

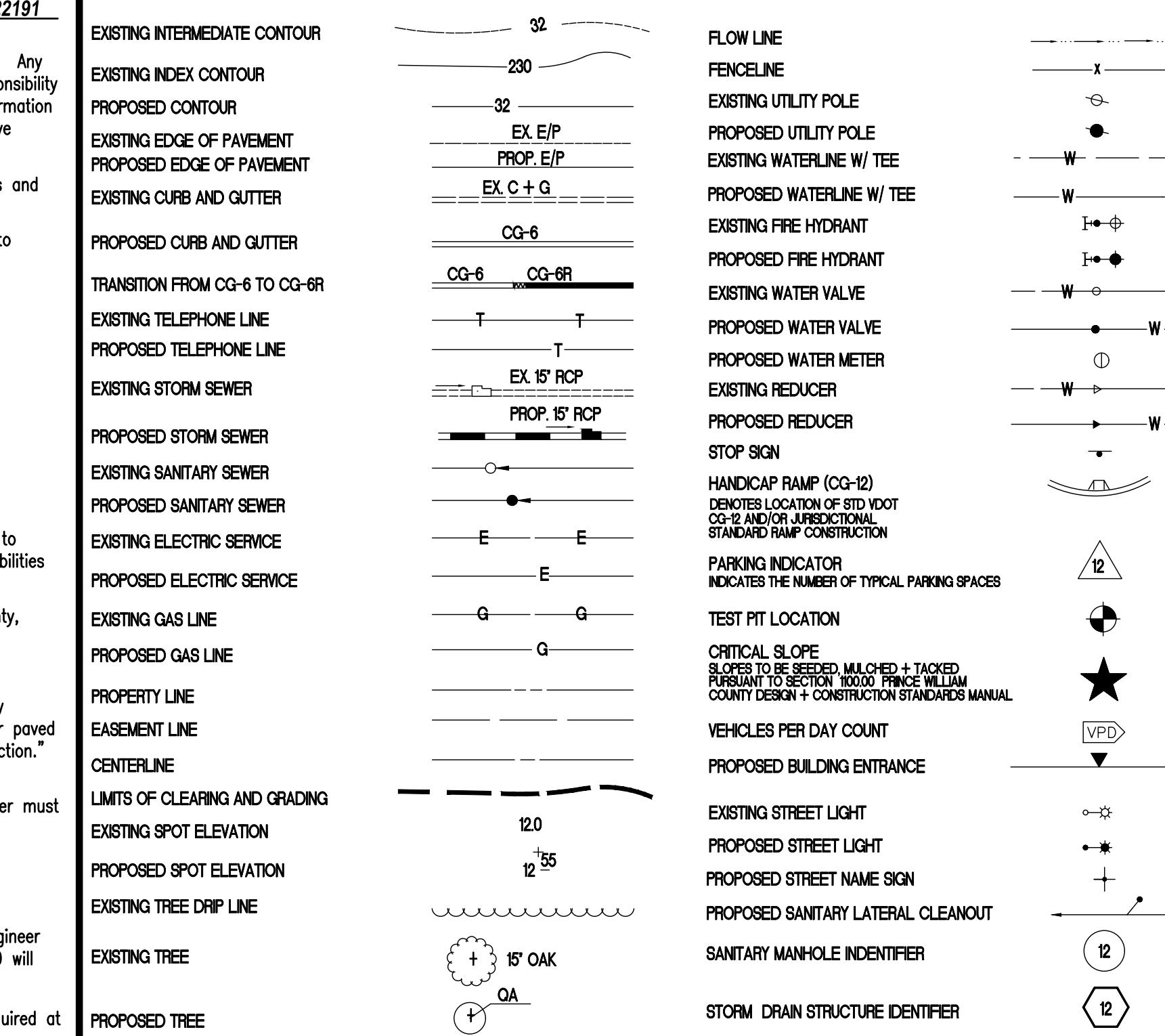
GENERAL NOTES

- This site has been addressed by the Prince William County Mapping Office as: **15875 NEABSCO ROAD, WOODBRIDGE, VIRGINIA 22191** (addresses for subdivision lots shall appear on the approved plot for recordation).
- Addresses assigned are for the layout of individual businesses or dwelling units and are for exterior doors as shown on this plan only. Any deviation in design or layout will require that a revised plan be submitted to the Office of Mapping for re-addressing. It is the responsibility of the developer to inform the County Office of Mapping before a change in layout occurs and to submit complete and accurate information for re-addressing. Prince William County does not assume any responsibility where re-addressing is required even though tenants have already occupied a portion of the building.
- Methods and materials used in the construction of the improvements herein shall conform to the current County construction standards and specifications and/or current VDOT standards and specifications.
- The contractor or developer is required to notify the Prince William County Department of Public Works in writing three (3) days prior to the beginning of the construction and specifically request inspection before beginning 703-792-7070.
 - Installation of approved erosion control devices.
 - Clearing and Grading
 - Subgrade excavation.
 - Installing storm sewers or culverts.
 - Setting curb and gutter forms.
 - Placing curb and gutter.
 - Placing other concrete.
 - Placing gravel base.
 - Placing any bituminous surfacing.
 - Installing water mains outside the Service Authority's boundaries.
 - Installing sanitary sewer outside the Service Authority's boundaries.
- Measures to control erosion and siltation, including detention ponds serving as silt basins during construction, must be provided prior to issuance of the site development permit. The approval of these plans in no way relieves the developer or his agent of the responsibilities contained in the Virginia Erosion and Sediment Control Handbook.
- A permit must be obtained from the Office of the Resident Engineer, Virginia Department of Transportation (VDOT) Prince William County, prior to construction in existing State right-of-way, 707-366-1900.
- Approval of this plan does not guarantee issuance of an entrance permit by VDOT when such permit is required under State law.
- The exact location of all guard rails will be determined by VDOT personnel. "A joint inspection will be held with the Developer, County Representatives, and Representatives, of the Virginia Department of Transportation (VDOT) to determine if and where guard rail and/or paved ditches will be needed. The developer will be responsible for providing guardrail and paved ditches as determined by this joint inspection." Refer to Virginia Department of Transportation (VDOT) Guard Rail and Paved Ditch Specifications.
- An approved set of plans and all applicable permits must be available at the construction site. Also, a representative of the developer must be available at all times.
- Warning signs, markers, barricades or flagmen should be in accordance with the Manual on Uniform Traffic Control Devices (MUTCD).
- All unsuitable material shall be removed from the construction limits of the roadway before placing embankment.
- All pavement sections on the approved plans are based on a minimum CBR value of 10. CBR tests are to be performed by the engineer and submitted to the Prince William County Planning Office for review prior to placement of base material. CBR values less than 10 will require submittal of revised pavement section.
- All roadside ditches at grades of more than 5% shall be paved with cement concrete to the limits indicated on the plans and as required at the field inspection.
- All springs shall be capped and piped to the nearest storm sewer manholes or curb inlet. The pipe shall be minimum 6" diameter and conform to VDOT standard SB-1.
- All standard street name signs, traffic control devices, and street lights shall be installed by the developer when the first building unit is occupied.
- Construction debris shall be contained in accordance with the Virginia Litter Control Act; no less than one litter receptacle shall be provided at the construction site.
- The contractor shall provide adequate means of cleaning mud from trucks and/or other equipment prior to entering public streets, and it is the contractors responsibility to clean streets, alloy dust, and to take whatever measures are necessary to insure that the streets are maintained in a clean, mud and dust free condition at all times.
- * Notification shall be given to the appropriate utility Company (Service Authority, Virginia-American Water Company, or Dale Service Corporation) prior to construction of water and/or sanitary sewer lines. Information should also be obtained from the appropriate authority concerning permits, cut sheets, and connections to existing lines.
- All sanitary sewers and water mains and appurtenances shall be constructed in accordance with the current standards and specifications of Prince William County and/or the Service Authority.
- The developer and/or contractor shall be responsible to supply all utility companies with copies of plans that have been approved by Prince William County and advising them that all grading shall conform to the approved plans, and further that the utility companies shall be responsible for honoring these plans and the finished grades in the installation of their utility lines.
- Contractors shall notify operators who maintain underground utility lines in the area of proposed excavating or blasting at least two (2) working days, but not more than ten (10) working days, prior to commencement of excavation or demolition. Names and telephone numbers of the operators underground utility lines in Prince William County appear below. These numbers shall also be used to serve in an emergency condition.

Washington Gas Light Co.
Virginia Power Co.
Northern Virginia Electric Co-op
Columbia Gas of Virginia
Continental Telephone of VA
Colonial Pipeline Co.
Transcontinental Gas Pipe Line Corp.

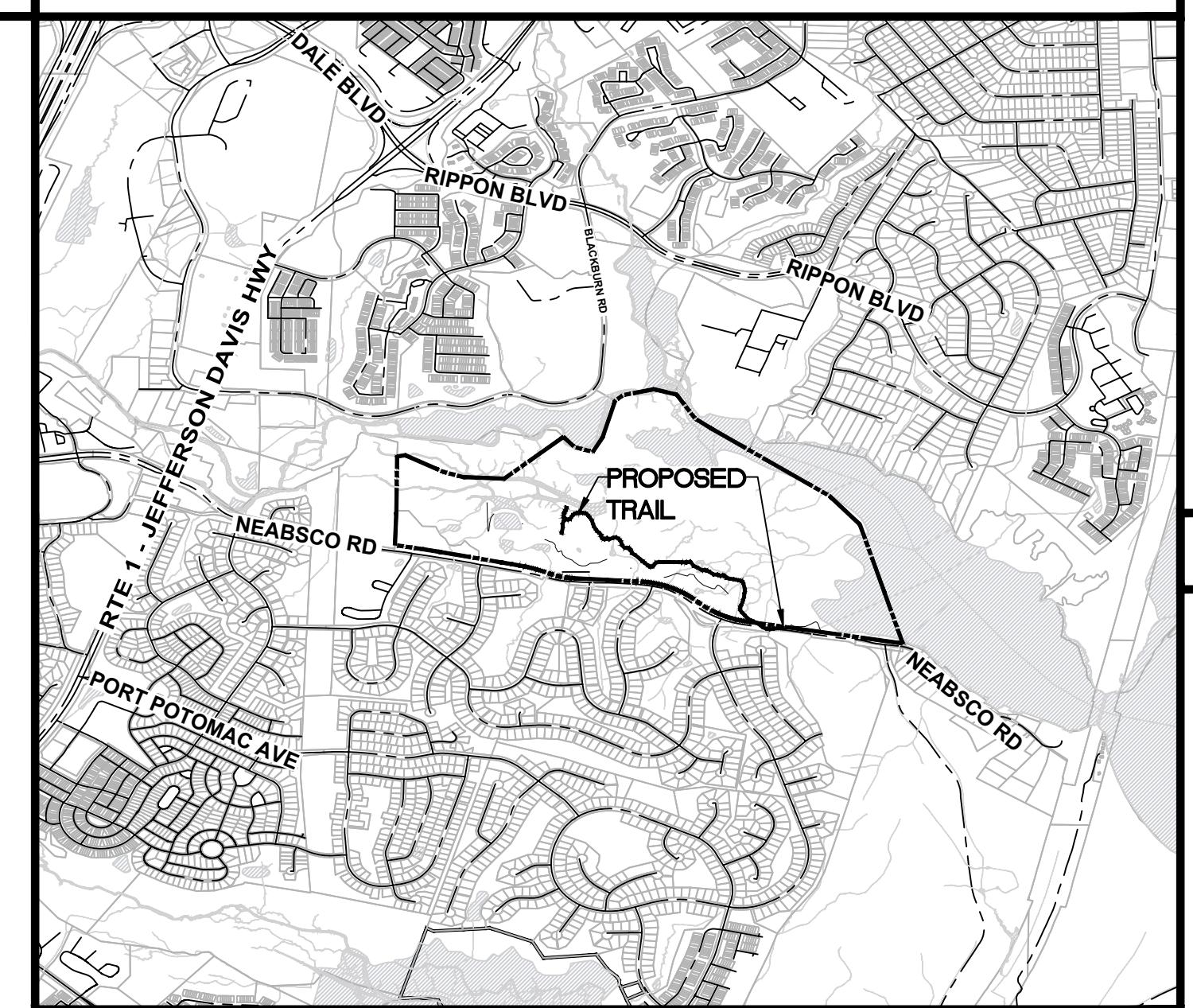
Service Authority 703-335-7900
(After hours-Emergency 335-7990)
MISS UTILITY 1-800-552-7001
Virginia-American Water 703-491-2136
Dale Service Corporation 703-494-4161

LEGEND



VICINITY MAP

1" = 2000'



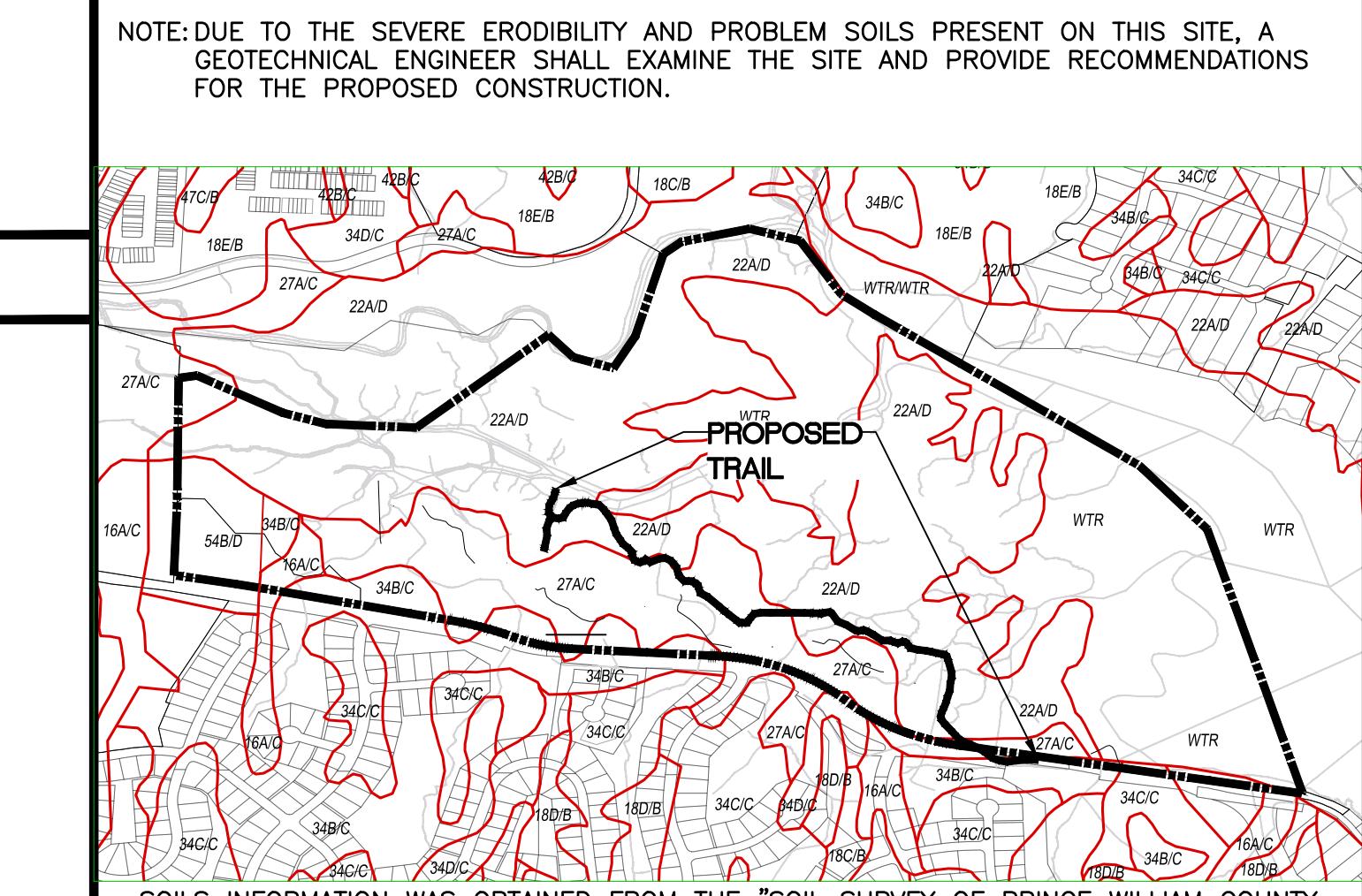
REVIEWED BY: _____ APPROVED BY: _____

This plan has been reviewed and has been found to be in general conformance with the requirements of Prince William County. The developer is hereby authorized to obtain all necessary land development permits, subject to the designs, procedures, terms and conditions which will comprise lawful requirements. If not bonded or permitted (if applicable) within five (5) years of the authorized date or lawfully extended, this authorization will expire. A valid agreement and bond with Prince William County must be maintained to assure plan and permit validity.

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CS0101	5	PWCSA COVER SHEET
CS0102	6	PWCSA INSPECTOR WATER & SANITARY SEWER LOGS
CS0103	7	SUMMARY OF QUANTITIES
CS1001	8	OVERALL PLAN
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SOILS MAP



SOILS DATA

SOIL NAME	MAP SYMBOL	SLOPE	HSG	K	SOIL CATEGORY
WATER	WTR	N/A	N/A	N/A	N/A
DELANCO	16A/C	0.5%	A	A	III
FEATHERSTONE	22A/D	0.5%	A	A	III
HALBORO-CODORUS Cx	27A/C	0.5%	A	A	III
LUNT	34B/C	0.5%	C	C	III
URBAN LAND / UDORTHENTS	54B/D	0.5%	B	B	II*

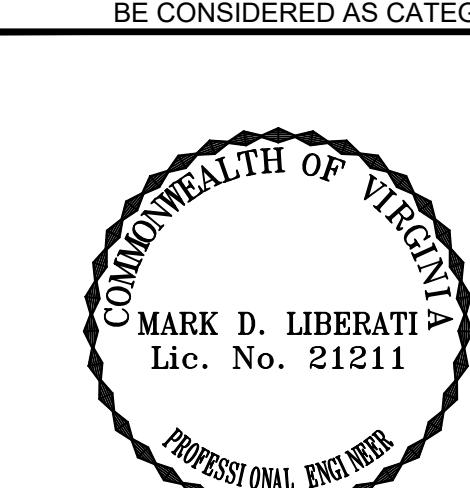
NOTE: PER THE SOIL SURVEY OF PRINCE WILLIAM COUNTY, VIRGINIA, CATEGORY II SOILS ARE CONSIDERED POTENTIAL PROBLEM SOILS, AND MAY CONTAIN HIGH GROUNDWATER TABLE (SEASONAL OR PERCHED), SHALLOW ROCK, OR NATURAL ASBESTOS FORMATIONS.
* WHEN THESE SOILS ARE LOCATED IN THE WESTERN AND EASTERN COASTAL PLAINS, THEY WILL BE CONSIDERED AS CATEGORY II AND III SOILS, RESPECTIVELY.

REVISIONS

DATE	DESIGNER	NO.	DESCRIPTION

PRINCE WILLIAM COUNTY

COVER SHEET



THESE PLANS ARE IN CONFORMANCE WITH PRINCE WILLIAM COUNTY STANDARDS AND ORDINANCES. ANY DEVIATION OR CHANGE IN THESE PLANS SHALL BE APPROVED BY THE DIRECTOR OF PLANNING PRIOR TO CONSTRUCTION.

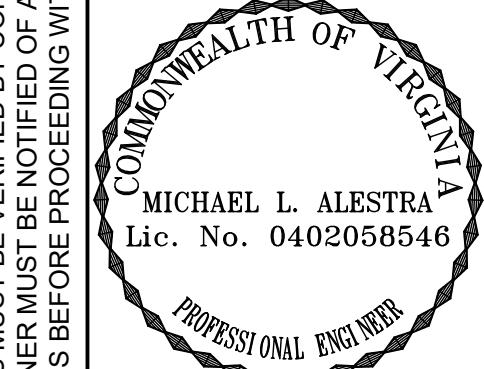
PROJECT NAME: JULIE METZ WETLAND BOARDWALK PROJECT NUMBER: _____
SUBDIVISION or SITE PLAN NAME: JULIE METZ WETLAND BOARDWALK MARKET NAME: _____ PLAN NUMBER: _____
MAGISTERIAL DISTRICT: WOODBRIDGE PRESENT ZONING & USE: AGRICULTURAL; RECREATION DATE OF PLAN: (MM/DD/YYYY)
OWNER: PWCS BOARD OF COUNTY SUPERVISORS 1 COUNTY COMPLEX CT, WOODBRIDGE, VA 22192 02/24/2020
OWNER ADDRESS: OWNER PHONE#: (703) 792-6000 OWNER FAX#: _____
DEVELOPER: DEVELOPER ADDRESS: DEVELOPER PHONE#: (703) 792-7060 DEVELOPER FAX#: _____
NAME, ADDRESS, & TELEPHONE NO. of ENGINEER: PENNONI ASSOC., INC. 13880 DULLES CORNER LANE, STE. 100 HERNDON, VA 20171 (703) 840-4800
ARCHITECT or SURVEYOR CERTIFYING PLAN: PARCEL IDENTIFICATION NUMBERS: 8390-36-3481
TOTAL AREA: 211.6916 PROJECT AREA: 1.39 ACRES DISTURBED AREA: 1.39 ACRES IMPERVIOUS AREA: 0.00 ACRES BMP STORAGE: N/A
RELATED PLANS TRACKING NUMBERS (including Rez. & S.U.P.): _____

- GENERAL STRUCTURAL AND CONSTRUCTION NOTES**
- 1.0 GENERAL**
1. ALL WORK SHALL CONFORM TO THE "2016 INTERNATIONAL BUILDING CODE" AND TO ALL OTHER APPLICABLE FEDERAL, STATE, AND LOCAL REGULATIONS.
 2. IN CASE OF CONFLICT BETWEEN THE GENERAL NOTES, SPECIFICATIONS, AND DETAILS, THE MOST RIGID REQUIREMENTS SHALL GOVERN.
 3. WORK NOT INDICATED ON A PART OF THE DRAWINGS BUT REASONABLY IMPLIED TO BE SIMILAR TO THAT SHOWN AT CORRESPONDING PLACES SHALL BE REPEATED.
 4. JOB SITE SAFETY AND CONSTRUCTION PROCEDURES ARE THE SOLE RESPONSIBILITY OF THE CONTRACTOR.
 5. NO Dewatering ALLOWED PER NATION-WIDE PERMIT (NWP#18). REFER TO SPECIFICATIONS FOR ADDITIONAL INFORMATION.
 6. ALL COSTS OF INVESTIGATION AND/OR REDESIGN DUE TO CONTRACTOR IMPROPER INSTALLATION OF STRUCTURAL ELEMENTS OR OTHER ITEMS NOT IN CONFORMANCE WITH THE CONTRACT DOCUMENTS SHALL BE AT THE CONTRACTOR'S EXPENSE.
 7. THE CONTRACTOR SHALL VERIFY AND/OR ESTABLISH ALL EXISTING CONDITIONS AND DIMENSIONS AT THE SITE. FAILURE TO NOTIFY OWNER'S REPRESENTATIVE OF UNSATISFACTORY CONDITIONS CONSTITUTES ACCEPTANCE OF UNSATISFACTORY CONDITIONS.
 8. IF THE EXISTING FIELD CONDITIONS DO NOT PERMIT THE INSTALLATION OF THE WORK IN ACCORDANCE WITH THE DETAILS SHOWN, THE CONTRACTOR SHALL NOTIFY THE OWNER'S REPRESENTATIVE IMMEDIATELY AND PROVIDE A SKETCH OF THE CONDITION WITH HIS PROPOSED MODIFICATION OF THE DETAILS GIVEN ON THE CONTRACT DOCUMENTS. DO NOT COMMENCE WORK UNTIL CONDITION IS RESOLVED AND MODIFICATION IS APPROVED BY THE OWNER'S REPRESENTATIVE.
 9. THE CONTRACTOR SHALL BE RESPONSIBLE TO DETERMINE ALLOWABLE CONSTRUCTION LOADS AND TO PROVIDE DESIGN AND CONSTRUCTION OF FALSEWORK, FORMWORK, STAGINGS, BRACING, SHEETING, AND SHORING, ETC. IMPOSED CONSTRUCTION LOADS IN EXCESS OF THE STATED DESIGN LOADS MUST BE APPROVED BY THE STRUCTURAL ENGINEER PRIOR TO THE IMPOSITION OF SUCH LOADS.
 10. CONTRACTOR TO PROVIDE SHEETING, BRACING, AND UNDERPINNING AS NECESSARY TO PREVENT ANY LATERAL OR VERTICAL MOVEMENTS OF EXISTING BUILDINGS, STREETS, AND ANY EXISTING UTILITY LINES.
 11. IN NO CASE SHALL HEAVY EQUIPMENT BE PERMITTED CLOSER THAN 8'-0" FROM ANY FOUNDATION WALL OR THE ALUMINUM SHEET PILE RETAINING WALL. IF IT IS NECESSARY TO OPERATE SUCH EQUIPMENT CLOSER THAN 8'-0" TO THE WALL.
 12. NO BLASTING SHALL BE PERMITTED WITHOUT WRITTEN APPROVAL.
 13. SHOP DRAWINGS FOR ALL STRUCTURAL MATERIALS TO BE SUBMITTED TO OWNER'S REPRESENTATIVE FOR REVIEW PRIOR TO THE START OF FABRICATION OR COMMENCEMENT OF WORK. REVIEW PERIOD SHALL BE A MINIMUM OF TWO (2) WEEKS.
 14. REPRODUCTION OF ANY PORTION OF THE STRUCTURAL CONTRACT DRAWINGS FOR RESUBMITTAL AS SHOP DRAWINGS IS PROHIBITED. SHOP DRAWINGS PRODUCED IN SUCH A MANNER WILL BE REJECTED AND RETURNED.
 15. SHOP DRAWINGS SUBMITTED FOR STRUCTURAL REVIEW SHALL CONSIST OF TWO (2) SETS OF PRINTS AND ONE (1) SET OF REPRODUCIBLES. ONLY ONE (1) MARKED UP SET OF REPRODUCIBLE WITH THE STRUCTURAL ENGINEER'S COMMENTS WILL BE RETURNED TO THE CONTRACTOR.
 16. SHOP DRAWINGS SHALL BEAR THE CONTRACTOR'S STAMP OF APPROVAL WHICH SHALL CONSTITUTE CERTIFICATION THAT THE CONTRACTOR HAS VERIFIED ALL CONSTRUCTION CRITERIA, MATERIALS, AND SIMILAR DATA AND HAS CHECKED EACH DRAWING FOR COMPLETENESS, COORDINATION, AND COMPLIANCE WITH THE CONTRACT DOCUMENTS.
 17. THE DRAWINGS HAVE BEEN PRODUCED ENTIRELY ON PENNONI CADD SYSTEM. ANY OTHER LETTERING, LINES OR SYMBOLS, OTHER THAN PROFESSIONAL STAMPS AND SIGNATURES, HAVE BEEN MADE WITHOUT THE AUTHORIZATION OF PENNONI ARE INVALID.
 18. INSPECTION IS REQUIRED OF ALL CONSTRUCTION DELINEATED ON THE STRUCTURAL DRAWINGS AND/OR SPECIFICATIONS. THE CONTRACTOR SHALL EMPLOY A TESTING/INSPECTION AGENCY WHICH SHALL PROVIDE PERSONNEL WITH THE FOLLOWING MINIMUM QUALIFICATIONS:
 - A. CERTIFIED BY INSTITUTE OF CERTIFIED ENGINEERING TECHNICIANS, OR OTHER RECOGNIZED COMPARABLE ORGANIZATION, AND,
 - FOR INSPECTION, SAMPLING, TESTING CONCRETE AND MASONRY: ACI CERTIFIED CONCRETE FIELD-TESTING TECHNICIAN, GRADE I; AND CONSTRUCTION INSPECTOR, LEVEL II.
 - STRUCTURAL STEEL INSPECTION: AWS CERTIFIED WELDING INSPECTOR.
 19. SUBMIT PERIODIC REPORTS WITHIN ONE BUSINESS DAY AFTER RECEIPT BY THE CONTRACTOR TO OWNER'S REPRESENTATIVE AND THE CONSTRUCTION CODE OFFICIAL DURING CONSTRUCTION. SUBMIT FINAL INSPECTION REPORT SUMMARY FOR EACH DIVISION OF WORK, CERTIFIED BY A LICENSED PROFESSIONAL ENGINEER, THAT INSPECTIONS WERE PERFORMED AND THAT WORK WAS PERFORMED IN ACCORDANCE WITH CONTRACT DOCUMENTS.
 20. THE CONTRACTOR SHALL ENGAGE A TESTING AGENCY TO PROVIDE ANY TESTING SERVICES INDICATED IN THESE GENERAL NOTES.
 21. ALL MATERIALS SHALL BE STORED TO PROTECT THEM FROM EXPOSURE TO THE ELEMENTS.

2.0 STRUCTURAL WOOD

1. DESIGN, FABRICATION, AND CONSTRUCTION OF WOOD FRAMING SHALL CONFORM WITH THE FOLLOWING CODES AND STANDARDS.
 - A. "NATIONAL DESIGN SPECIFICATIONS FOR WOOD CONSTRUCTION", 2005 EDITION, (WITH SUPPLEMENT), AMERICAN FOREST AND PAPER ASSOCIATION.
 - B. "TIMBER CONSTRUCTION MANUAL", FOURTH EDITION, AS ADOPTED BY THE AMERICAN INSTITUTE OF TIMBER CONSTRUCTION, INCLUDING THE "CODE OF STANDARD PRACTICE", AITC 106.
 - C. ANSI/TPI 1-1995 "DESIGN SPECIFICATIONS FOR METAL PLATE-CONNECTED WOOD TRUSS CONSTRUCTION AND COMMENTARY", TRUSS PLATE INSTITUTE.
 - D. BUILDING COMPONENT SAFETY INFORMATION BCSI 1-03 "GUIDE TO GOOD PRACTICE FOR HANDLING, INSTALLING & BRACING OF METAL PLATE CONNECTED WOOD TRUSSES", WOOD TRUSS COUNCIL OF AMERICA AND TRUSS PLATE INSTITUTE.
 - E. AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS 6th ADDITION, 2013.
 - F. AASHTO LRFD GUIDE SPECIFICATION FOR THE DESIGN OF PEDESTRIAN BRIDGES 2nd ADDITION, 2007.
2. DESIGN LOADING
 - A. FIVE THOUSAND POUND VEHICLE OR PEDESTRIAN LOADING OF 60 PSF
 - B. WIND LOAD OF 48 PSF
 - C. SNOW LOAD OF 20 PSF
 - D. BUOYANCY FORCE OF 1800 POUNDS PER PIER
3. MATERIALS
 - A. BASE DESIGN VALUES FOR FLOOR, DECKING, BLOCKING AND 10, 12 AND 14 FT. STRUCTURAL WOOD STRINGERS, PIER CAPS AND PIER POSTS: SOUTHERN YELLOW PINE GRADE NO. 1 OR BETTER (FB = 1000 PSI, FV = 175 PSI, E = 1,600,000 PSI) MINIMUM.
 - B. HANGER CONNECTIONS FOR JOISTS, BEAMS, TRUSSES, AND MANUFACTURED WOOD FRAMING SHALL BE STRONG-TIE CONNECTORS BY SIMPSON (TRUS JOIST MACMILLAN).
 - C. ALL PARALLAM BEAM ENDS WHICH FRAME INTO BEAMS SHALL BE HUNG WITH HANGERS AS MANUFACTURED BY KANT-SAG OR WITH APPROVED SUBSTITUTES WITH WORKING LOAD CAPACITIES EQUIVALENT TO THE "THD" OR "DHO" SERIES HANGERS.
 - D. PROVIDE END-COAT SEALING TO END AND CROSS CUTS AFTER CUTTING TO FINAL LENGTH FOR ALL PARALLAM BEAMS.
 - E. PROVIDE NAILING PATTERN IN COMPLIANCE WITH IBC RECOMMENDED FASTENING SCHEDULE WHEN JOINING TWO OR MORE FRAMING MEMBERS.
 - F. SEE INTERNATIONAL BUILDING CODE FOR MINIMUM BRACING AND FASTENING REQUIREMENTS.
 - G. MEMBERS SHALL BE SET WITH CROWN UP AND HAVE A MINIMUM OF 3" BEARING.
 - H. ALL FASTENERS INCLUDING NAILS, SCREWS, LAG BOLTS, ANCHOR BOLTS, AND BOLTS SHALL BE STAINLESS STEEL (A316) AND FITTED WITH STAINLESS STEEL PLATE WASHERS WHERE INDICATED ON THE PLANS.
 - I. ALL WOOD SHALL BE PRESSURE TREATED (PT) WITH ALKALINE COPPER QUATERNARY (ACQ) STANDARD U1 FOR GROUND CONTACT USE CATEGORY 4B 0.40 ACQ.

(CONTINUED ON SHEET CS0004)

100% SUBMISSION	
ALL DIMENSIONS MUST BE VERIFIED BY CONTRACTOR AND OWNER MUST BE NOTIFIED OF ANY DISCREPANCIES BEFORE PROCEEDING WITH WORK	
 MICHAEL L. ALESTRA Lic. No. 0402058546	

STRUCTURAL NOTES

PRINCE WILLIAM COUNTY DEPARTMENT OF PARKS AND RECREATION
 14420 BRISTOW ROAD
 WOODBRIDGE, VIRGINIA 22191

PENNONI ASSOCIATES INC.
 13380 Dulles Corner Lane, Suite 100
 Herndon, VA 20171
 T 703.449.6700 F 703.449.6713

PROJECT	PWMCO18002
DATE	2020-02-24
DRAWING SCALE	NONE
DRAWN BY	CJK
APPROVED BY	DWJ

CS0003
 SHEET 3 OF 26

ALL DOCUMENTS PREPARED BY PENNONI ASSOCIATES INC. ARE THE INSTRUMENTS OF SERVICE IN RESPECT OF THE PROJECT. THESE DOCUMENTS ARE PROVIDED TO THE CONTRACTOR FOR USE IN THE CONSTRUCTION OF THE PROJECT. ANY REUSE WITHOUT PENNONI ASSOCIATES INC.'S WRITTEN CONSENT OR ADAPTION BY PENNONI ASSOCIATES INC. FOR THE PROJECT IS UNAUTHORIZED AND PENNONI ASSOCIATES INC. RESERVES SOLE RISK AND WITHOUT LIABILITY OR LEGAL EXPOSURE TO PENNONI ASSOCIATES INC. AND OWNER FOR ANY CLAIMS, DAMAGES, LOSSES, EXPENSES, OR COSTS ARISING OUT OF OR RESULTING THEREFROM.

- 3.0 HELICAL PILES**
- HELICAL AUGER PILES SHALL BE INSTALLED BY A FACTORY CERTIFIED INSTALLER.
 - THE HELICAL PILE CONTRACTOR SHALL BE EXPERIENCED IN PERFORMING DESIGN AND CONSTRUCTION OF HELICAL PILES AND SHALL FURNISH ALL MATERIALS, LABOR, AND SUPERVISION TO PERFORM THE WORK. THE CONTRACTOR SHALL BE TRAINED AND CERTIFIED BY THE HELICAL PILE MANUFACTURER IN THE PROPER METHODS OF DESIGN AND INSTALLATION OF HELICAL PILES.
 - HELICAL PILES SHALL BE DESIGNED TO MEET THE SPECIFIED LOADS AND ACCEPTANCE CRITERIA AS SHOWN ON THE DRAWINGS. THE CALCULATIONS AND DRAWINGS REQUIRED FROM THE CONTRACTOR OR ENGINEER SHALL BE SUBMITTED TO THE OWNER FOR REVIEW AND ACCEPTANCE IN ACCORDANCE TO SECTION 3.1 "CONSTRUCTION SUBMITTALS".
 - THE GEOTECHNICAL REPORT, INCLUDING LOGS OF SOIL BORINGS AS SHOWN ON THE BORING LOCATION PLAN, SHALL BE CONSIDERED TO BE REPRESENTATIVE OF THE IN-SITU SUBSURFACE CONDITIONS LIKELY TO BE ENCOUNTERED ON THE PROJECT SITE. SAID GEOTECHNICAL REPORT SHALL BE THE USED AS THE BASIS FOR HELICAL PILE DESIGN USING GENERALLY ACCEPTED ENGINEERING JUDGMENT AND METHODS.
 - THE CONTRACTOR MUST DETERMINE THE LOCATION OF, AND AVOID CONTACTING, ALL UNDERGROUND UTILITIES.
 - PLAIN EXTENSION MATERIAL MAY BE REQUIRED TO POSITION THE SCREW PILE AT THE DEPTH REQUIRED BY THE DRAWINGS. COUPLE EXTENSIONS TO THE SCREW PILE USING THE BOLTS PROVIDED WITH THE EXTENSION. TIGHTEN BOLTS TO APPROXIMATELY 40 FT. LBS. OF TORQUE.
 - HELICAL PILES, EXTENSIONS AND APPURTENANCE SHALL BE HOT-DIPPED GALVANIZED STEEL IN ACCORDANCE WITH ASTM A153.
 - THE CONTRACTOR SHALL SUBMIT SHOP DRAWINGS FOR ALL HELICAL PILE COMPONENTS, INCLUDING CORROSION PROTECTION AND PILE TOP ATTACHMENT TO THE OWNER FOR REVIEW AND APPROVAL. THIS INCLUDES HELICAL PILE LEAD/STARTER AND EXTENSION SECTION IDENTIFICATION (MANUFACTURER'S CATALOG NUMBERS).
 - THE CONTRACTOR SHALL PREPARE AND SUBMIT TO THE OWNER, FOR REVIEW AND APPROVAL, WORKING DRAWINGS AND DESIGN CALCULATIONS FOR THE HELICAL PILES INTENDED FOR USE AT LEAST 14 CALENDAR DAYS PRIOR TO PLANNED START OF CONSTRUCTION. ALL SUBMITTALS SHALL BE SIGNED AND SEALED BY A REGISTERED PROFESSIONAL ENGINEER CURRENTLY LICENSED IN THE COMMONWEALTH OF VIRGINIA.
 - A. THE WORKING DRAWINGS SHALL INCLUDE THE FOLLOWING:
 - B. HELICAL PILE NUMBER, LOCATION AND PATTERN BY ASSIGNED IDENTIFICATION NUMBER
 - C. HELICAL PILE DESIGN LOAD
 - D. TYPE AND SIZE OF CENTRAL STEEL SHAFT
 - E. HELIX CONFIGURATION (NUMBER AND DIAMETER OF HELIX PLATES)
 - F. MINIMUM EFFECTIVE INSTALLATION TORQUE
 - G. MINIMUM OVERALL LENGTH
 - H. CUT-OFF ELEVATION
 - I. HELICAL PILE ATTACHMENT TO STRUCTURE RELATIVE TO GRADE BEAM, COLUMN PAD, PILE CAP, ETC.
 - PRIOR TO COMMENCING HELICAL PILE INSTALLATION, THE CONTRACTOR SHALL INSPECT THE WORK OF ALL OTHER TRADES AND VERIFY THAT ALL SAID WORK IS COMPLETED TO THE POINT WHERE HELICAL PILES MAY COMMENCE WITHOUT RESTRICTION.
 - ALL PILE INSTALLATION OPERATIONS SHALL BE SUPERVISED BY THE LICENSED PROFESSIONAL GEOTECHNICAL ENGINEER EMPLOYED BY THE OWNER. THE INSPECTOR SHALL KEEP A COMPLETE RECORD OF THE PILE INSTALLATION OPERATION. WRITTEN INSTALLATION RECORDS SHALL BE OBTAINED FOR EACH HELICAL PILE. THESE RECORDS SHALL INCLUDE, BUT ARE NOT LIMITED TO THE FOLLOWING:
 - A. PROJECT NAME AND/OR LOCATION.
 - B. NAME OF CONTRACTOR'S FOREMAN OR REPRESENTATIVE WHO WITNESSED THE INSTALLATION.
 - C. DATE AND TIME OF THE INSTALLATION.
 - D. LOCATION AND REFERENCE NUMBER FOR EACH PILE.
 - E. DESCRIPTION OF LEAD SECTION AND EXTENSIONS INSTALLED.
 - F. OVERALL DEPTH OF INSTALLATIONS REFERENCED FROM BOTTOM OF GRADE BEAM OR FOOTING.

- TORQUE READING FOR THE LAST THREE FEET OF INSTALLATION IF PRACTICAL. IN LIEU OF THIS REQUIREMENT, THE TERMINATION TORQUE SHALL BE RECORDED AS A MINIMUM.
- ANY OTHER RELEVANT INFORMATION RELATED TO THE INSTALLATION.
- THE HELICAL PILES MUST BE INSTALLED TO PENETRATE COMPLETELY THROUGH THE EXISTING FILL INTO THE MEDIUM COMPACT TO COMPACT NATURAL SOILS BY A MINIMUM OF FIVE FEET.
- HELICAL PILES SHALL BE INSTALLED TO A MINIMUM DEPTH OF 20 FEET.
- APPLY THE MINIMUM MANUFACTURER RECOMMENDED TORQUE TO PROVIDE A MINIMUM ALLOWABLE BEARING VALUE OF 12,000 POUNDS SUBJECT TO THE FOLLOWING PROVISIONS:
 - IF THE MINIMUM TORQUE REQUIREMENT HAS NOT BEEN SATISFIED AT THE MINIMUM DEPTH LEVEL, THE CONTRACTOR SHALL INSTALL THE PILE DEEPER USING ADDITIONAL EXTENSIONS UNTIL THE SPECIFIED TORQUE LEVEL IS OBTAINED.
 - PILES EXCEEDING THE MAXIMUM RATED TORQUE, BUT NOT ACHIEVING THE REQUIRED MINIMUM DEPTH SHOULD BE EVALUATED BY THE GEOTECHNICAL ENGINEER TO DETERMINE THEIR ACCEPTABILITY.
- CONTRACTOR TO MONITOR INSTALLATION TORQUE THROUGHOUT THE INSTALLATION PROCESS. THE MAXIMUM INSTALLATION TORQUE SHALL AT NO TIME EXCEED THE TORQUE RATING OF THE SCREW PILE SHAFT.
- HELICAL PILES SHOULD BE INSTALLED AS SHOWN ON DRAWINGS. ALL CHANGES IN PILE LOCATION MUST BE APPROVED BY THE ENGINEER. PROPER ANGULAR ALIGNMENT SHALL BE ESTABLISHED AT THE START OF THE INSTALLATION.
- THE TOLERANCES QUOTED IN THIS SECTION ARE SUGGESTED MAXIMUMS. THE ACTUAL VALUES ESTABLISHED FOR A PARTICULAR PROJECT WILL DEPEND ON THE STRUCTURAL APPLICATION OR MAY BE GOVERNED BY OTHER TRADES.
 - CENTERLINE OF HELICAL PILES SHALL NOT BE MORE THAN 3 INCHES FROM INDICATED PLAN LOCATION.
 - HELICAL PILE PLUMBNESS SHALL BE WITHIN 2 OF DESIGN ALIGNMENT.
 - TOP ELEVATION OF HELICAL PILE SHALL BE WITHIN (+/-)1/4" OF PAIRED BENT HELICAL PILE, (+/-)1" OF ADJACENT PILE SETS OF THE DESIGN VERTICAL ELEVATION.
- SCREW ANCHOR SHAFT: 1 1/2" OR LARGER SOLID STEEL SHAFT - HOT ROLLED ROUND CORNERED SQUARE CONFORMING TO THE GENERAL REQUIREMENTS OF ASTM A29.
- EXTENSION SECTIONS COUPLINGS TO BE HOT UPSET FORGED SOCKETS.
- REMOVAL OF UNDERGROUND OBSTRUCTIONS ENCOUNTERED DURING THE INSTALLATION IS PROHIBITED. THE CONTRACTOR SHALL RELOCATE THE PILE WITH THE ENGINEER'S APPROVAL. THE PILE RELOCATION MAY REQUIRE THE RELOCATION OF ADJACENT PILES WITH THE ENGINEER'S APPROVAL.
- THE HELICAL PILE SHALL BE CONNECTED TO THE STRUCTURE USING AN APPROVED STEEL PLATE CONNECTION AS SHOWN IN THE DETAILS. THESE CONNECTIONS DEVICES SHALL BE CAPABLE OF SAFELY TRANSFERRING THE STRUCTURAL LOADS TO THE HELICAL PILES.
- VOID AREA AROUND UPPER PORTION OF PILES SHALL BE BACKFILLED IN ACCORDANCE WITH THE GEOTECHNICAL REPORT OR FILLED WITH LEAN CONCRETE.
- INSTALL SCREW PILE IN A SMOOTH, CONTINUOUS MANNER, AT A RATE OF ROTATION IN THE RANGE OF 5 TO 20 REVOLUTIONS PER MINUTE. APPLY SUFFICIENT DOWNWARD PRESSURE TO ADVANCE THE SCREW PILE.

4.0 CONCRETE - ALTERNATE FOOTINGS

- FOOTINGS SHALL BEAR ON UNDISTURBED VIRGIN SOIL, AND/OR SUPERVISED COMPAKTED FILL, FREE OF FROST, HAVING A MINIMUM ALLOWABLE BEARING CAPACITY OF 3,000 POUNDS PER SQUARE FOOT.
- CONCRETE COMPRESSIVE STRENGTH SHALL BE 4000 PSI.
- SAMPLING - TWO CYLINDERS PER TRUCK SHALL BE OBTAINED AND TESTED.

5.0 APPROACH FILL - ABUTMENTS

- CONTRACTOR SHALL LAYOUT APPROACH ABUTMENTS. TOPSOIL SHALL BE EXTRUDED AND DISPOSED OF OFFSITE PRIOR TO INSTALLATION OF TIMBER CRIBBING.

- APPROACH FILL SHALL BE DENSE GRADED AGGREGATE FILL, VDOT 21A/21B.
 - FILL SHALL BE PACKED IN MAXIMUM 8" LIFTS AND COMPAKTED TO 95% STANDARD PROCTOR.
- 6.0 PREFABRICATED FIBER REINFORCED POLYMER COMPOSITE (FRP) BRIDGE**
- THE PRE-ENGINEERED SUPERSTRUCTURE SHALL BE DESIGNED AND MANUFACTURED TO THE SPAN AND WIDTH SHOWN ON THE PLANS AND SHALL INCLUDE 42" RAILING SYSTEM, SAFETY RAIL AND TOE PLATES. THE FRP BRIDGE SHALL BE SUPPLIED BY ONE OF THE FOLLOWING OR AN APPROVED EQUAL:

E.T. TECHTONICS
214 INDUSTRIAL LANE
ALUM BANK, PA 15521
814.839.4186
ETECHTONICS.COM
 - THE BRIDGE MANUFACTURER SHALL HAVE BEEN IN THE BUSINESS OF DESIGN AND FABRICATION OF BRIDGES FOR A MINIMUM OF FIVE YEARS AND PROVIDE A LIST OF FIVE SUCCESSFUL BRIDGE PRODUCTS OF SIMILAR CONSTRUCTION, EACH OF WHICH HAS BEEN IN SERVICE AT LEAST THREE YEARS.
 - THE BRIDGE MANUFACTURER SHALL HAVE BEEN IN THE BUSINESS OF DESIGN AND FABRICATION OF BRIDGES FOR A MINIMUM OF FIVE YEARS AND PROVIDE A LIST OF FIVE SUCCESSFUL BRIDGE PRODUCTS OF SIMILAR CONSTRUCTION, EACH OF WHICH HAS BEEN IN SERVICE AT LEAST THREE YEARS.
 - THE PREFABRICATED FRP COMPOSITE BRIDGE SHALL BE A 42" HIGH PRATT TRUSS DESIGN WITH BEARINGS, ADA COMPLIANT SAFETY RAILS, RAILING, AND EXPANSION JOINTS.
- 2. DESIGN LOADING**
- 5000 POUND VEHICLE OR PEDESTRIAN LOADING OF 60 PSF
 - WIND LOAD OF 48 PSF
 - SNOW LOAD OF 20 PSF
 - THE TRUSS SHALL BE FABRICATED WITH CAMBER INCLUDING DEAD LOAD DEFLECTION TO MATCH THE PROPOSED PROFILE.
- 3. MATERIALS**
- FRP COMPOSITES

FRP BRIDGES SHALL BE FABRICATED FROM HIGH-STRENGTH E-GLASS AND ISOPHTHALIC POLYESTER RESIN UNLESS OTHERWISE SPECIFIED. WEATHERING AND ULTRAVIOLET LIGHT PROTECTION SHALL BE PROVIDED BY ADDITION OF A VEIL TO THE LAMINATE CONSTRUCTION. MINIMUM CHARACTERISTIC DESIGN STRENGTHS, DEVELOPED PER ASTM D7290 ARE AS FOLLOWS.

	TENSION	59,150 PSI	ASTM D638
	COMPRESSION	43,363 PSI	ASTM D6641
	SHEAR (IN-PLANE)	9,773 PSI	ASTM D5379
	SHEAR (INTERLAMINAR)	3,969 PSI	ASTM D2344
	YOUNG'S MODULUS	3,870,000 PSI	ASTM D6641 & D638 (TAKEN AS THE MEAN OF THE LESSOR OF THE TWO)
 - DECKING

WOOD DECKING SHOULD BE NO. 1 SOUTHERN YELLOW PINE TREATED ACCORDING TO THE AMERICAN WOOD PRESERVERS BUREAU.

THE 3" NO. 1 SOUTHERN YELLOW PINE DECK IS DESIGNED TO SPAN TRANSVERSELY ON FLOOR BEAMS.
 - FINISH BRIDGE COLOR SHALL BE DETERMINED BY THE OWNER. FOR BIDDING PURPOSES A OLIVE GREEN SHALL BE INCLUDED.
- 4. HARDWARE**
- BOLTED CONNECTIONS SHALL BE A316 STAINLESS STEEL. MOUNTING DEVICES SHALL BE A304 STAINLESS STEEL.
- 4. PREFABRICATED BRIDGE DESIGN AND SHOP DRAWINGS SUBMITTALS:**
- THE BRIDGE MANUFACTURER SHALL HAVE AN ENGINEER REGISTERED IN THE COMMONWEALTH OF VIRGINIA PREPARE, SIGN, SEAL AND DATE EACH PLAN.
 - THE BRIDGE MANUFACTURER SHALL SUBMIT SHOP DRAWINGS AND STRUCTURAL CALCULATIONS (PREPARED ACCORDING TO THE PREVIOUS PARAGRAPH) TO THE OWNER AND CONTRACTOR FOR ACCEPTANCE PRIOR TO BEGINNING FABRICATION. OWNER APPROVAL OF SHOP DRAWINGS IS NOT REQUIRED. SHOP DRAWINGS SHALL BE UNIQUE DRAWINGS

PREPARED TO ILLUSTRATE THE SPECIFIC PORTION OF THE WORK TO BE DONE. ALL RELATIVE DESIGN INFORMATION INCLUDING BUT NOT LIMITED TO GOVERNING CODES, DESIGN PARAMETERS, MEMBER SIZES, BRIDGE REACTIONS, SHOP AND FIELD CONNECTION DETAILS, DIMENSIONS RELATED TO SUBSTRUCTURES AND GENERAL NOTES SHALL BE CLEARLY SPECIFIED ON THE DRAWINGS. SHOP DRAWINGS SHALL BE ACCURATELY PREPARED BY SKILLED DRAFTERS TO BE COMPLETE IN EVERY RESPECT. DRAWINGS SHALL HAVE CROSS-REFERENCED DETAILS AND SHEET NUMBERS.

THE OWNER MUST PROVIDE WRITTEN ACCEPTANCE LETTER OF SHOP DRAWINGS TO CONFIRM TYPE, STYLE, AND GENERAL APPEARANCE OF PREFABRICATED STRUCTURE IN ACCORDANCE WITH CONTRACT DOCUMENTS.

THE CONTRACTOR MUST PROVIDE A WRITTEN ACCEPTANCE LETTER DOCUMENTING ACCEPTANCE OF THE SHOP DRAWINGS INCLUDING CONFIRMATION OF FIELD VERIFICATION, AS REQUIRED, AND DESCRIPTIONS OF ISSUES RESOLVED BETWEEN THE CONTRACTOR, THE FABRICATOR, THE DEPARTMENT, OR OWNER.

BY ACCEPTING THESE SHOP DRAWINGS, THE CONTRACTOR REPRESENTS TO THE OWNER THAT ALL DIMENSIONS AND ELEVATIONS OF EXISTING CONDITIONS SHOWN ON THE PLANS HAVE BEEN FIELD MEASURED AND VERIFIED, AND THAT THESE SHOP DRAWINGS COMPLY WITH ALL THE MATERIALS REQUIREMENTS, CONSTRUCTION REQUIREMENTS, CONTRACT REQUIREMENTS, AND PERFORMANCE CRITERIA. THE CONTRACTOR FURTHER REPRESENTS THAT THESE DRAWINGS HAVE BEEN COORDINATED AND VERIFIED WITH THE DETAILS OF THE WORK TO BE PERFORMED BY OTHER FABRICATORS AND ENTITIES ON THE PROJECT. THE OWNER WILL NOT MAKE ANY ALLOWANCE FOR ADDITIONAL COST OR DELAYS TO THE CONTRACTOR FOR INCORRECT FABRICATION AS A RESULT OF FAILURE TO COORDINATE OR PERFORM THIS ACCEPTANCE.

IF THE OWNER REQUESTS CHANGES ON THESE SHOP DRAWINGS, OR THE CONTRACTOR MAKES CHANGES IN ADDITION TO THOSE EXPRESSLY REQUESTED, ENSURE THAT THE SHOP DRAWINGS ARE ACCEPTABLE AS ABOVE WITH SUITABLE REVISION MARKS TO IDENTIFY THE CHANGES.

WRITTEN ACCEPTANCE FROM BOTH CONTRACTOR AND OWNER MUST BE PROVIDED PRIOR TO INITIATING FABRICATION OF STRUCTURE.

5. FABRICATION:
PER MANUFACTURERS STANDARD PROCEDURE.

6. DELIVERY:

THE CONTRACTOR SHALL COORDINATE WITH THE BRIDGE MANUFACTURER, THE OWNER AND OVERHEAD UTILITY OWNERS REGARDING THE DELIVERY AND ERECTION SCHEDULE. HAULING PERMITS AND FREIGHT CHARGES SHALL BE THE RESPONSIBILITY OF THE MANUFACTURER.

DELIVERY TO THE JOB SITE WILL BE BY TRUCKS BY MEANS OF GOOD HAUL ROADS UNLESS SPECIFIED OTHERWISE. THE BRIDGE MANUFACTURER SHALL PROVIDE DETAILED, WRITTEN INSTRUCTION PROCEDURES FOR PROPER LIFTING AND SPLICING OF BRIDGE COMPONENTS. THE CONTRACTOR SHALL BE REQUIRED TO VERIFY THAT THE PROPOSED ABUTMENT DIMENSIONS, WIDTHS AND ELEVATIONS WILL ACCOMMODATE THE PROPOSED PREFABRICATED BRIDGE, AND ADJUST ACCORDINGLY IF NEEDED. ANY ADJUSTMENTS SHALL BE APPROVED BY THE OWNER PRIOR TO CONSTRUCTION.

7. INSTALLATION/ ERECTION:

THE CONTRACTOR SHALL COORDINATE WITH THE BRIDGE FABRICATOR TO OBTAIN ADEQUATE EQUIPMENT TO ERECT, LIFT AND INSTALL THE BRIDGE USING HAND ASSEMBLY TECHNIQUES. THIS INCLUDES SPREADER BEAMS ETC. AS REQUIRED TO ENSURE THAT NO PORTION OF THE BRIDGE IS OVER-STRESSED DURING INSTALLATION. NO LARGE/HEAVY EQUIPMENT SHALL BE USED TO TRANSPORT THE BRIDGE COMPONENTS INTO PLACE.

8. WARRANTY:

THE BRIDGE MANUFACTURER SHALL WARRANT THE STRUCTURAL INTEGRITY OF ALL FRP MATERIALS, DESIGN AND WORKMANSHIP FOR 15 YEARS. THIS WARRANTY SHALL BE LIMITED TO THE REPAIR OR REPLACEMENT OF STRUCTURAL DEFECTS, AND SHALL NOT INCLUDE LIABILITY FOR CONSEQUENTIAL OR INCIDENTAL DAMAGES.

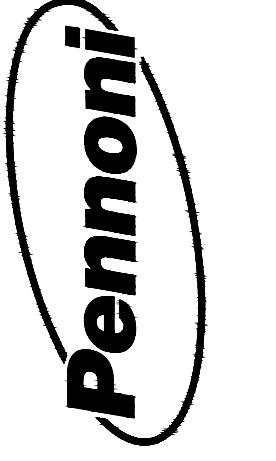
100% SUBMISSION	
ALL DIMENSIONS MUST BE VERIFIED BY CONTRACTOR AND OWNER BEFORE PROCEEDING WITH WORK	

PRINCE WILLIAM COUNTY DEPARTMENT OF PARKS AND RECREATION
18875 NEASCO ROAD
WOODBRIDGE, VIRGINIA 22191
MANASSAS, VIRGINIA 20112

STRUCTURAL NOTES

PROJECT	PWMCO18002
DATE	2020-02-24
DRAWING SCALE	NONE
DRAWN BY	CJK
APPROVED BY	DWJ
REVISIONS	
DATE	
NO.	
REVISIONS	

CS0004
SHEET 4 OF 26



PENNINI ASSOCIATES INC.
13380 Dulles Corner Lane, Suite 100
Herndon, VA 20171
T 703.449.6700 F 703.449.6713

Project Summary & Analysis

PLAN TITLE: JULIE METZ WETLAND BOARDWALK

PWC PLAN NO.: _____

PWCSA Inspector: _____

Contractor(s): _____

Type of project (Check all that apply):

- Residential SFD
- Public Improvement Plan
- Non-Residential 1 pad site
- Residential Townhouses
- Road Plans
- Non-Residential 2-4 pad sites
- Residential Multi-family
- Off Site Utilities
- Non-Residential 5+ pad sites

Date Project Started: _____

Date All Water & Sanitary Sewer Mains Completed & Tested: _____

Date Full Beneficial Use Assigned: _____

Date Released from Bond: _____

Number of lots or pad sites: _____

Quantity of water main: _____

Number of meter taps to the main: _____

Quantity of sewer main: _____

Number of manholes: _____

Number of lateral connects to the main: _____

Description of major factors that added significant inspection time (rock, bores, night work, restrictions in right-of-way, temporary services, pump arounds, etc.)

Project Proficiency:
(Rate project on a scale of 1 to 5 with 1 being the most proficient.)

Estimated Total Office/Mis. Time: _____

Estimated Total Field Time: _____

Number of Beneficial Use Inspections and Estimated Time: _____

Number of Bond Release Inspections and Estimated Time: _____

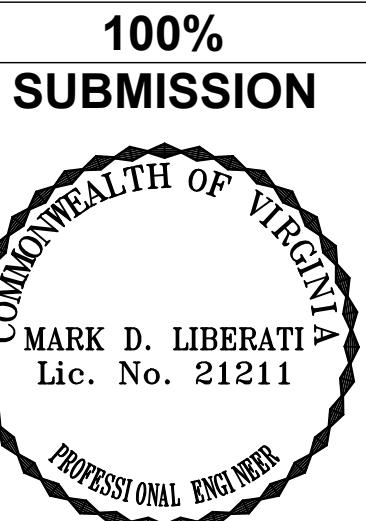
Estimated Total Time: _____

Date: Total Field Time Spent For Day: Stations: Pipe Size: Footage:

Comments:

Date: Total Field Time Spent For Day: Stations: Pipe Size & Material: % of Grade: Footage:

Comments:



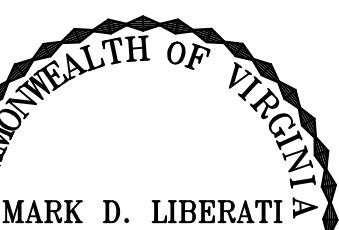
100%
SUBMISSION

SHEET REVISED AS OF MARCH, 2013



**PWCSA INSPECTOR WATER &
SANITARY SEWER LOG SHEET**

Service Authority
Prince William County



100%
SUBMISSION

ALL DIMENSIONS MUST BE VERIFIED BY CONTRACTOR
AND OWNER MUST BE NOTIFIED OF ANY
DISCREPANCIES BEFORE PROCEEDING WITH WORK

OVERALL PLAN

PRINCE WILLIAM COUNTY DEPARTMENT OF PARKS AND RECREATION

18875 NEABSCO ROAD
WOODBRIIDGE, VIRGINIA 22191
MANASSAS, VIRGINIA 20112

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TO BE SUITABLE FOR REUSE BY OWNER OR OTHERS
TO EXTEND THE PROJECT OR FOR USE IN ANOTHER
PROJECT, ANY REUSE WITHOUT VERIFICATION
OR ADAPTION BY PENNONI ASSOCIATES FOR THE
PROJECT IS THE SOLE RISK OF THE REUSER.
PENNONI ASSOCIATES SHALL NOT BE HELD
SOLE RISK AND WITHOUT LIABILITY OR LEGAL
EXPOSURE TO PENNONI ASSOCIATES, AND OWNER
SHALL NOT BE HELD SOLE RISK AND WITHOUT LIABILITY
OR EXPOSURE TO PENNONI ASSOCIATES FROM ALL CLAIMS, DAMAGES, LOSSES AND
EXPENSES ARISING OUT OF OR RESULTING THEREFROM.

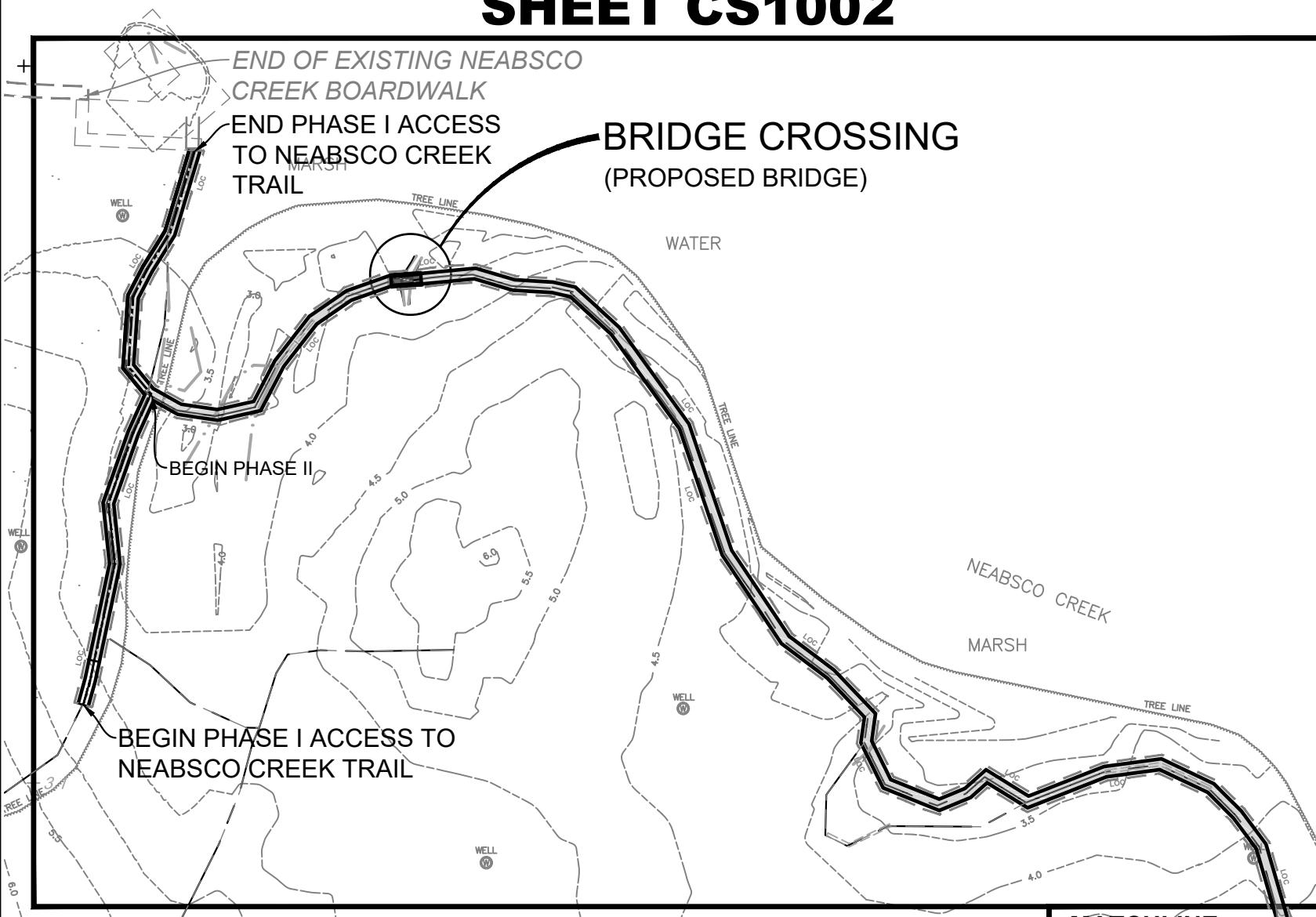
PROJECT PWMC018002
DATE 2020-02-24
DRAWING SCALE 1" = 100'
DRAWN BY JMA
APPROVED BY DWJ

CS1001

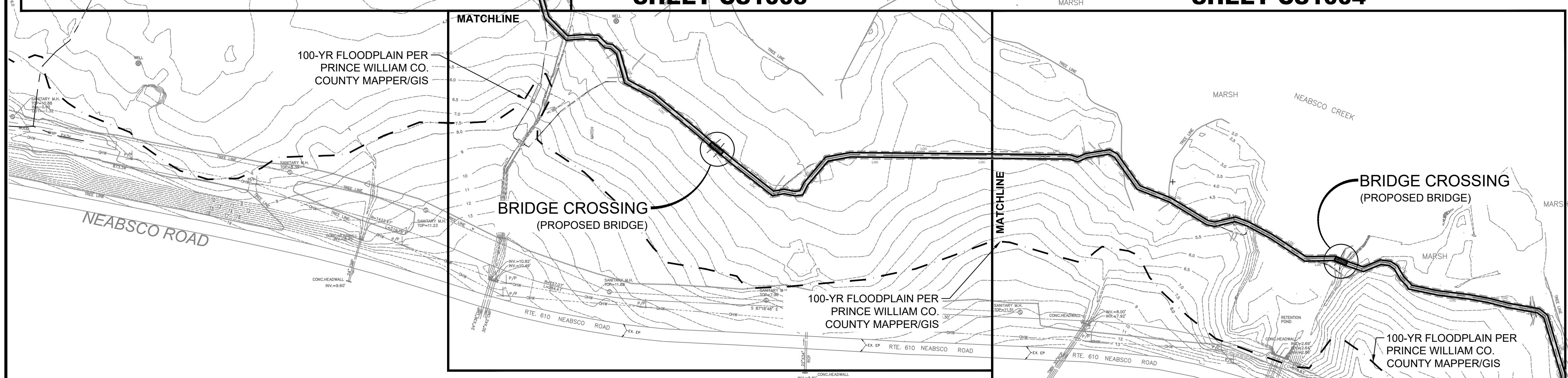
SHEET 8 OF 26

LEGEND

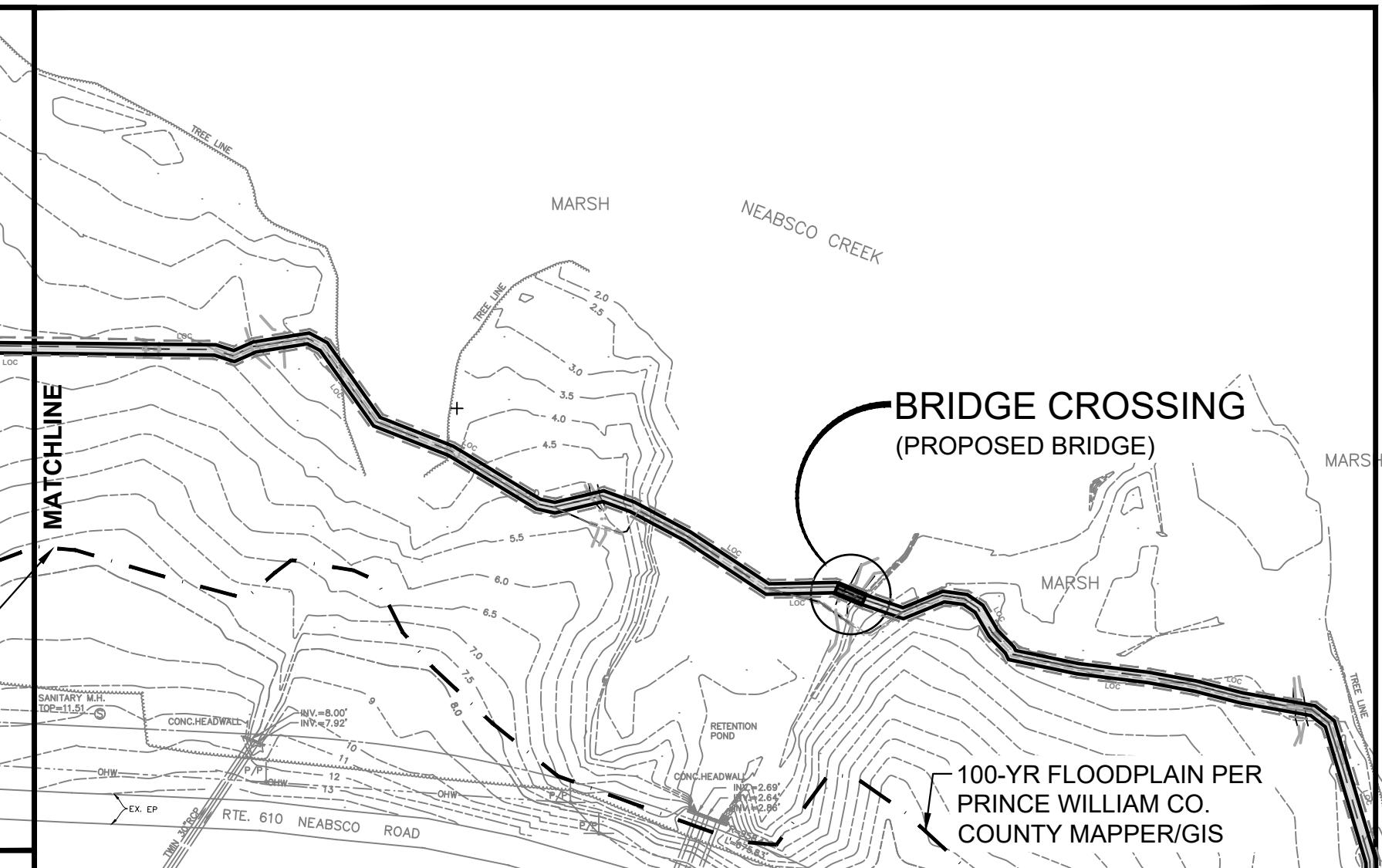
- EXISTING NATURAL SURFACE TRAIL
- ||||| PROPOSED APPROACH TO BOARDWALK
- |||| PROPOSED ELEVATED WOODEN BOARDWALK
- [Solid Box] PROPOSED F.R.P. BRIDGE
- LOC
- - - LIMITS OF CONSTRUCTION
- 100-YEAR FLOODPLAIN
- ANGLE LABEL (TYP.)
- EXISTING SPOT ELEVATION



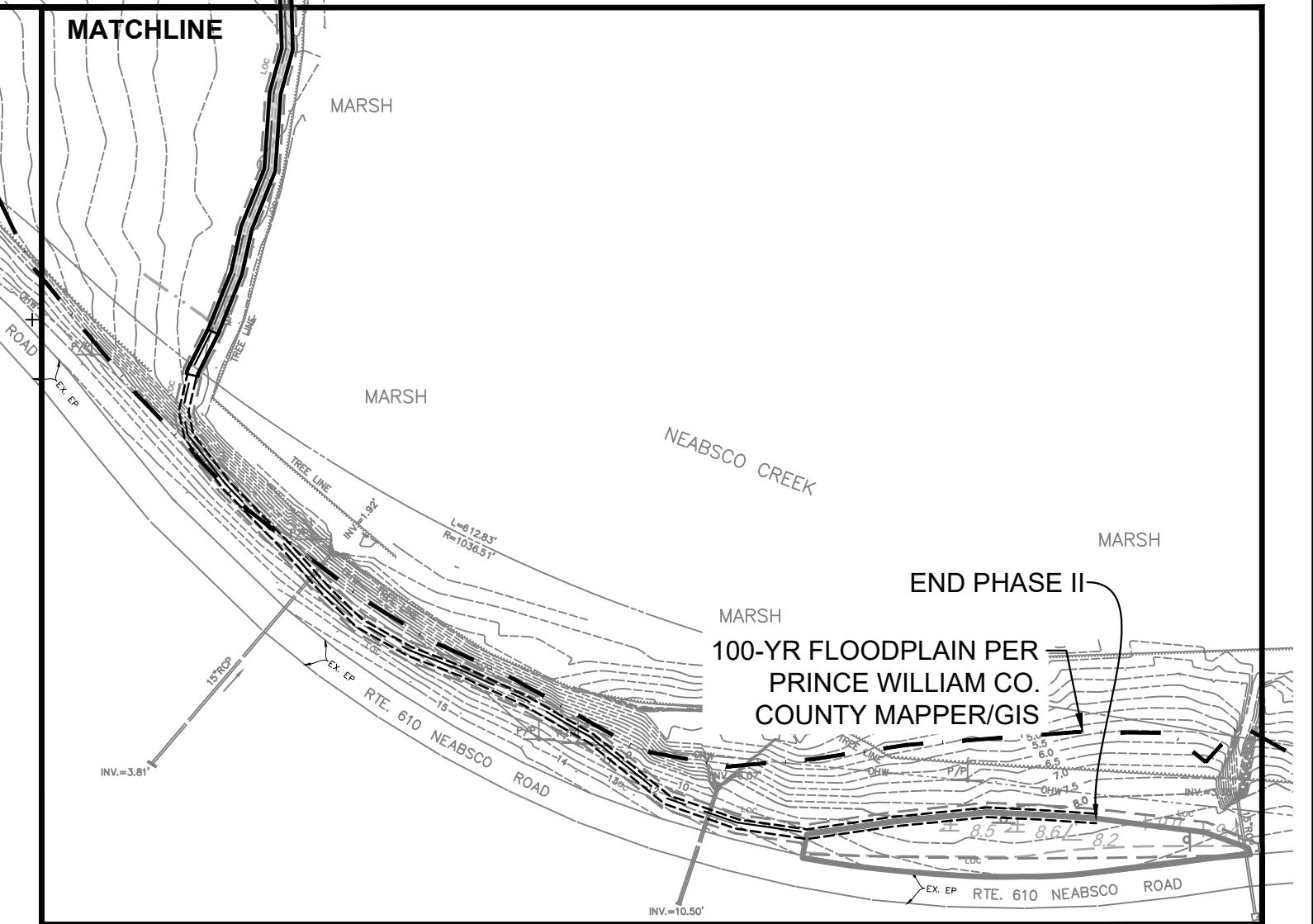
NEABSCO CREEK



SHEET CS1004

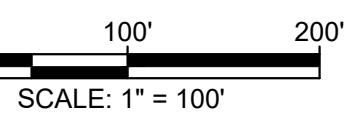


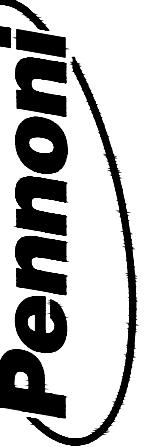
SHEET CS1005



NOTE:

TOPOGRAPHICAL INFORMATION SHOWN ON THIS PLAN IS COMPILED FROM SURVEYS PERFORMED BY OTHERS, AND SHOWN FOR INFORMATION ONLY. IT IS NOT THE RESULT OF A FIELD RUN SURVEY PERFORMED BY PENNONI ASSOCIATES.





PRINCE WILLIAM COUNTY DEPARTMENT OF PARKS AND RECREATION
18875 NEABSCO ROAD
WOODBRIDGE, VIRGINIA 22191
MANASSAS, VIRGINIA 20112
SITE PLAN

PROJECT STATUS: 2020-02-24
PLOTFILE: Pennoni NC53.dwg
PLOTTED: 2020-02-18 10:49 AM
DRAWING DESIGN SHEET CS1002

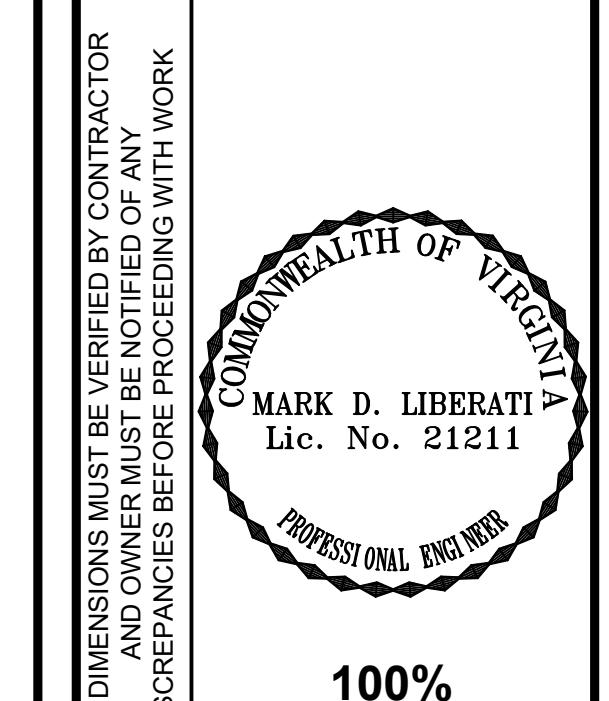
PROJECT PWMC018002
DATE 2020-02-24
DRAWING SCALE 1" = 30'
DRAWN BY JMA
APPROVED BY DWJ

CS1002
SHEET 9 OF 26

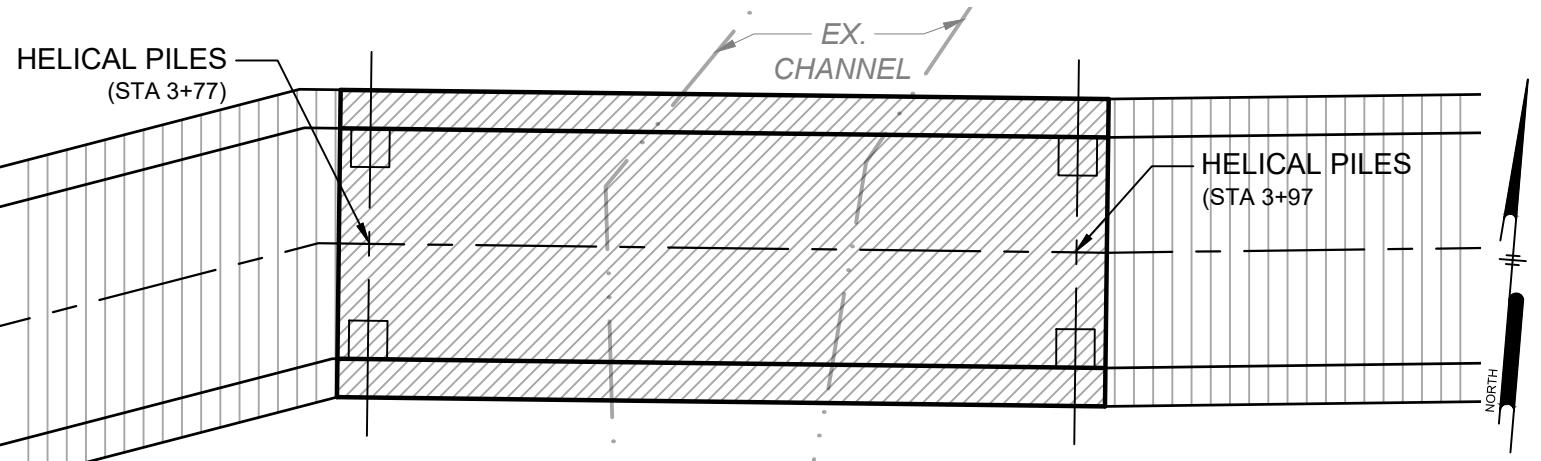
LEGEND

	EXISTING NATURAL SURFACE TRAIL
	PROPOSED APPROACH TO BOARDWALK
	PROPOSED ELEVATED WOODEN BOARDWALK
	PROPOSED F.R.P. BRIDGE
	LIMITS OF CONSTRUCTION
	100-YEAR FLOODPLAIN
	ANGLE LABEL (TYP.)
	EXISTING SPOT ELEVATION

A47 10.80

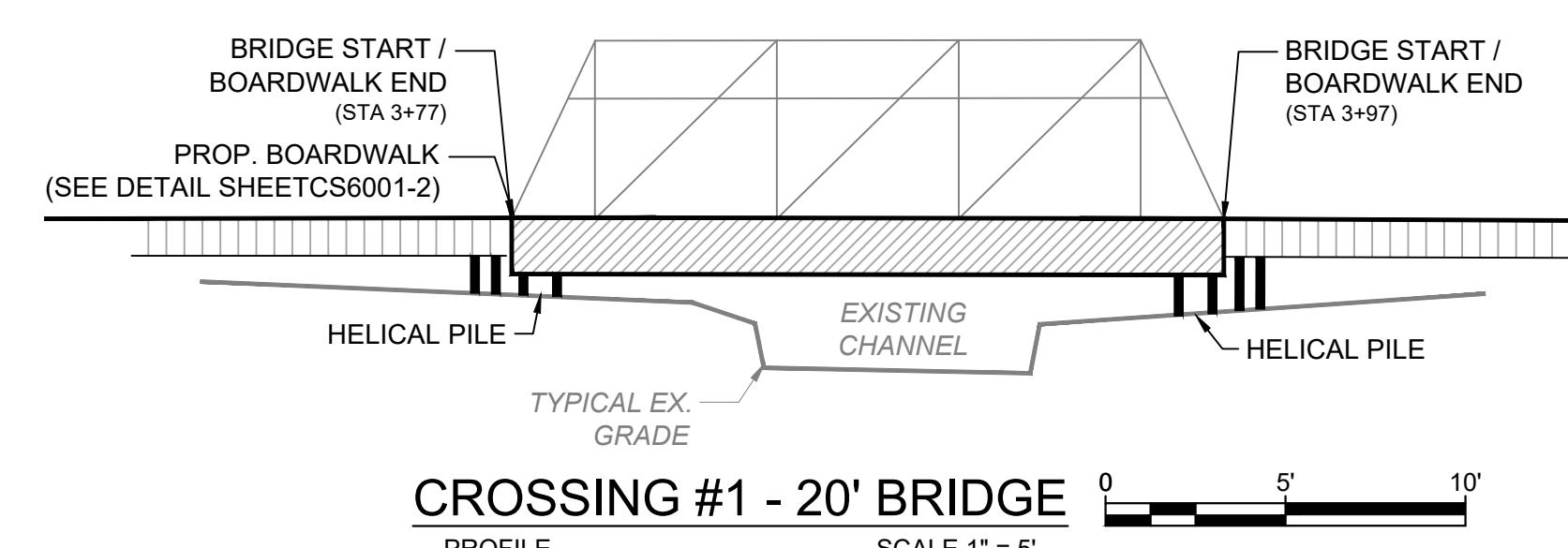


ALL DIMENSIONS MUST BE VERIFIED BY CONTRACTOR
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CROSSING #1 - 20' BRIDGE

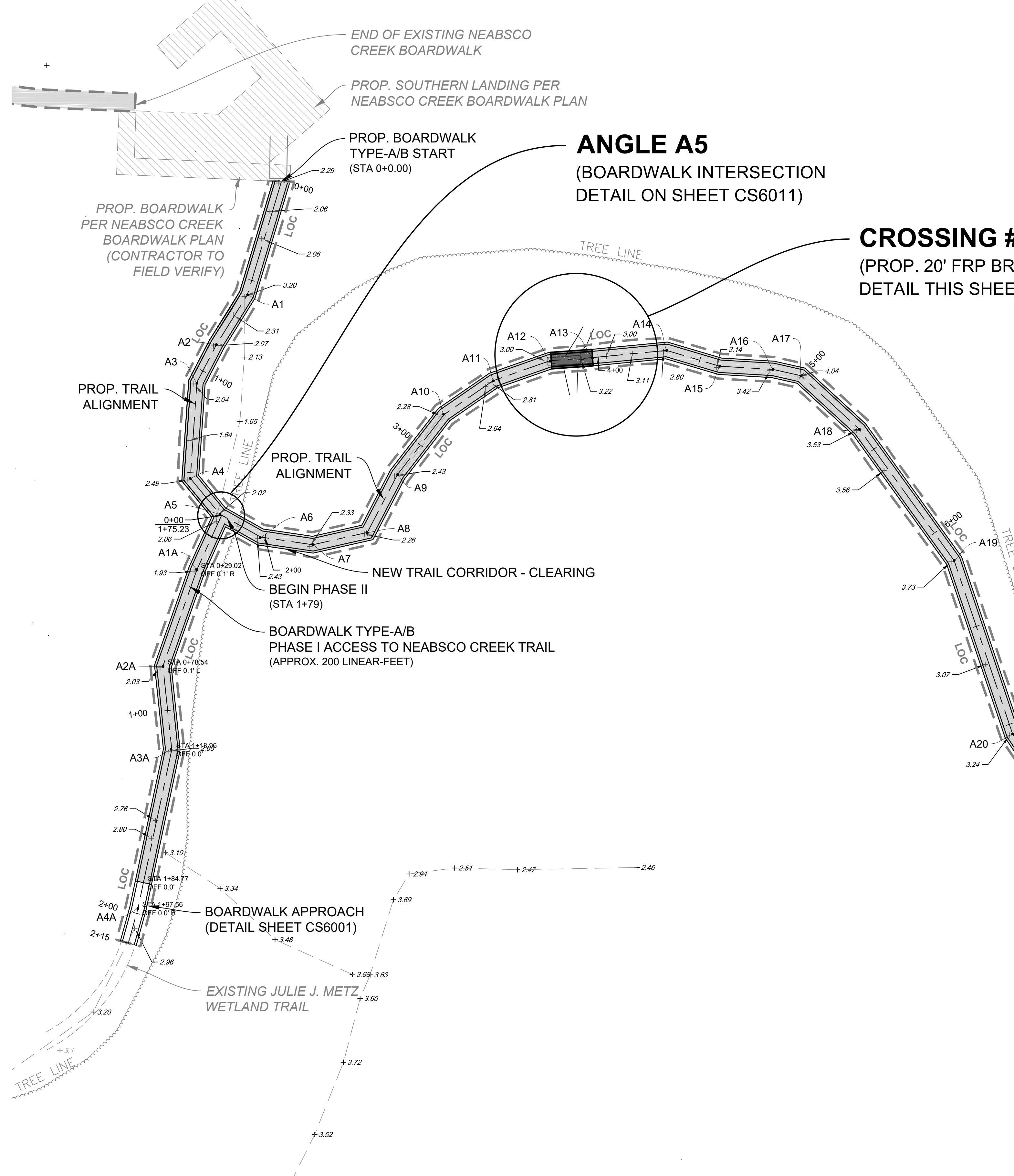
SCALE 1" = 5'



CROSSING #1 - 20' BRIDGE

SCALE 1" = 5'

SEGMENT	DESCRIPTION	LENGTH
STA 0+00 TO STA 3+77	TYPE-A/B BOARDWALK	377-FEET
CROSSING #1	F.R.P. BRIDGE	20-FEET
STA 3+97 TO STA 15+89	TYPE-A/B BOARDWALK	1,192-FEET
PHASE I ACCESS	TYPE-A/B BOARDWALK	184-FEET



ANGLE A5
(BOARDWALK INTERSECTION
DETAIL ON SHEET CS6011)

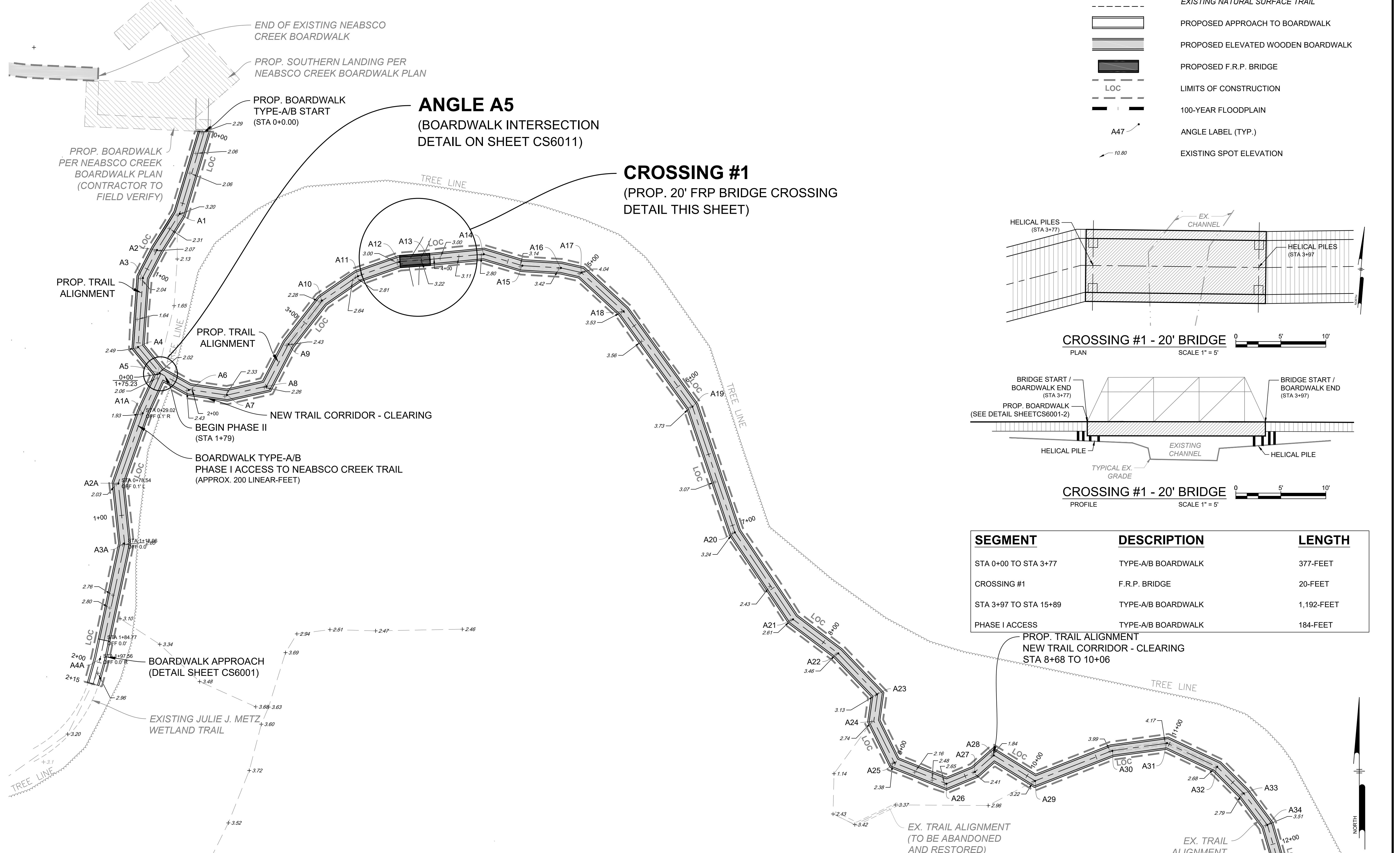
CROSSING #1
(PROP. 20' FRP BRIDGE CROSSING
DETAIL THIS SHEET)

PROJECT STATUS: 2020-02-24
PLOTFILE: Pennoni NC53.dwg
PLOTTED: 2020-02-18 10:49 AM
DRAWING DESIGN SHEET CS1002

UNIVERSITY PARK, PRINCIPAL, NEABSCO CREEK, NEABSCO CREEK BOARDWALK DESIGN, SHEET CS1002

NOTE: FOR A LIST OF CONSTRUCTED ANGLES ALONG THE
PROPOSED BOARDWALK ALIGNMENT, SEE SHEET CS1005

0 30' 60'
SCALE 1" = 30'



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PROJECT PWMC018002
DATE 2020-02-24
DRAWING SCALE 1" = 30'
DRAWN BY JMA
APPROVED BY DWJ

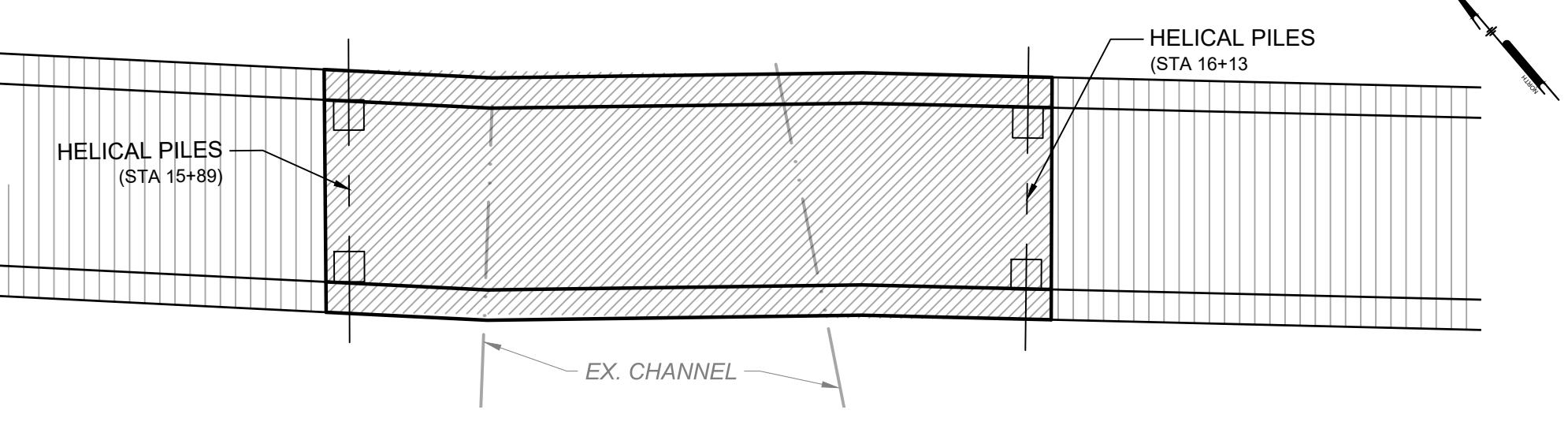
CS1002
SHEET 9 OF 26

SEGMENT	DESCRIPTION	LENGTH
STA 3+97 TO STA 15+89	TYPE-A/B BOARDWALK	1,192 FEET
CROSSING #2	24' FRP BRIDGE	24 FEET
STA 16+13 TO STA 26+93	TYPE-A/B BOARDWALK	1,080 FEET

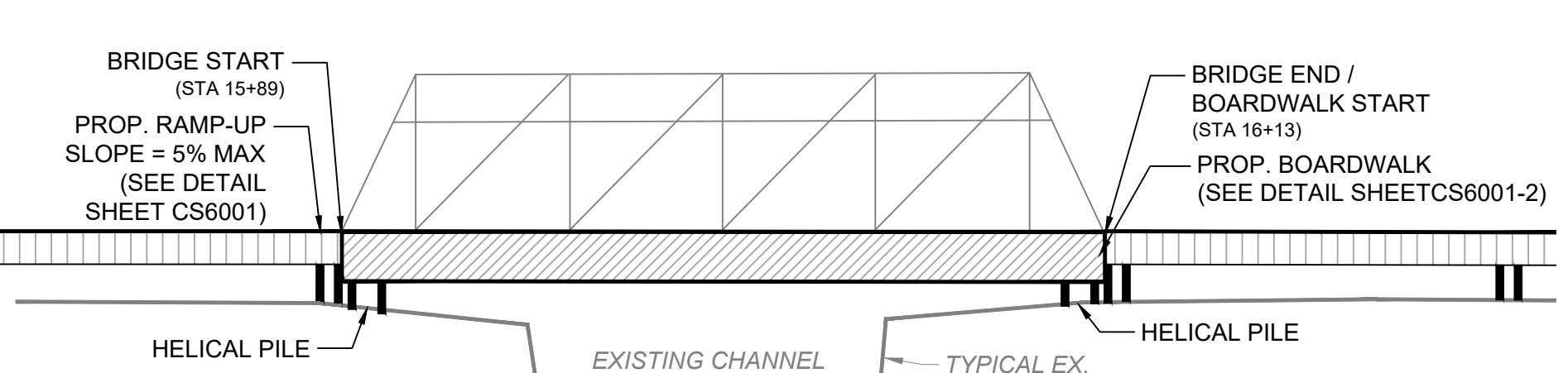
LEGEND

- EXISTING NATURAL SURFACE TRAIL
- PROPOSED APPROACH TO BOARDWALK
- PROPOSED ELEVATED WOODEN BOARDWALK
- PROPOSED F.R.P. BRIDGE
- LOC
- LIMITS OF CONSTRUCTION
- 100-YEAR FLOODPLAIN
- ANGLE LABEL (TYP.)
- EXISTING SPOT ELEVATION

A47
10.80



CROSSING #2 - 24' BRIDGE



CROSSING #2 - 24' BRIDGE

ALL DIMENSIONS MUST BE VERIFIED BY CONTRACTOR
AND OWNER MUST BE NOTIFIED OF ANY
DISCREPANCIES BEFORE PROCEEDING WITH WORK

MARK D. LIBERATI
Lic. No. 21211
PROFESSIONAL ENGINEER
100% SUBMISSION

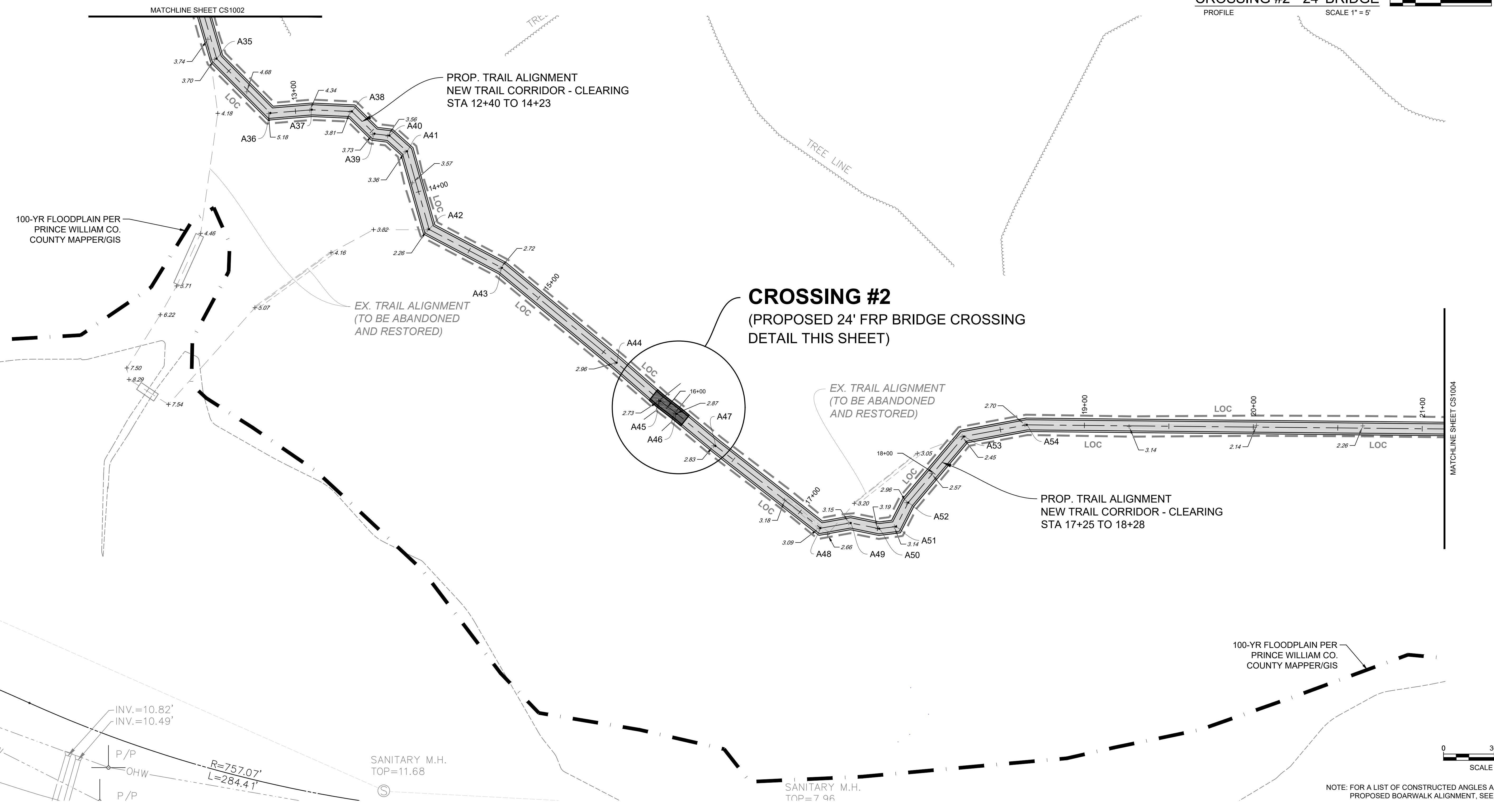
Pennoni

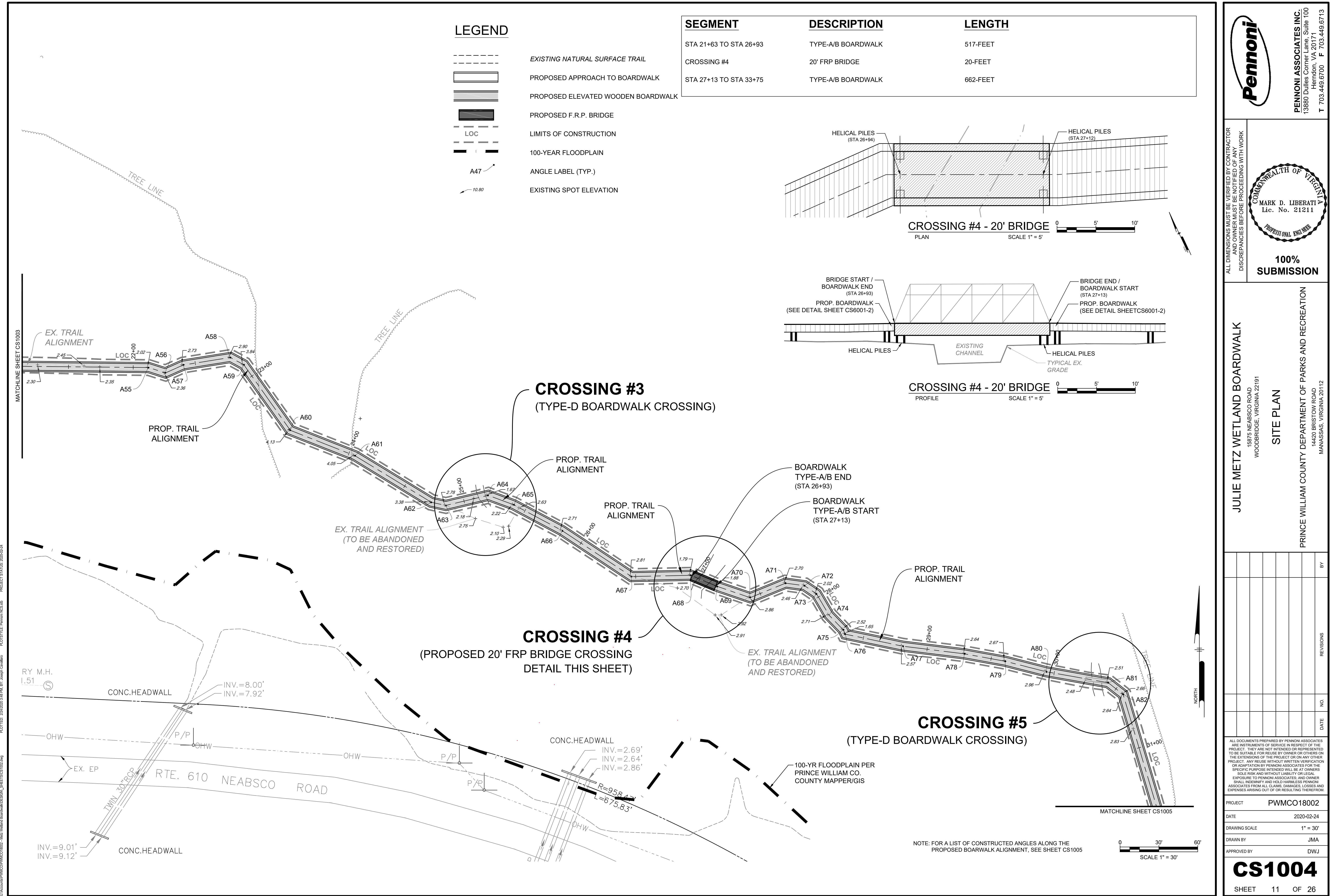
PENNONI ASSOCIATES INC.
13880 Dulles Corner Lane, Suite 100
Herndon, VA 20171
T 703.449.6700 F 703.449.6713

PRINCE WILLIAM COUNTY DEPARTMENT OF PARKS AND RECREATION
18875 NEASCO ROAD
WOODBRIIDGE, VIRGINIA 22191
SITE PLAN

PROJECT STATUS: 2020-02-24
PLOTSFILE: Pennoni.MCS.dwg
PRINTED: 2024/03/14 10:51 AM Joseph Gwaltney

BY:





SEGMENT

DESCRIPTION

LENGTH

STA 27+13 TO STA 33+75

TYPE-A/B BOARDWALK

662-FEET (LENGTH EXCLUDES 14-FOOT "CROSSING #5")

BOARWALK ANGLES

ANGLE

STATION

DEG.

A1	0+57.29	15.2
A2	0+85.40	4.5
A3	1+06.16	23.4
A4	1+52.69	43.4
A5	1+75.21	21.2
A6	1+97.75	20.9
A7	2+22.33	21.1
A8	2+50.36	49.8
A9	2+82.05	10.4
A10	3+18.69	17.6
A11	3+44.55	15.2
A12	3+77.28	15.2
A13	3+97.28	1.4
A14	4+33.29	20.8
A15	4+60.13	13.2
A16	4+85.89	9.3
A17	4+99.80	29.9
A18	5+38.09	11.6
A19	6+18.40	17.2
A20	7+04.90	15.1
A21	7+74.66	19.2
A22	8+12.37	9.3
A23	8+50.31	51.7
A24	8+68.14	34.3
A25	8+99.16	40.7
A26	9+36.63	44.6
A27	9+57.17	19.0
A28	9+73.92	73.4
A29	10+06.32	53.2
A30	10+61.42	13.6
A31	10+98.51	33.1
A32	11+35.49	19.6
A33	11+60.54	8.3
A34	11+86.78	20.5
A35	12+39.86	28.4
A36	12+85.17	50.0
A37	13+09.76	7.2
A38	13+33.55	42.1
A39	13+52.53	37.7
A40	31+61.25	35.1
A41	31+75.22	32.2
A42	14+23.21	46.3
A43	14+72.07	11.7
A44	15+60.18	1.6
A45	15+94.50	3.6
A46	16+13.08	2.1
A47	16+36.39	1.6
A48	17+15.65	48.2
A49	17+33.60	21.6
A50	17+50.84	18.5
A51	17+60.93	56.0
A52	17+76.88	13.1
A53	18+28.05	39.4
A54	18+65.91	11.1
A55	22+12.06	17.3
A56	22+25.53	41.9
A57	22+40.59	14.9
A58	22+77.47	37.4
A59	22+89.23	26.3
A60	23+51.32	33.2
A61	24+05.02	9.9
A62	24+74.00	19.2
A63	24+85.55	25.6
A64	25+19.15	33.7
A65	25+40.11	19.2
A66	25+82.18	3.9
A67	26+46.84	24.0
A68	26+92.60	24.0
A69	27+14.76	3.9
A70	27+41.63	41.1

NOTE: REFER TO SHEETS CS6012-CS6013
FOR APPLICABLE BOARDWALK DETAILS
RELATED TO ANGLES.

LEGEND

	EXISTING NATURAL SURFACE TRAIL
	PROPOSED APPROACH TO BOARDWALK
	PROPOSED ELEVATED WOODEN BOARDWALK
	PROPOSED F.R.P. BRIDGE
	LIMITS OF CONSTRUCTION
	100-YEAR FLOODPLAIN
	ANGLE LABEL (TYP.)
	EXISTING SPOT ELEVATION

PENNON ASSOCIATES INC.
13880 Dulles Corner Lane, Suite 100
Herndon, VA 20171
T 703.449.6700 F 703.449.6713

SITE PLAN

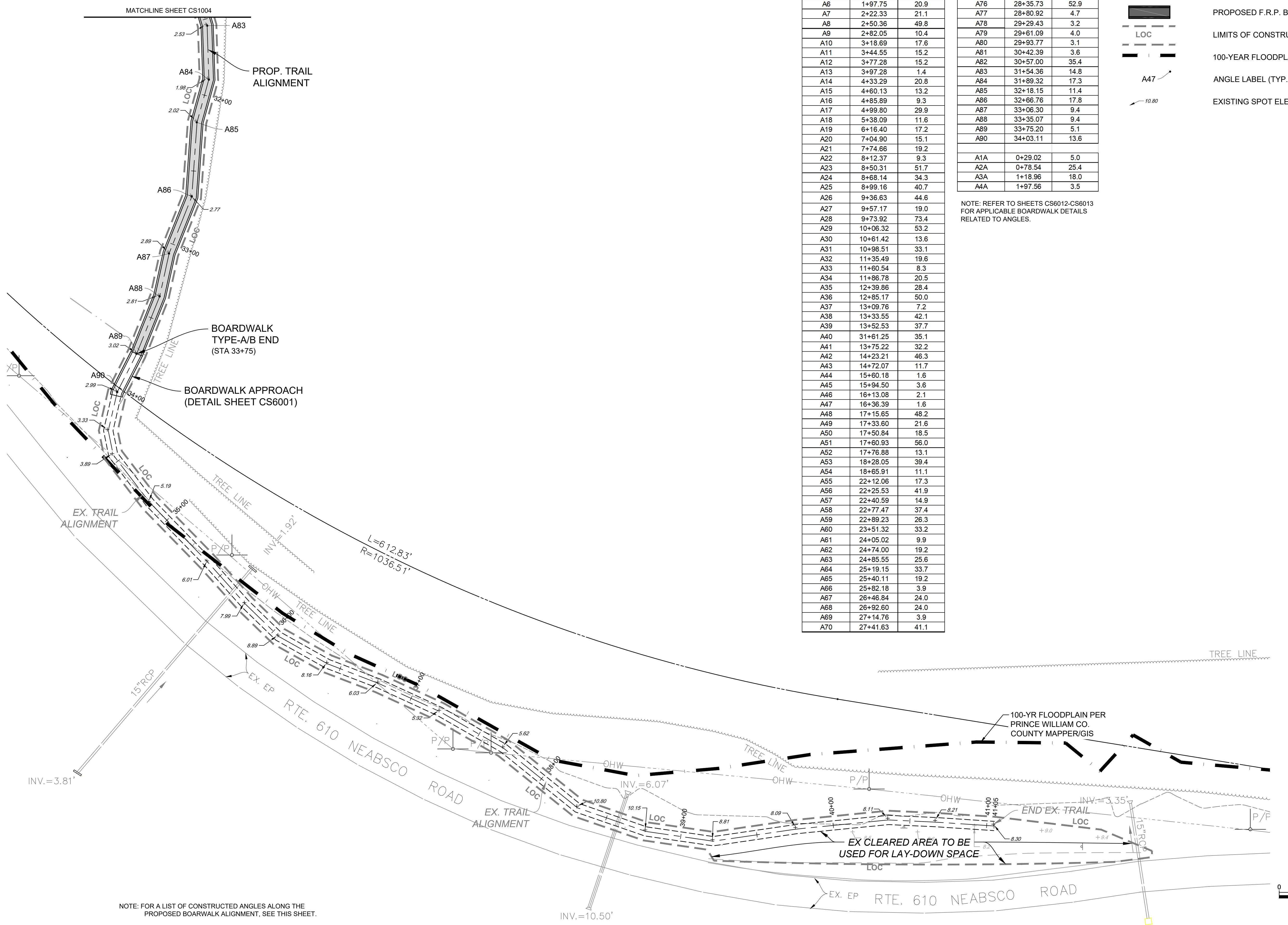
PRINCE WILLIAM COUNTY DEPARTMENT OF PARKS AND RECREATION
18875 NEABSCO ROAD
WOODBRIDGE, VIRGINIA 22191

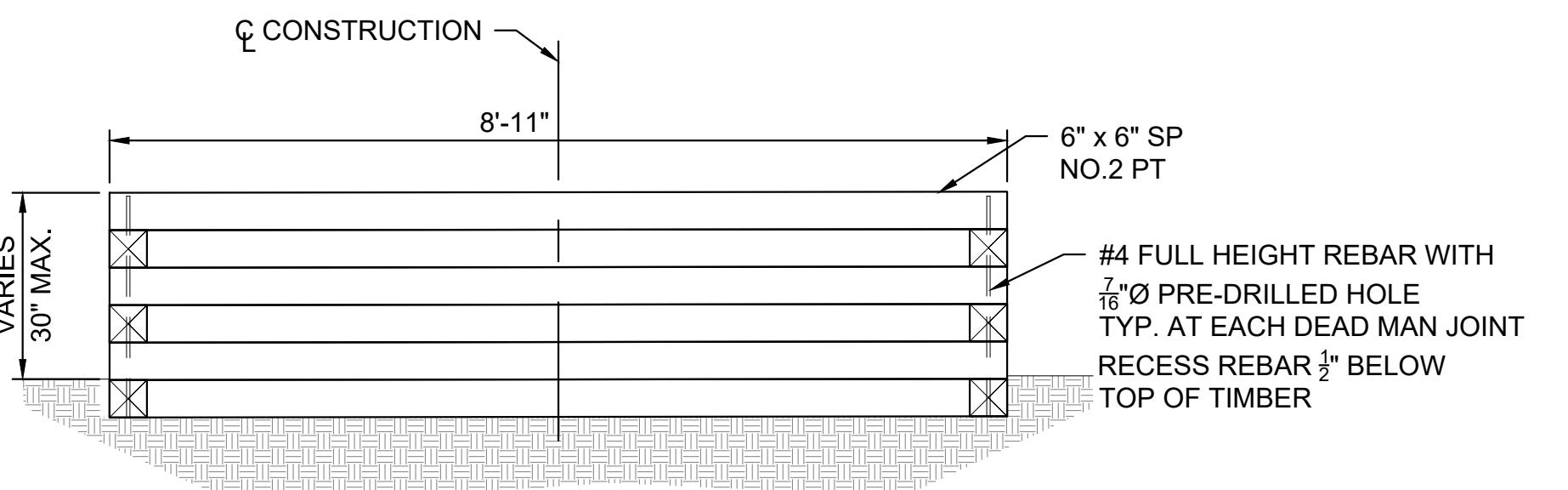
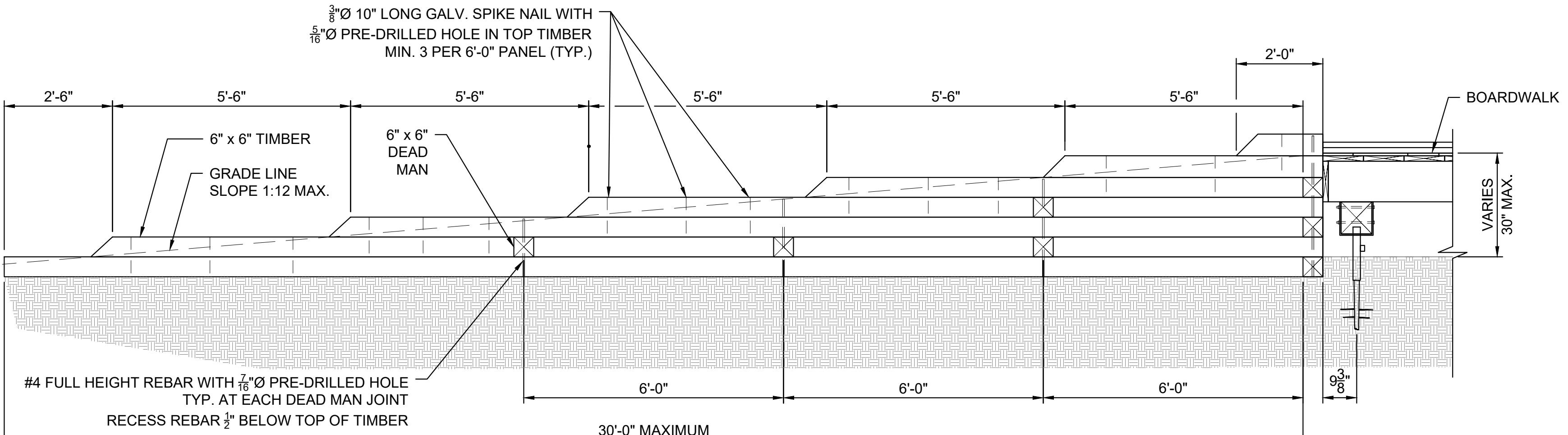
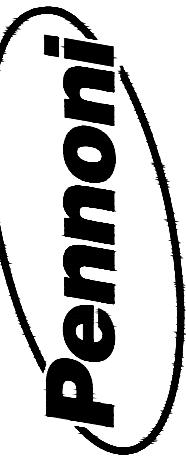
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PROJECT. THESE DOCUMENTS ARE NOT TO BE CONSTRUED
TO BE SUITABLE FOR REUSE BY OWNER OR OTHERS ON
THE EXTERIOR OF THE PROJECT OR ON ANY OTHER
PROJECT, ANY REUSE WITHOUT VERIFICATION
OR ADAPTION BY PENNON ASSOCIATES FOR THE
NEW PROJECT IS THE SOLE RISK OF THE NEW
OWNER. PENNON ASSOCIATES SHALL NOT BE HELD
SOLE RISK AND WITHOUT LIABILITY OR LEGAL
EXPOSURE TO PENNON ASSOCIATES AND OWNER
FOR ANY CLAIMS, DAMAGES, LOSSES AND
EXPENSES ARISING OUT OF OR RESULTING THEREFROM.

PROJECT PWMC018002
DATE 2020-02-24
DRAWING SCALE 1" = 30'
DRAWN BY JMA
APPROVED BY DWJ

CS1005

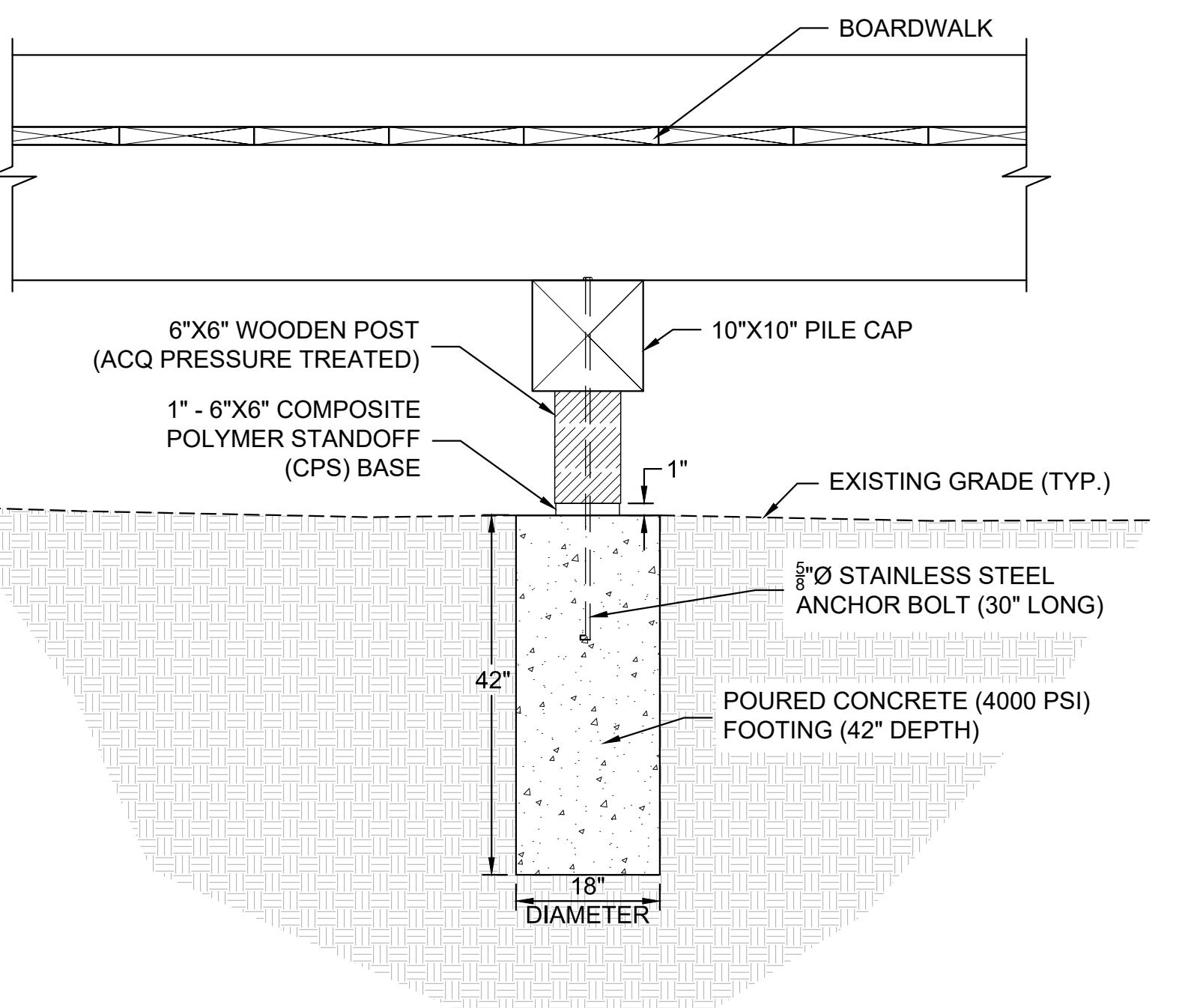
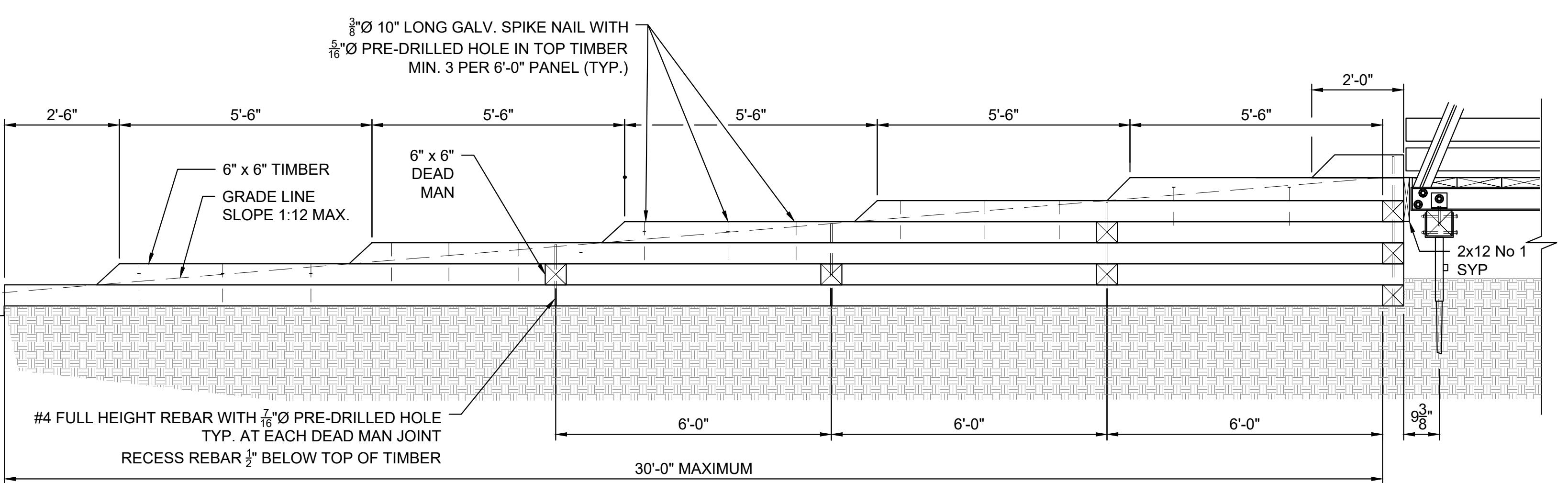
SHEET 12 OF 26





PRINCE WILLIAM COUNTY DEPARTMENT OF PARKS AND RECREATION
18875 NEASCO ROAD
WOODBRIDGE, VIRGINIA 22191
MANASSAS, VIRGINIA 20112

BOARDWALK DETAILS 1

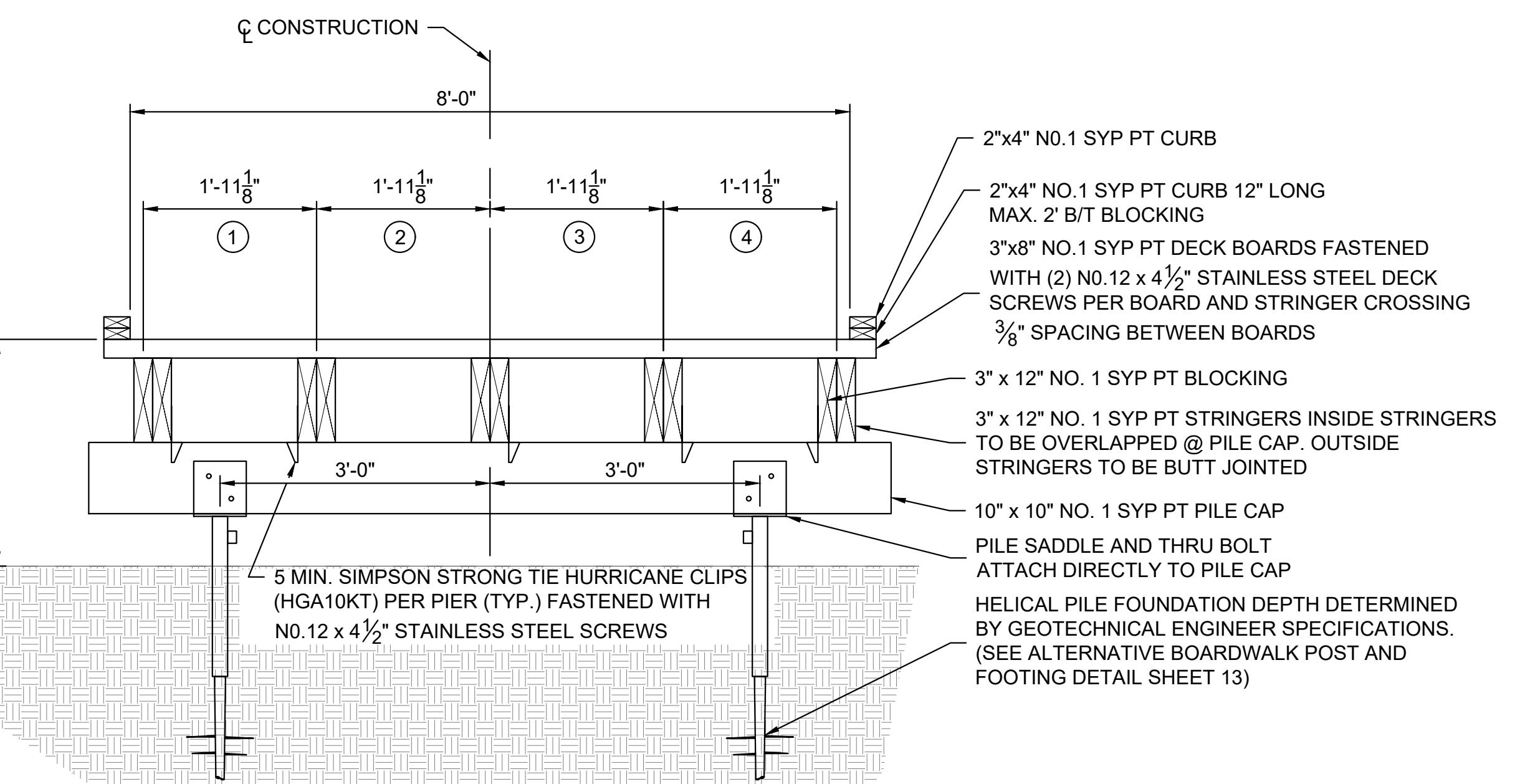


NOTES

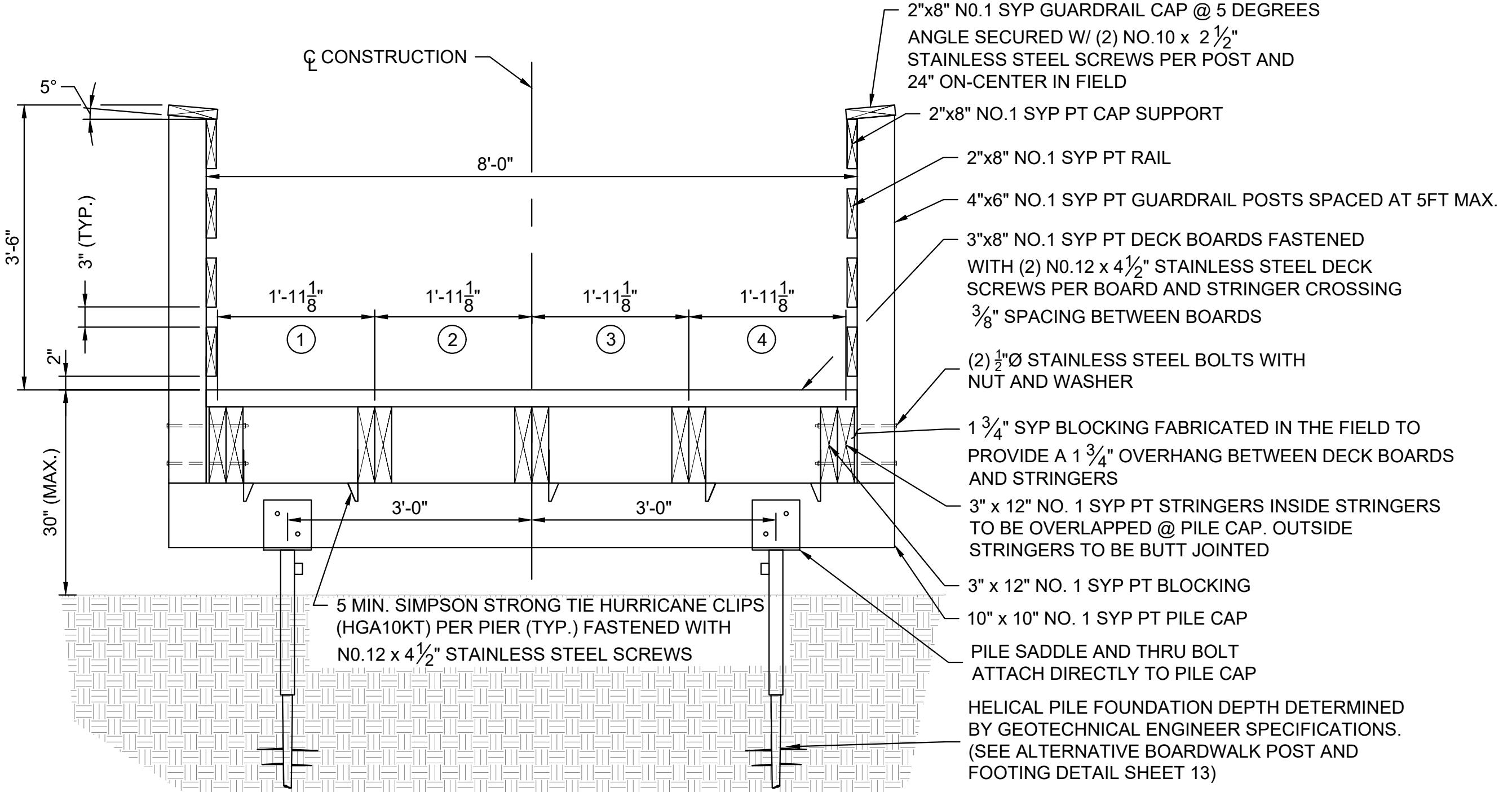
1. FILL FOR TIMBER CRIBBING SHALL BE COMPAKTED CRUSHED STONE VA DOT ITEM 21A.
2. TIMBER CRIBBING SHALL BE NO. 1 SOUTHERN YELLOW PINE OR BETTER.
3. SEE CS0003, SECTION 2.0 STRUCTURAL WOOD FOR PRESERVATIVE TREATMENT.

PROJECT	PWMCO18002
DATE	2020-02-24
DRAWING SCALE	AS NOTED
DRAWN BY	CJK
APPROVED BY	DWJ

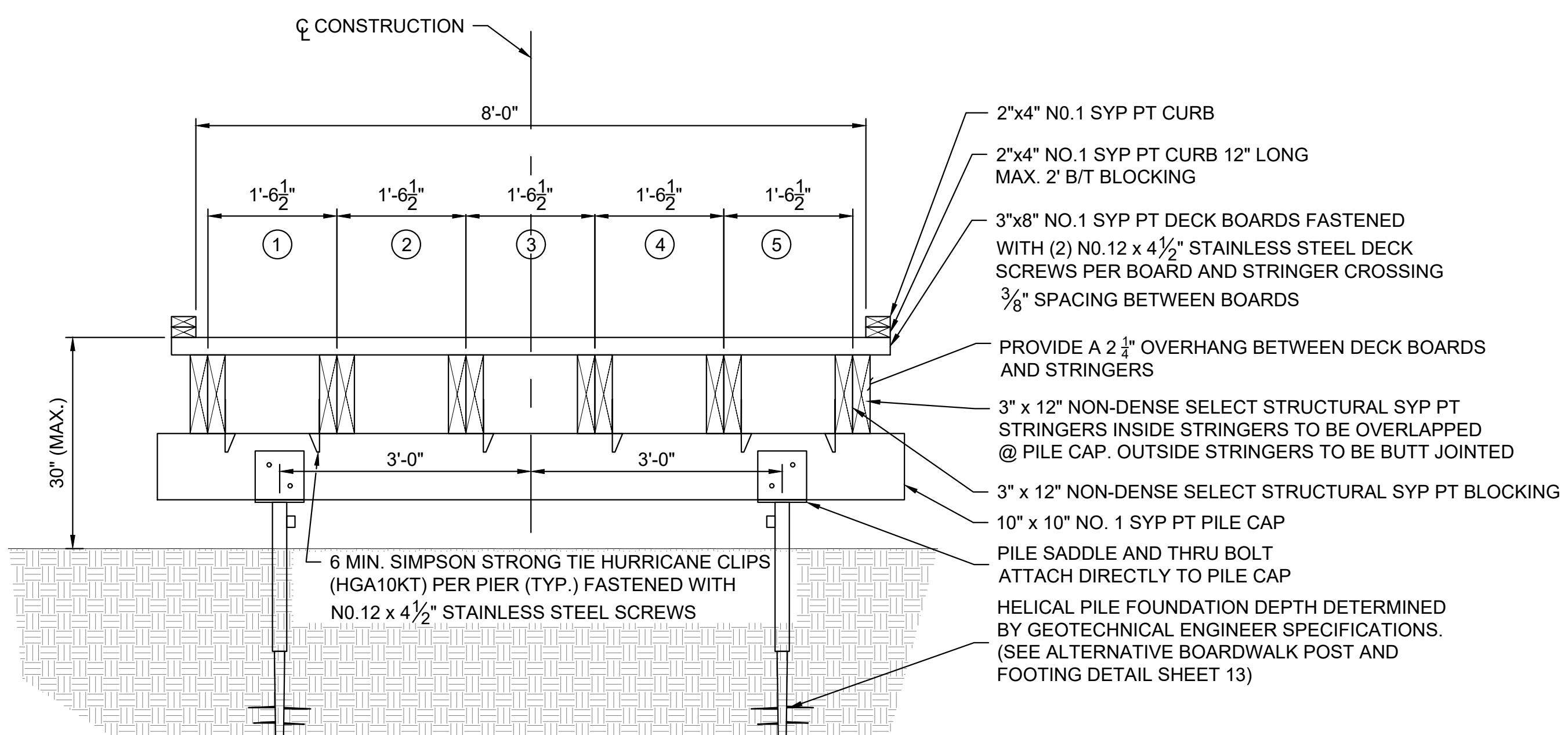
CS6001
SHEET 13 OF 26



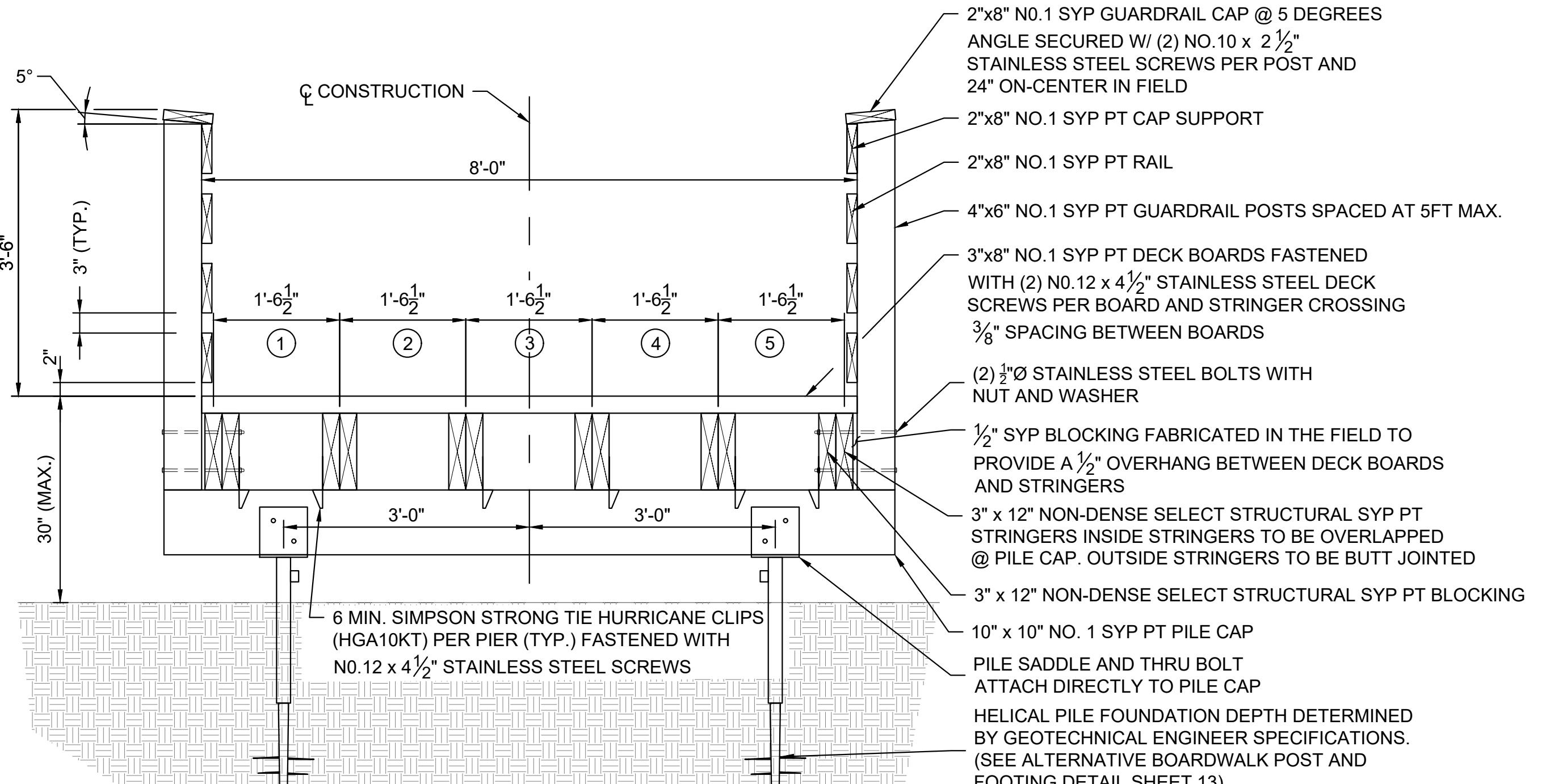
**1
6002** TYPE A BOARDWALK (10 FT. SPAN & 12 FT. SPAN)
SCALE: 3/4" = 1'-0"



**3
6002** TYPE C BOARDWALK (10 FT. SPAN & 12 FT. SPAN OVER WATER)
SCALE: 3/4" = 1'-0"



**2
6002** TYPE B BOARDWALK (14 FT. SPAN)
SCALE: 3/4" = 1'-0"



**4
6002** TYPE D BOARDWALK (14 FT. SPAN OVER WATER)
SCALE: 3/4" = 1'-0"

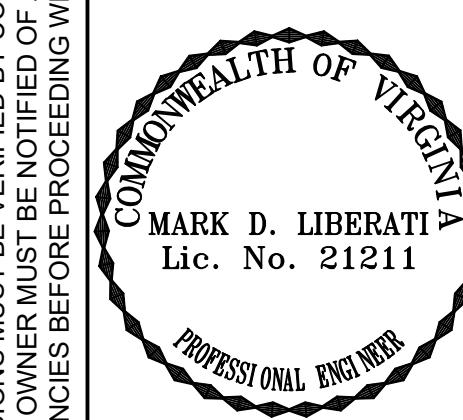
NOTE: SEE CROSSING #3 & #5 ON SHEET CS1004.

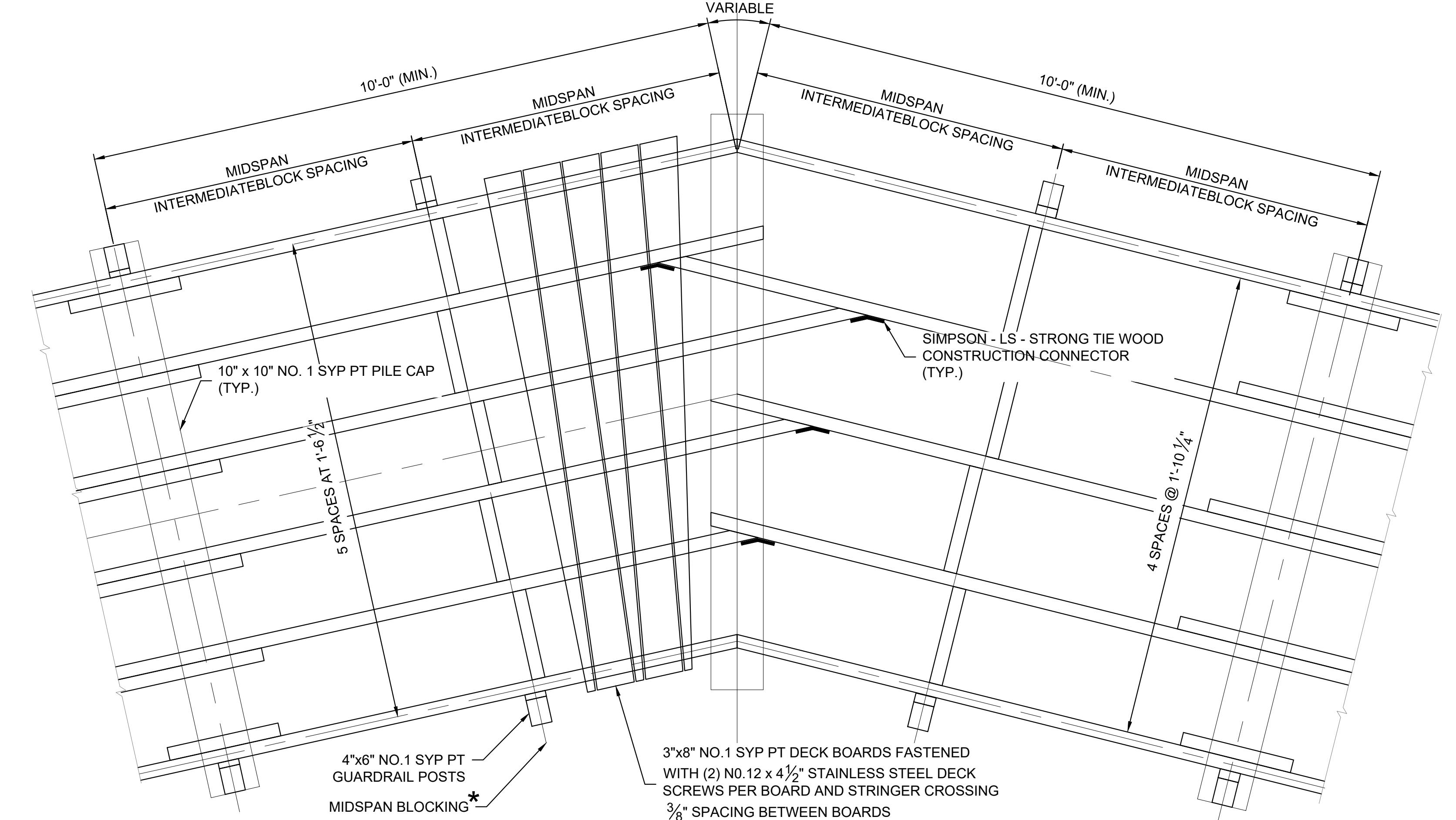
BOARDWALK CONSTRUCTION NARRATIVE

THE TRAIL ALIGNMENT HAS BEEN ESTABLISHED IN THE FIELD BASED ON EXISTING CONDITIONS TO MINIMIZE DISTURBANCE TO EXISTING TREES AND THE LIKE. CONTRACTOR SHALL SELECT 10, 12 OR 14-FOOT-LONG SECTIONS AND RADIUS DETAILS TO ADDRESS ANGLES IN THE TRAIL ALIGNMENT BASED ON FIELD CONDITIONS.

CS6002

SHEET 14 OF 26

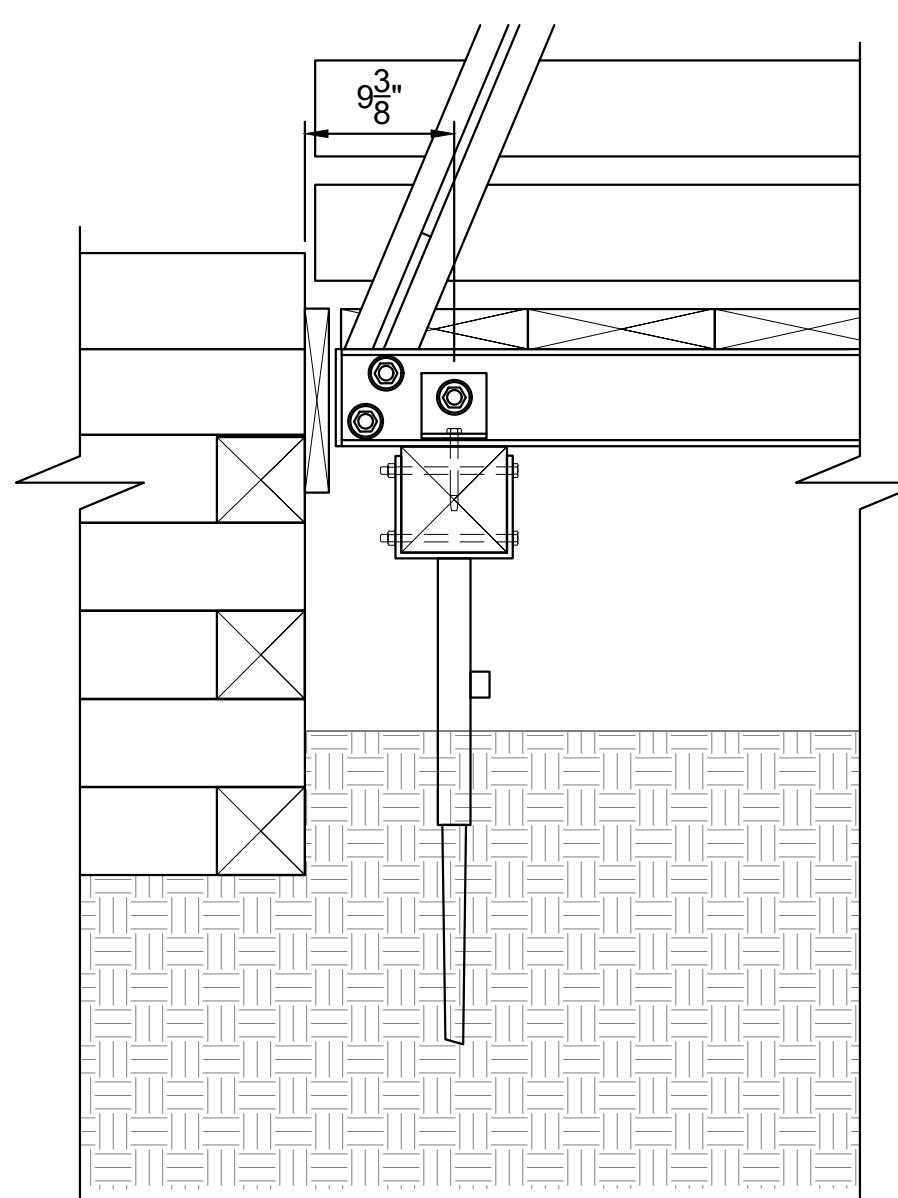




1
6011

TYPICAL VARIABLE CURVE BOARDWALK PLAN

SCALE: 3/4" = 1'-0"



3
6011

HELICAL PILE BRIDGE DETAIL

SCALE: 1" = 1"

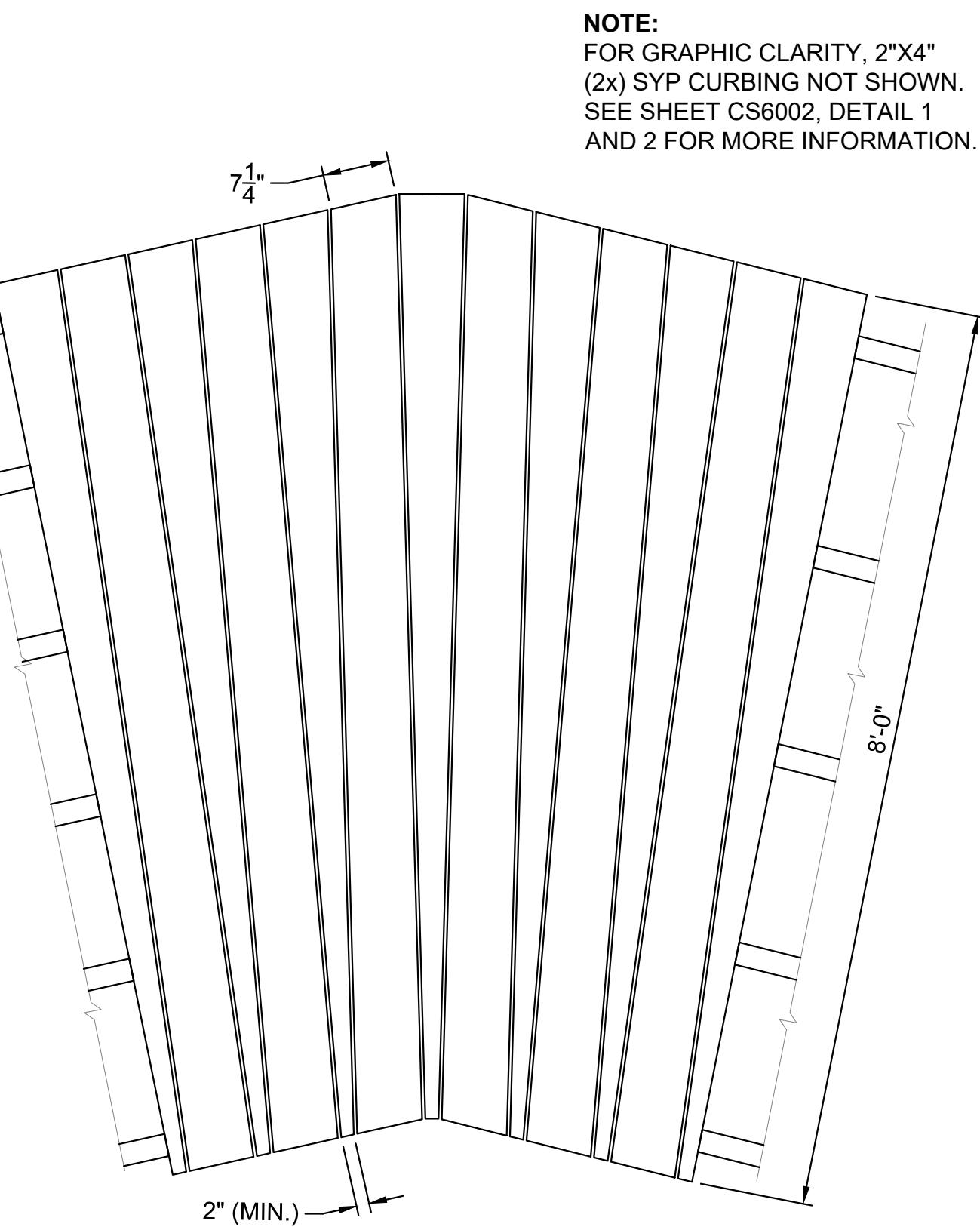
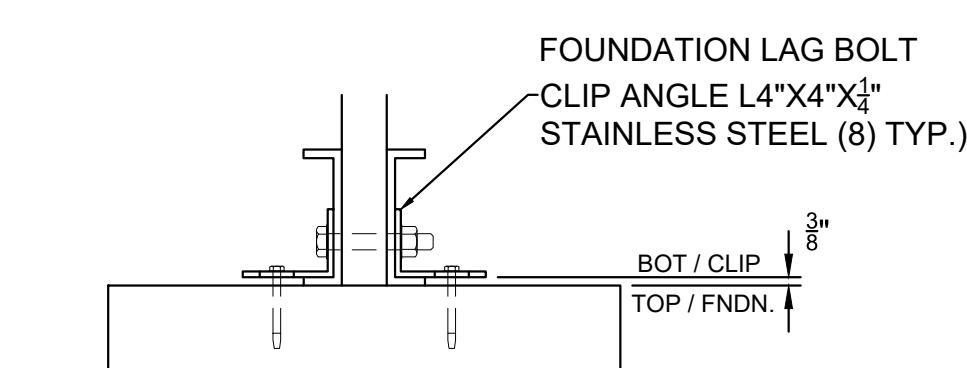
4
6011

TYPICAL LAG BOLT PROJECTION

SCALE: 1" = 1"

FIELD NOTES:

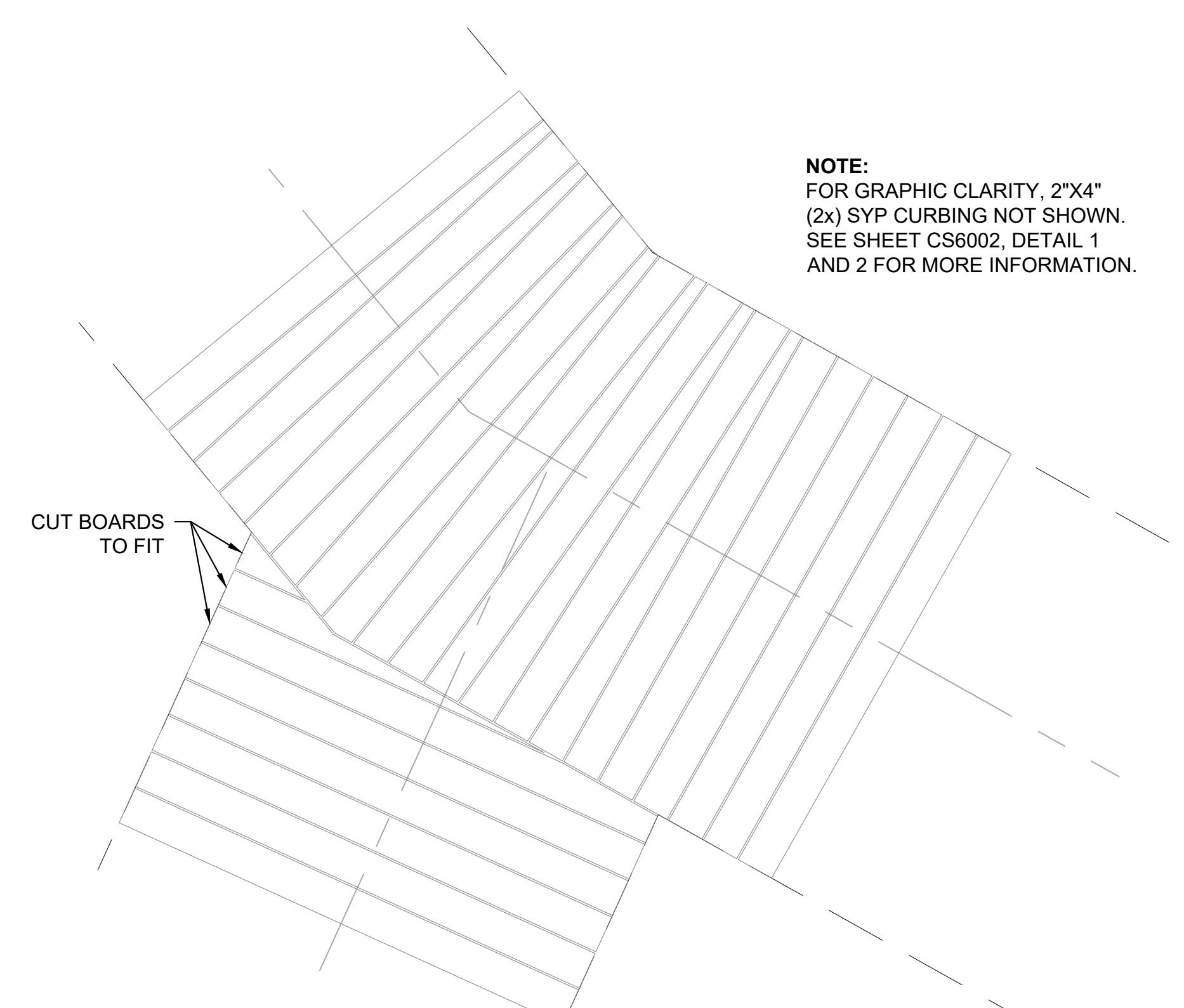
1. PLACE FRP SHIM BETWEEN BOTTOM OF CLIP AND WOOD SILL AFTER INSTALLATION
2. $\frac{1}{2}$ " DIA. LAG BOLT REQUIRED (TYP.)



2
6011

ANGULAR DECK BOARD DETAIL

SCALE: 3/4" = 1'-0"



5
6011

BOARDWALK ANGLE A5 DECKING DETAIL

SCALE: 1" = 2"

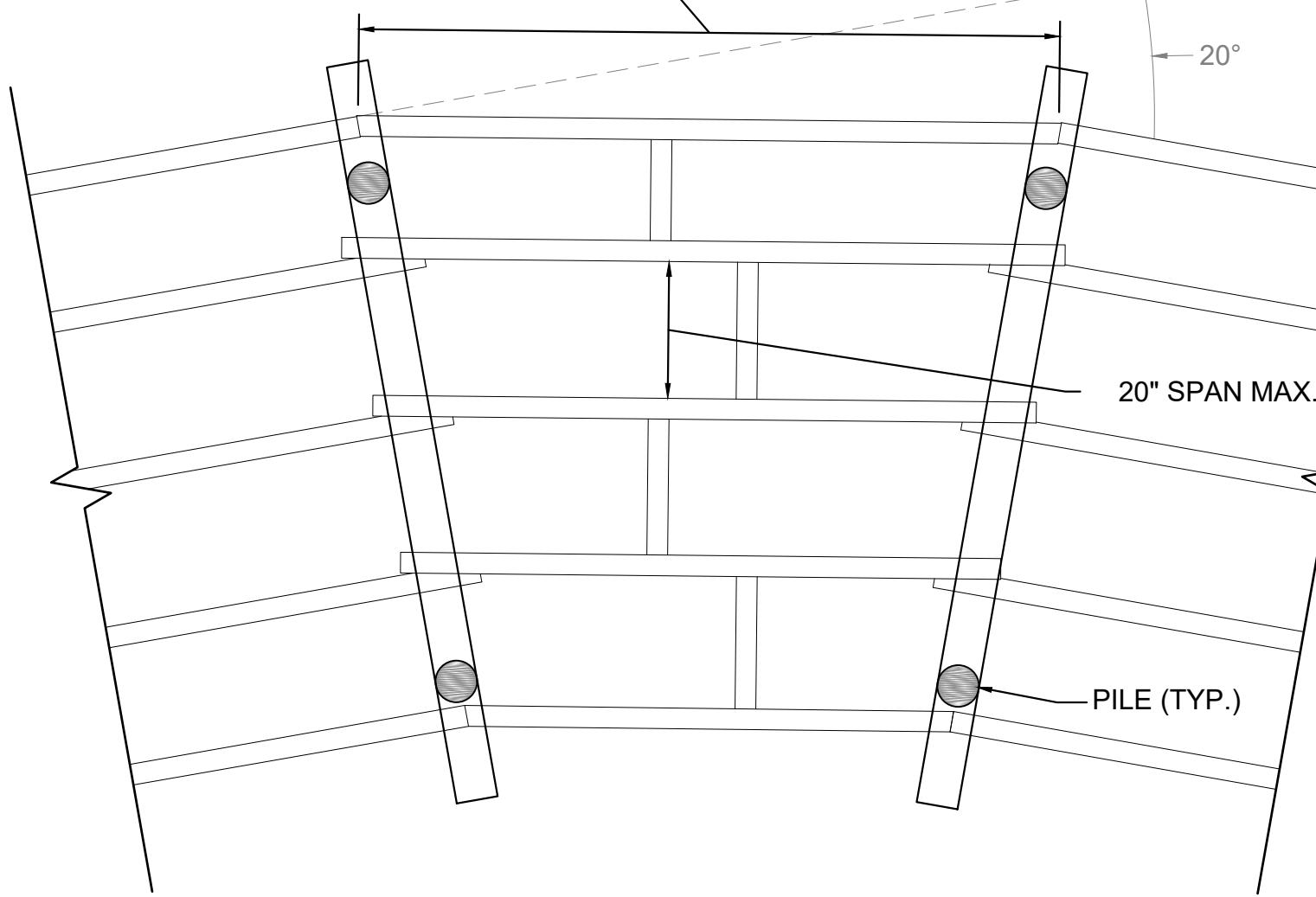
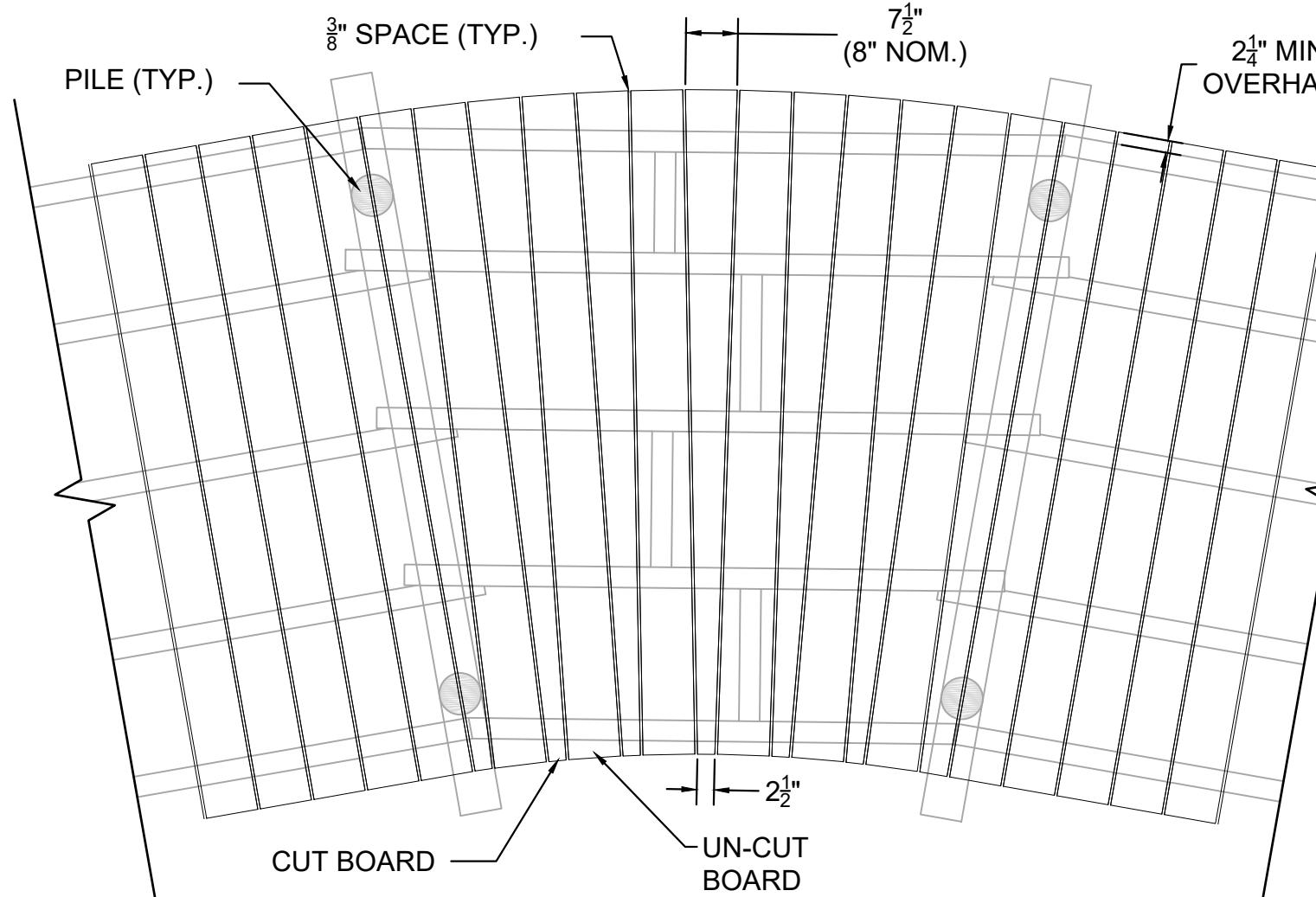
NOTE: FOR DECKING LAYOUT, FOLLOW ANGULAR DECK BOARD DETAIL (THIS SHEET)

<p>PENNINI ASSOCIATES INC. 13880 Dulles Corner Lane, Suite 100 Herndon, VA 20171 T 703.449.6700 F 703.449.6713</p>	
<p>ALL DIMENSIONS MUST BE VERIFIED BY CONTRACTOR AND OWNER MUST BE NOTIFIED OF ANY DISCREPANCIES BEFORE PROCEEDING WITH WORK</p> <p>COMMONWEALTH OF VIRGINIA MARK D. LIBERATI LIC. NO. 21211 PROFESSIONAL ENGINEER 100% SUBMISSION</p>	<p>PRINCE WILLIAM COUNTY DEPARTMENT OF PARKS AND RECREATION 18875 NEASCO ROAD WOODBRIDGE, VIRGINIA 22191</p>
<p>PROJECT STATUS: 200-02-01 PRINTED: 2/24/2020 4:59 PM BY Joseph O'Leary</p>	<p>BOARDWALK DETAILS 3</p>
<p>ALL DOCUMENTS PREPARED BY PENNONI ASSOCIATES ARE THE INSTRUMENTS OF SERVICE IN RESPECT OF THE PROJECT. THESE DOCUMENTS ARE NOT TO BE CONSTRUED AS AN AGREEMENT TO BE SUITABLE FOR REUSE BY OWNER OR OTHERS ON THIS EXTERIOR PROJECT OR ON ANY OTHER PROJECT OR ADAPTION BY PENNONI ASSOCIATES FOR THE USE OF THE DOCUMENTS. PENNONI ASSOCIATES RETAINS SOLE RISK AND WITHOUT LIABILITY OR LEGAL EXPENSE TO PENNONI ASSOCIATES AND OWNER FOR ANY REUSE OF THE DOCUMENTS BY OWNER OR OTHERS. PENNONI ASSOCIATES IS RELEASED FROM ALL CLAIMS, DAMAGES, LOSSES, EXPENSES ARISING OUT OF OR RESULTING THEREFROM.</p>	<p>PROJECT PWMC018002 DATE 2020-02-24 DRAWING SCALE AS NOTED DRAWN BY CJK APPROVED BY DWJ</p>
<p>CS6011</p>	<p>SHEET 15 OF 26</p>

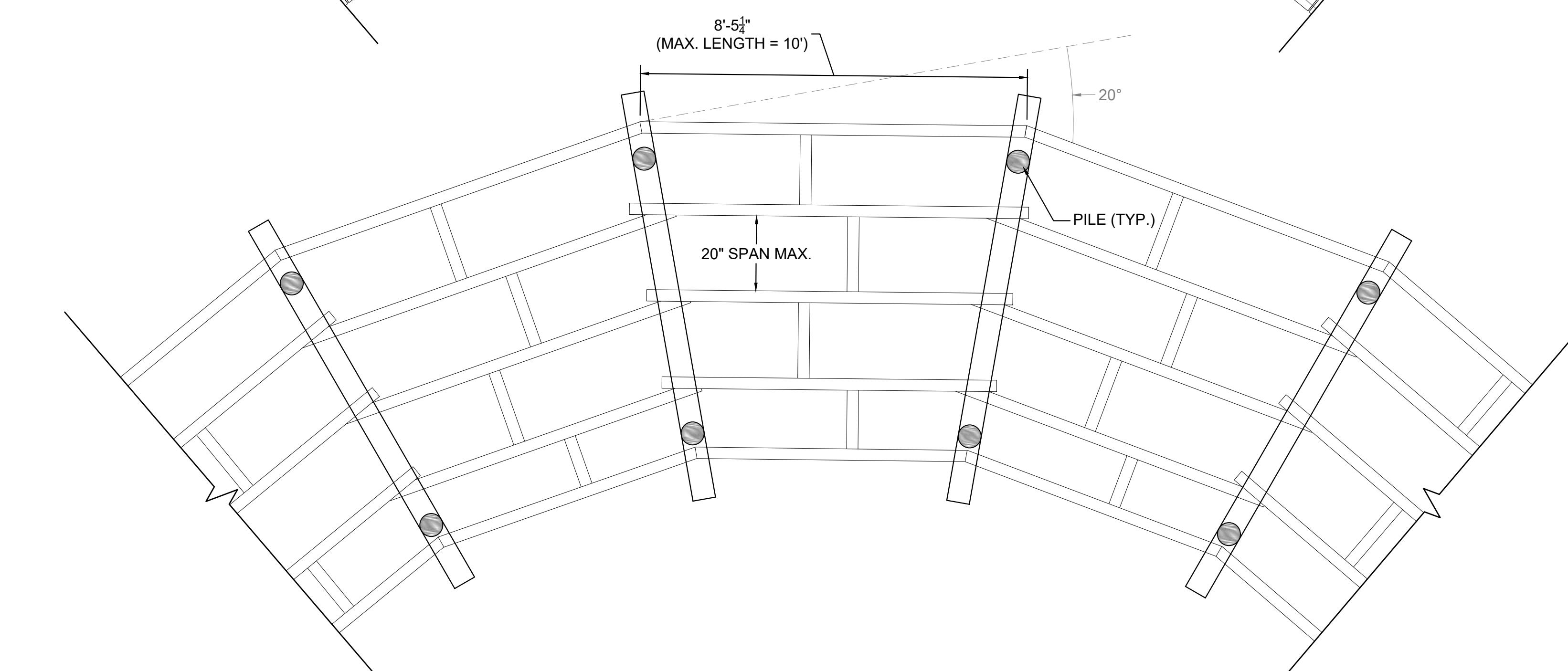
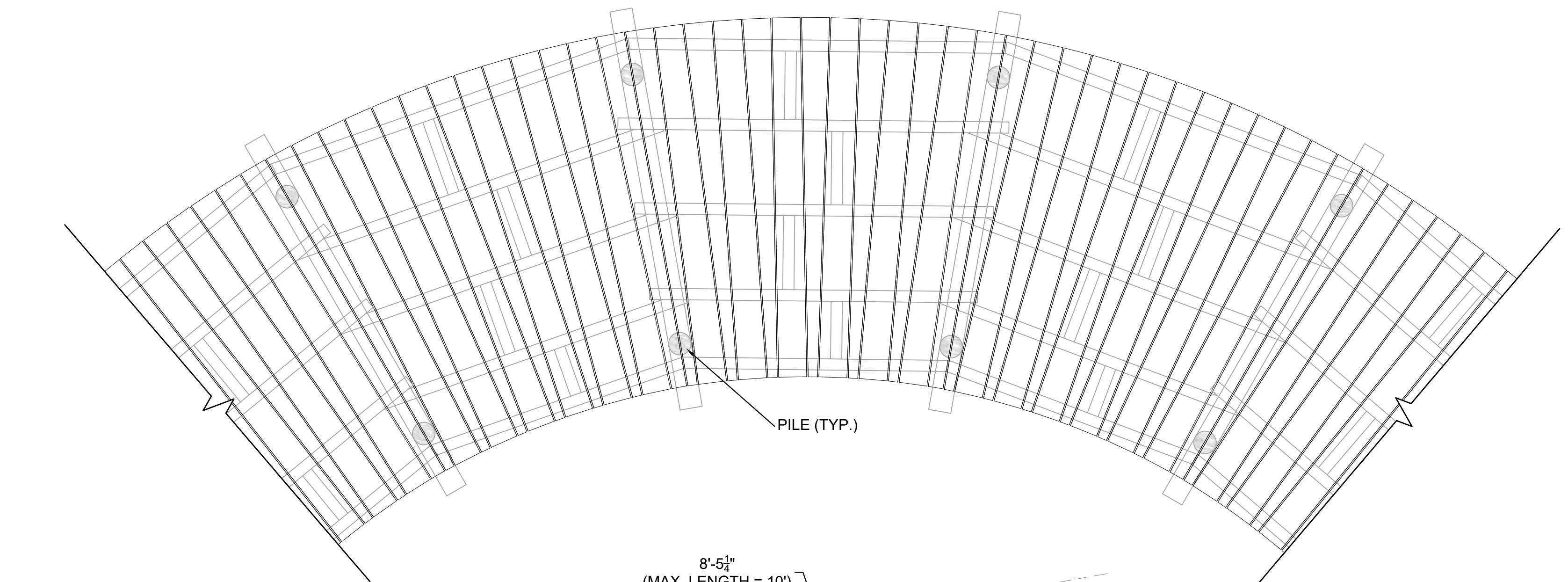
1
6012**STANDARD LARGE RADIUS (20° OR LESS)**

SCALE 1"-2"

ALTERNATE ANGLED AND STRAIGHT DECKING BOARDS ALONG SECTIONS OF LARGE RADIUS

SIX 2.5" TWO-ANGLE CUT BOARDS & ONE 4" SINGLE-ANGLE CUT BOARD
MAX. CHORD LENGTH = 4' - 5"

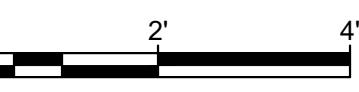
NOTE:
FOR GRAPHIC CLARITY, 2"X4"
(2x) SYP CURBING NOT SHOWN.
SEE SHEET CS6002, DETAIL 1
AND 2 FOR MORE INFORMATION.

2
6012**STANDARD LARGE RADIUS (20° OR GREATER)**

SCALE 1"-2"

STANDARD LARGE ANGLE SEGMENTS JOINED END TO END TO ACHIEVE ANGLES GREATER THAN 20°

ALTERNATE ANGLED AND STRAIGHT DECKING BOARDS ALONG SECTIONS OF LARGE RADIUS

SIX 2.5" TWO-ANGLE CUT BOARDS & ONE 4" SINGLE-ANGLE CUT BOARD (PER CHORD)
MAX CHORD LENGTH = 4' - 5"**BOARDWALK CONSTRUCTION NARRATIVE**

THE TRAIL ALIGNMENT HAS BEEN ESTABLISHED IN THE FIELD BASED ON EXISTING CONDITIONS TO MINIMIZE DISTURBANCE TO EXISTING TREES AND THE LIKE. CONTRACTOR SHALL SELECT 10, 12 OR 14-FOOT-LONG SECTIONS AND RADIUS DETAILS TO ADDRESS ANGLES IN THE TRAIL ALIGNMENT BASED ON FIELD CONDITIONS.

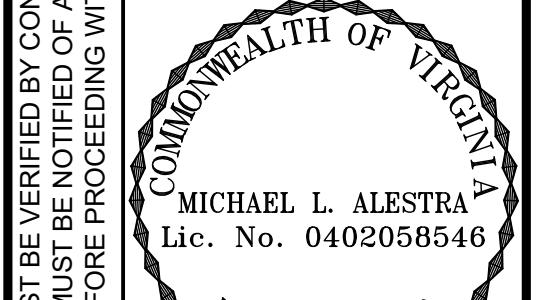
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PROJECT	PWMCO18002
DATE	2020-02-24
DRAWING SCALE	AS NOTED
DRAWN BY	JMA
APPROVED BY	DWJ

CS6012

SHEET 16 OF 26

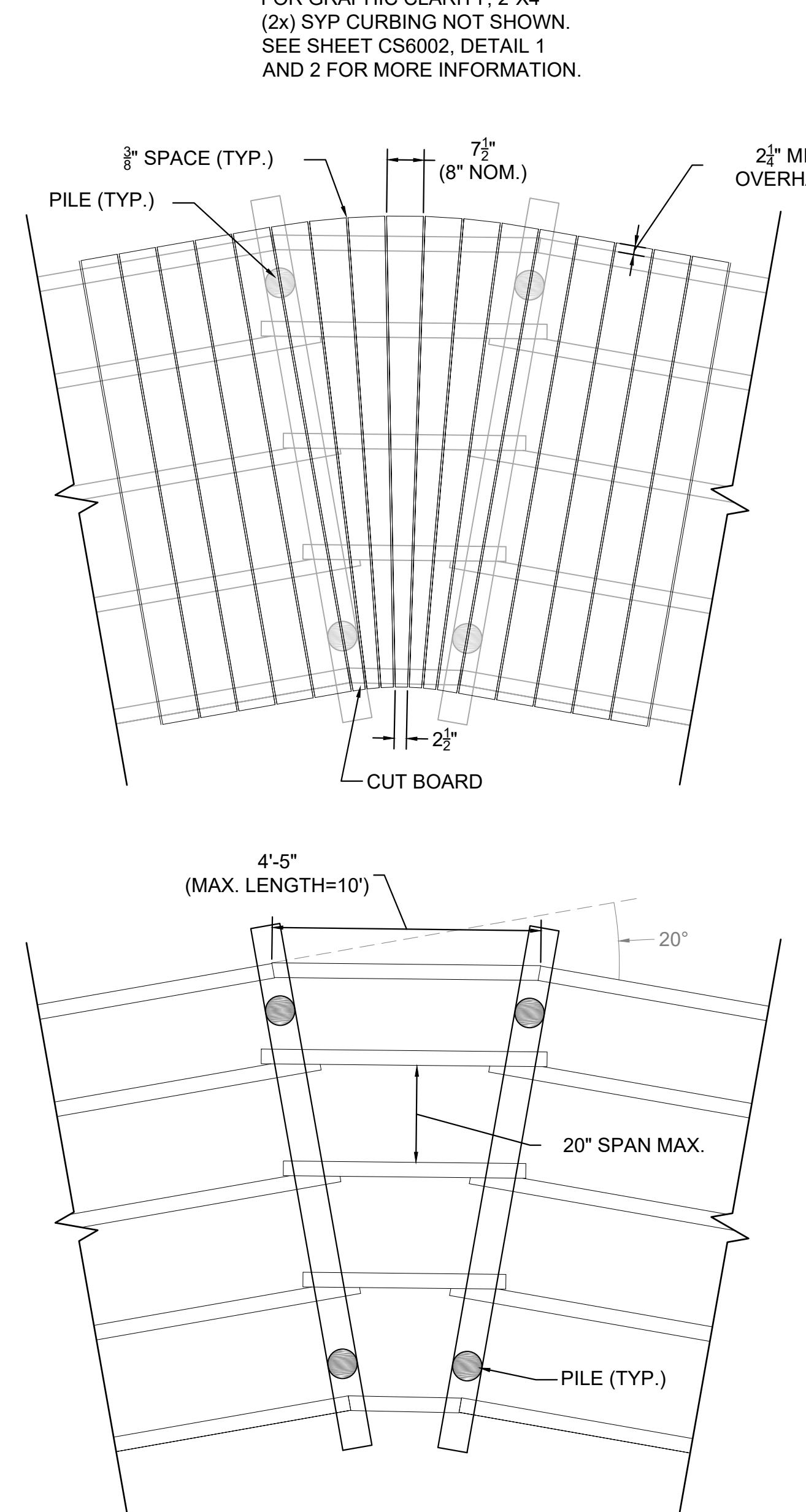
Pennoni
PENNONI ASSOCIATES INC.
13880 Dulles Corner Lane, Suite 100
Herndon, VA 20171
T 703.449.6700 F 703.449.6713



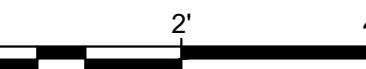
100% SUBMISSION	ALL DIMENSIONS MUST BE VERIFIED BY CONTRACTOR AND OWNER MUST BE NOTIFIED OF ANY DISCREPANCIES BEFORE PROCEEDING WITH WORK
MICHAEL L. ALESTRA Lic. No. 0402058546	
COMMONWEALTH OF VIRGINIA PROFESSIONAL ENGINEERS	
BOARDWALK RADIUS DETAIL	
PRINCE WILLIAM COUNTY DEPARTMENT OF PARKS AND RECREATION 14420 BRISTOW ROAD WOODBRIDGE, VIRGINIA 22191	
15875 NEASCO ROAD MANASSAS, VIRGINIA 20112	

1
6013**STANDARD SMALL RADIUS (20° OR LESS)**

SCALE 1"=2'

SIX 2.5" TWO-ANGLE CUT BOARDS & ONE 4" SINGLE-ANGLE CUT BOARD
MAX. CHORD LENGTH = 4' - 5"2
6013**STANDARD SMALL RADIUS (20° OR GREATER)**

SCALE 1"=2'

STANDARD SMALL ANGLE SEGMENTS JOINED END TO END TO ACHIEVE ANGLES
GREATER THAN 20°
SIX 2.5" TWO-ANGLE CUT BOARDS & ONE 4" SINGLE-ANGLE CUT BOARD (PER CHORD)
MAX CHORD LENGTH = 4' - 5"**BOARDWALK CONSTRUCTION NARRATIVE**

THE TRAIL ALIGNMENT HAS BEEN ESTABLISHED IN THE FIELD BASED ON EXISTING CONDITIONS TO MINIMIZE DISTURBANCE TO EXISTING TREES AND THE LIKE. CONTRACTOR SHALL SELECT 10, 12 OR 14-FOOT-LONG SECTIONS AND RADIUS DETAILS TO ADDRESS ANGLES IN THE TRAIL ALIGNMENT BASED ON FIELD CONDITIONS.

NOTE:
FOR GRAPHIC CLARITY, 2"X4"
(2x) SYP CURBING NOT SHOWN.
SEE SHEET CS6002, DETAIL 1
AND 2 FOR MORE INFORMATION.

NOTE:
FOR GRAPHIC CLARITY, 2"X4"
(2x) SYP CURBING NOT SHOWN.
SEE SHEET CS6002, DETAIL 1
AND 2 FOR MORE INFORMATION.

BOARDWALK RADIUS DETAIL

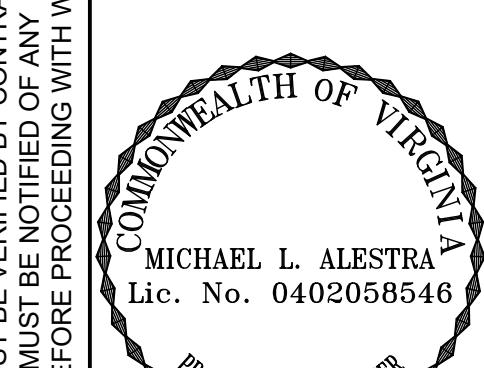
PRINCE WILLIAM COUNTY DEPARTMENT OF PARKS AND RECREATION

15875 NEASCO ROAD

WOODBRIDGE, VIRGINIA 22191

14420 BRISTOW ROAD

MANASSAS, VIRGINIA 20112

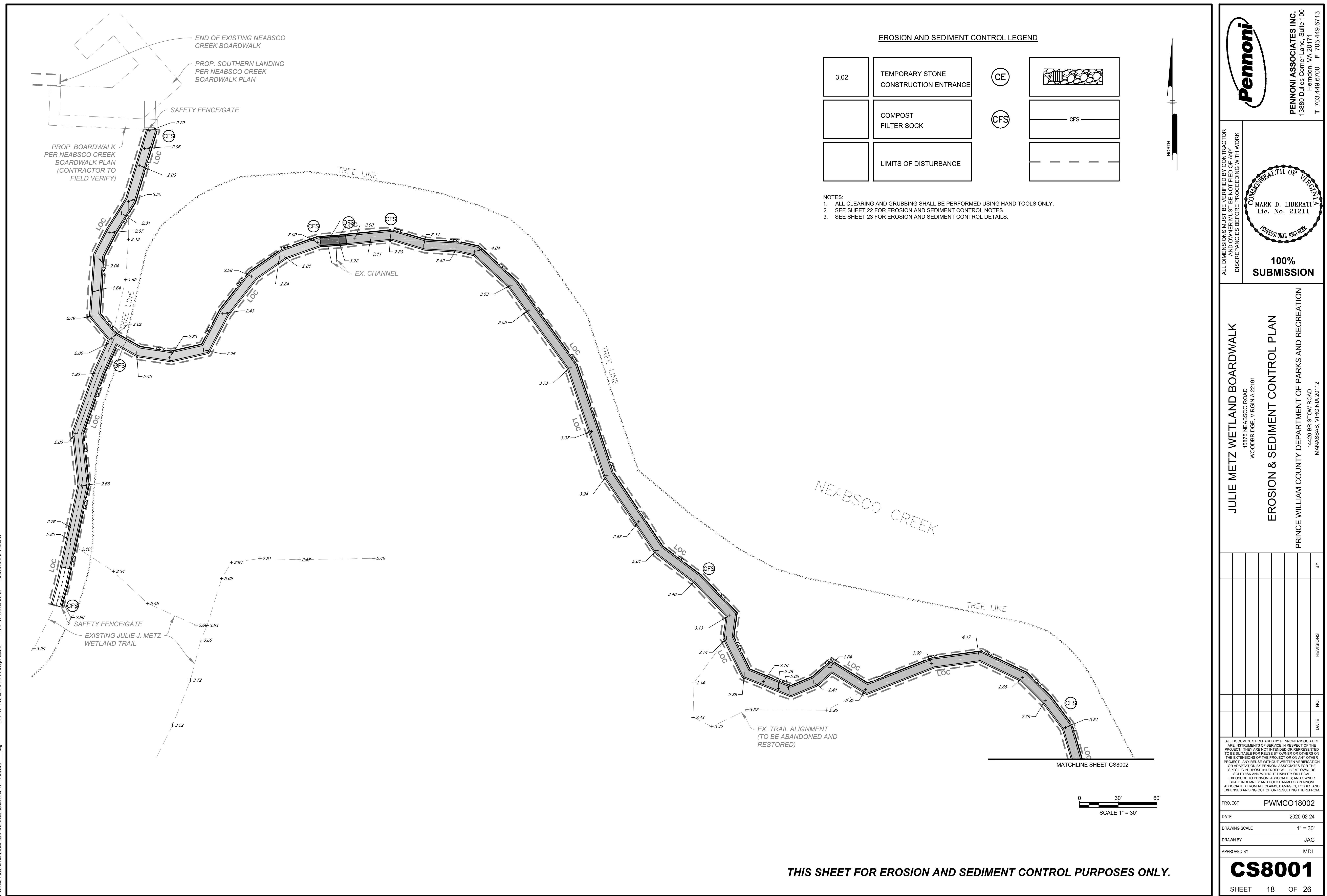
**100%
SUBMISSION****Pennoni**

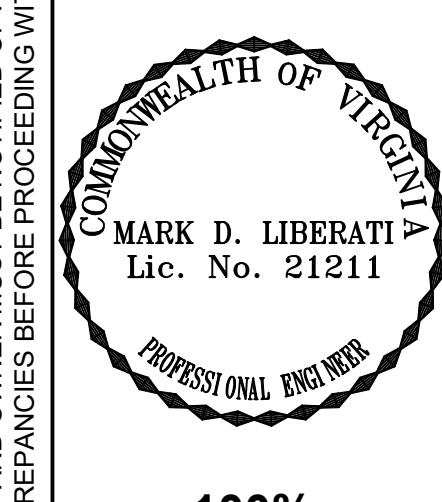
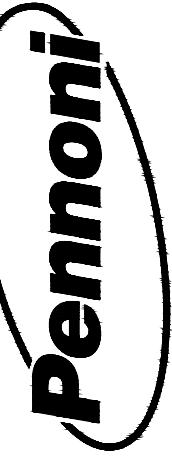
PENNONI ASSOCIATES INC.
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T 703.449.6700 F 703.449.6713

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PROJECT PW/MC018002
DATE 2020-02-24
DRAWING SCALE AS NOTED
DRAWN BY JMA
APPROVED BY DWJ

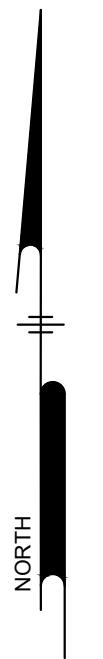
CS6013
SHEET 17 OF 26



100%
SUBMISSION

EROSION AND SEDIMENT CONTROL LEGEND

3.02	TEMPORARY STONE CONSTRUCTION ENTRANCE
	CE
	CFS
	LIMITS OF DISTURBANCE

ALL DIMENSIONS MUST BE VERIFIED BY CONTRACTOR
AND OWNER MUST BE NOTIFIED OF ANY
DISCREPANCIES BEFORE PROCEEDING WITH WORKJULIE METZ WETLAND BOARDWALK
MATCHLINE SHEET CS8003PRINCE WILLIAM COUNTY DEPARTMENT OF PARKS AND RECREATION
18875 NEABSCO ROAD
WOODBRIDGE, VIRGINIA 22191

EROSION & SEDIMENT CONTROL PLAN

PRINCE WILLIAM COUNTY DEPARTMENT OF PARKS AND RECREATION
18875 NEABSCO ROAD
WOODBRIDGE, VIRGINIA 22191

PROJECT PWMC018002

DATE 2020-02-24

DRAWING SCALE 1" = 30'

DRAWN BY JAG

APPROVED BY MDL

PROJECT PWMC018002

DATE 2020-02-24

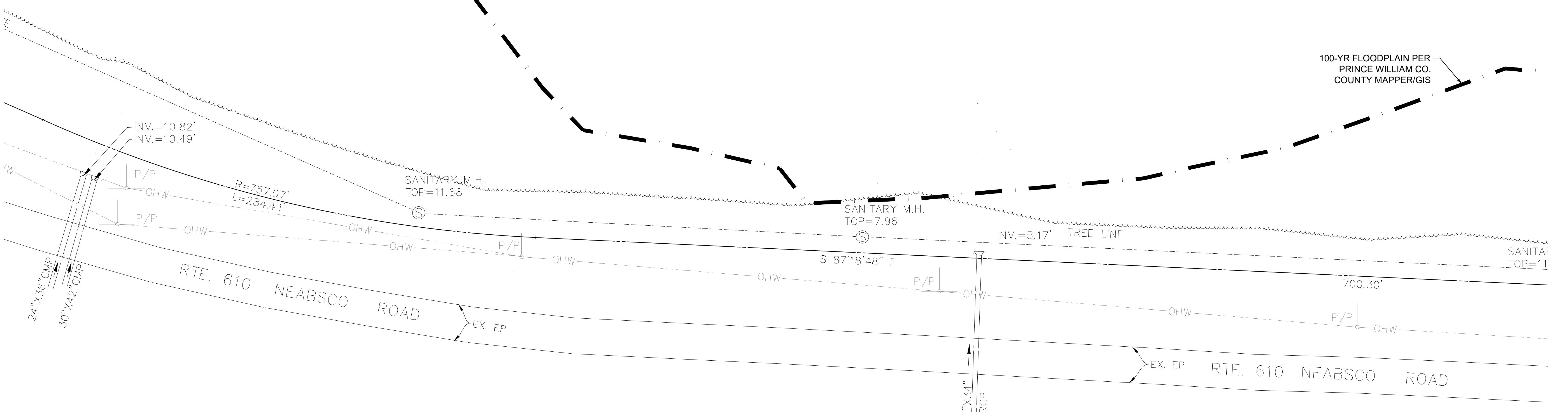
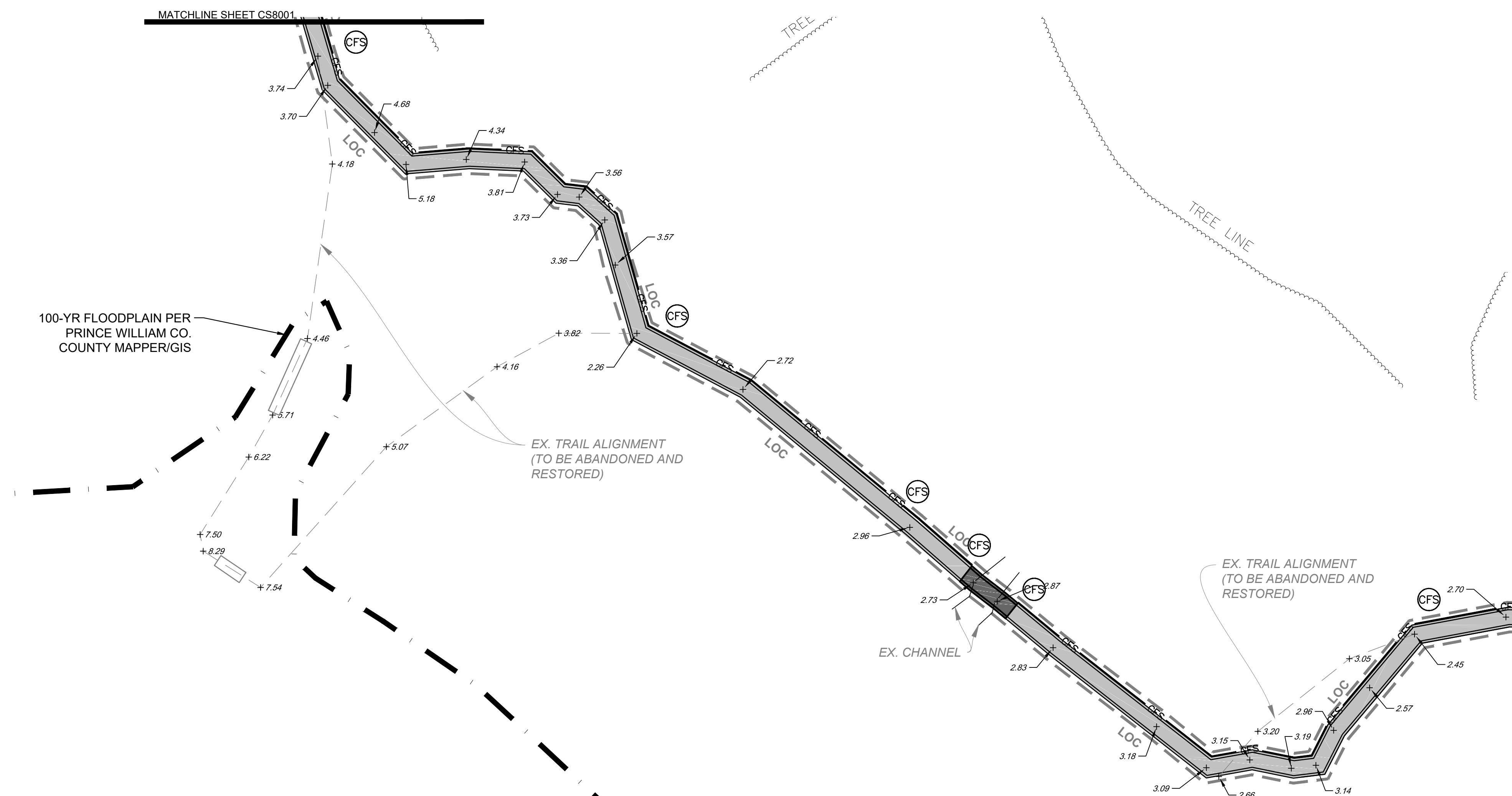
DRAWING SCALE 1" = 30'

DRAWN BY JAG

APPROVED BY MDL

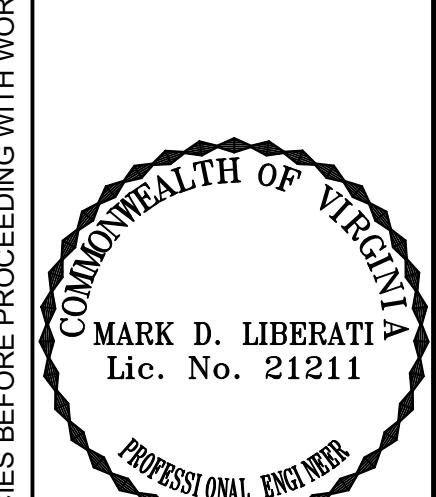
CS8002

SHEET 19 OF 26



THIS SHEET FOR EROSION AND SEDIMENT CONTROL PURPOSES ONLY.

0 30' 60'
SCALE 1" = 30'



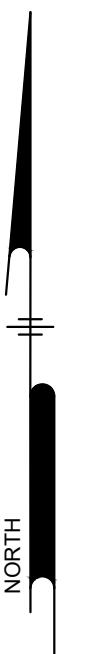
100%
SUBMISSION

EROSION & SEDIMENT CONTROL PLAN

PRINCE WILLIAM COUNTY DEPARTMENT OF PARKS AND RECREATION
18875 NEABSCO ROAD
WOODBRIDGE, VIRGINIA 22191

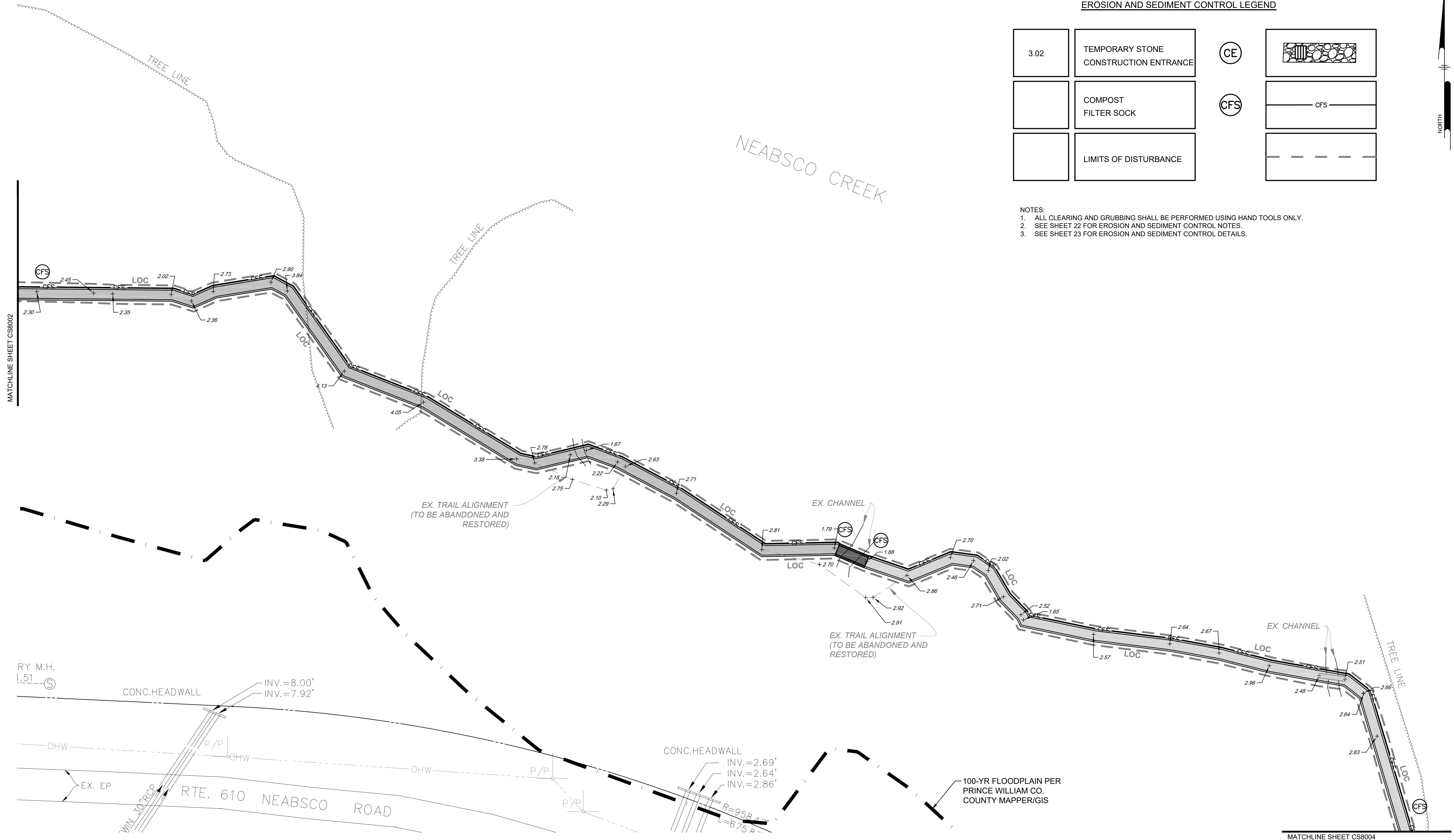
EROSION AND SEDIMENT CONTROL LEGEND

3.02	TEMPORARY STONE CONSTRUCTION ENTRANCE	CE	
	COMPOST FILTER SOCK	CFS	
	LIMITS OF DISTURBANCE		



NORTH

NOTES:
1. ALL CLEARING AND GRUBBING SHALL BE PERFORMED USING HAND TOOLS ONLY.
2. SEE SHEET 22 FOR EROSION AND SEDIMENT CONTROL NOTES.
3. SEE SHEET 23 FOR EROSION AND SEDIMENT CONTROL DETAILS.



PROJECT PWMC018002 DATE BY JAG

PLOTTED 2/22/2020 3:45 PM BY JAG

UNIVERSITY OF PRINCE WILLIAM BOARDWALK DESIGN SHEET CS8002

PROPOSED Pennoni Associates

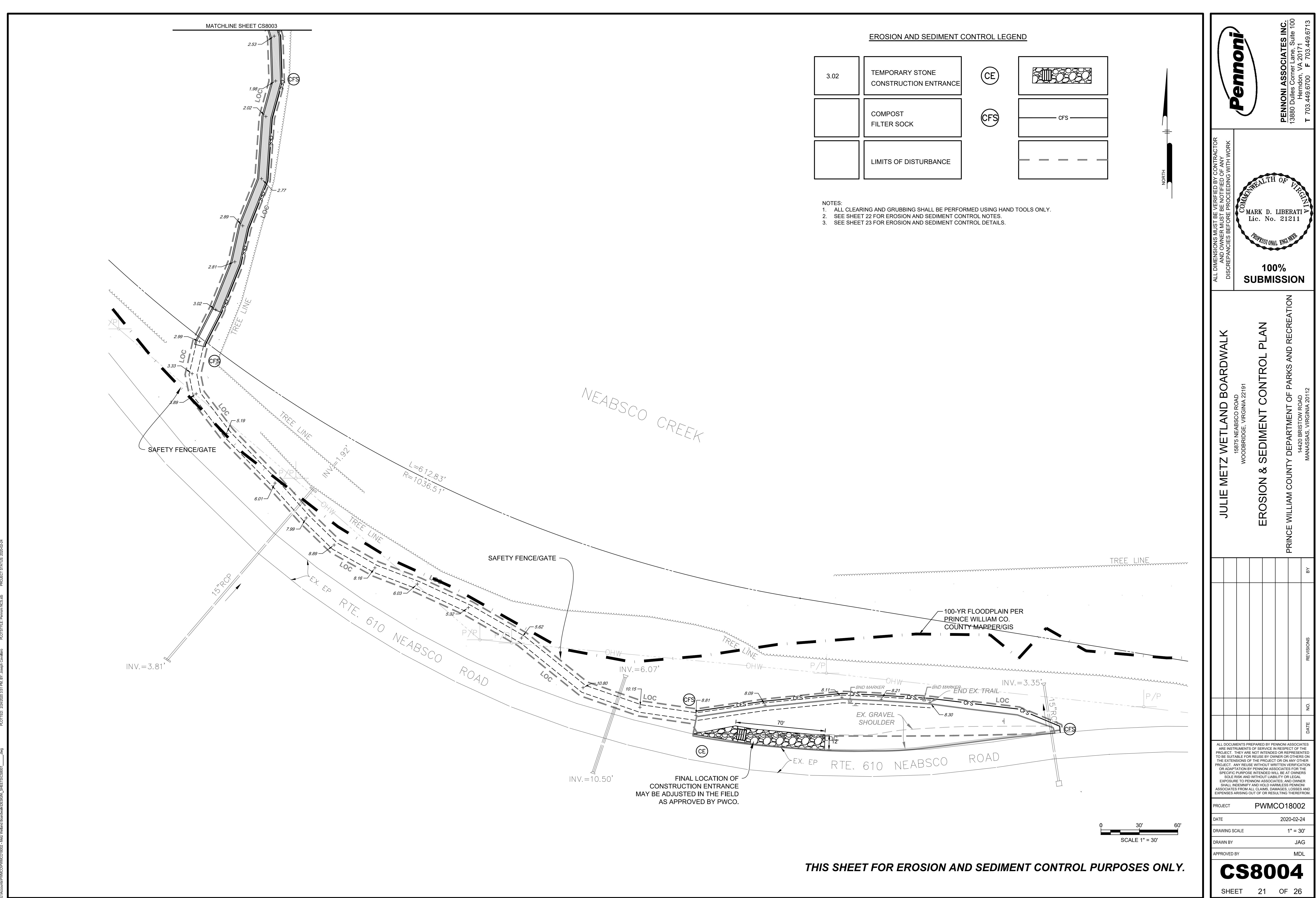
REVISIONS BY

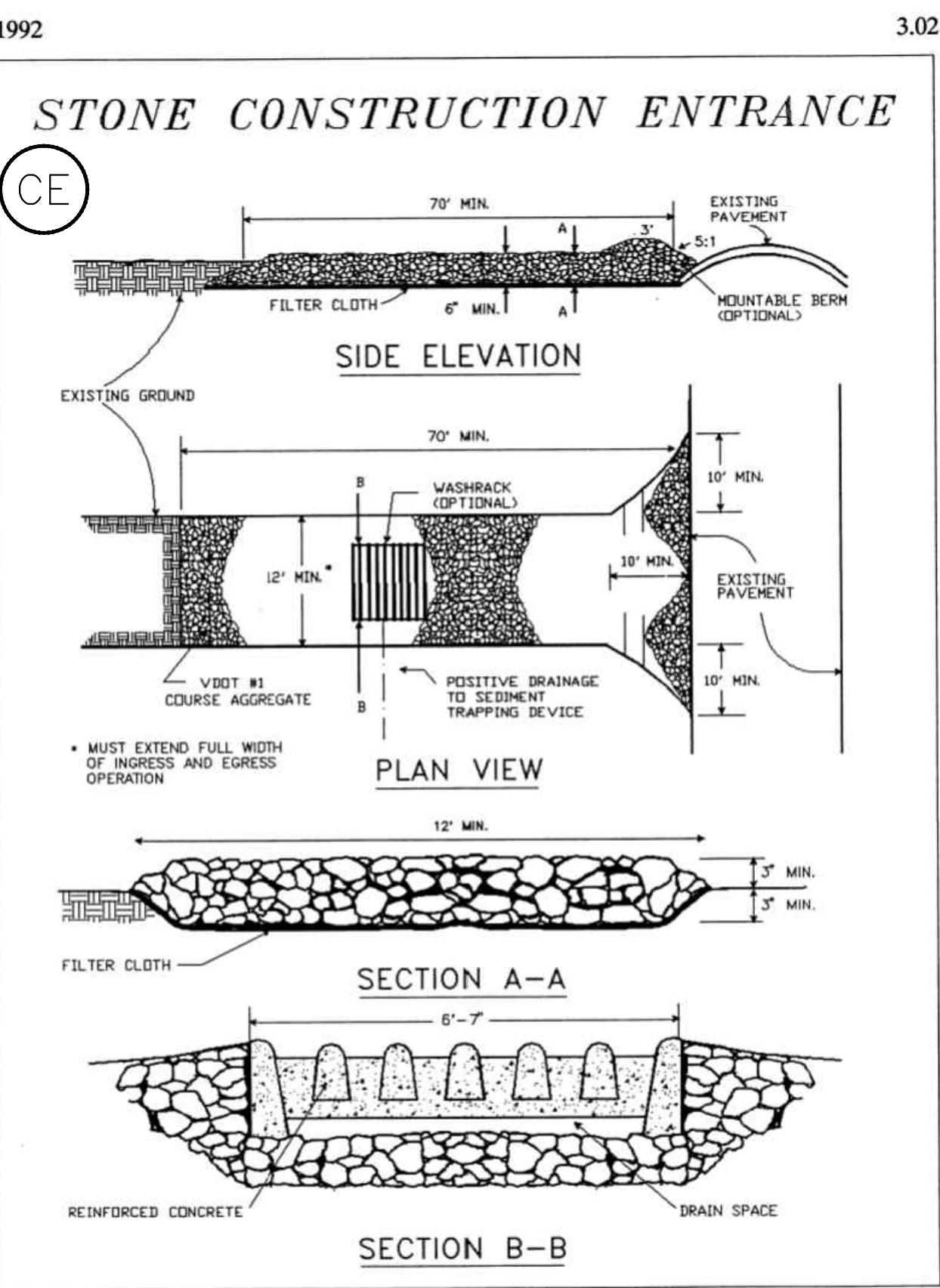
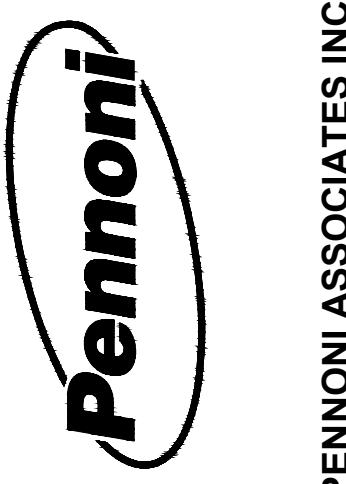
0 30' 60'
SCALE 1" = 30'

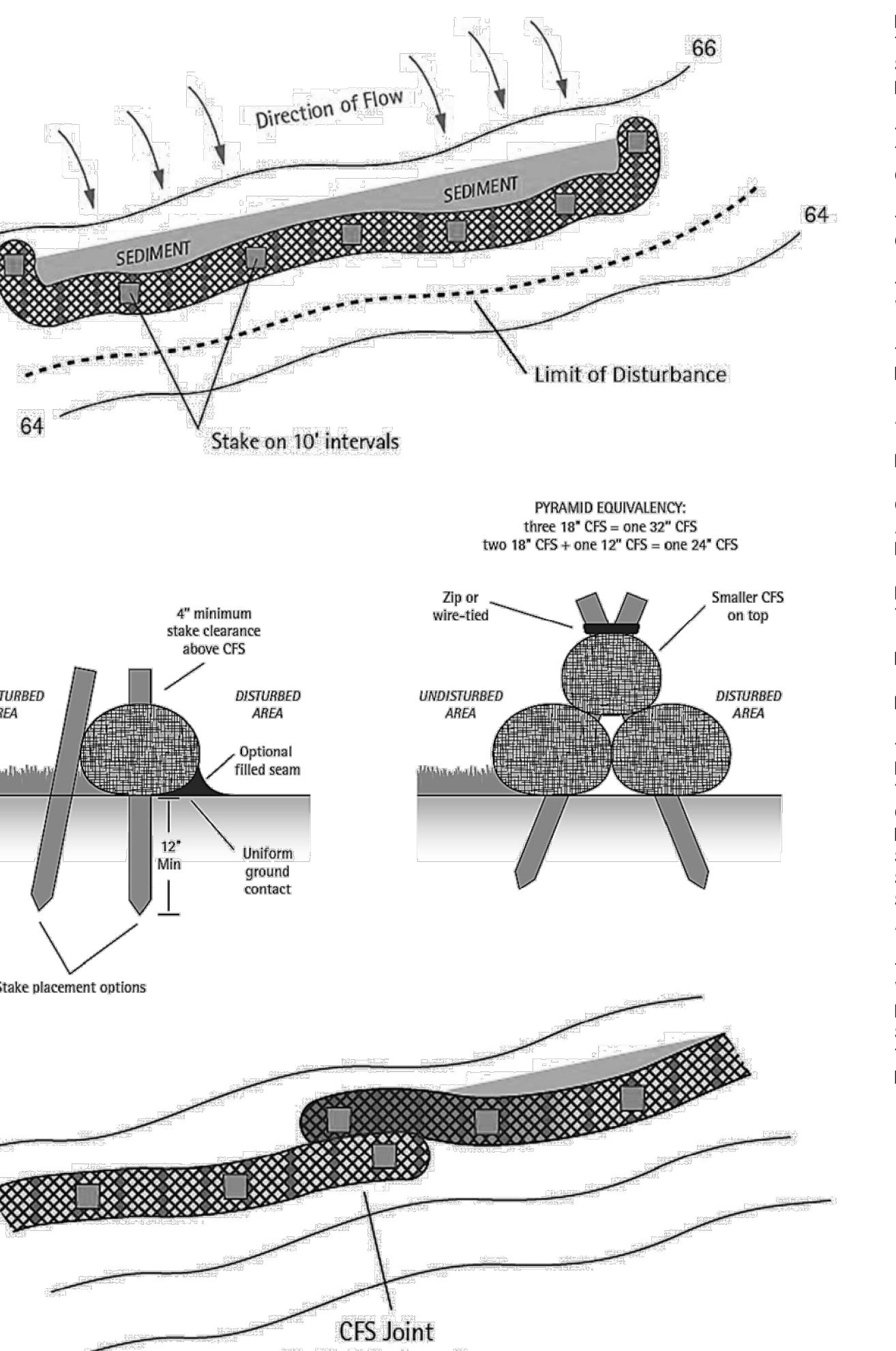
THIS SHEET FOR EROSION AND SEDIMENT CONTROL PURPOSES ONLY.

PROJECT PWMC018002
DATE 2020-02-24
DRAWING SCALE 1" = 30'
DRAWN BY JAG
APPROVED BY MDL
CS8003
SHEET 20 OF 26

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 <p>Source: Adapted from 1983 Maryland Standards for Soil Erosion and Sediment Control, and Va. DSWC</p> <p>Plate 3.02-1</p>	<h2 style="text-align: center;">SWITCH SOCK®</h2> <p>Pre-filled Switchgrass Filter Sock</p> <p>Compost Filter Sock on a diet.</p> <p>Switchgrass Filter Sock is much lighter than a Compost Filter Sock of similar diameter. This allows for all sorts of efficiencies (see below). The biggest one – you can put down more sock each day. This is important for pipeline projects where E&S crews have to keep up.</p> <p>Performance matters – independent testing shows that Switchgrass Filter Sock and Compost Filter Sock have similar hydraulic flow and sediment removal characteristics*.</p> <p>Something good just got better (a little family competition never hurts).</p> <p>*TRI Environmental Testing – ASTM 7351 and 5141</p> <p>Compared to Compost Filter Sock:</p> <ul style="list-style-type: none"> • Similar hydraulic flow and sediment removal rates • Same netting as palletized CFS • Stakes in kit for placement every 5 feet (CFS is 10 feet) • Available pre-filled diameters are 8, 12, 18, and 24-inch • Available on pallet, in super sack, continuous, or pre-cuts • Much lower weight per pallet (650 lbs vs. 1750 lbs) • On average, 36% more sock per Tractor Load (1430 vs. 1950 linear feet of 18-inch). <p>Other Benefits:</p> <ul style="list-style-type: none"> • PADEP accepted (see Alternate BMPs List) • Promotes vegetative cover better than CFS fill • Can be pyramidized. Especially useful when CFS is placed on bottom rows and SGFS is placed on upper rows. 	<p>VIRGINIA DEQ EROSION AND SEDIMENT CONTROL PLAN MINIMUM STANDARDS (MS-19)</p> <p>1. PERMANENT OR TEMPORARY SOIL STABILIZATION SHALL BE APPLIED TO DENUDED AREAS WITHIN SEVEN DAYS AFTER FINAL GRADE IS REACHED ON ANY PORTION OF THE SITE. TEMPORARY SOIL STABILIZATION SHALL BE APPLIED WITHIN SEVEN DAYS TO DENUDED AREAS THAT MAY NOT BE AT FINAL GRADE BUT WILL REMAIN DORMANT FOR LONGER THAN 14 DAYS. PERMANENT STABILIZATION SHALL BE APPLIED TO AREAS THAT ARE TO BE LEFT DORMANT FOR MORE THAN ONE YEAR.</p> <p>2. DURING CONSTRUCTION OF THE PROJECT, SOIL STOCK PILES AND BORROW AREAS SHALL BE STABILIZED OR PROTECTED WITH SEDIMENT TRAPPING MEASURES. THE APPLICANT IS RESPONSIBLE FOR THE TEMPORARY PROTECTION AND PERMANENT STABILIZATION OF ALL SOIL STOCKPILES ON SITE AS WELL AS BORROW AREAS AND SOIL INTENTIONALLY TRANSPORTED FROM THE PROJECT SITE.</p> <p>3. A PERMANENT VEGETATIVE COVER SHALL BE ESTABLISHED ON DENUDED AREAS NOT OTHERWISE PERMANENTLY STABILIZED. PERMANENT VEGETATION SHALL NOT BE CONSIDERED ESTABLISHED UNTIL A GROUND COVER IS ACHIEVED THAT IS UNIFORM, MATURE ENOUGH TO SURVIVE AND WILL INHIBIT EROSION.</p> <p>4. SEDIMENT BASINS AND TRAPS, PERIMETER DIKES, SEDIMENT BARRIERS AND OTHER MEASURES INTENDED TO TRAP SEDIMENT SHALL BE CONSTRUCTED AS A FIRST STEP IN ANY LAND-DISTURBING ACTIVITY AND SHALL BE MADE FUNCTIONAL BEFORE UPSLOPE LAND DISTURBANCE TAKES PLACE.</p> <p>5. STABILIZATION MEASURES SHALL BE APPLIED TO EARTHEN STRUCTURES SUCH AS DAMS, DIKES AND DIVERSIONS IMMEDIATELY AFTER INSTALLATION.</p> <p>6. SEDIMENT TRAPS AND SEDIMENT BASINS SHALL BE DESIGNED AND CONSTRUCTED BASED UPON THE TOTAL DRAINAGE AREA TO BE SERVED BY THE TRAP OR BASIN.</p> <p>A. THE MINIMUM STORAGE CAPACITY OF A SEDIMENT TRAP SHALL BE 134 CUBIC YARDS PER ACRE OF DRAINAGE AREA AND THE TRAP SHALL ONLY CONTROL DRAINAGE AREAS LESS THAN THREE ACRES.</p> <p>B. SURFACE RUNOFF FROM DISTURBED AREAS THAT IS COMPRISED OF FLOW FROM DRAINAGE AREAS GREATER THAN OR EQUAL TO THREE ACRES SHALL BE CONTROLLED BY A SEDIMENT BASIN. THE MINIMUM STORAGE CAPACITY OF A SEDIMENT BASIN SHALL BE 134 CUBIC YARDS PER ACRE OF DRAINAGE AREA. THE OUTFALL SYSTEM SHALL, AT A MINIMUM, MAINTAIN THE STRUCTURAL INTEGRITY OF THE BASIN DURING A 25-YEAR STORM OF 24-HOUR DURATION. RUNOFF COEFFICIENTS USED IN RUNOFF CALCULATIONS SHALL CORRESPOND TO A BARE EARTH CONDITION OR THOSE CONDITIONS EXPECTED TO EXIST WHILE THE SEDIMENT BASIN IS UTILIZED.</p> <p>C. CUT AND FILL SLOPES SHALL BE DESIGNED AND CONSTRUCTED IN A MANNER THAT WILL MINIMIZE EROSION. SLOPES THAT ARE FOUND TO BE ERODING EXCESSIVELY WITHIN ONE YEAR OF PERMANENT STABILIZATION SHALL BE PROVIDED WITH ADDITIONAL SLOPE STABILIZING MEASURES UNTIL THE PROBLEM IS CORRECTED.</p> <p>D. CONCENTRATED RUNOFF SHALL NOT FLOW DOWN CUT OR FILL SLOPES UNLESS CONTAINED WITHIN AN APPROPRIATE CHANNEL, FLUME OR SLOPE DRAIN STRUCTURE.</p> <p>E. WHENEVER WATER SEEPS FROM A SLOPE FACE, ADEQUATE DRAINAGE OR OTHER PROTECTION SHALL BE PROVIDED.</p> <p>F. ALL STORM SEWER INLETS THAT ARE MADE OPERABLE DURING CONSTRUCTION SHALL BE PROTECTED SO THAT SEDIMENT-LADEN WATER CANNOT ENTER THE CONVEYANCE SYSTEM WITHOUT FIRST BEING FILTERED OR OTHERWISE TREATED TO REMOVE SEDIMENT.</p> <p>G. BEFORE NEWLY CONSTRUCTED STORMWATER CONVEYANCE CHANNELS OR PIPES ARE MADE OPERATIONAL, ADEQUATE OUTLET PROTECTION AND ANY REQUIRED TEMPORARY OR PERMANENT CHANNEL LINING SHALL BE INSTALLED IN BOTH THE CONVEYANCE CHANNEL AND RECEIVING CHANNEL.</p> <p>H. WHEN WORK IN A LIVE WATERCOURSE IS PERFORMED, PRECAUTIONS SHALL BE TAKEN TO MINIMIZE ENCROACHMENT, CONTROL SEDIMENT TRANSPORT AND STABILIZE THE WORK AREA TO THE GREATEST EXTENT POSSIBLE DURING CONSTRUCTION. NONEROODIBLE MATERIAL SHALL BE USED FOR THE CONSTRUCTION OF CAUSEWAYS AND COFFERDAMS. EARTHEN FILL MAY BE USED FOR THESE STRUCTURES IF ARMORED BY NERODIBLE COVER MATERIALS.</p> <p>I. WHEN A LIVE WATERCOURSE MUST BE CROSSED BY CONSTRUCTION VEHICLES MORE THAN TWICE IN ANY SIX-MONTH PERIOD, A TEMPORARY VEHICULAR STREAM CROSSING CONSTRUCTED OF NERODIBLE MATERIAL SHALL BE PROVIDED.</p> <p>J. IN APPLYING THESE STORMWATER MANAGEMENT CRITERIA, INDIVIDUAL LOTS OR PARCELS IN A RESIDENTIAL, COMMERCIAL OR INDUSTRIAL DEVELOPMENT SHALL NOT BE CONSIDERED TO BE SEPARATE DEVELOPMENT PROJECTS. INSTEAD, THE DEVELOPMENT, AS A WHOLE, SHALL BE CONSIDERED TO BE A SINGLE DEVELOPMENT PROJECT. HYDROLOGIC PARAMETERS THAT REFLECT THE ULTIMATE DEVELOPMENT CONDITION SHALL BE USED IN ALL ENGINEERING CALCULATIONS.</p> <p>K. ALL MEASURES USED TO PROTECT PROPERTIES AND WATERWAYS SHALL BE EMPLOYED IN A MANNER WHICH MINIMIZES IMPACTS ON THE PHYSICAL, CHEMICAL AND BIOLOGICAL INTEGRITY OF RIVERS, STREAMS AND OTHER WATERS OF THE STATE.</p> <p>L. ANY PLAN APPROVED PRIOR TO JULY 1, 2014, THAT PROVIDES FOR STORMWATER MANAGEMENT THAT ADDRESSES ANY FLOW RATE CAPACITY AND VELOCITY REQUIREMENTS FOR NATURAL OR MAN-MADE CHANNELS SHALL SATISFY THE FLOW RATE CAPACITY AND VELOCITY REQUIREMENTS FOR NATURAL OR MAN-MADE CHANNELS IF THE PRACTICES ARE DESIGNED TO (I) DETAIN AND RELEASE OVER A 24-HOUR PERIOD THE EXPECTED RAINFALL RESULTING FROM THE ONE YEAR, 24-HOUR STORM; AND (II) REDUCE THE ALLOWABLE PEAK FLOW RATE RESULTING FROM THE 1/12, 1/5, AND 10-YEAR, 24-HOUR STORMS TO A LEVEL THAT IS LESS THAN OR EQUAL TO THE PEAK FLOW RATE FROM THE SITE ASSUMING IT WAS IN A GOOD FORESTED CONDITION, ACHIEVED THROUGH MULTIPLICATION OF THE FORESTED PEAK FLOW RATE BY A REDUCTION FACTOR THAT IS EQUAL TO THE RUNOFF VOLUME FROM THE SITE WHEN IT WAS IN A GOOD FORESTED CONDITION DIVIDED BY THE RUNOFF VOLUME FROM THE SITE IN ITS PROPOSED CONDITION, AND SHALL BE EXEMPT FROM ANY FLOW RATE CAPACITY AND VELOCITY REQUIREMENTS FOR NATURAL OR MAN-MADE CHANNELS AS DEFINED IN ANY REGULATIONS PROMULGATED PURSUANT TO § 62.1-44.15:54 OR 62.1-44.15:65 OF THE ACT.</p> <p>M. FOR PLANS APPROVED ON AND AFTER JULY 1, 2014, THE FLOW RATE CAPACITY AND VELOCITY REQUIREMENTS OF § 62.1-44.15:52 OF THE ACT AND THIS SUBSECTION SHALL BE SATISFIED BY COMPLIANCE WITH WATER QUANTITY REQUIREMENTS IN THE STORMWATER MANAGEMENT ACT (§ 62.1-44.15:24 ET SEQ. OF THE CODE OF VIRGINIA) AND ATTENDANT REGULATIONS, UNLESS SUCH LAND-DISTURBING ACTIVITIES ARE IN ACCORDANCE WITH 9VAC25-870-48 OF THE VIRGINIA STORMWATER MANAGEMENT PROGRAM (VSMP) REGULATION OR ARE EXEMPT PURSUANT TO SUBDIVISION C 7 OF § 62.1-44.15:34 OF THE ACT.</p> <p>N. COMPLIANCE WITH THE WATER QUANTITY MINIMUM STANDARDS SET OUT IN 9VAC25-870-66 OF THE VIRGINIA STORMWATER MANAGEMENT PROGRAM (VSMP) REGULATION SHALL BE DEEMED TO SATISFY THE REQUIREMENTS OF THIS SUBDIVISION 19.</p> <p>VIRGINIA DEQ EROSION AND SEDIMENT CONTROL PLAN MINIMUM STANDARDS (MS-19) (CONTINUED)</p> <p>19. PROPERTIES AND WATERWAYS DOWNSTREAM FROM DEVELOPMENT SITES SHALL BE PROTECTED FROM SEDIMENT DEPOSITION, EROSION AND DAMAGE DUE TO INCREASES IN VOLUME, VELOCITY AND PEAK FLOW RATE OF STORMWATER RUNOFF FOR THE STATED FREQUENCY STORM OF 24-HOUR DURATION IN ACCORDANCE WITH THE FOLLOWING STANDARDS AND CRITERIA. STREAM RESTORATION AND RELOCATION PROJECTS THAT INCORPORATE NATURAL CHANNEL DESIGN CONCEPTS ARE NOT MAN-MADE CHANNELS AND SHALL BE EXEMPT FROM ANY FLOW RATE CAPACITY AND VELOCITY REQUIREMENTS FOR NATURAL OR MAN-MADE CHANNELS:</p> <p>A. CONCENTRATED STORMWATER RUNOFF LEAVING A DEVELOPMENT SITE SHALL BE DISCHARGED DIRECTLY INTO AN ADEQUATE NATURAL OR MAN-MADE RECEIVING CHANNEL, PIPE OR STORM SEWER SYSTEM. FOR THOSE SITES WHERE RUNOFF IS DISCHARGED INTO A PIPE OR PIPE SYSTEM, DOWNSTREAM STABILITY ANALYSES AT THE OUTFALL OF THE PIPE OR PIPE SYSTEM SHALL BE PERFORMED.</p> <p>B. ADEQUACY OF ALL CHANNELS AND PIPES SHALL BE VERIFIED IN THE FOLLOWING MANNER:</p> <ol style="list-style-type: none"> (1) THE APPLICANT SHALL DEMONSTRATE THAT THE TOTAL DRAINAGE AREA TO THE POINT OF ANALYSIS WITHIN THE CHANNEL IS ONE HUNDRED TIMES GREATER THAN THE CONTRIBUTING DRAINAGE AREA OF THE PROJECT IN QUESTION; OR (2) (A) NATURAL CHANNELS SHALL BE ANALYZED BY THE USE OF A TWO-YEAR STORM TO VERIFY THAT STORMWATER WILL NOT OVERTOP CHANNEL BANKS NOR CAUSE EROSION OF CHANNEL BED OR BANKS. (B) ALL PREVIOUSLY CONSTRUCTED MAN-MADE CHANNELS SHALL BE ANALYZED BY THE USE OF A 10-YEAR STORM TO VERIFY THAT STORMWATER WILL NOT OVERTOP ITS BANKS AND BY THE USE OF A TWO-YEAR STORM TO DEMONSTRATE THAT STORMWATER WILL NOT CAUSE EROSION OF CHANNEL BED OR BANKS; AND (C) PIPES AND STORM SEWER SYSTEMS SHALL BE ANALYZED BY THE USE OF A 10-YEAR STORM TO VERIFY THAT STORMWATER WILL BE CONTAINED WITHIN THE PIPE OR SYSTEM. <p>C. IF EXISTING NATURAL RECEIVING CHANNELS OR PREVIOUSLY CONSTRUCTED MAN-MADE CHANNELS OR PIPES ARE NOT ADEQUATE, THE APPLICANT SHALL:</p> <ol style="list-style-type: none"> (1) IMPROVE THE CHANNELS TO A CONDITION WHERE A 10-YEAR STORM WILL NOT OVERTOP THE BANKS AND A TWO-YEAR STORM WILL NOT CAUSE EROSION TO THE CHANNEL, THE BED, OR THE BANKS; OR (2) IMPROVE THE PIPE OR PIPE SYSTEM TO A CONDITION WHERE THE 10-YEAR STORM IS CONTAINED WITHIN THE APPURTENANCES; (3) DEVELOP A SITE DESIGN THAT WILL NOT CAUSE THE PRE-DEVELOPMENT PEAK RUNOFF RATE FROM A TWO-YEAR STORM TO INCREASE WHEN RUNOFF OUTFALLS INTO A NATURAL CHANNEL OR WILL NOT CAUSE THE PRE-DEVELOPMENT PEAK RUNOFF RATE FROM A 10-YEAR STORM TO INCREASE WHEN RUNOFF OUTFALLS INTO A MAN-MADE CHANNEL; OR (4) PROVIDE A COMBINATION OF CHANNEL IMPROVEMENT, STORMWATER DETENTION OR OTHER MEASURES WHICH IS SATISFACTORY TO THE VESCP AUTHORITY TO PREVENT DOWNSTREAM EROSION. <p>D. THE APPLICANT SHALL PROVIDE EVIDENCE OF PERMISSION TO MAKE THE IMPROVEMENTS.</p> <p>E. ALL HYDROLOGIC ANALYSES SHALL BE BASED ON THE EXISTING WATERSHED CHARACTERISTICS AND THE ULTIMATE DEVELOPMENT CONDITION OF THE SUBJECT PROJECT.</p> <p>F. IF THE APPLICANT CHOOSES AN OPTION THAT INCLUDES STORMWATER DETENTION, HE SHALL OBTAIN APPROVAL FROM THE VESCP OF A PLAN FOR MAINTENANCE OF THE DETENTION FACILITIES. THE PLAN SHALL SET FORTH THE MAINTENANCE REQUIREMENTS OF THE FACILITY AND THE PERSON RESPONSIBLE FOR PERFORMING THE MAINTENANCE.</p> <p>G. OUTFALL FROM A DETENTION FACILITY SHALL BE DISCHARGED TO A RECEIVING CHANNEL AND ENERGY DISSIPATORS SHALL BE PLACED AT THE OUTFALL OF ALL DETENTION FACILITIES AS NECESSARY TO PROVIDE A STABILIZED TRANSITION FROM THE FACILITY TO THE RECEIVING CHANNEL.</p> <p>H. ALL ON-SITE CHANNELS MUST BE VERIFIED TO BE ADEQUATE.</p> <p>I. INCREASED VOLUMES OF SHEET FLOWS THAT MAY CAUSE EROSION OR SEDIMENTATION ON ADJACENT PROPERTY SHALL BE DIVERTED TO A STABLE OUTLET, ADEQUATE CHANNEL, PIPE OR PIPE SYSTEM, OR TO A DETENTION FACILITY.</p> <p>J. IN APPLYING THESE STORMWATER MANAGEMENT CRITERIA, INDIVIDUAL LOTS OR PARCELS IN A RESIDENTIAL, COMMERCIAL OR INDUSTRIAL DEVELOPMENT SHALL NOT BE CONSIDERED TO BE SEPARATE DEVELOPMENT PROJECTS. INSTEAD, THE DEVELOPMENT, AS A WHOLE, SHALL BE CONSIDERED TO BE A SINGLE DEVELOPMENT PROJECT. HYDROLOGIC PARAMETERS THAT REFLECT THE ULTIMATE DEVELOPMENT CONDITION SHALL BE USED IN ALL ENGINEERING CALCULATIONS.</p> <p>K. ALL MEASURES USED TO PROTECT PROPERTIES AND WATERWAYS SHALL BE EMPLOYED IN A MANNER WHICH MINIMIZES IMPACTS ON THE PHYSICAL, CHEMICAL AND BIOLOGICAL INTEGRITY OF RIVERS, STREAMS AND OTHER WATERS OF THE STATE.</p> <p>L. 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No. 21211 PROFESSIONAL ENGINEER</p> <p>100% SUBMISSION</p> <p>ALL DIMENSIONS MUST BE VERIFIED BY CONTRACTOR AND OWNER BEFORE PROCEEDING WITH WORK DISCREPANCIES</p>
<p>JULIE METZ WETLAND BOARDWALK</p> <p>18875 NEARSCO ROAD WOODBRIDGE, VIRGINIA 22191</p> <p>EROSION & SEDIMENT CONTROL DETAILS</p> <p>PRINCE WILLIAM COUNTY DEPARTMENT OF PARKS AND RECREATION 14420 BRISTOW ROAD MANASSAS, VIRGINIA 20112</p> <p>PROJECT STATUS: 2020-02-25 PROJECT #: PWMC01800 DRAWING DATE: 2020-02-24 DRAWING SCALE: NONE DRAWN BY: JAG APPROVED BY: DWJ</p>			



* OR APPROVED EQUAL

1' - 2' staked overlap

Compost Filter Sock Brand Information:	Represented By:
DIAMOND SOCK 888-578-0777 www.DiamondSock.com	



DEPARTMENT OF THE ARMY
US ARMY CORPS OF ENGINEERS
NORFOLK DISTRICT
FORT NORFOLK
803 FRONT STREET
NORFOLK VA 23510-1011

January 8, 2019

APPROVED JURISDICTIONAL DETERMINATION

Northern Virginia Regulatory Section
NAO-2018-01597 (UT of Neabsco Creek)

Pennoni Associates, Inc.
Attn: Dave Steigler
13880 Dulles Corner Lane, Suite 100
Herndon, Virginia 20171

Dear Mr. Steigler:

This letter is in regard to your request for verification of an approved jurisdictional determination for waters of the U.S. (including wetlands) on property known as Julie J. Metz Trail, located on a 1.025 acre site situated at southeast of Route 1 and Rippon Blvd interchange in Prince William County, Virginia.

An on-site jurisdictional determination has found waters of the U.S. regulated under Section 404 of the Clean Water Act (33 U.S.C. 1344) on the property listed above. Non-jurisdictional features are also present. This letter shall serve to confirm the delineation by Wetland Studies and Solutions Inc. (WSSI), as shown on the map titled "Julie J. Metz Trail," as revised and date stamped as received by the Corps December 28, 2018 (copy enclosed).

The basis for this determination is the application of the Corps' 1987 Wetland Delineation Manual, the Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Atlantic and Gulf Coastal Plain Region, and 2015 Clean Water Rule. Note: This letter is not confirming the Cowardin classifications of these aquatic resources or aquatic resources shown outside of the study area boundaries identified on the enclosed delineation map.

Discharges of dredged or fill material, including those associated with mechanized landclearing, into jurisdictional waters and/or wetlands on this site will require a Department of the Army permit and may require authorization by state and local authorities, including a Virginia Water Protection Permit from the Virginia Department of Environmental Quality (DEQ), a permit from the Virginia Marine Resources Commission (VMRC) and/or a permit from your local wetlands board. This letter is a confirmation of the Corps jurisdiction for the waters and/or wetlands on the subject property and does not authorize any work in these jurisdictional areas. Please obtain all required permits before starting work in the delineated waters/wetland areas.

-2-

This letter contains an approved jurisdictional determination for your subject site. If you object to this determination, you may request an administrative appeal under Corps regulations at 33 CFR Part 331. Enclosed you will find a Notification of Appeal Process (NAP) fact sheet and Request for Appeal (RFA) form. If you request to appeal this determination you must submit a completed RFA form to the North Atlantic Division Office at the following address:

ATTN: Mr. James Haggerty, Regulatory Program Manager
United States Army Corps of Engineers
CENAD-PD-OR
Fort Hamilton Military Community
301 General Lee Avenue
Brooklyn, NY 11252-6700
Email: james.w.haggerty@usace.army.mil

In order for an RFA to be accepted by the Corps, the Corps must determine that it is complete, that it meets the criteria for appeal under 33 C.F.R. part 331.5, and that it has been received by the Division Office within 60 days of the date of the NAP. Should you decide to submit an RFA form, it must be received at the above address by March 9, 2019. It is not necessary to submit an RFA form to the Division office if you do not object to the determination in this letter.

This jurisdictional determination is valid for a period of five (5) years from the date of this letter unless new information warrants revision prior to the expiration date. If you have any questions, please contact myself either via telephone at (757) 201-7029 or via email at (brittany.n.dunn@usace.army.mil).

Sincerely,

Brittany N. Dunn
Environmental Scientist
Northern Virginia Regulatory Section

Enclosures:
"Julie J. Metz Trail" Delineation Map
Appeals Form

Cc: WSSI

	ALL DIMENSIONS MUST BE VERIFIED BY CONTRACTOR AND OWNER MUST BE NOTIFIED OF ANY DISCREPANCIES BEFORE PROCEEDING WITH WORK
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APPROVED JD INFORMATION SHEET

PRINCE WILLIAM COUNTY DEPARTMENT OF PARKS AND RECREATION
18875 NEABSCO ROAD
WOODBRIDGE, VIRGINIA 22191
MANASSAS, VIRGINIA 20112

**100%
SUBMISSION**

NOTIFICATION OF ADMINISTRATIVE APPEAL OPTIONS AND PROCESS AND REQUEST FOR APPEAL		
Applicant: Pennoni Associates, Inc. (Attn: Mr. Dave Steigler)	File Number: NAO-2018-01597	Date: 01/08/19
Attached is:		
<input type="checkbox"/> INITIAL PROFFERED PERMIT (Standard Permit or Letter of permission) <input type="checkbox"/> PROFFERED PERMIT (Standard Permit or Letter of permission) <input type="checkbox"/> PERMIT DENIAL <input checked="" type="checkbox"/> APPROVED JURISDICTIONAL DETERMINATION <input type="checkbox"/> PRELIMINARY JURISDICTIONAL DETERMINATION	A B C D E	
See Section below		
SECTION I - The following identifies your rights and options regarding an administrative appeal of the above decision. Additional information may be found at http://www.usace.army.mil/Missions/CivilWorks/RegulatoryProgramandPermits/appeals.aspx or Corps regulations at 33 CFR Part 331.		
A: INITIAL PROFFERED PERMIT: You may accept or object to the permit.		
<ul style="list-style-type: none"> • ACCEPT: If you received a Standard Permit, you may sign the permit document and return it to the district engineer for final authorization. If you received a Letter of Permission (LOP), you may accept the LOP and your work is authorized. Your signature on the Standard Permit or acceptance of the LOP means that you accept the permit in its entirety, and waive all rights to appeal the permit, including its terms and conditions, and approved jurisdictional determinations associated with the permit. • OBJECT: If you object to the permit (Standard or LOP) because of certain terms and conditions therein, you may request that the permit be modified accordingly. You must complete Section II of this form and return the form to the district engineer. Your objections must be received by the district engineer within 60 days of the date of this notice, or you will forfeit your right to appeal the permit in the future. Upon receipt of your letter, the district engineer will evaluate your objections and may: (a) modify the permit to address all of your concerns, (b) modify the permit to address some of your objections, or (c) not modify the permit having determined that the permit should be issued as previously written. After evaluating your objections, the district engineer will send you a proffered permit for your reconsideration, as indicated in Section B below. 		
B: PROFFERED PERMIT: You may accept or appeal the permit		
<ul style="list-style-type: none"> • ACCEPT: If you received a Standard Permit, you may sign the permit document and return it to the district engineer for final authorization. If you received a Letter of Permission (LOP), you may accept the LOP and your work is authorized. Your signature on the Standard Permit or acceptance of the LOP means that you accept the permit in its entirety, and waive all rights to appeal the permit, including its terms and conditions, and approved jurisdictional determinations associated with the permit. • APPEAL: If you choose to decline the proffered permit (Standard or LOP) because of certain terms and conditions therein, you may appeal the declined permit under the Corps of Engineers Administrative Appeal Process by completing Section II of this form and sending the form to the division engineer. This form must be received by the division engineer within 60 days of the date of this notice. 		
C: PERMIT DENIAL: You may appeal the denial of a permit under the Corps of Engineers Administrative Appeal Process by completing Section II of this form and sending the form to the division engineer. This form must be received by the division engineer within 60 days of the date of this notice.		
D: APPROVED JURISDICTIONAL DETERMINATION: You may accept or appeal the approved JD or provide new information.		
<ul style="list-style-type: none"> • ACCEPT: You do not need to notify the Corps to accept an approved JD. Failure to notify the Corps within 60 days of the date of this notice, means that you accept the approved JD in its entirety, and waive all rights to appeal the approved JD. • APPEAL: If you disagree with the approved JD, you may appeal the approved JD under the Corps of Engineers Administrative Appeal Process by completing Section II of this form and sending the form to the division engineer. This form must be received by the division engineer within 60 days of the date of this notice. 		

E: PRELIMINARY JURISDICTIONAL DETERMINATION: You do not need to respond to the Corps regarding the preliminary JD. The Preliminary JD is not appealable. If you wish, you may request an approved JD (which may be appealed), by contacting the Corps district for further instruction. Also you may provide new information for further consideration by the Corps to reevaluate the JD.		
SECTION II - REQUEST FOR APPEAL OR OBJECTIONS TO AN INITIAL PROFFERED PERMIT REASONS FOR APPEAL OR OBJECTIONS: (Describe your reasons for appealing the decision or your objections to an initial proffered permit in clear concise statements. You may attach additional information to this form to clarify where your reasons or objections are addressed in the administrative record.)		
ADDITIONAL INFORMATION: The appeal is limited to a review of the administrative record, the Corps memorandum for the record of the appeal conference or meeting, and any supplemental information that the review officer has determined is needed to clarify the administrative record. Neither the appellant nor the Corps may add new information or analyses to the record. However, you may provide additional information to clarify the location of information that is already in the administrative record.		
POINT OF CONTACT FOR QUESTIONS OR INFORMATION: If you have questions regarding this decision and/or the appeal process you may contact: Ms. Brittany Dunn 1329 Alan Spring Road, Suite 102 Fredericksburg, VA 22401 Telephone number: 757-201-7029		
If you only have questions regarding the appeal process you may also contact: Mr. James W. Haggerty Regulatory Program Manager (CENAD-PD-OR) U.S. Army Corps of Engineers Fort Hamilton Military Community 301 General Lee Avenue Brooklyn, New York 11252-6700 Telephone number: 347-370-4650		
RIGHT OF ENTRY: Your signature below grants the right of entry to Corps of Engineers personnel, and any government consultants, to conduct investigations of the project site during the course of the appeal process. You will be provided a 15 day notice of any site investigation, and will have the opportunity to participate in all site investigations.		
Date: _____ Telephone number: _____ Signature of appellant or agent.		



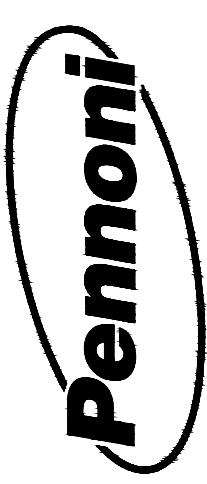
MARK D. LIBERATI
Lic. No. 21211

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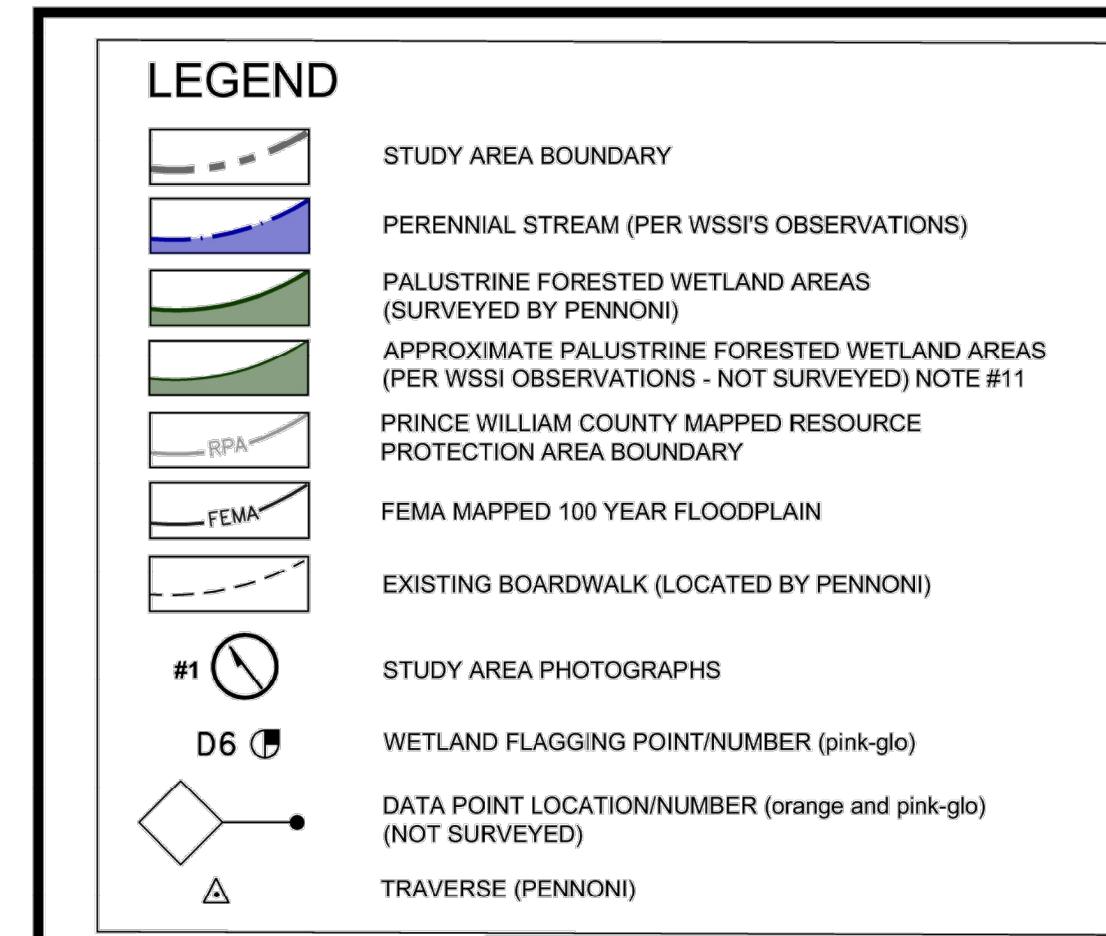
PROJECT	PWMCO18002
DATE	2020-02-24
DRAWING SCALE	NONE
DRAWN BY	JAG
APPROVED BY	DWJ

CS9001

SHEET 24 OF 26



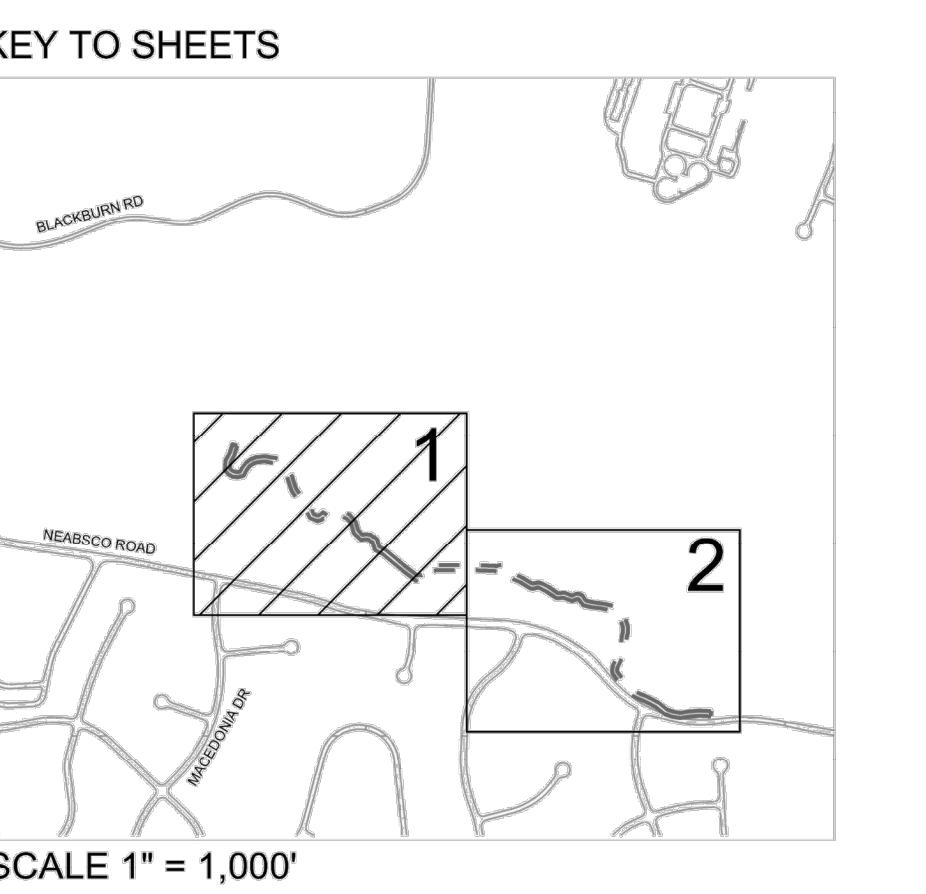
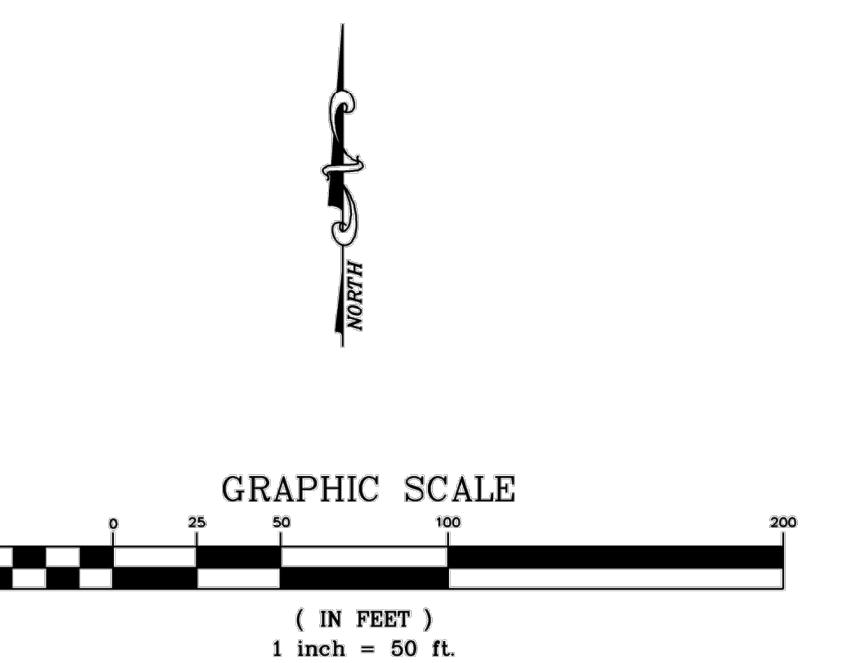
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13880 Dulles Corner Lane, Suite 100
Herndon, VA 20171
T 703-449-6700



WATERS OF THE U.S. DELINEATION AND SURVEY NOTES:

- Wetland boundaries and study area boundary provided by Pennoni Associates, Inc. on August 8, 2018 via email. This map has been oriented to the Virginia Coordinate System of 1983, Virginia State Plane, North Zone, U.S. feet.
- The boundary line information shown hereon is for information purposes only and does not constitute a boundary survey by Pennoni Associates, Inc. Monumentation, including traverse stations and fly points, shown on this drawing should be used to orient wetland locations to any future boundary, topographic, or location survey.
- Flag numbers are shown depicting the survey-located boundary of wetlands and other waters of the U.S. (i.e., streams etc.). Waters of the U.S. flags are pink-glo in color. Data points are flagged with orange-glo and pink-glo flagging tied together.
- Topographic information obtained in digital format from Prince William County digital data as well as 2015 and 2017 Natural Color Imagery from Pictometry® were used as a base for this Attachment.
- This delineation was performed pursuant to the "Corps of Engineers Wetlands Delineation Manual," Technical Report Y-87-1 (1987 Manual) and subsequent guidance and modification by the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Atlantic and Gulf Coastal Plain Region (Version 2.0)* dated November 2010.
- Because the study area consists of a linear corridor, transects were not established, and the study area was systematically searched for jurisdictional wetlands and other waters of the U.S.
- Field work was performed on July 16 and 18, 2018 by Lauren Conner and Anna Oehser; additional field work was performed on November 11, 2018 by Lauren Conner to incorporate an additional 200 LF to the study area limits per client request.
- This water of the U.S. (i.e., stream or wetland) originates outside of the study area, upslope.
- This water of the U.S. (i.e., stream or wetland) continues outside of the study area, downslope.
- WSSI has delineated the outer limits of jurisdictional areas within the project site. Many of the jurisdictional areas on the site are composed of systems containing different wetland (i.e., PFO) and stream (i.e. R4) types. The approximate limits of the different wetland and stream types within the surveyed jurisdictional areas are depicted as a thin colored line of the associated line type.
- Per Prince William County Code §740.02 AA definition of tidal wetlands, Code of Virginia §28.2, and 33 CFR §328.3, tidal vegetated wetlands associated with Neabsco Creek were determined based on the mean low water (-0.81 feet) and an elevation above mean low water equal to the factor one and one-half times the mean tide range (1.73 feet) based on data obtained using the National Oceanic and Atmospheric Administration (NOAA) VDatum program. Per the county and state regulations, wetlands are considered to be tidal from mean low water (-0.81 feet) up to an elevation of 2.6 feet. For delineation purposes, the constructed wetland areas (created from uplands) are not considered to be tidal.

SEE SHEET 2 FOR AREAS TABLE.



100% SUBMISSION

ATTACHMENT I:
WATERS OF THE U.S. (INCLUDING WETLANDS)
DELINeATION MAP
Prepared For: Pennoni Associates, Inc.
Julie J. Metz Trail
Prince William County, Virginia
Copyright © 2018 Wetland Studies and Solutions, Inc.

PRINCE WILLIAM COUNTY DEPARTMENT OF PARKS AND RECREATION
14420 BRISTOW ROAD
WOODBRIDGE, VIRGINIA 22191
MANASSAS, VIRGINIA 20112

PROJECT PWMC018002

DATE 2020-02-24

DRAWING SCALE NONE

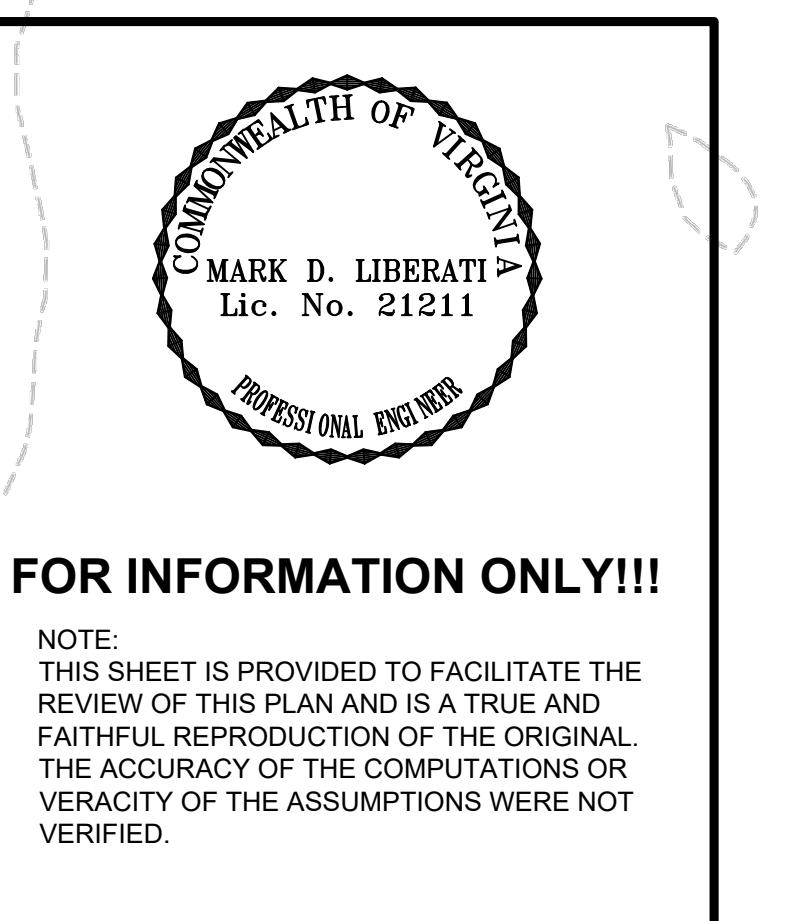
DRAWN BY JAG

APPROVED BY DWJ

JULIE METZ WETLAND BOARDWALK

WATERSHED DELINeATION INFORMATION SHEET

MATCHLINE SHEET 2



FOR INFORMATION ONLY!!!

NOTE:
THIS SHEET IS PROVIDED TO FACILITATE THE REVIEW OF THIS PLAN AND IS A TRUE AND FAITHFUL REPRODUCTION OF THE ORIGINAL. THE ACCURACY OF THE COMPUTATIONS OR VERACITY OF THE ASSUMPTIONS WERE NOT VERIFIED.

ATTACHMENT I: WATERS OF THE U.S. (INCLUDING WETLANDS) DELINeATION MAP			
Prepared For: Pennoni Associates, Inc. Julie J. Metz Trail Prince William County, Virginia Copyright © 2018 Wetland Studies and Solutions, Inc.			
REVISIONS			
No.	Date	Description	Rev. By
1	12/13/18	Released per 11-06-2018 JD site visit and client request	App. By AO BNR
2	12/28/18	Released per 12-27-2018 DCCE request	AW BNR
Horizontal Datum: VCS NAD 83			
Vertical Datum: NAVD 88			
Boundary and Topo Source: Prince William County digital data and Pennoni Associates, Inc.			
Design Draft Approved			
AAO	AAO	BNR	
Sheet #			
1 of 2			
Computer File Name: 20180822_Wetland Delin Map JDCConfirmation.dwg			

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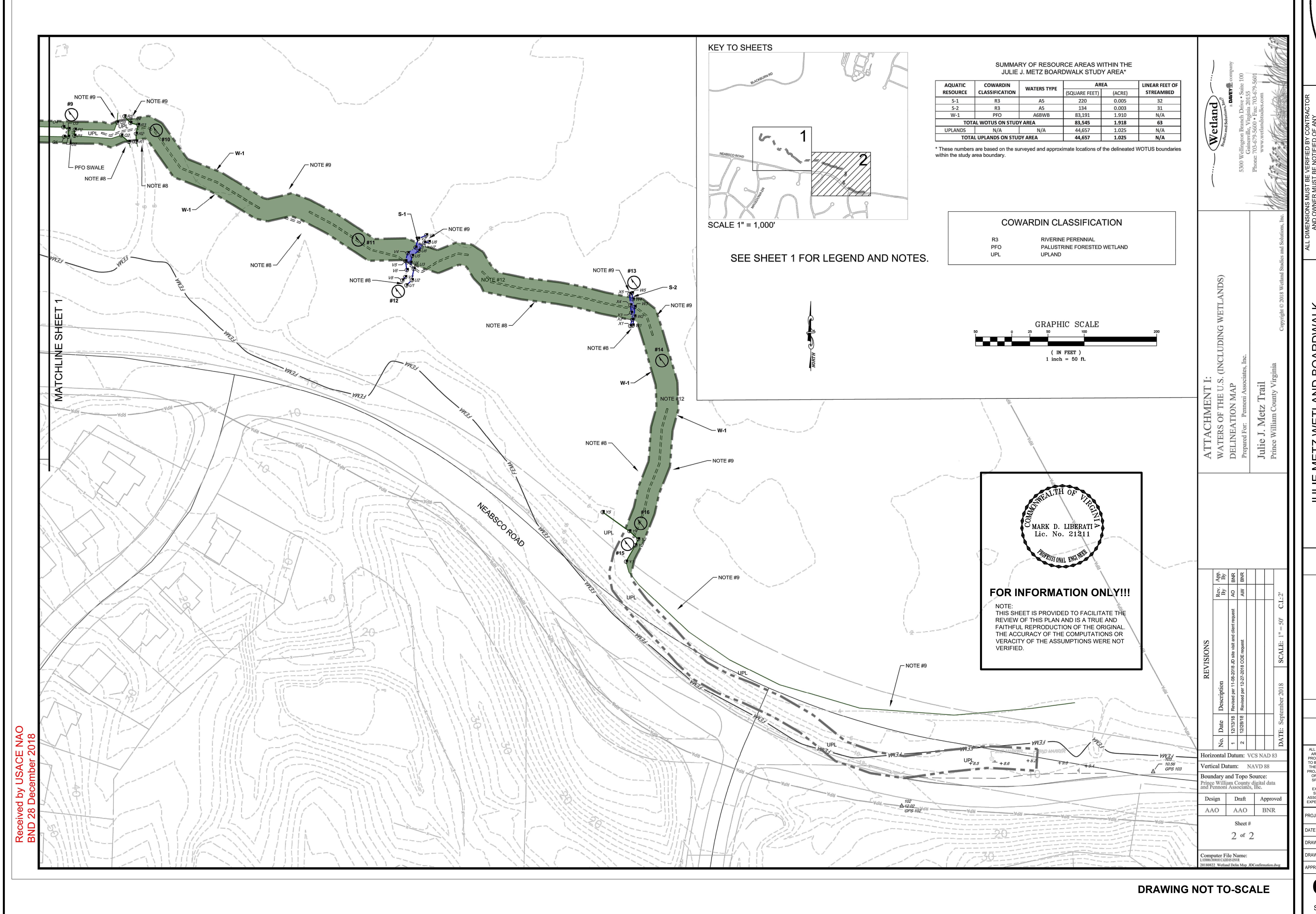
DRAWING SCALE NONE

DRAWN BY JAG

APPROVED BY DWJ

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SHEET 25 OF 26



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JULIE METZ WETLAND BOARDWALK

WATERSHED DELINEATION INFORMATION SHEET

PRINCE WILLIAM COUNTY DEPARTMENT OF PARKS AND RECREATION
14420 BRISTOW ROAD
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18875 NEABSCO ROAD
MANASSAS, VIRGINIA 22191

Received by USACE NAO
BND 28 December 2018

PROJECT STATUS: 2020-02-24
PROJECT FILE: PWMC-1800832
PLOTSTATUS: Project Status

PRINTED: 2018/08/28 16:56:01 BY: Jason Gauthier

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Project PWMC18002
Date 2020-02-24
Drawing Scale NONE
Drawn By JAG
Approved By DWJ

CS9003
Sheet 26 **of** 26