

WINSOME FILING NO. 3

PRE DEVELOPMENT GRADING AND EROSION CONTROL PLAN

A PORTION OF SECTIONS 13 AND 24, TOWNSHIP 11 SOUTH, RANGE 65 SOUTH, AND
A PORTION OF THE WEST HALF SECTION 19, TOWNSHIP 11 SOUTH, RANGE 64 WEST OF THE 6TH P.M
COUNTY OF EL PASO, STATE OF COLORADO

CONTACTS:

DEVELOPER:
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CONTACT: JONATHAN TESSIN

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EL PASO COUNTY PLANNING
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EMAIL: BRADWALTERS@ELPASOCO.COM

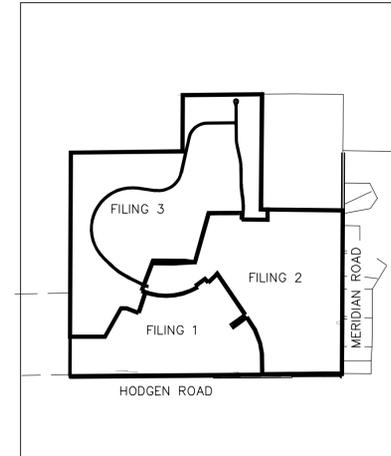
FALCON FIRE DEPARTMENT:
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FIRE CHIEF T. HARWIG
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PAYTON, CO 80831
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PLANNING REVIEWER:
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**COLORADO DEPARTMENT OF PUBLIC
HEALTH AND ENVIRONMENT:**
WATER QUALITY CONTROL DIVISION
4300 CHERRY CREEK DRIVE SOUTH
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ENGINEERING REVIEWER:
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GILBERTLAFORCE@ELPASOCO.COM



VICINITY MAP
1"=2,000'

BENCHMARK

A 2.5" ALUMINUM CAP BEING A 30 FOOT WITNESS CORNER NORTH OF THE SOUTHWEST CORNER OF SECTION 24, TOWNSHIP 11 SOUTH, RANGE 65 WEST OF THE 6TH PRINCIPAL MERIDIAN.

BASIS OF BEARING

THE WEST LINE OF THE NORTHWEST QUARTER OF SECTION 24, TOWNSHIP 11 SOUTH, RANGE 65 WEST OF THE 6 PRINCIPAL MERIDIAN MONUMENTED ON THE SOUTHERLY END BY A 2-1/2" ALUMINUM CAP STAMPED 'LS 28658' AND AT THE NORTHERLY END BY A 3-1/2" ALUMINUM CAP STAMPED 'LS 12103' BEING ASSUMED TO BEAR N00°14'25"E A DISTANCE OF 2636.99 FEET AS SHOWN IN LAND SURVEY PLAT RECORDED UNDER RECEPTION 218900072 RECORDS OF EL PASO COUNTY, COLORADO.

LEGAL DESCRIPTION

TRACT OF LAND BEING A PORTION OF THE SOUTHEAST QUARTER OF SECTION 13, AND A PORTION OF SECTION 24, TOWNSHIP 11 SOUTH, RANGE 65 WEST OF THE 6TH PRINCIPAL MERIDIAN, COUNTY OF EL PASO, STATE OF COLORADO, BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

COMMENCING AT THE WEST QUARTER CORNER OF SAID SECTION 24, SAID POINT BEING THE POINT OF BEGINNING; THENCE N00°14'25"E ON THE WEST LINE OF THE NORTHWEST QUARTER OF SAID SECTION 24, SAID LINE ALSO BEING ON THE WEST BOUNDARY OF PARCEL 4, AS RECORDED UNDER RECEPTION NUMBER 218900072, A DISTANCE OF 2,636.99 FEET TO THE NORTHWEST CORNER OF SAID SECTION 24; THENCE N89°21'38"E ON THE NORTH LINE OF THE NORTHWEST QUARTER OF SAID SECTION 24, A DISTANCE OF 2,633.02 FEET TO THE NORTH QUARTER CORNER OF SAID SECTION 24; THENCE N00°10'29"E ON THE WEST LINE OF THE SOUTH HALF OF THE SOUTH EAST QUARTER OF SECTION 13, TOWNSHIP 11 SOUTH, RANGE 65 WEST, A DISTANCE OF 1,321.95 FEET TO THE NORTHWEST CORNER OF THE SOUTH HALF OF THE SOUTHEAST QUARTER OF SAID SECTION 13; THENCE N89°20'26"E ON THE NORTH LINE OF THE SOUTH HALF OF THE SOUTHEAST QUARTER OF SAID SECTION 13, A DISTANCE OF 1,873.37 FEET; THENCE S00°34'43"W, A DISTANCE OF 2,706.21 FEET; THENCE S89°15'17"E, A DISTANCE OF 155.82 FEET; THENCE S00°17'06"W, A DISTANCE OF 239.06 FEET; THENCE N89°42'54"W, A DISTANCE OF 609.60 FEET TO A POINT ON CURVE; THENCE ON THE ARC OF A CURVE TO THE LEFT, WHOSE CENTER BEARS N85°44'53"W, HAVING A DELTA OF 05°13'06", A RADIUS OF 1,710.00 FEET, A DISTANCE OF 155.74 FEET TO A POINT ON CURVE; THENCE S89°02'00"W, A DISTANCE OF 60.00 FEET; S89°29'13"W, A DISTANCE OF 722.44 FEET; THENCE S15°45'23"W, A DISTANCE OF 1,195.74 FEET; THENCE N82°21'05"W, A DISTANCE OF 229.91 FEET; THENCE N89°29'30"W, A DISTANCE OF 757.49 FEET; THENCE S20°46'13"W, A DISTANCE OF 758.90 FEET TO A POINT ON CURVE; THENCE ON THE ARC OF A CURVE TO THE LEFT, WHOSE CENTER BEARS N22°56'03"E, HAVING A DELTA OF 03°42'28", A RADIUS OF 1,470.00 FEET, A DISTANCE OF 95.13 FEET TO A POINT ON CURVE; THENCE S19°13'35"W, A DISTANCE OF 60.00 FEET; THENCE S18°06'10"W, A DISTANCE OF 383.72 FEET TO A POINT OF CURVE; THENCE ON THE ARC OF A CURVE TO THE RIGHT, HAVING A DELTA OF 02°06'44", A RADIUS OF 1,790.00 FEET, A DISTANCE OF 65.99 FEET TO A POINT ON CURVE; THENCE N69°47'06"W, A DISTANCE OF 306.30 FEET; THENCE N89°45'39"W, A DISTANCE OF 128.26 FEET; THENCE S29°41'56"W, A DISTANCE OF 768.98 FEET; THENCE N89°41'23"W, A DISTANCE OF 820.25 FEET TO A POINT ON THE WEST LINE OF THE SOUTHWEST QUARTER OF SAID SECTION 24; THENCE N00°14'17"E ON THE WEST LINE OF SOUTHWEST QUARTER OF SAID SECTION 24 A DISTANCE OF 1,684.27 FEET TO THE POINT OF BEGINNING.

CONTAINING A CALCULATED AREA OF 15,222,954 SQUARE FEET OR 349.471 ACRES.

FLOODPLAIN NOTE

FEDERAL EMERGENCY MANAGEMENT AGENCY FLOOD INSURANCE RATE MAP, MAP NUMBER 08041C0350G, EFFECTIVE DECEMBER 7, 2018 INDICATES THE AREA IN THE VICINITY OF THIS PARCEL OF LAND TO BE IN ZONE X (AREA DETERMINED TO BE OUT OF THE 500 YEAR FLOODPLAIN). A CONDITIONAL LETTER OF MAP REVISION HAS BEEN PROCESSED AND APPROVED FOR THIS REACH OF WEST KIOWA CREEK (FEMA CASE NO: 19-08-0185R).

SOIL TYPE

THE SOIL ON SITE IS USGS HYDROLOGIC SOIL GROUP B.

SITE INFORMATION

TIMING:
ANTICIPATED STARTING AND COMPLETION TIME PERIOD OF SITE GRADING:
START: SUMMER 2023
END: SUMMER 2024
EXPECTED DATE ON WHICH THE FINAL STABILIZATION WILL BE COMPLETE:
FALL 2024

AREAS:
TOTAL DISTURBED AREA: 32.00 ACRES

RECEIVING WATERS:
NAME OF RECEIVING WATERS: WEST KIOWA CREEK

DESCRIPTION OF EXISTING VEGETATION:
THE EXISTING SITE IS CURRENTLY UNDEVELOPED AND GROUND COVER CONSISTS OF 90% NATIVE GRASSES.

DESCRIPTION OF PERMANENT BMPs:
THREE (3) FULL SPECTRUM EXTENDED DETENTION BASIN
ONE (1) WATER QUALITY EXTENDED DETENTION BASIN
ONE (1) PERMANENT SEDIMENT BASIN

LIMITS OF CONSTRUCTION

ONSITE DISTURBANCE = ±32.00 ACRES
OFFSITE DISTURBANCE = ±0.00 ACRES
TOTAL = ±32.00 ACRES

SHEET INDEX

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1.4	GEC INITIAL PLAN
1.5	GEC INITIAL PLAN
1.6	GEC INITIAL PLAN
1.7	GEC INTERIM PLAN
1.8	GEC INTERIM PLAN
1.9	GEC INTERIM PLAN
1.10	GEC INTERIM PLAN
1.11	CULVERT PLAN & PROFILE
1.12	CULVERT PLAN & PROFILE
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1.14	DETAIL SHEET (2 OF 4)
1.15	DETAIL SHEET (3 OF 4)
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1.17	HEADCUTTING EXHIBIT OVERALL
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1.19	HEADCUTTING EXHIBIT REACH H1
1.20	HEADCUTTING EXHIBIT REACH H5B
1.21	HEADCUTTING EXHIBIT REACH H3
1.22	HEADCUTTING EXHIBIT DETAILS

GEC PLAN SIGNATURES:

DEVELOPER'S/OWNER'S SIGNATURE BLOCK

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

✓ *Joseph W. Desjardin* 01/10/2023
JOE DESJARDIN - WINSOME, LLC DATE
1864 WOODMOOR, CO 80132

ENGINEER'S SIGNATURE BLOCK

THESE DETAILED PLANS AND SPECIFICATIONS WERE PREPARED UNDER MY DIRECTION AND SUPERVISION. SAID PLANS AND SPECIFICATIONS HAVE BEEN PREPARED ACCORDING TO THE CRITERIA ESTABLISHED BY THE COUNTY FOR DETAILED ROADWAY, DRAINAGE, GRADING AND EROSION CONTROL PLANS AND SPECIFICATIONS, AND SAID PLANS AND SPECIFICATIONS ARE IN CONFORMITY WITH APPLICABLE MASTER DRAINAGE PLANS AND MASTER TRANSPORTATION PLANS. SAID PLANS AND SPECIFICATIONS MEET THE PURPOSES FOR WHICH THE PARTICULAR ROADWAY AND DRAINAGE FACILITIES ARE DESIGNED AND ARE CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF. I ACCEPT RESPONSIBILITY FOR ANY LIABILITY CAUSED BY ANY NEGLIGENT ACTS, ERRORS OR OMISSIONS ON MY PART IN PREPARATION OF THESE DETAILED PLANS AND SPECIFICATIONS.



KEVIN KOFFORD, P.E. 57234 - KIMLEY-HORN AND ASSOCIATES, INC. DATE
1/6/2023

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.

Approved
By: Elizabeth Nijkamp, PE
Date: 01/25/2023
El Paso County Department of Public Works

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

NO.	REVISION	BY	DATE
1	RESUBMITTAL #1	KRK	8/30/22
2	RESUBMITTAL #2	KRK	11/30/22

Kimley»Horn
2022 KIMLEY-HORN AND ASSOCIATES, INC.
2 North Nevada Avenue Suite 300
Colorado Springs, Colorado 80903 (719) 453-0180

DESIGNED BY: KRK
DRAWN BY: AJL
CHECKED BY: KRK
DATE: 12/10/2021

WINSOME FILING NO. 3
EL PASO COUNTY, COLORADO
PRE DEVELOPMENT GEC PLAN
COVER SHEET



PROJECT NO.
196106001

SHEET

1.0



WINSOME FILING NO. 3

PRE DEVELOPMENT GRADING AND EROSION CONTROL PLAN

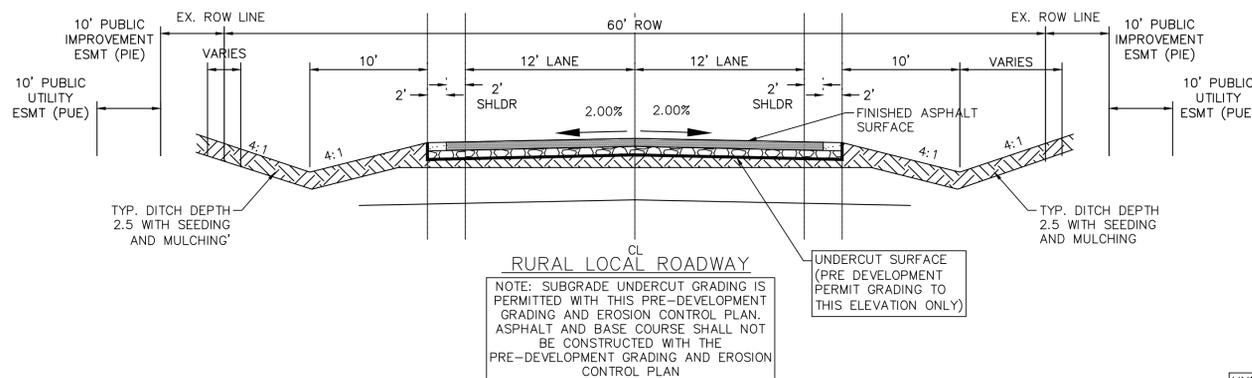
A PORTION OF SECTIONS 13 AND 24, TOWNSHIP 11 SOUTH, RANGE 65 SOUTH, AND
A PORTION OF THE WEST HALF SECTON 19, TOWNSHIP 11 SOUTH, RANGE 64 WEST OF THE 6TH P.M
COUNTY OF EL PASO, STATE OF COLORADO

EL PASO COUNTY GRADING AND EROSION CONTROL PLAN NOTES

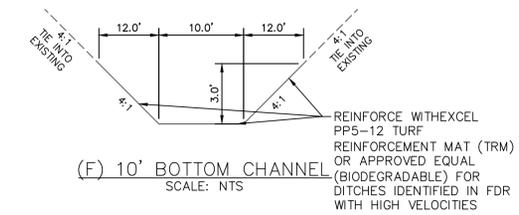
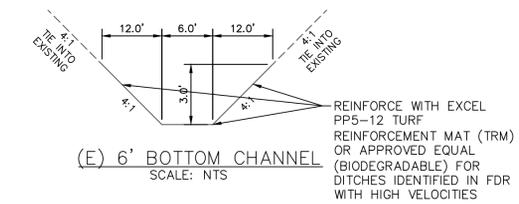
- STORMWATER DISCHARGES FROM CONSTRUCTION SITES SHALL NOT CAUSE OR THREATEN TO CAUSE POLLUTION, CONTAMINATION, OR DEGRADATION OF STATE WATERS. ALL WORK AND EARTH DISTURBANCE SHALL BE DONE IN A MANNER THAT MINIMIZES POLLUTION OF ANY ON-SITE OR OFF-SITE WATERS, INCLUDING WETLANDS.
- NOTWITHSTANDING ANYTHING 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 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 ON-SITE 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 ON-SITE 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 ENTECH ENGINEERING, INC. DATED JANUARY 26, 2021 AND SHALL BE CONSIDERED A PART OF THESE PLANS.
- AT LEAST TEN (10) DAYS PRIOR TO THE ANTICIPATED START OF CONSTRUCTION, FOR PROJECTS THAT WILL DISTURB ONE (1) ACRE OR MORE, THE OWNER OR OPERATOR OF CONSTRUCTION ACTIVITY SHALL SUBMIT A PERMIT APPLICATION FOR STORMWATER DISCHARGE TO THE COLORADO DEPARTMENT OF PUBLIC HEALTH AND ENVIRONMENT, WATER QUALITY DIVISION. THE APPLICATION CONTAINS CERTIFICATION OF COMPLETION OF A STORMWATER MANAGEMENT PLAN (SWMP), OF WHICH THIS GRADING AND EROSION CONTROL PLAN MAY BE A PART. FOR INFORMATION OR APPLICATION MATERIALS CONTACT:

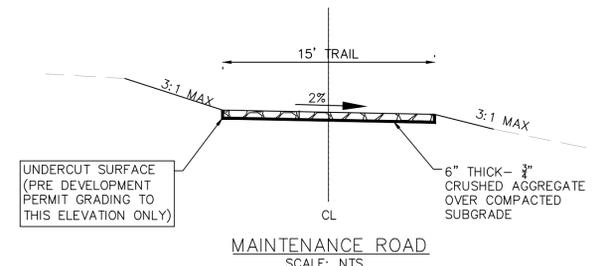
COLORADO DEPARTMENT OF PUBLIC HEALTH AND ENVIRONMENT
WATER QUALITY CONTROL DIVISION
WOOD - PERMITS
4300 CHERRY CREEK DRIVE SOUTH
DENVER, CO 80246-1530
ATTN: PERMITS UNIT



DRAINAGE CHANNEL CROSS SECTIONS



MAINTENANCE ROAD CROSS SECTION



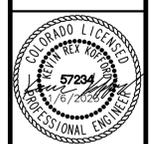
NOTE: SUBGRADE UNDERCUT GRADING IS PERMITTED WITH THIS PRE-DEVELOPMENT GRADING AND EROSION CONTROL PLAN. ASPHALT AND BASE COURSE SHALL NOT BE CONSTRUCTED WITH THE PRE-DEVELOPMENT GRADING AND EROSION CONTROL PLAN
EPC 1/25/2023

NO.	REVISION	BY	DATE
2	RESUBMITTAL #2	KRK	1/30/22
1	RESUBMITTAL #1	KRK	8/30/22

Kimley»Horn
2022 KIMLEY-HORN AND ASSOCIATES, INC.
2 North Nevada Avenue Suite 300
Colorado Springs, Colorado 80903 (719) 453-0180

DESIGNED BY: KRK
DRAWN BY: AJL
CHECKED BY: KRK
DATE: 12/10/2021

WINSOME FILING NO. 3 EL PASO COUNTY, COLORADO PRE DEVELOPMENT GESC PLAN NOTES



PROJECT NO.
196106001

SHEET
1.1

K:\COS_Civil\196106001_Winsome Filing No. 3\CADD\PlanSheets\Early Grading Package\EG_CV.dwg Kofford, Kevin 1/6/2023 1:24 PM



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LEGEND

- CUT AREA
- FILL AREA

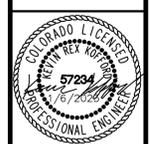
TOTAL CUT: 90,983 CY
 TOTAL FILL: 66,335 CY
 NET: 24,648 CY (CUT)*
 *NO FILL FACTOR APPLIED

NO.	REVISION	BY	DATE	APPR.
2	RESUBMITTAL #2	KRK	11/30/22	KRK
1	RESUBMITTAL #1	KRK	8/30/22	KRK

Kimley»Horn
 2022 KIMLEY-HORN AND ASSOCIATES, INC.
 2 North Nevada Avenue Suite 300
 Colorado Springs, Colorado 80903 (719) 453-0180

DESIGNED BY: KRK
 DRAWN BY: A.J.L.
 CHECKED BY: KRK
 DATE: 12/10/2021

WINSOME FILING NO. 3
 EL PASO COUNTY, COLORADO
 PRE DEVELOPMENT GESC PLAN
 CUT AND FILL PAN



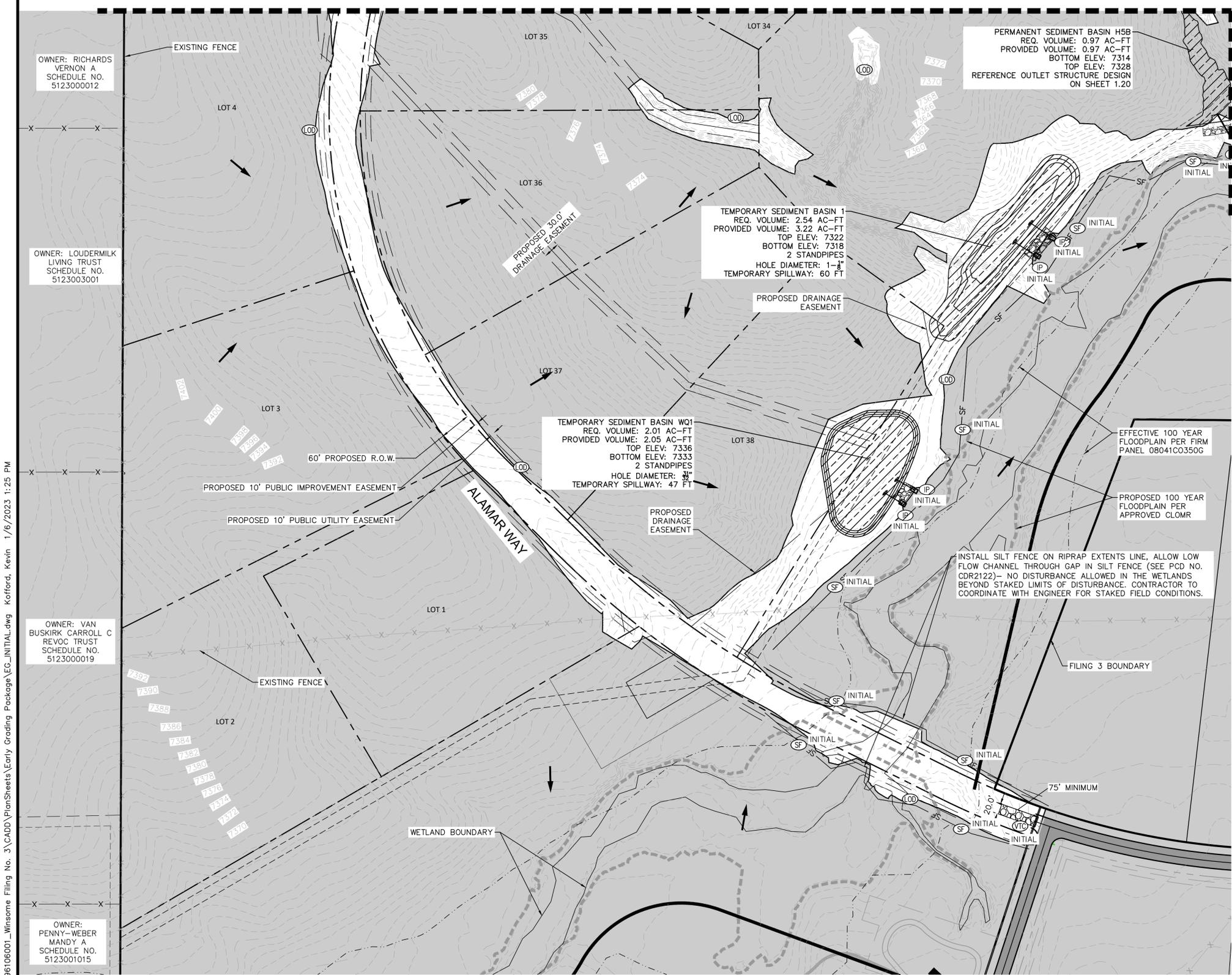
PROJECT NO.
196106001

SHEET

1.2

EPC 1/25/2023

MATCH LINE: SEE SHEET 1.4 FOR CONTINUATION



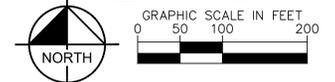
MATCH LINE: SEE SHEET 1.6 FOR CONTINUATION

LEGEND

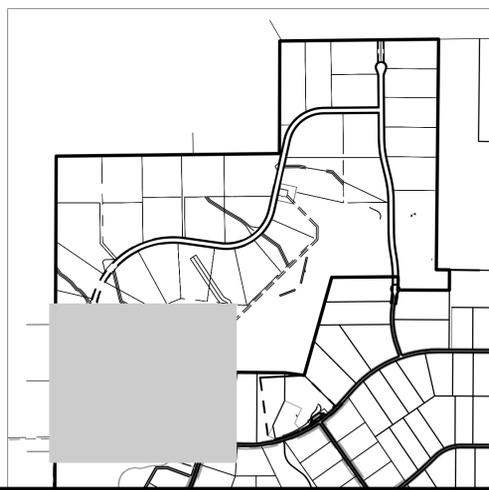
- LOT BOUNDARY LINE
- - - - - EXISTING MAJOR CONTOUR
- - - - - EXISTING MINOR CONTOUR
- LOD --- LIMITS OF CONSTRUCTION/DISTURBANCE
- - - - - CF --- CONSTRUCTION FENCE
- - - - - SF --- SILT FENCE
- CUT/FILL DEMARCATION
- SP --- SOIL STOCKPILE
- SSA --- STABILIZED STAGING AREA
- VTC --- VEHICLE TRACKING CONTROL
- GRAVEL MAINTENANCE ROAD
- TEMPORARY SEDIMENT BASIN
- CONCRETE WASHOUT
- EXISTING FLOW DIRECTION ARROW
- IP --- INLET PROTECTION

- NOTES**
1. THE INTENT OF THIS PLAN IS TO IDENTIFY THE EROSION CONTROL PRACTICES RECOMMENDED. THE CONTRACTOR SHALL REFERENCE ADDITIONAL CONSTRUCTION PLANS FOR DEMOLITION OF EXISTING AND CONSTRUCTION OF PROPOSED IMPROVEMENTS.
 2. ADJACENT STREETS SHALL BE KEPT CLEAN AND FREE OF SEDIMENT AND/OR DEBRIS AT ALL TIMES.
 3. TEMPORARY STABILIZATION (TS) SHALL BE IMPLEMENTED WITHIN THE DISTURBED PORTIONS OF THE PROJECT SITE NO LATER THAN 14 DAYS FOLLOWING THE CEASE OF CONSTRUCTION ACTIVITIES WITHIN THE DISTURBED AREAS.
 4. PERMANENT STABILIZATION (PS) MAY BE USED WITHIN AREAS OF TEMPORARY STABILIZATION (TS) AT THE CONTRACTOR'S DISCRETION. STABILIZATION SHALL BE APPLIED IN ACCORDANCE WITH APPLICABLE TEMPORARY STABILIZATION SEQUENCING REQUIREMENTS.
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 7. SILT FENCE TO BE INSTALLED PRIOR TO COMMENCEMENT OF ONSITE GRADING AND CONSTRUCTION ACTIVITIES.
 8. DEMOLITION, REMOVAL, OVEREXCAVATION AND SOIL TREATMENT SHALL BE IN ACCORDANCE WITH THE GEOTECHNICAL ENGINEER RECOMMENDATIONS AS NOTED IN THE APPROVED PROJECT GEOTECHNICAL REPORT.
 9. VEGETATION COVER IS ABOUT 90% CONSISTING OF NATIVE GRASSES, TREES AND SHRUBS, BASED ON VISUAL INSPECTION
 10. NO ASPHALT OR CONCRETE BATCH PLANTS SHALL BE USED FOR THIS PROJECT.

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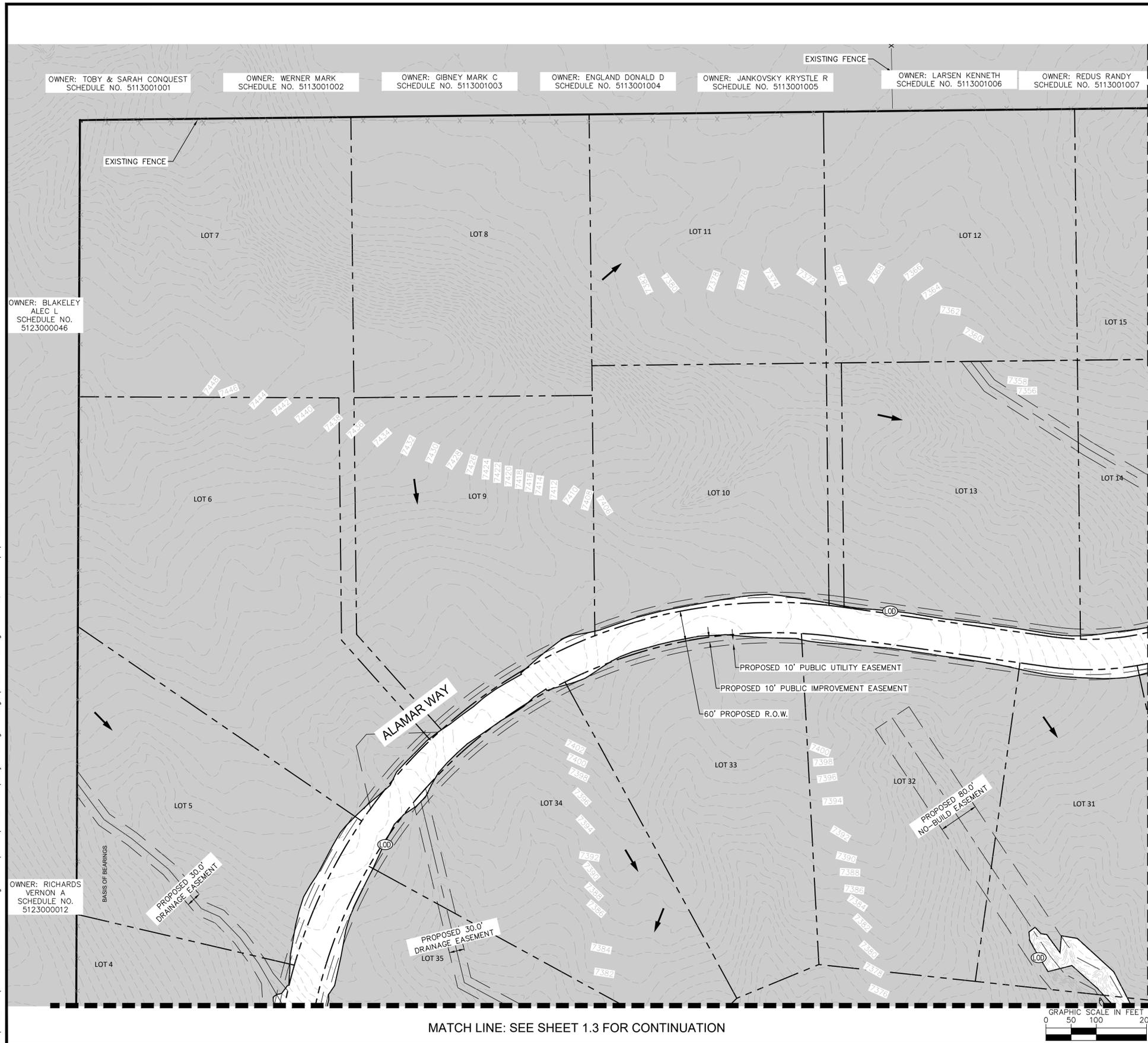


EPC 1/25/2023



<p>Kimley»Horn</p> <p>2022 KIMLEY-HORN AND ASSOCIATES, INC. 2 North Nevada Avenue Suite 300 Colorado Springs, Colorado 80903 (719) 453-0180</p>	<p>DESIGNED BY: KRK DRAWN BY: AJL CHECKED BY: KRK DATE: 12/10/2021</p>
<p>WINSOME FILING NO. 3 EL PASO COUNTY, COLORADO PRE DEVELOPMENT GESC PLAN GEC INITIAL PLAN</p>	<p>PROJECT NO. 196106001</p> <p>SHEET 1.3</p>

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LEGEND

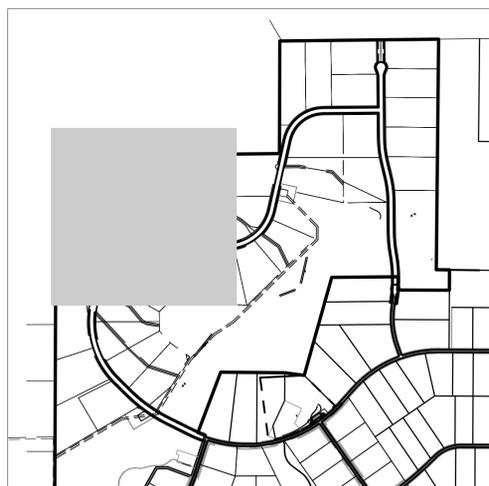
- LOT BOUNDARY LINE
- XXXX--- EXISTING MAJOR CONTOUR
- XXXX--- EXISTING MINOR CONTOUR
- LOD LIMITS OF CONSTRUCTION/DISTURBANCE
- CF CONSTRUCTION FENCE
- SF SILT FENCE
- CUT/FILL DEMARCATION
- SP SOIL STOCKPILE
- SSA STABILIZED STAGING AREA
- VTC VEHICLE TRACKING CONTROL
- GRAVEL MAINTENANCE ROAD
- TEMPORARY SEDIMENT BASIN
- CWA CONCRETE WASHOUT
- EXISTING FLOW DIRECTION ARROW
- IP INLET PROTECTION

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MATCH LINE: SEE SHEET 1.5 FOR CONTINUATION

MATCH LINE: SEE SHEET 1.6 FOR CONTINUATION

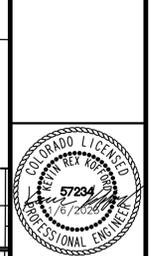


NO.	REVISION	DATE	BY
2	RESUBMITTAL #2	KRK 11/30/22	KRK
1	RESUBMITTAL #1	KRK 8/30/22	KRK

Kimley»Horn
 2022 KIMLEY-HORN AND ASSOCIATES, INC.
 2 North Nevada Avenue Suite 300
 Colorado Springs, Colorado 80903 (719) 453-0180

DESIGNED BY: KRK
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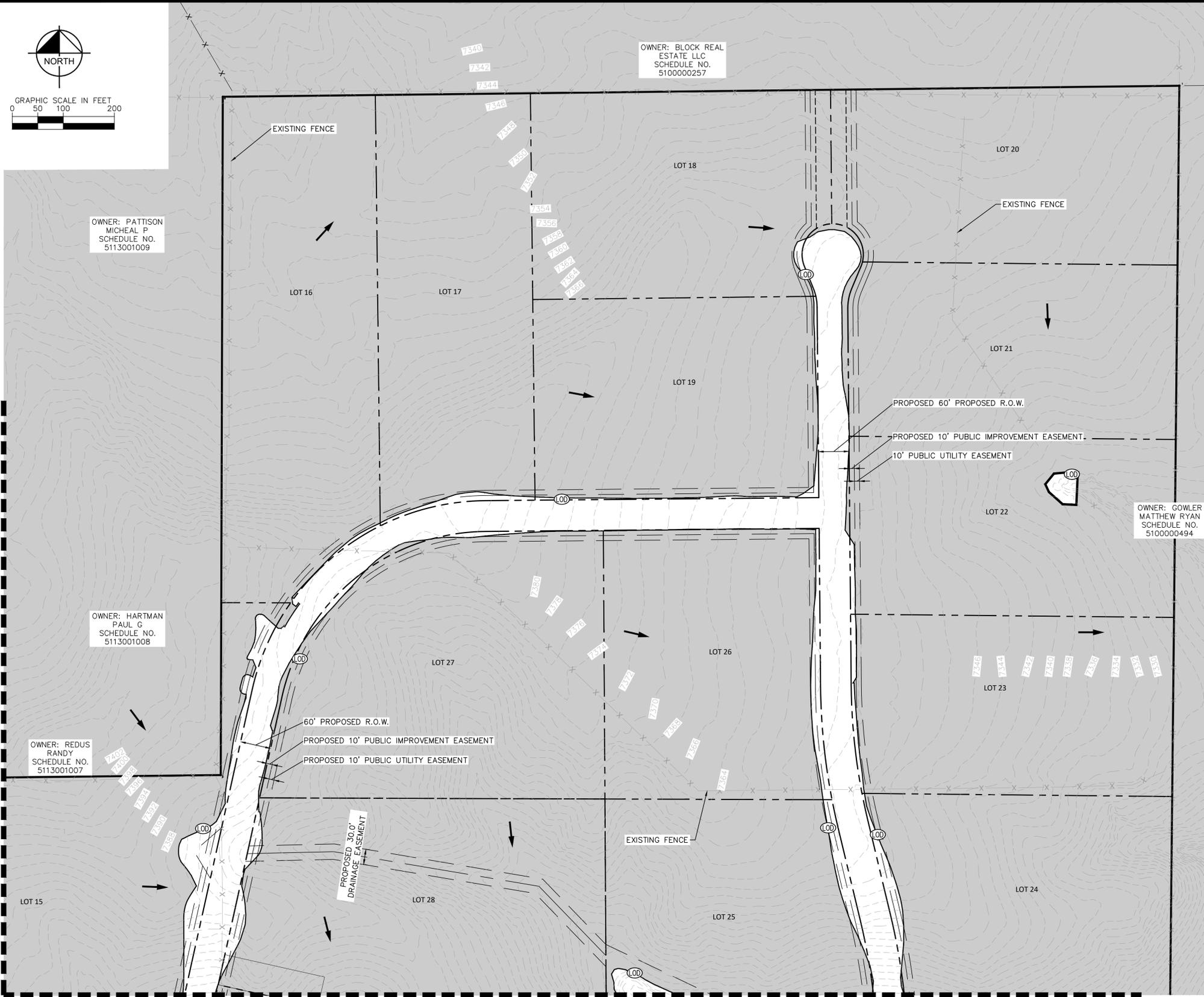
WINSOME FILING NO. 3
 EL PASO COUNTY, COLORADO
 PRE DEVELOPMENT GESC PLAN
 GEC INITIAL PLAN



PROJECT NO.
196106001
 SHEET
1.4

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MATCH LINE: SEE SHEET 1.4 FOR CONTINUATION



MATCH LINE: SEE SHEET 1.6 FOR CONTINUATION

EPC 1/25/2023

LEGEND

---	LOT BOUNDARY LINE
-----	EXISTING MAJOR CONTOUR
- - - - -	EXISTING MINOR CONTOUR
---	LOD LIMITS OF CONSTRUCTION/DISTURBANCE
---	CF CONSTRUCTION FENCE
---	SF SILT FENCE
---	CUT/FILL DEMARCATION
SP	SOIL STOCKPILE
SSA	STABILIZED STAGING AREA
VTC	VEHICLE TRACKING CONTROL
GR	GRAVEL MAINTENANCE ROAD
TSB	TEMPORARY SEDIMENT BASIN
CWA	CONCRETE WASHOUT
IP	INLET PROTECTION
→	EXISTING FLOW DIRECTION ARROW

- NOTES**
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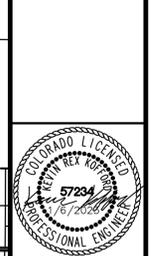


NO.	REVISION	DATE	BY
2	RESUBMITTAL #2	11/30/22	KRK
1	RESUBMITTAL #1	8/30/22	KRK

Kimley»Horn
 2022 KIMLEY-HORN AND ASSOCIATES, INC.
 2 North Nevada Avenue Suite 300
 Colorado Springs, Colorado 80903 (719) 453-0180

DESIGNED BY: KRK
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WINSOME FILING NO. 3
 EL PASO COUNTY, COLORADO
 PRE DEVELOPMENT GESC PLAN
 GEC INITIAL PLAN



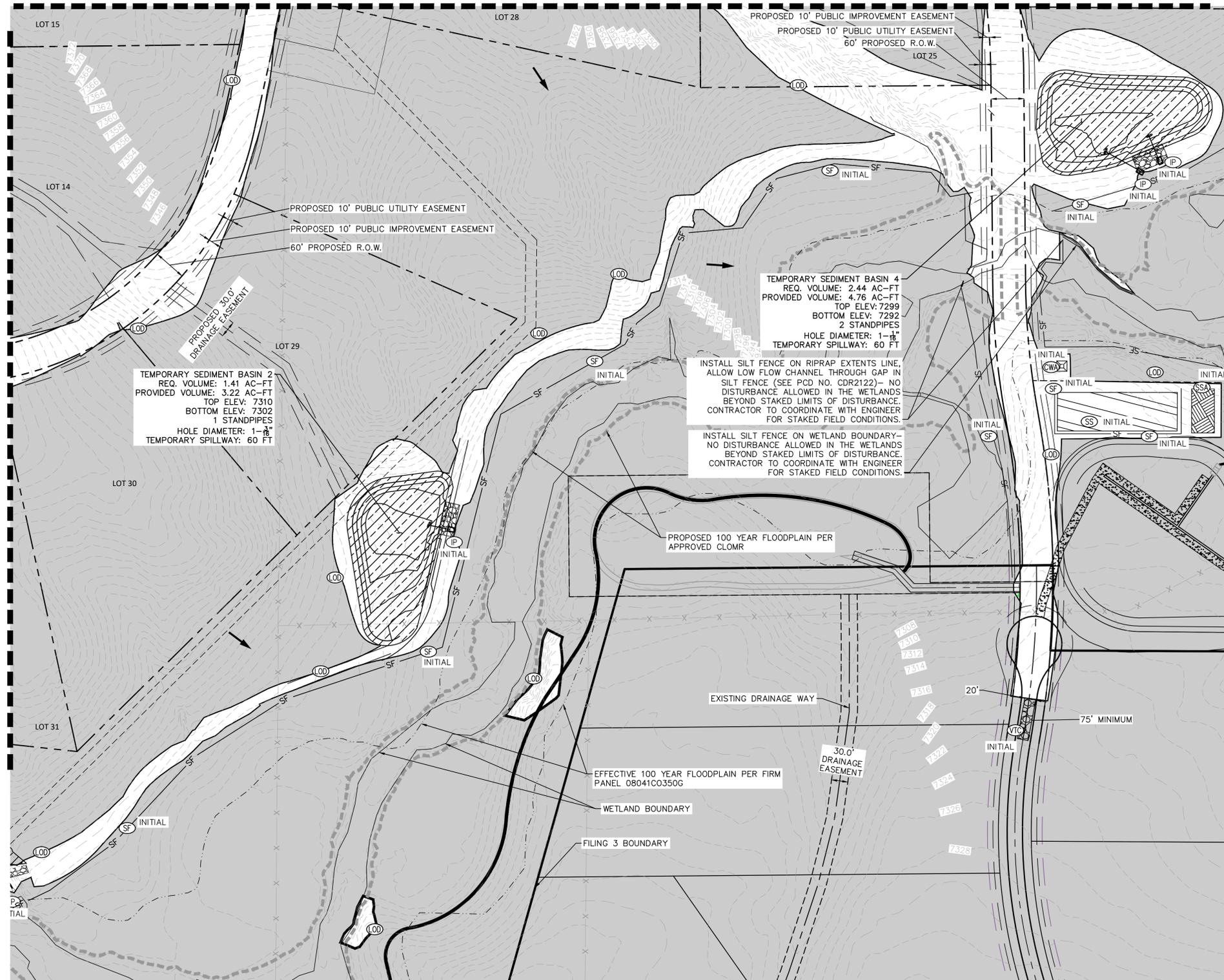
PROJECT NO.
196106001

SHEET
1.5

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MATCH LINE: SEE SHEET 1.4 FOR CONTINUATION

MATCH LINE: SEE SHEET 1.5 FOR CONTINUATION

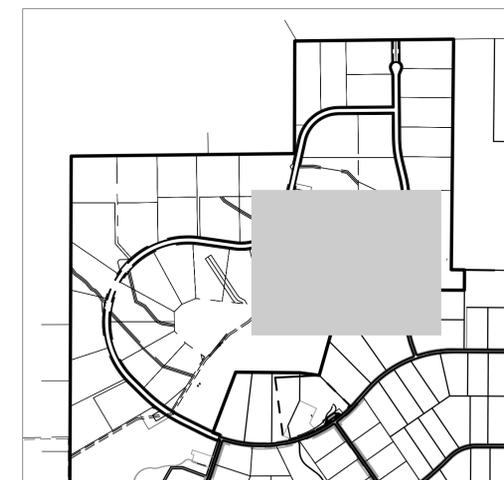
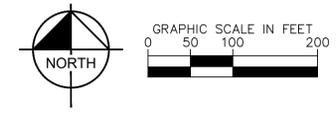


LEGEND

- LOT BOUNDARY LINE
- XXXX --- EXISTING MAJOR CONTOUR
- XXXX --- EXISTING MINOR CONTOUR
- LOD --- LIMITS OF CONSTRUCTION/DISTURBANCE
- CF --- CONSTRUCTION FENCE
- SF --- SILT FENCE
- --- CUT/FILL DEMARCATION
- SP --- SOIL STOCKPILE
- SSA --- STABILIZED STAGING AREA
- VTC --- VEHICLE TRACKING CONTROL
- --- GRAVEL MAINTENANCE ROAD
- --- TEMPORARY SEDIMENT BASIN
- CWA --- CONCRETE WASHOUT
- --- EXISTING FLOW DIRECTION ARROW
- IP --- INLET PROTECTION

NOTES

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EPC 1/25/2023

NO.	REVISION	BY	DATE
2	RESUBMITTAL #2	KRK	11/30/22
1	RESUBMITTAL #1	KRK	8/30/22

Kimley»Horn
 2022 KIMLEY-HORN AND ASSOCIATES, INC.
 2 North Nevada Avenue Suite 300
 Colorado Springs, Colorado 80903 (719) 453-0180

DESIGNED BY: KRK
 DRAWN BY: AJL
 CHECKED BY: KRK
 DATE: 12/10/2021

WINSOME FILING NO. 3
 EL PASO COUNTY, COLORADO
 PRE DEVELOPMENT GESC PLAN
GEC INITIAL PLAN

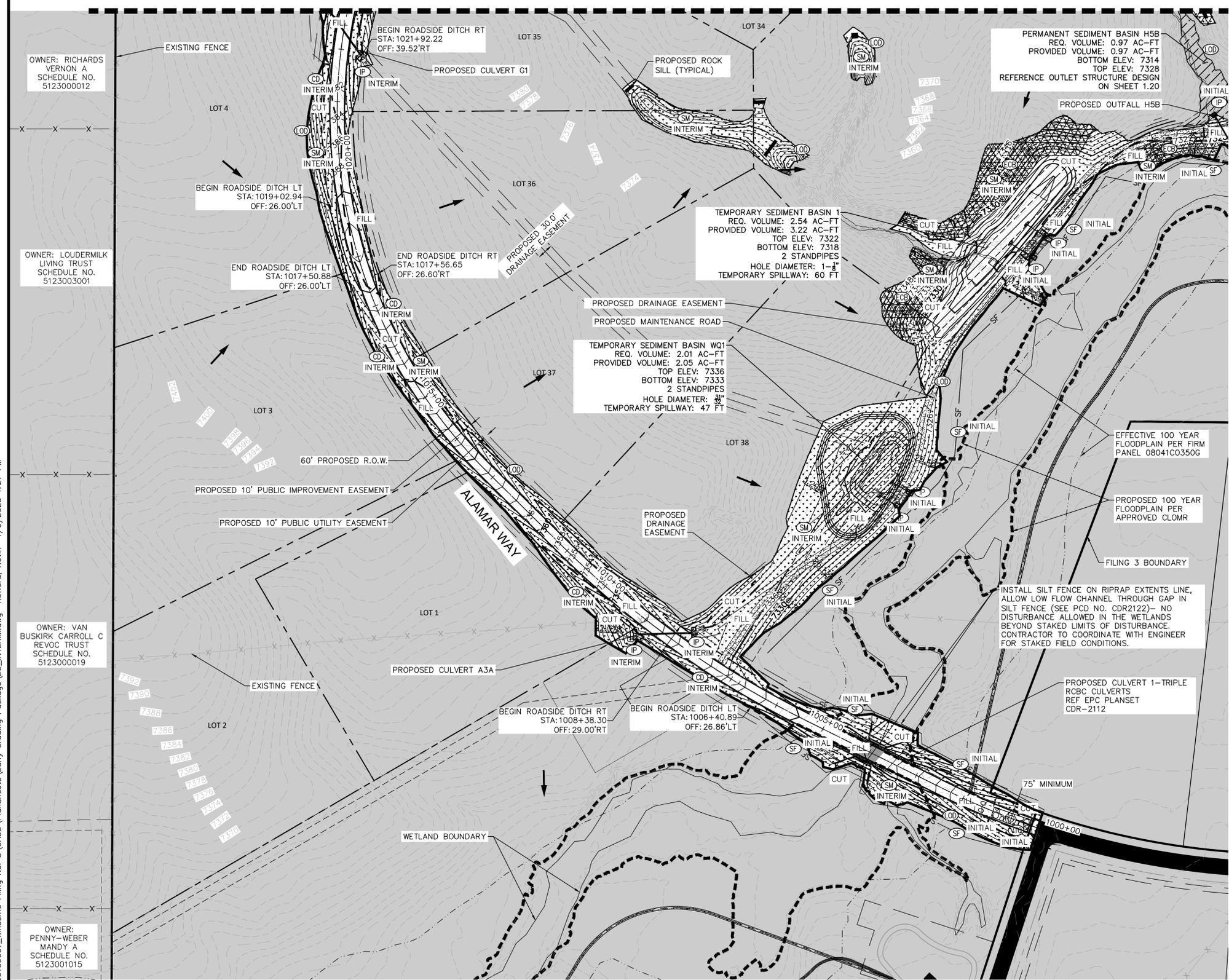


PROJECT NO.
196106001

SHEET

1.6

MATCH LINE: SEE SHEET 1.8 FOR CONTINUATION



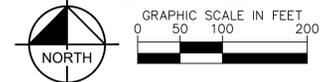
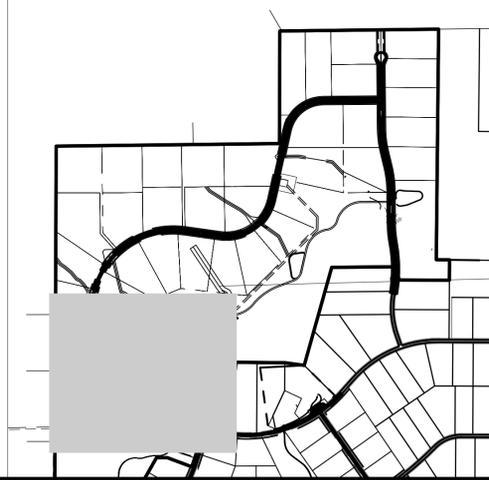
LEGEND

- LOT BOUNDARY LINE
- XXXX ----- EXISTING MAJOR CONTOUR
- XXXX ----- EXISTING MINOR CONTOUR
- XXXX ----- PROPOSED MAJOR CONTOUR
- XXXX ----- PROPOSED MINOR CONTOUR
- (LOD) --- LIMITS OF CONSTRUCTION/DISTURBANCE
- (CF) --- CONSTRUCTION FENCE
- (SF) --- SILT FENCE
- (C/F) --- CUT/FILL DEMARCATION
- (SF) SOIL STOCKPILE
- (SSA) STABILIZED STAGING AREA
- (VTC) VEHICLE TRACKING CONTROL
- (GMR) GRAVEL MAINTENANCE ROAD
- (TSB) TEMPORARY SEDIMENT BASIN
- (ECB) EROSION CONTROL BLANKET (SEE NOTE 4)
- (SM) SEEDING AND MULCHING
- (CWA) CONCRETE WASHOUT
- EXISTING FLOW DIRECTION ARROW
- (IP) INLET PROTECTION
- (CD) CHECK DAMS (SEE NOTE 8)

NOTES

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7. ROCK CHECK DAMS (CD) MAY BE SUBSTITUTED FOR SEDIMENT CONTROL LOGS (SCL) OR STRAW WADDLES. CONTRACTOR TO DETERMINE LOCATION OF CD WITHIN THE ROADSIDE DITCH (SEE TABLE FOR MIN. SPACING REQUIREMENTS) IN COORDINATION WITH COUNTY INSPECTORS.

SIZE OF SCL (STRAW WADDLE)	SPACING (PER VERTICAL FEET OF FALL)
9 INCH	1.5 FEET
12 INCH	2 FEET
16 INCH	2.67 FEET



EPC 1/25/2023

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OWNER: RICHARDS
VERNON A
SCHEDULE NO.
5123000012

OWNER: LOUDERMILK
LIVING TRUST
SCHEDULE NO.
5123003001

OWNER: VAN
BUSKIRK CARROLL C
REVOC TRUST
SCHEDULE NO.
5123000019

OWNER:
PENNY-WEBER
MANDY A
SCHEDULE NO.
5123001015

NO.	REVISION	DATE	BY
1	RESUBMITTAL #1	KRK 1/30/22	KRK
2	RESUBMITTAL #2	KRK 1/30/22	KRK

Kimley»Horn
2022 KIMLEY-HORN AND ASSOCIATES, INC.
2 North Nevada Avenue Suite 300
Colorado Springs, Colorado 80903 (719) 453-0180

DESIGNED BY: KRK
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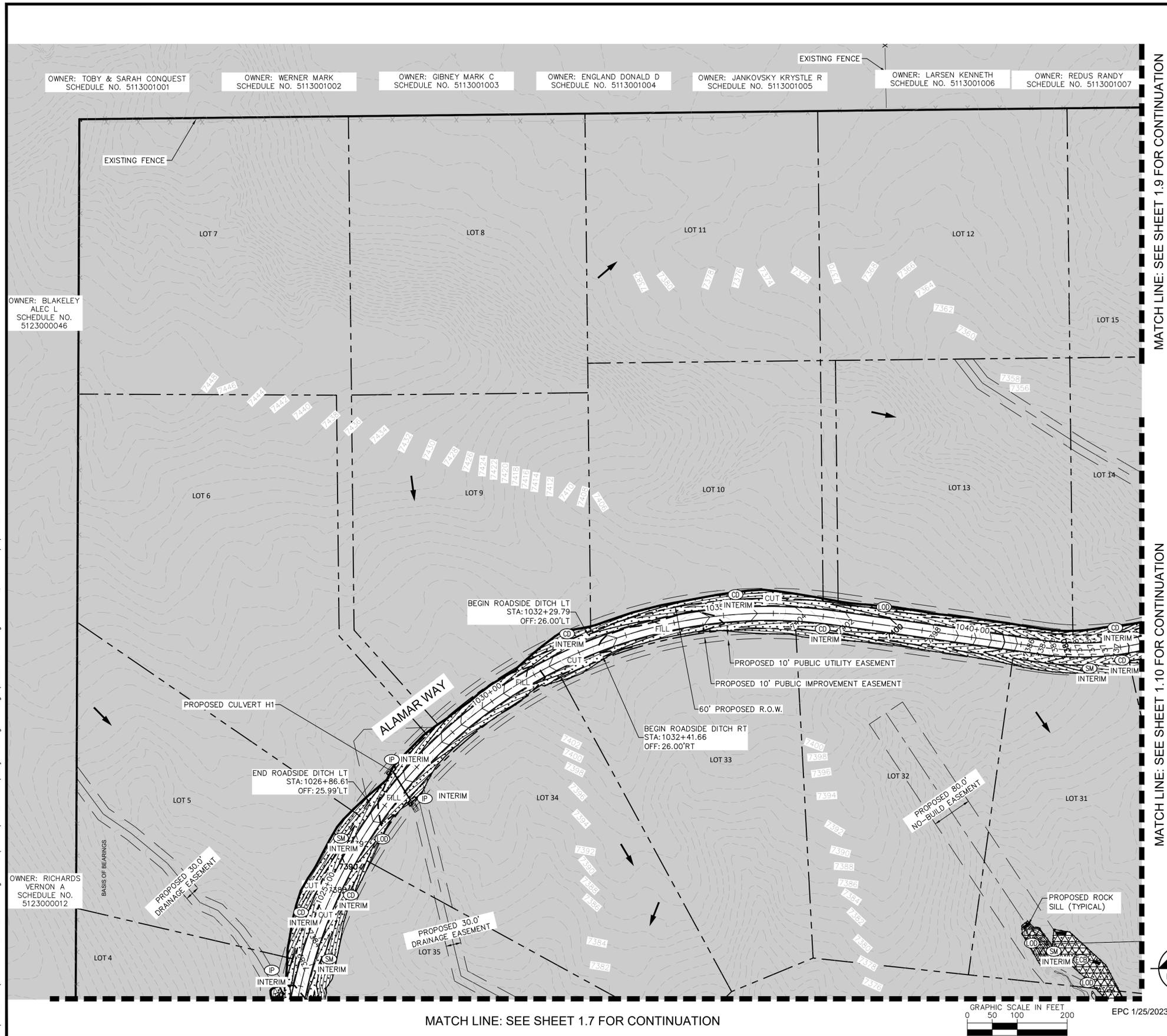
WINSOME FILING NO. 3
EL PASO COUNTY, COLORADO
PRE DEVELOPMENT GESC PLAN
GEC INTERIM PLAN



PROJECT NO.
196106001

SHEET
1.7

K:\COS_Civil\196106001_Winsome Filing No. 3\CADD\PlanSheets\Early Grading Package\EG_INTERIM.dwg Kofford, Kevin 1/6/2023 1:27 PM



LEGEND

- LOT BOUNDARY LINE
- XXXX--- EXISTING MAJOR CONTOUR
- XXXX--- EXISTING MINOR CONTOUR
- XXXX--- PROPOSED MAJOR CONTOUR
- XXXX--- PROPOSED MINOR CONTOUR
- (LOD)--- LIMITS OF CONSTRUCTION/DISTURBANCE
- (CF)--- CONSTRUCTION FENCE
- (SF)--- SILT FENCE
- (C/F)--- CUT/FILL DEMARCATION
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- (SSA)--- STABILIZED STAGING AREA
- (VTC)--- VEHICLE TRACKING CONTROL
- (GMR)--- GRAVEL MAINTENANCE ROAD
- (TSB)--- TEMPORARY SEDIMENT BASIN
- (ECB)--- EROSION CONTROL BLANKET (SEE NOTE 4)
- (SM)--- SEEDING AND MULCHING
- (CWA)--- CONCRETE WASHOUT
- (IP)--- INLET PROTECTION
- (CD)--- CHECK DAMS (SEE NOTE 8)
- (A)--- EXISTING FLOW DIRECTION ARROW

NOTES

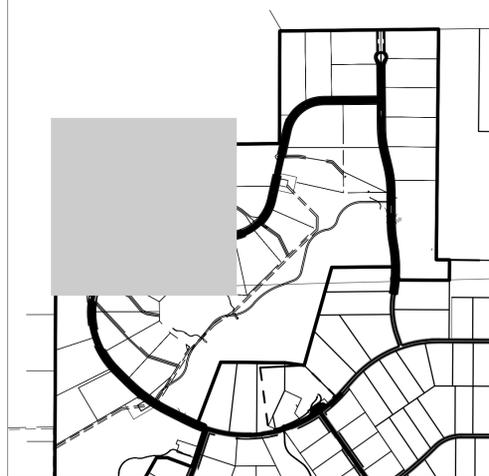
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SIZE OF SCL (STRAW WADDLE)	SPACING (PER VERTICAL FEET OF FALL)
9 INCH	1.5 FEET
12 INCH	2 FEET
16 INCH	2.67 FEET

MATCH LINE: SEE SHEET 1.9 FOR CONTINUATION

MATCH LINE: SEE SHEET 1.10 FOR CONTINUATION

MATCH LINE: SEE SHEET 1.7 FOR CONTINUATION



NO.	REVISION	DATE	BY
2	RESUBMITTAL #2	KRK 1/30/22	KRK
1	RESUBMITTAL #1	KRK 8/30/22	KRK

Kimley»Horn

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2 North Nevada Avenue Suite 300
Colorado Springs, Colorado 80903 (719) 453-0180

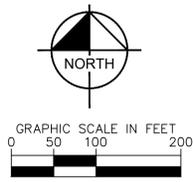
DESIGNED BY: KRK
DRAWN BY: AUL
CHECKED BY: KRK
DATE: 12/10/2021

WINSOME FILING NO. 3
EL PASO COUNTY, COLORADO
PRE DEVELOPMENT GESC PLAN
GEC INTERIM PLAN



PROJECT NO. 196106001
SHEET

1.8



OWNER: PATTISON
MICHAEL P.
SCHEDULE NO.
5113001009

OWNER: HARTMAN
PAUL G.
SCHEDULE NO.
5113001008

OWNER: REDUS
RANDY
SCHEDULE NO.
5113001007

OWNER: BLOCK REAL
ESTATE LLC
SCHEDULE NO.
510000257

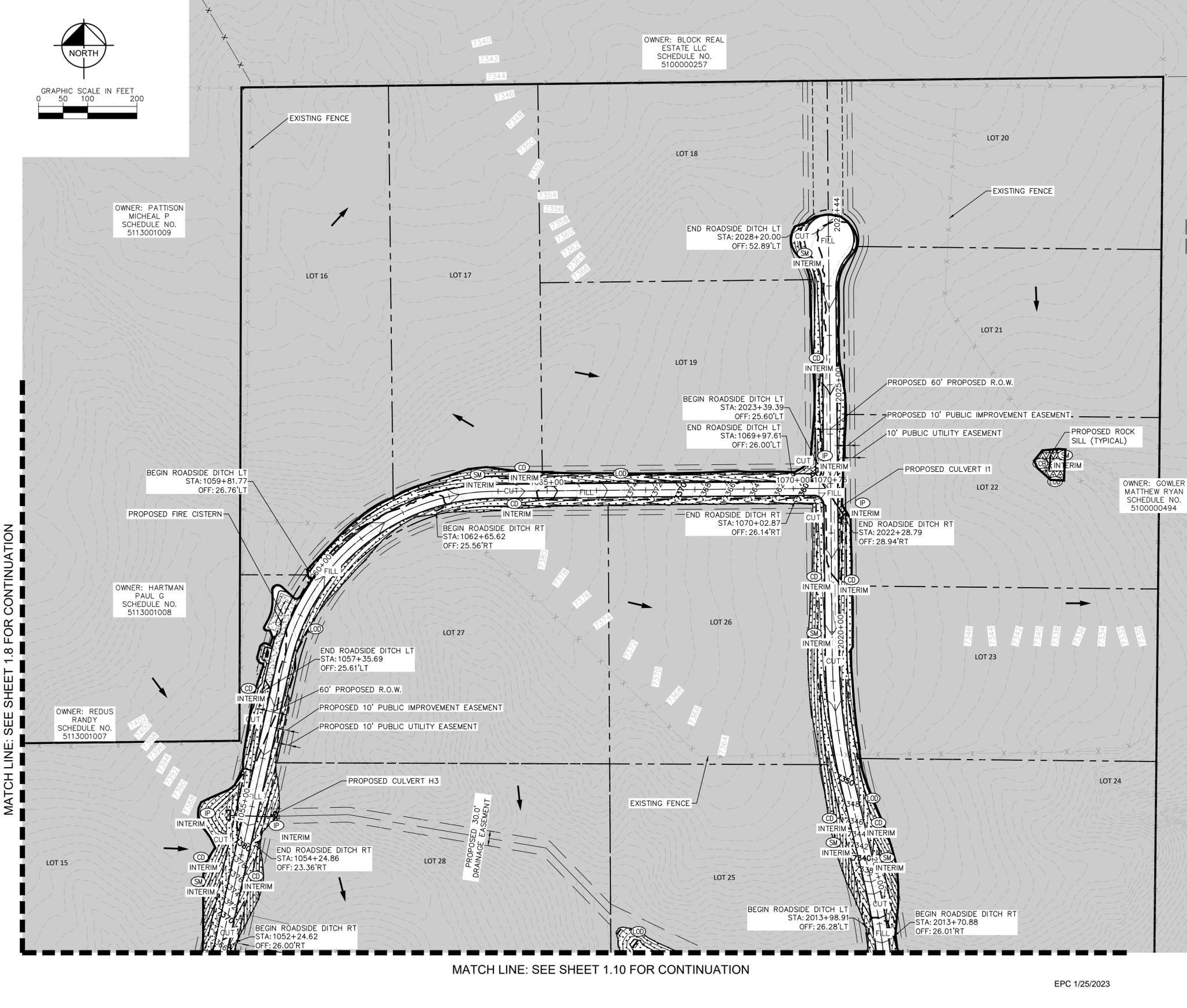
OWNER: GOWLER
MATTHEW RYAN
SCHEDULE NO.
510000494

MATCH LINE: SEE SHEET 1.8 FOR CONTINUATION

MATCH LINE: SEE SHEET 1.10 FOR CONTINUATION

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EPC 1/25/2023



LEGEND

- LOT BOUNDARY LINE
- EXISTING MAJOR CONTOUR
- EXISTING MINOR CONTOUR
- PROPOSED MAJOR CONTOUR
- PROPOSED MINOR CONTOUR
- (LO) LIMITS OF CONSTRUCTION/DISTURBANCE
- (CF) CONSTRUCTION FENCE
- (SF) SILT FENCE
- CUT/FILL DEMARCATION
- (SP) SOIL STOCKPILE
- (SSA) STABILIZED STAGING AREA
- (VTC) VEHICLE TRACKING CONTROL
- GRAVEL MAINTENANCE ROAD
- TEMPORARY SEDIMENT BASIN
- (ECB) EROSION CONTROL BLANKET (SEE NOTE 4)
- (SM) SEEDING AND MULCHING
- (CWA) CONCRETE WASHOUT
- (IP) INLET PROTECTION
- (CD) CHECK DAMS (SEE NOTE 8)

NOTES

- THE INTENT OF THIS PLAN IS TO IDENTIFY THE EROSION CONTROL PRACTICES RECOMMENDED. THE CONTRACTOR SHALL REFERENCE ADDITIONAL CONSTRUCTION PLANS FOR DEMOLITION OF EXISTING AND CONSTRUCTION OF PROPOSED IMPROVEMENTS.
- TEMPORARY STABILIZATION (TS) SHALL BE IMPLEMENTED WITHIN THE DISTURBED PORTIONS OF THE PROJECT SITE NO LATER THAN 14 DAYS FOLLOWING THE CEASE OF CONSTRUCTION ACTIVITIES WITHIN THE DISTURBED AREAS.
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- CONTRACTOR SHALL UTILIZE ROLLED EROSION CONTROL PRODUCTS (STRAW-SINGLE NET EROSION CONTROL BLANKETS AND OPEN WEAVE TEXTILES) ON ALL SLOPES 3H:1V OR GREATER TO ACHIEVE REQUIRED STABILIZATION.
- SILT FENCE TO BE INSTALLED PRIOR TO COMMENCEMENT OF ONSITE GRADING AND CONSTRUCTION ACTIVITIES.
- DEMOLITION, REMOVAL, OVEREXCAVATION AND SOIL TREATMENT SHALL BE IN ACCORDANCE WITH THE GEOTECHNICAL ENGINEER RECOMMENDATIONS AS NOTED IN THE APPROVED PROJECT GEOTECHNICAL REPORT.
- VEGETATION COVER IS ABOUT 90% CONSISTING OF NATIVE GRASSES, TREES AND SHRUBS. BASED ON VISUAL INSPECTION ROCK CHECK DAMS (CD) MAY BE SUBSTITUTED FOR SEDIMENT CONTROL LOGS (SCL) OR STRAW WADDLES. CONTRACTOR TO DETERMINE LOCATION OF CD WITHIN THE ROADSIDE DITCH (SEE TABLE FOR MIN. SPACING REQUIREMENTS) IN COORDINATION WITH COUNTY INSPECTORS.

SIZE OF SCL (STRAW WADDLE)	SPACING (PER VERTICAL FEET OF FALL)
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12 INCH	2 FEET
16 INCH	2.67 FEET



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 EL PASO COUNTY, COLORADO
 PRE DEVELOPMENT GESC PLAN
 GEC INTERIM PLAN

DESIGNED BY: KRK
 DRAWN BY: AUL
 CHECKED BY: KRK
 DATE: 12/10/2021

PROJECT NO.
196106001
 SHEET
1.9

KIMLEY-HORN AND ASSOCIATES, INC.
 2 North Nevada Avenue Suite 300
 Colorado Springs, Colorado 80903 (719) 453-0180

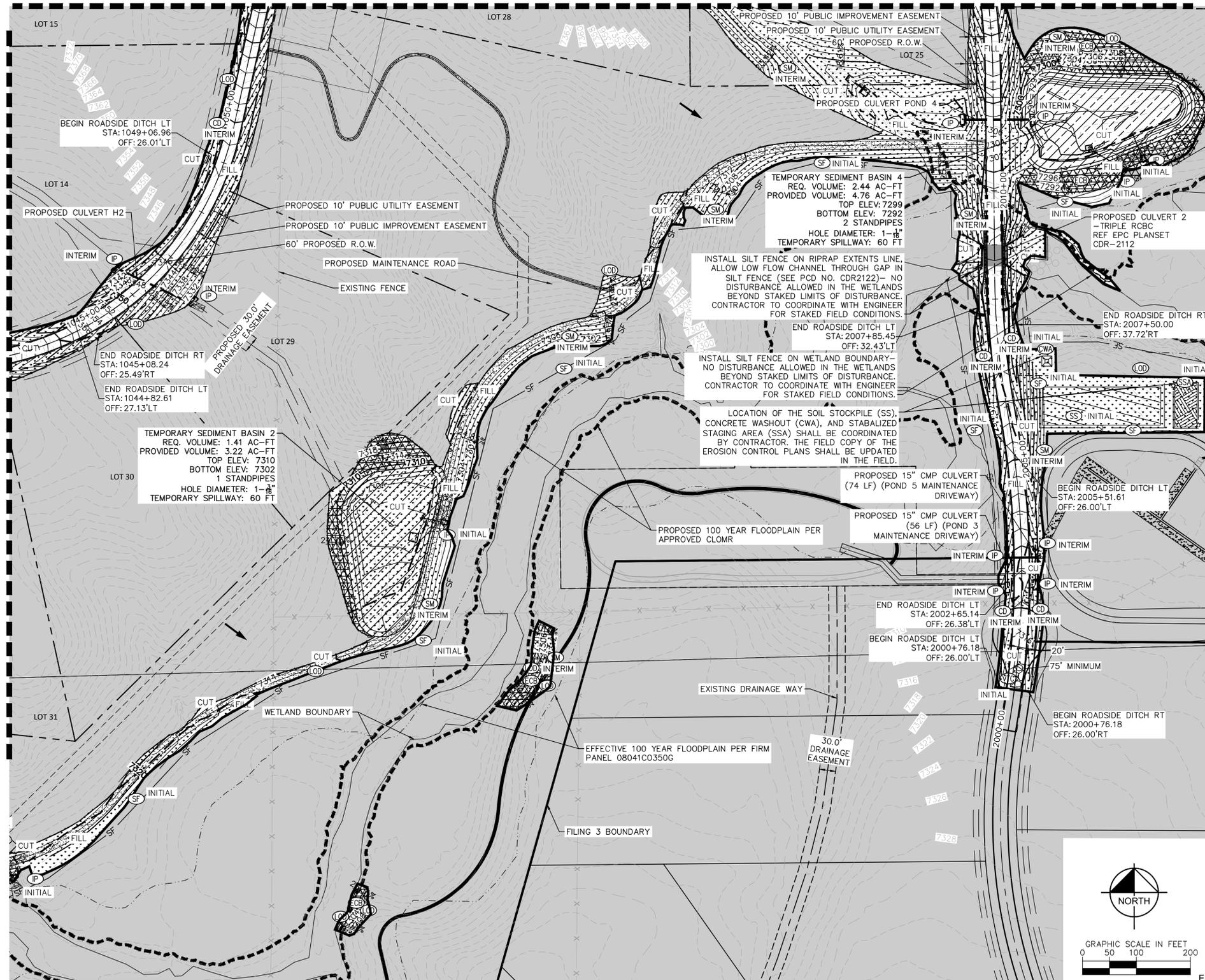
57234
 PROFESSIONAL ENGINEER

NO.	REVISION	DATE	BY
1		11/30/22	KRK
2		11/30/22	KRK

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MATCH LINE: SEE SHEET 1.7 FOR CONTINUATION

MATCH LINE: SEE SHEET 1.9 FOR CONTINUATION



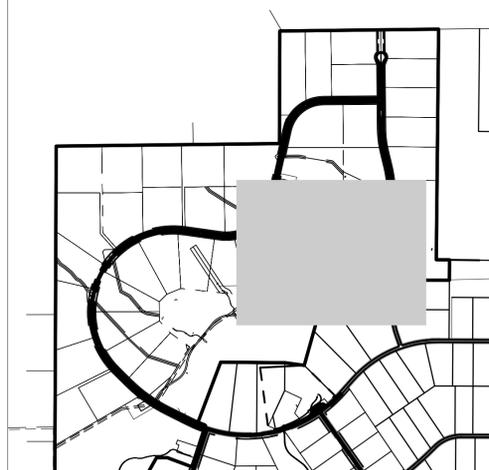
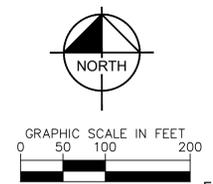
LEGEND

- LOT BOUNDARY LINE
- XXXX--- EXISTING MAJOR CONTOUR
- XXXX--- EXISTING MINOR CONTOUR
- XXXX--- PROPOSED MAJOR CONTOUR
- XXXX--- PROPOSED MINOR CONTOUR
- (LOD)--- LIMITS OF CONSTRUCTION/DISTURBANCE
- (CF)--- CONSTRUCTION FENCE
- (SF)--- SILT FENCE
- (C/F)--- CUT/FILL DEMARCATION
- (SF)--- SOIL STOCKPILE
- (SSA)--- STABILIZED STAGING AREA
- (VTC)--- VEHICLE TRACKING CONTROL
- (GMR)--- GRAVEL MAINTENANCE ROAD
- (TS)--- TEMPORARY SEDIMENT BASIN
- (ECB)--- EROSION CONTROL BLANKET (SEE NOTE 4)
- (SM)--- SEEDING AND MULCHING
- (CWA)--- CONCRETE WASHOUT
- (IP)--- INLET PROTECTION
- (CD)--- CHECK DAMS (SEE NOTE 8)
- (X)--- EXISTING FLOW DIRECTION ARROW

NOTES

1. THE INTENT OF THIS PLAN IS TO IDENTIFY THE EROSION CONTROL PRACTICES RECOMMENDED. THE CONTRACTOR SHALL REFERENCE ADDITIONAL CONSTRUCTION PLANS FOR DEMOLITION OF EXISTING AND CONSTRUCTION OF PROPOSED IMPROVEMENTS.
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1				
2				

Kimley»Horn
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 2 North Nevada Avenue Suite 300
 Colorado Springs, Colorado 80903 (719) 453-0180

DESIGNED BY: KRK
 DRAWN BY: AJL
 CHECKED BY: KRK
 DATE: 12/10/2021

WINSOME FILING NO. 3
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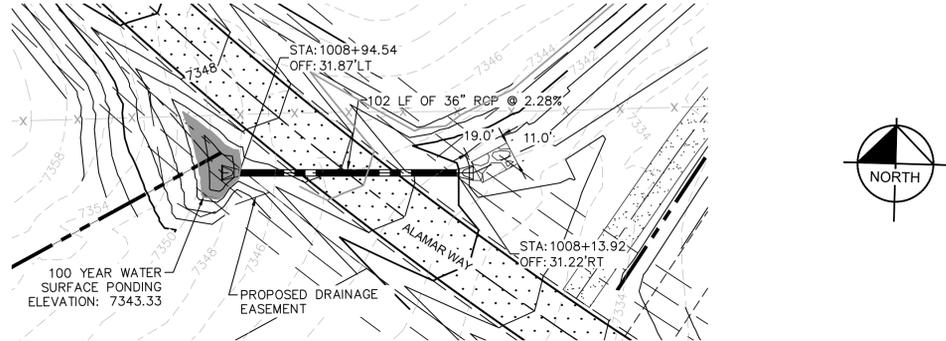


PROJECT NO.
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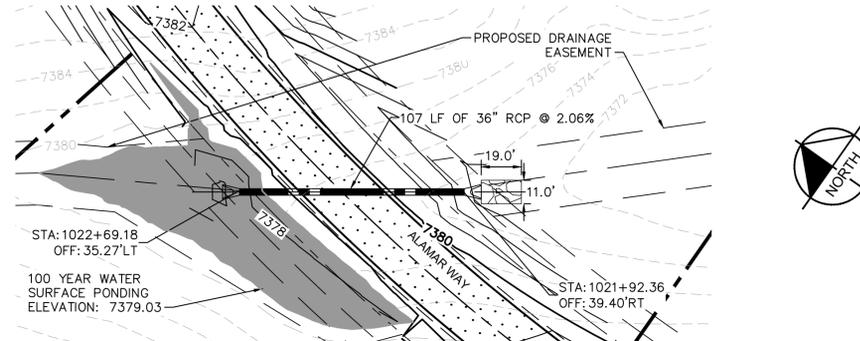
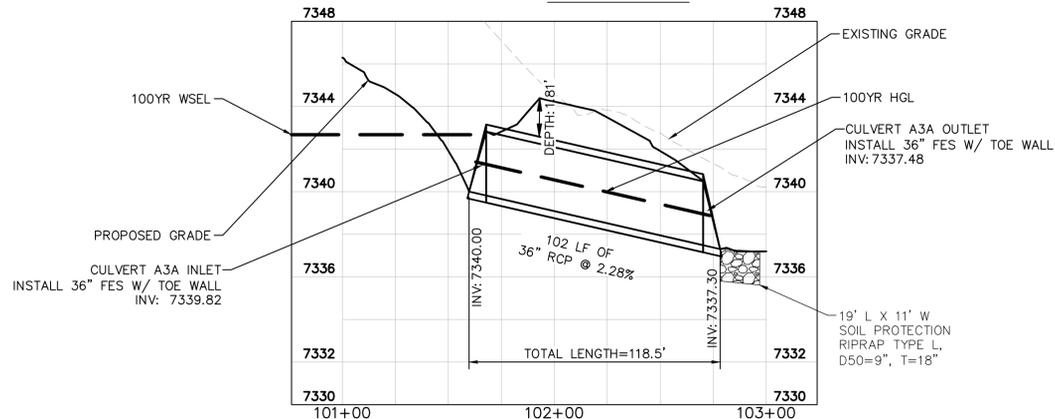
EPC 1/25/2023

NOTES

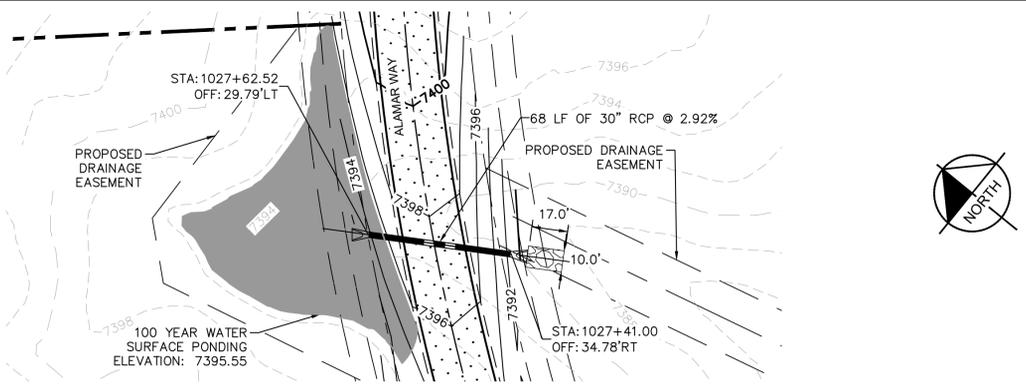
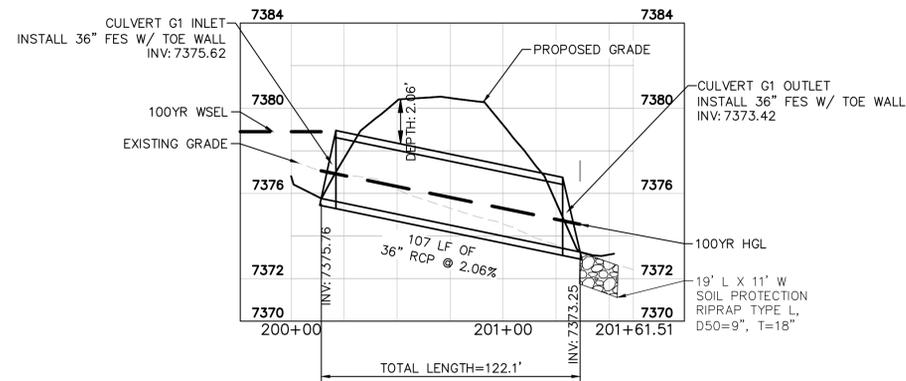
- PIPE LENGTH SHOWN IS 2D PIPE LENGTH. CONTRACTOR TO VERIFY QUANTITIES FOR ACTUAL LENGTH.
- ASSUMED FLARED END SECTIONS (FES) LENGTHS ARE THE FOLLOWING:
 6'-1": 18"-30" FES
 8'-1": 30" FES
 8'-2": 42"-48" FES



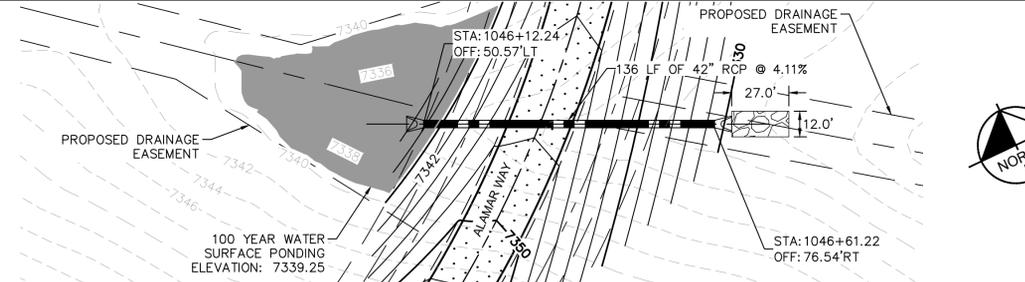
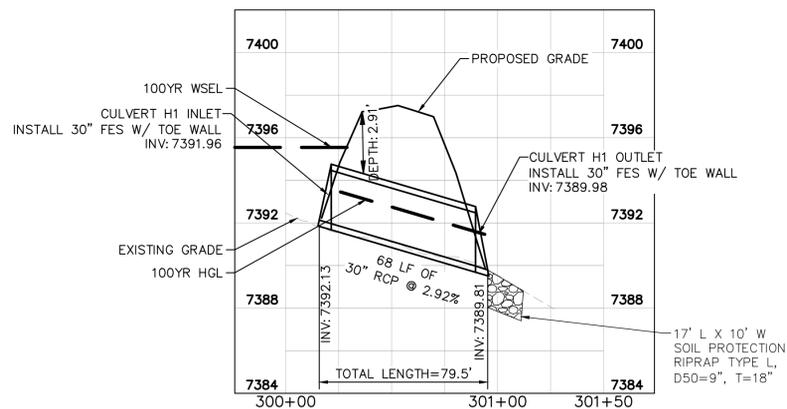
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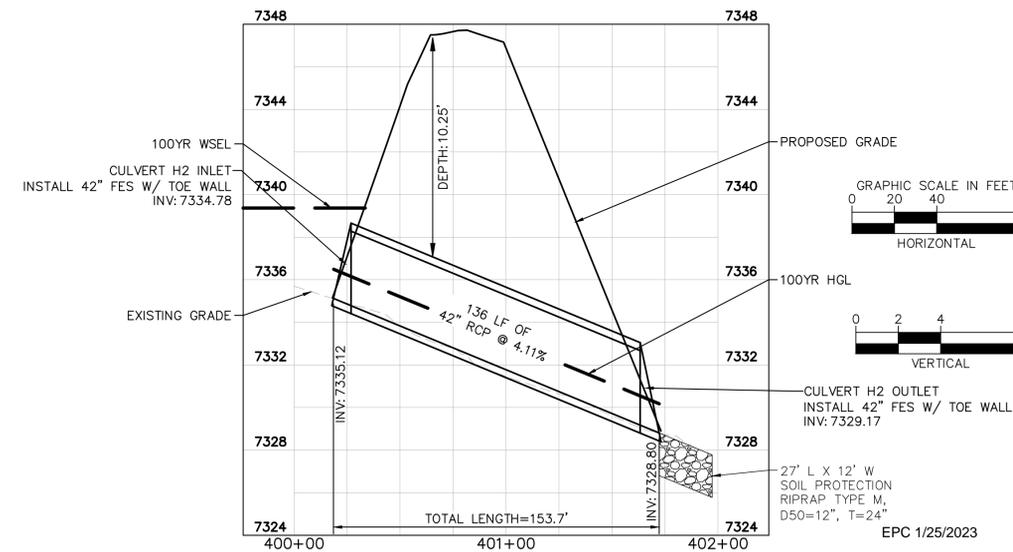
CULVERT G1



CULVERT H1



CULVERT H2



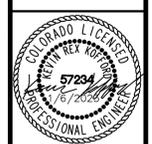
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NO.	REVISION	DATE	BY	APPR.
1	RESUBMITTAL #1	KRK 11/30/22	KRK	
2	RESUBMITTAL #2	KRK 1/30/23	KRK	

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DESIGNED BY: KRK
 DRAWN BY: A.JL
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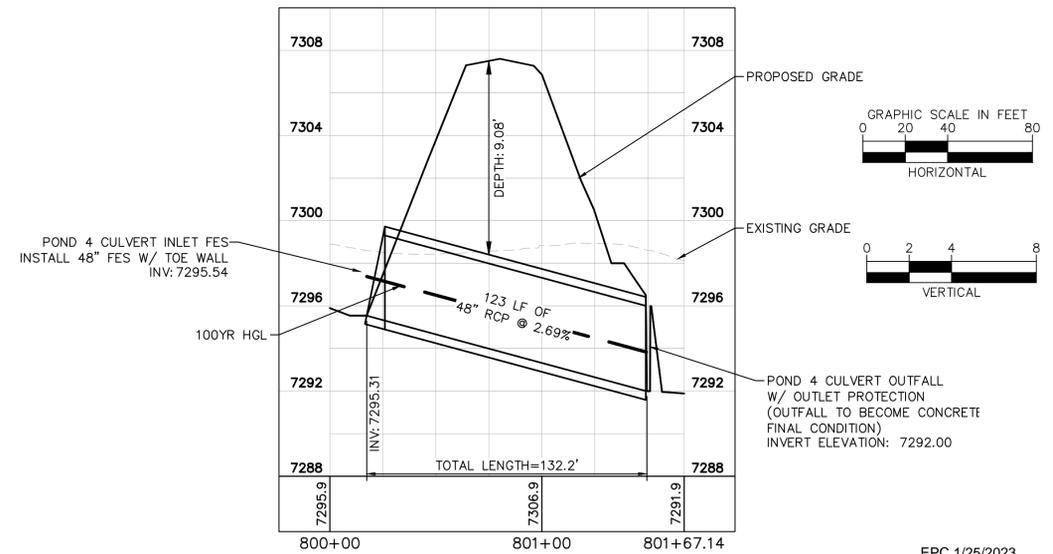
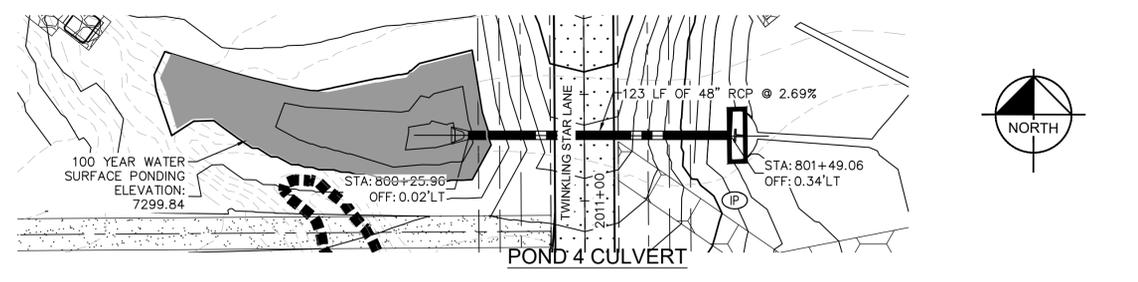
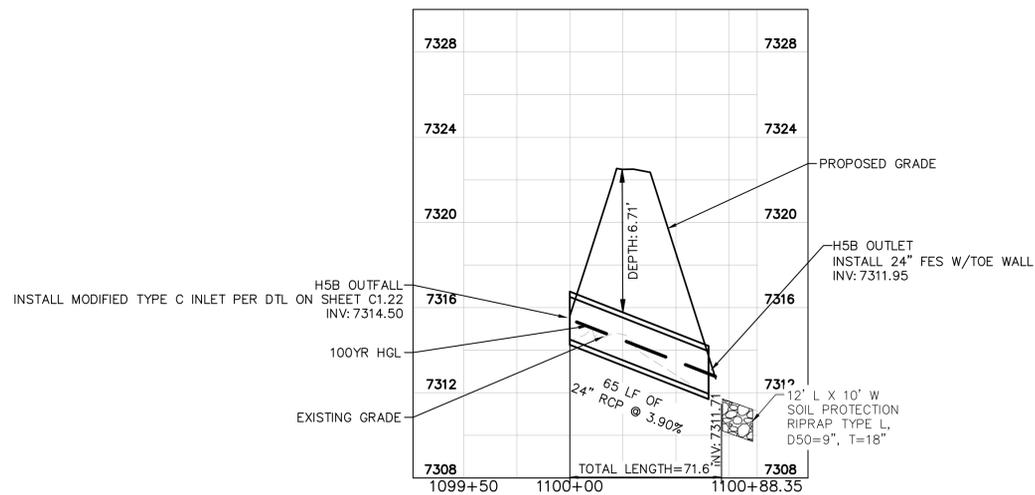
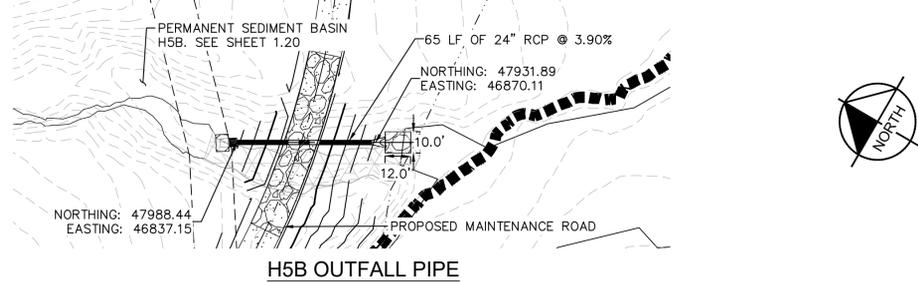
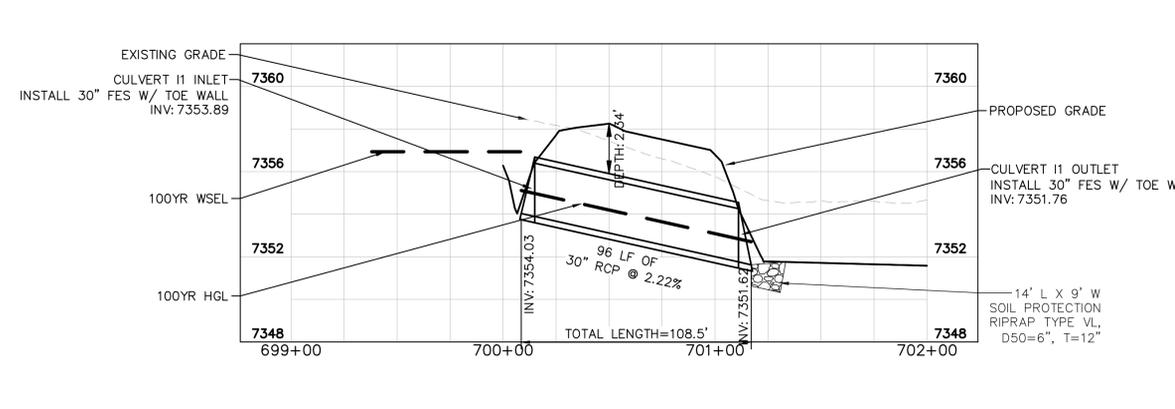
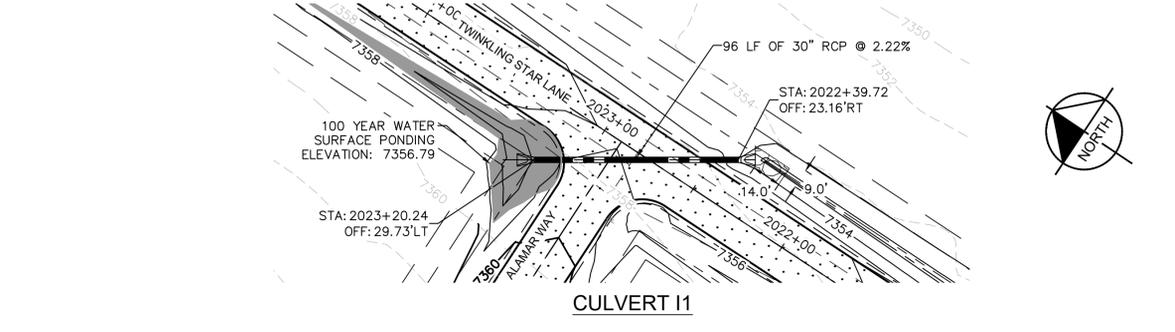
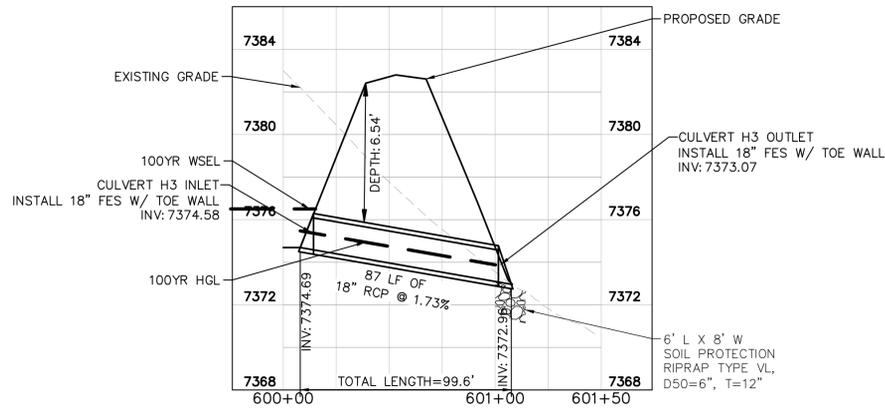
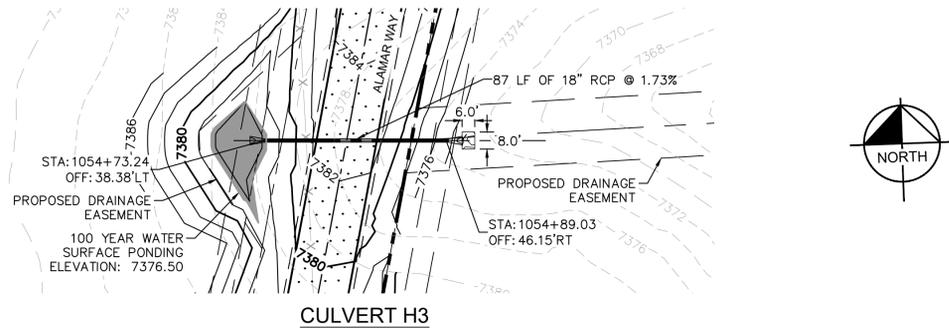
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 EL PASO COUNTY, COLORADO
 PRE DEVELOPMENT GESC PLAN
 CULVERT PLAN & PROFILE**



PROJECT NO.
196106001
 SHEET
1.11
 EPC 1/25/2023

NOTES

1. PIPE LENGTH SHOWN IS 2D PIPE LENGTH. CONTRACTOR TO VERIFY QUANTITIES FOR ACTUAL LENGTH.
2. ASSUMED FLARED END SECTIONS (FES) LENGTHS ARE THE FOLLOWING:
 6"-1": 18"-30" FES
 8"-1": 30" FES
 8"-2": 42"-48" FES



NO.	REVISION	DATE	BY	APPR.
1	RESUBMITTAL #1		KRK	KRK
2	RESUBMITTAL #2		KRK	KRK

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 2022 KIMLEY-HORN AND ASSOCIATES, INC.
 2 North Nevada Avenue Suite 300
 Colorado Springs, Colorado 80903 (719) 453-0180

DESIGNED BY: KRK
 DRAWN BY: A.J.L.
 CHECKED BY: KRK
 DATE: 12/10/2021

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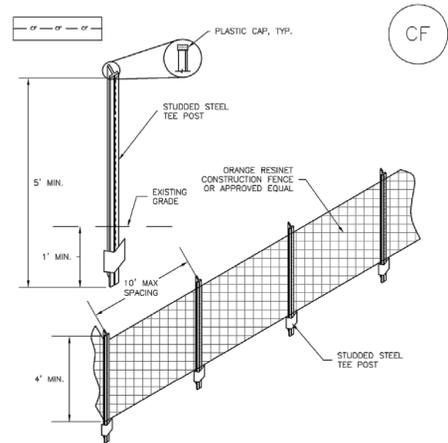


PROJECT NO.
196106001

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SM-3 Construction Fence (CF)



CF-1. PLASTIC MESH CONSTRUCTION FENCE

- CONSTRUCTION FENCE INSTALLATION NOTES**
- SEE PLAN VIEW FOR: -LOCATION OF CONSTRUCTION FENCE.
 - CONSTRUCTION FENCE SHOWN SHALL BE INSTALLED PRIOR TO ANY LAND DISTURBING ACTIVITIES.
 - CONSTRUCTION FENCE SHALL BE COMPOSED OF ORANGE, CONTRACTOR-GRADE MATERIAL THAT IS AT LEAST 4' HIGH. METAL POSTS SHOULD HAVE A PLASTIC CAP FOR SAFETY.
 - STUDDERED STEEL TEE POSTS SHALL BE UTILIZED TO SUPPORT THE CONSTRUCTION FENCE. MAXIMUM SPACING FOR STEEL TEE POSTS SHALL BE 10'.
 - CONSTRUCTION FENCE SHALL BE SECURELY FASTENED TO THE TOP, MIDDLE, AND BOTTOM OF EACH POST.

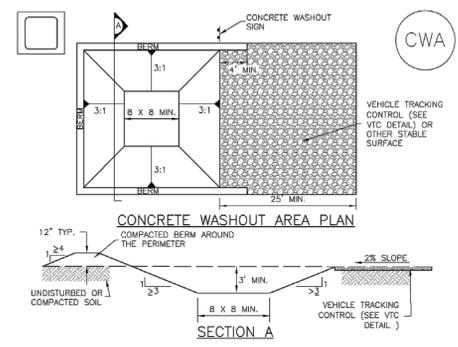
CF-2 Urban Drainage and Flood Control District November 2010
Urban Storm Drainage Criteria Manual Volume 3

Construction Fence (CF) SM-3

- CONSTRUCTION FENCE 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.
 - CONSTRUCTION FENCE SHALL BE REPAIRED OR REPLACED WHEN THERE ARE SIGNS OF DAMAGE SUCH AS RIPS OR SAGS. CONSTRUCTION FENCE IS TO REMAIN IN PLACE UNTIL THE UPSTREAM DISTURBED AREA IS STABILIZED AND APPROVED BY THE LOCAL JURISDICTION.
 - WHEN CONSTRUCTION FENCES ARE REMOVED, ALL DISTURBED AREAS ASSOCIATED WITH THE INSTALLATION, MAINTENANCE, AND/OR REMOVAL OF THE FENCE SHALL BE COVERED WITH TOPSOIL, SEEDED AND MULCHED, OR OTHERWISE STABILIZED AS APPROVED BY LOCAL JURISDICTION.
- 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.
- (DETAIL ADAPTED FROM TOWN OF PARKER, COLORADO, NOT AVAILABLE IN AUTOCAD)

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

Concrete Washout Area (CWA) MM-1



CWA-1. CONCRETE WASHOUT AREA

- CWA INSTALLATION NOTES**
- SEE PLAN VIEW FOR: -CWA INSTALLATION LOCATION.
 - DO NOT LOCATE AN UNLINED CWA WITHIN 400' OF ANY NATURAL DRAINAGE PATHWAY OR WATERBODY. DO NOT LOCATE WITHIN 1,000' OF ANY WELLS OR DRINKING WATER SOURCES. IF SITE CONSTRAINTS MAKE THIS INFESIBLE, OR IF HIGHLY PERMEABLE SOILS EXIST ON SITE, THE CWA MUST BE INSTALLED WITH AN IMPERMEABLE LINER (1/8 MIL MIN. THICKNESS) OR SURFACE STORAGE ALTERNATIVES USING PREFABRICATED CONCRETE WASHOUT DEVICES OR A LINED ABOVE GROUND STORAGE ARE SHOULD BE USED.
 - THE CWA SHALL BE INSTALLED PRIOR TO CONCRETE PLACEMENT ON SITE.
 - CWA SHALL INCLUDE A FLAT SUBSURFACE PIT THAT IS AT LEAST 8' BY 8' SLOPES LEADING OUT OF THE SUBSURFACE PIT SHALL BE 3:1 OR FLATTER. THE PIT SHALL BE AT LEAST 3' DEEP.
 - BERM SURROUNDING SIDES AND BACK OF THE CWA SHALL HAVE MINIMUM HEIGHT OF 1'.
 - VEHICLE TRACKING PAD SHALL BE SLOPED 2% TOWARDS THE CWA.
 - SIGNS SHALL BE PLACED AT THE CONSTRUCTION ENTRANCE, AT THE CWA, AND ELSEWHERE AS NECESSARY TO CLEARLY INDICATE THE LOCATION OF THE CWA TO OPERATORS OF CONCRETE TRUCKS AND PUMP TRUCKS.
 - USE EXCAVATED MATERIAL FOR PERIMETER BERM CONSTRUCTION.

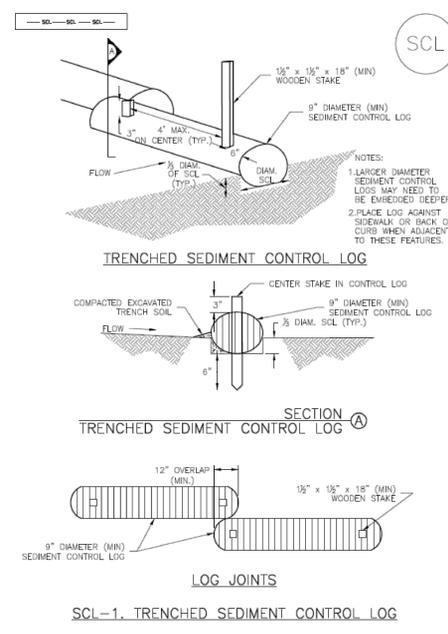
November 2010 Urban Drainage and Flood Control District November 2010
Urban Storm Drainage Criteria Manual Volume 3

Concrete Washout Area (CWA) MM-1

- CWA MAINTENANCE NOTES**
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 - WHERE BMPs HAVE FAILED, REPAIR OR REPLACEMENT SHOULD BE INITIATED UPON DISCOVERY OF THE FAILURE.
 - THE CWA SHALL BE REPAIRED, CLEANED, OR ENLARGED AS NECESSARY TO MAINTAIN CAPACITY FOR CONCRETE WASTE, CONCRETE MATERIALS, ACCUMULATED IN PIT, SHALL BE REMOVED ONCE THE MATERIALS HAVE REACHED A DEPTH OF 2'.
 - CONCRETE WASHOUT WATER, WASTED PIECES OF CONCRETE AND ALL OTHER DEBRIS IN THE SUBSURFACE PIT SHALL BE TRANSPORTED FROM THE JOB SITE IN A WATER-TIGHT CONTAINER AND DISPOSED OF PROPERLY.
 - THE CWA SHALL REMAIN IN PLACE UNTIL ALL CONCRETE FOR THE PROJECT IS PLACED.
 - WHEN THE CWA IS REMOVED, COVER THE DISTURBED AREA WITH TOP SOIL, SEED AND MULCH OR OTHERWISE STABILIZED IN A MANNER APPROVED BY THE LOCAL JURISDICTION.
- (DETAIL ADAPTED FROM DOUGLAS COUNTY, COLORADO AND THE CITY OF PARKER, COLORADO, NOT AVAILABLE IN AUTOCAD)
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CWA-4 Urban Drainage and Flood Control District November 2010
Urban Storm Drainage Criteria Manual Volume 3

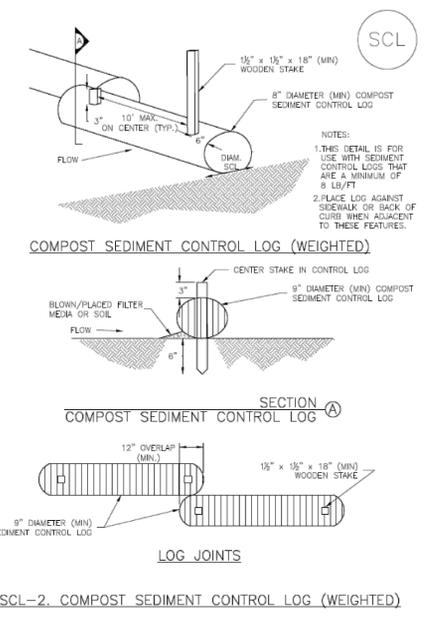
Sediment Control Log (SCL) SC-2



SCL-1. TRENCHED SEDIMENT CONTROL LOG

November 2015 Urban Drainage and Flood Control District November 2015
Urban Storm Drainage Criteria Manual Volume 3

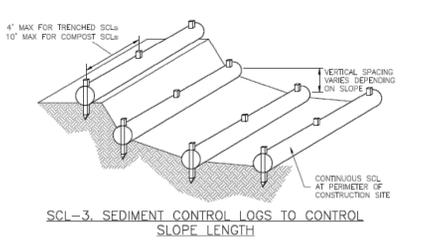
Sediment Control Log (SCL) SC-2



SCL-2. COMPOST SEDIMENT CONTROL LOG (WEIGHTED)

SCL-4 Urban Drainage and Flood Control District November 2015
Urban Storm Drainage Criteria Manual Volume 3

Sediment Control Log (SCL) SC-2



SCL-3. SEDIMENT CONTROL LOGS TO CONTROL SLOPE LENGTH

November 2015 Urban Drainage and Flood Control District November 2015
Urban Storm Drainage Criteria Manual Volume 3

Sediment Control Log (SCL) SC-2

- SEDIMENT CONTROL LOG INSTALLATION NOTES**
- SEE PLAN VIEW FOR LOCATION AND LENGTH OF SEDIMENT CONTROL LOGS.
 - SEDIMENT CONTROL LOGS THAT ACT AS A PERIMETER CONTROL SHALL BE INSTALLED PRIOR TO ANY UPGRADE/LAND-DISTURBING ACTIVITIES.
 - SEDIMENT CONTROL LOGS SHALL CONSIST OF STRAW, COMPOST, EXCELSIOR OR COCONUT FIBER, AND SHALL BE FREE OF ANY NOXIOUS WEED SEEDS OR DEFECTS INCLUDING RIPS, HOLES AND OBVIOUS WEAR.
 - SEDIMENT CONTROL LOGS MAY BE USED AS SMALL CHECK DAMS IN DITCHES AND SWALES. HOWEVER, THEY SHOULD NOT BE USED IN PERENNIAL STREAMS.
 - IT IS RECOMMENDED THAT SEDIMENT CONTROL LOGS BE TRENCHED INTO THE GROUND TO A DEPTH OF APPROXIMATELY 1/2 OF THE DIAMETER OF THE LOG. IF TRENCHING TO THIS DEPTH IS NOT FEASIBLE AND/OR DESIRABLE (SHORT TERM INSTALLATION WITH DESIRE NOT TO DAMAGE LANDSCAPE) A LESSER TRENCHING DEPTH MAY BE ACCEPTABLE WITH MORE ROBUST STAKING. COMPOST LOGS THAT ARE 8 LB/FT DO NOT NEED TO BE TRENCHED.
 - THE UPHILL SIDE OF THE SEDIMENT CONTROL LOG SHALL BE BACKFILLED WITH SOIL OR FILTER MATERIAL THAT IS FREE OF ROCKS AND DEBRIS. THE SOIL SHALL BE TIGHTLY COMPACTED INTO THE SHAPE OF A RIGHT TRIANGLE USING A SHOVEL OR WEIGHTED LAWN ROLLER OR BLOWN IN PLACE.
 - FOLLOW MANUFACTURERS' GUIDANCE FOR STAKING. IF MANUFACTURERS' INSTRUCTIONS DO NOT SPECIFY SPACING, STAKES SHALL BE PLACED ON 4' CENTERS AND EMBEDDED A MINIMUM OF 6" INTO THE GROUND. 3" OF THE STAKE SHALL PROTRUDE FROM THE TOP OF THE LOG. STAKES THAT ARE BROKEN PRIOR TO INSTALLATION SHALL BE REPLACED. COMPOST LOGS SHOULD BE STAKED 10' ON CENTER.
- SEDIMENT CONTROL LOG MAINTENANCE NOTES**
- INSPECT BMPs EACH WORKDAY, AND MAINTAIN THEM IN EFFECTIVE OPERATING CONDITION. MAINTENANCE OF BMPs SHOULD BE PROACTIVE, NOT REACTIVE. INSPECT BMPs AS SOON AS POSSIBLE (AND ALWAYS WITHIN 24 HOURS) FOLLOWING A STORM THAT CAUSES SURFACE EROSION, AND PERFORM NECESSARY MAINTENANCE.
 - FREQUENT OBSERVATIONS AND MAINTENANCE ARE NECESSARY TO MAINTAIN BMPs IN EFFECTIVE OPERATING CONDITION. INSPECTIONS AND CORRECTIVE MEASURES SHOULD BE DOCUMENTED THOROUGHLY.
 - WHERE BMPs HAVE FAILED, REPAIR OR REPLACEMENT SHOULD BE INITIATED UPON DISCOVERY OF THE FAILURE.
 - SEDIMENT ACCUMULATED UPSTREAM OF SEDIMENT CONTROL LOG SHALL BE REMOVED AS NEEDED TO MAINTAIN FUNCTIONALITY OF THE BMP. TYPICALLY WHEN DEPTH OF ACCUMULATED SEDIMENTS IS APPROXIMATELY 1/2 OF THE HEIGHT OF THE SEDIMENT CONTROL LOG.
 - SEDIMENT CONTROL LOG SHALL BE REMOVED AT THE END OF CONSTRUCTION. COMPOST FROM COMPOST LOGS MAY BE LEFT IN PLACE AS LONG AS BAGS ARE REMOVED AND THE AREA SEEDED. IF DISTURBED AREAS EXIST AFTER REMOVAL, THEY SHALL BE COVERED WITH TOP SOIL, SEEDED AND MULCHED OR OTHERWISE STABILIZED IN A MANNER APPROVED BY THE LOCAL JURISDICTION.
- (DETAILS ADAPTED FROM TOWN OF PARKER, COLORADO, JEFFERSON COUNTY, COLORADO, DOUGLAS COUNTY, COLORADO, AND CITY OF AURORA, COLORADO, NOT AVAILABLE IN AUTOCAD)
- NOTE: MANY JURISDICTIONS HAVE BMP DETAILS THAT VARY FROM UDFCD STANDARD DETAILS. CONSULT WITH LOCAL JURISDICTIONS AS TO WHICH DETAIL SHOULD BE USED WHEN DIFFERENCES ARE NOTED.

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RESUBMITTAL #1	RESUBMITTAL #2	DATE
1	2	

Kimley»Horn
2022 KIMLEY-HORN AND ASSOCIATES, INC.
2 North Nevada Avenue Suite 300
Colorado Springs, Colorado 80903 (719) 453-0180

DESIGNED BY: KRK
DRAWN BY: AJL
CHECKED BY: KRK
DATE: 12/10/2021

WINSOME FILING NO. 3
EL PASO COUNTY, COLORADO
PRE DEVELOPMENT GESC PLAN
DETAIL SHEET (1 OF 4)



PROJECT NO.
196106001
SHEET
1.13

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

^b See Table TS/PS-3 for seeding dates.

^c If site is to be irrigated, the transition turf seed rates should be doubled.

^d Crested wheatgrass should not be used on slopes steeper than 6H to 1V.

^e Can substitute 0.5 lbs PLS of blue grama for the 2.0 lbs PLS of Vaughn sidecoats grama.

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

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

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

Mulch

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

Maintenance and Removal

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

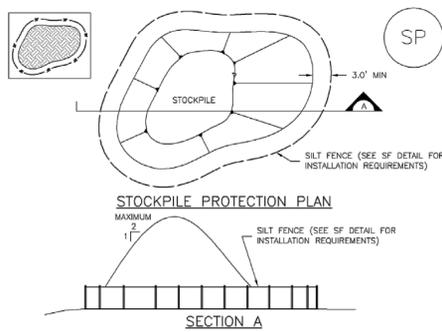
An area that has been permanently seeded should have a good stand of vegetation within one growing season if irrigated and within three growing seasons without irrigation in Colorado. Reseed portions of the site that fail to germinate or remain bare after the first growing season.

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

Protect seeded areas from construction equipment and vehicle access.

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Stockpile Management (SP) MM-2



STOCKPILE PROTECTION INSTALLATION NOTES

- SEE PLAN VIEW FOR:
- LOCATION OF STOCKPILES
- TYPE OF STOCKPILE PROTECTION.
- INSTALL PERIMETER CONTROLS IN ACCORDANCE WITH THEIR RESPECTIVE DESIGN DETAILS. SILT FENCE IS SHOWN IN THE STOCKPILE PROTECTION DETAILS; HOWEVER, OTHER TYPES OF PERIMETER CONTROLS INCLUDING SEDIMENT CONTROL LOGS OR ROCK SOCKS MAY BE SUITABLE IN SOME CIRCUMSTANCES. CONSIDERATIONS FOR DETERMINING THE APPROPRIATE TYPE OF PERIMETER CONTROL FOR A STOCKPILE INCLUDE WHETHER THE STOCKPILE IS LOCATED ON A PERVIOUS OR IMPERVIOUS SURFACE, THE RELATIVE HEIGHTS OF THE PERIMETER CONTROL AND STOCKPILE, THE ABILITY OF THE PERIMETER CONTROL TO CONTAIN THE STOCKPILE WITHOUT FAILING IN THE EVENT THAT MATERIAL FROM THE STOCKPILE SHIFTS OR SLUMPS AGAINST THE PERIMETER, AND OTHER FACTORS.
- STABILIZE THE STOCKPILE SURFACE WITH SURFACE ROUGHENING, TEMPORARY SEEDING AND MULCHING. EROSION CONTROL BLANKETS OR SOIL BINDERS, SOILS STOCKPILED FOR AN EXTENDED PERIOD (TYPICALLY FOR MORE THAN 60 DAYS) SHOULD BE SEEDING AND MULCHED WITH A TEMPORARY GRASS COVER ONCE THE STOCKPILE IS PLACED (TYPICALLY WITHIN 14 DAYS). USE OF MULCH ONLY OR A SOIL BINDER IS ACCEPTABLE IF THE STOCKPILE WILL BE IN PLACE FOR A MORE LIMITED TIME PERIOD (TYPICALLY 30-60 DAYS).
- FOR TEMPORARY STOCKPILES ON THE INTERIOR PORTION OF A CONSTRUCTION SITE, WHERE OTHER DOWNSLOPE CONTROLS, INCLUDING PERIMETER CONTROL, ARE IN PLACE, STOCKPILE PERIMETER CONTROLS MAY NOT BE REQUIRED.

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MM-2 Stockpile Management (SM)

STOCKPILE 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.
- IF PERIMETER PROTECTION MUST BE MOVED TO ACCESS SOIL STOCKPILE, REPLACE PERIMETER CONTROLS BY THE END OF THE WORKDAY.
- STOCKPILE PERIMETER CONTROLS CAN BE REMOVED ONCE ALL THE MATERIAL FROM THE STOCKPILE HAS BEEN USED.

(DETAILS ADAPTED FROM PARKER, COLORADO, NOT AVAILABLE IN AUTOCAD)

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

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Rolled Erosion Control Products (RECP) EC-6

Table RECP-1. ECTC Standard Specification for Temporary Rolled Erosion Control Products (Adapted from Erosion Control Technology Council 2005)

Product Description	Slope Applications*	Channel Applications*	Minimum Tensile Strength ¹	Expected Longevity
Mulch Control Nets	5:1 (H:V)	≤0.10 @ 5:1	0.25 lbs/ft ² (12 Pa)	5 lbs/ft (0.073 kN/m)
Netless Rolled Erosion Control Blankets	4:1 (H:V)	≤0.10 @ 4:1	0.5 lbs/ft ² (24 Pa)	5 lbs/ft (0.073 kN/m)
Single-net Erosion Control Blankets & Open Weave Textiles	3:1 (H:V)	≤0.15 @ 3:1	1.5 lbs/ft ² (72 Pa)	50 lbs/ft (0.73 kN/m)
Double-net Erosion Control Blankets	2:1 (H:V)	≤0.20 @ 2:1	1.75 lbs/ft ² (84 Pa)	75 lbs/ft (1.09 kN/m)
Mulch Control Nets	5:1 (H:V)	≤0.10 @ 5:1	0.25 lbs/ft ² (12 Pa)	25 lbs/ft (0.36 kN/m)
Erosion Control Blankets & Open Weave Textiles (slowly degrading)	1.5:1 (H:V)	≤0.25 @ 1.5:1	2.00 lbs/ft ² (96 Pa)	100 lbs/ft (1.45 kN/m)
Erosion Control Blankets & Open Weave Textiles	1:1 (H:V)	≤0.25 @ 1:1	2.25 lbs/ft ² (108 Pa)	125 lbs/ft (1.82 kN/m)

* C Factor and shear stress for mulch control nettings must be obtained with netting used in conjunction with pre-applied mulch material. (See Section 5.3 of Chapter 7 Construction BMPs for more information on the C Factor.)

¹ Minimum Average Roll Values, Machine direction using ECTC Mod. ASTM D 5035.

² C Factor calculated as ratio of soil loss from RECP protected slope (tested at specified or greater gradient, H:V) to ratio of soil loss from unprotected (control) plot in large-scale testing.

³ Required minimum shear stress RECP (unvegetated) can sustain without physical damage or excess erosion (> 12.7 mm (0.5 in) soil loss) during a 30-minute flow event in large-scale testing.

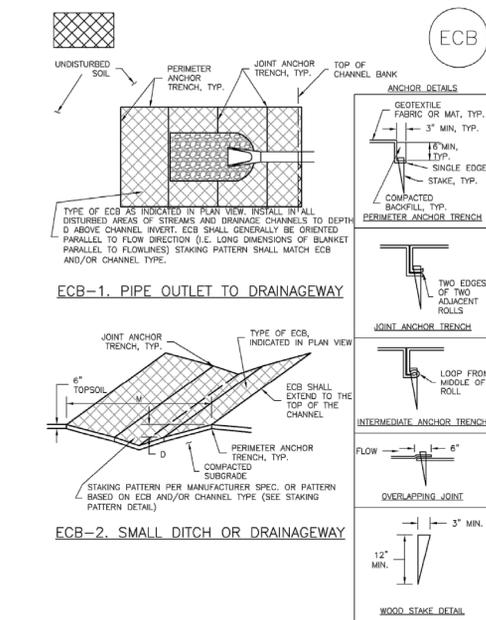
⁴ The permissible shear stress levels established for each performance category are based on historical experience with products characterized by Manning's roughness coefficients in the range of 0.01 - 0.05.

⁵ Acceptable large-scale test methods may include ASTM D 6459, or other independent testing deemed acceptable by the engineer.

⁶ Per the engineer's discretion. Recommended acceptable large-scale testing protocol may include ASTM D 6460, or other independent testing deemed acceptable by the engineer.

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EC-6 Rolled Erosion Control Products (RECP)



RECP-6 Urban Drainage and Flood Control District November 2010
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NO.	REVISION	DATE	BY
2	RESUBMITTAL #2	KRK 11/30/22	KRK
1	RESUBMITTAL #1	KRK 8/30/22	KRK

Kimley»Horn
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DESIGNED BY: KRK
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WINSOME FILING NO. 3
EL PASO COUNTY, COLORADO
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DETAIL SHEET (2 OF 4)



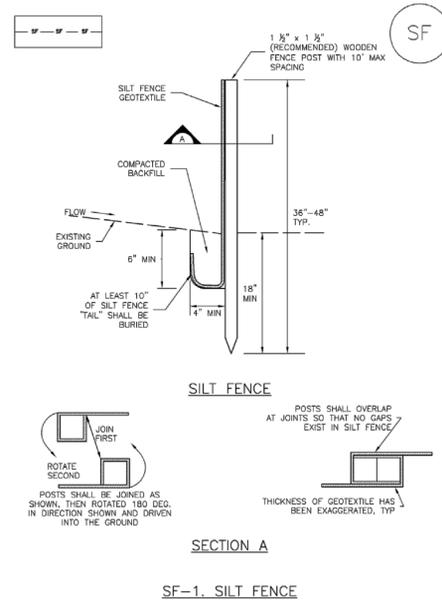
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Silt Fence (SF)

SC-1



SILT FENCE

SECTION A

SF-1. SILT FENCE

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SC-1

Silt Fence (SF)

SILT FENCE INSTALLATION NOTES

- SILT FENCE MUST BE PLACED AWAY FROM THE TOE OF THE SLOPE TO ALLOW FOR WATER PONDING. SILT FENCE AT THE TOE OF A SLOPE SHOULD BE INSTALLED IN A FLAT LOCATION AT LEAST SEVERAL FEET (2-5 FT) FROM THE TOE OF THE SLOPE TO ALLOW ROOM FOR PONDING AND DEPOSITION.
- A UNIFORM 6" X 4" ANCHOR TRENCH SHALL BE EXCAVATED USING TRENCHER OR SILT FENCE INSTALLATION DEVICE. NO ROAD GRADERS, BACKHOES, OR SIMILAR EQUIPMENT SHALL BE USED.
- COMPACT ANCHOR TRENCH BY HAND WITH A "JUMPING JACK" OR BY WHEEL ROLLING. COMPACTOR SHALL BE SUCH THAT SILT FENCE RESISTS BEING PULLED OUT OF ANCHOR TRENCH BY HAND.
- SILT FENCE SHALL BE PULLED TIGHT AS IT IS ANCHORED TO THE STAKES. THERE SHOULD BE NO NOTICEABLE SAG BETWEEN STAKES AFTER IT HAS BEEN ANCHORED TO THE STAKES.
- SILT FENCE FABRIC SHALL BE ANCHORED TO THE STAKES USING 1" HEAVY DUTY STAPLES OR NAILS WITH 1" HEADS. STAPLES AND NAILS SHOULD BE PLACED 3" ALONG THE FABRIC DOWN THE STAKE.
- AT THE END OF A RUN OF SILT FENCE ALONG A CONTOUR, THE SILT FENCE SHOULD BE TURNED PERPENDICULAR TO THE CONTOUR TO CREATE A "J-HOOK." THE "J-HOOK" EXTENDING PERPENDICULAR TO THE CONTOUR SHOULD BE OF SUFFICIENT LENGTH TO KEEP RUNOFF FROM FLOWING AROUND THE END OF THE SILT FENCE (TYPICALLY 10' - 20').
- SILT FENCE SHALL BE INSTALLED PRIOR TO ANY LAND DISTURBING ACTIVITIES.

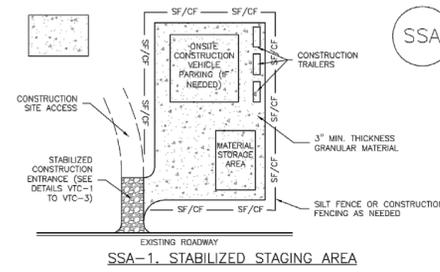
SILT FENCE MAINTENANCE NOTES

- 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 SILT FENCE SHALL BE REMOVED AS NEEDED TO MAINTAIN THE FUNCTIONALITY OF THE BMP, TYPICALLY WHEN DEPTH OF ACCUMULATED SEDIMENTS IS APPROXIMATELY 6".
- REPAIR OR REPLACE SILT FENCE WHEN THERE ARE SIGNS OF WEAR, SUCH AS SAGGING, TEARING, OR COLLAPSE.
- SILT FENCE IS TO REMAIN IN PLACE UNTIL THE UPSTREAM DISTURBED AREA IS STABILIZED AND APPROVED BY THE LOCAL JURISDICTION, OR IS REPLACED BY AN EQUIVALENT PERIMETER SEDIMENT CONTROL BMP.
- WHEN SILT FENCE IS REMOVED, ALL DISTURBED AREAS SHALL BE COVERED WITH TOPSOIL, SEED, AND MULCHED OR OTHERWISE STABILIZED AS APPROVED BY LOCAL JURISDICTION.

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Stabilized Staging Area (SSA)

SM-6



SSA-1. STABILIZED STAGING AREA

STABILIZED STAGING AREA INSTALLATION NOTES

- SEE PLAN VIEW FOR -LOCATION OF STAGING AREA(S). -CONTRACTOR MAY ADJUST LOCATION AND SIZE OF STAGING AREA WITH APPROVAL FROM THE LOCAL JURISDICTION.
- STABILIZED STAGING AREA SHOULD BE APPROPRIATE FOR THE NEEDS OF THE SITE. OVERSIZING RESULTS IN A LARGER AREA TO STABILIZE FOLLOWING CONSTRUCTION.
- STAGING AREA SHALL BE STABILIZED PRIOR TO OTHER OPERATIONS ON THE SITE.
- THE STABILIZED STAGING AREA SHALL CONSIST OF A MINIMUM 3" THICK GRANULAR MATERIAL.
- UNLESS OTHERWISE SPECIFIED BY LOCAL JURISDICTION, ROCK SHALL CONSIST OF DOT SECT. #703, AASHTO #3 COARSE AGGREGATE OR 6" (MINUS) ROCK.
- ADDITIONAL PERIMETER BMPs MAY BE REQUIRED INCLUDING BUT NOT LIMITED TO SILT FENCE AND CONSTRUCTION FENCING AS NEEDED.

STABILIZED STAGING AREA MAINTENANCE NOTES

- INSPECT BMPs EACH WORKDAY, AND MAINTAIN THEM IN EFFECTIVE OPERATING CONDITION. MAINTENANCE OF BMPs SHOULD BE PROACTIVE, NOT REACTIVE. INSPECT BMPs AS SOON AS POSSIBLE (AND ALWAYS WITHIN 24 HOURS) FOLLOWING A STORM THAT CAUSES SURFACE EROSION, AND PERFORM NECESSARY MAINTENANCE.
- FREQUENT OBSERVATIONS AND MAINTENANCE ARE NECESSARY TO MAINTAIN BMPs IN EFFECTIVE OPERATING CONDITION. INSPECTIONS AND CORRECTIVE MEASURES SHOULD BE DOCUMENTED THOROUGHLY.
- WHERE BMPs HAVE FAILED, REPAIR OR REPLACEMENT SHOULD BE INITIATED UPON DISCOVERY OF THE FAILURE.
- ROCK SHALL BE REAPPLIED OR REGRADED AS NECESSARY IF RUTTING OCCURS OR UNDERLYING SUBGRADE BECOMES EXPOSED.

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SM-6

Stabilized Staging Area (SSA)

STABILIZED STAGING AREA MAINTENANCE NOTES

- STABILIZED STAGING AREA SHALL BE ENLARGED IF NECESSARY TO CONTAIN PARKING, STORAGE, AND UNLOADING/LOADING OPERATIONS.
- THE STABILIZED STAGING AREA SHALL BE REMOVED AT THE END OF CONSTRUCTION. THE GRANULAR MATERIAL SHALL BE REMOVED OR, IF APPROVED BY THE LOCAL JURISDICTION, USED ON SITE, AND THE AREA COVERED WITH TOPSOIL, SEED, AND MULCHED OR OTHERWISE STABILIZED IN A MANNER APPROVED BY LOCAL JURISDICTION.

NOTE: MANY MUNICIPALITIES PROHIBIT THE USE OF RECYCLED CONCRETE AS GRANULAR MATERIAL FOR STABILIZED STAGING AREAS DUE TO DIFFICULTIES WITH RE-ESTABLISHMENT OF VEGETATION IN AREAS WHERE RECYCLED CONCRETE WAS PLACED.

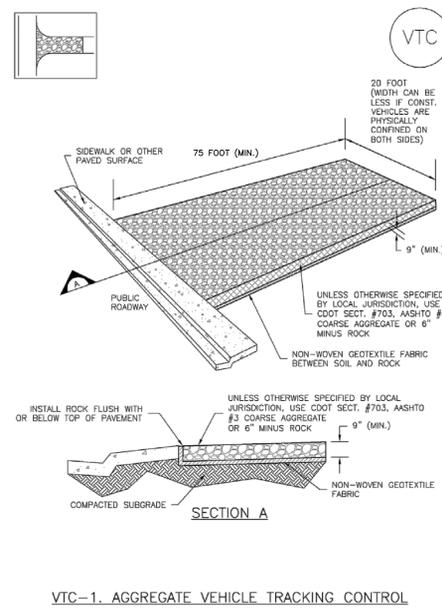
NOTE: MANY JURISDICTIONS HAVE BMP DETAILS THAT VARY FROM UDFCD STANDARD DETAILS. CONSULT WITH LOCAL JURISDICTIONS AS TO WHICH DETAIL SHOULD BE USED WHEN DIFFERENCES ARE NOTED.

(DETAILS ADAPTED FROM DOUGLAS COUNTY, COLORADO, NOT AVAILABLE IN AUTOCAD)

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

Vehicle Tracking Control (VTC)

SM-4



VTC-1. AGGREGATE VEHICLE TRACKING CONTROL

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

SM-4

Vehicle Tracking Control (VTC)

STABILIZED CONSTRUCTION ENTRANCE/EXIT INSTALLATION NOTES

- SEE PLAN VIEW FOR -LOCATION OF CONSTRUCTION ENTRANCE(S)/EXIT(S). -TYPE OF CONSTRUCTION ENTRANCE(S)/EXIT(S) (WITH/WITHOUT WHEEL WASH, CONSTRUCTION MAT OR TRM).
- CONSTRUCTION MAT OR TRM STABILIZED CONSTRUCTION ENTRANCES ARE ONLY TO BE USED ON SHORT DURATION PROJECTS (TYPICALLY RANGING FROM A WEEK TO A MONTH) WHERE THERE WILL BE LIMITED VEHICULAR ACCESS.
- A STABILIZED CONSTRUCTION ENTRANCE/EXIT SHALL BE LOCATED AT ALL ACCESS POINTS WHERE VEHICLES ACCESS THE CONSTRUCTION SITE FROM PAVED RIGHT-OF-WAYS.
- STABILIZED CONSTRUCTION ENTRANCE/EXIT SHALL BE INSTALLED PRIOR TO ANY LAND DISTURBING ACTIVITIES.
- A NON-WOVEN GEOTEXTILE FABRIC SHALL BE PLACED UNDER THE STABILIZED CONSTRUCTION ENTRANCE/EXIT PRIOR TO THE PLACEMENT OF ROCK.
- UNLESS OTHERWISE SPECIFIED BY LOCAL JURISDICTION, ROCK SHALL CONSIST OF DOT SECT. #703, AASHTO #3 COARSE AGGREGATE OR 6" (MINUS) ROCK.

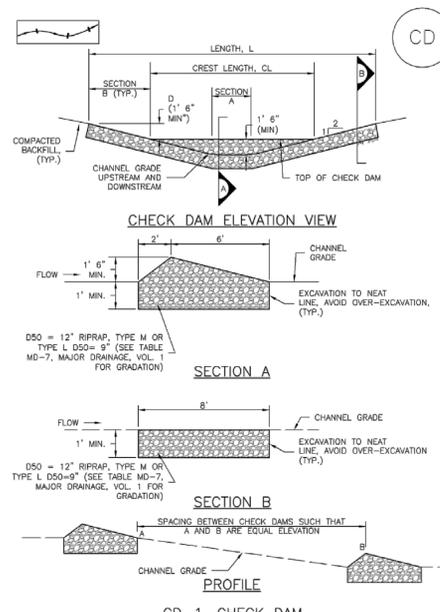
STABILIZED CONSTRUCTION ENTRANCE/EXIT MAINTENANCE NOTES

- INSPECT BMPs EACH WORKDAY, AND MAINTAIN THEM IN EFFECTIVE OPERATING CONDITION. MAINTENANCE OF BMPs SHOULD BE PROACTIVE, NOT REACTIVE. INSPECT BMPs AS SOON AS POSSIBLE (AND ALWAYS WITHIN 24 HOURS) FOLLOWING A STORM THAT CAUSES SURFACE EROSION, AND PERFORM NECESSARY MAINTENANCE.
- FREQUENT OBSERVATIONS AND MAINTENANCE ARE NECESSARY TO MAINTAIN BMPs IN EFFECTIVE OPERATING CONDITION. INSPECTIONS AND CORRECTIVE MEASURES SHOULD BE DOCUMENTED THOROUGHLY.
- WHERE BMPs HAVE FAILED, REPAIR OR REPLACEMENT SHOULD BE INITIATED UPON DISCOVERY OF THE FAILURE.
- ROCK SHALL BE REAPPLIED OR REGRADED AS NECESSARY TO THE STABILIZED ENTRANCE/EXIT TO MAINTAIN A CONSISTENT DEPTH.
- SEDIMENT TRACKED ONTO PAVED ROADS IS TO BE REMOVED THROUGHOUT THE DAY AND AT THE END OF THE DAY BY SHOVLING OR SWEEPING. SEDIMENT MAY NOT BE WASHED DOWN STORM SEWER DRAINS.

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

Check Dams (CD)

EC-12



SECTION A

SECTION B

PROFILE

CD-1. CHECK DAM

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

EC-12

Check Dams (CD)

CHECK DAM INSTALLATION NOTES

- SEE PLAN VIEW FOR -LOCATION OF CHECK DAMS. -CHECK DAM TYPE (CHECK DAM OR REINFORCED CHECK DAM). -LENGTH (L), CREST LENGTH (CL), AND DEPTH (D).
- CHECK DAMS INDICATED ON INITIAL SWMP SHALL BE INSTALLED AFTER CONSTRUCTION FENCE, BUT PRIOR TO ANY UPSTREAM LAND DISTURBING ACTIVITIES.
- RIPRAP UTILIZED FOR CHECK DAMS SHOULD BE OF APPROPRIATE SIZE FOR THE APPLICATION. TYPICAL TYPES OF RIPRAP USED FOR CHECK DAMS ARE TYPE M (D50 12") OR TYPE L (D50 9").
- RIPRAP PAD SHALL BE TRENCHED INTO THE GROUND A MINIMUM OF 1".
- THE ENDS OF THE CHECK DAM SHALL BE A MINIMUM OF 1' 6" HIGHER THAN THE CENTER OF THE CHECK DAM.

CHECK DAM 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 CHECK DAMS SHALL BE REMOVED WHEN THE SEDIMENT DEPTH IS WITHIN 1/2 OF THE HEIGHT OF THE CREST.
- CHECK DAMS ARE TO REMAIN IN PLACE UNTIL THE UPSTREAM DISTURBED AREA IS STABILIZED AND APPROVED BY THE LOCAL JURISDICTION.
- WHEN CHECK DAMS ARE REMOVED, EXCAVATIONS SHALL BE FILLED WITH SUITABLE COMPACTED BACKFILL. DISTURBED AREA SHALL BE SEED, MULCHED AND COVERED WITH GEOTEXTILE OR OTHERWISE STABILIZED IN A MANNER APPROVED BY LOCAL JURISDICTION.

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

NO.	REVISION	BY	DATE
2	RESUBMITTAL #2	KRK	11/30/22
1	RESUBMITTAL #1	KRK	8/30/22

Kimley»Horn
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 Colorado Springs, Colorado 80903 (719) 453-0180

DESIGNED BY: KRK
 DRAWN BY: AJL
 CHECKED BY: KRK
 DATE: 12/10/2021

WINSOME FILING NO. 3
 EL PASO COUNTY, COLORADO
 PRE DEVELOPMENT GESC PLAN
 DETAIL SHEET (3 OF 4)



PROJECT NO.
196106001

SHEET
1.15

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Sediment Basin (SB)

SC-7

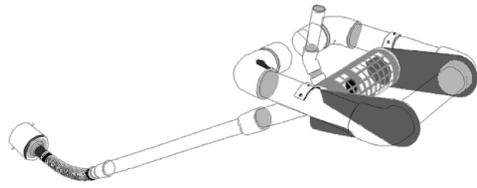


Illustration SB-1. Outlet structure for a temporary sediment basin - Faircloth Skimmer Floating Outlet. Illustration courtesy of J. W. Faircloth & Sons, Inc., FairclothSkimmer.com.

- **Outlet Protection and Spillway:** Consider all flow paths for runoff leaving the basin, including protection at the typical point of discharge as well as overtopping.
 - **Outlet Protection:** Outlet protection should be provided where the velocity of flow will exceed the maximum permissible velocity of the material or the waterway into which discharge occurs. This may require the use of a riprap apron at the outlet location and/or other measures to keep the waterway from eroding.
 - **Emergency Spillway:** Provide a stabilized emergency overflow spillway for rainstorms that exceed the capacity of the sediment basin volume and its outlet. Protect basin embankments from erosion and overtopping. If the sediment basin will be converted to a permanent detention basin, design and construct the emergency spillway(s) as required for the permanent facility. If the sediment basin will not become a permanent detention basin, it may be possible to substitute a heavy polyvinyl membrane or properly bedded rock cover to line the spillway and downstream embankment, depending on the height, slope, and width of the embankments.

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

SC-7

Sediment Basin (SB)

Maintenance and Removal

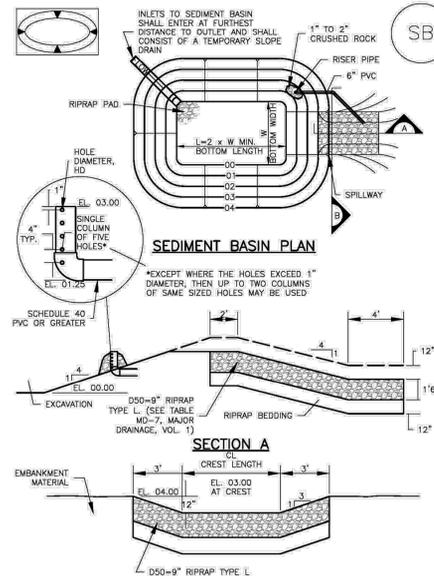
- Maintenance activities include the following:
- Dredge sediment from the basin, as needed to maintain BMP effectiveness, typically when the design storage volume is no more than one-third filled with sediment.
 - Inspect the sediment basin embankments for stability and seepage.
 - Inspect the inlet 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.
 - Be aware that removal of a sediment basin may require dewatering and associated permit requirements.
 - Do not remove a sediment basin until the upstream area has been stabilized with vegetation.

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.

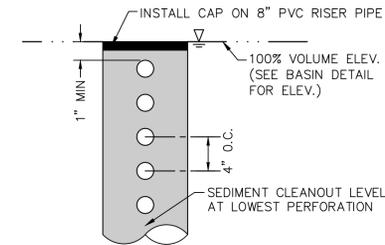
August 2013 Urban Drainage and Flood Control District Urban Storm Drainage Criteria Manual Volume 3 SB-4

Sediment Basin (SB)

SC-7



August 2013 Urban Drainage and Flood Control District Urban Storm Drainage Criteria Manual Volume 3 SB-5



RISER PIPE	# OF STANDPIPES	# OF ROWS	HOLE DIAMETER	RISER PIPE ELEV.	WSEL
WQ1	2	5	31/32"	7335	7336
POND 1	2	5	1-1/8"	7321	7322
POND 2	1	5	1-3/16"	7305	7310
POND 4	2	5	1-1/16"	7295	7299

RISER PIPE DETAIL
N.T.S.

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	3/8
2	21	3	1/2
3	28	5	5/8
4	33 1/2	6	3/4
5	38 1/2	8	7/8
6	43	9	1
7	47 1/2	11	1 1/8
8	51	13	1 1/4
9	55	15	1 1/2
10	58 1/2	18	1 5/8
11	61	18	1 7/8
12	64	18	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

REFERENCE RISER PIPE DETAIL ON THIS SHEET FOR BASINS LARGER THAN 15 AC

SEDIMENT BASIN INSTALLATION NOTES

1. 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.
2. FOR STANDARD BASIN, BOTTOM DIMENSION MAY BE MODIFIED AS LONG AS BOTTOM AREA IS NOT REDUCED.
3. SEDIMENT BASINS SHALL BE INSTALLED PRIOR TO ANY OTHER LAND-DISTURBING ACTIVITY THAT RELIES ON BASINS AS A STORMWATER CONTROL.
4. 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.
5. EMBANKMENT MATERIAL SHALL BE COMPACTED TO AT LEAST 95 PERCENT OF MAXIMUM DENSITY IN ACCORDANCE WITH ASTM D698.
6. PIPE SO1 40 OR GREATER SHALL BE USED.
7. 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.

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

Sediment Basin (SB)

SC-7

SEDIMENT BASIN MAINTENANCE NOTES

1. INSPECT BMPs EACH WORKDAY, AND MAINTAIN THEM IN EFFECTIVE OPERATING CONDITION. MAINTENANCE OF BMPs SHOULD BE PROACTIVE, NOT REACTIVE. INSPECT BMPs AS SOON AS POSSIBLE (AND ALWAYS WITHIN 24 HOURS) FOLLOWING A STORM THAT CAUSES SURFACE EROSION, AND PERFORM NECESSARY MAINTENANCE.
2. FREQUENT OBSERVATIONS AND MAINTENANCE ARE NECESSARY TO MAINTAIN BMPs IN EFFECTIVE OPERATING CONDITION. INSPECTIONS AND CORRECTIVE MEASURES SHOULD BE DOCUMENTED THOROUGHLY.
3. WHERE BMPs HAVE FAILED, REPAIR OR REPLACEMENT SHOULD BE INITIATED UPON DISCOVERY OF THE FAILURE.
4. SEDIMENT ACCUMULATED IN BASIN SHALL BE REMOVED AS NEEEDED TO MAINTAIN BMP EFFECTIVENESS, TYPICALLY WHEN SEDIMENT DEPTH REACHES ONE FOOT (I.E., TWO FEET BELOW THE SPILLWAY CREST).
5. SEDIMENT BASINS ARE TO REMAIN IN PLACE UNTIL THE UPSTREAM DISTURBED AREA IS STABILIZED AND GRASS COVER IS ACCEPTED BY THE LOCAL JURISDICTION.
6. WHEN SEDIMENT BASINS ARE REMOVED, ALL DISTURBED AREAS SHALL BE COVERED WITH TOPSOIL, SEEDED AND MULCHED OR OTHERWISE STABILIZED AS APPROVED BY LOCAL JURISDICTION.

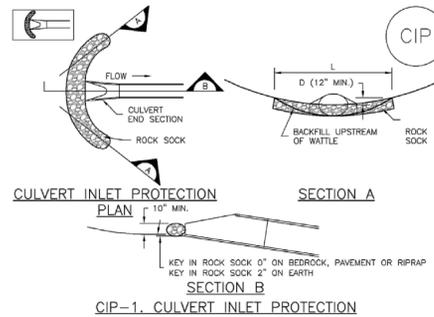
(DETAILS ADAPTED FROM DOUGLAS COUNTY, COLORADO)

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

Inlet Protection (IP)

SC-6



CIP-1. CULVERT INLET PROTECTION

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

CULVERT INLET PROTECTION MAINTENANCE NOTES

1. INSPECT BMPs EACH WORKDAY, AND MAINTAIN THEM IN EFFECTIVE OPERATING CONDITION. MAINTENANCE OF BMPs SHOULD BE PROACTIVE, NOT REACTIVE. INSPECT BMPs AS SOON AS POSSIBLE (AND ALWAYS WITHIN 24 HOURS) FOLLOWING A STORM THAT CAUSES SURFACE EROSION, AND PERFORM NECESSARY MAINTENANCE.
2. FREQUENT OBSERVATIONS AND MAINTENANCE ARE NECESSARY TO MAINTAIN BMPs IN EFFECTIVE OPERATING CONDITION. INSPECTIONS AND CORRECTIVE MEASURES SHOULD BE DOCUMENTED THOROUGHLY.
3. WHERE BMPs HAVE FAILED, REPAIR OR REPLACEMENT SHOULD BE INITIATED UPON DISCOVERY OF THE FAILURE.
4. SEDIMENT ACCUMULATED UPSTREAM OF THE CULVERT SHALL BE REMOVED WHEN THE SEDIMENT DEPTH IS 1/2 THE HEIGHT OF THE ROCK SOCK.
5. 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.

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

SC-6

Inlet Protection (IP)

GENERAL INLET PROTECTION INSTALLATION NOTES

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

INLET PROTECTION MAINTENANCE NOTES

1. INSPECT BMPs EACH WORKDAY, AND MAINTAIN THEM IN EFFECTIVE OPERATING CONDITION. MAINTENANCE OF BMPs SHOULD BE PROACTIVE, NOT REACTIVE. INSPECT BMPs AS SOON AS POSSIBLE (AND ALWAYS WITHIN 24 HOURS) FOLLOWING A STORM THAT CAUSES SURFACE EROSION, AND PERFORM NECESSARY MAINTENANCE.
2. FREQUENT OBSERVATIONS AND MAINTENANCE ARE NECESSARY TO MAINTAIN BMPs IN EFFECTIVE OPERATING CONDITION. INSPECTIONS AND CORRECTIVE MEASURES SHOULD BE DOCUMENTED THOROUGHLY.
3. WHERE BMPs HAVE FAILED, REPAIR OR REPLACEMENT SHOULD BE INITIATED UPON DISCOVERY OF THE FAILURE.
4. SEDIMENT ACCUMULATED UPSTREAM OF INLET PROTECTION SHALL BE REMOVED AS NECESSARY TO MAINTAIN BMP EFFECTIVENESS, TYPICALLY WHEN STORAGE VOLUME REACHES 50% OF CAPACITY, A DEPTH OF 6" WHEN SLIT FENCE IS USED, OR 1/4 OF THE HEIGHT FOR STRAW BALES.
5. INLET PROTECTION IS TO REMAIN IN PLACE UNTIL THE UPSTREAM DISTURBED AREA IS PERMANENTLY STABILIZED, UNLESS THE LOCAL JURISDICTION APPROVES EARLIER REMOVAL OF INLET PROTECTION IN STREETS.
6. WHEN INLET PROTECTION AT AREA INLETS IS REMOVED, THE DISTURBED AREA SHALL BE COVERED WITH TOP SOIL, 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 SBMP 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.

August 2013 Urban Drainage and Flood Control District Urban Storm Drainage Criteria Manual Volume 3 IP-8

NO.	REVISION	BY	DATE	APPR.
2	RESUBMITTAL #2	KRK	11/30/22	KRK
1	RESUBMITTAL #1	KRK	8/30/22	KRK

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DESIGNED BY: KRK
DRAWN BY: AUL
CHECKED BY: KRK
DATE: 12/10/2021

WINSOME FILING NO. 3
EL PASO COUNTY, COLORADO
PRE DEVELOPMENT GESC PLAN
DETAIL SHEET (4 OF 4)



PROJECT NO.
196106001

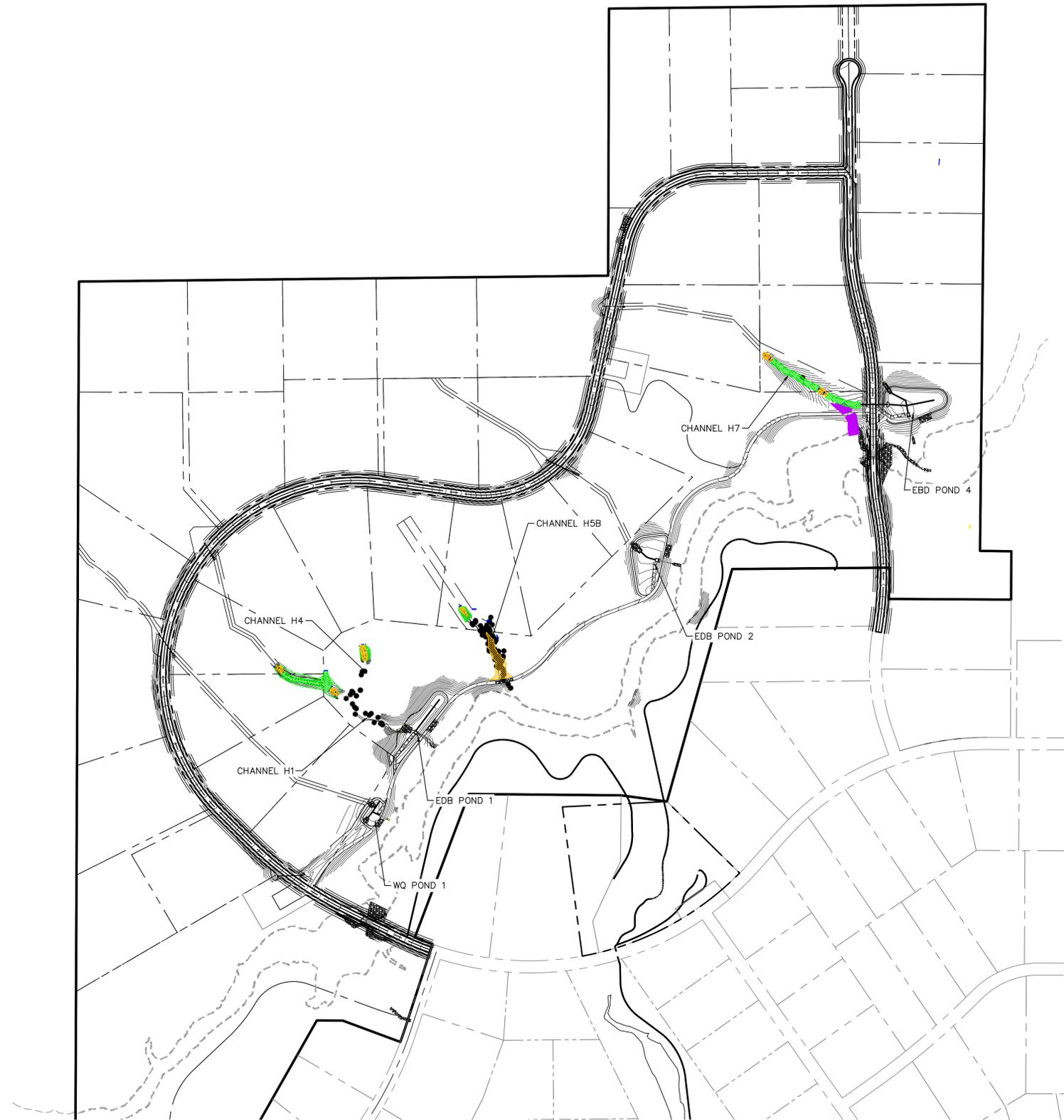
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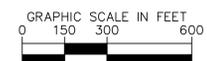


CALL UTILITY NOTIFICATION
CENTER OF COLORADO
1-800-922-1987
CALL 2-BUSINESS DAYS IN ADVANCE
BEFORE YOU DIG, GRADE, OR EXCAVATE
FOR THE MARKING OF UNDERGROUND
MEMBER UTILITIES



LEGEND

-  REGRADE AREA TO VEGETATED SWALE
VEGETATION W/ EXCEL PP5-12 TURF REINFORCEMENT MAT
(TRM) OR APPROVED EQUAL (BIODEGRADABLE)
SEED MIX: TABLE A-4 RIPARIAN SEED MIX- LOAMY TO CLAY
SOIL PER MILE HIGH FLOOD DISTRICT OR APPROVED EQUAL
~2.0% SLOPES
-  ROCK CHUTE
4:1 MAX SLOPES
-  ROCK SILL
-  CHANNEL PLUG/ BACKFILL
ABANDONED CHANNEL



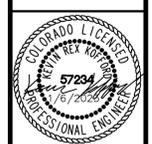
EPC 1/25/2023

NO.	REVISION	BY	DATE	APPR.

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DESIGNED BY: KRK
DRAWN BY: JRH
CHECKED BY: KRK
DATE: 9/3/2021

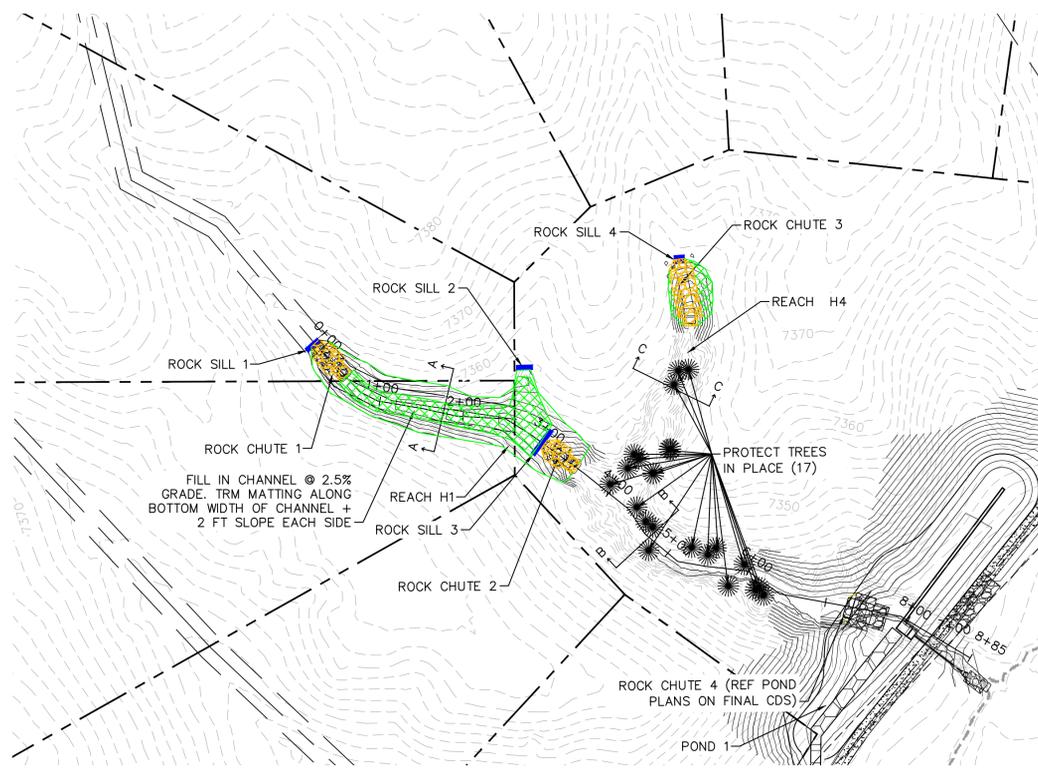
WINSOME FILING NO. 3
EL PASO COUNTY, COLORADO
CONSTRUCTION DOCUMENTS
HEADCUTTING EXHIBIT OVERALL



PROJECT NO.
196106001

SHEET
1.17

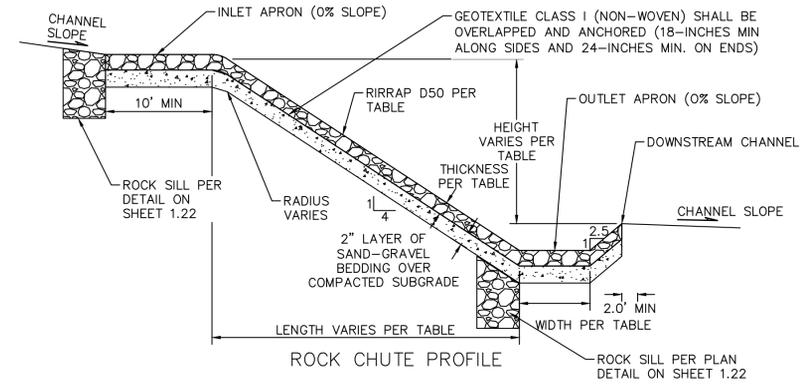
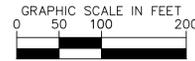
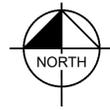
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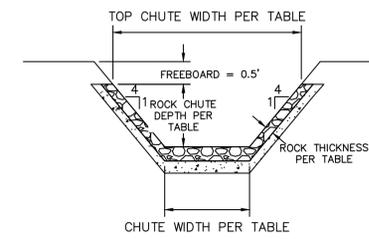
H1 HEADCUTTING MAIN CHANNEL

LEGEND

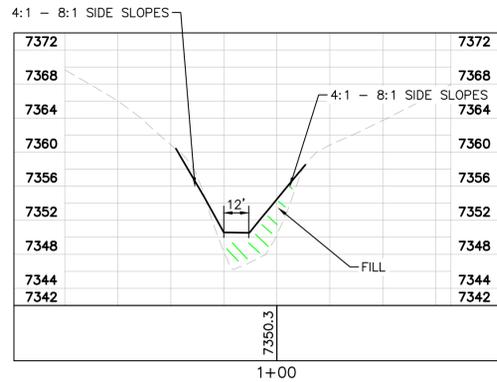
- REGRADE AREA TO VEGETATED SWALE VEGETATION W/ EXCEL PPS-12 TURF REINFORCEMENT MAT (TRM) OR APPROVED EQUAL (BIODEGRADABLE) SEED MIX: TABLE A-4 RIPARIAN SEED MIX- LOAMY TO CLAY SOIL PER MILE HIGH FLOOD DISTRICT OR APPROVED EQUAL ~2.0% SLOPES
- ROCK CHUTE 4:1 MAX SLOPES
- ROCK SILL



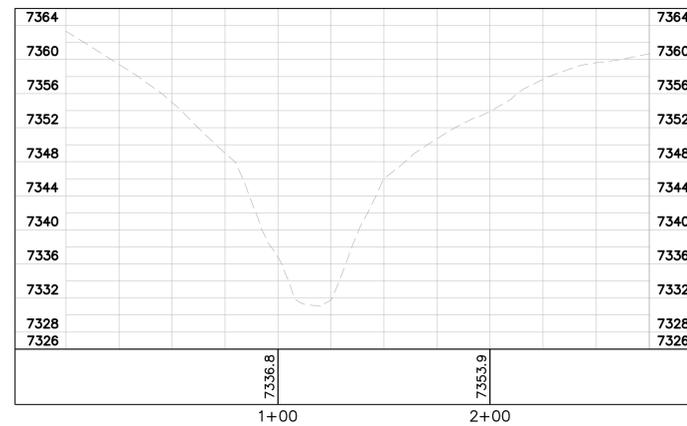
ROCK CHUTE PROFILE



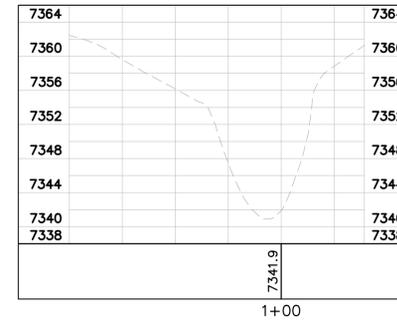
ROCK CHUTE CROSS SECTION



EX. CROSS SECTION A-A



EX CROSS SECTION B-B



EX CROSS SECTION C-C

Rock Chute ID	Channel Location	Flow (cfs)	Upstream Inlet Apron Length (ft)	Drop (ft) (Inlet Apron to Outlet Apron)	Chute Length (ft)	Downstream Outlet Apron Length (ft)	Chute Width (ft)	D50 (in)	Rock Chute Thickness (in)	Radius (ft)	Min Rock Chute Depth (ft)	Rock Chute Depth (ft)	Top Chute Width (ft)
1	H1	45	10	7	28	14	12	12	24	33	1.09	1.50	28
2	H1	45	10	7.5	35	14	12	12	24	33	1.09	1.50	28
3	H4	17	10	14.5	64	8	12	9	18	25	0.58	1.50	28
5	H5B	29	10	10	47	18	4	18	36	50	1.54	2.00	20
7	H3	58	10	6.5	31	15	12	18	36	50	1.27	1.50	28
8	H3	58	10	4.5	24	15	12	18	36	50	1.27	1.50	28



Know what's below.
Call before you dig.



CALL UTILITY NOTIFICATION CENTER OF COLORADO
1-800-922-1987
CALL 2-BUSINESS DAYS IN ADVANCE BEFORE YOU DIG, GRADE, OR EXCAVATE FOR THE MARKING OF UNDERGROUND MEMBER UTILITIES

NO.	REVISION	BY	DATE	APPR.

Kimley»Horn
2021 KIMLEY-HORN AND ASSOCIATES, INC.
2 North Nevada Avenue Suite 300
Colorado Springs, Colorado 80903 (719) 453-0180

DESIGNED BY: KRK
DRAWN BY: JRH
CHECKED BY: KRK
DATE: 9/3/2021

WINSOME FILING NO. 3
EL PASO COUNTY, COLORADO
CONSTRUCTION DOCUMENTS
HEADCUTTING EXHIBIT REACH H1

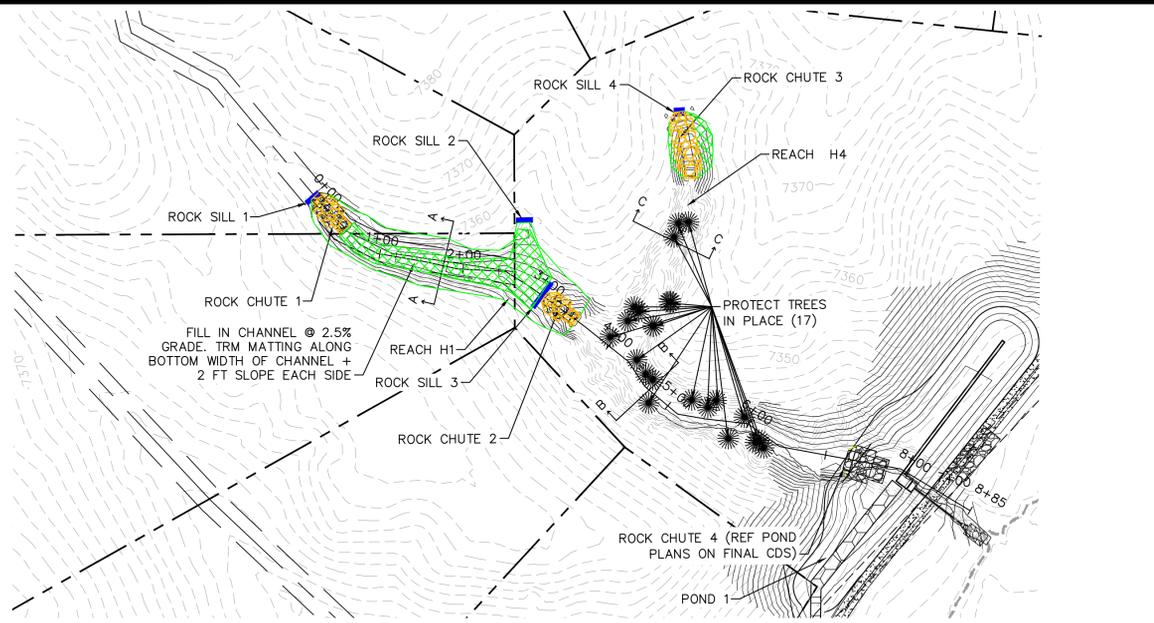


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196106001

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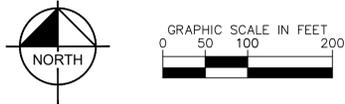
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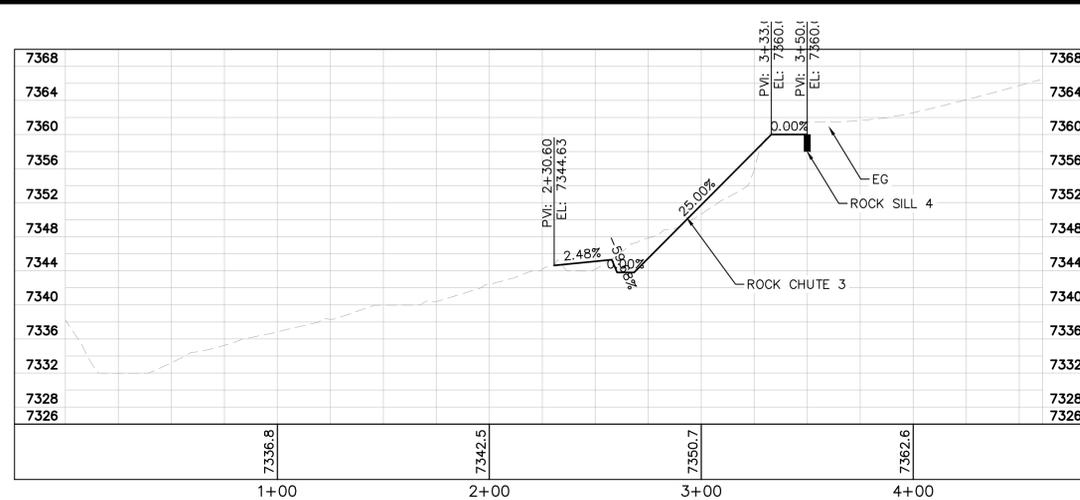


LEGEND

- ROCK CHUTE
4:1 MAX SLOPES
- ROCK SILL
- REGRADE AREA TO VEGETATED SWALE
VEGETATION W/ EXCEL PP5-12 TURF REINFORCEMENT MAT (TRM) OR APPROVED EQUAL (BIODEGRADABLE)
SEED MIX: TABLE A-4 RIPARIAN SEED MIX- LOAMY TO CLAY SOIL PER MILE HIGH FLOOD DISTRICT OR APPROVED EQUAL ~2.0% SLOPES

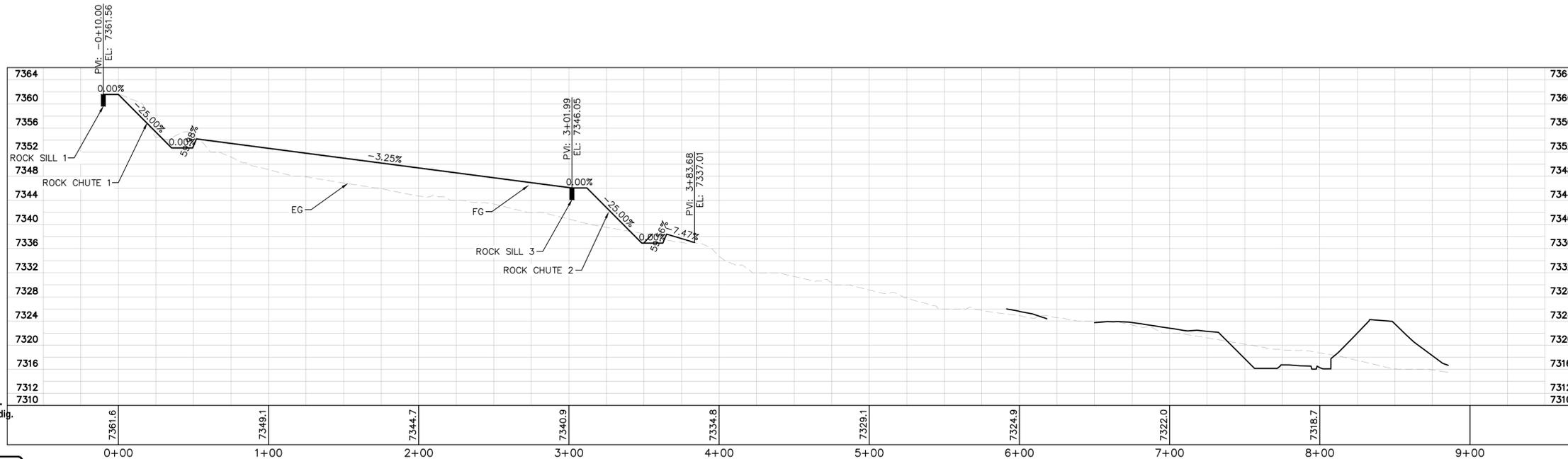


H1 HEADCUTTING MAIN CHANNEL



REACH H4 CENTERLINE PROFILE

Rock Chute ID	Channel Location	Flow (cfs)	Upstream Inlet Apron Length (ft)	Drop (ft) (Inlet Apron to Outlet Apron)	Chute Length (ft)	Downstream Outlet Apron Length (ft)	Chute Width (ft)	D50 (in)	Rock Chute Thickness (in)	Radius (ft)	Min Rock Chute Depth (ft)	Rock Chute Depth (ft)	Top Chute Width (ft)
1	H1	45	10	7	28	14	12	12	24	33	1.09	1.50	28
2	H1	45	10	7.5	35	14	12	12	24	33	1.09	1.50	28
3	H4	17	10	14.5	64	8	12	9	18	25	0.58	1.50	28
5	H5B	29	10	10	47	18	4	18	36	50	1.54	2.00	20
7	H3	58	10	6.5	31	15	12	18	36	50	1.27	1.50	28
8	H3	58	10	4.5	24	15	12	18	36	50	1.27	1.50	28



REACH H1 CENTERLINE PROFILE



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EPC 1/25/2023

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WINSOME FILING NO. 3
EL PASO COUNTY, COLORADO
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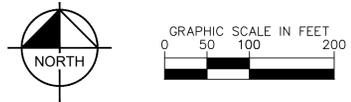
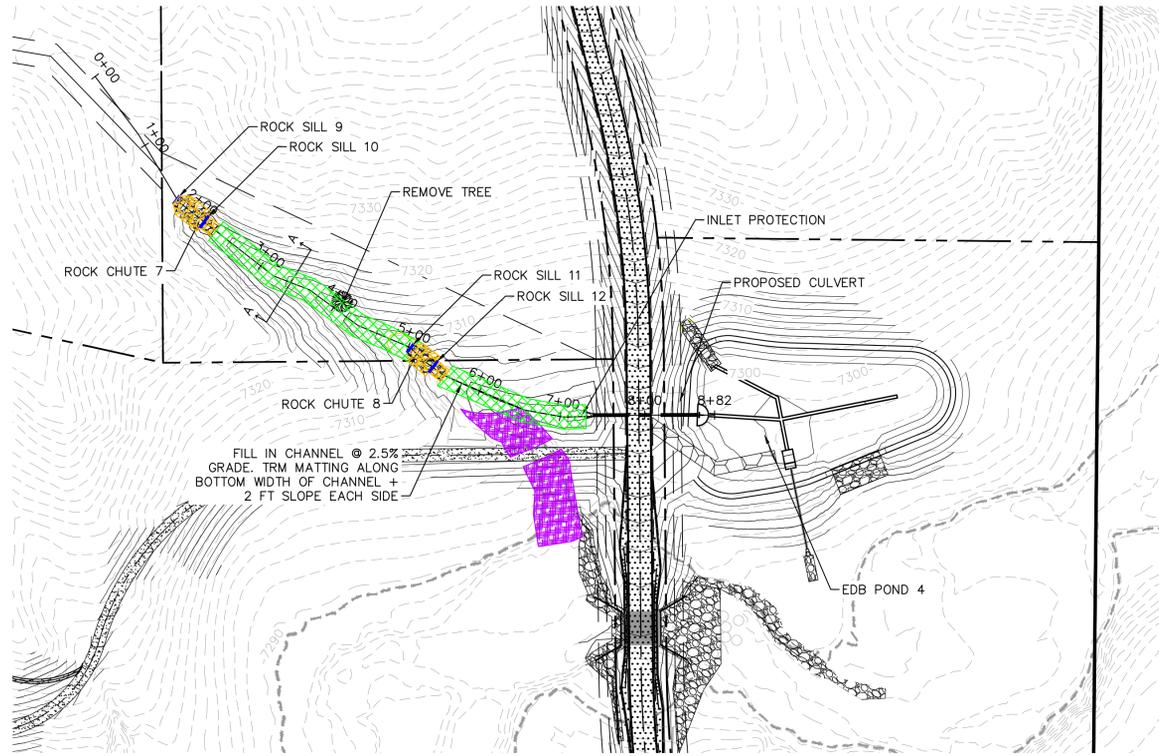


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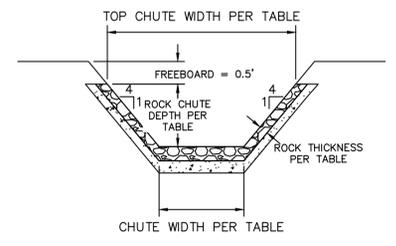
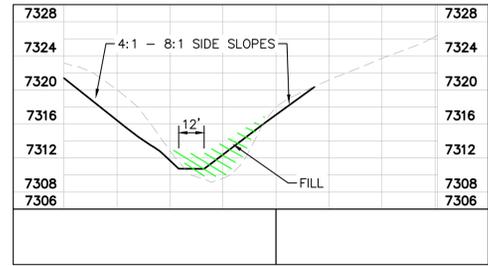
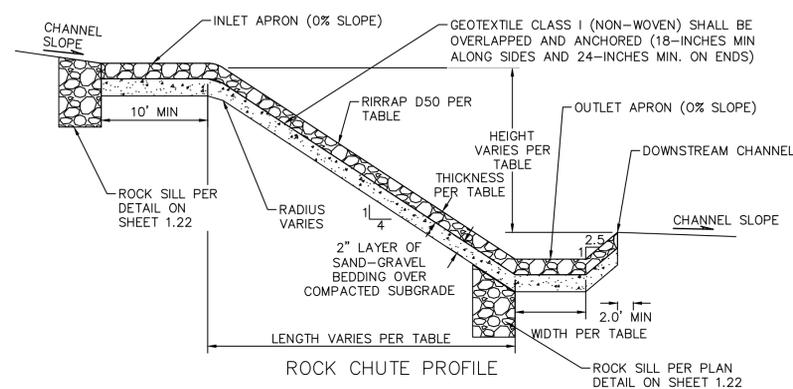
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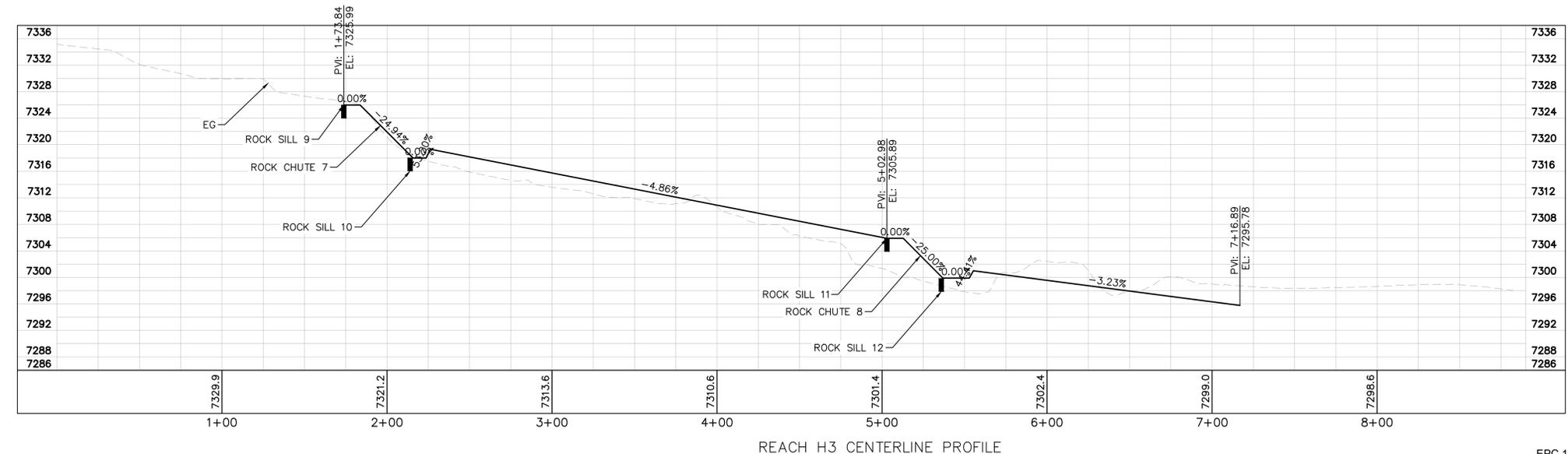
H3 HEADCUTTING MAIN CHANNEL

LEGEND

- REGRADE AREA TO VEGETATED SWALE VEGETATION W/ EXCEL PP5-12 TURF REINFORCEMENT MAT (TRM) OR APPROVED EQUAL (BIODEGRADABLE) ~2.0% SLOPES
- ROCK CHUTE 4:1 MAX SLOPES
- ROCK SILL
- CHANNEL PLUG/ BACKFILL ABANDONED CHANNEL



Rock Chute ID	Channel Location	Flow (cfs)	Upstream Inlet Apron Length (ft)	Drop (ft) (Inlet Apron to Outlet Apron)	Chute Length (ft)	Downstream Outlet Apron Length (ft)	Chute Width (ft)	D50 (in)	Rock Chute Thickness (in)	Radius (ft)	Min Rock Chute Depth (ft)	Rock Chute Depth (ft)	Top Chute Width (ft)
1	H1	45	10	7	28	14	12	12	24	33	1.09	1.50	28
2	H1	45	10	7.5	35	14	12	12	24	33	1.09	1.50	28
3	H4	17	10	14.5	64	8	12	9	18	25	0.58	1.50	28
5	HSB	29	10	10	47	18	4	18	36	50	1.54	2.00	20
7	H3	58	10	6.5	31	15	12	18	36	50	1.27	1.50	28
8	H3	58	10	4.5	24	15	12	18	36	50	1.27	1.50	28



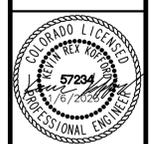
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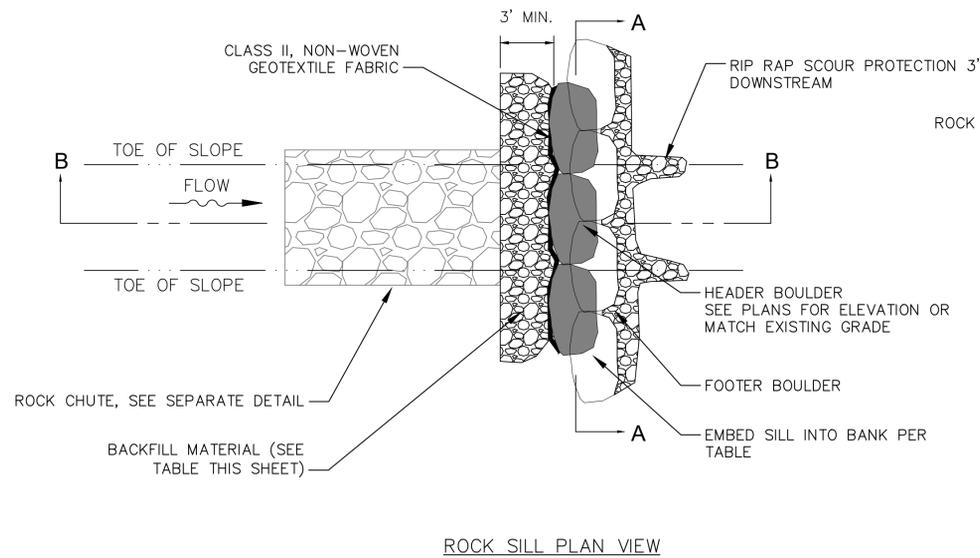
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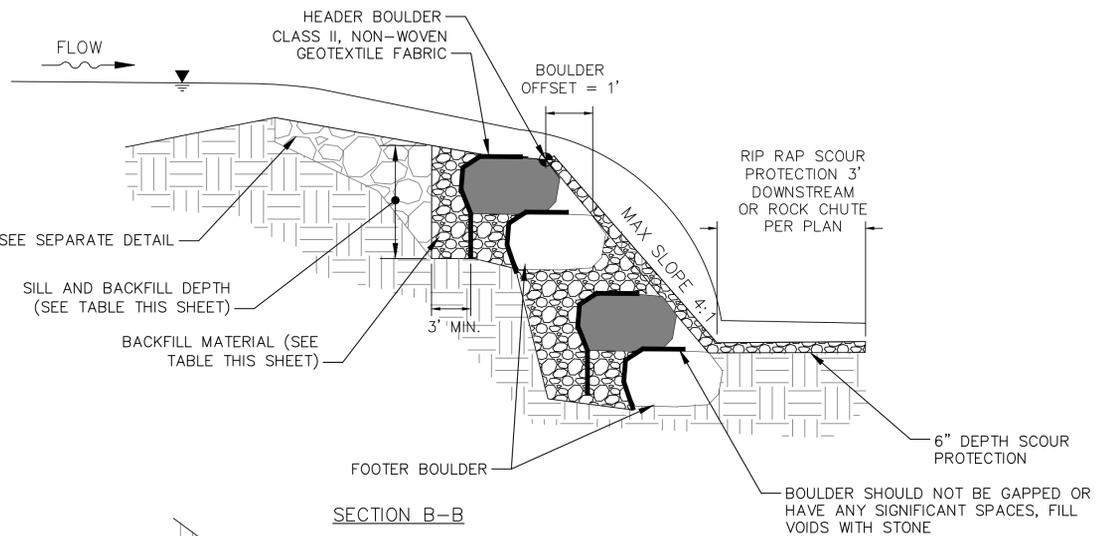
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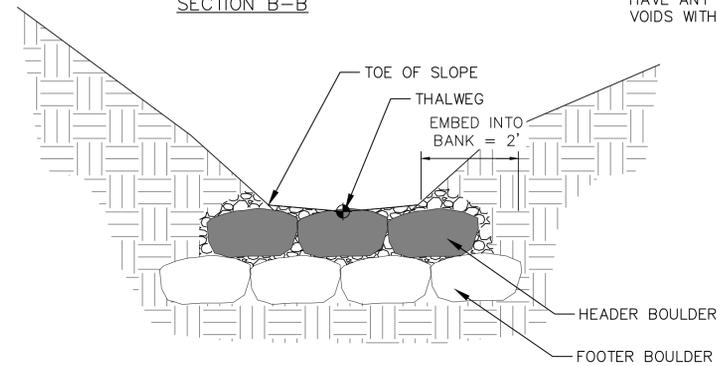
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ROCK SILL PLAN VIEW



SECTION B-B



SECTION A-A

NOTES:

1. A BOULDER SILL MAY BE USED ALONE OR IN COMBINATION WITH A ROCK CHUTE.
2. NO PART OF THE SILL SHALL BE PLACED ABOVE THE ELEVATION OF THE UPSTREAM AND/OR ADJACENT CHANNEL BED.
3. A FOOTER BOULDER IS NOT REQUIRED IF THE HEADER BOULDER DEPTH EXCEEDS SPECIFIED SILL DEPTH.
4. THE ROCK SILL IS GENERALLY CONSTRUCTED AS FOLLOWS:
 - A. OVER-EXCAVATE CHANNEL BED TO A DEPTH EQUAL TO THE TOTAL THICKNESS OF THE HEADER AND FOOTER BOULDERS.
 - B. PLACE FOOTER BOULDERS. THERE SHALL BE NO GAPS BETWEEN BOULDERS.
 - C. INSTALL FILTER FABRIC.
 - D. PLACE BACKFILL MATERIAL BEHIND THE FOOTER BOULDERS.
 - E. INSTALL HEADER BOULDERS ON TOP OF AND SET SLIGHTLY BACK FROM THE FOOTER BOULDERS (SUCH THAT PART OF THE HEADER BOULDER IS RESTING ON THE BACKFILL MATERIAL). HEADER BOULDERS SHALL SPAN THE SEAMS OF THE FOOTER BOULDERS. THERE SHALL NOT BE A SEAM IN THE CENTER OF THE STREAM BED (AT THE THALWEG). THERE SHALL BE NO GAPS BETWEEN BOULDERS OR THALWEG SEAM BETWEEN HEADERS.
 - F. PLACE BACKFILL MATERIAL BEHIND HEADER BOULDERS ENSURING THAT ANY VOIDS BETWEEN THE BOULDERS ARE FILLED.

DESIGN VARIABLES

DESIGN VARIABLES	
BOULDER DIMENSIONS	24" MIN
BACKFILL MATERIAL ¹	D50 = 9"
SILL AND BACKFILL DEPTH	5'
EMBEDDED LENGTH INTO BANK	2'

¹ WELL MIXED GRADATION, 80% STONE, AND 20% EARTH) OF THE SPECIFIED MATERIALS: D50 = 9", D_MAX = 18", D_MIN = 2".



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