

XCEL T-LINE: PATHWAYS SEGMENT 5 ARAPAHOE COUNTY BUILD

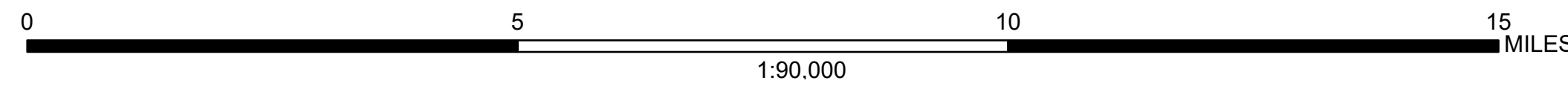
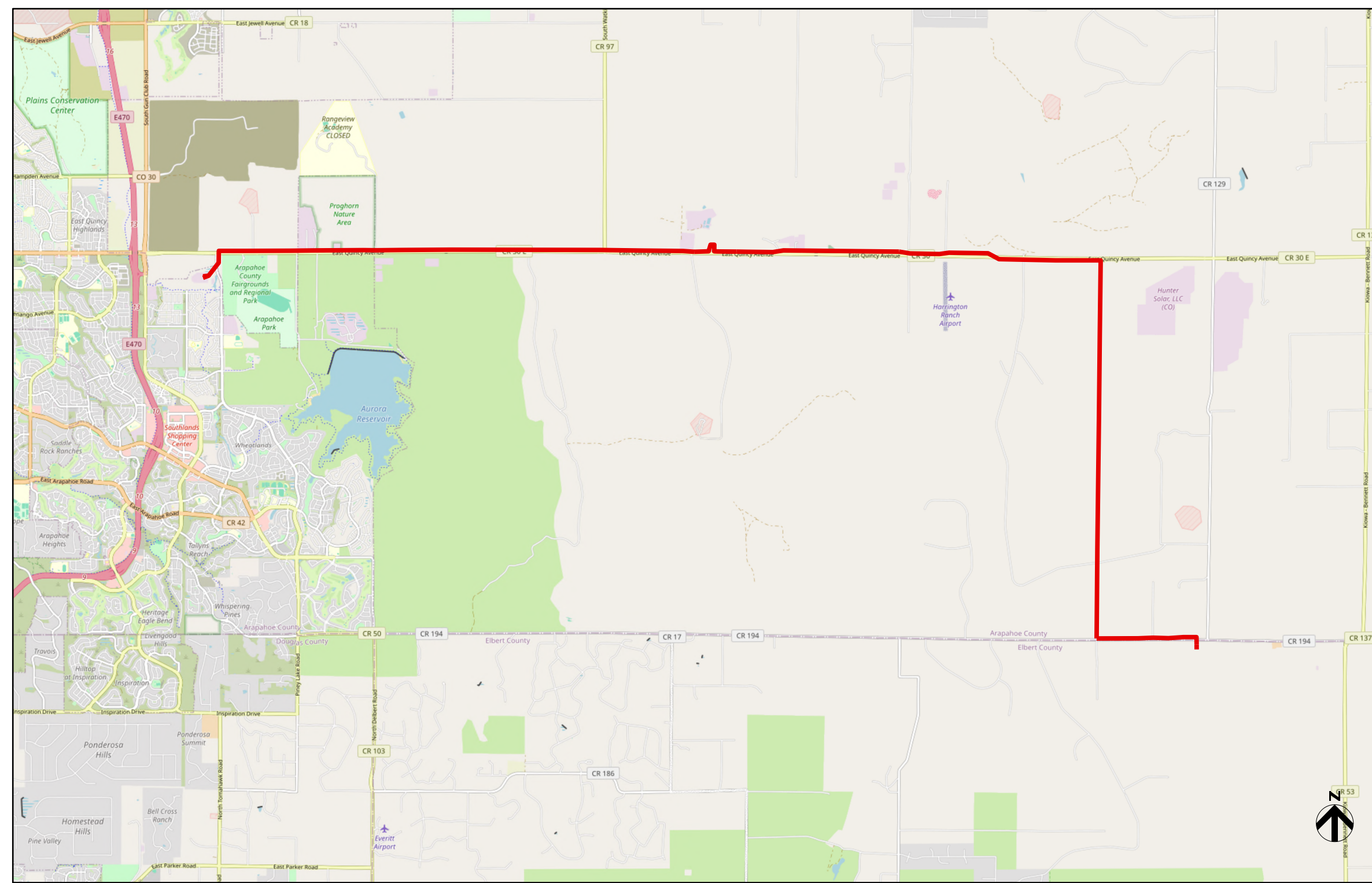
0.3 mile southwest of intersection of E Quincy Ave and S Harvest Rd
to 0.15 mile west of intersection of Co Rd 129 and County Line Rd

ARAPAHOE COUNTY, CO, 80016

MARCH 2026

INDEX OF DRAWINGS

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08	GESC SITE MAPS - MB-6T, MB-6B
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10	GESC SITE MAPS - MB-8T
11	GESC SITE MAPS - PULL SITES
12-15	GESC STANDARD NOTES AND DETAILS

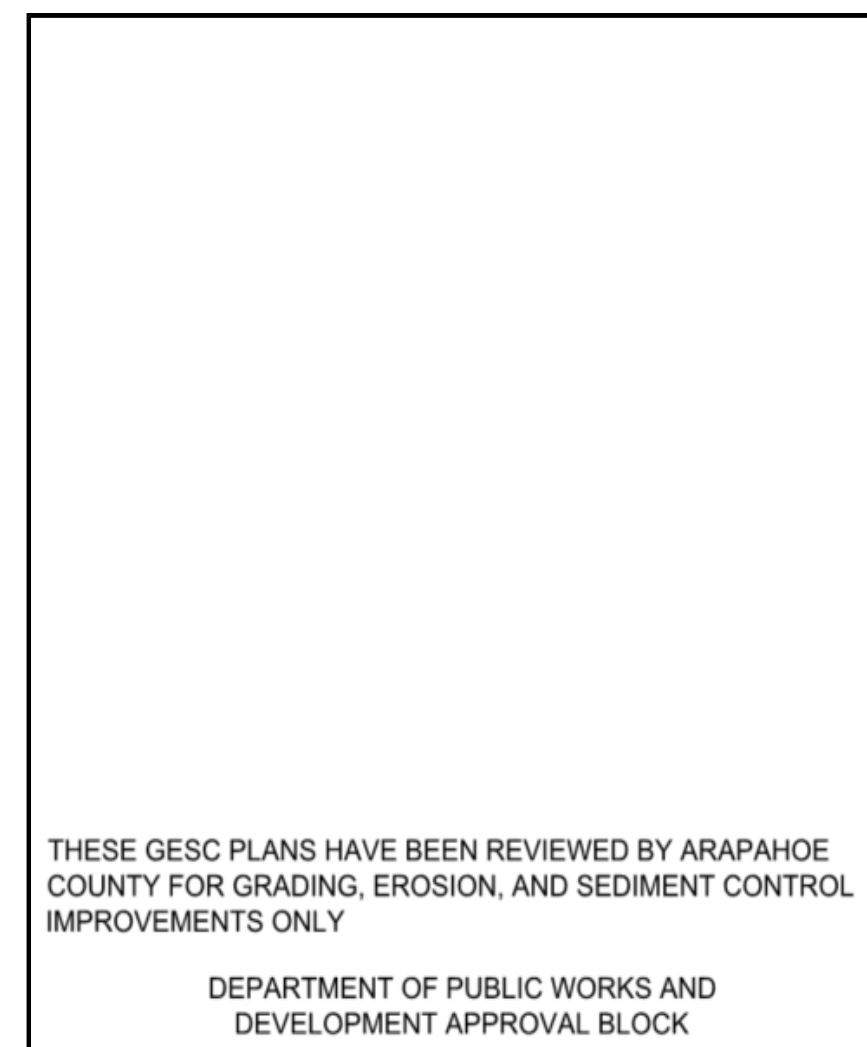


THIS GRADING, EROSION AND SEDIMENT CONTROL (GESC) DOCUMENT HAS BEEN PLACED IN THE PROJECT FILE FOR THIS PROJECT AND APPEARS TO FULFILL THE LATEST VERSION OF THE GRADING, EROSION AND SEDIMENT CONTROL MANUAL. ADDITIONAL GRADING, EROSION AND SEDIMENT CONTROL MEASURES MAY BE REQUIRED OF THE OWNER OR HIS/HER AGENTS, DUE TO UNFORESEEN EROSION PROBLEMS OR IF THE SUBMITTED PLAN DOES NOT FUNCTION AS INTENDED. THE REQUIREMENTS OF THIS GESC DOCUMENT SHALL RUN WITH THE LAND AND BE THE OBLIGATION OF THE LAND OWNER, OR HIS/HER DESIGNATED REPRESENTATIVE(S) UNTIL SUCH TIME AS THE PLAN IS PROPERLY COMPLETED, MODIFIED OR VOIDED.

I HEREBY CERTIFY THAT THE GRADING, EROSION, AND SEDIMENT CONTROL MEASURES FOR THE XCEL TLINE: PATHWAYS SEGMENT 5 ARAPAHOE COUNTY BUILD SHALL BE CONSTRUCTED ACCORDING TO THE DESIGN PRESENTED IN THIS DOCUMENT. I UNDERSTAND THAT ADDITIONAL EROSION CONTROL, SEDIMENT CONTROL AND WATER QUALITY ENHANCING MEASURES MAY BE REQUIRED OF THE OWNER AND HIS OR HER AGENTS DUE TO UNFORESEEN POLLUTANT DISCHARGES OR IF THE SUBMITTED PLAN DOES NOT FUNCTION AS INTENDED. THE REQUIREMENTS OF THE PLAN SHALL BE THE OBLIGATION OF THE LAND OWNER AND/OR HIS SUCCESSORS OR HEIRS; UNTIL SUCH TIME AS THE PLAN IS PROPERLY COMPLETED, MODIFIED OR VOIDED.

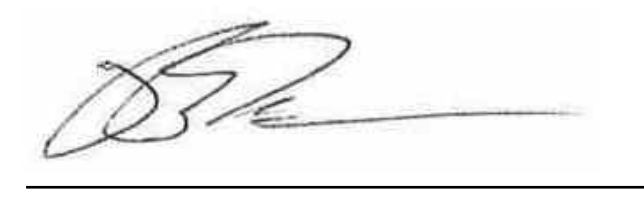
CHAD CAMPBELL
OWNER OR AUTHORIZED AGENT


AUTHORIZED SIGNATURE



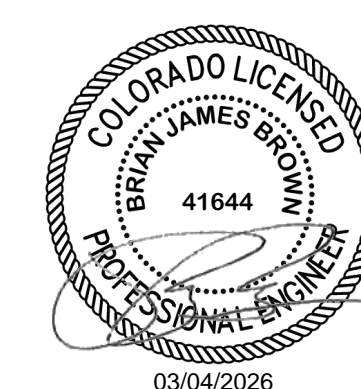
I HEREBY ATTEST THAT THIS GRADING, EROSION, AND SEDIMENT CONTROL (GESC) DOCUMENT FOR THE XCEL TLINE: PATHWAYS SEGMENT 5 ARAPAHOE COUNTY BUILD HAS BEEN PREPARED BY ME OR UNDER MY DIRECT SUPERVISION, AND TO THE BEST OF MY KNOWLEDGE AND ABILITY HAS BEEN PREPARED IN ACCORDANCE WITH THE LATEST VERSION OF THE GESC MANUAL. THE SIGNATURE AND STAMP AFFIXED HEREON CERTIFIES THAT THIS GESC DOCUMENT WAS PREPARED IN ACCORDANCE WITH THE REQUIRED REGULATIONS AND CRITERIA; HOWEVER, THE STAMP AND SIGNATURE DOES NOT CERTIFY OR GUARANTEE FUTURE PERFORMANCE OF THE EXECUTION OF THE PLAN BY THE CONTRACTOR. THE CONTRACTOR IS RESPONSIBLE FOR EXECUTING THE CONSTRUCTION WORK ACCORDING TO THE INFORMATION SET FORTH IN THE PLAN AND IN ACCORDANCE WITH ALL APPLICABLE REQUIREMENTS.

REGISTERED PROFESSIONAL ENGINEER
STATE OF COLORADO NO.


BRIAN BROWN, P.E.
41644

ARAPAHOE COUNTY CASE No. LE25-003 ASI25-001
SEMSWA CASE No. DPR25-00034

REV	DATE	PROJ. No.	REVISION DESCRIPTION	DWN	DSN	ENG	CHK	FILM



XCEL TLINE PATHWAYS SEGMENT 5
ARAPAHOE COUNTY BUILD

COVER SHEET

FILE NAME	PWAY SEG 5 ARAPAHOE COUNTY BUILD	SCALE	AS SHOWN
Sheet No.	01	MICROFILM No.	
SIZE	DWG No.		REV 0

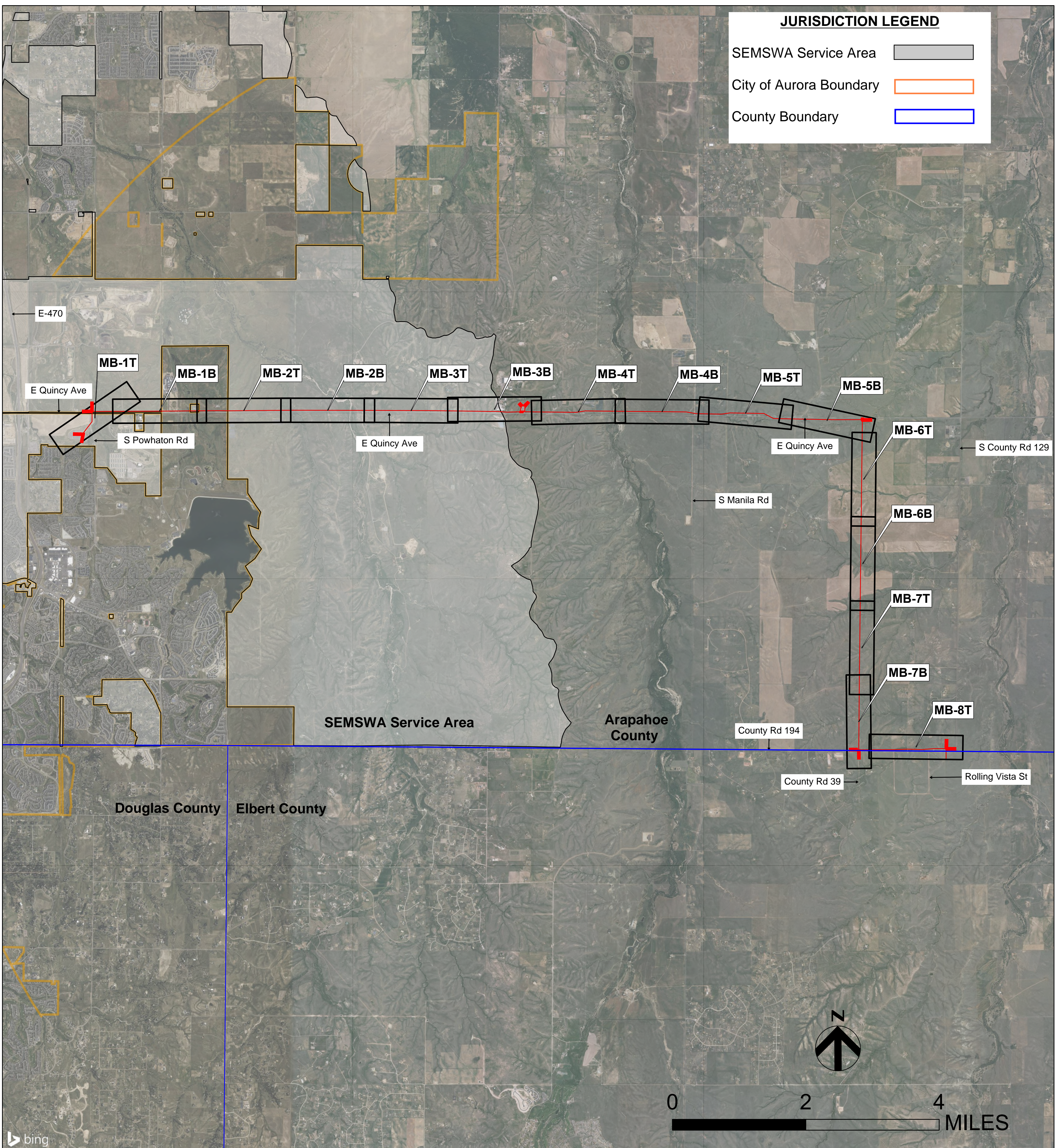
GENERAL NOTES

1. THIS GRADING, EROSION AND SEDIMENT CONTROL (GESC) HAS BEEN DEVELOPED IN ACCORDANCE WITH THE ARAPAHOE COUNTY GESC MANUAL.
2. THIS GESC SHOULD BE VIEWED AS A LIVING DOCUMENT CONTINUOUSLY REVIEWED AND MODIFIED AS PART OF THE OVERALL PROCESS OF ASSESSING AND MANAGING STORMWATER QUALITY ISSUES AT THE SITE. THE GESC MUST BE AMENDED WHEN THE FOLLOWING OCCURS:
 - A. CHANGE IN DESIGN, CONSTRUCTION, OPERATION, OR MAINTENANCE OF THE SITE REQUIRING IMPLEMENTATION OF NEW OR REVISED CONTROL MEASURES (CMs),
 - B. THE GESC PROVES INEFFECTIVE IN CONTROLLING POLLUTANTS IN STORMWATER RUNOFF IN COMPLIANCE WITH THE PERMIT CONDITIONS,
 - C. CONTROL MEASURES IDENTIFIED IN THE GESC ARE NO LONGER NECESSARY AND ARE REMOVED;
 - D. CORRECTIVE ACTIONS ARE TAKEN ON SITE THAT RESULT IN A CHANGE TO THE GESC; AND
 - E. IF THE SITE, OR AN AREA OF THE SITE, QUALIFIES FOR AND IMPLEMENTS A REDUCED INSPECTION FREQUENCY.
3. APPROPRIATE CONTROL MEASURES MUST BE IMPLEMENTED PRIOR TO THE START OF LAND DISTURBANCE ACTIVITY, MUST CONTROL POTENTIAL POLLUTANTS DURING EACH PHASE OF CONSTRUCTION, AND MUST BE CONTINUED THROUGH FINAL STABILIZATION. APPROPRIATE STRUCTURAL AND NON-STRUCTURAL CONTROL MEASURES MUST BE MAINTAINED IN OPERATIONAL CONTROL.
4. SEE STANDARD NOTES AND DETAILS (SHEETS 13-16) FOR LEGEND OF CONTROL MEASURES NAMES AND SYMBOLS.
5. ANY CONTROL MEASURES SHOWN THAT REQUIRE GRADING, (E.G. SEDIMENT BASINS, SEDIMENT TRAPS, CONCRETE WASHOUT AREAS, ETC.), SHALL NOT BE PLACED UNTIL AFTER THE PRE-CONSTRUCTION MEETING AND ISSUANCE OF THE GESC PERMIT, BUT MUST BE FULLY FUNCTIONAL PRIOR TO SITE GRADING. CONTROL MEASURES MAY BE PHASED IN COORDINATION AND APPROVAL OF LOCAL JURISDICTION FIELD INSPECTORS.
6. INITIAL, INTERIM, AND FINAL CONTROL MEASURES DEPICTED ON SINGLE VIEW. CONTROL MEASURES ARE LABELED TO INDICATE WHICH PHASE THEY MUST BE INSTALLED.
7. ALL INITIAL PHASE CONTROL MEASURES MUST BE INSTALLED BEFORE GROUND DISTURBING ACTIVITIES MAY COMMENCE IN THAT AREA. DOWN-GRADIENT CONTROL MEASURES (E.G. SEDIMENT CONTROL LOGS, SILT FENCE, ETC.) MUST REMAIN IN PLACE UNTIL UPGRADIENT AREAS HAVE REACHED FINAL STABILIZATION, EXCEPTING STOCKPILE CONTROL MEASURES AS THEY MAY BE REMOVED ONCE STOCKPILE REMOVED.
8. STABILIZING CONTROL MEASURES, INCLUDING SEEDING AND MULCHING OF DISTURBED AREAS, MUST BE COMPLETED WITHIN 14 DAYS OF CESSATION OF CONSTRUCTION IN AREA.
9. ANY DISTURBED SLOPES STEEPER THAN 4:1 WILL REQUIRE THE USE OF EROSION CONTROL BLANKETS OR FLEXIBLE GROWTH MEDIUM, AS APPROVED BY THE GESC INSPECTOR.
10. CONSTRUCTION WILL PROGRESS LINEARLY AND WILL NOT TAKE PLACE SIMULTANEOUSLY. CONTROL MEASURES WILL BE IMPLEMENTED ACCORDING TO CONSTRUCTION TIMING AT EACH LOCATION. CONSTRUCTION IS EXPECTED TO RETURN TO EACH SITE MULTIPLE TIMES BASED ON THE PHASE OF CONSTRUCTION.
11. CONTRACTOR WILL MINIMIZE SURFACE AND VEGETATION IMPACTS BY EQUIPMENT OPERATION AND ACCESS DRIVING. MATS MAY BE DEPLOYED AS A DRIVING SURFACE TO MINIMIZE DISTURBANCES.
12. DURING WORK DAYS, CONSTRUCTION CREWS MAY DAY PARK VEHICLES ON STREETS TO PREVENT UNECESSARY DISTURBANCE AT STRUCTURE WORK AREAS. DESIGNATED PARKING AREAS ARE NOT INDICATED ON THE PLANS, AS OFF-ROAD PARKING WILL BE LIMITED TO CONSTRUCTION SUPPORT VEHICLES AND LOCATIONS CHANGE REGULARLY DEPENDING ON CONSTRUCTION PHASE.
13. CONTROL MEASURES TO BE FIELD FIT BY CONTRACTOR.
14. FLOODPLAIN MAPPED USING FEMA DATA USED BY ARAPAHOE COUNTY.
15. THERE ARE NO STORMWATER INLETS WITHIN THE PROJECT AREA.
16. TEMPORARY OUTDOOR PORTA-POTTY SHOULD BE LOCATED ON A STABILIZED SURFACE TO PREVENT TIPPING.
17. CONTROL MEASURES ARE REQUIRED ON ALL TEMPORARY STOCKPILES (SP).
18. STREET SWEEPING (SS) OPERATIONS SHALL UTILIZE A VACCUM-TYPE STREET SWEEPER, A B RUSH STYLE STREET SWEEPER, OR MANUALLY USING SHOVELS AND BROOMS. PAVEMENT SHALL NOT BE WASHED WITH WATER AT ANY TIME UNLESS ALL WATER IS CONTAINED AND COLLECTED AND IS NOT ALLOWED TO DRAIN INTO EXISTING STORMWATER CONVEYANES, ON OR OFF SITE.

ARAPAHOE COUNTY CASE No. LE25-003 ASI25-001
SEMSWA CASE No. DPR25-00034

THESE GESC PLANS HAVE BEEN REVIEWED BY ARAPAHOE COUNTY FOR GRADING, EROSION, AND SEDIMENT CONTROL IMPROVEMENTS ONLY

DEPARTMENT OF PUBLIC WORKS AND DEVELOPMENT APPROVAL BLOCK



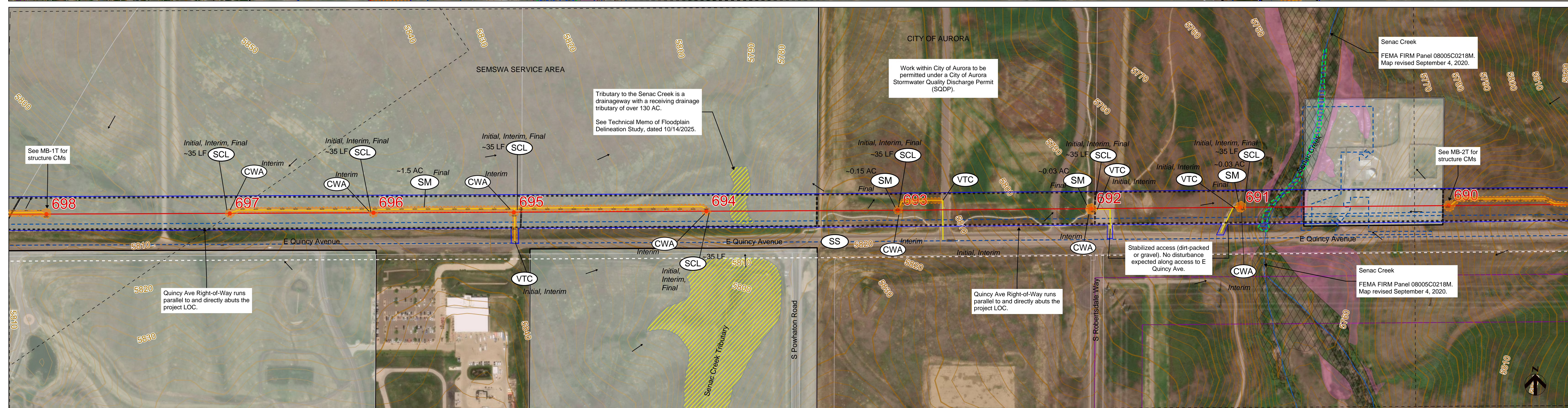
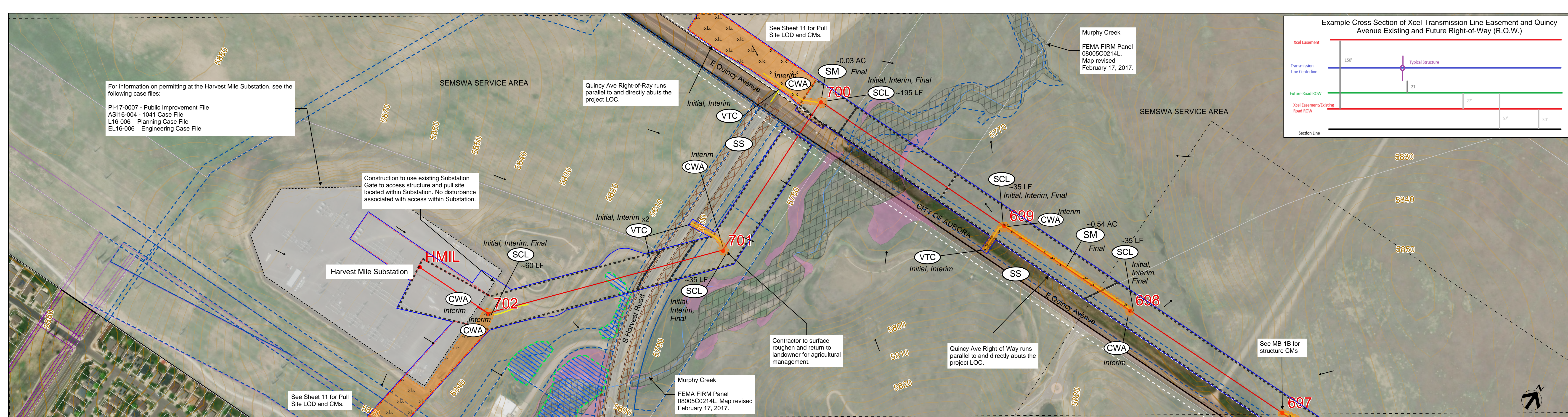
REV	DATE	PROJ. No.	REVISION DESCRIPTION	DWN	DSN	ENG	CHK	FILM



XCEL TLINE PATHWAYS SEGMENT 5
ARAPAHOE COUNTY BUILD

GENERAL NOTES / OVERVIEW MAP

FILE NAME	PWAY SEG 5 ARAPAHOE COUNTY BUILD	SCALE	AS SHOWN
Sheet No.	02	MICROFILM No.	
SIZE	DWG No.	REV	0



ARAPAHOE COUNTY CASE No. LE25-003 ASI25-001
SEMSWA CASE No. DPR25-00034

**XCEL TLINE PATHWAYS SEGMENT 5
ARAPAHOE COUNTY BUILD**

SHEET 03: MB-1T, MB-1B

0 250 500 1,000 FEET

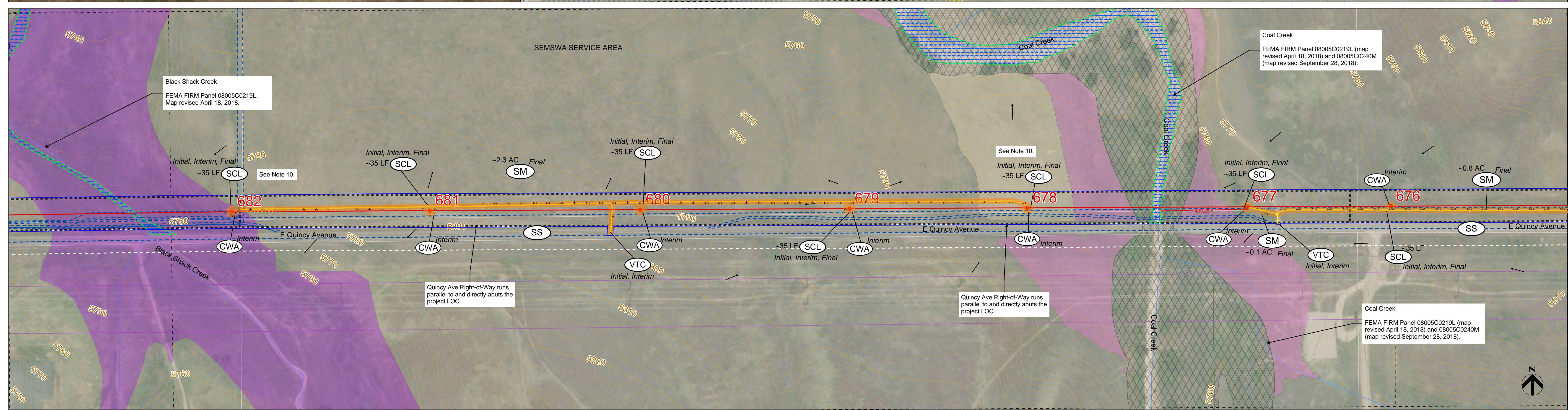
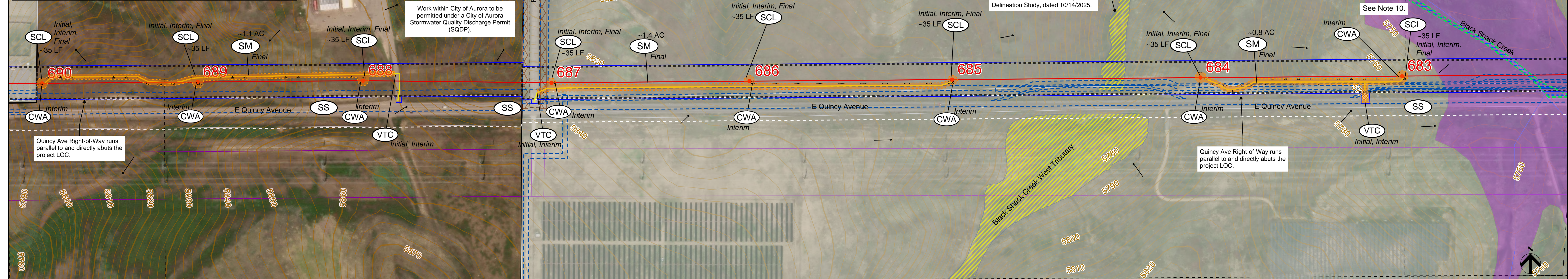
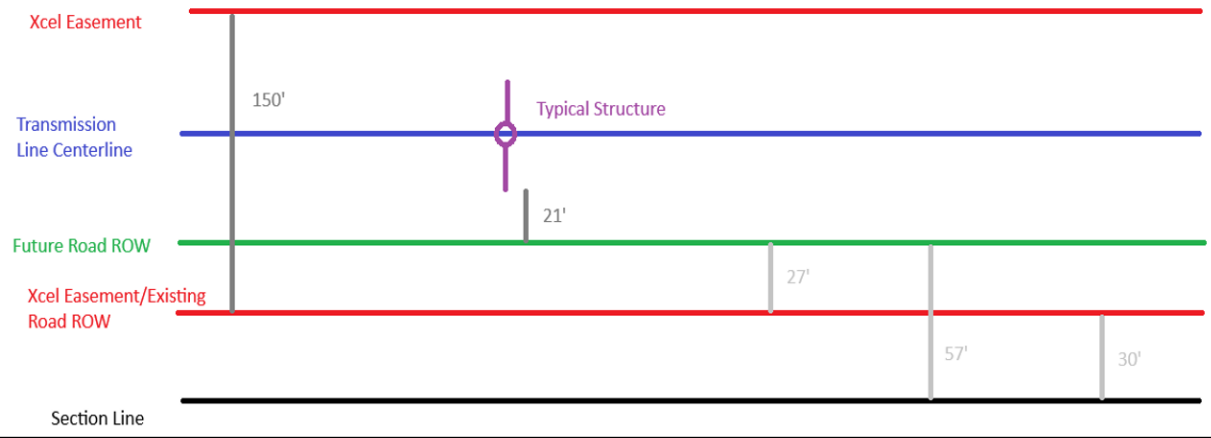
LEGEND

- County Boundary
- City of Aurora Boundary
- SEMSWA Service Area Boundary
- Assessor Parcel
- Road Centerline
- Temporary Staging Yard Boundary
- Matchline
- Proposed Transmission Line Centerline
- Proposed Transmission Line Easement
- Proposed Transmission Line Structure
- Temporary Construction Area - Pull Site
- Existing PSCO Easement - Other Utilities
- Substation
- Major Contour (10')
- Minor Contour (2')
- Surface Flow
- Distance between Right-of-Way and LOC
- Limits of Disturbance (LOD)
- Limits of Construction (LOC)
- Access
- Arapahoe County Rivers
- Tetra Tech Field Verified Wetland
- 100-Year Inundation Limit for Drainageways with Tributary Areas ≥ 130 AC
- SHFA FEMA Zone AO
- SHFA FEMA Zone A
- SHFA FEMA Zone AE
- FEMA-Regulated Floodway (Zone AE)
- Quincy Avenue Right-of-Way
- Future Road Right-of-Way Expansion
- Arapahoe County Road Right-of-Way
- Other Right-of-Way or Easement

NOTES

- APPROPRIATE CMs MUST BE IMPLEMENTED PRIOR TO THE START OF LAND DISTURBANCE ACTIVITY. MUST CONTROL POTENTIAL POLLUTANTS DURING EACH PHASE OF CONSTRUCTION, AND MUST BE CONTINUED THROUGH FINAL STABILIZATION. APPROPRIATE STRUCTURAL AND NON-STRUCTURAL CONTROL MEASURES TO REMAIN IN XCEL OPERATIONAL CONTROL UNTIL COMPLETION OF CONSTRUCTION AND INITIAL STABILIZATION IS COMPLETE.
- SEE STANDARD NOTES AND DETAILS (ARAPAHOE COUNTY GESC SHEET 1) FOR LEGEND OF CM NAMES AND SYMBOLS.
- ANY CONTROL MEASURES SHOWN THAT REQUIRE GRADING (E.G. SEDIMENT BASINS, SEDIMENT TRAPS, CONCRETE WASHOUT AREAS, ETC.), SHALL NOT BE PLACED UNTIL AFTER THE PRE-CONSTRUCTION MEETING AND ISSUANCE OF THE GESC PERMIT, BUT MUST BE FULLY FUNCTIONAL PRIOR TO SITE GRADING. MAPS SHOW EXISTING CONDITIONS AND PROPOSED INFRASTRUCTURE.
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- ANY DISTURBED SLOPES STEEPER THAN 4:1 WILL REQUIRE THE USE OF EROSION CONTROL BLANKETS OR FLEXIBLE GROWTH MEDIUM, AS APPROVED BY THE GESC INSPECTOR.
- EXACT LOCATION OF CMs AT STRUCTURES TO BE DETERMINED WITH ON SITE CONTRACTOR AND VERIFIED BY AGENCY STORMWATER INSPECTOR. CMs WILL BE FIELD FIT AND MAY REQUIRE MODIFICATION THROUGHOUT CONSTRUCTION PHASES.
- CONTRACTOR MUST RESTORE ALL DISTURBED AREA WITH SEED AND MULCH (SM).
- DISTURBANCES ON EXISTING, IMPROVED ACCESS ROUTES ARE NOT EXPECTED.
- SCL TO BE INSTALLED DOWNGRADIENT OF DISTURBANCES WITHIN FLOODPLAIN. IMPACTS TO FLOODPLAIN NOT TO EXTEND BEYOND WHAT IS SHOWN ON SHEET.
- FOR DIRT PACKED ROADS, CONTRACTOR TO MANUALLY REMOVE MUD FROM TIRES AND CLEAN UP TRACK-OUT AS NEEDED.
- CONTRACTOR TO DRIVE AND CRUSH WITHIN PULL SITES AND ACCESS AREAS WITHIN R.O.W. IF RUTTING (4 IN. OR DEEPER) OCCURS, CONTRACTOR TO RESTORE WITH SM AND INSTALL SCL DOWNGRADIENT OF DISTURBANCE. SM HATCHING IS SHOWN IN THESE AREAS FOR CONSERVATIVE ESTIMATING OF RESTORATION NEEDS.
- CONTRACTOR TO BRIDGE WATER FEATURE USING TIMBER BEAMS THAT SPAN THE CHANNEL. THERE WILL BE NO IMPACT TO CHANNEL.
- CWAs MUST BE LINED IN AREAS WITH HIGH GROUNDWATER. LINERS MUST BE 30MIL OR GREATER.

Example Cross Section of Xcel Transmission Line Easement and Quincy Avenue Existing and Future Right-of-Way (R.O.W.)



ARAPAHOE COUNTY CASE No. LE25-003 ASI25-001
SEMSWA CASE No. DPR25-00034

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**XCEL TLINE PATHWAYS SEGMENT 5
ARAPAHOE COUNTY BUILD**

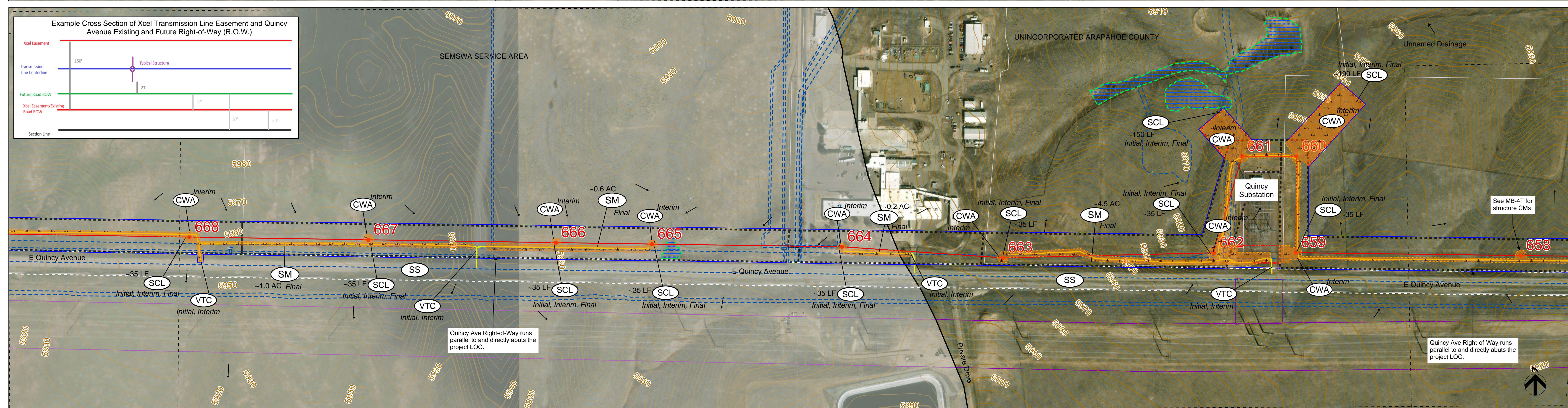
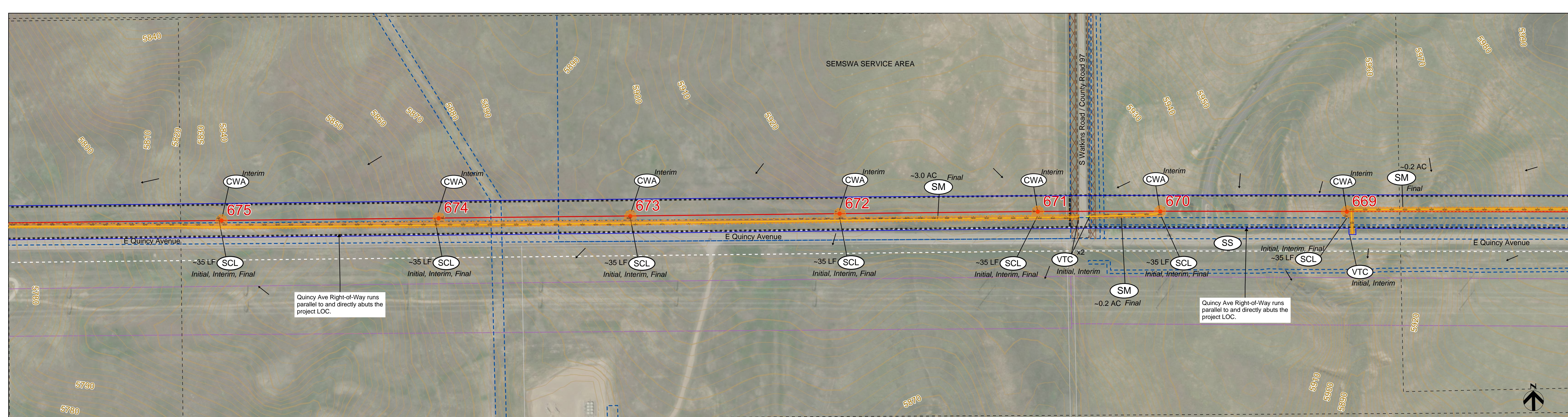
SHEET 04: MB-2T, MB-2B

LEGEND

County Boundary	Limits of Disturbance (LOD)
City of Aurora Boundary	Limits of Construction (LOC)
SEMSWA Service Area Boundary	Access
Assessor Parcel	Arapahoe County Rivers
Road Centerline	Tetra Tech Field Verified Wetland
Temporary Staging Yard Boundary	100-Year Inundation Limit for Drainageways with Tributary Areas ≥ 130 AC
Matchline	SHFA FEMA Zone AO
Proposed Transmission Line Centerline	SHFA FEMA Zone A
Existing PSCo Easement - Other Utilities	SHFA FEMA Zone AE
Proposed Transmission Line Structure	FEMA-Regulated Floodway (Zone AE)
Temporary Construction Area - Pull Site	Quincy Avenue Right-of-Way
Substation	Arapahoe County Road Right-of-Way Expansion
Major Contour (10')	Other Right-of-Way or Easement
Minor Contour (2')	
Surface Flow	
Distance between Right-of-Way and LOC	

- NOTES**
- APPROPRIATE CMs MUST BE IMPLEMENTED PRIOR TO THE START OF LAND DISTURBANCE ACTIVITY, MUST CONTROL POTENTIAL POLLUTANTS DURING EACH PHASE OF CONSTRUCTION, AND MUST BE CONTINUED THROUGH FINAL STABILIZATION. APPROPRIATE STRUCTURAL AND NON-STRUCTURAL CONTROL MEASURES TO REMAIN IN XCEL OPERATIONAL CONTROL UNTIL COMPLETION OF CONSTRUCTION AND INITIAL STABILIZATION IS COMPLETE.
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 - CMs, SUCH AS SEEDING AND MULCHING OF DISTURBED AREAS, MUST BE COMPLETED WITHIN 14 DAYS, IF THE AREA WILL REMAIN UNDISTURBED FOR A PERIOD GREATER THAN 30 DAYS.
 - ANY DISTURBED SLOPES STEEPER THAN 4:1 WILL REQUIRE THE USE OF EROSION CONTROL BLANKETS OR FLEXIBLE GROWTH MEDIUM, AS APPROVED BY THE GESC INSPECTOR.

- EXACT LOCATION OF CMs AT STRUCTURES TO BE DETERMINED WITH ON SITE CONTRACTOR AND VERIFIED BY AGENCY STORMWATER INSPECTOR. CMs WILL BE FIELD FIT AND MAY REQUIRE MODIFICATION THROUGHOUT CONSTRUCTION PHASES.
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SEMSWA CASE No. DPR25-00034

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**XCEL TLINE PATHWAYS SEGMENT 5
ARAPAHOE COUNTY BUILD**

SHEET 05: MB-3T, MB-3B

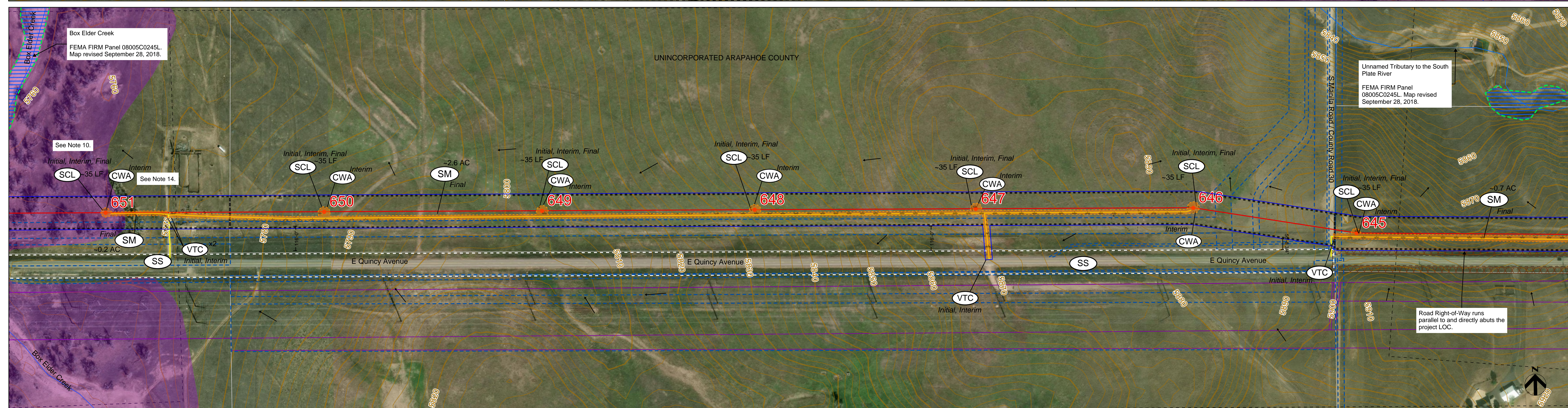
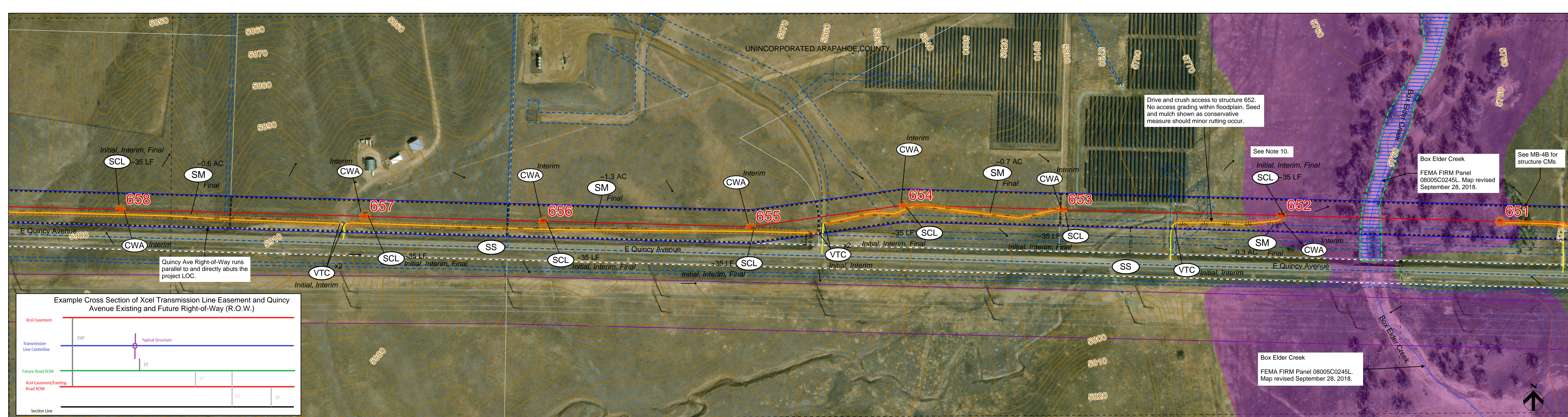
0 250 500 1,000 FEET

LEGEND

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**XCEL TLINE PATHWAYS SEGMENT 5
ARAPAHOE COUNTY BUILD**

SHEET 06: MB-4T, MB-4B

PROFESSIONAL ENGINEER
BRIAN JAMES BROWN
41644
03/04/2026

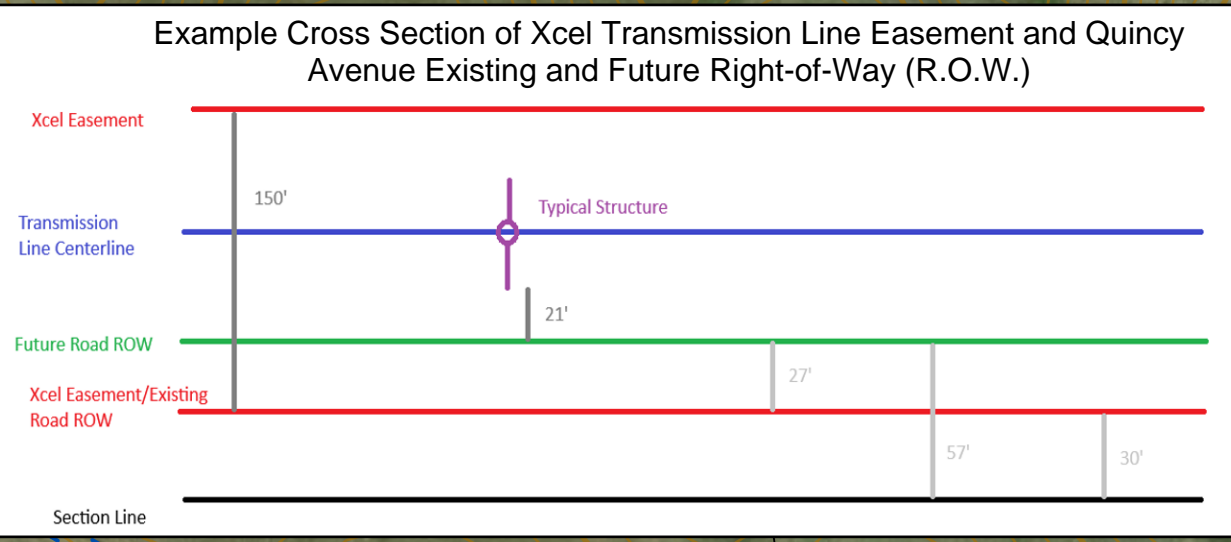
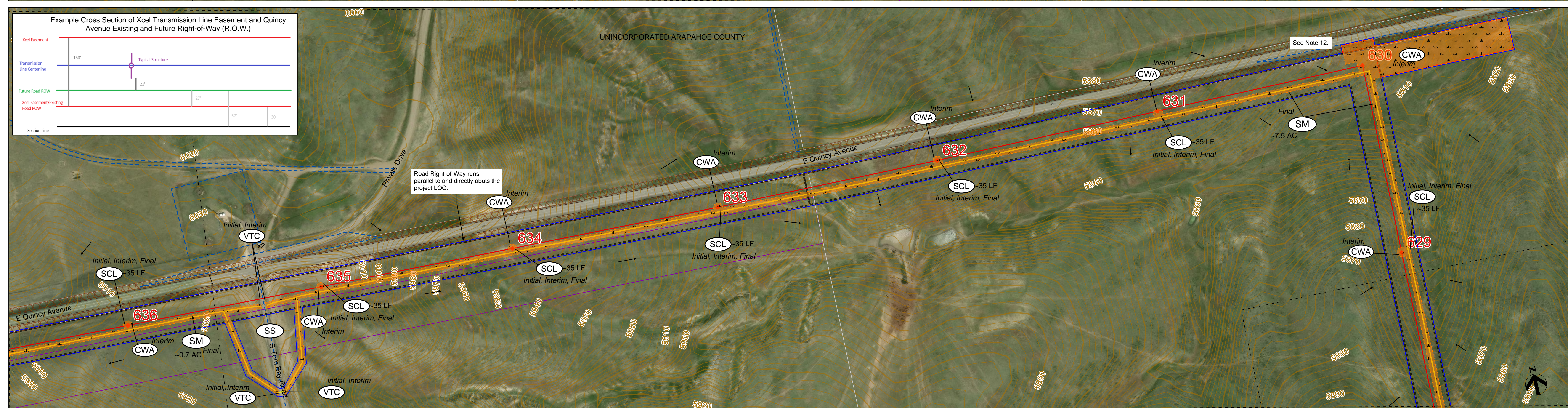
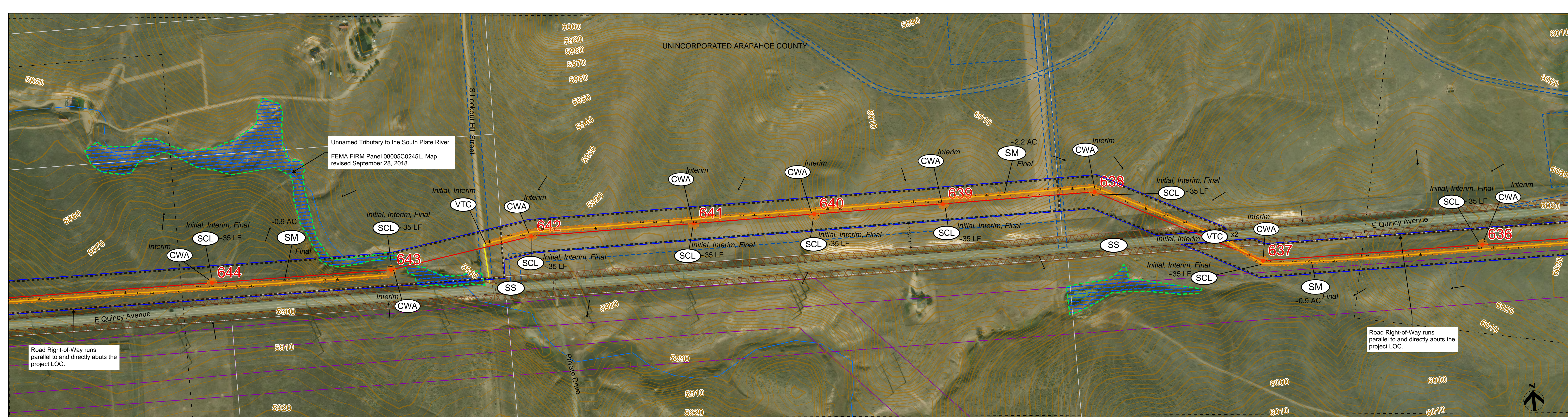
0 250 500 1,000 FEET

LEGEND

County Boundary	Limits of Disturbance (LOD)
City of Aurora Boundary	Limits of Construction (LOC)
SEMSWA Service Area Boundary	Access
Assessor Parcel	Arapahoe County Rivers
Road Centerline	Tetra Tech Field Verified Wetland
Temporary Staging Yard Boundary	100-Year Inundation Limit for Drainageways with Tributary Areas ≥ 130 AC
Matchline	SHFA FEMA Zone AO
Proposed Transmission Line Centerline	SHFA FEMA Zone A
Proposed Transmission Line Easement	SHFA FEMA Zone AE
Proposed Transmission Line Structure	FEMA-Regulated Floodway (Zone AE)
Temporary Construction Area - Pull Site	Quincy Avenue Right-of-Way
Existing PSCo Easement - Other Utilities	Future Road Right-of-Way Expansion
Substation	Arapahoe County Road Right-of-Way
Major Contour (10')	Other Right-of-Way or Easement
Minor Contour (2')	
Surface Flow	
Distance between Right-of-Way and LOC	

- NOTES**
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- CWAs MUST BE LINED IN AREAS WITH HIGH GROUNDWATER. LINERS MUST BE 30MIL OR GREATER.



ARAPAHOE COUNTY CASE No. LE25-003 ASI25-001
SEMSWA CASE No. DPR25-00034

These plans have been reviewed by Arapahoe County for GESC Improvements only.

**XCEL TLINE PATHWAYS SEGMENT 5
ARAPAHOE COUNTY BUILD**

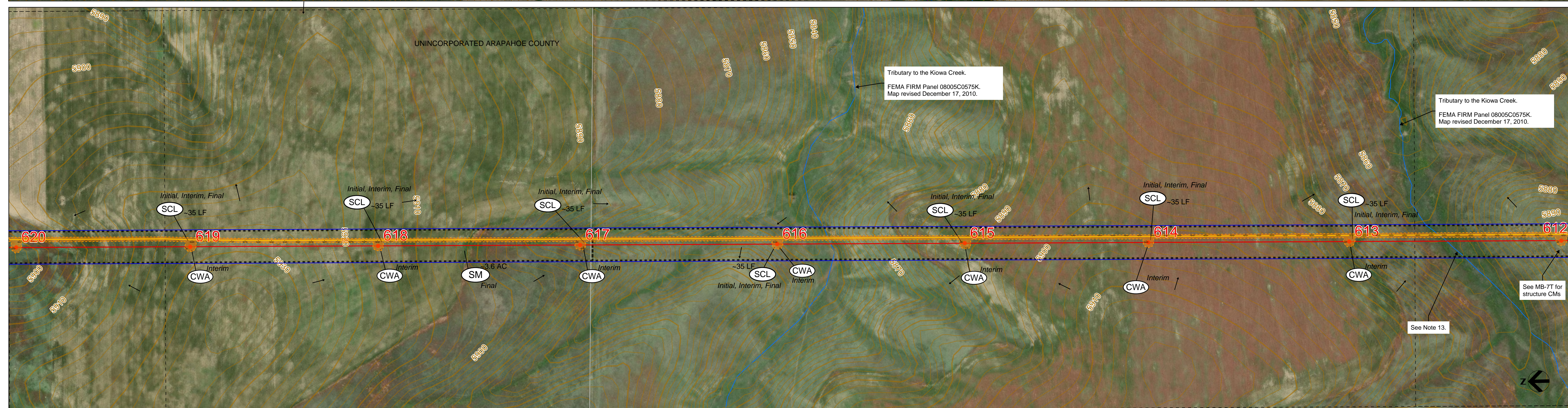
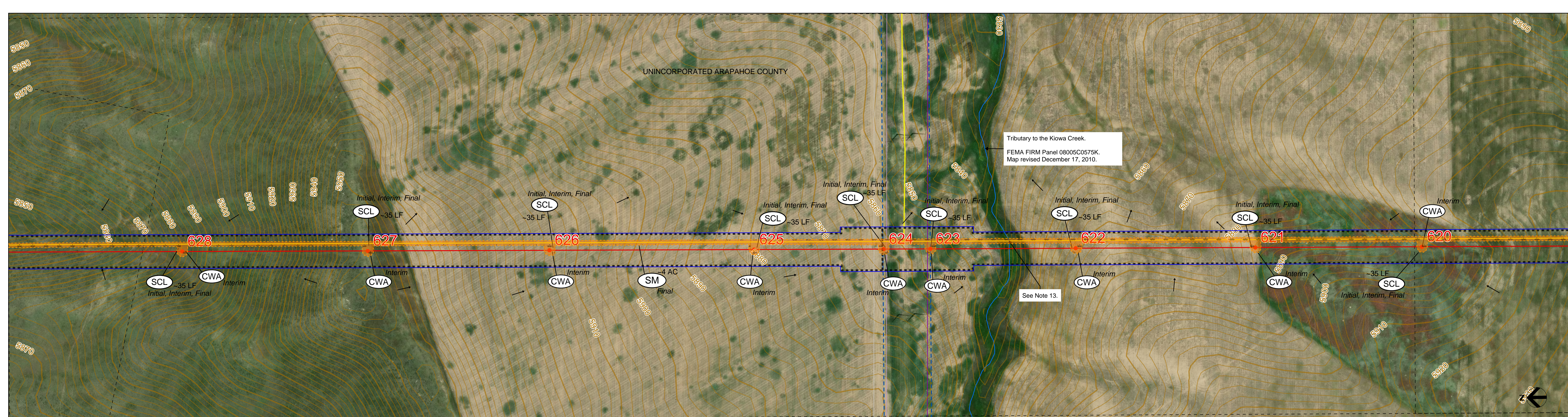
SHEET 07: MB-5T, MB-5B

LEGEND

County Boundary	Limits of Disturbance (LOD)
City of Aurora Boundary	Limits of Construction (LOC)
SEMSWA Service Area Boundary	Access
Assessor Parcel	Arapahoe County Rivers
Road Centerline	Tetra Tech Field Verified Wetland
Temporary Staging Yard Boundary	100-Year Inundation Limit for Drainageways with Tributary Areas ≥ 130 AC
Matchline	SHFA FEMA Zone AO
Proposed Transmission Line Centerline	SHFA FEMA Zone A
Proposed Transmission Line Easement	SHFA FEMA Zone AE
Proposed Transmission Line Structure	FEMA-Regulated Floodway (Zone AE)
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Existing PSCo Easement - Other Utilities	Future Road Right-of-Way Expansion
Substation	Arapahoe County Road Right-of-Way
Major Contour (10')	Other Right-of-Way or Easement
Minor Contour (2')	
Surface Flow	
Distance between Right-of-Way and LOC	

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ARAPAHOE COUNTY CASE No. LE25-003 ASI25-001
SEMSWA CASE No. DPR25-00034

**XCEL TLINE PATHWAYS SEGMENT 5
ARAPAHOE COUNTY BUILD**

SHEET 08: MB-6T, MB-6B

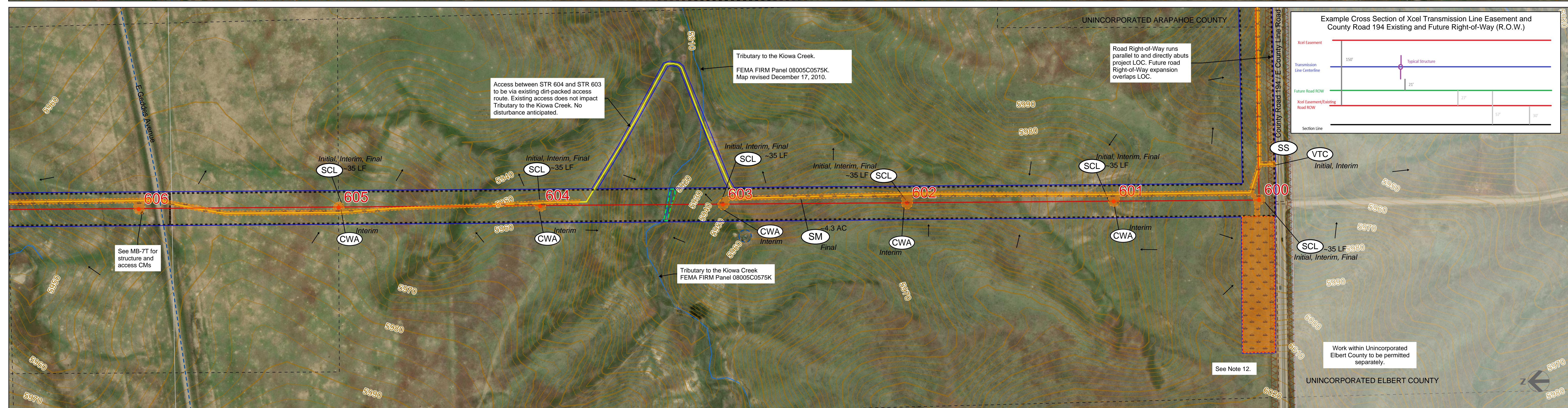
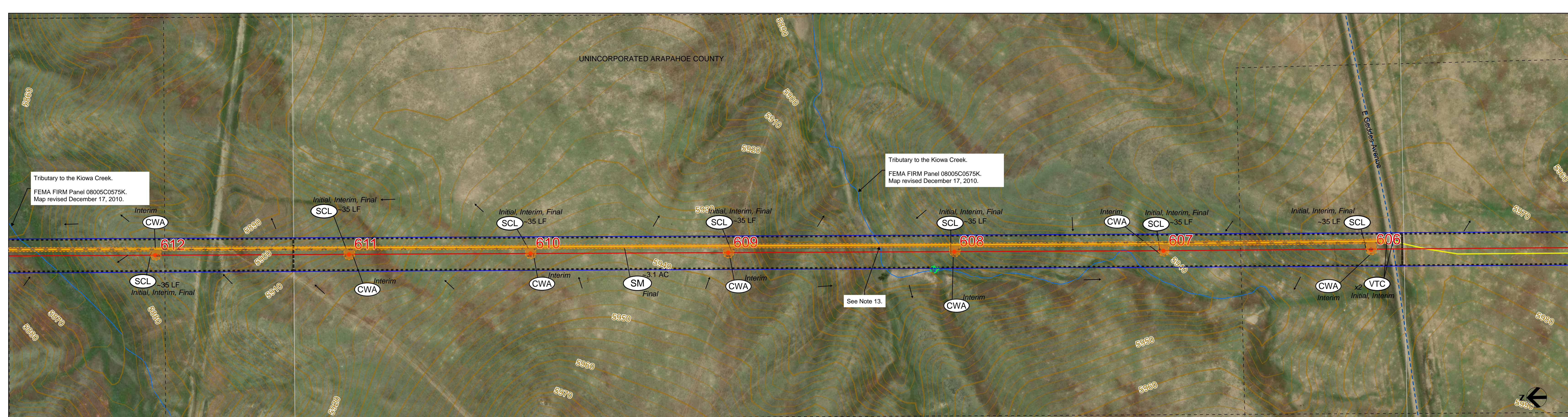
LEGEND

County Boundary	Limits of Disturbance (LOD)
City of Aurora Boundary	Limits of Construction (LOC)
SEMSWA Service Area Boundary	Access
Assessor Parcel	Arapahoe County Rivers
Road Centerline	Tetra Tech Field Verified Wetland
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Existing PSCo Easement - Other Utilities	Future Road Right-of-Way Expansion
Substation	Arapahoe County Road Right-of-Way
Major Contour (10')	Other Right-of-Way or Easement
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Surface Flow	
Distance between Right-of-Way and LOC	

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ARAPAHOE COUNTY CASE No. LE25-003 ASI25-001
SEMSWA CASE No. DPR25-00034

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**XCEL TLINE PATHWAYS SEGMENT 5
ARAPAHOE COUNTY BUILD**

SHEET 09: MB-7T, MB-7B

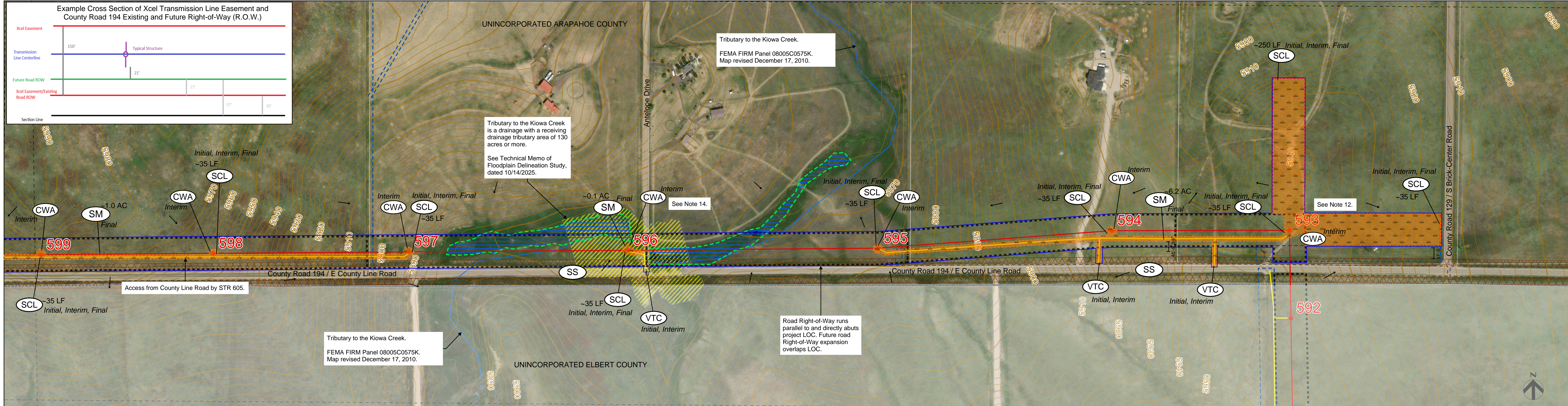
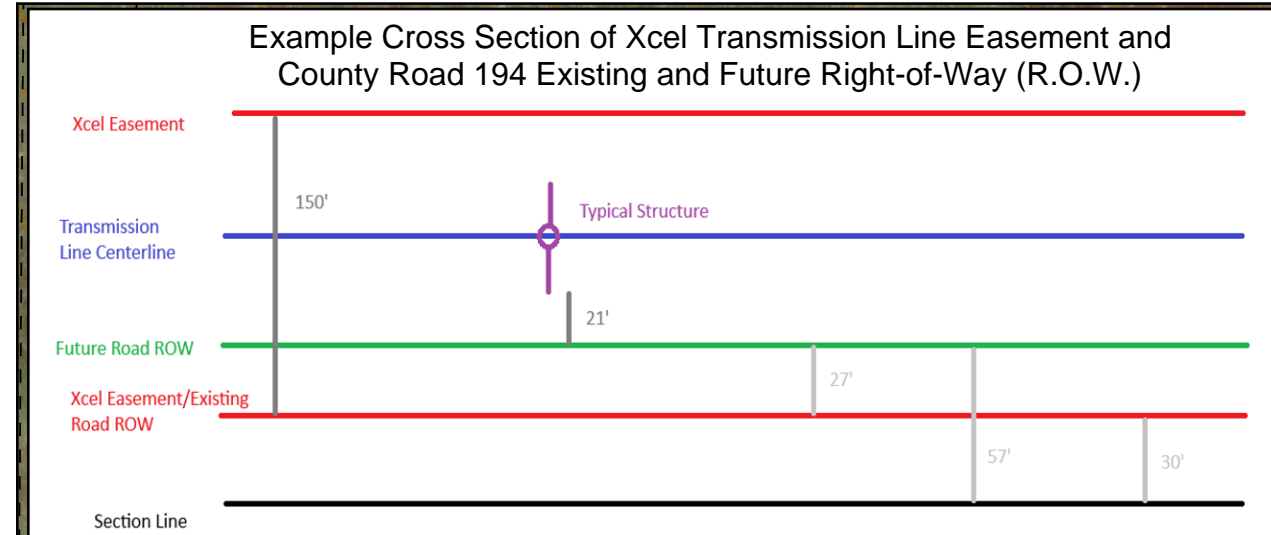
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LEGEND

County Boundary	Limits of Disturbance (LOD)
City of Aurora Boundary	Limits of Construction (LOC)
SEMSWA Service Area Boundary	Access
Assessor Parcel	Arapahoe County Rivers
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Minor Contour (2')	
Surface Flow	
Distance between Right-of-Way and LOC	

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**XCEL TLINE PATHWAYS SEGMENT 5
ARAPAHOE COUNTY BUILD**

SHEET 10: MB-8T

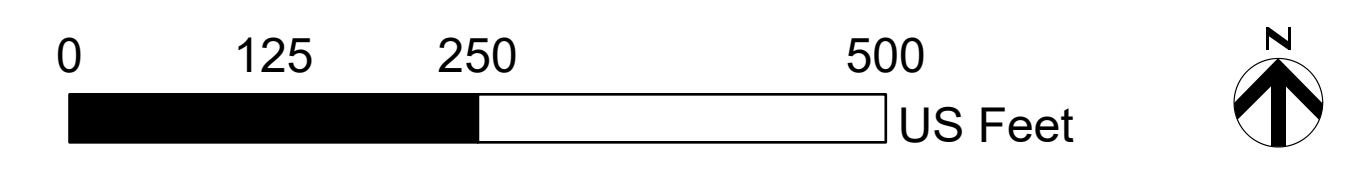
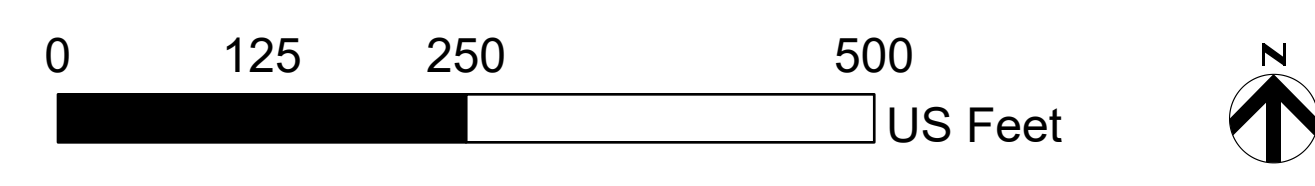
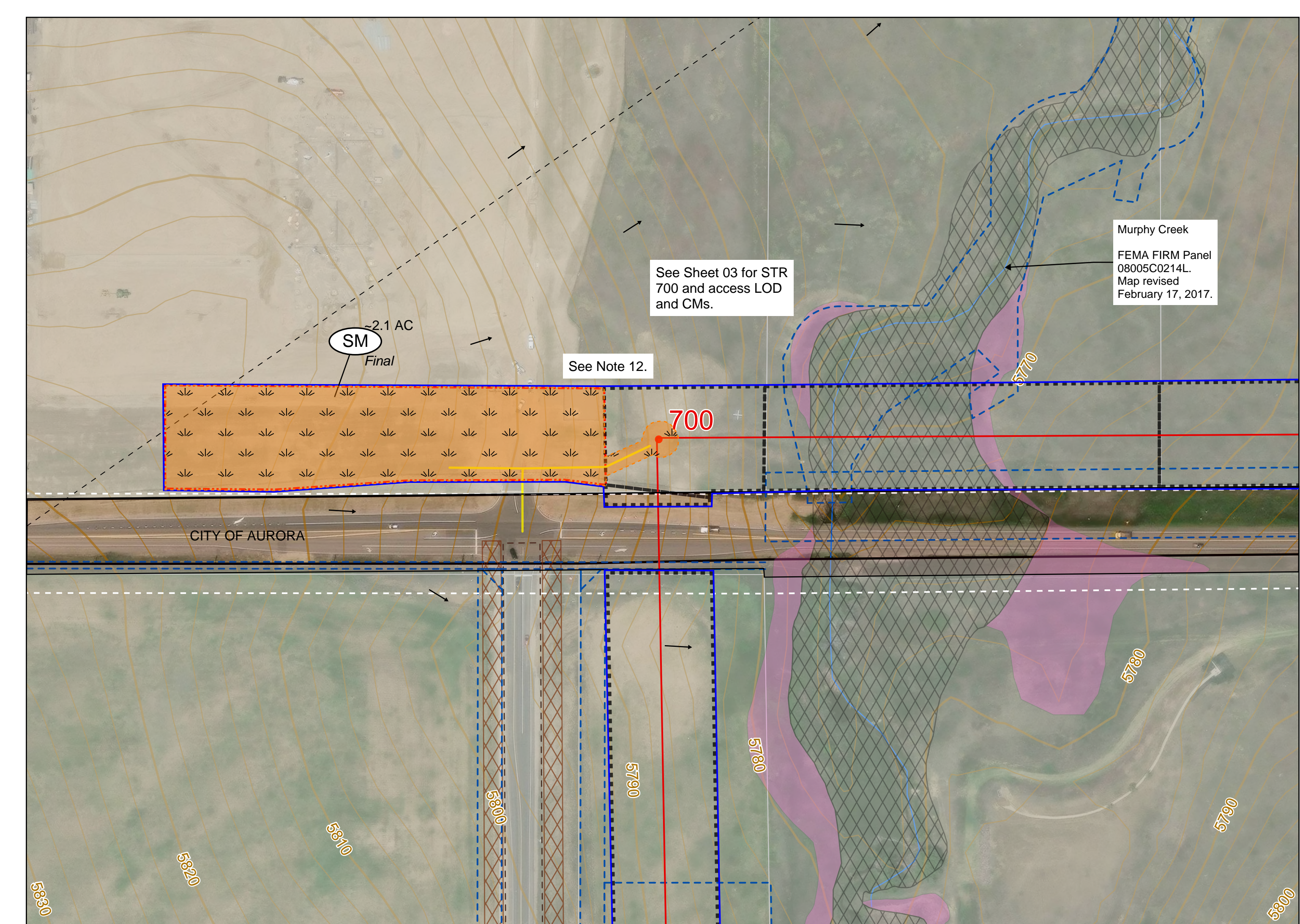
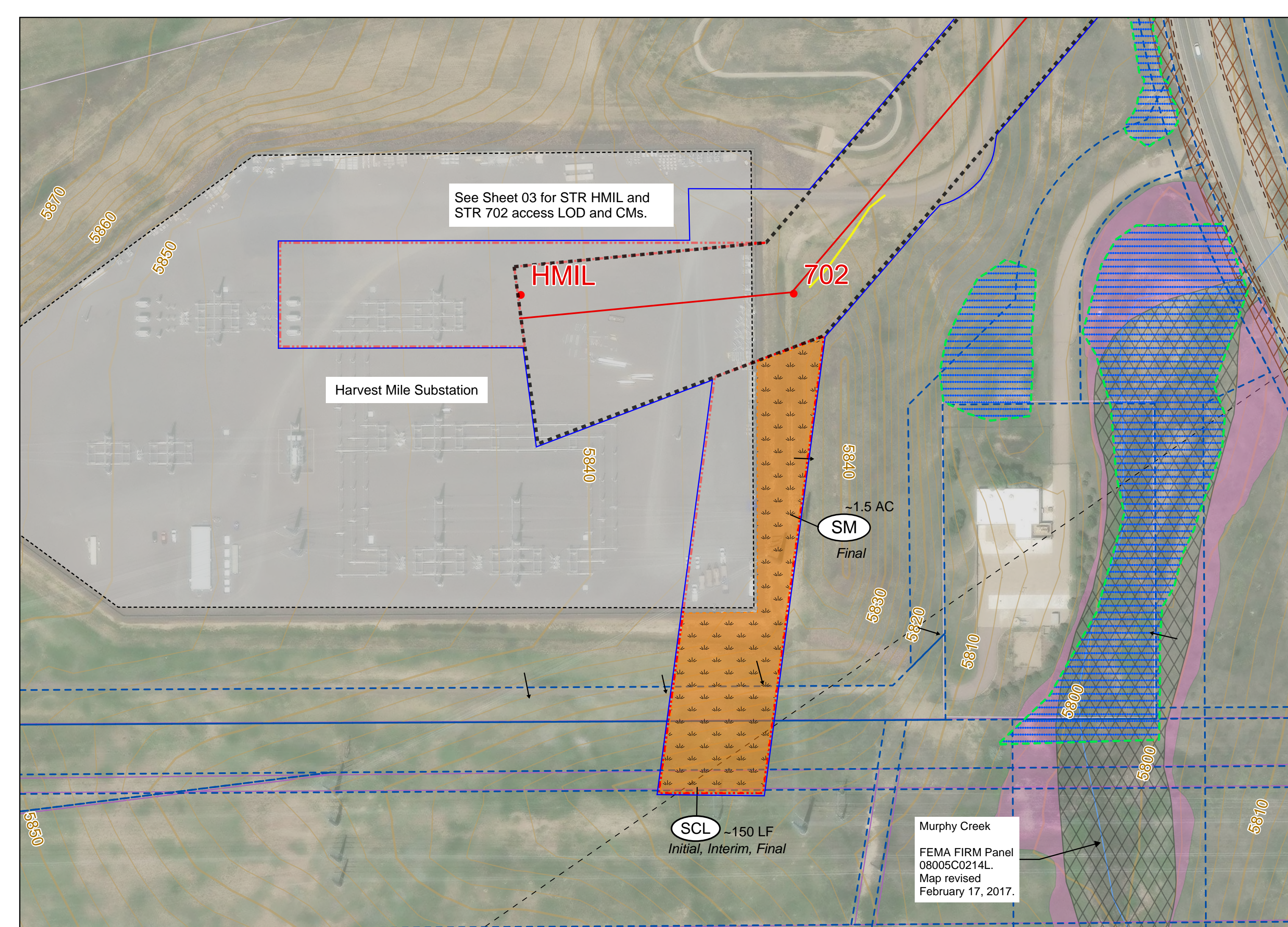
LEGEND

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ARAPAHOE COUNTY CASE No. LE25-003 ASI25-001
SEMSWA CASE No. DPR25-00034



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SEMSWA CASE No. DPR25-00034

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**XCEL TLINE PATHWAYS SEGMENT 5
ARAPAHOE COUNTY BUILD**

SHEET 11: PULL SITES

LEGEND

County Boundary	Limits of Disturbance (LOD)
City of Aurora Boundary	Limits of Construction (LOC)
SEMSWA Service Area Boundary	Access
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- CONTRACTOR MUST RESTORE ALL DISTURBED AREA WITH SEED AND MULCH (SM).
- DISTURBANCES ON EXISTING, IMPROVED ACCESS ROUTES ARE NOT EXPECTED.
- SCL TO BE INSTALLED DOWNGRADIENT OF DISTURBANCES WITHIN FLOODPLAIN. IMPACTS TO FLOODPLAIN NOT TO EXTEND BEYOND WHAT IS SHOWN ON SHEET.
- FOR DIRT PACKED ROADS, CONTRACTOR TO MANUALLY REMOVE MUD FROM TIRES AND CLEAN UP TRACK-OUT AS NEEDED.
- CONTRACTOR TO DRIVE AND CRUSH WITHIN PULL SITES AND ACCESS AREAS WITHIN R.O.W. IF RUTTING (4 IN. OR DEEPER) OCCURS, CONTRACTOR TO RESTORE WITH SM AND INSTALL SCL DOWNGRADIENT OF DISTURBANCE. SM HATCHING IS SHOWN IN THESE AREAS FOR CONSERVATIVE ESTIMATING OF RESTORATION NEEDS.
- CONTRACTOR TO BRIDGE WATER FEATURE USING TIMBER BEAMS THAT SPAN THE CHANNEL. THERE WILL BE NO IMPACT TO CHANNEL.
- CWAs MUST BE LINED IN AREAS WITH HIGH GROUNDWATER. LINERS MUST BE 30MIL OR GREATER.

GRADING, EROSION, AND SEDIMENT CONTROL (GESC) GENERAL NOTES

- THE SOUTHEAST METRO STORMWATER AUTHORITY (SEMWA) LAND DEVELOPMENT REVIEW MANAGER SIGNATURE AFFIXED TO THIS DOCUMENT INDICATES SEMWA HAS REVIEWED THE DOCUMENT AND FOUND IT IN GENERAL COMPLIANCE WITH THE GRADING, EROSION, AND SEDIMENT CONTROL (GESC) MANUAL. THE LAND DEVELOPMENT REVIEW MANAGER THROUGH ACCEPTANCE OF THIS DOCUMENT, ASSUMES NO RESPONSIBILITY (OTHER THAN AS STATED ABOVE) FOR THE COMPLETENESS AND/OR ACCURACY OF THESE DOCUMENTS.
- THE ADEQUACY OF THIS GESC PLAN LIES WITH THE ORIGINAL DESIGN ENGINEER. CHANGES TO DESIGN INTENT THAT MEET THE DEFINITION OF MAJOR MODIFICATIONS MUST GO THROUGH ORIGINAL DESIGN ENGINEER.
- THE GESC PLAN SHALL BE CONSIDERED VALID FOR TWO (2) YEARS FROM THE DATE OF ACCEPTANCE BY SEMWA, AFTER WHICH TIME THE PLAN SHALL BE VOID AND WILL BE SUBJECT TO RE-EVALUATION AND RE-ACCEPTANCE BY SEMWA. PLANS MUST CONFORM TO CURRENT REQUIREMENTS.
- ALL MATERIALS AND WORKMANSHIP SHALL BE SUBJECT TO INSPECTION BY SEMWA'S INSPECTION DIVISION. SEMWA RESERVES THE RIGHT TO ACCEPT OR REJECT ANY SUCH MATERIALS AND WORKMANSHIP THAT DOES NOT CONFORM TO THE GESC MANUAL, GESC PLAN OR GESC PERMIT.
- THE PLACEMENT OF EROSION AND SEDIMENT CONTROL MEASURES SHALL BE IN ACCORDANCE WITH THE ACCEPTED GESC PLAN AND THE SEMWA GESC MANUAL.
- ANY VARIATION IN MATERIAL, TYPE OR LOCATION OF EROSION AND SEDIMENT CONTROL MEASURES FROM THE SEMWA - ACCEPTED GESC PLAN WILL REQUIRE APPROVAL FROM AN ACCOUNTABLE REPRESENTATIVE OF SEMWA.
- UPON RECEIVING THE APPROVED, SIGNED AND STAMPED GESC PLANS AND REPORT, THE CONTRACTOR MAY INSTALL THE NON-EARTH DISTURBING INITIAL-STAGE EROSION AND SEDIMENT CONTROL MEASURES INDICATED ON THE ACCEPTED GESC PLAN.
- AFTER INSTALLATION OF THE INITIAL-STAGE EROSION AND SEDIMENT CONTROL MEASURES, THE PERMITTEE SHALL CALL THE INSPECTION DIVISION TO SCHEDULE A PRECONSTRUCTION MEETING AT THE PROJECT SITE. THE REQUEST SHALL BE MADE NO LESS THAN 24 HOURS PRIOR TO THE REQUESTED MEETING TIME. NO CONSTRUCTION ACTIVITIES SHALL BE PLANNED WITHIN 24 HOURS AFTER THE PRECONSTRUCTION MEETING.
- IN ADDITION TO THE SEMWA INSPECTOR AND GESC MANAGER, THE FOLLOWING REPRESENTATIVES SHOULD ATTEND: GENERAL CONTRACTOR, OWNER, OR OWNER'S REPRESENTATIVE AND GRADING SUBCONTRACTOR. IF ANY OF THE REQUIRED PARTICIPANTS FAIL TO ATTEND THE PRECONSTRUCTION MEETING, OR IF THE INSTALLATION OF THE INITIAL CONTROL MEASURES ARE NOT APPROVED BY THE SEMWA INSPECTOR, THE APPLICANT WILL HAVE TO PAY A RESCHEDULING FEE, ADDRESS ANY PROBLEMS WITH CONTROL MEASURE INSTALLATION, AND CALL TO RESCHEDULE THE MEETING, WITH A CORRESPONDING DELAY IN THE START OF CONSTRUCTION.
- CONSTRUCTION SHALL NOT BEGIN UNTIL THE SEMWA INSPECTOR APPROVES THE INSTALLATION OF THE INITIAL CONTROL MEASURES AND THE APPROVED GESC PERMIT HAS BEEN ISSUED BY SEMWA AND IS IN-HAND ON THE SITE. THE COMPLETED PERMIT WILL GENERALLY BE FIELD ISSUED OR ISSUED VIA EMAIL AFTER THE INSTALLATION OF THE INITIAL CONTROL MEASURES ARE APPROVED.
- THE GESC MANAGER SHALL STRICTLY ADHERE TO THE SEMWA APPROVED LIMITS OF CONSTRUCTION AT ALL TIMES. THE SEMWA INSPECTION DIVISION MUST APPROVE ANY CHANGES TO THE LIMITS OF CONSTRUCTION AND, AT THE DISCRETION OF THE INSPECTION DIVISION, ADDITIONAL EROSION/SEDIMENT CONTROLS MAY BE REQUIRED IN ANY ADDITIONAL AREAS OF CONSTRUCTION/DISTURBANCE ARE NEEDED.
- THE MAXIMUM AREA OF CONSTRUCTION SHALL BE LIMITED TO 40 ACRES (70 ACRES IF APPROVED FOR SOIL MITIGATION OPERATIONS) TO REDUCE THE AMOUNT OF LAND DISTURBED AT ANY ONE TIME. LARGER SITES SHALL BE DIVIDED INTO PHASES THAT ARE EACH 40 (OR 70) ACRES OR LESS IN SIZE. THESE PROJECTS SHALL CONDUCT GRADING ACTIVITIES IN ACCORDANCE WITH THE ACCEPTED GESC PLAN. CONTROL MEASURE INSTALLATION AND APPROVAL BY SEMWA AT THE START AND COMPLETION OF EACH PHASE SHALL BE CONDUCTED IN ACCORDANCE WITH THE PROCEDURES OUTLINED IN THE GESC MANUAL.
- NATURAL VEGETATION SHALL BE RETAINED AND PROTECTED WHEREVER POSSIBLE. EXPOSURE OF SOIL TO EROSION BY REMOVAL OR DISTURBANCE OF VEGETATION SHALL BE LIMITED TO THE AREA REQUIRED FOR IMMEDIATE CONSTRUCTION OPERATIONS.
- THE GESC PERMIT SHALL BE VALID FOR A PERIOD OF TWO (2) YEARS.
- A COPY OF THE GESC PERMIT AND APPROVED GESC PLANS SHALL BE ON SITE OR MADE AVAILABLE UPON REQUEST.
- THE GESC MANAGER SHALL BE RESPONSIBLE PARTY FOR ENSURING THAT THE SITE REMAINS IN COMPLIANCE WITH THE GESC PERMIT AND SHALL BE THE PERMITTEE'S CONTACT PERSON WITH SEMWA FOR ALL MATTERS PERTAINING TO THE GESC PERMIT. THE GESC MANAGER SHALL BE ON THE SITE AS NECESSARY TO ENSURE THE GESC REQUIREMENTS ARE BEING MAINTAINED, AND (ALONG WITH THE ALTERNATE GESC MANAGER) SHALL PROVIDE SEMWA WITH A 24-HOUR EMERGENCY CONTACT NUMBER. IN THE EVENT THAT THE CONTRACTOR'S GESC MANAGER IS NOT ON SITE AND CANNOT BE REACHED DURING A VIOLATION, THE ALTERNATE GESC MANAGER SHALL BE CONTACTED. IF NEITHER THE GESC MANAGER NOR ALTERNATE GESC MANAGER CAN BE CONTACTED DURING ANY VIOLATION, WITHIN 24 HOURS, VIOLATION MAY BE ISSUED TO THE PERMITTEE(S).
- ALL CONSTRUCTION TRAFFIC MUST EXIT THE SITE THROUGH THE SEMWA-APPROVED ACCESS POINT. A VEHICLE TRACKING CONTROL PAD IS REQUIRED AT ALL EXIT POINTS ON THE SITE. ADDITIONAL STABILIZED CONSTRUCTION ENTRANCES MAY BE ADDED WITH AUTHORIZATION FROM THE SEMWA INSPECTION DIVISION.
- THE GESC MANAGER IS RESPONSIBLE FOR CLEANUP OF SEDIMENT OR CONSTRUCTION DEBRIS TRACKED ONTO ADJACENT PAVED AREAS. PAVED AREAS INCLUDING STREETS ARE TO BE KEPT CLEAN THROUGHOUT BUILD-OUT AND SHALL BE CLEANED, WITH A STREET SWEEPER OR SIMILAR DEVICE, AT FIRST NOTICE OF ACCIDENTAL TRACKING OR AT THE DISCRETION OF THE SEMWA GESC INSPECTOR. STREET WASHING IS NOT ALLOWED. SEMWA RESERVES THE RIGHT TO REQUIRE ADDITIONAL MEASURES TO ENSURE AREA STREETS ARE KEPT FREE OF SEDIMENT AND/OR CONSTRUCTION DEBRIS.
- APPROVED EROSION AND SEDIMENT CONTROL MEASURES SHALL BE MAINTAINED AND KEPT IN GOOD REPAIR FOR THE DURATION OF THIS PROJECT. AT A MINIMUM, THE GESC MANAGER SHALL INSPECT ALL CONTROL MEASURES IN ACCORDANCE WITH THE ACCEPTED GESC PLAN AND GESC MANUAL. ALL NECESSARY MAINTENANCE AND REPAIR ACTIVITIES SHALL BE COMPLETED WITHIN 48 HOURS. ACCUMULATED SEDIMENT AND CONSTRUCTION DEBRIS SHALL BE REMOVED AND PROPERLY DISPOSED.
- STRAW BALES ARE NOT A SEMWA GESC-ACCEPTED SEDIMENT CONTROL MEASURE.
- TOPSOIL SHALL BE STRIPPED AND STOCKPILED IN THE LOCATION SHOWN ON THE ACCEPTED GESC PLAN. THE TOPSOIL STOCKPILE(S) SHALL FOLLOW ALL STOCKPILING CRITERIA DESCRIBED IN THE GESC MANUAL. TOPSOIL SHALL BE REPLACED AT A MINIMUM DEPTH OF 6 INCHES. IF A MINIMUM DEPTH OF 6 INCHES CAN NOT BE OBTAINED, ADDITIONAL TOPSOIL AND/OR APPROVED SOIL AMENDMENTS WILL BE REQUIRED TO BE PLACED PRIOR TO SEEDING AND MULCHING.
- THE ACCEPTED GESC PLAN MAY REQUIRE CHANGES OR ALTERATIONS AFTER APPROVAL TO MEET CHANGING SITE OR PROJECT CONDITIONS OR TO ADDRESS INEFFICIENCIES IN DESIGN OR INSTALLATION. THE GESC MANAGER SHALL OBTAIN PRIOR APPROVAL FOR MAJOR MODIFICATIONS FROM THE DESIGN ENGINEER AND SEMWA FOR ANY PROPOSED CHANGES.
- LINING OF TEMPORARY SWALES AND DITCHES SHALL BE IN ACCORDANCE WITH THE GESC MANUAL.
- ANY SETTLEMENT OR SOIL ACCUMULATIONS BEYOND THE LIMITS OF CONSTRUCTION DUE TO GRADING OR EROSION SHALL BE REPAIRED IMMEDIATELY BY THE GESC MANAGER. THE GESC MANAGER SHALL BE HELD RESPONSIBLE FOR OBTAINING ACCESS RIGHTS TO ADJACENT PROPERTY, IF NEEDED, AND REMEDIATING ANY ADVERSE IMPACTS TO ADJACENT WATERWAYS, WETLANDS, PROPERTIES, ETC. RESULTING FROM WORK DONE AS PART OF THIS PROJECT.
- A WATER SOURCE SHALL BE AVAILABLE ON SITE DURING EARTHWORK OPERATIONS AND UTILIZED AS REQUIRED TO MINIMIZE DUST FROM EARTHWORK EQUIPMENT AND WIND.
- SOILS THAT WILL BE STOCKPILED FOR MORE THAN THIRTY (30) DAYS SHALL BE SEEDED AND MULCHED WITHIN FOURTEEN (14) DAYS OF STOCKPILE CONSTRUCTION. NO STOCKPILES SHALL BE PLACED WITHIN ONE HUNDRED (100) FEET OF A DRAINAGE WAY UNLESS APPROVED BY SEMWA.
- ALL CHEMICAL OR HAZARDOUS MATERIAL SPILLS WHICH MAY ENTER WATERS OF THE STATE OF COLORADO, WHICH INCLUDE BUT ARE NOT LIMITED TO, SURFACE WATER, GROUND WATER AND DRY GULLIES OR STORM SEWER SURFACE WATER, SHALL BE IMMEDIATELY REPORTED TO THE CDPE PER CRS 25-8-601, AND SEMWA. RELEASES OF PETROLEUM PRODUCTS AND CERTAIN HAZARDOUS SUBSTANCES LISTED UNDER THE FEDERAL CLEAN WATER ACT (40 CFR PART 116) MUST BE REPORTED TO THE NATIONAL RESPONSE CENTER AS WELL AS THE CDPE. CONTACT INFORMATION FOR CDPE, SEMWA AND THE NATIONAL RESPONSE CENTER CAN BE FOUND IN APPENDIX A. SPILLS THAT POSE AN IMMEDIATE RISK TO HUMAN LIFE SHALL BE REPORTED TO 911. FAILURE TO REPORT AND CLEAN UP ANY SPILL SHALL RESULT IN ISSUANCE OF A STOP WORK ORDER. TO REPORT SPILLS TO SEMWA CALL 303-858-8844.
- ALL WORK ON SITE SHALL STAY A MINIMUM OF ONE HUNDRED (100) FEET AWAY FROM ANY DRAINAGE WAY, WETLAND, ETC. UNLESS OTHERWISE NOTED ON AN ACCEPTED SEMWA GESC PLAN.
- THE USE OF REBAR, STEEL STAKES, STAPLES, OR STEEL FENCE POSTS FOR STAKING OR SUPPORT OF ANY EROSION OR SEDIMENT CONTROL MEASURE IS PROHIBITED (EXCEPT STEEL TEE-POSTS FOR USE IN SUPPORTING CONSTRUCTION FENCES).
- THE CLEANING OF CONCRETE DELIVERY TRUCK CHUTES IS RESTRICTED TO APPROVED CONCRETE WASH OUT LOCATIONS ON THE JOB SITE. THE DISCHARGE OF WATER CONTAINING WASTE CONCRETE TO THE STORM SEWER SYSTEM IS PROHIBITED. ALL CONCRETE WASTE SHALL BE PROPERLY CLEANED UP AND DISPOSED AT AN APPROPRIATE LOCATION.
- ALL DEWATERING ON SITE SHALL BE COORDINATED WITH A SEMWA GESC INSPECTOR AND BE FREE OF SEDIMENT IN ACCORDANCE WITH THE GESC MANUAL, AND STATE OF COLORADO DEWATERING PERMIT.
- ALL PERMANENT INSTALLATIONS OF PIPES FOR STORM SEWERS, SLOPE DRAINS, AND CULVERTS, TOGETHER WITH RIPRAP APRONS OR OTHER INLET AND OUTLET PROTECTION, REQUIRE INSPECTION BY SEMWA (SEPARATE FROM GESC INSPECTIONS).
- ALL DISTURBED AREAS SHALL BE STABILIZED IN ACCORDANCE WITH THE GESC MANUAL WITHIN 14 DAYS OF SUBSTANTIAL COMPLETION OF GRADING, INCLUDING AREAS TO REMAIN DORMANT FOR LONGER THAN 30 DAYS, WHICHEVER IS LESS. THIS MAY REQUIRE MULTIPLE MOBILIZATIONS FOR SEEDING AND MULCHING.
- HYDRAULIC SEEDING IS NOT AN ACCEPTABLE METHOD OF SEEDING WITHIN THE SEMWA SERVICE AREA.
- HYDRO-MULCH MAY BE USED FOR LIMITED APPLICATIONS AS APPROVED BY SEMWA.
- UTILITY LINE INSTALLATION SHALL COMPLY WITH THE FOLLOWING CRITERIA:
 - ALL UTILITY WORK WITHIN A RIGHT-OF-WAY SHALL BE REQUIRED TO OBTAIN A RIGHT-OF-WAY USE AND CONSTRUCTION PERMIT IN ACCORDANCE WITH THE APPROPRIATE STANDARDS.
 - PROVIDE ADEQUATE EROSION AND SEDIMENT CONTROLS.
 - AT THE END OF A WORK DAY, NO TRENCH SHALL BE LEFT OPEN AND BACKFILL MUST BE COMPLETED TO GRADE.
 - WHERE CONSISTENT WITH SAFETY AND SPACE CONSIDERATIONS, EXCAVATED MATERIAL IS TO BE PLACED ON THE UPHILL SIDE OF TRENCHES.
 - AT NO TIME SHALL EXCAVATED MATERIAL BE PLACED ON THE STREET.
 - TRENCH DEWATERING DEVICES MUST DISCHARGE IN A MANNER THAT WILL NOT EFFECT STREAMS, WETLANDS, DRAINAGE SYSTEMS, OR OFF-SITE PROPERTY. DISCHARGE FROM TRENCH SHALL BE FREE OF ANY SEDIMENT. A RIPRAP PAD SHALL BE PLACED AT THE DISCHARGE END OF THE HOSE TO PREVENT ANY ADDITIONAL EROSION.
 - STORM SEWER INLET PROTECTION SHALL BE PROVIDED WHENEVER SOIL EROSION FROM THE EXCAVATED AREA HAS POTENTIAL OF ENTERING THE STORM DRAINAGE SYSTEM.
 - ALL DISTURBED AREAS SHALL BE DRILL SEEDED AND CRIMP MULCHED WITHIN FIVE DAYS AFTER UTILITY INSTALLATION IS COMPLETED.
 - ALL OTHER APPLICABLE CRITERIA AS OUTLINED IN THE GESC MANUAL.
- ALL SINGLE-FAMILY RESIDENTIAL DEVELOPMENT PROJECTS SHALL COMPLY WITH THE GESC CRITERIA AS PRESENTED IN THE GESC MANUAL.
- NO RECYCLED ASPHALT SHALL BE USED AS A CONTROL MEASURE. RECYCLED CONCRETE MUST BE APPROVED BY SEMWA.
- SEMWA MAY ALLOW THE INSTALLATION OF ALTERNATIVE CONTROL MEASURES OTHER THAN THE GESC PLAN STANDARD NOTES AND DETAILS, IF ALTERNATIVE EROSION AND SEDIMENT CONTROL MEASURES WILL BE USED, OUT SHEETS MUST BE SUBMITTED TO THE SEMWA INSPECTOR.
- IF YOU ARE EXPORTING EXCESS DIRT WITHIN THE SEMWA SERVICE AREA, YOU WILL BE REQUIRED TO OBTAIN A GESC PERMIT FOR THE SECONDARY SITE.

LEGEND

1	①		CBC	CUT BACK CURB
2	①		CD	CHECK DAM
3	①		CWA	CONCRETE WASHOUT AREA
4	①		CF	CONSTRUCTION FENCE
5	①		CM	CONSTRUCTION MARKERS
6	①		CS	CURB SOCK
7	①		DW	DEWATERING
8	②		DD	DIVERSION DITCH
9	②		ECB	EROSION CONTROL BLANKET
10	②		FGM	FLEXIBLE GROWTH MEDIUM
11	②		GMS	GROUT MIXING STATION
12	②		IP	INLET PROTECTION
13	②		RCD	REINFORCED CHECK DAM
14	②		RRB	REINFORCED ROCK BERM
15	②		RRR	RRB FOR CULVERT PROTECTION
16	③		SB	SEDIMENT BASIN
17	③		SCL	SEDIMENT CONTROL LOG
18	③		ST	SEDIMENT TRAP
19	③		SM	SEEDING AND MULCHING
20	③		SF	SILT FENCE
21	③		SFR	SILT FENCE REINFORCED
22	④		SID	SLOPE INTERCEPT DITCH
23	④		SSA	STABILIZED STAGING AREA
24	④		SR	SURFACE ROUGHENING
25	④		TSD	TEMPORARY SLOPE DRAIN
26	④		TSC	TEMPORARY STREAM CROSSING
27	④		VTC	VEHICLE TRACKING CONTROL
28	④		WW	VTC WITH WHEEL WASH
			LOC	LIMITS OF CONSTRUCTION
			*EG	MAY MEET MAJOR MODIFICATION REQUIREMENTS

ROCK AND RIPRAP GRADATIONS

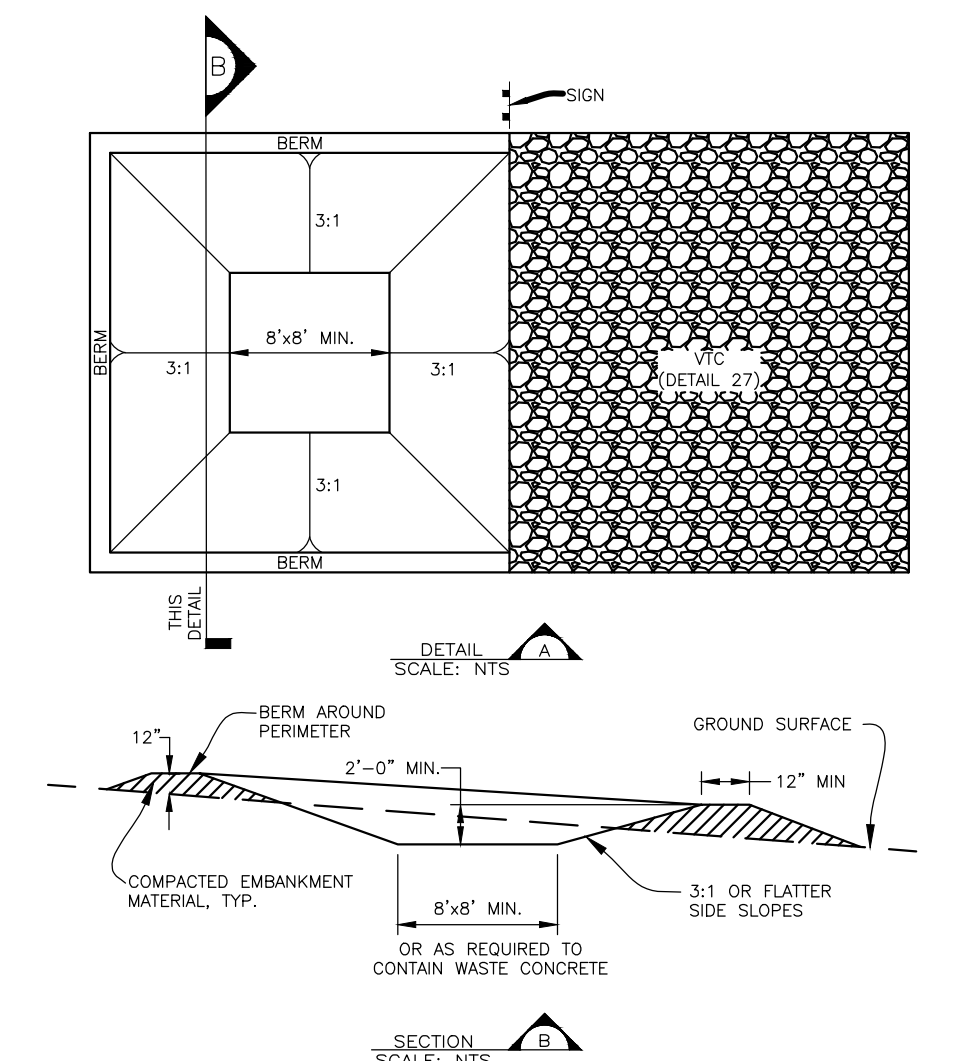
TABLE 1. RIPRAP GRADATIONS

DSO MEDIAN STONE SIZE (INCHES)	% OF MATERIAL SMALLER THAN TYPICAL STONE	TYPICAL STONE EQUIVALENT DIAMETER (INCHES)	TYPICAL STONE WEIGHT (POUNDS)
6	70 - 100 50 - 70 2 - 10	12 9 6	85 35 10
9	70 - 100 50 - 70 2 - 10	15 12 9	160 85 35
12	70 - 100 50 - 70 2 - 10	21 18 12	440 275 120
18	100 50 - 70 2 - 10	30 24 18	1280 650 275
24	100 50 - 70 2 - 10	42 33 24	3500 1700 650

TABLE 2. RIPRAP BEDDING

SIEVE SIZE	MASS PERCENT PASSING SQUARE MESH SIEVE	
	CLASS A	
3"	100	
1 1/2"	20 - 90	
NO. 4	0 - 20	
NO. 200	0 - 3	

MATCHES SPECIFICATIONS FOR CDOT CLASS A FILTER MATERIAL AND UDOT TYPE 1 BEDDING. ALL ROCK SHALL BE FRACTURED FACE, ALL SIDES.



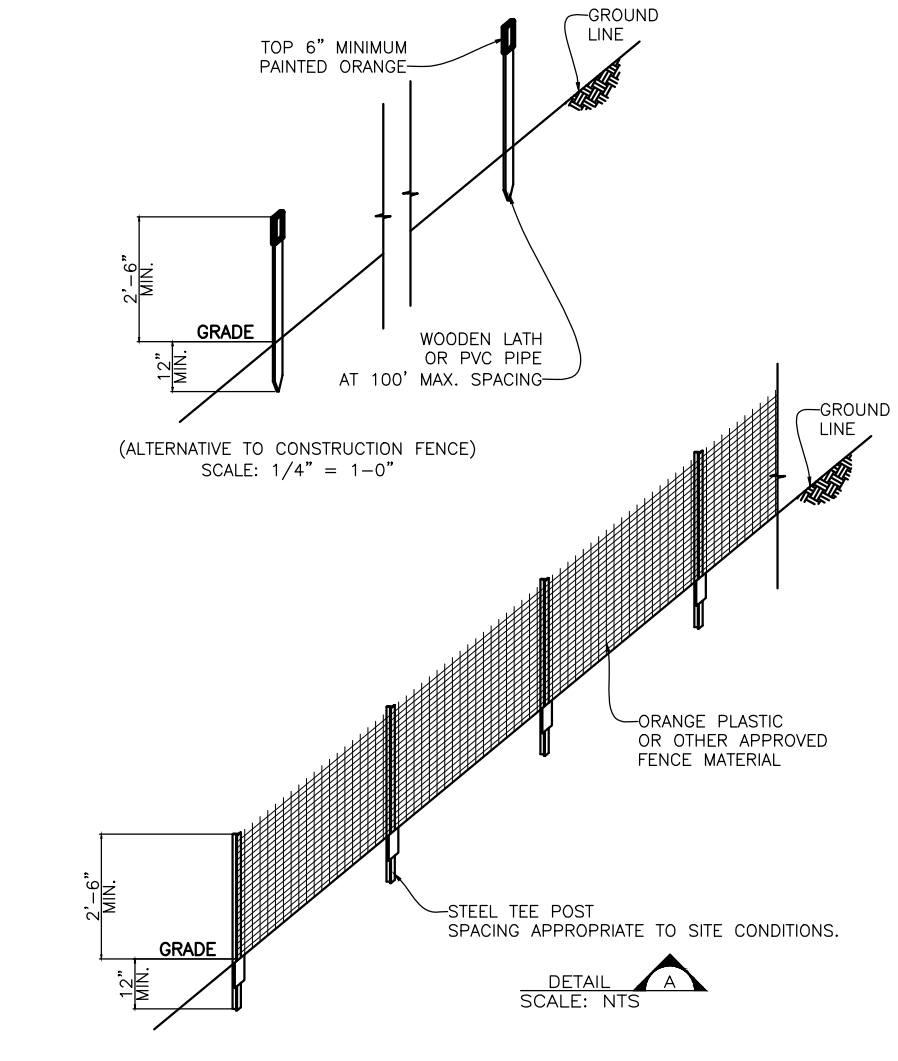
CONCRETE WASHOUT AREA INSTALLATION NOTES

- SEE PLAN VIEW FOR LOCATIONS OF CONCRETE WASHOUT AREA.
- THE CONCRETE WASHOUT AREA SHALL BE INSTALLED PRIOR TO ANY CONCRETE PLACEMENT ON SITE.
- VEHICLE TRACKING CONTROL (VTC) (DETAIL 27) IS REQUIRED AT THE ACCESS POINT. THE VTC CAN BE REMOVED AT THE DISCRETION OF THE SEMWA INSPECTOR.
- SIGNAGE SHALL BE PLACED AT THE WASHOUT AREA, AND MAY BE ELSEWHERE AS NECESSARY TO CLEARLY INDICATE THE LOCATION OF THE CONCRETE WASHOUT AREA TO OPERATORS OF CONCRETE TRUCKS AND PUMP TRUCKS.
- EXCAVATED MATERIAL MAY BE UTILIZED IN PERIMETER BERM CONSTRUCTION.
- CONCRETE WASHOUT MUST BE LINED IN AREAS WITH HIGH GROUNDWATER. LINERS MUST BE 30 MIL OR GREATER.

CONCRETE WASHOUT AREA MAINTENANCE NOTES

- THE CONCRETE WASHOUT AREA SHALL BE REPAIRED AND ENLARGED OR CLEANED OUT AS NECESSARY TO MAINTAIN CAPACITY FOR WASTED CONCRETE.
- AS NEEDED DURING CONSTRUCTION, AND AT THE END OF CONSTRUCTION, ALL CONCRETE SHALL BE REMOVED FROM THE SITE AND DISPOSED OF AT AN APPROVED WASTE SITE.
- WHEN THE CONCRETE WASHOUT AREA IS REMOVED, THE DISTURBED AREA SHALL BE DRILL SEEDED AND CRIMP MULCHED OR OTHERWISE STABILIZED IN A MANNER APPROVED BY SEMWA.
- INSPECT WEEKLY, DURING AND AFTER ANY STORM EVENT.

GENERAL NOTE:
USE OF PROPRIETARY CONCRETE WASHOUT SYSTEM MAY BE CONSIDERED IF APPROVED BY SEMWA INSPECTOR PRIOR TO USE.

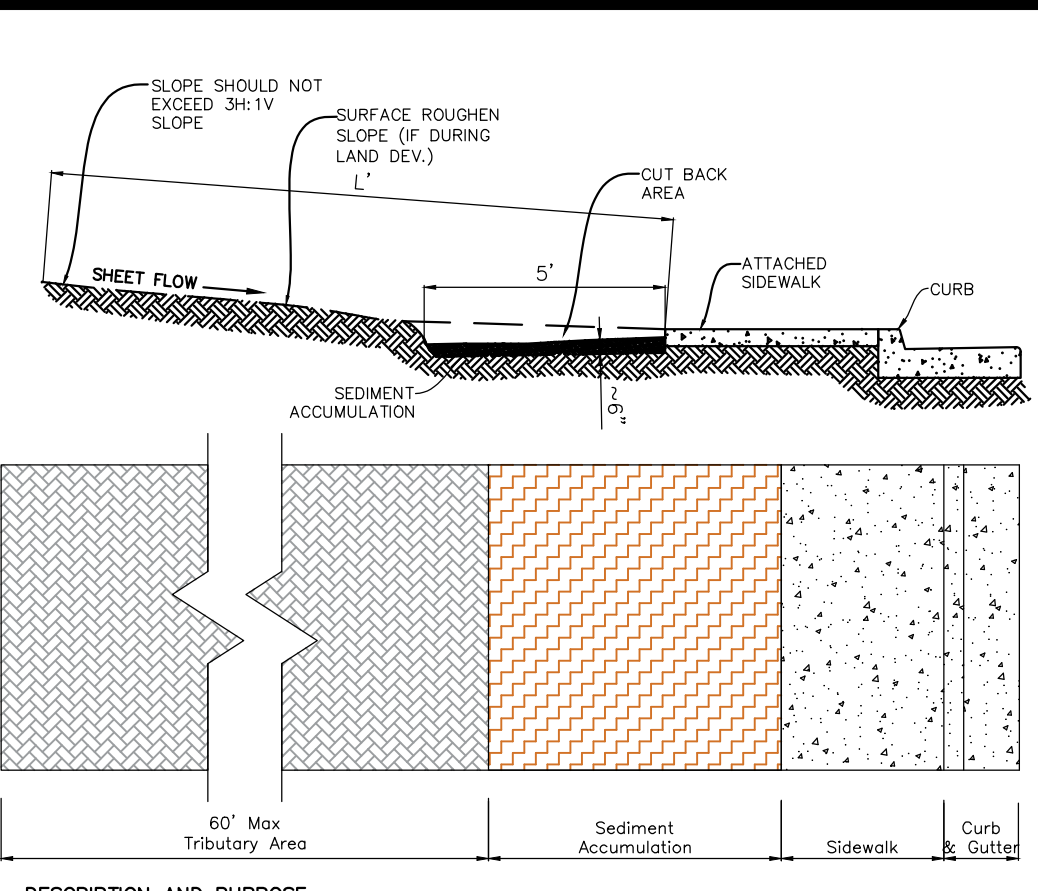


CONSTRUCTION FENCE INSTALLATION NOTES

- SEE PLAN VIEW FOR:
- TYPE OF CONSTRUCTION LIMIT INDICATOR (FENCE OR MARKERS).
- LOCATION AND LENGTH OF FENCE OR LINE OF MARKERS.
- VEHICLE TRACKING CONTROL (VTC) (DETAIL 27) IS REQUIRED AT THE ACCESS POINT. THE VTC CAN BE REMOVED AT THE DISCRETION OF THE SEMWA INSPECTOR.
- SIGNAGE SHALL BE PLACED AT THE WASHOUT AREA, AND MAY BE ELSEWHERE AS NECESSARY TO CLEARLY INDICATE THE LOCATION OF THE CONCRETE WASHOUT AREA TO OPERATORS OF CONCRETE TRUCKS AND PUMP TRUCKS.
- EXCAVATED MATERIAL MAY BE UTILIZED IN PERIMETER BERM CONSTRUCTION.
- CONCRETE WASHOUT MUST BE LINED IN AREAS WITH HIGH GROUNDWATER. LINERS MUST BE 30 MIL OR GREATER.

CONSTRUCTION FENCE MAINTENANCE NOTES

- ANY DAMAGED FENCE OR MARKERS SHALL BE REPAIRED ON A DAILY BASIS.
- FENCE OR MARKERS SHALL BE REMOVED AT THE END OF CONSTRUCTION, IF ANY DISTURBED AREA EXISTS AFTER FENCE REMOVAL, IT SHALL BE DRILL SEEDED AND CRIMP MULCHED OR OTHERWISE STABILIZED IN A MANNER APPROVED BY SEMWA.



DESCRIPTION AND PURPOSE

- A TEMPORARY SEDIMENT BARRIER AND TRAP FORMED BY EXCAVATION BEHIND CURB OR SIDEWALK TO RETAIN SEDIMENT ON SITE DURING CONSTRUCTION.

SUITABLE APPLICATIONS

- DURING LAND DEVELOPMENT AFTER PAVING OR DURING VERTICAL CONSTRUCTION.
- USE IN TREE LAWNS OR IN LANDSCAPE ISLANDS.
- USE SURFACE ROUGHENING ON UPGRADENT SLOPES IF DURING LAND DEVELOPMENT.

SIZING

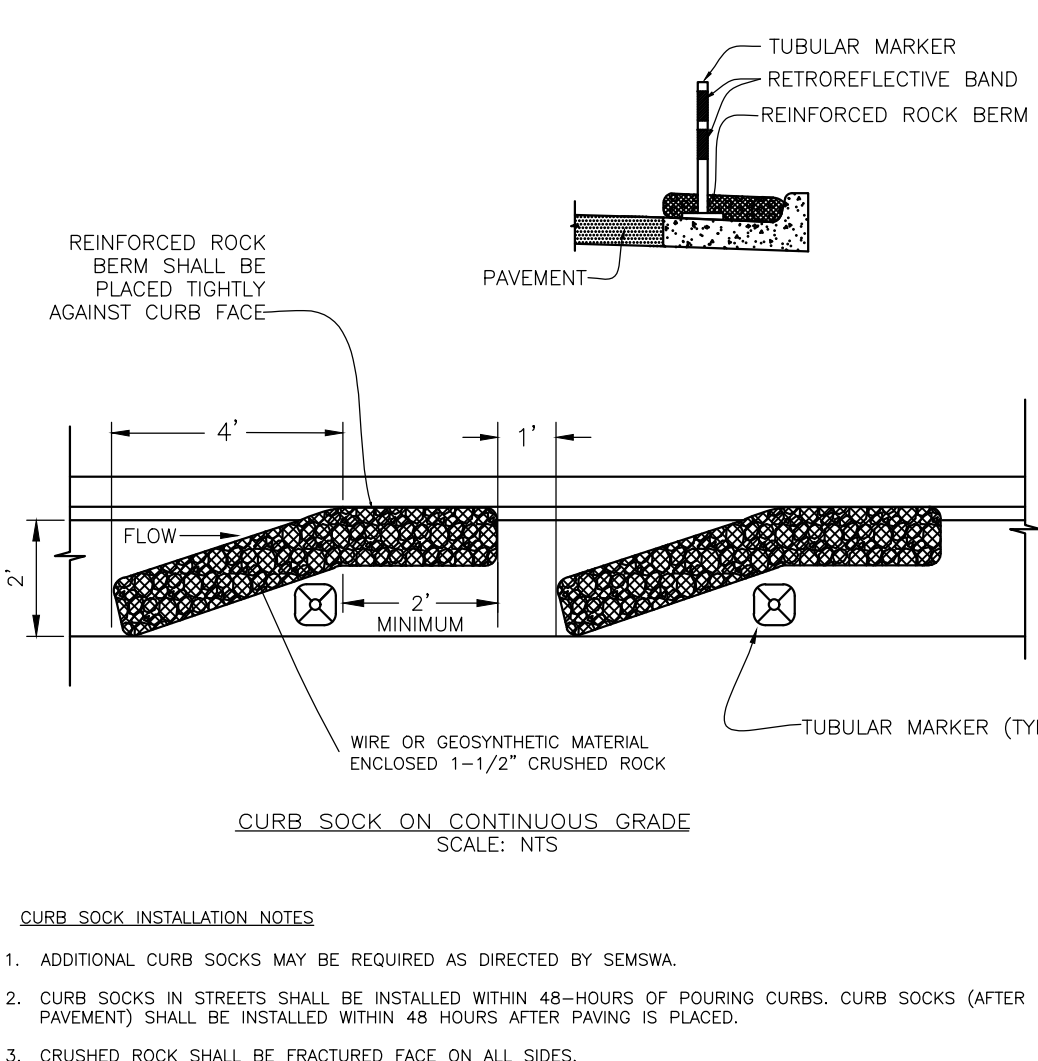
- SEDIMENT ACCUMULATION VOLUME IS SIZED PER TROOP/AC OF TRIBUTARY AREA. 6' WIDTH AND 6" DEPTH IS ACCEPTABLE FOR TRIBUTARY SHEET FLOW UP TO 60 LFS. TRIBUTARY SHEET FLOW OVER 60 LFS MUST COMPUTE CUSTOM SEDIMENT ACCUMULATION BASIN.

LIMITATIONS

- NOT FOR USE EXCEEDING 30:1 VERTICAL SLOPES.
- NOT FOR USE FOR CONCENTRATED FLOW AREAS.
- PROLONGED STANDING WATER MAY AFFECT SUB-BASE OF PAVING AND COULD CAUSE SOIL TO SETTLE AND POTENTIALLY DAMAGE CONCRETE.

INSTALLATION AND MAINTENANCE

- THE GESC MANAGER SHALL INSPECT AS NECESSARY TO ENSURE THE ADEQUACY AND FUNCTIONALITY OF THE CONTROL MEASURE.
- REMOVE ACCUMULATED SEDIMENT WHEN 1/2 CAPACITY. DO NOT ALLOW SEDIMENT TO OVERFLOW ONTO CURB OR SIDEWALK.
- IMPLEMENT ADDITIONAL CONTROL MEASURES SUCH AS DOWNGRADENT SEDIMENT CONTROL LOGS, CURB CHECKS, OR OTHER BARRIERS AS ON-SITE CONDITIONS REQUIRE.



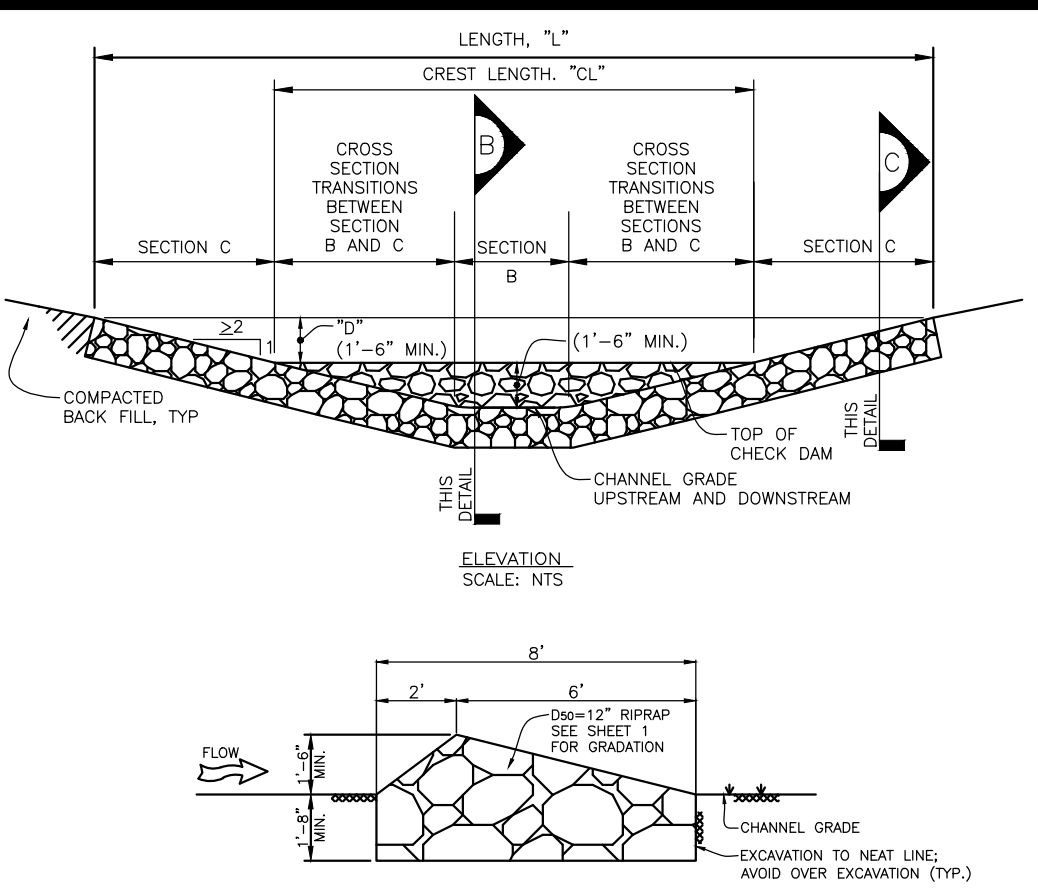
CURB SOCK ON CONTINUOUS GRADE

INSTALLATION NOTES

- ADDITIONAL CURB SOCKS MAY BE REQUIRED AS DIRECTED BY SEMWA.
- CURB SOCKS IN STREETS SHALL BE INSTALLED WITHIN 48 HOURS OF POURING CURBS. CURB SOCKS (AFTER PAVEMENT) SHALL BE INSTALLED WITHIN 48 HOURS AFTER PAVING IS PLACED.
- CRUSHED ROCK SHALL BE FRACTURED FACE ON ALL SIDES.
- WIRE MESH SHALL BE FABRICATED OF WIRE TWISTED INTO A MESH WITH A MAXIMUM OPENING OF 1.0 INCH (COMMONLY TERMED "CHICKEN WIRE"). ROLL WIDTH SHALL BE 48-INCHES.
- WIRE MESH SHALL BE SECURED USING "HOG RINGS" OR WIRE TIES AT APPROXIMATELY 6-INCH CENTERS ALONG ALL JOINTS AND AT APPROXIMATELY 2-INCH CENTERS ON ENDS OF BERM.
- REINFORCED ROCK BERM SHALL BE CONSTRUCTED IN ONE PIECE OR SHALL BE CONSTRUCTED USING JOINT DETAILS.
- EXAMPLES OF ACCEPTABLE GEOSYNTHETIC MATERIAL: TENCATE MIRAFI MIRAFIOR 2XT; STRATA GLOBAL SOLUTIONS "STRATAGRD SG 150"; SOLID FABRIC OPTIONAL.
- THE TOP OF REINFORCED ROCK BERM SHALL BE 1/2"-1" BELOW TOP OF CURB.

MAINTENANCE NOTES

- THE GESC MANAGER SHALL INSPECT AS NECESSARY TO ENSURE THE ADEQUACY AND FUNCTIONALITY OF THE CONTROL MEASURE.
- SEDIMENT ACCUMULATED UPSTREAM OF CURB SOCK SHALL BE REMOVED WHEN THERE IS EVIDENCE OF SIGNIFICANT SEDIMENT BUILDUP.
- CURB PROTECTION IS TO REMAIN IN PLACE UNTIL THE UPSTREAM DISTURBED AREA IS STABILIZED AND GRASS COVER IS APPROVED, UNLESS SEMWA APPROVES EARLIER REMOVAL OF CURB PROTECTION IN STREETS.



DESCRIPTION AND PURPOSE

- A TEMPORARY SEDIMENT BARRIER AND TRAP FORMED BY EXCAVATION BEHIND CURB OR SIDEWALK TO RETAIN SEDIMENT ON SITE DURING CONSTRUCTION.

SUITABLE APPLICATIONS

- DURING LAND DEVELOPMENT AFTER PAVING OR DURING VERTICAL CONSTRUCTION.
- USE IN TREE LAWNS OR IN LANDSCAPE ISLANDS.
- USE SURFACE ROUGHENING ON UPGRADENT SLOPES IF DURING LAND DEVELOPMENT.

SIZING

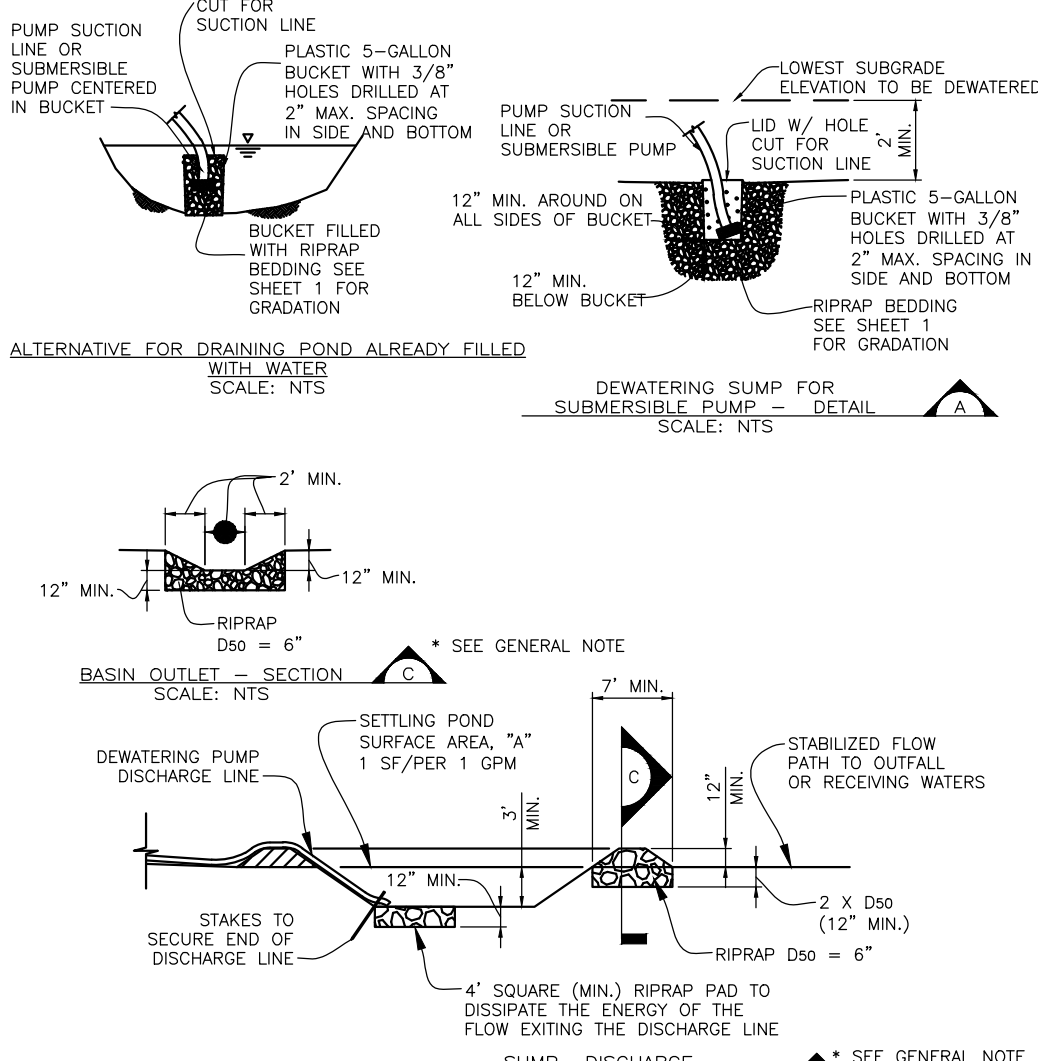
- SEDIMENT ACCUMULATION VOLUME IS SIZED PER TROOP/AC OF TRIBUTARY AREA. 6' WIDTH AND 6" DEPTH IS ACCEPTABLE FOR TRIBUTARY SHEET FLOW UP TO 60 LFS. TRIBUTARY SHEET FLOW OVER 60 LFS MUST COMPUTE CUSTOM SEDIMENT ACCUMULATION BASIN.

LIMITATIONS

- NOT FOR USE EXCEEDING 30:1 VERTICAL SLOPES.
- NOT FOR USE FOR CONCENTRATED FLOW AREAS.
- PROLONGED STANDING WATER MAY AFFECT SUB-BASE OF PAVING AND COULD CAUSE SOIL TO SETTLE AND POTENTIALLY DAMAGE CONCRETE.

INSTALLATION AND MAINTENANCE

- THE GESC MANAGER SHALL INSPECT AS NECESSARY TO ENSURE THE ADEQUACY AND FUNCTIONALITY OF THE CONTROL MEASURE.
- REMOVE ACCUMULATED SEDIMENT WHEN 1/2 CAPACITY. DO NOT ALLOW SEDIMENT TO OVERFLOW ONTO CURB OR SIDEWALK.
- IMPLEMENT ADDITIONAL CONTROL MEASURES SUCH AS DOWNGRADENT SEDIMENT CONTROL LOGS, CURB CHECKS, OR OTHER BARRIERS AS ON-SITE CONDITIONS REQUIRE.



CHECK DAM INSTALLATION NOTES

- SEE PLAN VIEW FOR:
- LOCATIONS 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 GESC PLAN SHALL BE INSTALLED PRIOR TO ANY UPSTREAM LAND-DISTURBING ACTIVITIES.
- VL RIPRAP SHALL BE UTILIZED FOR CHECK DAMS.
- RIP RAP PAD SHALL BE TRENCHED INTO THE CHANNEL BANKS TO ADEQUATELY ANCHOR WITH CENTER OF THE CHECK DAM LOWER TO ALLOW FOR OVERTOPPING AT THE CREST.

CHECK DAM MAINTENANCE NOTES

- THE GESC MANAGER SHALL INSPECT AS NECESSARY TO ENSURE THE ADEQUACY AND FUNCTIONALITY OF THE CONTROL MEASURE.
- SEDIMENT ACCUMULATED UPSTREAM OF CHECK DAMS SHALL BE REMOVED WHEN THE SEDIMENT DEPTH UPSTREAM OF CHECK DAM 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 GRASS COVER IS APPROVED BY SEMWA.
- WHEN CHECK DAMS ARE REMOVED, EXCAVATIONS SHALL BE FILLED WITH SUITABLE COMPACTED BACK FILL. ANY DISTURBED AREA SHALL BE SEEDED AND MULCHED AND COVERED WITH EROSION CONTROL BLANKET OR OTHERWISE STABILIZED IN A MANNER APPROVED BY SEMWA.

DEWATERING

INSTALLATION NOTES

- A CONSTRUCTION DISCHARGE (DEWATERING) PERMIT, IF REQUIRED, SHALL BE OBTAINED FROM THE COLORADO DEPARTMENT OF PUBLIC HEALTH AND ENVIRONMENT PRIOR TO ANY DEWATERING OPERATIONS. ALL DEWATERING SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF THE DISCHARGE PERMIT AND SHALL BE COORDINATED WITH THE SEMWA GESC INSPECTOR.
- THE GESC MANAGER SHALL PROVIDE, OPERATE, AND MAINTAIN DEWATERING SYSTEMS OF SUFFICIENT SIZE AND CAPACITY.
- DEWATERING OPERATIONS SHALL USE ONE OR MORE OF THE DEWATERING SUMPS SHOWN ABOVE OR OTHER MEANS APPROVED BY SEMWA TO REDUCE THE PUMPING OF SEDIMENT, AND SHALL PROVIDE A TEMPORARY BASIN FOR SETTLING PUMPED DISCHARGES PRIOR TO RELEASE OFF SITE OR TO A RECEIVING WATER. SEDIMENT BASIN PER DETAIL 14 MAY BE USED IN LIEU OF SUMP DISCHARGE SETTLING BASIN SHOWN ABOVE.
- DISCHARGE POINT SHALL BE A STABILIZED AREA.
- THE DISCHARGE END OF THE LINE SHALL BE STAKED IN PLACES TO PREVENT MOVEMENT OF THE LINE OFF THE STABILIZED DISCHARGE POINT.

DEWATERING MAINTENANCE NOTES

- THE GESC MANAGER SHALL INSPECT AS NECESSARY TO ENSURE THE ADEQUACY AND FUNCTIONALITY OF THE CONTROL MEASURE.
- SEDIMENT ACCUMULATED UPSTREAM OF CURB SOCK SHALL BE REMOVED WHEN THERE IS EVIDENCE OF SIGNIFICANT SEDIMENT BUILDUP.
- CURB PROTECTION IS TO REMAIN IN PLACE UNTIL THE UPSTREAM DISTURBED AREA IS STABILIZED AND GRASS COVER IS APPROVED, UNLESS SEMWA APPROVES EARLIER REMOVAL OF CURB PROTECTION IN STREETS.

GENERAL NOTE:
USE OF A SEDIMENT FILTER BAG MAY BE SUBSTITUTED FOR USE OF THE RIPRAP PAD AND SUMP DISCHARGE SETTLING BASIN. FILTER BAG TO SET ON RELATIVELY FLAT SURFACE GROUND.

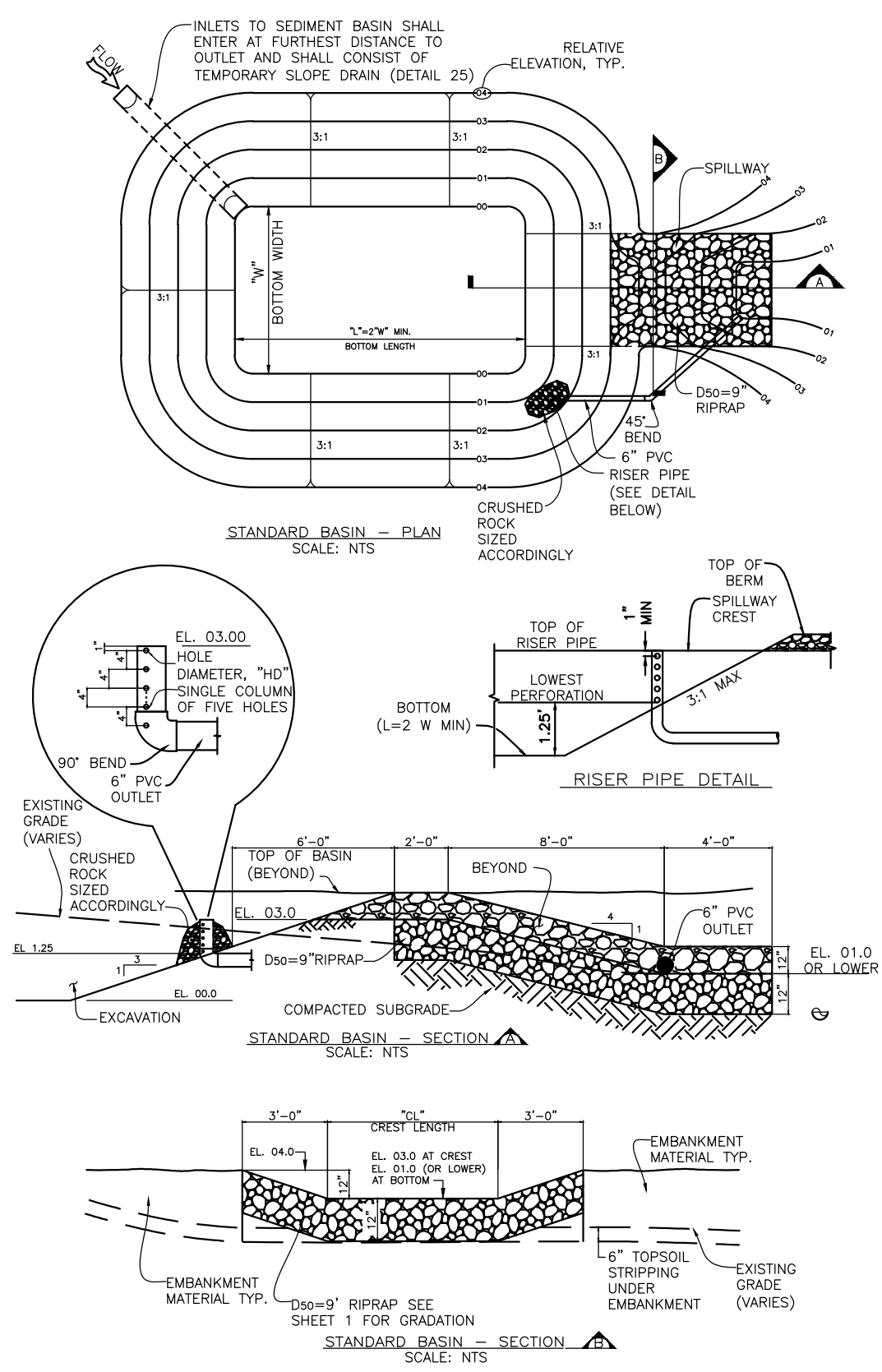
UTILITY NOTIFICATION CENTER OF COLORADO
CALL BEFORE YOU DIG
811
Call 2 days prior to any digging, grading or excavating for the marking of underground member utilities

SOUTHEAST METRO STORMWATER AUTHORITY
7437 SOUTH FAIRPLAY STREET
CENTENNIAL COLORADO
80112-4486
(303) 858-8844 - INSPECTION DIVISION



GRADING EROSION AND SEDIMENT CONTROL
STANDARD NOTES AND DETAILS
REVISED FEBRUARY 2023

GESC SHEET 1 OF 4



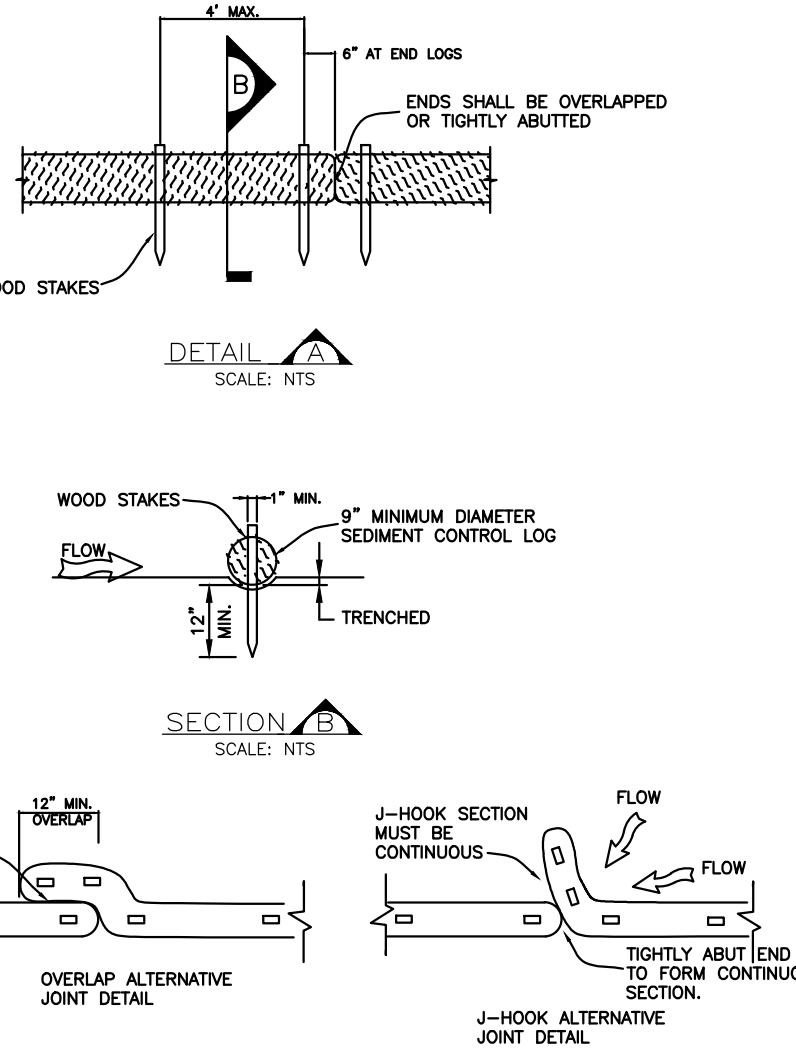
SEDIMENT BASIN INSTALLATION NOTES

- SEE PLAN VIEW FOR:
 - LOCATION OF SEDIMENT BASIN.
 - TYPE OF BASIN (STANDARD BASIN OR NON-STANDARD BASIN).
 - FOR STANDARD BASIN, CREST LENGTH, "CL", BOTTOM WIDTH, "W", AND HOLE DIAMETER, "HD".
 - FOR NON-STANDARD BASIN, SEE CONSTRUCTION DRAWINGS FOR DESIGN OF BASIN INCLUDING RISER HEIGHT, "H", NUMBER OF COLUMNS, "N", HOLE DIAMETER, "HD", AND PIPE DIAMETER "D".
- FOR STANDARD BASIN, BOTTOM DIMENSION MAY BE MODIFIED AS LONG AS BOTTOM AREA IS NOT REDUCED.
- SEDIMENT BASINS INDICATED ON INITIAL GESC PLAN SHALL BE INSTALLED PRIOR TO ANY OTHER LAND-DISTURBING ACTIVITY.
- EMBANKMENT MATERIAL SHALL CONSIST OF SOIL FREE OF DEBRIS, ORGANIC MATERIAL, AND ROCKS GREATER THAN 3 INCHES AND SHALL HAVE A MINIMUM OF 15 PERCENT BY WEIGHT PASSING THE NO. 200 SIEVE.
- EMBANKMENT MATERIAL SHALL BE COMPACTED TO AT LEAST 95 PERCENT OF MAXIMUM DENSITY WITHIN 2 PERCENTAGE POINTS OF OPTIMUM DENSITY IN ACCORDANCE WITH ASTM D698.
- PIPE SIZE 40 OR GREATER SHALL BE USED.
- THE DETAILS SHOWN ON THIS SHEET PERTAIN TO STANDARD SEDIMENT BASIN(S) IDENTIFIED ON THE GESC PLAN VIEW DRAWINGS USED 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.

SEDIMENT BASIN MAINTENANCE NOTES

- THE GESC MANAGER SHALL INSPECT AS NECESSARY TO ENSURE THE ADEQUACY AND FUNCTIONALITY OF THE CONTROL MEASURE.
- SEDIMENT SHALL BE REMOVED FROM THE POND WHEN DESIGNATED STORAGE VOLUME IS NO MORE THAN ONE-THIRD FILLED WITH SEDIMENT.
- SEDIMENT BASINS ARE TO REMAIN IN PLACE UNTIL THE UPSTREAM DISTURBED AREA IS STABILIZED AND GRASS COVER IS APPROVED BY SEMSWA.
- IF SEDIMENT BASINS ARE REMOVED, THE DISTURBED AREA SHALL BE SEEDED AND MULCHED OR OTHERWISE STABILIZED IN A MANNER APPROVED BY SEMSWA.
- TRASH AND DEBRIS SHALL BE REMOVED FROM THE SEDIMENT BASIN TO PREVENT CLOGGING AT THE OUTLET.

SEDIMENT BASIN SHEET 1



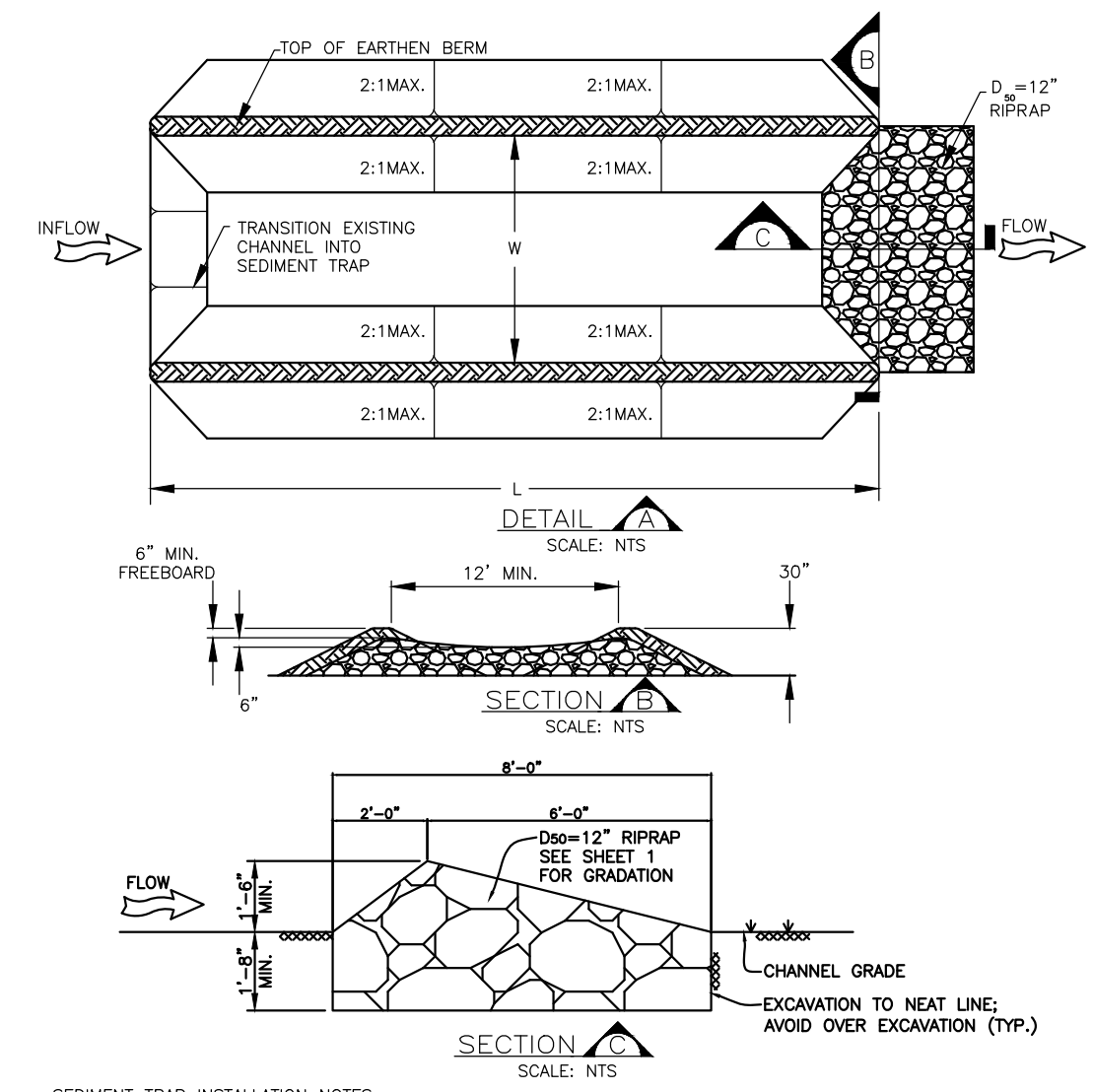
SEDIMENT CONTROL LOG INSTALLATION NOTES

- SEE PLAN VIEW FOR:
 - LOCATION AND LENGTH OF SEDIMENT CONTROL LOG.
 - LAND-DISTURBING ACTIVITIES.
- SEDIMENT CONTROL LOGS SHALL CONSIST OF STRAW, COMPOST, EXCELISOR, OR COCONUT FIBER.
- SEDIMENT CONTROL LOGS SHALL BE TRENCHED IN APPROPRIATELY.
- NOT FOR USE IN CONCENTRATED FLOW AREAS.
- THE SEDIMENT CONTROL LOG SHALL BE TRENCHED TO A DEPTH OF 12" MIN.
- 7" DIAMETER SEDIMENT CONTROL LOGS ARE THE MINIMUM BUT A LARGER DIAMETER MAY BE REQUIRED BY THE SEMSWA INSPECTOR.

SEDIMENT CONTROL LOG MAINTENANCE NOTES

- THE GESC MANAGER SHALL INSPECT AS NECESSARY TO ENSURE THE ADEQUACY AND FUNCTIONALITY OF THE CONTROL MEASURE.
- SEDIMENT ACCUMULATED UPSTREAM OF SEDIMENT CONTROL LOGS SHALL BE REMOVED WHEN THE UPSTREAM SEDIMENT DEPTH IS WITHIN 1/2 THE HEIGHT OF THE CREST OF LOG.
- SEDIMENT CONTROL LOG SHALL BE REMOVED AT THE END OF CONSTRUCTION, IF ANY DISTURBED AREA EXISTS AFTER REMOVAL, IT SHALL BE STABILIZED IN A MANNER APPROVED BY SEMSWA.

SEDIMENT CONTROL LOG SHEET 2



SEDIMENT TRAP INSTALLATION NOTES

- SEE PLAN VIEW FOR:
 - LOCATION, LENGTH AND WIDTH OF SEDIMENT TRAP.
 - SEDIMENT TRAPS INDICATED ON INITIAL GESC PLAN SHALL BE INSTALLED PRIOR TO ANY OTHER LAND-DISTURBING ACTIVITIES.
- SEDIMENT TRAP BERM SHALL BE CONSTRUCTED FROM MATERIAL FROM EXCAVATION, THE BERM SHALL BE COMPACTED TO 95% OF THE MAXIMUM DENSITY IN ACCORDANCE WITH ASTM D698.
- TRAP OUTLET SHALL BE CONSTRUCTED WITH 12" RIPPAP WITH A MINIMUM OVERFLOW OF 6".
- THE TOP OF THE EARTHEN BERM SHALL ALLOW FOR OVERTOPPING.
- THE ENDS OF THE RIPPAP OUTLET STRUCTURE SHALL ALLOW FOR OVERTOPPING.
- OVERTOPPING MUST OCCUR ON A STABILIZED SURFACE TO INCLUDE WELLS, VEGETATED AREAS, RIP RAP, OR PAVEMENT.
- SEDIMENT TRAP SIZED TO PROVIDE STORAGE VOLUME EQUAL TO 1800 CUBIC FEET PER UPSTREAM ACRE.

SEDIMENT TRAP MAINTENANCE NOTES

- THE GESC MANAGER SHALL INSPECT AS NECESSARY TO ENSURE THE ADEQUACY AND FUNCTIONALITY OF THE CONTROL MEASURE.
- SEDIMENT ACCUMULATED UPSTREAM OF RIPPAP SHALL BE REMOVED WHEN THE UPSTREAM SEDIMENT DEPTH IS WITHIN 1/2 THE HEIGHT OF THE RIPPAP OUTLET STRUCTURE.
- SEDIMENT TRAPS SHALL REMAIN IN PLACE UNTIL THE UPSTREAM DISTURBED AREA IS STABILIZED AND GRASS COVER IS APPROVED BY SEMSWA.
- WHEN SEDIMENT TRAPS ARE REMOVED THE DISTURBED AREA SHALL BE DRILLED SEEDED AND CHIMP MULCHED OR STABILIZED IN A MANNER APPROVED BY SEMSWA.

SEDIMENT TRAP SHEET 3

SEEDING AND MULCHING INSTALLATION NOTES

- SEE PLAN VIEW FOR:
 - AREA OF SEEDING AND MULCHING.
 - TYPE OF SEED MIX.
- ALL BRANDS FURNISHED SHALL BE FREE FROM SUCH NOXIOUS SEEDS AS RUSSIAN OR CANADIAN THISTLE, COARSE FESCUE, EUROPEAN BIRNWOOD, JOHNSON GRASS, KNAF WEEED AND LEAFY SPURGE.
- THE SEEDER SHALL FURNISH TO THE CONTRACTOR A SIGNED STATEMENT CERTIFYING THAT THE SEED FURNISHED IS FROM A LOT THAT HAS BEEN TESTED BY A RECOGNIZED LABORATORY, SEED WHICH HAS BECOME WET, MOLTY, OR OTHERWISE DAMAGED IN TRANSIT OR IN STORAGE WILL NOT BE ACCEPTABLE. SEED TICKETS SHALL BE PROVIDED TO SEMSWA UPON REQUEST.
- DRILL SEEDING MIX SHALL CONFORM TO THE TABLE BELOW UNLESS OTHERWISE APPROVED BY SEMSWA.
- IF THE SEED AVAILABLE ON THE MARKET DOES NOT MEET THE MINIMUM PURITY AND GERMINATION PERCENTAGES SPECIFIED, THE CONTRACTOR MUST COMPENSATE FOR A LESSER PERCENTAGE OF PURITY OR GERMINATION BY FURNISHING SUFFICIENT ADDITIONAL SEED TO EQUAL THE SPECIFIED PRODUCT. THE TAGS FROM THE SEED MIXES MUST BE SUPPLIED TO CONTRACTOR AND FORWARDED TO THE SEMSWA GESC INSPECTOR.
- THE FORMULA USED FOR DETERMINING THE QUANTITY OF PURE LIVE SEED (PLS) SHALL BE (POUNDS OF SEED) X (GERMINATION) X (PURITY) = POUNDS OF PURE LIVE SEED (PLS).
- PERMANENT SEED MIX SHALL BE USED UNLESS OTHERWISE APPROVED BY SEMSWA.
- ALL AREAS TO BE SEEDED AND MULCHED SHALL HAVE NATIVE TOPSOIL OR APPROVED SOIL AMENDMENTS SPREAD TO A DEPTH OF AT LEAST 4 INCHES (LOOSE DEPTH). ALL DISTURBED AREAS SHALL BE LOOSENEED TO A DEPTH OF 6 INCHES PRIOR TO SPREADING TOPSOIL.
- SOIL IS TO BE THOROUGHLY LOOSENEED (TILED) TO A DEPTH OF AT LEAST 6 INCHES PRIOR TO SEEDING. THE TOP 6 INCHES OF THE SEED BED SHALL BE GENERALLY FREE OF ROCKS GREATER THAN 4 INCHES AND SOIL CLOSS GREATER THAN 2 INCHES. SEEDING OVER ANY COMPACTED AREAS THAT HAVEN'T BEEN THOROUGHLY LOOSENEED SHALL BE REJECTED.
- SEED IS TO BE APPLIED USING A MECHANICAL DRILL TO A DEPTH OF 1/4 INCH. ROW SPACING SHALL BE NO MORE THAN 6 INCHES. MATERIAL USED FOR MULCH SHALL CONSIST OF LONG-STEMMED STRAW AT LEAST 50 PERCENT OF THE MULCH, BY WEIGHT, SHALL BE AS LONG AS POSSIBLE IN LENGTH. MULCH SHALL BE APPLIED AND MECHANICALLY ANCHORED TO A DEPTH OF AT LEAST 3 INCHES. MULCH SHALL BE APPLIED AT A RATE OF 2000 LB. OF STRAW PER ACRE.
- IF THE PERMITEE DEMONSTRATES TO SEMSWA THAT IT IS NOT POSSIBLE TO DRILL SEED, SEED IS TO BE UNIFORMLY BROADCAST AT TWO TIMES THE DRILLED RATE, THEN LIGHTLY HARROWED TO PROVIDE A SEED DEPTH OF APPROXIMATELY 1/4 INCH, THEN ROLLED TO COMPACT, THEN MULCHED AS SPECIFIED ABOVE.
- WHEN SEEDING AND MULCHING IS USED TO STABILIZED DISTURBED AREAS, ALL DISTURBED AREAS WHICH ARE ERODING SHALL BE STABILIZED WITHIN A PERIOD OF MORE THAN 30 DAYS SHALL BE SEEDING AND MULCHING TO BE STABILIZED WITHIN 14 DAYS OF THE COMPLETION OF THE GRADING ACTIVITIES. THIS MAY REQUIRE MULTIPLE MOBILIZATIONS FOR SEEDING AND MULCHING.
- MULCH SHALL BE APPLIED WITHIN 24 HOURS OF SEEDING.
- TACKIFIER SHALL BE UTILIZED TO HELP WITH STRAW DISPLACEMENT.

SEEDING AND MULCHING MAINTENANCE NOTES

- SEEDED AND MULCHED AREAS SHALL BE INSPECTED FOR REQUIRED COVERAGE MONTHLY UNTIL FINAL ACCEPTANCE IS ISSUED. REPAIRS AND RE-SEEDING AND MULCHING SHALL BE UNDERTAKEN AFTER THE FIRST GROWING SEASON FOR ANY AREAS FAILING TO MEET THE REQUIRED COVERAGE.
- REQUIRED COVERAGE FOR STANDARD, OPEN SPACE AND LOW GROWTH SEED MIXES SHALL BE DEFINED AS FOLLOWS:
 - 75% OF THE EXISTING/ PRE-CONSTRUCTION CONDITION.
 - FREE OF ERODED AREAS.
 - FREE FROM INFESTATION OF NOXIOUS WEEDS IN ACCORDANCE WITH THE GESC CRITERIA MANUAL.
- RILL AND GULLY EROSION SHALL BE FILLED WITH TOPSOIL PRIOR TO RESEEDING. THE RESEEDING METHOD SHALL BE APPROVED BY SEMSWA.

TEMPORARY DRILL SEEDING MIX

SPECIES	VARIETY	NOTES	% IN MIX	POUNDS OF PLS PER ACRE
SMOOTH BROMEGRASS	LINCOLN	PICS	30	3.9
INTERMEDIATE WHEATGRASS	OHME	PICS	30	4.5
PURBESCENT WHEATGRASS	LUNA	PICS	30	4.2
ANNUAL RYEGRASS	N/A	ACB	10	0.8
TOTAL			100	13.4

NOTES: P=PERENNIAL
A=ANNUAL
W=HYBRID
C=COOL SEASON
S=SOON FORMER
B=BUNGHRASS

SEEDING AND MULCHING SHEET 4

PERMANENT DRILL SEEDING - WETLAND SEED MIX¹

SPECIES	SCIENTIFIC NAME	SEASON	% IN MIX	SEEDS/LB.	LBS PLS ² /AC
SLOUGH GRASS	BECKMANNIA SYZYGACHE	COOL	20	1,150,000	0.5
CANADIAN REED GRASS	CALAMAGROSTIS CANADENSIS	COOL	20	2,270,000	0.2
TUFTED HAIR GRASS	DESCHAMPSIA CESPITOSA	COOL	10	2,500,000	0.1
COMMON SPIKE RUSH	ELEOCHARIS PALUSTRIS	COOL	15	620,000	0.6
BALTIC RUSH	JUNCUS BALTICUS	COOL	15	10,900,000	0.4
KNOTTED RUSH	JUNCUS NODOSUS	COOL	10	12,300,000	0.1
TORREY'S RUSH	JUNCUS TORREYI	COOL	10	12,300,000	0.1
TOTAL			100		2 LBS PLS ² /AC

¹ TO BE INSTALLED AT APPROXIMATELY 6" TO 24" ABOVE WATER LINE.
² PLS = PURE LIVE SEED PER POUND BASED 60 SEEDS PER SQUARE FOOT. IF BROADCAST SEEDING, DOUBLE THE RATE APPLIED.

PERMANENT DRILL SEEDING^{1,2} - TRANSITION SEED MIX - WITHOUT FORBS

SPECIES	SCIENTIFIC NAME	SEASON	% IN MIX	SEEDS/LB.	LBS PLS ³ /AC
CANADA WILDRYE	ELYMUS CANADENSIS	COOL	15	115,000	3.4
STREAMBANK WHEATGRASS	ELYMUS LANCEOLATUS SPP. PSAMMOPHILUS	COOL	15	156,000	2.5
SLENDER WHEAT GRASS	ELYMUS TRACHYCALUS	WARM	10	159,000	1.6
BALTIC RUSH	JUNCUS BALTICUS	COOL	15	10,900,000	0.1
SWITCHGRASS	PANICUM VIRGATUM	WARM	15	389,000	1.0
WESTERN WHEATGRASS	PASCOPYRUM SMITHI	COOL	15	110,000	3.6
SAND DROPSPEED	SPOROBOLOUS AIROIDES	WARM	15	1,758,000	0.2
TOTAL			100		12.4 LBS PLS ³ /AC

¹ TO BE INSTALLED AT APPROXIMATELY 6" TO 24" ABOVE WATER LINE.
² PLS = PURE LIVE SEED PER POUND BASED 60 SEEDS PER SQUARE FOOT. IF BROADCAST SEEDING, DOUBLE THE RATE APPLIED.
³ IF DESIRED, SHRUBS FROM THE WILLOW SHRUBLAND PLANT COMPOSITION SCHEDULE CAN BE INSTALLED IN THIS ZONE.

PERMANENT DRILL SEEDING^{1,2} - TRANSITION SEED MIX - WITH FORBS

SPECIES	SCIENTIFIC NAME	SEASON	% IN MIX	SEEDS/LB.	LBS PLS ³ /AC
NATIVE GRASSES					
CANADA WILDRYE	ELYMUS CANADENSIS	COOL	15	115,000	3.4
STREAMBANK WHEATGRASS	ELYMUS LANCEOLATUS SPP. PSAMMOPHILUS	COOL	15	156,000	2.5
SLENDER WHEAT GRASS	ELYMUS TRACHYCALUS	WARM	10	159,000	1.6
BALTIC RUSH	JUNCUS BALTICUS	COOL	15	10,900,000	0.1
SWITCHGRASS	PANICUM VIRGATUM	WARM	15	389,000	1.0
WESTERN WHEATGRASS	PASCOPYRUM SMITHI	COOL	15	110,000	3.6
SAND DROPSPEED	SPOROBOLOUS AIROIDES	WARM	15	1,758,000	0.2
NATIVE FORBS					
INDIAN BLANNET FLOWER	GALLIARDA ARISTATA	SUMMER-FALL	1	132,000	0.2
ROCKY MOUNTAIN IRIS	IRIS MISSOURIENSIS	SPRING-SUMMER	2	368,000	0.1
EVENING PRIMROSE	GENETHEA ELATA	SUMMER	2	1,300,000	0.1
GOLDEN BANNER	THEMOPHIS MONTANA	SPRING	2	15,000	3.5
MEXICAN HAT	SATIBRA COLUMNIFERA	SUMMER-FALL	1	1,230,000	0.1
SAND DROPSPEED	SPOROBOLOUS AIROIDES	WARM	15	1,758,000	0.2
TOTAL			100		14.4 LBS PLS ³ /AC

SEEDING AND MULCHING SHEET 5

PERMANENT DRILL SEEDING^{1,2} - TRANSITION SEED MIX - WITH FORBS

SPECIES	SCIENTIFIC NAME	SEASON	% IN MIX	SEEDS/LB.	LBS PLS ³ /AC
NATIVE WILDFLOWERS					
INDIAN BLANNET FLOWER	GALLIARDA ARISTATA	SUMMER-FALL	1	132,000	0.2
ROCKY MOUNTAIN IRIS	IRIS MISSOURIENSIS	SPRING-SUMMER	2	368,000	0.1
EVENING PRIMROSE	GENETHEA ELATA	SUMMER	2	1,300,000	0.1
GOLDEN BANNER	THEMOPHIS MONTANA	SPRING	2	15,000	3.5
MEXICAN HAT	SATIBRA COLUMNIFERA	SUMMER-FALL	1	1,230,000	0.1
SAND DROPSPEED	SPOROBOLOUS AIROIDES	WARM	15	1,758,000	0.2
TOTAL			100		14.4 LBS PLS ³ /AC

¹ TO BE INSTALLED AT APPROXIMATELY 6" TO 24" ABOVE WATER LINE.
² PLS = PURE LIVE SEED PER POUND BASED 60 SEEDS PER SQUARE FOOT. IF BROADCAST SEEDING, DOUBLE THE RATE APPLIED.
³ IF DESIRED, SHRUBS FROM THE WILLOW SHRUBLAND PLANT COMPOSITION SCHEDULE CAN BE INSTALLED IN THIS ZONE.

PERMANENT DRILL SEEDING^{1,2} - UPLAND SEED³ MIX - WITHOUT FORBS

SPECIES	SCIENTIFIC NAME	SEASON	% IN MIX	SEEDS/LB.	LBS PLS ⁴ /AC
NATIVE GRASSES					
BIG BLUESTEM	ANDROPOGON GERARDII	WARM	10	130,000	2.0
SULFUR FLOWER	EROGONUM UMBELATUM	FALL	2	209,000	0.3
BLUE GRAMA	BOUTELOUA GRAECLIS	WARM	10	825,000	0.3
CANADA WILDRYE	ELYMUS CANADENSIS	COOL	10	115,000	2.3
THICKSPIKE WHEATGRASS	ELYMUS LANCEOLATUS SPP. LANCEOLATUS	COOL	5	154,000	0.8
STREAMBANK WHEATGRASS	ELYMUS LANCEOLATUS SPP. PSAMMOPHILUS	COOL	5	156,000	0.8
SLENDER WHEAT GRASS	ELYMUS TRACHYCALUS	WARM	10	159,000	1.6
NEEDLE AND THREAD	HESPEROSTIPHA COMATA	COOL	10	115,000	2.3
WESTERN WHEATGRASS	PASCOPYRUM SMITHI	COOL	10	110,000	2.4
INDIAN GRASS	SORGHASTRUM NUTANS	WARM	10	170,000	1.5
SAND DROPSPEED	SPOROBOLOUS CRYPTANDRUS	WARM	10	5,298,000	0.1
TOTAL			100		15.5 LBS PLS ⁴ /AC

¹ TO BE INSTALLED AT APPROXIMATELY 24" ABOVE WATER LINE.
² PLS = PURE LIVE SEED PER POUND BASED 60 SEEDS PER SQUARE FOOT. IF BROADCAST SEEDING, DOUBLE THE RATE APPLIED.
³ IF DESIRED, TREES AND SHRUBS FROM THE COTTONWOOD SHRUB WOODLAND COMPOSITION SCHEDULE CAN BE INSTALLED IN THIS ZONE.

SEEDING AND MULCHING SHEET 6

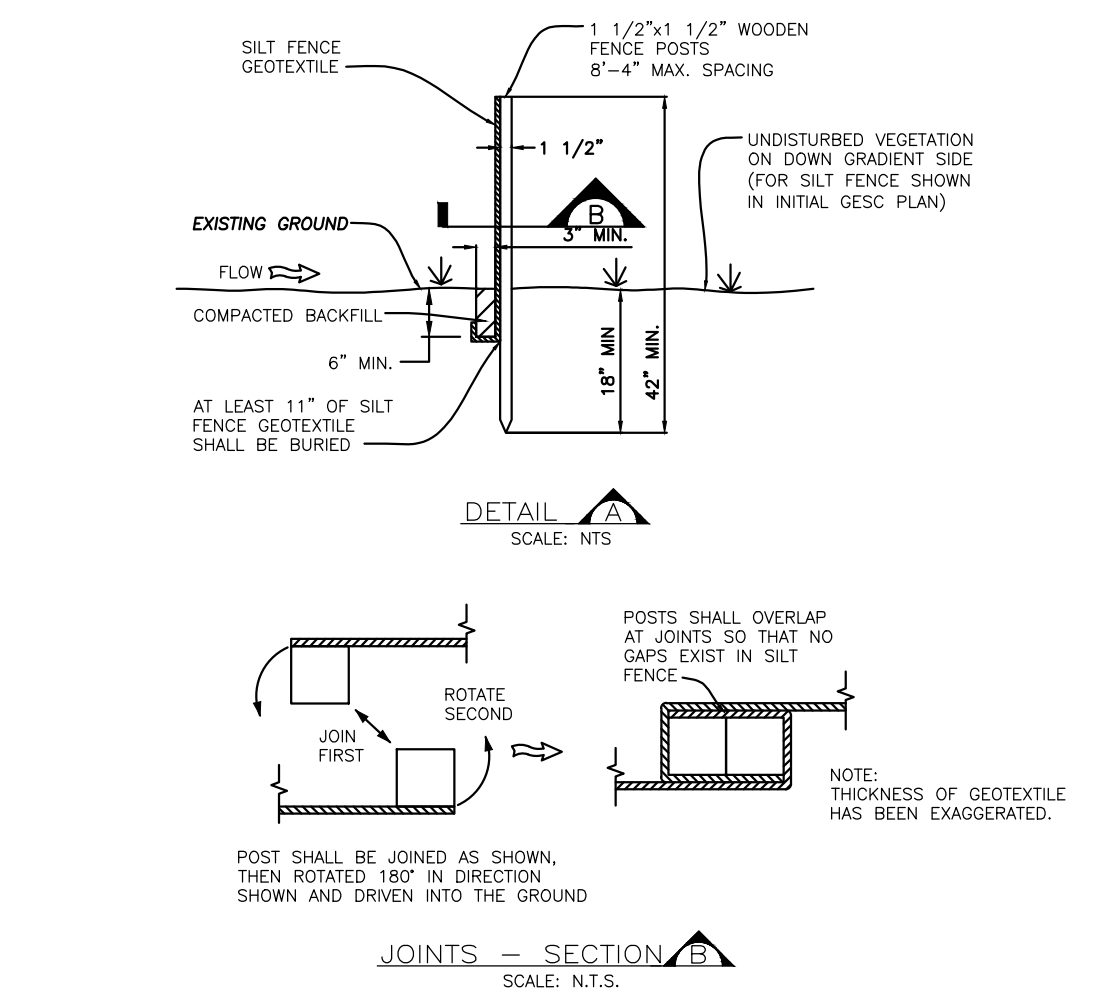
UPLAND SEED MIX - WITH FORBS^{1,2}

SPECIES	SCIENTIFIC NAME	SEASON	% IN MIX	SEEDS/LB.	LBS PLS ³ /AC
NATIVE GRASSES					
BIG BLUESTEM	ANDROPOGON GERARDII	WARM	8	130,000	1.6
SIDEOTS GRAMA	BOUTELOUA CURTIPENDULA	WARM	8	191,000	1.1
BLUE GRAMA	BOUTELOUA GRAECLIS	WARM	8	825,000	0.3
CANADA WILDRYE	ELYMUS CANADENSIS	COOL	8	115,000	1.8
THICKSPIKE WHEATGRASS	ELYMUS LANCEOLATUS SPP. LANCEOLATUS	COOL	5	154,000	0.8
STREAMBANK WHEATGRASS	ELYMUS LANCEOLATUS SPP. PSAMMOPHILUS	COOL	5	156,000	0.8
SLENDER WHEAT GRASS	ELYMUS TRACHYCALUS	WARM	10	159,000	1.6
NEEDLE AND THREAD	HESPEROSTIPHA COMATA	COOL	8	115,000	1.8
WESTERN WHEATGRASS	PASCOPYRUM SMITHI	COOL	10	110,000	2.4
INDIAN GRASS	SORGHASTRUM NUTANS	WARM	10	170,000	1.5
SAND DROPSPEED	SPOROBOLOUS CRYPTANDRUS	WARM	10	5,298,000	0.1
NATIVE WILDFLOWERS					
BLACK-EYED SUSAN	RUBICECHIA HIRTA	SUMMER-FALL	1	1,710,000	0.1
SULFUR FLOWER	EROGONUM UMBELATUM	FALL	2	209,000	0.3
PRairie AStar	MADEIRAANTHERA TANACEIFOLIA	SUMMER	1	408,000	0.1
PURPLE PRairie CLOVER	DALEA PURPUREA	SUMMER	1	210,000	0.1
WESTERN YARROW	ACHILLEA MILEFOLIUM VAR. OCCIDENTALE	SUMMER-FALL	2	2,770,000	0.1
PLAINS COREOPSIS	COREOPSIS THICTORA	SUMMER-FALL	1	1,450,000	0.1
INDIAN BLANNET FLOWER	GALLIARDA ARISTATA	SUMMER-FALL	1	132,000	0.2
PURPLE CONEFLOWER	SCHEUCHZERIA PURPUREA	SUMMER	1	117,000	0.2
TOTAL			100		15 LBS PLS ³ /AC

¹ TO BE INSTALLED AT APPROXIMATELY 24" ABOVE WATER LINE.
² PLS = PURE LIVE SEED PER POUND BASED 60 SEEDS PER SQUARE FOOT. IF BROADCAST SEEDING, DOUBLE THE RATE APPLIED.
³ IF DESIRED, TREES AND SHRUBS FROM THE COTTONWOOD SHRUB WOODLAND COMPOSITION SCHEDULE CAN BE INSTALLED IN THIS ZONE.

COMMON OR TRADE NAME	SCIENTIFIC NAME	LBS PLS/AC
OPTION 1: DATS	AVENA SATIVA	60 TO 90
OPTION 2: QUICKGARD	TRITICUM AESTIVUM X SECALE CERVALE	10 TO 40
OPTION 3: GREEN	TRITICUM AESTIVUM X ELYTRIGIA ELONGATA	10 TO 40

SEEDING AND MULCHING SHEET 7



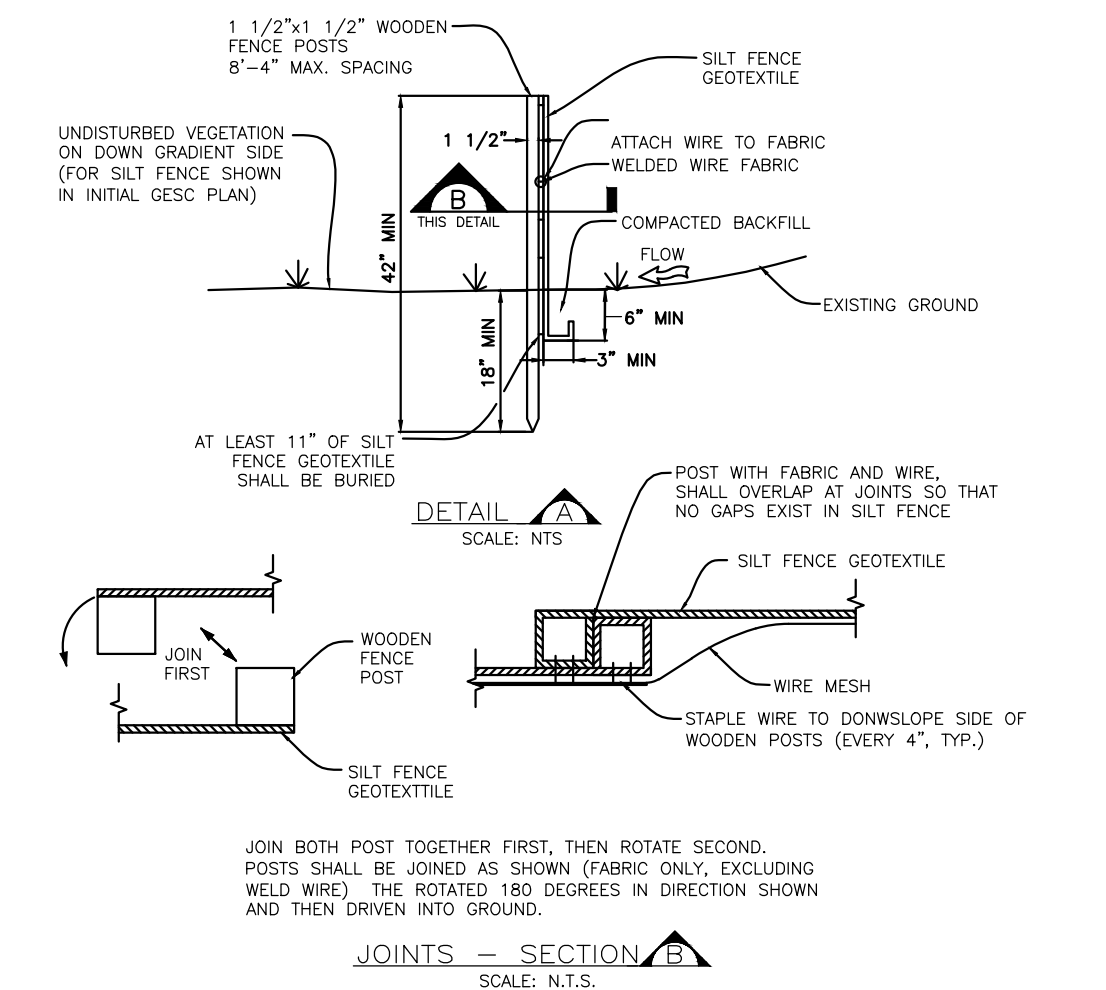
SILT FENCE INSTALLATION NOTES

- SEE PLAN VIEW FOR:
 - LOCATION AND LENGTH OF FENCE.
 - ANCHOR TRENCH SHALL BE EXCAVATED WITH TRENCHER, OR WITH SILT FENCE INSTALLATION MACHINE; NO ROAD GRADERS, BACKHOES, ETC. SHALL BE USED. TRENCH SHALL BE COMPACTED BY HAND, WITH "JUMPING JACK", OR BY WHEEL ROLLING. COMPACTATION SHALL BE SUCH THAT SILT FENCE RESISTS BEING PULLED OUT OF ANCHOR TRENCH BY HAND.
 - SILT FENCE GEOTEXTILE SHALL MEET THE FOLLOWING REQUIREMENTS:
 - 6- TO 12-GALLONS PER MINUTE PER SQUARE FOOT FLOW CAPACITY.
 - 90 LB. TENSILE STRENGTH PER ASTM D4822.
 - UV DESIGN AT 500 HRS MIN. TOS STRENGTH RETAINED PER ASTM D 4355.
 - SILT FENCE INDICATED ON INITIAL GESC PLAN SHALL BE INSTALLED PRIOR TO ANY LAND-DISTURBING ACTIVITIES.

SILT FENCE MAINTENANCE NOTES

- THE GESC MANAGER SHALL INSPECT AS NECESSARY TO ENSURE THE ADEQUACY AND FUNCTIONALITY OF THE CONTROL MEASURE.
- SEDIMENT ACCUMULATED UPSTREAM OF SILT FENCE SHALL BE REMOVED WHEN THE UPSTREAM SEDIMENT REACHES 20%.
- SILT FENCE SHALL BE REMOVED WHEN THE UPSTREAM DISTURBED AREA IS STABILIZED AND GRASS COVER IS APPROVED BY SEMSWA. IF ANY DISTURBED AREA EXISTS AFTER REMOVAL, IT SHALL BE SEEDED AND MULCHED OR OTHERWISE STABILIZED IN A MANNER APPROVED BY SEMSWA.

SILT FENCE SHEET 8



SILT FENCE INSTALLATION NOTES

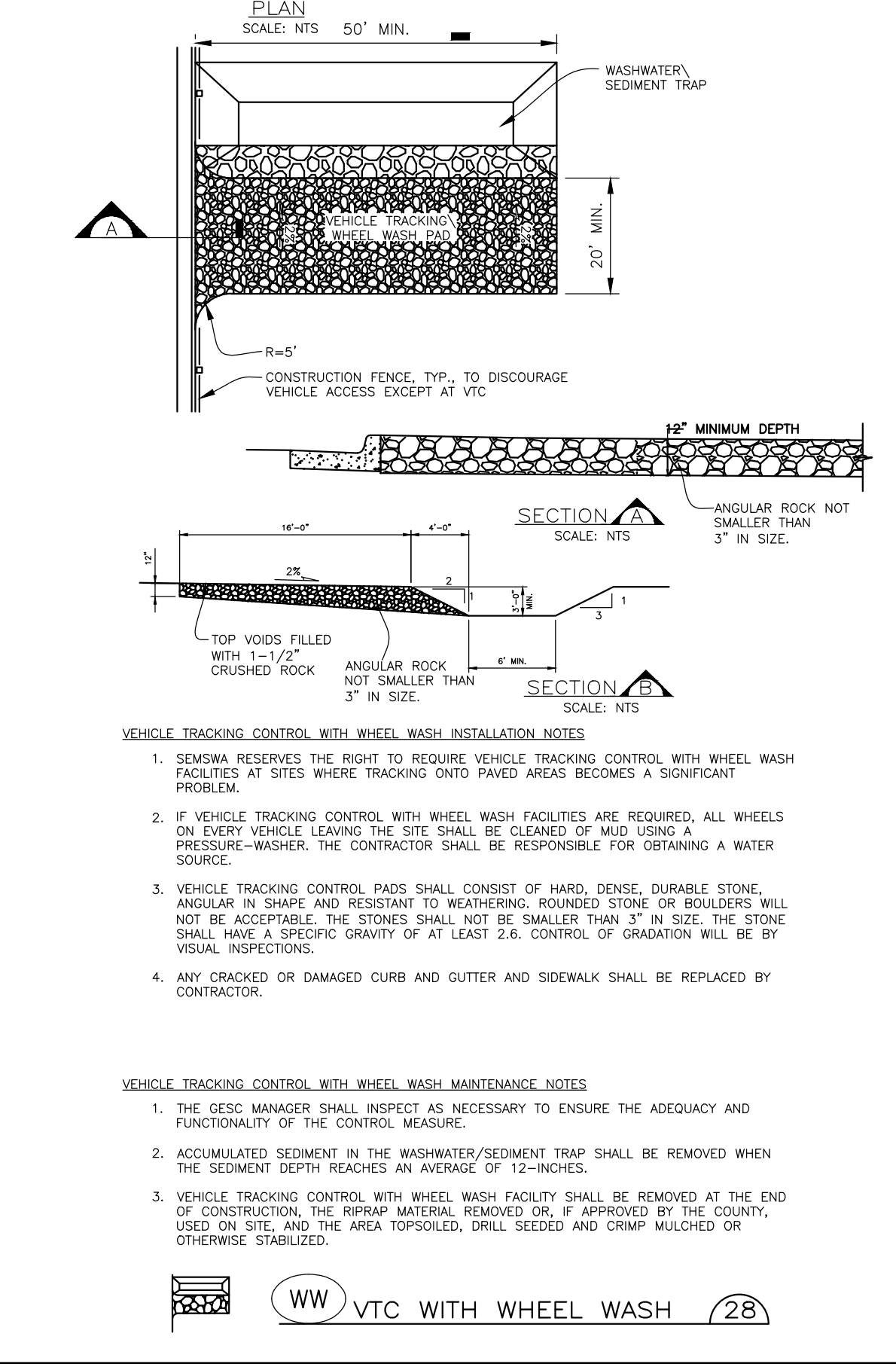
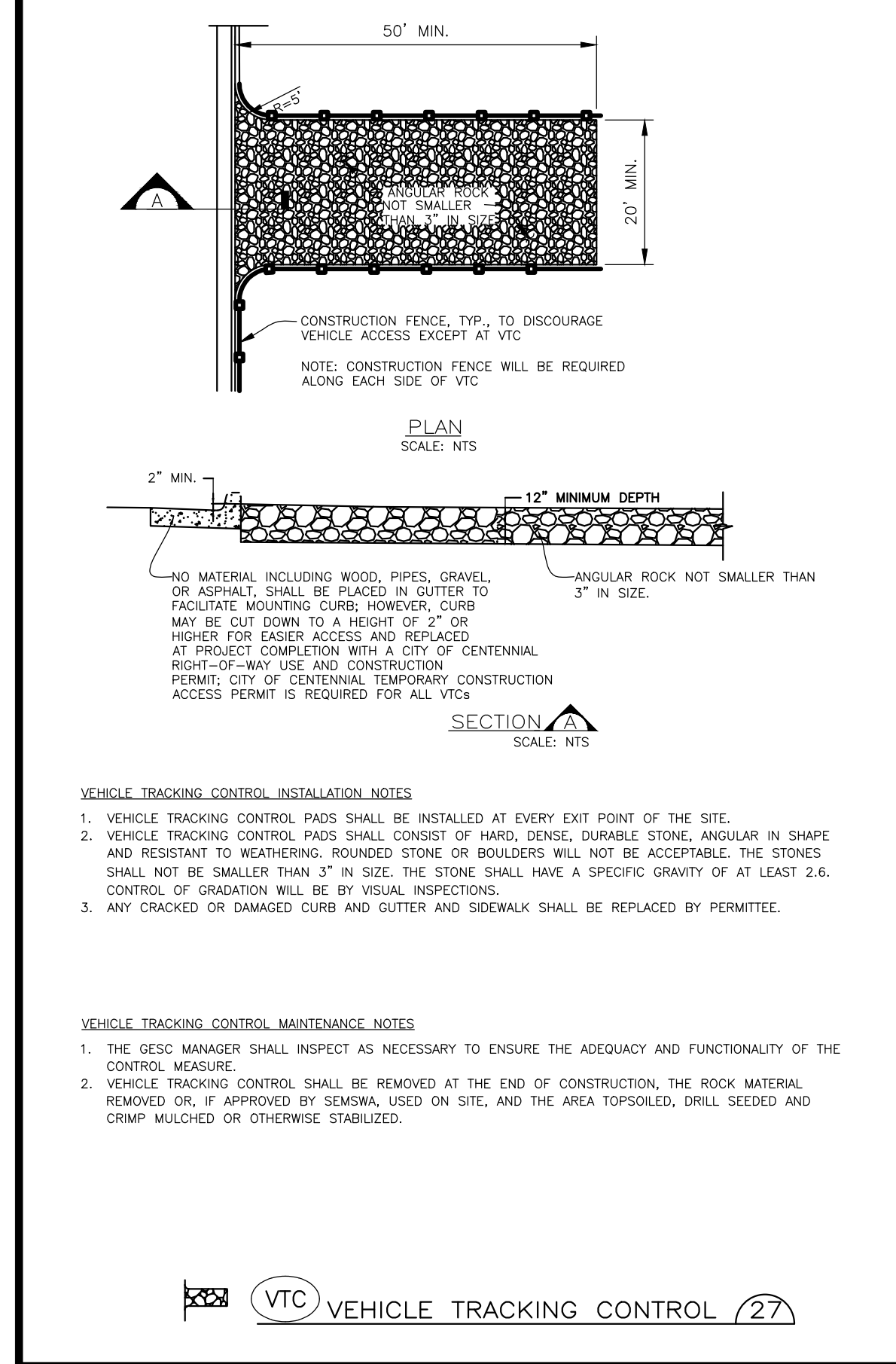
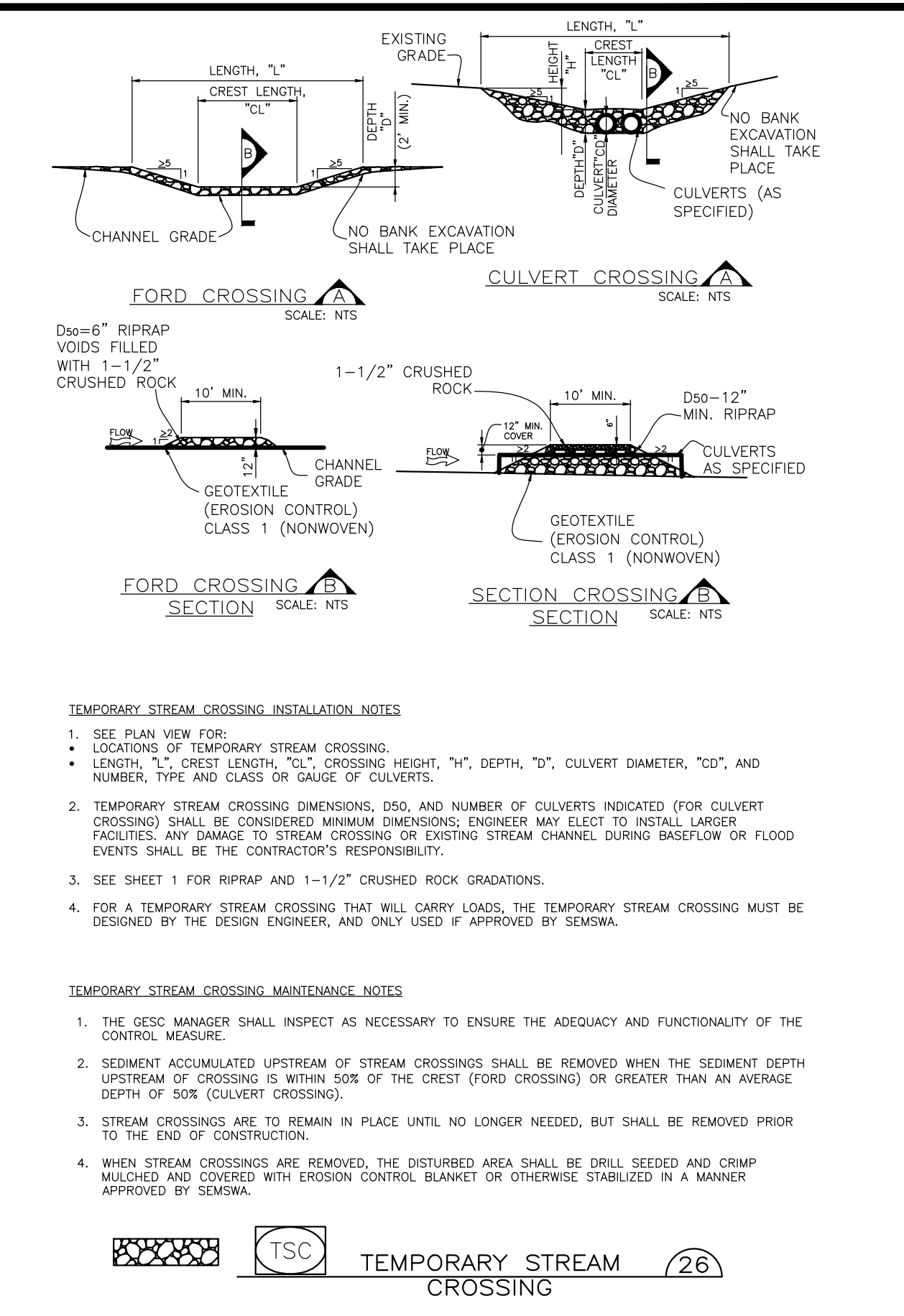
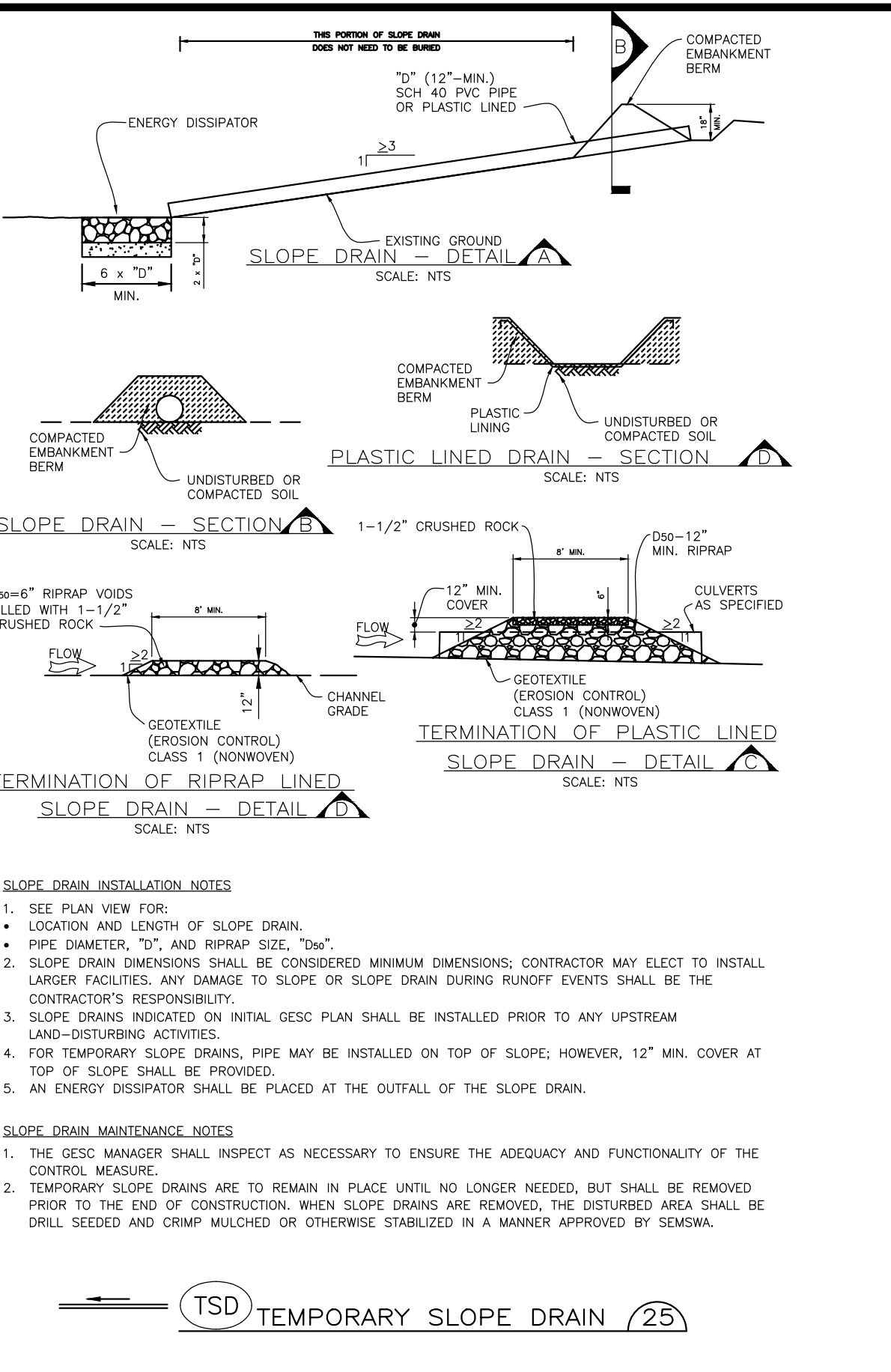
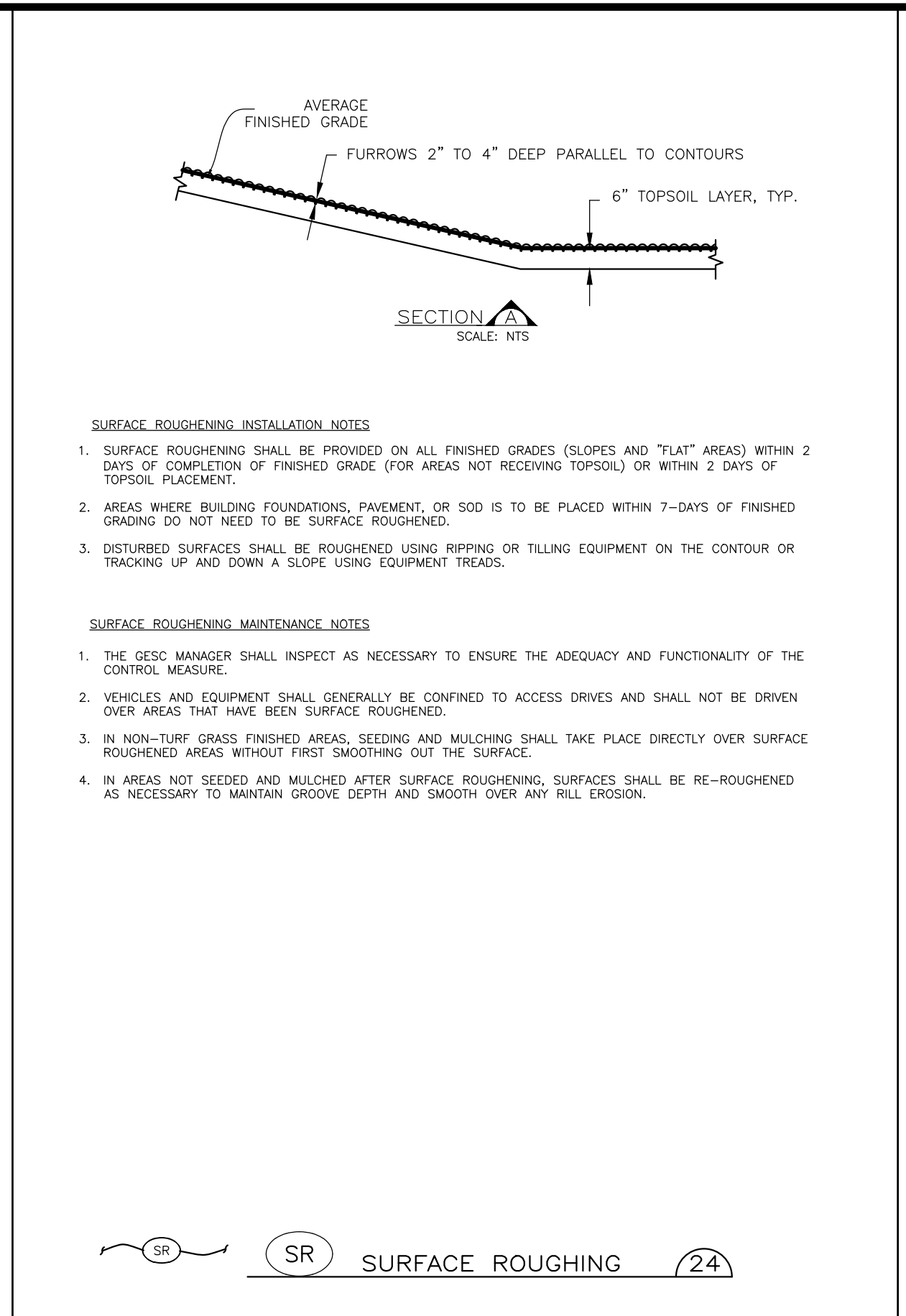
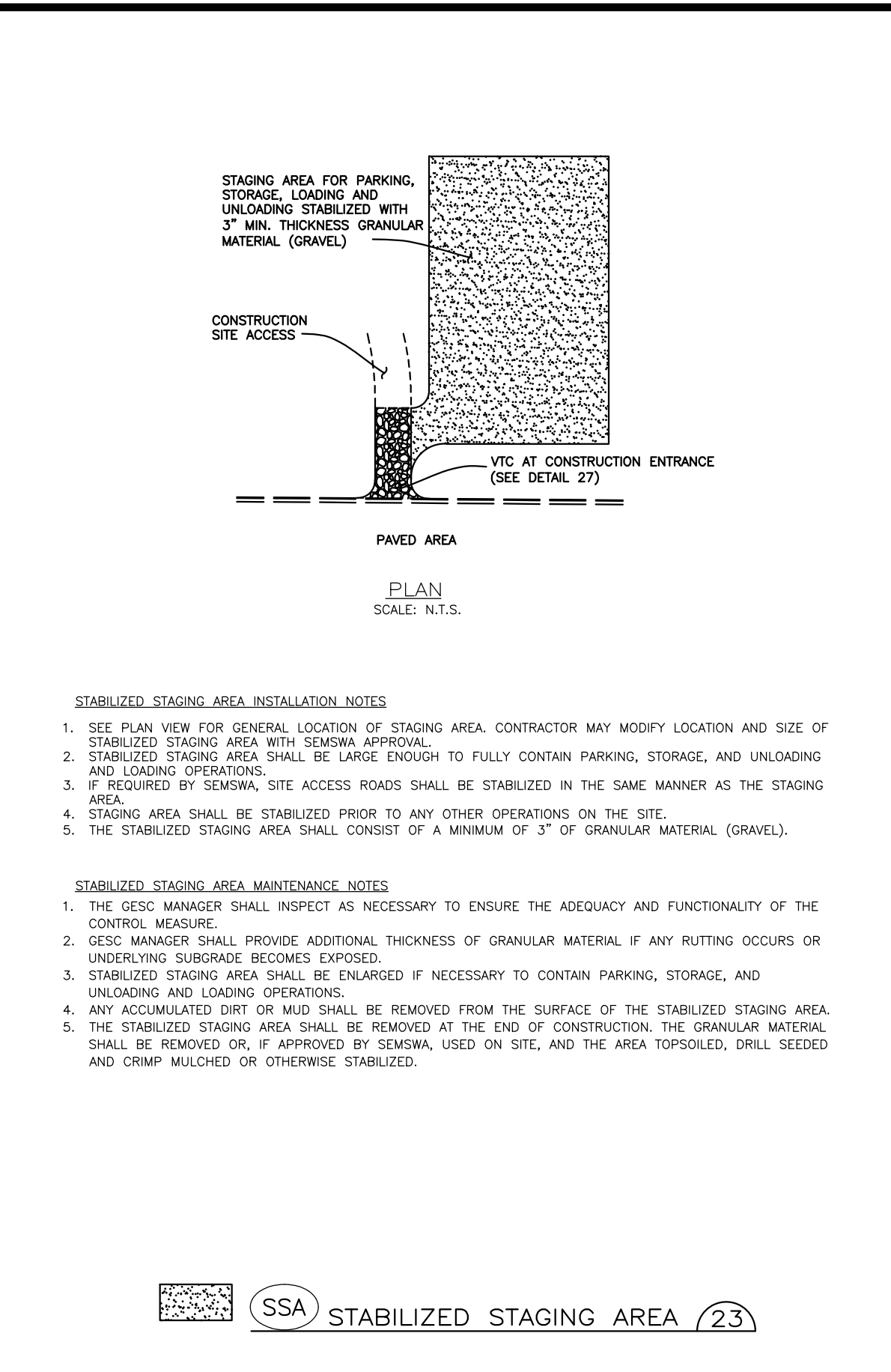
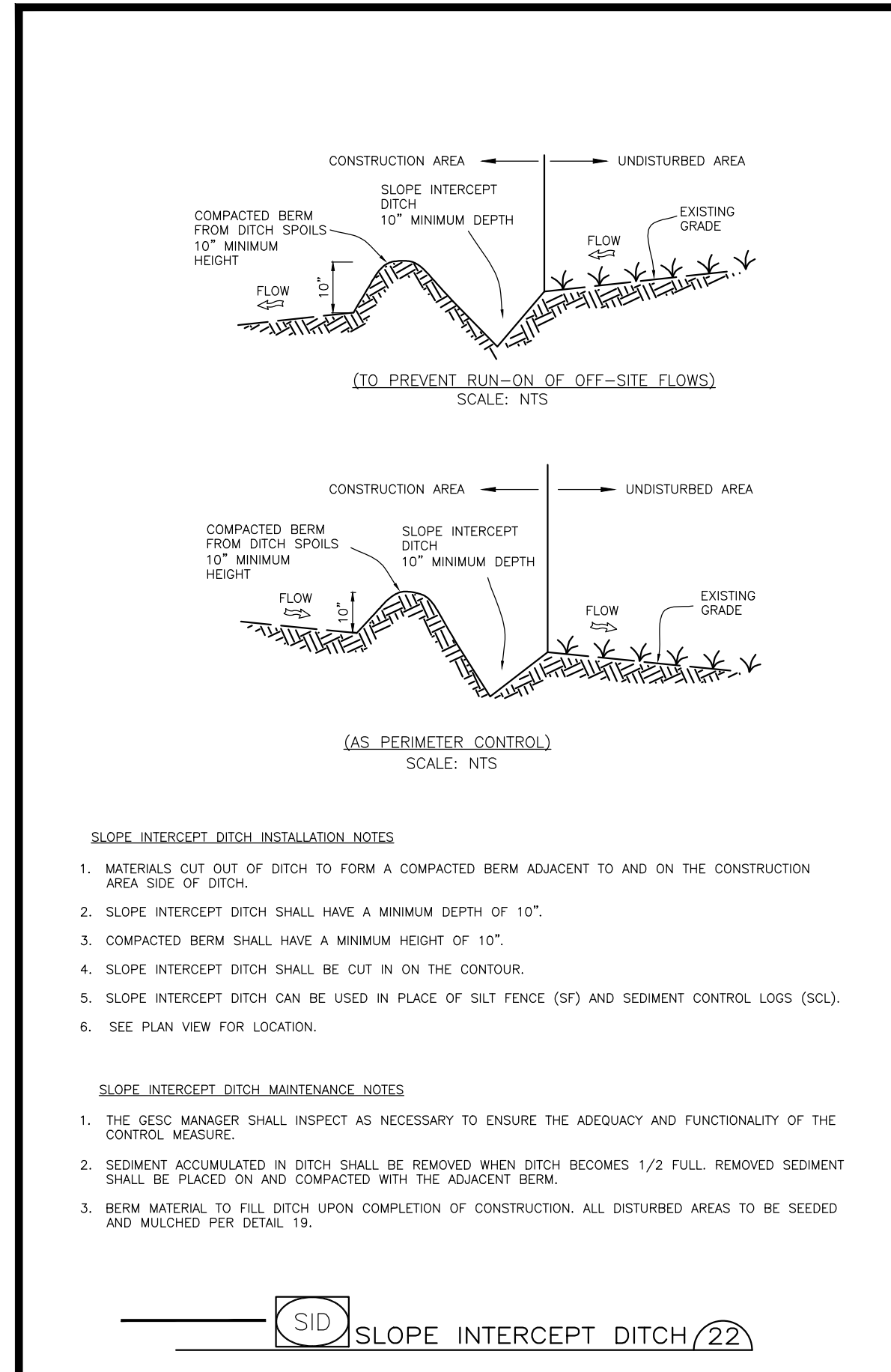
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SILT FENCE REINFORCED SHEET 9

UTILITY NOTIFICATION CENTER OF COLORADO
CALL BEFORE YOU DIG
811
Call 2 days prior to any digging, grading or excavating for the marking of underground member utilities



UTILITY NOTIFICATION CENTER OF COLORADO
CALL BEFORE YOU DIG
811
Call 2 days prior to any digging, grading or excavating for the marking of underground member utilities

SOUTHEAST METRO STORMWATER AUTHORITY
7437 SOUTH FAIRPLAY STREET
CENTENNIAL COLORADO
80112-4486
(303) 858-8844 - INSPECTION DIVISION



**GRADING EROSION AND SEDIMENT CONTROL
STANDARD NOTES AND DETAILS
REVISED FEBRUARY 2023**

**GESC
SHEET
4 OF 4**