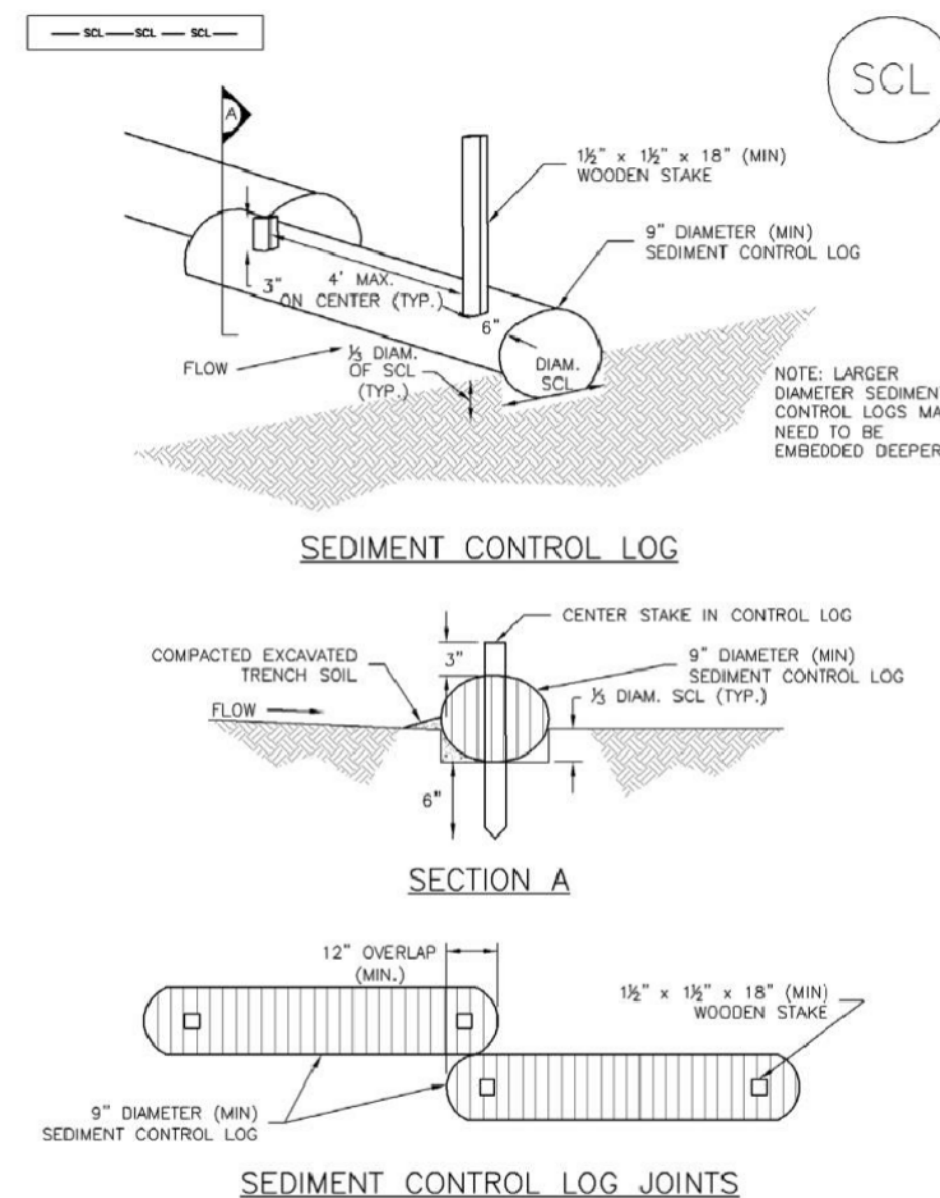
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SM-4 Vehicle Tracking Control (VTC)

- 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 DURATION PROJECTS (TYPICALLY RANGING FROM A WEEK TO A MONTH) 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, AASHTO #3 COARSE AGGREGATE OR 8" (MINUS) ROCK.
- STABILIZED CONSTRUCTION ENTRANCE/EXIT 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 TO THE STABILIZED ENTRANCE/EXIT TO MAINTAIN A CONSISTENT DEPTH.
 - SEDIMENT TRACKED ONTO PAVED ROADS IS TO BE REMOVED THROUGHOUT THE DAY AND AT THE END OF THE DAY BY SHOVELING OR SKIPPING. 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.
- (DETAILS ADAPTED FROM CITY OF BROOKFIELD, COLORADO, NOT AVAILABLE IN AUTOCAD)

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Sediment Control Log (SCL) SC-2



SCL-1. SEDIMENT CONTROL LOG

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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 UPWARD LAND-DISTURBING ACTIVITIES.
 - SEDIMENT CONTROL LOGS SHALL CONSIST OF STRAW, COMPOST, EXCELISOR OR COCONUT FIBER, AND SHALL BE FREE OF ANY NOXIOUS WEED SEEDS OR DEFECTS INCLUDING RIPS, HOLES AND OBVIOUS WEAR.
 - SEDIMENT CONTROL LOGS MAY BE USED AS SMALL CHECK DAMS IN DITCHES AND SWALES. HOWEVER, THEY SHOULD NOT BE USED IN PERENNIAL STREAMS OR HIGH VELOCITY DRAINAGE WAYS.
 - IT IS RECOMMENDED THAT SEDIMENT CONTROL LOGS BE TRENCHED INTO THE GROUND TO A DEPTH OF APPROXIMATELY 1/3 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.
 - THE UPHILL SIDE OF THE SEDIMENT CONTROL LOG SHALL BE BACKFILLED WITH SOIL THAT IS FREE OF ROCKS AND DEBRIS. THE SOIL SHALL BE THOROUGHLY COMPACTED INTO THE SHAPE OF A RIGHT TRIANGLE USING A SHOVEL OR WEIGHTED LAWN ROLLER.
 - FOLLOW MANUFACTURERS' GUIDANCE FOR STAKING. IF MANUFACTURERS' INSTRUCTIONS DO NOT SPECIFY SPACING, STAKES SHALL BE PLACED ON 4' CENTERS AND EMBEDDED A MINIMUM OF 6" 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.
- SEDIMENT CONTROL LOG 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 SEDIMENT CONTROL LOG SHALL BE REMOVED AS NEEDED TO MAINTAIN FUNCTIONALITY OF THE BMP, TYPICALLY WHEN DEPTH OF ACCUMULATED SEDIMENTS IS APPROXIMATELY 1/3 OF THE HEIGHT OF THE SEDIMENT CONTROL LOG.
 - SEDIMENT CONTROL LOG SHALL BE REMOVED AT THE END OF CONSTRUCTION, IF DISTURBED AREAS EXIST AFTER REMOVAL, THEY SHALL BE COVERED WITH TOP SOIL, SEED AND MULCHED OR OTHERWISE STABILIZED IN A MANNER APPROVED BY THE LOCAL JURISDICTION.
- (DETAILS ADAPTED FROM TOWN OF PARKER, COLORADO, JEFFERSON COUNTY, COLORADO, SOULAS COUNTY, COLORADO, AND CITY OF AURORA, COLORADO, 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.

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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, SEEDS AND MULCH 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 SOULAS COUNTY, COLORADO, NOT AVAILABLE IN AUTOCAD)

SSA-4 Urban Drainage and Flood Control District
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THIS DESIGN WAS PREPARED UNDER MY DIRECT SUPERVISION FOR AND ON BEHALF OF TERRA NOVA ENGINEERING, INC.

L. DUCETT, P.E.
COLORADO P.E. NO. 32339

REVISIONS	NO.	DESCRIPTION	DATE
UNTIL SUCH TIME AS THESE DRAWINGS ARE APPROVED BY THE REVIEWING AGENCY: TERRA NOVA ENGINEERING, INC. APPROVES THEIR USE ONLY FOR THE PROJECT AND FOR THE PURPOSES SPECIFIED BY WRITTEN AUTHORIZATION.			

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MVEA YODER SUBSTATION

GRADING, EROSION & SEDIMENT CONTROL PLAN
EROSION CONTROL DETAILS

DESIGNED BY QNA
DRAWN BY QNA
CHECKED BY
H-SCALE NA
V-SCALE NA
JOB NO. 1802.00
DATE ISSUED 2/16/18
SHEET NO. 6 OF 7

SC-6 Inlet Protection (IP)

GENERAL INLET PROTECTION INSTALLATION NOTES

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

INLET PROTECTION MAINTENANCE NOTES

1. INSPECT BMPs EACH WORKDAY, AND MAINTAIN THEM IN EFFECTIVE OPERATING CONDITION. MAINTENANCE OF BMPs SHOULD BE PROACTIVE, NOT REACTIVE. INSPECT BMPs AS SOON AS POSSIBLE (AND ALWAYS WITHIN 24 HOURS) FOLLOWING A STORM THAT CAUSES SURFACE EROSION, AND PERFORM NECESSARY MAINTENANCE.
2. FREQUENT OBSERVATIONS AND MAINTENANCE ARE NECESSARY TO MAINTAIN BMPs IN EFFECTIVE OPERATING CONDITION. INSPECTIONS AND CORRECTIVE MEASURES SHOULD BE DOCUMENTED THOROUGHLY.
3. WHERE BMPs HAVE FAILED, REPAIR OR REPLACEMENT SHOULD BE INITIATED UPON DISCOVERY OF THE FAILURE.
4. SEDIMENT 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 6" WHEN SILT FENCE IS USED, OR 1/4 OF 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.

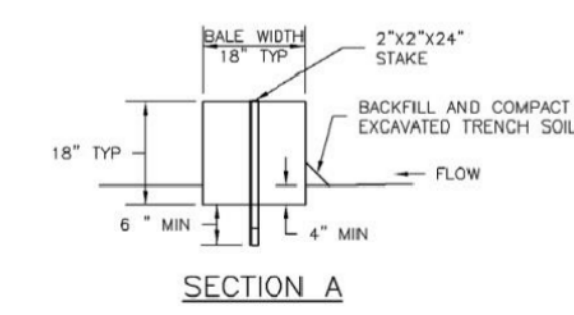
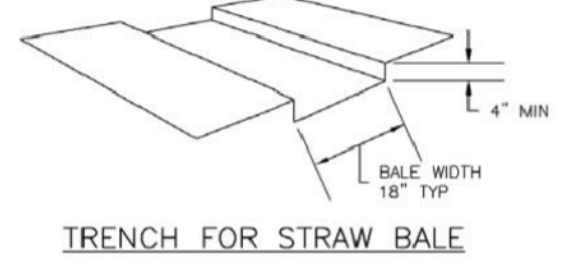
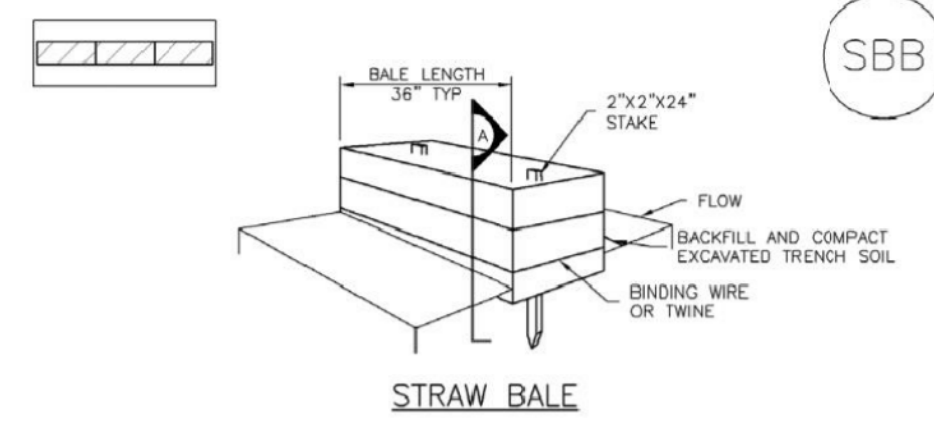
(DETAIL ADAPTED FROM TOWN OF PARKER, COLORADO AND CITY OF AURORA, COLORADO, NOT AVAILABLE IN AUTOCAD)
 NOTE: MANY JURISDICTIONS HAVE BMP DETAILS THAT VARY FROM UFCD STANDARD DETAILS. CONSULT WITH LOCAL JURISDICTIONS AS TO WHICH DETAIL SHOULD BE USED WHEN DIFFERENCES ARE NOTED.

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. UFCD neither endorses nor discourages use of PROPRIETARY INLET PROTECTION; HOWEVER, IN THE EVENT PROPRIETARY METHODS ARE USED, THE APPROPRIATE DETAIL FROM THE MANUFACTURER MUST BE INCLUDED IN THE SWMP AND THE 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.

IP-8 Urban Drainage and Flood Control District
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SC-3 Straw Bale Barrier (SBB)



SBB-1. STRAW BALE

SBB-2 Urban Drainage and Flood Control District
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MM-2 Stockpile Management (SM)

STOCKPILE PROTECTION MAINTENANCE NOTES

1. INSPECT BMPs EACH WORKDAY, AND MAINTAIN THEM IN EFFECTIVE OPERATING CONDITION. MAINTENANCE OF BMPs SHOULD BE PROACTIVE, NOT REACTIVE. INSPECT BMPs AS SOON AS POSSIBLE (AND ALWAYS WITHIN 24 HOURS) FOLLOWING A STORM THAT CAUSES SURFACE EROSION, AND PERFORM NECESSARY MAINTENANCE.
2. FREQUENT OBSERVATIONS AND MAINTENANCE ARE NECESSARY TO MAINTAIN BMPs IN EFFECTIVE OPERATING CONDITION. INSPECTIONS AND CORRECTIVE MEASURES SHOULD BE DOCUMENTED THOROUGHLY.
3. WHERE BMPs HAVE FAILED, REPAIR OR REPLACEMENT SHOULD BE INITIATED UPON DISCOVERY OF THE FAILURE.
4. 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.

STOCKPILE PROTECTION MAINTENANCE NOTES

1. INSPECT BMPs EACH WORKDAY, AND MAINTAIN THEM IN EFFECTIVE OPERATING CONDITION. MAINTENANCE OF BMPs SHOULD BE PROACTIVE, NOT REACTIVE. INSPECT BMPs AS SOON AS POSSIBLE (AND ALWAYS WITHIN 24 HOURS) FOLLOWING A STORM THAT CAUSES SURFACE EROSION, AND PERFORM NECESSARY MAINTENANCE.
2. FREQUENT OBSERVATIONS AND MAINTENANCE ARE NECESSARY TO MAINTAIN BMPs IN EFFECTIVE OPERATING CONDITION. INSPECTIONS AND CORRECTIVE MEASURES SHOULD BE DOCUMENTED THOROUGHLY.
3. WHERE BMPs HAVE FAILED, REPAIR OR REPLACEMENT SHOULD BE INITIATED UPON DISCOVERY OF THE FAILURE.
4. 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.

(DETAILS ADAPTED FROM TOWN OF PARKER, COLORADO, NOT AVAILABLE IN AUTOCAD)
 NOTE: MANY JURISDICTIONS HAVE BMP DETAILS THAT VARY FROM UFCD STANDARD DETAILS. CONSULT WITH LOCAL JURISDICTIONS AS TO WHICH DETAIL SHOULD BE USED WHEN DIFFERENCES ARE NOTED.

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Chapter 14 Revegetation

or irrigation to wet and settle the seed bed. Firming of the seedbed following seeding will improve results during dry or warm seeding times.

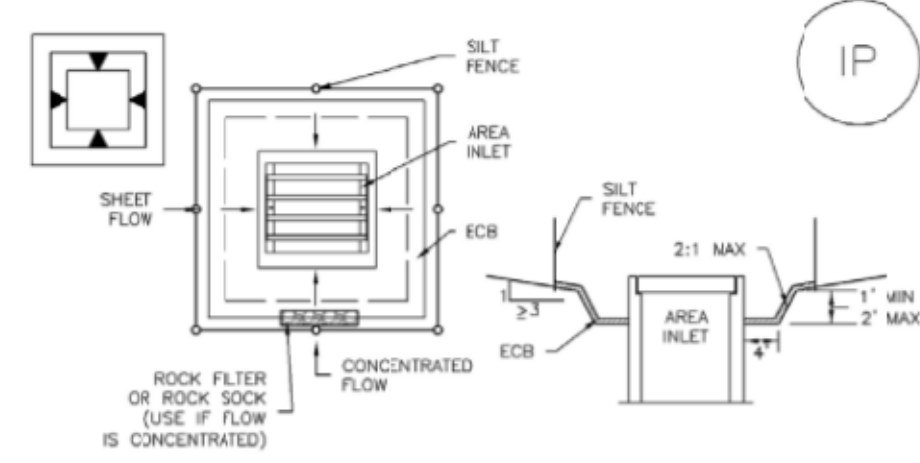
Table 14-9. Recommended Seed Mix for High Water Table Conditions¹

Common Name (Variety)	Scientific Name	Growth Season	Growth Form	Seeds/Lb	Lbs PLS/Acre Drilled	Lbs PLS/Acre Broadcast or Hydroseeded
Redtop ²	<i>Agrostis alba</i>	Warm	Sod	5,000,000	0.1	0.2
Switchgrass (Pathfinder)	<i>Panicum virgatum</i>	Warm	Sod/ Bunch	389,000	2.2	4.4
Western wheatgrass (Arriba)	<i>Pascopyrum smithii</i>	Cool	Sod	110,000	7.9	15.8
Indian saltgrass	<i>Distichlis spicata</i>	Warm	Sod	520,000	1.0	2.0
Woolly sedge	<i>Carex lanuginosa</i>	Cool	Sod	400,000	0.1	0.2
Baltic rush	<i>Juncus bulbosus</i>	Cool	Sod	109,300,000	0.1	0.2
Prairie cordgrass	<i>Spartina pectinata</i>	Cool	Sod	110,000	1.0	2.0
Annual rye	<i>Lolium multiflorum</i>	Cool	Cover crop	227,000	10.0	20.0
				TOTAL	22.4	44.8
Wildflowers						
Nuttall's sunflower	<i>Helianthus nuttallii</i>	---	---	250,000	0.10	0.20
Wild bergamot	<i>Monarda fistulosa</i>	---	---	1,450,000	0.12	0.24
Yarrow	<i>Achillea millefolium</i>	---	---	2,770,000	0.06	0.12
Blue vervain	<i>Verbena hastata</i>	---	---		0.12	0.24
				TOTAL	0.40	0.80

¹For portions of facilities located near or on the bottom or where wet soil conditions occur. Planting of potted nursery stock without plants 2-foot or greater is recommended for sites with wetland hydrology.
²Non-native.

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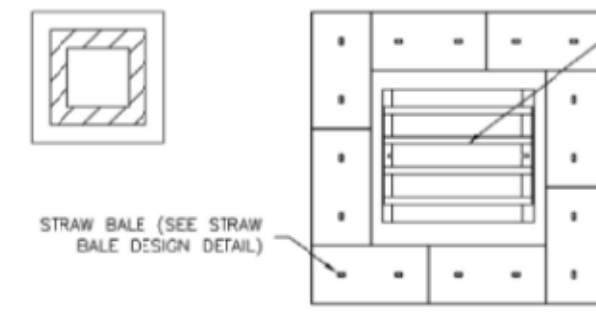
SC-6 Inlet Protection (IP)



IP-5. OVEREXCAVATION INLET PROTECTION

OVEREXCAVATION INLET PROTECTION INSTALLATION NOTES

1. THIS FORM OF INLET PROTECTION IS PRIMARILY APPLICABLE FOR SITES THAT HAVE NOT YET REACHED FINAL GRADE AND SHOULD BE USED ONLY FOR INLETS WITH A RELATIVELY SMALL CONTRIBUTING DRAINAGE AREA.
2. WHEN USING FOR CONCENTRATED FLOWS, SHAPE BASIN IN 2:1 RATIO WITH LENGTH ORIENTED TOWARDS DIRECTION OF FLOW.
3. SEDIMENT MUST BE PERIODICALLY REMOVED FROM THE OVEREXCAVATED AREA.



IP-6. STRAW BALE FOR SUMP INLET PROTECTION

STRAW BALE BARRIER INLET PROTECTION INSTALLATION NOTES

1. SEE STRAW BALE DESIGN DETAIL FOR INSTALLATION REQUIREMENTS.
2. BALES SHALL BE PLACED IN A SINGLE ROW AROUND THE INLET WITH ENDS OF BALES TIGHTLY ADJUTING ONE ANOTHER.

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SC-3 Straw Bale Barrier (SBB)

STRAW BALE INSTALLATION NOTES

1. SEE PLAN VIEW FOR:
 - LOCATION(S) OF STRAW BALES.
2. STRAW BALES SHALL CONSIST OF CERTIFIED WEED FREE STRAW OR HAY. LOCAL JURISDICTIONS MAY REQUIRE PROOF THAT BALES ARE WEED FREE.
3. STRAW BALES SHALL CONSIST OF APPROXIMATELY 5 CUBIC FEET OF STRAW OR HAY AND WEIGH NOT LESS THAN 50 POUNDS.
4. WHEN STRAW BALES ARE USED IN SERIES AS A BARRIER, THE END OF EACH BALE SHALL BE TIGHTLY ADJUTING ONE ANOTHER.
5. STRAW BALE DIMENSIONS SHALL BE APPROXIMATELY 36"x18"x18".
6. A UNIFORM ANCHOR TRENCH SHALL BE EXCAVATED TO A DEPTH OF 4". STRAW BALES SHALL BE PLACED SO THAT BINDING TWINE IS ENCOMPASSING THE VERTICAL SIDES OF THE BALES. ALL EXCAVATED SOIL SHALL BE PLACED ON THE UPHILL SIDE OF THE STRAW BALES(S) AND COMPACTED.
7. TWO (2) WOODEN STAKES SHALL BE USED TO HOLD EACH BALE IN PLACE. WOODEN STAKES SHALL BE 2"x12"x24". WOODEN STAKES SHALL BE DRIVEN 6" INTO THE GROUND.

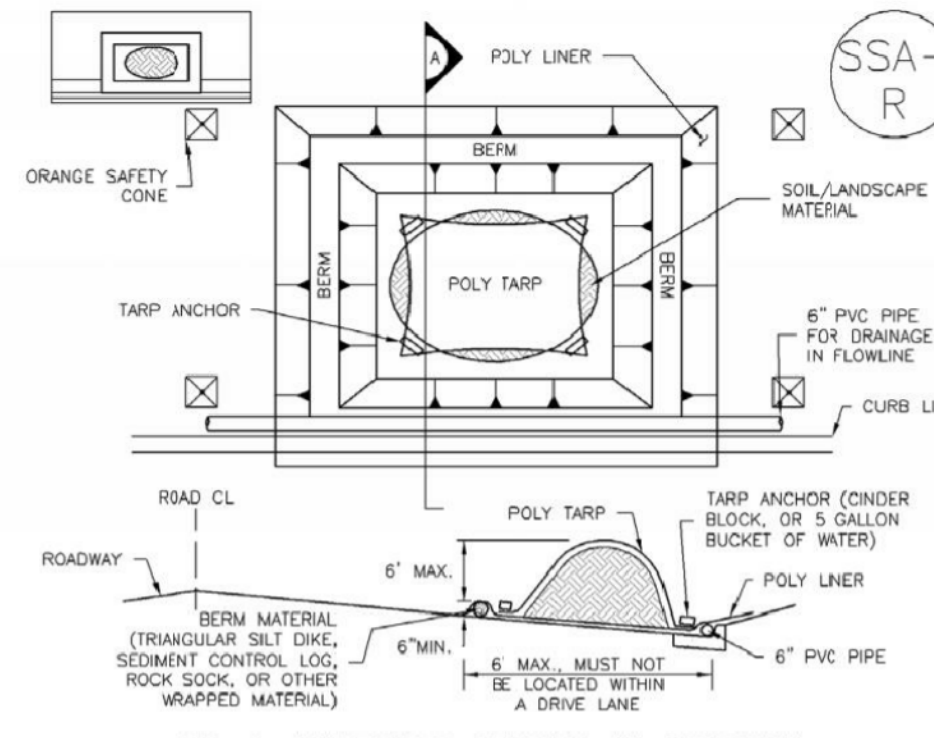
STRAW BALE MAINTENANCE NOTES

1. INSPECT BMPs EACH WORKDAY, AND MAINTAIN THEM IN EFFECTIVE OPERATING CONDITION. MAINTENANCE OF BMPs SHOULD BE PROACTIVE, NOT REACTIVE. INSPECT BMPs AS SOON AS POSSIBLE (AND ALWAYS WITHIN 24 HOURS) FOLLOWING A STORM THAT CAUSES SURFACE EROSION, AND PERFORM NECESSARY MAINTENANCE.
2. FREQUENT OBSERVATIONS AND MAINTENANCE ARE NECESSARY TO MAINTAIN BMPs IN EFFECTIVE OPERATING CONDITION. INSPECTIONS AND CORRECTIVE MEASURES SHOULD BE DOCUMENTED THOROUGHLY.
3. WHERE BMPs HAVE FAILED, REPAIR OR REPLACEMENT SHOULD BE INITIATED UPON DISCOVERY OF THE FAILURE.
4. STRAW BALES SHALL BE REPLACED IF THEY BECOME HEAVILY SOILED, ROTTEN, OR DAMAGED BEYOND REPAIR.
5. SEDIMENT ACCUMULATED UPSTREAM OF STRAW BALE BARRIER SHALL BE REMOVED AS NEEDED TO MAINTAIN FUNCTIONALITY OF THE BMP, TYPICALLY WHEN DEPTH OF ACCUMULATED SEDIMENTS IS APPROXIMATELY 1/4 OF THE HEIGHT OF THE STRAW BALE BARRIER.
6. STRAW BALES ARE TO REMAIN IN PLACE UNTIL THE UPSTREAM DISTURBED AREA IS STABILIZED AND APPROVED BY THE LOCAL JURISDICTION.
7. WHEN STRAW BALES ARE REMOVED, ALL DISTURBED AREAS SHALL BE COVERED WITH TOPSOIL, SEEDS AND MULCHED OR OTHERWISE STABILIZED AS APPROVED BY LOCAL JURISDICTION.

(DETAILS ADAPTED FROM TOWN OF PARKER, COLORADO, NOT AVAILABLE IN AUTOCAD)
 NOTE: MANY JURISDICTIONS HAVE BMP DETAILS THAT VARY FROM UFCD STANDARD DETAILS. CONSULT WITH LOCAL JURISDICTIONS AS TO WHICH DETAIL SHOULD BE USED WHEN DIFFERENCES ARE NOTED.

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

Stockpile Management (SP) MM-2



SP-2. MATERIALS STAGING IN ROADWAY

MATERIALS STAGING IN ROADWAYS INSTALLATION NOTES

1. SEE PLAN VIEW FOR:
 - LOCATION OF MATERIAL STAGING AREA(S).
 - CONTRACTOR MAY ADJUST LOCATION AND SIZE OF STAGING AREA WITH APPROVAL FROM THE LOCAL JURISDICTION.
2. FEATURE MUST BE INSTALLED PRIOR TO EXCAVATION, EARTHWORK OR DELIVERY OF MATERIALS.
3. MATERIALS MUST BE STATIONED ON THE POLY LINER. ANY INCIDENTAL MATERIALS DEPOSITED ON PAVED SECTION OR ALONG CURB LINE MUST BE CLEANED UP PROMPTLY.
4. POLY LINER AND TARP COVER SHOULD BE OF SIGNIFICANT THICKNESS TO PREVENT DAMAGE OR LOSS OF INTEGRITY.
5. SAND BAGS MAY BE SUBSTITUTED TO ANCHOR THE COVER TARP OR PROVIDE BERMING UNDER THE BASE LINER.
6. FEATURE IS NOT INTENDED FOR USE WITH WET MATERIAL THAT WILL BE DRAINING AND/OR SPREADING OUT ON THE POLY LINER OR FOR DEDICATED MATERIALS.
7. THIS FEATURE CAN BE USED FOR:
 - UTILITY REPAIRS
 - WHEN OTHER STAGING LOCATIONS AND OPTIONS ARE LIMITED.
 - OTHER LIMITED APPLICATION AND SHORT DURATION STAGING.

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

Chapter 14 Revegetation

Table 14-10. Recommended Seed Mix for Transition Areas¹

Common Name (Variety)	Scientific Name	Growth Season	Growth Form	Seeds/Lb	Lbs PLS/Acre Drilled	Lbs PLS/Acre Broadcast or Hydroseeded
Sheep fescue (Dura)	<i>Festuca ovina</i>	Cool	Bunch	680,000	1.3	2.6
Western wheatgrass (Arriba)	<i>Pascopyrum smithii</i>	Cool	Sod	110,000	7.9	15.8
Alkali sacaton	<i>Sporobolus airoides</i>	Warm	Bunch	1,758,000	0.5	1.0
Slender wheatgrass	<i>Elymus trachycaulus</i>	Cool	Bunch	159,000	5.5	11.0
Canadian bluegrass (Ruebens)	<i>Poa compressa</i>	Cool	Sod	2,500,000	0.3	0.6
Switchgrass (Pathfinder)	<i>Panicum virgatum</i>	Warm	Sod/ Bunch	389,000	1.3	2.6
Annual rye	<i>Lolium multiflorum</i>	Cool	Cover crop	227,000	10.0	20.0
				TOTAL	26.8	53.6
Wildflowers						
Blanket flower	<i>Fallugia aristata</i>	---	---	132,000	0.25	0.50
Prairie coneflower	<i>Ratibida columnaris</i>	---	---	1,230,000	0.20	0.40
Purple prairie clover	<i>Petalostemum purpureum</i>	---	---	210,000	0.20	0.40
Gayfeather	<i>Liatris punctata</i>	---	---	138,000	0.06	0.12
Flax	<i>Linum lewisii</i>	---	---	293,000	0.20	0.40
Penstemon	<i>Penstemon strictus</i>	---	---	592,000	0.20	0.40
Yarrow	<i>Achillea millefolium</i>	---	---	2,770,000	0.03	0.06
				TOTAL	1.14	2.28

¹For side slopes or between wet and dry areas.
²Substitute 1.7 lbs PLS/acre of inland saltgrass (*Distichlis spicata*) in salty soils.

14-22 City of Colorado Springs
 Drainage Criteria Manual, Volume 1 May 2014

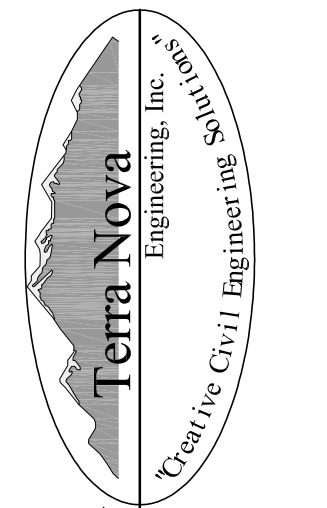
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 GRADING, EROSION & SEDIMENT CONTROL PLAN
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V-SCALE NA
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