

**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 PCD 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 (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 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 CTL THOMPSON, INC., TITLED GEOLOGIC HAZARD EVALUATION AND PRELIMINARY GEOTECHNICAL INVESTIGATION, CROSSROADS NORTH, MARKSHEFFEL ROAD AND STATE HIGHWAY 24, EL PASO COUNTY, COLORADO, DATED OCTOBER 6, 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  
WQCD - PERMITS  
4300 CHERRY CREEK DRIVE SOUTH  
DENVER, CO 80246-1530  
ATTN: PERMITS UNIT
- ALL PERMANENT CONTROL MEASURES REQUIRE AN ANNUAL INSPECTION AND APPLICABLE MAINTENANCE PER THE CITY MS4 PERMIT AND THE COLORADO SPRINGS AIRPORT INDUSTRIAL STORMWATER PERMIT. ALL COLORADO SPRINGS AIRPORT TENANTS WITH PERMANENT CONTROL MEASURES NEED TO SUBMIT ALL ANNUAL INSPECTION AND MAINTENANCE FORMS TO AIRPORT ENVIRONMENTAL ANNUALLY BY MAY 15TH SO ALL DOCUMENTATION CAN BE SUBMITTED TO CITY SWENT PRIOR TO THE END OF MAY EACH YEAR.

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**ADDITIONAL NOTES:**

STAGING, PORTABLE TOILETS, STOCKPILE, AND CONCRETE WASHOUT AREAS 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.

EXISTING SITE TERRAIN GENERALLY SLOPES FROM NORTH TO SOUTHWEST AT GRADE RATES THAT VARY BETWEEN 2% TO 9%.

THERE ARE NO BATCH PLANTS ON SITE.

NO PORTION OF THIS PROPERTY IS LOCATED WITHIN A DESIGNATED FEMA FLOODPLAIN IN ACCORDANCE WITH FLOOD INSURANCE RATE MAPS (FIRM) 08041C07546, 08041C07566, & 08041C07586 EFFECTIVE DATES DECEMBER 7, 2018.

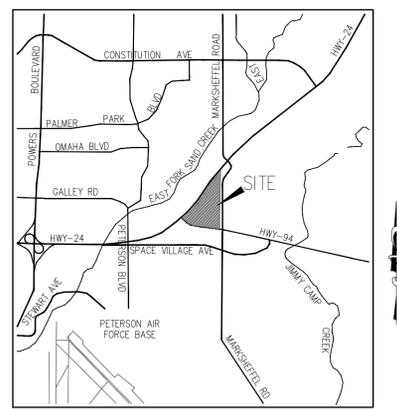
EXISTING, ON-SITE VEGETATION CONSISTS OF SPARSE NATIVE GRASSES (APPROX. 60% COVER). A VISUAL POST CONSTRUCTION COMPARISON CAN BE MADE TO ADJACENT, UNDEVELOPED PROPERTY.

# CROSSROADS NORTH

## COUNTY OF EL PASO, STATE OF COLORADO

# EARLY GRADING & EROSION CONTROL PLANS

MARCH 2022



VICINITY MAP  
N.T.S.



SITE MAP  
N.T.S.

Since the last submittal requirements for early grading request has been updated in the Land Development Code.

Submit a separate Final Drainage Report that only addresses the early grading drainage impact.

Keep in mind the Preliminary Drainage Report associated with the preliminary plan is still required.

**AGENCIES**

OWNER/DEVELOPER:	COLORADO SPRINGS EQUITIES LLC 90 SOUTH CASCADE, SUITE 1500 COLORADO SPRINGS, CO 80903 DANNY MIENKA (719) 475-7621
CIVIL ENGINEER:	M & S CIVIL CONSULTANTS, INC. 212 N. WAHSATCH AVENUE, SUITE 305 COLORADO SPRINGS, CO 80903 VIRGIL A. SANCHEZ P.E. (719) 955-5485
COUNTY ENGINEERING:	EL PASO COUNTY PLANNING AND COMMUNITY DEVELOPMENT 2880 INTERNATIONAL CIRCLE, SUITE 110 COLORADO SPRINGS, CO 80910 GILBERT LAFORCE (719) 520-7945
TRAFFIC ENGINEERING:	EL PASO COUNTY PUBLIC SERVICES & TRANS. DEPOT 3275 AKERS DRIVE COLORADO SPRINGS, CO 80922 JENNIFER IRVINE (719) 520 6460
WATER RESOURCES:	CHEROKEE METRO DISTRICT 6250 PALMER PARK COLORADO SPRINGS, CO 80905 (719) 597-5080
FIRE DISTRICT:	FALCON FIRE PROTECTION DISTRICT 2710 CAPITAL DRIVE COLORADO SPRINGS, CO 80939 (719) 495-4050
GAS DEPARTMENT:	COLORADO SPRINGS UTILITIES 7710 DURANT DR. COLORADO SPRINGS, CO 80947 TIM WENDT (719) 668-3556
ELECTRIC DEPARTMENT:	COLORADO SPRINGS UTILITIES 7710 DURANT DRIVE. COLORADO SPRINGS, CO 80947 (719) 668-3556
COMMUNICATIONS:	QWEST COMMUNICATIONS (U.N.C.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 ANY NEGLIGENT ACTS, ERRORS OR OMISSIONS ON MY PART IN PREPARING THIS PLAN.

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

**DEVELOPER'S STATEMENT:**

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

COLORADO SPRINGS EQUITIES LLC DATE

DANNY MIENKA  
90 SOUTH CASCADE AVE. SUITE 1500  
COLORADO SPRINGS, CO 80903  
(719) 745-7621

**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 HAS NOT STARTED WITHIN THOSE 2 YEARS, THE PLANS WILL NEED TO BE RESUBMITTED FOR APPROVAL, INCLUDING PAYMENT OF REVIEW FEES AT THE PLANNING AND COMMUNITY DEVELOPMENT DIRECTOR'S DISCRETION.

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

Replace with  
Joshua Palmer, P.E.  
Interim County Engineer/ECM Administrator

**BASIS OF BEARINGS:**

THE SOUTHEASTERLY LINE OF CDOT RIGHT OF WAY SH-24 (PROJECT NO. NH0243-058: UNIT 2) FROM STA. 320+28.40 (125.00' RT) TO STA. 327+61.58 (125.00' RT), MONUMENTED AT BOTH POINTS WITH 3-1/4" ALUMINUM CDOT MONUMENTS STAMPED "PLS 25381" AND BEARS N43°35'09" E A DISTANCE OF 733.37'. THE UNIT OF MEASUREMENT IS THE U.S. SURVEY FOOT.

**BENCHMARK(S)**

- NATIONAL GEODETIC VERTICAL DATUM OF 1929; BENCHMARK R-78 IS A DISK SET IN TOP OF A CONCRETE MONUMENT STAMPED "R 78 1935", IS PROJECTED ~0.25' AND IS LOCATED ~160' SOUTH OF THE CENTER OF HWY 24 ON THE NORTH SIDE OF SPACE VILLAGE AVENUE ELEV:6286.32
- #4 REBAR IN AIR LANE NEAR ELECTRIC VAULT ON HILL TOP  
N: 57321.99  
E: 39206.06  
ELEV: 6374.05'



EL PASO COUNTY FILE NO. SP 20-207

CROSSROADS NORTH

EARLY GRADING & EROSION CONTROL PLAN

PROJECT NO. 18-001

DATE: 03/24/2022

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

DESIGNED BY: CWV

DRAWN BY: CWW

CHECKED BY: VAS

SHEET 1 OF 9

GR01

212 N. WAHSATCH AVE., STE 305  
COLORADO SPRINGS, CO 80903  
PHONE: 719.955.5485

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

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

REVISIONS:

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

# CROSSROADS NORTH

## CITY OF COLORADO SPRINGS, COUNTY OF EL PASO, STATE OF COLORADO

# EARLY GRADING & EROSION CONTROL PLANS

**GRADING GENERAL NOTES:**

- ANY LAND DISTURBANCE BY ANY OWNER, DEVELOPER, BUILDER, CONTRACTOR, OR OTHER PERSON SHALL COMPLY WITH THE BASIC GRADING, EROSION AND STORMWATER QUALITY CONTROL REQUIREMENTS AND GENERAL PROHIBITIONS NOTED IN THE DRAINAGE CRITERIA MANUAL VOLUME II.
- NO CLEARING, GRADING, EXCAVATION, FILLING OR OTHER LAND DISTURBING ACTIVITIES SHALL BE PERMITTED UNTIL SIGNOFF AND ACCEPTANCE OF THE GRADING PLAN AND EROSION AND STORMWATER QUALITY CONTROL PLAN IS RECEIVED FROM CITY ENGINEERING.
- THE INSTALLATION OF THE FIRST LEVEL OF TEMPORARY EROSION CONTROL FACILITIES AND BMP'S SHALL BE INSTALLED AND INSPECTED PRIOR TO ANY EARTH DISTURBANCE OPERATIONS TAKING PLACE. CALL CITY STORMWATER INSPECTIONS, 385-5977, 48 HOURS PRIOR TO CONSTRUCTION.
- SEDIMENT (MUD AND DIRT) TRANSPORTED ONTO A PUBLIC ROAD, REGARDLESS OF THE SIZE OF THE SITE, SHALL BE CLEARED AT THE END OF EACH DAY.
- CONCRETE WASH WATER SHALL NOT BE DISCHARGED TO OR ALLOWED TO RUNOFF TO STATE WATERS, INCLUDING ANY SURFACE OR SUBSURFACE STORM DRAINAGE SYSTEM OR FACILITIES.
- SOIL EROSION CONTROL MEASURES FOR ALL SLOPES, CHANNELS, DITCHES, OR ANY DISTURBED LAND AREA SHALL BE COMPLETED WITHIN TWENTY-ONE (21) CALENDAR DAYS AFTER FINAL GRADING OR FINAL EARTH DISTURBANCE HAS BEEN COMPLETED. DISTURBANCE AREAS AND STOCKPILES WHICH ARE NOT AT FINAL GRADE BUT WILL REMAIN DORMANT FOR LONGER THAN 30 DAYS SHALL ALSO BE MULCHED WITHIN 21 DAYS AFTER INTERIM GRADING. AN AREA THAT IS GOING TO REMAIN IN AN INTERIM STATE FOR MORE THAN 60 DAYS SHALL ALSO BE SEED. ALL TEMPORARY SOIL EROSION CONTROL MEASURES AND BMP'S SHALL BE MAINTAINED UNTIL PERMANENT SOIL EROSION CONTROL MEASURES ARE IMPLEMENTED.
- THE GRADING AND EROSION CONTROL PLAN WILL BE SUBJECT TO RE-REVIEW AND RE-ACCEPTANCE BY THE CITY OF COLORADO SPRINGS ENGINEERING. SHOULD ANY OF THE FOLLOWING OCCUR: GRADING DOES NOT COMMENCE WITHIN 12 MONTHS OF THE CITY ENGINEER'S ACCEPTANCE OF THE PLAN, A CHANGE IN PROPERTY OWNERSHIP, PROPOSED DEVELOPMENT CHANGES, OR PROPOSED GRADING REVISIONS.
- THE PLAN SHALL NOT SUBSTANTIALLY CHANGE THE DEPTH OF COVER, OR ACCESS EXISTING UTILITY LINES. ACCEPTANCE OF THIS PLAN DOES NOT CONSTITUTE APPROVAL TO GRADE IN ANY UTILITY EASEMENT OR RIGHT-OF-WAY. APPROVALS TO GRADE WITHIN UTILITY EASEMENTS MUST BE OBTAINED FROM THE APPROPRIATE UTILITY COMPANY. IT IS NOT PERMISSIBLE FOR ANY PERSON TO MODIFY THE GRADE OF THE EARTH ON ANY COLORADO SPRINGS UTILITIES EASEMENT OR UTILITY RIGHT-OF-WAY WITHOUT THEIR WRITTEN APPROVAL. THE PLAN SHALL NOT INCREASE OR DIVERT WATER TOWARDS UTILITY FACILITIES. ANY CHANGES TO EXISTING UTILITY FACILITIES TO ACCOMMODATE THE PLAN MUST BE APPROVED BY THE AFFECTED UTILITY OWNER PRIOR TO IMPLEMENTING THE PLAN. THE COST TO RELOCATE OR PROTECT EXISTING UTILITIES OR TO PROVIDE INTERIM ACCESS IS THE APPLICANTS EXPENSE.

**TIMING: CROSSROADS NORTH**

SPRING 2022 - WINTER 2023
ANTICIPATED STARTING AND COMPLETION TIME PERIOD OF SITE GRADING:
SPRING 2023
EXPECTED DATE ON WHICH THE FINAL STABILIZATION WILL BE COMPLETED:

**AREAS: CROSSROADS NORTH**

TOTAL AREA OF THE SITE TO BE CLEARED, EXCAVATED OR GRADED:	~64.9 AC
CITY PROPERTY OF THE SITE TO BE CLEARED, EXCAVATED OR GRADED:	~19 AC

**RECEIVING WATERS:**  
SAND CREEK VIA EAST FORK SAND CREEK SUBTRIBUTARY  
JIMMY CAMP CREEK

**SOIL TYPES:**  
BLAKELAND LOAMY SAND-HYDROLOGIC SOIL GROUP A

**EROSION CONTROL NOTES:**

- AT ALL TIMES DURING THE CONSTRUCTION OF THE PROJECT, EROSION AND SEDIMENT CONTROL SYSTEMS SHALL BE MAINTAINED TO PREVENT DAMAGING FLOWS ON THE SITE AND IN THE WATERSHED BELOW THE SITE. CONTROL SYSTEMS SHALL BE INSTALLED PRIOR TO STRIPPING OF NATIVE VEGETATIVE COVER AND AS GRADING PROGRESSES. CONTROL SYSTEMS SHALL INCLUDE, AS A MINIMUM, STRAW BALE SEDIMENT TRAPS (OR EQUAL) ALONG NATURAL DRAINAGE WAYS PRIOR TO GRADING AND UTILIZATION OF DESIGNED STORM DETENTION BASINS PRIOR TO FINAL GRADING REVEGETATION. AS AN AVERAGE, SEDIMENT TRAPS WITH A CAPACITY OF 15 CUBIC YARDS SHALL BE PROVIDED FOR EACH ACRE OF DISTURBED SOIL.
- ALL SEDIMENT TRAPS WILL BE CLEANED AND MAINTAINED TO PROVIDE ADEQUATE PROTECTION FROM SOIL LOSS UNTIL SUCH TIME AS THEY ARE NO LONGER NEEDED.
- WHERE AREAS ARE TO BE LEFT BARE FOR EXTENDED PERIODS (TOPSOIL, STOCKPILES, EMPTY LOTS, RIGHTS-OF-WAY, HOME SITES AWAITING PURCHASE, ETC.) MECHANICAL MULCHING (STRAW CRIMP) IN ACCORDANCE WITH CDOT STANDARD SPECIFICATIONS SHALL BE APPLIED WITHIN 30 DAYS AFTER FINAL GRADE IS REACHED ON ANY PORTION OF THE SITE. SOIL STABILIZATION MEASURES SHALL BE APPLIED WITHIN 30 DAYS TO DISTURBED AREAS WHICH MAY NOT BE AT FINAL GRADE BUT WILL BE LEFT DORMANT FOR LONGER THAN 60 DAYS.
- TOPSOIL WILL BE STOCKPILED AND USED AS A TOP DRESSING OVER CUT AND FILL AREAS TO HELP IN THE ESTABLISHMENT OF ADAPTED VEGETATION. TOPSOIL STOCKPILE WILL BE SEEDDED AND/OR MULCHED TO MINIMIZE SOIL LOSS UNTIL TOPSOIL IS USED.
- TEMPORARY STOCKPILES (8' MAX. HEIGHT) DUE TO UTILITY CONSTRUCTION SHALL BE KEPT MOIST BY THE CONTRACTOR TO PREVENT BLOWING SOILS.
- AREAS LEFT OPEN FOR 30 DAYS OR MORE, OTHER THAN FOR UTILITY AND DRAINAGE CONSTRUCTION SHALL BE SEEDDED AND/OR MULCHED.
- THE CONTRACTOR IS RESPONSIBLE FOR IMPLEMENTING MEASURES TO PREVENT EROSION OF DISTURBED SOIL BY ABNORMAL WINDS.
- ADDITIONAL EROSION CONTROL MEASURES MAY BE REQUIRED AT THE TIME OF CONSTRUCTION.
- "ALL UTILITY INSTALLATIONS WITHIN THE LIMITS OF DISTURBANCE SHOWN ON THE PLAN ARE COVERED UNDER THIS PLAN. LOCATIONS OF UTILITIES WITHIN LIMITS OF DISTURBANCE MAY BE MODIFIED AFTER PLAN APPROVAL AS A FIELD CHANGE. UTILITY INSTALLATIONS RELATED TO PRIVATE DEVELOPMENT THAT EXTEND BEYOND THE LIMITS OF DISTURBANCE SHOWN ON THIS PLAN ARE CONSIDERED TO BE PART OF THE LARGER DEVELOPMENT, AND THEREFORE REQUIRE A PLAN MODIFICATION OR SEPARATE PLAN FOR THE ADDITIONAL DISTURBANCE AREA."
- "APPLICANT REPRESENTS AND WARRANTS THAT THEY HAVE THE LEGAL AUTHORITY TO GRADE AND/OR CONSTRUCT IMPROVEMENTS ON ADJACENT PROPERTY. THE CITY HAS NOT REVIEWED THE DEVELOPER'S AUTHORITY TO MODIFY ADJACENT PROPERTY."
- ALL PERMANENT CONTROL MEASURES REQUIRE AN ANNUAL INSPECTION AND APPLICABLE MAINTENANCE PER THE CITY M54 PERMIT AND THE COLORADO SPRINGS AIRPORT INDUSTRIAL STORMWATER PERMIT. ALL COLORADO SPRINGS AIRPORT TENANTS WITH PERMANENT CONTROL MEASURES NEED TO SUBMIT ALL ANNUAL INSPECTION AND MAINTENANCE FORMS TO AIRPORT ENVIRONMENTAL ANNUALLY BY MAY 15TH SO ALL DOCUMENTATION CAN BE SUBMITTED TO CITY SWENT PRIOR TO THE END OF MAY EACH YEAR.

**ADDITIONAL NOTES:**

STAGING, PORTABLE TOILETS, STOCKPILE, AND CONCRETE WASHOUT AREAS 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.

EXISTING SITE TERRAIN GENERALLY SLOPES FROM NORTH TO SOUTHWEST AT GRADE RATES THAT VARY BETWEEN 2% TO 9%.

THERE ARE NO BATCH PLANTS ON SITE.

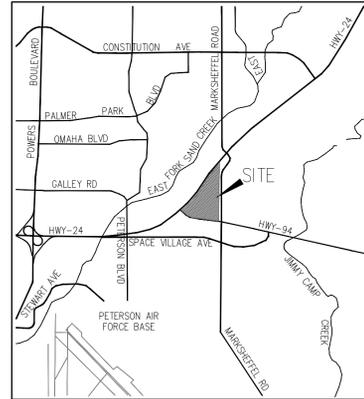
NO PORTION OF THIS PROPERTY IS LOCATED WITHIN A DESIGNATED FEMA FLOODPLAIN IN ACCORDANCE WITH FLOOD INSURANCE RATE MAPS (FIRM) 0804100754G, 0804100756G, & 0804100758G EFFECTIVE DATES DECEMBER 7, 2018.

EXISTING ON-SITE VEGETATION CONSISTS OF SPARSE NATIVE GRASSES (APPROX. 60% COVER). A VISUAL, POST CONSTRUCTION COMPARISON CAN BE MADE TO ADJACENT, UNDEVELOPED PROPERTY.

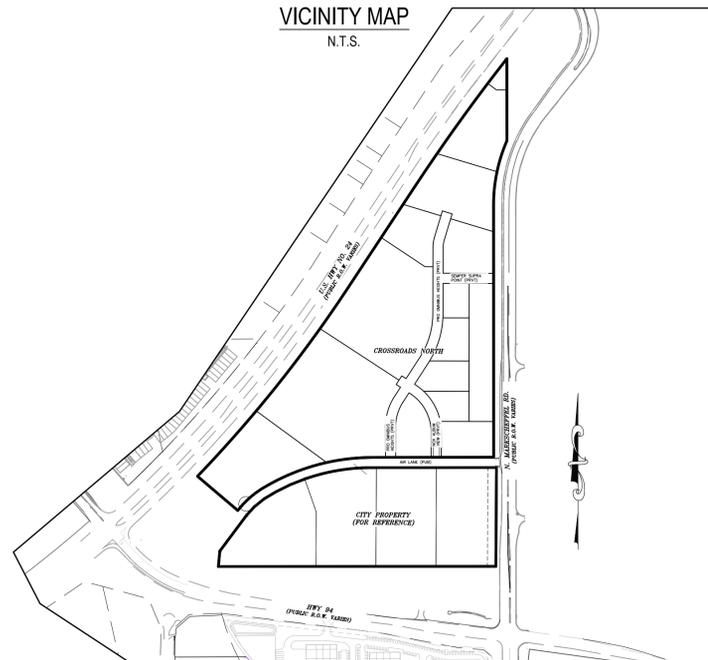
**QUALIFIED STORMWATER MANAGER'S INSPECTIONS AND MAINTENANCE OF CCM'S:**

- MAKE THOROUGH INSPECTION OF THE STORMWATER MANAGEMENT SYSTEM AFTER EACH PRECIPITATION EVENT THAT CAUSES RUNOFF.
- IF ANY DEFICIENCIES ARE NOTED, THEY MUST BE CORRECTED IMMEDIATELY AFTER BEING NOTED
- RECORDS OF THE SIGNED SITE INSPECTIONS OR MODIFICATIONS MUST BE KEPT AT THE SITE UNLESS AN ALTERNATE PLACE IS APPROVED BY THE EL PASO COUNTY INSPECTOR AND MUST BE MADE AVAILABLE UPON REQUEST.
- INSPECTIONS MUST TAKE PLACE WHERE CONSTRUCTION ACTIVITY IS COMPLETE, BUT LOT IS NOT SOLD
- MONTHLY INSPECTIONS MUST TAKE PLACE ON SITE WHERE CONSTRUCTION ACTIVITY IS COMPLETE, BUT VEGETATIVE COVER IS STILL BEING ESTABLISHED.

MARCH 2022



VICINITY MAP  
N.T.S.



SITE MAP  
N.T.S.

**BASIS OF BEARINGS:**

THE SOUTHEASTERLY LINE OF CDOT RIGHT OF WAY SH-24 (PROJECT NO. NH0243-058: UNIT 2) FROM STA. 320+28.40 (125.00' RT) TO STA. 327+61.58 (125.00' RT), MONUMENTED AT BOTH POINTS WITH 3-1/4" ALUMINUM CDOT MONUMENTS STAMPED "PLS 25381" AND BEARS N33°35'09"E A DISTANCE OF 733.37'. THE UNIT OF MEASUREMENT IS THE U.S. SURVEY FOOT.

**BENCHMARK(S)**

- NATIONAL GEODETIC VERTICAL DATUM OF 1929; BENCHMARK R-76 IS A DISK SET IN TOP OF A CONCRETE MONUMENT STAMPED "R 76 1935", IS PROJECTED ~0.25', AND IS LOCATED ~160' SOUTH OF THE CENTER OF HWY 24 ON THE NORTH SIDE OF SPACE VILLAGE AVENUE ELEV:6286.32'
- #4 REBAR IN AIR LANE NEAR ELECTRIC VAULT ON HILL TOP  
N: 57321.99  
E: 39206.06  
ELEV: 6374.05'

**CITY OF COLORADO SPRINGS GRADING & EROSION CONTROL REVIEW:**

THIS GRADING PLAN IS FILED IN ACCORDANCE CITY CODE. THIS PLAN IS REVIEWED IN ACCORDANCE WITH THE STORMWATER CONSTRUCTION MANUAL; LATEST REVISIONS

FOR THE SWENT MANAGER \_\_\_\_\_ DATE \_\_\_\_\_

NOTES: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

APPLICANT REPRESENTS AND WARRANTS THAT THEY HAVE THE LEGAL AUTHORITY TO GRADE AND/OR CONSTRUCT IMPROVEMENTS ON ADJACENT PROPERTY. THE CITY HAS NOT REVIEWED THE DEVELOPERS AUTHORITY TO MODIFY THE ADJACENT PROPERTY.

**AGENCIES**

OWNER:	COLORADO SPRINGS EQUITIES LLC 90 SOUTH CASCADE, SUITE 1500 COLORADO SPRINGS, CO 80903 DANNY MIENKA (719) 475-7621
CIVIL ENGINEER:	M & S CIVIL CONSULTANTS, INC. 212 N. WAHSATCH AVENUE, SUITE 305 COLORADO SPRINGS, CO 80903 VIRGIL A. SANCHEZ P.E. (719) 491-0818
ENGINEERING DIVISION:	CITY OF COLORADO SPRINGS 30 S. NEVADA AVE., SUITE 401 COLORADO SPRINGS, CO 80903 PATRICK MORRIS (719) 385-5075
TRAFFIC ENGINEERING:	CITY OF COLORADO SPRINGS 30 S. NEVADA AVE., SUITE 401 COLORADO SPRINGS, CO 80903 ZAKER ALAZZEH (719) 385-5468
DEVELOPMENT SERVICES:	COLORADO SPRINGS UTILITIES 1521 HANCOCK EXPRESSWAY COLORADO SPRINGS, CO 80903 MIKE GACKLE (719) 668-8262
GAS DEPARTMENT:	COLORADO SPRINGS UTILITIES 7710 DURANT DR. COLORADO SPRINGS, CO 80947 TIM WENDT (719) 668-3556
ELECTRIC DEPARTMENT:	COLORADO SPRINGS UTILITIES 7710 DURANT DR. COLORADO SPRINGS, CO 80920 SARAH LABARRE (719) 668-4933
COMMUNICATIONS:	QWEST COMMUNICATIONS (U.N.C.C. LOCATORS) (800) 922-1987 AT&T (LOCATORS) (719) 635-3674

**CROSSROADS NORTH: CITY PROPERTY**

(5) EA INLET PROTECTION @ \$110.00/EA	\$ 550.00
(1) VT DEVICES @ \$1325.00/EA	\$ 1325.00
(14) STRAW BALES @ \$18.00/EA	\$ 252.00
(19) ACRES RESEEDING @ \$525.00/AC	\$ 9,975.00
(669) LF SILT FENCE @ \$2.50/LF	\$ 1,672.50
(0) CONCRETE WASHOUT AREA \$760/EA	\$ 0.00
(2) TEMPORARY SEDIMENT BASINS @ \$ 2,000.00/EA	\$ 4,000.00
<b>SUBTOTAL:</b>	<b>\$ 17,774.50</b>
MAINTENANCE 40%	\$ 7,109.80
<b>TOTAL:</b>	<b>\$ 24,884.30</b>

M&S CIVIL CONSULTANTS CANNOT AND DOES NOT GUARANTEE THAT THE CONSTRUCTION COST WILL NOT VARY FROM THESE OPTIONS OF PROBABLY CONSTRUCTION COST. THESE OPTIONS REPRESENT OUR BEST JUDGMENT AS A DESIGN PROFESSIONAL FAMILIAR WITH THE CONSTRUCTION INDUSTRY AND IN THIS DEVELOPMENT.

**GRADING PLAN / EROSION CONTROL STATEMENTS:**

**ENGINEER'S STATEMENT:**

THIS EROSION CONTROL/GRADING PLAN WAS PREPARED UNDER MY DIRECTION AND SUPERVISION AND IS CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF. IF INDICATED GRADING IS PERFORMED IN ACCORDANCE WITH THIS PLAN, THE WORK WILL NOT BECOME A HAZARD TO LIFE AND LIMB, ENDANGER PROPERTY, OR ADVERSELY AFFECT THE SAFETY, USE OR STABILITY OF A PUBLIC WAY, DRAINAGE CHANNEL OR OTHER PROPERTY.

VIRGIL A. SANCHEZ, COLORADO P.E. #37160 \_\_\_\_\_ DATE \_\_\_\_\_

**OWNER'S STATEMENT:**

THE OWNER WILL COMPLY WITH THE REQUIREMENTS OF THE GRADING AND EROSION CONTROL PLAN INCLUDING CONSTRUCTION CONTROL MEASURE INSPECTION REQUIREMENTS AND FINAL STABILIZATION REQUIREMENTS ACCORDING TO THE CITY OF COLORADO SPRINGS STORMWATER CONSTRUCTION MANUAL. I ACKNOWLEDGE THE RESPONSIBILITY TO DETERMINE WHETHER THE CONSTRUCTION ACTIVITIES ON THESE PLANS REQUIRE COLORADO DISCHARGE PERMIT SYSTEM (COPS) PERMITTING FOR STORMWATER DISCHARGES ASSOCIATED WITH CONSTRUCTION ACTIVITY.

OWNER SIGNATURE: \_\_\_\_\_ DATE: \_\_\_\_\_

NAME OF OWNER: DANNY MIENKA PHONE: (719)-475-7621

TITLE: OWNER/DEVELOPER EMAIL: DANNY@THEEQUITYGROUP.NET

ON BEHALF OF:

COLORADO SPRINGS EQUITIES LLC  
90 SOUTH CASCADE AVENUE, SUITE 1500  
COLORADO SPRINGS, CO 80903

**STATEMENT:**

THE CITY OF COLORADO SPRINGS RECOGNIZES THE DESIGN ENGINEER AS HAVING RESPONSIBILITY FOR THE DESIGN; THE CITY HAS LIMITED ITS SCOPE OF REVIEW ACCORDINGLY. RESUBMITTAL REQUIRED IF CONSTRUCTION HAS NOT COMMENCED WITHIN 180 DAYS AFTER APPROVAL DATE.



FOR BURIED UTILITY INFORMATION  
**48 HRS BEFORE YOU DIG**  
CALL 1-800-922-1987

<b>CROSSROADS NORTH</b>	
<b>EARLY GRADING &amp; EROSION CONTROL PLAN</b>	
PROJECT NO. 18-001	DATE: 03/24/22
DESIGNED BY: CW	SHEET 2 OF 9
DRAWN BY: CW	SCALE: N/A
CHECKED BY: VAS	VERTICAL: VAS
212 N. WAHSATCH AVE., STE 305 COLORADO SPRINGS, CO 80903 PHONE: 719.555.5485	
FOR AND ON BEHALF OF M&S CIVIL CONSULTANTS, INC.	
REVISIONS: 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.
<b>CAUTION</b>	

**LEGEND**

- (6920) --- EXISTING MAJOR CONTOUR
- (6918) --- EXISTING MINOR CONTOUR
- 6920 --- PROPOSED MAJOR CONTOUR
- 6918 --- PROPOSED MINOR CONTOUR
- FILING BOUNDARY LINE
- RIGHT-OF-WAY LINE
- PROPOSED PROPERTY LINE
- FUTURE PROPERTY LINE
- EXISTING PROPERTY LINE
- LIMITS OF DISTURBANCE/TEMPORARY SEEDING BOUNDARY
- PROPOSED STORM DRAIN
- EXISTING STORM DRAIN
- SWALE
- SEDIMENT BASIN TRIBUTARY AREA
- EXISTING FIBER OPTIC LINE
- EXISTING OVERHEAD ELECTRIC
- EXISTING LOT LINE
- EXISTING FENCE
- CUT/FILL LINE
- EXISTING LOT LINE
- UNDERGROUND ELECTRICAL
- EXISTING GAS LINE
- EXISTING WATERLINE
- L.P./H.P.
- (2.0)%
- FLOW DIRECTION ARROW
- PROPOSED SWALE
- EXISTING FLOW DIRECTION ARROW
- EXISTING SWALE/ROADSIDE DITCH
- EMERGENCY OVERFLOW DIRECTION
- RIPRAP TYP.
- INLET PROTECTION - INTERIM
- STRAW BALE DITCH CHECK - INTERIM
- TSB
- SF
- VTC
- TRM
- INLET
- LOW POINT/HIGH POINT
- FLOW DIRECTION & SLOPE
- EXISTING UTILITY POLE
- EX. STORM INLET
- EX. IRRIGATION VALVE
- EX. STORM INLET
- EX. GAS TEST NODE
- EX. TRAFFIC SIGNAL CONTROL BOX
- EX. ELECTRIC VAULT
- EX. SANITARY MANHOLE
- EX. WATER VALVE
- EXISTING WATER WELL
- EXISTING MONITORING WELL
- EX. TELEPHONE VAULT
- EX. ELECTRIC VAULT
- EX. ELECTRIC PEDESTAL
- EX. ELECTRIC METER
- EX. ELECTRIC TRANSFORMER
- EX. TELEPHONE PEDESTAL
- EX. FIBER OPTIC MANHOLE
- EX. ELECTRIC PEDESTAL
- EX. WATER MARKER
- EX. GAS MARKER
- EX. FIBER OPTIC MARKER
- EX. ELECTRIC MANHOLE
- EX. CABLE TV MARKER
- EX. SHRUB/TREE
- EX. WATER YARD HYDRANT

**CONSTRUCTION NOTES:**  
 ALL TEMPORARY RIPRAP SHOWN ON THE PLANS SHALL BE TYPE 'M'. RIPRAP SHALL BE PLACED IN THE LOCATIONS INDICATED BY THE PLAN OR IN AREAS AS THE CONTRACTOR SEES FIT TO CONTROL EROSION. ALL RIPRAP SHALL BE PLACED AT A MINIMUM THICKNESS OF 1.5' DEEP.  
 ALL TEMPORARY STORM SEWER SHOWN ON PLANS SHALL BE 24" DIA. HP POLYPROPYLENE BY ADS OR APPROVED EQUAL. ALL PIPE SHALL BE LAID TO ACHIEVE A MIN. SLOPE OF 0.5%.  
 CONTRACTOR SHALL PROTECT ALL AREAS OUTSIDE OF THE CONSTRUCTION LIMITS WITH SILT FENCE OR OTHER METHOD TO PROTECT UNDISTURBED AREAS FROM EROSION.

**ADDITIONAL NOTES:**  
 STAGING, STORAGE, STOCKPILE, AND WASHOUT AREAS 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.  
 ALL TEMPORARY OR PERMANENT GRADING DISTURBANCES SHALL BE RE-SEEDED AND MULCHED PER EL PASO COUNTY CRITERIA AND SPECIFICATIONS.  
 EXISTING VEGETATION CONSISTS OF SPARSE, NATIVE GRASSES AND SHRUBS.

**SEDIMENT BASIN TABLE**

SEDIMENT BASIN NO.	UPSTREAM DRAINAGE AREA AC.	BASIN WIDTH FT.	BASIN LENGTH FT.	ANTIC. WATER HT FT.	MAX REQ'D VOLUME C.F.	SPILLWAY LENGTH FT.	HOLE DIA. IN.	ROWS OF HOLES IN STANDPIPE
1	11	61	122	3	42,888	16	31/32	1
2	12	64	128	3	46,464	18	1	1
3	11	61	122	3	42,888	16	31/32	1

RIPRAP DESIGNATION	% SMALLER THAN GIVEN SIZE BY WEIGHT	INTERMEDIATE ROCK DIMENSION (INCHES)	D <sub>50</sub> (INCHES)
TYPE VL	70 - 100 50 - 70 35 - 50 2 - 10	12 9 6 2	6
TYPE L	70 - 100 50 - 70 35 - 50 2 - 10	15 12 9 3	9
TYPE M	70 - 100 50 - 70 35 - 50 2 - 10	21 18 12 4	12
TYPE H	70 - 100 50 - 70 35 - 50 2 - 10	30 24 18 6	18

\*D<sub>50</sub> = MEAN ROCK SIZE

**RIP RAP GRADATION TABLE**

Why is the project adding additional berm along the east side of the ditch?  
 Provide additional information regarding the proposed berm, preferably as a typical cross section. Identify the side slope, max height, crest width.  
 Note: Coordinate with CDOT to obtain approval and necessary permit for offsite work within CDOT ROW.

maintenance access roads are not required for TSBs and location may need to be adjusted following final EDB design (typ.).

Provide details of temporary sediment basin including riser pipe diameter and perforation sizing, number of rows of holes, required volume, location of outlet pipe and spillway, and tributary area to the sediment basin. (typ.)

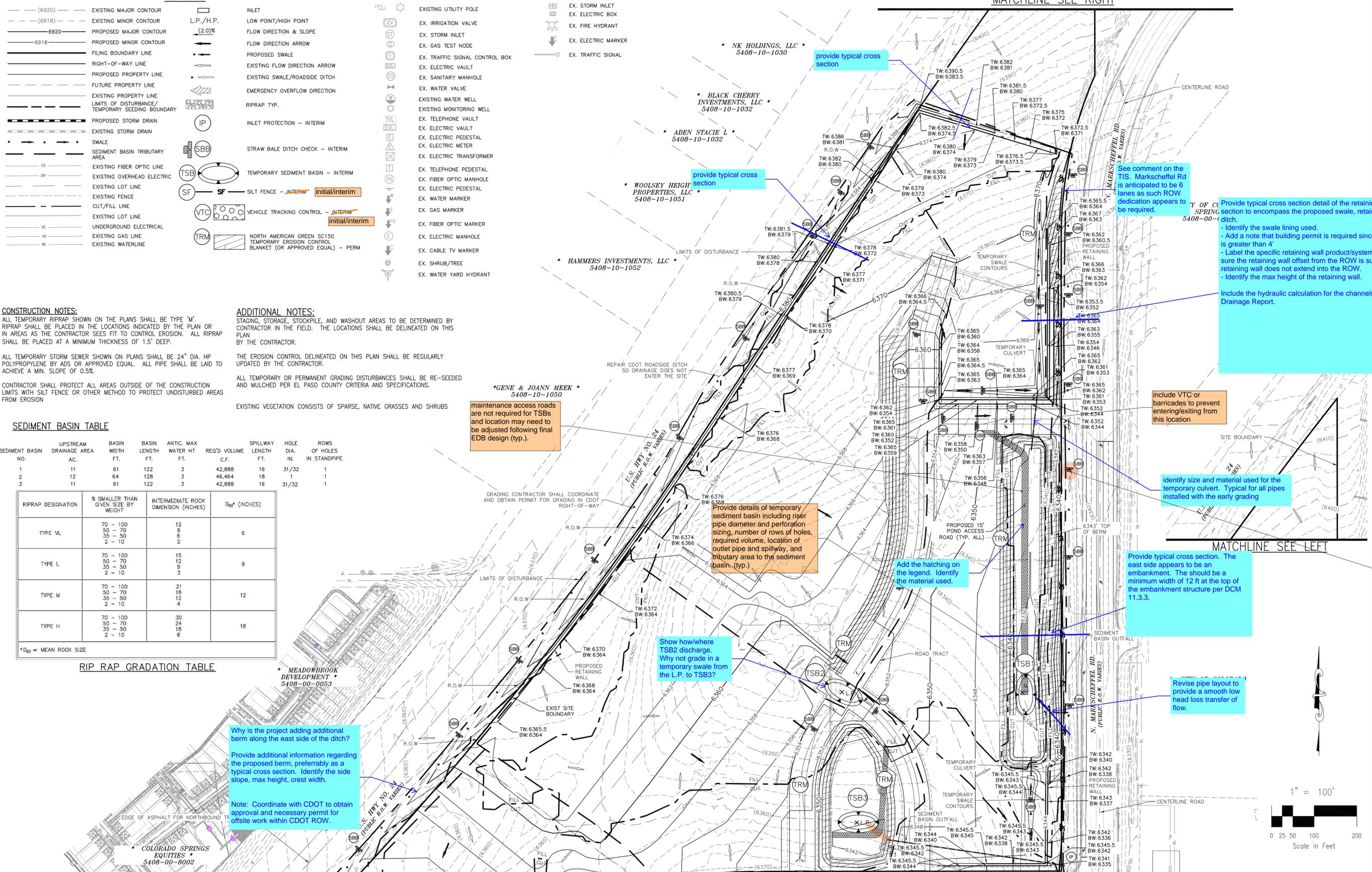
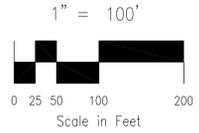
Show how/where TSB2 discharge. Why not grade in a temporary swale from the L.P. to TSB3?

Add the hatching on the legend. Identify the material used.

Provide typical cross section. The east side appears to be an embankment. There should be a minimum width of 12 ft at the top of the embankment structure per DCM 11.3.3.

Revise pipe layout to provide a smooth low head loss transfer of flow.

show how outfall pipe connects to TSB or move TSB to incorporate outfall pipe within the sediment basin



See comment on the TIS. Markscheffel Rd is anticipated to be 6 lanes as such ROW dedication appears to be required.

Provide typical cross section detail of the retaining wall. Cross section to encompass the proposed swale, retaining wall, roadside ditch.  
 - Identify the swale lining used.  
 - Add a note that building permit is required since the retaining wall is greater than 4'  
 - Label the specific retaining wall product/system proposed. Make sure the retaining wall offset from the ROW is sufficient so the retaining wall does not extend into the ROW.  
 - Identify the max height of the retaining wall.

Include the hydraulic calculation for the channels in the EGP Final Drainage Report.

include VTC or barricades to prevent entering/exiting from this location

identify size and material used for the temporary culvert. Typical for all pipes installed with the early grading

**CROSSROADS NORTH**

**GRADING & EROSION CONTROL PLAN**

DATE: 03/24/2022  
 SCALE: HORIZONTAL: 1"=100'  
 VERTICAL: N/A

SHEET 3 OF 9  
**GR03**

DRAWN BY: CWW  
 CHECKED BY: VAS

**CIVIL CONSULTANTS, INC.**

FOR AND ON BEHALF OF MARKS & MERRILL CONSULTANTS, INC.

we've seen a lot of erosion issues with straw bales in swales and recommend using straw wattles instead. Stacking 3 in the shape of a pyramid will give you additional height in order to space the wattles further apart. (typ.)

FOR LOCATING & MARKING GAS, ELECTRIC, WATER & TELEPHONE LINES

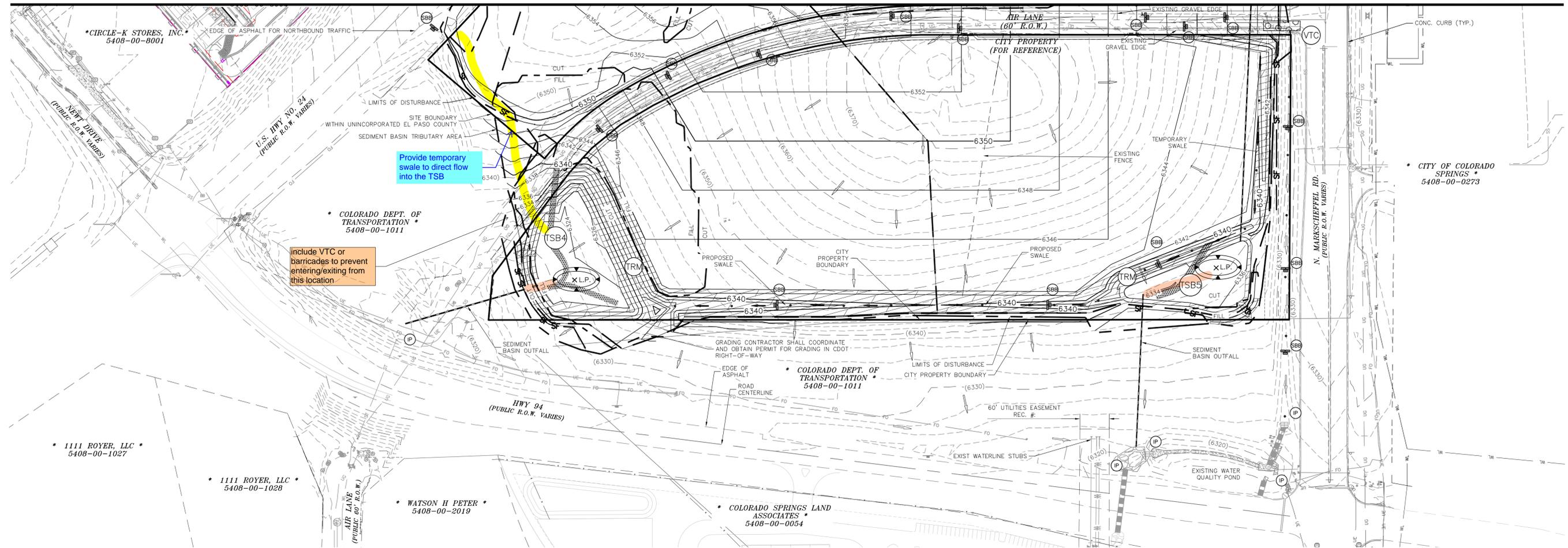
FOR BURIED UTILITY INFORMATION 48 HRS BEFORE YOU DIG CALL 1-800-922-1987

REVISIONS: 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

MATCHLINE SEE SHEET GR03



Provide temporary swale to direct flow into the TSB

include VTC or barricades to prevent entering/exiting from this location

**ADDITIONAL NOTES:**

STAGING, STORAGE, STOCKPILE, AND WASHOUT AREAS 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.

ALL TEMPORARY OR PERMANENT GRADING DISTURBANCES SHALL BE RE-SEEDING AND MULCHED PER CITY OF COLORADO SPRINGS DCM CRITERIA AND SPECIFICATIONS.

EXISTING VEGETATION CONSISTS OF SPARSE, NATIVE GRASSES AND SHRUBS

**CONSTRUCTION NOTES:**

ALL TEMPORARY RIPRAP SHOWN ON THE PLANS SHALL BE TYPE 'M'. RIPRAP SHALL BE PLACED IN THE LOCATIONS INDICATED BY THE PLAN OR IN AREAS AS THE CONTRACTOR SEES FIT TO CONTROL EROSION. ALL RIPRAP SHALL BE PLACED AT A MINIMUM THICKNESS OF 1.5' DEEP.

ALL TEMPORARY STORM SEWER SHOWN ON PLANS SHALL BE 24" DIA. HP POLYPROPYLENE BY ADS OR APPROVED EQUAL. ALL PIPE SHALL BE LAID TO ACHIEVE A MIN. SLOPE OF 0.5%.

CONTRACTOR SHALL PROTECT ALL AREAS OUTSIDE OF THE CONSTRUCTION LIMITS WITH SILT FENCE OR OTHER METHOD TO PROTECT UNDISTURBED AREAS FROM EROSION.

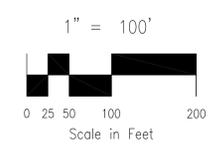
**SEDIMENT BASIN TABLE**

SEDIMENT BASIN NO.	UPSTREAM DRAINAGE AREA AC.	Basin Width FT.	Basin Length FT.	Antic. Max Water HT FT.	Req'd Volume C.F.	Spillway Length FT.	Hole Dia. IN.	Rows of Holes in Standpipe
4	14	70.5	141	3	54,706	21	1 1/8	1
5	12	64	128	3	46,464	18	1	1

- (6920) --- EXISTING MAJOR CONTOUR
- (6918) --- EXISTING MINOR CONTOUR
- 6920--- PROPOSED MAJOR CONTOUR
- 6918--- PROPOSED MINOR CONTOUR
- FILING BOUNDARY LINE
- RIGHT-OF-WAY LINE
- PROPOSED PROPERTY LINE
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- LIMITS OF DISTURBANCE/ TEMPORARY SEEDING BOUNDARY
- PROPOSED STORM DRAIN
- EXISTING STORM DRAIN
- SWALE
- SEDIMENT BASIN TRIBUTARY AREA
- EXISTING FIBER OPTIC LINE
- EXISTING OVERHEAD ELECTRIC
- EXISTING LOT LINE
- EXISTING FENCE
- CUT/FILL LINE
- EXISTING LOT LINE
- UNDERGROUND ELECTRICAL
- EXISTING GAS LINE
- EXISTING WATERLINE

**LEGEND**

- [Symbol] INLET
- [Symbol] L.P./H.P. (2.0) LOW POINT/HIGH POINT
- [Symbol] FLOW DIRECTION & SLOPE
- [Symbol] FLOW DIRECTION ARROW
- [Symbol] PROPOSED SWALE
- [Symbol] EXISTING FLOW DIRECTION ARROW
- [Symbol] EXISTING SWALE/ROADSIDE DITCH
- [Symbol] EMERGENCY OVERFLOW DIRECTION
- [Symbol] RIPRAP TYP.
- [Symbol] CWA CONCRETE WASHOUT AREA - INTERIM
- [Symbol] IP INLET PROTECTION - INTERIM
- [Symbol] SBB STRAW BALE DITCH CHECK - INTERIM
- [Symbol] TSB TEMPORARY SEDIMENT BASIN - INTERIM
- [Symbol] SF SILT FENCE - INTERIM
- [Symbol] VTC VEHICLE TRACKING CONTROL - INTERIM
- [Symbol] TRM NORTH AMERICAN GREEN SC150 TEMPORARY EROSION CONTROL BLANKET (OR APPROVED EQUAL) - PERM
- [Symbol] EXISTING UTILITY POLE
- [Symbol] EX. IRRIGATION VALVE
- [Symbol] EX. STORM INLET
- [Symbol] EX. GAS TEST NODE
- [Symbol] EX. TRAFFIC SIGNAL CONTROL BOX
- [Symbol] EX. ELECTRIC VAULT
- [Symbol] EX. SANITARY MANHOLE
- [Symbol] EX. WATER VALVE
- [Symbol] EXISTING WATER WELL
- [Symbol] EXISTING MONITORING WELL
- [Symbol] EX. TELEPHONE VAULT
- [Symbol] EX. ELECTRIC VAULT
- [Symbol] EX. ELECTRIC PEDESTAL
- [Symbol] EX. ELECTRIC METER
- [Symbol] EX. ELECTRIC TRANSFORMER
- [Symbol] EX. TELEPHONE PEDESTAL
- [Symbol] EX. FIBER OPTIC MANHOLE
- [Symbol] EX. ELECTRIC PEDESTAL
- [Symbol] EX. WATER MARKER
- [Symbol] EX. GAS MARKER
- [Symbol] EX. FIBER OPTIC MARKER
- [Symbol] EX. ELECTRIC MANHOLE
- [Symbol] EX. CABLE TV MARKER
- [Symbol] EX. SHRUB/TREE
- [Symbol] EX. WATER YARD HYDRANT
- [Symbol] EX. STORM INLET
- [Symbol] EX. ELECTRIC BOX
- [Symbol] EX. FIRE HYDRANT
- [Symbol] EX. ELECTRIC MARKER
- [Symbol] EX. TRAFFIC SIGNAL
- [Symbol] UNKNOWN MANHOLE



FOR LOCATING & MARKING GAS, ELECTRIC, WATER & TELEPHONE LINES

FOR BURIED UTILITY INFORMATION 48 HRS BEFORE YOU DIG CALL 1-800-922-1987

**CROSSROADS NORTH**

**EARLY GRADING & EROSION CONTROL PLAN**

PROJECT NO. 18-001      DATE: 03/24/2022

SCALE: HORIZONTAL: 1"=100'      VERTICAL: N/A

DESIGNED BY: CWV      DRAWN BY: CWV      CHECKED BY: VAS

212 N. WAHATCH AVE. STE 305  
 COLORADO SPRINGS, CO 80903  
 PHONE: 719.555.5485

**CIVIL CONSULTANTS, INC.**

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

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

NO.	DATE:	DESCRIPTION:

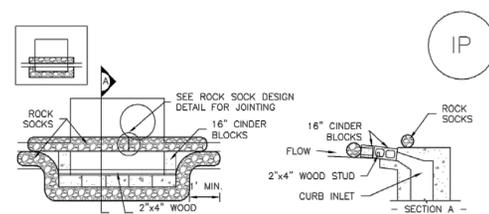
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**CAUTION**

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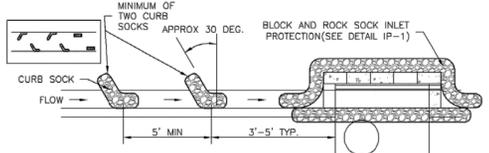
SC-6 Inlet Protection (IP)



IP-1. BLOCK AND ROCK SOCK SUMP OR ON GRADE INLET PROTECTION

**BLOCK AND CURB SOCK INLET PROTECTION INSTALLATION NOTES**

- SEE ROCK SOCK DESIGN DETAIL FOR INSTALLATION REQUIREMENTS.
- CONCRETE "CINDER" BLOCKS SHALL BE LAID ON THEIR SIDES AROUND THE INLET IN A SINGLE ROW, ABUTTING ONE ANOTHER WITH THE OPEN END FACING AWAY FROM THE CURB.
- GRAVEL BAGS SHALL BE PLACED AROUND CONCRETE BLOCKS, CLOSELY ABUTTING ONE ANOTHER AND JOINED TOGETHER IN ACCORDANCE WITH ROCK SOCK DESIGN DETAIL.



IP-2. CURB ROCK SOCKS UPSTREAM OF INLET PROTECTION

**CURB ROCK SOCK INLET PROTECTION INSTALLATION NOTES**

- SEE ROCK SOCK DESIGN DETAIL INSTALLATION REQUIREMENTS.
- PLACEMENT OF THE SOCK SHALL BE APPROXIMATELY 30 DEGREES FROM PERPENDICULAR IN THE OPPOSITE DIRECTION OF FLOW.
- SOCKS ARE TO BE FLUSH WITH THE CURB AND SPACED A MINIMUM OF 5 FEET APART.
- AT LEAST TWO CURB SOCKS IN SERIES ARE REQUIRED UPSTREAM OF ON-GRADE INLETS.

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SC-6 Inlet Protection (IP)

**GENERAL INLET PROTECTION INSTALLATION NOTES**

- SEE PLAN VIEW FOR:
  - LOCATION OF INLET PROTECTION.
  - TYPE OF INLET PROTECTION (IP-1, IP-2, IP-3, IP-4, IP-5, IP-6)
- 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.
- 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.

**INLET PROTECTION 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 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.
- 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.
- WHEN INLET PROTECTION AT AREA INLETS IS REMOVED, THE DISTURBED AREA SHALL BE COVERED WITH TOP SOIL, SEEDED 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)

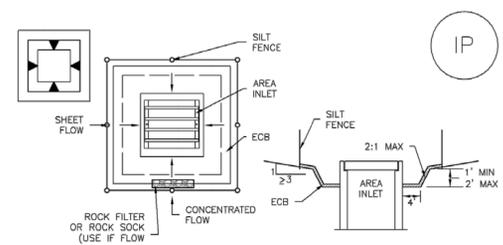
NOTE: MANY JURISDICTIONS HAVE BMP DETAILS THAT VARY FROM UDFCD STANDARD DETAILS. CONSULT WITH LOCAL JURISDICTIONS AS TO WHICH DETAIL SHOULD BE USED WHEN DIFFERENCES ARE NOTED.

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. UDFCD 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.

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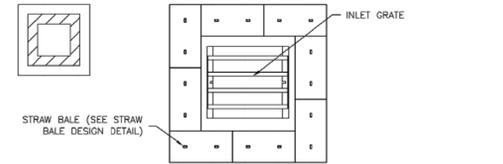
SC-6 Inlet Protection (IP)



IP-5. OVEREXCAVATION INLET PROTECTION

**OVEREXCAVATION INLET PROTECTION INSTALLATION NOTES**

- 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.
- WHEN USING FOR CONCENTRATED FLOWS, SHAPE BASIN IN 2:1 RATIO WITH LENGTH ORIENTED TOWARDS DIRECTION OF FLOW.
- SEDIMENT MUST BE PERIODICALLY REMOVED FROM THE OVEREXCAVATED AREA.



IP-6. STRAW BALE FOR SUMP INLET PROTECTION

**STRAW BALE BARRIER INLET PROTECTION INSTALLATION NOTES**

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

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SC-6 Inlet Protection (IP)

- IP-3. Rock Sock Inlet Protection for Sump/Area Inlet
- IP-4. Silt Fence Inlet Protection for Sump/Area Inlet
- IP-5. Over-excavation Inlet Protection
- IP-6. Straw Bale Inlet Protection for Sump/Area Inlet

CIP-1. Culvert Inlet Protection

Propriety inlet protection devices should be installed in accordance with manufacturer specifications.

More information is provided below on selecting inlet protection for sump and on-grade locations.

**Inlets Located in a Sump**

When applying inlet protection in sump conditions, it is important that the inlet continue to function during larger runoff events. For curb inlets, the maximum height of the protective barrier should be lower than the top of the curb opening to allow overflow into the inlet during larger storms without excessive localized flooding. If the inlet protection height is greater than the curb elevation, particularly if the filter becomes clogged with sediment, runoff will not enter the inlet and may bypass it, possibly causing localized flooding, public safety issues, and downstream erosion and damage from bypassed flows.

Area inlets located in a sump setting can be protected through the use of silt fence, concrete block and rock socks (on paved surfaces), sediment control logs/straw wattles embedded in the adjacent soil and stacked around the area inlet (on pervious surfaces), over-excavation around the inlet, and proprietary products providing equivalent functions.

**Inlets Located on a Slope**

For curb and gutter inlets on paved sloping streets, block and rock sock inlet protection is recommended in conjunction with curb socks in the gutter leading to the inlet. For inlets located along unpaved roads, also see the Check Dam Fact Sheet.

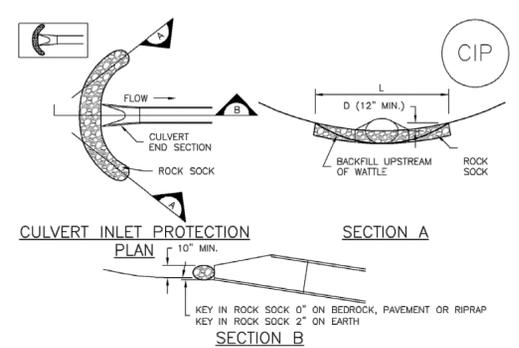
**Maintenance and Removal**

Inspect inlet protection frequently. Inspection and maintenance guidance includes:

- Inspect for tears that can result in sediment directly entering the inlet, as well as result in the contents of the BMP (e.g., gravel) washing into the inlet.
- Check for improper installation resulting in untreated flows bypassing the BMP and directly entering the inlet or bypassing to an unprotected downstream inlet. For example, silt fence that has not been properly trenched around the inlet can result in flows under the silt fence and directly into the inlet.
- Look for displaced BMPs that are no longer protecting the inlet. Displacement may occur following larger storm events that wash away or reposition the inlet protection. Traffic or equipment may also crush or displace the BMP.
- Monitor sediment accumulation upgradient of the inlet protection.

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Inlet Protection (IP) SC-6



CIP-1. CULVERT INLET PROTECTION

**CULVERT INLET PROTECTION INSTALLATION NOTES**

- SEE PLAN VIEW FOR:
  - LOCATION OF CULVERT INLET PROTECTION.
- SEE ROCK SOCK DESIGN DETAIL FOR ROCK GRADATION REQUIREMENTS AND JOINING DETAIL.

**CULVERT INLET PROTECTION 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 THE CULVERT SHALL BE REMOVED WHEN THE SEDIMENT DEPTH IS 1/2 THE HEIGHT OF THE ROCK SOCK.
- CULVERT INLET PROTECTION SHALL REMAIN IN PLACE UNTIL THE UPSTREAM DISTURBED AREA IS PERMANENTLY STABILIZED AND APPROVED BY THE LOCAL JURISDICTION.

(DETAILS ADAPTED FROM 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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Inlet Protection (IP) SC-6

- Remove sediment accumulation from the area upstream of the inlet protection, as needed to maintain BMP effectiveness, typically when it reaches no more than half the storage capacity of the inlet protection. For silt fence, remove sediment when it accumulates to a depth of no more than 6 inches. Remove sediment accumulation from the area upstream of the inlet protection as needed to maintain the functionality of the BMP.
  - Propriety inlet protection devices should be inspected and maintained in accordance with manufacturer specifications. If proprietary inlet insert devices are used, sediment should be removed in a timely manner to prevent devices from breaking and spilling sediment into the storm drain.
- Inlet protection must be removed and properly disposed of when the drainage area for the inlet has reached final stabilization.

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CROSSROADS NORTH  
GRADING & EROSION CONTROL PLAN  
PROJECT NO. 18-001  
SCALE: HORIZONTAL: N/A VERTICAL: N/A  
DATE: 03/24/2022  
DESIGNED BY: CWV  
DRAWN BY: CWV  
CHECKED BY: VAS  
SHEET 6 OF 9  
GR06

212 N. WAHATCH AVE., STE 305  
COLORADO SPRINGS, CO 80903  
PHONE: 719.555.5485

CIVIL CONSULTANTS, INC.

FOR AND ON BEHALF OF M&S CIVIL CONSULTANTS, INC.  
MIRCIU A. SANCHEZ, COLORADO P.E. NO. 37760

NO.	DATE	BY	DESCRIPTION	APPROVED BY	DATE

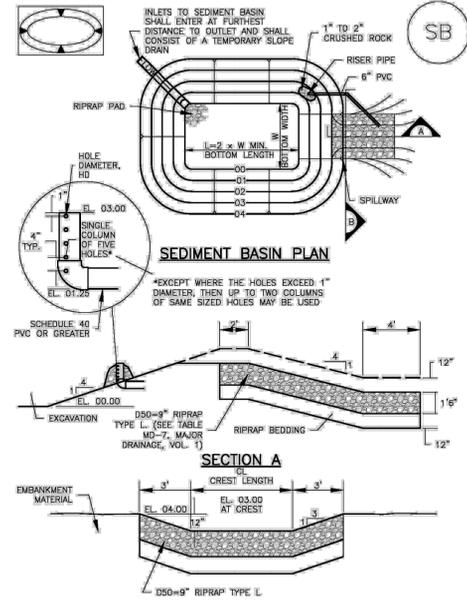
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CAUTION



**Sediment Basin (SB)**

SC-7



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**SC-7**

**Sediment Basin (SB)**

Upstream Drainage Area (rounded to nearest acre), (ac)	Basin Bottom Width (W), (ft)	Spillway Crest Length (CL), (ft)	Hole Diameter (HD), (in)
1	12 1/2	2	3/4
2	21	3	1 1/4
3	28	5	1 3/4
4	33 1/2	6	1 3/4
5	38 1/2	8	2 1/4
6	43	9	2 1/4
7	47 1/2	11	2 1/2
8	51	12	2 1/2
9	55 1/2	13	2 1/2
10	59 1/2	15	2 1/2
11	61	16	2 1/2
12	64	18	2 1/2
13	67 1/2	19	1 3/4
14	70 1/2	21	1 3/4
15	73 1/2	22	1 3/4

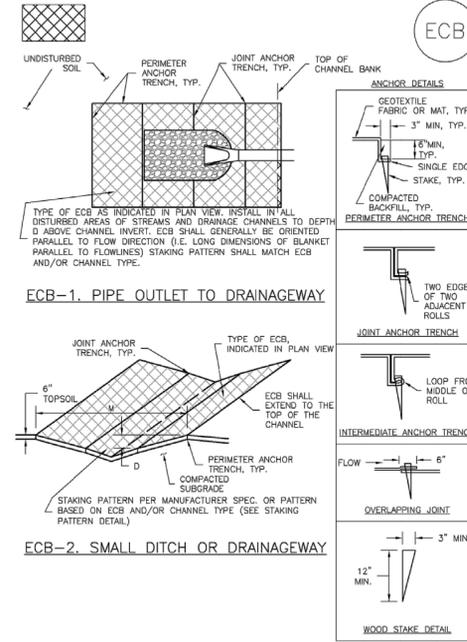
**SEDIMENT BASIN INSTALLATION NOTES**

- SEE PLAN VIEW FOR:
  - LOCATION OF SEDIMENT BASIN.
  - TYPE OF BASIN (STANDARD BASIN OR NONSTANDARD BASIN).
  - FOR STANDARD BASIN, BOTTOM WIDTH W, CREST LENGTH CL, AND HOLE DIAMETER, HD.
  - FOR NONSTANDARD BASIN, SEE CONSTRUCTION DRAWINGS FOR DESIGN OF BASIN INCLUDING RISER HEIGHT H, NUMBER OF COLUMNS N, HOLE DIAMETER HD AND PIPE DIAMETER D.
- FOR STANDARD BASIN, BOTTOM DIMENSION MAY BE MODIFIED AS LONG AS BOTTOM AREA IS NOT REDUCED.
- SEDIMENT BASINS SHALL BE INSTALLED PRIOR TO ANY OTHER LAND-DISTURBING ACTIVITY THAT RELIES ON BASINS AS A STORMWATER CONTROL.
- EMBANKMENT MATERIAL SHALL CONSIST OF SOIL FREE OF DEBRIS, ORGANIC MATERIAL, AND ROCKS OR CONCRETE GREATER THAN 3 INCHES AND SHALL HAVE A MINIMUM OF 15 PERCENT BY WEIGHT PASSING THE NO. 200 SIEVE.
- EMBANKMENT MATERIAL SHALL BE COMPACTED TO AT LEAST 95 PERCENT OF MAXIMUM DENSITY IN ACCORDANCE WITH ASTM D698.
- PIPE SCH 40 OR GREATER SHALL BE USED.
- THE DETAILS SHOWN ON THESE SHEETS PERTAIN TO STANDARD SEDIMENT BASIN(S) FOR DRAINAGE AREAS LESS THAN 15 ACRES. SEE CONSTRUCTION DRAWINGS FOR EMBANKMENT, STORAGE VOLUME, SPILLWAY, OUTLET, AND OUTLET PROTECTION DETAILS FOR ANY SEDIMENT BASIN(S) THAT HAVE BEEN INDIVIDUALLY DESIGNED FOR DRAINAGE AREAS LARGER THAN 15 ACRES.

SB-6 Urban Drainage and Flood Control District Urban Storm Drainage Criteria Manual Volume 3 August 2013

**EC-6**

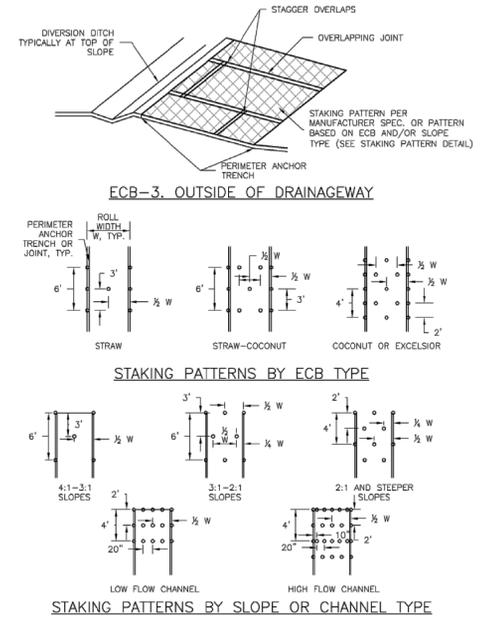
**Rolled Erosion Control Products (RECP)**



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

**Rolled Erosion Control Products (RECP)**

EC-6



RECP-7 Urban Drainage and Flood Control District Urban Storm Drainage Criteria Manual Volume 3 November 2010

**EC-6 Rolled Erosion Control Products (RECP)**

**EROSION CONTROL BLANKET INSTALLATION NOTES**

- SEE PLAN VIEW FOR:
  - LOCATION OF ECB.
  - TYPE OF ECB (STRAW, STRAW-COCONUT, COCONUT, OR EXCELSIOR).
  - AREA, A, IN SQUARE YARDS OF EACH TYPE OF ECB.
- 100% NATURAL AND BIODEGRADABLE MATERIALS ARE PREFERRED FOR RECPs, ALTHOUGH SOME JURISDICTIONS MAY ALLOW OTHER MATERIALS IN SOME APPLICATIONS.
- IN AREAS WHERE ECBs ARE SHOWN ON THE PLANS, THE PERMITEE SHALL PLACE TOPSOIL AND PERFORM FINAL GRADING, SURFACE PREPARATION, AND SEEDING AND MULCHING. SUBGRADE SHALL BE SMOOTH AND MOIST PRIOR TO ECB INSTALLATION AND THE ECB SHALL BE IN FULL CONTACT WITH SUBGRADE. NO GAPS OR VOIDS SHALL EXIST UNDER THE BLANKET.
- PERIMETER ANCHOR TRENCH SHALL BE USED ALONG THE OUTSIDE PERIMETER OF ALL BLANKET AREAS.
- JOINT ANCHOR TRENCH SHALL BE USED TO JOIN ROLLS OF ECBs TOGETHER (LONGITUDINALLY AND TRANSVERSELY) FOR ALL ECBs EXCEPT STRAW WHICH MAY USE AN OVERLAPPING JOINT.
- INTERMEDIATE ANCHOR TRENCH SHALL BE USED AT SPACING OF ONE-HALF ROLL LENGTH FOR COCONUT AND EXCELSIOR ECBs.
- OVERLAPPING JOINT DETAIL SHALL BE USED TO JOIN ROLLS OF ECBs TOGETHER FOR ECBs ON SLOPES.
- MATERIAL SPECIFICATIONS OF ECBs SHALL CONFORM TO TABLE ECB-1.
- ANY AREAS OF SEEDING AND MULCHING DISTURBED IN THE PROCESS OF INSTALLING ECBs SHALL BE RESEEDED AND MULCHED.
- DETAILS ON DESIGN PLANS FOR MAJOR DRAINAGWAY STABILIZATION WILL GOVERN IF DIFFERENT FROM THOSE SHOWN HERE.

TABLE ECB-1. ECB MATERIAL SPECIFICATIONS

TYPE	COCONUT CONTENT	STRAW CONTENT	EXCELSIOR CONTENT	RECOMMENDED NETTING*
STRAW*	-	100%	-	DOUBLE/NATURAL
STRAW-COCONUT	30% MIN	70% MAX	-	DOUBLE/NATURAL
COCONUT	100%	-	-	DOUBLE/NATURAL
EXCELSIOR	-	-	100%	DOUBLE/NATURAL

\*STRAW ECBs MAY ONLY BE USED IN AREAS OF STRAW AND DRAINAGE CHANNELS.  
\*\*ALTERNATE NETTING MAY BE ACCEPTABLE IN SOME JURISDICTIONS.

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**Sediment Basin (SB)**

SC-7

**SEDIMENT BASIN 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 IN BASIN SHALL BE REMOVED AS NEEDED TO MAINTAIN BMP EFFECTIVENESS, TYPICALLY WHEN SEDIMENT DEPTH REACHES ONE FOOT (I.E., TWO FEET BELOW THE SPILLWAY CREST).
  - SEDIMENT BASINS ARE TO REMAIN IN PLACE UNTIL THE UPSTREAM DISTURBED AREA IS STABILIZED AND GRASS COVER IS ACCEPTED BY THE LOCAL JURISDICTION.
  - WHEN SEDIMENT BASINS ARE REMOVED, ALL DISTURBED AREAS SHALL BE COVERED WITH TOPSOIL, SEEDED AND MULCHED OR OTHERWISE STABILIZED AS APPROVED BY LOCAL JURISDICTION.
- (DETAILS ADAPTED FROM DOUGLAS COUNTY, COLORADO)
- 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.

August 2013 Urban Drainage and Flood Control District Urban Storm Drainage Criteria Manual Volume 3 SB-7

CROSSROADS NORTH  
 GRADING & EROSION CONTROL DETAILS  
 PROJECT NO. 18-001  
 DATE: 03/24/2022  
 SCALE: N/A  
 HORIZONTAL: N/A  
 VERTICAL: N/A  
 DESIGNED BY: CW  
 DRAWN BY: CW  
 CHECKED BY: VAS  
 SHEET 9 OF 9  
 GR09

212 N. WAHATCH AVE., STE 303  
 COLORADO SPRINGS, CO 80903  
 PHONE: 719.555.5485

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

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

NO.	DATE	BY	DESCRIPTION

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CAUTION

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 FOR BURIED UTILITY INFORMATION  
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