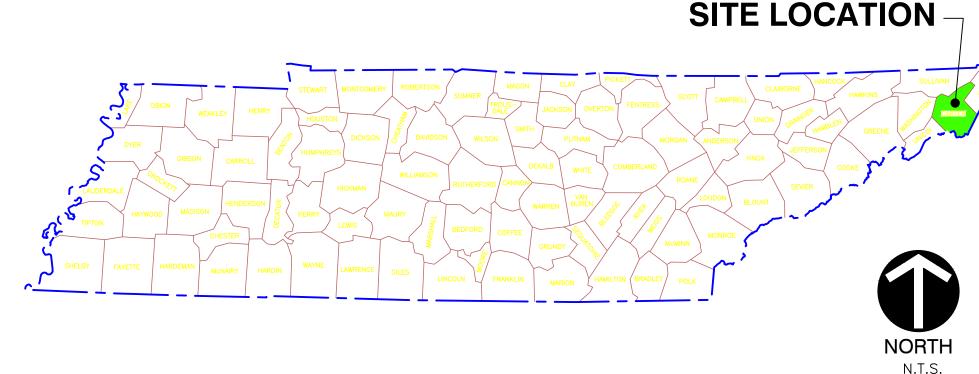
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	DATE	DESCRIPTION
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WATAUGA RIVER SLOPE STABILIZATION PLAN CONSTRUCTION DRAWINGS

SYCAMORE SHOALS STATE PARK (GREENE PROPERTY) ELIZABETHTON, TENNESSEE

MAY 2025







SHEET LIST TABLE				
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STANDARD DETAIL CALLOUT

-DETAIL REFERENCED -SHEET WHERE DETAIL IS PRESENTED

STANDARD REVISION CALLOUT

REVISION NUMBER



TENNESSEE DEPARTMENT OF ENVIRONMENT AND CONSERVATION **BUREAU OF PARKS AND CONSERVATION & DIVISION OF REMEDIATION NASHVILLE, TENNESSEE**

AQ APPROVED BY: MAY 2025 DWG SCALE: N/A PROJECT NO:

COVER

C000

ISSUED FOR CONSTRUCTION

DATE: <u>05/12/25</u> BY: <u>DW</u>

PURPOSE NOTE

THE PURPOSE OF THIS PROJECT IS TO (A) STABILIZE THE EASTERN SHORE OF THE WATAUGA RIVER IN THE VICINITY OF THE SYCAMORE SHOALS STATE PARK, AND (B) CREATE AN OBSERVATION AREA AS INDICATED ON THE DRAWINGS USING EXCAVATED MATERIAL. DURING THIS PROJECT, IT IS IMPERATIVE THAT NO SEDIMENT ENTER THE WATAUGA RIVER DURING CONSTRUCTION ACTIVITIES.

GENERAL NOTES

- 1. ANY MODIFICATIONS TO THE WORK AS SHOWN ON THESE DRAWINGS MUST HAVE PRIOR WRITTEN APPROVAL BY THE OWNER'S REPRESENTATIVE AND ENGINEER.
- 2. ALL LAND-DISTURBING ACTIVITIES SHALL BE SUBJECT TO INSPECTION AND SITE INVESTIGATION BY THE TENNESSEE DEPARTMENT OF ENVIRONMENT AND CONSERVATION. FAILURE TO COMPLY WITH THESE REGULATIONS IS SUBJECT TO LEGAL ENFORCEMENT ACTION.
- 3. SITE IS TO BE CONSTRUCTED IN A MANNER THAT REDUCES DISRUPTION TO NEIGHBORING OPERATIONS TO MAXIMUM EXTENT POSSIBLE. TEMPORARY MEASURES REQUIRED TO FACILITATE DAILY OPERATIONS DURING THE CONSTRUCTION PERIOD SHALL BE IMPLEMENTED BY THE CONTRACTOR; UNDER NO CIRCUMSTANCES SHOULD IMPLEMENTATION OF THESE MEASURES JEOPARDIZE THE SAFETY OF NEIGHBORING EMPLOYEES OR THE CONTRACTOR.
- 4. ALL TRENCHING AND BACKFILLING SHALL BE IN ACCORDANCE WITH ALL FEDERAL OSHA REGULATIONS. CONTRACTOR TO PAY PARTICULAR ATTENTION TO 29 CFR PART 1926, SUBPARTS M AND P.
- 5. THE CONTRACTOR AND SUBCONTRACTORS SHALL BE RESPONSIBLE FOR COMPLYING WITH APPLICABLE FEDERAL, STATE AND LOCAL REQUIREMENTS, TOGETHER WITH EXERCISING PRECAUTIONS AT ALL TIMES FOR THE PROTECTION OF PERSONS (INCLUDING EMPLOYEES) AND PROPERTY. THE CONTRACTOR SHALL OBTAIN ALL APPLICABLE PERMITS AND PAY ALL REQUIRED FEES PRIOR TO BEGINNING WORK. IT IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR AND SUBCONTRACTORS TO INITIATE, MAINTAIN AND SUPERVISE ALL SAFETY REQUIREMENTS, PRECAUTIONS AND PROGRAMS IN CONNECTION WITH THE WORK.
- 6. CONTRACTOR SHALL REFER TO PLANS WITHIN THIS CONSTRUCTION SET FOR OTHER PERTINENT INFORMATION. IT IS NOT THE ENGINEER'S INTENT THAT ANY SINGLE PLAN SHEET IN THIS SET OF DOCUMENTS FULLY DEPICT ALL WORK ASSOCIATED WITH THE PROJECT.
- 7. BEFORE INSTALLATION OF UTILITIES, THE CONTRACTOR SHALL VERIFY ALL CROSSINGS, BY EXCAVATION WHERE NECESSARY, AND INFORM THE OWNER AND THE ENGINEER OF ANY CONFLICTS. THE ENGINEER WILL BE HELD HARMLESS IN THE EVENT HE IS NOT NOTIFIED OF DESIGN CONFLICTS PRIOR TO CONSTRUCTION.
- 8. A GEOTECHNICAL INVESTIGATION FOR THE ENTIRE PROJECT AREA WAS NOT

SURVEY NOTES

. SURVEY NOTES ARE DETAILED ON OTHER PLAN SHEETS WITHIN THIS CONSTRUCTION

LAYOUT NOTES

- 1. THE CONTRACTOR SHALL CHECK EXISTING GRADES, DIMENSIONS, AND INVERTS IN THE FIELD AND REPORT ANY DISCREPANCIES TO THE OWNER'S REPRESENTATIVE PRIOR TO BEGINNING WORK
- 2. ALL DAMAGE TO EXISTING PAVEMENT TO REMAIN WHICH RESULTS FROM THE CONTRACTOR'S OPERATIONS SHALL BE REPLACED WITH LIKE MATERIALS AT THE CONTRACTOR'S EXPENSE.
- 3. CONTRACTOR SHALL MAINTAIN ONE SET OF AS-BUILT/RECORD DRAWINGS ON THE JOB SITE DURING CONSTRUCTION FOR DISTRIBUTION TO THE OWNER AND/OR OWNER'S REPRESENTATIVE UPON COMPLETION.

GRADING NOTES

- 1. EARTHWORK SHALL INCLUDE CLEARING AND GRUBBING, STRIPPING AND STOCKPILING TOPSOIL, MASS GRADING, EXCAVATION, FILLING, UNDERCUT AND REPLACEMENT, AND COMPACTION IF REQUIRED.
- 2. CONTRACTOR SHALL STRICTLY ADHERE TO THE CQA PLAN PREPARED FOR THIS PROJECT AND THE EROSION PREVENTION & SEDIMENT CONTROL (EPSC) MEASURES DETAILED IN THESE DRAWINGS.
- 3. EARTHWORK SHALL BE PERFORMED IN ACCORDANCE WITH TDOT STANDARD SPECIFICATIONS FOR ROAD & BRIDGE CONSTRUCTION SECTION 203.
- 4. EXCESS SOIL MATERIALS SHALL NOT BE PLACED OR STOCKPILED IN THE
- 5. CONTRACTOR TO REFILL UNDERCUT AREAS WITH SUITABLE MATERIAL AND COMPACT AS RECOMMENDED BY THE GEOTECHNICAL ENGINEER.
- 6. ALL AREAS SHALL BE STABILIZED IN ACCORDANCE WITH THE EPSC PLANS AND/OR EPSC MEASURES DETAILED IN THESE DRAWINGS, UNLESS NOTED OTHERWISE.
- 7. ALL EXCESS SOIL MATERIALS SHALL BECOME THE PROPERTY OF THE CONTRACTOR UNLESS OTHERWISE DESIGNATED AND SHALL BE REMOVED BY THE CONTRACTOR AND DISPOSED OF OFFSITE AT NO ADDITIONAL COST TO THE OWNER IN ACCORDANCE WITH ALL LOCAL AND STATE CODES AND PERMIT REQUIREMENTS.

UTILITY NOTES

- 1. THE CONTRACTOR IS PARTICULARLY CAUTIONED THAT THE LOCATION AND/OR ELEVATION OF THE EXISTING UTILITIES SHOWN HEREON IS BASED ON TOPOGRAPHIC SURVEYS AND RECORD DRAWINGS. THE CONTRACTOR SHALL NOT RELY UPON THIS INFORMATION AS BEING EXACT OR COMPLETE. SHOULD UNCHARTED UTILITIES BE ENCOUNTERED DURING EXCAVATION OPERATIONS, THE CONTRACTOR SHALL NOTIFY THE ENGINEER AS SOON AS POSSIBLE FOR INSTRUCTIONS. THE CONTRACTOR SHALL CALL THE APPROPRIATE UTILITY COMPANY AT LEAST 48 HOURS PRIOR TO ANY EXCAVATION AND REQUEST FIELD VERIFICATION OF UTILITY LOCATIONS.
- 2. SHOULD THE CONTRACTOR UNEXPECTEDLY ENCOUNTER UNDERGROUND UTILITIES AT ANY TIME DURING CONSTRUCTION, THE OWNER'S REPRESENTATIVE AND ENGINEER SHALL BE NOTIFIED IMMEDIATELY.
- 3. EXISTING UTILITIES LOCATED IN THE PROJECT LIMITS TO BE RELOCATED BY OTHERS. CONTRACTOR SHALL COORDINATE WITH THE OWNER'S REPRESENTATIVE FOR UTILITY
- 4. INVESTIGATION, LOCATION, SUPPORT, PROTECTION, AND RESTORATION OF ALL EXISTING UTILITIES AND APPURTENANCES SHALL BE THE RESPONSIBILITY OF THE
- 5. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING THE SEQUENCING OF CONSTRUCTION FOR ALL UTILITY LINES SO THAT WATER LINES, GAS LINES, AND UNDERGROUND ELECTRIC AND COMMUNICATION LINES DO NOT CONFLICT WITH SANITARY SEWERS OR STORM SEWERS. CONTRACTOR SHALL COORDINATE WITH THE OWNER'S REPRESENTATIVE SO THAT UTILITIES ARE INSTALLED PRIOR TO PAVEMENT CONSTRUCTION.
- 6. ALL TRENCH SPOILS SHALL BECOME THE PROPERTY OF THE CONTRACTOR UNLESS OTHERWISE DESIGNATED AND SHALL BE REMOVED BY THE CONTRACTOR AND DISPOSED OF OFFSITE AT NO ADDITIONAL COST TO THE OWNER IN ACCORDANCE WITH ALL LOCAL AND STATE CODES AND PERMIT REQUIREMENTS.

EROSION PREVENTION AND SEDIMENT CONTROL GENERAL NOTES

- 1. THE CONTRACTOR IS RESPONSIBLE FOR ADHERING TO ALL EROSION PREVENTION AND SEDIMENT CONTROL PROVISIONS AS SET FORTH IN THE CONTRACT DOCUMENTS AND TENNESSEE DEPARTMENT OF ENVIRONMENT AND CONSERVATION "EROSION AND SEDIMENT CONTROL HANDBOOK", LATEST EDITION. WHERE CONFLICTS EXIST BETWEEN HANDBOOK AND DESIGN PLANS, THE MOST STRINGENT REQUIREMENT
- 2. CONTRACTOR SHALL LIMIT CONSTRUCTION ACTIVITIES AND CONSTRUCTION TRAFFIC TO INSIDE LIMITS OF DISTURBANCE AT ALL TIMES.
- 3. TEMPORARY STABILIZATION SHALL BE PROVIDED TO ALL DISTURBED AREAS WITHIN 14 DAYS OF CEASING LAND DISTURBANCE ACTIVITIES.
- 4. PRE-CONSTRUCTION VEGETATIVE GROUND COVER SHALL NOT BE DESTROYED, REMOVED OR DISTURBED (I.E. CLEARING AND GRUBBING INITIATED) MORE THAN 14 CALENDAR DAYS PRIOR TO GRADING OR EARTH MOVING ACTIVITIES UNLESS THE AREA IS SEEDED AND/OR MULCHED OR OTHER TEMPORARY COVER IS INSTALLED.
- 5. CLEARING, GRUBBING, AND OTHER DISTURBANCE TO RIPARIAN VEGETATION SHALL BE LIMITED TO THE MINIMUM NECESSARY FOR SLOPE CONSTRUCTION AND EQUIPMENT OPERATIONS, UNNECESSARY VEGETATION REMOVAL IS PROHIBITED.
- 6. ALL DISTURBED AREAS SHALL BE PROPERLY STABILIZED AS SOON AS PRACTICABLE. PRIORITY SHALL BE GIVEN TO FINISHING OPERATIONS AND PERMANENT EROSION PREVENTION AND SEDIMENT CONTROL MEASURES OVER TEMPORARY EROSION PREVENTION AND SEDIMENT CONTROL MEASURES ON ALL PROJECTS. SURFACE ROUGHENING SHALL BE PERFORMED ON ALL DISTURBED RIPARIAN AREAS.
- 7. EROSION AND SEDIMENT CONTROL MEASURES SHALL BE INSTALLED CONCURRENTLY WITH CLEARING OPERATIONS, AND SHALL BE FUNCTIONAL PRIOR TO ANY EARTH MOVING OPERATIONS.
- 8. EROSION PREVENTION AND SEDIMENT CONTROL (EPSC) INSPECTION, REPAIR, AND MAINTENANCE OF STRUCTURES IS TO BE PERFORMED ON A REGULAR BASIS AND SEDIMENT SHALL BE REMOVED FROM SEDIMENT CONTROL STRUCTURES WHEN THE DESIGN CAPACITY HAS BEEN REDUCED BY FIFTY PERCENT (50%). DURING SEDIMENT REMOVAL, THE CONTRACTOR SHALL TAKE CARE TO ENSURE THAT STRUCTURAL COMPONENTS OF EROSION PREVENTION AND SEDIMENT CONTROL STRUCTURES ARE NOT DAMAGED AND THUS MADE INEFFECTIVE. IF DAMAGE DOES OCCUR, THE CONTRACTOR SHALL REPAIR THE STRUCTURES AT THE CONTRACTOR'S OWN
- 9. IF SEDIMENT ESCAPES THE CONSTRUCTION SITE, OFF-SITE ACCUMULATIONS OF SEDIMENT THAT HAVE NOT REACHED A STREAM MUST BE REMOVED AT A FREQUENCY SUFFICIENT TO MINIMIZE OFF-SITE IMPACTS.
- 10. SEEDING/MULCHING TO BE PERFORMED IN ACCORDANCE WITH THE TDOT STANDARDS SPECIFICATION FOR ROAD & BRIDGE CONSTRUCTION SECTION 801.
- 11. WOODEN STAKES USED TO ANCHOR THE ECM SHALL NOT EXTEND MORE THAN 1/2" ABOVE GRADE.
- 12. WATER PUMPED FROM WORK AREAS AND EXCAVATION MUST BE HELD IN SETTLING BASINS OR TREATED BY FILTRATION PRIOR TO ITS DISCHARGE INTO SURFACE WATERS. WATER MUST BE HELD IN SETTLING BASINS UNTIL AT LEAST AS CLEAR AS THE RECEIVING WATERS. SETTLING BASINS SHALL NOT BE LOCATED CLOSER THAN 20 FEET FROM THE TOP BANK OF A STREAM. SETTLING BASINS AND SEDIMENT TRAPS SHALL BE PROPERLY DESIGNED ACCORDING TO THE SIZE OF THE DRAINAGE AREAS OR VOLUME OF WATER TO BE TREATED. TREATED WATER MUST BE DISCHARGED THROUGH A PIPE OR WELL-VEGETATED OR LINED CHANNEL, SO THAT THE DISCHARGE DOES NOT CAUSE EROSION OR SEDIMENT TRANSPORT.
- 13. CHECK DAMS SHALL BE USED WHERE RUNOFF IS CONCENTRATED. CLEAN ROCK, BRUSH, GABION, OR SANDBAG CHECK DAMS SHALL BE PROPERLY CONSTRUCTED TO REDUCE WATER FLOW VELOCITY AND PROVIDE EROSION CONTROL.
- 14. INSPECTION OF EROSION PREVENTION AND SEDIMENT CONTROL MEASURES SHALL BE DONE ACCORDING TO THE TENNESSEE CONSTRUCTION GENERAL PERMIT
- 15. UPON CONCLUSION OF THE INSPECTIONS, EROSION PREVENTION AND SEDIMENT CONTROL (EPSC) MEASURES FOUND TO BE INEFFECTIVE SHALL BE REPAIRED, REPLACED, OR MODIFIED BEFORE THE NEXT RAIN EVENT, IF POSSIBLE, BUT IN NO CASE MORE THAN 7 DAYS AFTER THE INSPECTION OR WHEN THE CONDITION IS IDENTIFIED. IF THE REPAIR, REPLACEMENT OR MODIFICATION IS NOT PRACTICAL WITHIN THE TIMEFRAME. WRITTEN DOCUMENTATION MUST BE PROVIDED IN THE FIELD BOOK AND AN ESTIMATED REPAIR, REPLACEMENT OR MODIFICATION SCHEDULE SHALL BE DOCUMENTED WITHIN 24 HOURS AFTER IDENTIFICATION.
- 16. THE OPERATION OF EQUIPMENT IN WATERS OF THE STATE/U.S. IS PROHIBITED, EXCEPT AS NEEDED TO PERFORM STREAM RESTORATION WORK AS DIRECTED BY
- 17. THE CONTRACTOR SHALL ESTABLISH AND MAINTAIN A PROACTIVE METHOD TO PREVENT LITTER, CONSTRUCTION DEBRIS, AND CONSTRUCTION WASTES FROM ENTERING WATERS OF THE STATE/U.S.
- 18. THE CONTRACTOR SHALL TAKE APPROPRIATE STEPS TO ENSURE THAT PETROLEUM PRODUCTS OR OTHER CHEMICAL POLLUTANTS ARE PREVENTED FROM ENTERING WATERS OF THE STATE/U.S. ALL EQUIPMENT REFUELING, SERVICING, AND STAGING AREAS SHALL COMPLY WITH ALL LOCAL, STATE, AND FEDERAL LAWS, RULES, REGULATIONS. AND ORDINANCES. INCLUDING THOSE OF THE NATIONAL FIRE PROTECTION ASSOCIATION (NFPA). APPROPRIATE CONTAINMENT MEASURES FOR THESE AREAS SHALL BE USED. ALL SPILLS MUST BE REPORTED TO THE APPROPRIATE AGENCY, AND MEASURES SHALL BE TAKEN IMMEDIATELY TO PREVENT THE POLLUTION OF WATERS OF THE STATE/U.S., INCLUDING GROUNDWATER, SHOULD A SPILL OCCUR.
- 19. THE CONTRACTOR SHALL PROTECT ALL TREES TO REMAIN IN ACCORDANCE WITH THE SPECIFICATIONS.

ENVIRONMENTAL INFORMATION LOGISTICS, LLC

REVISION RECORD

DESCRIPTION

DATE

TENNESSEE DEPARTMENT OF ENVIRONMENT AND CONSERVATION **BUREAU OF PARKS AND CONSERVATION & DIVISION OF REMEDIATION** NASHVILLE, TENNESSEE

DW CHECKED BY: AQ APPROVED BY:

GENERAL NOTES

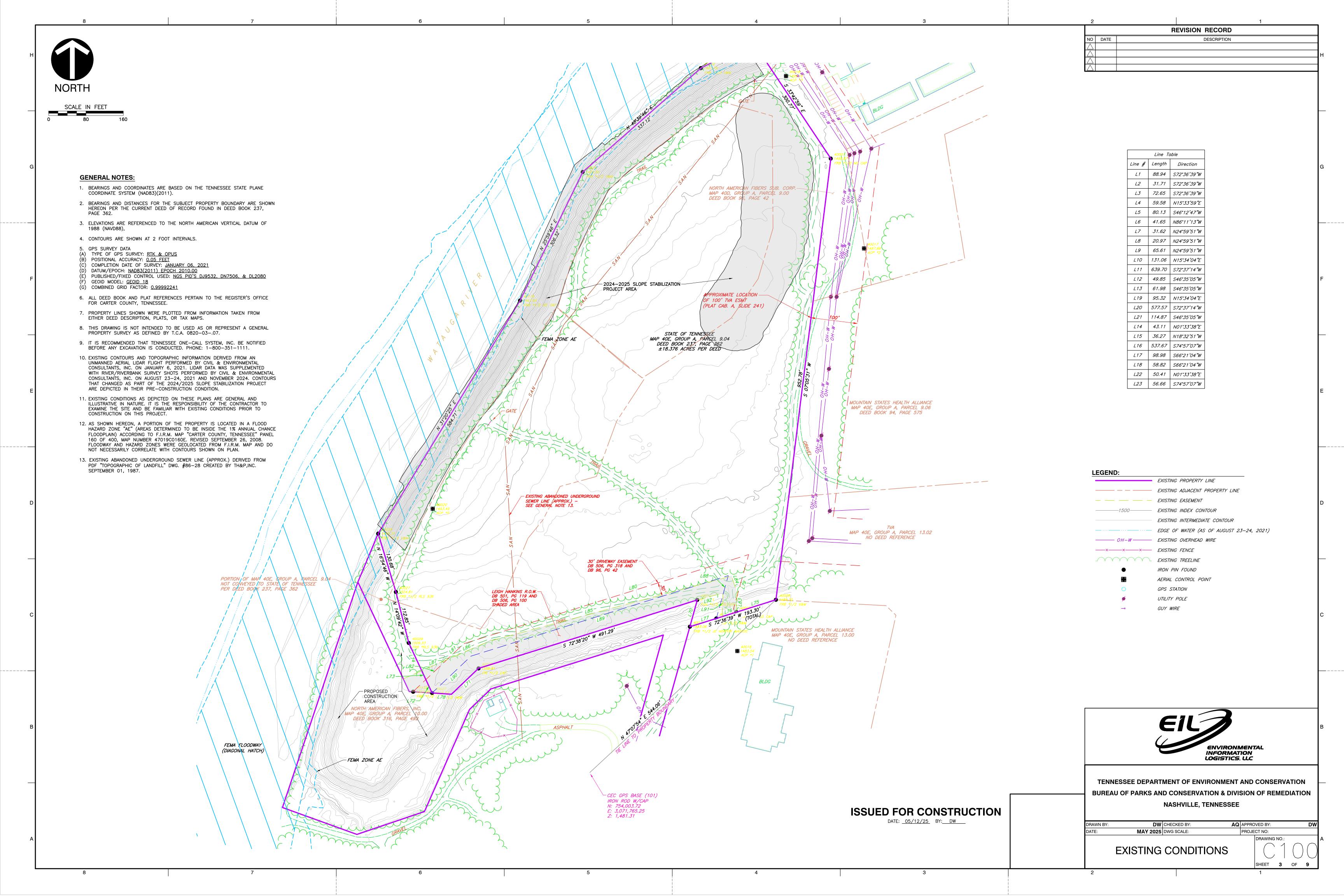
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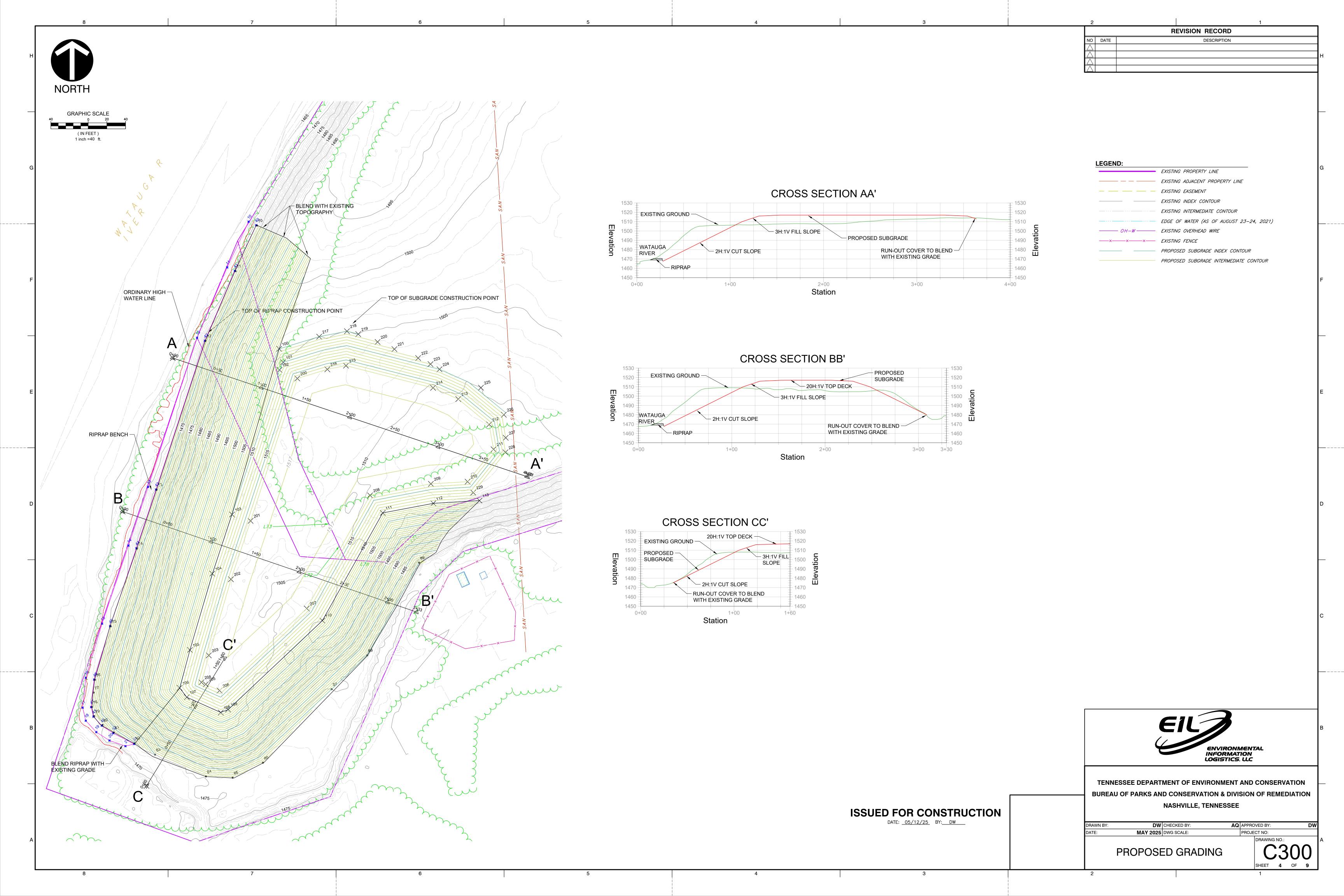
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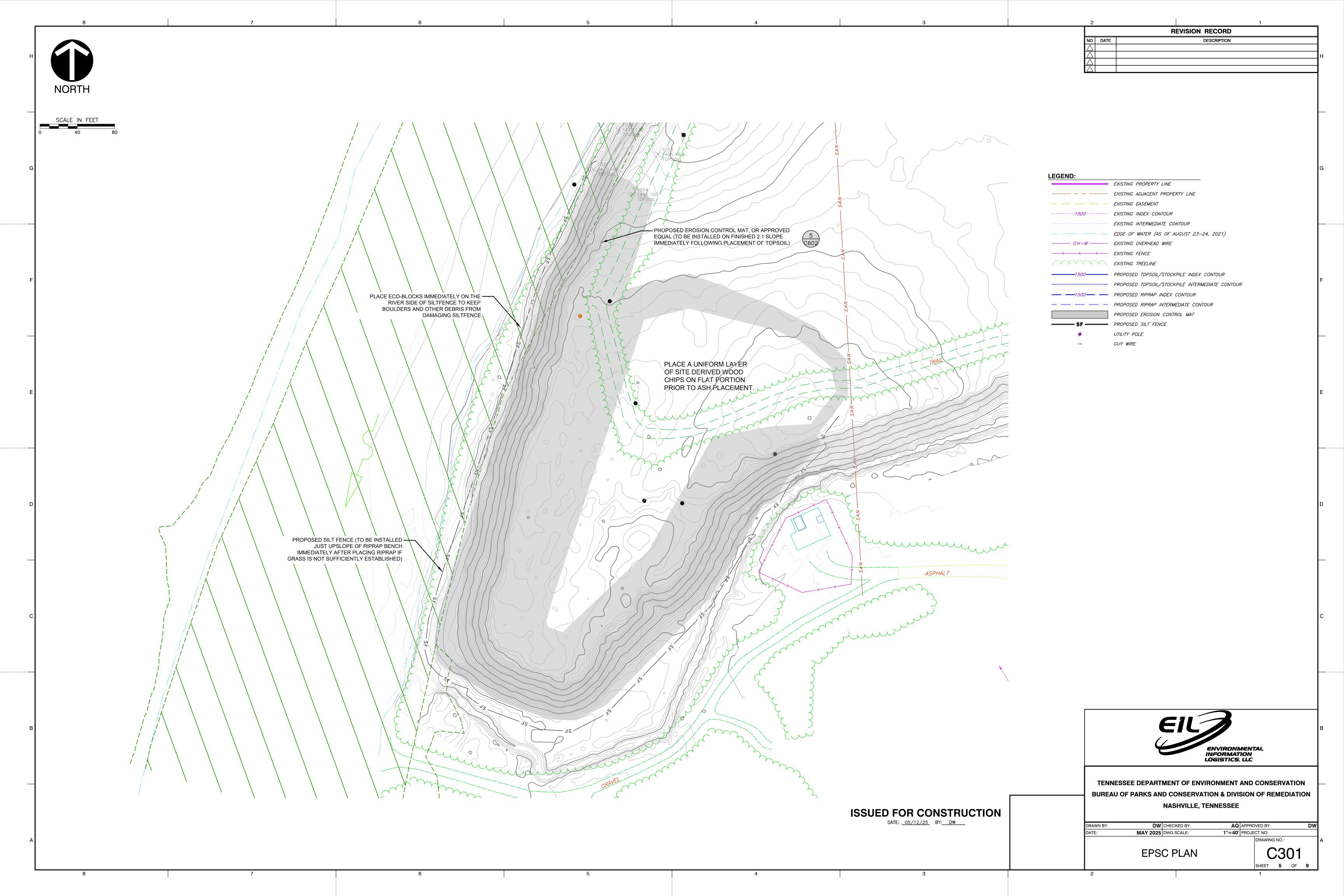
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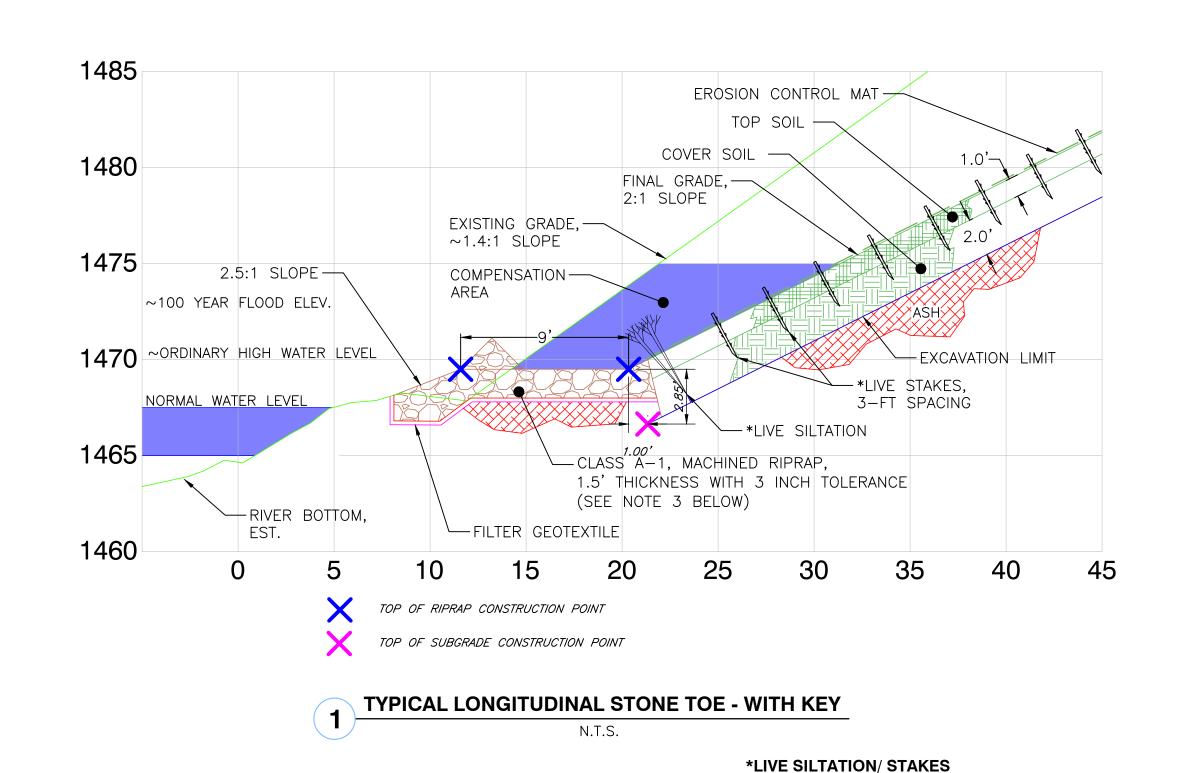
ISSUED FOR CONSTRUCTION

DATE: <u>05/12/25</u> BY: <u>DW</u>







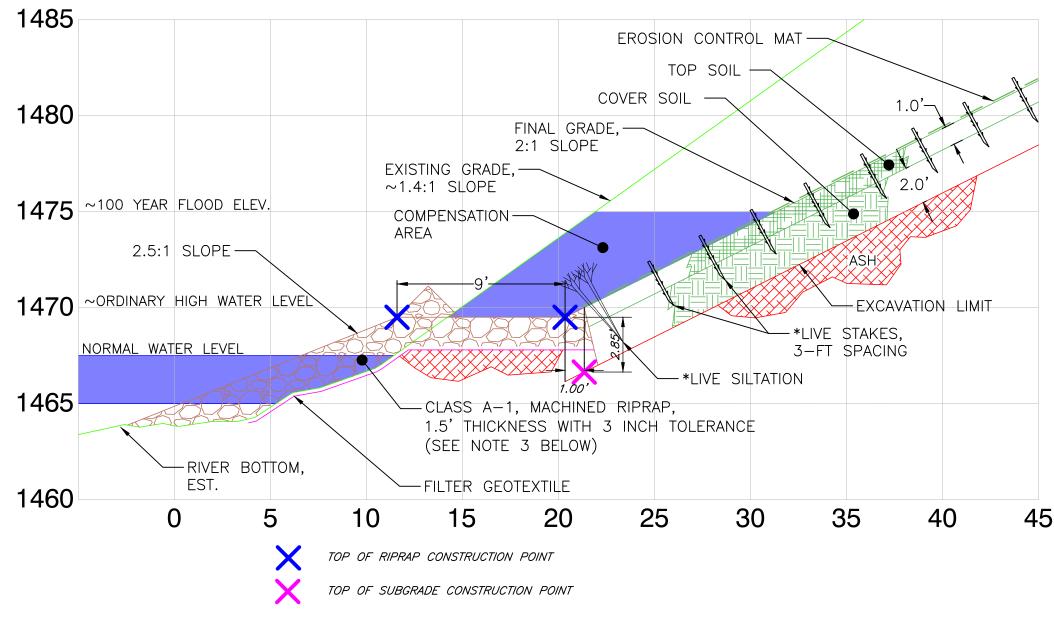


LIVE SILTATION (MIN. 25 BRANCHES OF LIVE CUTTINGS OF MIXED SPECIES

REST OF BANK

PER THREE (3) LINEAR FEET)

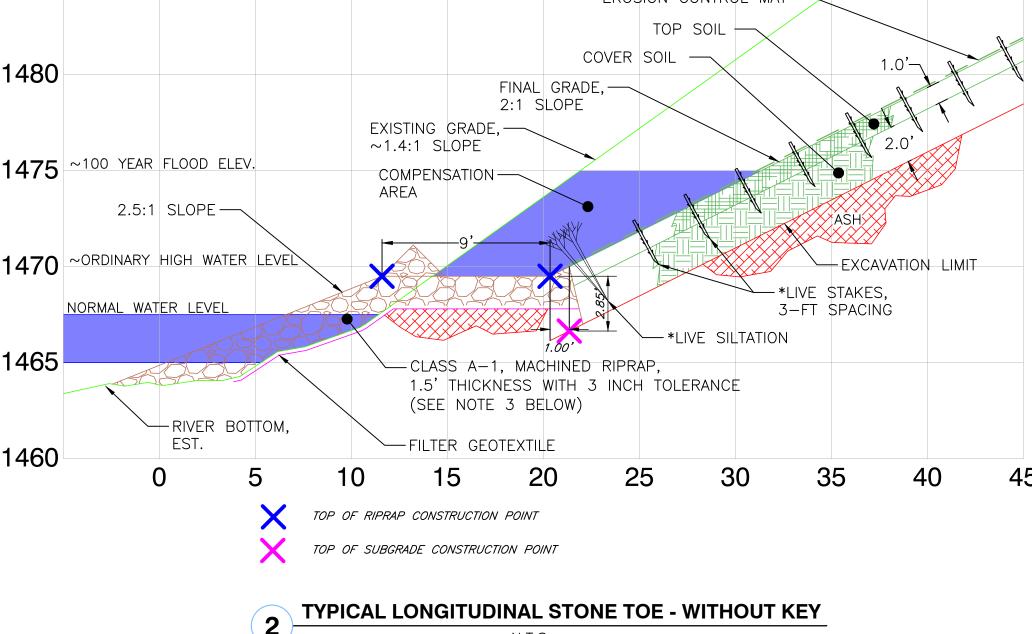
LIVE STAKES



1. KEY IN RIPRAP WHERE RIPRAP TOE IS ABOVE WATER LEVEL AT TIME OF EXCAVATION.

2. PLACE GEOTEXTILE AND RIPRAP ON THE SAME DAY AS EXCAVATION.

3. MACHINED RR, CLASS A-1, SEC. 709-02, 709-03-3a



EXISTING GRADE — EROSION CONTROL MAT-TOP SOIL COVER SOIL FINAL GRADE, — 2:1 SLOPE — EXCAVATION LIMIT -*LIVE STAKES, 3-FT SPACING

REVISION RECORD

DESCRIPTION

100-YR FLOOD ELEVATION

ORDINARY HIGH WATER LEVEL

NORMAL WATER LEVEL 1465 FT +MSL (APPROX)

ASSUMED RIVER BOTTOM

NORTH END OF SITE = \sim 1472.4 FT +MSL (APPROX) SOUTH END OF SITE = \sim 1471.2 FT +MSL (APPROX)

NORTH END OF SITE = \sim 1469 FT +MSL (APPROX)

NORTH END OF SITE= 1463 FT +MSL (APPROX)

SOUTH END OF SITE =1462 FT +MSL (APPROX)

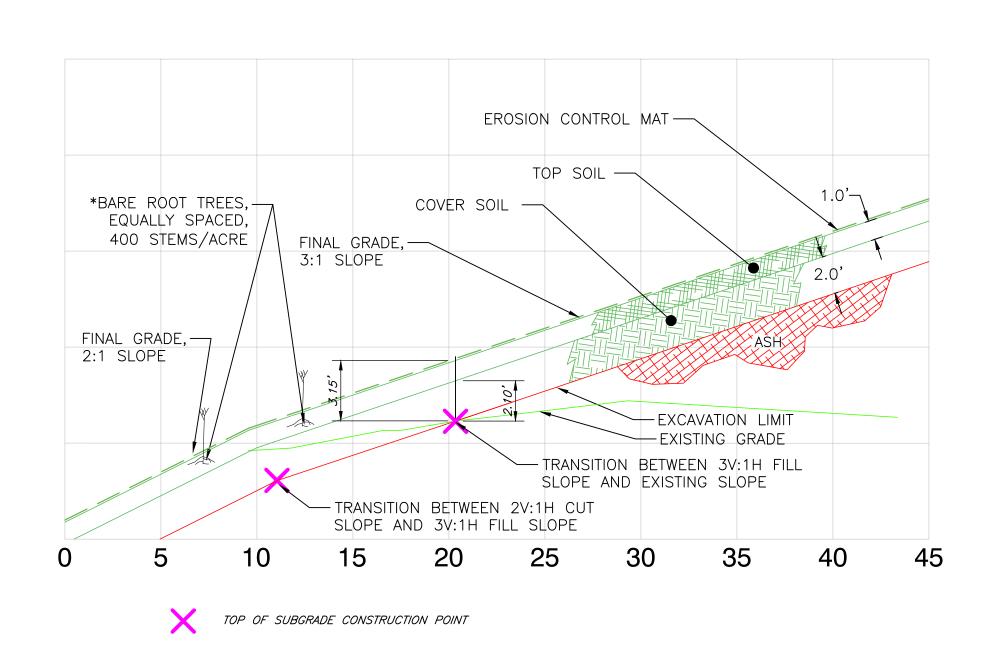
SOUTH END OF SITE = \sim 1468 FT +MSL (APPROX)

TOP OF EXCAVATION SLOPE TIE-IN TO EXISTING GRADE N.T.S.

EROSION CONTROL MAT ---TOP SOIL -COVER SOIL -FINAL GRADE, — 2:1 SLOPE EXISTING GRADE, — ~1.4:1 SLOPE GRADE TO --MATCH EXISTING GROUND SURFACE *BARE ROOT TREES, EQUALLY SPACED, 400 STEMS/ACRE -*LIVE STAKES, 8-FT SPACING TOP OF SUBGRADE CONSTRUCTION POINT

TYPICAL EXCAVATION TOE OUTSIDE OF FLOOD PLAIN N.T.S.

*LIVE STAKES & BARE ROOT TREES FIRST TWO ROWS LIVE STAKES BARE ROOT TREES, EVENLY SPACED REST OF 2V:1H 400 STEMS/ACRE



TYPICAL ASH FILL COVER TOE N.T.S.

NOTES:

- ANY SOIL REQUIRED FROM OFFSITE SOURCES WILL BE RESPONSIBILITY OF CONTRACTOR. 2. CONTRACTOR TO SUBMIT SAMPLE OF CLAY-LIKE MATERIAL TO DESIGN ENGINEER PRIOR TO
- 3. NO LIVE STAKES OR TREES ON SLOPES FLATTER THAN 2H:1V. 3H:1V SLOPES AND FLATTER TO BE SEEDED ONLY.

ISSUED FOR CONSTRUCTION DATE: <u>05/12/25</u> BY: <u>DW</u>



TENNESSEE DEPARTMENT OF ENVIRONMENT AND CONSERVATION **BUREAU OF PARKS AND CONSERVATION & DIVISION OF REMEDIATION** NASHVILLE, TENNESSEE

> AQ APPROVED BY: DW CHECKED BY:

MAY 2025 DWG SCALE: N.T.S. PROJECT NO: DRAWING NO.:

DETAILS

C600 SHEET 6 OF 9

CONSTRUCTION SPECIFICATIONS FOR LIVE SILTATION/STAKES

HARVESTING:

- A. LIVE SILTATION/STAKES MUST CONSIST OF A COMBINATION OF SPECIES LISTED IN THE PLANT SCHEDULE ON THIS SHEET. FIRST ROW (LIVE SILTATION) TO BE A FASCINE OF 25 BRANCHES (MINIMUM) PER THREE (3) LINEAR FEET.
- B. STAKES SHOULD BE HARVESTED AND PLANTED WHEN THE WILLOWS OR OTHER CHOSEN SPECIES ARE DORMANT. THIS PERIOD IS GENERALLY FROM LATE FALL TO EARLY SPRING, OR BEFORE THE BUDS START TO BREAK.
- C. WHEN HARVESTING CUTTINGS, SELECT HEALTHY, LIVE WOOD THAT IS REASONABLY STRAIGHT. D. USE LIVE WOOD AT LEAST 1 YEAR OLD OR OLDER. THE BEST WOOD IS 2 TO 5 YEARS OLD WITH SMOOTH BARK THAT IS NOT DEEPLY FURROWED.
- E. MAKE CLEAN CUTS WITH UNSPLIT ENDS. TRIM BRANCHES FROM CUTTING AS CLOSE AS POSSIBLE. CUT THE BUTT END OF THE CUTTING AT AN ANGLE (~45 DEGREES) AND THE TOP END PERPENDICULAR (90 DEGREES)
- F. THE TOP (SQUARE CUT END) SHOULD BE PAINTED AND SEALED BY DIPPING THE TOP 1-INCH TO 2-INCHES INTO A 50-50 MIX OF LIGHT COLORED LATEX PAINT AND WATER. ASSSURE THE STAKES ARE PLANTED WITH THE TOP UP.
- G. CUTTINGS SHOULD GENERALLY BE BETWEEN 0.75-INCHES TO 2-INCHES IN DIAMETER BUT CAN BE LARGER DEPENDING ON THE SPECIES. LARGER DIAMETER CUTTINGS ARE NEEDED FOR PLANTING INTO ROCK RIPRAP.
- H. CUTTINGS OF SMALL DIAMETER (UP TO 1.5-INCHES) SHOULD BE 18 INCHES LONG MINIMUM. THICKER CUTTINGS SHOULD BE LONGER.
- I. STAKES SHOULD BE CUT SO A TERMINAL BUD SCAR IS WITHIN 1-INCH TO 4-INCHES OF THE TOP. AT LEAST TWO BUDS AND/OR BUD SCARS SHOULD BE ABOVE THE GROUND AFTER PLANTING.
- J. SPECIES SELECTION/COMPOSITON SUBJECT TO LOCAL NURSERY AVAILABILITY AT TIME OF

2. INSTALLATION:

- A. STAKES MUST BE PLANTED WITH BUTT-ENDS INTO THE GROUND. LEAF BUD SCARS OR EMERGING BUDS SHOULD ALWAYS POINT UP. LIVE BRANCH CUTTINGS SHALL BE PLACED WITH BASAL ENDS
- B. USE AN IRON STAKE OR BAR TO MAKE A PILOT HOLE IN FIRM SOIL OR BETWEEN RIPRAP. DRIVE LIVE STAKES INTO THE SOIL WITH A RUBBER MALLET OR DEAD-BLOW HAMMER.
- C. STAKES/SILTATION MUST NOT BE ALLOWED TO DRY OUT. THE CUTTINGS NOT PLANTED THE DAY THEY ARE HARVESTED SHOULD BE SOAKED IN WATER FOR A MINIMUM OF 24 HOURS.
- D. SET THE STAKE AS DEEP AS POSSIBLE INTO THE SOIL, PREFERABLY WITH 80 PERCENT OF ITS LENGTH BURIED BUT NO LESS THAN ONE-HALF OF THE TOTAL LENGTH BURIED.
- E. TAMP THE SOIL AROUND THE CUTTING.
- F. FOR LIVE SILTATION ENOUGH BRANCHES SHALL BE USED TO FORM A CONTINUOUS LINEAR BRANCH WALL PARALLEL TO THE STREAM. GAPS SHOULD BE MINIMIZED.

CONSTRUCTION SPECIFICATIONS FOR BARE ROOT TREES

QUALITY:

- 1. BARE ROOT TREES SHALL BE HIGH QUALITY NURSERY GROWN REPRESENTATIVES OF THEIR NORMAL SPECIES AND VARIETIES AS LISTED IN THE BARE ROOT TREE SCHEDULE IN EQUAL PROPORTIONS. SPECIES SELECTION/COMPOSITON SUBJECT TO LOCAL NURSERY AVAILABILITY AT
- 2. BARE ROOT TREES SHALL HAVE A HEAVY FIBROUS ROOT SYSTEM THAT HAS BEEN DEVELOPED BY PROPER CULTURAL TREATMENT, TRANSPLANTING AND ROOT PRUNING.
- 3. BARE ROOT TREES SHALL BE FREE FROM INSECTS, DISEASES, AND SUNSCALD.

SHIPMENT:

- 1. ALL PRECAUTIONS THAT ARE CUSTOMARY IN GOOD TRADE PRACTICE SHALL BE TAKEN TO ENSURE THE ARRIVAL OF THE PLANTS IN GOOD CONDITION.
- 2. THE ROOTS OF BARE ROOT TREES SHALL BE CAREFULLY PROTECTED WITH WET STRAW OR OTHER
- SUITABLE MATERIAL TO ENSURE THE ARRIVAL OF THE TREES WITH ROOTS IN MOIST CONDITION. 3. WHEN SHIPMENT IS MADE BY ENCLOSED VEHICLE, THE VEHICLE SHALL BE ADEQUATELY
- 4. ALL STOCK FURNISHED MUST BE LEGIBLY TAGGED WITH THE NAME AS INDICATED ON THE PLANS. 5. BARE ROOT TREES MAY REMAIN ON THE SITE ONLY 24 HOURS PRIOR TO BEING PLANTED OR

PLACED IN STORAGE. PLANTING:

- 1. TREE PLANTING SHALL BE PERFORMED ONLY WHEN WATER AND SOIL CONDITIONS ARE FAVORABLE FOR SUCH OPERATIONS. OPERATIONS WILL BE SUSPENDED OR POSTPONED WHENEVER CONDITIONS ARE UNFAVORABLE FOR SUCH WORK.
- 2. REGARDLESS OF CALENDAR DATE, PLANTS MUST BE DORMANT AT THE TIME THEY ARRIVE AT
- 3. ALL BARE ROOT PLANT MATERIAL SHALL BE PLANTED DURING THE WINTER DORMANT SEASON. IT SHALL BE PLANTED ONLY WHEN THE TEMPERATURE IS BETWEEN 35 AND 60 DEGREES F.
- 4. PLANTINGS SHALL NOT BE MADE IN FROZEN GROUND.

VENTILATED TO PREVENT ANY "HEATING" IN TRANSIT.

- 5. BARE ROOT TREES SHALL BE PLANTED IN THE PLUMB POSITION. BARE ROOT TREES WILL BE SET AT THE SAME DEPTH OR UP TO ONE INCH DEEPER THAN THEY GREW IN THE NURSERY.
- 6. WHEN PLANTING IN A SLOT MADE WITH A TREE PLANTING MACHINE, PLANTING BAR OR SIMILAR IMPLEMENT, THE SLOT SHALL BE OF ADEQUATE DEPTH TO ALLOW THE ROOTS TO BE FULLY EXTENDED VERTICALLY WHEN THE SEEDLING IS PLACED IN THE SLOT AT THE PROPER DEPTH. CARE SHALL BE TAKEN WHEN PLANTING TO PREVENT THE END OF THE ROOTS FROM BEING TURNED UPWARD.
- 7. AFTER PLACING THE SEEDLING IN THE SLOT AT THE PROPER DEPTH, THE SLOT SHALL BE COMPLETELY CLOSED TO ELIMINATE ALL AIR POCKETS.

NO DATE DESCRIPTION

REVISION RECORD

LIVE SILTATION/STAKES PLANT SCHEDULE

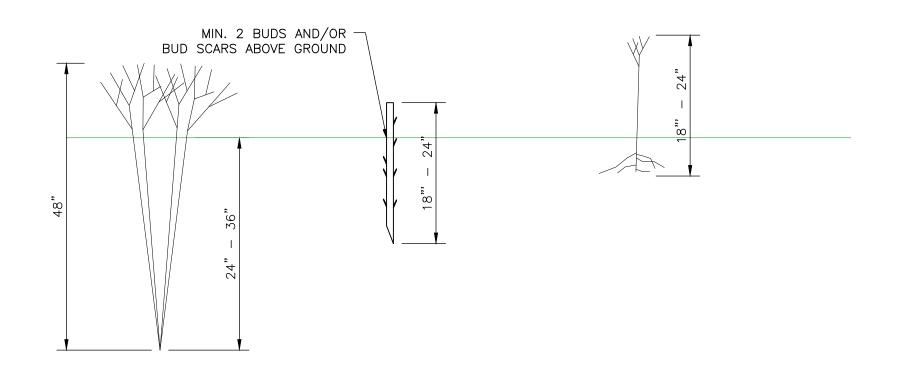
BOTANICAL NAME COMMON NAME PLATANUS OCCIDENTAILIS AMERICAN SYCAMORE SILKY DOGWOOD

CORNUS AMOMUM SALIX NIGRA BLACK WILLOW SAMBUCUS CANADENSIS ELDERBERRY VIBURNUM DENTATUM ARROWOOD

PLANT SCHEDULE BOTANICAL NAME COMMON NAME

AMERICAN SYCAMORE PLATANUS OCCIDENTAILIS ACER RUBRUM RED MAPLE LIQUIDAMBAR STYRACIFLUA SWEETGUM QUERCUS RUBRA RED OAK QUERCUS ALBA WHITE OAK

BARE ROOT TREE



LIVE SILTATION/STAKES & BARE ROOT TREES **SPECIFICATIONS**

N.T.S.

TEMPORARY SEEDING CONSTRUCTION SPECIFICATIONS

Excessive water runoff shall be reduced by properly designed and installed erosion control practices such as ditches, dikes, diversions, and sediment basins. No shaping or grading is required if slopes can be stabilized by hand-seeded vegetation or if hydraulic seeding equipment is to be used

Good seedbed preparation is essential to successful plant establishment. A good seedbed is well pulverized, loose and uniform. Where hydroseeding methods are used, the surface may be left with a more irregular surface of large clods and

Apply lime according to soil test recommendations. Apply limestone uniformly and incorporate into the top 4-6 inches of soil. Soils with a pH of 6 or higher do not need to be limed.

Base application rates on soil tests. Both fertilizer and lime should be incorporated into the top 4-6 inches of soil. If a

hydraulic seeder is used, do not mix seed and fertilizer more than 30 minutes before the application.

If recent tillage operations have resulted in a loose surface, additional roughening may not be necessary, except to break up large clods. If rainfall caused the surface to become sealed or crusted, loosen it just prior to seeding by disking, raking, harrowing, or other suitable methods.

Select a non-invasive grass or grass-legume mixture suitable to the area and season of the year. See Figures for suggestions of temporary seeding species. Seed shall be applied uniformly by hand, cyclone seeder, drill, cultipacker seeder, or hydraulic seeder. Drill or cultipacker seeders should normally place seed ¼ to ½ inches deep. Appropriate depth of planting is 10 times the seed diameter. Soil should be raked lightly to cover seed with soil if seeded by hand.

During times of drought, water shall be applied at a rate not causing runoff and erosion. The soil shall be thoroughly wetted to a depth that will ensure germination of the seed. Subsequent applications should be made as needed. Newly seeded areas require more water than more mature plants.

PERMANENT SEEDING CONSTRUCTION SPECIFICATIONS

Grading and shaping may not be required where hydraulic seeding and fertilizing equipment is to be used. Vertical banks shall be sloped to enable plant establishment.

When conventional seeding and fertilizing are to be done, grade and shape the slope, where feasible and practical, so that equipment can be used safely and efficiently during seedbed preparation, seeding, mulching, and maintenance of vegetation. Concentrations of water that could cause excessive soil erosion should be diverted to a safe outlet. Diversions and other

treatment practices must conform to the appropriate standards and specifications. <u>PLANT SELECTION:</u>
Only certified seed shall be used. Refer to Table for suggested species.

SEEDBED PREPARATION:

When conventional seeding is to be used, topsoil should be applied to any area where the disturbance results in subsoil at the final grade surface. A minimum depth of 12" is required. Soil pH should be above 5 - preferably between 6.0 and 6.5. Soil on the site should be tested to determine lime and fertilizer rates. Soil should be submitted to a soils specialist or County Agricultural Extension agent for testing and soil amendment recommendations.

PERMANENT SEEDING CONSTRUCTION SPECIFICATIONS (CONT'D)

• Seedbed preparation may not be required where hydraulic seeding equipment is to be used.

• Tillage, at a minimum, shall adequately loosen the soil to a depth of 4 to 6 inches; alleviate compaction; incorporate topsoil, lime, and fertilizer; smooth and firm the soil; allow for the proper placement of seed, sprigs, or plants; and allow for the anchoring of straw or hay mulch if a crimper is to be used.

 Tillage may be done with any suitable equipment. • Tillage should be done parallel to the contour where feasible.

NO-TILL SEEDING:

No-till seeding is permissible into annual cover crops when planting is done following maturity of the cover crop or if the temporary cover stand is sparse enough to allow adequate growth of the permanent (perennial) species. No-till seeding shall be done with appropriate no—till seeding equipment. The seed must be uniformly distributed and planted at the proper depth.

MAINTENANCE AND INSPECTION POINTS: Any areas that have washed out due to high stormwater flows, areas that have been disturbed by blowing wind, and areas that do not show good germination should be retreated.

Inspect seeded areas for failure and make necessary repairs and reseedings within the same season, if possible.

If a stand has inadequate cover, re—evaluate choice of plant materials and quantities of lime and fertilizer in cooperation with the owner. Re-establish the stand after seedbed preparation or over-seed the stand. Consider seeding temporary, annual species if the time of year is not appropriate for permanent seeding

TEMPORARY COVER SEEDING MIXTURES				
SEEDING DATES	GRASS SEED	SOIL AMENDMENTS	MAINTENANCE	
JANUARY 1 TO MAY 1	RYE (120 LBS/ACRE)	FOLLOW RECOMMENDATIONS	REFERTILIZE IF GROWTH IS NOT FULLY ADEQUATE. RESEED, REFERTILIZE AND	
	OATS (60 LBS/ACRE)	OF SOIL TESTS.	MULCH IMMEDIATELY FOLLOWING EROSION OR OTHER DAMAGE.	
MAY 1 TO AUGUST 15	BROWN TOP MILLET (30 LBS/ACRE)			
AUGUST 15 - DECEMBER 31	OATS (30 LBS/ACRE)			
AUGUST TO - DECEMBER ST	WINTER WHEAT (30 LBS/ACRE)			

PERMANENT COVER SEEDING MIXTURES				
TYPE	PREFERRED RATE/MIX (lb/ac PLS)			
ROUNDSTONE NATIVE SEED, LLC MIX 168 — SOUTHERN RIPARIAN BUFFER MIX OR EQUIVALENT	REFER TO ROUNDSTONE SPECIFICATION			

ISSUED FOR CONSTRUCTION

DATE: <u>05/12/25</u> BY: <u>DW</u>



TENNESSEE DEPARTMENT OF ENVIRONMENT AND CONSERVATION **BUREAU OF PARKS AND CONSERVATION & DIVISION OF REMEDIATION** NASHVILLE, TENNESSEE

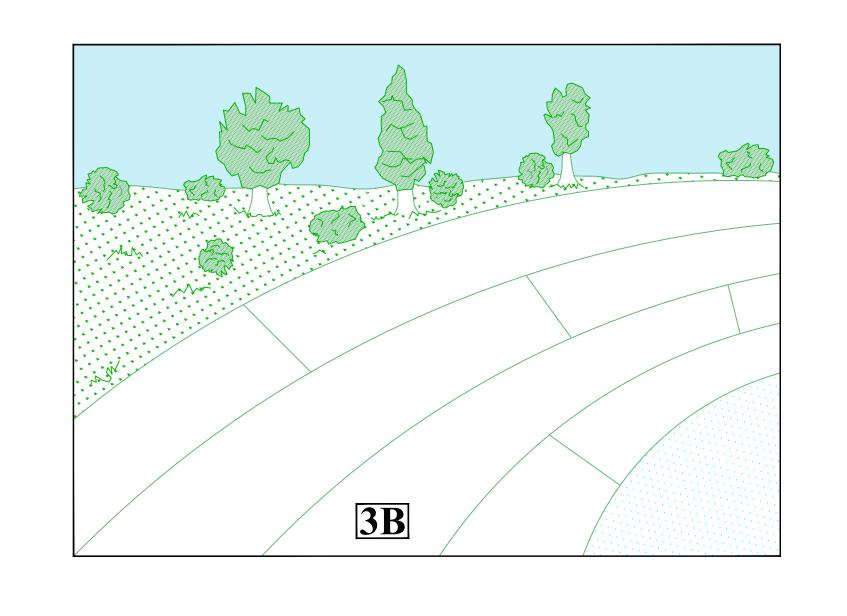
DW CHECKED BY: AQ APPROVED BY: MAY 2025 DWG SCALE: N.T.S. PROJECT NO: DRAWING NO.:

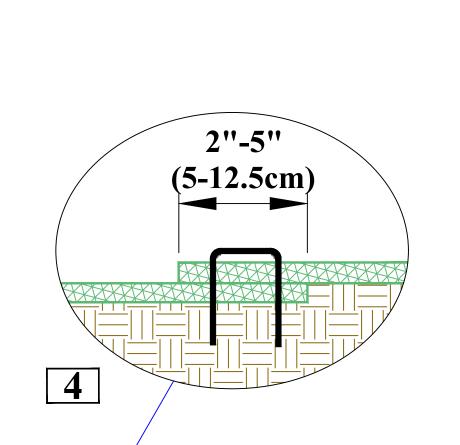
DETAILS (2)

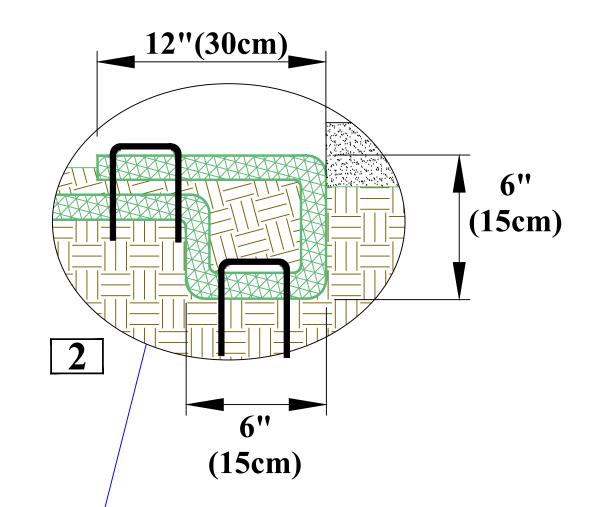
C601 SHEET 7 OF 9

SEEDING SPECIFICATIONS

	REVISION RECORD					
NO	DATE	DESCRIPTION				
Δ						







3A 1 3"(7.5cm) 5

5 EROSION CONTROL MAT (TYP.)

SLOPE INSTALLATION DETAIL

- 1. Begin at the top of the slope by anchoring the ECM in a 6"(15cm) deep X 6"(15cm) wide trench with approximately 12" (30cm) of ECM extended beyond the up-slope portion of the trench. Anchor the ECM with a row of staples/stakes approximately 12" (30cm) apart in the bottom of the trench. Backfill and compact the trench after stapling. Fold the remaining 12"(30cm) portion of ECM back over the compacted soil. Secure ECM over compacted soil with a row of staples/stakes spaced approximately 12"(30cm) apart across the width of the ECM.
- 2. Roll the ECM (A) down or (B) horizontally across the slope. ECM will unroll with appropriate side against the soil surface. All ECMs must be securely fastened to soil surface by placing staples/stakes in appropriate locations as shown in the staple pattern guide.
- 3. The edges of parallel ECMs must be stapled with approximately 2" - 5" (5-12.5cm) overlap depending on the ECM type.
- 4. Consecutive ECMs spliced down the slope must be end over end (Shingle style) with an approximate 3"(7.5cm) overlap. Staple through overlapped area, approximately 12"(30cm) apart across entire ECM width.
- 5. Apply live stakes to the bank per instructions on Drawing C601.

*NOTE:

ISSUED FOR CONSTRUCTION DATE: <u>05/12/25</u> BY: <u>DW</u>

In loose soil conditions, the use of staple or stake lengths greater than 6"(15cm) may be necessary to properly secure the ECM.



TENNESSEE DEPARTMENT OF ENVIRONMENT AND CONSERVATION **BUREAU OF PARKS AND CONSERVATION & DIVISION OF REMEDIATION** NASHVILLE, TENNESSEE

AQ APPROVED BY: DW CHECKED BY: N.T.S. PROJECT NO: APRIL 2025 DWG SCALE:

DETAILS (3)

C602

DATE	DESCRIPTION
	DATE

POINT #	NORTHING (FT)	EASTING (FT)	PROPOSED ELEVATION (FT MSL)	POINT DESCRIPTION
10	754,534.7	3,071,317.3	1,467.85	RIVER SIDE TOP OF RIPRAP
11	754,485.7	3,071,294.3	1,469.00	RIVER SIDE TOP OF RIPRAP
12	754,410.3	3,071,262.1	1,470.50	RIVER SIDE TOP OF RIPRAP
13	754,250.5	3,071,209.6	1,470.50	RIVER SIDE TOP OF RIPRAP
14	754,187.6	3,071,188.6	1,470.50	RIVER SIDE TOP OF RIPRAP
15	754,104.0	3,071,160.3	1,469.00	RIVER SIDE TOP OF RIPRAP
16	754,046.0	3,071,142.9	1,468.00	RIVER SIDE TOP OF RIPRAP
17	754,014.0	3,071,139.5	1,469.00	RIVER SIDE TOP OF RIPRAP
18	754,000.0	3,071,142.9	1,469.00	RIVER SIDE TOP OF RIPRAP
19	753,987.8	3,071,154.1	1,469.00	RIVER SIDE TOP OF RIPRAP
20	753,978.7	3,071,168.2	1,471.00	RIVER SIDE TOP OF RIPRAP
21	753,972.7	3,071,185.3	1,472.50	RIVER SIDE TOP OF RIPRAP
40	754,530.9	3,071,325.4	1,467.85	LANDFILL SIDE TOP OF RIPRAP
41	754,482.0	3,071,302.5	1,469.00	LANDFILL SIDE TOP OF RIPRAP
42	754,407.1	3,071,270.5	1,470.50	LANDFILL SIDE TOP OF RIPRAP
43	754,247.6	3,071,218.2	1,470.50	LANDFILL SIDE TOP OF RIPRAP
44	754,184.7	3,071,197.1	1,470.50	LANDFILL SIDE TOP OF RIPRAP
45	754,101.3	3,071,168.9	1,469.00	LANDFILL SIDE TOP OF RIPRAP
46	754,044.0	3,071,151.8	1,468.00	LANDFILL SIDE TOP OF RIPRAP
47	754,014.6	3,071,148.6	1,469.00	LANDFILL SIDE TOP OF RIPRAP
48	754,004.4	3,071,151.1	1,469.00	LANDFILL SIDE TOP OF RIPRAP
49	753,994.7	3,071,160.0	1,469.00	LANDFILL SIDE TOP OF RIPRAP
50	753,986.6	3,071,172.2	1,471.00	LANDFILL SIDE TOP OF RIPRAP
51	753,975.1	3,071,194.6	1,472.50	LANDFILL SIDE TOP OF RIPRAP

POINT#	NORTHING (FT)	EASTING (FT)	PROPOSED ELEVATION (FT MSL)	POINT DESCRIPTION
70	754,530.4	3,071,326.4	1,465.00	SUBGRADE DESIGN POINT - TOE
71	754,481.6	3,071,303.4	1,466.15	SUBGRADE DESIGN POINT - TOE
72	754,406.8	3,071,271.5	1,467.65	SUBGRADE DESIGN POINT - TOE
73	754,247.3	3,071,219.1	1,467.65	SUBGRADE DESIGN POINT - TOE
74	754,184.4	3,071,198.0	1,467.65	SUBGRADE DESIGN POINT - TOE
75	754,101.0	3,071,169.8	1,466.15	SUBGRADE DESIGN POINT - TOE
76	754,043.8	3,071,152.8	1,465.15	SUBGRADE DESIGN POINT - TOE
77	754,030.1	3,071,151.3	1,465.38	SUBGRADE DESIGN POINT - TOE
78	754,014.6	3,071,149.6	1,466.15	SUBGRADE DESIGN POINT - TOE
79	754,004.9	3,071,152.0	1,466.15	SUBGRADE DESIGN POINT - TOE
80	753,995.4	3,071,160.7	1,466.15	SUBGRADE DESIGN POINT - TOE
81	753,987.4	3,071,172.8	1,468.17	SUBGRADE DESIGN POINT - TOE
82	753,975.9	3,071,195.1	1,469.65	SUBGRADE DESIGN POINT - TOE
83	753,963.6	3,071,217.1	1,475.00	SUBGRADE DESIGN POINT - TOE
84	753,940.3	3,071,271.6	1,475.50	SUBGRADE DESIGN POINT - TOE
85	753,939.0	3,071,300.2	1,475.50	SUBGRADE DESIGN POINT - TOE
86	753,955.0	3,071,332.6	1,476.50	SUBGRADE DESIGN POINT - TOE
87	754,033.7	3,071,406.3	1,480.00	SUBGRADE DESIGN POINT - TOE
88	754,070.0	3,071,444.3	1,480.00	SUBGRADE DESIGN POINT - TOE
89	754,169.2	3,071,499.9	1,480.00	SUBGRADE DESIGN POINT - TOE

POINT#	NORTHING (FT)	EASTING (FT)	PROPOSED ELEVATION (FT MSL)	POINT DESCRIPTION
100	754,398.4	3,071,350.1	1,505.00	2H:1V CUT SLOPE CREST
101	754,384.0	3,071,354.3	1,510.00	2H:1V CUT SLOPE CREST
102	754,375.8	3,071,350.4	1,510.00	2H:1V CUT SLOPE CREST
103	754,220.9	3,071,299.6	1,510.00	2H:1V CUT SLOPE CREST
104	754,157.5	3,071,278.4	1,510.00	2H:1V CUT SLOPE CREST
105	754,075.7	3,071,254.5	1,510.00	2H:1V CUT SLOPE CREST
106	754,035.1	3,071,243.4	1,510.00	2H:1V CUT SLOPE CREST
107	754,025.2	3,071,251.1	1,510.00	2H:1V CUT SLOPE CREST
108	754,008.7	3,071,287.5	1,510.00	2H:1V CUT SLOPE CREST
109	754,012.0	3,071,295.3	1,510.00	2H:1V CUT SLOPE CREST
110	754,107.2	3,071,396.4	1,510.00	2H:1V CUT SLOPE CREST
111	754,222.6	3,071,461.0	1,510.00	2H:1V CUT SLOPE CREST
112	754,232.9	3,071,515.2	1,510.00	2H:1V CUT SLOPE CREST
113	754,235.8	3,071,564.7	1,510.00	2H:1V CUT SLOPE CREST
200	754,366.7	3,071,369.5	1,517.00	3H:1V FILL SLOPE CREST
201	754,214.1	3,071,319.4	1,517.00	3H:1V FILL SLOPE CREST
202	754,151.6	3,071,298.3	1,517.00	3H:1V FILL SLOPE CREST
203	754,070.0	3,071,274.7	1,517.00	3H:1V FILL SLOPE CREST
204	754,041.1	3,071,266.8	1,517.00	3H:1V FILL SLOPE CREST
205	754,039.0	3,071,271.4	1,517.00	3H:1V FILL SLOPE CREST
206	754,032.3	3,071,286.2	1,517.00	3H:1V FILL SLOPE CREST
207	754,120.2	3,071,379.6	1,517.00	3H:1V FILL SLOPE CREST
208	754,241.4	3,071,447.5	1,517.00	3H:1V FILL SLOPE CREST
209	754,253.8	3,071,512.6	1,517.00	3H:1V FILL SLOPE CREST
210	754,256.1	3,071,551.9	1,517.00	3H:1V FILL SLOPE CREST
211	754,290.8	3,071,579.7	1,517.00	3H:1V FILL SLOPE CREST
212	754,317.4	3,071,575.0	1,517.00	3H:1V FILL SLOPE CREST
213	754,344.6	3,071,541.9	1,517.00	3H:1V FILL SLOPE CREST
214	754,356.6	3,071,514.9	1,517.00	3H:1V FILL SLOPE CREST
215	754,380.4	3,071,421.7	1,517.00	3H:1V FILL SLOPE CREST
216	754,376.5	3,071,401.6	1,517.00	3H:1V FILL SLOPE CREST
217	754,411.4	3,071,392.9	1,505.00	3H:1V FILL SLOPE TOE
218	754,417.3	3,071,422.7	1,505.00	3H:1V FILL SLOPE TOE
219	754,414.2	3,071,434.8	1,505.00	3H:1V FILL SLOPE TOE
220	754,405.8	3,071,455.5	1,506.00	3H:1V FILL SLOPE TOE
221	754,398.1	3,071,473.5	1,507.00	3H:1V FILL SLOPE TOE
222	754,388.5	3,071,499.0	1,508.00	3H:1V FILL SLOPE TOE
223	754,382.1	3,071,512.2	1,509.00	3H:1V FILL SLOPE TOE
224	754,376.5	3,071,521.8	1,510.00	3H:1V FILL SLOPE TOE
225	754,356.8	3,071,566.2	1,510.00	3H:1V FILL SLOPE TOE
226	754,327.8	3,071,590.8	1,511.00	3H:1V FILL SLOPE TOE
227	754,303.1	3,071,592.8	1,511.29	3H:1V FILL SLOPE TOE
228	754,287.5	3,071,592.5	1,511.29	3H:1V FILL SLOPE TOE
229	754,244.4	3,071,558.0	1,513.00	3H:1V FILL SLOPE TOE



TENNESSEE DEPARTMENT OF ENVIRONMENT AND CONSERVATION
BUREAU OF PARKS AND CONSERVATION & DIVISION OF REMEDIATION
NASHVILLE, TENNESSEE

NASHVILLE, TENNESSEE

N BY: DW CHECKED BY: AQ APPROVED BY:

MAY 2025 DWG SCALE: NA PROJECT NO:

DRAWING NO.:

POINT TABLE

C710
SHEET 9 OF 9

ISSUED FOR CONSTRUCTION

DATE: <u>05/12/25</u> BY: <u>DW</u>