

# HOMESTEAD AT STERLING RANCH FILING NO. 2

## COUNTY OF EL PASO, STATE OF COLORADO SAND CREEK BANK STABILIZATION PLAN

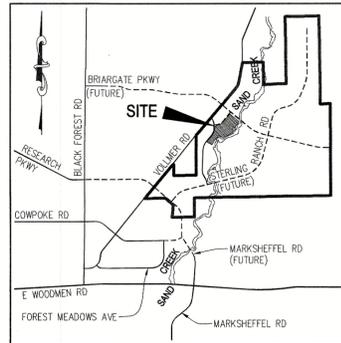
MARCH 2020

### STANDARD CONSTRUCTION NOTES:

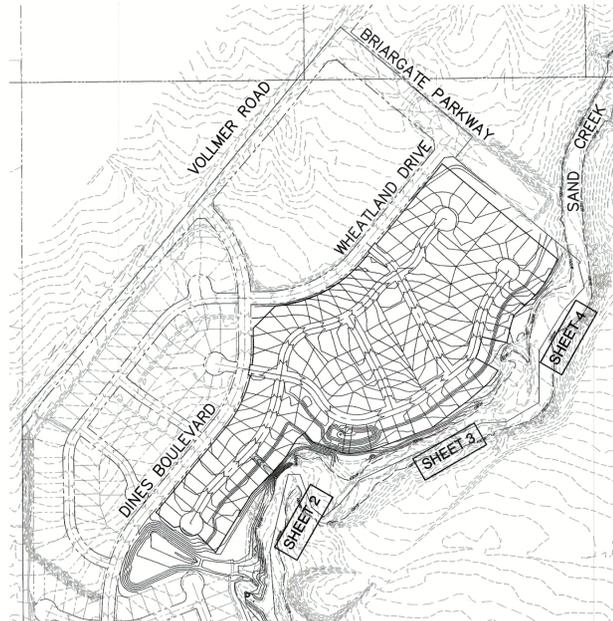
- ALL DRAINAGE AND ROADWAY CONSTRUCTION SHALL MEET THE STANDARDS AND SPECIFICATIONS OF THE CITY OF COLORADO SPRINGS/EL PASO COUNTY DRAINAGE CRITERIA MANUAL VOLUMES 1 AND 2, AND THE EL PASO COUNTY ENGINEERING CRITERIA MANUAL.
- CONTRACTOR SHALL BE RESPONSIBLE FOR THE NOTIFICATION AND FIELD LOCATION OF ALL EXISTING UTILITIES, WHETHER SHOWN ON THE PLANS OR NOT, BEFORE BEGINNING CONSTRUCTION. LOCATION OF EXISTING UTILITIES SHALL BE VERIFIED BY THE CONTRACTOR PRIOR TO CONSTRUCTION. CALL 811 TO CONTACT THE UTILITY NOTIFICATION CENTER OF COLORADO SPRINGS.
- CONTRACTOR SHALL KEEP A COPY OF THESE APPROVED PLANS, THE GRADING AND EROSION CONTROL PLAN, THE STORMWATER MANAGEMENT PLAN (SWMP), THE SOILS AND GEOTECHNICAL REPORT AND THE APPROPRIATE DESIGN AND CONSTRUCTION STANDARDS AND SPECIFICATIONS AT THE JOB SITE AT ALL TIMES INCLUDING THE FOLLOWING:
  - EL PASO COUNTY ENGINEERING CRITERIA MANUAL (ECM)
  - CITY OF COLORADO SPRINGS/EL PASO COUNTY ENGINEERING CRITERIA MANUAL VOLUMES 1 AND 2
  - COLORADO DEPARTMENT OF TRANSPORTATION (CDOT) STANDARDS SPECIFICATION FOR ROAD AND BRIDGE CONSTRUCTION.
  - CDOT M&S STANDARDS.
- IT IS THE DESIGN ENGINEERS RESPONSIBILITY TO ACCURACY SHOW EXISTING CONDITION BOTH ONSITE AND OFFSITE ON THE CONSTRUCTION PLANS. ANY MODIFICATION NECESSARY DUE TO CONFLICT OMISSIONS OR CHANGED CONDITIONS WILL BE ENTIRELY THE DEVELOPERS RESPONSIBILITY TO RECTIFY.
- ONCE THE ESQCP HAS BEEN ISSUED, THE CONTRACTOR MAY INSTALL THE INITIAL STAGE EROSION AND SEDIMENT CONTROL BMPs AS INDICATED ON THE GEC. A PRECONSTRUCTION MEETING BETWEEN THE CONTRACTOR, ENGINEER, AND EL PASO COUNTY WILL BE HELD PRIOR TO ANY CONSTRUCTION. IT IS THE RESPONSIBILITY OF THE APPLICANT TO COORDINATE THE MEETING TIME AND PLACE WITH COUNTY DSD INSPECTORS STAFF.
- IT IS THE CONTRACTORS RESPONSIBILITY TO UNDERSTAND THE REQUIREMENTS OF ALL JURISDICTIONAL AGENCIES AND TO OBTAIN ALL REQUIRED PERMITS, INCLUDING BUT NOT LIMITED TO EL PASO COUNTY EROSION AND STORM WATER QUALITY CONTROL PERMIT (ESQCP), US ARMY CORPS OF ENGINEER ISSUED 401 AND/OR 404 PERMITS AND COUNTY AND STATE FUGITIVE DUST PERMITS.
- ALL CONSTRUCTION TRAFFIC MUST ENTER/EXIT THE CONSTRUCTION SITE AT APPROVED CONSTRUCTION ACCESS POINTS.
- ANY TEMPORARY SIGNAGE AND STRIPING SHALL COMPLY WITH EL PASO COUNTY DOW AND MUTCD CRITERIA.
- CONTRACTOR SHALL OBTAIN ANY PERMITS REQUIRE BY EL PASO COUNTY DOT INCLUDING WORK WITHIN THE RIGHT-OF-WAY AND SPECIAL TRANSPORT PERMITS.
- THE LIMITS OF CONSTRUCTION SHALL REMAIN WITHIN THE PROPERTY LINE UNLESS OTHERWISE NOTED. THE OWNER/DEVELOPER SHALL OBTAIN WRITTEN PERMISSION AND EASEMENTS, WHERE REQUIRED, FROM ADJOINING PROPERTY OWNER(S) PRIOR TO ANY OFFSITE DISTURBANCE GRADING, OR CONSTRUCTION.

### GRADING AND EROSION CONTROL NOTES:

- STORMWATER DISCHARGES FROM CONSTRUCTION SITES SHALL NOT CAUSE OR THREATEN TO CAUSE POLLUTION, CONTAMINATION, OR DEGRADATION OF STATE WATERS. ALL WORK AND EARTH DISTURBANCE SHALL BE DONE IN A MANNER THAT MINIMIZES POLLUTION OF ANY ON-SITE OR OFF-SITE WATERS, INCLUDING WETLANDS.
- NOTWITHSTANDING ANYTHING DEPICTED IN THESE PLANS IN WORDS OR GRAPHIC REPRESENTATION, ALL DESIGN AND CONSTRUCTION RELATED TO ROADS, STORM DRAINAGE AND EROSION CONTROL SHALL CONFORM TO THE STANDARDS AND REQUIREMENTS OF THE MOST RECENT VERSION OF THE RELEVANT ADOPTED EL PASO COUNTY STANDARDS, INCLUDING THE LAND DEVELOPMENT CODE, THE ENGINEERING CRITERIA MANUAL, THE DRAINAGE CRITERIA MANUAL, AND THE DRAINAGE CRITERIA MANUAL VOLUME 2. ANY DEVIATIONS FROM REGULATIONS AND STANDARDS MUST BE REQUESTED, AND APPROVED, IN WRITING.
- A SEPARATE STORMWATER MANAGEMENT PLAN (SWMP) FOR THIS PROJECT SHALL BE COMPLETED AND AN EROSION AND STORMWATER QUALITY CONTROL PERMIT (ESQCP) ISSUED PRIOR TO COMMENCING CONSTRUCTION. MANAGEMENT OF THE SWMP DURING CONSTRUCTION IS THE RESPONSIBILITY OF THE DESIGNATED QUALIFIED STORMWATER MANAGER OR CERTIFIED EROSION CONTROL INSPECTOR. THE SWMP SHALL BE LOCATED ON SITE AT ALL TIMES DURING CONSTRUCTION AND SHALL BE KEPT UP TO DATE WITH WORK PROGRESS AND CHANGES IN THE FIELD.
- ONCE THE ESQCP IS APPROVED AND A "NOTICE TO PROCEED" HAS BEEN ISSUED, THE CONTRACTOR MAY INSTALL THE INITIAL STAGE EROSION AND SEDIMENT CONTROL MEASURES AS INDICATED ON THE APPROVED GEC. A PRECONSTRUCTION MEETING BETWEEN THE CONTRACTOR, ENGINEER, AND EL PASO COUNTY WILL BE HELD PRIOR TO ANY CONSTRUCTION. IT IS THE RESPONSIBILITY OF THE APPLICANT TO COORDINATE THE MEETING TIME AND PLACE WITH COUNTY STAFF.
- CONTROL MEASURES MUST BE INSTALLED PRIOR TO COMMENCEMENT OF ACTIVITIES THAT COULD CONTRIBUTE POLLUTANTS TO STORMWATER. CONTROL MEASURES FOR ALL SLOPES, CHANNELS, DITCHES, AND DISTURBED LAND AREAS SHALL BE INSTALLED IMMEDIATELY UPON COMPLETION OF THE DISTURBANCE.
- ALL TEMPORARY SEDIMENT AND EROSION CONTROL MEASURES SHALL BE MAINTAINED AND REMAIN IN EFFECTIVE OPERATING CONDITION UNTIL PERMANENT SOIL EROSION CONTROL MEASURES ARE IMPLEMENTED AND FINAL STABILIZATION IS ESTABLISHED. ALL PERSONS ENGAGED IN LAND DISTURBANCE ACTIVITIES SHALL ASSESS THE ADEQUACY OF CONTROL MEASURES AT THE SITE AND IDENTIFY IF CHANGES TO THOSE CONTROL MEASURES ARE NEEDED TO ENSURE THE CONTINUED EFFECTIVE PERFORMANCE OF THE CONTROL MEASURES. ALL CHANGES TO TEMPORARY SEDIMENT AND EROSION CONTROL MEASURES MUST BE INCORPORATED INTO THE STORMWATER MANAGEMENT PLAN.
- TEMPORARY STABILIZATION SHALL BE IMPLEMENTED ON DISTURBED AREAS AND STOCKPILES WHERE GROUND DISTURBING CONSTRUCTION ACTIVITY HAS PERMANENTLY CEASED OR TEMPORARILY CEASED FOR LONGER THAN 14 DAYS.
- FINAL STABILIZATION MUST BE IMPLEMENTED AT ALL APPLICABLE CONSTRUCTION SITES. FINAL STABILIZATION IS ACHIEVED WHEN ALL GROUND DISTURBING ACTIVITIES ARE COMPLETE AND ALL DISTURBED AREAS EITHER HAVE A UNIFORM VEGETATIVE COVER WITH INDIVIDUAL PLANT DENSITY OF 70 PERCENT OF PRE-DISTURBANCE LEVELS ESTABLISHED OR EQUIVALENT PERMANENT ALTERNATIVE STABILIZATION METHOD IS IMPLEMENTED. ALL TEMPORARY SEDIMENT AND EROSION CONTROL MEASURES SHALL BE REMOVED UPON FINAL STABILIZATION AND BEFORE PERMIT CLOSURE.
- ALL PERMANENT STORMWATER MANAGEMENT FACILITIES SHALL BE INSTALLED AS DESIGNED IN THE APPROVED PLANS. ANY PROPOSED CHANGES THAT EFFECT THE DESIGN OR FUNCTION OF PERMANENT STORMWATER MANAGEMENT STRUCTURES MUST BE APPROVED BY THE ECM ADMINISTRATOR PRIOR TO IMPLEMENTATION.
- EARTH DISTURBANCES SHALL BE CONDUCTED IN SUCH A MANNER SO AS TO EFFECTIVELY MINIMIZE ACCELERATED SOIL EROSION AND RESULTING SEDIMENTATION. ALL DISTURBANCES SHALL BE DESIGNED, CONSTRUCTED, AND COMPLETED SO THAT THE EXPOSED AREA OF ANY DISTURBED LAND SHALL BE LIMITED TO THE SHORTEST PRACTICAL PERIOD OF TIME. PRE-EXISTING VEGETATION SHALL BE PROTECTED AND MAINTAINED WITHIN 50 HORIZONTAL FEET OF A WATERS OF THE STATE UNLESS SHOWN TO BE INFEASIBLE AND SPECIFICALLY REQUESTED AND APPROVED.
- COMPACTION OF SOIL MUST BE PREVENTED IN AREAS DESIGNATED FOR INFILTRATION CONTROL MEASURES OR WHERE FINAL STABILIZATION WILL BE ACHIEVED BY VEGETATIVE COVER. AREAS DESIGNATED FOR INFILTRATION CONTROL MEASURES SHALL ALSO BE PROTECTED FROM SEDIMENTATION DURING CONSTRUCTION UNTIL FINAL STABILIZATION IS ACHIEVED. IF COMPACTION PREVENTION IS NOT FEASIBLE DUE TO SITE CONSTRAINTS, ALL AREAS DESIGNATED FOR INFILTRATION AND VEGETATION CONTROL MEASURES MUST BE LOOSENEED PRIOR TO INSTALLATION OF THE CONTROL MEASURE(S).
- ANY TEMPORARY OR PERMANENT FACILITY DESIGNED AND CONSTRUCTED FOR THE CONVEYANCE OF STORMWATER AROUND, THROUGH, OR FROM THE EARTH DISTURBANCE AREA SHALL BE A STABILIZED CONVEYANCE DESIGNED TO MINIMIZE EROSION AND THE DISCHARGE OF SEDIMENT OFF SITE.
- CONCRETE WASH WATER SHALL BE CONTAINED AND DISPOSED OF IN ACCORDANCE WITH THE SWMP. NO WASH WATER SHALL BE DISCHARGED TO OR ALLOWED TO ENTER STATE WATERS, INCLUDING ANY SURFACE OR SUBSURFACE STORM DRAINAGE SYSTEM OR FACILITIES. CONCRETE WASHOUTS SHALL NOT BE LOCATED IN AN AREA WHERE SHALLOW GROUNDWATER MAY BE PRESENT, OR WITHIN 50 FEET OF A SURFACE WATER BODY, CREEK OR STREAM.
- DURING DEWATERING OPERATIONS OF UNCONTAMINATED GROUND WATER MAY BE DISCHARGED ON SITE, BUT SHALL NOT LEAVE THE SITE IN THE FORM OF SURFACE RUNOFF UNLESS AN APPROVED STATE DEWATERING PERMIT IS IN PLACE.
- EROSION CONTROL BLANKETING OR OTHER PROTECTIVE COVERING SHALL BE USED ON SLOPES STEEPER THAN 3:1.
- CONTRACTOR SHALL BE RESPONSIBLE FOR THE REMOVAL OF ALL WASTES FROM THE CONSTRUCTION SITE FOR DISPOSAL IN ACCORDANCE WITH LOCAL AND STATE REGULATORY REQUIREMENTS. NO CONSTRUCTION DEBRIS, TREE SLASH, BUILDING MATERIAL WASTES OR UNUSED BUILDING MATERIALS SHALL BE BURIED, DUMPED, OR DISCHARGED AT THE SITE.
- WASTE MATERIALS SHALL NOT BE TEMPORARILY PLACED OR STORED IN THE STREET, ALLEY, OR OTHER PUBLIC WAY, UNLESS IN ACCORDANCE WITH AN APPROVED TRAFFIC CONTROL PLAN. CONTROL MEASURES MAY BE REQUIRED BY EL PASO COUNTY ENGINEERING IF DEEMED NECESSARY, BASED ON SPECIFIC CONDITIONS AND CIRCUMSTANCES.
- TRACKING OF SOILS AND CONSTRUCTION DEBRIS OFF-SITE SHALL BE MINIMIZED. MATERIALS TRACKED OFF-SITE SHALL BE CLEANED UP AND PROPERLY DISPOSED OF IMMEDIATELY.
- THE OWNER/DEVELOPER SHALL BE RESPONSIBLE FOR THE REMOVAL OF ALL CONSTRUCTION DEBRIS, DIRT, TRASH, ROCK, SEDIMENT, SOIL, AND SAND THAT MAY ACCUMULATE IN ROADS, STORM DRAINS AND OTHER DRAINAGE CONVEYANCE SYSTEMS AND STORMWATER APPURTENANCES AS A RESULT OF SITE DEVELOPMENT.
- THE QUANTITY OF MATERIALS STORED ON THE PROJECT SITE SHALL BE LIMITED, AS MUCH AS PRACTICAL, TO THAT QUANTITY REQUIRED TO PERFORM THE WORK IN AN ORDERLY SEQUENCE. ALL MATERIALS STORED ON-SITE SHALL BE STORED IN A NEAT, ORDERLY MANNER, IN THEIR ORIGINAL CONTAINERS, WITH ORIGINAL MANUFACTURER'S LABELS.
- NO CHEMICAL(S) HAVING THE POTENTIAL TO BE RELEASED IN STORMWATER ARE TO BE STORED OR USED ONSITE UNLESS PERMISSION FOR THE USE OF SUCH CHEMICAL(S) IS GRANTED IN WRITING BY THE ECM ADMINISTRATOR. IN GRANTING APPROVAL FOR THE USE OF SUCH CHEMICAL(S), SPECIAL CONDITIONS AND MONITORING MAY BE REQUIRED.
- BULK STORAGE OF ALLOWED PETROLEUM PRODUCTS OR OTHER ALLOWED LIQUID CHEMICALS IN EXCESS OF 55 GALLONS SHALL REQUIRE ADEQUATE SECONDARY CONTAINMENT PROTECTION TO CONTAIN ALL SPILLS ONSITE AND TO PREVENT ANY SPILLED MATERIALS FROM ENTERING STATE WATERS, ANY SURFACE OR SUBSURFACE STORM DRAINAGE SYSTEM OR OTHER FACILITIES.
- NO PERSON SHALL CAUSE THE IMPEDIMENT OF STORMWATER FLOW IN THE CURB AND GUTTER OR DITCH EXCEPT WITH APPROVED SEDIMENT CONTROL MEASURES.
- OWNER/DEVELOPER AND THEIR AGENTS SHALL COMPLY WITH THE "COLORADO WATER QUALITY CONTROL ACT" (TITLE 25, ARTICLE 8, CRS), AND THE "CLEAN WATER ACT" (33 USC 1344), IN ADDITION TO THE REQUIREMENTS OF THE LAND DEVELOPMENT CODE, DCM VOLUME II AND THE ECM APPENDIX I. ALL APPROPRIATE PERMITS MUST BE OBTAINED BY THE CONTRACTOR PRIOR TO CONSTRUCTION (041, NPDES, FLOODPLAIN 404, FUGITIVE DUST, ETC.), IN THE EVENT OF CONFLICTS BETWEEN THESE REQUIREMENTS AND OTHER LAWS, RULES, OR REGULATIONS OF OTHER FEDERAL, STATE, LOCAL, OR COUNTY AGENCIES, THE MOST RESTRICTIVE LAWS, RULES, OR REGULATIONS SHALL APPLY.
- ALL CONSTRUCTION TRAFFIC MUST ENTER/EXIT THE SITE ONLY AT APPROVED CONSTRUCTION ACCESS POINTS.
- PRIOR TO CONSTRUCTION THE PERMITTEE SHALL VERIFY THE LOCATION OF EXISTING UTILITIES.
- A WATER SOURCE SHALL BE AVAILABLE ON SITE DURING EARTHWORK OPERATIONS AND SHALL BE UTILIZED AS REQUIRED TO MINIMIZE DUST FROM EARTHWORK EQUIPMENT AND WIND.
- THE SOILS REPORT FOR THIS SITE HAS BEEN PREPARED BY C.T. THOMPSON, INC., ENTITLED GEOTECHNICAL INVESTIGATION TIMBERLINE LANDSCAPING OFFICE AND WAREHOUSE, DATED MAY 5, 2017, AND SHALL BE CONSIDERED A PART OF THESE PLANS.
- AT LEAST TEN (10) DAYS PRIOR TO THE ANTICIPATED START OF CONSTRUCTION, FOR PROJECTS THAT WILL DISTURB ONE (1) ACRE OR MORE, THE OWNER OR OPERATOR OF CONSTRUCTION ACTIVITY SHALL SUBMIT A PERMIT APPLICATION FOR STORMWATER DISCHARGE TO THE COLORADO DEPARTMENT OF PUBLIC HEALTH AND ENVIRONMENT, WATER QUALITY DIVISION. THE APPLICATION CONTAINS CERTIFICATION OF COMPLETION OF A STORMWATER MANAGEMENT PLAN (SWMP), OF WHICH THIS GRADING AND EROSION CONTROL PLAN MAY BE A PART. FOR INFORMATION OR APPLICATION MATERIALS CONTACT:  
COLORADO DEPARTMENT OF PUBLIC HEALTH AND ENVIRONMENT  
WATER QUALITY CONTROL DIVISION  
WOOD - PERMITS  
4300 CHERRY CREEK DRIVE SOUTH  
DENVER, CO 80246-1530  
ATTN: PERMITS UNIT



VICINITY MAP  
N.T.S.



SITE MAP  
N.T.S.

TIMING:  
APRIL 2020  
ANTICIPATED STARTING AND COMPLETION TIME PERIOD OF SITE GRADING:  
OCTOBER 2020  
EXPECTED DATE ON WHICH THE FINAL STABILIZATION WILL BE COMPLETED:

AREAS: 1.54 AC.  
TOTAL AREA OF THE SITE TO BE CLEARED, EXCAVATED OR GRADED:  
RECEIVING WATERS: SAND CREEK

### LEGEND

- EXISTING INDEX CONTOUR (10')
- EXISTING NOMINAL CONTOUR (2')
- PROPOSED INDEX CONTOUR (10')
- PROPOSED NOMINAL CONTOUR (2')

FOR CONSTRUCTION BMPs AND SWMP REPORT;  
SEE GRADING AND EROSION CONTROL PLANS FOR  
HOMESTEAD AT STERLING RANCH FILING NO. 2 BY  
M&S CIVIL CONSULTANTS.

### AGENCIES

OWNER: SR LAND, LLC  
20 BOULDER CRESCENT, SUITE 201  
COLORADO SPRINGS, CO 80903  
JM MORLEY (719) 471-1742

CIVIL ENGINEER: M & S CIVIL CONSULTANTS, INC.  
102 E. PIKES PEAK AVE., 5TH FLOOR  
COLORADO SPRINGS, CO 80903  
VIRGIL A. SANCHEZ P.E. (719) 955-5485

ENGINEERING DIVISION: EL PASO COUNTY PLANNING  
AND COMMUNITY DEVELOPMENT  
2880 INTERNATIONAL CIRCLE, SUITE 110  
COLORADO SPRINGS, CO 80910  
JEFF RICE, (719) 520-6300

TRAFFIC ENGINEERING: EL PASO COUNTY DEPARTMENT OF PUBLIC WORKS  
3275 AKERS DRIVE  
COLORADO SPRINGS, CO 80922  
JENNIFER IRVINE, P.E. (719) 520-6460

WATER RESOURCES: STERLING RANCH METRO DISTRICT  
JDS-HYDRO CONSULTANTS  
545 E. PIKES PEAK AVE., SUITE 300  
COLORADO SPRINGS, CO 80903  
JOHN MCGINN (719) 668-8769

FIRE DISTRICT: BLACK FOREST FIRE PROTECTION DISTRICT  
11445 TEACOUT ROAD  
COLORADO SPRINGS, CO 80908  
CHIEF BRYAN JACK (719) 498-4300

GAS DEPARTMENT: COLORADO SPRINGS UTILITIES  
7710 DURANT DR.  
COLORADO SPRINGS, CO 80947  
TIM WENDT (719) 868-3556

ELECTRIC DEPARTMENT: MOUNTAIN VIEW ELECTRIC  
1140 E. WOODMEN ROAD  
FALCON, CO 80831  
(719) 495-2283

COMMUNICATIONS: QWEST COMMUNICATIONS  
(U.N.C. LOCATORS) (800) 922-1987  
AT&T (LOCATORS) (719) 635-3674

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

3/02/2020

VIRGIL A. SANCHEZ, COLORADO P.E. NO. 37160  
FOR AND ON BEHALF OF M&S CIVIL CONSULTANTS, INC.

### OWNER'S STATEMENT:

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

*James F. Morley*  
JAMES F. MORLEY  
SR LAND, LLC.  
20 BOULDER, SUITE 201  
COLORADO SPRINGS, CO 80903

3-31-2020  
DATE

### EL PASO COUNTY:

COUNTY PLAN REVIEW IS PROVIDED ONLY FOR GENERAL CONFORMANCE WITH COUNTY DESIGN CRITERIA. THE COUNTY IS NOT RESPONSIBLE FOR THE ACCURACY AND ADEQUACY OF THE DESIGN, DIMENSIONS, AND/OR ELEVATIONS WHICH SHALL BE CONFIRMED AT THE JOB SITE. THE COUNTY THROUGH THE APPROVAL OF THIS DOCUMENT ASSUMES NO RESPONSIBILITY FOR COMPLETENESS AND/OR ACCURACY OF THIS DOCUMENT.

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

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 THESE 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.

**\* APPROVED**  
**Engineering Department**

10/21/2020 12:51:00 PM

*Jennifer Irvine*  
JENNIFER IRVINE, P.E.  
COUNTY ENGINEER/ECM ADMINISTRATOR

### SHEET INDEX

SHEET 1 TITLE SHEET  
SHEET 2 BANK STABILIZATION PLAN STA: 98+00 TO 103+00  
SHEET 3 BANK STABILIZATION PLAN STA: 103+00 TO 115+00  
SHEET 4 BANK STABILIZATION PLAN STA: 115+00 TO 126+00  
SHEET 5 SAND CREEK / CHANNEL SECTIONS & GEC DETAILS  
SHEET 6 EROSION CONTROL DETAILS

FOR LOCATING & MARKING GAS, ELECTRIC, WATER & TELEPHONE LINES  
FOR BURIED UTILITY INFORMATION  
48 HRS BEFORE YOU DIG  
CALL 1-800-922-1987

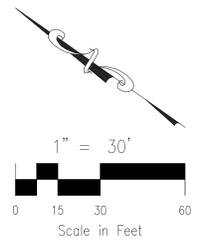
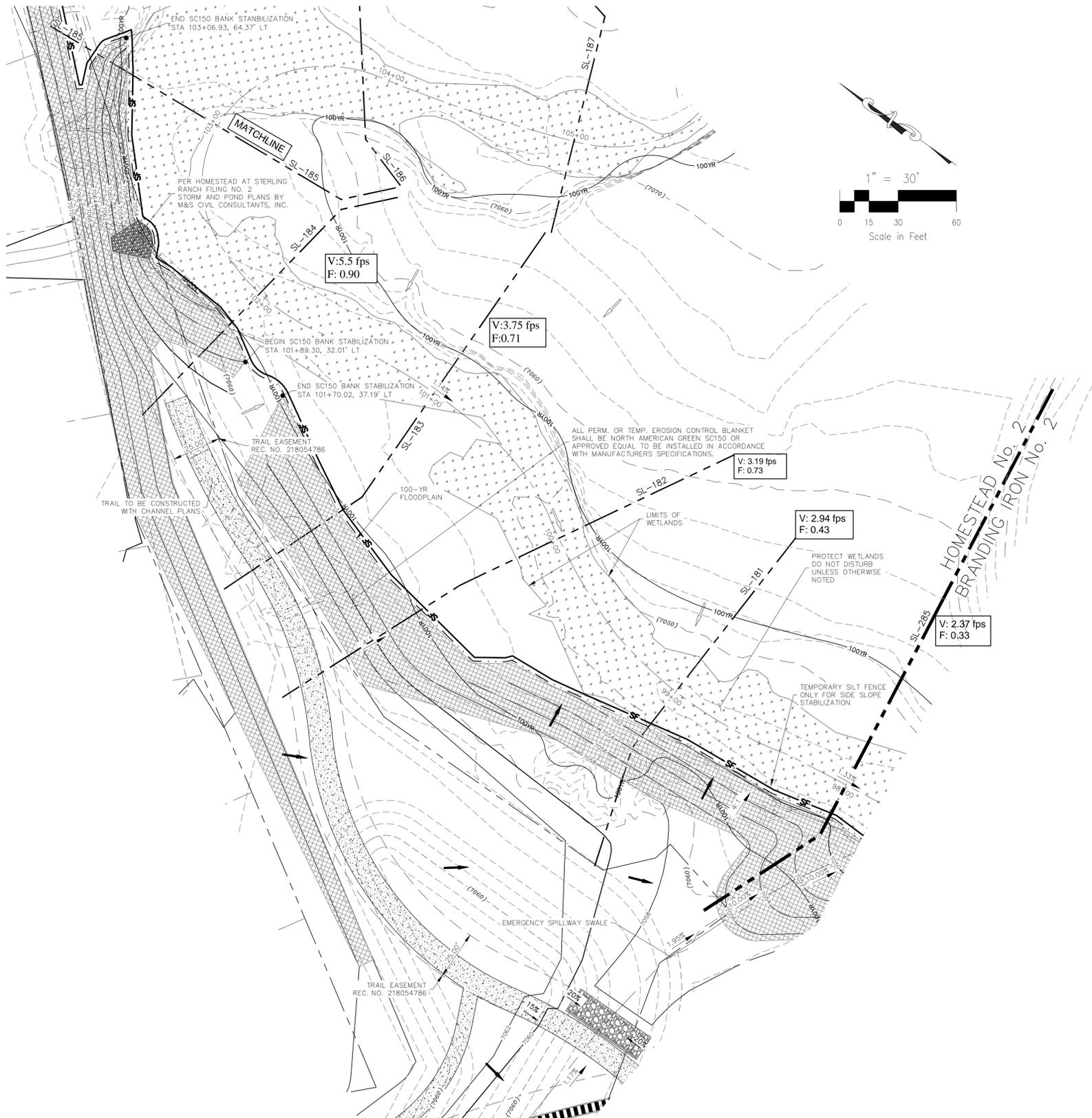
HOMESTEAD AT STERLING RANCH FILING NO. 2  
SAND CREEK BANK STABILIZATION PLANS  
PROJECT NO. 09-007  
SCALE: HORIZONTAL: N/A  
VERTICAL: N/A  
DATE: 01/15/2020  
DESIGNED BY: VAS  
DRAWN BY: ELY  
CHECKED BY: VAS  
SHEET 1 OF 6  
GR01

102 E. PIKES PEAK AVE., 5TH FLOOR  
COLORADO SPRINGS, CO 80903  
PHONE: 719.955.5485  
M&S CIVIL CONSULTANTS, INC.

FOR AND ON BEHALF OF M&S CIVIL CONSULTANTS, INC.  
VIRGIL A. SANCHEZ, COLORADO P.E. NO. 37160  
PROFESSIONAL ENGINEER

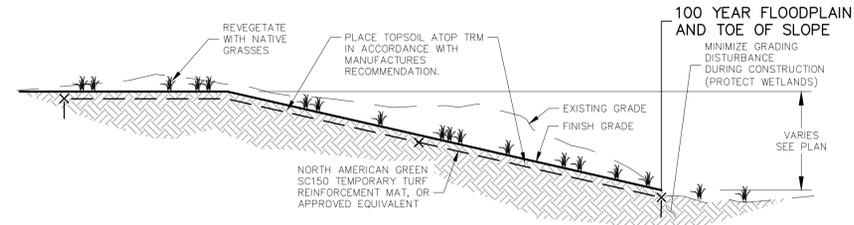
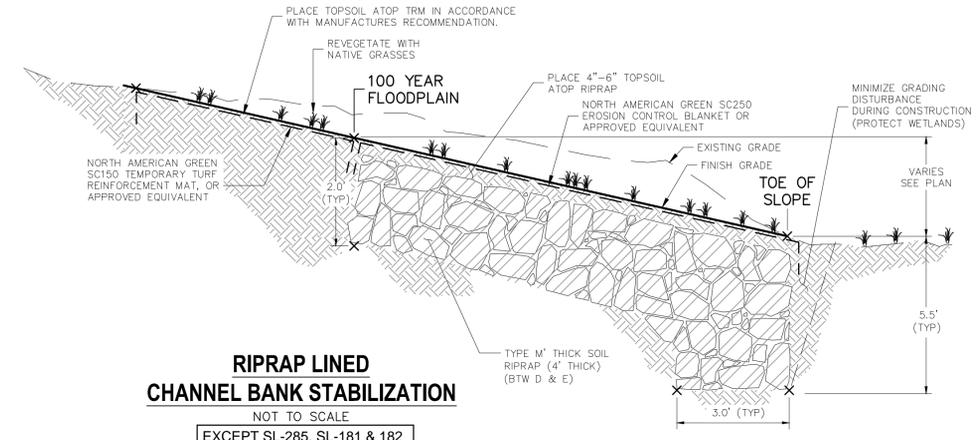
REVISIONS:  
NO. DATE: BY: DESCRIPTION:  
CAUTION

File: 0:\00002A\Sterling Ranch District\Map\Const\Draw\Grading & Erosion Control\Homestead 2 bank plans\0202.dwg Plot Date: 1/16/2020 1:02 PM



**LEGEND**

- EX EXISTING
- FUT FUTURE
- PROP PROPOSED
- PROP MAJ CONT
- PROP MIN CONT
- EXIST MAJ CONT
- EXIST MIN CONT
- EX. FLOW ARROW
- PROP. FLOW ARROW
- PROPERTY LINE
- SILT FENCE / LIMITS OF DISTURBANCE
- 100-YR FLOOD PLAIN
- PROP STORM SEWER PIPE
- EX. WETLANDS
- WETLAND DISTURBANCE
- RIPRAP TYP.
- TRM NORTH AMERICAN GREEN SC250 PERMANENT EROSION CONTROL BLANKET (OR APPROVED EQUAL) OVER BURIED TYPE M RIP RAP
- TRM NORTH AMERICAN GREEN SC150 TEMPORARY EROSION CONTROL BLANKET (OR APPROVED EQUAL)



FOR LOCATING & MARKING GAS, ELECTRIC, WATER & TELEPHONE LINES  
**FOR BURIED UTILITY INFORMATION 48 HRS BEFORE YOU DIG CALL 1-800-922-1987**

**HOMESTEAD AT STERLING RANCH FILING NO. 2**  
**SAND CREEK BANK STABILIZATION PLANS**  
PROJECT NO. 09-007  
DATE: 01/15/2020  
SCALE: HORIZONTAL: N/A VERTICAL: N/A  
DESIGNED BY: ELY  
DRAWN BY: VAS  
CHECKED BY: N/A  
**GR02**  
SHEET 2 OF 6

102 E. Pikes Peak Ave., 3rd Floor  
Colorado Springs, CO 80903  
PHONE: 719.555.4485  
**M&S CIVIL CONSULTANTS, INC.**

FOR AND ON BEHALF OF M&S CIVIL CONSULTANTS, INC.  
PROFESSIONAL ENGINEER  
NO. 37160  
P.E. NO. 37160  
MARCUS A. SANCHEZ, COLORADO

NO.	DATE	BY	DESCRIPTION

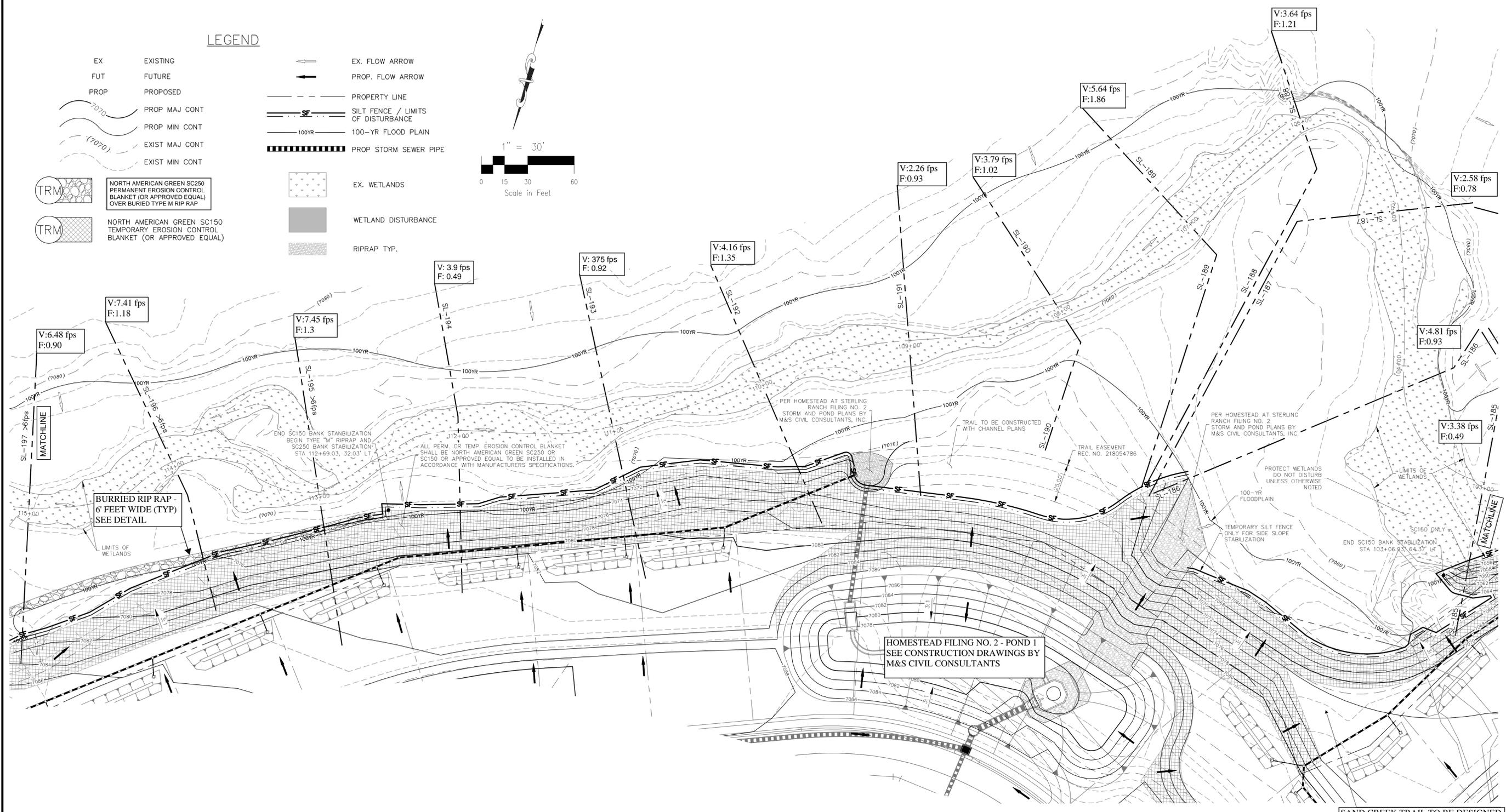
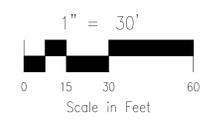
THE ENGINEER PREPARING THESE PLANS WILL NOT BE RESPONSIBLE OR LIABLE FOR UNAUTHORIZED CHANGES TO OR USES OF THESE PLANS. ALL CHANGES TO THE PLANS MUST BE IN WRITING AND MUST BE APPROVED BY THE PREPARER OF THESE PLANS.

**CAUTION**

EPC 10/21/2020

**LEGEND**

- |      |   |  |                                    |
|------|---|--|------------------------------------|
| EX   | EXISTING  |  | EX. FLOW ARROW                     |
| FUT  | FUTURE  |  | PROP. FLOW ARROW                   |
| PROP | PROPOSED  |  | PROPERTY LINE                      |
|      | PROP MAJ CONT   |  | SILT FENCE / LIMITS OF DISTURBANCE |
|      | PROP MIN CONT   |  | 100-YR FLOOD PLAIN                 |
|      | EXIST MAJ CONT  |  | PROP STORM SEWER PIPE              |
|      | EXIST MIN CONT  |  | EX. WETLANDS                       |
|      | NORTH AMERICAN GREEN SC250 PERMANENT EROSION CONTROL BLANKET (OR APPROVED EQUAL) OVER BURIED TYPE M RIP RAP |  | WETLAND DISTURBANCE                |
|      | NORTH AMERICAN GREEN SC150 TEMPORARY EROSION CONTROL BLANKET (OR APPROVED EQUAL)                            |  | RIPRAP TYP.                        |



**CHANNEL STABILIZATION STA: 103+00 TO 115+00**  
SCALE: 1"=30'

SAND CREEK TRAIL TO BE DESIGNED AND CONSTRUCTED WITH CHANNEL IMPROVEMENT PLANS BY KIOWA ENGINEERING

FOR LOCATING & MARKING GAS, ELECTRIC, WATER & TELEPHONE LINES  
FOR BURIED UTILITY INFORMATION  
48 HRS BEFORE YOU DIG  
CALL 1-800-922-1987

**HOMESTEAD AT STERLING RANCH FILING NO. 2**  
**SAND CREEK BANK STABILIZATION PLANS**  
PROJECT NO. 09-007 DATE: 01/15/2020  
SCALE: HORIZONTAL: N/A VERTICAL: N/A  
DESIGNED BY: ELY SHEET 3 OF 6  
DRAWN BY: VAS  
CHECKED BY: VAS

102 E. Pikes Peak Ave., 3rd Floor  
Colorado Springs, CO 80903  
PHONE: 719.555.4485  
  
M&S CIVIL CONSULTANTS, INC.

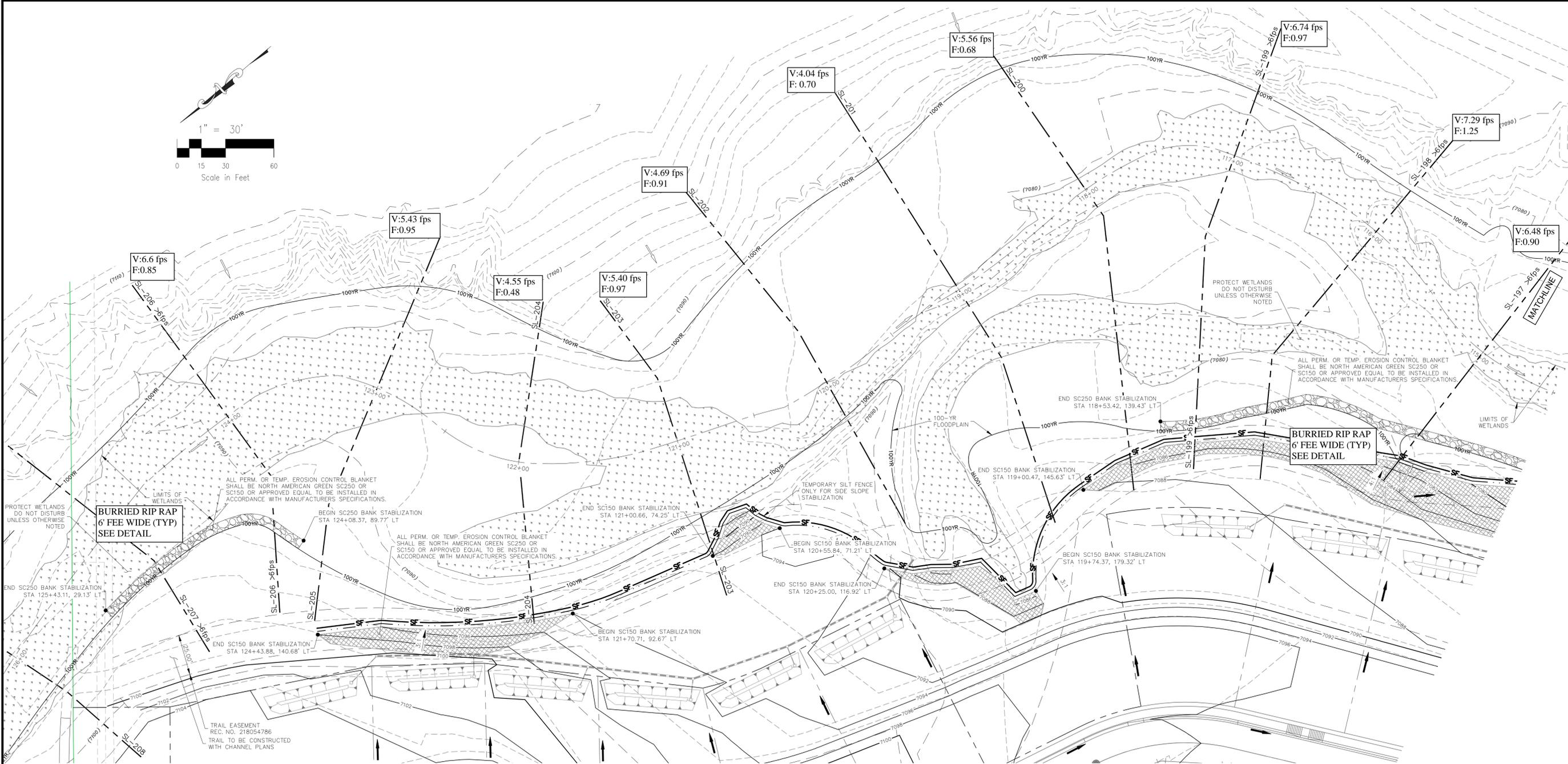
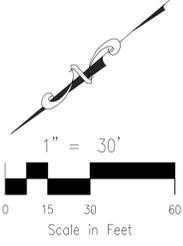
FOR AND ON BEHALF OF M&S CIVIL CONSULTANTS, INC.  
  
MARCIL A. SANCHEZ, COLORADO P.E. NO. 37160

NO.	DATE	BY	DESCRIPTION

THE ENGINEER PREPARING THESE PLANS WILL NOT BE RESPONSIBLE OR LIABLE FOR UNAUTHORIZED CHANGES TO OR USES OF THESE PLANS. ALL CHANGES TO THE PLANS MUST BE IN WRITING AND MUST BE APPROVED BY THE PREPARER OF THESE PLANS.

CAUTION

File: 0:\00002A\Sterling Ranch District\Eng\Const\Draw\Grading & Erosion Control\Homestead 2 bank plans\0004.dwg Plotstamp: 1/16/2020 1:06 PM



**CHANNEL STABILIZATION STA: 115+00 TO 126+00**  
SCALE: 1"=30'

**LEGEND**

- |      |   |  |                                    |
|------|---|--|------------------------------------|
| EX   | EXISTING  |  | EX. FLOW ARROW                     |
| FUT  | FUTURE  |  | PROP. FLOW ARROW                   |
| PROP | PROPOSED  |  | PROPERTY LINE                      |
|      | PROP MAJ CONT   |  | SILT FENCE / LIMITS OF DISTURBANCE |
|      | PROP MIN CONT   |  | 100-YR FLOOD PLAIN                 |
|      | EXIST MAJ CONT  |  | PROP STORM SEWER PIPE              |
|      | EXIST MIN CONT  |  | EX. WETLANDS                       |
|      | NORTH AMERICAN GREEN SC250 PERMANENT EROSION CONTROL BLANKET (OR APPROVED EQUAL) OVER BURIED TYPE M RIP RAP |  | WETLAND DISTURBANCE                |
|      | NORTH AMERICAN GREEN SC150 TEMPORARY EROSION CONTROL BLANKET (OR APPROVED EQUAL)                            |  | RIPRAP TYP.                        |

FOR LOCATING & MARKING GAS, ELECTRIC, WATER & TELEPHONE LINES  
**FOR BURIED UTILITY INFORMATION 48 HRS BEFORE YOU DIG CALL 1-800-922-1987**

**HOMESTEAD AT STERLING RANCH FILING NO. 2**  
**SAND CREEK BANK STABILIZATION PLANS**  
PROJECT NO. 09-007  
SCALE: N/A  
DESIGNED BY: VAS  
DRAWN BY: ELY  
CHECKED BY: VAS  
DATE: 01/15/2020  
SHEET 4 OF 6  
GR04

102 E. Pikes Peak Ave., 3rd Floor  
Colorado Springs, CO 80903  
PHONE: 719.555.4485

**M&S CIVIL CONSULTANTS, INC.**

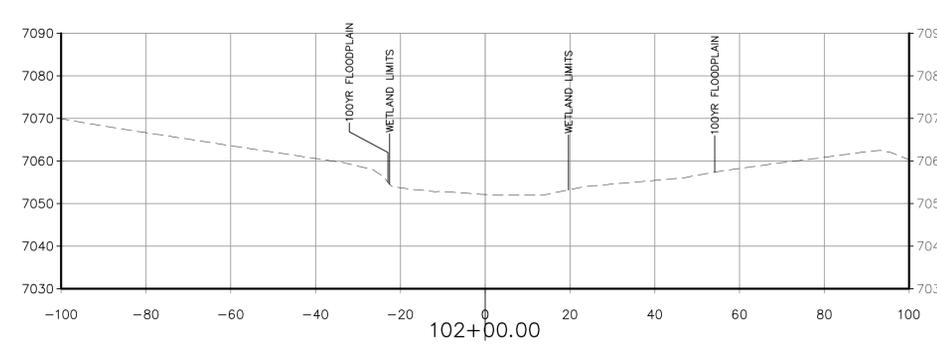
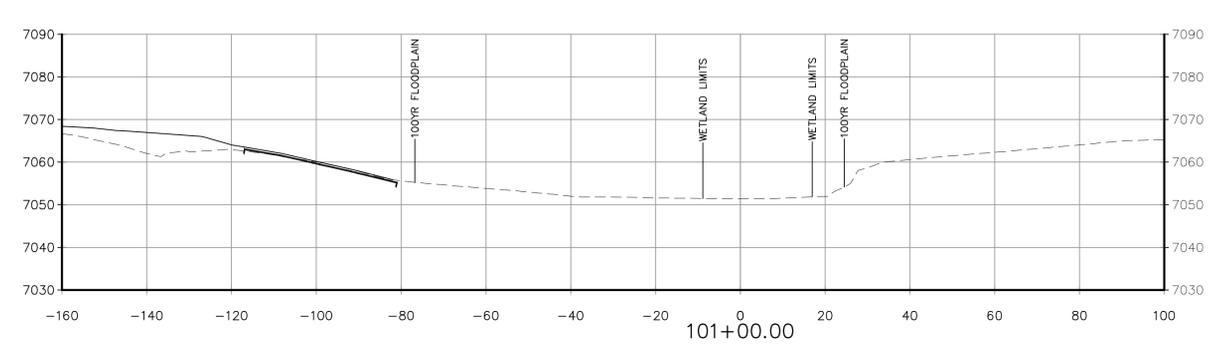
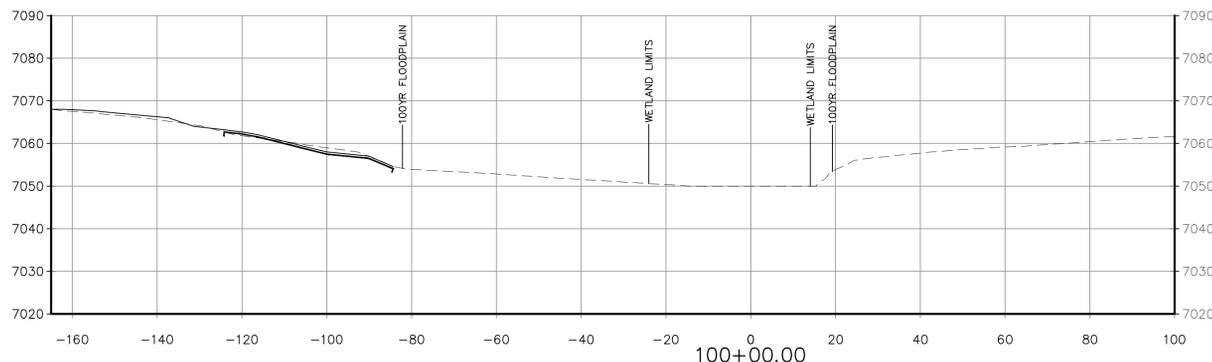
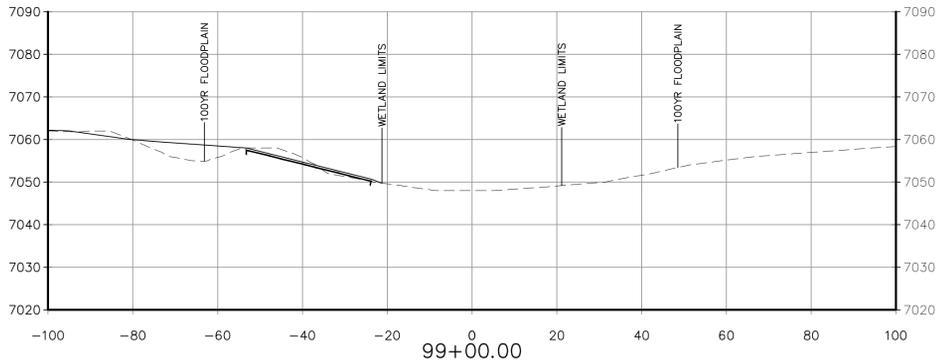
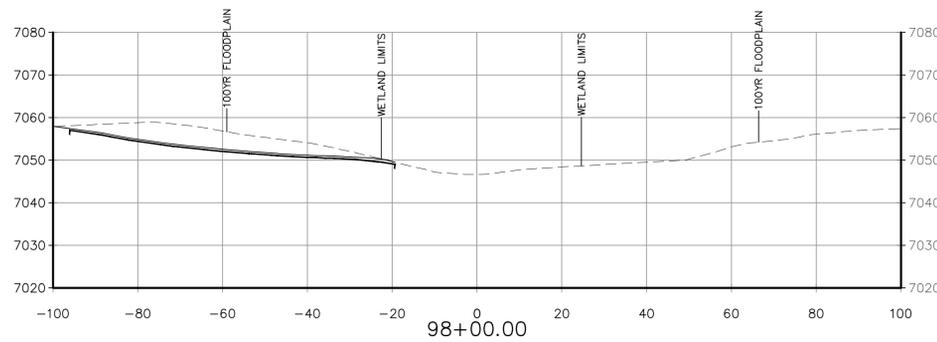
FOR AND ON BEHALF OF M&S CIVIL CONSULTANTS, INC.

MARCIL A. SANCHEZ, COLORADO P.E. NO. 37160

NO.	DATE	BY	DESCRIPTION

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**CAUTION**



**LEGEND**

- SOIL RIPRAP
- EROSION CONTROL MAT
- EXISTING GROUND
- PROPOSED FINISH GRADE

**ADDITIONAL CROSS SECTIONS PROVIDED TO EPC**

**Material and Performance Specification Sheet**

North American Green  
14649 Highway 41 North  
Evensville, IN 47725  
800-772-2040  
FAX: 812-867-0247  
www.nagreen.com

**SC150 Erosion Control Blanket**

The extended-term double net erosion control blanket shall be a machine-produced mat of 70% agricultural straw and 30% coconut fiber with a functional longevity of up to 24 months. (NOTE: functional longevity may vary depending upon climatic conditions, soil, geographical location, and elevation). The blanket shall be of consistent thickness with the straw and coconut evenly distributed over the entire area of the mat. The blanket shall be covered on the top side with a heavyweight photodegradable polypropylene netting having ultraviolet additives to delay breakdown and an approximate 0.53 x 0.53 (1.59 x 1.59 cm) mesh, and on the bottom side with a lightweight photodegradable polypropylene netting with an approximate 0.50 x 0.50 in (1.27 x 1.27 cm) mesh. The blanket shall be sewn together on 1.50 inch (3.81 cm) centers with degradable thread.

The SC150 shall meet requirements established by the Erosion Control Technology Council (ECTC) Specification and the US Department of Transportation, Federal Highway Administration's (FHWA) Standard Specifications for Construction of Roads and Bridges on Federal Highway Projects, FP-03 Section 713.17 as a type 3.B Extended-term Erosion Control Blanket.

The SC150 is also available with the DOT System™, which consists of installation staple patterns clearly marked on the erosion control blanket with environmentally safe paint. The blanket shall be manufactured with a colored thread stitched along both outer edges (approximately 2.5 inches [5-12.5 cm] from the edge) as an overlap guide for adjacent mats.

Material Content		
Matrix	70% Straw Fiber 30% Coconut Fiber	0.35 lbs/yd <sup>2</sup> (0.19 kg/m <sup>2</sup> ) 0.15 lbs/yd <sup>2</sup> (0.08 kg/m <sup>2</sup> )
Nettings	Top - Heavyweight Photodegradable with UV additives Bottom - Lightweight Photodegradable	3.0 lb/1000 ft <sup>2</sup> (1.47 kg/100 m <sup>2</sup> ) 1.5 lb/1000 ft <sup>2</sup> (0.73 kg/100 m <sup>2</sup> )
Thread	Degradable	

SC150 is available in the following standard roll sizes:

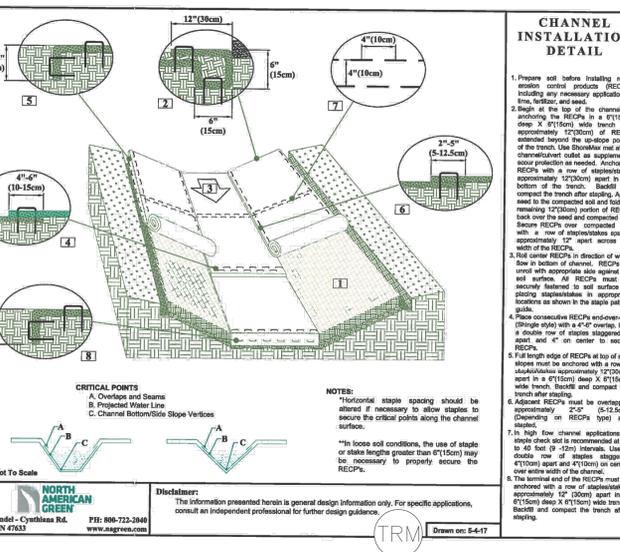
Width	6.67 ft (2.03 m)	16 ft (4.87 m)
Length	108 ft (32.92 m)	108 ft (32.92 m)
Weight ± 10%	44 lbs (19.95 kg)	105.6 lbs (47.9 kg)
Area	80.0 yd <sup>2</sup> (66.9 m <sup>2</sup> )	192 yd <sup>2</sup> (165.5 m <sup>2</sup> )

Index Value Properties:		
Property	Test Method	Typical
Thickness	ASTM D6525	0.59 in (9.91 mm)
Resiliency	ECTC Guidelines	75%
Water Absorbency	ASTM D1117	285%
Mass/Unit Area	ASTM 6475	11.44 oz/yd <sup>2</sup> (388 g/m <sup>2</sup> )
Swell	ECTC Guidelines	30%
Smolder Resistance	ECTC Guidelines	Yes
Stiffness	ASTM D1388	1.11 oz-in
Light Penetration	ECTC Guidelines	8.7%
Tensile Strength - MD	ASTM D6818	146.6 lbs/ft (2.17 kN/m)
Elongation - MD	ASTM D6818	26.9%
Tensile Strength - TD	ASTM D6818	147.6 lbs/ft (2.19 kN/m)
Elongation - TD	ASTM D6818	25.2%

Bench Scale Testing* (MTEPP):		
Test Method	Parameters	Results
ECTC Method 2	50 mm (2 in)/hr for 30 min	SLR** = 5.47
Rainfall	100mm (4 in)/hr for 30 min	SLR** = 5.67
	150 mm (6 in)/hr for 30 min	SLR** = 5.88
ECTC Method 3	Shear at 0.50 inch soil loss	2.72 lbs/ft <sup>2</sup>
ECTC Method 4	Top Soil, Fescue, 21 day Incubation	538% improvement of biomass

\* Bench Scale tests should not be used for design purposes.  
\*\* Soil Loss Ratio = Soil loss with Bare Soil/Soil Loss with RECP (soil loss is based on regression analysis)

Updated 3/09



**Material and Performance Specification Sheet**

North American Green  
14649 Highway 41 North  
Evensville, IN 47725  
800-772-2040  
FAX: 812-867-0247  
www.nagreen.com

**SC250 Turf Reinforcement Mat**

The composite turf reinforcement mat (C-TRM) shall be a machine-produced mat of 70% straw and 30% coconut fiber matrix incorporated into a permanent three-dimensional turf reinforcement matting. The matrix shall be evenly distributed across the entire width of the matting and shall be bonded between a heavy duty UV stabilized netting with 0.50 x 0.50 inch (1.27 x 1.27 cm) openings, an ultra heavy UV stabilized, dramatically corrugated (rimpled) intermediate netting with 0.5 x 0.5 inch (1.27 x 1.27 cm) openings, and covered by an extra heavy UV stabilized nettings with mat. The three nettings shall be stitched together on 1.50 inch (3.81 cm) centers with UV stabilized polypropylene thread to form a permanent three-dimensional turf reinforcement matting.

The SC250 shall meet requirements established by the Erosion Control Technology Council (ECTC) Specification and the US Department of Transportation, Federal Highway Administration's (FHWA) Standard Specifications for Construction of Roads and Bridges on Federal Highway Projects, FP-03 Section 713.16 as a type 5A, B, and C Permanent Turf Reinforcement Mat.

Installation staple patterns shall be clearly marked on the turf reinforcement matting with environmentally safe paint. All mats shall be manufactured with a colored thread stitched along both outer edges (approximately 2-5 inches [5-12.5 cm] from the edge) as an overlap guide for adjacent mats.

Material Content		
Matrix	70% Straw / 30% Coconut fibers	0.35 lbs/yd <sup>2</sup> (0.19 kg/m <sup>2</sup> ) / 0.15 lbs/yd <sup>2</sup> (0.08 kg/m <sup>2</sup> )
Nettings	Top and Bottom, UV stabilized Polypropylene Middle, corrugated UV stabilized Polypropylene	5 lb/1000 ft <sup>2</sup> (2.44 kg/100 m <sup>2</sup> ) 24 lb/1000 ft <sup>2</sup> (11.7 kg/100 m <sup>2</sup> )
Thread	Polypropylene, UV stabilized	

SC250 is available in the following roll sizes:

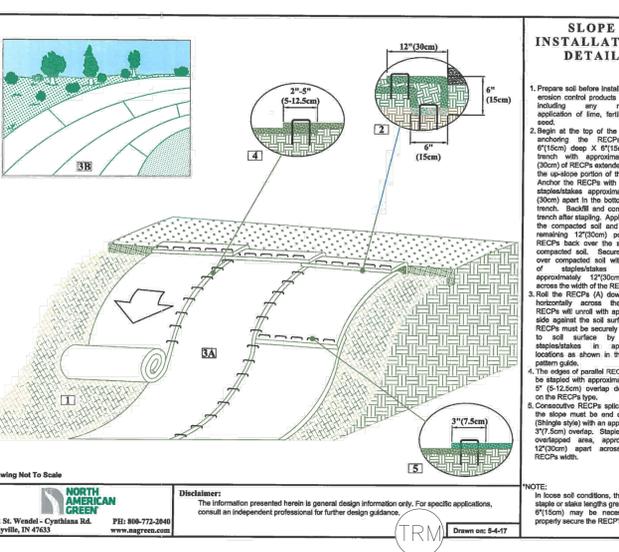
Width	6.5 ft (2.0 m)
Length	55.5 ft (16.9 m)
Weight ± 10%	34 lbs (15.42 kg)
Area	40.0 yd <sup>2</sup> (33.4 m <sup>2</sup> )

Index Value Properties:		
Property	Test Method	Typical
Thickness	ASTM D6525	0.72 in (18.3 mm)
Resiliency	ASTM 6524	55.2%
Density	ASTM D792	0.53 oz/in <sup>3</sup>
Mass/Unit Area	ASTM 6566	17.88 oz/yd <sup>2</sup> (606 g/m <sup>2</sup> )
Porosity	ECTC Guidelines	99%
Stiffness	ASTM D1388	222.65 oz-in
Light Penetration	ECTC Guidelines	8.9%
UV Stability	ASTM D4355/1000 hr	100%
Tensile Strength MD	ASTM D6818	620 lbs/ft (9.05 kN/m)
Elongation MD	ASTM D6818	35%
Tensile Strength TD	ASTM D6818	737 lbs/ft (10.75 kN/m)
Elongation TD	ASTM D6818	16%

Bench Scale Testing* (MTEPP):		
Test Method	Parameters	Results
ECTC Method 2	50 mm (2 in)/hr for 30 min	SLR** = 18.25
Rainfall	100mm (4 in)/hr for 30 min	SLR** = 20.97
	150 mm (6 in)/hr for 30 min	SLR** = 22.74
ECTC Method 3	Shear at 0.50 inch soil loss	7.7 lbs/ft <sup>2</sup>
ECTC Method 4	Top Soil, Fescue, 21 day Incubation	523% improvement of biomass

\* Bench Scale tests should not be used for design purposes.  
\*\* Soil Loss Ratio = Soil loss with Bare Soil/Soil Loss with RECP (soil loss is based on regression analysis)

Updated 3/09



**HOMESTEAD AT STERLING RANCH FILING NO. 2**

**SAND CREEK BANK STABILIZATION PLANS**

PROJECT NO. 09-007 | DATE: 01/15/2020 | SCALE: N/A | SHEET 5 OF 6 | GR05

DESIGNED BY: VAS | CHECKED BY: VAS

102 E. PINE PEAK AVE., 3RD FLOOR  
COLORADO SPRINGS, CO 80903  
PHONE: 719.555.5485

**CIVIL CONSULTANTS, INC.**

FOR AND ON BEHALF OF M&S CIVIL CONSULTANTS, INC.

REGISTERED PROFESSIONAL ENGINEER  
NO. 31160

REVISIONS: NO. | DATE: | BY: | DESCRIPTION:

FOR LOCATING & MARKING GAS, ELECTRIC, WATER & TELEPHONE LINES  
FOR BURIED UTILITY INFORMATION  
84 HRS BEFORE YOU DIG  
CALL 1-800-922-1987

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CAUTION

