



Know what's below.  
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# HAY CREEK VALLEY

## EL PASO COUNTY, COLORADO

# FINAL GRADING & EROSION CONTROL PLANS

## DECEMBER 2023

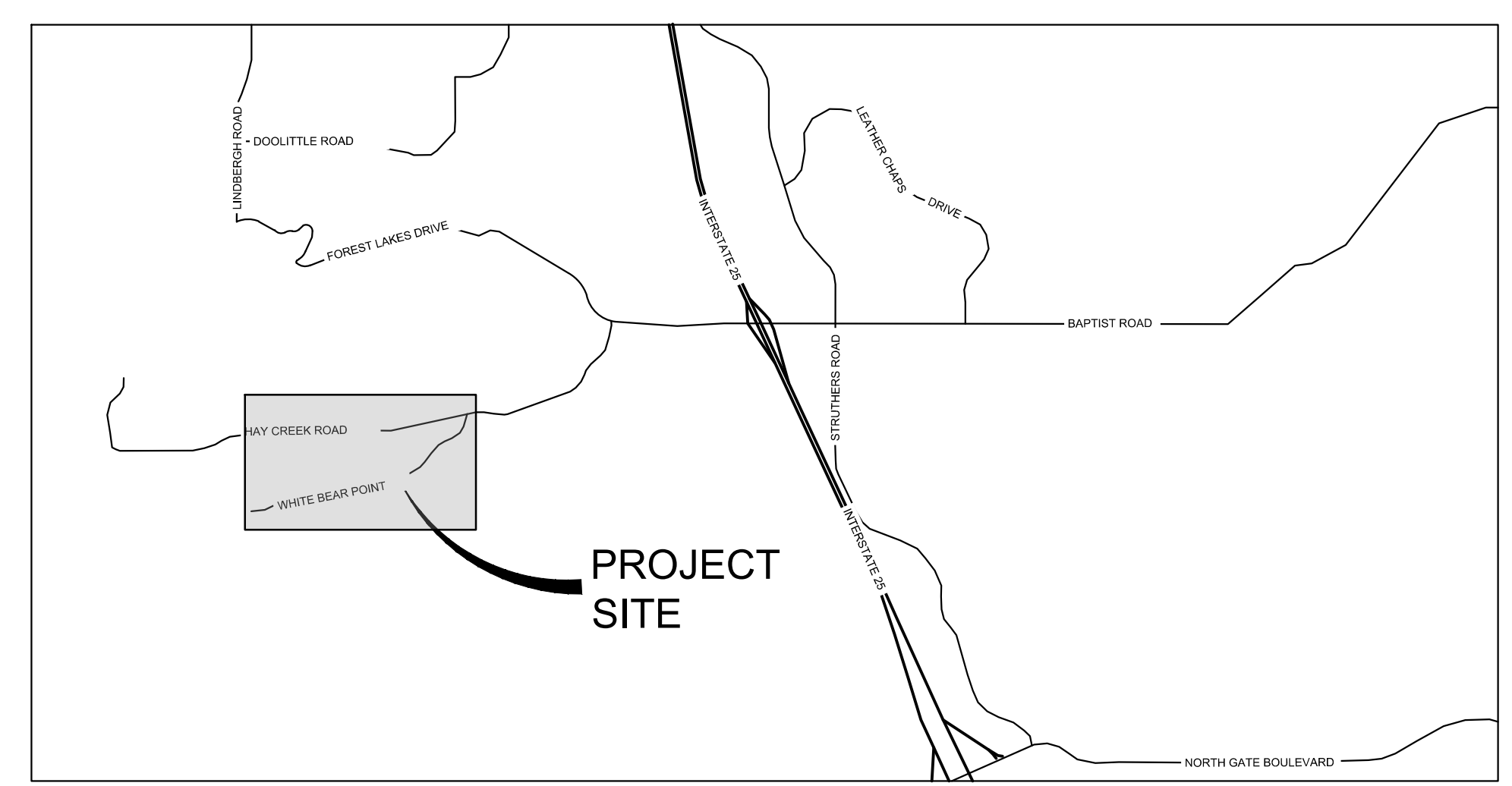
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**AGENCY CONTACT INFO**

<b>OWNER/DEVELOPER</b>	VIEW HOMES, INC. 555 MIDDLE CREEK PARKWAY, SUITE 500 COLORADO SPRINGS, CO 80921 TIM BUSCHAR, (719)-382-9433
<b>CIVIL ENGINEER</b>	MATRIX DESIGN GROUP 2435 RESEARCH PARKWAY, SUITE 300 COLORADO SPRINGS, CO 80920 (719)-575-0100
<b>ELECTRIC</b>	MOUNTAIN VIEW ELECTRIC ASSOCIATION 15706 JACKSON CREEK PARKWAY, SUITE 100 MONUMENT, CO 80132 GINA PERRY, (719) 494-2636
<b>GAS</b>	BLACK HILLS ENERGY 105 S VICTORIA AVENUE PUEBLO, CO 81003 (800) 303-0752
<b>ENGINEERING</b>	EL PASO COUNTY PUBLIC WORKS DEPARTMENT 3275 AKERS DRIVE COLORADO SPRINGS, CO 80922 (719) 520-6460
<b>TRAFFIC</b>	EL PASO COUNTY PUBLIC WORKS DEPARTMENT 3275 AKERS DRIVE COLORADO SPRINGS, CO 80922 (719) 520-6460
<b>DRAINAGE</b>	EL PASO COUNTY PUBLIC WORKS DEPARTMENT 3275 AKERS DRIVE COLORADO SPRINGS, CO 80922 (719) 520-6460
<b>FIRE DEPARTMENT</b>	MONUMENT FIRE DISTRICT 16055 OLD FOREST POINT, SUITE 102 MONUMENT, CO 80132 (719)-484-0911



**SITE MAP**  
1" = 500'



**VICINITY MAP**  
N.T.S.

**OWNER/DEVELOPER'S STATEMENT:**

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

NAME \_\_\_\_\_ DATE \_\_\_\_\_

TIM BUSCHAR, (719)-382-9433  
VIEW HOMES, INC.  
555 MIDDLE CREEK PARKWAY, SUITE 500  
COLORADO SPRINGS, CO 80921

**DESIGN 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.

BY: \_\_\_\_\_ DATE: \_\_\_\_\_

JEFFREY A. ODOR, PE #39265  
FOR AND ON BEHALF OF MATRIX DESIGN GROUP, INC.

**EL PASO COUNTY:**

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

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

IN ACCORDANCE WITH ECM SECTION 1.12, THESE CONSTRUCTION DOCUMENTS WILL BE VALID FOR CONSTRUCTION FOR A PERIOD OF 2 YEARS FROM THE DATE SIGNED BY THE EL PASO COUNTY ENGINEER. IF CONSTRUCTION HAS NOT STARTED WITHIN 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.

JOSHUA PALMER, P.E. \_\_\_\_\_ DATE \_\_\_\_\_  
COUNTY ENGINEER / ECM ADMINISTRATOR

PCD FILE #: SF2324

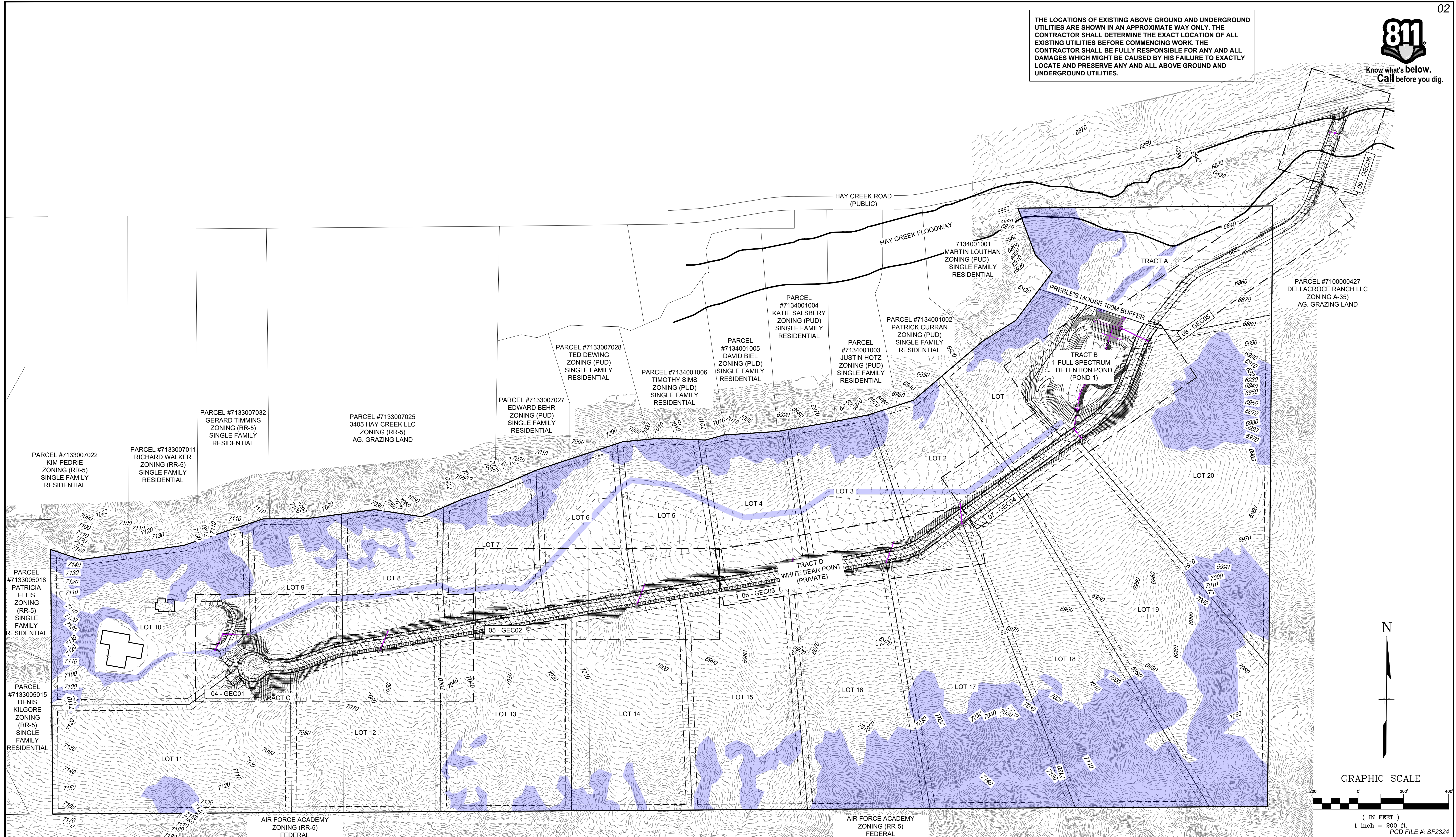
REFERENCE DRAWINGS	REVISIONS	SHEET KEY	BENCHMARK	PREPARED BY:	SEAL	HAY CREEK VALLEY											
X-TITLE-CD X-886-PR-SITE FEMA_X3 X-886-066-EX-MAP-1 164022-01 Hay Creek Road BMDY X-886-ALTA-SURVEY Hay Creek BFEs	<table border="1"> <thead> <tr> <th>No.</th> <th>DATE</th> <th>DESCRIPTION</th> <th>BY</th> </tr> </thead> <tbody> <tr> <td colspan="4" style="text-align: center;">REVISIONS</td> </tr> </tbody> </table>	No.	DATE	DESCRIPTION	BY	REVISIONS					PROJECT ELEVATIONS ARE NAVD 88 ELEVATIONS BASED ON AN OPUS DERIVED ELEVATION ON CONTROL POINT 10, A NO. 5 REBAR HAVING AN ELEVATION OF 5769.92.	MATRIX Excellence by Design	<b>PRELIMINARY</b> THIS DRAWING HAS NOT BEEN APPROVED BY GOVERNING AGENCIES AND IS SUBJECT TO CHANGE	<b>EL PASO COUNTY, COLORADO</b> <b>FINAL GRADING &amp; EROSION CONTROL PLANS</b>			
No.	DATE	DESCRIPTION	BY														
REVISIONS																	
<b>COMPUTER FILE MANAGEMENT</b>						<b>TITLE SHEET</b>											
FILE NAME: S:\22.886.076 Hay Creek-Forest Manor-O'Leary Properties\500 CADD\504 Plan Sets\Construction Plans\GEC Plan\TS01.dwg						DESIGNED BY: CVW	SCALE: N/A	DATE ISSUED: DECEMBER 2023	DRAWING No. TS01								
CTB FILE: Matrix.ctb						DRAWN BY: CVW	HORIZ: N/A	SHEET: 01 OF 12									
PLOT DATE: 12/5/2023 12:49 PM						CHECKED BY: JAO	VERT: N/A										
THIS DRAWING IS CURRENT AS OF PLOT DATE AND MAY BE SUBJECT TO CHANGE.						FOR AND ON BEHALF OF MATRIX DESIGN GROUP, INC. PROJECT No. 22.886.076											



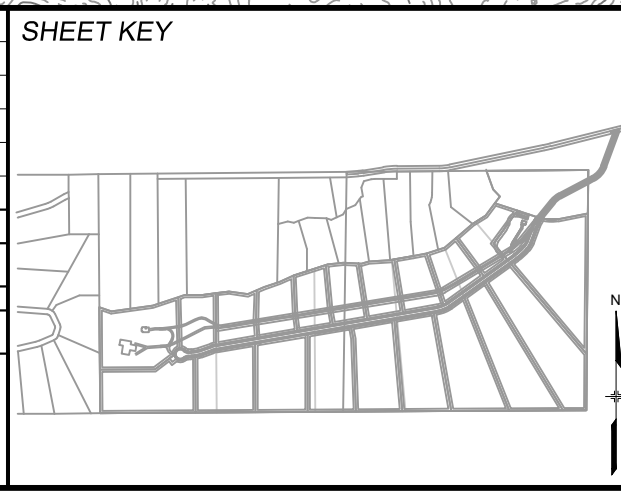


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FILE NAME: S:\22.886.076 Hay Creek-Forest Manor-O'Leary Properties\500 CADD\504 Plan Sets\Construction Plans\GEC Plan\TS01.dwg			
CTB FILE: Matrix.ctb			
PLOT DATE: 12/5/2023 12:49 PM			
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**BENCHMARK**  
PROJECT ELEVATIONS ARE NAVD 88 ELEVATIONS BASED ON AN OPUS DERIVED ELEVATION ON CONTROL POINT 10, A NO. 5 REBAR HAVING AN ELEVATION OF 5769.92.

**BASIS OF BEARING**  
THE SOUTH LINE OF THE NORTHWEST QUARTER OF SECTION 22, TOWNSHIP 15 SOUTH, RANGE 65 WEST OF THE 6TH PRINCIPAL MERIDIAN, COUNTY OF EL PASO, STATE OF COLORADO, BEING MONUMENTED ON THE EASTERLY END BY A 2-1/2" ALUMINUM CAP STAMPED "NOLTE PLS25955 C1/4 S22 T16S, R65W 1999, "AND THE WESTERLY END BY A 2-1/2" ALUMINUM CAP STAMPED "SSS PLS 16154 1/4 S21 S22 T15S, R65W 2000, "BEING ASSUMED TO BEAR S89°54'42"W, A DISTANCE OF 2,627.78 FEET.

PREPARED BY:

Excellence by Design

SEAL

**PRELIMINARY**  
THIS DRAWING HAS NOT BEEN APPROVED BY GOVERNING AGENCIES AND IS SUBJECT TO CHANGE

FOR AND ON BEHALF OF  
MATRIX DESIGN GROUP, INC.  
PROJECT No. 22.886.076

**HAY CREEK VALLEY**  
EL PASO COUNTY, COLORADO  
FINAL GRADING & EROSION CONTROL PLANS

**KEY MAP**

DESIGNED BY: CVW	SCALE: 1"=200'	DATE ISSUED: DECEMBER 2023	DRAWING No. GN01
DRAWN BY: CVW	HORIZ. N/A	SHEET 02 OF 12	
CHECKED BY: JAO	VERT. N/A		





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GENERAL CONSTRUCTION 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 (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.
- 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 LOOSENED 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, DATED SEPTEMBER 19, 2023, 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

NRCS SOIL SURVEY FOR EL PASO COUNTY

SOIL ID NO.	SOIL TYPE	HYDROLOGIC CLASSIFICATION
38	JARRE-TECOLOTE COMPLEX (8%-65% SLOPES)	B
71	PRING COARSE SANDY LOAM (3%-8% SLOPES)	B
93	TOMAH-CROWFOOT COMPLEX (8%-15% SLOPES)	B

TIMING

ANTICIPATED STARTING AND COMPLETION TIME PERIOD OF SITE GRADING:  
WINTER 2024 THRU FALL 2024

EXPECTED DATE ON WHICH THE FINAL STABILIZATION WILL BE COMPLETED:  
FALL 2024

AREAS

TOTAL DISTURBED AREA: 17.28 ACRES

RECEIVING WATERS

NAME OF RECEIVING WATERS  
HAY CREEK (ULTIMATE)

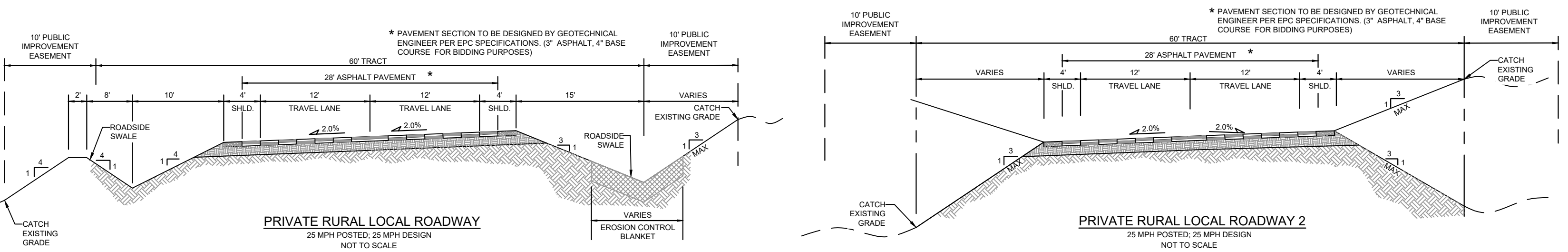
ENGINEER'S NOTES:

THE EXISTING VEGETATION CONSISTS OF MODERATELY DENSE NATIVE GRASSES AND SHRUBS. BASED ON SITE VISITS AND A REVIEW OF AERIAL PHOTOGRAPHY, THE VEGETATIVE COVER AT HAY CREEK VALLEY IS APPROXIMATELY 80%.

ABBREVIATIONS

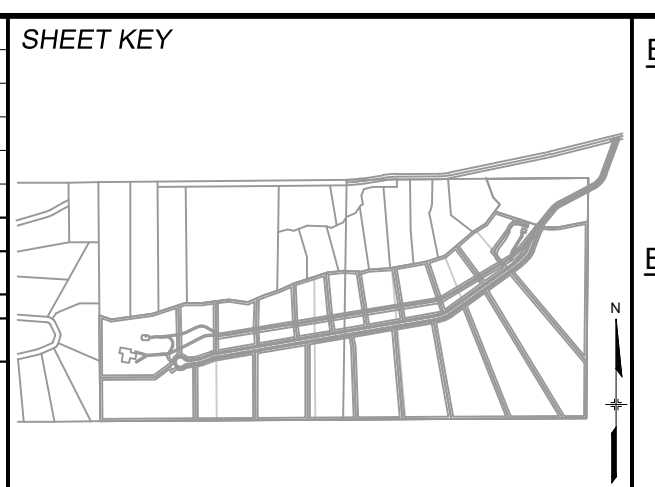
BOW	BOTTOM OF WALL	PL	PROPERTY LINE
EL	ELEVATION	PSI	POUNDS PER SQUARE INCH
EX	EXISTING	RCP	REINFORCED CONCRETE PIPE
HORIZ	HORIZONTAL	SHLDR	SHOULDER
INV	INVERT	TOW	TOP OF WALL
MIN	MINIMUM	TYP	TYPICAL
N,S,E,W	NORTH,SOUTH,EAST,WEST		

TYPICAL ROADWAY CROSS SECTIONS



PCD FILE #: SF2324

No.	DATE	DESCRIPTION	BY
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FOR AND ON BEHALF OF  
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PROJECT No. 22.886.076

PREPARED BY:  
**Matrix**  
Excellence by Design

**HAY CREEK VALLEY**

EL PASO COUNTY, COLORADO  
FINAL GRADING & EROSION CONTROL PLANS

**GENERAL NOTES**

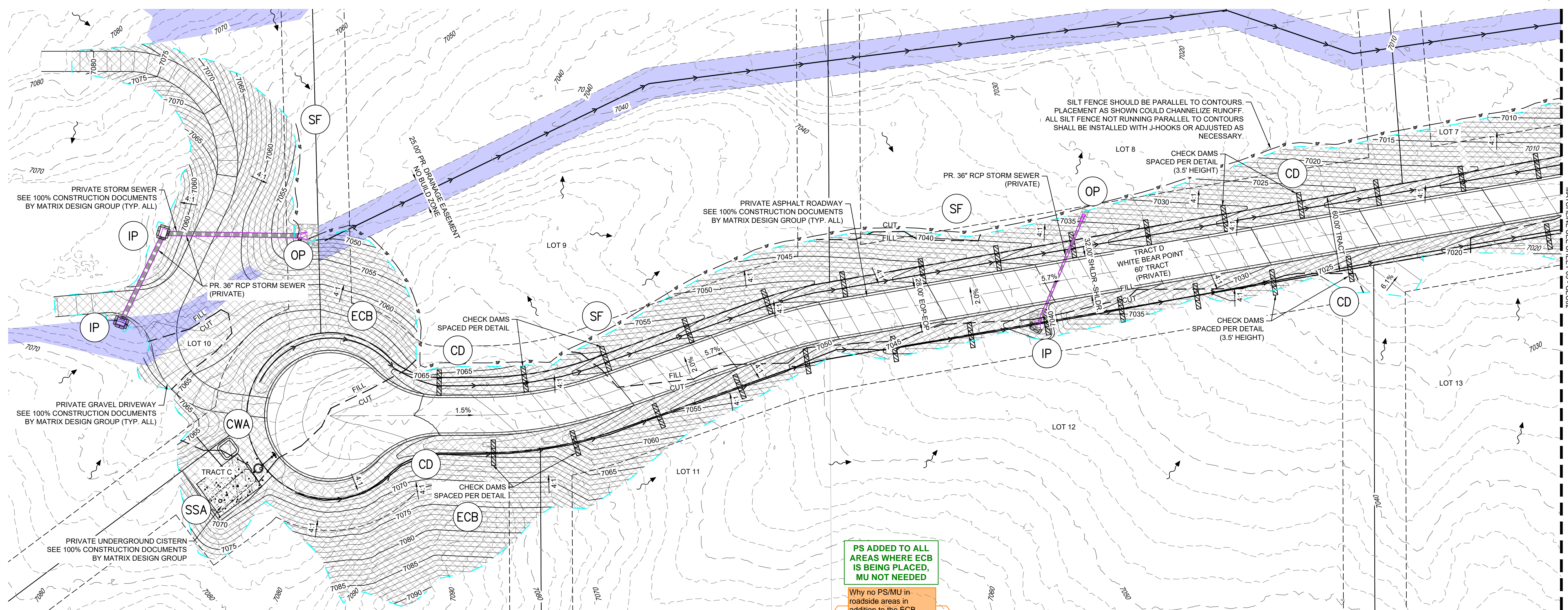
DESIGNED BY: CVW	SCALE	DATE ISSUED: DECEMBER 2023	DRAWING No.
DRAWN BY: CVW	HORIZ N/A	03 OF 12	GN02
CHECKED BY: JAO	VERT. N/A		





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PS ADDED TO ALL AREAS WHERE ECB IS BEING PLACED, MU NOT NEEDED

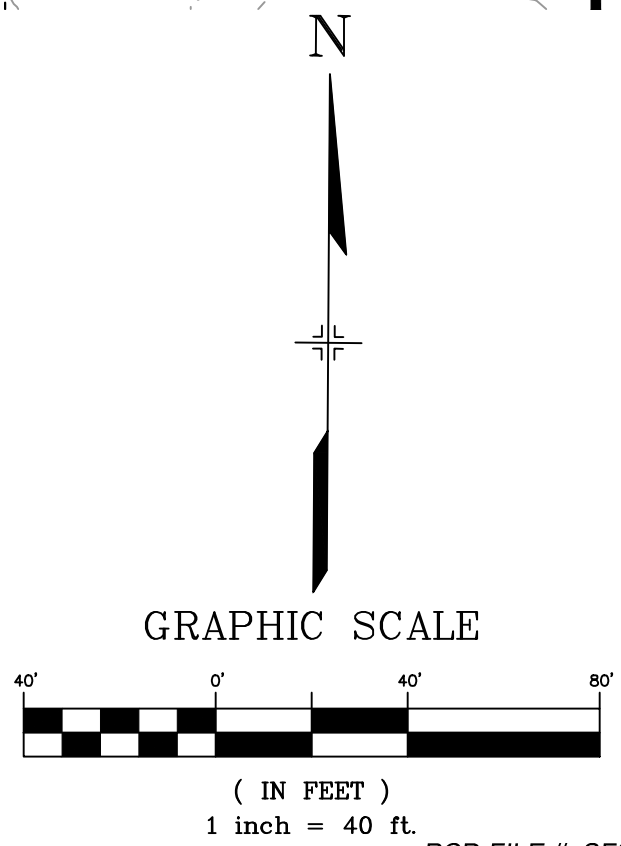
Why no PS/MU in roadside areas in addition to the ECB which is shown?

BMP SEQUENCING	
INITIAL	SILT FENCE, VEHICLE TRACKING, TEMP SEDIMENT BASINS
INTERIM	CHECK DAMS, CONCRETE WASHOUT, INLET/OUTLET PROTECTION, STOCKPILES, STAGING, ROUGH CUT STREET CONTROL
FINAL	EROSION CONTROL BLANKETS, SEEDING & MULCHING, PERMANENT CONTROL MEASURE(S)

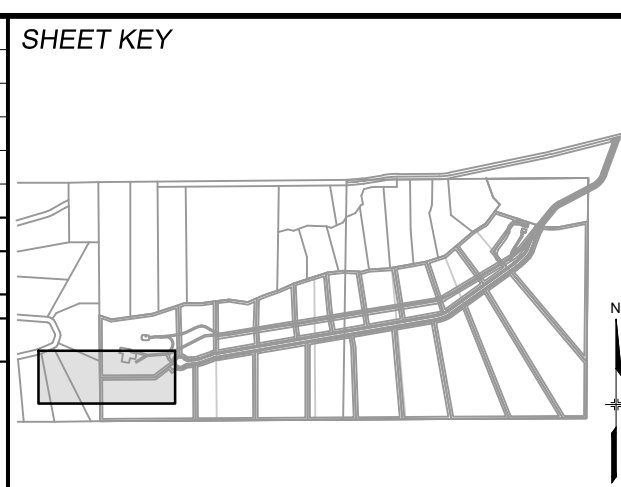
NOTES:  
1. SEE CHECK DAM (CD) DETAIL EC-12 ON SHEET ECN01 FOR SPACING.  
2. ALL EROSION CONTROL BLANKET SHALL BE INSPECTED 24-MONTHS AFTER INSTALLATION. EROSION CONTROL BLANKET MAY BE REQUIRED TO BE RE-INSTALLED PER MANUFACTURER SPECIFICATIONS.

### EROSION CONTROL LEGEND

SF	PERMANENT SEEDING	MU	MULCHING	5975	EXISTING CONTOURS
SF	SILT FENCE	TSB	TEMPORARY SEDIMENT BASIN	4:1	DRAINAGE SWALE
ECB	EROSION CONTROL BLANKET	CWA	CONCRETE WASHOUT		OVERLAND FLOW
OP	OUTLET PROTECTION	SSA	STOCKPILE MANAGEMENT / STABILIZED STAGING AREA		LIMITS OF DISTURBANCE/ CONSTRUCTION SITE BOUNDARY
IP	INLET PROTECTION	HP	HIGH POINT / LOW POINT		PROJECT BOUNDARY LINE
VTC	VEHICLE TRACKING CONTROL	LP	PROPOSED CONTOURS		OVERFLOW ROUTE
CD	CHECK DAM		EXISTING FENCE		CUT/FILL LINE
	PROPOSED RIP RAP		EXISTING STORM DRAIN		100 YEAR FLOODPLAIN BOUNDARY
	PROPOSED STORM DRAIN		PROPOSED STORM DRAIN		PROPOSED LOT/TRACT LINE
	NO BUILD ZONE (SLOPE GREATER THAN 29.99%)		EASEMENT		PROPOSED BUILDING SETBACK



NO.	DATE	DESCRIPTION	BY
COMPUTER FILE MANAGEMENT			
FILE NAME: S:\22.886.076 Hay Creek-Forest Manor-O'Leary Properties\500 CADD\504 Plan Sets\Construction Plans\GEC Plan\GEC01.dwg			
CTB FILE: Matrix.ctb			
PLOT DATE: 12/5/2023 12:49 PM			
THIS DRAWING IS CURRENT AS OF PLOT DATE AND MAY BE SUBJECT TO CHANGE.			



**BENCHMARK**  
PROJECT ELEVATIONS ARE NAVD 88 ELEVATIONS BASED ON AN OPUS DERIVED ELEVATION ON CONTROL POINT 10, A NO. 5 REBAR HAVING AN ELEVATION OF 5769.92.

**BASIS OF BEARING**  
THE SOUTH LINE OF THE NORTHWEST QUARTER OF SECTION 22, TOWNSHIP 15 SOUTH, RANGE 65 WEST OF THE 6TH PRINCIPAL MERIDIAN, COUNTY OF EL PASO, STATE OF COLORADO, BEING MONUMENTED ON THE EASTERLY END BY A 2-1/2" ALUMINUM CAP STAMPED "NOLTE PL S25955 C1/4 S22 T16S, R65W 1999," AND THE WESTERLY END BY A 2-1/2" ALUMINUM CAP STAMPED "SSS PLS 16154 1/4 S21 S22 T15S, R65W 2000," BEING ASSUMED TO BEAR S89°54'42"W, A DISTANCE OF 2,627.78 FEET.

PREPARED BY:  
**Matrix**  
Excellence by Design

SEAL  
**PRELIMINARY**  
THIS DRAWING HAS NOT BEEN APPROVED BY GOVERNING AGENCIES AND IS SUBJECT TO CHANGE

**HAY CREEK VALLEY**  
EL PASO COUNTY, COLORADO  
FINAL GRADING & EROSION CONTROL PLANS

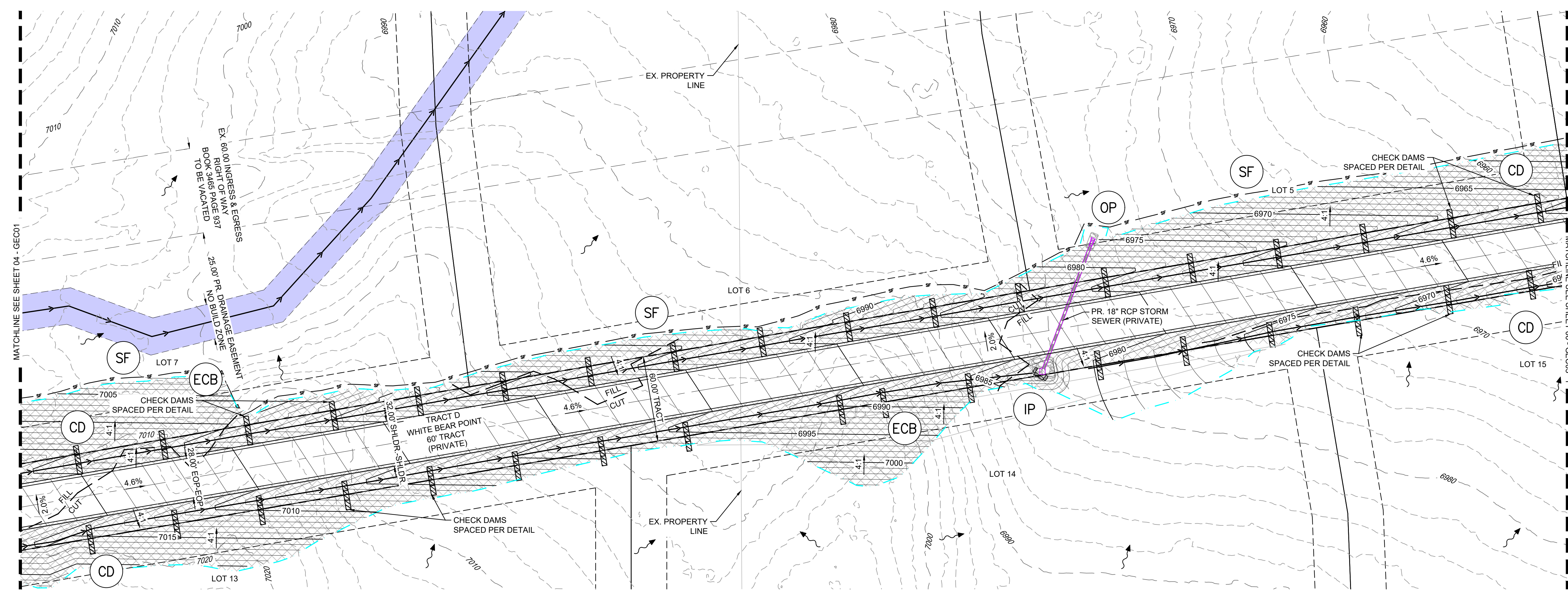
**GRADING & EROSION CONTROL PLAN**

DESIGNED BY: CVW	SCALE: HORIZ 1" = 40'	DATE ISSUED: DECEMBER 2023	DRAWING No. GEC01
DRAWN BY: CVW	VERT. N/A	SHEET 04 OF 12	
CHECKED BY: JAO			





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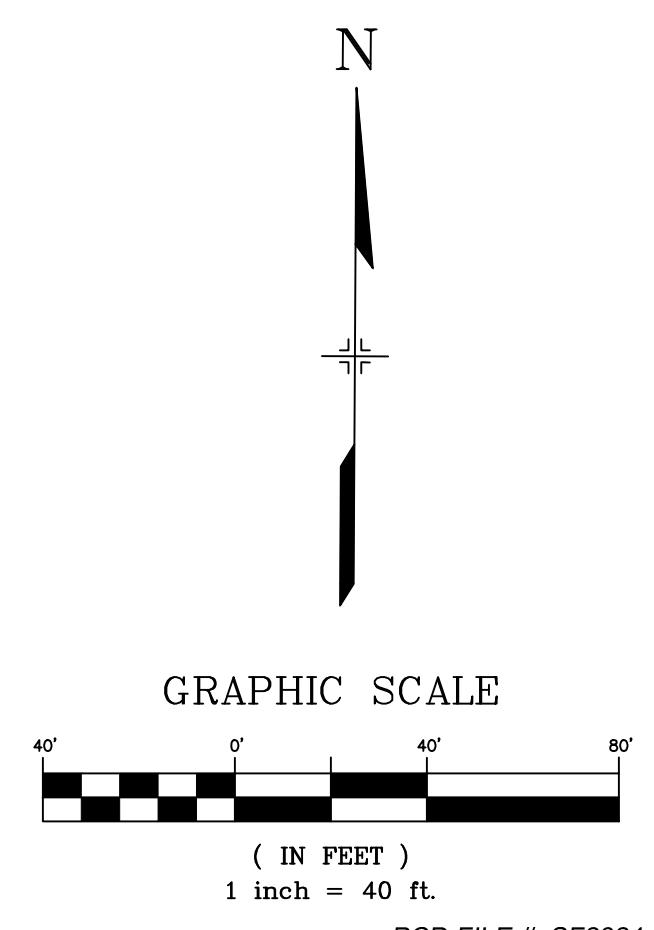
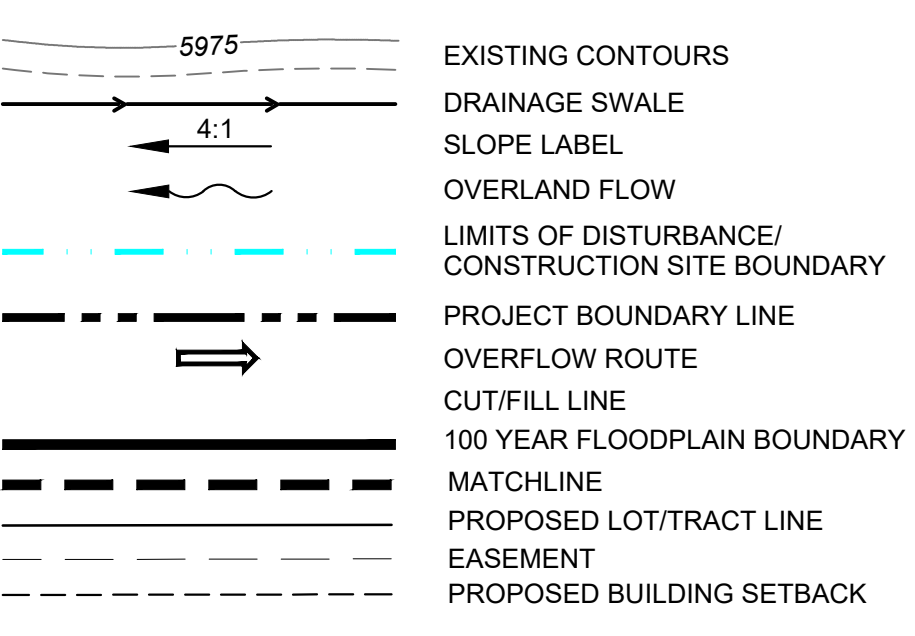


BMP SEQUENCING	
INITIAL	SILT FENCE, VEHICLE TRACKING, TEMP SEDIMENT BASINS
INTERIM	CHECK DAMS, CONCRETE WASHOUT, INLET/OUTLET PROTECTION, STOCKPILES, STAGING, ROUGH CUT STREET CONTROL
FINAL	EROSION CONTROL BLANKETS, SEEDING & MULCHING, PERMANENT CONTROL MEASURE(S)

**NOTES:**  
 1. SEE CHECK DAM (CD) DETAIL EC-12 ON SHEET ECN01 FOR SPACING.  
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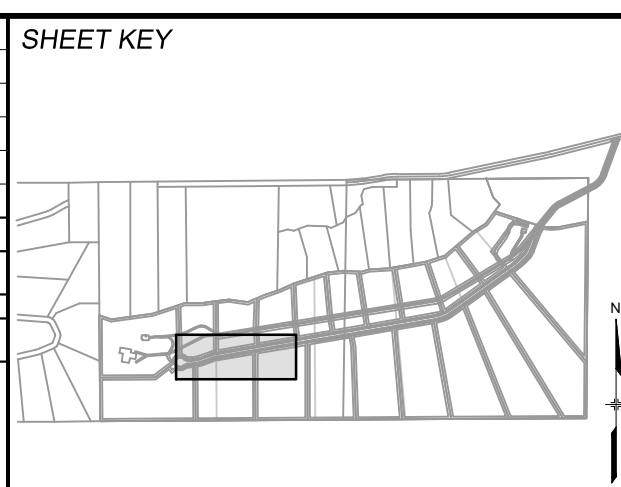
### EROSION CONTROL LEGEND

SF	PERMANENT SEEDING	MU	MULCHING
SF	SILT FENCE	TSB	TEMPORARY SEDIMENT BASIN
ECB	EROSION CONTROL BLANKET	CWA	CONCRETE WASHOUT
OP	OUTLET PROTECTION	SSA	STOCKPILE MANAGEMENT / STABILIZED STAGING AREA
IP	INLET PROTECTION	HP	HIGH POINT / LOW POINT
VTC	VEHICLE TRACKING CONTROL	LP	PROPOSED CONTOURS
	PROPOSED RIP RAP		EXISTING FENCE
CD	CHECK DAM		EXISTING STORM DRAIN
			PROPOSED STORM DRAIN NO BUILD ZONE (SLOPE GREATER THAN 29.99 %)



No.	DATE	DESCRIPTION	BY
REVISIONS			

**COMPUTER FILE MANAGEMENT**  
 FILE NAME: S:\22.886.076 Hay Creek-Forest Manor-O'Leary Properties\500 CADD\504 Plan Sets\Construction Plans\GEC Plan\GEC01.dwg  
 CTB FILE: Matrix.ctb  
 PLOT DATE: 12/5/2023 12:49 PM  
 THIS DRAWING IS CURRENT AS OF PLOT DATE AND MAY BE SUBJECT TO CHANGE.



**BENCHMARK**  
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**BASIS OF BEARING**  
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**PRELIMINARY**  
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FOR AND ON BEHALF OF  
 MATRIX DESIGN GROUP, INC.  
 PROJECT No. 22.886.076

**HAY CREEK VALLEY**  
 EL PASO COUNTY, COLORADO  
 FINAL GRADING & EROSION CONTROL PLANS

**GRADING & EROSION CONTROL PLAN**

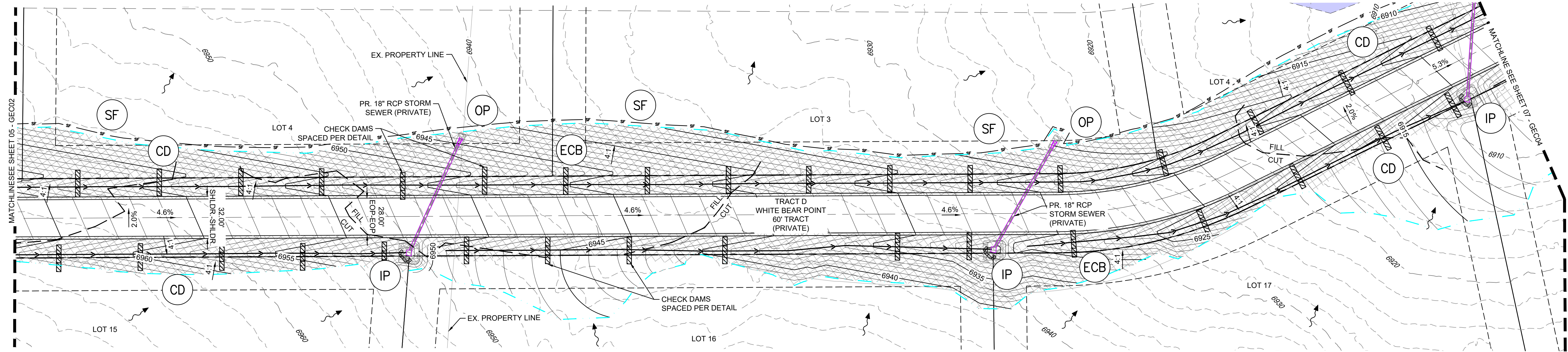
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DRAWN BY: CVW	HORIZ. N/A	SHEET 05 OF 12	
CHECKED BY: JAO	VERT. N/A		





Know what's below.  
Call before you dig.

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BMP SEQUENCING	
INITIAL	SILT FENCE, VEHICLE TRACKING, TEMP SEDIMENT BASINS
INTERIM	CHECK DAMS, CONCRETE WASHOUT, INLET/OUTLET PROTECTION, STOCKPILES, STAGING, ROUGH CUT STREET CONTROL
FINAL	EROSION CONTROL BLANKETS, SEEDING & MULCHING, PERMANENT CONTROL MEASURE(S)

**NOTES:**  
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**EROSION CONTROL LEGEND**

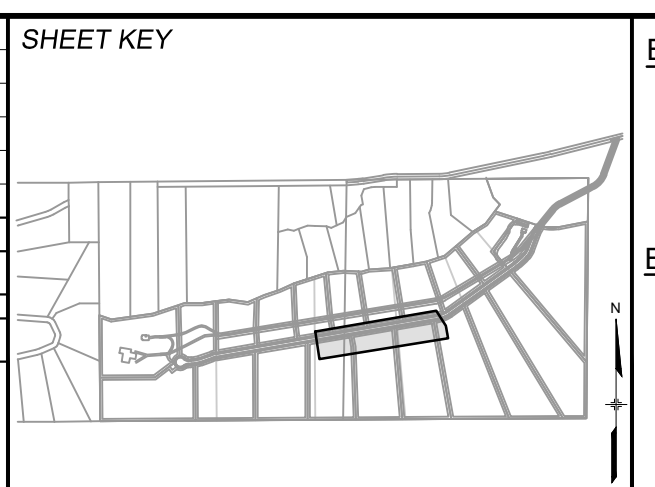
SF	PERMANENT SEEDING	MU	MULCHING
TSB	SILT FENCE	TSB	TEMPORARY SEDIMENT BASIN
ECB	EROSION CONTROL BLANKET	CWA	CONCRETE WASHOUT
OP	OUTLET PROTECTION	SSA	STOCKPILE MANAGEMENT / STABILIZED STAGING AREA
IP	INLET PROTECTION	HP	HIGH POINT / LOW POINT
VTC	VEHICLE TRACKING CONTROL	LP	PROPOSED CONTOURS
RIP RAP	PROPOSED RIP RAP		EXISTING FENCE
CD	CHECK DAM		EXISTING STORM DRAIN
			PROPOSED STORM DRAIN
			NO BUILD ZONE (SLOPE GREATER THAN 29.99 %)

**GRAPHIC SCALE**  
 ( IN FEET )  
 1 inch = 40 ft.

PCD FILE #: SF2324

No.	DATE	DESCRIPTION	BY
REVISIONS			

**COMPUTER FILE MANAGEMENT**  
 FILE NAME: S:\22.886.076 Hay Creek-Forest Manor-O'Leary Properties\500 CADD\504 Plan Sets\Construction Plans\GEC Plan\GEC01.dwg  
 CTB FILE: Matrix.ctb  
 PLOT DATE: 12/5/2023 12:49 PM  
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PREPARED BY:

Excellence by Design

SEAL

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FOR AND ON BEHALF OF  
 MATRIX DESIGN GROUP, INC.  
 PROJECT No. 22.886.076

**HAY CREEK VALLEY**  
 EL PASO COUNTY, COLORADO  
 FINAL GRADING & EROSION CONTROL PLANS

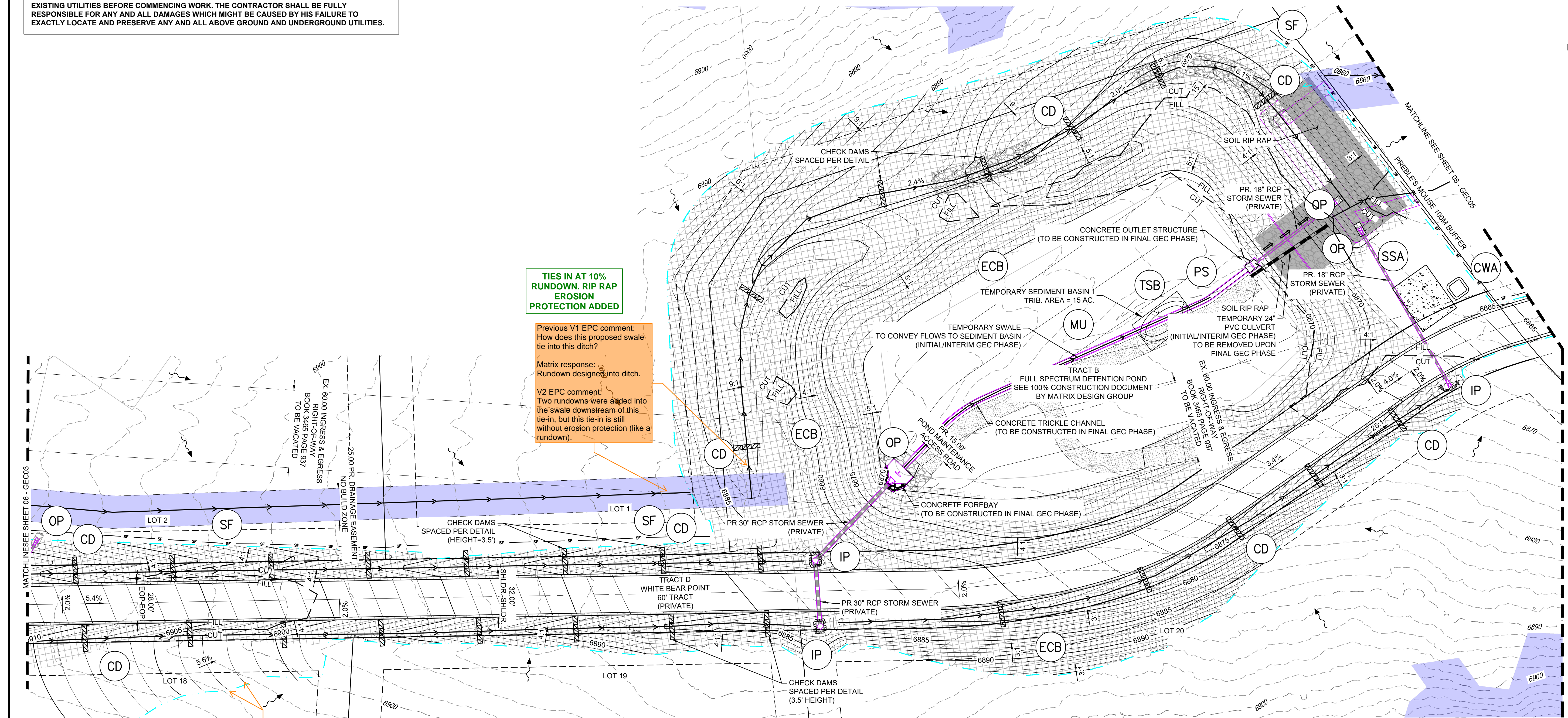
**GRADING & EROSION CONTROL PLAN**

DESIGNED BY: CVW	SCALE: 1" = 40'	DATE ISSUED: DECEMBER 2023	DRAWING No. GEC03
DRAWN BY: CVW	HORIZ. 1" = 40'	SHEET 06 OF 12	
CHECKED BY: JAO	VERT. N/A		





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**TIES IN AT 10% RUNDOWN. RIP RAP EROSION PROTECTION ADDED**  
Previous V1 EPC comment: How does this proposed swale tie into this ditch?  
Matrix response: Rundown designed into ditch.  
V2 EPC comment: Two rundowns were added into the swale downstream of this tie-in, but this tie-in is still without erosion protection (like a rundown).

proposed contours still do not tie-in to existing contours at LOD properly. Typical comment throughout the GEC Plan sheets.

**CONTOURS NOW TIE IN TO EX SURFACE**

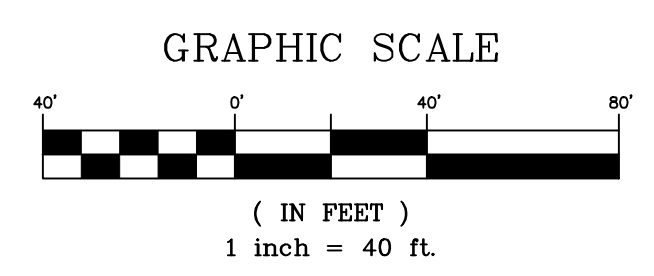
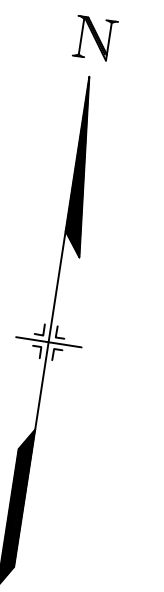
ID	BASIN BOTTOM WIDTH (FT)	SPILLWAY CRENGTH (FT)	REQUIRED VOLUME (CF)
1	73.25	22	41,070

BMP SEQUENCING	
INITIAL	SILT FENCE, VEHICLE TRACKING, TEMP SEDIMENT BASINS
INTERIM	CHECK DAMS, CONCRETE WASHOUT, INLET/OUTLET PROTECTION, STOCKPILES, STAGING, ROUGH CUT STREET CONTROL
FINAL	EROSION CONTROL BLANKETS, SEEDING & MULCHING, PERMANENT CONTROL MEASURE(S)

NOTES:  
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**EROSION CONTROL LEGEND**

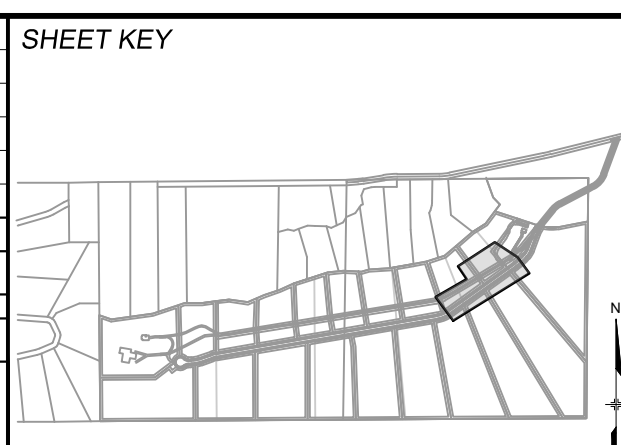
SF	SILT FENCE	MU	MULCHING	5975	EXISTING CONTOURS
ECB	EROSION CONTROL BLANKET	TSB	TEMPORARY SEDIMENT BASIN	4:1	DRAINAGE SWALE
OP	OUTLET PROTECTION	CWA	CONCRETE WASHOUT		SLOPE LABEL
IP	INLET PROTECTION	SSA	STOCKPILE MANAGEMENT / STABILIZED STAGING AREA		OVERLAND FLOW
VTC	VEHICLE TRACKING CONTROL	HP LP	HIGH POINT / LOW POINT		LIMITS OF DISTURBANCE/ CONSTRUCTION SITE BOUNDARY
	PROPOSED RIP RAP	7050	PROPOSED CONTOURS		PROJECT BOUNDARY LINE
CD	CHECK DAM		EXISTING FENCE		OVERFLOW ROUTE
			PROPOSED STORM DRAIN		CUT/FILL LINE
			NO BUILD ZONE (SLOPE GREATER THAN 29.99%)		100 YEAR FLOODPLAIN BOUNDARY
			PROPOSED BUILDING SETBACK		MATCHLINE
			PROPOSED STORM DRAIN		PROPOSED LOT/TRACT LINE
			NO BUILD ZONE (SLOPE GREATER THAN 29.99%)		EASEMENT
			NO BUILD ZONE (SLOPE GREATER THAN 29.99%)		PROPOSED BUILDING SETBACK



PCD FILE #: SF2324

REFERENCE DRAWINGS  
X-TITLE-CD  
X-886-PR-SITE  
FEBA\_XS  
X-886-066-EX-MAP-1  
164022-01 Hay Creek Road BMDY  
X-886-ALTA-SURVEY  
Hay Creek BFEs  
2023-02-28 TOPO 164022-01

No.	DATE	DESCRIPTION	BY
REVISIONS			



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SEAL  
**PRELIMINARY**  
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FOR AND ON BEHALF OF MATRIX DESIGN GROUP, INC.  
PROJECT No. 22.886.076

**HAY CREEK VALLEY**  
EL PASO COUNTY, COLORADO  
FINAL GRADING & EROSION CONTROL PLANS  
**GRADING & EROSION CONTROL PLAN**

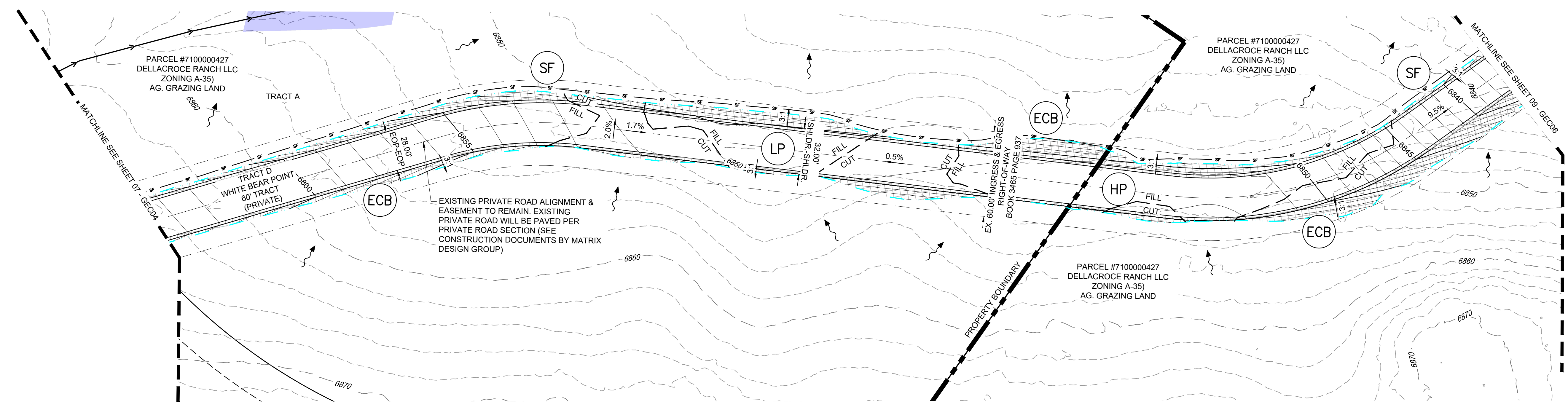
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DRAWN BY: CVW	VERT. N/A	SHEET 07 OF 12	
CHECKED BY: JAO			





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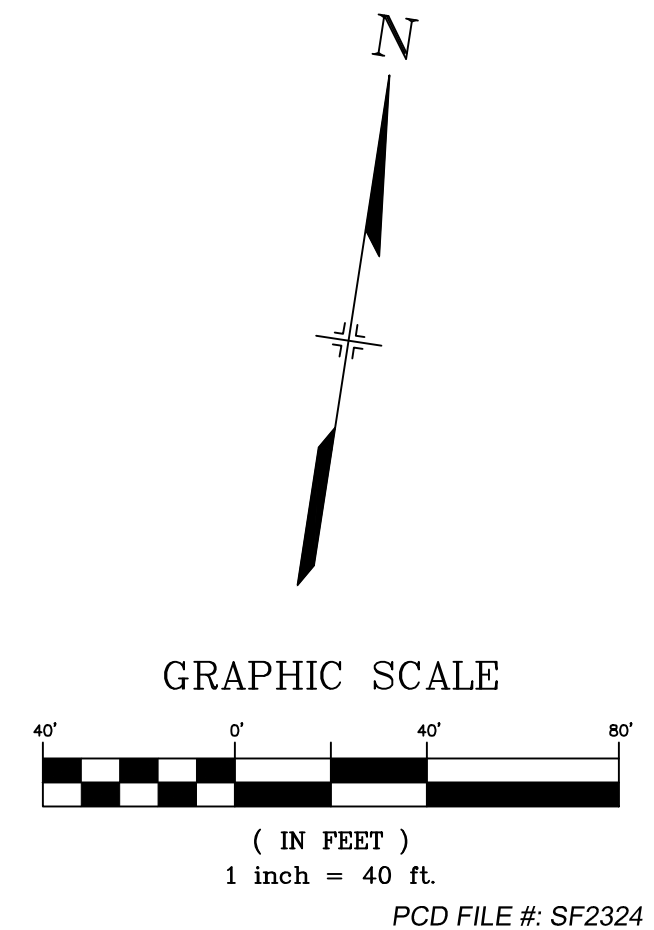
BMP SEQUENCING	
INITIAL	SILT FENCE, VEHICLE TRACKING, TEMP SEDIMENT BASINS
INTERIM	CHECK DAMS, CONCRETE WASHOUT, INLET/OUTLET PROTECTION, STOCKPILES, STAGING, ROUGH CUT STREET CONTROL
FINAL	EROSION CONTROL BLANKETS, SEEDING & MULCHING, PERMANENT CONTROL MEASURE(S)

**NOTES:**  
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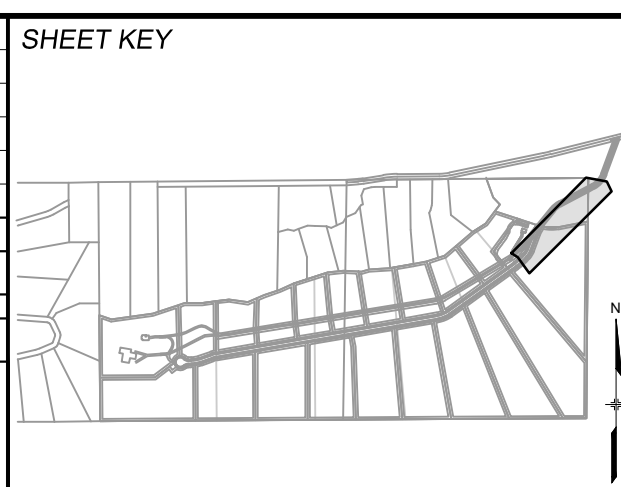
### EROSION CONTROL LEGEND

SF	PERMANENT SEEDING	MU	MULCHING
TSB	SILT FENCE	CWA	CONCRETE WASHOUT
ECB	EROSION CONTROL BLANKET	SSA	STOCKPILE MANAGEMENT / STABILIZED STAGING AREA
OP	OUTLET PROTECTION	HP	HIGH POINT / LOW POINT
IP	INLET PROTECTION	LP	PROPOSED CONTOURS
VTC	VEHICLE TRACKING CONTROL		EXISTING FENCE
	PROPOSED RIP RAP		EXISTING STORM DRAIN
CD	CHECK DAM		PROPOSED STORM DRAIN
			NO BUILD ZONE (SLOPE GREATER THAN 29.99%)

	EXISTING CONTOURS
	DRAINAGE SWALE
	SLOPE LABEL
	OVERLAND FLOW
	LIMITS OF DISTURBANCE/ CONSTRUCTION SITE BOUNDARY
	PROJECT BOUNDARY LINE
	OVERFLOW ROUTE
	CUT/FILL LINE
	100 YEAR FLOODPLAIN BOUNDARY
	MATCHLINE
	PROPOSED LOT/TRACT LINE
	EASEMENT
	PROPOSED BUILDING SETBACK



REF. NO.	DATE	DESCRIPTION	BY
COMPUTER FILE MANAGEMENT			
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CTB FILE: Matrix.ctb			
PLOT DATE: 12/5/2023 12:50 PM			
THIS DRAWING IS CURRENT AS OF PLOT DATE AND MAY BE SUBJECT TO CHANGE.			



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PREPARED BY:  
**Matrix**  
 Excellence by Design

SEAL  
**PRELIMINARY**  
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**HAY CREEK VALLEY**  
 EL PASO COUNTY, COLORADO  
 FINAL GRADING & EROSION CONTROL PLANS

**GRADING & EROSION CONTROL PLAN**

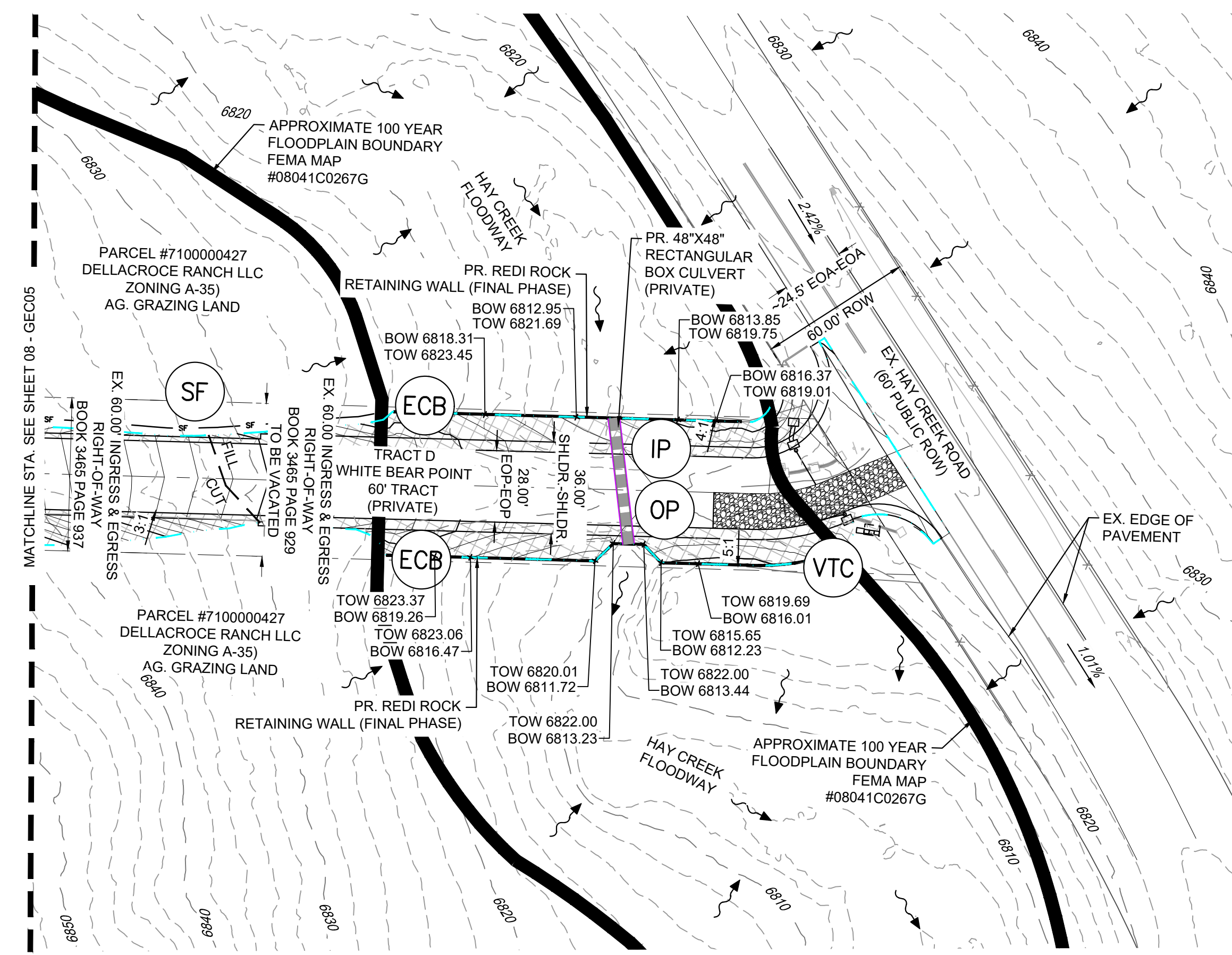
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DRAWN BY: CVW	HORIZ. 1" = 40'	SHEET 08 OF 12	
CHECKED BY: JAO	VERT. N/A		





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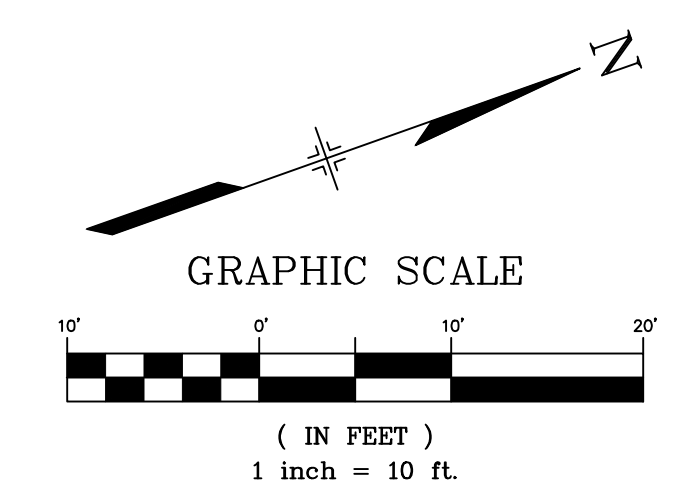


BMP SEQUENCING	
INITIAL	SILT FENCE, VEHICLE TRACKING, TEMP SEDIMENT BASINS
INTERIM	CHECK DAMS, CONCRETE WASHOUT, INLET/OUTLET PROTECTION, STOCKPILES, STAGING, ROUGH CUT STREET CONTROL
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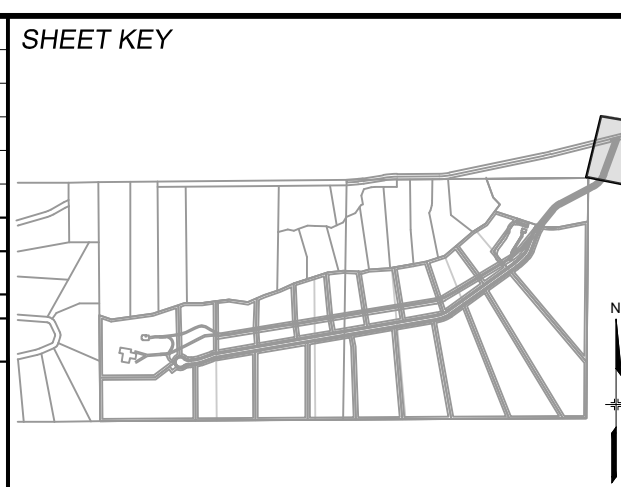
### EROSION CONTROL LEGEND

SF	SILT FENCE	PS	PERMANENT SEEDING	MU	MULCHING	TSB	TEMPORARY SEDIMENT BASIN	CWA	CONCRETE WASHOUT	SSA	STOCKPILE MANAGEMENT / STABILIZED STAGING AREA	HP	HIGH POINT / LOW POINT	LP	LOW POINT / HIGH POINT
ECB	EROSION CONTROL BLANKET	IP	INLET PROTECTION	VTC	VEHICLE TRACKING CONTROL		PROPOSED RIP RAP	CD	CHECK DAM		EXISTING CONTOURS		DRAINAGE SWALE		SLOPE LABEL
OUT	OUTLET PROTECTION		EXISTING FENCE		PROPOSED STORM DRAIN		NO BUILD ZONE (SLOPE GREATER THAN 29.99 %)		EXISTING STORM DRAIN		EXISTING FENCE		PROPOSED LOT/TRACT LINE		EASEMENT
	PROPOSED LOT/TRACT LINE		EASEMENT		PROPOSED BUILDING SETBACK		EXISTING CONTOURS		DRAINAGE SWALE		SLOPE LABEL		OVERLAND FLOW		LIMITS OF DISTURBANCE/ CONSTRUCTION SITE BOUNDARY
	PROJECT BOUNDARY LINE		OVERFLOW ROUTE		CUT/FILL LINE		100 YEAR FLOODPLAIN BOUNDARY		MATCHLINE		PROPOSED LOT/TRACT LINE		EASEMENT		PROPOSED BUILDING SETBACK



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REVISIONS			

**COMPUTER FILE MANAGEMENT**  
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 PLOT DATE: 12/5/2023 12:50 PM  
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 PROJECT ELEVATIONS ARE NAVD 88 ELEVATIONS BASED ON AN OPUS DERIVED ELEVATION ON CONTROL POINT 10, A NO. 5 REBAR HAVING AN ELEVATION OF 5769.92.

**BASIS OF BEARING**  
 THE SOUTH LINE OF THE NORTHWEST QUARTER OF SECTION 22, TOWNSHIP 15 SOUTH, RANGE 66 WEST OF THE 6TH PRINCIPAL MERIDIAN, COUNTY OF EL PASO, STATE OF COLORADO, BEING MONUMENTED ON THE EASTERLY END BY A 2-1/2" ALUMINUM CAP STAMPED "NOLTE PLS25955 C1/4 S22 T15S, R65W 1999, "AND THE WESTERLY END BY A2-1/2" ALUMINUM CAP STAMPED "SSS PLS 16154 1/4 S21 S22 T15S, R65W 2000, "BEING ASSUMED TO BEAR S89°54'42"W, A DISTANCE OF 2,627.78 FEET.

SEAL

**PRELIMINARY**  
 THIS DRAWING HAS NOT BEEN APPROVED BY GOVERNING AGENCIES AND IS SUBJECT TO CHANGE

FOR AND ON BEHALF OF  
 MATRIX DESIGN GROUP, INC.  
 PROJECT No. 22.886.076

**HAY CREEK VALLEY**  
 EL PASO COUNTY, COLORADO  
 FINAL GRADING & EROSION CONTROL PLANS

**GRADING & EROSION CONTROL PLAN**

DESIGNED BY: CVW	SCALE: HORIZ 1"=40'	DATE ISSUED: DECEMBER 2023	DRAWING No. GEC06
DRAWN BY: CVW	VERT. N/A	SHEET 09 OF 12	
CHECKED BY: JAO			

PCD FILE #: SF2324







Know what's below. Call before you dig.

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

Staking patterns are also provided in the design details according to these factors:

- ECB type
- Slope or channel type

For other types of RECPs including TRMs, these design details are intended to serve as general guidelines for design and installation; however, engineers should adhere to manufacturer's installation recommendations.

**Maintenance and Removal**

Inspection of erosion control blankets and other RECPs include:

- Check for general signs of erosion, including voids beneath the mat. If voids are apparent, fill the void with suitable soil and replace the erosion control blanket, following the appropriate staking pattern.
- Check for damaged or loose stakes and secure loose portions of the blanket.

Erosion control blankets and other RECPs that are biodegradable typically do not need to be removed after construction. If they must be removed, then an alternate soil stabilization method should be installed promptly following removal.

Turf reinforcement mats, although generally resistant to biodegradation, are typically left in place as a dense vegetated cover grows in through the mat stems. The turf reinforcement mat provides long-term stability and helps the established vegetation resist erosion forces.

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

**ECB-1. PIPE OUTLET TO DRAINAGE WAY**

**ECB-2. SMALL DITCH OR DRAINAGE WAY**

**ECB-3. OUTSIDE OF DRAINAGE WAY**

STAKING PATTERNS BY ECB TYPE

STAKING PATTERNS BY SLOPE OR CHANNEL TYPE

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

**ECB-3. OUTSIDE OF DRAINAGE WAY**

STAKING PATTERNS BY SLOPE OR CHANNEL TYPE

STAKING PATTERNS BY ECB TYPE

STAKING PATTERNS BY SLOPE OR CHANNEL TYPE

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

**ECB-3. OUTSIDE OF DRAINAGE WAY**

STAKING PATTERNS BY SLOPE OR CHANNEL TYPE

STAKING PATTERNS BY ECB TYPE

STAKING PATTERNS BY SLOPE OR CHANNEL TYPE

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

**ECB-3. OUTSIDE OF DRAINAGE WAY**

STAKING PATTERNS BY SLOPE OR CHANNEL TYPE

STAKING PATTERNS BY ECB TYPE

STAKING PATTERNS BY SLOPE OR CHANNEL TYPE

**EC-8 Temporary Outlet Protection (TOP)**

**OP-1. TEMPORARY OUTLET PROTECTION**

TABLE OP-1. TEMPORARY OUTLET PROTECTION SIZING TABLE

PIPE DIAMETER (INCHES)	CHANNEL LENGTH (FT)	ANCHOR LENGTH (IN)	RRPSP (SQ FT)
8	5	5	4
12	5	10	4
18	10	10	6
24	10	20	16
30	20	30	5
36	20	35	16

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

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

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

RECP-8 Urban Drainage and Flood Control District Urban Storm Drainage Criteria Manual Volume 3 November 2010

RECP-9 Urban Drainage and Flood Control District Urban Storm Drainage Criteria Manual Volume 3 November 2010

TOP-2 Urban Drainage and Flood Control District Urban Storm Drainage Criteria Manual Volume 3 November 2010

**EC-8 Temporary Outlet Protection (TOP)**

**OP-1. TEMPORARY OUTLET PROTECTION**

TABLE OP-1. TEMPORARY OUTLET PROTECTION SIZING TABLE

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**EC-9 Rough Cut Street Control (RCS)**

**RCS-1. ROUGH CUT STREET CONTROL**

TABLE RCS-1

W (FT) x (FT)	SPACING (FT)
30-30	5
31-40	7
41-50	8
51-60	10
61-70	12

**EC-9 Rough Cut Street Control (RCS)**

**RCS-1. ROUGH CUT STREET CONTROL**

TABLE RCS-1

W (FT) x (FT)	SPACING (FT)
30-30	5
31-40	7
41-50	8
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**RCS-1. ROUGH CUT STREET CONTROL**

TABLE RCS-1

W (FT) x (FT)	SPACING (FT)
30-30	5
31-40	7
41-50	8
51-60	10
61-70	12

**MM-1 Concrete Washout Area (CWA)**

**CWA-1. CONCRETE WASHOUT AREA**

CONCRETE WASHOUT AREA PLAN

SECTION A

**EC-12 Check Dams (CD)**

**CD-1. CHECK DAM**

CHECK DAM ELEVATION VIEW

SECTION A

SECTION B

PROFILE

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

RCS-2 Urban Drainage and Flood Control District Urban Storm Drainage Criteria Manual Volume 3 November 2010

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

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

CWA-4 Urban Drainage and Flood Control District Urban Storm Drainage Criteria Manual Volume 3 November 2010

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

**EC-12 Check Dams (CD)**

**CD-1. CHECK DAM**

CHECK DAM INSTALLATION NOTES

- SEE PLAN VIEW FOR:
  - LOCATION OF CHECK DAM
  - CHECK DAM TYPE (CHECK DAM OR REINFORCED CHECK DAM)
  - CHECK DAM CHANNEL LENGTH (CL) AND DEPTH (D)
- CHECK DAMS INDICATED ON INITIAL SWMP SHALL BE INSTALLED AFTER CONSTRUCTION FORCE BUT PRIOR TO ANY UPTURN LAND COVERING ACTIVITIES.
- RRPSP UTILIZED FOR CHECK DAMS SHOULD BE OF APPROPRIATE SIZE FOR THE APPLICATION. TYPICAL TYPES OF RRPSP USED FOR CHECK DAMS ARE TYPE M (SDO 12") OR TYPE L (SDO 8").
- REPAIR MAT SHALL BE TRENCHED INTO THE CHANNEL A MINIMUM OF 1".
- THE FEET OF THE CHECK DAM SHALL BE A MINIMUM OF 1' 6" HIGHER THAN THE CENTER OF THE CHECK DAM.

CHECK DAM MAINTENANCE NOTES

- INSPECT BIRMS EACH WORKDAY AND MAINTAIN THEM IN EFFECTIVE OPERATING CONDITION. MAINTENANCE OF BIRMS SHOULD BE PROACTIVE, NOT REACTIVE. INSPECT BIRMS AS SOON AS POSSIBLE (AND ALWAYS WITHIN 24 HOURS) FOLLOWING A STORM THAT CAUSES SURFACE EROSION, AND PERFORM NECESSARY MAINTENANCE.
- PRECEDENT OBSERVATIONS AND MAINTENANCE ARE NECESSARY TO MAINTAIN BIRMS IN EFFECTIVE OPERATING CONDITION. INSPECTIONS AND CORRECTIVE MEASURES SHOULD BE DOCUMENTED THOROUGHLY.
- WHERE BIRMS HAVE FAILED, REPAIR OR REPLACEMENT SHOULD BE INITIATED UPON DISCOVERY OF THE FAILURE.
- NOTE: MANY JURISDICTIONS HAVE BMP DETAILS THAT VARY FROM USDO STANDARD DETAILS. CONSULT WITH LOCAL JURISDICTIONS AS TO WHICH DETAIL SHOULD BE USED WHEN DIFFERENCES ARE NOTED.

**EC-12 Check Dams (CD)**

**CD-2. REINFORCED CHECK DAM**

REINFORCED CHECK DAM INSTALLATION NOTES

- SEE PLAN VIEW FOR:
  - LOCATION OF CHECK DAM
  - CHECK DAM TYPE (CHECK DAM OR REINFORCED CHECK DAM)
  - CHECK DAM CHANNEL LENGTH (CL) AND DEPTH (D)
- CHECK DAMS INDICATED ON THE SWMP SHALL BE INSTALLED PRIOR TO ANY UPTURN LAND COVERING ACTIVITIES.
- REINFORCED CHECK DAMS, CHANNELS SHALL HAVE GALVANIZED TWISTED WIRE NETTING WITH A MINIMUM OF 1/2" DIA. GALVANIZED STEEL OR OTHER APPROVED METAL SHALL BE USED AT ALL CHANNELS AND CHANNELS SHALL BE 2' DEEP AND 12" WIDE.
- THE CHECK DAM SHALL BE TRENCHED INTO THE CHANNEL A MINIMUM OF 1' 6".
- SCOTCHLOK BIRMS SHALL BE PLACED IN THE REINFORCED CHECK DAM TRENCH EXTENDING A MINIMUM OF 1' 6" ON BOTH THE UPTURN AND DOWNSTREAM SIDES OF THE REINFORCED CHECK DAM.

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**SF-3 Silt Fence (SF)**

**SF-1. SILT FENCE**

SILT FENCE INSTALLATION NOTES

- SILT FENCE SHALL BE PLACED AWAY FROM THE TOE OF THE SLOPE TO ALLOW FOR WATER FLOW. SILT FENCE SHALL BE THE TOP OF A SLOPE SHOULD BE INSTALLED TO A FLAT LOCATION AT LEAST 5 FEET (1.5 M) FROM THE TOE OF THE SLOPE TO ALLOW ROOM FOR CHANNELING AND PROTECTION.
- A UNIFORM 6" x 4" ANCHOR TRENCH SHALL BE EXCAVATED USING TRACTOR OR SILT FENCE INSTALLATION DEVICE. NO ROAD GRADER, SHOVELS, OR STRAP EQUIPMENT SHALL BE USED.
- CONCRETE ANCHOR TRENCHES BY HAND WITH A SHARPENED POINT OR BY ANCHOR TRENCHER SHALL BE SUCH THAT SILT FENCE POSTS BEING PULLED OUT OF THE TRENCHES.
- SILT FENCE SHALL BE PULLED TIGHT AS IT IS ANCHORED TO THE STRIKES. THERE SHOULD BE NO AIRSPACE GAP BETWEEN STRIKES AFTER IT HAS BEEN ANCHORED TO THE TRENCHES.
- SILT FENCE FABRIC SHALL BE ANCHORED TO THE STRIKES USING 1" HEAVY DUTY STAPLES OR WALLS WITH 1" HEADS. STAPLES AND WALLS SHOULD BE PLACED 3' ALONG THE FABRIC FROM THE STRIKES.
- AT THE END OF A RUN OF SILT FENCE ALONG A CONTOUR, THE SILT FENCE SHOULD BE TUNNELED PERPENDICULAR TO THE CONTOUR TO CREATE A "U-TURN" OR "U-SHOOT" EXTENDING PERPENDICULAR TO THE CONTOUR SHOULD BE OF SUFFICIENT LENGTH TO KEEP RUNWAY FROM FORMING AROUND THE END OF THE SILT FENCE (TYPICALLY 10' - 30').
- SILT FENCE SHALL BE INSTALLED PRIOR TO ANY LAND DISTURBING ACTIVITIES.

SILT FENCE MAINTENANCE NOTES

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- WHERE BIRMS HAVE FAILED, REPAIR OR REPLACEMENT SHOULD BE INITIATED UPON DISCOVERY OF THE FAILURE.
- SEDIMENT ACCUMULATED UPSTREAM OF THE SILT FENCE SHALL BE REMOVED AS NEEDED TO MAINTAIN THE EFFECTIVENESS OF THE SILT FENCE. TYPICALLY WHEN THE UPTURN DISTURBED AREA IS STABILIZED AND APPROVED BY THE LOCAL JURISDICTION.
- REPAIR OR REPLACE SILT FENCE WHEN THERE ARE SIGNS OF WEAR, SUCH AS SHAGGING, TIPPING, OR COLLAPSE.
- SILT FENCE IS TO BE REMOVED IN PLACE UNTIL THE UPTURN DISTURBED AREA IS STABILIZED AND APPROVED BY THE LOCAL JURISDICTION OR IS REPLACED BY AN EQUIVALENT PERMANENT SEDIMENT CONTROL BMP.
- WHEN SILT FENCE IS REMOVED, ALL DISTURBED AREAS SHALL BE COVERED WITH TOPSOIL, SEEDS AND MULCH OR OTHERWISE STABILIZED AS APPROVED BY LOCAL JURISDICTION.
- NOTE: MANY JURISDICTIONS HAVE BMP DETAILS THAT VARY FROM USDO STANDARD DETAILS. CONSULT WITH LOCAL JURISDICTIONS AS TO WHICH DETAIL SHOULD BE USED WHEN DIFFERENCES ARE NOTED.

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- AT THE END OF A RUN OF SILT FENCE ALONG A CONTOUR, THE SILT FENCE SHOULD BE TUNNELED PERPENDICULAR TO THE CONTOUR TO CREATE A "U-TURN" OR "U-SHOOT" EXTENDING PERPENDICULAR TO THE CONTOUR SHOULD BE OF SUFFICIENT LENGTH TO KEEP RUNWAY FROM FORMING AROUND THE END OF THE SILT FENCE (TYPICALLY 10' - 30').
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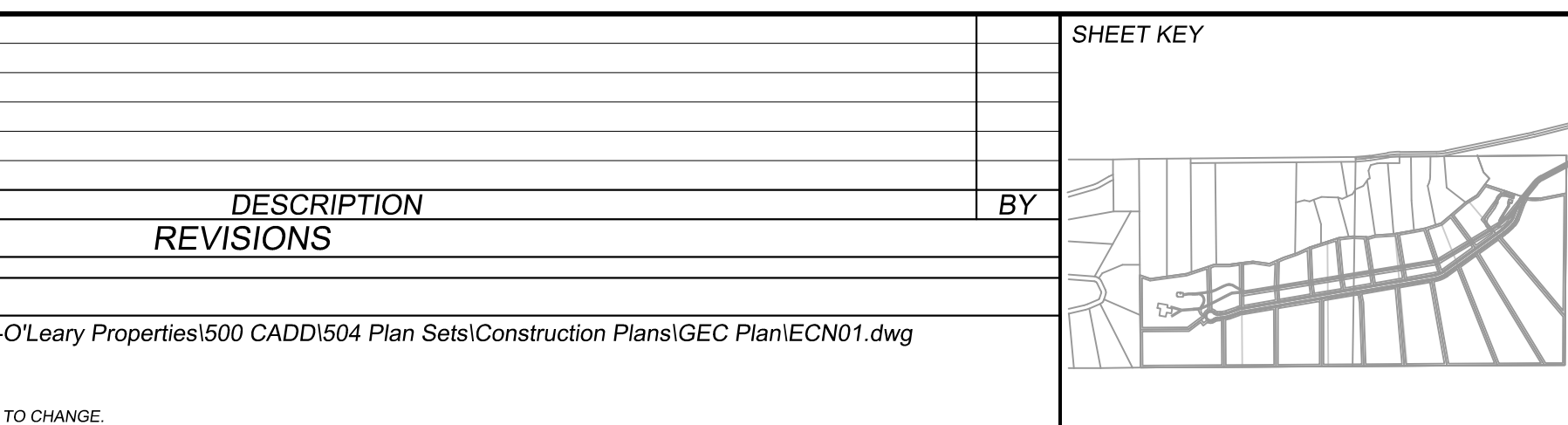
**REFERENCE DRAWINGS**

X-TITLE-CD  
X-888-FR-SITE  
FEISA\_XS  
X-888-066-EX-MAP-1  
164022-01 Hay Creek Road BNY  
X-888-ALTA-SURVEY  
Hay Creek BNS

No.	DATE	DESCRIPTION
		REVISIONS

**COMPUTER FILE MANAGEMENT**

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CTB FILE: Matrix.ctb  
PLOT DATE: 12/5/2023 12:50 PM  
THIS DRAWING IS CURRENT AS OF PLOT DATE AND MAY BE SUBJECT TO CHANGE.



**BENCHMARK**

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**BASIS OF BEARING**

THE SOUTH LINE OF THE NORTHWEST QUARTER OF SECTION 22, TOWNSHIP 15 SOUTH, RANGE 65 WEST OF THE 6TH PRINCIPAL MERIDIAN, COUNTY OF EL PASO, STATE OF COLORADO, BEING MONUMENTED ON THE EASTERLY END BY A 2-1/2" ALUMINUM CAP STAMPED "NOLTE PL25955 C1/4 S22 T165, R65W 1999," AND THE WESTERLY END BY A 2-1/2" ALUMINUM CAP STAMPED "SSS PLS 16154 1/4 S21 S22 T165, R65W 2000," BEING ASSUMED TO BEAR S89°54'42"W, A DISTANCE OF 2,627.78 FEET.

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FOR AND ON BEHALF OF  
**MATRIX DESIGN GROUP, INC.**  
PROJECT No. 22.886.076

DESIGNED BY: CVW  
DRAWN BY: CVW  
CHECKED BY: JAO

SCALE: HORIZ. N/A  
VERT. N/A

DATE ISSUED: DECEMBER 2023  
SHEET 10 OF 12

DRAWING No. ECN01

**Matrix**  
Excellence by Design

**HAY CREEK VALLEY**

EL PASO COUNTY, COLORADO  
FINAL GRADING & EROSION CONTROL PLANS

**DETAILS**

PCD FILE #: SF2324





Know what's below. Call before you dig.

<p><b>SC-6 Inlet Protection (IP)</b></p> <p>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</p> <p>Proprietary 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.</p> <p><b>Inlets Located in a Sump</b></p> <p>When applying inlet protection in sump conditions, it is important that the inlet continue to function during larger runoff events. For each inlet, 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 enter the inlet and may bypass it, possibly causing localized flooding, public safety issues, and downstream erosion and damage from bypassed flows.</p> <p>Area inlets located in a sump setting can be protected through the use of silt fence, concrete block and rock socks (on gravel surfaces), sediment control logs/bars, or devices 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.</p> <p><b>Inlets Located on a Slope</b></p> <p>For curb and gutter inlets on open grading slopes, block and rock sock inlet protection is recommended in conjunction with curb socks in the gutter leading to the inlet. For inlet located along unpaved roads, also see the Check Dam Fact Sheet.</p> <p><b>Maintenance and Removal</b></p> <p>Inlet protection frequently. Inspection and maintenance guidance includes:</p> <ul style="list-style-type: none"> <li>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.</li> <li>Check for improper installation resulting in untreated flows bypassing the BMP and directly entering the inlet or bypassing to an unprotected inlet. For silt fence, silt fence that has not been properly trenched around the inlet can result in flows under the silt fence and directly into the inlet.</li> <li>Look for displaced BMPs that are no longer protecting the inlet. Displacement can occur following heavy events even if the BMP is not eroding the inlet protection. Traffic or equipment may also crush or displace the BMP.</li> <li>Monitor sediment accumulation upgradient of the inlet protection.</li> </ul>	<p><b>Inlet Protection (IP) SC-6</b></p> <p>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.</p> <p>Proprietary 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 settling 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.</p>	<p><b>SC-6 Inlet Protection (IP)</b></p> <p><b>IP-1. BLOCK AND ROCK SOCK SUMP OR ON GRADE INLET PROTECTION</b></p> <p><b>IP-2. CURB SOCK SOCKS UPSTREAM OF INLET PROTECTION</b></p>	<p><b>Inlet Protection (IP) SC-6</b></p> <p><b>IP-3. ROCK SOCK SUMP/AREA INLET PROTECTION</b></p> <p><b>IP-4. SILT FENCE FOR SUMP INLET PROTECTION</b></p>	<p><b>SC-6 Inlet Protection (IP)</b></p> <p><b>IP-5. OVER-EXCAVATION INLET PROTECTION</b></p> <p><b>IP-6. STRAW BALE FOR SUMP INLET PROTECTION</b></p>	<p><b>Inlet Protection (IP) SC-6</b></p> <p><b>CIP-1. CULVERT INLET PROTECTION</b></p>																																																																																				
<p><b>SC-6 Inlet Protection (IP)</b></p> <p><b>GENERAL INLET PROTECTION INSTALLATION NOTES</b></p> <ol style="list-style-type: none"> <li>SEE PLAN VIEW FOR LOCATION OF INLET PROTECTION.</li> <li>INLET PROTECTION SHALL BE INSTALLED PROPERLY AFTER INLET CONSTRUCTION OR FINISH IS COMPLETE (TYPICALLY WITHIN 48 HOURS OF A RAINFALL/WINDY EVENT IS FORECAST). INITIAL INLET PROTECTION PRIOR TO CREST OF GROUND.</li> <li>ANY JURISDICTIONS HAVE BMP DETAILS THAT VARY FROM UFGD STANDARD DETAILS. CONSULT WITH LOCAL JURISDICTIONS AS TO WHICH DETAIL SHOULD BE USED WHEN DIFFERENCES ARE NOTED.</li> </ol> <p><b>SOIL PROTECTION MAINTENANCE NOTES</b></p> <ol style="list-style-type: none"> <li>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.</li> <li>PROFICIENT OBSERVATIONS AND MAINTENANCE ARE NECESSARY TO MAINTAIN BMPs IN EFFECTIVE OPERATING CONDITION. INSPECTIONS AND CORRECTIVE MEASURES SHOULD BE DOCUMENTED THOROUGHLY.</li> <li>WHERE BMPs HAVE FAILED, REPAIR OR REPLACEMENT SHOULD BE INITIATED UPON DISCOVERY OF THE FAILURE.</li> <li>SEDIMENT ACCUMULATED UPSTREAM OF INLET PROTECTION SHALL BE REMOVED AS NECESSARY TO MAINTAIN BMP EFFECTIVENESS, TYPICALLY WHEN STORAGE VOLUME REACHES SIZE OF CAPACITY. A DEPTH OF 6" WHEN SILT FENCE IS USED, OR 3" OF THE HEIGHT FOR STRAW BALES.</li> <li>INLET PROTECTION IS TO REMAIN IN PLACE UNTIL THE UPSTREAM DISTURBED AREA IS REPERMANENTLY STABILIZED. UNLESS THE LOCAL JURISDICTION APPROVES EARLIER REMOVAL OF INLET PROTECTION IN SITUATION.</li> <li>WHEN INLET PROTECTION AT AREA INLETS IS REMOVED, THE DISTURBED AREA SHALL BE COVERED WITH TOP SOIL, SEEDS AND MULCHES, OR OTHERWISE STABILIZED IN A MANNER APPROVED BY THE LOCAL JURISDICTION.</li> </ol> <p>(DETAILS ADAPTED FROM UFGD, BROWNSVILLE, TEXAS; COLORADO, NOT AVAILABLE IN AUSTRIAN)</p> <p><b>NOTE:</b> MANY JURISDICTIONS HAVE BMP DETAILS THAT VARY FROM UFGD STANDARD DETAILS. CONSULT WITH LOCAL JURISDICTIONS AS TO WHICH DETAIL SHOULD BE USED WHEN DIFFERENCES ARE NOTED.</p> <p><b>NOTE:</b> THE DETAILS INCLUDED WITH THIS FACT SHEET SHOW COMMONLY USED CONVENTIONAL METHODS OF INLET PROTECTION IN THE SOURCE METROPOLITAN AREA. THERE ARE MANY ALTERNATIVE METHODS OF INLET PROTECTION. THE MANUFACTURER'S INSTALLATION AND MAINTENANCE INSTRUCTIONS SHOULD BE USED. THE APPROPRIATE DETAIL FROM THE MANUFACTURER MUST BE INCLUDED IN THE SPEC AND THE BMP MUST BE INSTALLED AND MAINTAINED AS SHOWN IN THE MANUFACTURER'S DETAILS.</p> <p><b>NOTE:</b> SOME MANUFACTURERS DISALLOW OR PREVENT THE USE OF STRAW BALES FOR INLET PROTECTION. CHECK WITH LOCAL JURISDICTION TO DETERMINE IF STRAW BALE INLET PROTECTION IS ACCEPTABLE.</p>	<p><b>SC-7 Sediment Basin (SB)</b></p> <p><b>Maintenance and Removal</b></p> <p>Drudge sediment from the basin, as needed to maintain BMP effectiveness, typically when the design storage volume is no more than one-third filled with sediment.</p> <p>Inspect the sediment basin embankments for stability and seepage.</p> <p>Inspect the inlet and outlet of the basin, repair damage, and remove debris. Remove, clean and replace the gravel around the outlet on a regular basis to remove the accumulated sediment within it and keep the outlet functioning.</p> <p>Be aware that removal of a sediment basin may require dewatering and associated permit requirements.</p> <p>Do not remove a sediment basin until the upstream area has been stabilized with vegetation.</p> <p>Final disposition of the sediment basin depends on whether the basin will be converted to a permanent post-construction stormwater basin or whether the basin area will be returned to grade. For basins being converted to permanent detention basins, remove accumulated sediment and reconfigure the basin and outlet to meet the requirements of the final design for the detention facility. If the sediment basin is not to be used as a permanent detention facility, fill the excavated area with soil and stabilize with vegetation.</p>	<p><b>Sediment Basin (SB) SC-7</b></p> <p><b>TABLE SB-1. SIZING INFORMATION FOR STANDARD SEDIMENT BASIN</b></p> <table border="1"> <thead> <tr> <th>Basin Depth (ft)</th> <th>Basin Length (ft)</th> <th>Basin Area (sq ft)</th> <th>Basin Volume (cu ft)</th> </tr> </thead> <tbody> <tr><td>1</td><td>12.0</td><td>2.0</td><td>12.0</td></tr> <tr><td>2</td><td>24.0</td><td>4.0</td><td>48.0</td></tr> <tr><td>3</td><td>36.0</td><td>6.0</td><td>108.0</td></tr> <tr><td>4</td><td>48.0</td><td>8.0</td><td>192.0</td></tr> <tr><td>5</td><td>60.0</td><td>10.0</td><td>300.0</td></tr> <tr><td>6</td><td>72.0</td><td>12.0</td><td>432.0</td></tr> <tr><td>7</td><td>84.0</td><td>14.0</td><td>588.0</td></tr> <tr><td>8</td><td>96.0</td><td>16.0</td><td>768.0</td></tr> <tr><td>9</td><td>108.0</td><td>18.0</td><td>972.0</td></tr> <tr><td>10</td><td>120.0</td><td>20.0</td><td>1200.0</td></tr> <tr><td>11</td><td>132.0</td><td>22.0</td><td>1452.0</td></tr> <tr><td>12</td><td>144.0</td><td>24.0</td><td>1728.0</td></tr> <tr><td>13</td><td>156.0</td><td>26.0</td><td>2028.0</td></tr> <tr><td>14</td><td>168.0</td><td>28.0</td><td>2352.0</td></tr> <tr><td>15</td><td>180.0</td><td>30.0</td><td>2700.0</td></tr> <tr><td>16</td><td>192.0</td><td>32.0</td><td>3072.0</td></tr> <tr><td>17</td><td>204.0</td><td>34.0</td><td>3468.0</td></tr> <tr><td>18</td><td>216.0</td><td>36.0</td><td>3888.0</td></tr> <tr><td>19</td><td>228.0</td><td>38.0</td><td>4332.0</td></tr> <tr><td>20</td><td>240.0</td><td>40.0</td><td>4800.0</td></tr> </tbody> </table> <p><b>SEDIMENT BASIN INSTALLATION NOTES</b></p> <ol style="list-style-type: none"> <li>SEE PLAN VIEW FOR LOCATION OF SEDIMENT BASIN.</li> <li>TYPE OF SOIL (SEDIMENT) BASED ON HORIZONTAL BARRIERS.</li> <li>FOR STANDARD BASIN, BOTTOM WIDTH IN CREST LENGTH AND HOLE DIMENSIONS.</li> <li>EMBANKMENT MATERIAL SHALL CONSIST OF SOIL FREE OF ORGANIC MATERIALS, AND ROCKS OR CONCRETES GREATER THAN 1 INCHES AND SHALL HAVE A MINIMUM OF 15 PERCENT BY WEIGHT PERCENT OF NO. 200 SIEVE.</li> <li>EMBANKMENT MATERIAL SHALL BE COMPACTED TO AT LEAST 95 PERCENT OF MAXIMUM DENSITY BY WEIGHT PERCENT WITH SOIL LOGS.</li> <li>PPC SOI 40 OR GREATER SHALL BE USED.</li> <li>THE DETAILS SHOWN ON THESE SHEETS PERTAIN TO STANDARD SEDIMENT BASINS FOR DRAINAGE AREAS LESS THAN 10 ACRES. SEE CONSTRUCTION DETAILS FOR OVER-EXCAVATION SEDIMENT BASINS. SEE CONSTRUCTION DETAILS FOR ANY SEDIMENT BASINS THAT HAVE BEEN MODIFIED FOR DRAINAGE AREAS LARGER THAN 10 ACRES.</li> </ol>	Basin Depth (ft)	Basin Length (ft)	Basin Area (sq ft)	Basin Volume (cu ft)	1	12.0	2.0	12.0	2	24.0	4.0	48.0	3	36.0	6.0	108.0	4	48.0	8.0	192.0	5	60.0	10.0	300.0	6	72.0	12.0	432.0	7	84.0	14.0	588.0	8	96.0	16.0	768.0	9	108.0	18.0	972.0	10	120.0	20.0	1200.0	11	132.0	22.0	1452.0	12	144.0	24.0	1728.0	13	156.0	26.0	2028.0	14	168.0	28.0	2352.0	15	180.0	30.0	2700.0	16	192.0	32.0	3072.0	17	204.0	34.0	3468.0	18	216.0	36.0	3888.0	19	228.0	38.0	4332.0	20	240.0	40.0	4800.0	<p><b>SC-7 Sediment Basin (SB)</b></p> <p><b>SEDIMENT BASIN MAINTENANCE NOTES</b></p> <ol style="list-style-type: none"> <li>INSPECT BMPs EACH WORKDAY AND MAINTAIN THEM IN EFFECTIVE OPERATING CONDITION. MAINTENANCE OF BMPs SHOULD BE PROACTIVE, NOT REACTIVE. 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<p><b>SM-4 Vehicle Tracking Control (VTC)</b></p> <p><b>VTC-2. AGGREGATE VEHICLE TRACKING CONTROL WITH WASH RACK</b></p> <p><b>VTC-3. VEHICLE TRACKING CONTROL W/ CONSTRUCTION MAT OR TURF REINFORCEMENT MAT (TRM)</b></p>	<p><b>Vehicle Tracking Control (VTC) SM-4</b></p> <p><b>VTC-3. VEHICLE TRACKING CONTROL W/ CONSTRUCTION MAT OR TURF REINFORCEMENT MAT (TRM)</b></p>	<p><b>SM-4 Vehicle Tracking Control (VTC)</b></p> <p><b>STABILIZED CONSTRUCTION ENTRANCE/EXIT INSTALLATION NOTES</b></p> <ol style="list-style-type: none"> <li>SEE PLAN VIEW FOR LOCATION OF CONSTRUCTION ENTRANCE/EXIT.</li> <li>CONSTRUCTION MAT OR TRM SHALL BE USED ON SOFT SURFACES (CONCRETE, ASPHALT, OR OTHER HARD SURFACES). 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CONSULT WITH LOCAL JURISDICTIONS AS TO WHICH DETAIL SHOULD BE USED WHEN DIFFERENCES ARE NOTED.</p> <p>(DETAILS ADAPTED FROM CITY OF BROWNSVILLE, COLORADO; NOT AVAILABLE IN AUSTRIAN)</p>	<p><b>Stabilized Staging Area (SSA) SM-6</b></p> <p><b>SSA-1. STABILIZED STAGING AREA</b></p> <p><b>STABILIZED STAGING AREA INSTALLATION NOTES</b></p> <ol style="list-style-type: none"> <li>SEE PLAN VIEW FOR LOCATION OF STAGING AREA.</li> <li>STABILIZED STAGING AREA SHOULD BE APPROPRIATE FOR THE NEEDS OF THE SITE, OVERSEEING RESULTS IN A LARGER AREA TO STABILIZE FOLLOWING CONSTRUCTION.</li> <li>STAGING AREA SHALL BE STABILIZED PRIOR TO OTHER OPERATIONS ON THE SITE.</li> <li>ROCK SHALL BE REPLACED OR REGRADED AS NECESSARY IF RUTTING OCCURS OR ENTRANCE/EXIT TO MAINTAIN A CONSISTENT DEPTH.</li> <li>UNLESS OTHERWISE SPECIFIED BY LOCAL JURISDICTION, ROCK SHALL CONSIST OF DOT SPEC. #200 MASH #3 COARSE AGGREGATE OR #4 (1 1/2") ROCK.</li> <li>ADDITIONAL PERMEABLE BMPs MAY BE REQUIRED INCLUDING BUT NOT LIMITED TO SILT FENCE AND CONSTRUCTION FENCE.</li> </ol> <p><b>STABILIZED STAGING AREA MAINTENANCE NOTES</b></p> <ol style="list-style-type: none"> <li>INSPECT BMPs EACH WORKDAY AND MAINTAIN THEM IN EFFECTIVE OPERATING CONDITION. 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<p><b>REFERENCE DRAWINGS</b></p> <p>X-TITLE-CD          X-888-FR-SITE          FEI-M-35          X-888-06-EX-MAP-1          164022-01 Hay Creek Road BNSW          X-888-ALTA-SURVEY          Hay Creek BFEs</p>	<p><b>COMPUTER FILE MANAGEMENT</b></p> <p>FILE NAME: S:\22.886.076 Hay Creek-Manor-O'Leary Properties\500 CADD\504 Plan Sets\Construction Plans\GEC Plan\ECN01.dwg          CTB FILE: Matrix.ctb          PLOT DATE: 12/5/2023 12:50 PM          THIS DRAWING IS CURRENT AS OF PLOT DATE AND MAY BE SUBJECT TO CHANGE.</p>	<p><b>SHEET KEY</b></p>	<p><b>BENCHMARK</b></p> <p>PROJECT ELEVATIONS ARE NAVD 88 ELEVATIONS BASED ON AN OPUS DERIVED ELEVATION ON CONTROL POINT 10, A NO. 5 REBAR HAVING AN ELEVATION OF 5769.92.</p> <p><b>BASIS OF BEARING</b></p> <p>THE SOUTH LINE OF THE NORTHWEST QUARTER OF SECTION 22, TOWNSHIP 15 SOUTH, RANGE 65 WEST OF THE 6TH PRINCIPAL MERIDIAN, COUNTY OF EL PASO, STATE OF COLORADO, BEING MONUMENTED ON THE EASTERLY END BY A 2-1/2" ALUMINUM CAP STAMPED "NOLTE PL252955 C1/4 S22 T16S, R65W 1999," AND THE WESTERLY END BY A2-1/2" ALUMINUM CAP STAMPED "SSS PL5 16154 1/4 S21 S22 T15S, R65W 2000," BEING ASSUMED TO BEAR S89°54'42"W, A DISTANCE OF 2,627.78 FEET.</p>	<p><b>SEAL</b></p> <p><b>PRELIMINARY</b>          THIS DRAWING HAS NOT BEEN APPROVED BY GOVERNING AGENCIES AND IS SUBJECT TO CHANGE</p> <p>PREPARED BY:            Excellence by Design</p>	<p><b>HAY CREEK VALLEY</b></p> <p>EL PASO COUNTY, COLORADO          FINAL GRADING &amp; EROSION CONTROL PLANS</p> <p><b>DETAILS</b></p> <p>DESIGNED BY: CVW          DRAWN BY: CVW          CHECKED BY: JAO</p> <p>SCALE: HORIZ. N/A          VERT. N/A</p> <p>DATE ISSUED: DECEMBER 2023          SHEET: 11 OF 12</p> <p>DRAWING No. ECN02</p>
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Know what's below. Call before you dig.

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

Description
Temporary seeding can be used to stabilize disturbed areas that will be inactive for an extended period. Permanent seeding should be used to stabilize areas at final grade that will not be otherwise stabilized.



Appropriate Uses
When the soil surface is disturbed and will remain inactive for an extended period (typically determined by local government requirements), protective stabilization measures, including planting a temporary seed mix, should be implemented.

Design and Installation
Effective seeding requires proper seedbed preparation, selecting an appropriate seed mixture, using appropriate seeding equipment to ensure proper coverage and density, and protecting seeded areas with mulch or fabric until plants are established.

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

have low nutrient value, little organic matter content, few soil microorganisms, rooting restrictions, and conditions less conducive to infiltration of precipitation. As a result, it is typically necessary to provide stockpiled topsoil, compost, or other soil amendments and install them into the soil to a depth of 6 inches or more.

When the soil surface is disturbed and will remain inactive for an extended period (typically determined by local government requirements), protective stabilization measures, including planting a temporary seed mix, should be implemented.

Effective seeding requires proper seedbed preparation, selecting an appropriate seed mixture, using appropriate seeding equipment to ensure proper coverage and density, and protecting seeded areas with mulch or fabric until plants are established.

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

recommendations when specific design guidance for a particular site is not available. Local governments typically specify seed mixes appropriate for their jurisdiction.

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Effective seeding requires proper seedbed preparation, selecting an appropriate seed mixture, using appropriate seeding equipment to ensure proper coverage and density, and protecting seeded areas with mulch or fabric until plants are established.

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

Table TS/PS-1. Minimum Drill Seeding Rates for Various Temporary Annual Grasses
Table with 4 columns: Species\* (Common name), Growth Season\*, Pounds of Pure Live Seed (PLS)/acre, and Planting Depth (inches).

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.

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

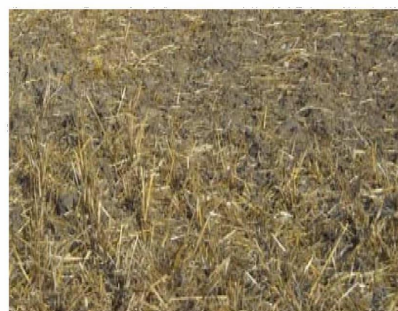
Table TS/PS-2. Seeding Dates for Annual and Perennial Grasses
Table with 5 columns: Seeding Dates, Annual Grasses (Warm, Cool), and Perennial Grasses (Warm, Cool).

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-oxic tackifier.

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

Mulching (MU) EC-4

Description
Mulching consists of evenly applying straw, hay, shredded wood mulch, rock, bark or compost to disturbed soils and securing the mulch by crimping, tackifiers, netting or other measures.



Mulch can be applied either using standard mechanical application methods or using hydromulching equipment that hydraulically applies a slurry of water, wood fiber mulch, and often a tackifier.

Use mulch in conjunction with seeding to help protect the seedbed and stabilize the soil. Mulch can also be used as a temporary cover on low to mild slopes to help temporarily stabilize disturbed areas where growing season constraints prevent effective reseedings.

EC-4 Mulching (MU)

- Clean, weed-free and seed-free cereal grain straw should be applied evenly at a rate of 2 tons per acre and must be tacked or fastened by a method suitable for the condition of the site. Straw mulch must be anchored (and not merely placed) on the surface.

Maintenance and Removal
After mulching, the bare ground surface should not be more than 10 percent exposed. Reapply mulch, as needed, to cover bare areas.

MU-2 Urban Drainage and Flood Control District Urban Storm Drainage Criteria Manual Volume 3 June 2012

TS/PS-2 Urban Drainage and Flood Control District Urban Storm Drainage Criteria Manual Volume 3 January 2021

TS/PS-3 Urban Drainage and Flood Control District Urban Storm Drainage Criteria Manual Volume 3 January 2021

TS/PS-4 Urban Drainage and Flood Control District Urban Storm Drainage Criteria Manual Volume 3 January 2021

TS/PS-5 Urban Drainage and Flood Control District Urban Storm Drainage Criteria Manual Volume 3 January 2021

MU-1 Urban Drainage and Flood Control District Urban Storm Drainage Criteria Manual Volume 3 June 2012

REFERENCE DRAWINGS, SHEET KEY, BENCHMARK, BASIS OF BEARING, SEAL, HAY CREEK VALLEY EL PASO COUNTY, COLORADO FINAL GRADING & EROSION CONTROL PLANS DETAILS, PRELIMINARY THIS DRAWING HAS NOT BEEN APPROVED BY GOVERNING AGENCIES AND IS SUBJECT TO CHANGE, FOR AND ON BEHALF OF MATRIX DESIGN GROUP, INC. PROJECT No. 22.886.076