

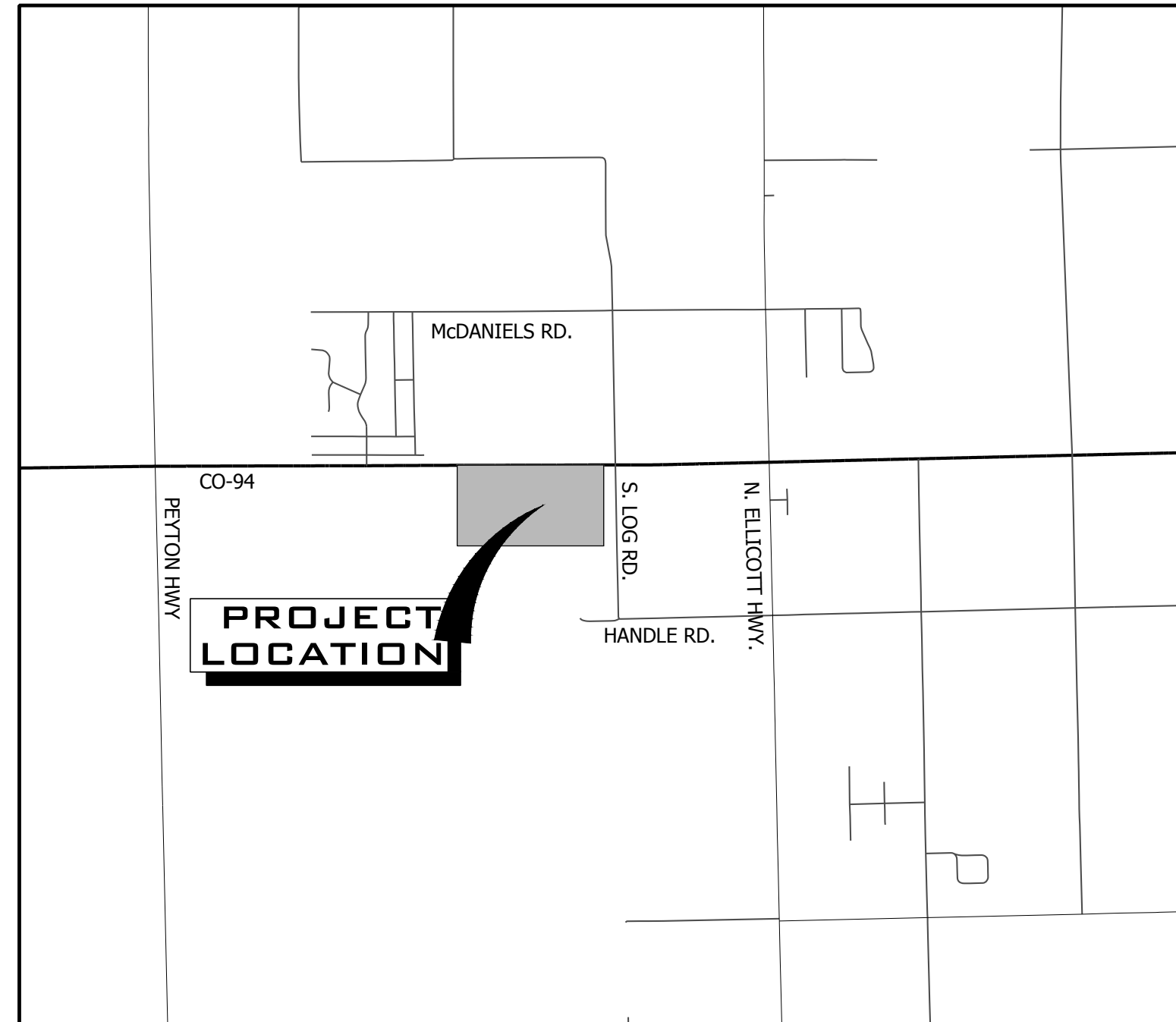
GRADING & EROSION CONTROL PLANS MAYBERRY, COLORADO - FILING NO. 3

A REPLAT OF PART OF TRACT M AND ALL OF TRACT P, MAYBERRY, COLORADO SPRINGS FILING NO. 1, AND ALL OF TRACTS A, B, C AND D, MAYBERRY, COLORADO SPRINGS FILING NO. 2, AND THAT PART OF SPRINGS ROAD RIGHT-OF-WAY LYING SOUTH OF SAID TRACT A AND THAT PART OF VILLAGE MAIN STREET RIGHT-OF-WAY LYING EAST OF ATCHISON WAY ALL LOCATED IN THE NORTH HALF OF SECTION 14, TOWNSHIP 14 SOUTH, RANGE 63 WEST OF THE 6TH PRINCIPAL MERIDIAN COUNTY OF EL PASO (UNINCORPORATED), STATE OF COLORADO

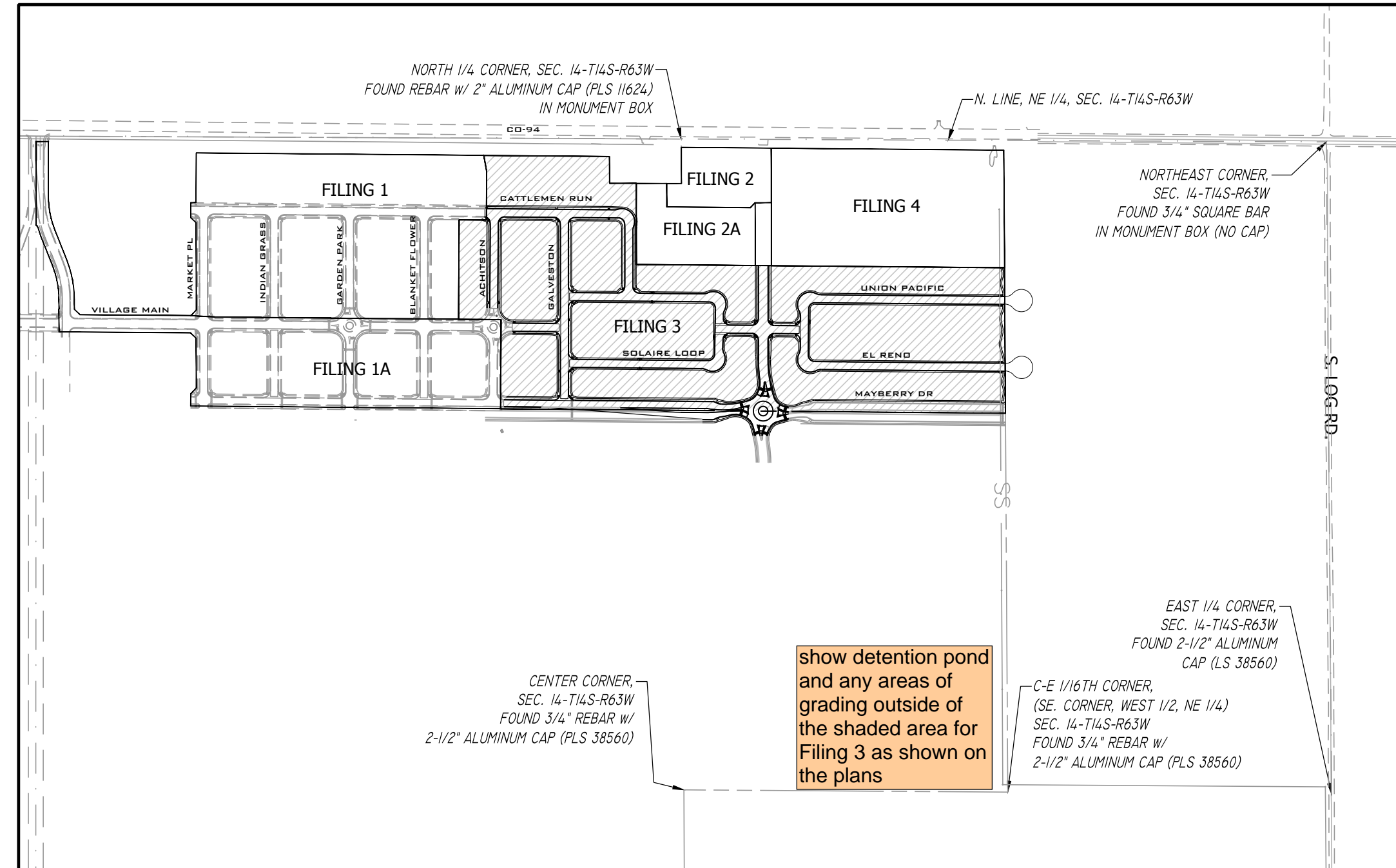
EPC STORMWATER REVIEW COMMENTS ARE SHOWN IN ORANGE BOXES WITH BLACK TEXT



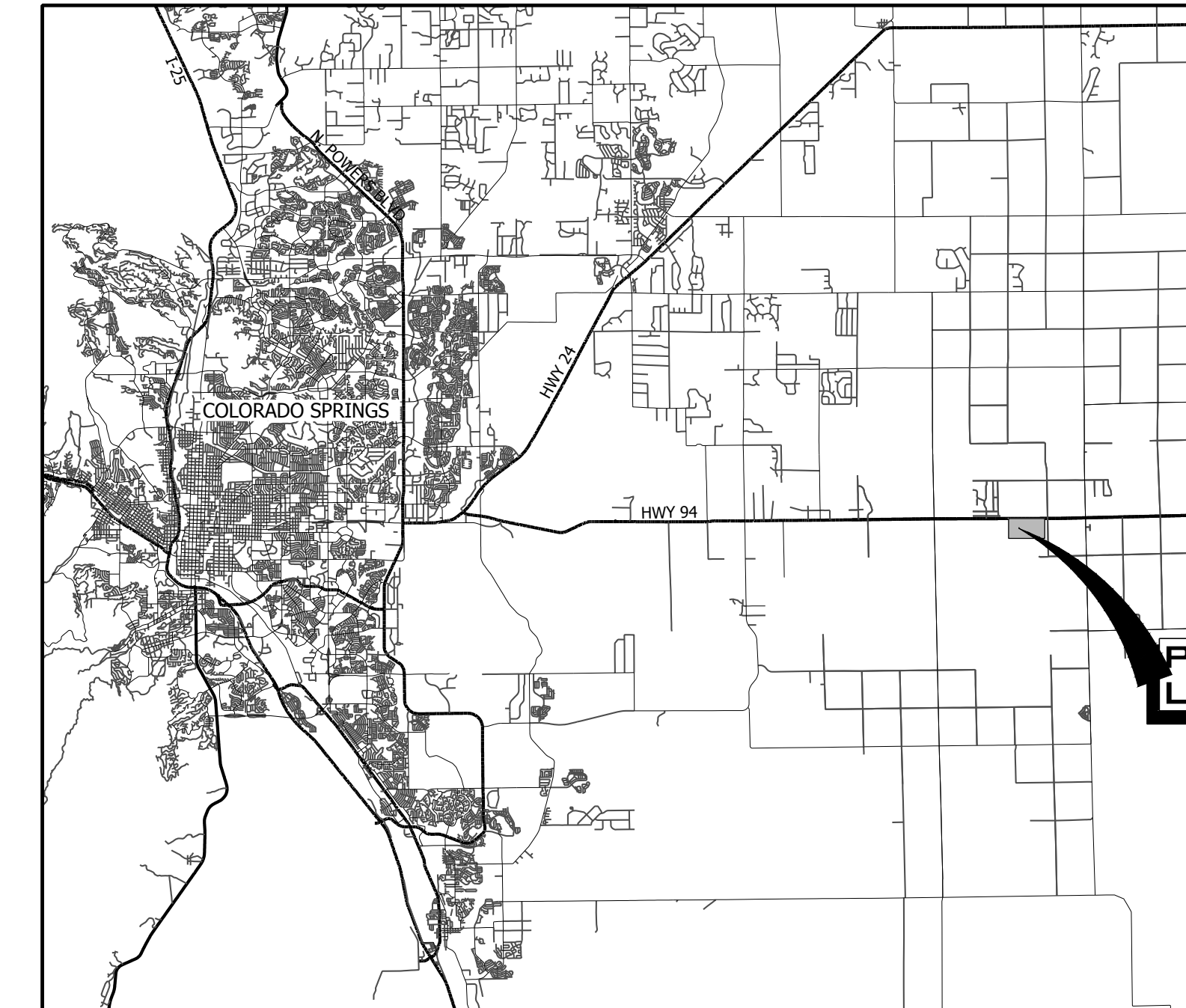
Know what's below.
Call before you dig.



VICINITY MAP
SCALE 1" = 5,000'



SITE MAP
SCALE 1" = 500'



VICINITY MAP
SCALE 1" = 20,000'

show detention pond and any areas of grading outside of the shaded area for Filing 3 as shown on the plans

include PCD File No. SF2219

CONTACT LIST

DEVELOPER	CIVIL ENGINEER	SURVEYOR	COUNTY ENGINEERING
MAYBERRY COMMUNITIES, LLC	R&R ENGINEERS-SURVEYORS, LLC	R&R ENGINEERS-SURVEYORS, LLC	EL PASO COUNTY DEVELOPMENT SERVICES
3296 DEVINE HEIGHTS #208 COLORADO SPRINGS, CO 80922 719-922-2181 CONTACT: SCOTT SOUDERS	1635 WEST 13TH AVENUE, SUITE 310 DENVER, CO 80204 303-753-6730 CONTACT: CLIF DAYTON, P.E.	1635 13TH AVENUE, SUITE 310 DENVER, CO 80204 303-753-6730 CONTACT: MR. DARELL DeLAP	2880 INTERNATIONAL CIRCLE COLORADO SPRINGS, CO 80922 719-520-6300
STATE HIGHWAY	WATER/WASTEWATER	GAS DEPARTMENT	ELECTRIC DEPARTMENT
COLORADO DEPARTMENT OF TRANSPORTATION, REGION 2	ELLICOTT UTILITIES COMPANY, LLC	BLACK HILLS ENERGY	MOUNTAIN VIEW ELECTRIC ASSOCIATION
5615 WILLS BLVD. PUEBLO, CO 81008 MR. ART GONZALES (REFERENCE CDOT ACCESS PERMITS NO. 218053 & 218054)	719-426-7810 CONTACT: JASON KVOLS	1515 WYNKOOP ST #500 DENVER, CO 80202 719-359-3176 CONTACT: SEBASTIAN SCHWENDER	11140 E. WOODMEN ROAD COLORADO SPRINGS, CO 80908 719-495-2283 CONTACT: MR. DAVE WALDNER

Sheet List Table

Sheet Number	Sheet Title
C8.0	GESC COVER SHEET
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C8.3	E&S PLAN-NORTH EAST
C8.4	E&S PLAN-SOUTH WEST
C8.5	E&S PLAN-SOUTH EAST
C8.6	E&S DETAILS
C8.7	E&S DETAILS
C8.8	E&S DETAILS
C8.9	E&S DETAILS
C8.10	OVERALL GRADING PLAN
C8.11	GRADING PLAN - WEST
C8.12	GRADING PLAN - EAST
C8.13	GRADING PLAN - DETENTION POND
C8.14	CHANNEL C2 PLAN & PROFILE 9+00 TO 20+00
C8.15	CHANNEL C2 PLAN & PROFILE 20+00 TO 29+00
C8.16	CHANNEL D PLAN & PROFILE
C8.17	CHANNEL E 9+50 TO 24+00
C8.18	CHANNEL E 24+00 to 38+50
C8.19	CHANNEL F PLAN & PROFILE
C8.20	LOT GRADING DETAILS
C8.21	DETENTION POND DETAILS
C8.22	DETENTION POND DETAILS

Add:
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.

Engineer's Statement:

This Grading and Erosion Control Plan was prepared under my direction and supervision and is correct to the best of my knowledge and belief. Said Plan has been prepared according to the criteria established by the County for Grading and Erosion Control Plans. I accept responsibility for any liability caused by any negligent acts, errors or omissions on my part in preparing this report.

Clif Dayton, P.E. #48189 _____ Date

Owner's Statement:

The Owner will comply with the requirements of the Grading and Erosion Control Plan.

Owner Signature _____ Date

El Paso County:

County plan review is provided only for general conformance with County Design Criteria. The County is not responsible for the accuracy and adequacy of the design, dimensions, and/or elevations which shall be confirmed at the job site. The County through the approval of this document assumes no responsibility for completeness and/or accuracy of this document.

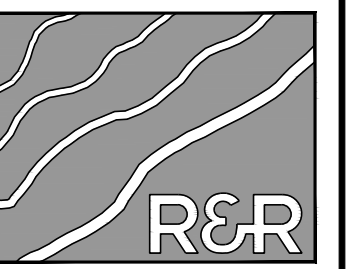
Filed in accordance with the requirements of the El Paso County Land Development Code, Drainage Criteria Manual, Volumes 1 and 2, and Engineering Criteria Manual as amended.

County Project Engineer Signature _____ Date

BENCHMARK:
NGS Benchmark PID: JK003, Designation: Z 76
Disk Stamped Z 76 1935 in top of concrete monument.
Project Elevation: 6041.98 Feet
Elevation Note: Project Vertical Datum is based upon previous surveys conducted by Rampart Surveys LLC where the elevation of 6041.98 feet was established on this benchmark. This elevation has been verified by R&R Engineers and Surveyors by running closed bench level loops from Z 76 to other aerial control points that were used for the topographic survey and design on previous projects. The current NGS published elevation was Not Used.
Benchmark Located in the Southeast quadrant of the intersection of State Highway 94 and Log Road. The benchmark lies 65.5 feet South and 30 feet East of the intersection.
Horizontal Values:
State Plane 1983 Central Coordinate Values in US Survey Feet:
Grid Northing: 1367803.3380' Grid Easting: 3311725.4580'
Project Coordinate Values in US Survey Feet:
Northing: 1368261.2691' Easting: 3312880.8395'

BASIS OF BEARING:
Bearings are based on the North line of the Northeast Quarter of Section 14, Township 14 South, Range 63 West of the 6th Principal Meridian having a bearing of South 89° 44' 50" East as shown on the recorded plats of Mayberry, Colorado Springs Filing No. 1 recorded as Reception No. 220714655 and as shown on Mayberry, Colorado Springs Filing No. 2 recorded as Reception No. 221714698, said North line having a ground distance of 2606.58 feet and monumented at each end as shown on sheet 2 of the Mayberry, Colorado Springs Filing No. 3 Plat.

NO.	REVISION	DATE
	2ND SUBMISSION	9/1/2022



ENGINEERS-SURVEYORS

R&R ENGINEERS-SURVEYORS, INC.
1635 WEST 13TH AVENUE, SUITE 310
DENVER, COLORADO 80204
PHONE: 303-753-6730

WWW.RRENGINEERS.COM

MAYBERRY PUD PH 1 - FILING NO. 3

SITE ADDRESS: MAYBERRY, COLORADO SPRINGS
EL PASO COUNTY
PREPARED FOR: MAYBERRY COMMUNITIES, LLC
3296 DEVINE HEIGHTS #209
COLORADO SPRINGS, CO 80922

GESC PLANS
JOB NO: MC22110
ORG. SUBM. DATE: 06/16/2022
DWN: LAO CHKD: CJJ
NAME:

GESC COVER SHEET

NO. C8.0

PLAT: P. MC22110 MAYBERRY FILING NO. 3 ENGINEERS-SURVEYORS, INC. DRAWINGS: P. ANS: GDS - COVER & NOTES: MC22110 - CIR - CD: DWG: PLOT DATE: 8/30/2022 2:56:55 PM BY: LNU: GORDAY

Please replace with Standard Notes for El Paso County Grading and Erosion Control Plans (see GEC Checklist Section 3)

EL PASO COUNTY GRADING & EROSION CONTROL STANDARD NOTES:

- STORMWATER DISCHARGES FROM CONSTRUCTION SITES SHALL NOT CAUSE OR THREATEN TO CAUSE POLLUTION, CONTAMINATION, OR DEGRADATION OF STATE WATERS. ALL WORK AND EARTH DISTURBANCE SHALL BE DONE IN A MANNER THAT MINIMIZES POLLUTION OF AN 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 TO 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. DURING CONSTRUCTION THE SWMP IS THE RESPONSIBILITY OF THE DESIGNATED QUALIFIED STORMWATER MANAGER OR CERTIFIED EROSION CONTROL INSPECTOR AND 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 MAY CONTRIBUTE POLLUTANTS TO STORMWATER. TEMPORARY SEDIMENT AND EROSION CONTROL MEASURES FOR ALL SLOPES, CHANNELS, DITCHES, OR ANY DISTURBED LAND AREA SHALL BE COMPLETED 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 IS 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 PRIOR TO IMPLEMENTATION.
- 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. AN AREA THAT IS GOING TO REMAIN IN AN INTERIM STATE FOR MORE THAN 60 DAYS SHALL ALSO BE STABILIZED.
- 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 PLAN 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 DEFINED IN THE APPROVED PLANS. ANY PROPOSED CHANGES THAT EFFECT THE HYDROLOGY OR HYDRAULICS OF A PERMANENT STORMWATER MANAGEMENT STRUCTURE MUST BE APPROVED BY THE ECM ADMINISTRATOR PRIOR TO IMPLEMENTATION.
- ANY EARTH DISTURBANCE SHALL BE CONDUCTED IN SUCH A MANNER SO AS TO EFFECTIVELY MINIMIZED ACCELERATED SOIL EROSION AND RESULTING SEDIMENTATION. ALL DISTURBANCES SHALL BE DESIGNED, CONSTRUCTED, AND COMPLETED SO THAT THE EXPOSED AREA OF ANY VEGETATION SHALL BE PROTECTED AND MAINTAINED WITHIN 50 HORIZONTAL FEET OF A WATERS OF THE STATE, UNLESS INFEASIBLE.
- 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 SHALL ALSO BE PROTECTED FROM SEDIMENTATION DURING CONSTRUCTION UNTIL FINAL STABILIZATION IS ACHIEVED.
- ANY TEMPORARY OR PERMANENT FACILITY DESIGNED AND CONSTRUCTED FOR THE CONVEYANCE OF STORMWATER AROUND, THROUGH, OR FORM 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 RUNOFF TO STATE WATERS, INCLUDING ANY SURFACE OR SUBSURFACE STORM DRAINAGE SYSTEM OR FACILITIES. CONCRETE WASHOUT SHALL NOT BE LOCATED IN AN AREA WHERE SHALLOW GROUNDWATER MAY BE PRESENT, OR WITHIN 50 FEET OF A SURFACE WATER BODY.
- DEWATERING OPERATIONS: UNCONTAMINATED GROUND WATER MAY BE DISCHARGED ON SITE, BUT MAY NOT LEAVE THE SITE IN THE FORM OF SURFACE RUNOFF.
- EROSION CONTROL BLANKETING IS TO BE USED ON SLOPES STEEPER THAN 3:1.
- BUILDING, CONSTRUCTION, EXCAVATION, OR OTHER 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. BMP'S MAY BE REQUIRED BY EL PASO COUNTY ENGINEERING IF DEEMED NECESSARY, BASED ON SPECIFIC CONDITIONS AND CIRCUMSTANCES.
- VEHICLE TRACKING OF SOILS AND CONSTRUCTION DEBRIS OFF-SITE SHALL BE MINIMIZED. MATERIALS TRACKED OFFSITE SHALL BE CLEANED UP AND PROPERLY DISPOSED OF IMMEDIATELY.
- 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.
- THE OWNER, SITE DEVELOPER, CONTRACTOR, AND/OR THEIR AUTHORIZED AGENTS SHALL BE RESPONSIBLE FOR THE REMOVAL OF ALL CONSTRUCTION DEBRIS, DIRT, TRASH, ROCK, SEDIMENT, AND SAND THAT MAY ACCUMULATE IN THE STORM SEWER OR OTHER DRAINAGE CONVEYANCE SYSTEM 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 CHEMICALS ARE TO BE USED BY THE CONTRACTOR, WHICH HAVE THE POTENTIAL TO BE RELEASED IN STORMWATER UNLESS PERMISSION FOR THE USE OF A SPECIFIC CHEMICAL IS GRANTED IN WRITING BY THE ECM ADMINISTRATOR. IN GRANTING THE USE OF SUCH CHEMICALS, SPECIAL CONDITIONS AND MONITORING MAY BE REQUIRED.
- BULK STORAGE OF PETROLEUM PRODUCTS OR OTHER LIQUID CHEMICALS IN EXCESS OF 55 GALLONS SHALL HAVE ADEQUATE SECONDARY CONTAINMENT PROTECTION TO CONTAIN ALL SPILLS AND PREVENT ANY SPILLED MATERIAL FROM ENTERING STATE WATERS, INCLUDING ANY SURFACE OR SUBSURFACE STORM DRAINAGE SYSTEM OR FACILITIES.
- NO PERSON SHALL CAUSE THE IMPEDIMENT OF STORMWATER FLOW IN THE FLOW LINE OF THE CURB AND GUTTER OR IN THE DITCH FLOW LINE.
- INDIVIDUALS 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 INCLUDED IN THE DCM VOLUME II AND THE ECM APPENDIX I. ALL APPROPRIATE PERMITS MUST BE OBTAINED BY THE CONTRACTOR PRIOR TO CONSTRUCTION (NPDES, FLOODPLAIN, 404, FUGITIVE DUST, ETC.). IN THE EVENT OF CONFLICTS BETWEEN THESE REQUIREMENTS AND LAWS, RULES, OR REGULATIONS OF OTHER FEDERAL, STATE, OR COUNTY AGENCIES, THE MORE RESTRICTIVE LAWS, RULES, OR REGULATIONS SHALL APPLY.
- ALL CONSTRUCTION TRAFFIC MUST ENTER/EXIT THE SITE AT APPROVED CONSTRUCTION ACCESS POINTS.
- PRIOR TO ACTUAL CONSTRUCTION THE PERMITEE SHALL VERIFY THE LOCATION OF EXISTING UTILITIES.
- A WATER SOURCE SHALL BE AVAILABLE ON SITE DURING EARTHWORK OPERATIONS AND UTILAED AS REQUIRED TO MINIMIZE DUST FROM EARTHWORK EQUIPMENT AND WIND.
- THE SOILS REPORT THIS SITE HAS BEEN PREPARED BY CTL THOMPSON, DATED FEBRUARY 6, 2019 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 1 ACRE OR MORE, THE OWNER OR OPERATOR OF CONSTRUCTION ACTIVITY SHALL SUBMIT A PERMIT APPLICATION FOR STORMWATER DISCHARGE TO THE COLORADO DEPARTMENT OF PUBLIC HEALTH AND ENVIRONMENT, WATER QUALITY DIVISION. THE APPLICATION CONTAINS CERTIFICATION OF COMPLETION OF A STORMWATER MANAGEMENT PLAN (SWMP), OF WHICH THIS GRADING AND EROSION CONTROL PLAN MAY BE A PART. FOR INFORMATION OR APPLICATION MATERIALS CONTACT:

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

MASTER LEGEND

EXISTING	DESCRIPTION	PROPOSED
	PROPERTY LINE	
	LOT LINE	
	RIGHT OF WAY	
	CENTERLINE	
	FLOOD PLAIN	
	LIMITS OF DISTURBANCE	
	SWALE / STREAM FLOWLINE	
	OVERFLOW RELIEF PATH	
	FENCE LINE	
	EASEMENT	
	EDGE OF PAVEMENT	
	VERTICAL CURB AND GUTTER	
	MOUNTABLE CURB AND GUTTER	
	SPILL GUTTER	
	TRANSITION GUTTER	
	CONCRETE SIDEWALK	
	HANDICAP PARKING	
	SIGHT TRIANGLE	
	SIGN(S)	
	PARKING COUNT INDICATOR	
	MAJOR CONTOUR	
	MINOR CONTOUR	
	GRADE BREAK	
	SPOT ELEVATION	
	RIP RAP	
	WATER LINE	
	WATER METER	
	WATER VALVE	
	WATER REDUCER	
	WATER FITTINGS	
	FIRE HYDRANT	
	SANITARY LINE	
	SANITARY MANHOLE	
	SANITARY CLEANOUT	
	STORM SEWER PIPE	
	STORM SEWER MANHOLE	
	STORM SEWER INLET	
	STORM SEWER FLARED END SECTION	
	STORM SEWER HEADWALL	
	UNDERGROUND ELECTRIC	
	OVERHEAD ELECTRIC	
	UTILITY POLE	
	STREET LIGHT	
	CABLE TV SERVICE	
	TELECOM SERVICE	
	FIBER OPTIC SERVICE	
	NATURAL GAS SERVICE	
	TREE	
	TREE LINE	

Please add a note about existing vegetation at the Site
To comply with the SWMP Checklist Item 17f, please add a note stating no batch plants will be utilized onsite.

BMP LEGEND

	CD	CHECK DAM
	CB	COMPOST BLANKET
	CFB	COMPOST FILTER BERM
	CWA	CONCRETE WASHOUT AREA
	CF	CONSTRUCTION FENCE
	CM	CONSTRUCTION MARKERS
	DW	DEWATERING
	DD	DIVERSION DITCH
		ROCK AND RIPRAP GRADATIONS
	ECB	EROSION CONTROL BLANKET
	IP	INLET PROTECTION
	RCD	REINFORCED CHECK DAM
	RRB	REINFORCED ROCK BERM
	RRC	RRB FOR CULVERT PROTECTION
	SB	SEDIMENT BASIN
	BCL	SEDIMENT CONTROL LOG
	BT	SEDIMENT TRAP
	SM	SEEDING AND MULCHING
	SF	SILT FENCE
	SBA	STABILIZED STAGING AREA
	SR	SURFACE ROUGHENING
	TRC	TEMPORARY ROAD CROSSING
	TSD	TEMPORARY SLOPE DRAIN
	TSC	TEMPORARY STREAM CROSSING
	TER	TERRACING
	VTC	VEHICLE TRACKING CONTROL
	VTC	VTC WITH WHEEL WASH
	A	A LOT EROSION CONTROL
	B	B LOT EROSION CONTROL
	LOC	LIMITS OF CONSTRUCTION
	TS	TEMPORARY SEEDING

show areas of cut/fill



NO.	REVISION	BY	DATE
	2ND SUBMISSION		9/1/2022

R&R ENGINEERS-SURVEYORS, INC.
1635 WEST 13TH AVENUE, SUITE 310
DENVER, COLORADO 80204
PHONE: 303-753-6730

WWW.RRENGINEERS.COM

MAYBERRY PUD PH 1 - FILING NO. 1
SITE ADDRESS: MAYBERRY, COLORADO SPRINGS
EL PASO COUNTY
PREPARED FOR: MAYBERRY COMMUNITIES, LLC
3286 DEVINE HEIGHTS #208
COLORADO SPRINGS, CO 80922

GEC PLANS

JOB NO.	MC22110
ORG. SUBM. DATE	06/16/2022
DWN:	LAO
CHKD:	CJD
NAME	

GENERAL NOTES & LEGEND

NO. **C8.1**

P:\P\14\22210 MAYBERRY PUD PH 1 - FILING NO. 1\DRAWINGS\PLAN\GDS - GEC PLANS\MC22110 - GEC - NOTES.DWG: PLOT DATE: 9/1/2022 8:41:06 AM BY: LKIN, GORDAY

Please provide for review and approval of berms, trails, and swales.

show locations of curb socks (interim)

add to legend. show both existing and proposed SW flow arrows.

Please show Limits of Construction. If "limits of disturbance" and "limits of construction" are the same, change LOD line type to "limits of construction/disturbance" or otherwise show as separate line types for each on the legend and figure.

SF and CF should be labeled as Initial/Interim, not final (typ.)

SEE LANDSCAPE ARCHITECT PLANS FOR DESIGN AND DETAILED GRADING OF POCKET PARKS, BERMS, TRAILS, AND OFFSITE SWALE

was this grading completed under filing 1? If so, please adjust the LOD and show contours as existing.

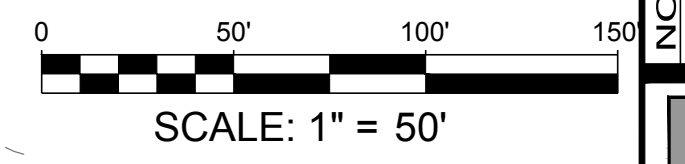
SEE LANDSCAPE ARCHITECT PLANS FOR DESIGN AND DETAILED GRADING OF POCKET PARKS, BERMS, TRAILS, AND OFFSITE SWALE

Please show all drainage easements.

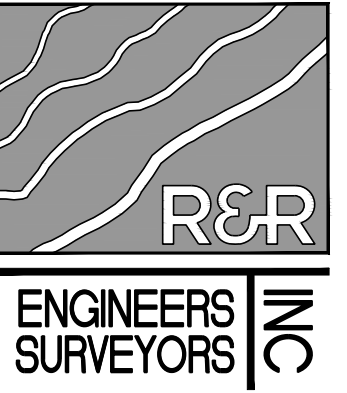
KEY MAP
N.T.S.



Know what's below.
Call before you dig.



DATE	9/1/2022
BY	
REVISION	
NO.	2ND SUBMISSION



R&R ENGINEERS-SURVEYORS, INC.
 1635 WEST 13TH AVENUE, SUITE 310
 DENVER, COLORADO 80204
 PHONE: 303-753-6730

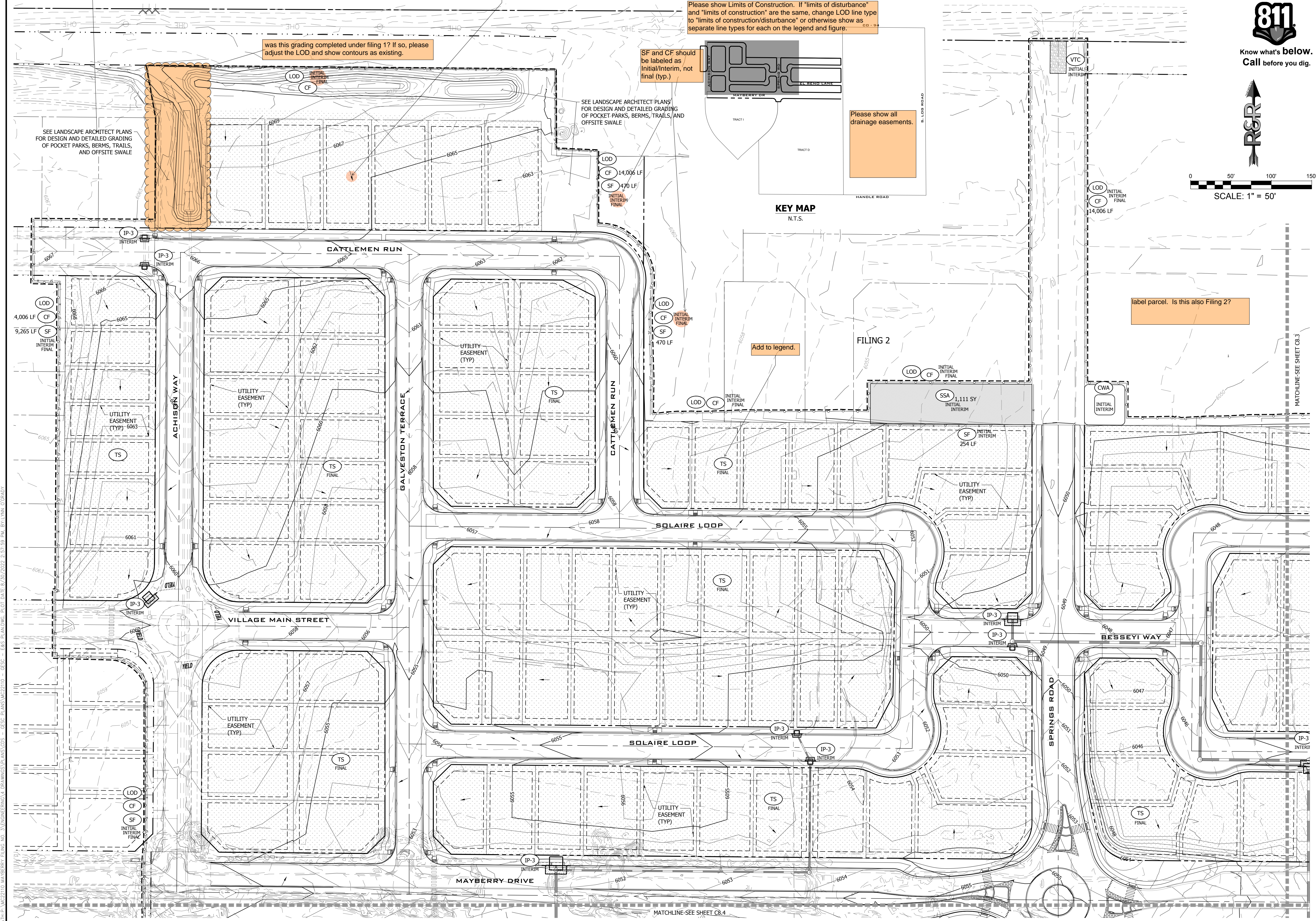
WWW.RRENGINEERS.COM

MAYBERRY PUD PH1 - FILING NO. 1
 SITE ADDRESS: MAYBERRY, COLORADO SPRINGS
 EL PASO COUNTY
 PREPARED FOR: MAYBERRY COMMUNITIES, LLC
 3296 DEVINE HEIGHTS #208
 COLORADO SPRINGS, CO 80922

GESC PLANS	
JOB NO.	MC22110
ORG. SUBM. DATE	06/16/2022
DWN:	LAO
CHKD:	CJD
NAME	

E&S PLAN-NORTH WEST

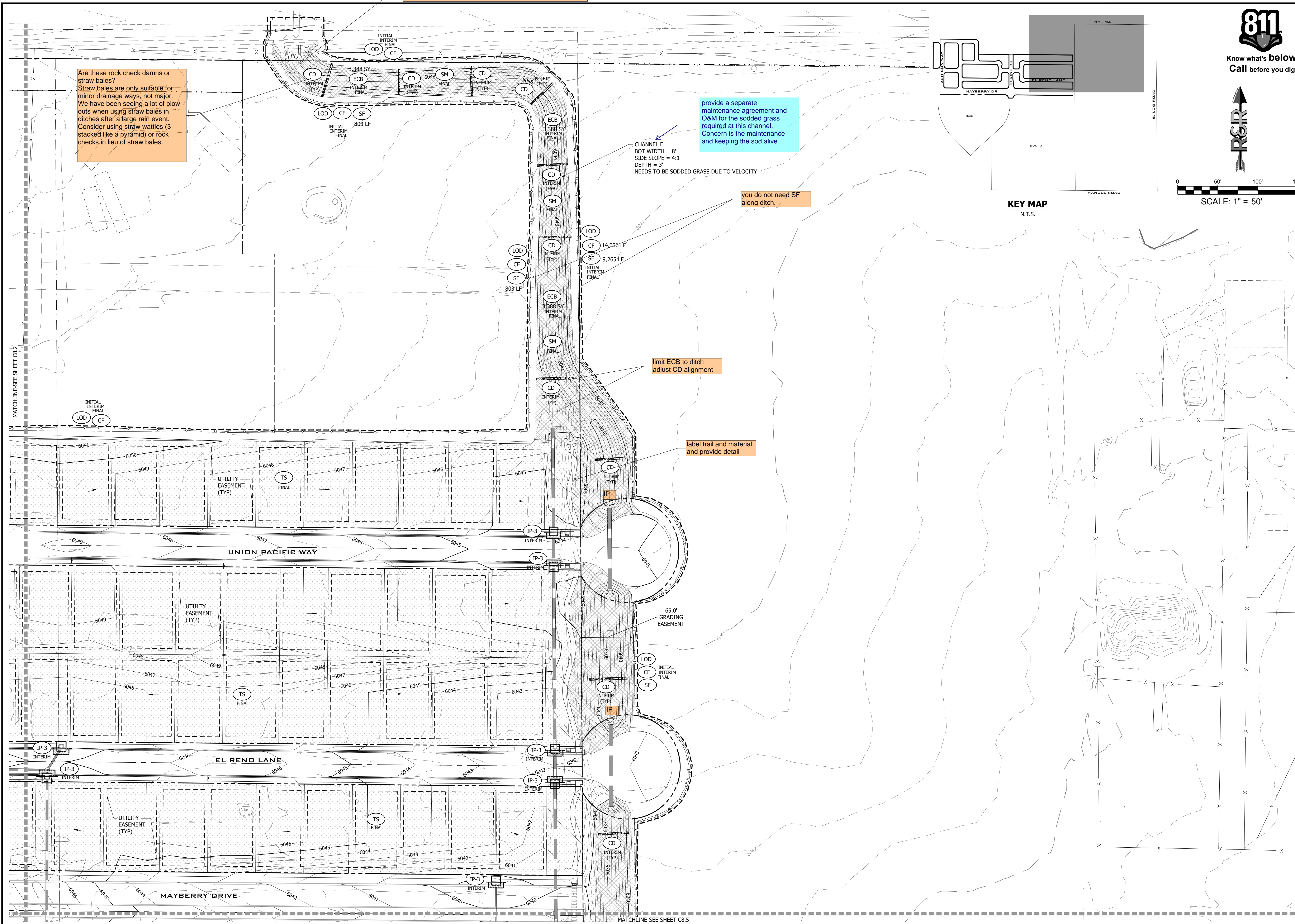
NO. C8.2



P:\PLANS\MC22110_MAYBERRY_PUD_PH1 - FILING NO. 1\GESC PLANS\MC22110 - GESC - E&S PLANS\MC22110 - GESC - E&S PLANS.DWG, PLOT DATE: 8/29/2022 2:57:29 PM, BY: JPN, G:\GARY

MATCHLINE-SEE SHEET C8.4

MATCHLINE-SEE SHEET C8.3



Are these rock check dams or straw bales?
 Straw bales are only suitable for minor drainage ways, not major. We have been seeing a lot of blow outs when using straw bales in ditches after a large rain event. Consider using straw wattles (3 stacked like a pyramid) or rock checks in lieu of straw bales.

Show calcs in drainage report to determine if outlet protection is necessary and that the SW will follow this bend

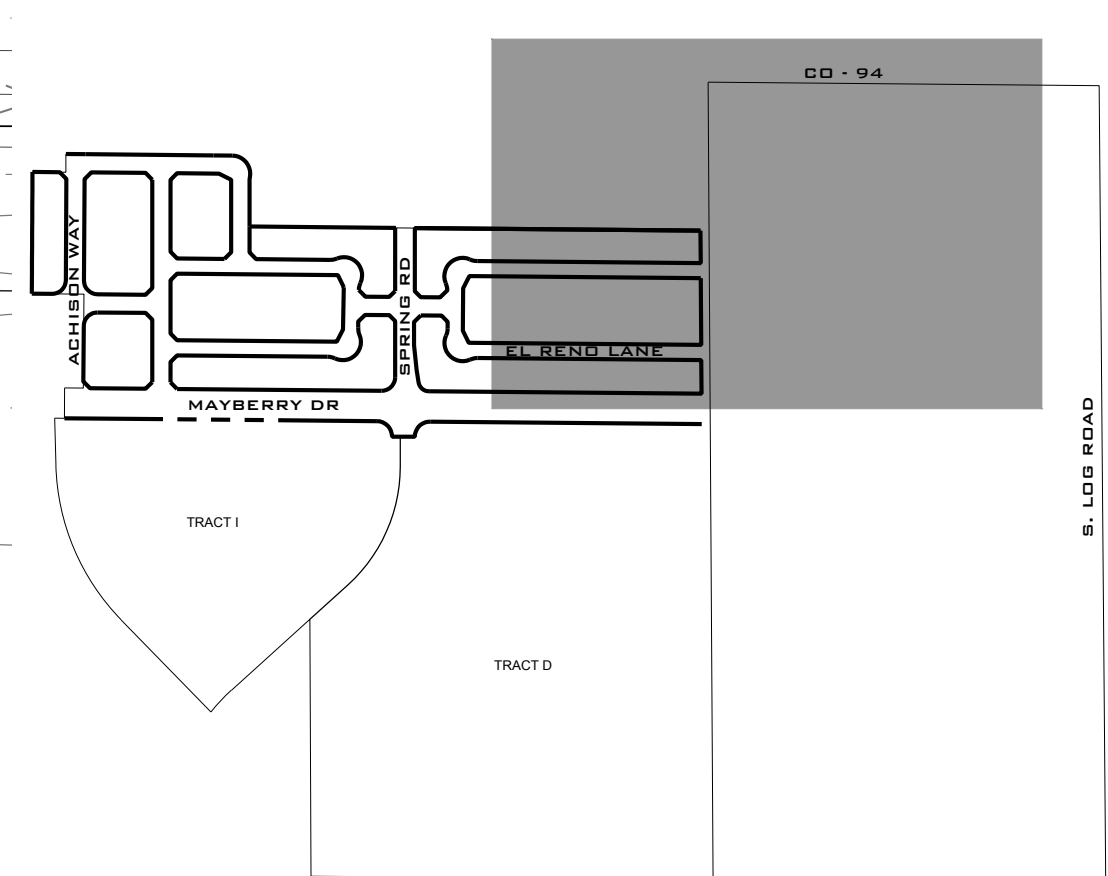
provide a separate maintenance agreement and O&M for the sodded grass required at this channel. Concern is the maintenance and keeping the sod alive

you do not need SF along ditch.

CHANNEL E
 BOT WIDTH = 8"
 SIDE SLOPE = 4:1
 DEPTH = 3"
 NEEDS TO BE SODDED GRASS DUE TO VELOCITY

limit ECB to ditch
 adjust CD alignment

label trail and material
 and provide detail



KEY MAP
 N.T.S.

SCALE: 1" = 50'



Know what's below.
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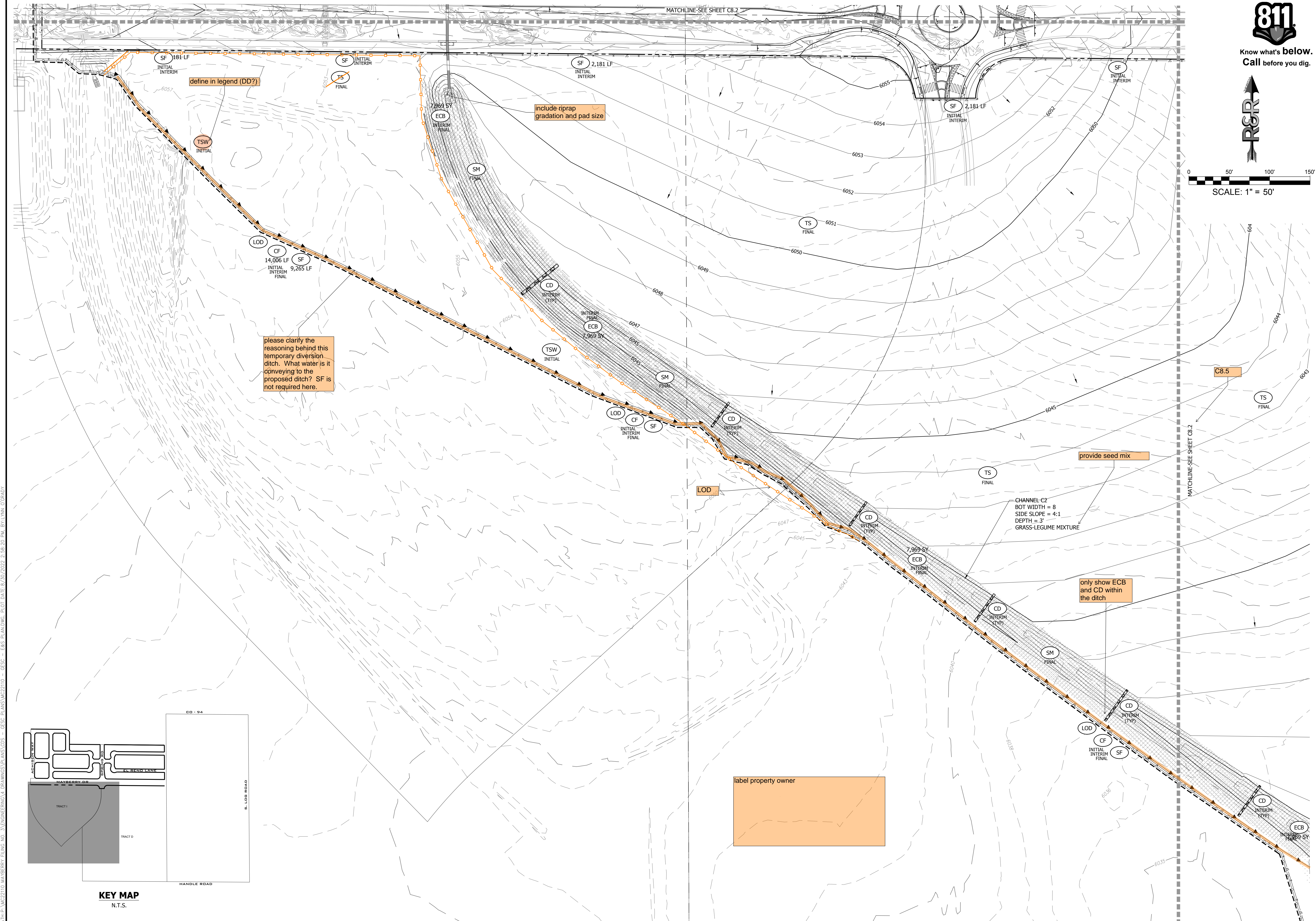
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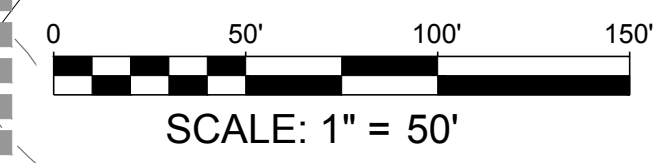
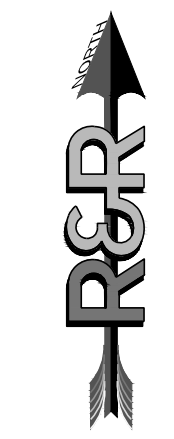
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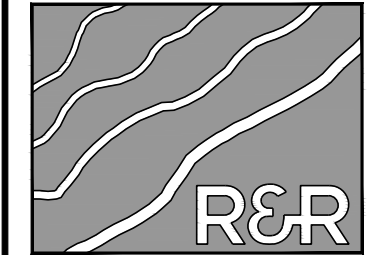


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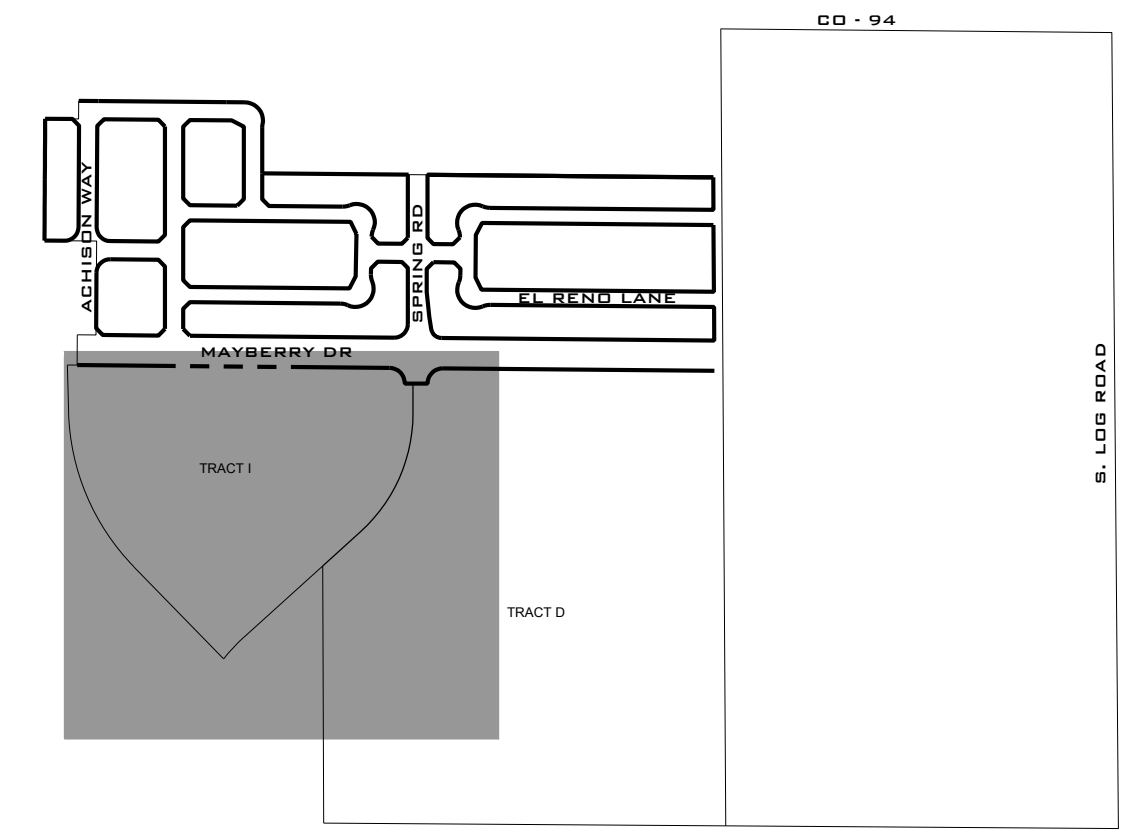
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E&S PLAN-SOUTH WEST

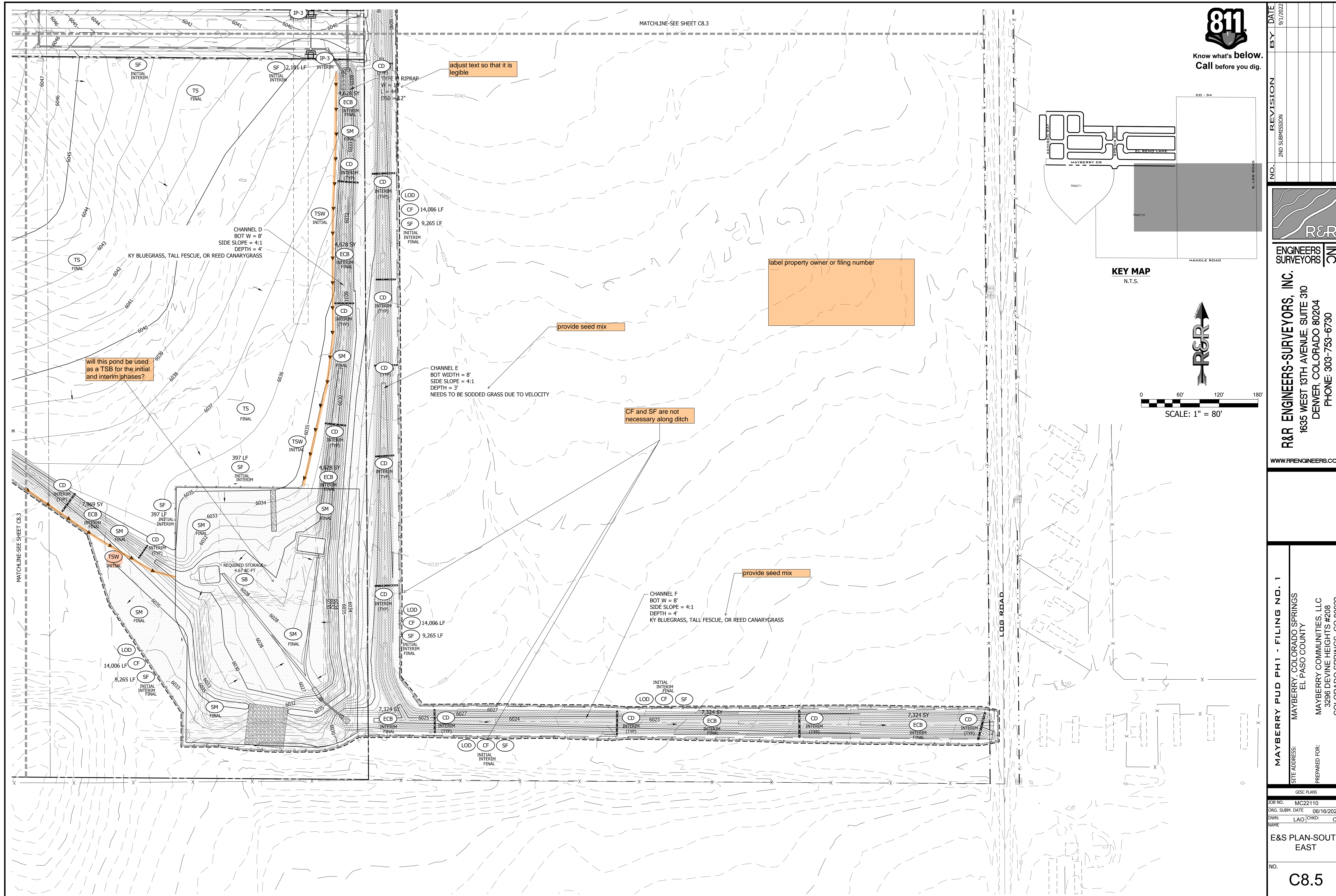
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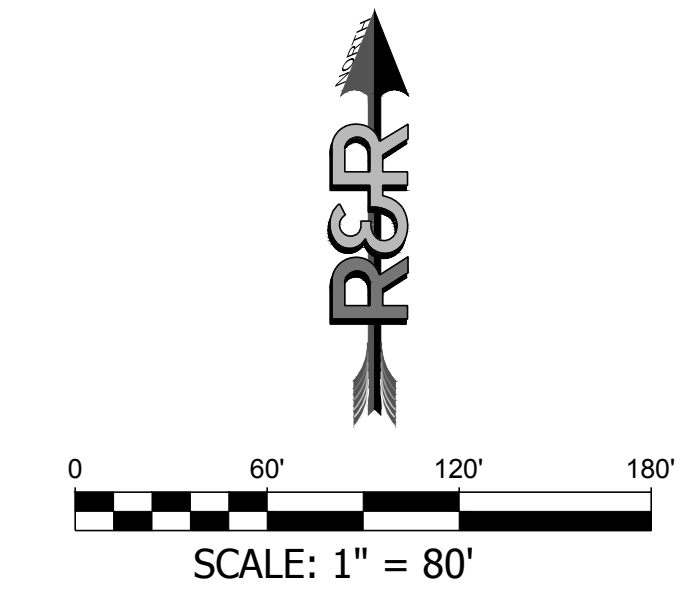
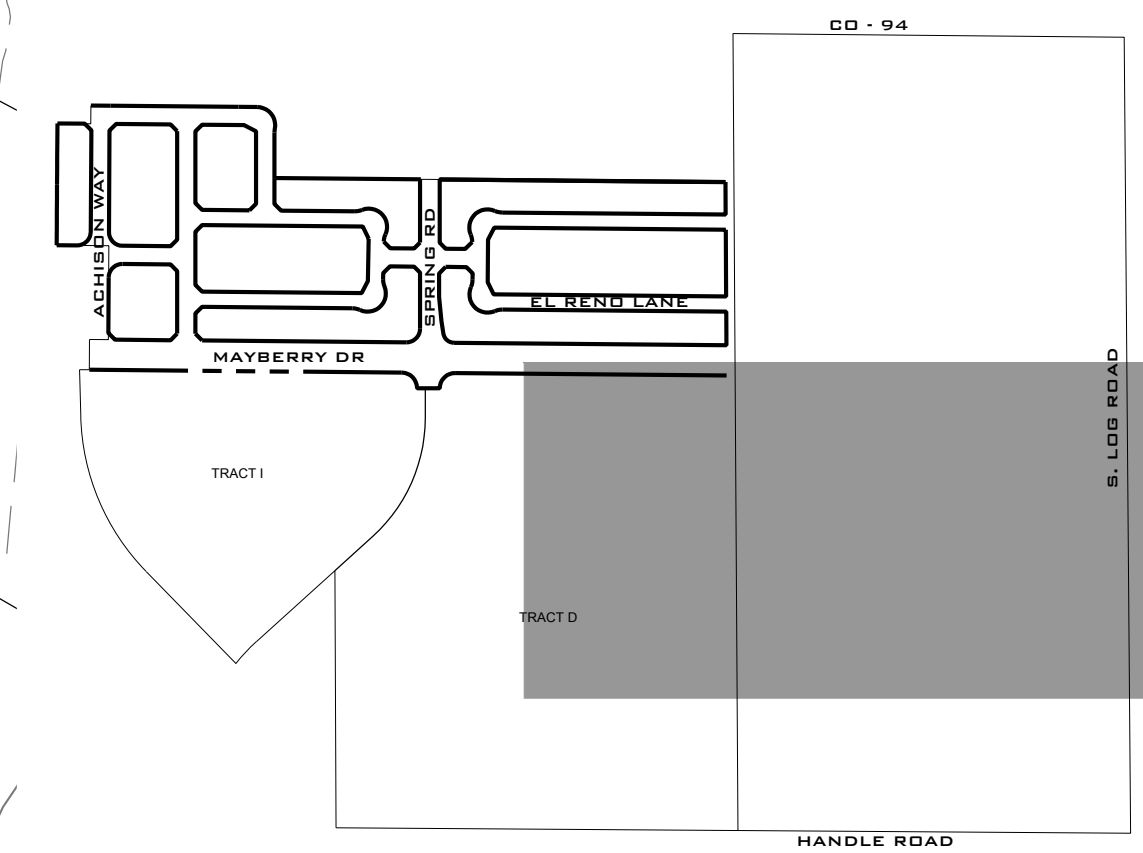


please clarify the reasoning behind this temporary diversion ditch. What water is it conveying to the proposed ditch? SF is not required here.

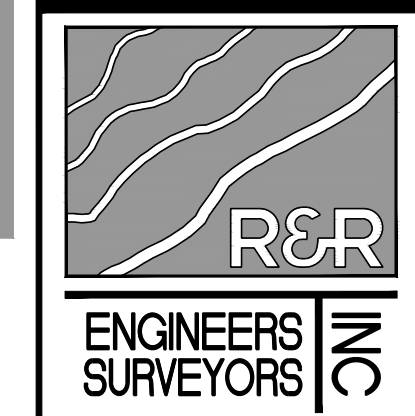
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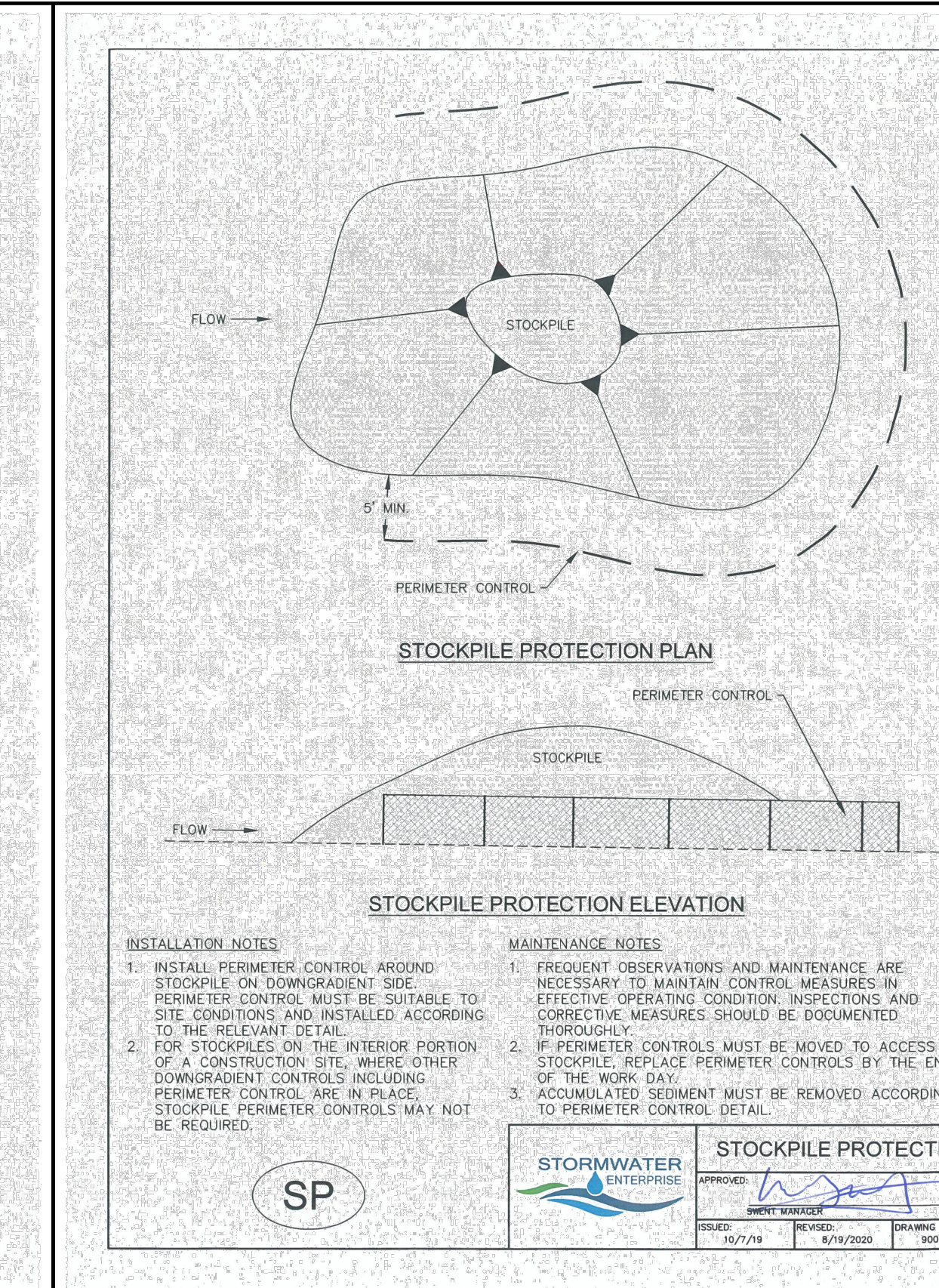
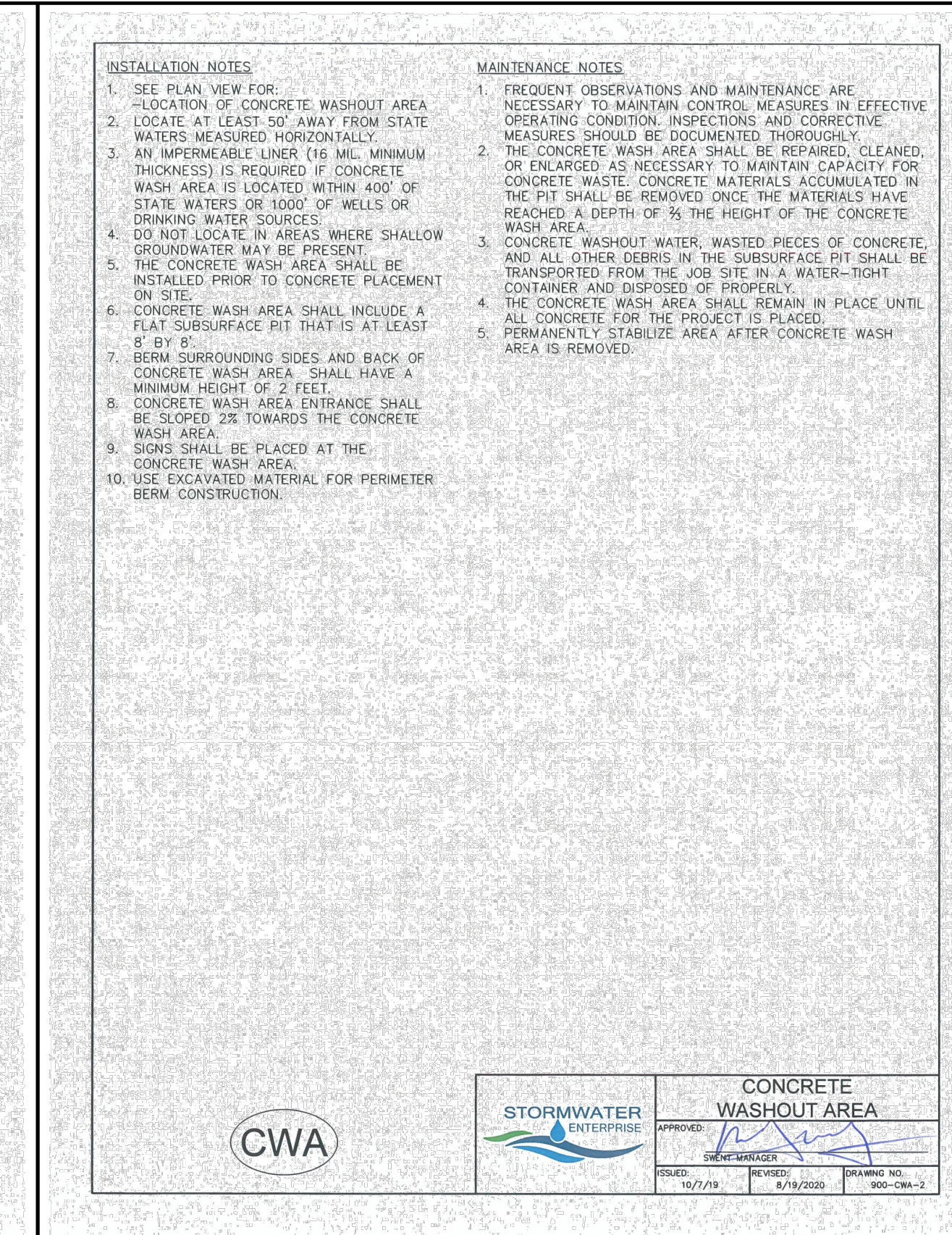
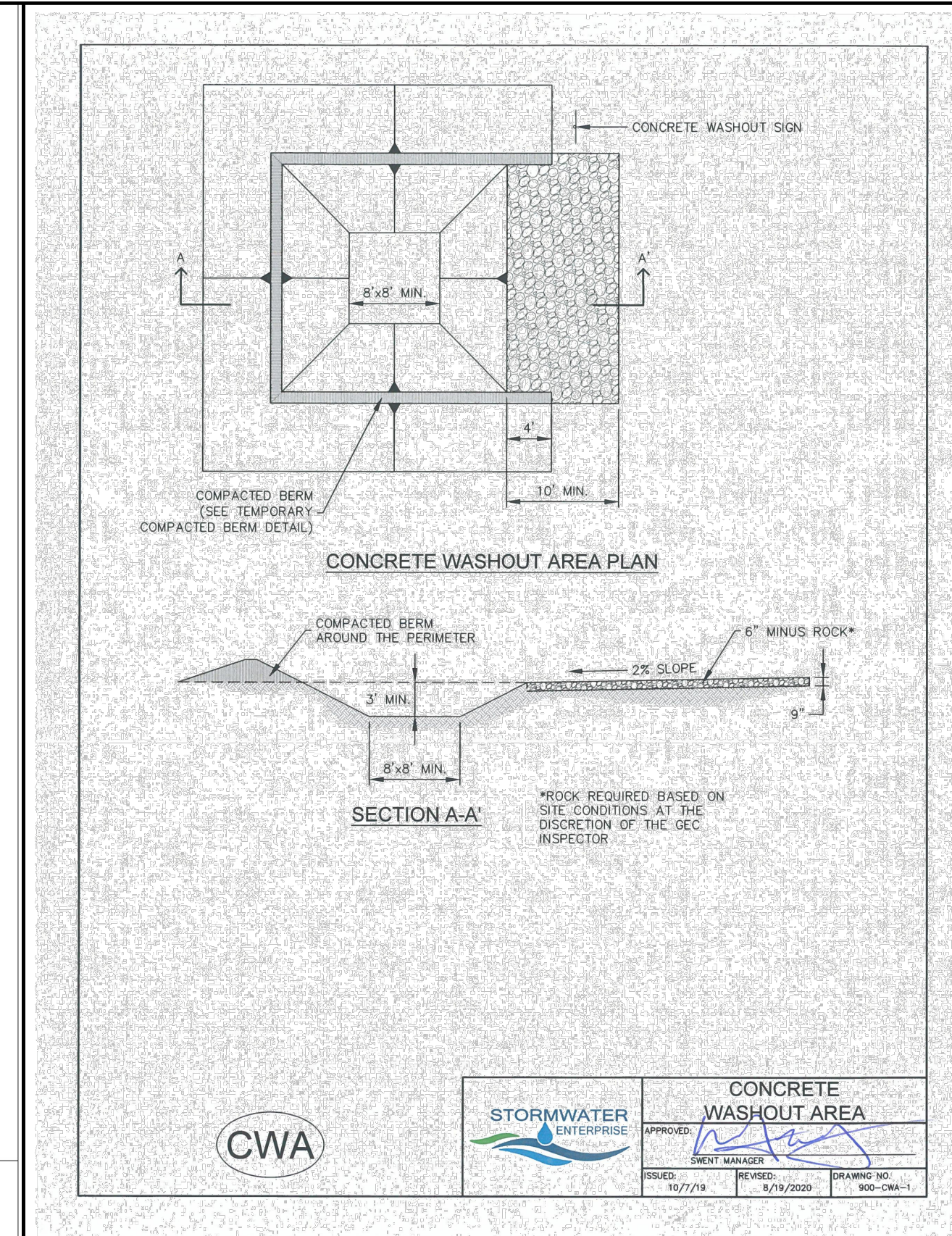
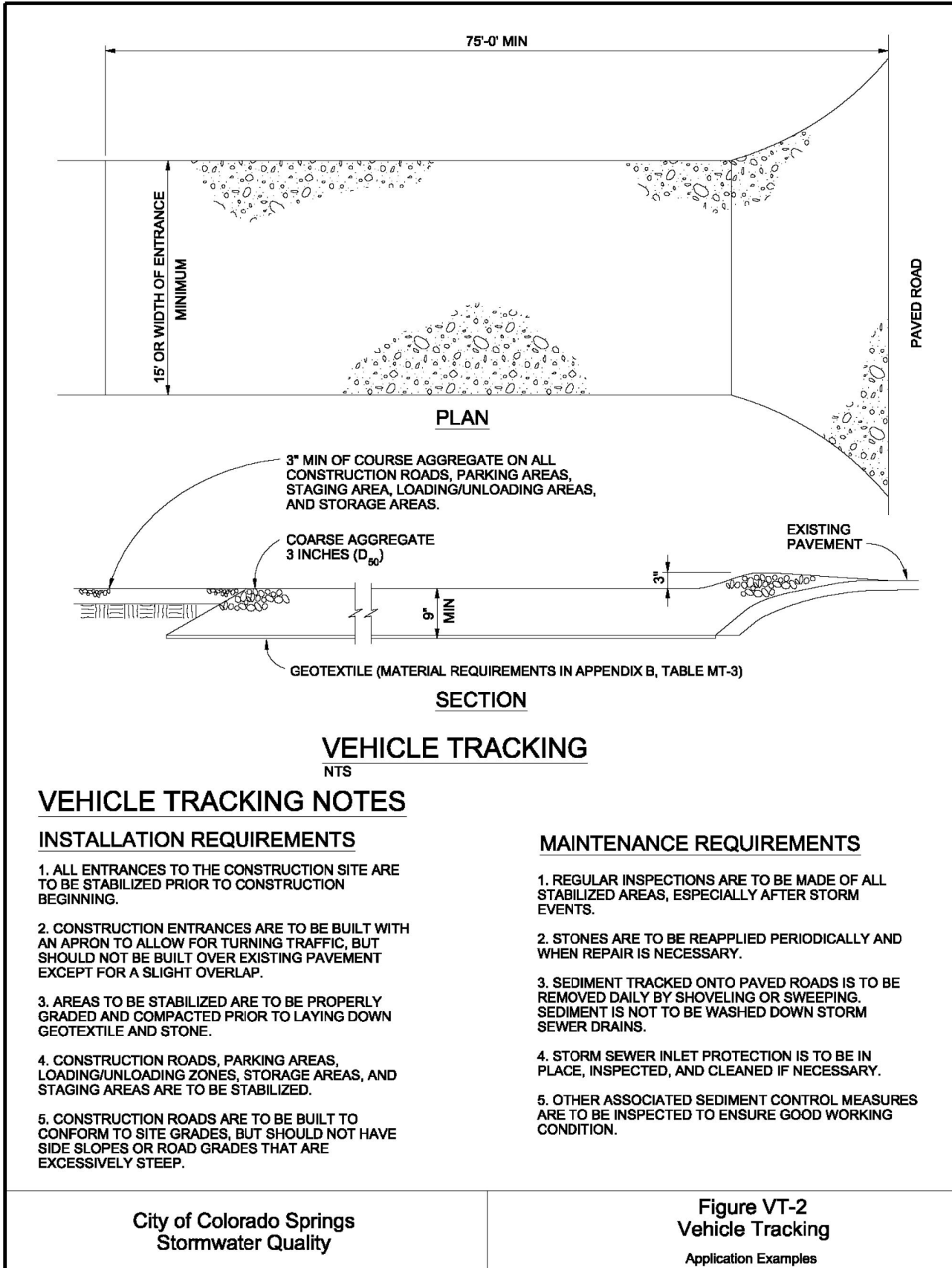
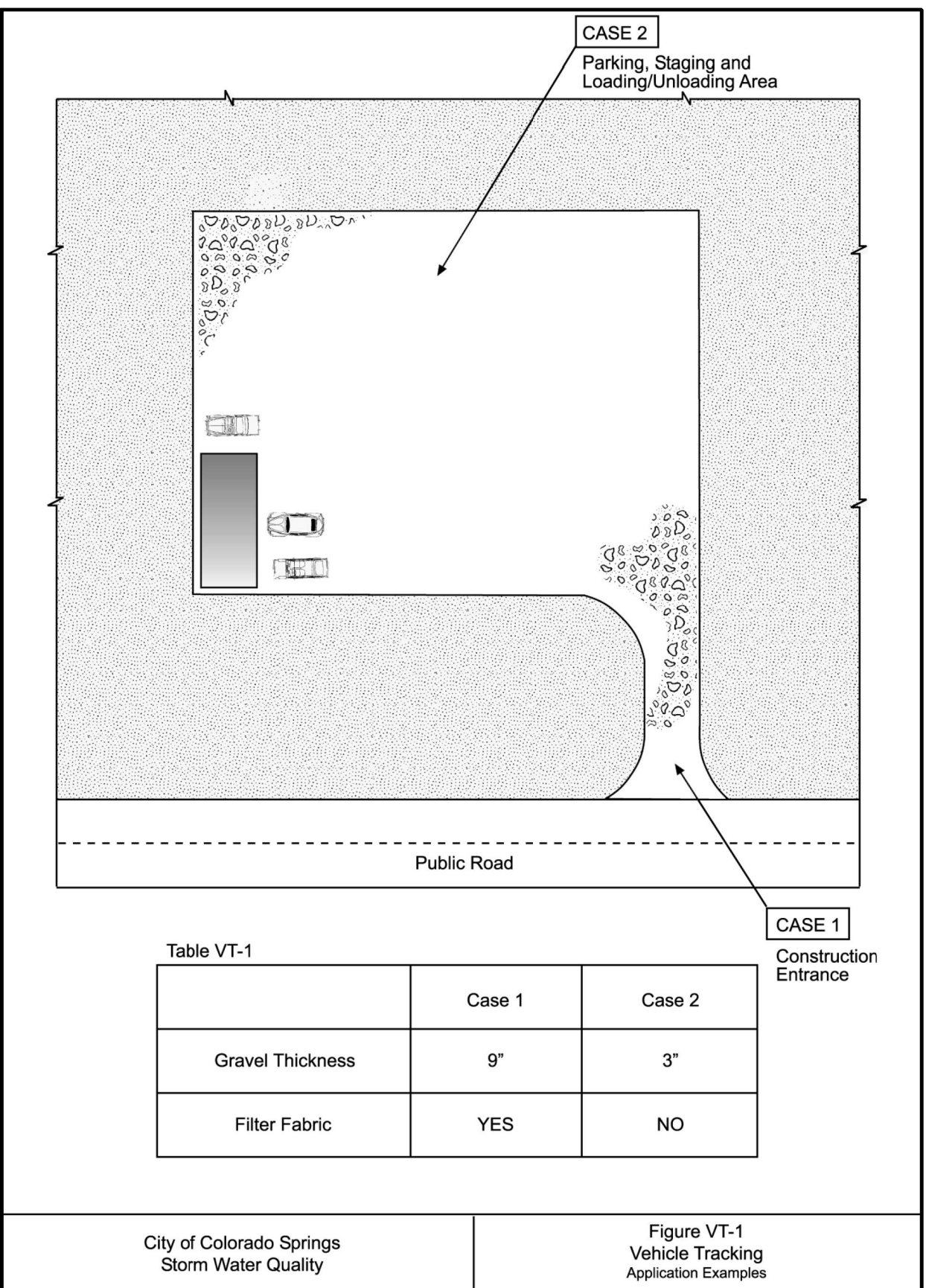
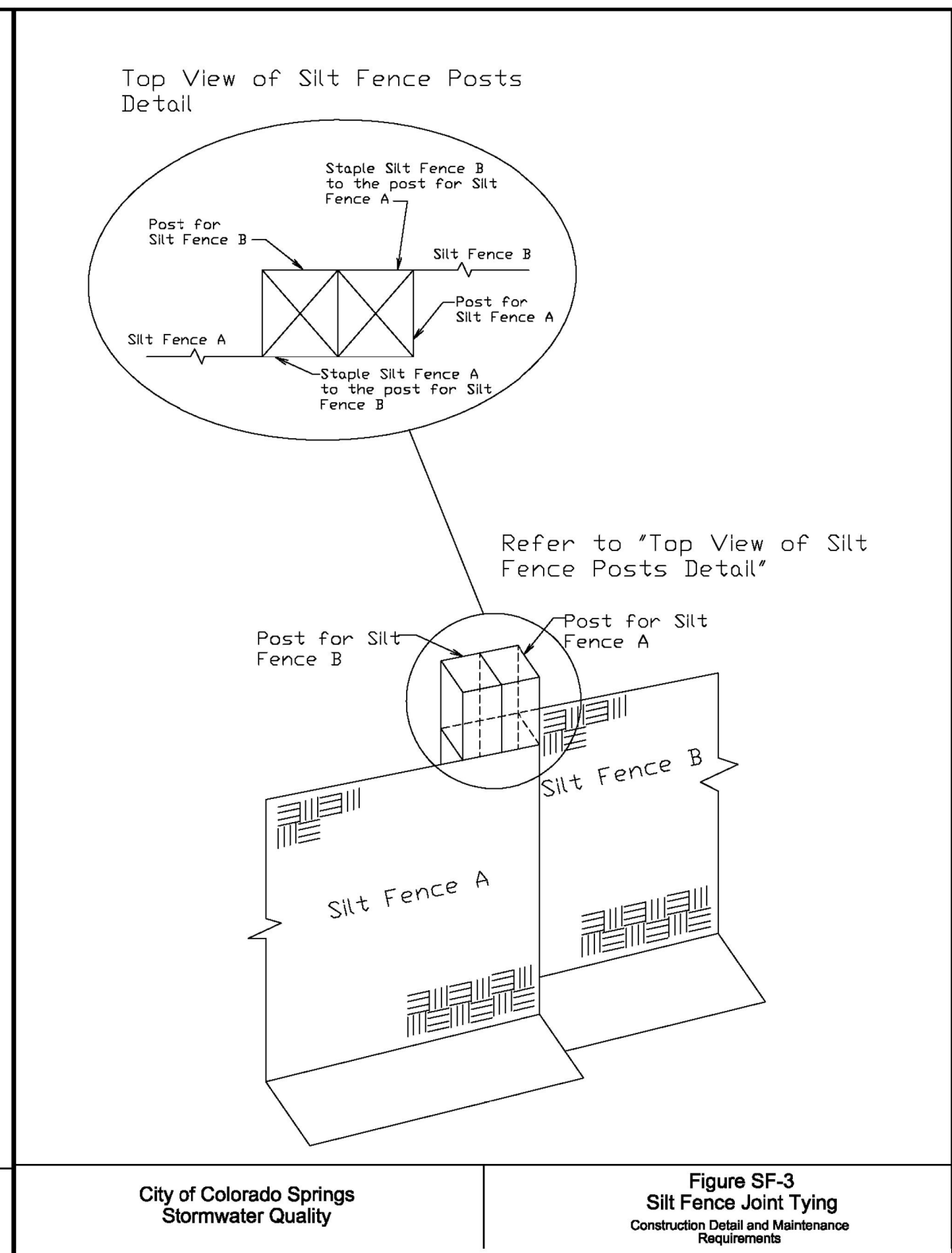
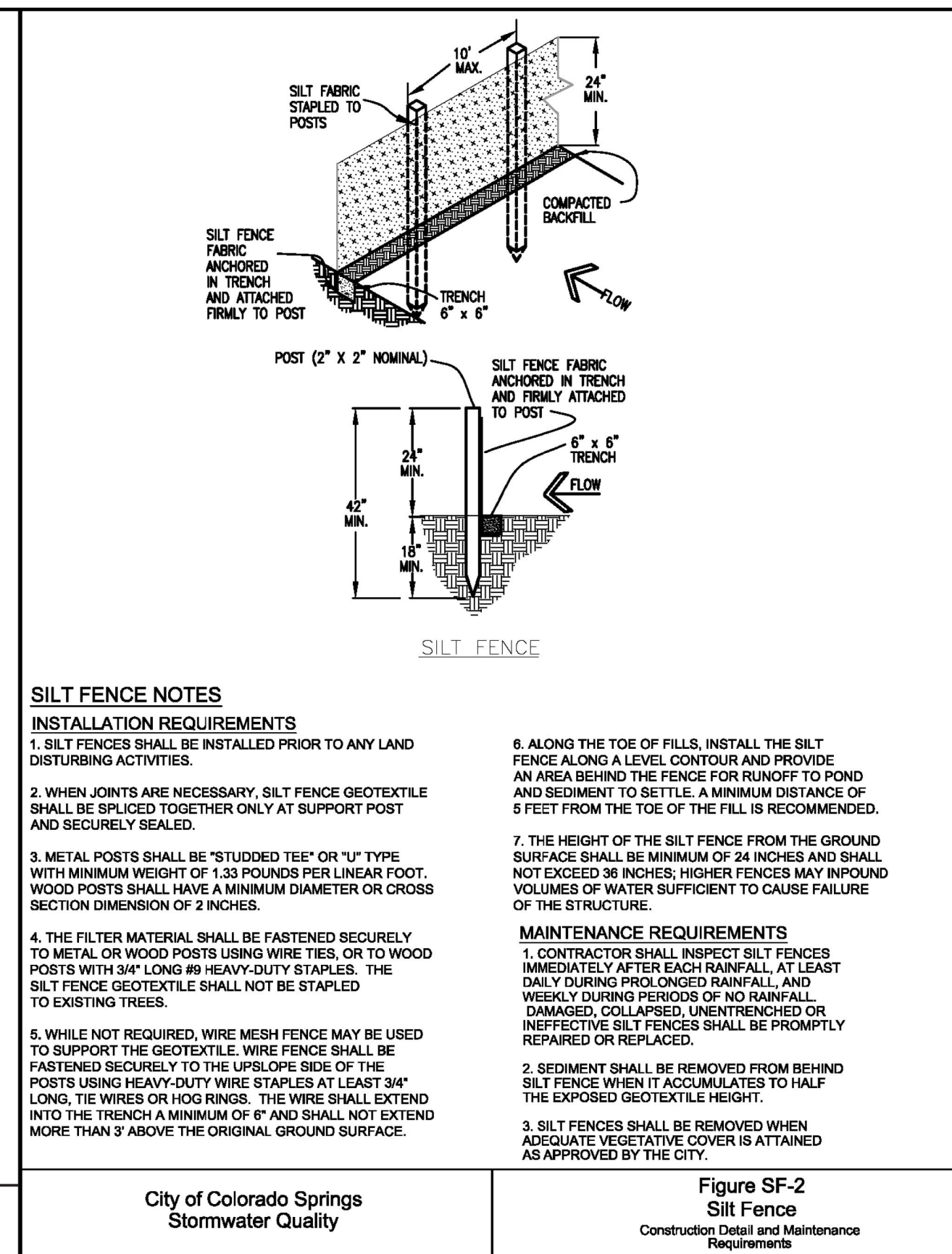
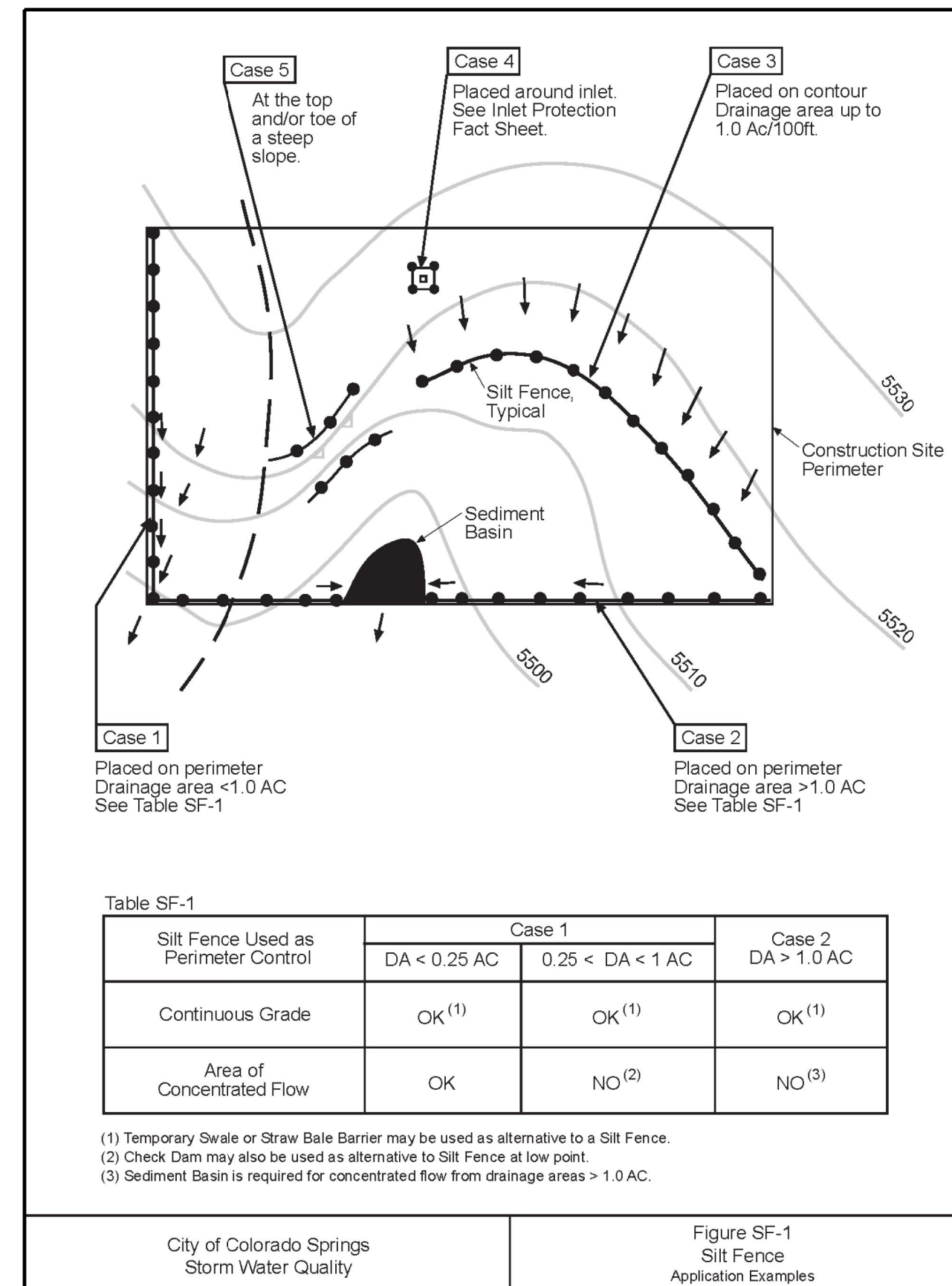
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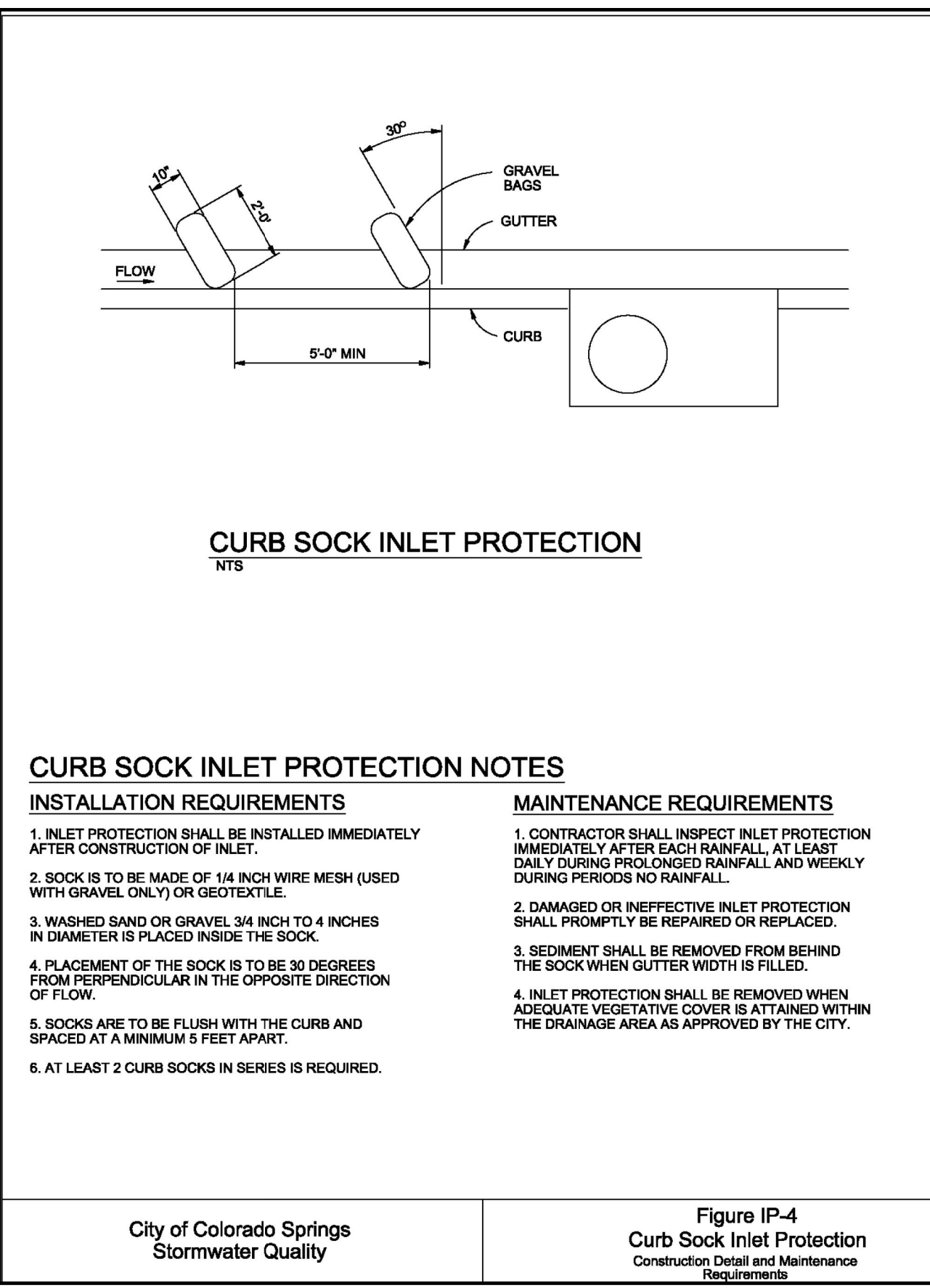
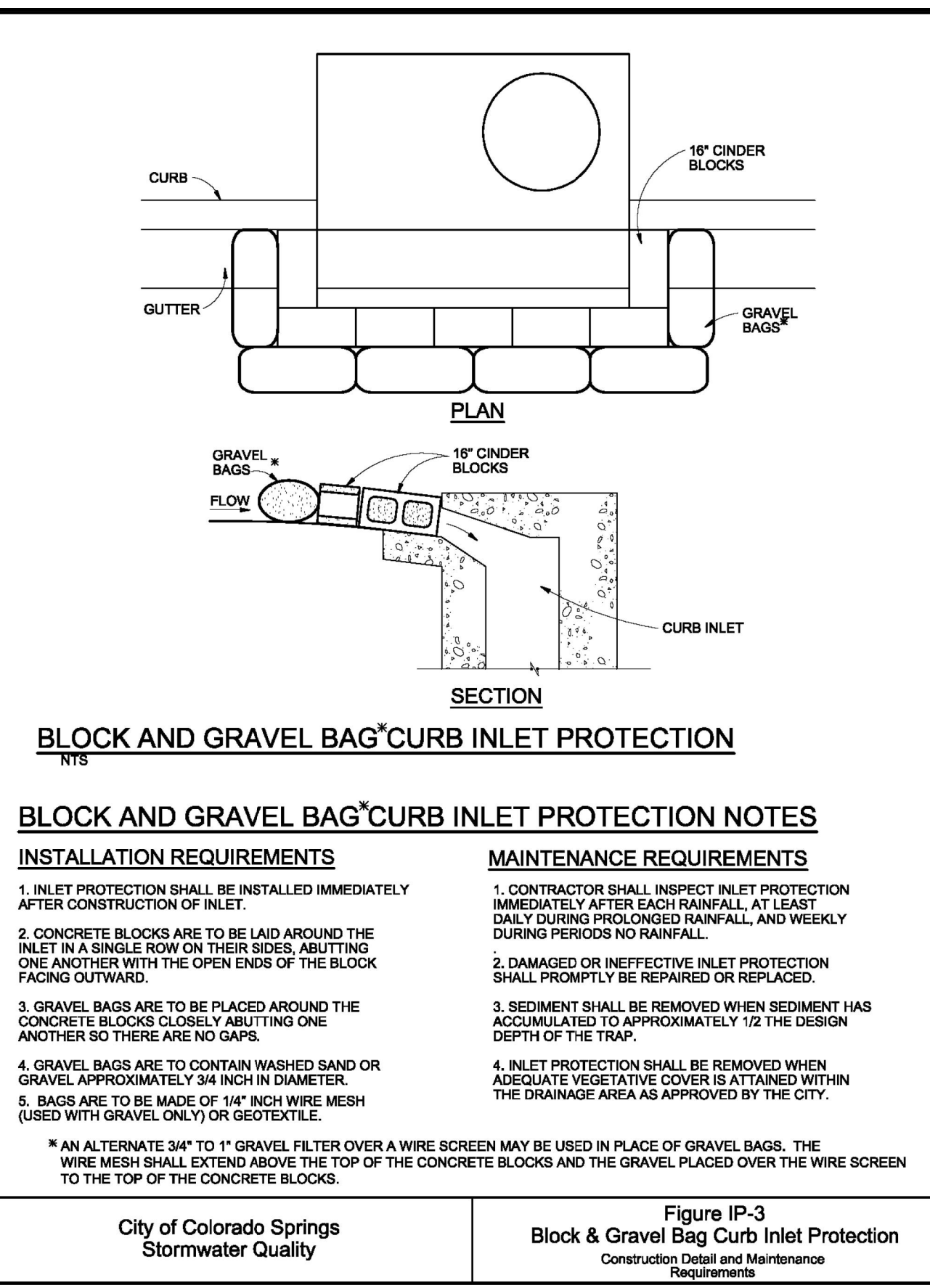
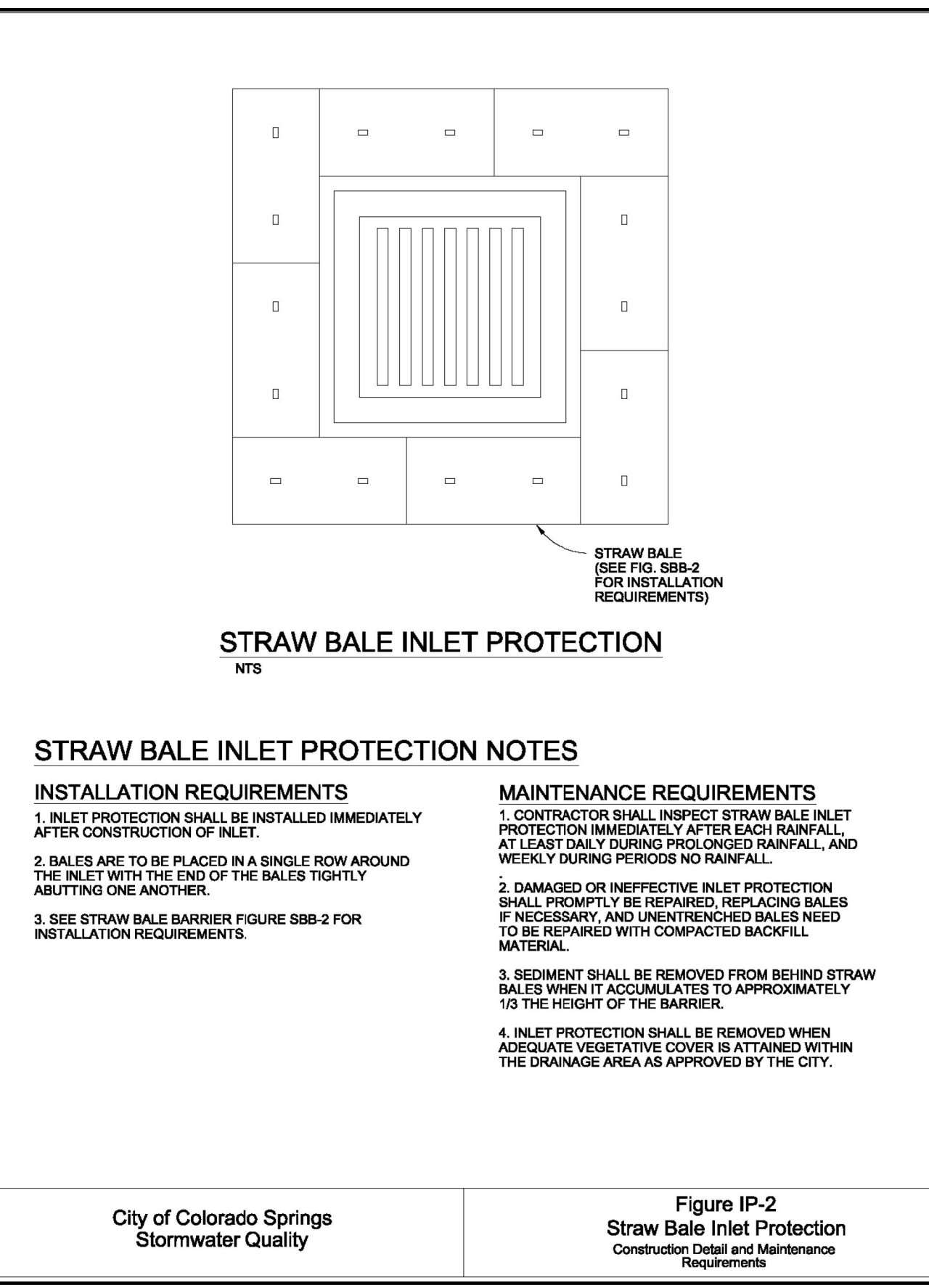
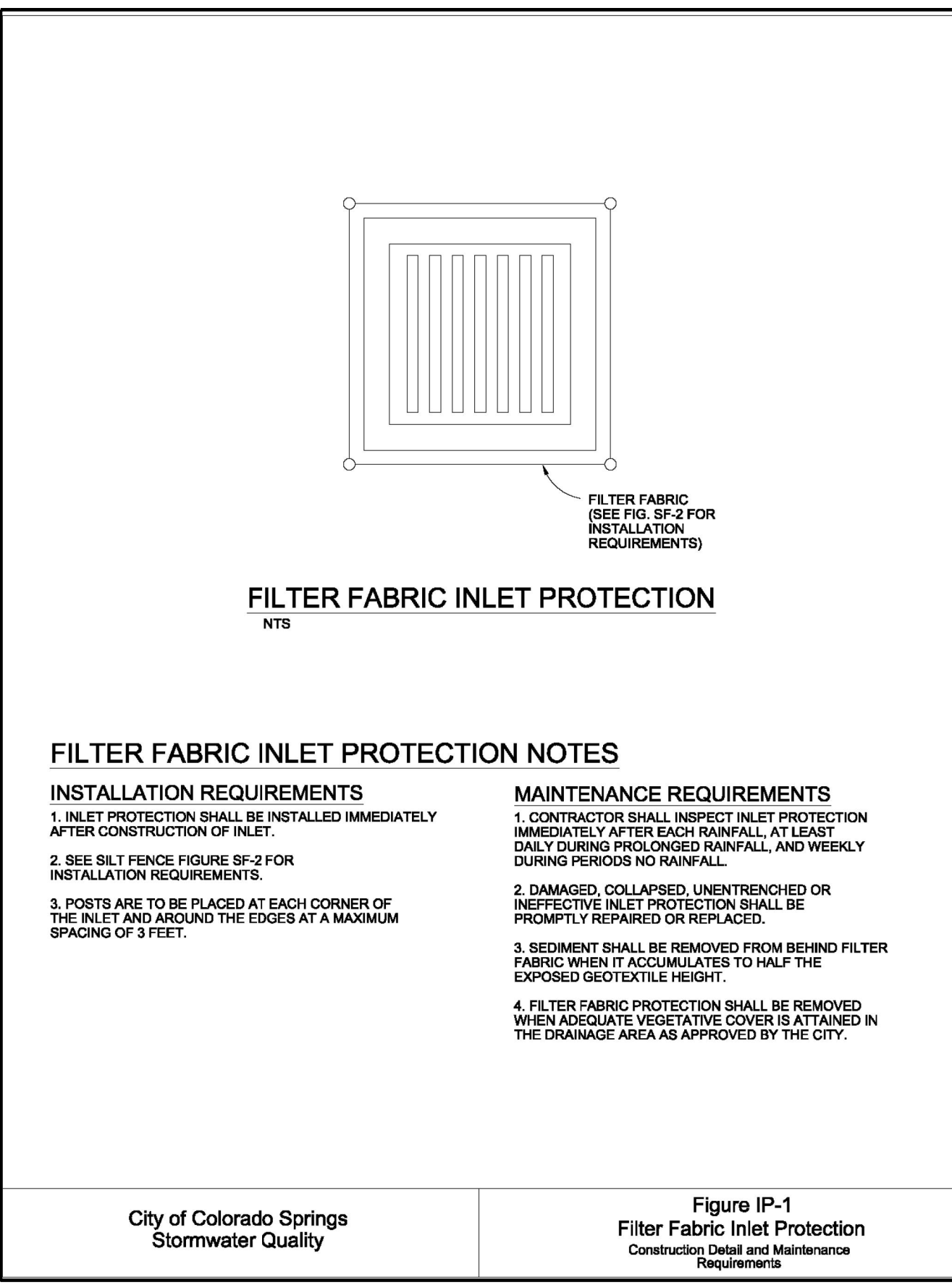
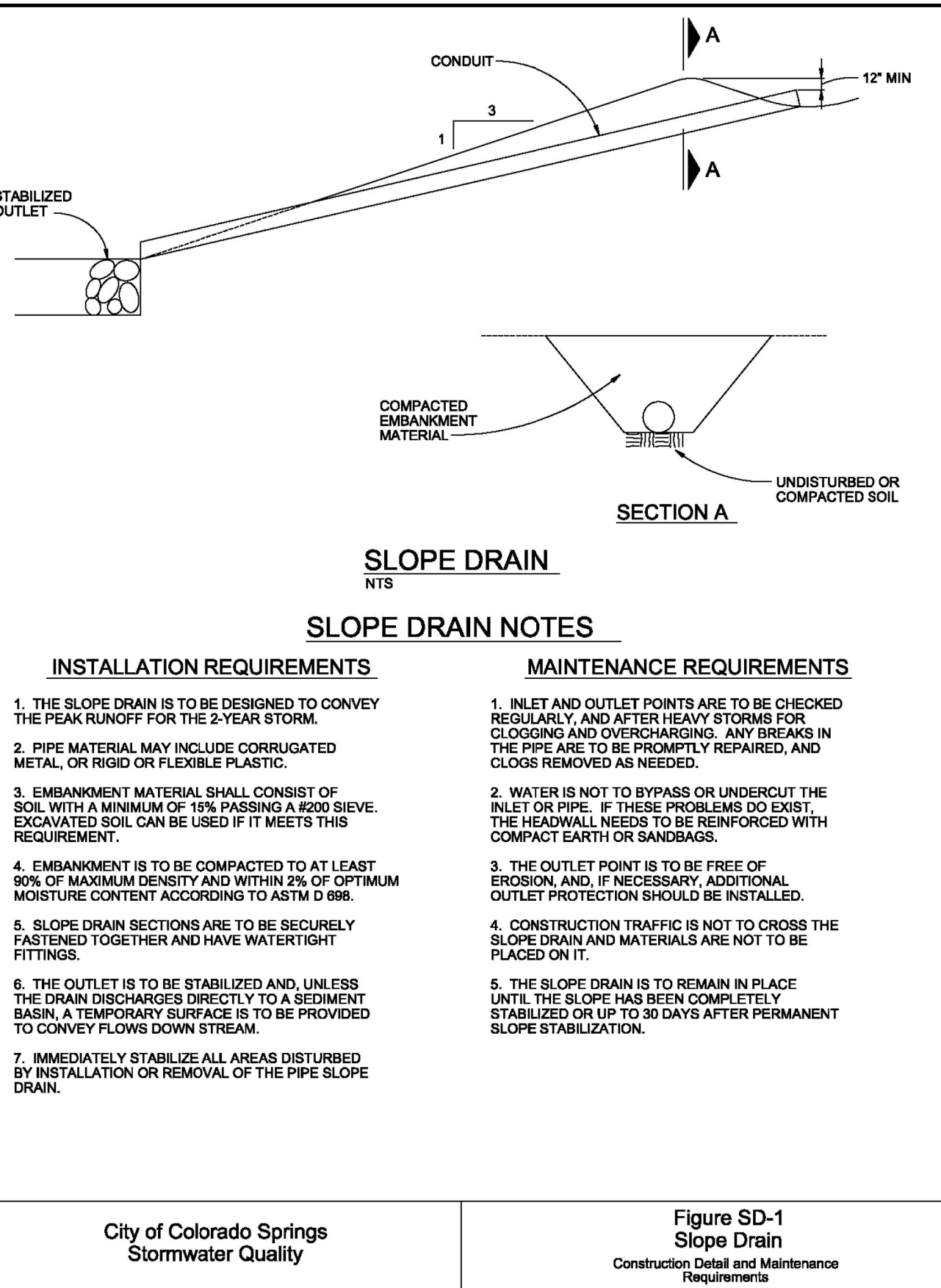
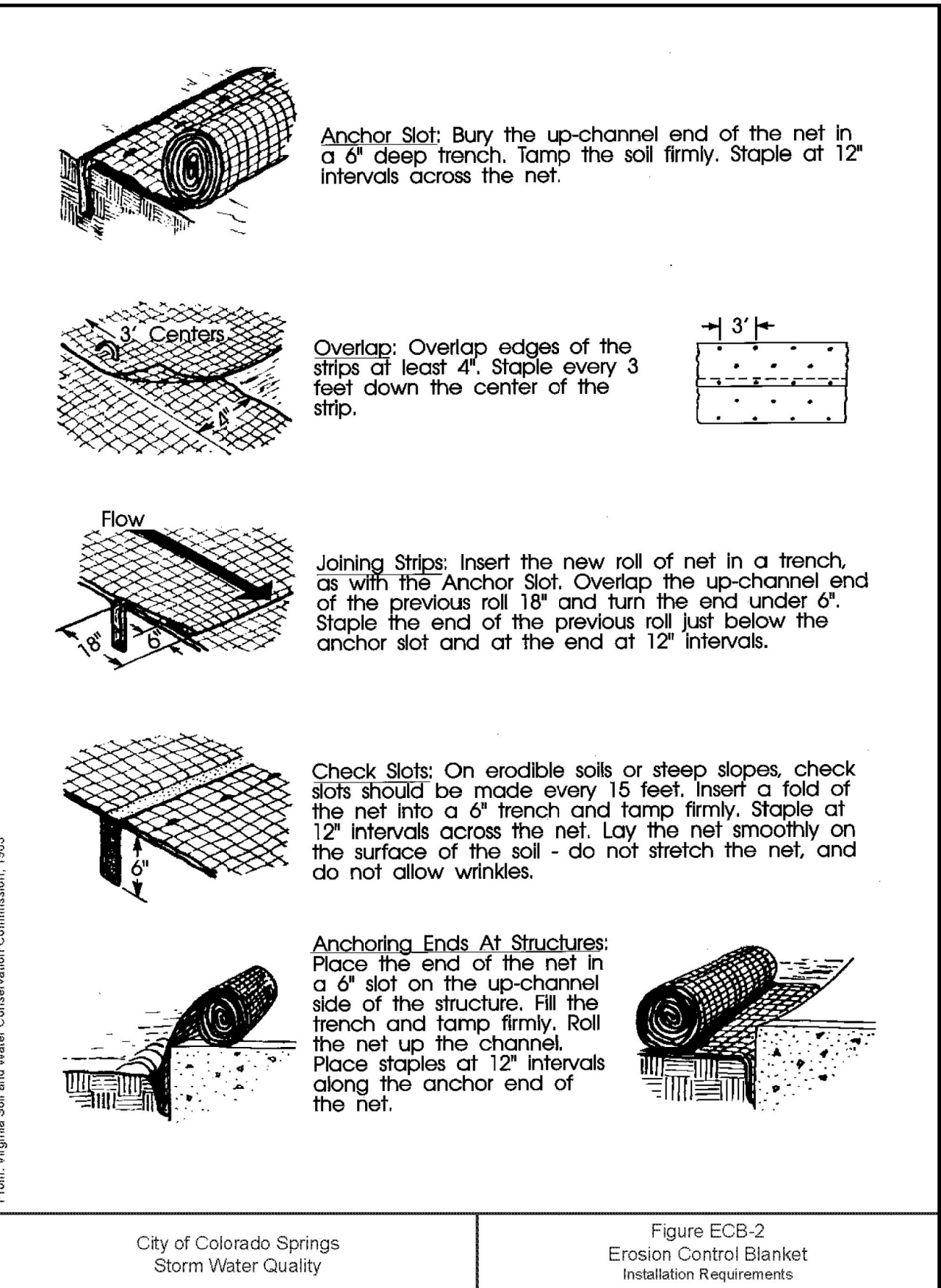
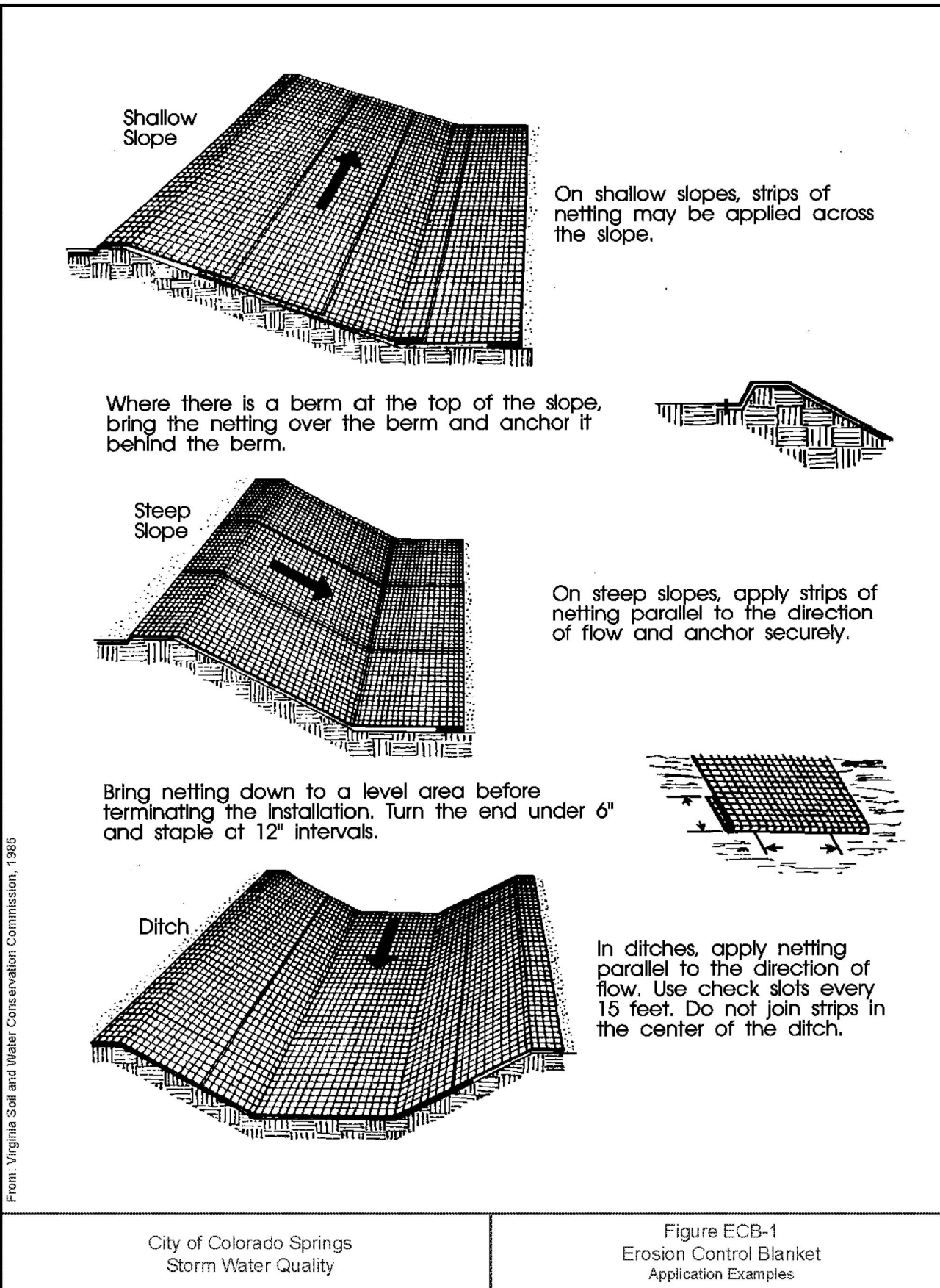
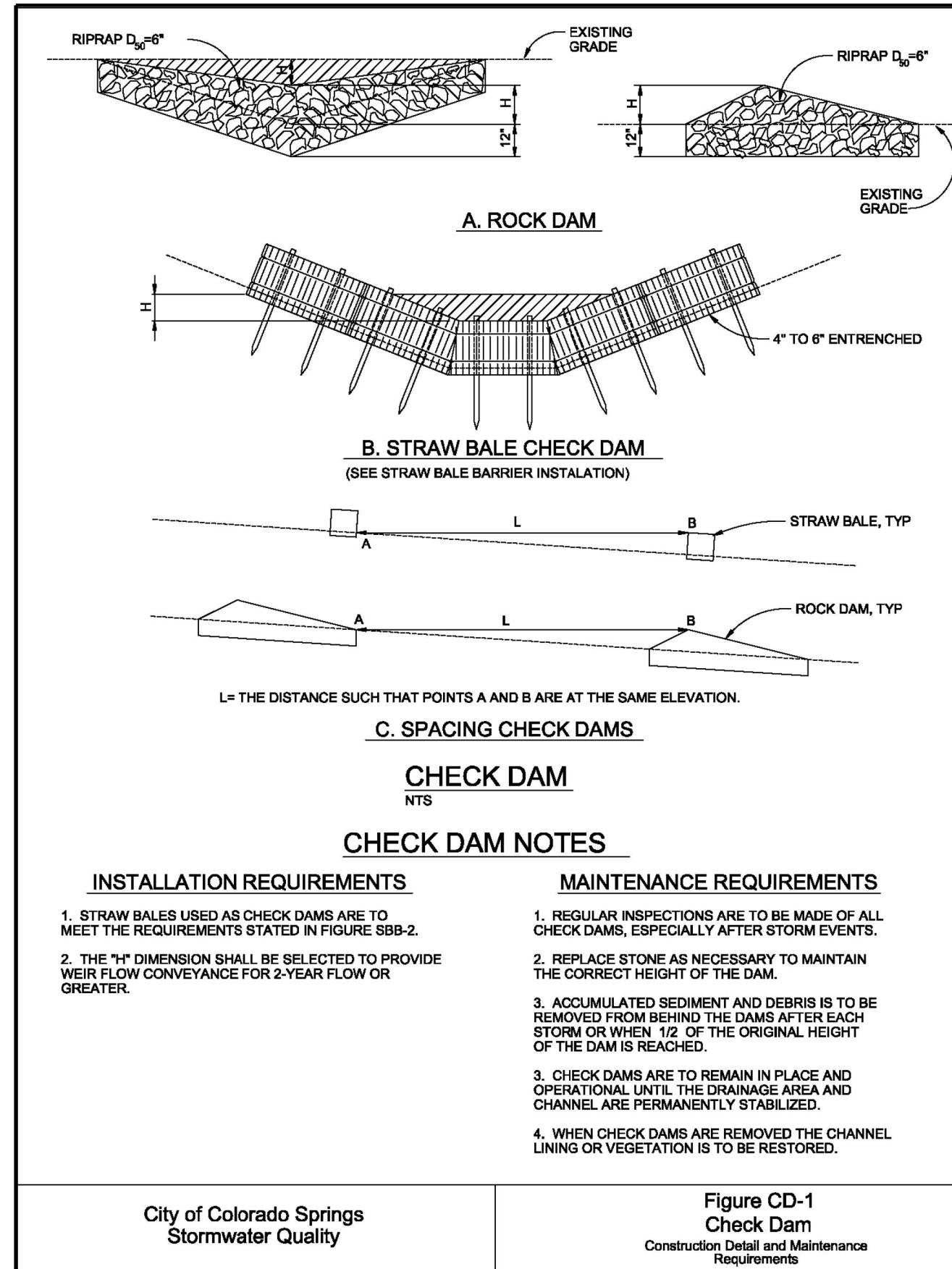
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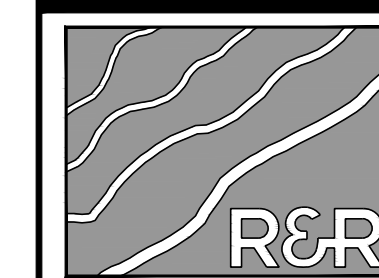
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E&S DETAILS

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include detail for
- RRB for culvert protection

Table SBB-1

Straw Bale Barrier Used as Perimeter Control	Case 1 DA < 1.0 AC	Case 2 DA > 1.0 AC
Continuous Grade	OK ⁽¹⁾	OK ⁽¹⁾
Area of Concentrated Flow	OK ⁽²⁾	NO ⁽³⁾

(1) Temporary Swale or Silt Fence may be used as alternative to a Straw Bale Barrier.
(2) Straw Bale Check Dam may be used at low points.
(3) Sediment Basin is required for concentrated flow from drainage areas > 1.0 AC.

City of Colorado Springs Storm Water Quality

STRAW BALE BARRIER NOTES

INSTALLATION REQUIREMENTS

- STRAW BALE BARRIERS SHALL BE INSTALLED PRIOR TO ANY LAND DISTURBING ACTIVITIES.
- BALES SHALL CONSIST OF APPROXIMATELY 5 CUBIC FEET OF CERTIFIED WEED FREE HAY OR STRAW AND WEIGH NOT LESS THAN 35 POUNDS.
- BALES ARE TO BE PLACED IN A SINGLE ROW WITH THE END OF THE BALE TIGHTLY ADJUTING ONE ANOTHER.
- EACH BALE IS TO BE SECURELY ANCHORED WITH AT LEAST TWO STAKES AND THE FIRST STAKE IS TO BE DRIVEN TOWARD THE PREVIOUSLY LAID BALE TO FORCE THE BALE TOGETHER.
- STAKES ARE TO BE A MINIMUM OF 42 INCHES LONG. METAL STAKES SHALL BE STANDARD "T" OR "U" TYPE WITH MINIMUM WEIGHT OF 1.33 POUNDS PER LINEAR FOOT. WOOD STAKES SHALL HAVE A MINIMUM DIAMETER OR CROSS SECTION DIMENSION OF 2 INCHES.
- BALES ARE TO BE BOUND WITH EITHER WIRE OR STRING AND ORIENTED SUCH THAT THE BINDINGS ARE AROUND THE SIDES AND NOT ALONG THE TOPS AND BOTTOMS OF THE BALE.
- GAPS BETWEEN BALES ARE TO BE CHINKED (FILLED BY WEDGING) WITH STRAW OR THE SAME MATERIAL OF THE BALE.
- END BALES ARE TO EXTEND UPSLOPE SO THE TRAPPED RUNOFF CANNOT FLOW AROUND THE ENDS OF THE BARRIER.

MAINTENANCE REQUIREMENTS

- CONTRACTOR SHALL INSPECT STRAW BALE BARRIERS IMMEDIATELY AFTER EACH RAINFALL AT LEAST DAILY DURING PROLONGED RAINFALL AND WEEKLY DURING PERIODS NO RAINFALL.
- DAMAGED OR INEFFECTIVE BARRIERS SHALL PROMPTLY BE REPAIRED. REPLACING BALES IF NECESSARY, AND UNLINED BARRIERS NEED TO BE REPAIRED WITH COMPACTED BACKFILL MATERIAL.
- SEDIMENT SHALL BE REMOVED FROM BEHIND STRAW BALE BARRIERS WHEN IT ACCUMULATES TO APPROXIMATELY 1/2 THE HEIGHT OF THE BARRIER.
- STRAW BALE BARRIERS SHALL BE REMOVED WHEN ADEQUATE VEGETATIVE COVER IS ATTAINED AS APPROVED BY THE CITY.

City of Colorado Springs Stormwater Quality

the proposed grass is not on this list

RECOMMENDED ANNUAL GRASSES

SPECIES (COMMON NAME)	GROWTH SEASON	SEEDING DATE	POUNDS OF PURE LIVE SEED (PLS) (PL BAGGAGE)	PLANTING DEPTH (INCHES)
1. OATS	COOL	MARCH 16 - APRIL 30	35-50	1-2
2. SPRING WHEAT	COOL	MARCH 16 - APRIL 30	25-35	1-2
3. SPRING BARLEY	COOL	MARCH 16 - APRIL 30	25-35	1-2
4. ANNUAL RYEGRASS	COOL	MARCH 16 - JUNE 30	10-15	1/2
5. MILLET	WARM	MAY 16 - JULY 15	3-15	1/2-3/4
6. SUDANGRASS	WARM	MAY 16 - JULY 15	5-10	1/2-3/4
7. SORGHUM	WARM	MAY 16 - JULY 15	5-10	1/2-3/4
8. WINTER WHEAT	COOL	SEPTEMBER 1 - 30	20-35	1-2
9. WINTER BARLEY	COOL	SEPTEMBER 1 - 30	20-35	1-2
10. WINTER RYE	COOL	SEPTEMBER 1 - 30	20-35	1-2
11. TRITICALE	COOL	SEPTEMBER 1 - 30	25-40	1-2

THIS TABLE WAS TAKEN FROM UDPD FOR RECOMMENDED ANNUAL GRASSES FOR THE DENVER METROPOLITAN AREA. THIS TABLE MAY BE USED UNLESS A SITE-SPECIFIC SEED MIX IS REQUESTED AND APPROVED.

TABLE TS-1

TEMPORARY SEEDING NOTES

INSTALLATION REQUIREMENTS

- DISTURBED AREAS ARE TO BE SEEDDED WITHIN 21 DAYS AFTER CONSTRUCTION ACTIVITY OR GRADING ENDS IF SEASON ALLOWS.
- IF NECESSARY, SOIL IS TO BE CONDITIONED FOR PLANT GROWTH BY APPLYING TOPSOIL, FERTILIZER, OR LIME.
- SOIL IS TO BE FILLED IMMEDIATELY PRIOR TO APPLYING SEEDS. COMPACT SOILS ESPECIALLY NEED TO BE LOOSENED.
- SEEDDED DEPTH IS TO BE 4 INCHES FOR SLOPES FLATTER THAN 2:1, AND 1 INCH FOR SLOPES STEEPER THAN 2:1.
- ANNUAL GRASSES LISTED IN TABLE TS-1 ARE TO BE USED FOR TEMPORARY SEEDING. SEED MIXES ARE NOT TO CONTAIN ANY NOXIOUS WEED SEEDS INCLUDING RUSSIAN OR CANADIAN THISTLE, COMPACTED PURPLE LOOSESTRIFE, EUROPEAN BINDWEED, JOHNSON GRASS, AND LEAFY SPURGE.
- TABLE TS-1 ALSO PROVIDES REQUIREMENTS FOR SEEDING RATES, SEEDING DATES, AND PLANTING DEPTHS FOR THE APPROVED TYPES OF ANNUAL GRASSES.
- SEEDING IS TO BE APPLIED USING MECHANICAL TYPE DRILLS EXCEPT WHERE SLOPES ARE STEEP OR ACCESS IS LIMITED THEN HYDRAULIC SEEDING MAY BE USED.
- ALL SEEDDED AREAS ARE TO BE MULCHED (SEE FACTSHEET ON MULCHING).
- IF HYDRAULIC SEEDING IS USED THEN HYDRAULIC MULCHING SHALL BE DONE SEPARATELY TO AVOID SEEDS BECOMING ENCAPSULATED IN THE MULCH.

MAINTENANCE REQUIREMENTS

- REGULAR INSPECTIONS ARE TO BE MADE OF ALL SEEDDED AREAS TO ENSURE GROWTH.
- AREAS WHERE GROWTH IS NOT OCCURRING QUICKLY OR THE MULCH HAS BEEN REMOVED SHALL BE RE-SEEDDED AS SOON AS POSSIBLE AND RE-MULCHED IF NEEDED.
- SEEDDED AREAS ARE NOT TO BE DRIVEN OVER WITH CONSTRUCTION EQUIPMENT OR VEHICLES.

City of Colorado Springs Stormwater Quality

MULCHING NOTES

INSTALLATION REQUIREMENTS

- ALL DISTURBED AREAS MUST BE MULCHED WITHIN 21 DAYS AFTER FINAL GRADE AND SEEDDED AREAS ARE TO BE MULCHED WITHIN 24 HOURS AFTER SEEDING.
- MATERIAL USED FOR MULCH CAN BE CERTIFIED CLEAN, WEED- AND SEED-FREE LONG STEMMED FIELD OR MARSH HAY, OR STRAW OF OATS, BARLEY, WHEAT, RYE, OR TRITICALE CERTIFIED BY THE COLORADO DEPARTMENT OF AGRICULTURE WEED FREE FORAGE CERTIFICATION PROGRAM.
- HYDRAULIC MULCHING MATERIAL SHALL CONSIST OF VIRGIN WOOD FIBER MANUFACTURED FROM CLEAN WHOLE WOOD CHIPS. WOOD CHIPS CANNOT CONTAIN ANY GROWTH OR GERMINATION INHIBITORS OR BE PRODUCED FROM RECYCLED MATERIAL. GRAVEL CAN ALSO BE USED.
- MULCH IS TO BE APPLIED EVENLY AT A RATE OF 2 TONS PER ACRE.
- MULCH IS TO BE ANCHORED EITHER BY CRIMPING (TUCKING MULCH FIBERS 4 INCHES INTO THE SOIL), USING NETTING (USED ON SMALL AREAS WITH STEEP SLOPES), OR WITH A TACKIFIER.
- HYDRAULIC MULCHING AND TACKIFIERS ARE NOT TO BE USED IN THE PRESENCE OF FREE SURFACE WATER.

MAINTENANCE REQUIREMENTS

- REGULAR INSPECTIONS ARE TO BE MADE OF ALL MULCHED AREAS.
- MULCH IS TO BE REPLACED IMMEDIATELY IN THOSE AREAS IT HAS BEEN REMOVED, AND IF NECESSARY THE AREA SHOULD BE RESEEDDED.

City of Colorado Springs Stormwater Quality

Table TSW-1

Temporary Swale Used as Perimeter Control	Case 1 DA < 1.0 AC	Case 2 DA > 1.0 AC
Continuous Grade	OK ⁽¹⁾	OK ⁽¹⁾
Area of Concentrated Flow	NO ⁽³⁾	NO ⁽²⁾

(1) Silt Fence or Straw Bale Barrier may be used as alternative to a Temporary Swale.
(2) With Temporary Swales Sediment Basin is required for concentrated flow from drainage areas > 1.0 AC.
(3) Check Dam is required at concentrated flow for drainage areas > 1.0 acres.

City of Colorado Springs Storm Water Quality

TEMPORARY SWALE NOTES

INSTALLATION REQUIREMENTS

- TEMPORARY SWALES SHALL BE INSTALLED PRIOR TO ANY LAND DISTURBING ACTIVITIES.
- THE AREA UNDER WHICH THE EMBANKMENT IS TO BE INSTALLED SHALL BE CLEARED, GRUBBED, AND STRIPPED OF ALL VEGETATION AND ROOT MAT.
- EMBANKMENT MATERIAL SHALL CONSIST OF SOIL WITH A MINIMUM OF 15% PASSING A #200 SIEVE. EXCAVATED SOIL CAN BE USED IF IT MEETS THIS REQUIREMENT.
- EMBANKMENT IS TO BE COMPACTED TO AT LEAST 90% OF MAXIMUM DENSITY AND WITHIN 2% OF OPTIMUM MOISTURE CONTENT ACCORDING TO ASTM D 698.
- SWALES WITH SLOPE > 2% SHALL BE LINED, SEE FIGURE TSW-3.
- SWALES ARE TO DRAIN INTO A SEDIMENT BASIN OR OTHER STABILIZED OUTLET.
- Z SHALL BE 3 OR GREATER.

MAINTENANCE REQUIREMENTS

- CONTRACTOR SHALL INSPECT SWALES AFTER EACH RAINFALL, AT LEAST DAILY DURING PROLONGED RAINFALL, AND WEEKLY DURING PERIODS OF NO RAINFALL.
- SWALES SHALL BE ROUTINELY CLEARED OF ANY DEBRIS OR ACCUMULATION OF SEDIMENT.
- ERODED SPILDS OR DAMAGED LININGS SHALL IMMEDIATELY BE REPAIRED.
- TEMPORARY SWALES SHALL REMAIN OPERATIONAL AND PROPERLY MAINTAINED UNTIL THE SITE AREA IS PERMANENTLY STABILIZED WITH ADEQUATE VEGETATIVE COVER AND/OR OTHER PERMANENT STRUCTURE AS APPROVED BY THE CITY.

City of Colorado Springs Stormwater Quality

SWALE LINING NOTES

INSTALLATION REQUIREMENTS

- REFER TO THE EROSION CONTROL BLANKETS FACTSHEET FOR PROPER INSTALLATION OF EROSION CONTROL FABRIC LININGS.
- SWALES WITH EASILY ERODIBLE SOILS AND SLOPES LESS THAN 2%, SHALL BE LINED WITH EROSION CONTROL FABRIC.
- VELOCITIES FOR EROSION CONTROL FABRICS SHALL NOT EXCEED 8 FPS. SWALES WITH VELOCITIES GREATER THAN 8 FPS SHALL BE LINED WITH RIP RAP.

MAINTENANCE REQUIREMENTS

- CONTRACTOR SHALL INSPECT SWALE LININGS AFTER EACH RAINFALL AT LEAST DAILY DURING PROLONGED RAINFALL AND WEEKLY DURING PERIODS OF NO RAINFALL.
- DAMAGED LININGS SHALL IMMEDIATELY BE REPAIRED.
- REFER TO THE EROSION CONTROL BLANKETS FACTSHEET FOR PROPER MAINTENANCE.
- DISPLACED RIPRAP OR COARSE AGGREGATE IS TO BE REPLACED AS SOON AS POSSIBLE.
- SWALE LININGS ARE TO REMAIN IN PLACE AND BE PROPERLY MAINTAINED UNTIL THE TEMPORARY SWALE IS REMOVED.

City of Colorado Springs Stormwater Quality

SEDIMENT CONTROL LOG JOINTS

INSTALLATION NOTES

- ALL SEDIMENT CONTROL LOGS MUST BE EMBEDDED TO 3/4 OF THE HEIGHT OF THE LOG.
- LARGER DIAMETER SEDIMENT CONTROL LOGS NEED TO BE EMBEDDED DEEPER.
- PLACE SEDIMENT CONTROL LOG AGAINST SIDEWALK OR BACK OF CURB WHEN ADJACENT TO THESE FEATURES.
- SEDIMENT CONTROL LOGS SHALL CONSIST OF STRAW, COMPOST, EXCELSEOR OR COCOBUT FIBER, AND SHALL BE FREE FROM ANY NOXIOUS WEED SEEDS OF DEFECTS INCLUDING RIPS, HOLES AND OBVIOUS WEAR.
- IF USING AS SLOPE PROTECTION, INSTALL SEDIMENT CONTROL LOGS ALONG THE CONTOUR.

MAINTENANCE NOTES

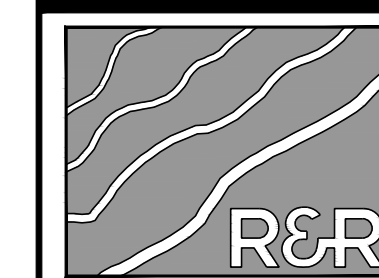
- FREQUENT OBSERVATIONS AND MAINTENANCE ARE NECESSARY TO MAINTAIN CONTROL MEASURES IN EFFECTIVE OPERATING CONDITION. INSPECTIONS AND CORRECTIVE MEASURES SHOULD BE DOCUMENTED THOROUGHLY.
- ACCUMULATED SEDIMENT MUST BE REMOVED WHEN THE HEIGHT REACHES 3/4 OF THE HEIGHT OF THE SEDIMENT CONTROL LOG.
- PERMANENTLY STABILIZE AREA AFTER SEDIMENT CONTROL LOGS HAVE BEEN REMOVED.

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SEDIMENT BASIN NOTES

INSTALLATION REQUIREMENTS

- SEDIMENT BASINS SHALL BE INSTALLED BEFORE ANY CLEARING AND/OR GRADING IS UNDERTAKEN.
- THE AREA UNDER WHICH THE EMBANKMENT IS TO BE INSTALLED SHALL BE CLEARED, GRUBBED, AND STRIPPED OF ALL VEGETATION AND ROOT MAT.
- THE OUTLET OF THE BASIN SHALL BE DESIGNED TO DRAIN ITS VOLUME IN 48 HOURS.
- THE OUTLET IS TO BE LOCATED AT THE FURTHEST DISTANCE FROM THE INLET OF THE BASIN. SAFETY FENCES MAY BE NEEDED TO INCREASE THE FLOW LENGTH AND SETTLING TIME.
- EMBANKMENT MATERIAL SHALL CONSIST OF SOIL WITH A MINIMUM OF 5% PASSING A #200 SIEVE. EXCAVATED SOIL CAN BE USED IF IT MEETS THIS REQUIREMENT.
- EMBANKMENT IS TO BE COMPACTED TO AT LEAST 90% OF MAXIMUM DENSITY AND WITHIN 2% OF OPTIMAL MOISTURE CONTENT ACCORDING TO ASTM D 698.
- WHEN A BASIN IS INSTALLED NEAR A RESIDENTIAL AREA, FOR SAFETY REASONS, A SIGN SHALL BE POSTED AND THE AREA SECURED WITH A FENCE.

MAINTENANCE REQUIREMENTS

- CONTRACTOR SHALL INSPECT SEDIMENT BASINS AFTER EACH RAINFALL AT LEAST DAILY DURING PROLONGED RAINFALL AND WEEKLY DURING PERIODS OF NO RAINFALL.
- SEDIMENT BASINS SHALL BE CLEANED OUT BEFORE SEDIMENT HAS FILLED HALF THE VOLUME OF THE BASIN.
- SEDIMENT BASINS SHALL REMAIN OPERATIONAL AND PROPERLY MAINTAINED UNTIL THE SITE AREA IS PERMANENTLY STABILIZED WITH ADEQUATE VEGETATIVE COVER AND/OR OTHER PERMANENT STRUCTURE AS APPROVED BY THE CITY.

please highlight the design volume and hole sizing

Required Area per Row (ft²)

Depth at Outlet (ft)	Required Area per Row (ft ²)						
	1.0	1.5	2.0	3.0	3.5	4.0	4.5
2	16.08	17.71	19.10	21.38	22.86	24.41	25.92
1	7.62	8.86	9.86	11.88	12.81	13.71	14.57
0.6	4.91	5.71	6.31	7.53	8.08	8.61	9.12
0.4	3.01	3.54	3.92	4.70	5.00	5.30	5.59
0.2	1.50	1.77	1.96	2.35	2.50	2.65	2.80
0.1	0.75	0.89	0.98	1.18	1.25	1.33	1.40
0.06	0.45	0.53	0.58	0.70	0.75	0.79	0.83
0.04	0.30	0.36	0.39	0.48	0.50	0.52	0.54
0.02	0.15	0.18	0.20	0.24	0.25	0.26	0.27
0.01	0.08	0.09	0.10	0.12	0.12	0.13	0.13

TABLE SB-1

Circular Perforation Sizing

Hole Diameter (in)	Hole Diameter (ft)	Area per Row (ft ²)		
		n=1	n=2	n=3
5/8	0.260	0.05	0.10	0.15
5/16	0.313	0.08	0.15	0.23
3/8	0.375	0.11	0.22	0.33
7/16	0.438	0.15	0.30	0.45
1/2	0.500	0.20	0.39	0.59
9/16	0.563	0.25	0.50	0.75
5/8	0.625	0.31	0.61	0.92
11/16	0.688	0.37	0.74	1.11
3/4	0.750	0.44	0.88	1.33
7/8	0.875	0.60	1.20	1.80
1	1.000	0.79	1.57	2.36
1 1/8	1.125	0.99	1.99	2.99
1 1/4	1.250	1.23	2.45	3.68
1 3/8	1.375	1.48	2.97	4.45
1 1/2	1.500	1.77	3.53	5.30
1 5/8	1.625	2.07	4.15	6.22
1 3/4	1.750	2.41	4.81	7.22
1 7/8	1.875	2.78	5.52	8.28
2	2.000	3.14	6.28	9.42

n = Number of columns of perforations
 Minimum steel plate thickness: 1/4", 5/16", 3/8"

TABLE SB-2

City of Colorado Springs Stormwater Quality Figure SB-1 Sediment Basin Construction Detail and Maintenance Requirements

City of Colorado Springs Stormwater Quality Figure SB-2 Outlet Sizing Application Techniques and Maintenance Requirements

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, #4020, #3 COARSE AGGREGATE OR 4" (MINUS) ROCK.
- ADDITIONAL PERIMETER BMPs MAY BE REQUIRED INCLUDING BUT NOT LIMITED TO SILT FENCE AND CONSTRUCTION FENCING.

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.

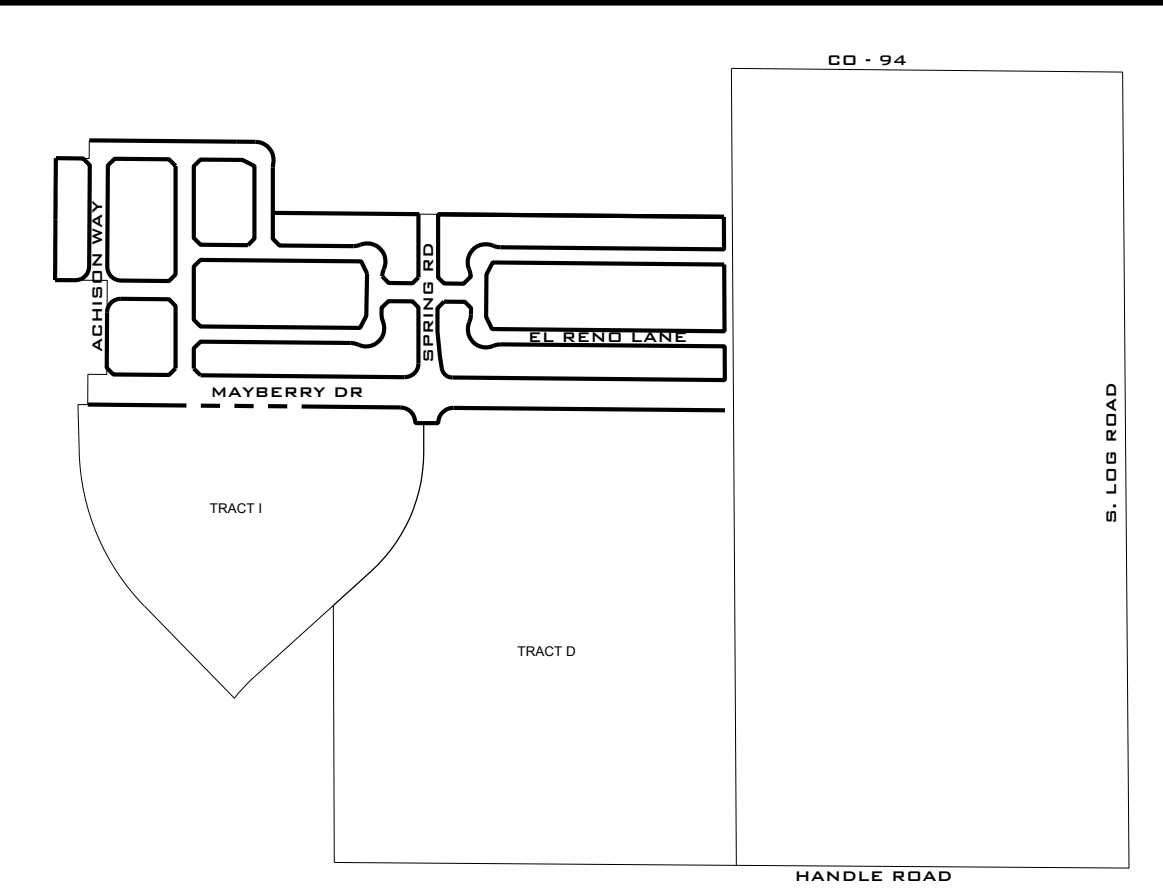
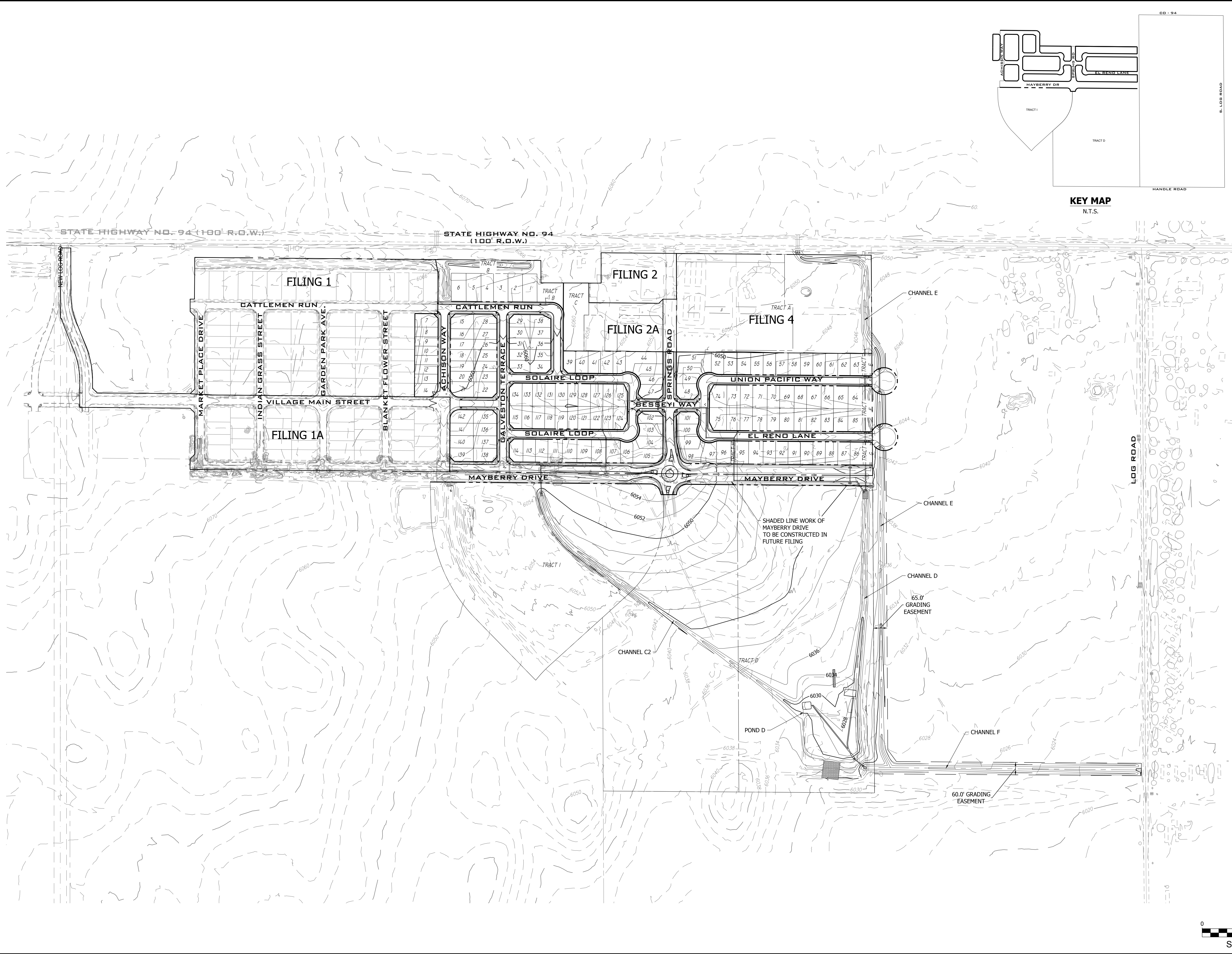
NOTE: MANY JURISDICTIONS HAVE BMP DETAILS THAT VARY FROM LDFCD STANDARD DETAILS. CONSULT WITH LOCAL JURISDICTIONS AS TO WHICH DETAIL SHOULD BE USED WHEN DIFFERENCES ARE NOTED.

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

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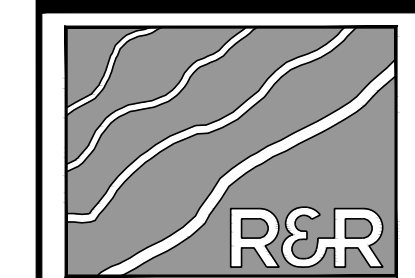


KEY MAP
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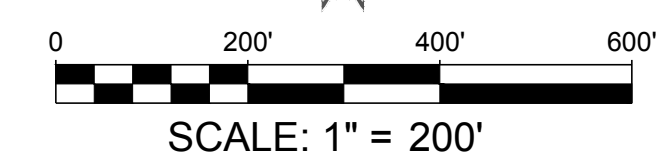
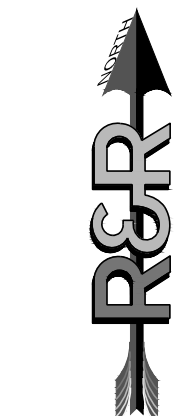
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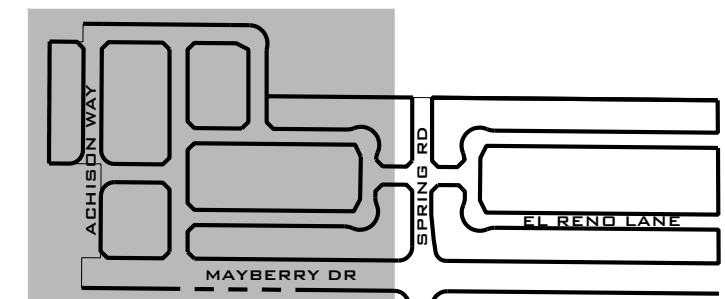
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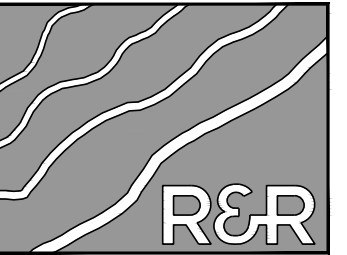


SCALE: 1" = 200'



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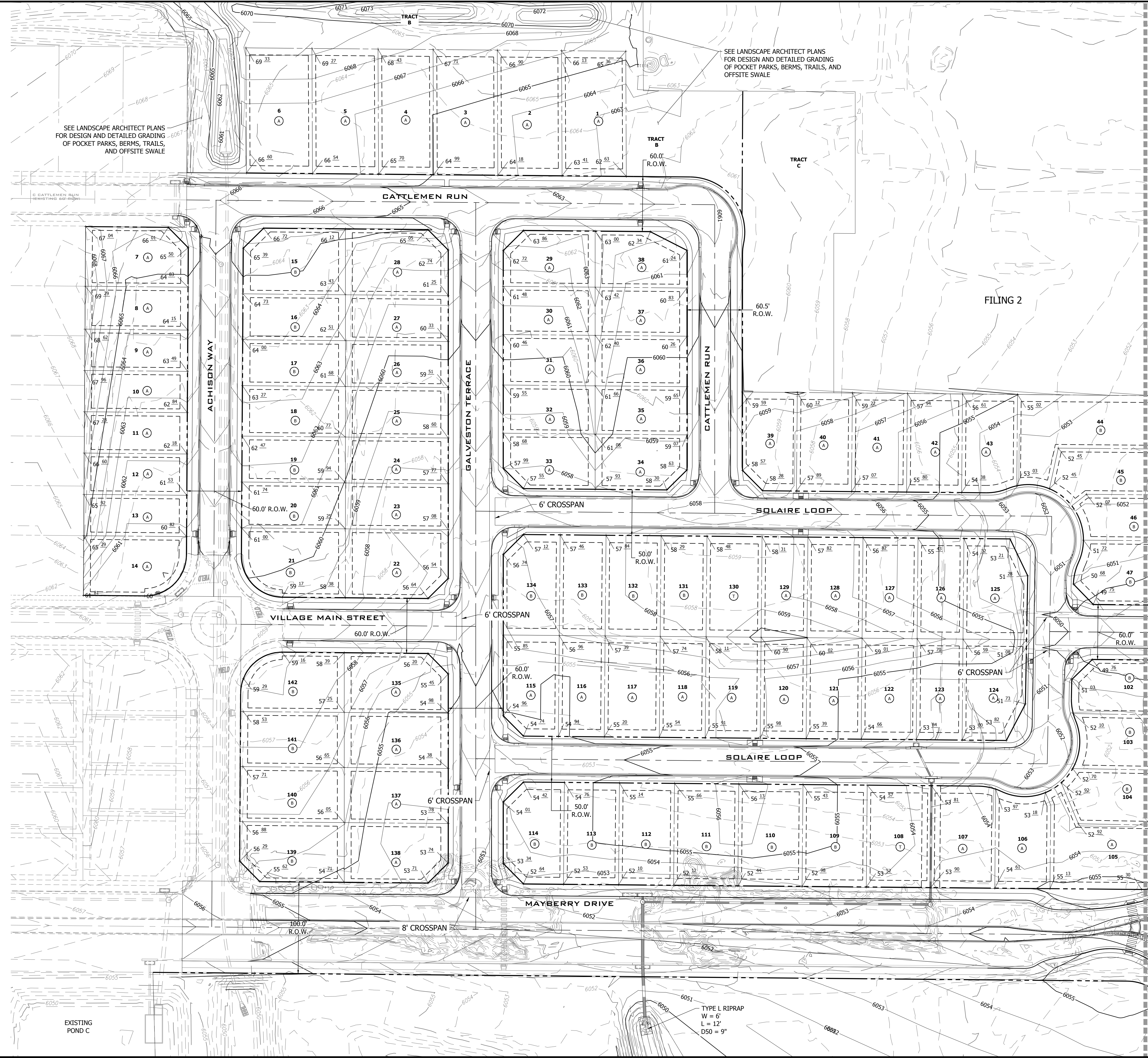
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NAME

GRADING PLAN - WEST

NO. **C8.11**



MATCHLINE - SEE SHEET C8.12



0 50' 100' 150'
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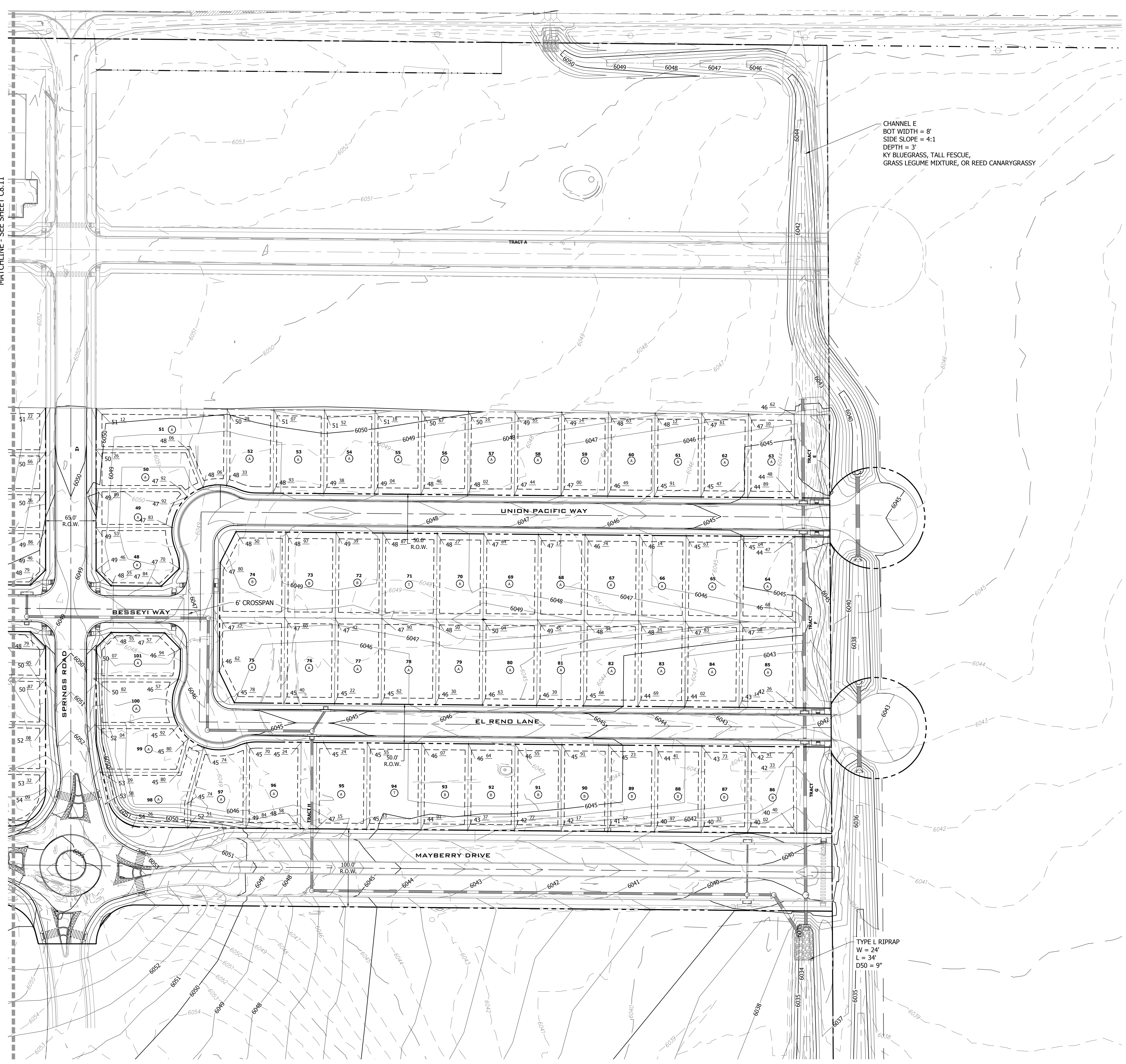
TYPE L RIPRAP
W = 6'
L = 12'
DS0 = 9"

SEE LANDSCAPE ARCHITECT PLANS FOR DESIGN AND DETAILED GRADING OF POCKET PARKS, BERMS, TRAILS, AND OFFSITE SWALE

SEE LANDSCAPE ARCHITECT PLANS FOR DESIGN AND DETAILED GRADING OF POCKET PARKS, BERMS, TRAILS, AND OFFSITE SWALE

EXISTING POND C

MATCHLINE - SEE SHEET C8.11



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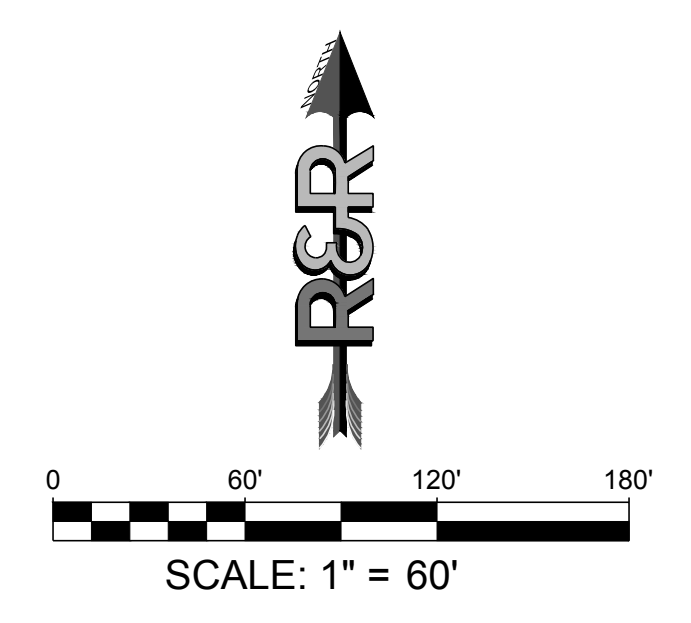
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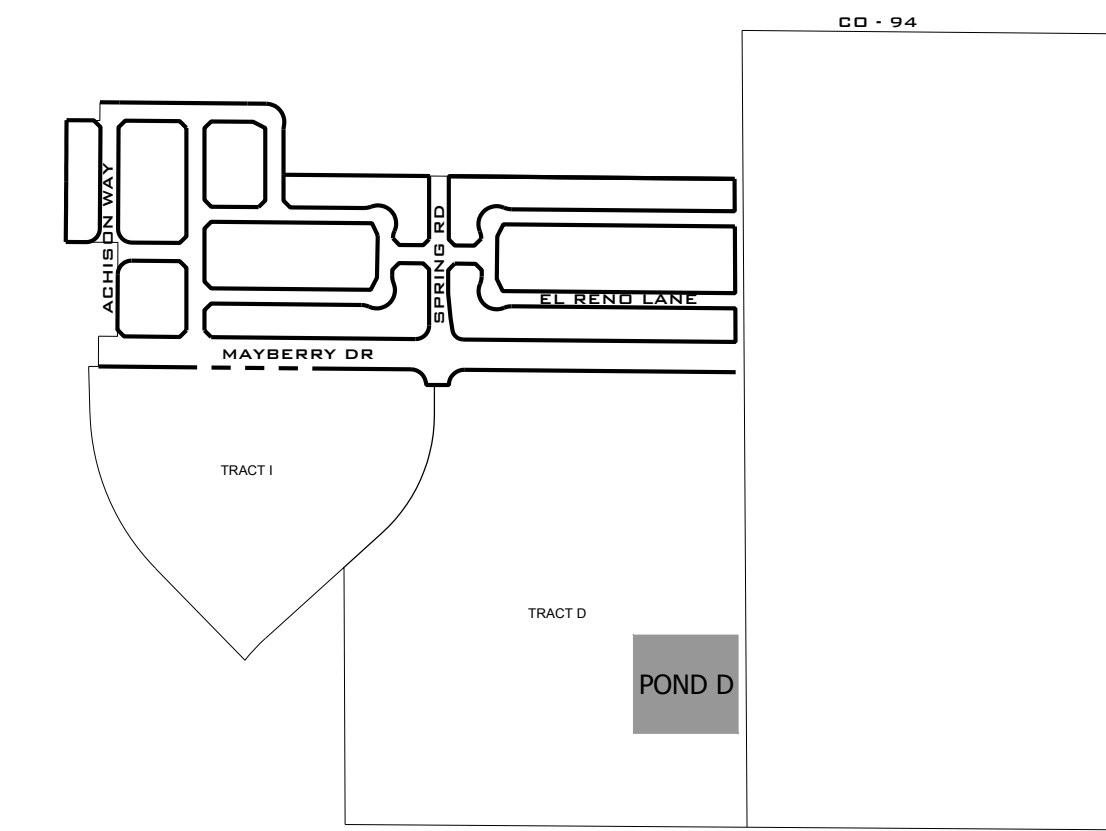
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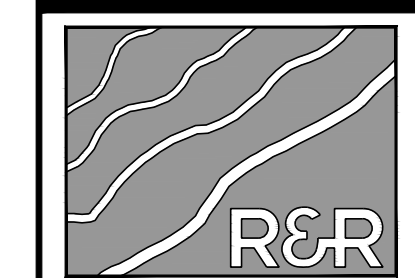


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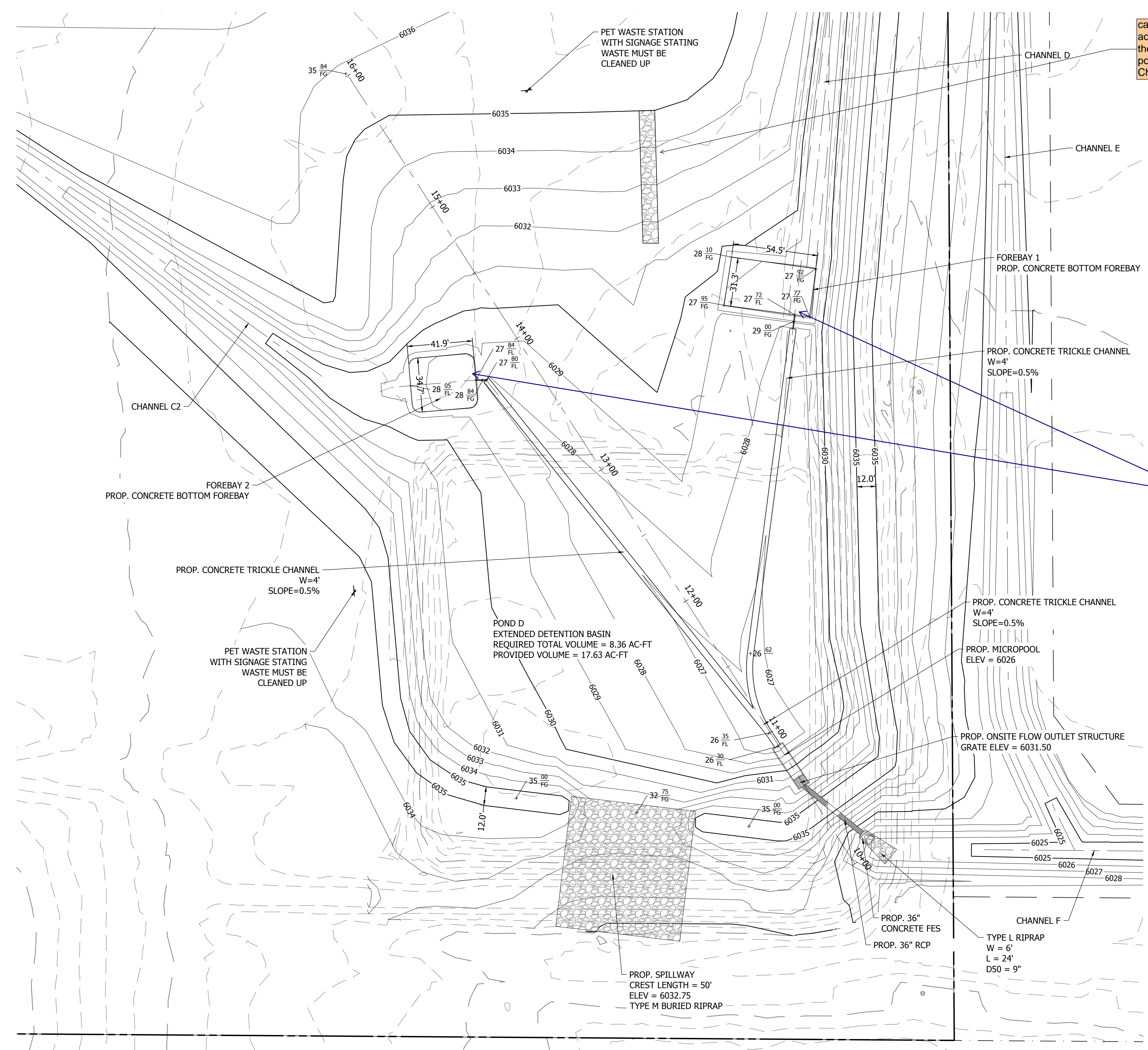
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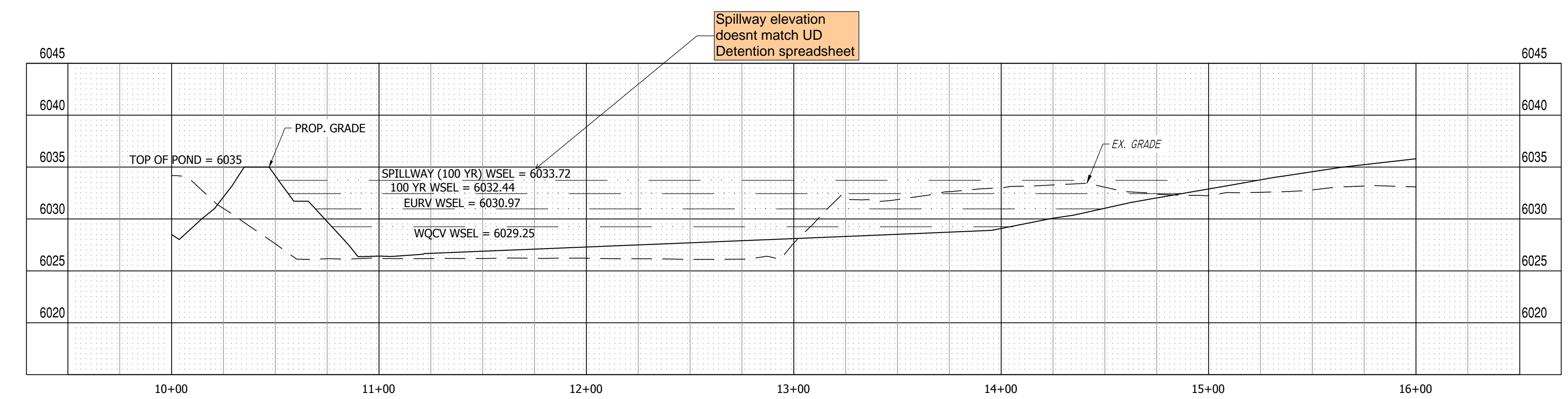
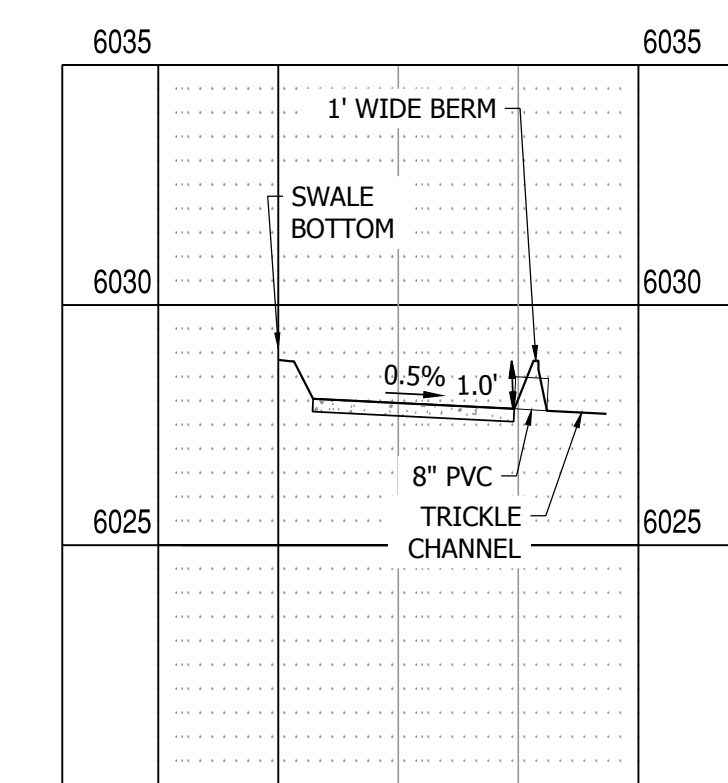
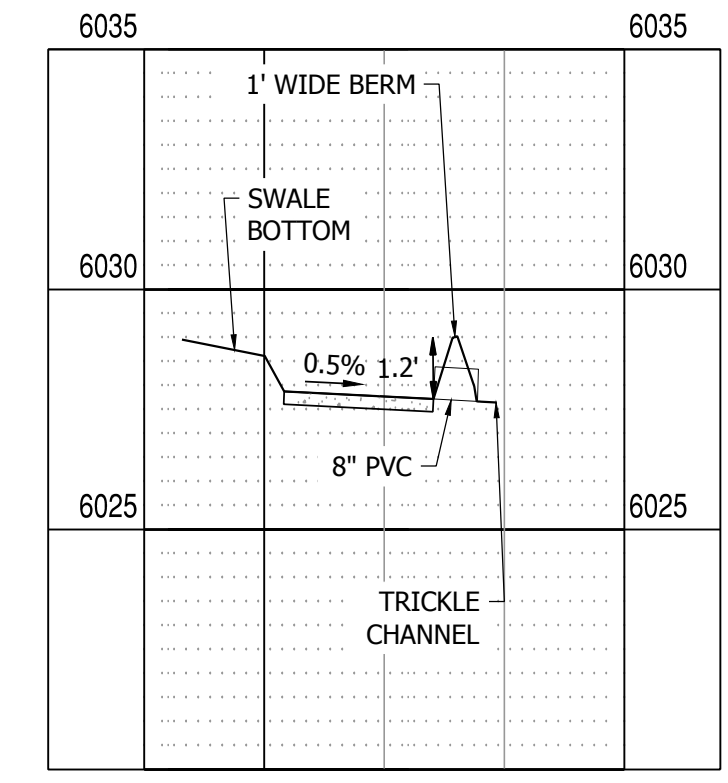
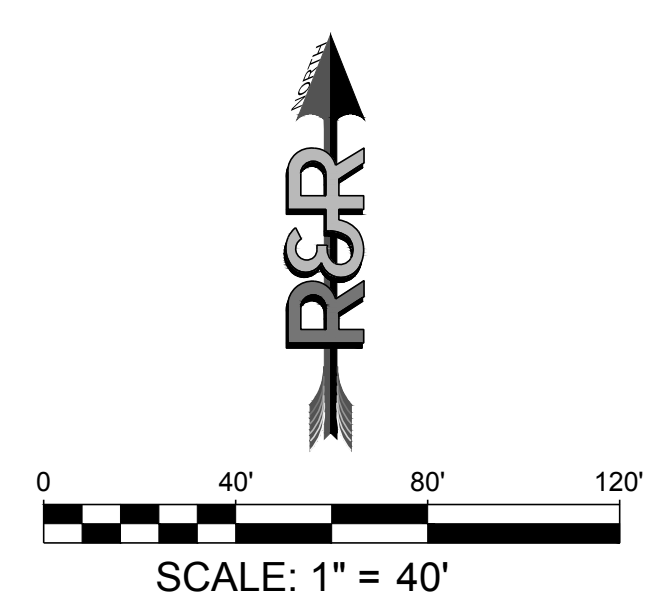
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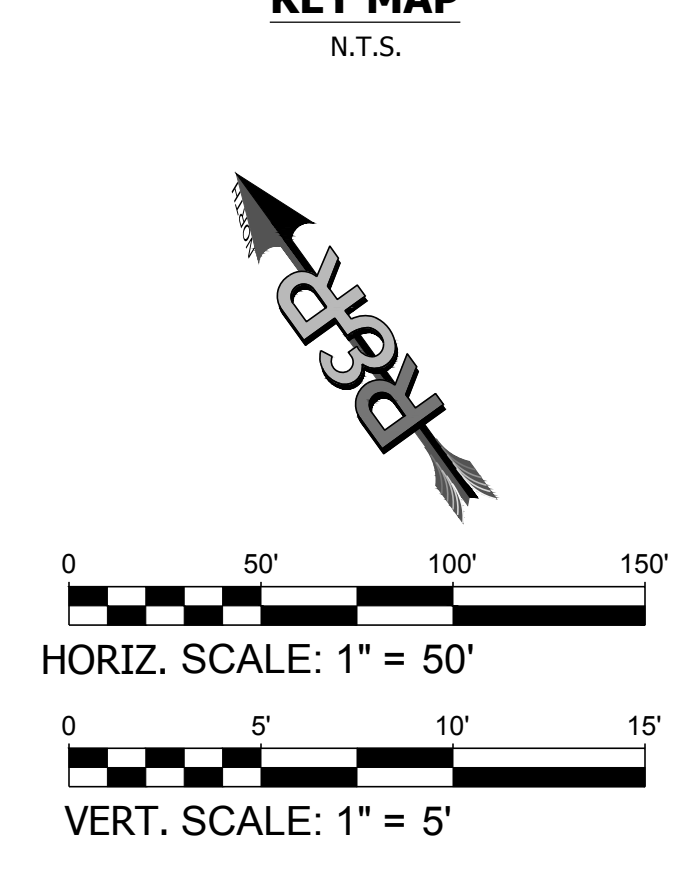
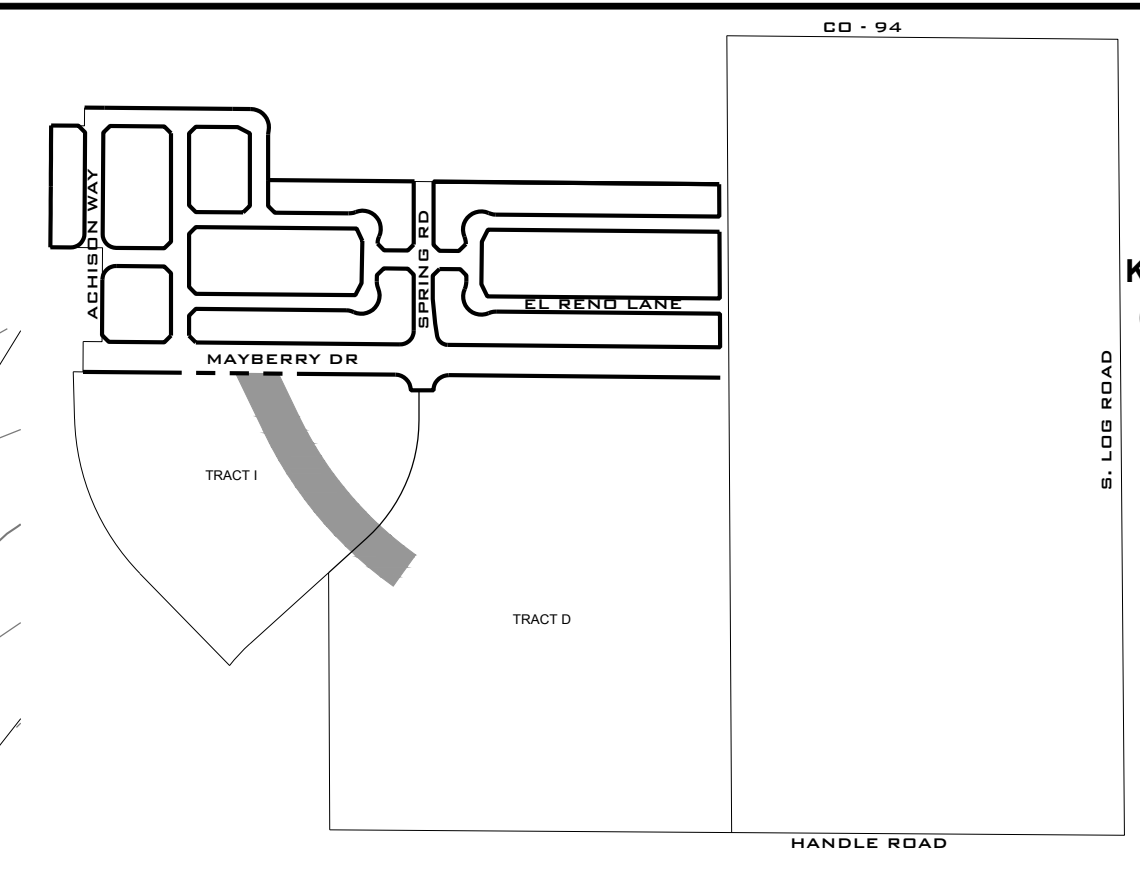
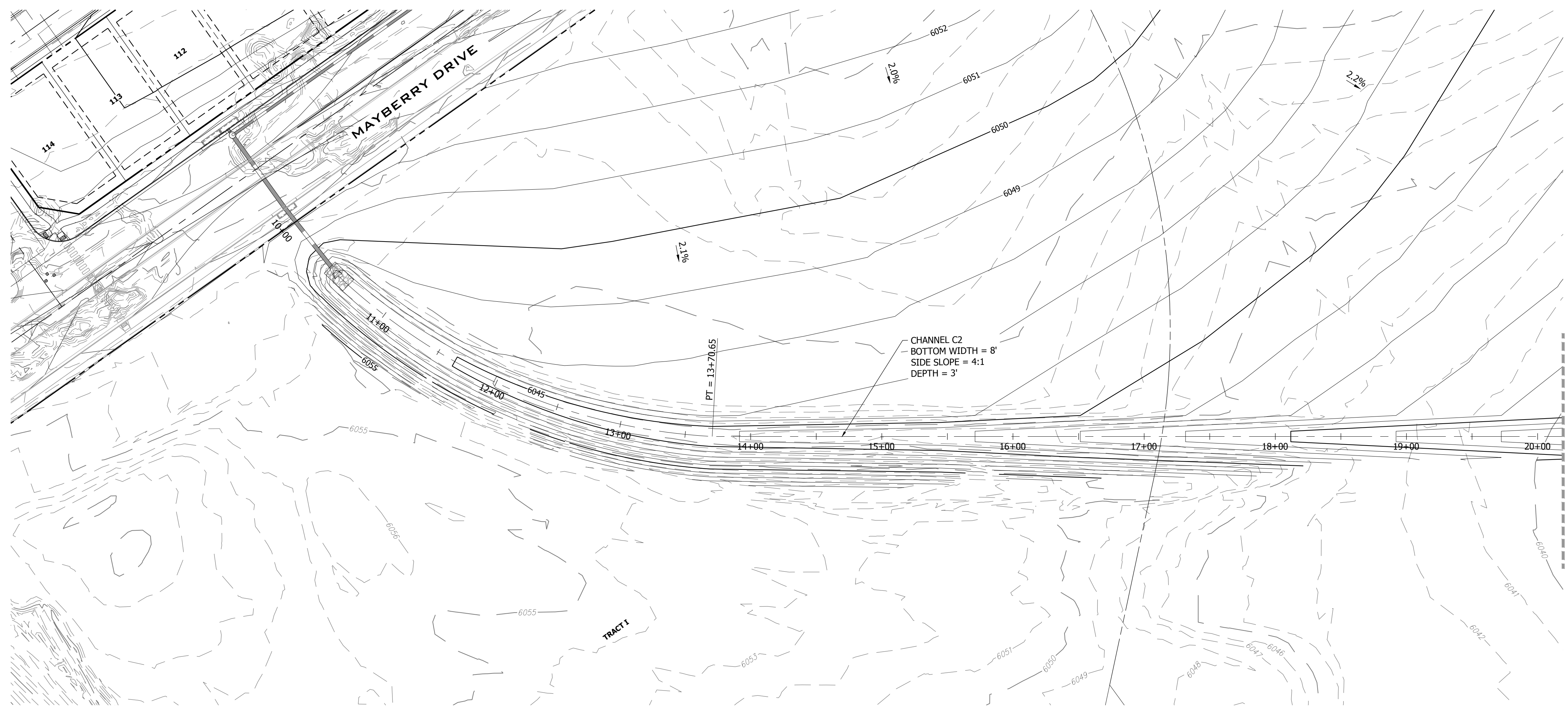
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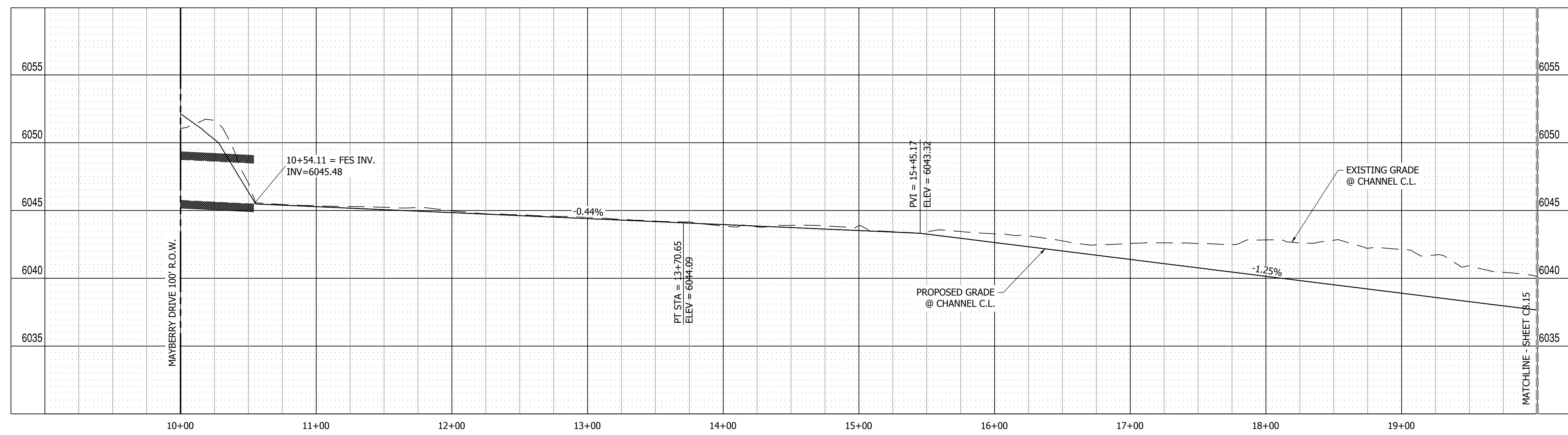
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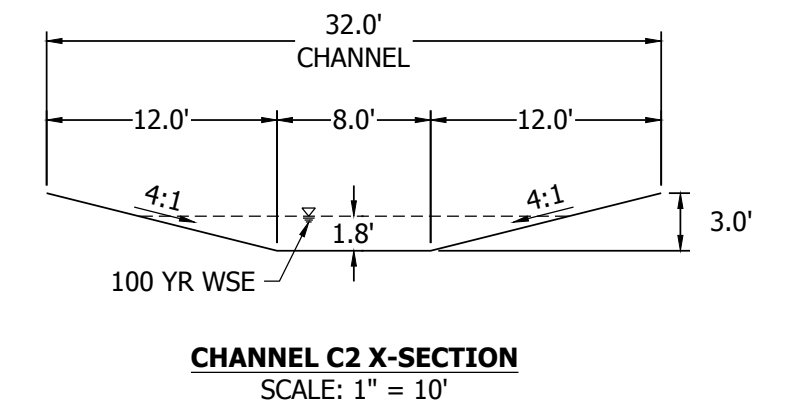
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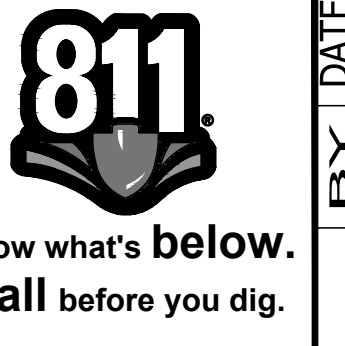
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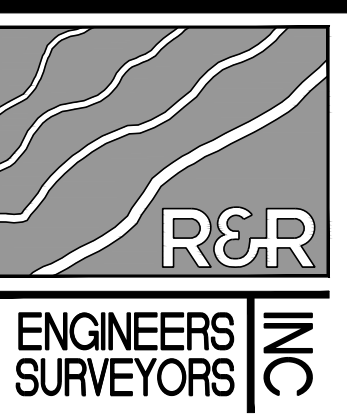
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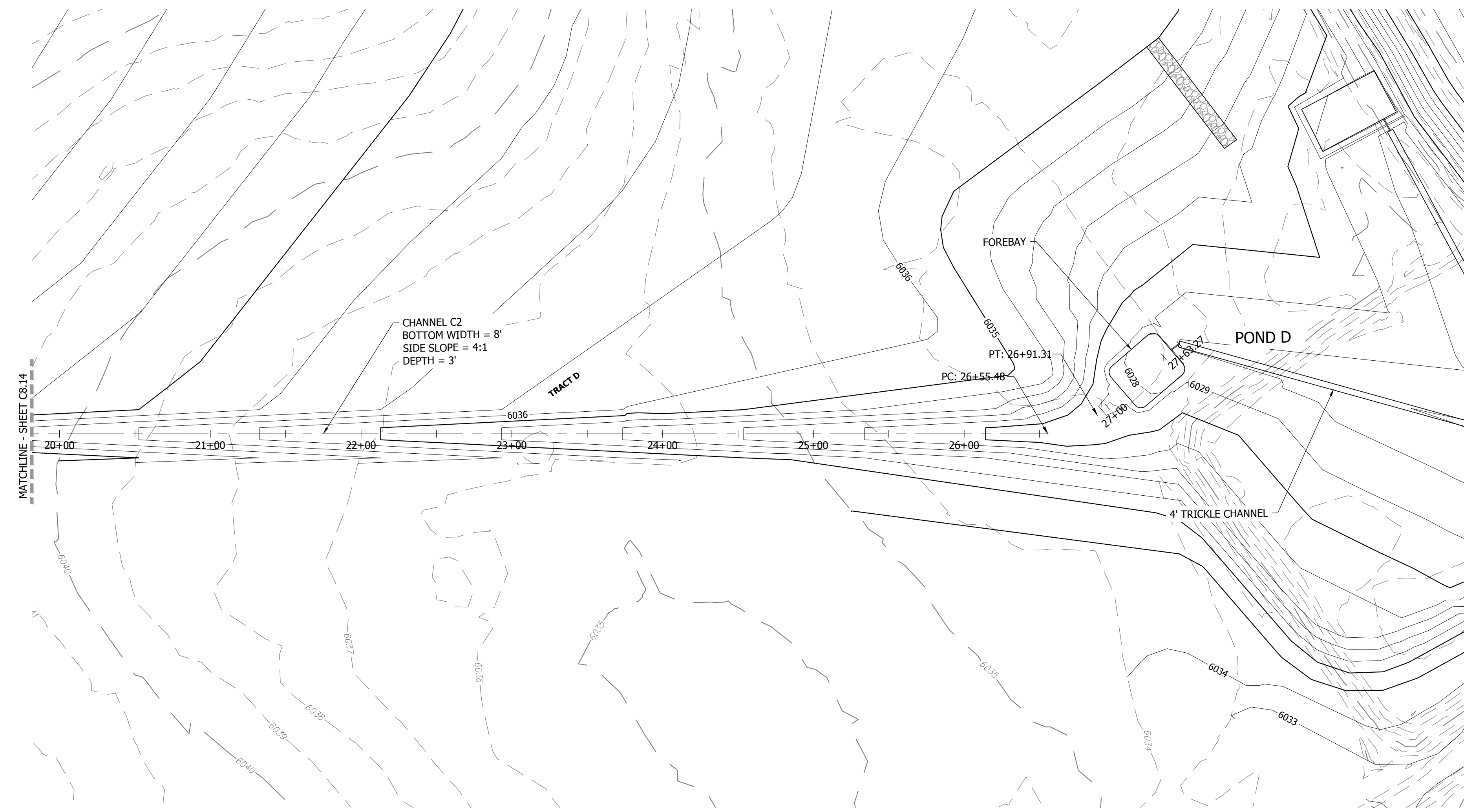
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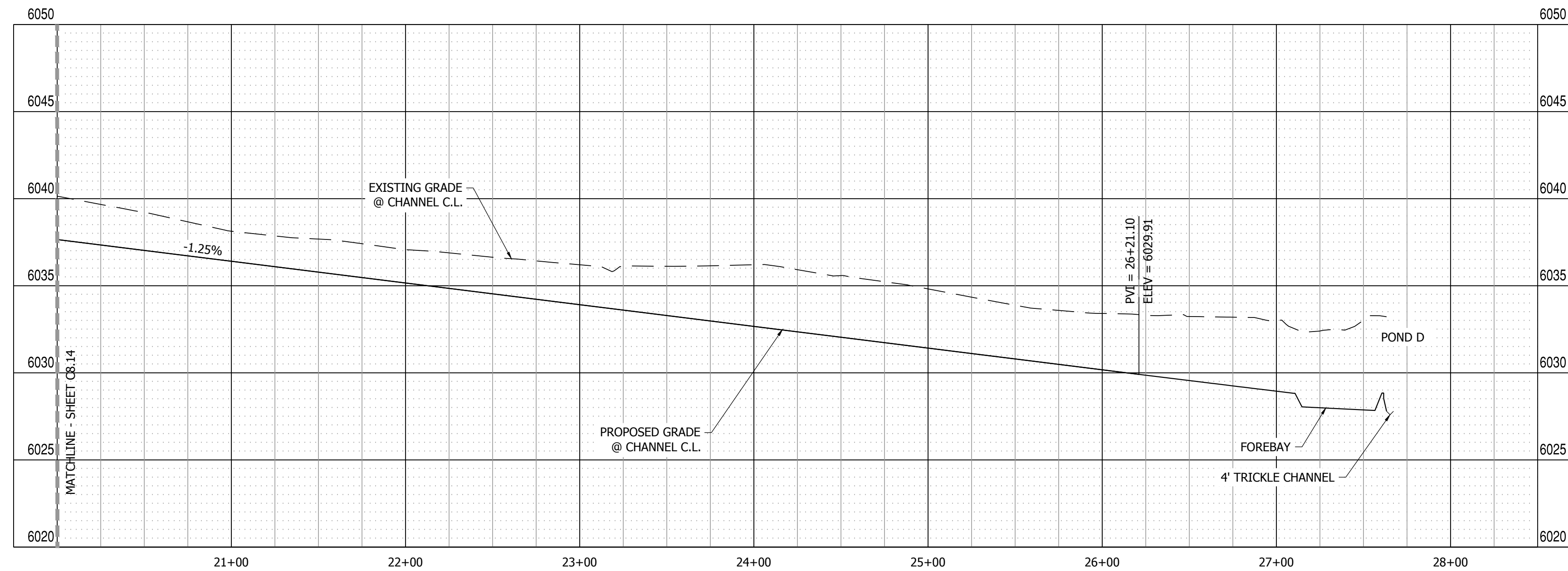
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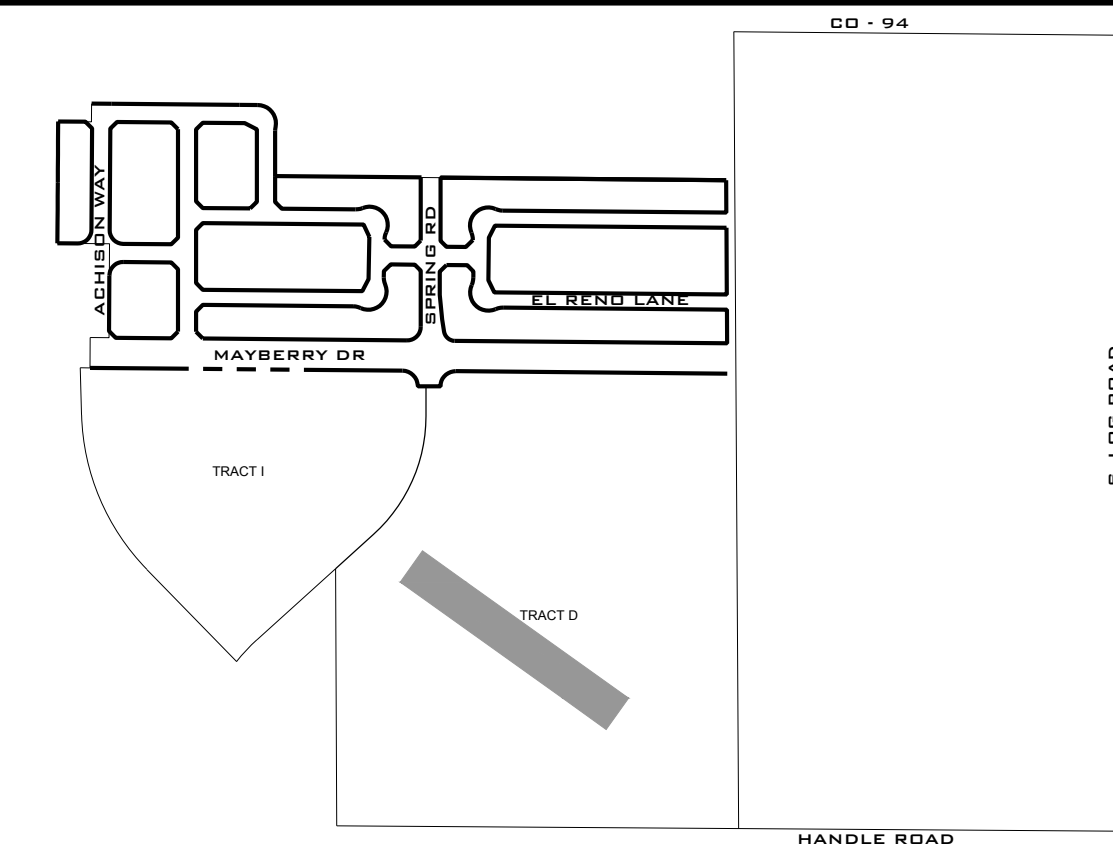
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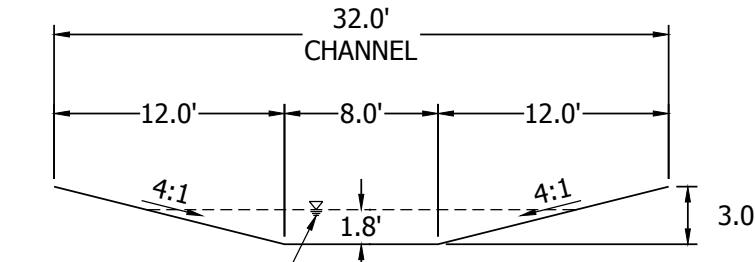
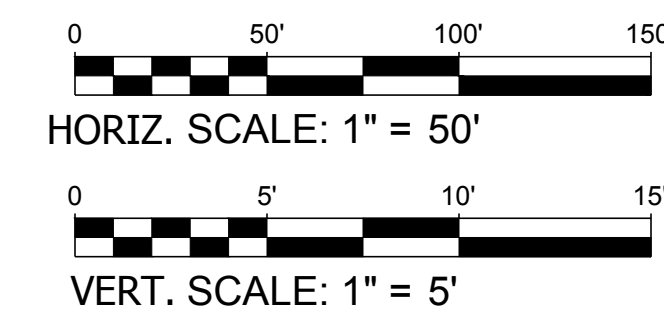
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VERTICAL SCALE: 1"=5'



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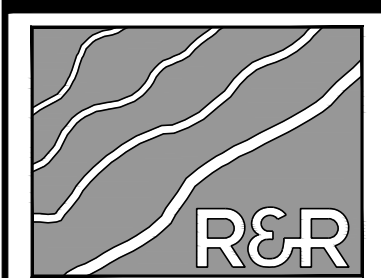


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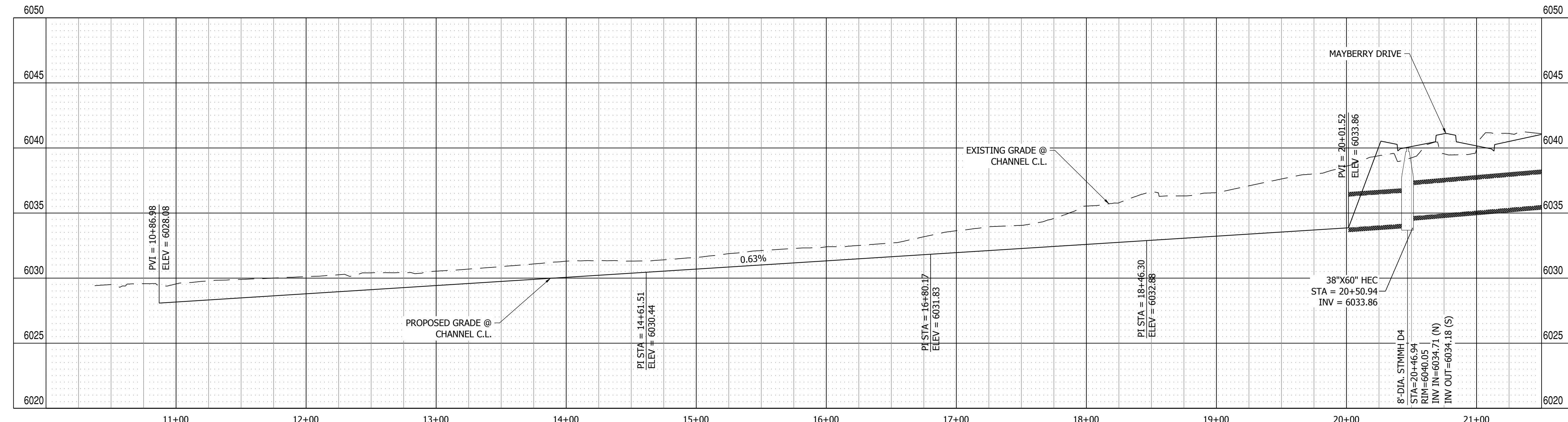
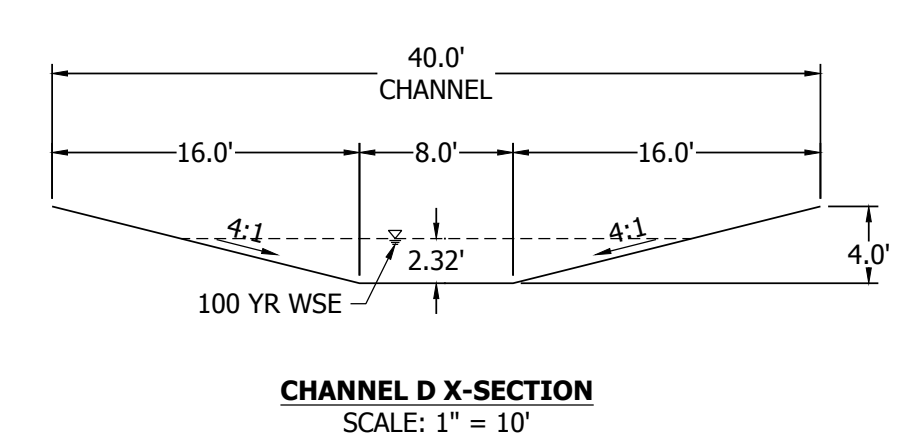
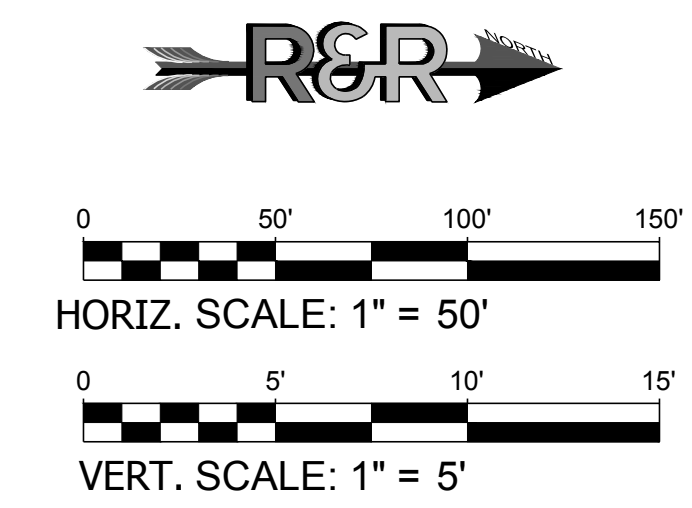
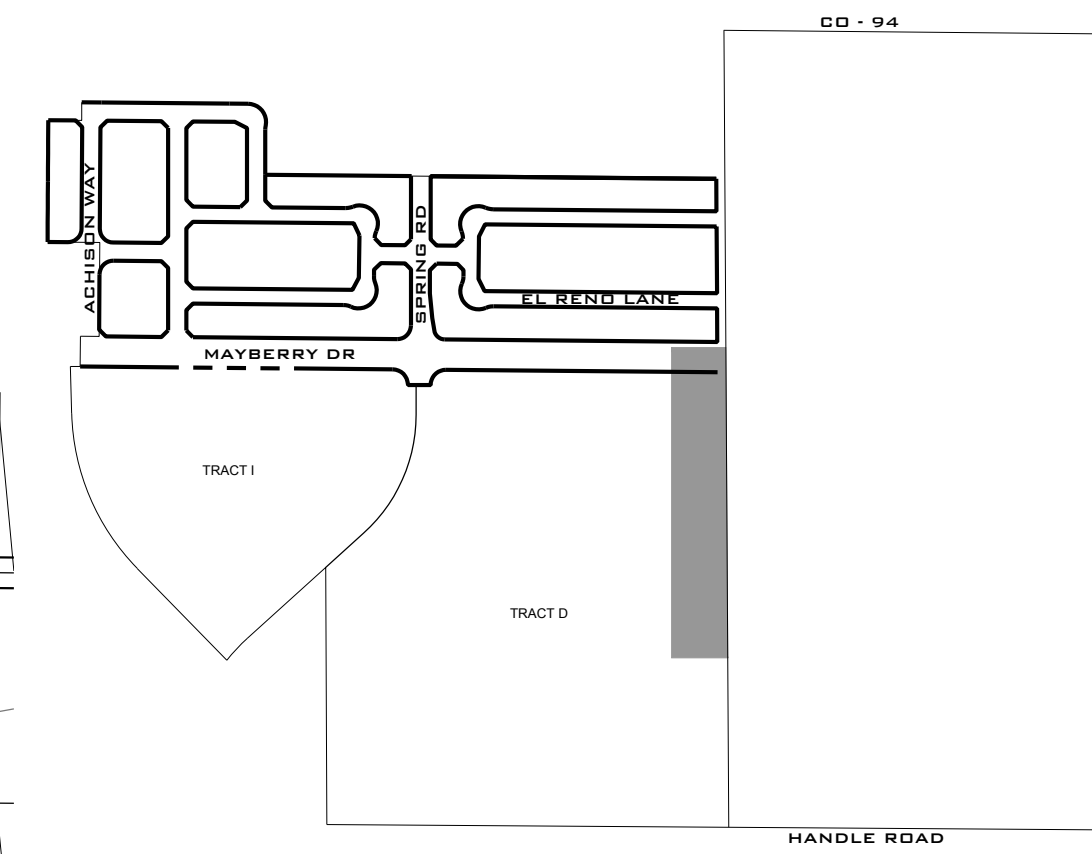
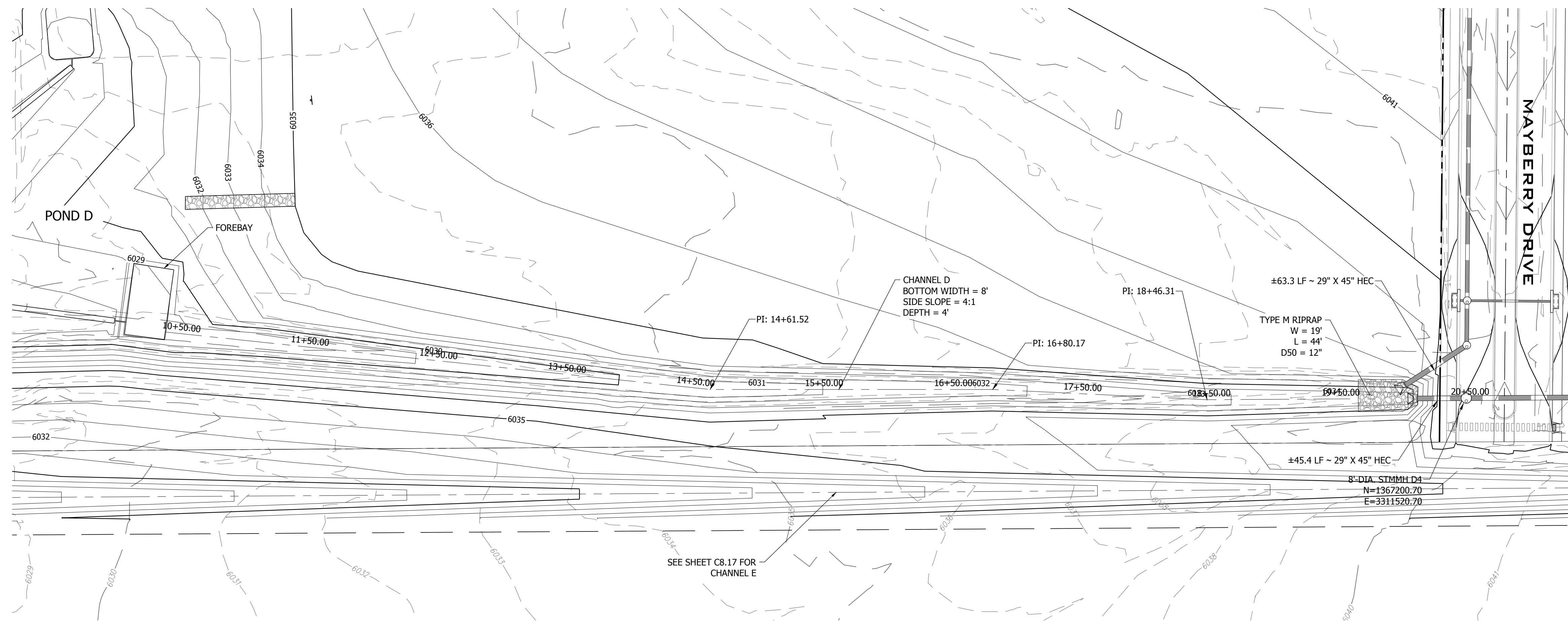
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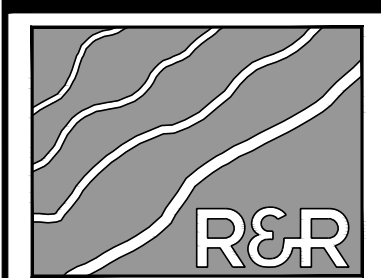
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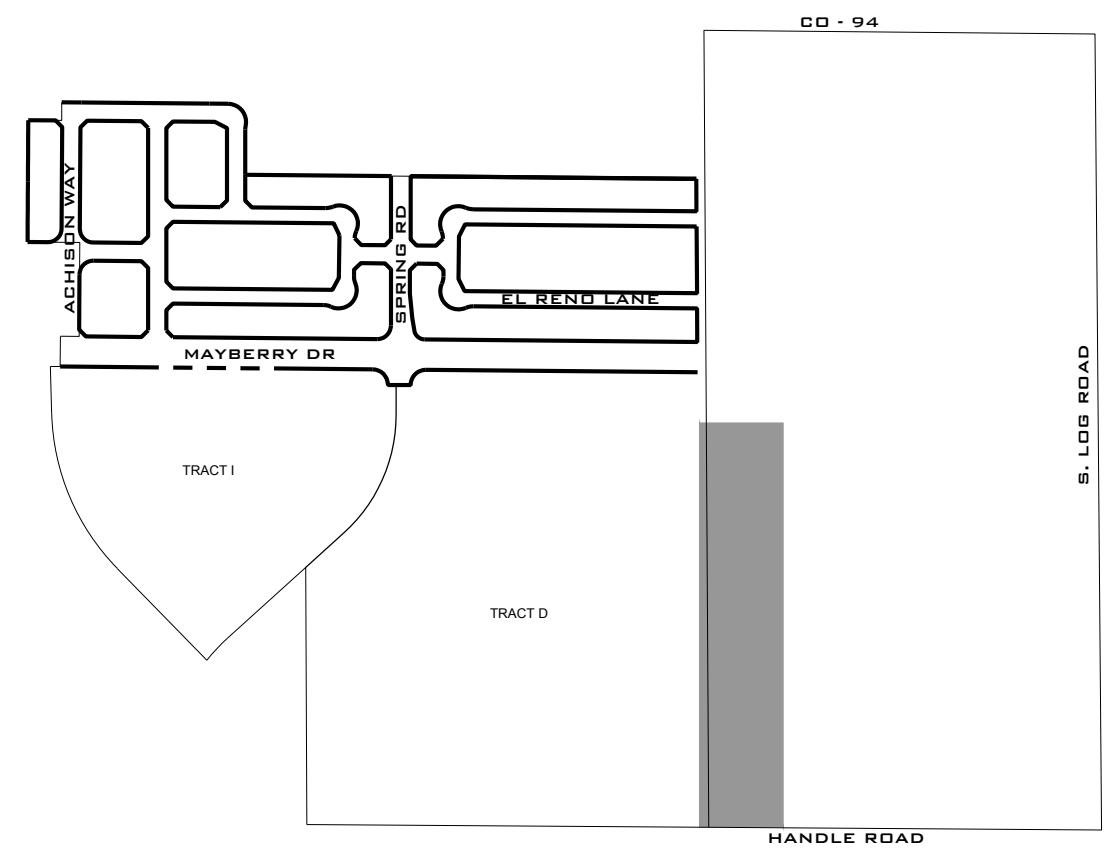
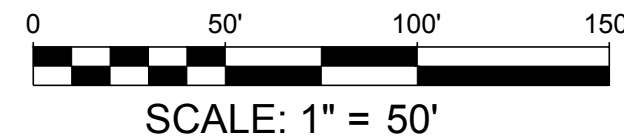
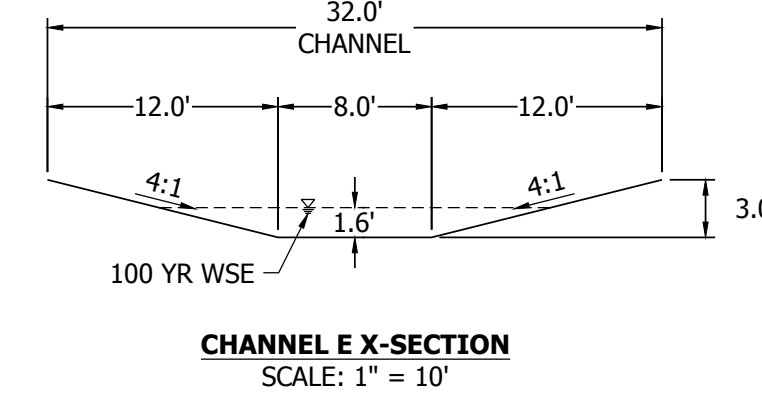
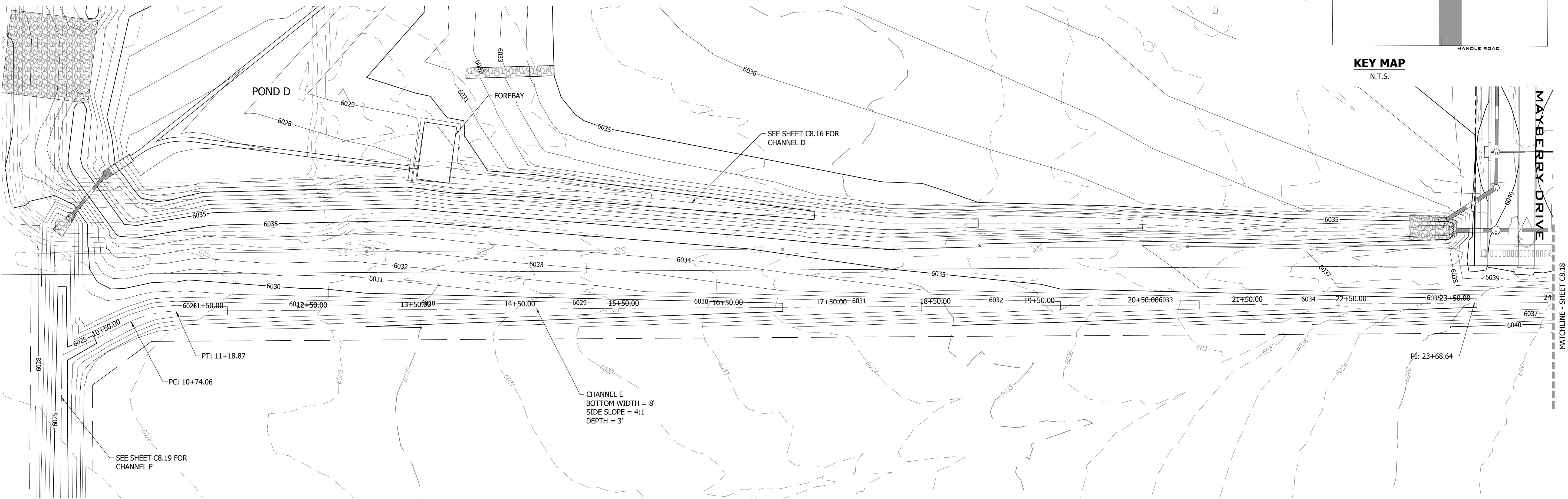
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JOB NO.	MC22110
ORG. SUBM. DATE	06/16/2022
DWN:	LAO
CHKD:	CJD
NAME	

CHANNEL D PLAN & PROFILE

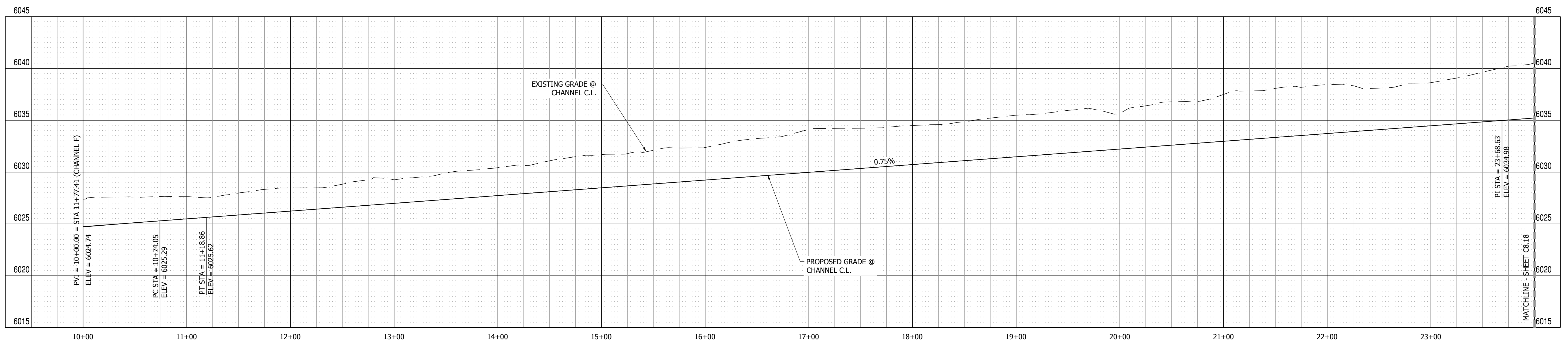
NO.
C8.16

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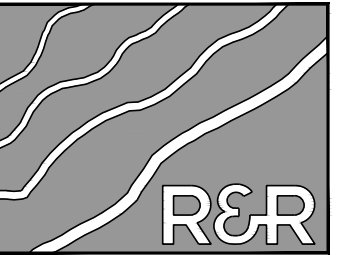

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CHANNEL E STA. 9+50.00 TO STA. 24+00.00
 SCALE: 1" = 50'



CHANNEL E PROFILE VIEW
 HORIZONTAL SCALE: 1" = 50'
 VERTICAL SCALE: 1" = 5'

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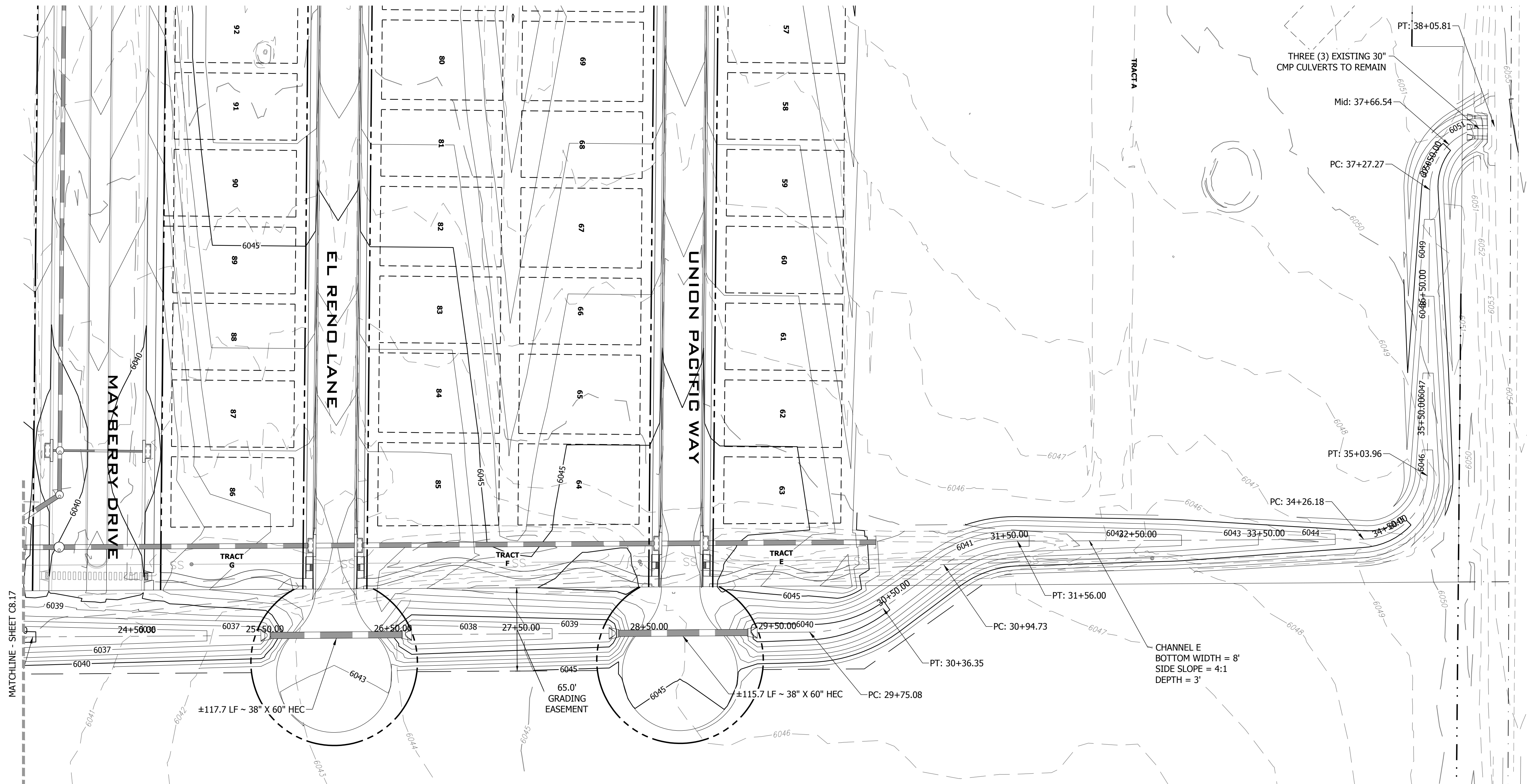
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CHANNEL E 9+50 TO 24+00

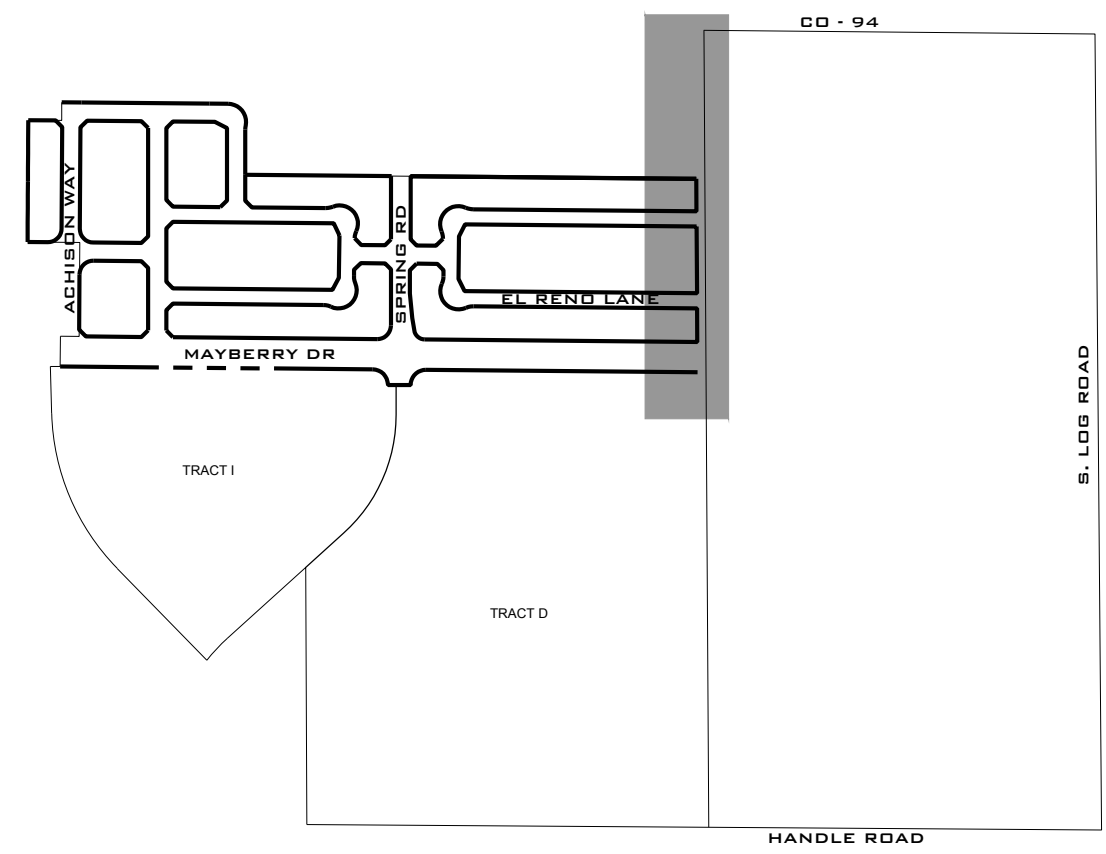
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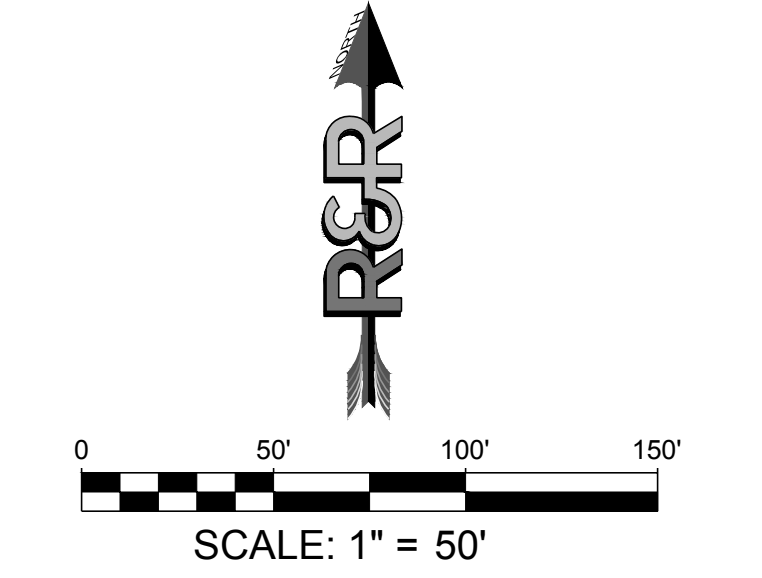


show riprap protection at culverts

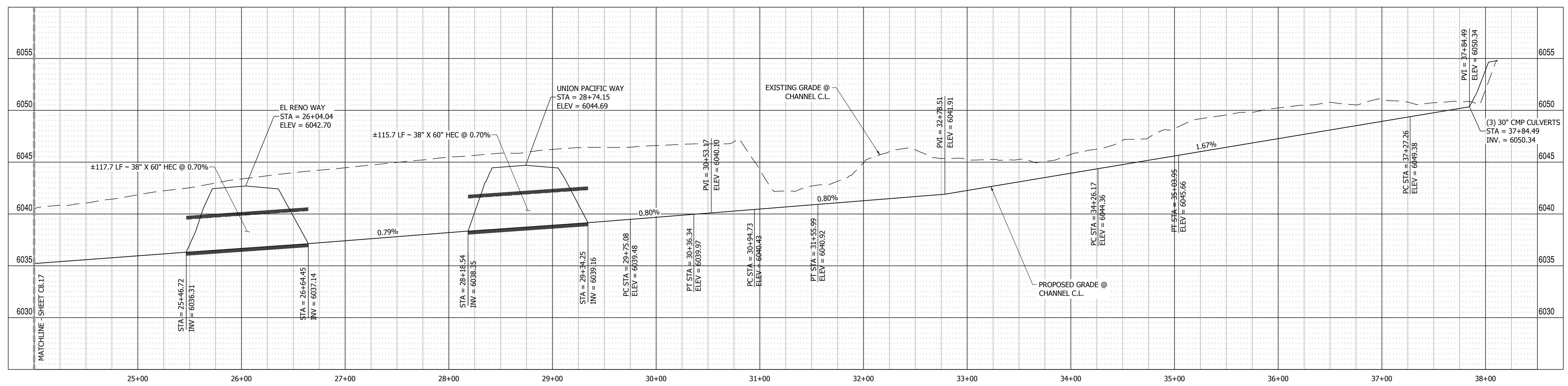
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SCALE: 1" = 50'



KEY MAP
N.T.S.



CHANNEL E X-SECTION
SCALE: 1" = 10'

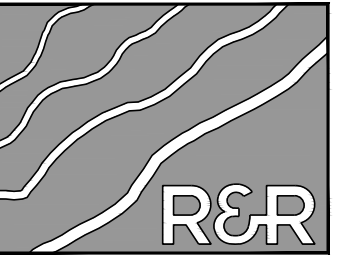


CHANNEL E PROFILE VIEW
HORIZONTAL SCALE: 1"=50'
VERTICAL SCALE: 1"=5'



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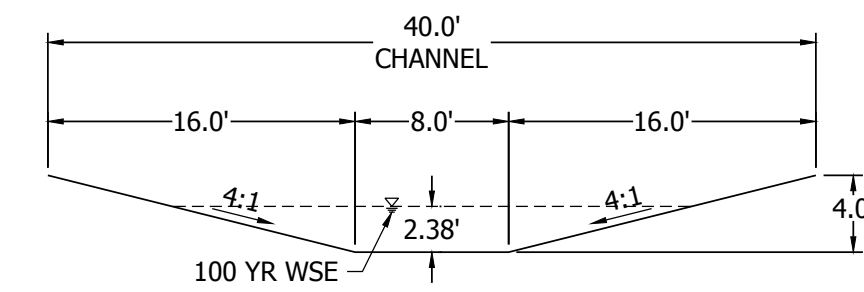
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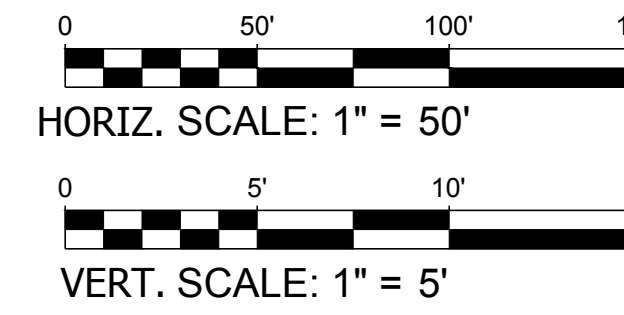
CHANNEL E 24+00 TO 38+50

NO. **C8.18**

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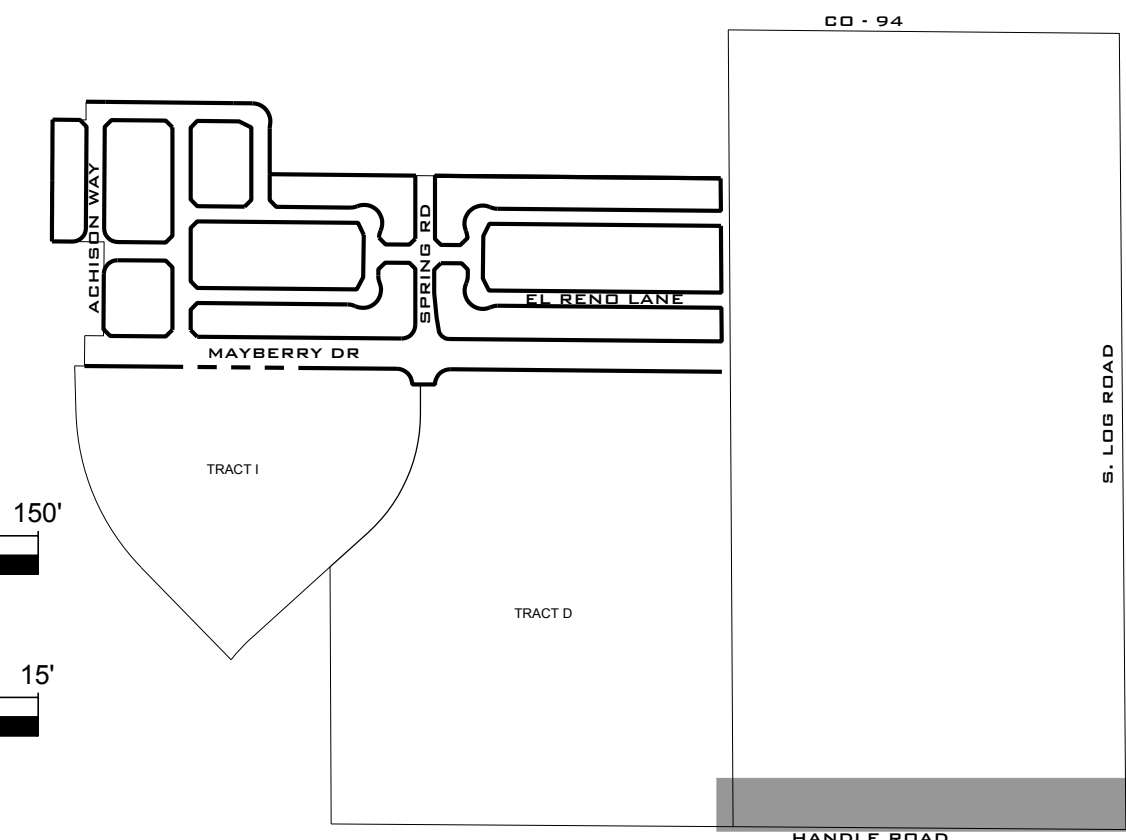


CHANNEL F X-SECTION
SCALE: 1" = 10'



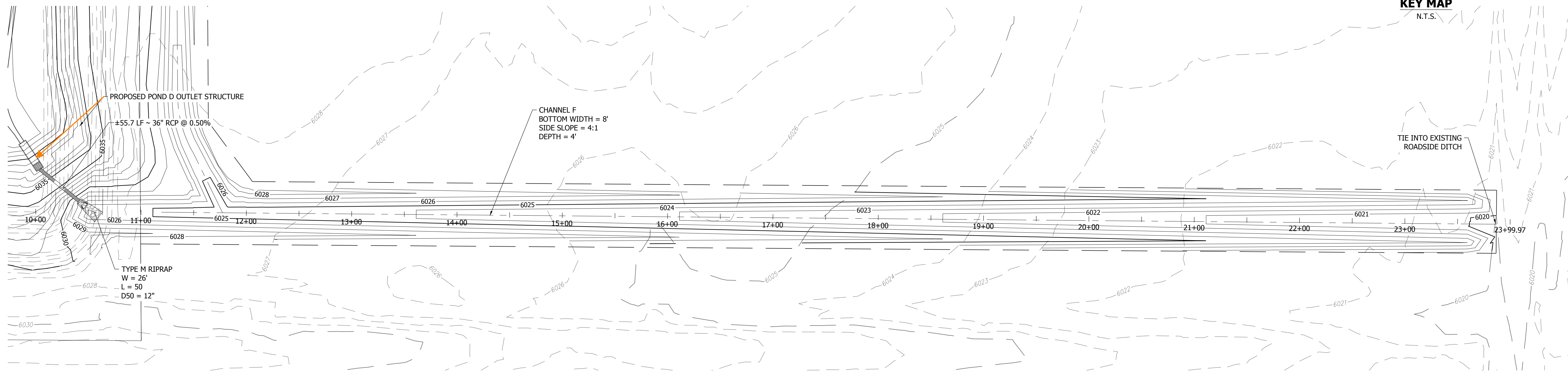
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VERT. SCALE: 1" = 5'

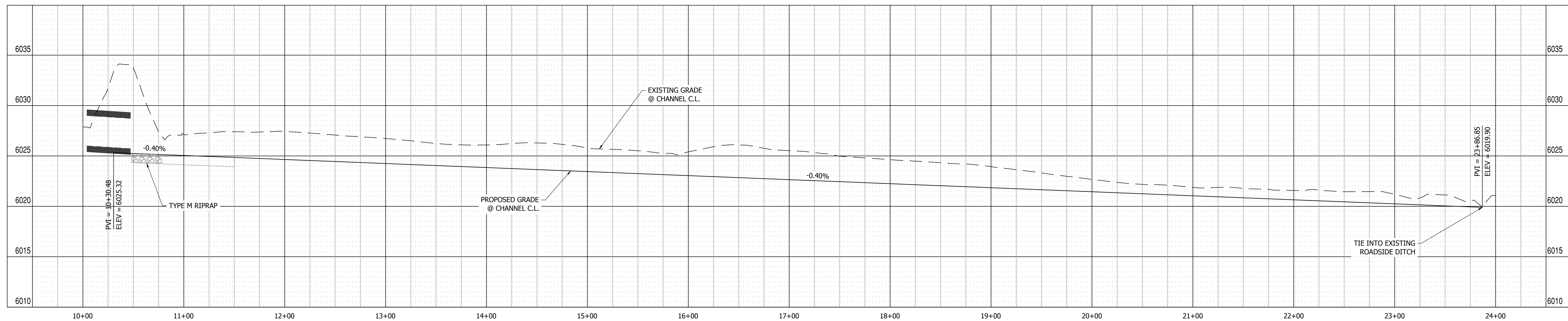


KEY MAP
N.T.S.

811
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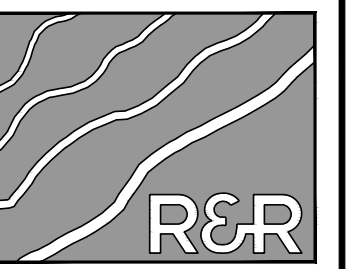


CHANNEL F
SCALE: 1" = 50'



CHANNEL F PROFILE VIEW
HORIZONTAL SCALE: 1" = 50'
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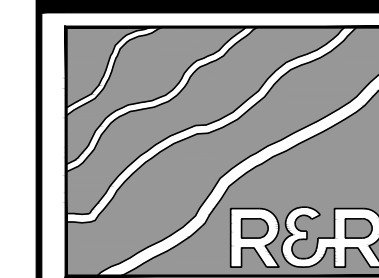
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& PROFILE

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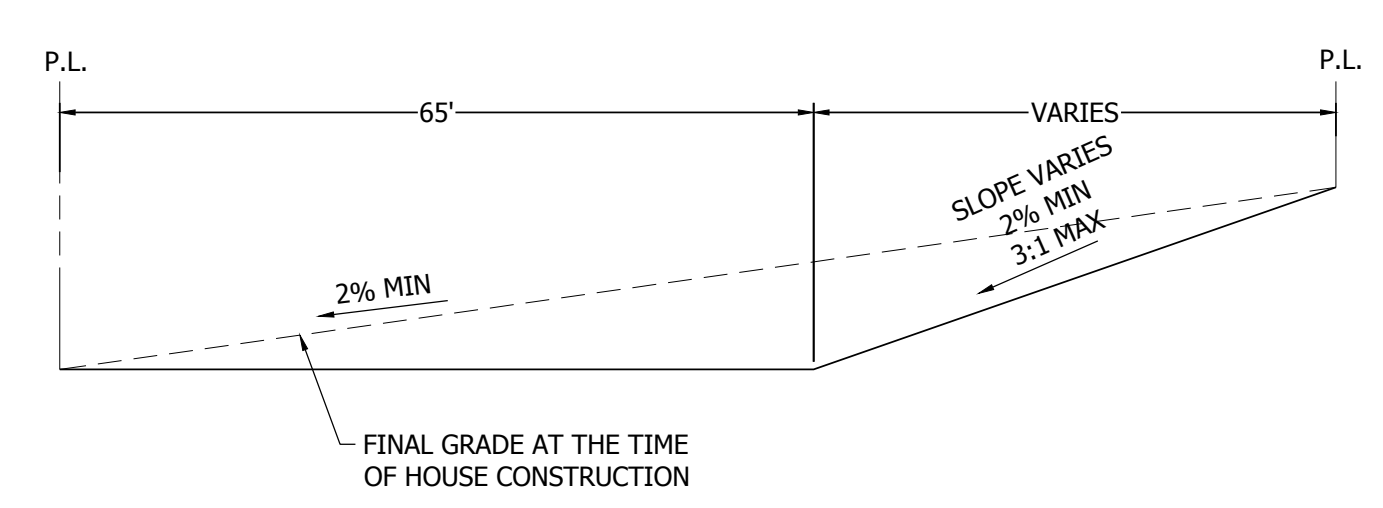
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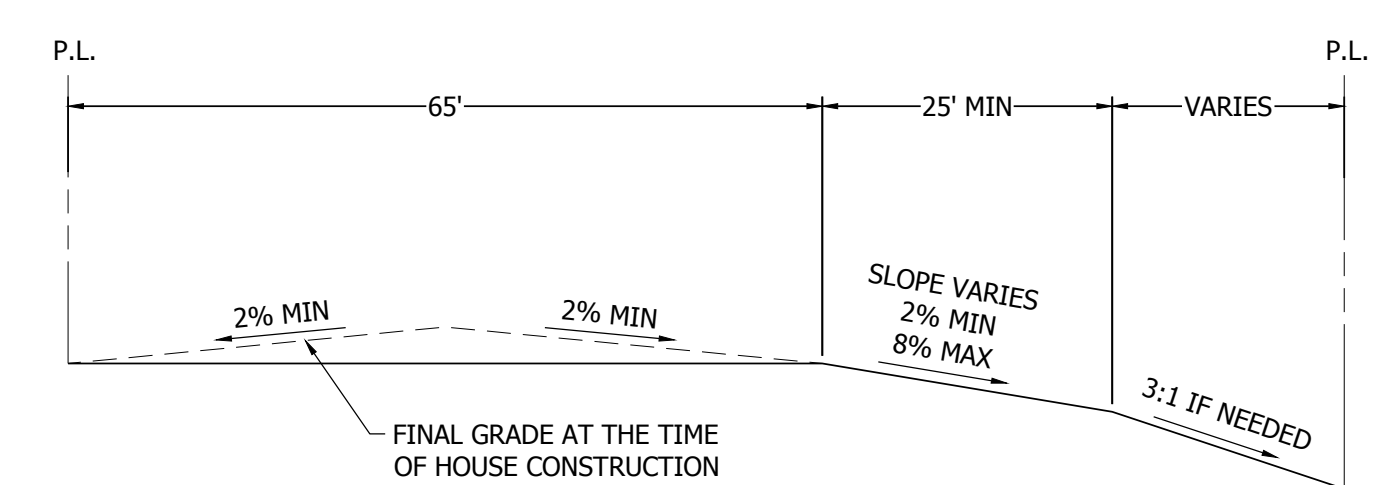
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ORG. SUBM. DATE	06/16/2022
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CHKD:	CJD

LOT GRADING
DETAILS

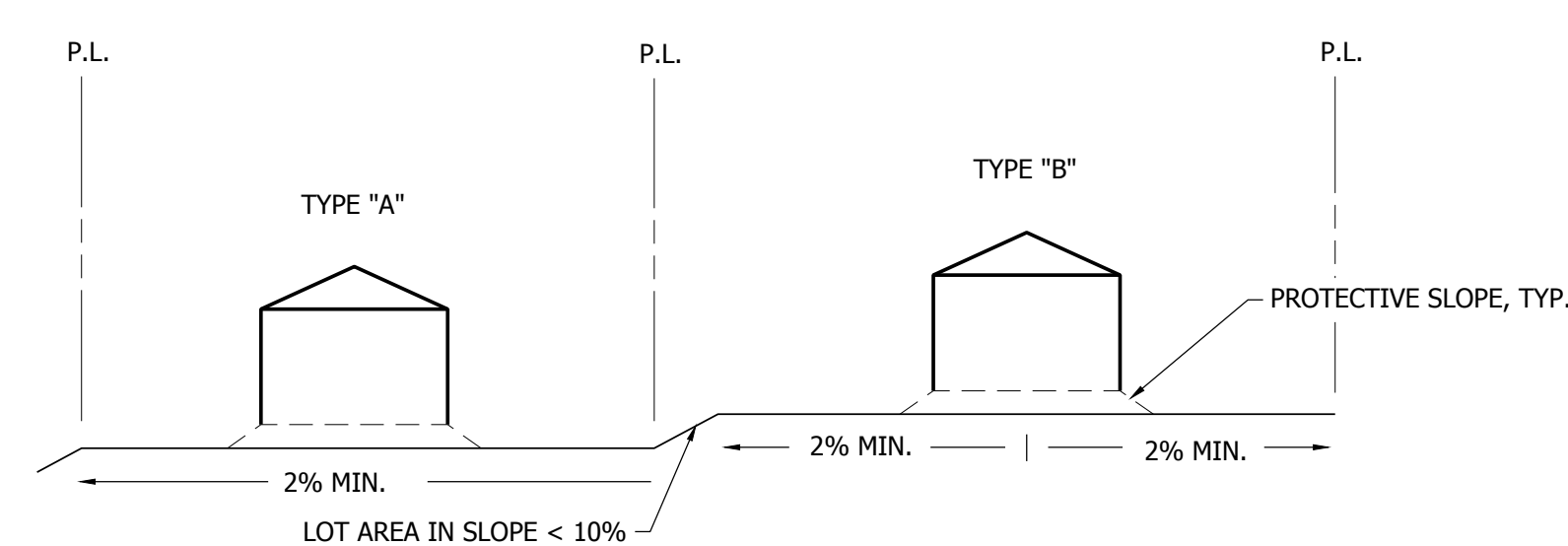
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TYPICAL "A" LOT
N.T.S.

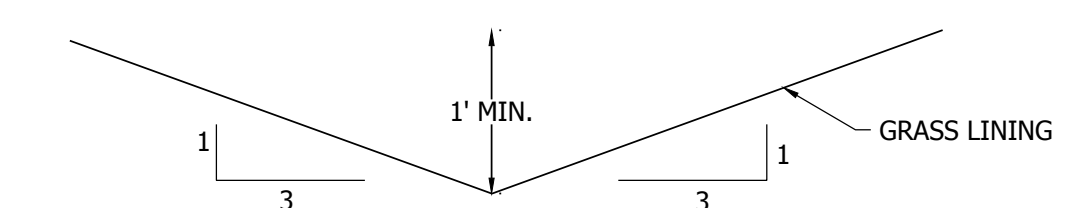


TYPICAL "B" LOT
N.T.S.



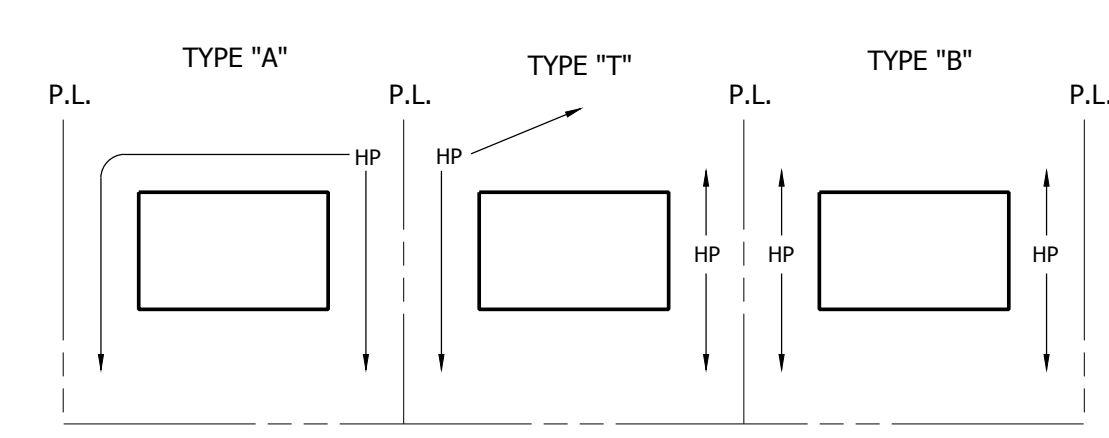
TYPICAL LOT SECTION DETAIL
N.T.S.

NOTE:
FINAL GRADING TO COMPLY WITH H.U.D. STANDARDS CONTAINED IN SECTION 310 AND 602 OF THE MINIMUM PROPERTY STANDARDS (MPS) 4900.1, HANDBOOK 4140.3 CHG (DATA SHEET 79G), IF APPLICABLE, AND ALL LEGAL STANDARDS.



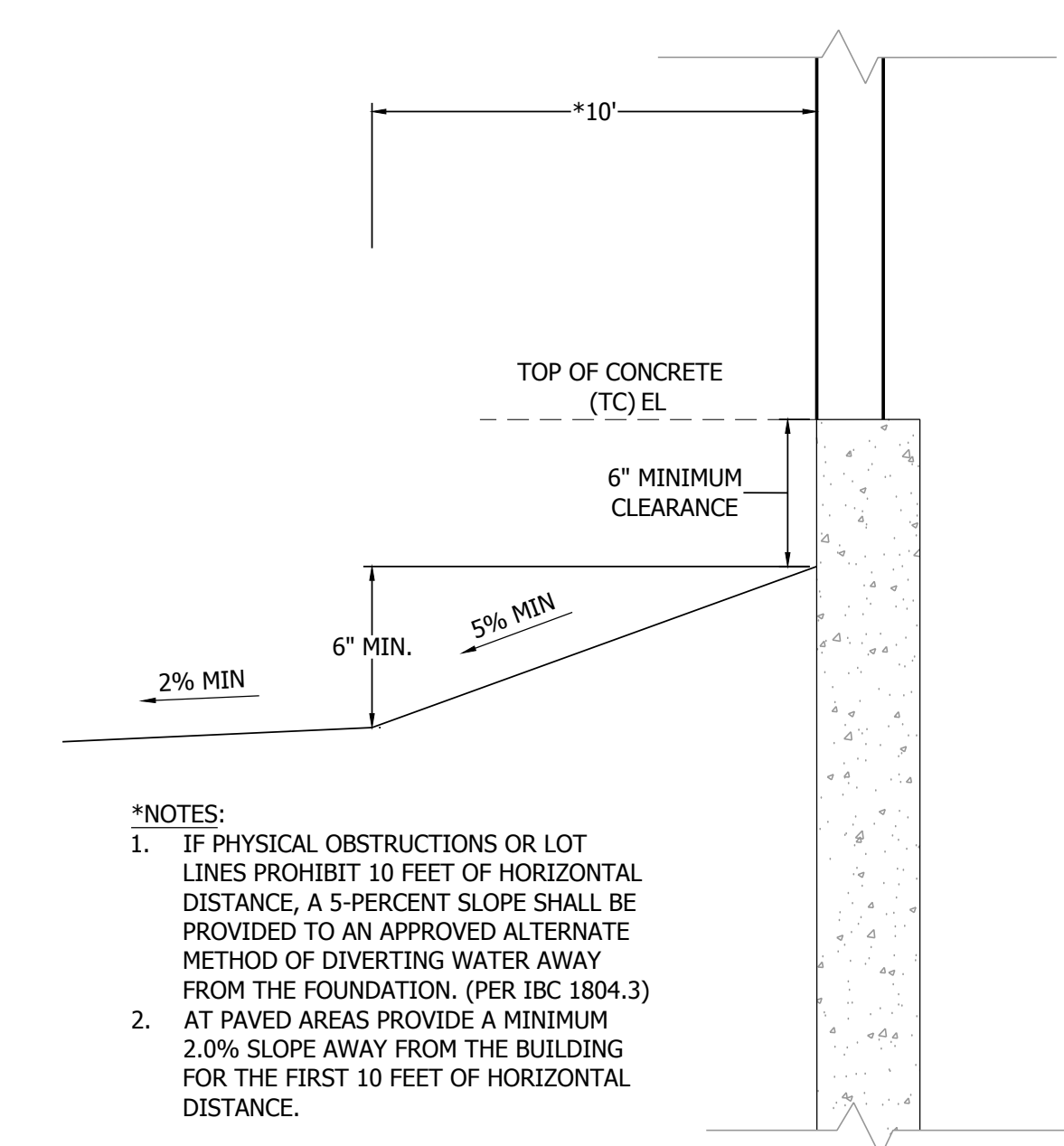
TYPICAL SIDE/REAR LOT SWALE
N.T.S.

NOTE:
BUILDERS AND OWNERS SHALL MAINTAIN PROPER PROTECTIVE SLOPES AND SIDE/REAR LOT SWALES DURING AND AFTER HOME CONSTRUCTION.



LOT DRAINAGE TYPES
N.T.S.

NOTES:
1. LOT GRADING & DRAINAGE IS THE RESPONSIBILITY OF THE INDIVIDUAL LOT BUILDERS AND OWNERS
2. INDIVIDUAL BUILDERS SHALL PROVIDE POSITIVE DRAINAGE WITHIN EACH LOT AND ACCOUNT FOR POTENTIAL CROSS-LOT DRAINAGE ON DOWN GRADIENT LOTS.
3. FINAL GRADING TO COMPLY WITH H.U.D. STANDARDS CONTAINED IN SECTION 310 AND 602 OF THE MINIMUM PROPERTY STANDARDS (MPS) 4900.1, HANDBOOK 4140.3 CHG (DATA SHEET 79G), IF APPLICABLE AND ALL LEGAL STANDARDS.

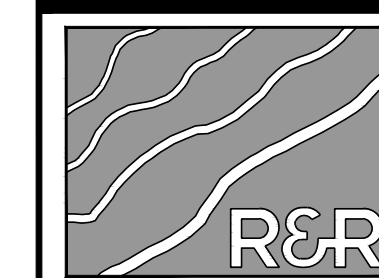


TYPICAL BUILDING DRAINAGE DETAIL
N.T.S.

*NOTES:
1. IF PHYSICAL OBSTRUCTIONS OR LOT LINES PROHIBIT 10 FEET OF HORIZONTAL DISTANCE, A 5-PERCENT SLOPE SHALL BE PROVIDED TO AN APPROVED ALTERNATE METHOD OF DIVERTING WATER AWAY FROM THE FOUNDATION. (PER IBC 1804.3)
2. AT PAVED AREAS PROVIDE A MINIMUM 2.0% SLOPE AWAY FROM THE BUILDING FOR THE FIRST 10 FEET OF HORIZONTAL DISTANCE.

PATH:\V22110_MAYBERRY_PUD_PH1 - FILING NO. 1\ENGINEERING\DRAWINGS\PLANS\GDS - GESC - LOT GRADING DETAILS.DWG - PLOT DATE: 9/20/2022 3:04:39 PM BY: LNK_CGRADY

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DETENTION POND DETAILS

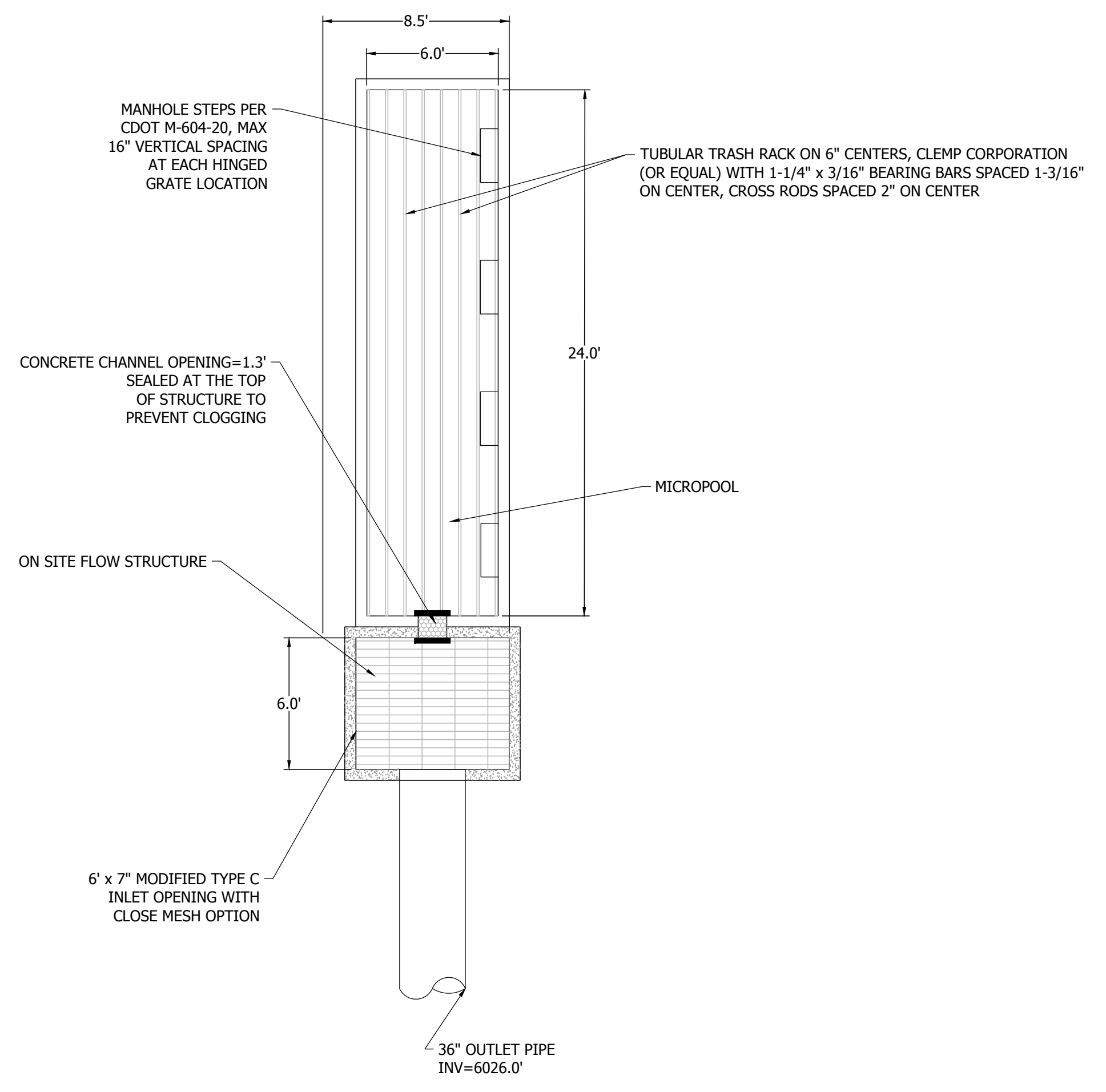
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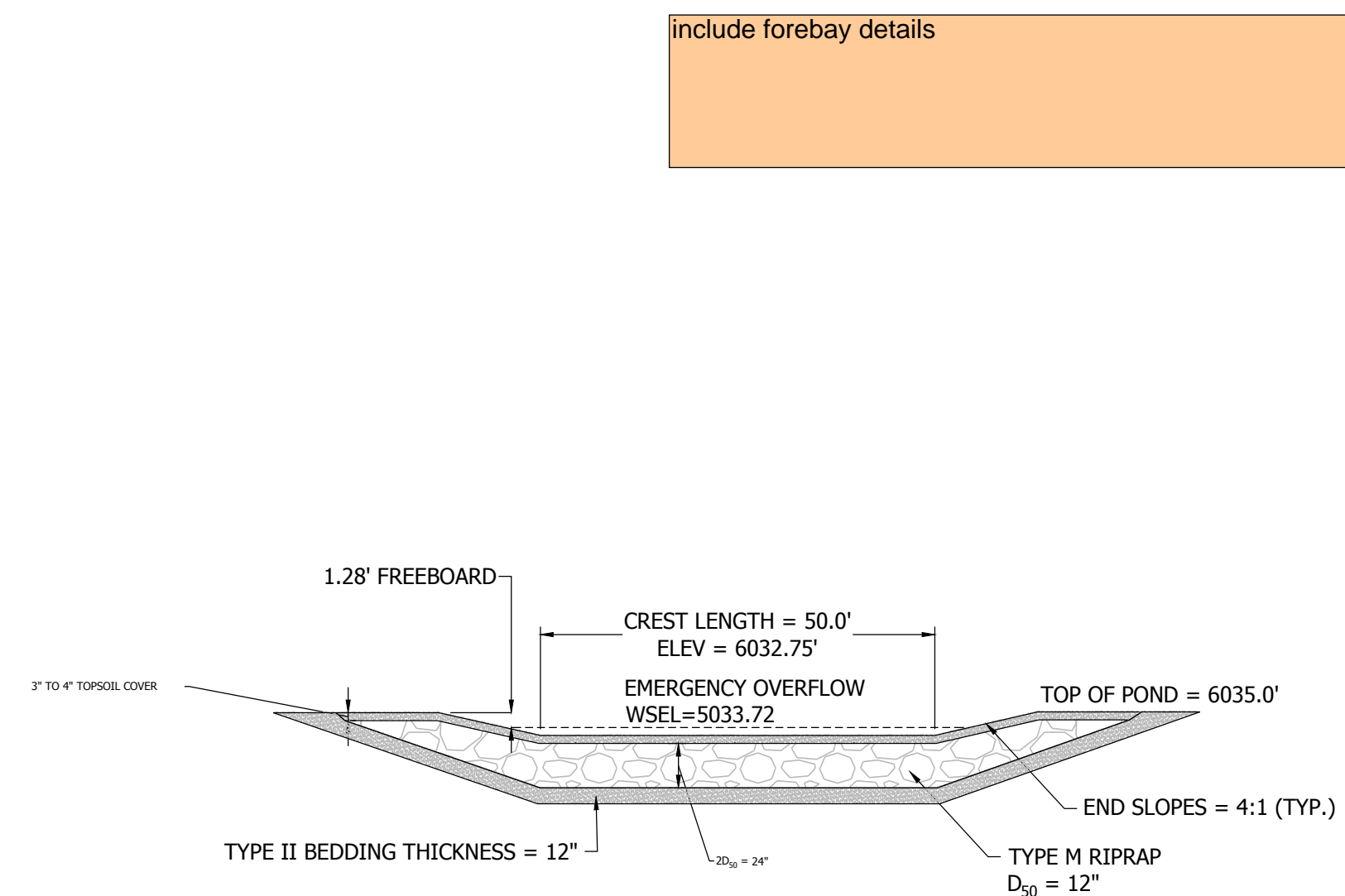
DETENTION POND FOUNDATION PREPARATION AND EMBANKMENT CONSTRUCTION (PER CTL THOMPSON LETTER DATED 8/31/22)
PRIOR TO PLACEMENT OF EMBANKMENT FILL, THE EXISTING GROUND SURFACE SHOULD BE SCARIFIED, MOISTURE CONDITIONED, AND RECOMPACTED. EMBANKMENT FILL MAY CONSIST OF ONSITE MATERIALS PROVIDED THEY ARE SUBSTANTIALLY FREE OF DEBRIS, VEGETATION/ORGANICS, DELETERIOUS MATERIALS, AND MATERIAL GREATER THAN 3-INCHES. FILL SHOULD BE PLACED IN THIN, LOOSE LIFTS NO MORE THAN 8-INCHES, MOISTURE CONDITIONED AND COMPACTED PRIOR TO PLACEMENT OF THE NEXT LIFT. FILL SHOULD BE COMPACTED ACCORDING TO TABLE A. THE PLACEMENT AND COMPACTION OF NEW FILL SHOULD BE OBSERVED, AND THE DENSITY TESTED BY OUR REPRESENTATIVE DURING CONSTRUCTION. WE RECOMMEND EMBANKMENT SLOPES BE OVERBUILT AT LEAST 12-INCHES AND CUT BACK DUE TO THE INHERENT DIFFICULTY OF ACHIEVING COMPACTION AT THE EDGE OF A SLOPE.

Table A - Compaction Specifications

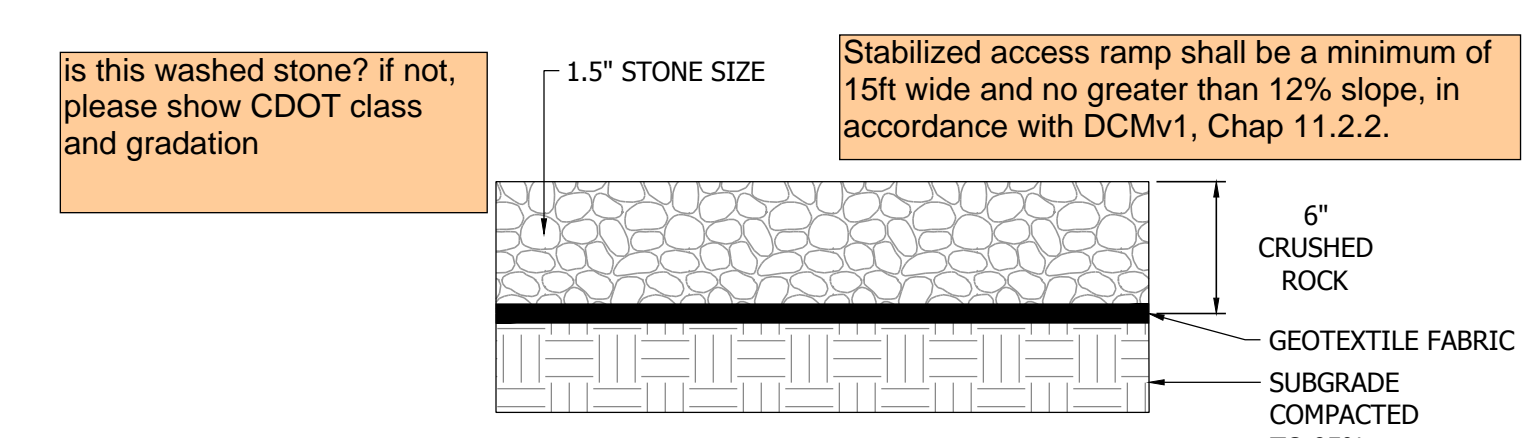
Soil Type	Minimum Compaction	Moisture Content From Optimum
Clay	95% ASTM D698	-2 to +2
Sand	95% ASTM D1557	-2 to +2



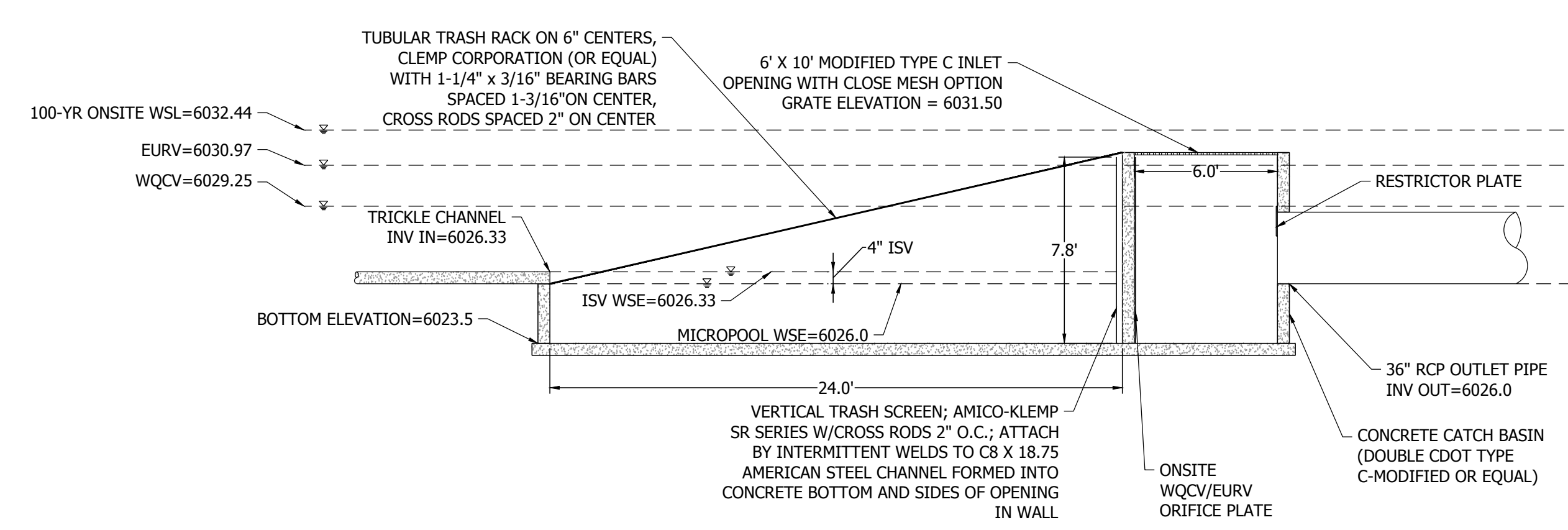
PLAN VIEW
DETENTION POND OUTLET STRUCTURE PLAN
N.T.S.



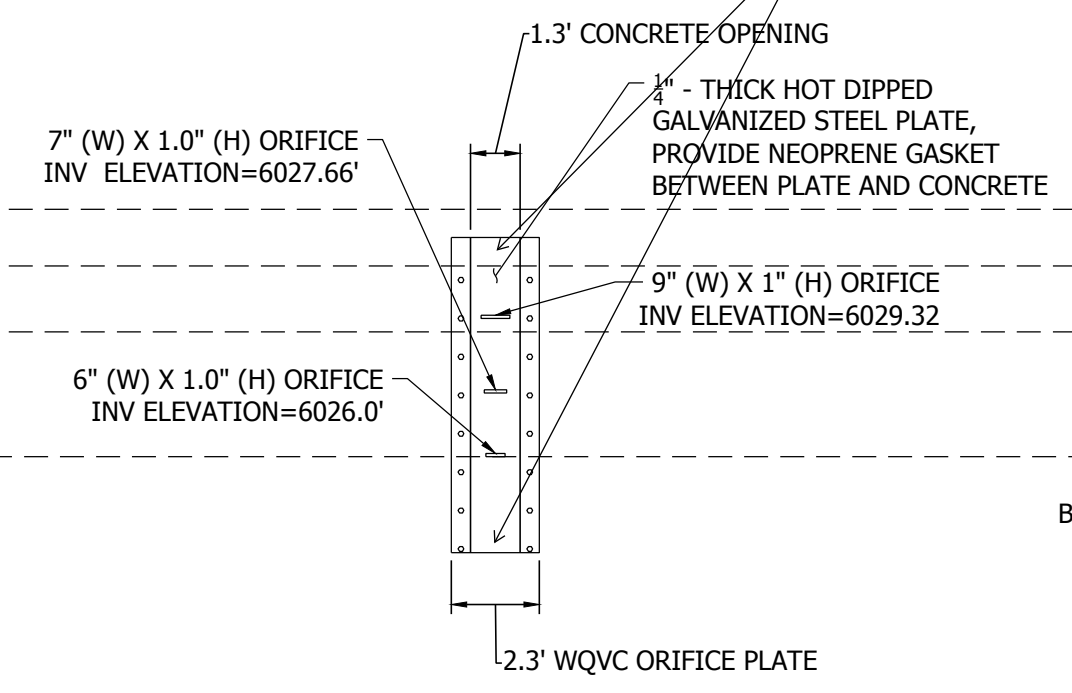
EMERGENCY SPILLWAY DETAIL
N.T.S.



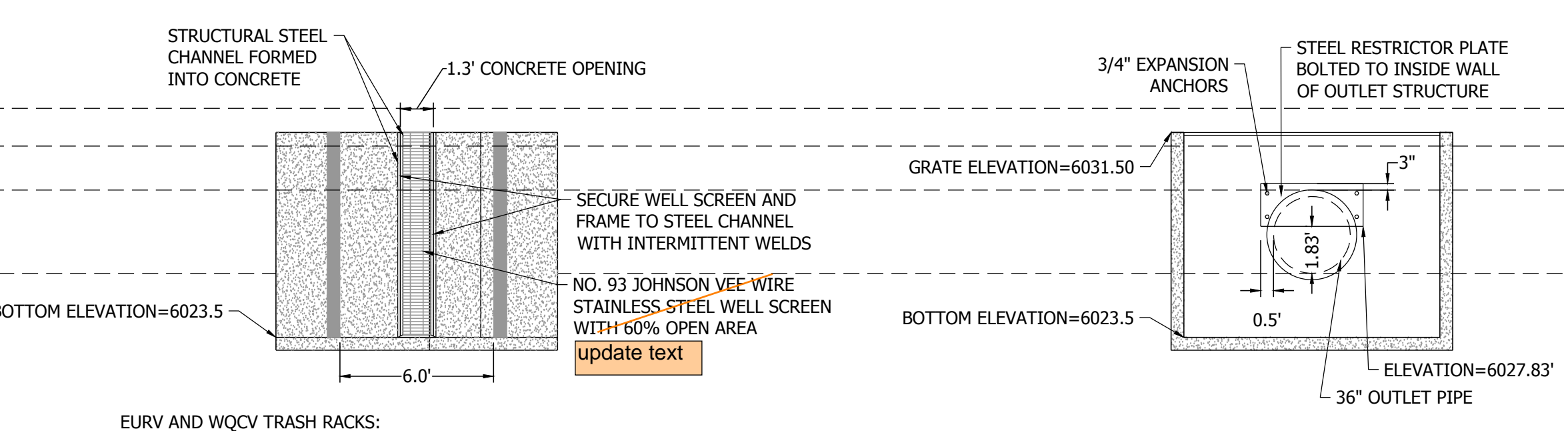
POND ACCESS PATH DETAIL
N.T.S.



DETENTION POND OUTLET STRUCTURE SECTION
N.T.S.



ORIFACE PLATE DETAIL
N.T.S.



RESTRICTOR PLATE DETAIL
N.T.S.

- ORIFACE PLATE NOTES:**
- MINIMIZE THE NUMBER OF COLUMNS.
 - PROVIDE GASKET MATERIAL BETWEEN THE ORIFACE PLATE AND CONCRETE.
 - BOLT PLATE TO CONCRETE 12\"/>

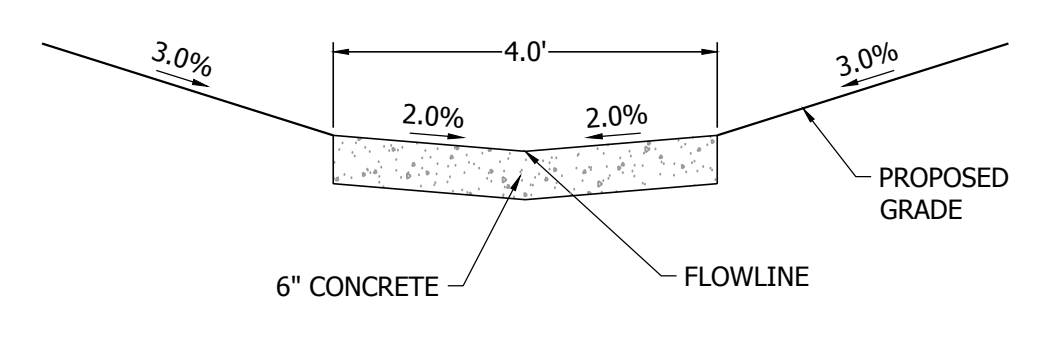
- EURV AND WQCV TRASH RACKS:**
- WELL-SCREEN TRASH RACKS SHALL BE ATTACHED BY INTERMITTENT WELDS ALONG THE EDGE OF THE MOUNTING FRAME.
 - STRUCTURAL DESIGN OF TRASH RACKS SHALL BE BASED ON FULL HYDROSTATIC HEAD WITH ZERO HEAD DOWNSTREAM OF THE RACK.

- OVERFLOW TRASH RACKS:**
- ALL TRASH RACKS SHALL BE MOUNTED USING STAINLESS STEEL HARDWARE AND PROVIDED WITH HINGED AND LOCKABLE OR BOLTABLE ACCESS PANELS.
 - TRASH RACKS SHALL BE STAINLESS STEEL, ALUMINUM, OR STEEL. STEEL TRASH RACKS SHALL BE HOT DIP GALVANIZED AND MAY BE HOT POWDER COATED AFTER GALVANIZING.
 - TRASH RACKS SHALL BE DESIGNED SUCH THAT THE DIAGONAL DIMENSION OF THE EACH OPENING IS SMALLER THAN THE DIAMETER OF THE OUTLET PIPE.
 - STRUCTURAL DESIGN OF TRASH RACKS SHALL BE BASED ON FULL HYDROSTATIC HEAD WITH ZERO HEAD DOWNSTREAM OF THE RACK.

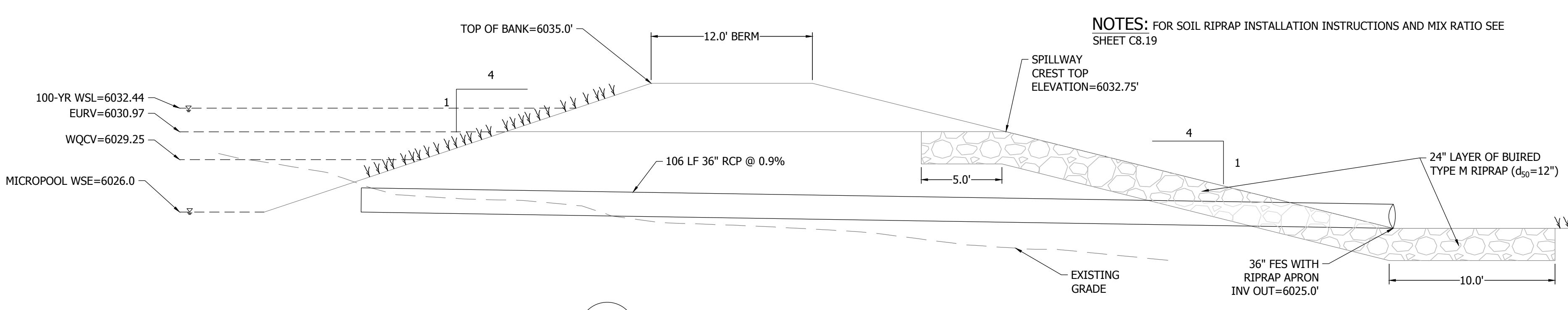


VERTICAL TRASH SCREEN DETAIL
N.T.S.

Specify installation instructions and mix ratio for buried riprap. As an example, note: "Per MHFD Spec Section 31-37-00, the soil material shall be native or topsoil and mixed with 65% riprap and 35% soil by volume. And soil riprap shall consist of uniform mixture of soil and riprap without voids."



TYPICAL CONCRETE TRICKLE CHANNEL
N.T.S.

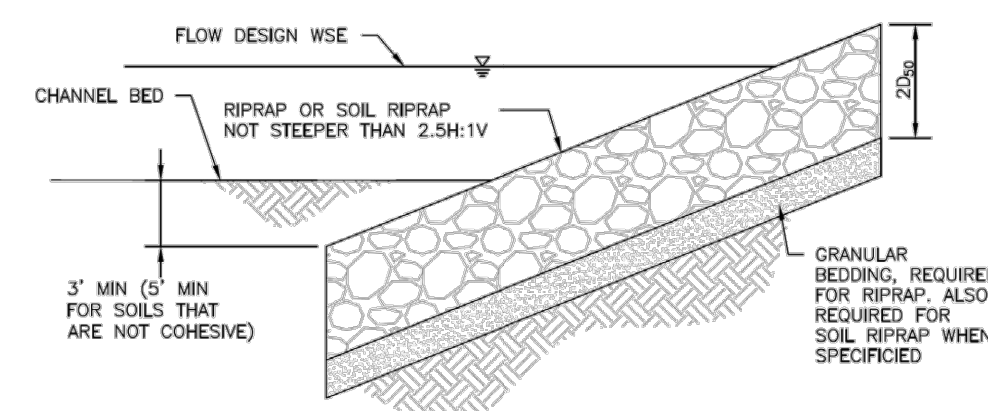


SPILLWAY SECTION
N.T.S.

NOTES: FOR SOIL RIPRAP INSTALLATION INSTRUCTIONS AND MIX RATIO SEE SHEET C8.19



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RIPRAP DESIGNATION	% SMALLER THAN GIVEN SIZE BY WEIGHT	INTERMEDIATE ROCK DIMENSION (INCHES)	D ₅₀ * (INCHES)
TYPE VL	70 - 100	12	6
	50 - 70	9	
	35 - 50	6	
TYPE L	70 - 100	15	9
	50 - 70	12	
	35 - 50	9	
TYPE M	70 - 100	21	12
	50 - 70	18	
	35 - 50	12	
TYPE H	70 - 100	30	18
	50 - 70	24	
	35 - 50	18	

*D₅₀ = MEAN ROCK SIZE.

Figure 8-34. Riprap and soil riprap placement and gradation (part 1 of 3)

- SOIL RIPRAP NOTES:
- ELEVATION TOLERANCES FOR THE SOIL RIPRAP SHALL BE 0.10 FEET. THICKNESS OF SOIL RIPRAP SHALL BE NO LESS THAN THICKNESS SHOWN AND NO MORE THAN 2-INCHES GREATER THAN THE THICKNESS SHOWN.
 - WHERE "SOIL RIPRAP" IS DESIGNATED ON THE CONTRACT DRAWINGS, RIPRAP VOIDS ARE TO BE FILLED WITH NATIVE SOIL. THE RIPRAP SHALL BE PRE-MIXED WITH THE NATIVE SOIL AT THE FOLLOWING PROPORTIONS BY VOLUME: 65PERCENT RIPRAP AND 35 PERCENT SOIL. THE SOIL USED FOR MIXING SHALL BE NATIVE TOPSOIL AND SHALL HAVE A MINIMUM FINES CONTENT OF 15 PERCENT. THE SOIL RIPRAP SHALL BE INSTALLED IN A MANNER THAT RESULTS IN A DENSE, INTERLOCKED LAYER OF RIPRAP WITH RIPRAP VOIDS FILLED COMPLETELY WITH SOIL. SEGREGATION OF MATERIALS SHALL BE AVOIDED AND IN NO CASE SHALL THE COMBINED MATERIAL CONSIST PRIMARILY OF SOIL. THE DENSITY AND INTERLOCKING NATURE OF RIPRAP IN THE MIXED MATERIAL SHALL ESSENTIALLY BE THE SAME AS IF THE RIPRAP WAS PLACED WITHOUT SOIL.
 - WHERE SPECIFIED (TYPICALLY AS "BURIED SOIL RIPRAP"), A SURFACE LAYER OF TOPSOIL SHALL BE PLACED OVER THE SOIL RIPRAP ACCORDING TO THE THICKNESS SPECIFIED ON THE CONTRACT DRAWINGS. THE TOPSOIL SURFACE LAYER SHALL BE COMPACTED TO APPROXIMATELY 85% OF MAXIMUM DENSITY AND WITHIN TWO PERCENTAGE POINTS OF OPTIMUM MOISTURE IN ACCORDANCE WITH ASTM D698. TOPSOIL SHALL BE ADDED TO ANY AREAS THAT SETTLE.
 - ALL SOIL RIPRAP THAT IS BURIED WITH TOPSOIL SHALL BE REVIEWED AND APPROVED BY THE ENGINEER PRIOR TO ANY TOPSOIL PLACEMENT.

U.S. STANDARD SIEVE SIZE	GRADATION FOR GRANULAR BEDDING	
	PERCENT PASSING BY WEIGHT	
	TYPE I CDOT SECT. 703.01	TYPE II CDOT SECT. 703.09 CLASS A
3 INCHES	-	90 - 100
1½ INCHES	-	-
¾ INCHES	-	20 - 90
½ INCHES	100	-
#4	95 - 100	0 - 20
#16	45 - 80	-
#50	10 - 30	-
#100	2 - 10	-
#200	0 - 2	0 - 3

RIPRAP BEDDING

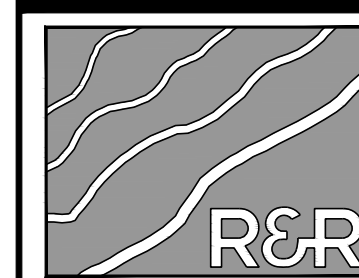
Figure 8-34. Riprap and soil riprap placement and gradation (part 2 of 3)

RIPRAP DESIGNATION	THICKNESS REQUIREMENTS FOR GRANULAR BEDDING		
	MINIMUM BEDDING THICKNESS (INCHES)		
	FINE-GRAINED SOILS ¹		COARSE-GRAINED SOILS ²
	TYPE I (LOWER LAYER)	TYPE II (UPPER LAYER)	TYPE II
VL (D ₅₀ = 6 IN)	4	4	6
L (D ₅₀ = 9 IN)	4	4	6
M (D ₅₀ = 12 IN)	4	4	6
H (D ₅₀ = 18 IN)	4	6	8
VH (D ₅₀ = 24 IN)	4	6	8

- NOTES:
- MAY SUBSTITUTE ONE 12-INCH LAYER OF TYPE II BEDDING. THE SUBSTITUTION OF ONE LAYER OF TYPE II BEDDING SHALL NOT BE PERMITTED AT DROP STRUCTURES. THE USE OF A COMBINATION OF FILTER FABRIC AND TYPE II BEDDING AT DROP STRUCTURES IS ACCEPTABLE.
 - FIFTY PERCENT OR MORE BY WEIGHT RETAINED ON THE #40 SIEVE.

Figure 8-34. Riprap and soil riprap placement and gradation (part 3 of 3)

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