



2880 International Circle, Suite 110  
 Colorado Springs, CO 80910  
 Phone 719-520-6300  
 Fax 719-520-6695  
 www.elpasoco.com

**EL PASO COUNTY PLANNING AND  
 COMMUNITY DEVELOPMENT  
 DEPARTMENT**

✓ Satisfies criteria  
 X Needs to be addressed

**GRADING AND EROSION CONTROL PLAN CHECKLIST**

Revised: July 2019

|  |   | Applicant | PCD |
|--|---|-----------|-----|
| <b>1. GRADING AND EROSION CONTROL PLAN</b> |   |           |     |
| a  | Vicinity map.   | Y         | ✓   |
| b  | Adjacent city/town/jurisdictional boundaries, subdivision names, and property parcel numbers labeled.   | Y         | ✓   |
| c  | North arrow and acceptable scale (1"=20' to 1"=100').   | Y         | ✓   |
| d  | Legend for all symbols used in the plan. <span style="color: red;">GEC plan legend revised</span>   | Y         | X   |
| e  | Existing and proposed property lines. Proposed subdivision boundary for subdivision projects.   | Y         | ✓   |
| f  | All existing structures.  | Y         | ✓   |
| g  | All existing utilities.   | Y         | ✓   |
| h  | Construction site boundaries.   | Y         | ✓   |
| i  | Existing vegetation (notes are acceptable in cases where there is no notable vegetation, only grasses/weeds, or site has already been stripped).  | Y         | ✓   |
| j  | FEMA 100-yr floodplain.   | Y         | ✓   |
| k  | Existing and proposed water courses including springs, streams, wetlands, detention ponds, stormwater quality structures, roadside ditches, irrigation ditches and other water surfaces. Show maintenance of pre-existing vegetation within 50 feet of a receiving water.         | Y         | ✓   |
| l  | Existing and proposed contours 2 feet or less (except for hillside).  | Y         | ✓   |
| m  | Limits of disturbance delineating all anticipated areas of soil disturbance.  | Y         | ✓   |
| n  | Identify and protect areas outside of the construction site boundary with existing fencing, construction fencing or other methods as appropriate.   | Y         | ✓   |
| o  | Offsite grading clearly shown and called out.   | Y         | N/A |
| p  | Areas of cut and fill identified.   | Y         | ✓   |
| q  | Conclusions from soils/geotechnical report and geologic hazards report incorporated in grading design (slopes, embankments, materials, mitigation, etc.)  | Y         | ✓   |
| r  | Proposed slopes steeper than 3:1 with top and toe of slope delineated. Erosion control blanketing or other protective covering required.  | Y         | ✓   |
| s  | Stormwater flow direction arrows.   | Y         | ✓   |
| t  | Location of any dedicated asphalt / concrete batch plants.  | Y         | N/A |
| u  | Areas used for staging, storage of building materials, soils (stockpiles) or wastes. The use of construction office trailers requires PCD permitting.   | Y         | ✓   |
| v  | All proposed temporary construction control measures, structural and non-structural. Temporary construction control measures shall be identified by phase of implementation to include "initial," "interim," and "final" or shown on separate phased maps identifying each phase. | Y         | N/A |
| w  | Vehicle tracking provided at all construction entrances/exits. Construction fencing, barricades, and/or signage provided at access points not to be used for construction.  | Y         | ✓   |
| x  | Temporary sediment ponds provided for disturbed drainage areas greater than 1 acre.   | Y         | ✓   |
| y  | Dewatering operations to include locations of diversion, pump and discharge(s) as anticipated at time of design.  | Y         | N/A |
| z  | All proposed temporary construction control measure details. Custom or other jurisdiction's details used must meet or exceed EPC standards.   | Y         | ✓   |







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| 3  | A separate Stormwater Management Plan (SMWP) for this project shall be completed and an Erosion and Stormwater Quality Control Permit (ESQCP) issued prior to commencing construction. Management of the SWMP during construction is the responsibility of the designated Qualified Stormwater Manager or Certified Erosion Control Inspector. The SWMP shall be located on site at all times during construction and shall be kept up to date with work progress and changes in the field.   | Y         | ✓   |
| 4  | 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.   | Y         | ✓   |
| 5  | 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.  | Y         | ✓   |
| 6  | 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. | Y         | ✓   |
| 7  | 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.  | Y         | ✓   |
| 8  | 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.   | Y         | ✓   |
| 9  | 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.   | Y         | ✓   |
| 10 | 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.   | Y         | ✓   |
| 11 | Compaction of soil must be prevented in areas designated for infiltration control measures or where final stabilization will be achieved by vegetative cover. Areas designated for infiltration control measures shall also be protected from sedimentation during construction until final stabilization is achieved. If compaction prevention is not feasible due to site constraints, all areas designated for infiltration and vegetation control measures must be loosened prior to installation of the control measure(s).  | Y         | ✓   |
| 12 | 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.   | Y         | ✓   |



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| 13 | 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.   | Y         | ✓   |
| 14 | 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.   | Y         | ✓   |
| 15 | Erosion control blanketing or other protective covering shall be used on slopes steeper than 3:1.   | Y         | ✓   |
| 16 | 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.   | Y         | ✓   |
| 17 | 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.  | Y         | ✓   |
| 18 | Tracking of soils and construction debris off-site shall be minimized. Materials tracked off-site shall be cleaned up and properly disposed of immediately.   | Y         | ✓   |
| 19 | 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.   | Y         | ✓   |
| 20 | 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.   | Y         | ✓   |
| 21 | 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.   | Y         | ✓   |
| 22 | 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.   | Y         | ✓   |
| 23 | No person shall cause the impediment of stormwater flow in the curb and gutter or ditch except with approved sediment control measures.   | Y         | ✓   |
| 24 | 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 (1041, NPDES, Floodplain, 404, fugitive dust, etc.). In the event of conflicts between these requirements and other laws, rules, or regulations of other Federal, State, local, or County agencies, the most restrictive laws, rules, or regulations shall apply. | Y         | ✓   |
| 25 | All construction traffic must enter/exit the site only at approved construction access points.  | Y         | ✓   |
| 26 | Prior to construction the permittee shall verify the location of existing utilities.  | Y         | ✓   |
| 27 | 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.   | Y         | ✓   |





# STERLING RANCH PHASE 2

## COUNTY OF EL PASO, STATE OF COLORADO

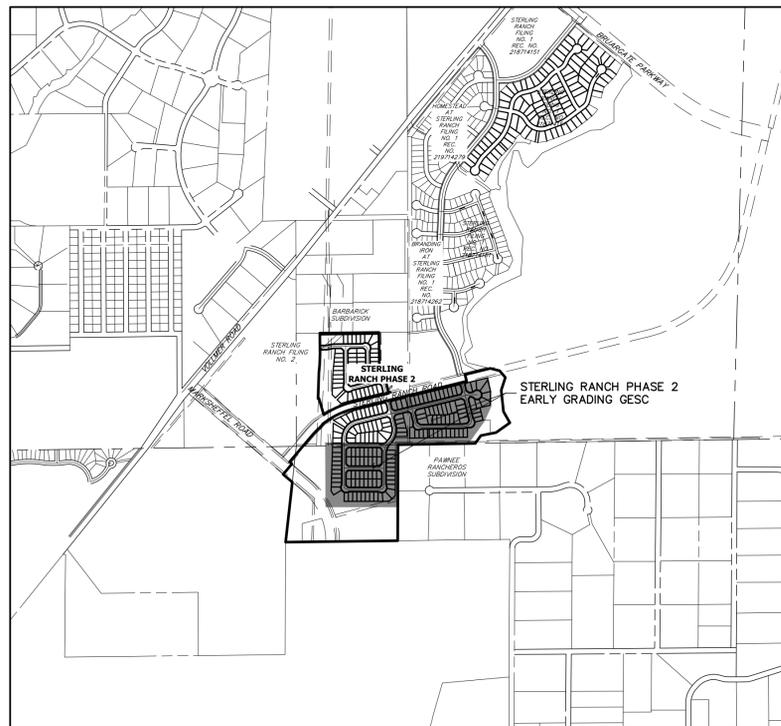
### EARLY GRADING AND EROSION CONTROL PLANS

#### FEBRUARY 2020

#### GRADING AND EROSION CONTROL STANDARD 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 AFFECT THE DESIGN OR FUNCTION OF PERMANENT STORMWATER MANAGEMENT STRUCTURES MUST BE APPROVED BY THE ECM ADMINISTRATOR PRIOR TO IMPLEMENTATION.
- EARTH DISTURBANCES SHALL BE CONDUCTED IN SUCH A MANNER SO AS TO EFFECTIVELY MINIMIZE ACCELERATED SOIL EROSION AND RESULTING SEDIMENTATION. ALL DISTURBANCES SHALL BE DESIGNED, CONSTRUCTED, AND COMPLETED SO THAT THE EXPOSED AREA OF 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 (1041, NPDES, FLOODPLAIN, 404, FUGITIVE DUST, ETC.). IN THE EVENT OF CONFLICTS BETWEEN THESE REQUIREMENTS AND OTHER LAWS, RULES, OR REGULATIONS OF OTHER FEDERAL, STATE, LOCAL, OR COUNTY AGENCIES, THE MOST RESTRICTIVE LAWS, RULES, OR REGULATIONS SHALL APPLY.
- ALL CONSTRUCTION TRAFFIC MUST ENTER/EXIT THE SITE ONLY AT APPROVED CONSTRUCTION ACCESS POINTS.
- PRIOR TO CONSTRUCTION THE PERMITEE 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 ENTECH ENGINEERING INC. ON JUNE 25, 2020 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**  
SCALE : 1"=1,000'

#### SHEET INDEX

- |     |                                |
|-----|--------------------------------|
| 1   | COVER                          |
| 2-3 | GRADING & EROSION CONTROL PLAN |
| 4-6 | DETAIL SHEET                   |

Unresolved comment from last submittal:  
Add the following text to the cover sheet:  
PCD Filing No.: SP-20-003

JR Response: Added

#### STANDARD NOTES FOR EL PASO COUNTY CONSTRUCTION PLANS

- 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 NOTIFICATION 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 (UNCC).
- CONTRACTOR SHALL KEEP A COPY OF THESE APPROVED PLANS, THE GRADING AND EROSION CONTROL PLAN, THE STORMWATER MANAGEMENT PLAN (SWMP), THE SOIL 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 DRAINAGE CRITERIA MANUAL, VOLUMES 1 AND 2
  - COLORADO DEPARTMENT OF TRANSPORTATION (CDOT) STANDARD SPECIFICATIONS AND BRIDGE CONSTRUCTION
  - CDOT M&S STANDARDS
- 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 VERSIONS 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. ANY MODIFICATIONS NECESSARY TO MEET CRITERIA AFTER-THE-FACT WILL BE ENTIRELY THE DEVELOPER'S RESPONSIBILITY TO RECTIFY.
- IT IS THE DESIGN ENGINEER'S RESPONSIBILITY TO ACCURATELY SHOW EXISTING CONDITIONS, BOTH ONSITE AND OFFSITE, ON THE CONSTRUCTION PLANS. ANY MODIFICATIONS NECESSARY DUE TO CONFLICTS, OMISSIONS, OR CHANGED CONDITIONS WILL BE ENTIRELY THE DEVELOPER'S RESPONSIBILITY TO RECTIFY.
- CONTRACTOR SHALL SCHEDULE A PRE-CONSTRUCTION MEETING WITH EL PASO COUNTY PLANNING AND COMMUNITY DEVELOPMENT INSPECTIONS, PRIOR TO STARTING CONSTRUCTION.
- IT IS THE CONTRACTOR'S RESPONSIBILITY TO UNDERSTAND THE REQUIREMENTS OF ALL JURISDICTIONAL AGENCIES TO OBTAIN ALL REQUIRED PERMITS, INCLUDING BUT NOT LIMITED TO EL PASO COUNTY EROSION AND STORMWATER QUALITY CONTROL PERMIT (ESQCP), REGIONAL BUILDING FLOODPLAIN DEVELOPMENT PERMIT, U.S. ARMY CORPS OF ENGINEERS-ISSUED 401 AND/OR 404 PERMITS, AND COUNTY AND STATE FUGITIVE DUST PERMITS.
- CONTRACTOR SHALL NOT DEVIATE FROM THE PLANS WITHOUT FIRST OBTAINING WRITTEN APPROVAL FROM THE DESIGN ENGINEER AND PCD. CONTRACTOR SHALL NOTIFY THE DESIGN ENGINEER IMMEDIATELY UPON DISCOVERY OF ANY ERRORS OR INCONSISTENCIES.
- CONTRACTOR SHALL COORDINATE GEOTECHNICAL TESTING PER ECM STANDARDS. PAVEMENT DESIGN SHALL BE APPROVED BY EL PASO COUNTY PCD PRIOR TO PLACEMENT OF CURB AND GUTTER AND PAVEMENT.
- ALL CONSTRUCTION TRAFFIC MUST ENTER/EXIT THE SITE AT APPROVED CONSTRUCTION ACCESS POINTS.
- SIGHT VISIBILITY TRIANGLES ARE IDENTIFIED IN THE PLANS SHALL BE PROVIDED AT ALL INTERSECTIONS. OBSTRUCTIONS GREATER THAN 18 INCHES ABOVE FLOWLINE ARE NOT ALLOWED IN SIGHT TRIANGLES.
- SIGNING AND STRIPING SHALL COMPLY WITH EL PASO COUNTY DEPARTMENT OF PUBLIC WORKS AND MUTCD CRITERIA.
- CONTRACTOR SHALL OBTAIN ANY PERMITS REQUIRED BY EL PASO COUNTY DEPARTMENT OF PUBLIC WORKS, 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 OFF-SITE DISTURBANCE, GRADING, OR CONSTRUCTION.

#### AGENCIES

- |                      |   |
|----------------------|---|
| OWNER/DEVELOPER:     | SR LAND, LLC<br>20 BOULDER CRESCENT, SUITE 201<br>COLORADO SPRINGS, CO 80903<br>JAMES F. MORLEY (719) 471-1742  |
| CIVIL ENGINEER:      | JR ENGINEERING, LLC<br>5475 TECH CENTER DRIVE<br>COLORADO SPRINGS, CO 80919<br>MIKE BRAMLETT P.E. (303) 267-6240  |
| COUNTY ENGINEERING:  | EL PASO COUNTY PLANNING AND COMMUNITY DEVELOPMENT<br>2680 INTERNATIONAL CIRCLE, SUITE 110<br>COLORADO SPRINGS, CO 80910<br>JEFF RICE, P.E. (719) 520-6300         |
| TRAFFIC ENGINEERING: | EL PASO COUNTY DEPARTMENT OF PUBLIC WORKS<br>3275 AKERS DRIVE<br>COLORADO SPRINGS, CO 80922<br>JENNIFER IRVINE, P.E. (719) 520-6460                               |
| WATER RESOURCES:     | STERLING RANCH METRO DISTRICT ENGINEERS<br>JDS-HYDRO CONSULTANTS<br>545 E. PIKES PEAK AVE., SUITE 300<br>COLORADO SPRINGS, CO 80903<br>JOHN MCGINN (719) 668-8769 |
| FIRE DISTRICT:       | BLACK FOREST FIRE PROTECTION DISTRICT<br>11445 TEACHOUT ROAD<br>COLORADO SPRINGS, CO 80908<br>CHIEF BRYAN JACK (719) 495-4300                                     |
| GAS DEPARTMENT:      | COLORADO SPRINGS UTILITIES<br>7710 DURANT DR.<br>COLORADO SPRINGS, CO 80947<br>TIM WENDT (719) 668-3556   |
| ELECTRIC DEPARTMENT: | MOUNTAIN VIEW ELECTRIC<br>11140 E. WOODMEN ROAD<br>FALCON, CO 80831<br>(719) 495-2283   |
| COMMUNICATIONS:      | QWEST COMMUNICATIONS<br>(U.N.C.C. LOCATORS) (800) 922-1987<br>AT&T (LOCATORS) (719) 635-3674  |

#### EL PASO COUNTY STATEMENT

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 THOSE 2 YEARS, THE PLANS WILL NEED TO BE RESUBMITTED FOR APPROVAL, INCLUDING PAYMENT OF REVIEW FEES AT THE PLANNING AND COMMUNITY DEVELOPMENT DIRECTORS DISCRETION.

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

#### OWNER/DEVELOPER STATEMENT

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

JAMES F. MORLEY \_\_\_\_\_ DATE \_\_\_\_\_  
SR LAND, LLC  
20 BOULDER CRESCENT, SUITE 201  
COLORADO SPRINGS, CO 80903

#### ENGINEER'S STATEMENT

THIS GRADING AND EROSION CONTROL PLAN WAS PREPARED UNDER MY DIRECTION AND SUPERVISION AND IS CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF. SAID PLAN HAS BEEN PREPARED ACCORDING TO THE CRITERIA ESTABLISHED BY THE COUNTY FOR GRADING AND EROSION CONTROL PLANS. I ACCEPT RESPONSIBILITY FOR ANY LIABILITY CAUSED BY ANY NEGLIGENT ACTS, ERRORS OR OMISSIONS ON MY PART IN PREPARING THIS PLANS.

MIKE A. BRAMLETT, P.E.  
COLORADO P.E. 32314  
FOR AND ON BEHALF OF JR ENGINEERING



UNTIL SUCH TIME AS THESE DRAWINGS ARE APPROVED BY THE APPROPRIATE REVIEWING AGENCIES, OR ENGINEERING APPROVES THEIR USE, THESE DRAWINGS ARE DESIGNATED BY WRITTEN AUTHORIZATION.

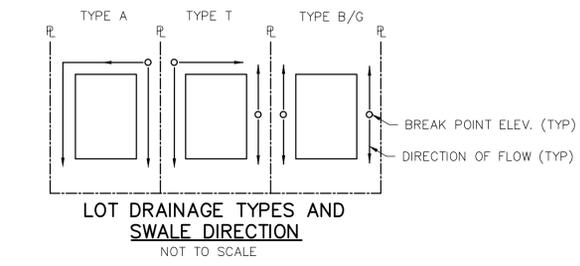
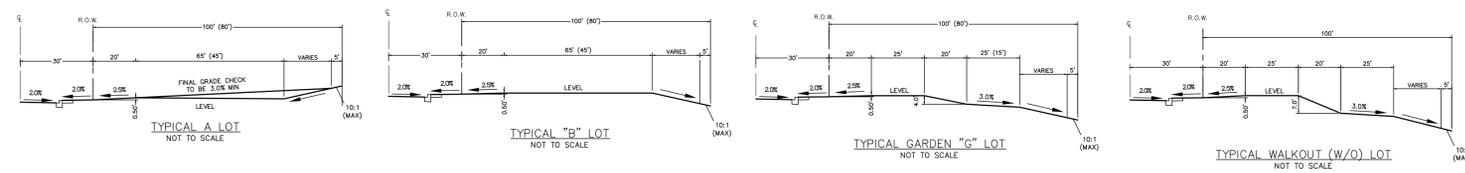
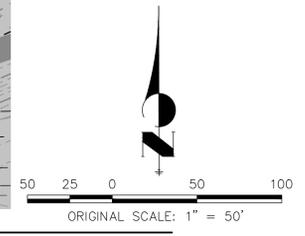
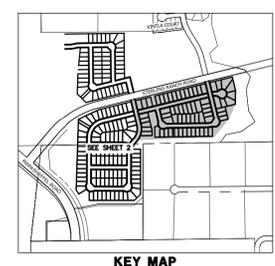
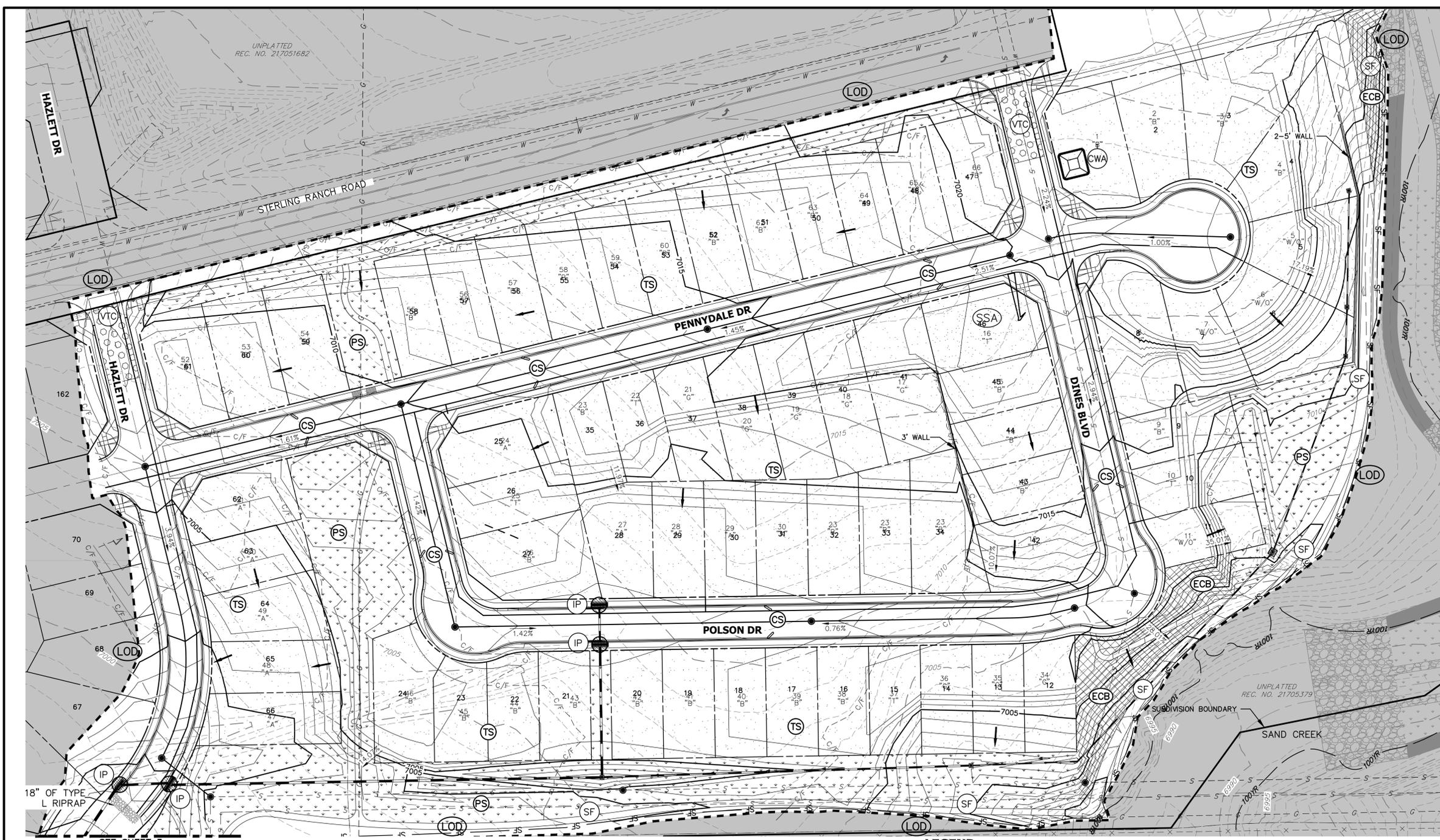
PREPARED FOR  
**SR LAND, LLC**  
20 BOULDER CRESCENT  
SUITE 201  
COLORADO SPRINGS, CO 80903  
JAMES F. MORLEY  
(719) 471-1742

**J.R. ENGINEERING**  
A Westman Company  
Central 303-740-9888 • Colorado Springs 719-588-2683  
Fort Collins 970-491-9888 • www.jrengineering.com

| BY | DATE | REVISION |
|----|------|----------|
|    |      |          |
|    |      |          |
|    |      |          |
|    |      |          |
|    |      |          |

| H-SCALE | N/A | DATE    | DESIGNED BY | DRAWN BY | CHECKED BY |
|---------|-----|---------|-------------|----------|------------|
|         |     | 2/24/21 | RAB         | RAB      |            |

STERLING RANCH PHASE 2  
COVER SHEET  
SHEET 1 OF 7  
JOB NO. 25188.00



**CONSTRUCTION NOTES**  
 NO WETLANDS ARE TO BE PERMANENTLY DISTURBED PER THIS GRADING PLAN.  
 NO EARLY GRADING IS TO OCCUR WITHIN THE 100 YEAR FLOODPLAIN.  
 SITE HAS ALREADY BEEN STRIPPED.

**ADDITIONAL NOTES**  
 STAGING AREA TO BE DETERMINED BY CONTRACTOR IN THE FIELD. THE LOCATIONS SHALL BE DELINEATED ON THIS PLAN BY THE CONTRACTOR.  
 THE EROSION CONTROL DELINEATED ON THIS PLAN SHALL BE REGULARLY UPDATED BY THE CONTRACTOR.

**EARTHWORK NOTES**  
 AREA OF CUT = 50,780 SY  
 AREA OF FILL = 35,200 SY

**LEGEND**

| KEY | SYMBOL | DESCRIPTION  |
|-----|--------|--|
| CD  |        | CHECK DAM (INTERIM/ FINAL)                           |
| CS  |        | CURB SOCK INLET PROTECTION (INITIAL/ INTERIM)        |
| CWA |        | CONCRETE WASHOUT AREA (INITIAL)                      |
| DD  |        | DIVERSION DITCH AND DIKE, TEMPORARY (INTERIM/ FINAL) |
| DV  |        | DIVERSION CHANNEL, TEMPORARY (INTERIM/ FINAL)        |
| ECB |        | EROSION CONTROL BLANKET (FINAL)                      |
| IP  |        | INLET PROTECTION (INITIAL/ INTERIM)                  |
| OP  |        | OUTLET PROTECTION (INITIAL/ INTERIM)                 |
| PS  |        | PERMANENT SEEDING (FINAL)                            |
| SB  |        | SEDIMENT BASIN (INITIAL)                             |
| SCL |        | SEDIMENT CONTROL LOG (INITIAL/ INTERIM)              |
| SF  |        | SILT FENCE (INITIAL)                                 |
| SSA |        | STABILIZED STAGING AREA (INITIAL)                    |
| TS  |        | TEMPORARY SEEDING (FINAL)                            |

It looks like the Legend may have been cut off? Missing half of the Legend that was shown in the last submittal. Please revise as needed.  
 JR Response: Updated

**ENGINEER'S STATEMENT**  
 PREPARED UNDER MY DIRECT SUPERVISION AND ON BEHALF OF JR ENGINEERING  
 MIKE A. BRAMLETT, P.E.  
 COLORADO P.E. 32314  
 FOR AND ON BEHALF OF JR ENGINEERING

|   |   |
|---|---|
| UNTIL SUCH TIME AS THESE DRAWINGS ARE APPROVED BY THE APPROPRIATE REVIEWING AGENCIES, JR ENGINEERING SHALL BE HELD RESPONSIBLE ONLY FOR THE PURPOSES DESIGNATED BY WRITTEN AUTHORIZATION. | PREPARED FOR<br><b>CLIENT NAME</b><br>20 BOULDER CRESCENT<br>SUITE 201<br>COLORADO SPRINGS, CO 80903<br>JAMES F. MORLEY<br>(719) 471-1742                       |
|   | <b>JR ENGINEERING</b><br>A Western Company<br><br>Centennial 303-740-9888 • Colorado Springs 719-589-2888<br>Fort Collins 970-491-9888 • www.jr-engineering.com |
| No. REVISION<br>1"=50'<br>H-SCALE<br>V-SCALE<br>DATE<br>DESIGNED BY<br>DRAWN BY<br>CHECKED BY   | BY<br>DATE<br>02/01/21<br>JMF<br>CJD  |
| STERLING RANCH FILING NO. 2<br>GRADING AND EROSION CONTROL PLAN   | SHEET 2 OF 7<br>JOB NO. 25188.00  |







**EC-2 Temporary and Permanent Seeding (TS/PS)**

soil amendments and rototill them into the soil to a depth of 6 inches or more.

Topsoil should be salvaged during grading operations for use and spread on areas to be revegetated later. Topsoil should be viewed as an important resource to be utilized for vegetation establishment, due to its water-holding capacity, structure, texture, organic matter content, biological activity, and nutrient content. The rooting depth of most native grasses in the semi-arid Denver metropolitan area is 6 to 18 inches. At a minimum, the upper 6 inches of topsoil should be stripped, stockpiled, and ultimately respread across areas that will be revegetated.

Where topsoil is not available, subsoils should be amended to provide an appropriate plant-growth medium. Organic matter, such as well digested compost, can be added to improve soil characteristics conducive to plant growth. Other treatments can be used to adjust soil pH conditions when needed. Soil testing, which is typically inexpensive, should be completed to determine and optimize the types and amounts of amendments that are required.

If the disturbed ground surface is compacted, rip or rototill the surface prior to placing topsoil. If adding compost to the existing soil surface, rototilling is necessary. Surface roughening will assist in placement of a stable topsoil layer on steeper slopes, and allow infiltration and root penetration to greater depth.

Prior to seeding, the soil surface should be rough and the seedbed should be firm, but neither too loose nor compacted. The upper layer of soil should be in a condition suitable for seeding at the proper depth and conducive to plant growth. Seed-to-soil contact is the key to good germination.

**Seed Mix for Temporary Vegetation**

To provide temporary vegetative cover on disturbed areas which will not be paved, built upon, or fully landscaped or worked for an extended period (typically 30 days or more), plant an annual grass appropriate for the time of planting and mulch the planted areas. Annual grasses suitable for the Denver metropolitan area are listed in Table TS/PS-1. These are to be considered only as general recommendations when specific design guidance for a particular site is not available. Local governments typically specify seed mixes appropriate for their jurisdiction.

**Seed Mix for Permanent Revegetation**

To provide vegetative cover on disturbed areas that have reached final grade, a perennial grass mix should be established. Permanent seeding should be performed promptly (typically within 14 days) after reaching final grade. Each site will have different characteristics and a landscape professional or the local jurisdiction should be contacted to determine the most suitable seed mix for a specific site. In lieu of a specific recommendation, one of the perennial grass mixes appropriate for site conditions and growth season listed in Table TS/PS-2 can be used. The pure live seed (PLS) rates of application recommended in these tables are considered to be absolute minimum rates for seed applied using proper drill-seeding equipment.

If desired for wildlife habitat or landscape diversity, shrubs such as rubber rabbitbrush (*Chrysothamnus nauseosus*), fourwing saltbush (*Atriplex canescens*) and skunkbrush sumac (*Rhus trilobata*) could be added to the upland seedmixes at 0.25, 0.5 and 1 pound PLS/acre, respectively. In riparian zones, planting root stock of such species as American plum (*Prunus americana*), woods rose (*Rosa woodsii*), plains cottonwood (*Populus sargentii*), and willow (*Populus spp.*) may be considered. On non-topsoiled upland sites, a legume such as Ladak alfalfa at 1 pound PLS/acre can be included as a source of nitrogen for perennial grasses.

**Temporary and Permanent Seeding (TS/PS) EC-2**

Seeding dates for the highest success probability of perennial species along the Front Range are generally in the spring from April through early May and in the fall after the first of September until the ground freezes. If the area is irrigated, seeding may occur in summer months, as well. See Table TS/PS-3 for appropriate seeding dates.

**Table TS/PS-1. Minimum Drill Seeding Rates for Various Temporary Annual Grasses**

| Species* (Common name) | Growth Season* | Pounds of Pure Live Seed (PLS)/acre* | Planting Depth (inches) |
|------------------------|----------------|--------------------------------------|-------------------------|
| 1. Oats                | Cool           | 35 - 50                              | 1 - 2                   |
| 2. Spring wheat        | Cool           | 25 - 35                              | 1 - 2                   |
| 3. Spring barley       | Cool           | 25 - 35                              | 1 - 2                   |
| 4. Annual ryegrass     | Cool           | 10 - 15                              | ½                       |
| 5. Millet              | Warm           | 3 - 15                               | ½ - ¾                   |
| 6. Sudangrass          | Warm           | 5 - 10                               | ½ - ¾                   |
| 7. Sorghum             | Warm           | 5 - 10                               | ½ - ¾                   |
| 8. Winter wheat        | Cool           | 20 - 35                              | 1 - 2                   |
| 9. Winter barley       | Cool           | 20 - 35                              | 1 - 2                   |
| 10. Winter rye         | Cool           | 20 - 35                              | 1 - 2                   |
| 11. Triticale          | Cool           | 25 - 40                              | 1 - 2                   |

\* Successful seeding of annual grass resulting in adequate plant growth will usually produce enough dead-plant residue to provide protection from wind and water erosion for an additional year. This assumes that the cover is not disturbed or mowed closer than 8 inches.

Hydraulic seeding may be substituted for drilling only where slopes are steeper than 3:1 or where access limitations exist. When hydraulic seeding is used, hydraulic mulching should be applied as a separate operation, when practical, to prevent the seeds from being encapsulated in the mulch.

<sup>b</sup> See Table TS/PS-3 for seeding dates. Irrigation, if consistently applied, may extend the use of cool season species during the summer months.

<sup>c</sup> Seeding rates should be doubled if seed is broadcast, or increased by 50 percent if done using a Brillion Drill or by hydraulic seeding.

**EC-2 Temporary and Permanent Seeding (TS/PS)**

**Table TS/PS-2. Minimum Drill Seeding Rates for Perennial Grasses**

| Common Name                           | Botanical Name                       | Growth Season* | Growth Form | Seeds/ Pound | Pounds of PLS/acre |
|---------------------------------------|--------------------------------------|----------------|-------------|--------------|--------------------|
| <b>Alkali Soil Seed Mix</b>           |                                      |                |             |              |                    |
| Alkali sacaton                        | <i>Sporobolus airoides</i>           | Cool           | Bunch       | 1,750,000    | 0.25               |
| Basin wildrye                         | <i>Elymus cinereus</i>               | Cool           | Bunch       | 165,000      | 2.5                |
| Sodar streambank wheatgrass           | <i>Agropyron riparium 'Sodar'</i>    | Cool           | Sod         | 170,000      | 2.5                |
| Jose tall wheatgrass                  | <i>Agropyron elongatum 'Jose'</i>    | Cool           | Bunch       | 79,000       | 7.0                |
| Arriba western wheatgrass             | <i>Agropyron smithii 'Arriba'</i>    | Cool           | Sod         | 110,000      | 5.5                |
| <b>Total</b>                          |                                      |                |             |              | <b>17.75</b>       |
| <b>Fertile Loamy Soil Seed Mix</b>    |                                      |                |             |              |                    |
| Ephraim crested wheatgrass            | <i>Agropyron cristatum 'Ephraim'</i> | Cool           | Sod         | 175,000      | 2.0                |
| Dural hard fescue                     | <i>Festuca ovina 'duriuscula'</i>    | Cool           | Bunch       | 565,000      | 1.0                |
| Lincoln smooth brome                  | <i>Bromus inermis leys 'Lincoln'</i> | Cool           | Sod         | 130,000      | 3.0                |
| Sodar streambank wheatgrass           | <i>Agropyron riparium 'Sodar'</i>    | Cool           | Sod         | 170,000      | 2.5                |
| Arriba western wheatgrass             | <i>Agropyron smithii 'Arriba'</i>    | Cool           | Sod         | 110,000      | 7.0                |
| <b>Total</b>                          |                                      |                |             |              | <b>15.5</b>        |
| <b>High Water Table Soil Seed Mix</b> |                                      |                |             |              |                    |
| Meadow foxtail                        | <i>Alopecurus pratensis</i>          | Cool           | Sod         | 900,000      | 0.5                |
| Redtop                                | <i>Agrostis alba</i>                 | Warm           | Open sod    | 5,000,000    | 0.25               |
| Reed canarygrass                      | <i>Phalaris arundinacea</i>          | Cool           | Sod         | 68,000       | 0.5                |
| Lincoln smooth brome                  | <i>Bromus inermis leys 'Lincoln'</i> | Cool           | Sod         | 130,000      | 3.0                |
| Pathfinder switchgrass                | <i>Panicum virgatum 'Pathfinder'</i> | Warm           | Sod         | 389,000      | 1.0                |
| Alkar tall wheatgrass                 | <i>Agropyron elongatum 'Alkar'</i>   | Cool           | Bunch       | 79,000       | 5.5                |
| <b>Total</b>                          |                                      |                |             |              | <b>10.75</b>       |
| <b>Transition Turf Seed Mix*</b>      |                                      |                |             |              |                    |
| Ruebens Canadian bluegrass            | <i>Poa compressa 'Ruebens'</i>       | Cool           | Sod         | 2,500,000    | 0.5                |
| Dural hard fescue                     | <i>Festuca ovina 'duriuscula'</i>    | Cool           | Bunch       | 565,000      | 1.0                |
| Citation perennial ryegrass           | <i>Lolium perenne 'Citation'</i>     | Cool           | Sod         | 247,000      | 3.0                |
| Lincoln smooth brome                  | <i>Bromus inermis leys 'Lincoln'</i> | Cool           | Sod         | 130,000      | 3.0                |
| <b>Total</b>                          |                                      |                |             |              | <b>7.5</b>         |

**Temporary and Permanent Seeding (TS/PS) EC-2**

**Table TS/PS-2. Minimum Drill Seeding Rates for Perennial Grasses (cont.)**

| Common Name                                | Botanical Name                          | Growth Season* | Growth Form            | Seeds/ Pound | Pounds of PLS/acre |
|--|---|----------------|------------------------|--------------|--------------------|
| <b>Sandy Soil Seed Mix</b>                 |   |                |                        |              |                    |
| Blue grama                                 | <i>Bouteloua gracilis</i>               | Warm           | Sod-forming bunchgrass | 825,000      | 0.5                |
| Camper little bluestem                     | <i>Schizachyrium scoparium 'Camper'</i> | Warm           | Bunch                  | 240,000      | 1.0                |
| Prairie sandreed                           | <i>Calamovilfa longifolia</i>           | Warm           | Open sod               | 274,000      | 1.0                |
| Sand dropseed                              | <i>Sporobolus cryptandrus</i>           | Cool           | Bunch                  | 5,298,000    | 0.25               |
| Vaughn sidecoats grama                     | <i>Bouteloua curtipendula 'Vaughn'</i>  | Warm           | Sod                    | 191,000      | 2.0                |
| Arriba western wheatgrass                  | <i>Agropyron smithii 'Arriba'</i>       | Cool           | Sod                    | 110,000      | 5.5                |
| <b>Total</b>                               |   |                |                        |              | <b>10.25</b>       |
| <b>Heavy Clay, Rocky Foothill Seed Mix</b> |   |                |                        |              |                    |
| Ephraim crested wheatgrass <sup>d</sup>    | <i>Agropyron cristatum 'Ephraim'</i>    | Cool           | Sod                    | 175,000      | 1.5                |
| Oshe Intermediate wheatgrass               | <i>Agropyron intermedium 'Oshe'</i>     | Cool           | Sod                    | 115,000      | 5.5                |
| Vaughn sidecoats grama <sup>a</sup>        | <i>Bouteloua curtipendula 'Vaughn'</i>  | Warm           | Sod                    | 191,000      | 2.0                |
| Lincoln smooth brome                       | <i>Bromus inermis leys 'Lincoln'</i>    | Cool           | Sod                    | 130,000      | 3.0                |
| Arriba western wheatgrass                  | <i>Agropyron smithii 'Arriba'</i>       | Cool           | Sod                    | 110,000      | 5.5                |
| <b>Total</b>                               |   |                |                        |              | <b>17.5</b>        |

<sup>a</sup> All of the above seeding mixes and rates are based on drill seeding followed by crimped straw mulch. These rates should be doubled if seed is broadcast and should be increased by 50 percent if the seeding is done using a Brillion Drill or is applied through hydraulic seeding. Hydraulic seeding may be substituted for drilling only where slopes are steeper than 3:1. If hydraulic seeding is used, hydraulic mulching should be done as a separate operation.

<sup>b</sup> See Table TS/PS-3 for seeding dates.

<sup>c</sup> If site is to be irrigated, the transition turf seed rates should be doubled.

<sup>d</sup> Crested wheatgrass should not be used on slopes steeper than 6H to 1V.

<sup>e</sup> Can substitute 0.5 lbs PLS of blue grama for the 2.0 lbs PLS of Vaughn sidecoats grama.

**EC-2 Temporary and Permanent Seeding (TS/PS)**

**Table TS/PS-3. Seeding Dates for Annual and Perennial Grasses**

| Seeding Dates            | Annual Grasses (Numbers in table reference species in Table TS/PS-1) |           | Perennial Grasses |      |
|--------------------------|--|-----------|-------------------|------|
|                          | Warm   | Cool      | Warm              | Cool |
| January 1-March 15       |  |           | ✓                 | ✓    |
| March 16-April 30        | 4  | 1,2,3     | ✓                 | ✓    |
| May 1-May 15             | 4  |           | ✓                 |      |
| May 16-June 30           | 4,5,6,7  |           |                   |      |
| July 1-July 15           | 5,6,7  |           |                   |      |
| July 16-August 31        |  |           |                   |      |
| September 1-September 30 |  | 8,9,10,11 |                   |      |
| October 1-December 31    |  |           | ✓                 | ✓    |

**Mulch**

Cover seeded areas with mulch or an appropriate rolled erosion control product to promote establishment of vegetation. Anchor mulch by crimping, netting or use of a non-toxic tackifier. See the Mulching BMP Fact Sheet for additional guidance.

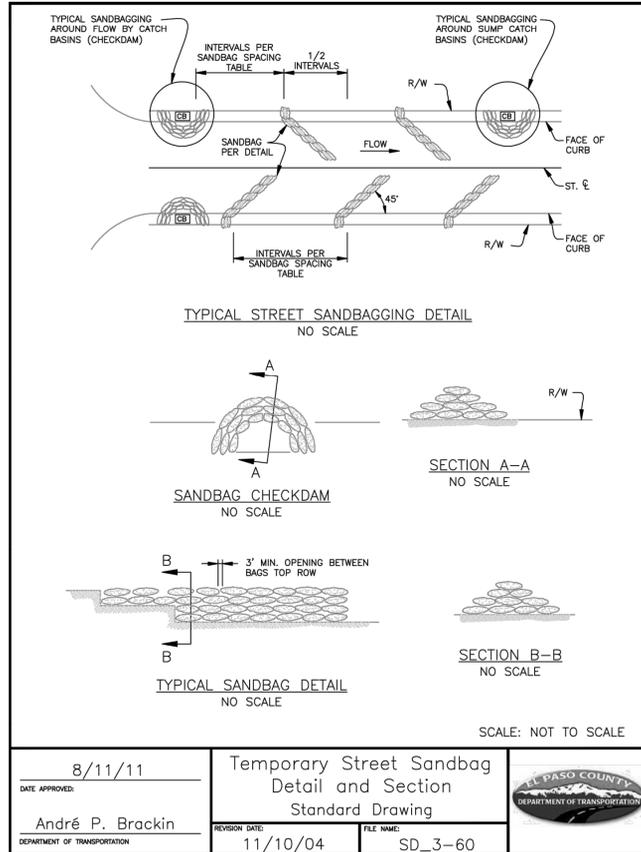
**Maintenance and Removal**

Monitor and observe seeded areas to identify areas of poor growth or areas that fail to germinate. Reseed and mulch these areas, as needed.

An area that has been permanently seeded should have a good stand of vegetation within one growing season if irrigated and within three growing seasons without irrigation in Colorado. Reseed portions of the site that fail to germinate or remain bare after the first growing season.

Seeded areas may require irrigation, particularly during extended dry periods. Targeted weed control may also be necessary.

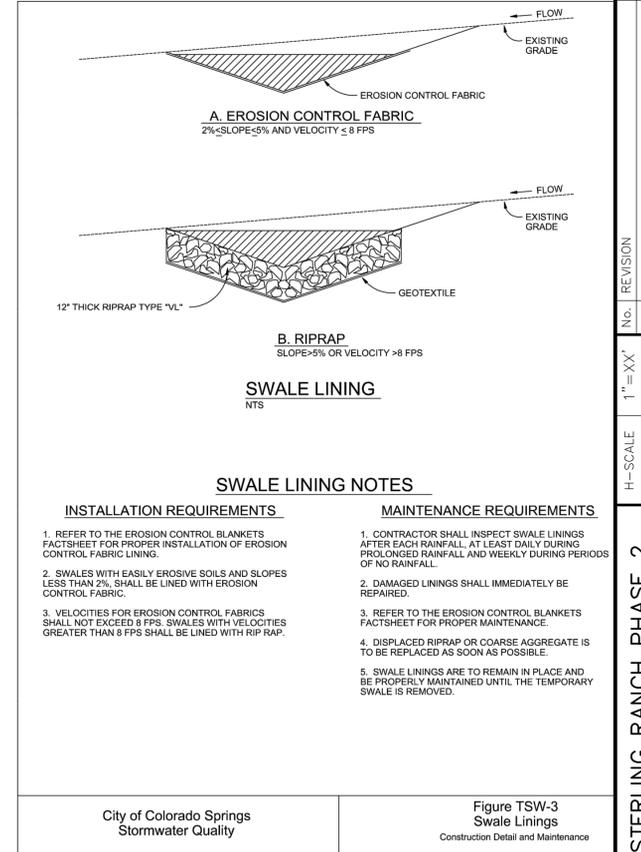
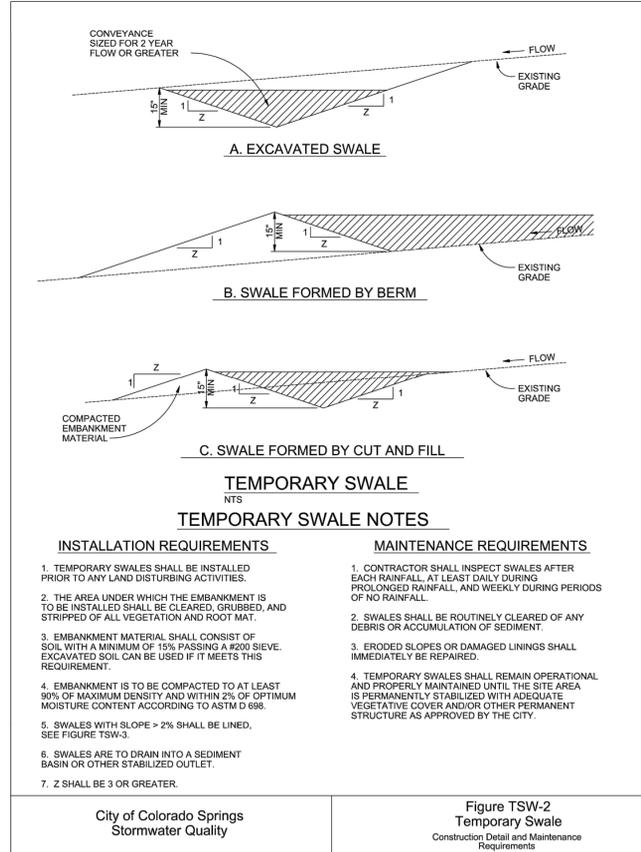
Protect seeded areas from construction equipment and vehicle access.



8/11/11  
DATE APPROVED: André P. Brackin  
DEPARTMENT OF TRANSPORTATION

Temporary Street Sandbag Detail and Section Standard Drawing  
REVISION DATE: 11/10/04  
FILE NAME: SD\_3-60

EL PASO COUNTY DEPARTMENT OF TRANSPORTATION



UNTIL SUCH TIME AS THESE DRAWINGS ARE APPROVED BY THE APPROPRIATE REVIEWING AGENCIES, J.R. ENGINEERING APPROVES THEIR USE. THESE DRAWINGS ARE DESIGNATED BY WRITTEN AUTHORIZATION.

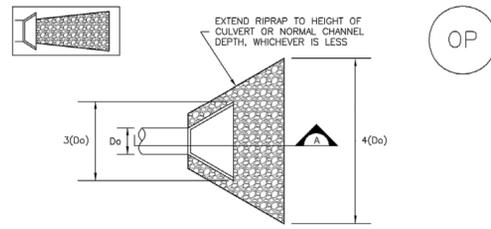
PREPARED FOR: SR LAND, LLC  
20 BOULDER CRESCENT SUITE 201  
COLORADO SPRINGS, CO 80903  
JAMES F. MORLEY (719) 471-1742

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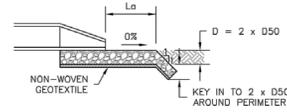
BY: DATE: No. REVISION: H-SCALE: 1"=XX' V-SCALE: 1"=X' DATE: 06/01/20 DESIGNED BY: XXX DRAWN BY: XXX CHECKED BY: XXX

STERLING RANCH PHASE 2  
GRADING AND EROSION CONTROL DETAILS

SHEET 6 OF 7  
JOB NO. 25188.00



TEMPORARY OUTLET PROTECTION PLAN



SECTION A

| TABLE OP-1. TEMPORARY OUTLET PROTECTION SIZING TABLE |                    |                       |                                  |
|--|--------------------|-----------------------|----------------------------------|
| PIPE DIAMETER, Dp (INCHES)                           | DISCHARGE, Q (CFS) | APRON LENGTH, La (FT) | RIPRAP D50 DIAMETER MIN (INCHES) |
| 8  | 2.5                | 5                     | 4                                |
|  | 5                  | 10                    | 6                                |
| 12   | 5                  | 10                    | 4                                |
|  | 10                 | 13                    | 6                                |
|  | 20                 | 16                    | 9                                |
| 18   | 30                 | 23                    | 12                               |
|  | 40                 | 26                    | 16                               |
|  | 60                 | 30                    | 16                               |
| 24   | 30                 | 16                    | 9                                |
|  | 40                 | 26                    | 9                                |
|  | 60                 | 30                    | 12                               |

OP-1. TEMPORARY OUTLET PROTECTION

TEMPORARY OUTLET PROTECTION INSTALLATION NOTES

- SEE PLAN VIEW FOR:
  - LOCATION OF OUTLET PROTECTION.
  - DIMENSIONS OF OUTLET PROTECTION.
- DETAIL IS INTENDED FOR PIPES WITH SLOPE  $\leq$  10%. ADDITIONAL EVALUATION OF RIPRAP SIZING AND OUTLET PROTECTION DIMENSIONS REQUIRED FOR STEEPER SLOPES.
- TEMPORARY OUTLET PROTECTION INFORMATION IS FOR OUTLETS INTENDED TO BE UTILIZED LESS THAN 2 YEARS.

TEMPORARY OUTLET PROTECTION INSPECTION AND 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.

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 AURORA, COLORADO AND PREVIOUS VERSION OF VOLUME 3, NOT AVAILABLE IN AUTOCAD)

UNTIL SUCH TIME AS THESE DRAWINGS ARE APPROVED BY THE APPROPRIATE REVIEWING AGENCIES, OR ENGINEERING APPROVES THEIR USE, THESE DRAWINGS ARE DESIGNATED BY WRITTEN AUTHORIZATION.

PREPARED FOR  
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| H-SCALE | V-SCALE | DATE     | DESIGNED BY | DRAWN BY | CHECKED BY | No. | REVISION | BY | DATE |
|---------|---------|----------|-------------|----------|------------|-----|----------|----|------|
| 1"=XX'  | 1"=X'   | 06/01/20 | XXX         | XXX      | XXX        |     |          |    |      |

STERLING RANCH PHASE 2  
 GRADING AND EROSION CONTROL DETAILS