

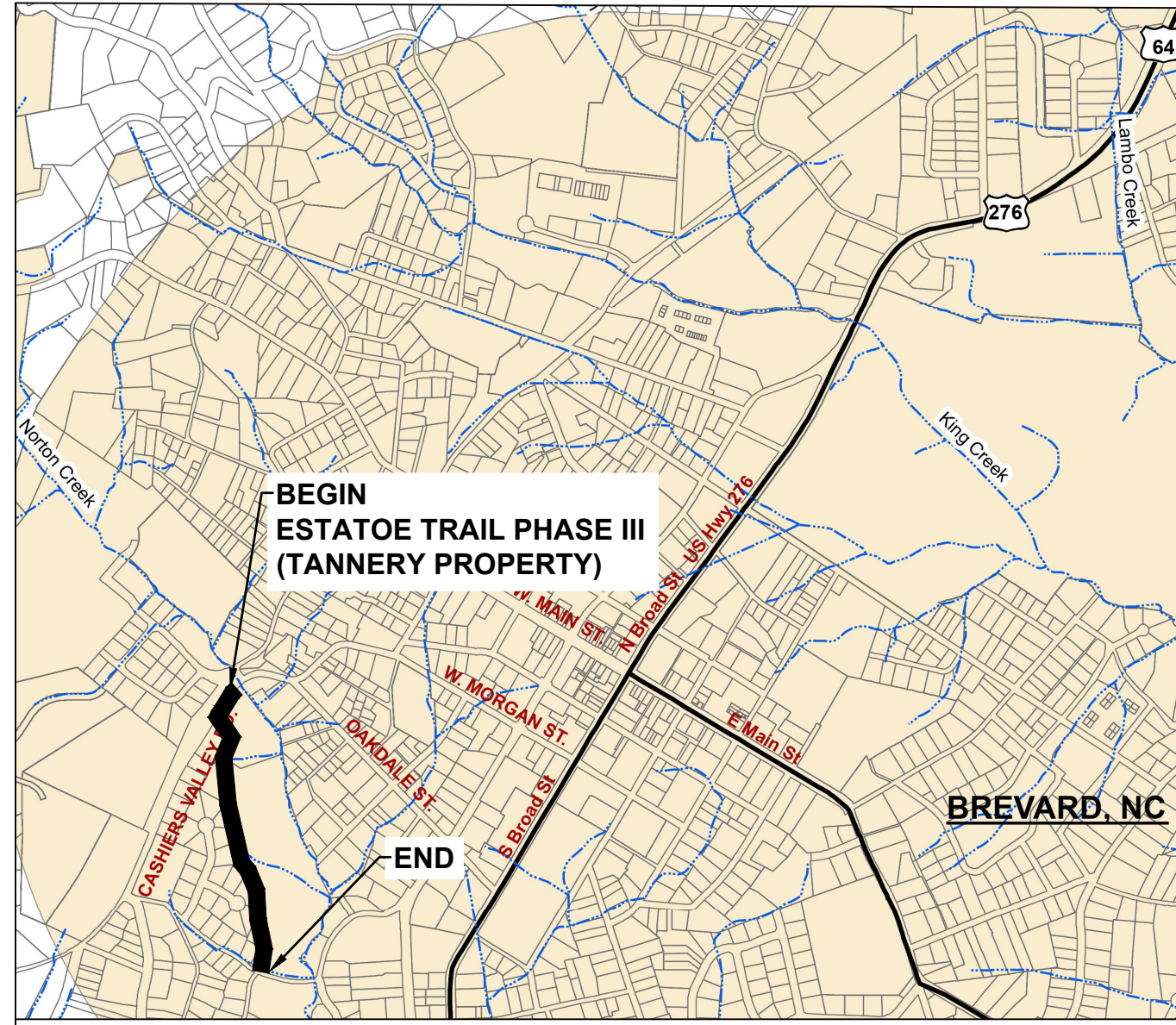
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CONTRACT: BN01120 TIP PROJECT: BN-0011

See Sheet 1A For Index of Sheets



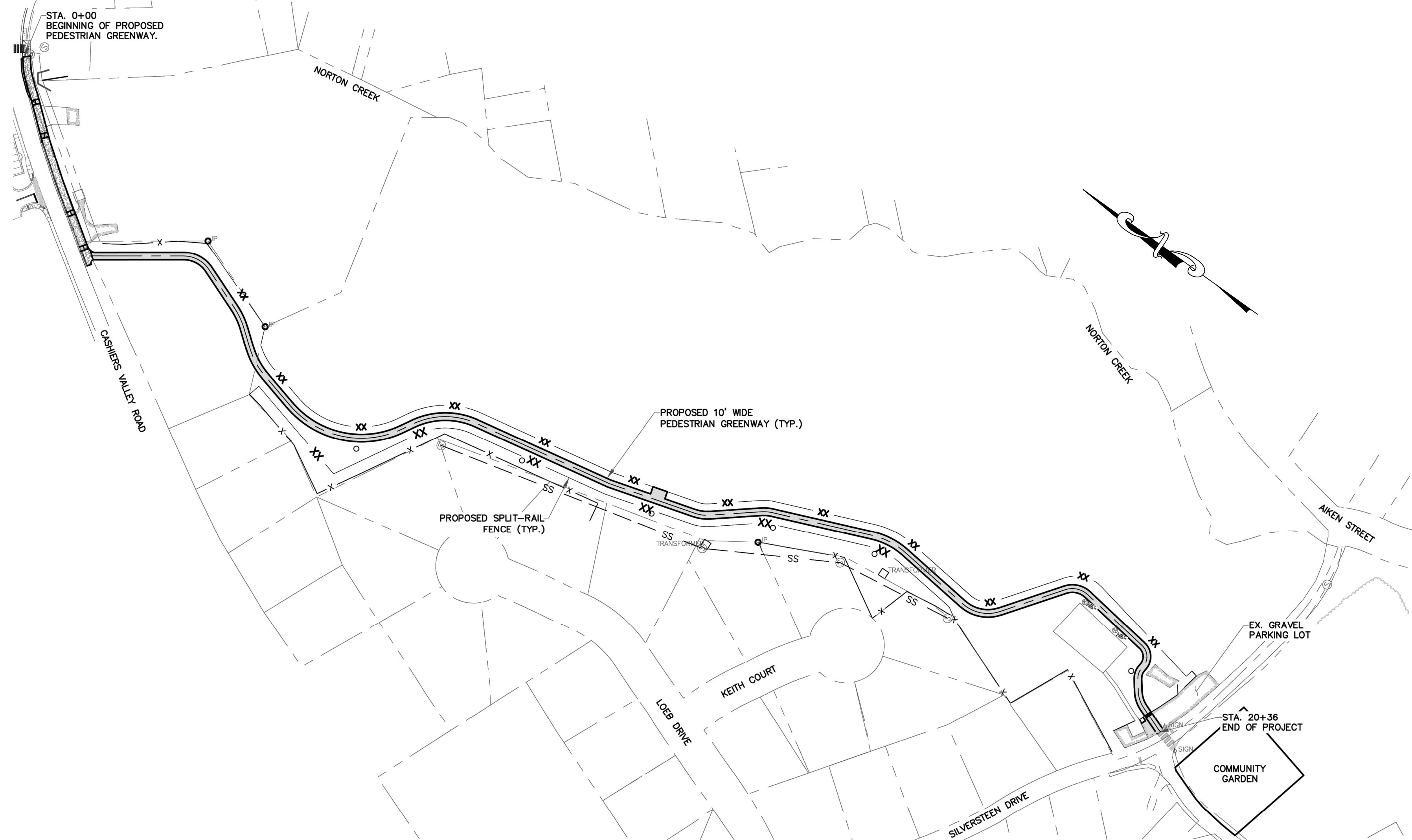
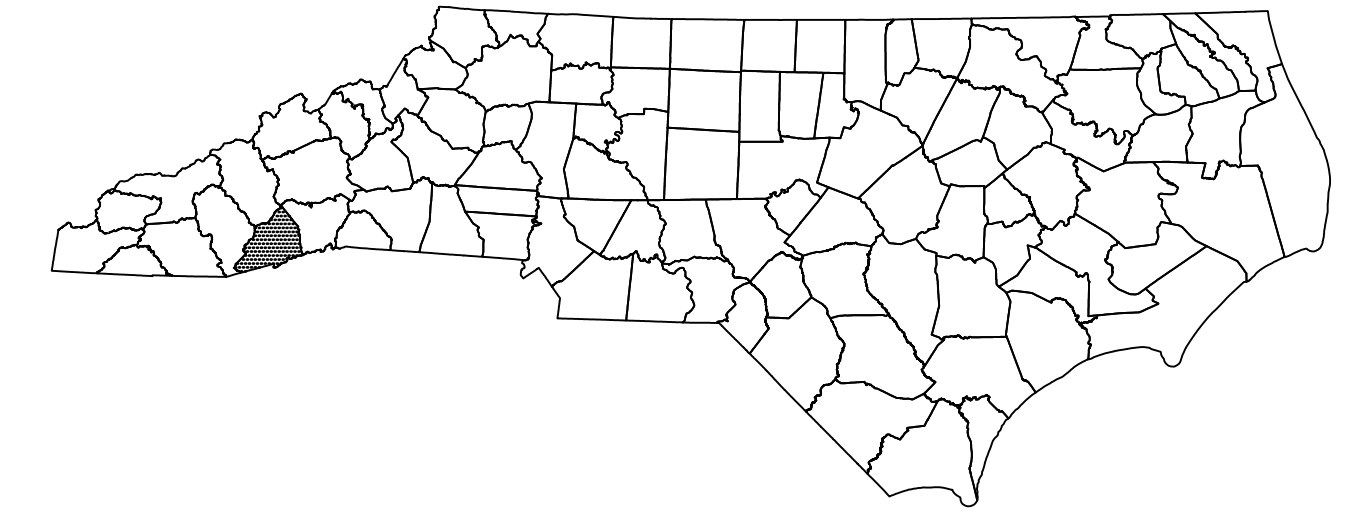
VICINITY MAP (1"=1,000')

STATE OF NORTH CAROLINA DIVISION OF HIGHWAYS TRANSYLVANIA COUNTY

LOCATION: NEW BIKE PATH AT TANNERY STATE PARK
FROM CASHIERS VALLEY RD TO SILVERSTEEN DR

TYPE OF WORK: GRADING, PAVING, FENCING, DRAINAGE, AND CULVERTS

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	BN-0011	1	21
STATE PROJ. NO.	F. A. PROJ. NO.	DESCRIPTION	
51192.1.1	5119201	P.E.	
51192.2.2	5119201	UTIL	
51192.3.1	5119201	CONST	



INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION
DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

GRAPHIC SCALES	DESIGN DATA
<p>20 10 0 20 40 PLANS</p> <p>20 10 0 20 40 PROFILE (HORIZONTAL)</p> <p>10 5 0 10 20 PROFILE (VERTICAL)</p>	<p>ADT = _____</p> <p>ADT = _____</p> <p>K = _____ %</p> <p>D = _____ %</p> <p>T = _____ % *</p> <p>V = _____ MPH</p> <p>* TTST = _____</p> <p>FUNC CLASS = _____</p> <p>_____ TIER</p>

PROJECT LENGTH

LENGTH STRUCTURES ALL SITES: 0.000 MILES

TOTAL LENGTH OF PROJECT: 0.386 MILES

Prepared in the Office of:
DIVISION OF HIGHWAYS
1000 Birch Ridge Dr., Raleigh NC, 27610

2024 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE:	ALVIN FULLER, JR., PE PROJECT ENGINEER
LETTING DATE:	ALVIN FULLER, JR., PE PROJECT DESIGN ENGINEER

6/23/2026

HYDRAULICS ENGINEER

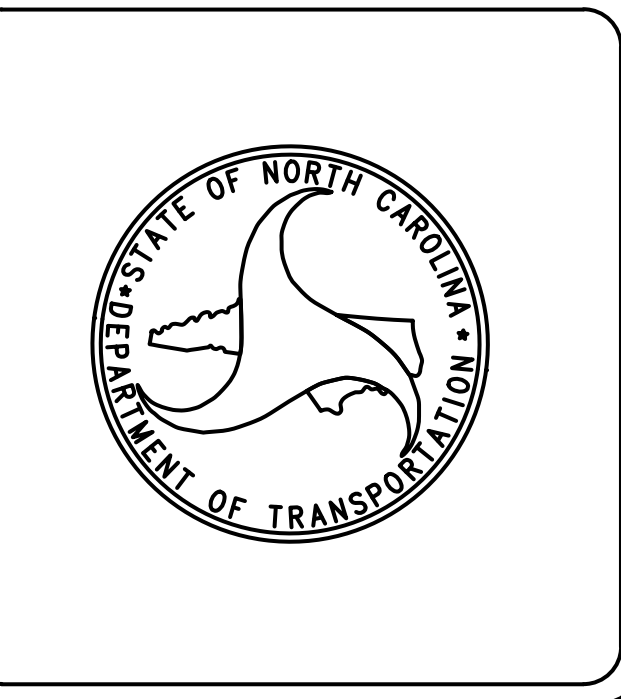
Signed by: Alvin Fuller Jr.
C7E41301008846F P.E.

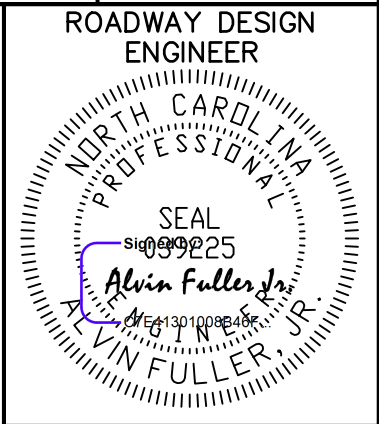
SIGNATURE: _____

ROADWAY DESIGN ENGINEER

Signed by: Alvin Fuller Jr.
C7E41301008846F P.E.

SIGNATURE: _____





INDEX OF SHEETS

<u>Sheet No.</u>	<u>Sheet Title</u>
1	COVER SHEET
1A	INDEX OF SHEETS
2	GENERAL LEGEND AND ABBREVIATIONS
3	OVERALL SITE PLAN
4-8	PEDESTRIAN GREENWAY PLAN AND PROFILE
9	TYPICAL CROSS-SECTIONS AND ASSOCIATED STATIONS
10-14	PEDESTRIAN GREENWAY CROSS-SECTIONS
15-16	LANDSCAPE PLAN
12-16	PEDESTRIAN GREENWAY CROSS-SECTIONS
17	NON-STANDARD NCDOT & MISCELLANEOUS DETAILS
18	SOIL SURVEY PLAT AND TABLES
EC1-EC2	EROSION & SEDIMENTATION CONTROL NOTES & DETAILS

GENERAL NOTES

A. GENERAL

- PRIOR TO BEGINNING WORK, THE CONTRACTOR SHALL EXAMINE AND CAREFULLY STUDY ALL CONTRACT DOCUMENTS, DATA AND REFERENCE ITEMS IDENTIFIED. IN SO DOING, THE CONTRACTOR ACKNOWLEDGES THAT HE HAS SATISFIED HIMSELF AS TO THE CONDITIONS TO BE ENCOUNTERED REGARDING THE CHARACTER, QUALITY, AND QUANTITIES OF WORK TO BE PERFORMED, MATERIALS TO BE FURNISHED AND WITH ALL OTHER REQUIREMENTS AS SET FORTH IN THE CONTRACT DOCUMENTS.
- THE CONTRACTOR SHALL PRIOR TO THE BEGINNING OF WORK GIVE THE ENGINEER WRITTEN NOTICE OF ANY CONFLICTS, ERRORS, AMBIGUITIES, OR DISCREPANCIES DISCOVERED IN THE CONTRACT DOCUMENTS AND SHALL CONFIRM THAT WRITTEN RESOLUTION OF SUCH HAS BEEN RECEIVED FROM THE ENGINEER AND THAT SUCH RESOLUTION IS ACCEPTABLE TO THE CONTRACTOR.
- THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING CONSTRUCTION STAKING FOR ALL IMPROVEMENTS. THE LOCATIONS OF IMPROVEMENTS SHALL BE IN ACCORDANCE WITH THE CONTRACT PLANS AND SPECIFICATIONS.
- THE CONTRACTOR SHALL REMOVE FROM THE SITE AND PROPERLY DISPOSE OF ALL MATERIALS AND DEBRIS RESULTING FROM CONSTRUCTION OPERATIONS, INCLUDING BUT NOT LIMITED TO RESIDUAL AND DEMOLITION MATERIALS WITH THE EXCEPTION OF SOIL LOCATED ON THE TANNERY PROPERTY. THE COST OF SUCH SHALL BE INCLUDED IN THE BASE CONTRACT AMOUNT.
- MATERIAL TO BE REMOVED FROM THE SITE SHALL BE ISOLATED AND TESTED FOR HAZARDOUS SUBSTANCES PRIOR TO HAULING. IF CONTAMINANT IS IDENTIFIED, THE OWNER AND ENGINEER SHALL BE NOTIFIED AND THE MATERIAL SHALL BE HANDLED AND DISPOSED OF PER EPA REQUIREMENTS. THE COST FOR THIS TESTING SHALL BE PAID FOR AS SPECIFIED IN THE "TESTING OF IMPACTED OR POTENTIALLY IMPACTED SOIL" SPECIAL PROVISION.
- MATERIAL TO BE REMOVED FROM THE SITE SHALL BE ISOLATED AND TESTED FOR HAZARDOUS SUBSTANCES PRIOR TO HAULING. IF CONTAMINANT IS IDENTIFIED, THE OWNER AND ENGINEER SHALL BE NOTIFIED AND MATERIAL SHALL BE HANDLED AND DISPOSED OF PER EPA REQUIREMENTS.
- ALL CONCRETE WITH THE EXCEPTION OF REINFORCED CONCRETE SHALL BE 4,000psi, UNLESS OTHERWISE NOTED. ALL CONCRETE SIDEWALKS AND DRIVEWAY APRONS SHALL USE HIGH EARLY STRENGTH CONCRETE.

B. GENERAL CONSTRUCTION – SEQUENCE

- CONTRACTOR SHALL SHOW PROOF OF 40-HOUR OSHA CERTIFICATION PRIOR TO BEGINNING CONSTRUCTION.
- CONTRACTOR SHALL IDENTIFY BORROW SITE, PERFORM TESTING FOR HAZARDOUS MATERIALS, AND SUBMIT TO NCDEQ BROWNFIELD'S PROGRAM FOR APPROVAL. 1 SAMPLE PER 500 CUBIC YARDS OF MATERIAL (VOC'S, SVOC'S, RCRA MATERIALS)
- INSTALL APPLICABLE EROSION CONTROL MEASURES AS SHOWN ON THE DRAWINGS (I.E. MUD MATS, DAMS, BY PASS PUMPS, ETC.).
- COMMENCE SOIL BORING/TESTING FOR VOC'S, SVOC'S, AND RCRA MATERIALS TO IDENTIFY THE LIMITS OF HAZARDOUS MATERIAL.
- COMMENCE GRADING ACTIVITIES.
- INSTALL STORMWATER MANAGEMENT DEVICES.
- ESTABLISH FINAL GRADES.
- INSTALL AND MAINTAIN EROSION CONTROL DEVICES (I.E. SILT FENCE, CULVERT PROTECTION, ETC.).
- INSTALL PEDESTRIAN PATH AS SHOWN ON THE PLANS.
- INSTALL LANDSCAPING AND PERMANENT GRASSING.
- REMOVE TEMPORARY EROSION CONTROL MEASURES AFTER PERMANENT COVER HAS BEEN ESTABLISHED.

C. TANNERY PROPERTY NOTES

- THE TANNERY PROPERTY IS A DESIGNATED BROWNFIELD. CONTRACTOR SHALL FOLLOW ALL APPLICABLE OSHA REQUIREMENTS.
- ALL EXCAVATED SOIL SHALL BE STOCKPILED, SIFTED, AND TESTED FOR CONTAMINANTS.
- STOCKPILED SOILS SHALL BE COVERED AT ALL TIMES TO PREVENT SPREADING.
- CONTAMINATED SOILS SHALL BE REDEPOSITED ON-SITE AND CAPPED WITH 24" OF CLEAN SOIL.
- NO SOIL MAY BE BROUGHT ONTO OR LEAVE THE PROPERTY WITHOUT THE APPROVAL OF THE BROWNFIELDS PROGRAM.

STANDARD DRAWINGS

EFF. 01-16-2024
REV.

2024 ROADWAY ENGLISH STANDARD DRAWINGS

The following Roadway Standards as appear in "Roadway Standard Drawings" Contracts Standards and Development Unit – N.C. Department of Transportation – Raleigh, N.C., Dated January 16, 2024 are applicable to this project and by reference hereby are considered a part of these plans:

<u>STD.NO.</u>	<u>TITLE</u>
DIVISION 3 – PIPE CULVERTS	
300.01	Method of Pipe Installation
DIVISION 8 – INCIDENTALS	
840.03	Frame, Grates, and Hood – for Use on Standard Catch Basin
840.45	Precast Drainage Structure
840.46	Traffic Bearing Precast Drainage Structure
846.01	Concrete Curb, Gutter, and Curb & Gutter
848.01	Concrete Sidewalk
867.02	Steel Bollards
876.02	Guide to Rip Rap at Pipe Outlets
876.03	Drainage Ditches with Class 'A' Rip Rap
DIVISION 11 – WORK ZONE TRAFFIC CONTROL	
1101.01	Temporary Lane Closures (Sheet 1)
1101.11	Traffic Control Design Tables (Sheets 1, 2, & 4)
DIVISION 16 – EROSION CONTROL AND ROADSIDE DEVELOPMENT	
1605.01	Temporary Silt Fence
1606.01	Special Sediment Control Fence
1607.01	Gravel Construction Entrance
1635.02	Rock Pipe Inlet Sediment Trap Type B
1636.01	Wattle Check

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GENERAL LEGEND		
Item Description	Existing Legend	Proposed Legend
BUILDING/STRUCTURE		
PROPERTY LINE		
RIGHT OF WAY/PERMANENT EASEMENT		
TEMPORARY CONSTRUCTION EASEMENT		
PROPERTY IRON		
CENTERLINE		
ASPHALT PAVEMENT		
CONCRETE PAVEMENT		
DIRT ROAD		
GRAVEL ROAD		
JURISDICTIONAL STREAM / CREEK		
TREE LINE		
FENCELINE		
BENCHMARK		
CONCRETE MONUMENT		
X-POINT		
CONTOUR ELEVATION		
FEMA FLOOD PLAIN BOUNDARY		
UTILITIES		
WATER LINE & SIZE		
WATER SERVICE LINE		
GRAVITY SEWER LINE & SIZE		
SEWER FORCE MAIN & SIZE		
SEWER SERVICE LINE		
GAS LINE		
UNDERGROUND TELEPHONE		
FIBER OPTIC CABLE		
STORM DRAIN & SIZE		
OVERHEAD POWER		
UNDERGROUND ELECTRIC		
POWER POLE		
WATER METER		
GATE VALVE		
FIRE HYDRANT		
AIR RELEASE VALVE INSTALLATION		
SEWER MANHOLE		
TELEPHONE MANHOLE		
DROP INLET		
JUNCTION BOX		
CATCH BASIN		
SEWER CLEANOUT		
SOIL/SEDIMENT		
GROUNDWATER SAMPLE LOCATION		
SURFACE WATER/SEDIMENT		
DEMOLITION TASKS		
TO BE REMOVED & DISPOSED OF, AS REQUIRED		
TO BE ABANDONED IN PLACE		

ABBREVIATIONS	
Description	Abbreviation
ALL THREAD ROD	ATR
ASPHALT	ASPH
AIR RELEASE VALVE	ARV
AVERAGE	AVG
BENCHMARK	BM
BOTTOM	BOT
BUILDING	BLDG
BUTTERFLY VALVE	BFV
BLOW-OFF	BO
CENTERLINE	CL
CLEANOUT	CO
CONCRETE MASONRY UNIT	CMU
CORRUGATED METAL PIPE	CMP
DUCTILE IRON PIPE	DIP
ELEVATION	EL
ENCASEMENT	ENC
ENGINEER	ENG
EXISTING	EX
FENCE CORNER	FC
FINISHED GRADE	FG
FLANGE	FLG
FORCE MAIN	FM
GATE VALVE	GV
HIGH DENSITY POLYETHYLENE	HDPE
HORIZONTAL	HORIZ
HYDRANT	HYD
INVERT	INV
INVERT ELEVATION	IE
IRON PIN FOUND	IPF
IRON PIN SET	IPS
LINEAR FEET	LF
MANHOLE	MH
MAXIMUM	MAX
MECHANICAL JOINT	MJ
MINIMUM	MIN
PERMANENT EASEMENT	PE
PRESSURE CLASS	PC
POWER POLE	PP
PRESSURE REGULATING VALVE	PRV
PLUG VALVE	PV
POLYVINYL CHLORINE	PVC
RADIUS	R
REINFORCED CONCRETE PIPE	RCP
RESTRAINED JOINT	RJ
RIGHT-OF-WAY	R/W
STATION	STA
TEMPORARY CONSTRUCTION EASEMENT	TCE
TOP	T
SANITARY SEWER	SS
STAINLESS STEEL	SSTL
STEEL	STL
STORM DRAIN	SD
VERTICAL	VERT
VERTICAL FOOT	VF

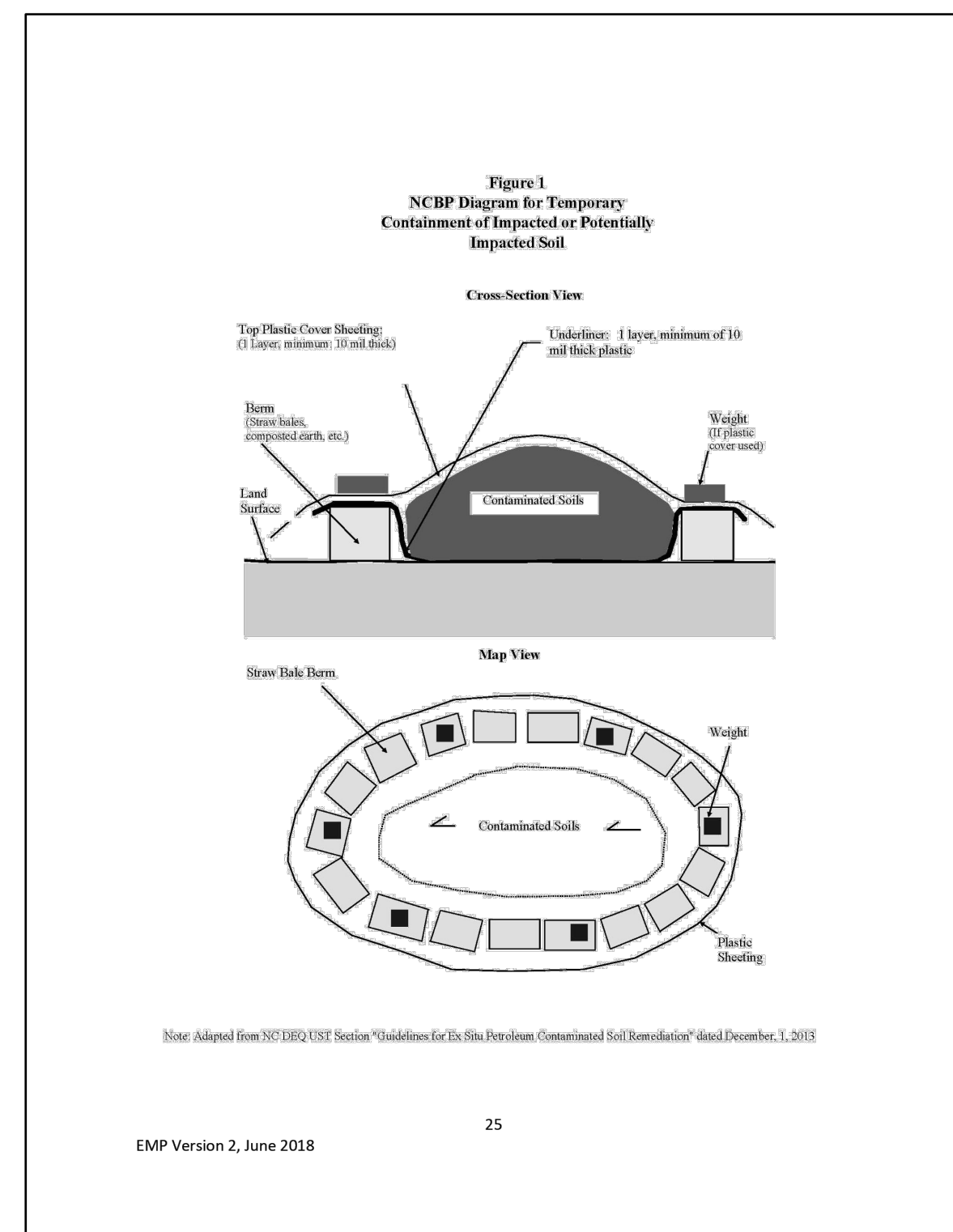
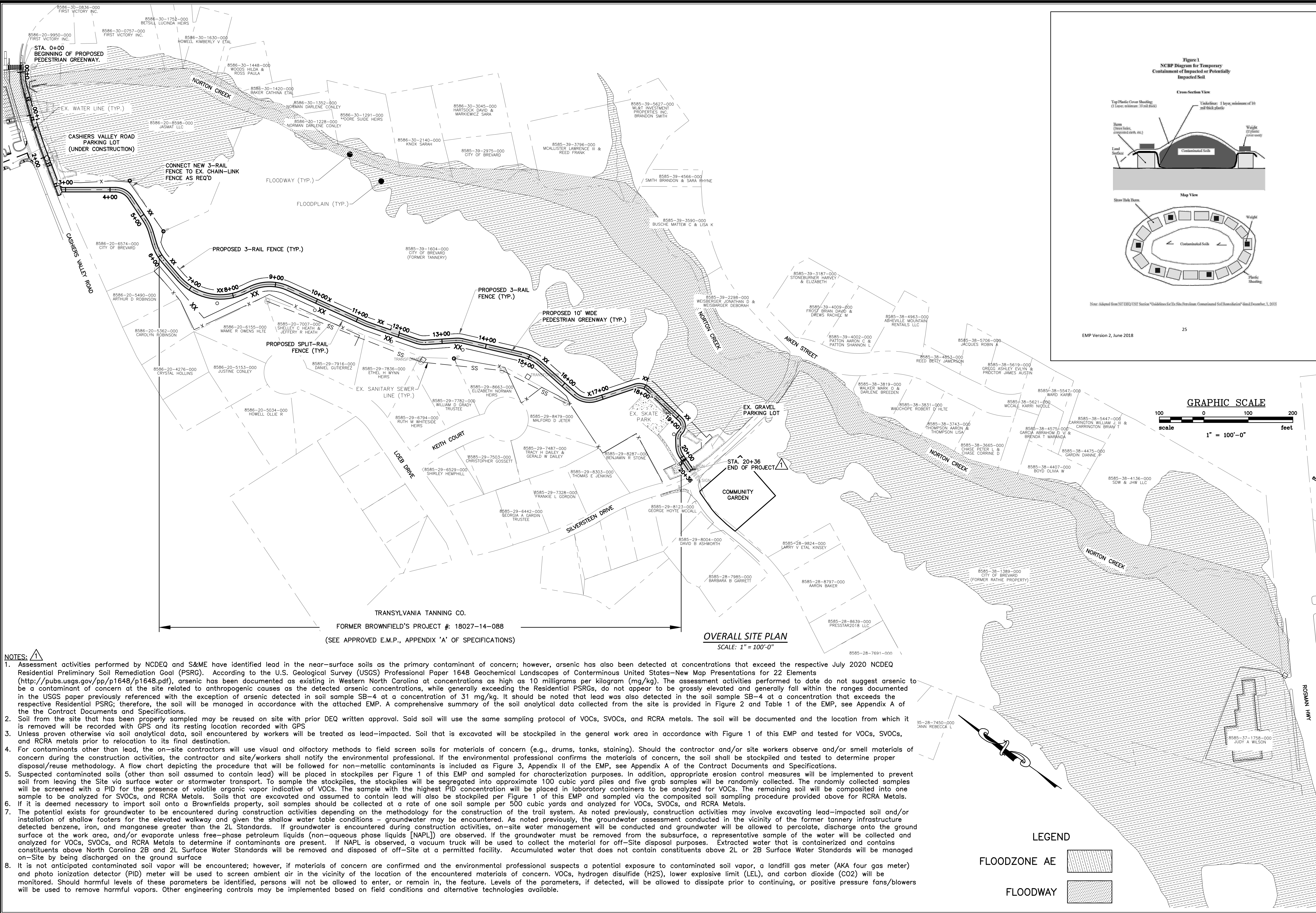


PLAN LEGEND - SEDIMENT & EROSION CONTROL	
Item Description	Symbol
TEMPORARY SEEDING	
PERMANENT SEEDING	
MULCHING	
SILT FENCE, SINGLE ROW	
WATTLE	
RIP RAP AT PIPE OUTLET	
GRAVEL CONSTRUCTION ENTRANCE	
ROCK PIPE INLET SEDIMENT TRAP TYPE B	

REVISIONS	
NO.	DESCRIPTION
1	REVISION BASED ON 1/14/25 MFC
2	REVISION BASED ON 1/27/26 MFC
3	REVISION BASED ON 1/27/26 MFC
4	REVISION BASED ON 1/27/26 MFC
5	REVISION BASED ON 1/27/26 MFC
APPROVALS	
PROJECT ENG:	DATE:
DESIGNED BY:	DATE:
DRAWN BY:	DATE:
CHECKED BY:	DATE:
APPROVED:	DATE:
GENERAL LEGEND, NOTES & ABBREVIATIONS	
PROJECT: ESTATOE TRAIL PHASE III (TANNERY PROPERTY) FOR THE CITY OF BREVARD, NC TRANSLYANIA COUNTY NORTH CAROLINA	
N.B. NO.	SHEET
REF.	2
PROJECT NO.	OF
22017	
FILE:	22017-00

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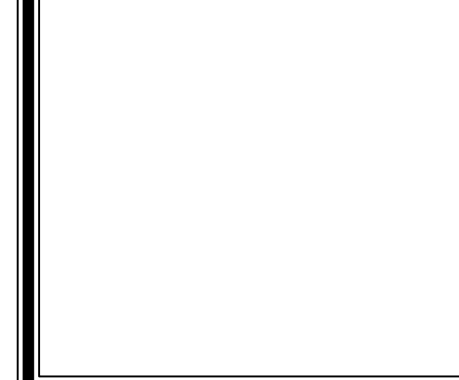


- NOTES:**
- Assessment activities performed by NCDEQ and S&ME have identified lead in the near-surface soils as the primary contaminant of concern; however, arsenic has also been detected at concentrations that exceed the respective July 2020 NCDEQ Residential Preliminary Soil Remediation Goal (PSRG). According to the U.S. Geological Survey (USGS) Professional Paper 1648 Geochemical Landscapes of Conterminous United States—New Map Presentations for 22 Elements (<http://pubs.usgs.gov/pp/p1648/p1648.pdf>), arsenic has been documented as existing in Western North Carolina at concentrations as high as 10 milligrams per kilogram (mg/kg). The assessment activities performed to date do not suggest arsenic to be a contaminant of concern at the site related to anthropogenic causes as the detected arsenic concentrations, while generally exceeding the Residential PSRGs, do not appear to be grossly elevated and generally fall within the ranges documented in the USGS paper previously referenced with the exception of arsenic detected in soil sample SB-4 at a concentration of 31 mg/kg. It should be noted that lead was also detected in the soil sample SB-4 at a concentration that exceeds the respective Residential PSRG; therefore, the soil will be managed in accordance with the attached EMP. A comprehensive summary of the soil analytical data collected from the site is provided in Figure 2 and Table 1 of the EMP, see Appendix A of the Contract Documents and Specifications.
 - Soil from the site that has been properly sampled may be reused on site with prior DEQ written approval. Said soil will use the same sampling protocol of VOCs, SVOCs, and RCRA metals. The soil will be documented and the location from which it is removed will be recorded with GPS and its resting location recorded with GPS.
 - Unless proven otherwise via soil analytical data, soil encountered by workers will be treated as lead-impacted. Soil that is excavated will be stockpiled in the general work area in accordance with Figure 1 of this EMP and tested for VOCs, SVOCs, and RCRA metals prior to relocation to its final destination.
 - For contaminants other than lead, the on-site contractors will use visual and olfactory methods to field screen soils for materials of concern (e.g., drums, tanks, staining). Should the contractor and/or site workers observe and/or smell materials of concern during the construction activities, the contractor and site/workers shall notify the environmental professional. If the environmental professional confirms the materials of concern, the soil shall be stockpiled and tested to determine proper disposal/reuse methodology. A flow chart depicting the procedure that will be followed for non-metallic contaminants is included as Figure 3, Appendix II of the EMP, see Appendix A of the Contract Documents and Specifications.
 - Suspected contaminated soils (other than soil assumed to contain lead) will be placed in stockpiles per Figure 1 of this EMP and sampled for characterization purposes. In addition, appropriate erosion control measures will be implemented to prevent soil from leaving the Site via surface water or stormwater transport. To sample the stockpiles, the stockpiles will be segregated into approximate 100 cubic yard piles and five grab samples will be randomly collected. The randomly collected samples will be screened with a PID for the presence of volatile organic vapor indicative of VOCs. The sample with the highest PID concentration will be placed in laboratory containers to be analyzed for VOCs. The remaining soil will be composited into one sample to be analyzed for SVOCs, and RCRA Metals. Soils that are excavated and assumed to contain lead will also be stockpiled per Figure 1 of this EMP and sampled via the composited soil sampling procedure provided above for RCRA Metals.
 - If it is deemed necessary to import soil onto a Brownfields property, soil samples should be collected at a rate of one soil sample per 500 cubic yards and analyzed for VOCs, SVOCs, and RCRA Metals.
 - The potential exists for groundwater to be encountered during construction activities depending on the methodology for the construction of the trail system. As noted previously, construction activities may involve excavating lead-impacted soil and/or installation of shallow footers for the elevated walkway and given the shallow water table conditions – groundwater may be encountered. As noted previously, the groundwater assessment conducted in the vicinity of the former tannery infrastructure detected benzene, iron, and manganese greater than the 2L Standards. If groundwater is encountered during construction activities, on-site water management will be conducted and groundwater will be allowed to percolate, discharge onto the ground surface at the work area, and/or evaporate unless free-phase petroleum liquids (non-aqueous phase liquids [NAPL]) are observed. If the groundwater must be removed from the subsurface, a representative sample of the water will be collected and analyzed for VOCs, SVOCs, and RCRA Metals to determine if contaminants are present. If NAPL is observed, a vacuum truck will be used to collect the material for off-Site disposal purposes. Extracted water that is containerized and contains constituents above North Carolina 2B and 2L Surface Water Standards will be removed and disposed of off-Site at a permitted facility. Accumulated water that does not contain constituents above 2L or 2B Surface Water Standards will be managed on-Site by being discharged on the ground surface.
 - It is not anticipated contaminated soil vapor will be encountered; however, if materials of concern are confirmed and the environmental professional suspects a potential exposure to contaminated soil vapor, a landfill gas meter (AKA four gas meter) and photo ionization detector (PID) meter will be used to screen ambient air in the vicinity of the location of the encountered materials of concern. VOCs, hydrogen disulfide (H₂S), lower explosive limit (LEL), and carbon dioxide (CO₂) will be monitored. Should harmful levels of these parameters be identified, persons will not be allowed to enter, or remain in, the feature. Levels of the parameters, if detected, will be allowed to dissipate prior to continuing, or positive pressure fans/blowers will be used to remove harmful vapors. Other engineering controls may be implemented based on field conditions and alternative technologies available.

- LEGEND**
- FLOODZONE AE
 - FLOODWAY

NO.	DESCRIPTION	DATE	BY
1	REVISED BASED ON	1/14/25	MFC
2	REVISED BASED ON	1/27/24	MFC
3	REVISED REVIEW		

PROJECT ENG.	DESIGNED BY	DRAWN BY	CHECKED BY	APPROVED
AF	AF	ADK	MFC	AF



EMF Version 2, June 2018

25

SUMMIT ENGINEERING GROUP, INC.
 ENGINEERS • PLANNERS • SURVEYORS

9601 Warren H. Abernathy Hwy.
 Spartanburg, SC 29301
 (864)949-1111

OVERALL SITE PLAN

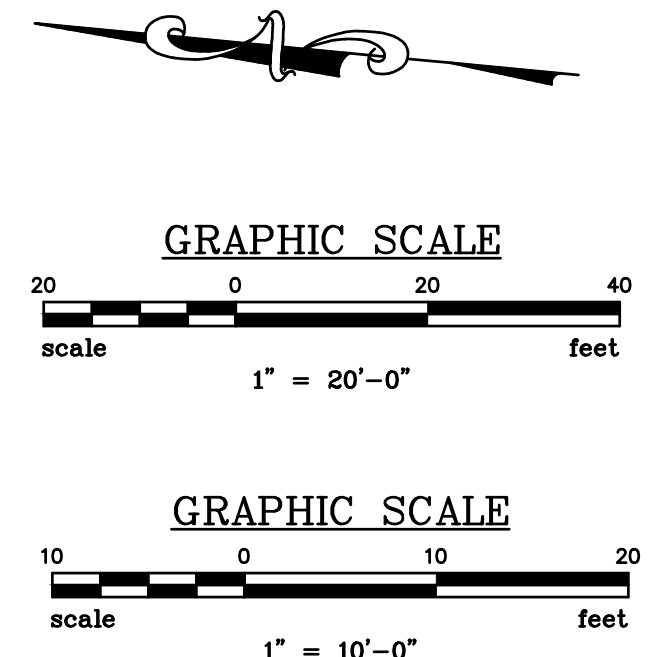
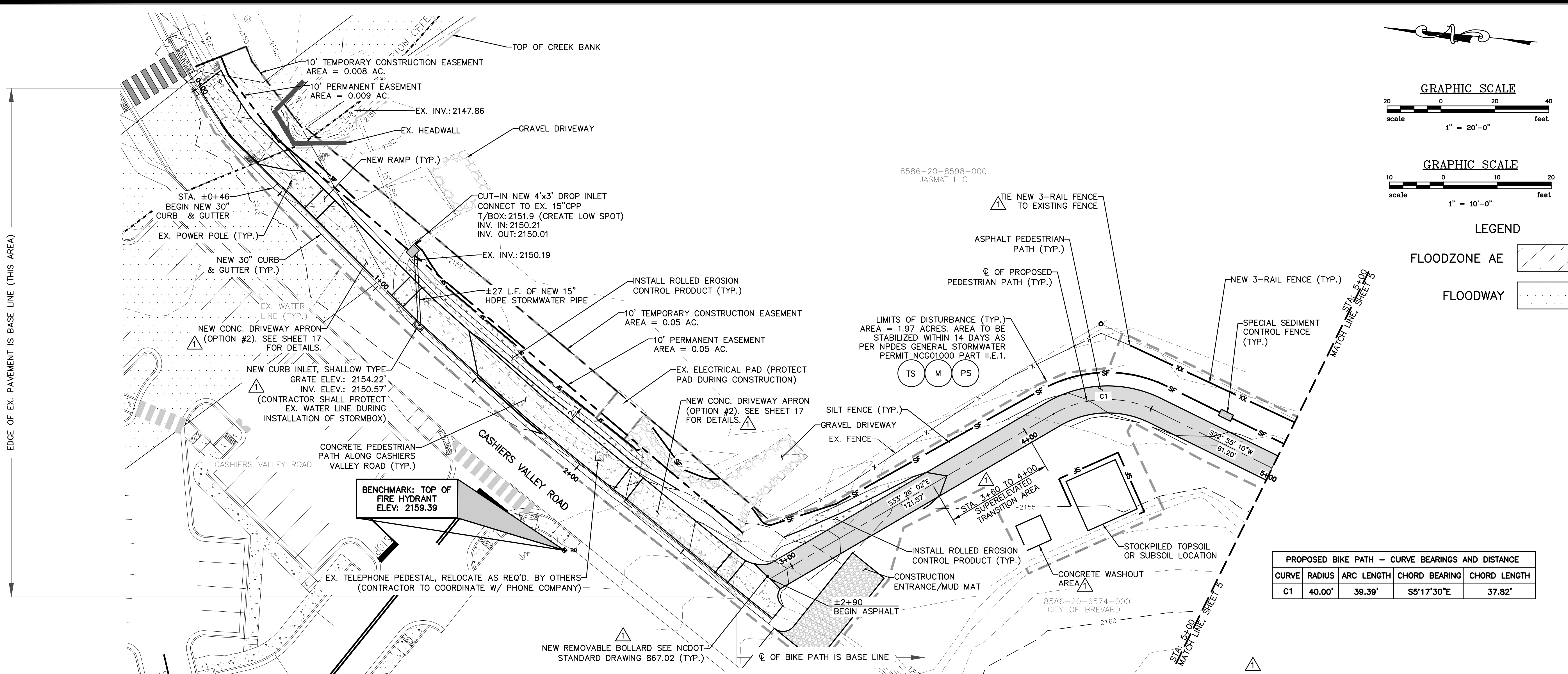
SHEET TITLE

DATE: DEC. 2023 | SCALE: AS SHOWN

PROJECT	ESTATOE TRAIL PHASE III (TANNERY PROPERTY) FOR THE CITY OF BREVARD, NC	TRANSYLVANIA COUNTY	NORTH CAROLINA
N.B. NO.	REF.	PROJECT NO.	22017
SHEET	3	OF	
FILE:	22017_Base		

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LEGEND

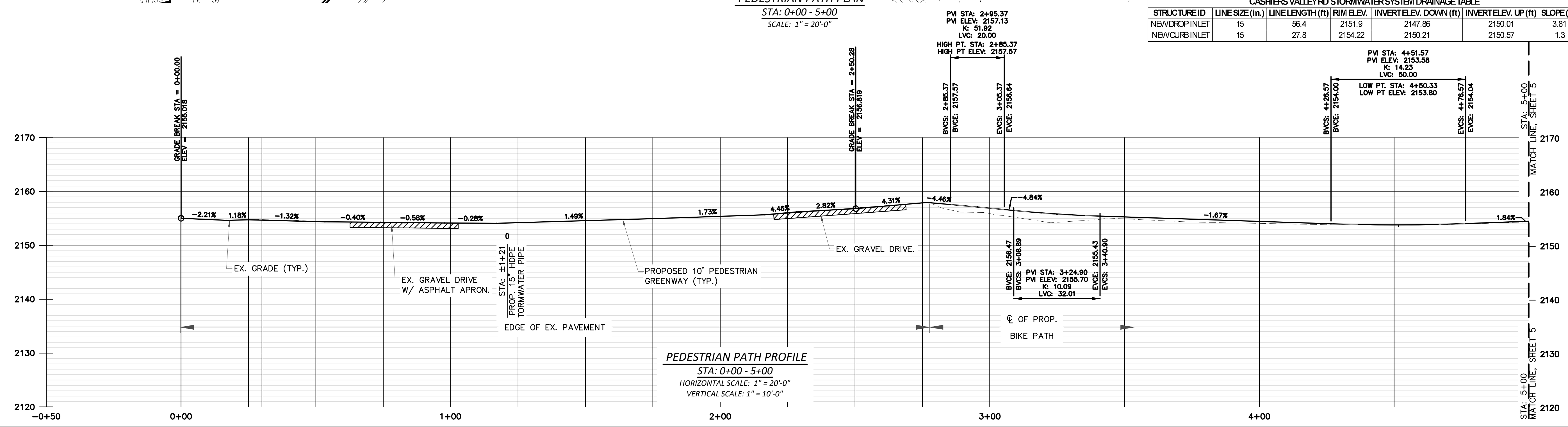
FLOODZONE AE	
FLOODWAY	

PROPOSED BIKE PATH - CURVE BEARINGS AND DISTANCE

CURVE	RADIUS	ARC LENGTH	CHORD BEARING	CHORD LENGTH
C1	40.00'	39.39'	S5°17'30"E	37.82'

CASHIERS VALLEY RD STORMWATER SYSTEM DRAINAGE TABLE

STRUCTURE ID	LINE SIZE (in)	LINE LENGTH (ft)	RIM ELEV.	INVERT ELEV. DOWN (ft)	INVERT ELEV. UP (ft)	SLOPE (%)
NEW DROP INLET	15	56.4	2151.9	2147.85	2150.01	3.81
NEW CURB INLET	15	27.8	2154.22	2150.21	2150.57	1.3



REVISIONS

NO.	DESCRIPTION	DATE	BY
1	REVISED BASED ON 1/14/25 MFC		MFC
2	REVISED BASED ON 1/22/24 MFC		MFC
3	REVISION REVIEW		MFC

APPROVALS

PROJECT ENG:	AF
DESIGNED BY:	AF
DRAWN BY:	ADK
CHECKED BY:	MFC
APPROVED:	AF

SEAL
 NORTH CAROLINA PROFESSIONAL ENGINEER
 009925
 Alvin Fullen
 VIN FULLEN, P.E.
 8/28/2026

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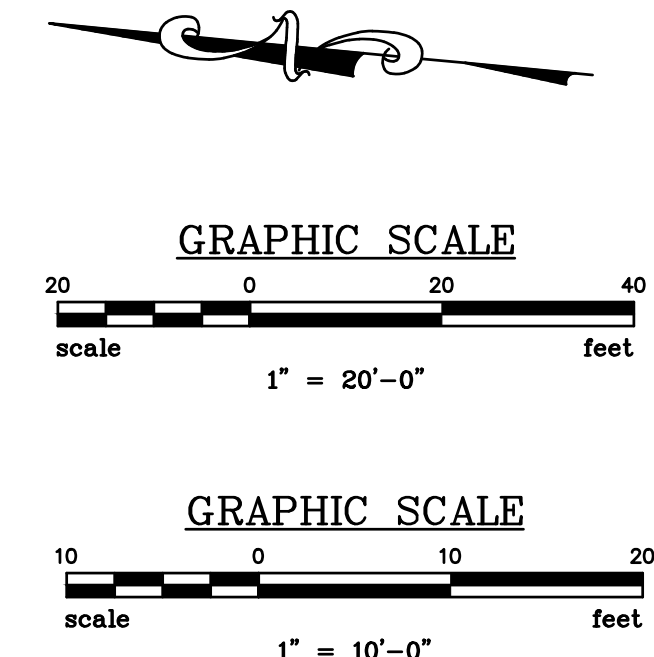
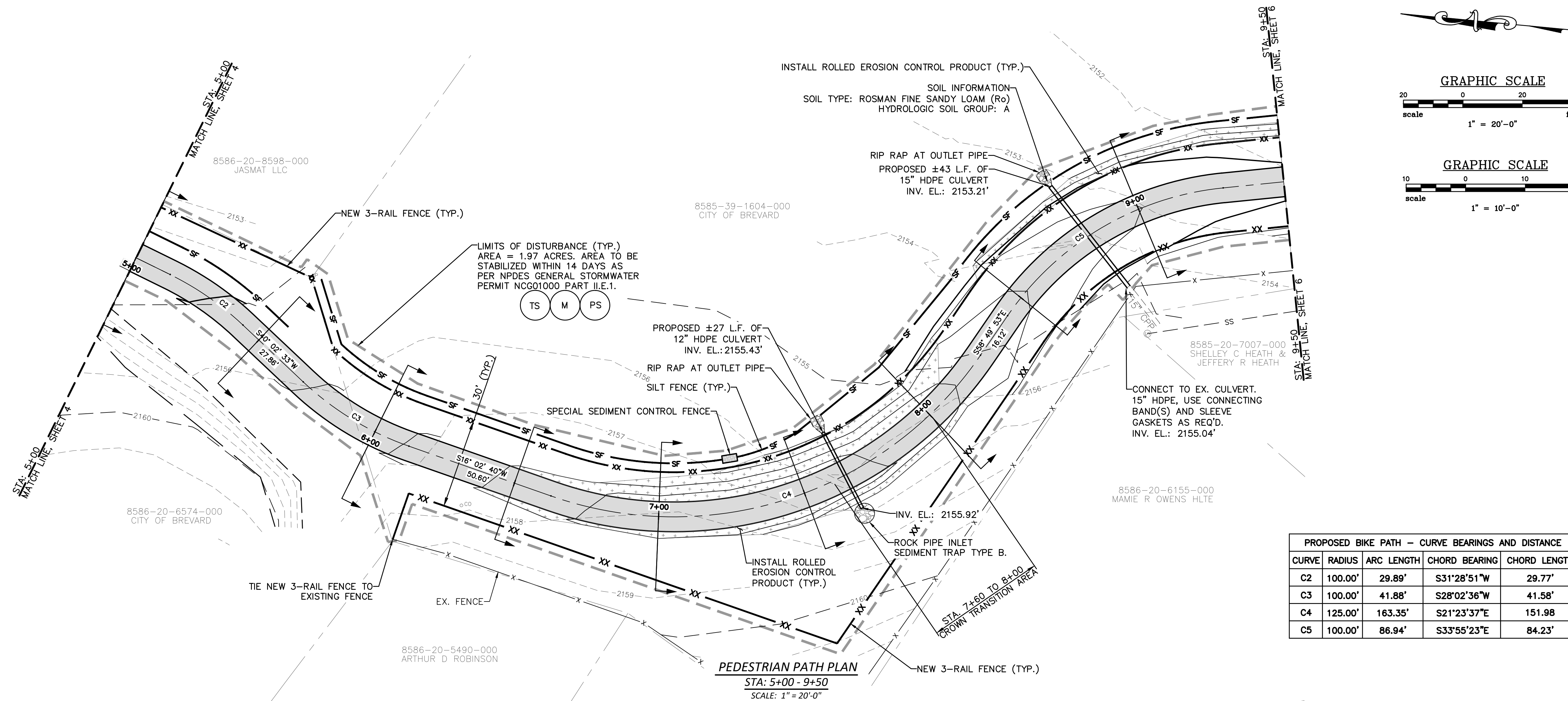
PEDESTRIAN WALKWAY PLAN AND PROFILE
 SHEET TITLE
 DATE: DEC. 2023 SCALE: AS SHOWN

ESTATE TRAIL PHASE III (TANNERY PROPERTY) FOR THE CITY OF BREVARD, NC
 PROJECT
 N.B. NO.
 REF.
 PROJECT NO.
22017
 SHEET **4** OF

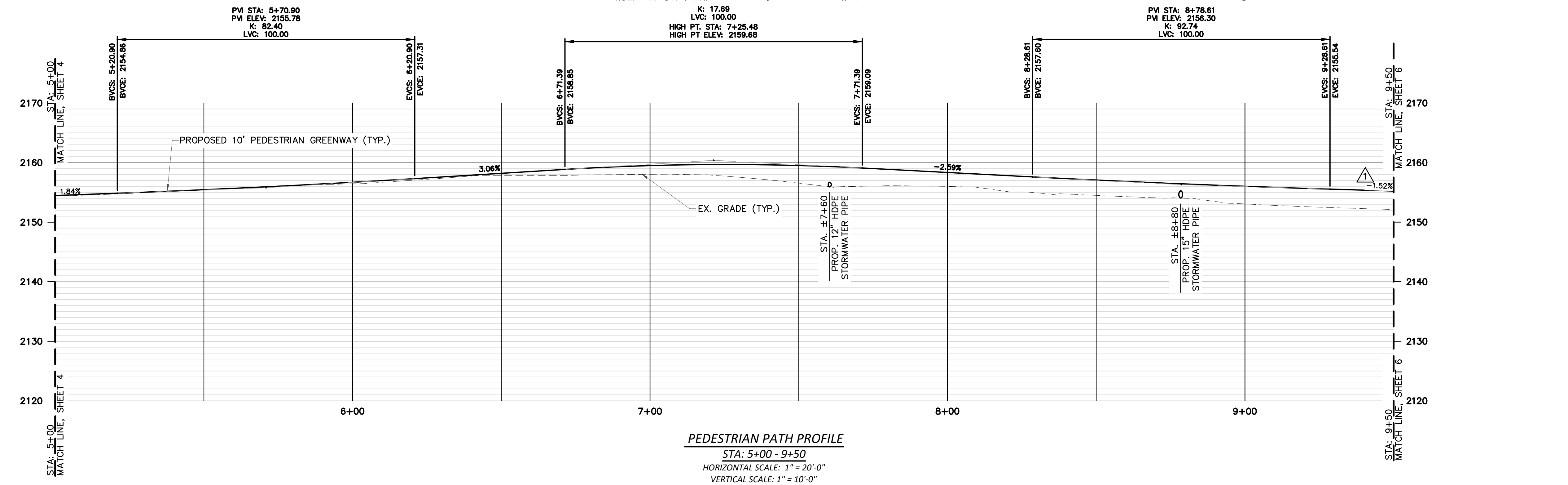
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PROPOSED BIKE PATH - CURVE BEARINGS AND DISTANCE				
CURVE	RADIUS	ARC LENGTH	CHORD BEARING	CHORD LENGTH
C2	100.00'	29.89'	S31°28'51"W	29.77'
C3	100.00'	41.88'	S28°02'36"W	41.58'
C4	125.00'	163.35'	S21°23'37"E	151.98'
C5	100.00'	86.94'	S33°55'23"E	84.23'



REVISIONS	
NO.	DESCRIPTION
1	REVISED BASED ON 1/14/25 MFC
2	REVISED BASED ON 1/22/26 MFC
3	REVISED BASED ON NCGDOT REVIEW

APPROVALS	
PROJECT ENG.	DATE
AF	
DESIGNED BY:	
AF	
DRAWN BY:	
ADK	
CHECKED BY:	
MFC	
APPROVED:	
AF	

Professional Engineer Seal for **Alvin Fuller, Jr.**, License No. 99039225, State of North Carolina. Signature date: 5/28/2026.

SUMMIT ENGINEERING GROUP INC.
 ENGINEERS • PLANNERS • SURVEYORS
 9601 Warren H. Abernathy Hwy.
 Spartanburg, SC 29301
 (864)949-1111

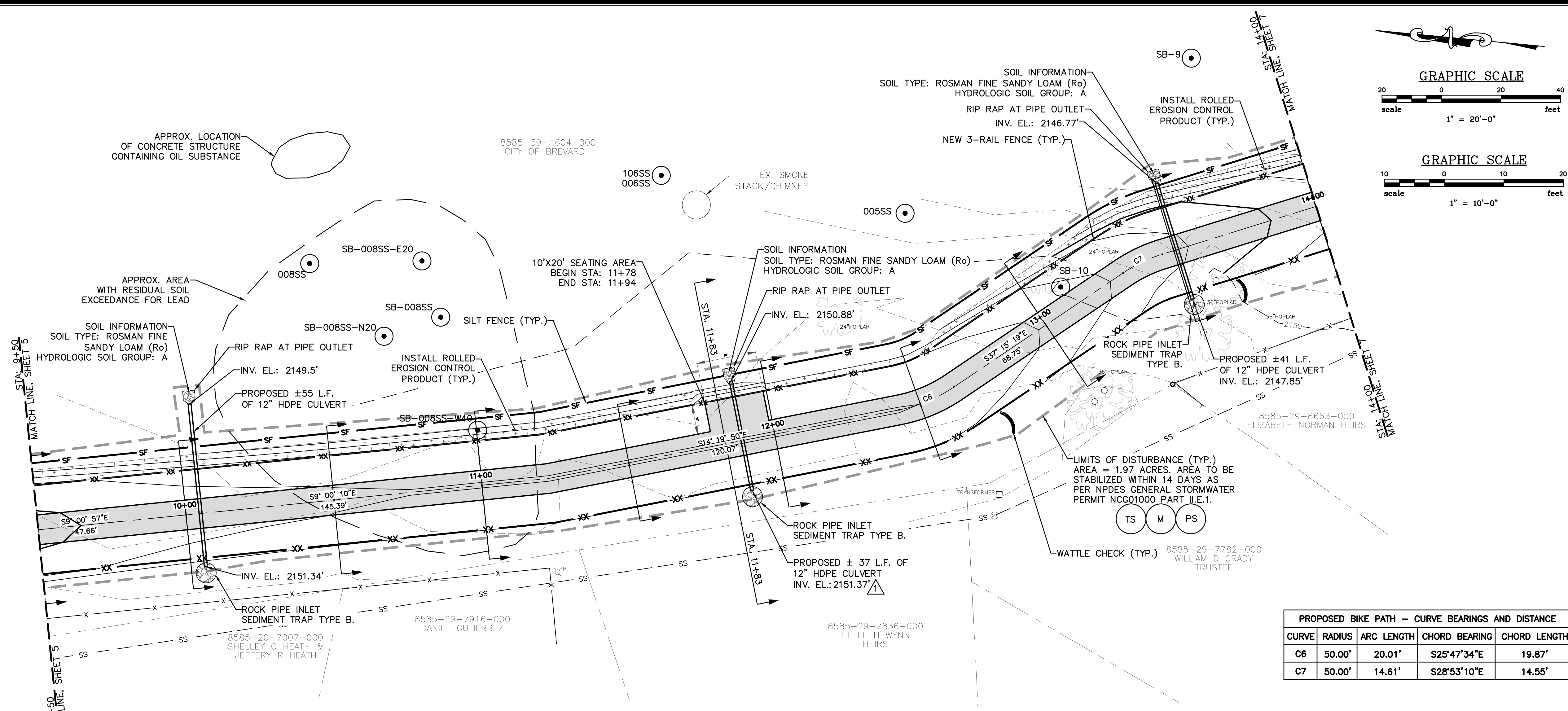
PEDESTRIAN WALKWAY PLAN AND PROFILE
 SHEET TITLE: PEDESTRIAN WALKWAY PLAN AND PROFILE
 DATE: DEC. 2023 | SCALE: AS SHOWN

ESTATOE TRAIL PHASE III (TANNERY PROPERTY) FOR THE CITY OF BREVARD, NC
 PROJECT: ESTATOE TRAIL PHASE III (TANNERY PROPERTY) FOR THE CITY OF BREVARD, NC
 TRANSLVANIA COUNTY NORTH CAROLINA

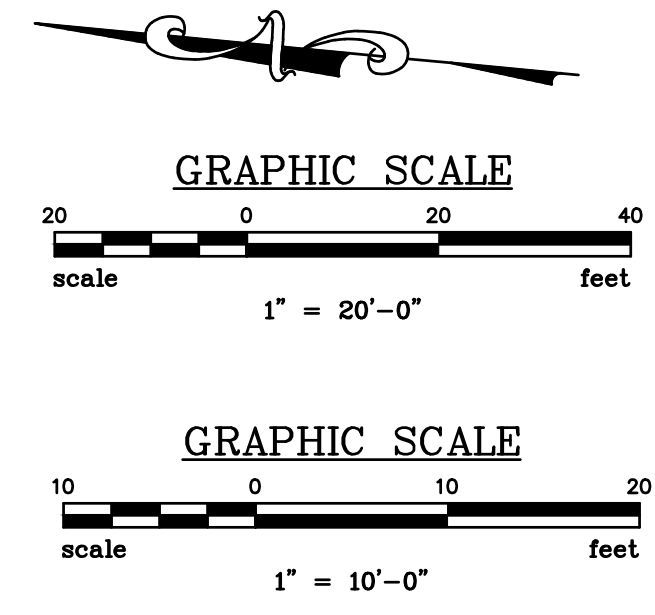
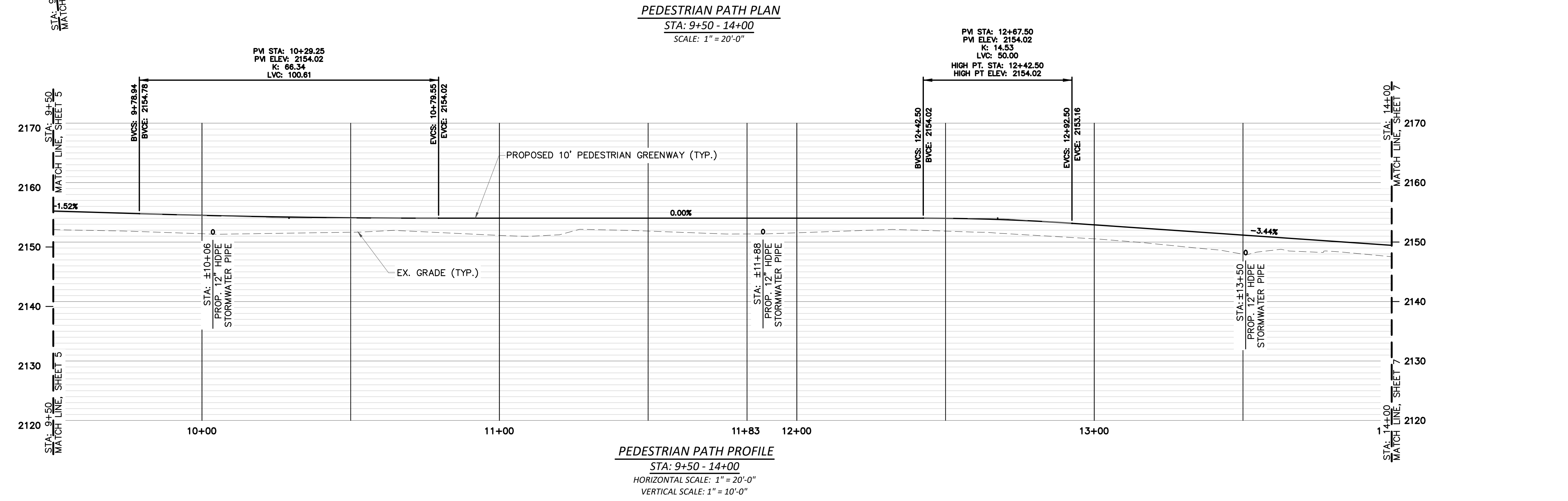
N.B. NO. REF. PROJECT NO. **22017**

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N:\PROJECTS\22017_BREVARD - BIKE PATH\DWG\22017-BASE_TANNERY_NGDDT.DWG 5/28/2023 9:32:11 AM



PROPOSED BIKE PATH - CURVE BEARINGS AND DISTANCE				
CURVE	RADIUS	ARC LENGTH	CHORD BEARING	CHORD LENGTH
C6	50.00'	20.01'	S25°47'34"E	19.87'
C7	50.00'	14.61'	S28°53'10"E	14.55'



REVISIONS	
NO.	DESCRIPTION

APPROVALS	
PROJECT ENG.	DATE
AF	1/14/25
DESIGNED BY:	MFC
DRAWN BY:	MFC
CHECKED BY:	MFC
APPROVED:	AF

NORTH CAROLINA PROFESSIONAL SEAL
 59039225
 Alvin Fuller Jr.
 CIVIL ENGINEER
 5/28/2026

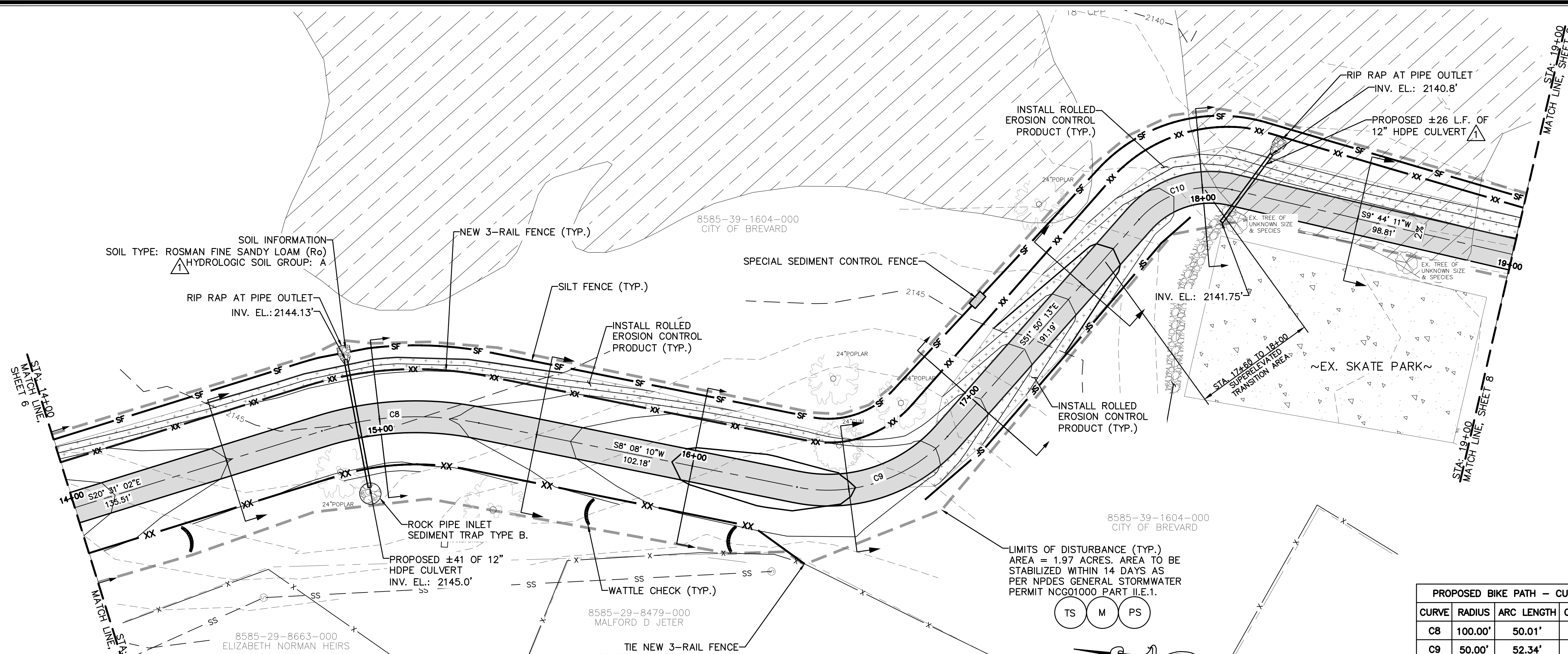
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 9601 Warren H. Abernathy Hwy.
 Spartanburg, SC 29301
 (864)949-1111

SHEET TITLE
**PEDESTRIAN WALKWAY
 PLAN AND PROFILE**
 DATE: DEC. 2023 SCALE: AS SHOWN

PROJECT
**ESTATOE TRAIL PHASE III
 (TANNERY PROPERTY)
 FOR THE
 CITY OF BREVARD, NC**
 TRANSLVANIA COUNTY NORTH CAROLINA

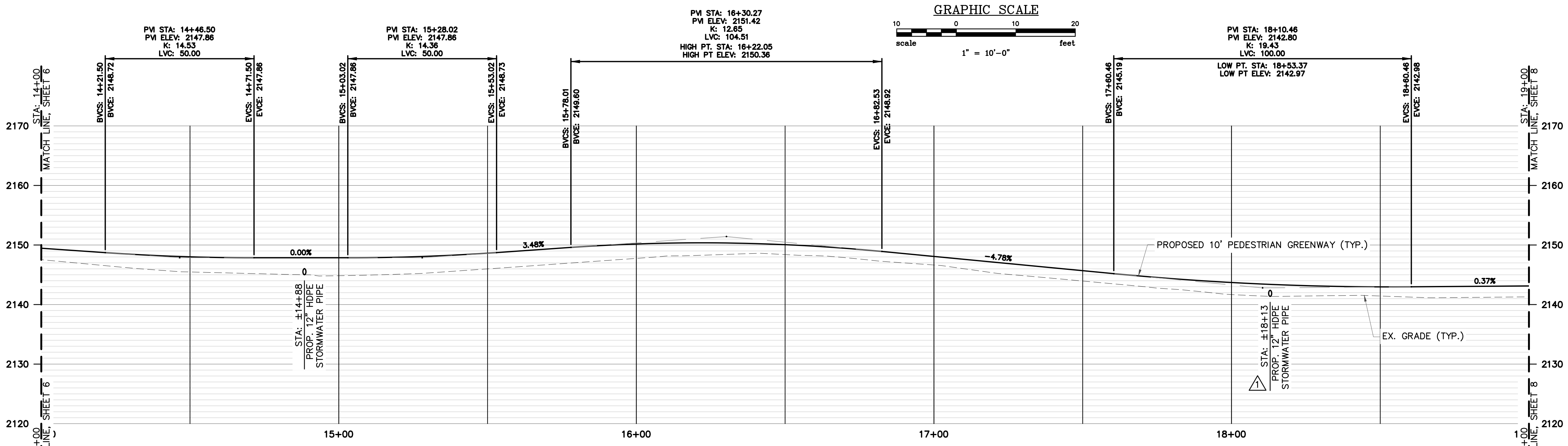
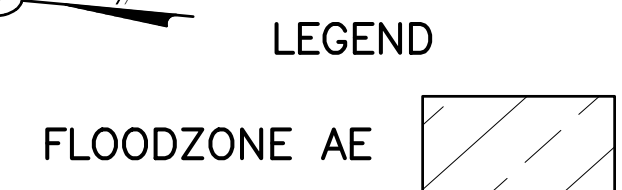
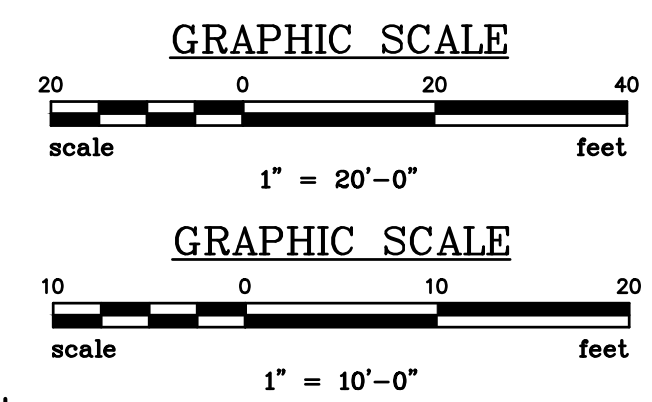
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PROJECT NO.	
22017	
FILE: 22017_Base	

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PEDESTRIAN PATH PLAN
STA: 14+00 - 19+00
SCALE: 1" = 20'-0"

PROPOSED BIKE PATH - CURVE BEARINGS AND DISTANCE				
CURVE	RADIUS	ARC LENGTH	CHORD BEARING	CHORD LENGTH
C8	100.00'	50.01'	S6°11'26"E	49.49'
C9	50.00'	52.34'	S21°51'02"E	49.98'
C10	30.00'	32.24'	S21°03'01"E	30.71'
C11	20.00'	31.42'	S54°44'11"W	28.28'
C12	20.00'	15.72'	S77°13'03"W	15.32'
C13	40.00'	22.57'	S38°32'14"W	22.27'



PEDESTRIAN PATH PROFILE
STA: 14+00 - 19+00
HORIZONTAL SCALE: 1" = 20'-0"
VERTICAL SCALE: 1" = 10'-0"

N:\PROJECTS\22017_BREVARD - BIKE PATH\DWG\22017-BASE_TANNERY_NCGDOT.DWG, 5/28/2023, 9:32:30 AM

REVISIONS

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2	REVISED BASED ON 1/22/24 MFC	1/22/24	MFC
3	REVISED BASED ON 1/22/24 MFC	1/22/24	MFC
4	REVISION REVIEW		

APPROVALS

PROJECT ENG.	DESIGNED BY:	DRAWN BY:	CHECKED BY:	APPROVED:
AF	AF	JK	MFC	AF



8/28/2026

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PEDESTRIAN WALKWAY
PLAN AND PROFILE

DATE: DEC. 2023 SCALE: AS SHOWN

ESTATOE TRAIL PHASE III
(TANNERY PROPERTY)
FOR THE
CITY OF BREVARD, NC

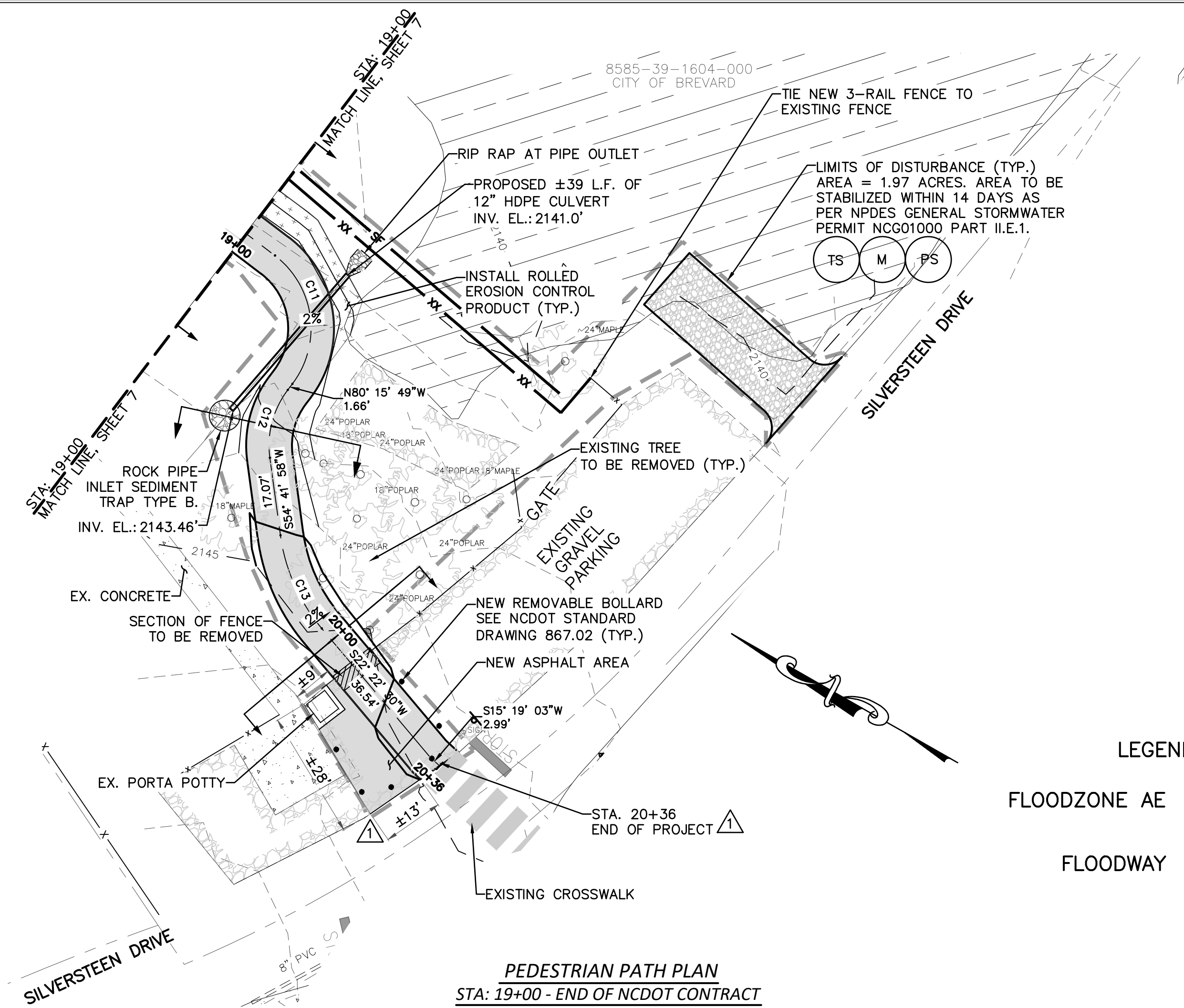
TRANSLVANIA COUNTY NORTH CAROLINA

N.B. NO.	SHEET
REF.	7
PROJECT NO.	OF
22017	

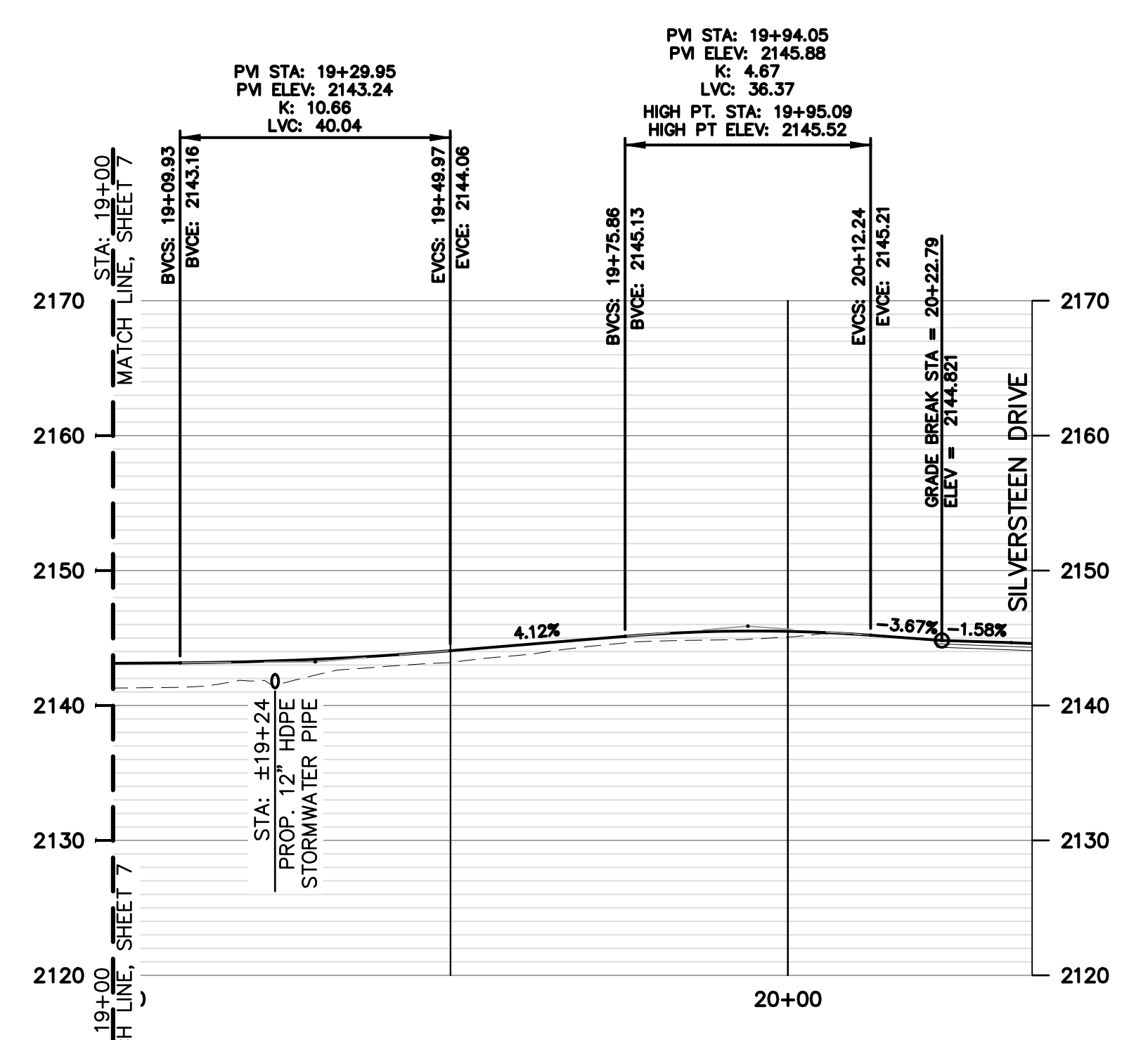
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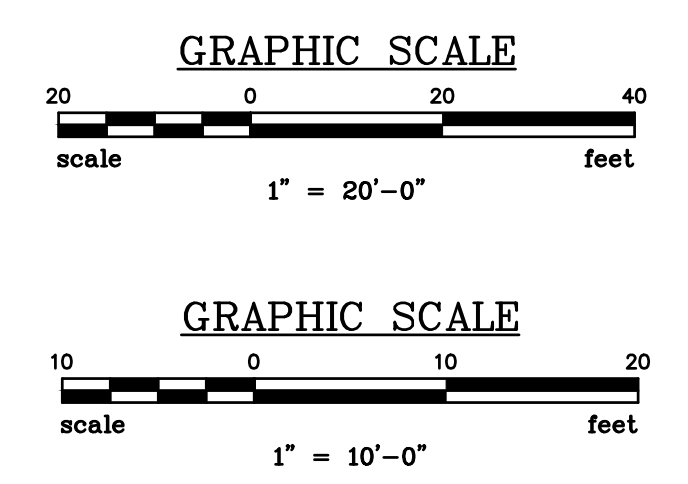
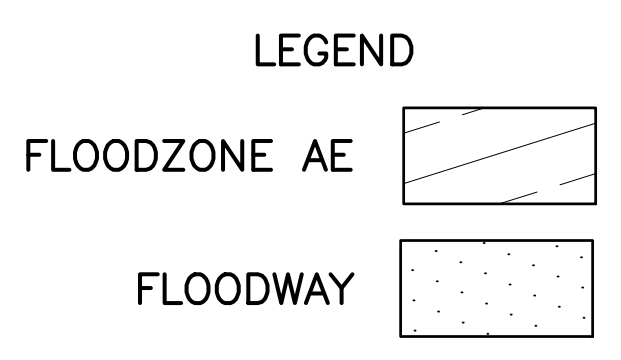


PEDESTRIAN PATH PLAN
 STA: 19+00 - END OF NCDOT CONTRACT
 SCALE: 1" = 20'-0"



PEDESTRIAN PATH PROFILE
 STA: 19+00 - END OF NCDOT CONTRACT
 HORIZONTAL SCALE: 1" = 20'-0"
 VERTICAL SCALE: 1" = 10'-0"

PROPOSED BIKE PATH - CURVE BEARINGS AND DISTANCE				
CURVE	RADIUS	ARC LENGTH	CHORD BEARING	CHORD LENGTH
C13	40.00'	22.57'	S38°32'14"W	22.27'
C14	40.00'	56.74'	S35°02'51"E	52.10'
C15	40.00'	35.79'	S27°02'23"E	34.61'
C16	150.00'	96.13'	S27°18'42"E	94.49'

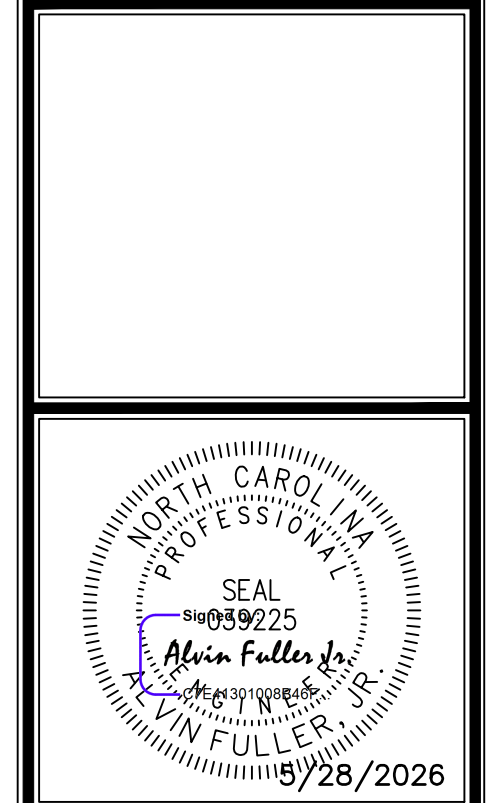


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NO.	DESCRIPTION	DATE	BY
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8	REVISED BASED ON	1/22/26	MFC
9	REVISED BASED ON	1/22/26	MFC
10	REVISED BASED ON	1/22/26	MFC

APPROVALS

PROJECT ENG.	DESIGNED BY:	DRAWN BY:	CHECKED BY:	APPROVED:
AF	AF	ADK	MFC	AF



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PEDESTRIAN WALKWAY PLAN AND PROFILE

DATE: DEC. 2023 SCALE: AS SHOWN

ESTATOE TRAIL PHASE III (TANNERY PROPERTY) FOR THE CITY OF BREVARD, NC

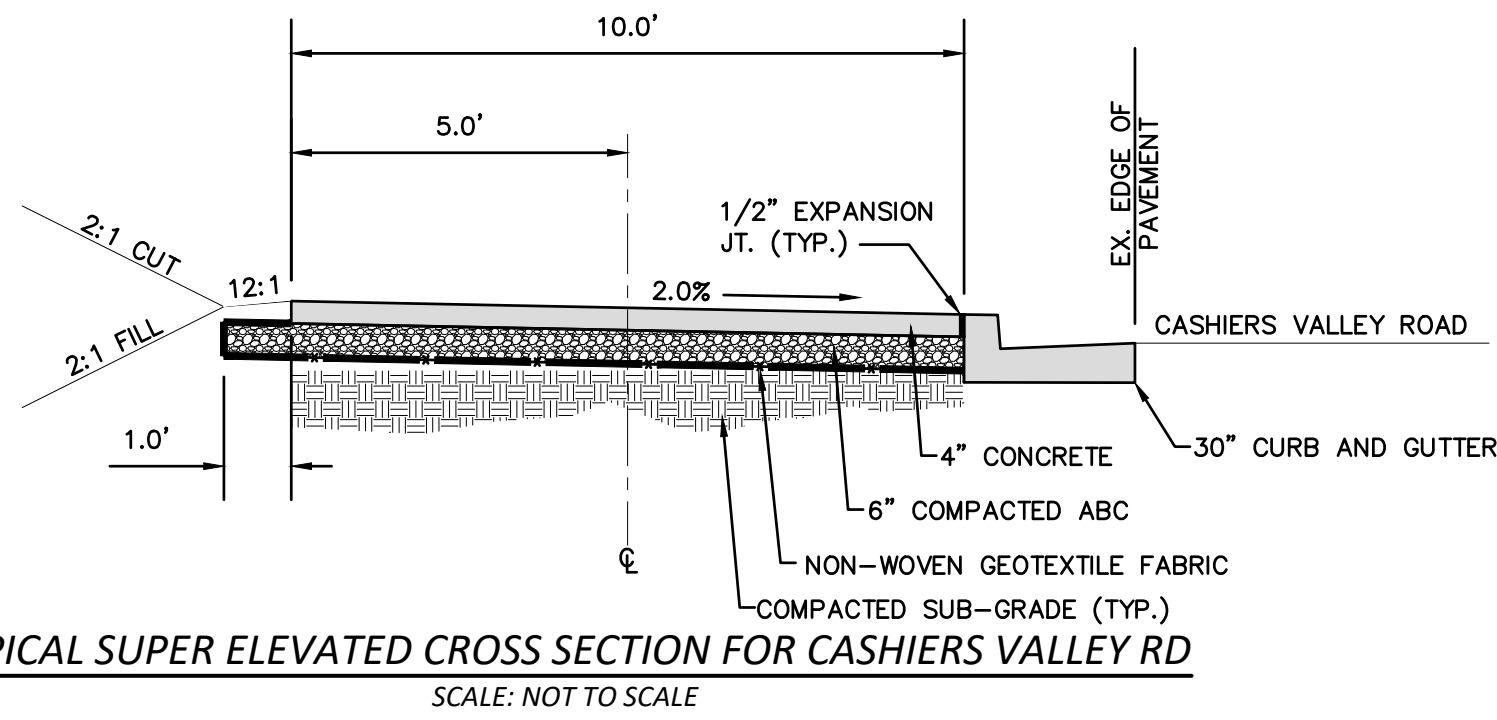
TRANSLVANIA COUNTY NORTH CAROLINA

N.B. NO. REF. PROJECT NO. **22017**

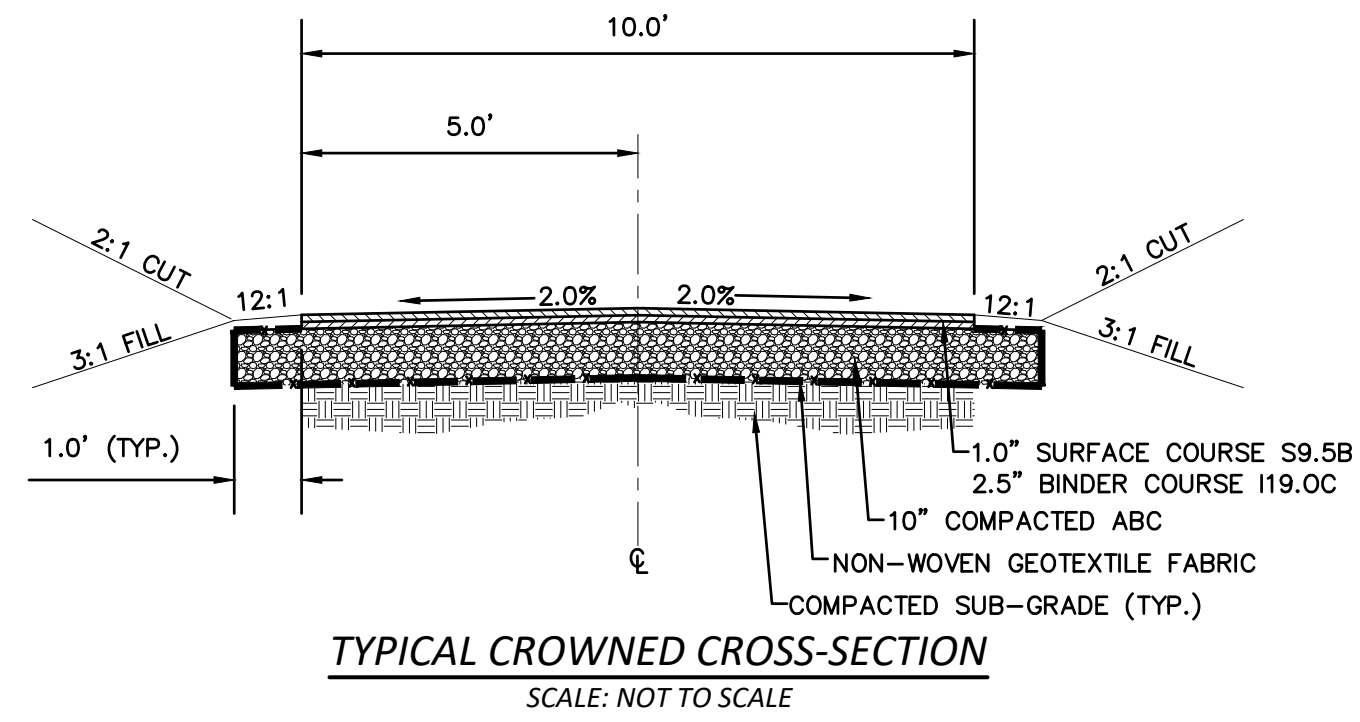
SHEET **8** OF

FILE: 22017_Base

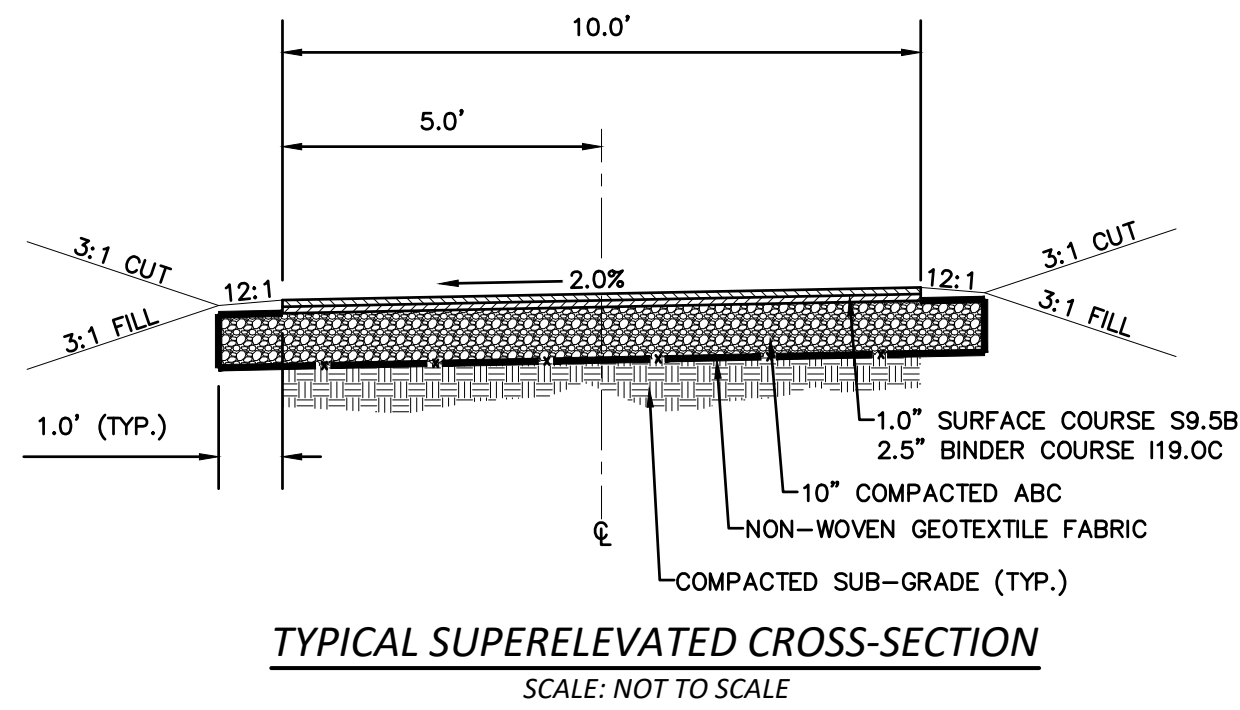
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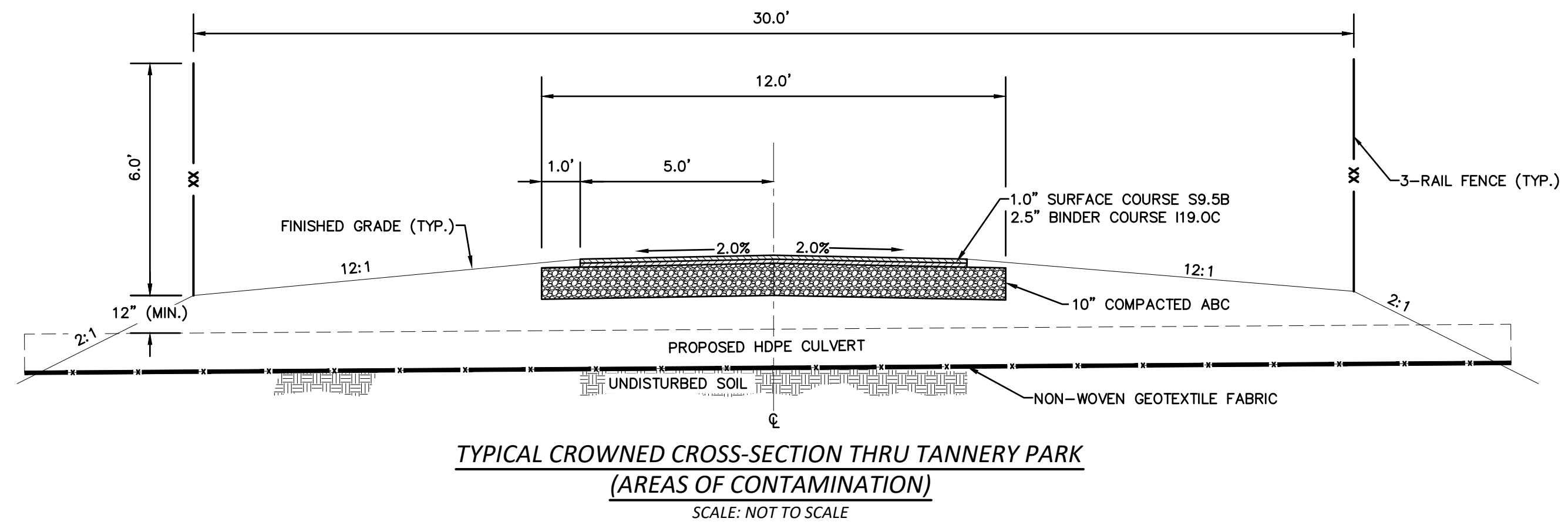
CASHIERS VALLEY ROAD X-SECTION STATIONS	
STATIONS	0+00 - 0+60
STATIONS	1+05 - 2+15
STATIONS	2+64 - 2+86



CROWNED X-SECTION STATIONS	
STATIONS	2+86 - 3+60
STATIONS	16+50 - 17+60

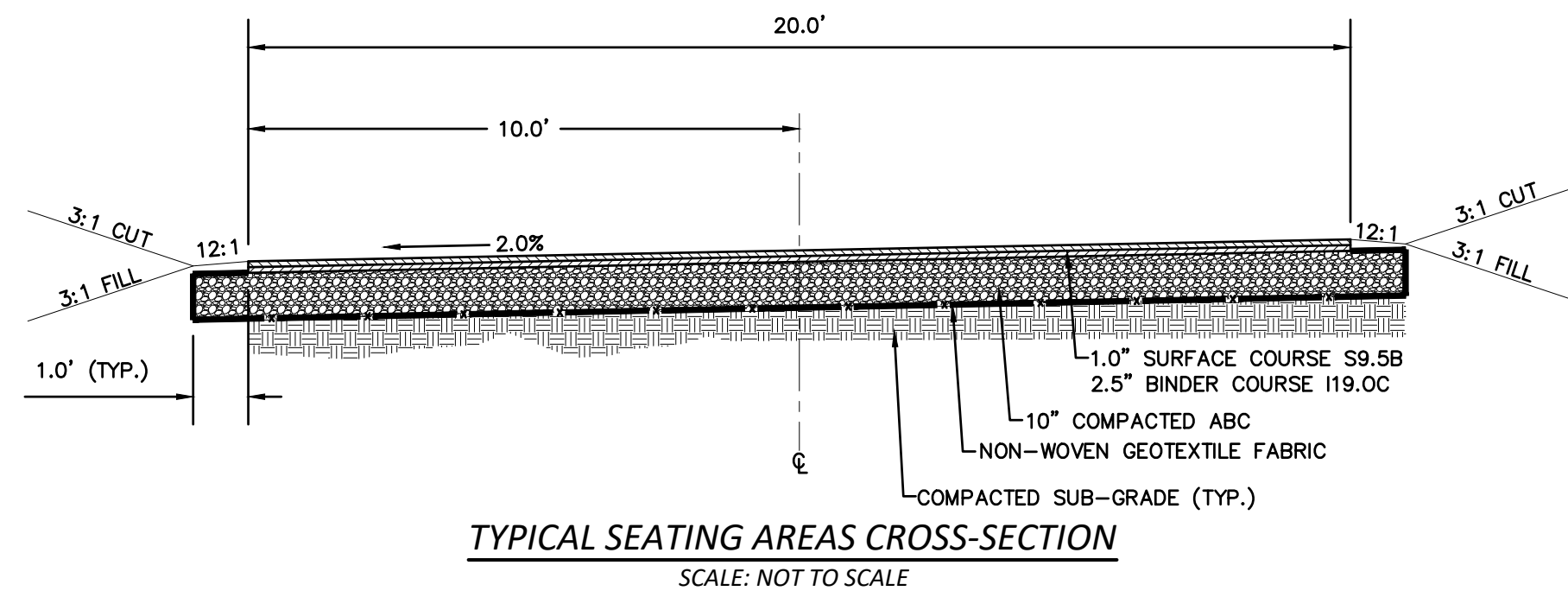


SUPERELEVATED X-SECTION STATIONS	
STATIONS	4+00 - 7+60
STATIONS	18+00 - 20+36 (END)

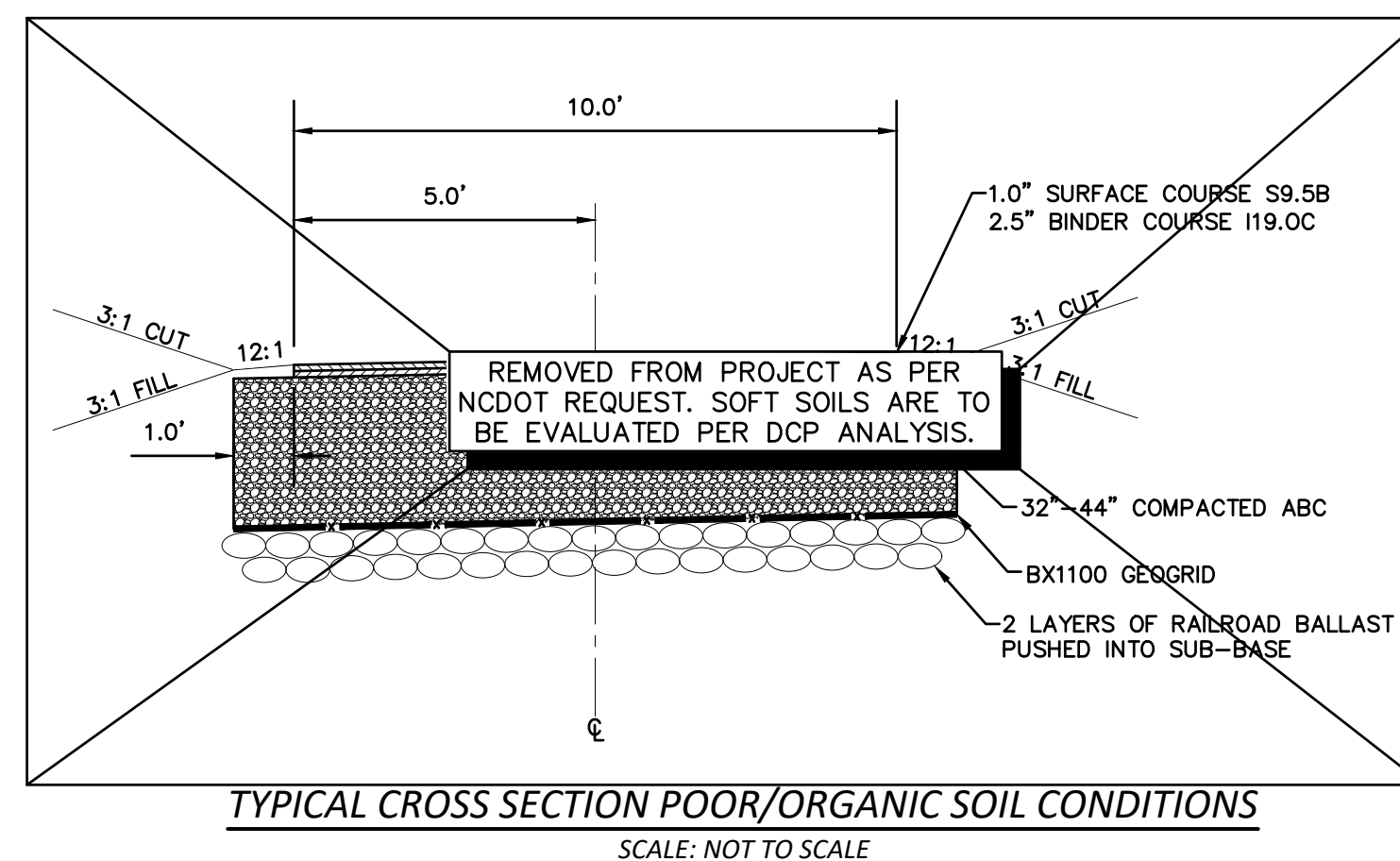


CROWNED X-SECTION THRU TANNERY PARK STATIONS	
STATIONS	8+00 - 11+78
STATIONS	11+94 - 16+50

NOTE:
1. TESTING IN THE FIELD WILL BE CONDUCTED BY THE CONTRACTOR PRIOR TO CONSTRUCTION TO DETERMINE EXTENTS OF CONTAMINATED AREA.
2. FENCING SHALL BE INCLUDED ALONG BIKE PATH THROUGHOUT THE ENTIRETY OF THE TANNERY PROPERTY.



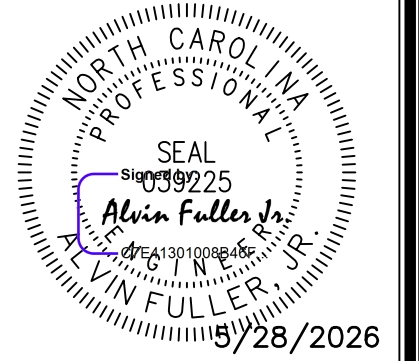
SUPERELEVATED X-SECTION SEATING AREAS	
STATIONS	11+78 - 11+94



STATION NUMBER NOTES:
1. STATIONS 0+60 TO 1+05 AND 2+15 TO 2+64 REFER TO OPTION #2 DRIVEWAY APRON.
2. STATIONS 3+60 TO 4+00, 7+60 TO 8+00, AND 17+60 TO 18+00 ARE TRANSITIONAL AREAS AND HAVE BEEN LABEL ON THE PLAN SHEET.

REVISIONS	
NO.	DESCRIPTION
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2	REVISED BASED ON 1/22/26 MFC
3	REVISED BASED ON 1/22/26 MFC
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9	REVISED BASED ON 1/22/26 MFC
10	REVISED BASED ON 1/22/26 MFC

APPROVALS	
PROJECT ENG:	AF
DESIGNED BY:	AF
DRAWN BY:	ADK
CHECKED BY:	MFC
APPROVED:	AF



TYPICAL CROSS-SECTIONS AND ASSOCIATED STATION NUMBERS
DATE: DEC. 2023 | SCALE: AS SHOWN

ESTATE TRAIL PHASE III (TANNERY PROPERTY) FOR THE CITY OF BREVARD, NC
TRANSYLVANIA COUNTY | NORTH CAROLINA

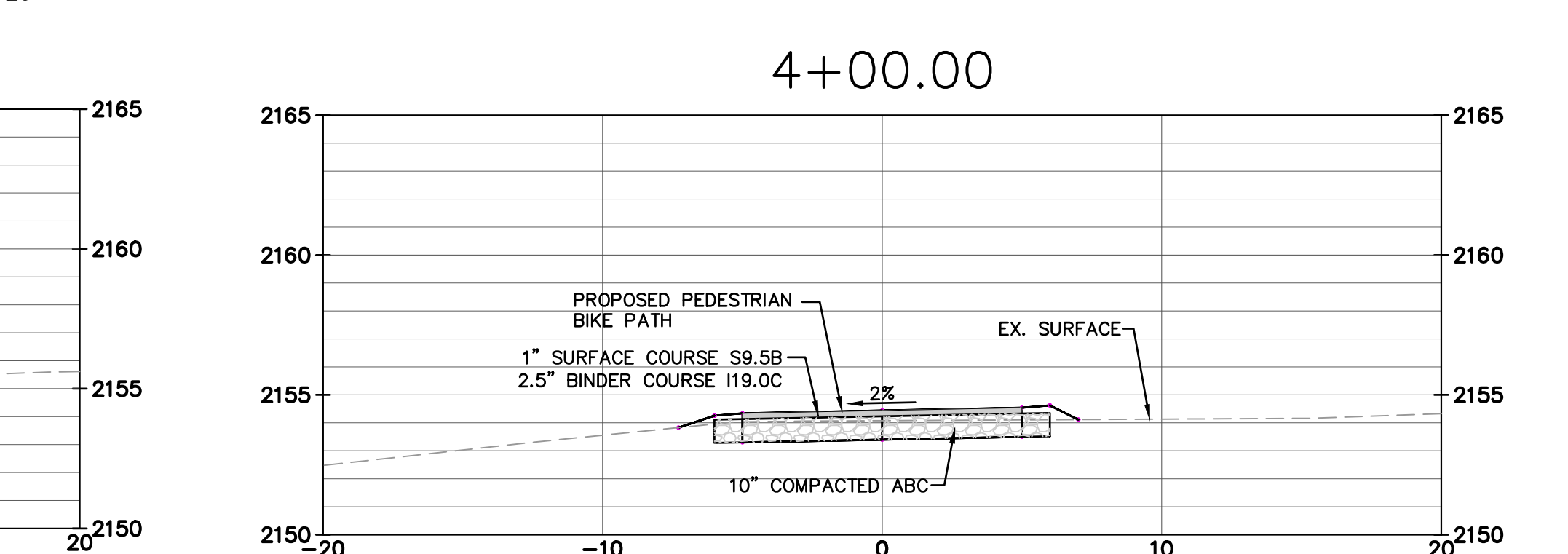
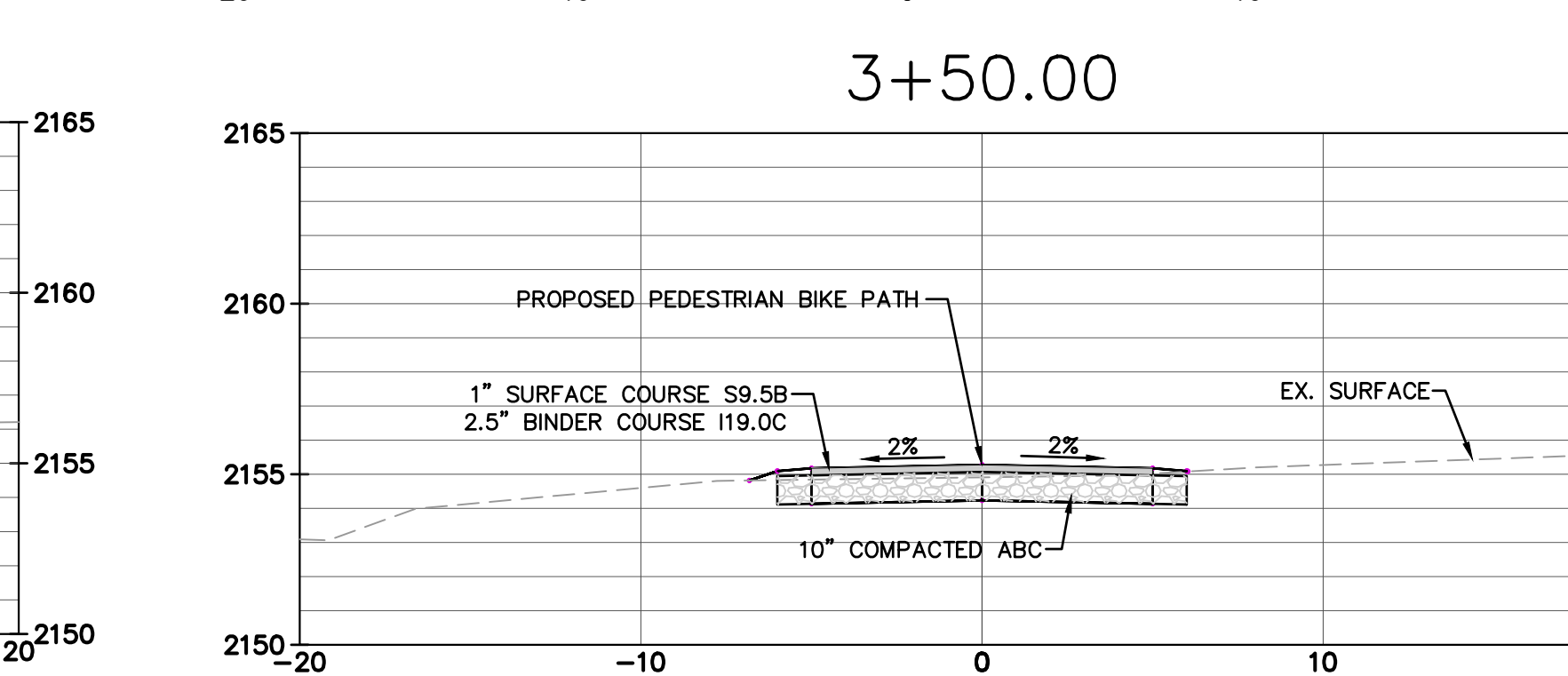
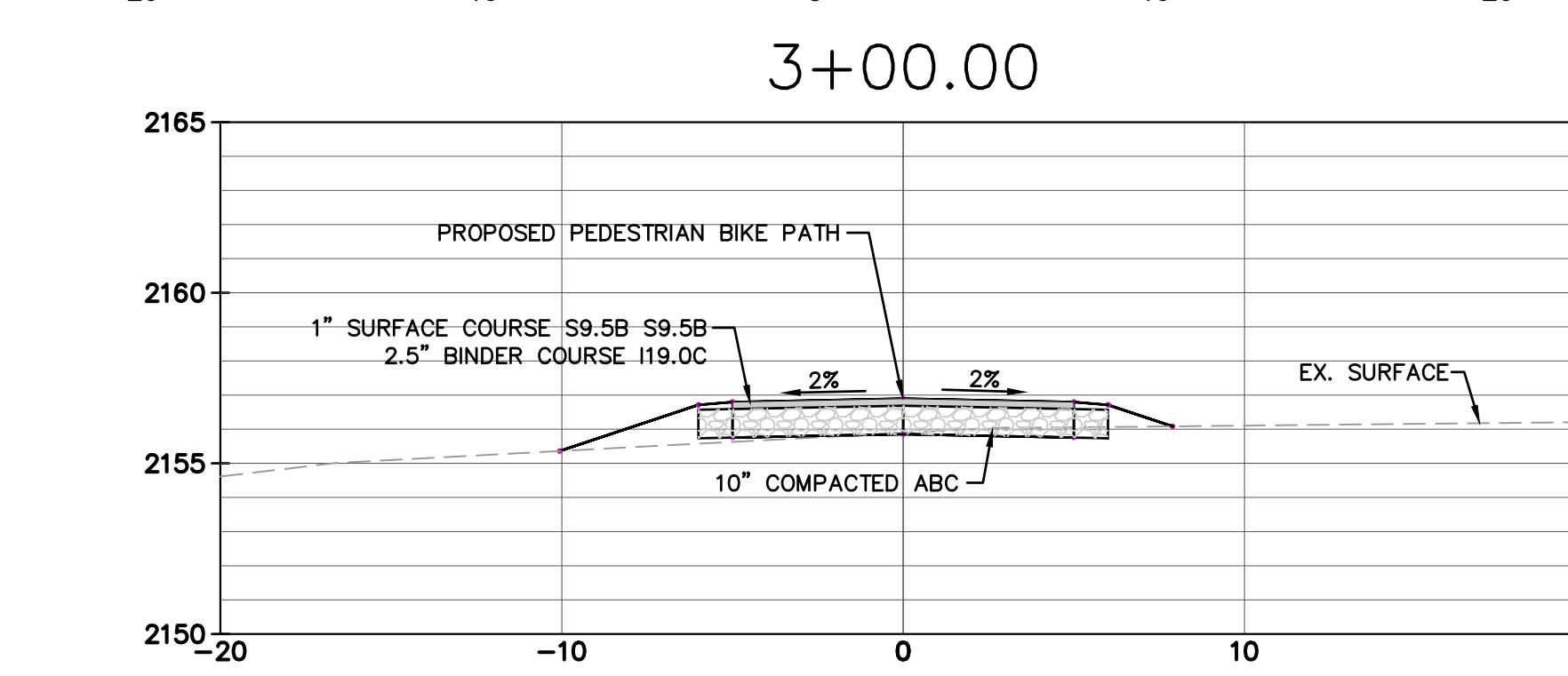
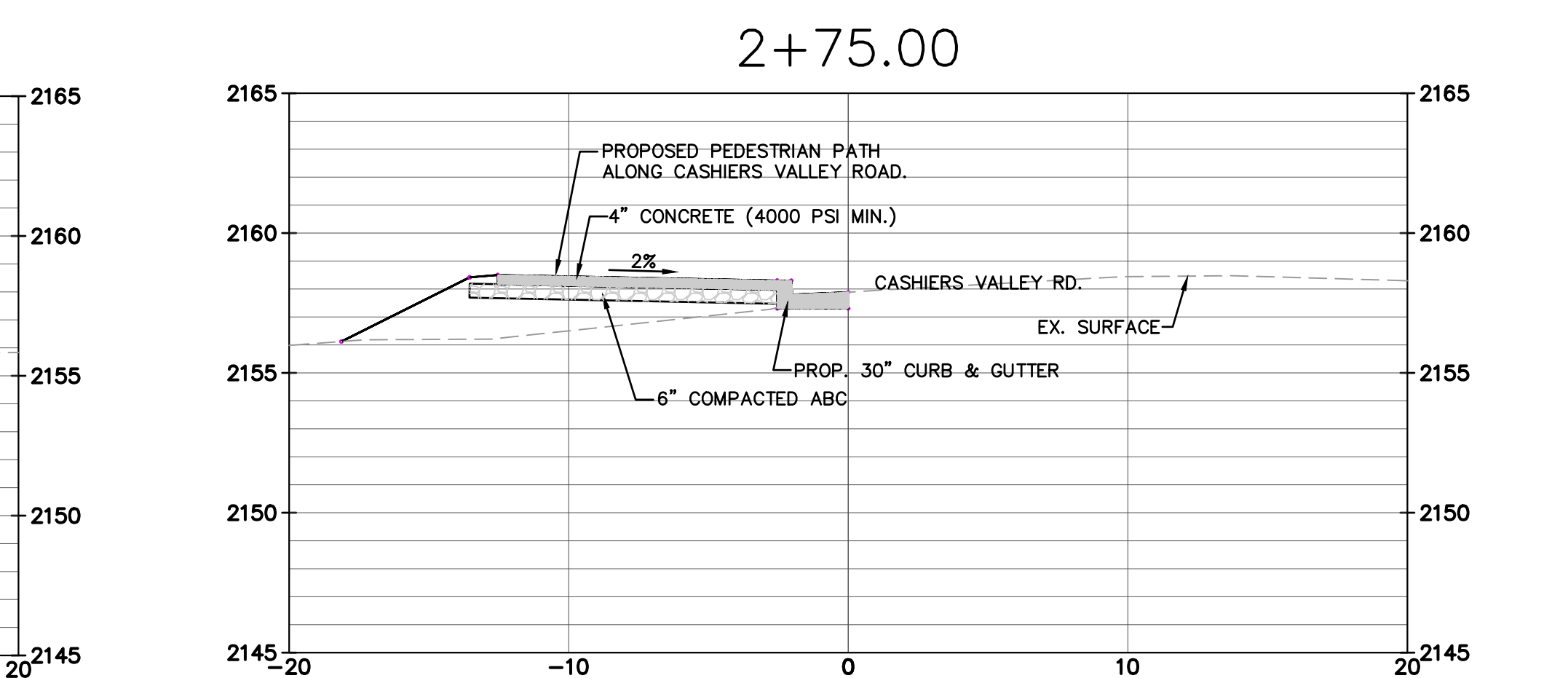
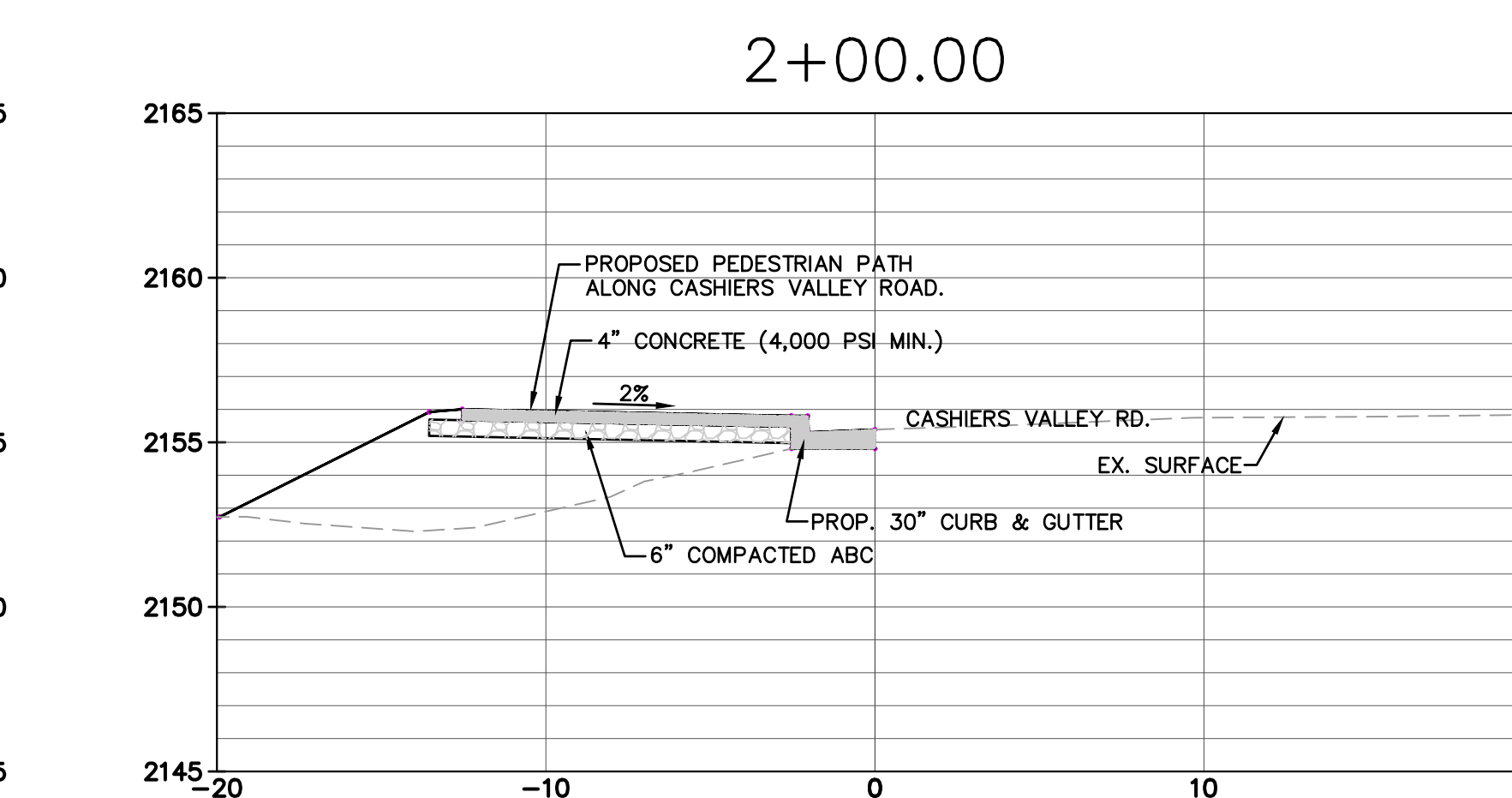
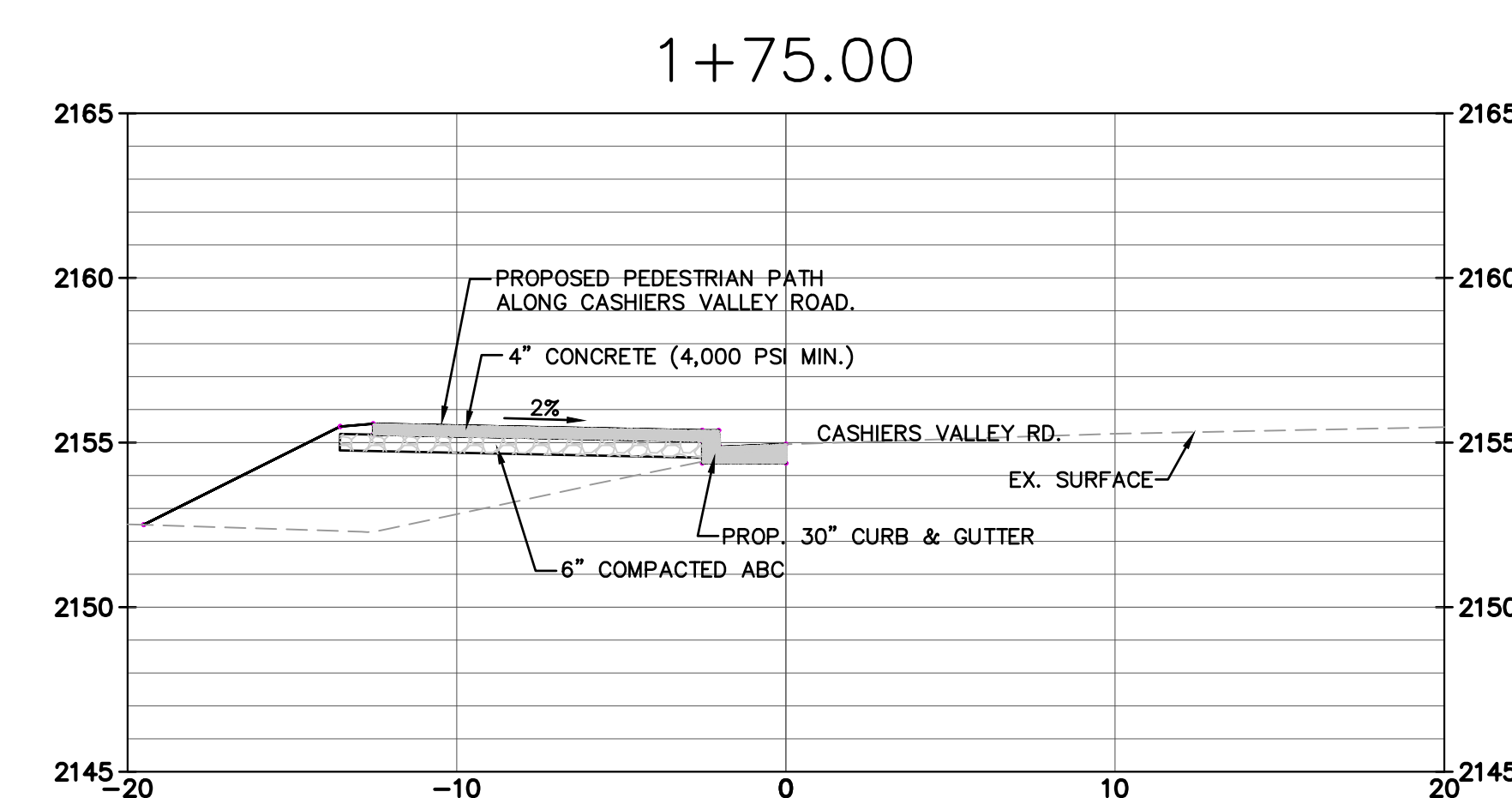
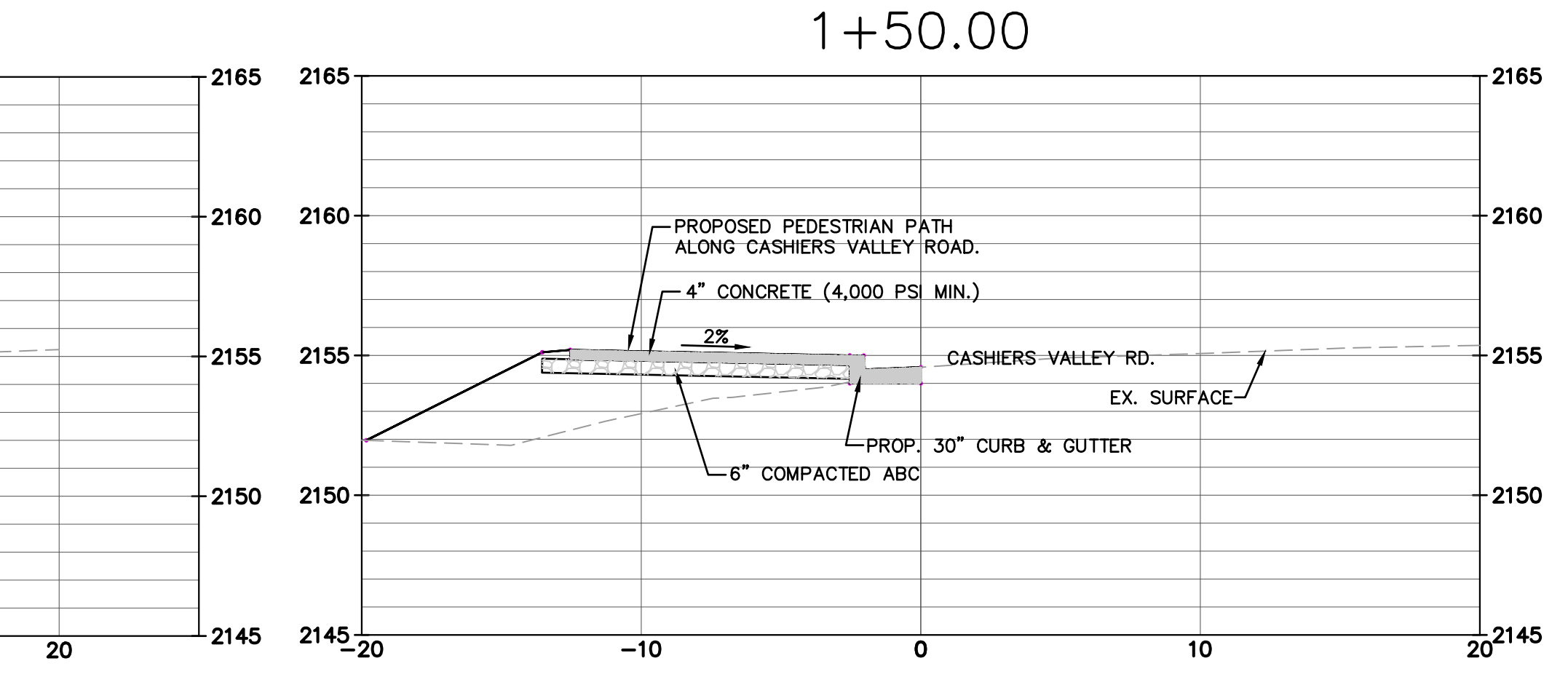
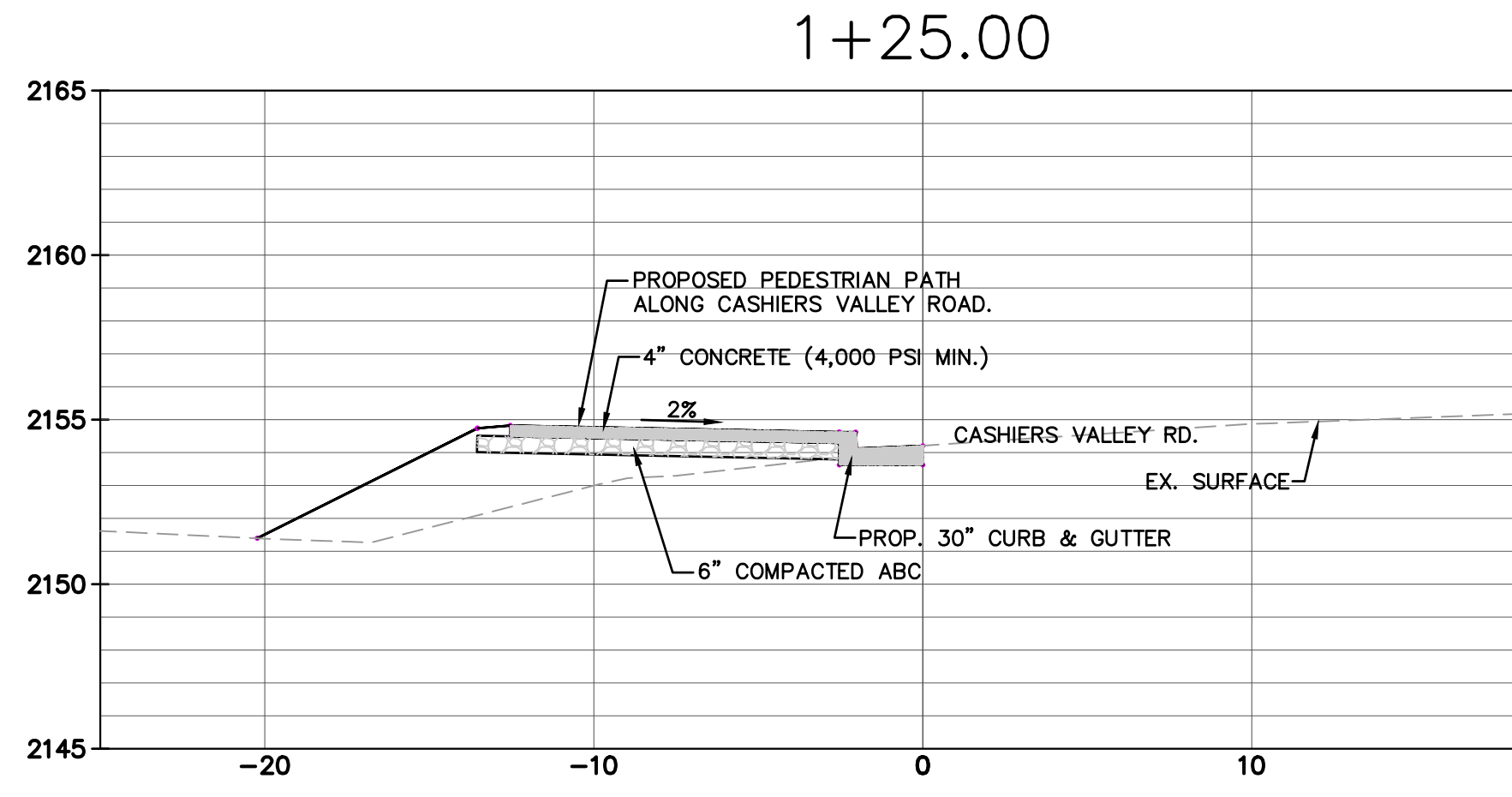
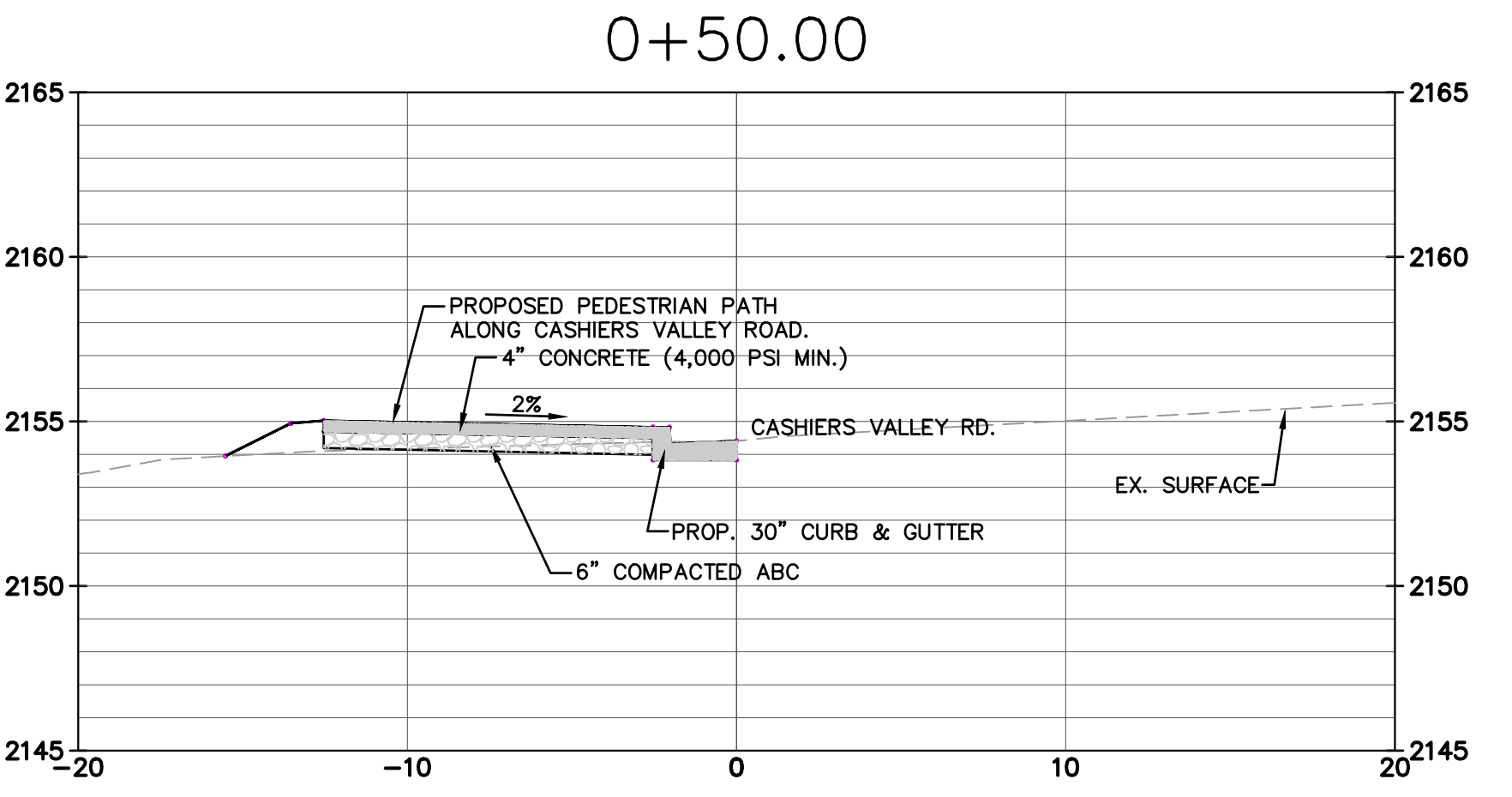
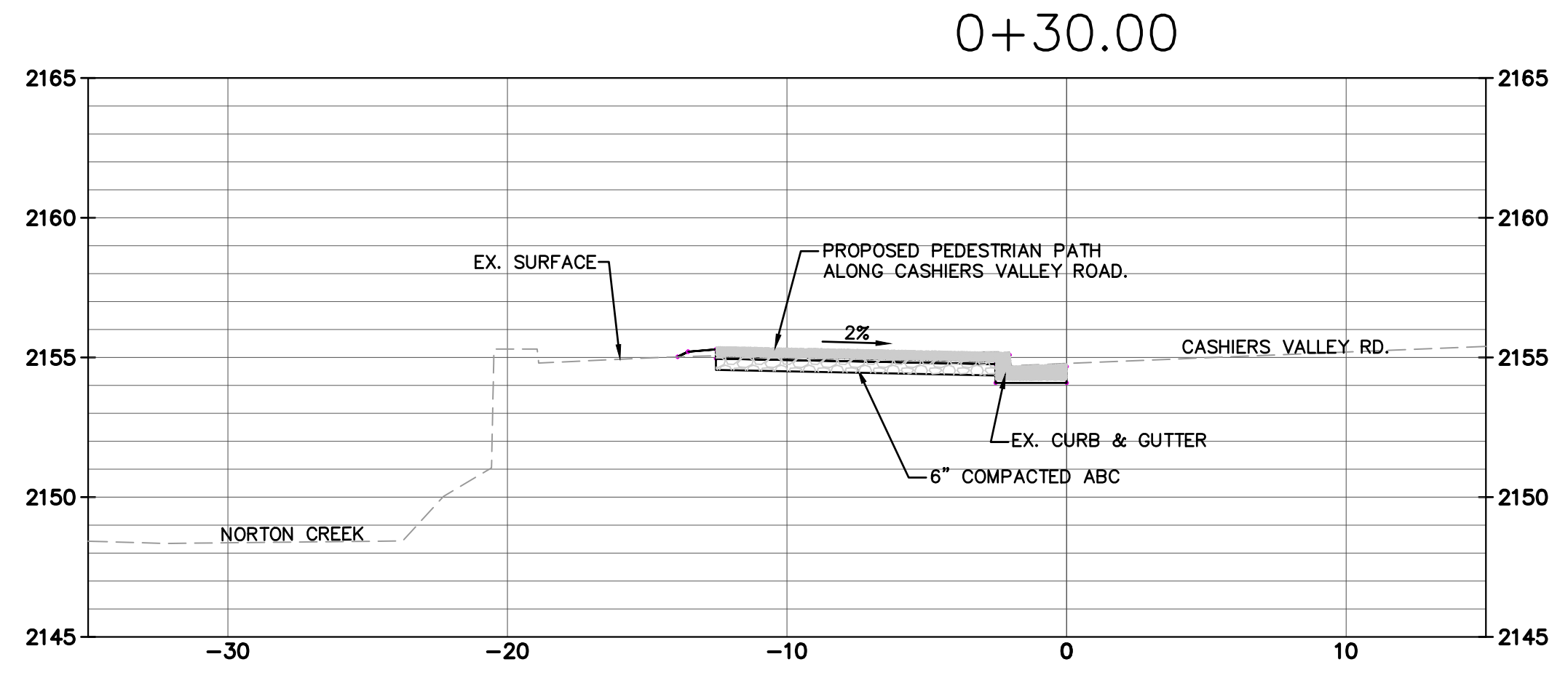
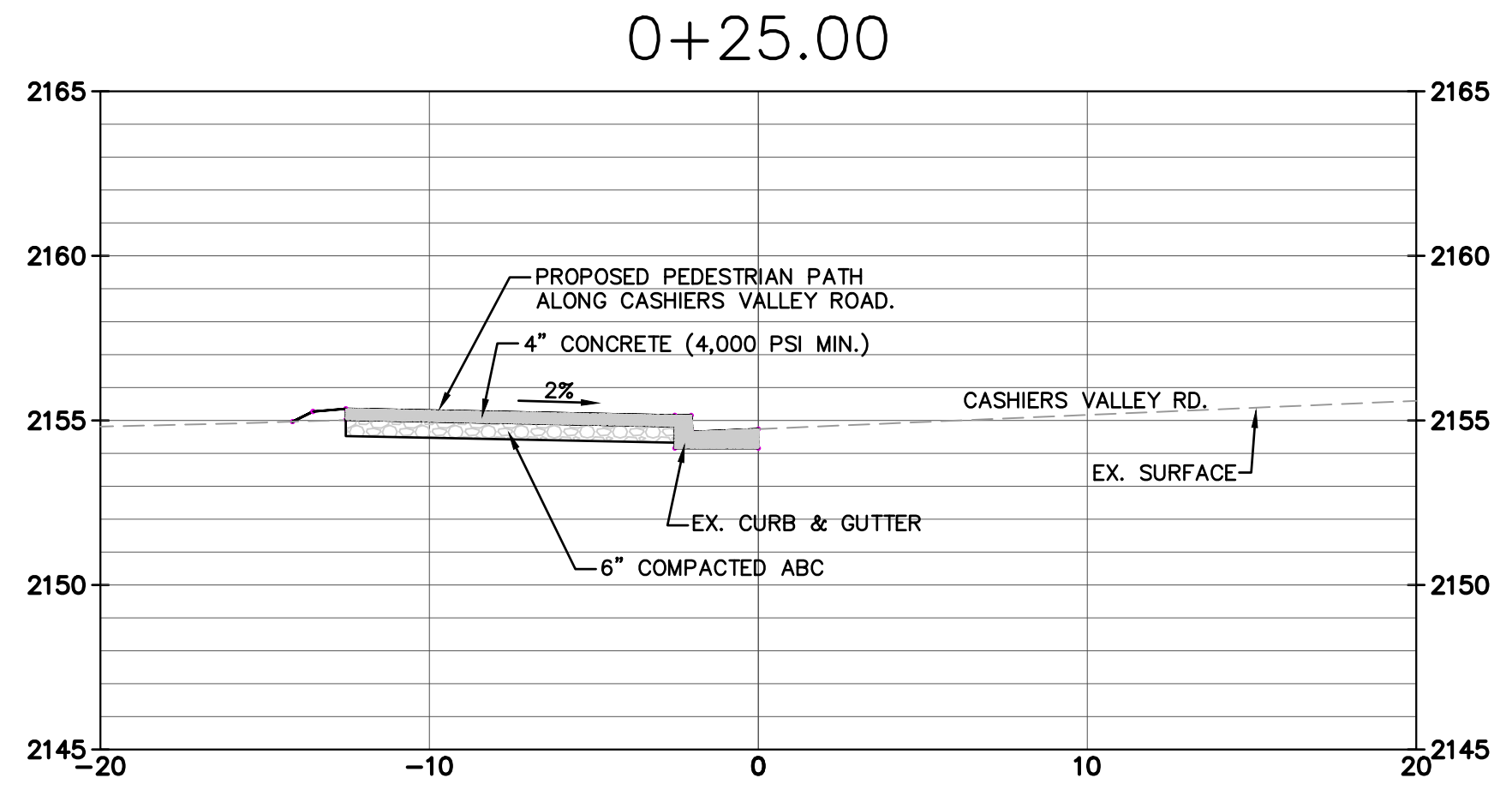
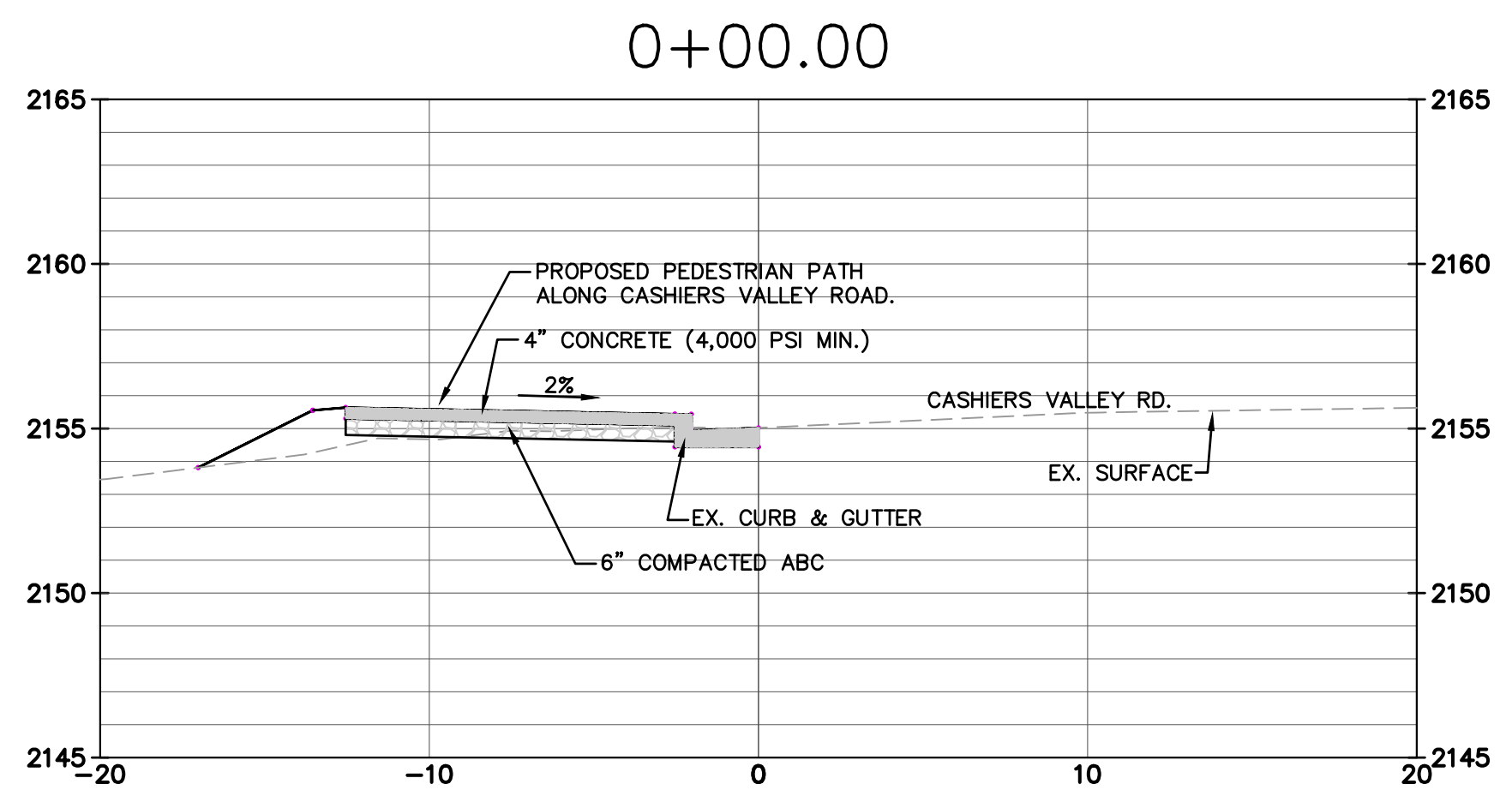
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PROJECT NO.	OF
22017	

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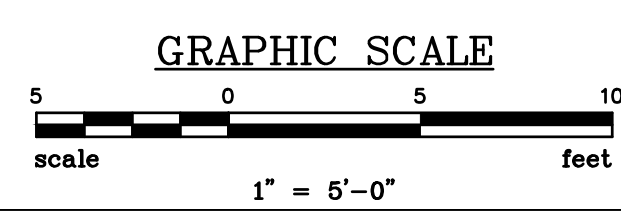
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CROSS-SECTIONS
STA. 0+00 - STA. 4+50
 SCALE: 1" = 5'-0" (V)
 1" = 5'-0" (H)



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1	REVISED BASED ON	1/14/25	MFC
2	REVISED BASED ON	1/22/24	MFC
3	REVISED BASED ON	1/22/24	MFC
4	REVISED BASED ON	1/22/24	MFC

PROJECT ENG.	DESIGNED BY	DRAWN BY	CHECKED BY	APPROVED
AF	AF	JK	MFC	AF



8/28/2026

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 Spartanburg, SC 29301
 (864)949-1111

SHEET TITLE
CROSS-SECTIONS
 STA. 0+00 - STA. 4+50
 BEGIN WORK BY NCDOT
 DATE: DEC. 2023 | SCALE: AS SHOWN

PROJECT
ESTATE TRAIL PHASE III
(TANNERY PROPERTY)
 FOR THE
CITY OF BREVARD, NC
 TRANSYLVANIA COUNTY NORTH CAROLINA

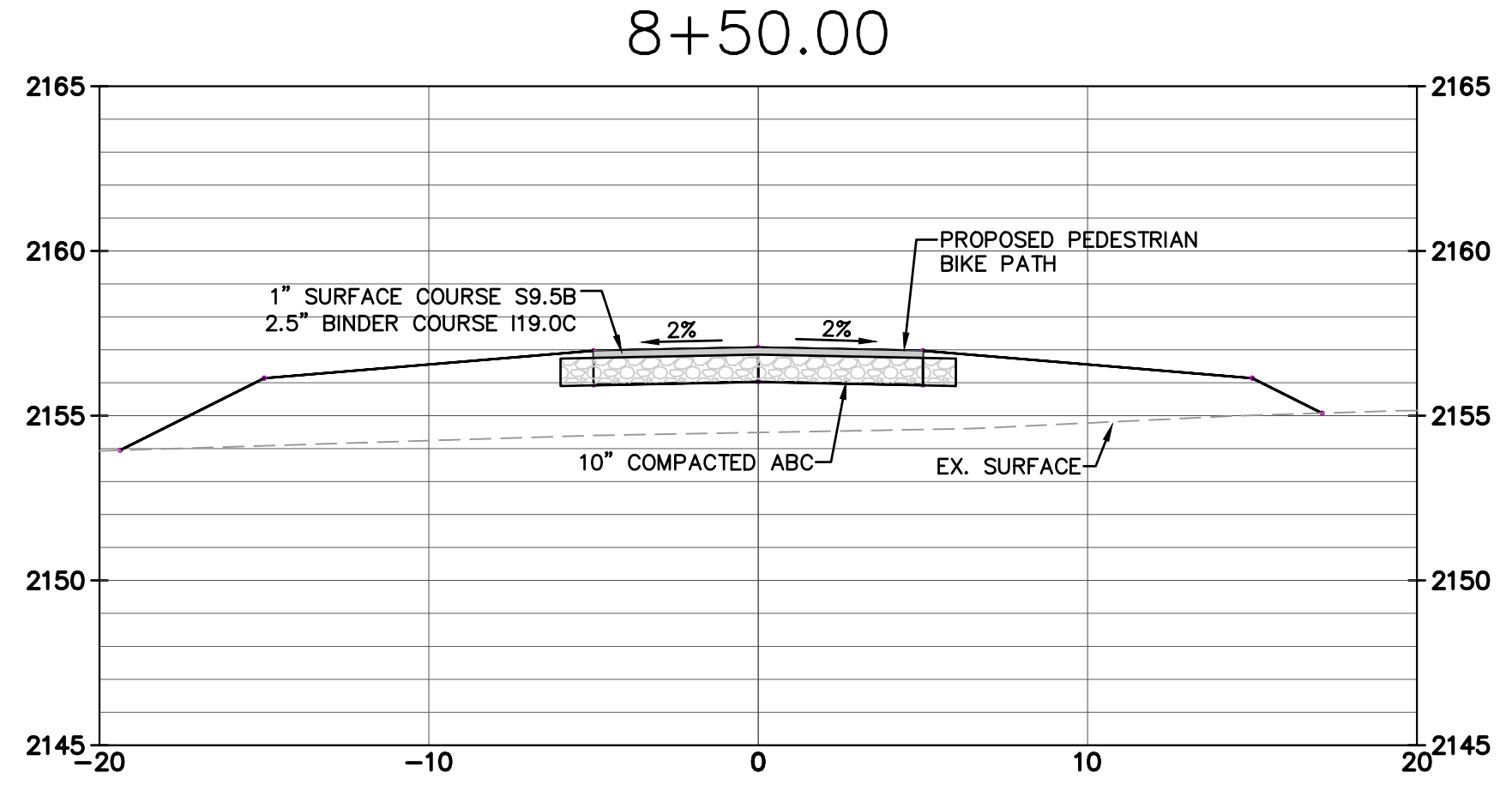
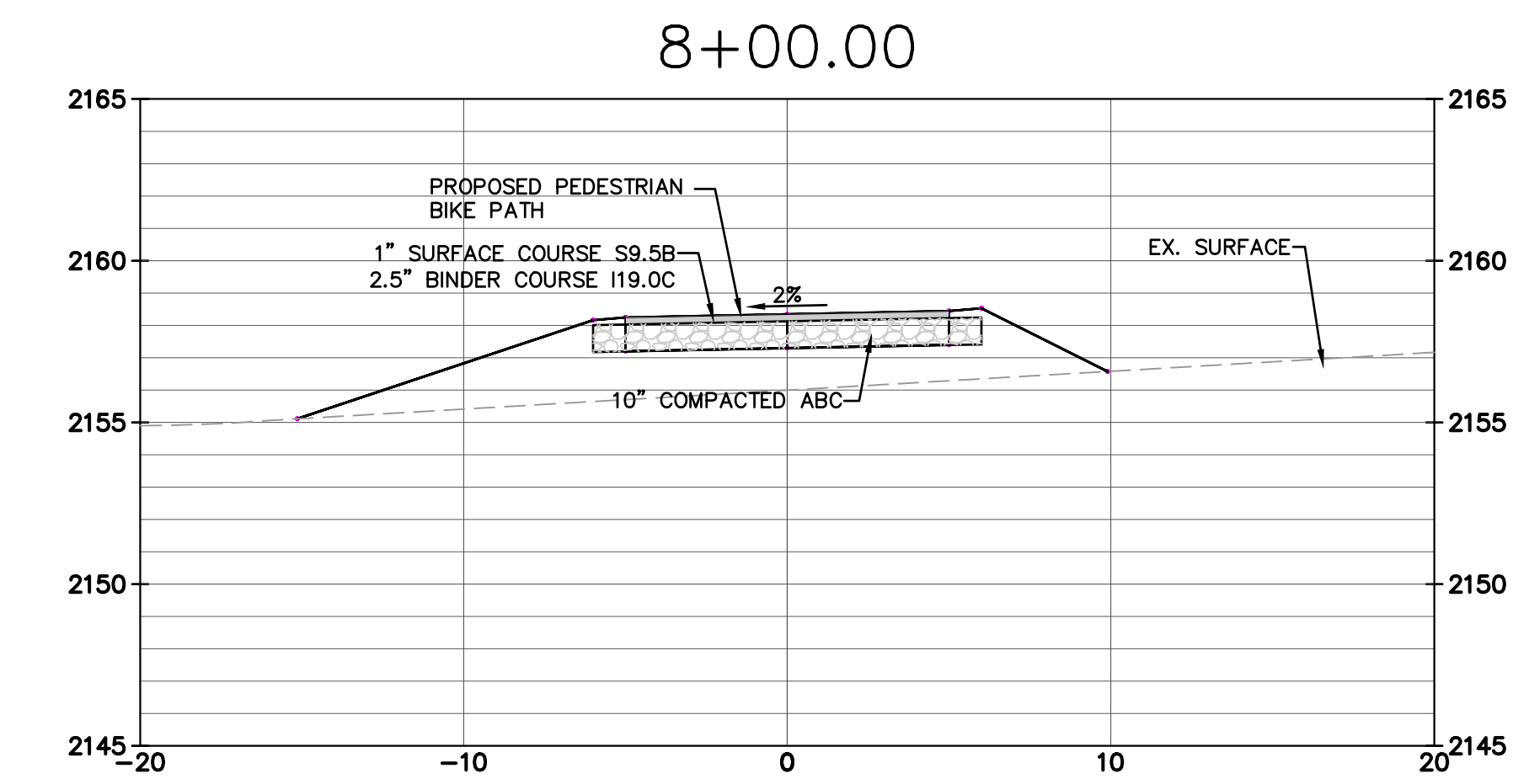
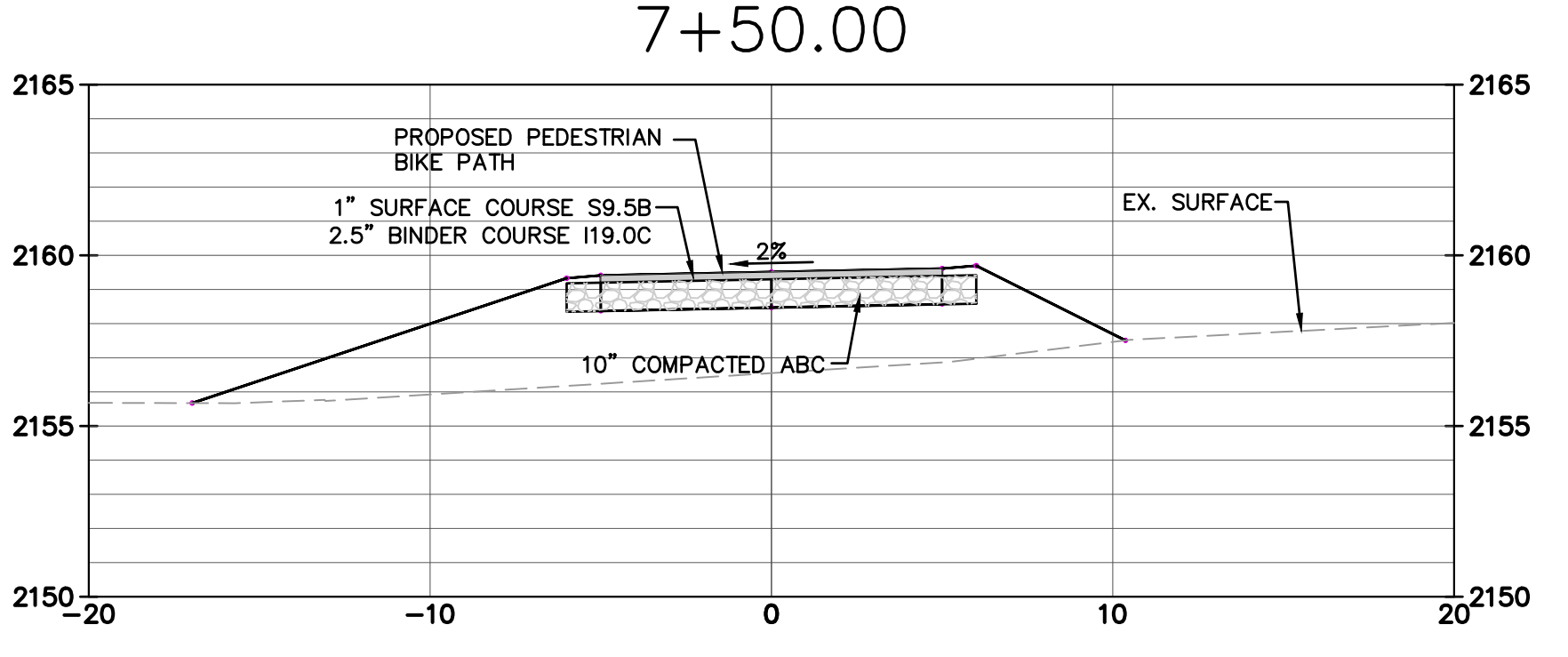
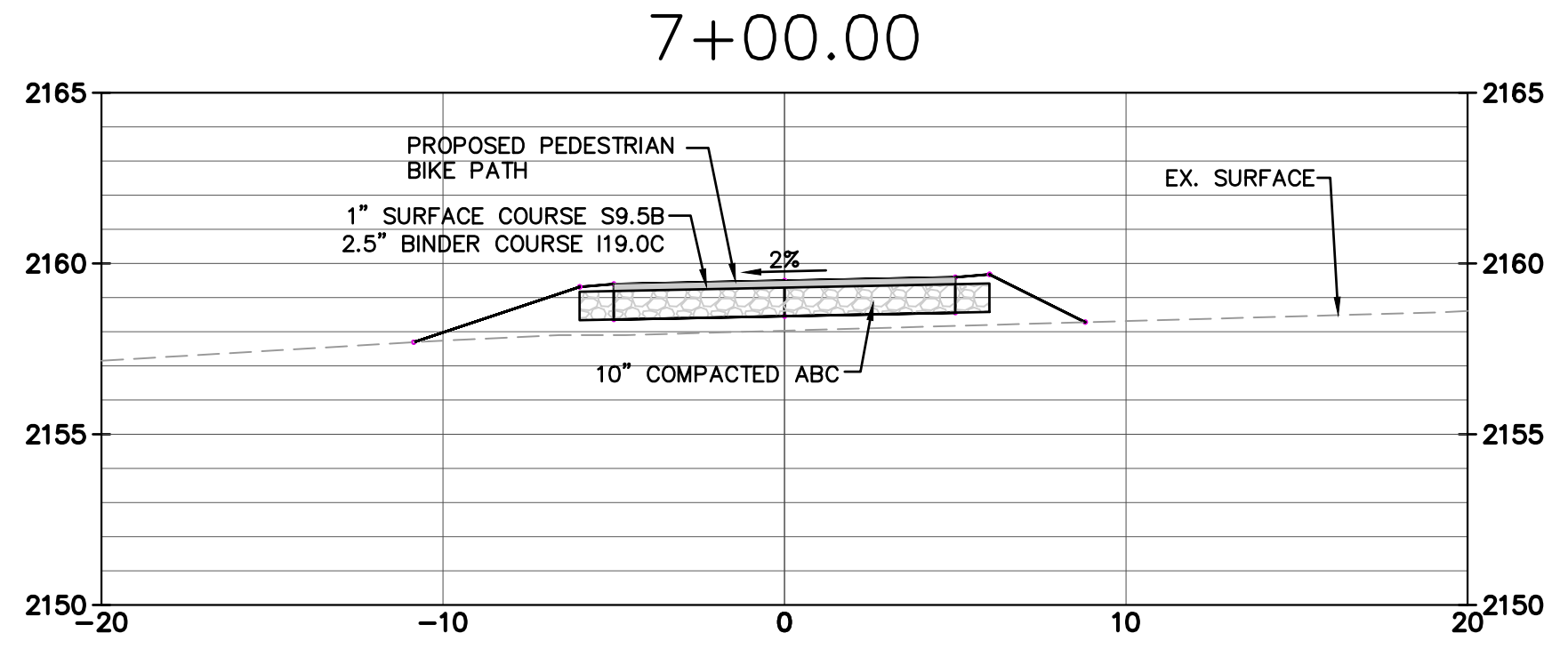
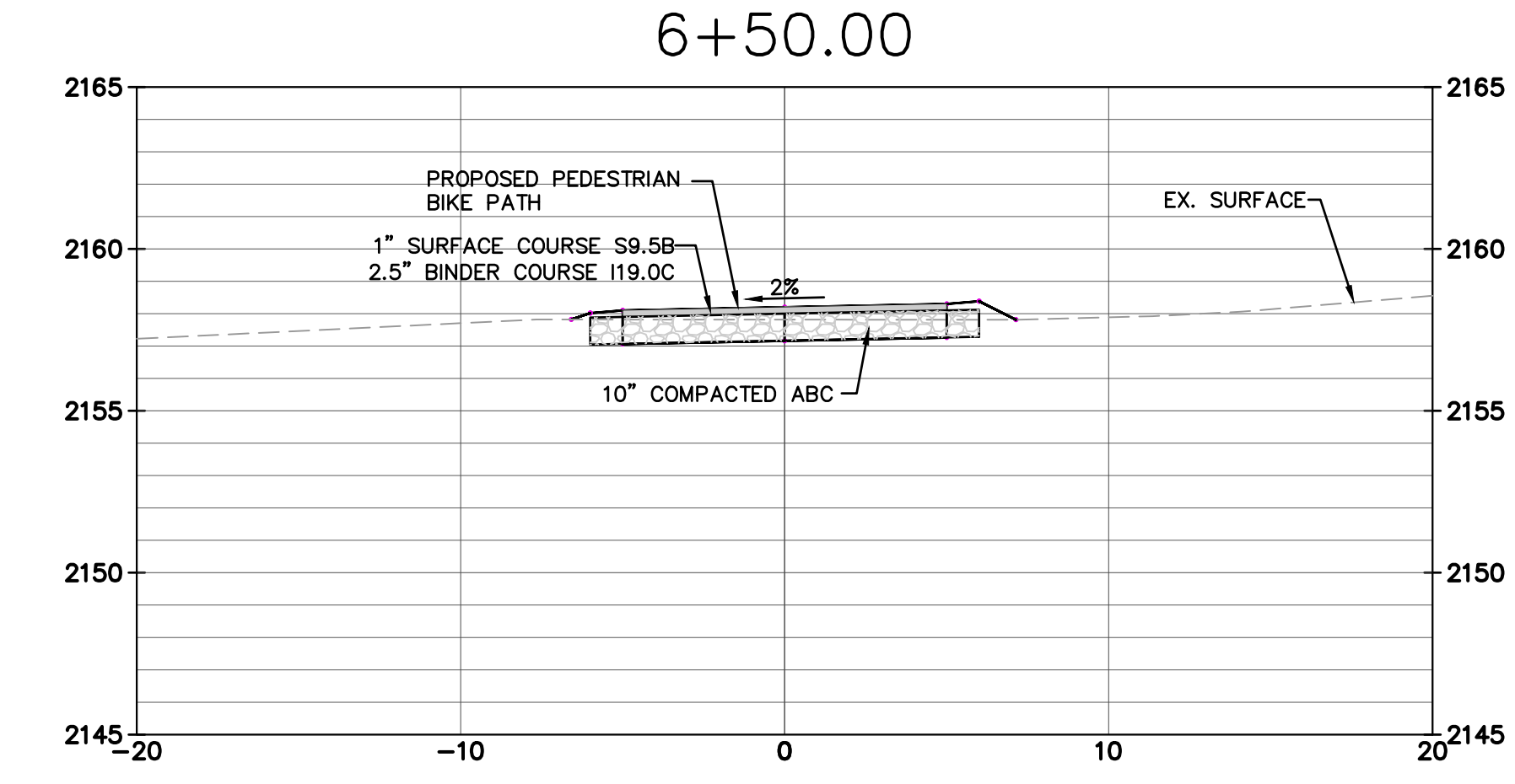
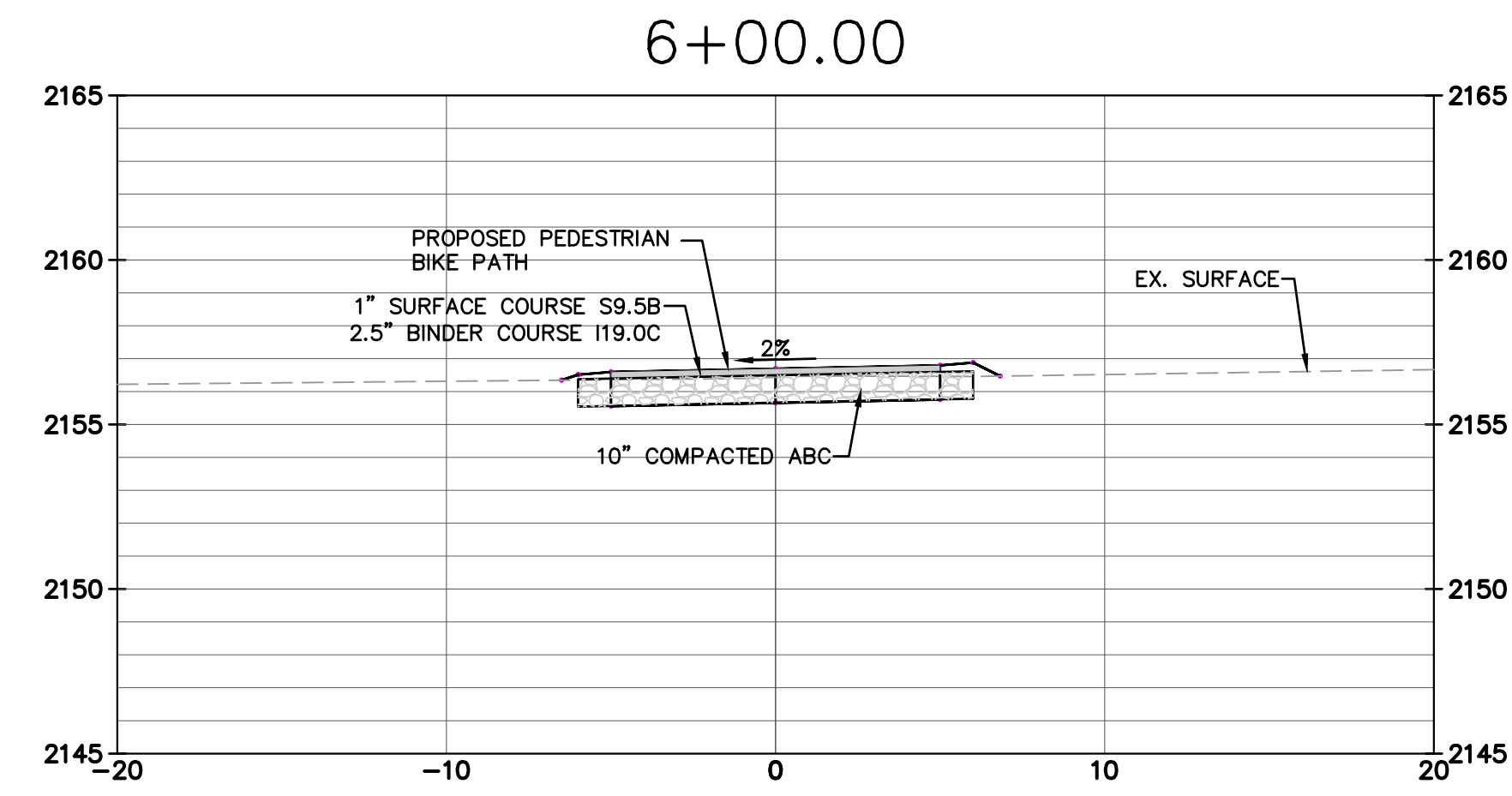
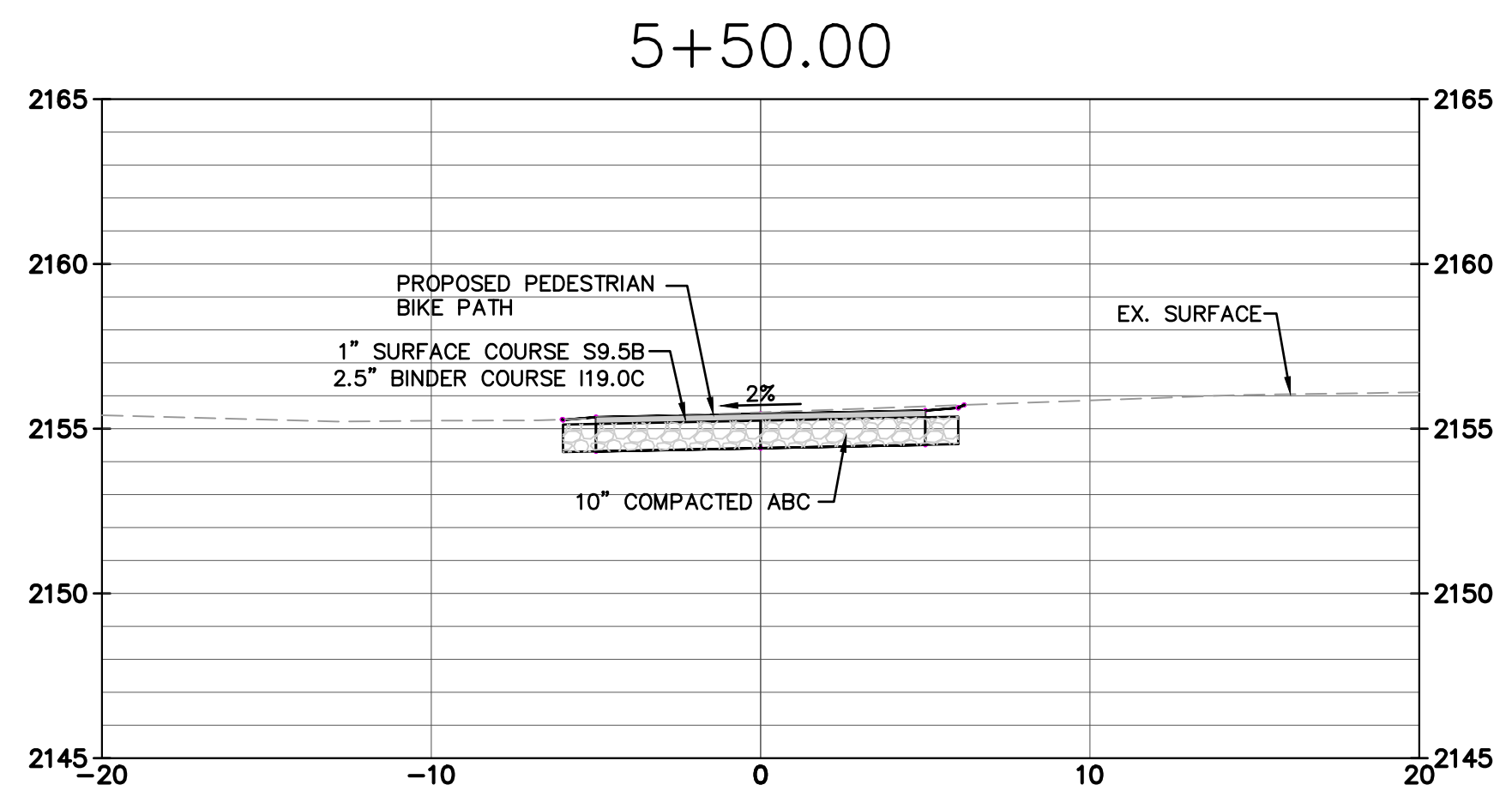
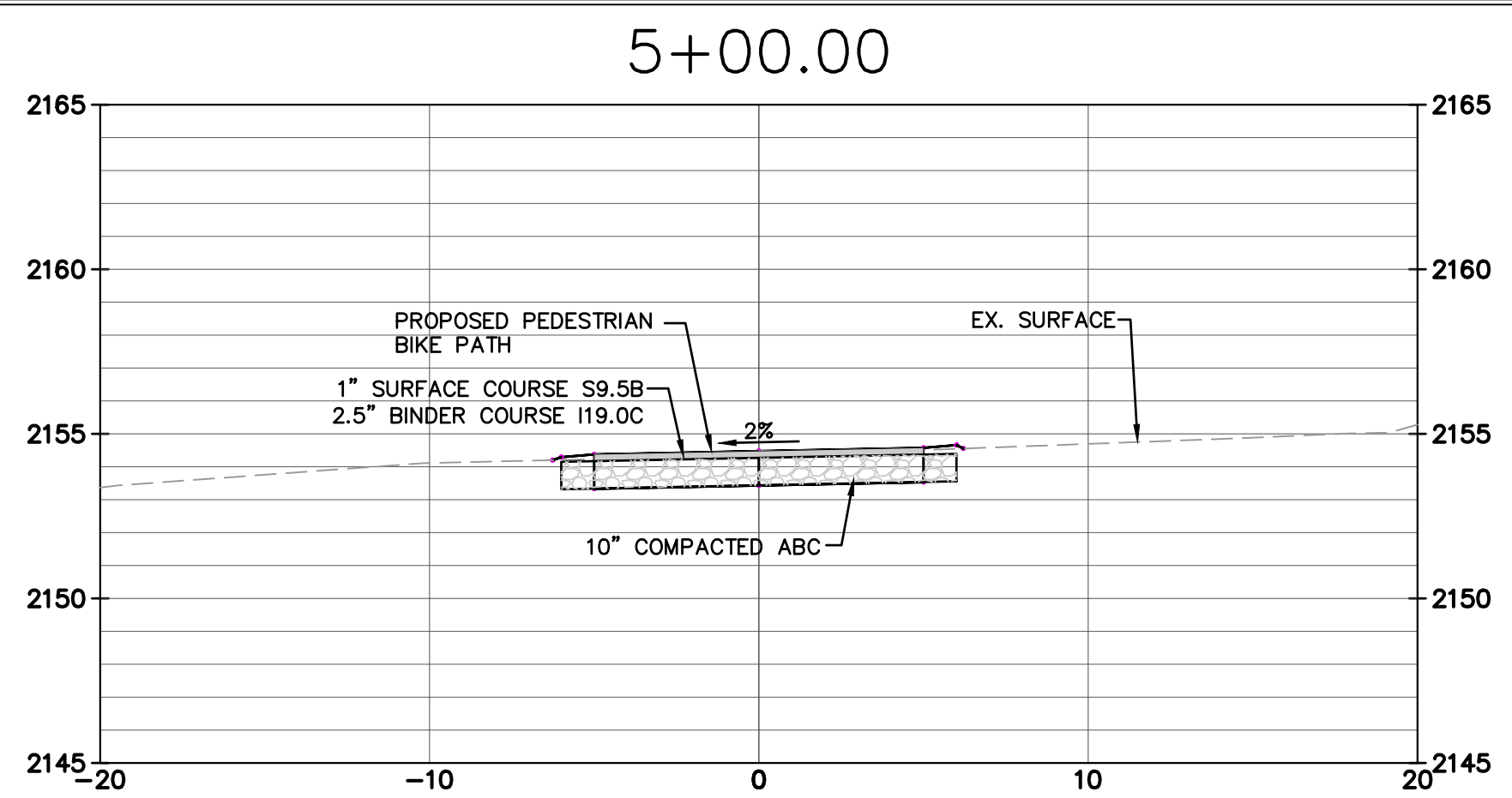
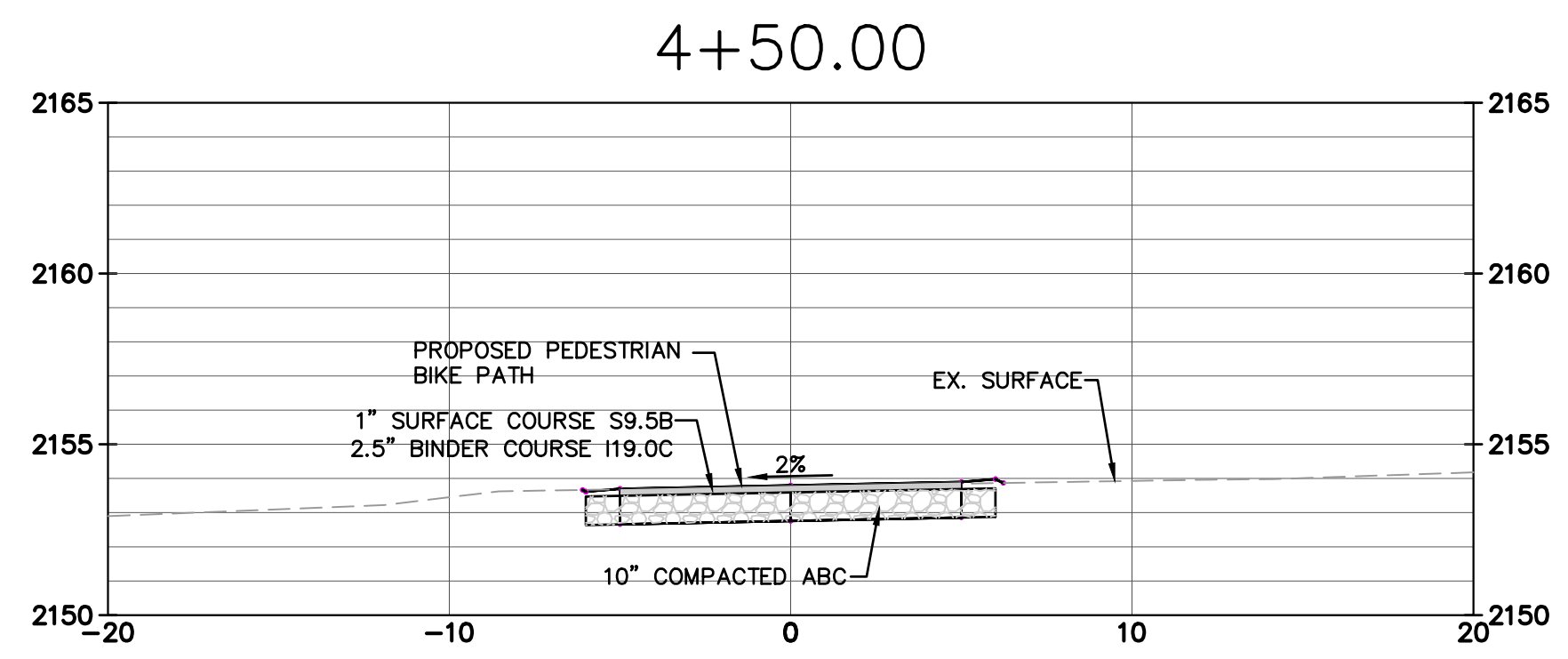
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 REF.
 PROJECT NO.
22017

FILE: 22017_Base

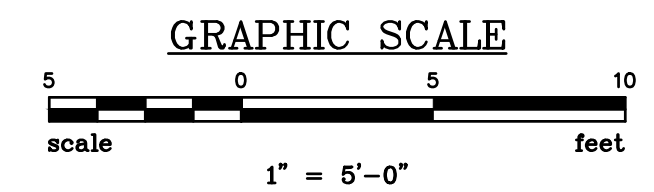
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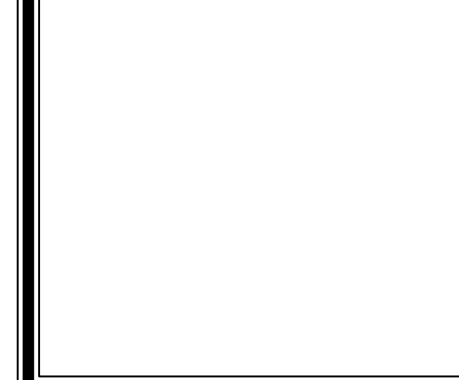


CROSS-SECTIONS
STA. 5+00 - STA. 9+00
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NO.	DESCRIPTION	DATE	BY
1	REVISED BASED ON PROJECT REVIEW	1/14/25	MFC
2	REVISED BASED ON PROJECT REVIEW	1/22/24	MFC
3	PROJECT REVIEW		
4			
5			

APPROVALS	PROJECT ENG.	DESIGNED BY:	DRAWN BY:	CHECKED BY:	APPROVED:
	AF	AF	ADK	MFC	AF



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 9601 Warren H. Abernathy Hwy.
 Spartanburg, SC 29301
 (864)949-1111

SHEET TITLE
CROSS-SECTIONS
STA. 4+50 - STA. 9+00
 DATE: DEC. 2023 SCALE: AS SHOWN

PROJECT
ESTATE TRAIL PHASE III
(TANNERY PROPERTY)
FOR THE
CITY OF BREVARD, NC
 TRANSLVANIA COUNTY NORTH CAROLINA

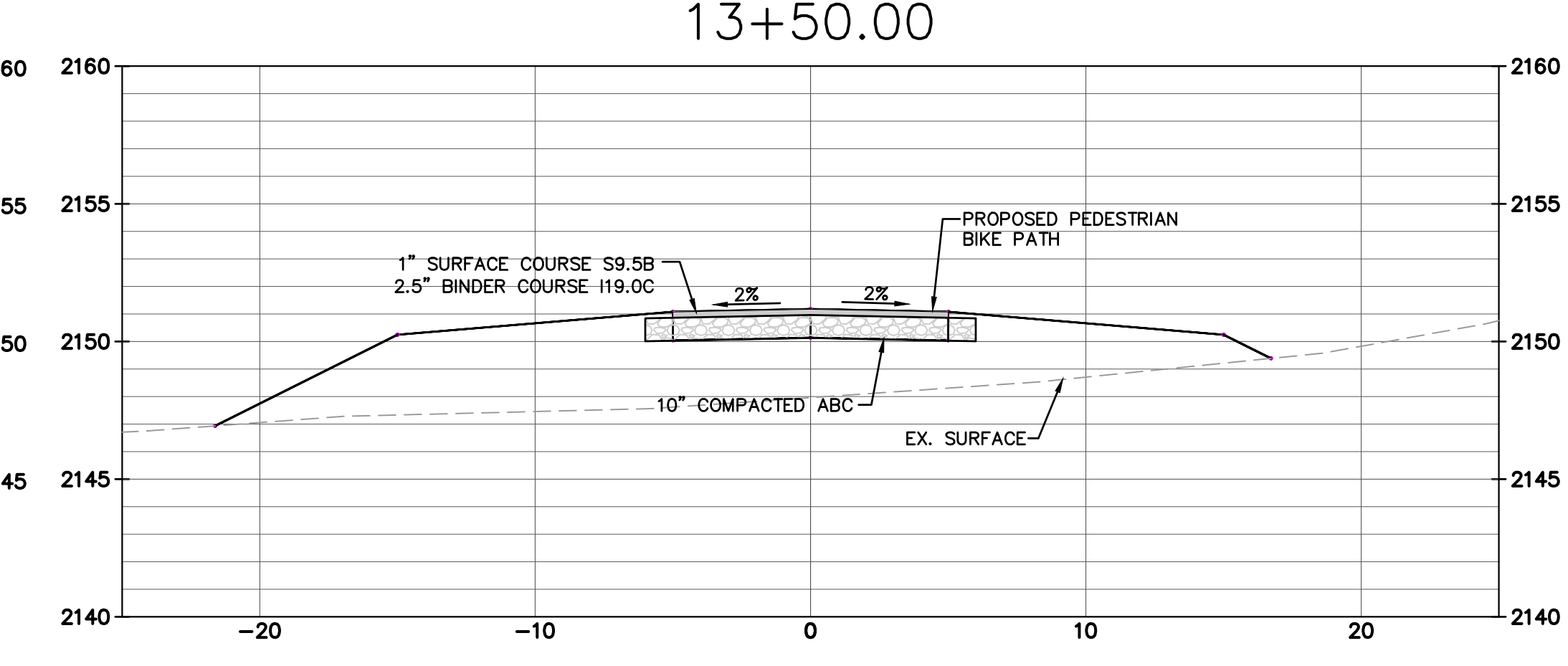
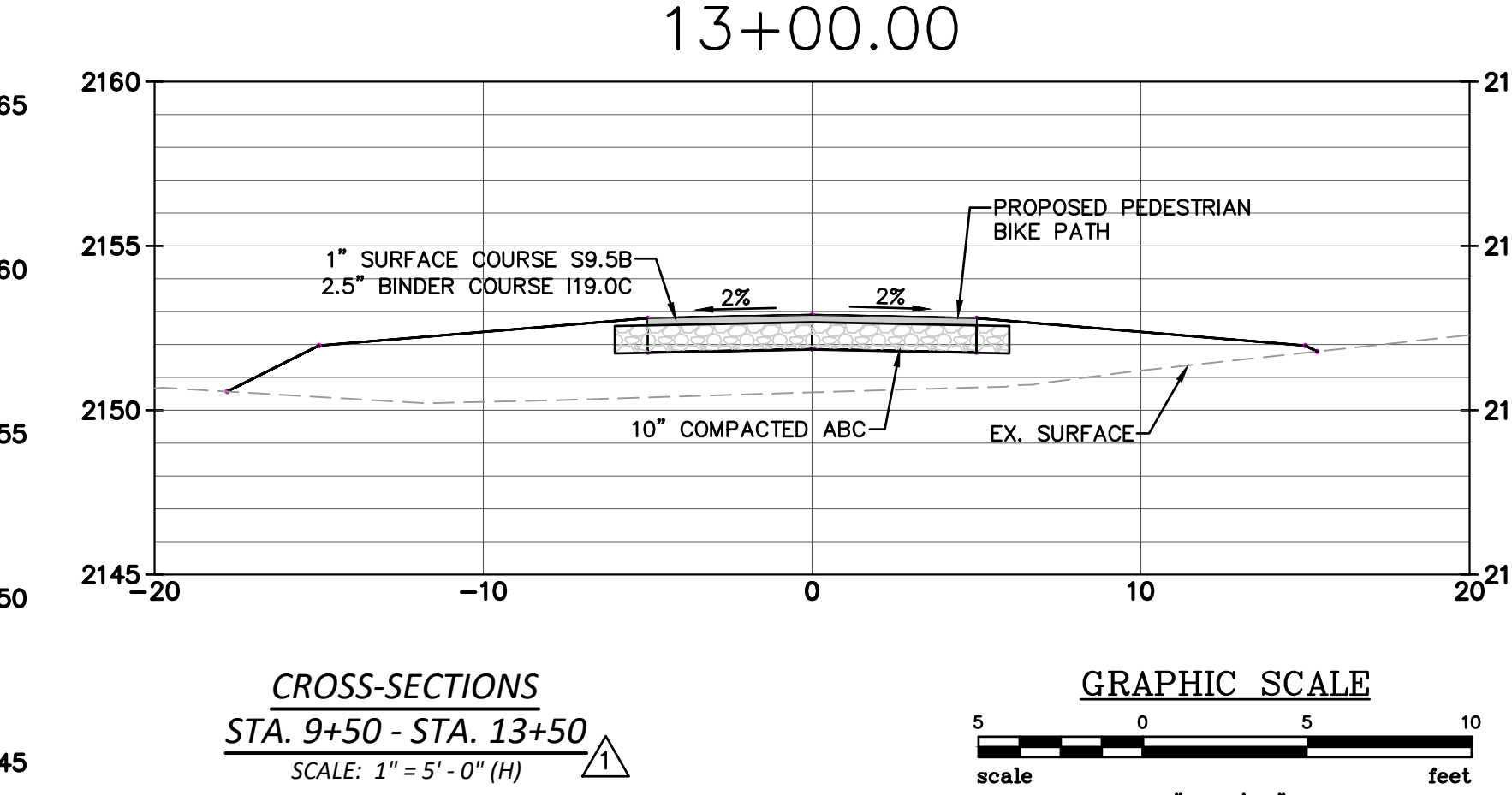
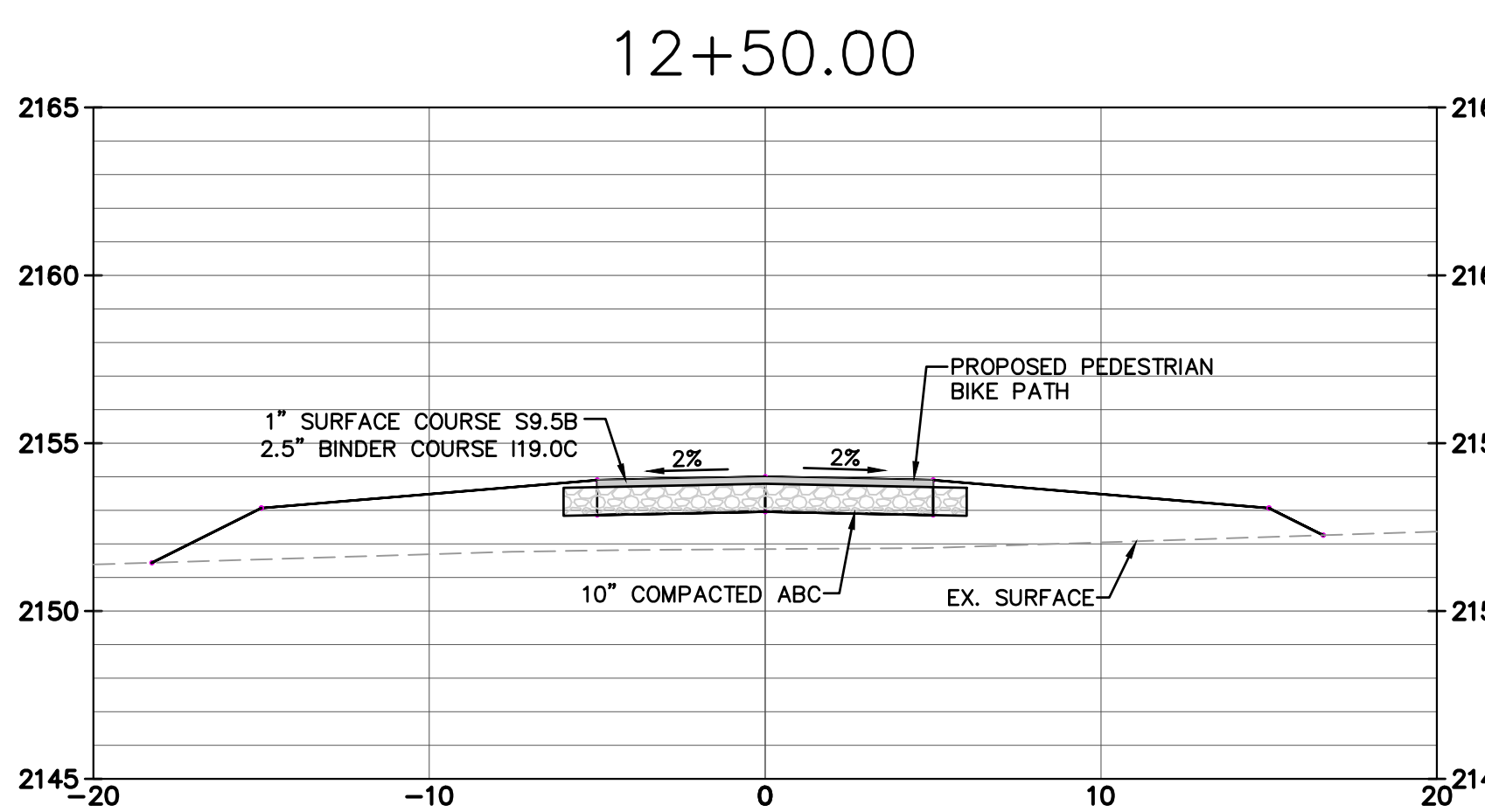
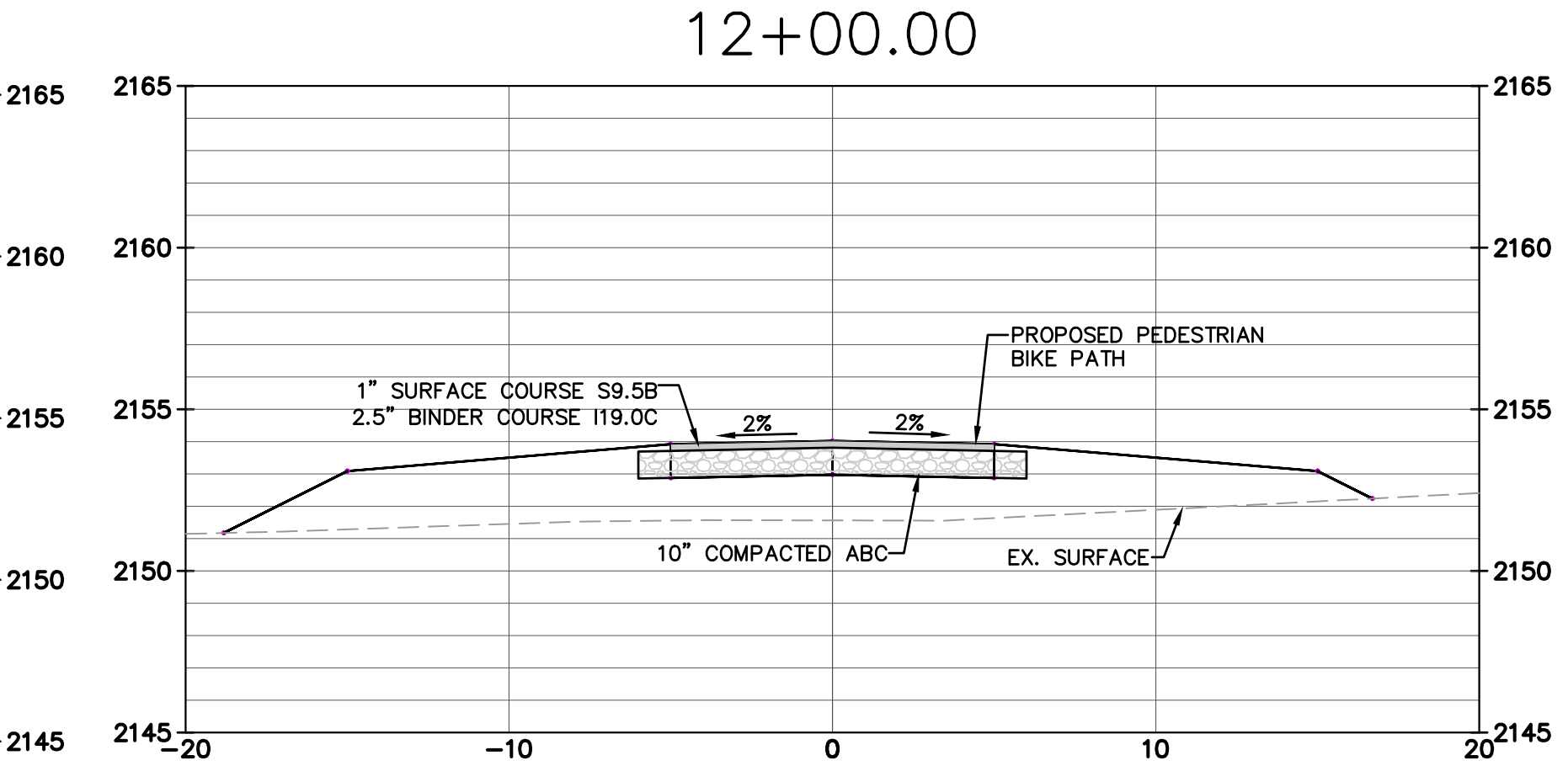
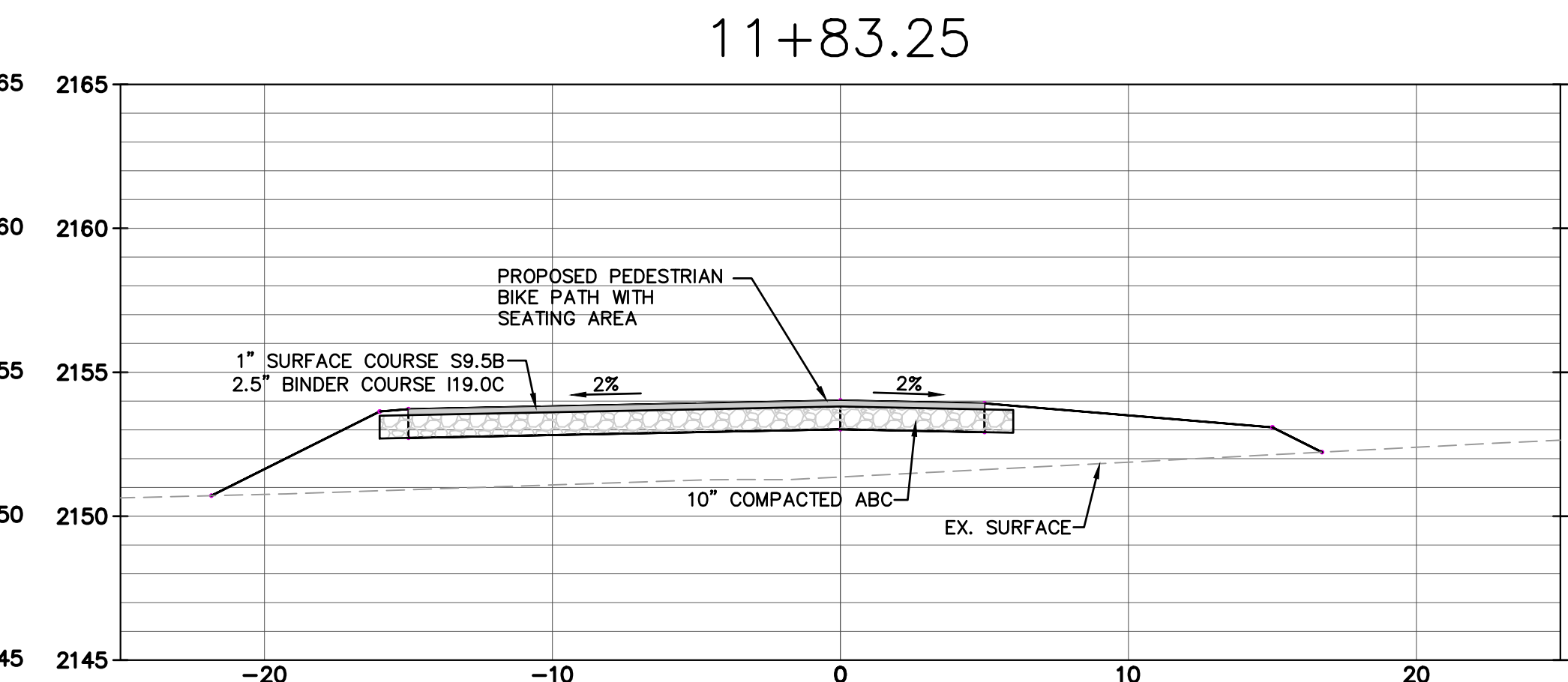
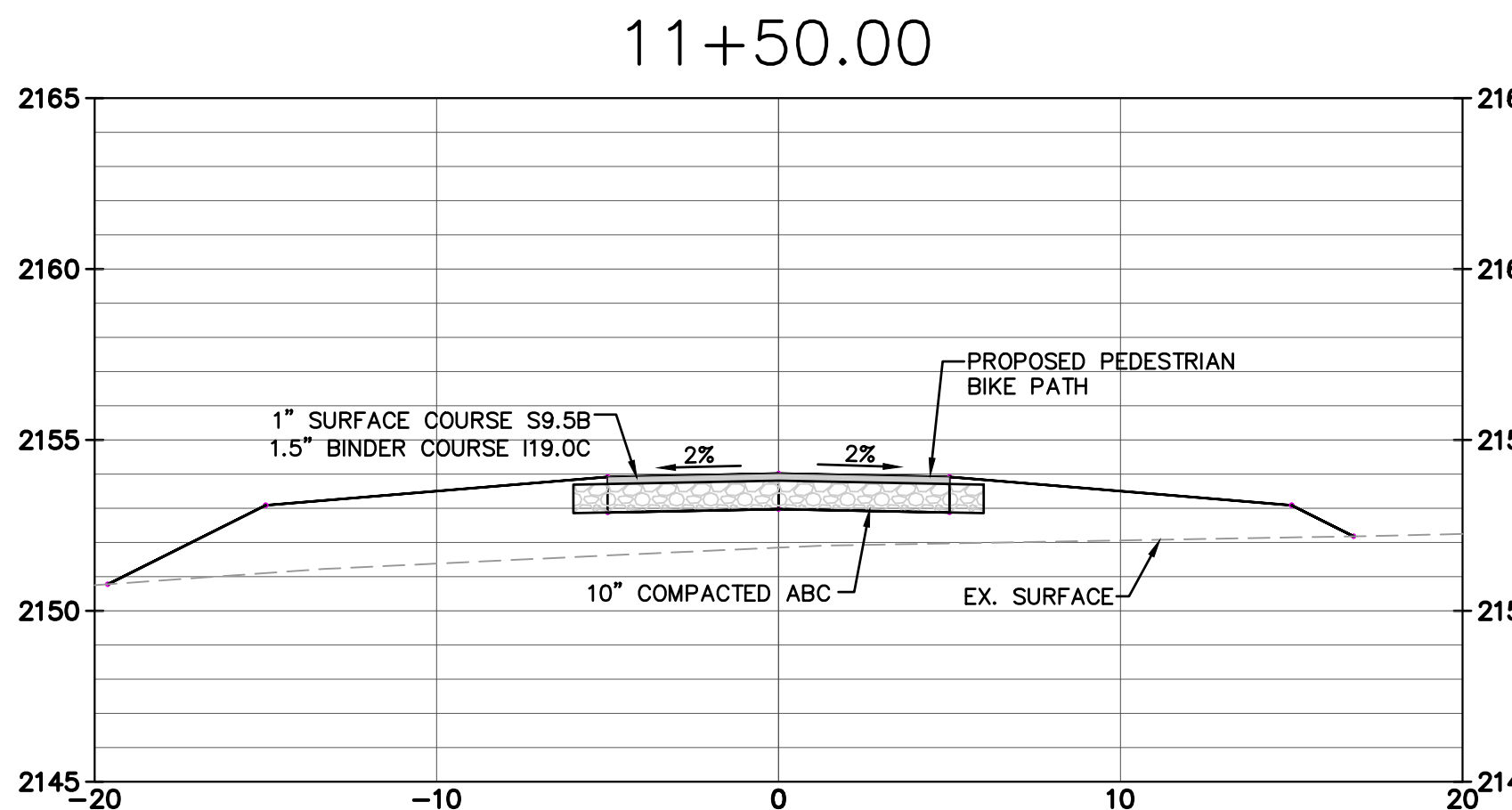
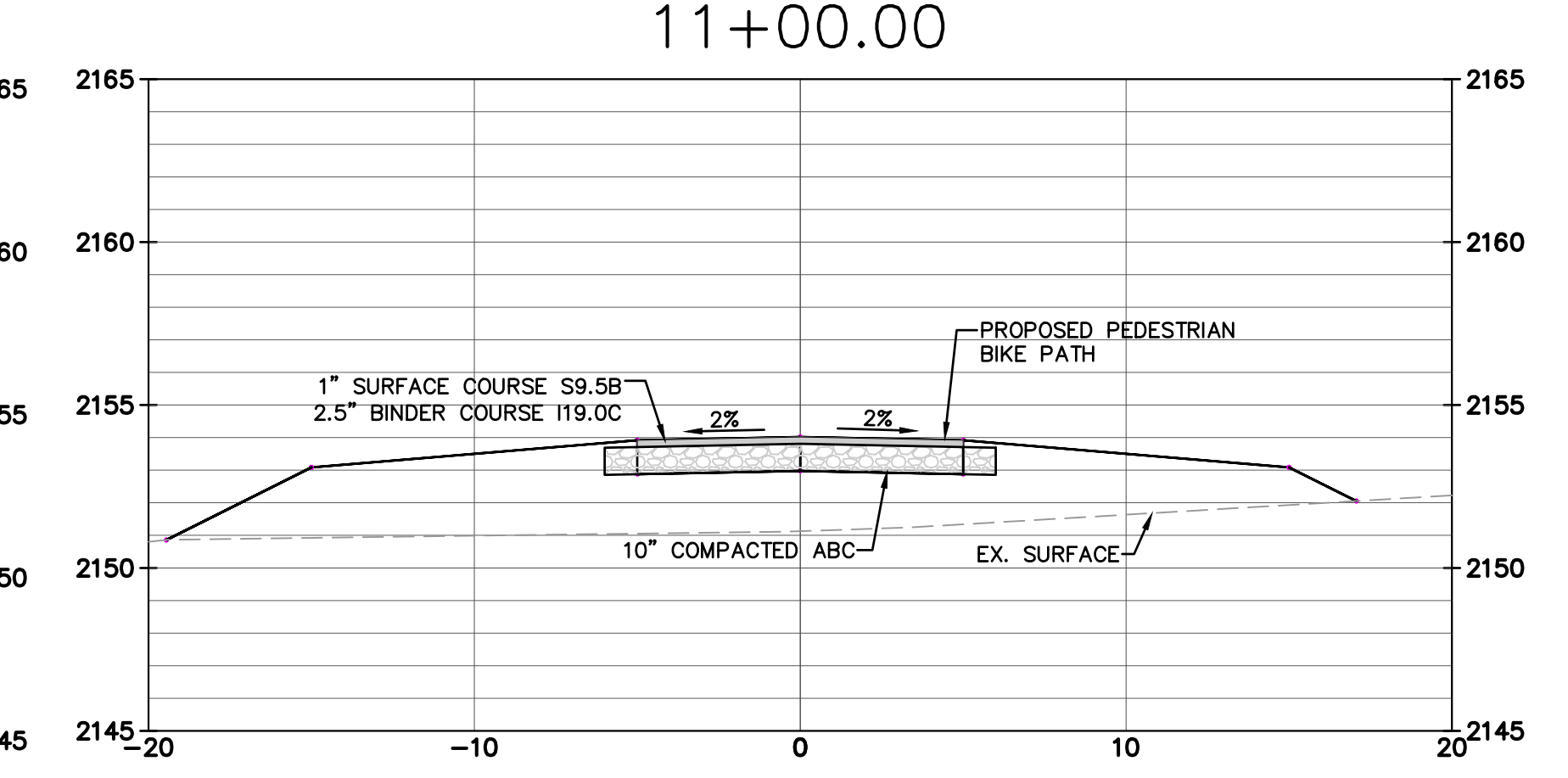
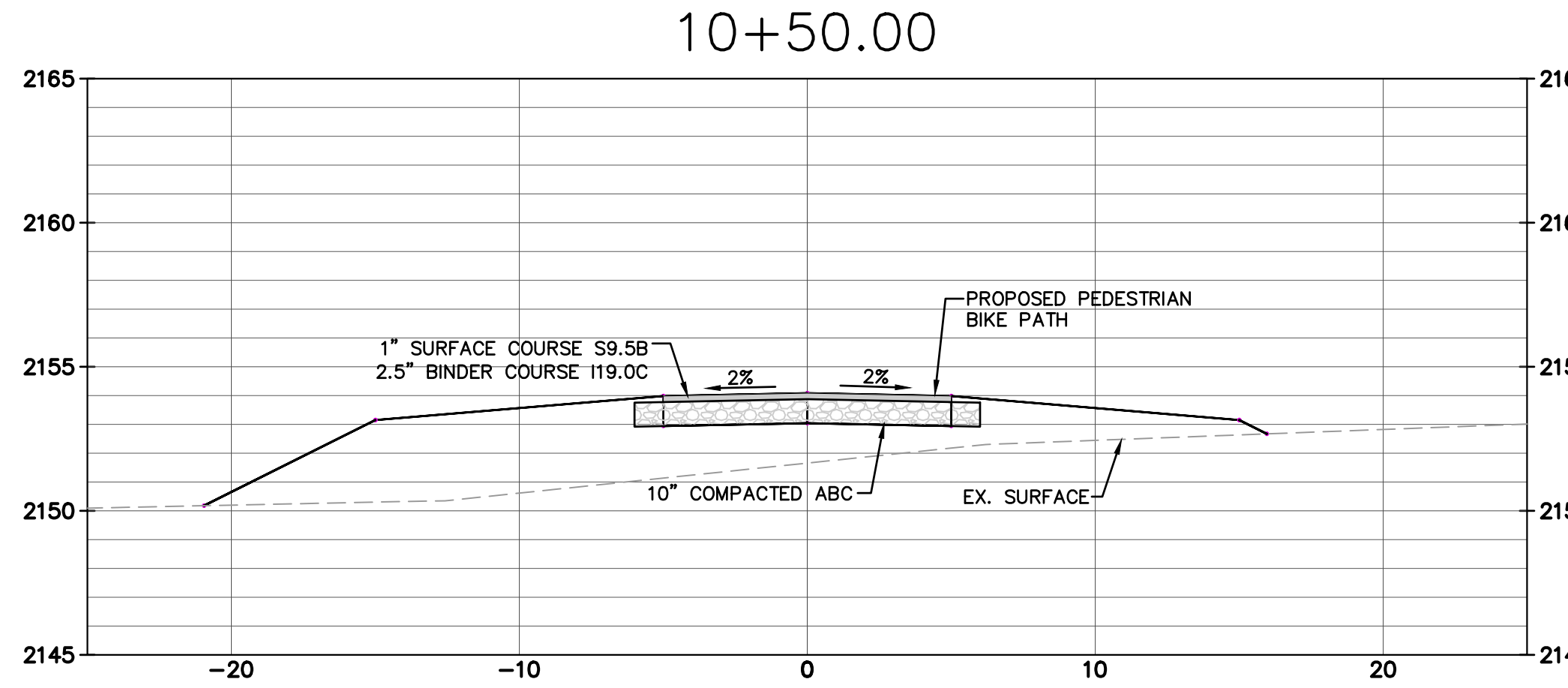
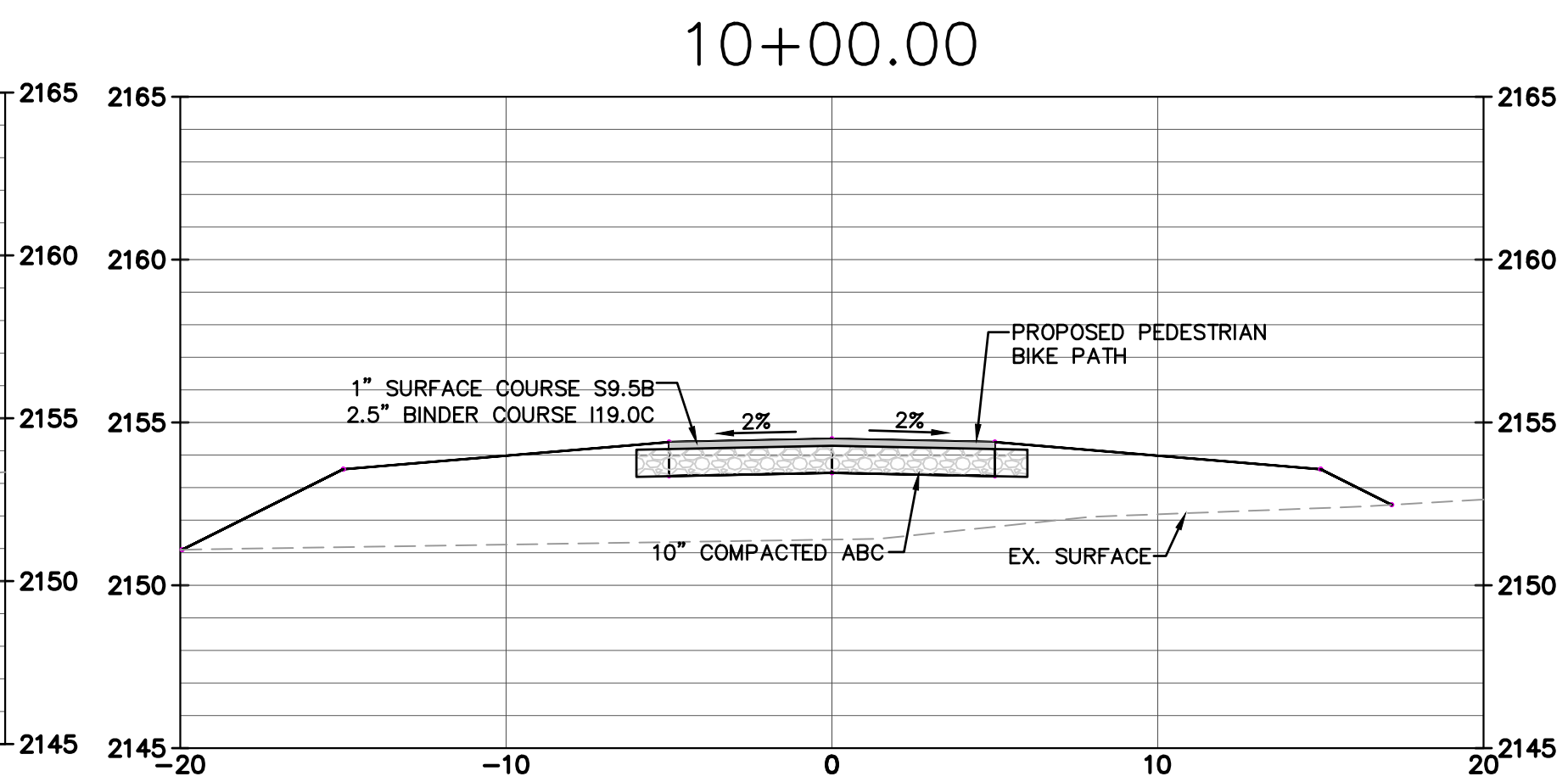
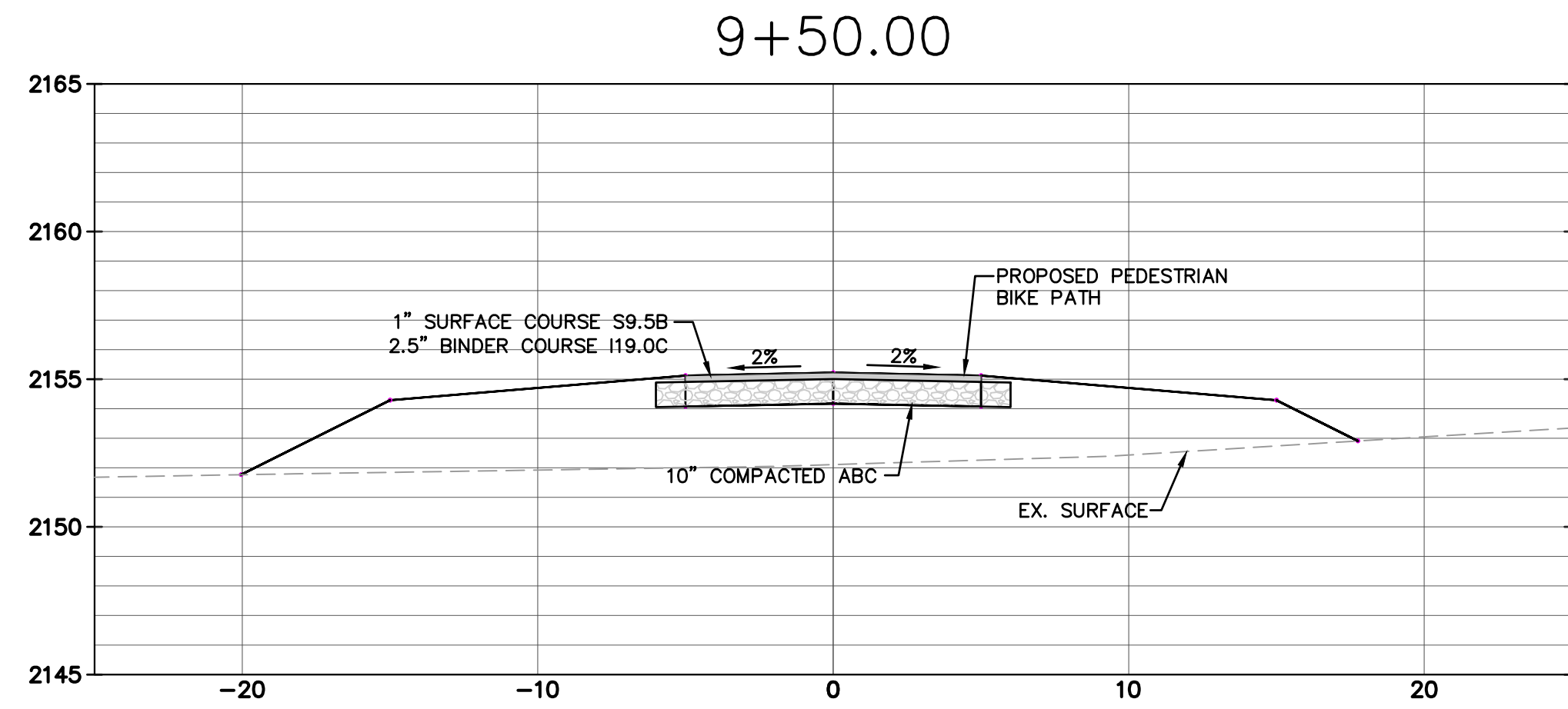
N.B. NO.
 REF.
 PROJECT NO.
22017

SHEET
11
 OF

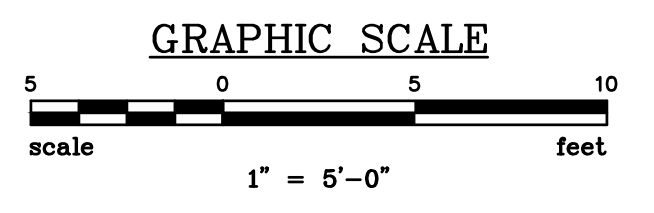
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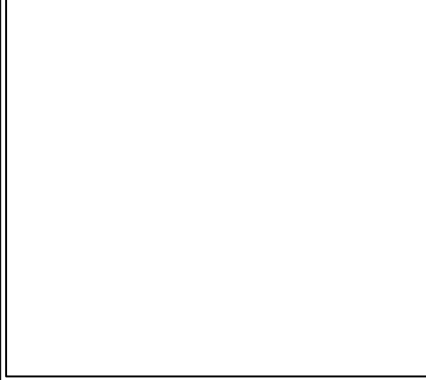


CROSS-SECTIONS
 STA. 9+50 - STA. 13+50
 SCALE: 1" = 5'-0" (H)
 1" = 5'-0" (V)



REVISIONS	
NO.	DESCRIPTION
1	REVISED BASED ON 1/14/25 MFC
2	REVISED BASED ON 1/22/24 MFC
3	NC DOT REVIEW

APPROVALS	
PROJECT ENG.	DATE
AF	
DESIGNED BY:	DATE
AF	
DRAWN BY:	DATE
JK	
CHECKED BY:	DATE
MFC	
APPROVED:	DATE
AF	



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 (864)949-1111

SHEET TITLE
CROSS-SECTIONS
 STA. 9+50 - STA. 13+50
 DATE: DEC. 2023 SCALE: AS SHOWN

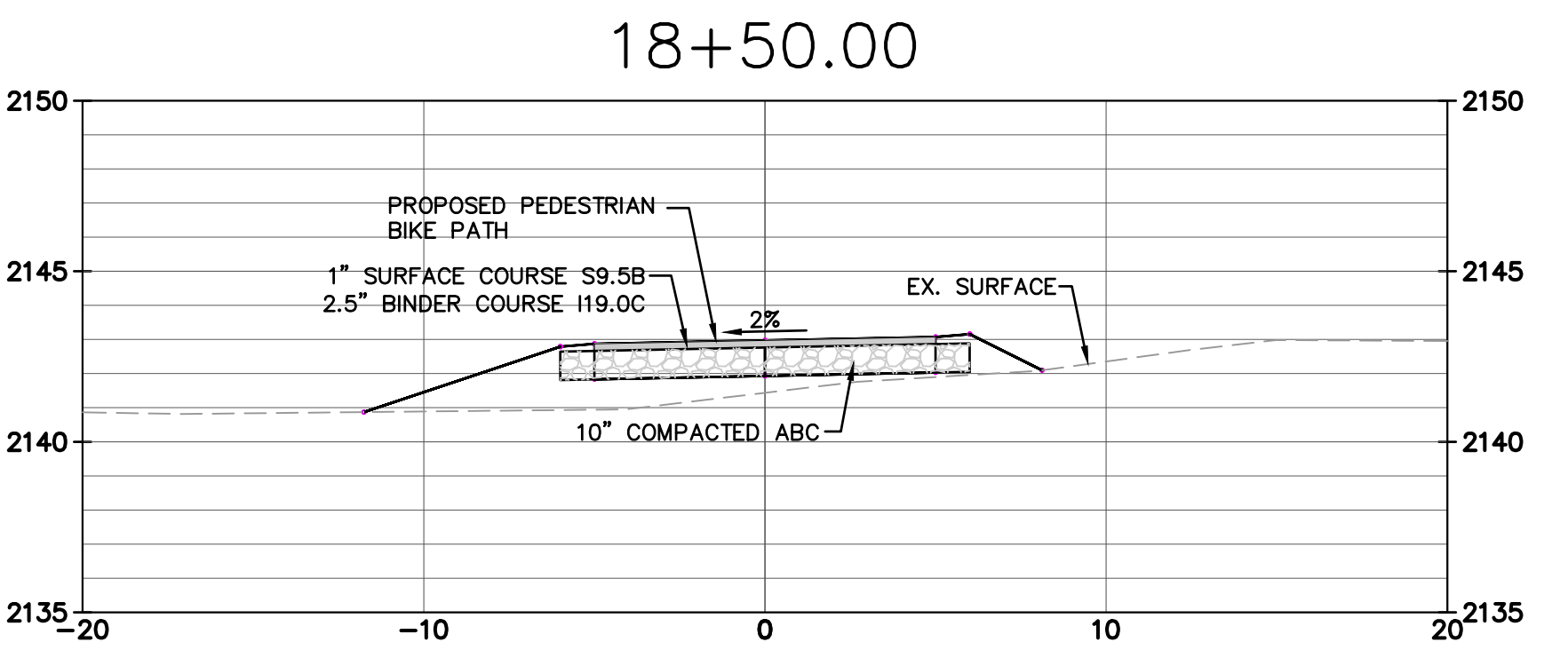
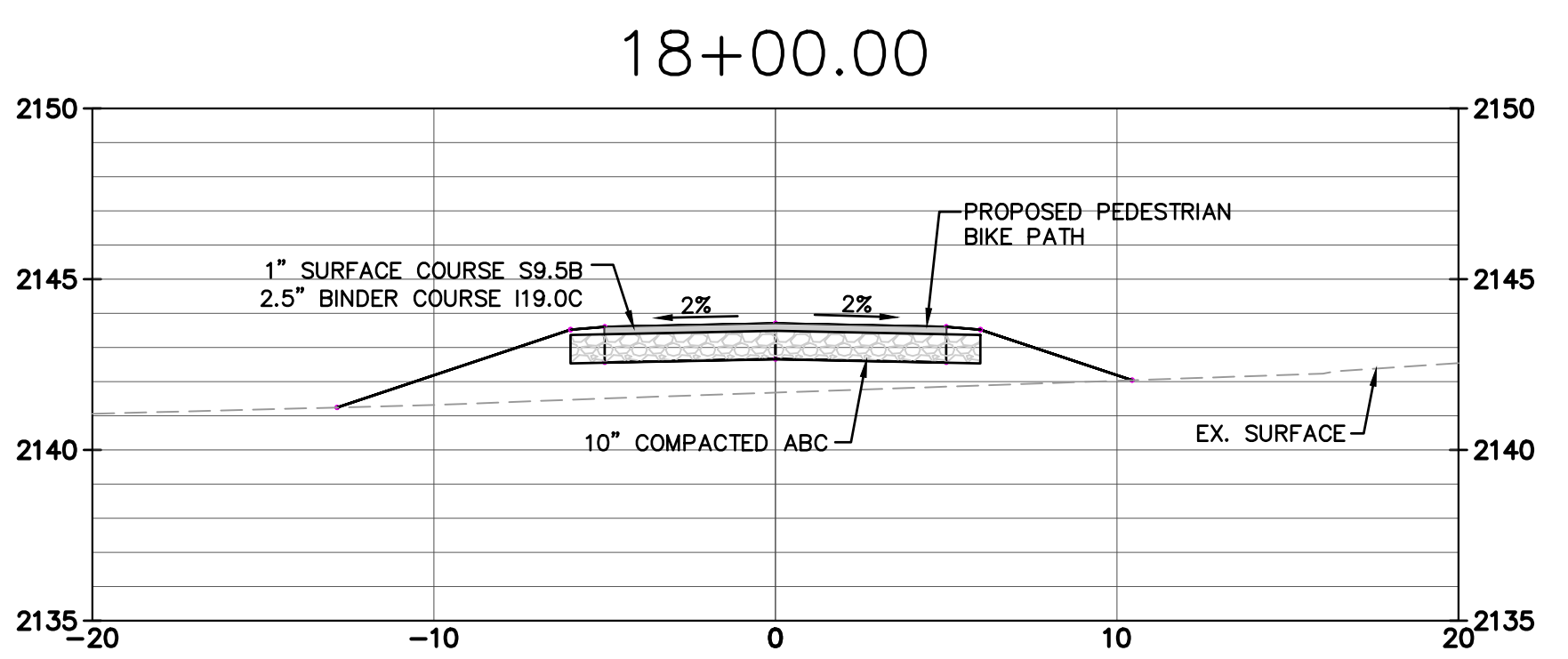
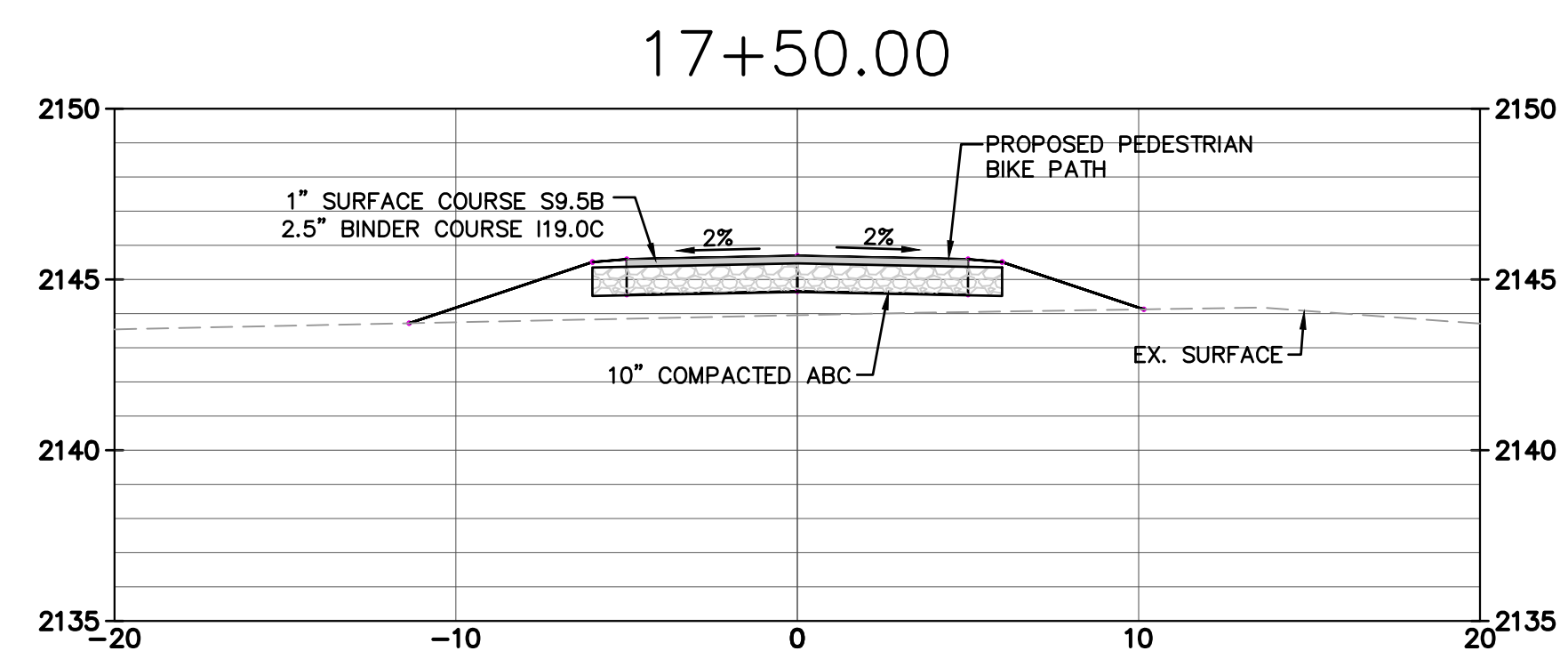
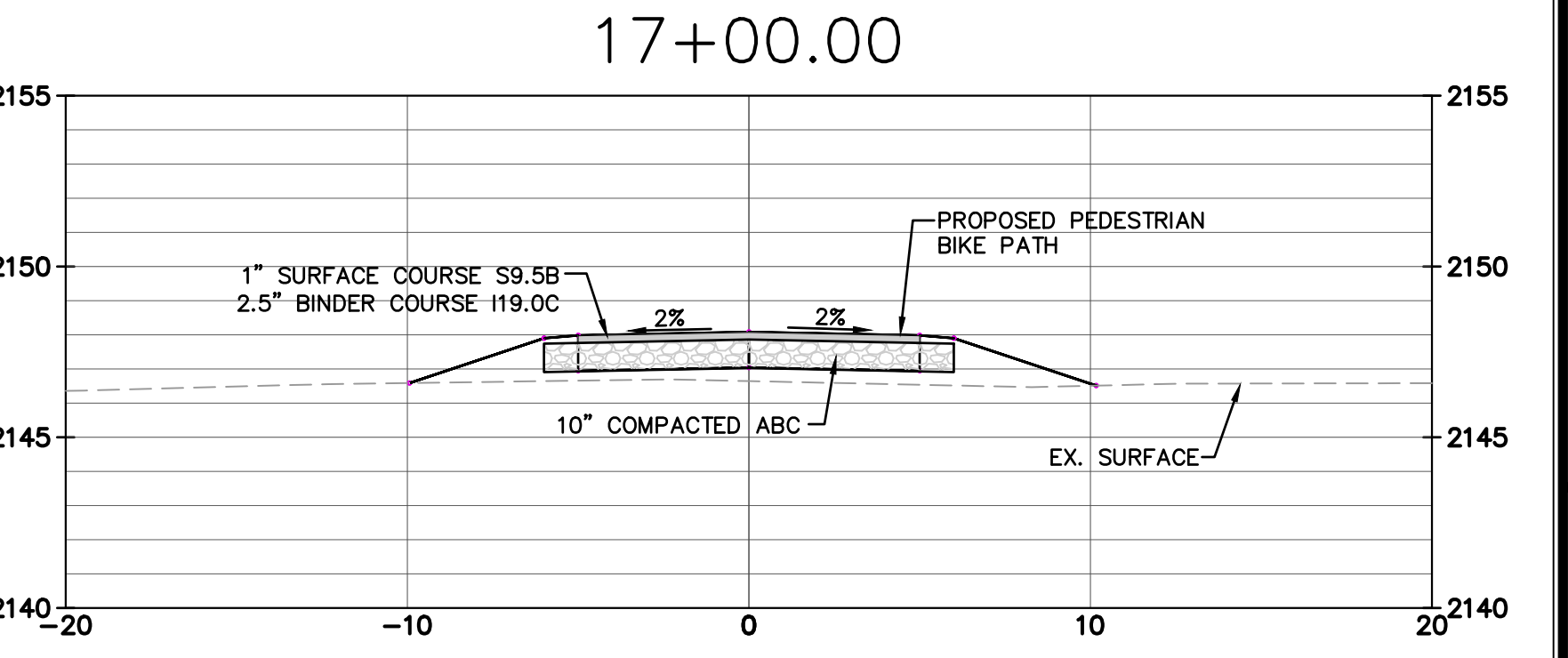
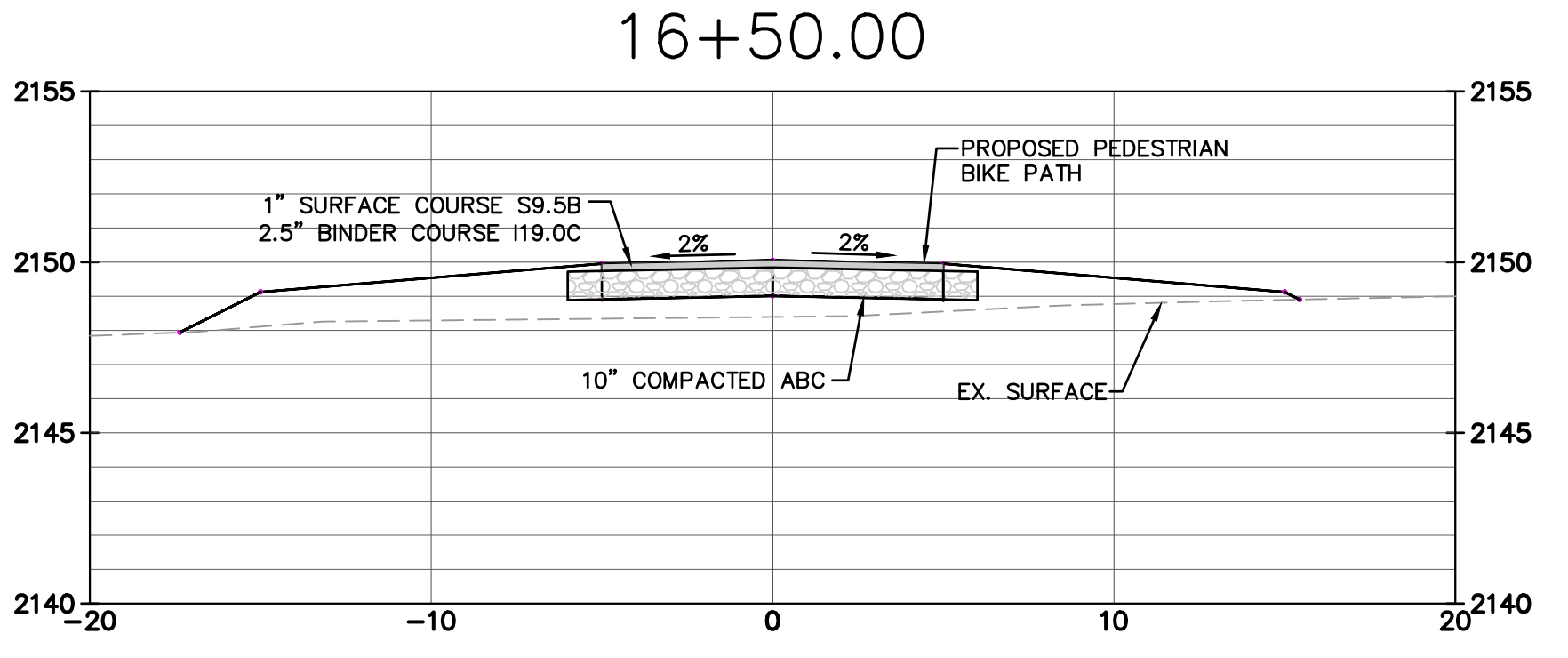
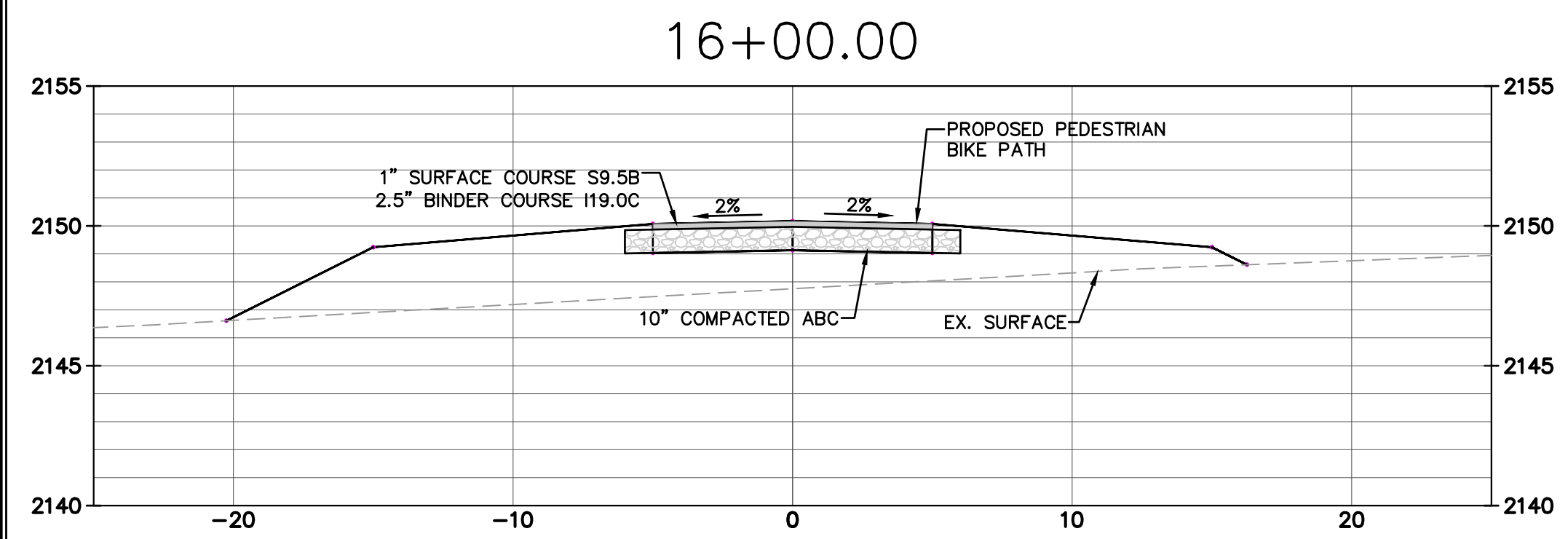
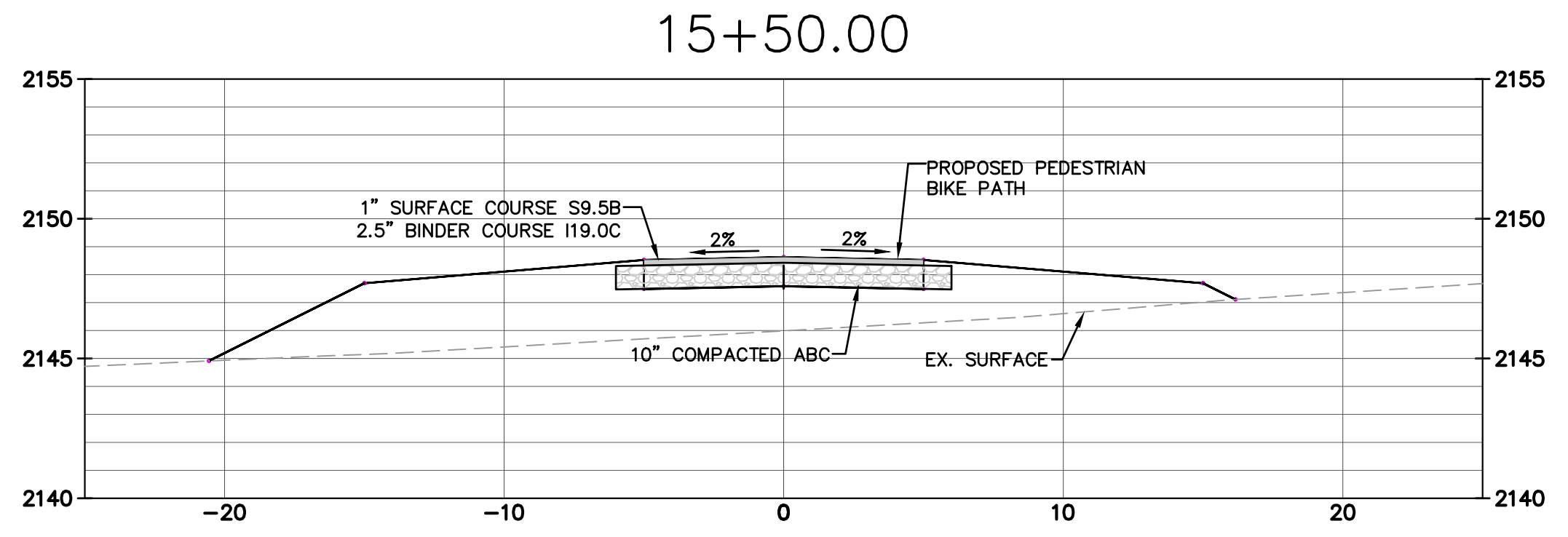
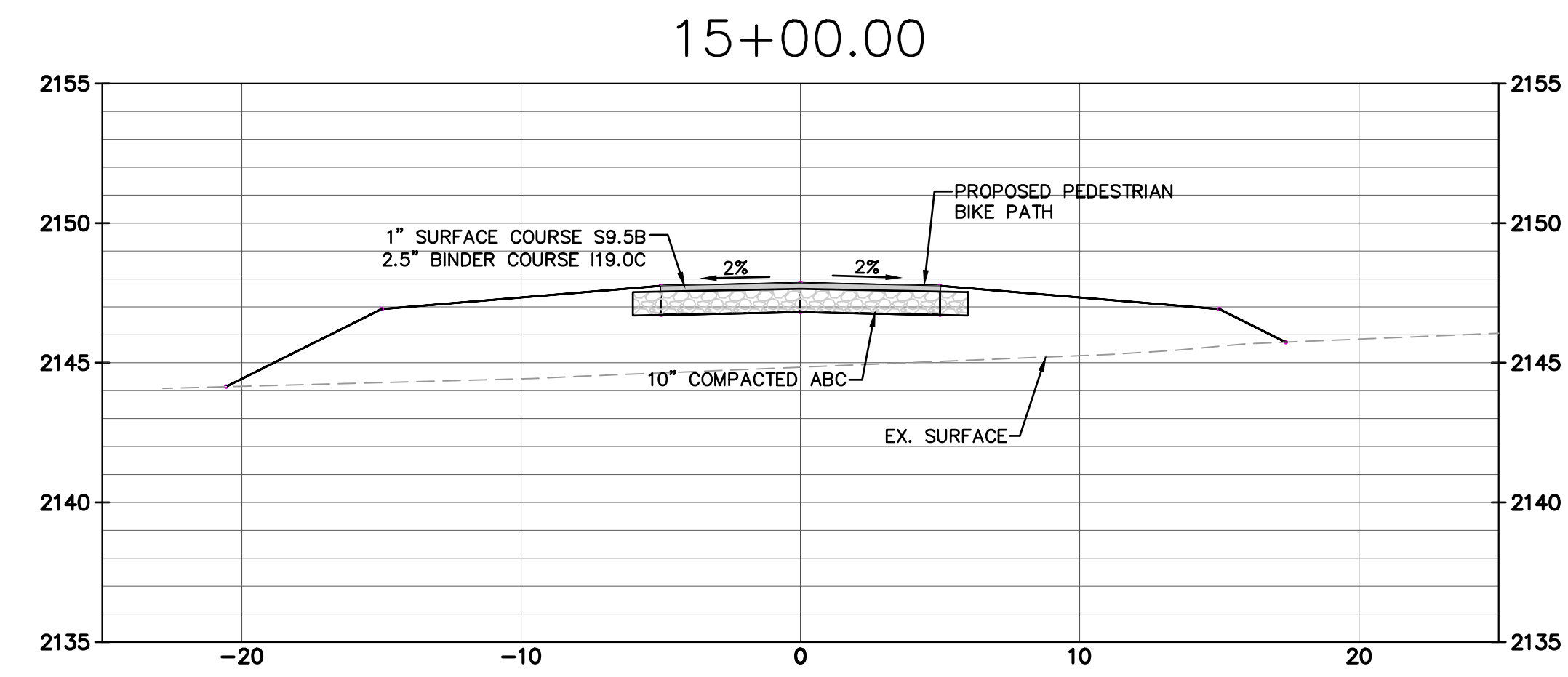
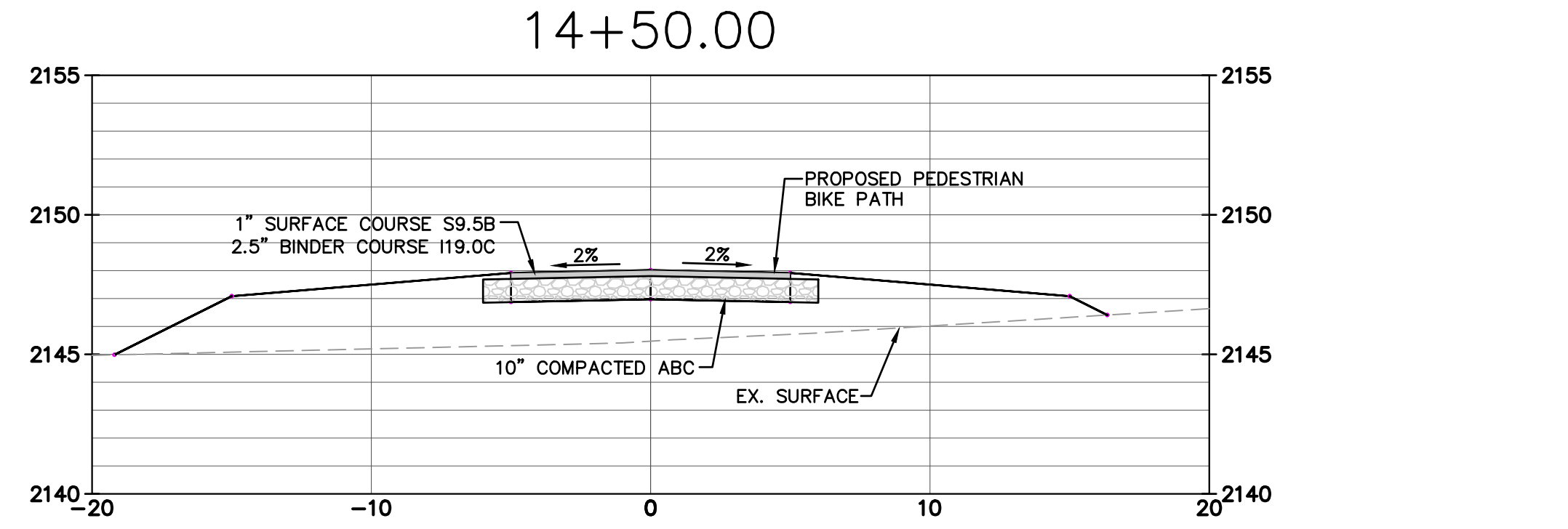
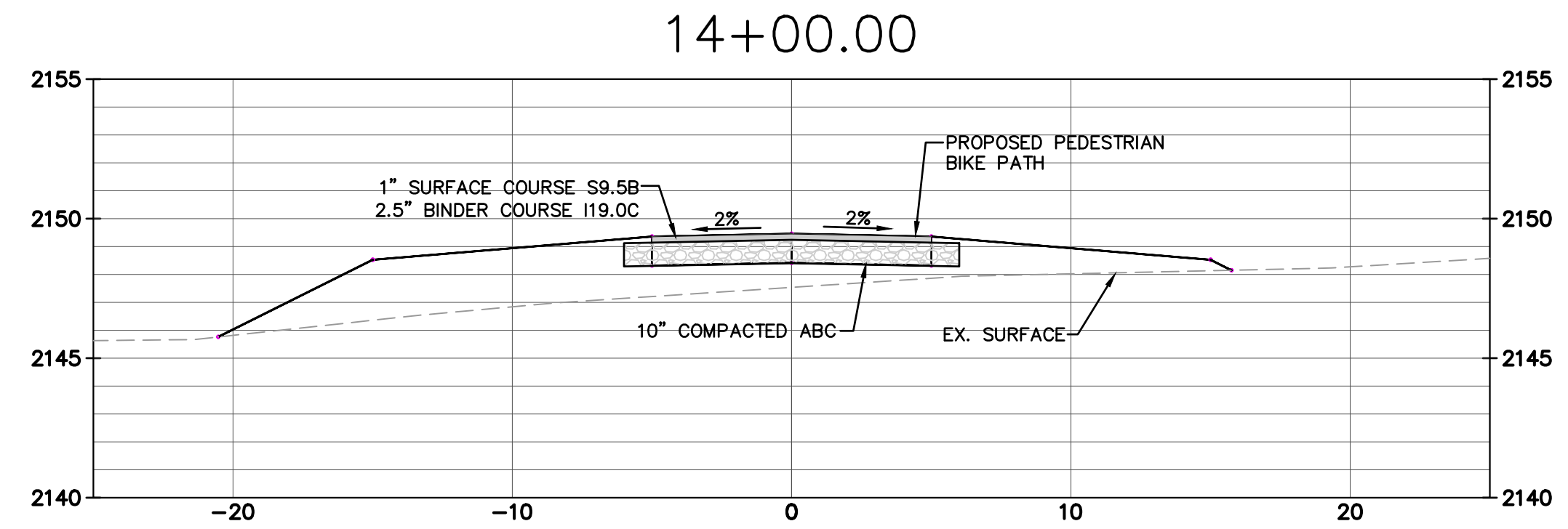
PROJECT
ESTATE TRAIL PHASE III
(TANNERY PROPERTY)
 FOR THE
CITY OF BREVARD, NC
 TRANSLVANIA COUNTY NORTH CAROLINA

N.B. NO.
 REF.
 PROJECT NO.
22017

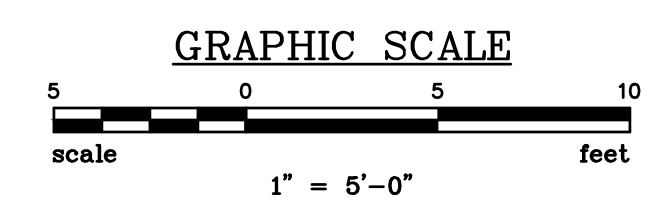
SHEET
12
 OF

FILE: 22017_Base

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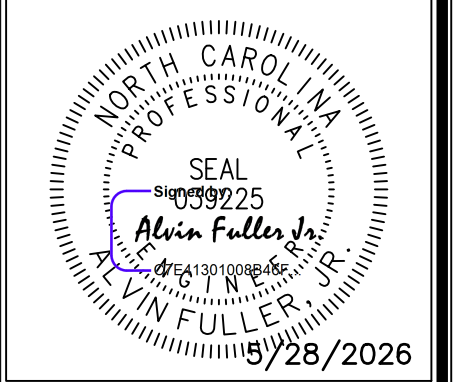


CROSS-SECTIONS
STA. 14+00 - STA. 18+50
SCALE: 1" = 5'-0" (H)
1" = 5'-0" (V)



REVISIONS	
NO.	DESCRIPTION
1	REVISED BASED ON 1/14/25 MFC
2	REVISED BASED ON 1/22/24 MFC
3	INDOT REVIEW

APPROVALS	
PROJECT ENG.	DATE
AF	
DESIGNED BY:	DATE
AF	
DRAWN BY:	DATE
ADK	
CHECKED BY:	DATE
MFC	
APPROVED:	DATE
AF	



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SHEET TITLE
CROSS-SECTIONS
STA. 14+00 - STA. 18+50
DATE: DEC. 2023 SCALE: AS SHOWN

PROJECT
ESTATOE TRAIL PHASE III
(TANNERY PROPERTY)
FOR THE
CITY OF BREVARD, NC
TRANSYLVANIA COUNTY NORTH CAROLINA

N.B. NO.
REF.
PROJECT NO.
22017

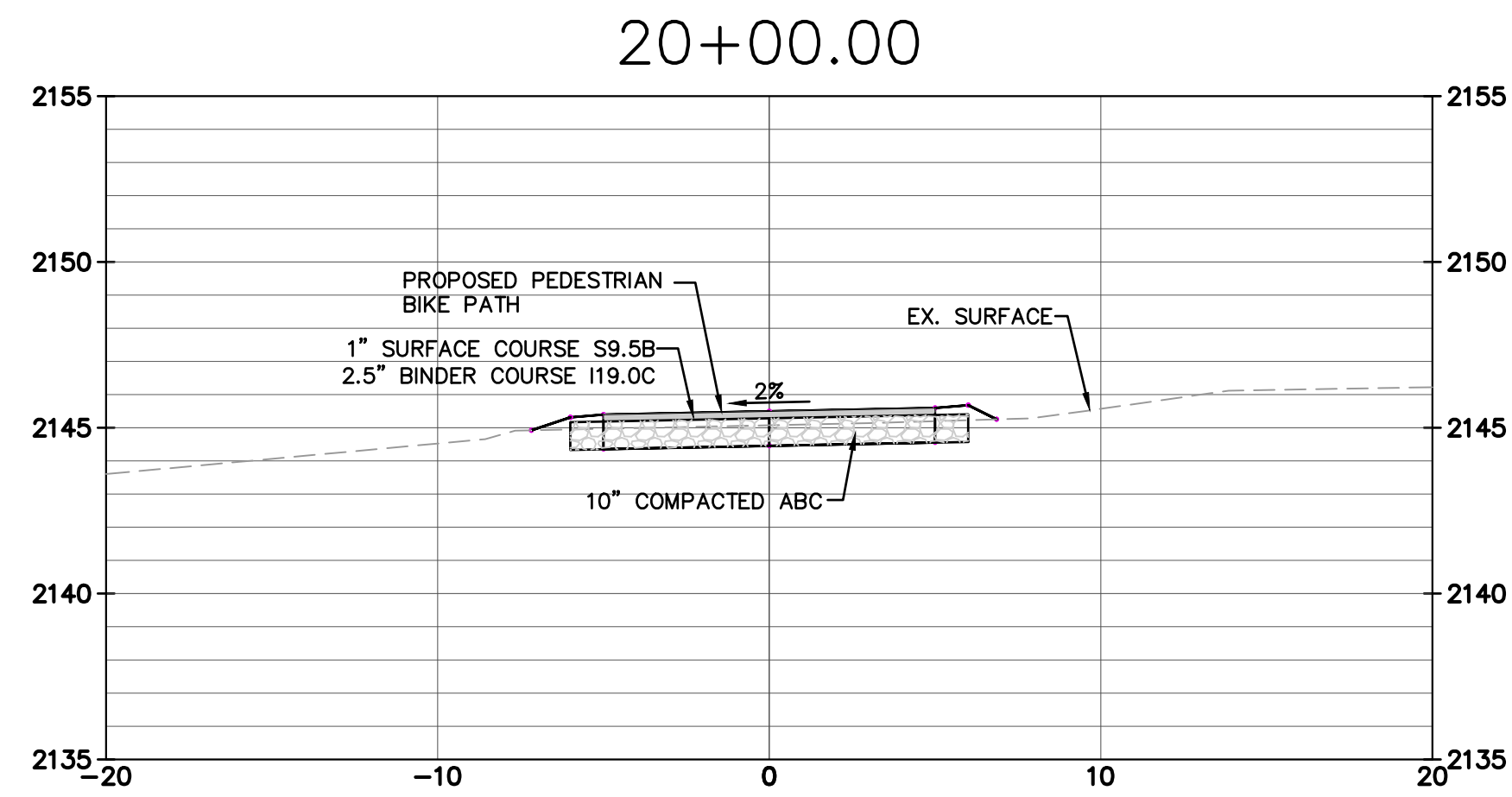
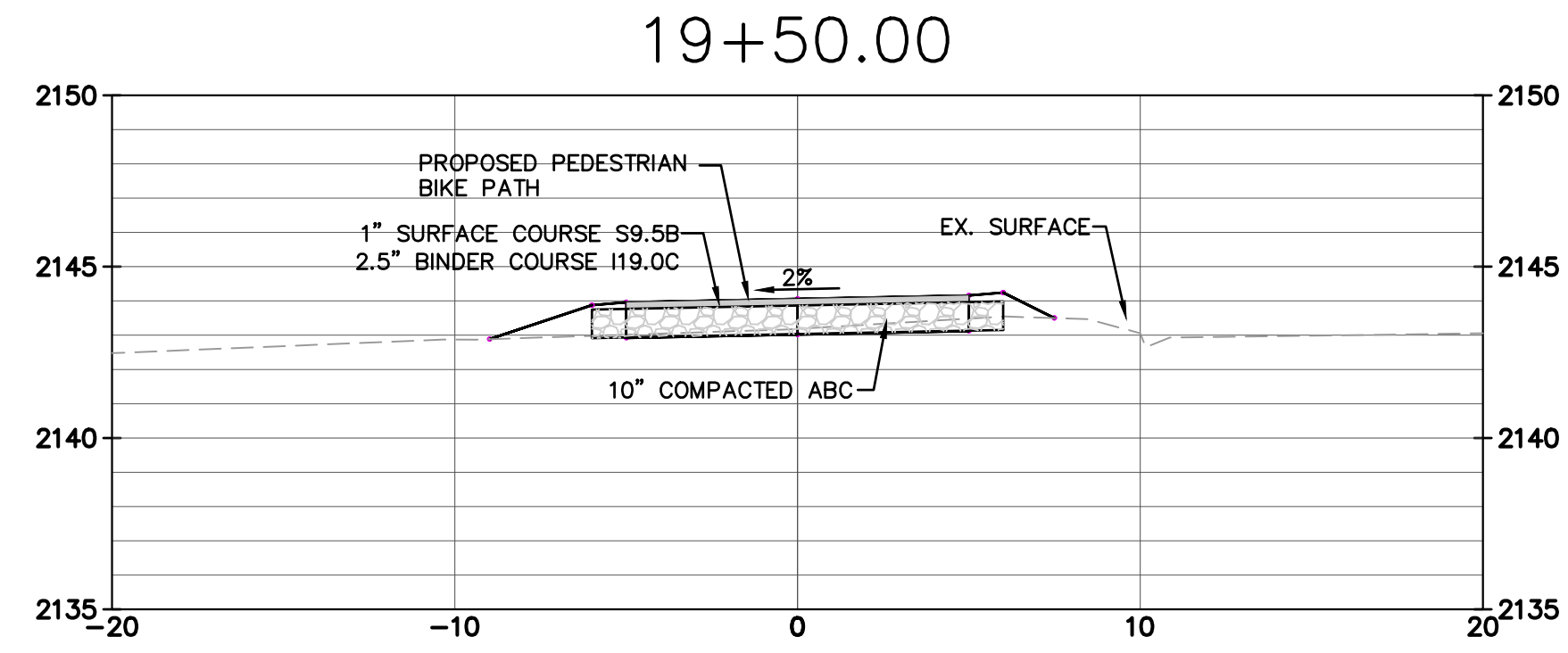
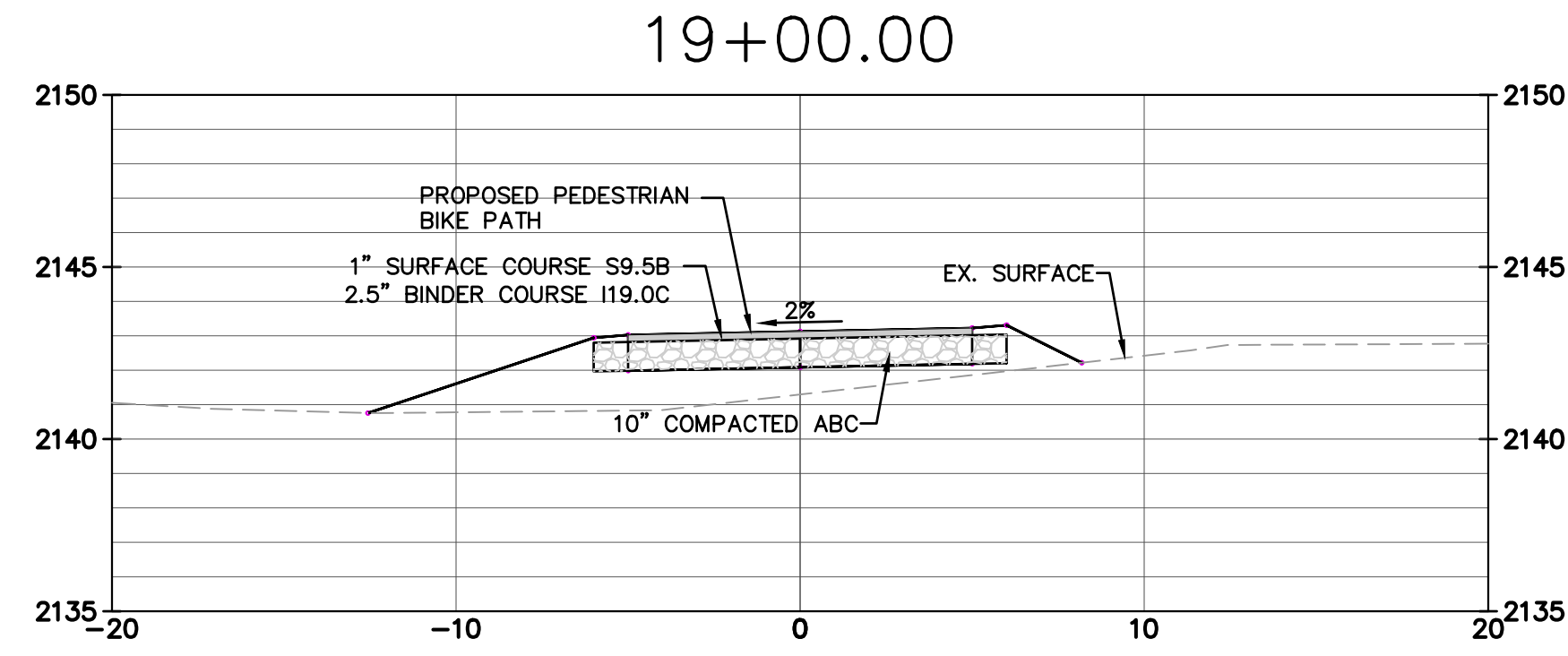
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13
OF

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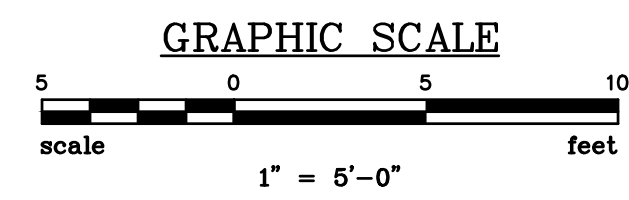
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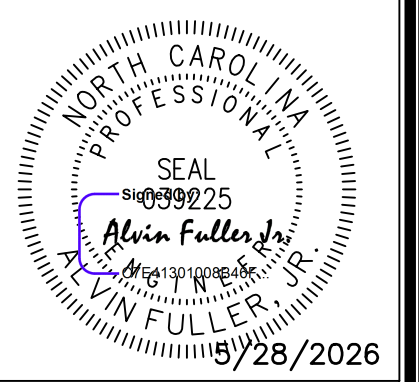


CROSS-SECTIONS
STA. 19+00 - STA. 20+00 (END OF NCDOT SECTION)
 SCALE: 1" = 5' - 0" (H)
 1" = 5' - 0" (V)



REVISIONS	
NO.	DESCRIPTION
1	REVISED BASED ON 1/14/25 MFC
2	REVISED BASED ON 1/27/26 MFC
3	REVISED BASED ON 1/27/26 MFC
4	REVISED BASED ON 1/27/26 MFC
5	REVISED BASED ON 1/27/26 MFC
6	REVISED BASED ON 1/27/26 MFC
7	REVISED BASED ON 1/27/26 MFC
8	REVISED BASED ON 1/27/26 MFC
9	REVISED BASED ON 1/27/26 MFC
10	REVISED BASED ON 1/27/26 MFC

APPROVALS	
PROJECT ENG:	AF
DESIGNED BY:	AF
DRAWN BY:	JDK
CHECKED BY:	MFC
APPROVED:	AF



SHEET TITLE
CROSS-SECTIONS
STA. 19+00 - STA. 20+00
END OF NCDOT SECTION
 DATE: DEC. 2023 | SCALE: AS SHOWN

PROJECT
ESTATOE TRAIL PHASE III
(TANNERY PROPERTY)
 FOR THE
CITY OF BREVARD, NC
 TRANSYLVANIA COUNTY NORTH CAROLINA

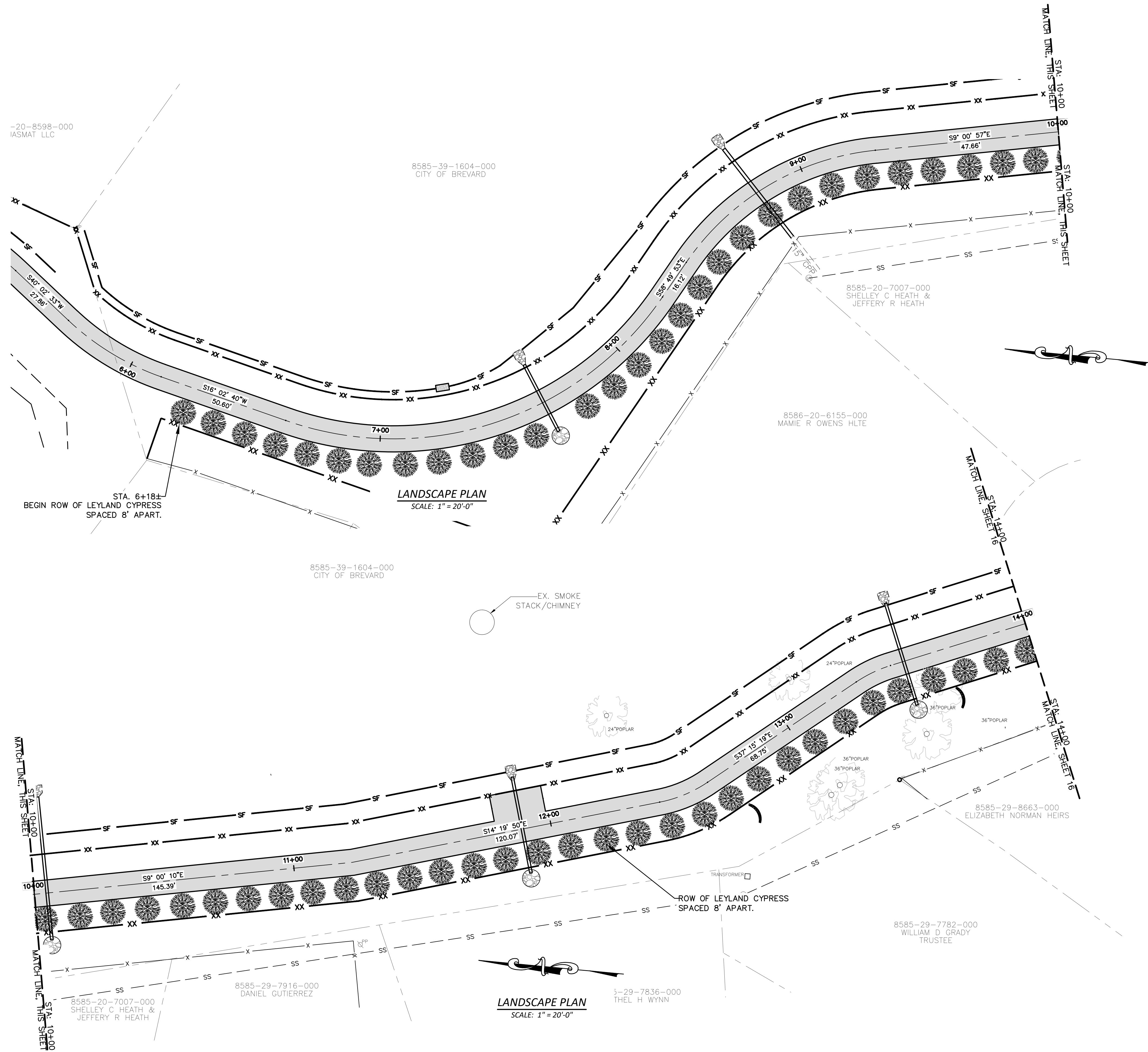
N.B. NO.
 REF.
 PROJECT NO.
22017

SHEET
14
 OF

FILE: 22017_Base

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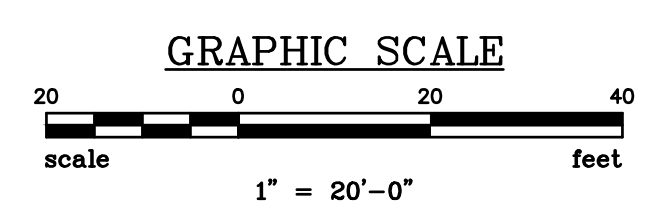
LANDSCAPE PLAN
SCALE: 1" = 20'-0"

LANDSCAPE PLAN
SCALE: 1" = 20'-0"

LEGEND

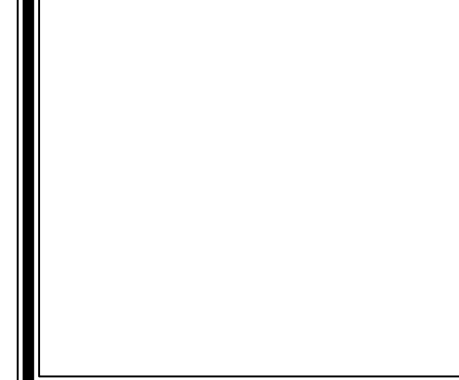
FLOODZONE AE

FLOODWAY



REVISIONS	
NO.	DESCRIPTION
1	REVISED BASED ON ADDITIONAL REVIEW

APPROVALS	
PROJECT ENG.	DATE
AF	1/14/25
DESIGNED BY:	MFC
DRAWN BY:	JDK
CHECKED BY:	MFC
APPROVED:	AF



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LANDSCAPE PLAN

ESTATOE TRAIL PHASE III
(TANNERY PROPERTY)
FOR THE
CITY OF BREVARD, NC

TRANSLVANIA COUNTY NORTH CAROLINA

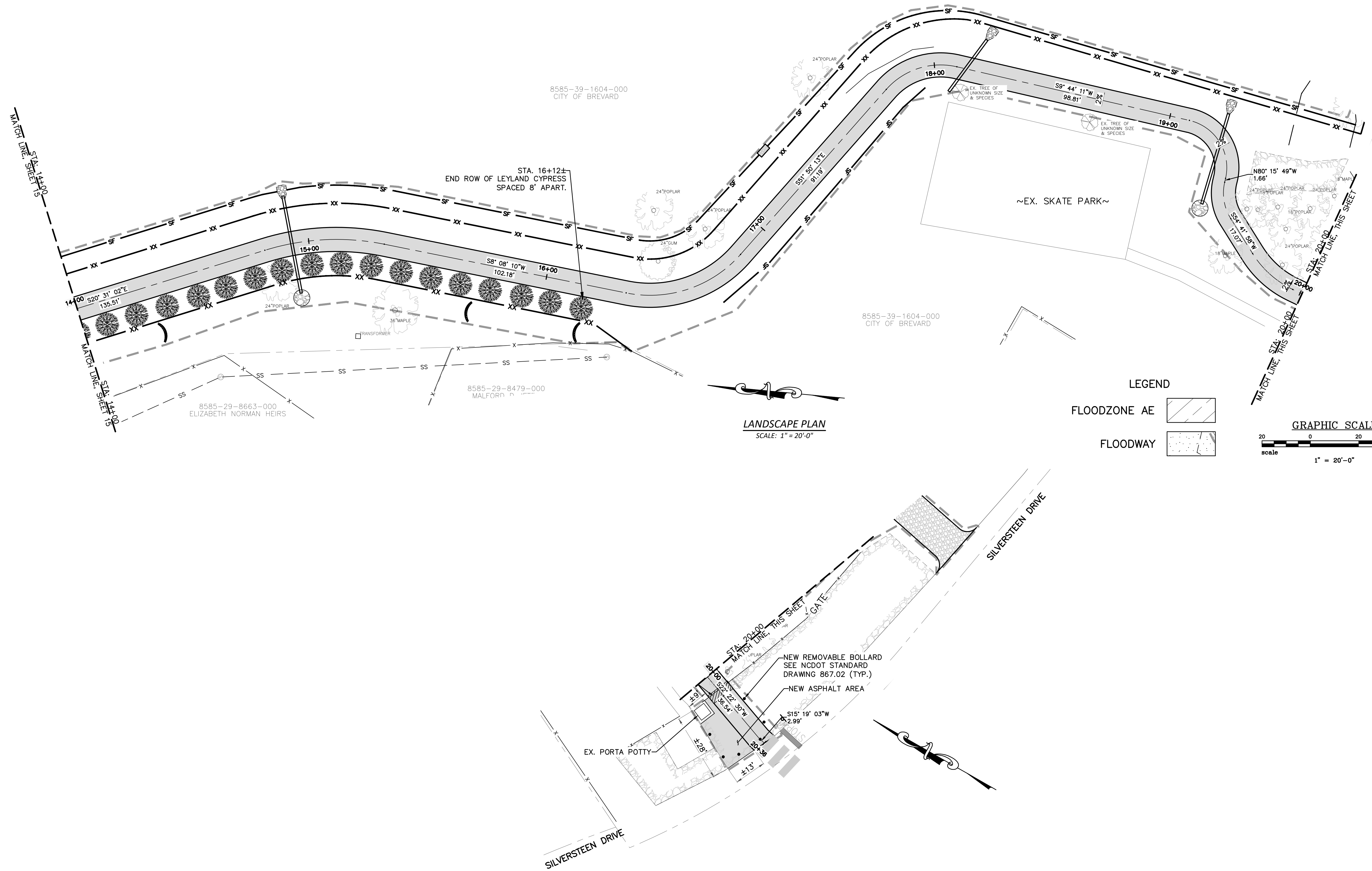
N.B. NO.
REF.
PROJECT NO.
22017

FILE: 22017_Base

SHEET
15
OF

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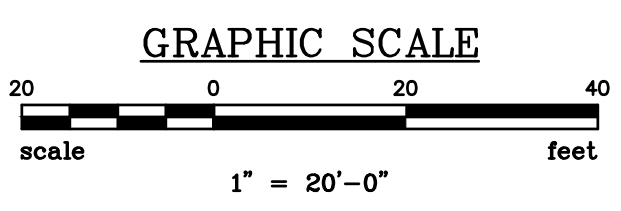


LANDSCAPE PLAN
SCALE: 1" = 20'-0"

LANDSCAPE PLAN
SCALE: 1" = 20'-0"

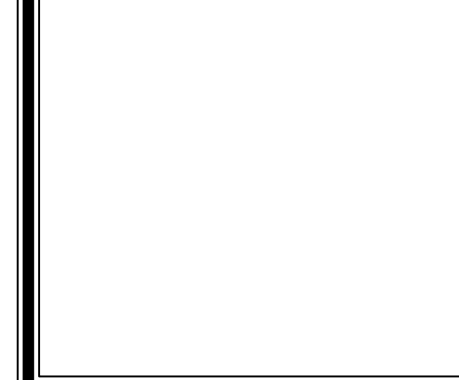
LEGEND

- FLOODZONE AE
- FLOODWAY



REVISIONS	
NO.	DESCRIPTION
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2	REVIEW
3	
4	
5	
6	
7	
8	
9	
10	

APPROVALS	
PROJECT ENG.	DATE
AF	1/14/25
DESIGNED BY:	BY:
AF	
DRAWN BY:	BY:
JDK	
CHECKED BY:	BY:
MFC	
APPROVED:	BY:
AF	



5/28/2026
VIN FULLER, JR.

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Spartanburg, SC 29301
(864)949-1111

SHEET TITLE
LANDSCAPE PLAN
DATE: DEC. 2023 | SCALE: AS SHOWN

PROJECT
**ESTATOE TRAIL PHASE III
(TANNERY PROPERTY)
FOR THE
CITY OF BREVARD, NC**
TRANSYLVANIA COUNTY NORTH CAROLINA

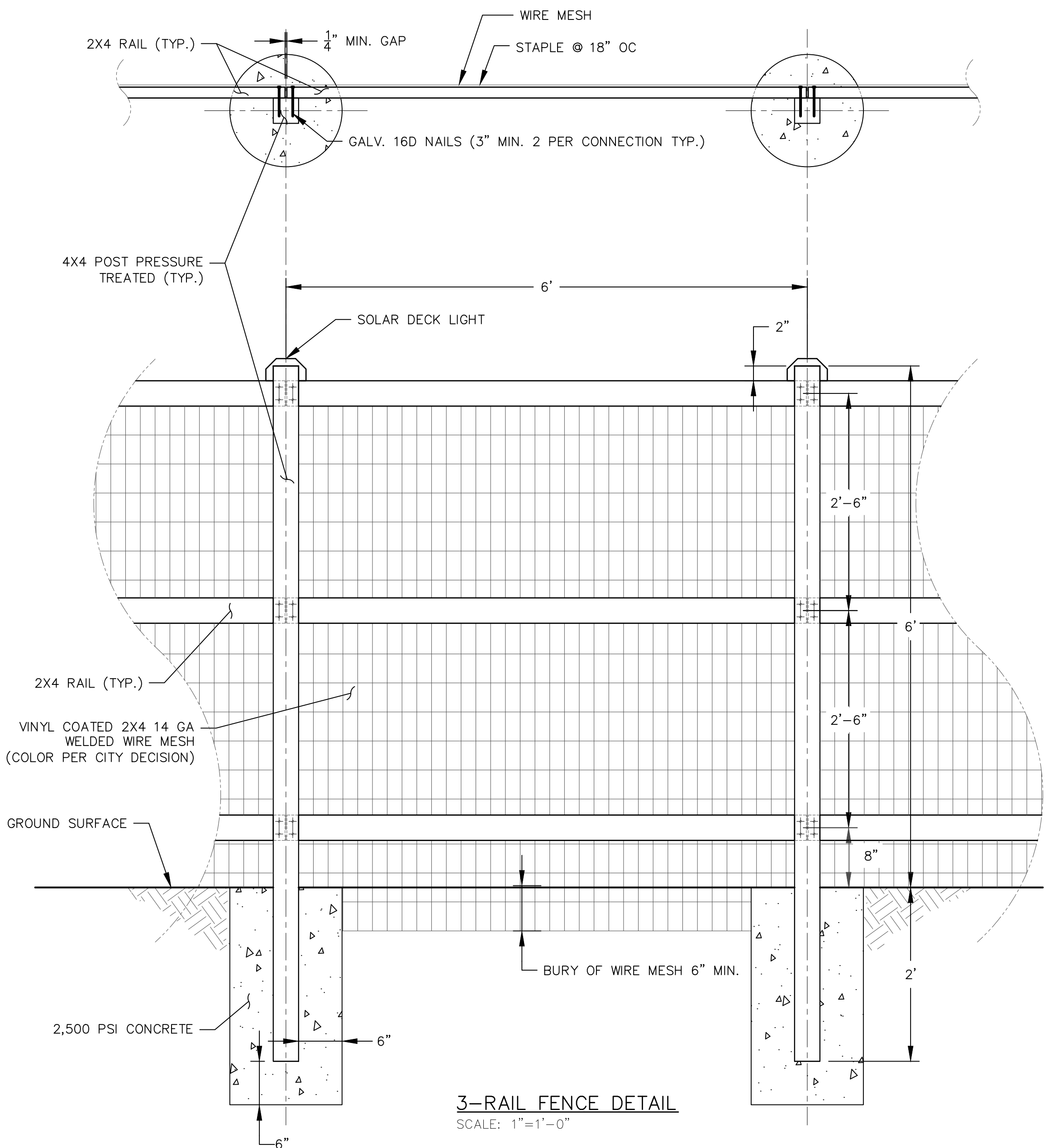
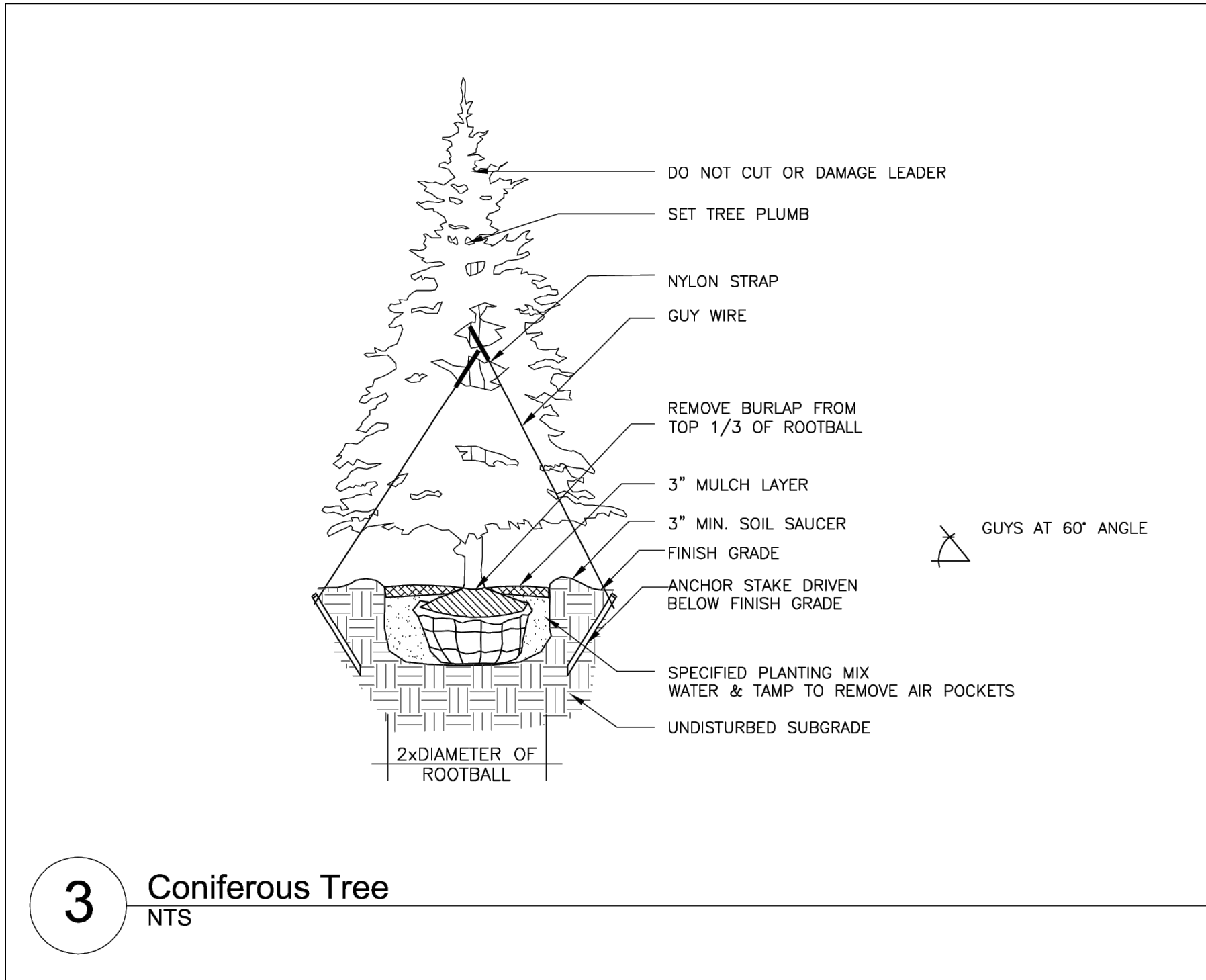
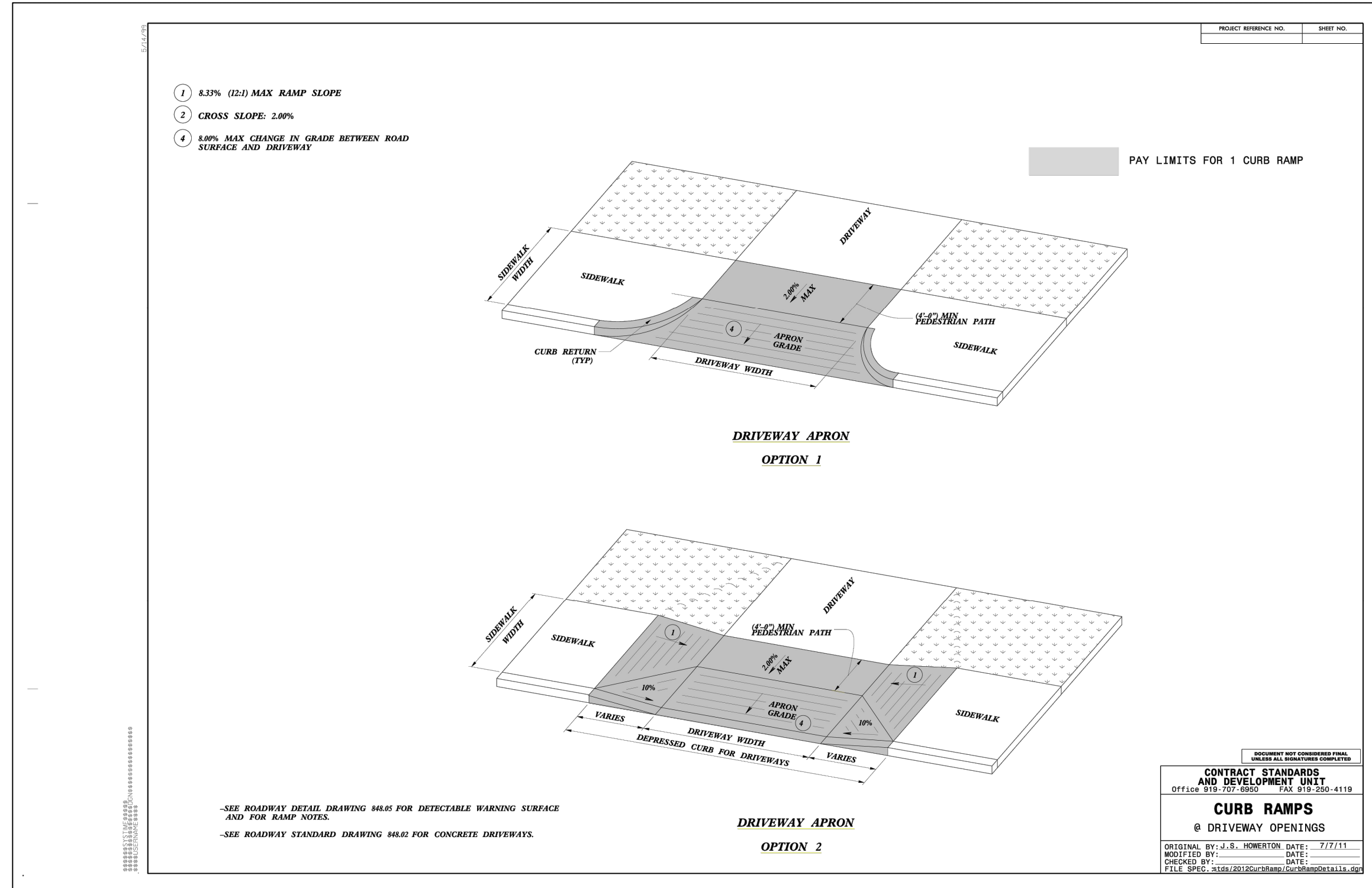
N.B. NO.
REF.
PROJECT NO.
22017

SHEET
16
OF

FILE: 22017_Base

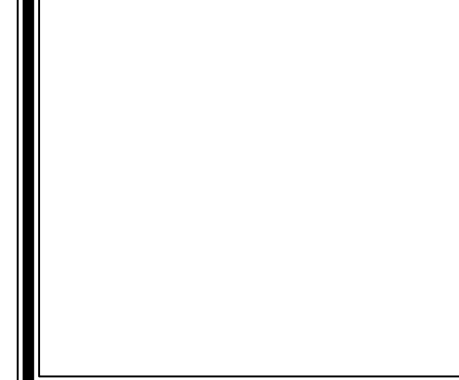
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NO.	DESCRIPTION	DATE	BY
1	REVISED BASED ON	1/14/25	MFC
2	REVISED BASED ON	1/27/24	MFC
3	REVISION		

APPROVALS	PROJECT ENG.	DESIGNED BY:	DRAWN BY:	CHECKED BY:	APPROVED:
	AF	AF	JKK	MFC	AF



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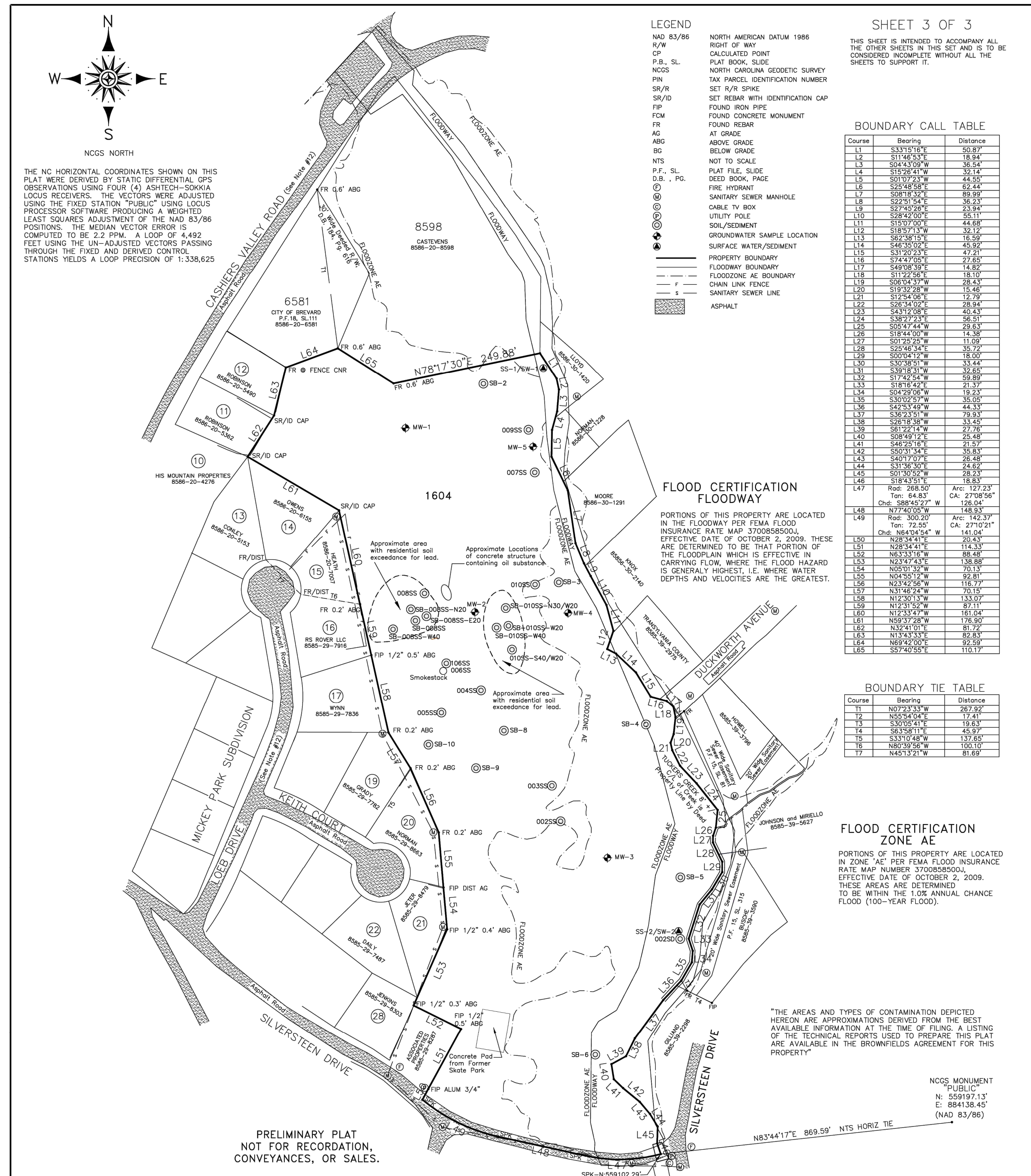
SHEET TITLE: MISCELLANEOUS DETAILS
 DATE: DEC. 2023 | SCALE: AS SHOWN

PROJECT: ESTATOE TRAIL PHASE III (TANNERY PROPERTY) FOR THE CITY OF BREVARD, NC
 TRANSLVANIA COUNTY NORTH CAROLINA

N.B. NO.	SHEET
REF.	17
PROJECT NO.	OF
22017	

FILE: 22017_Base

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LEGEND
 NAD 83/86 NORTH AMERICAN DATUM 1986
 RW RIGHT OF WAY
 CP CALCULATED POINT
 P.B., SL. PLAY BOOK, SLIDE
 NCS NORTH CAROLINA GEODETIC SURVEY
 PIN TAX PARCEL IDENTIFICATION NUMBER
 SR/R SET R/R SPIKE
 SR/D SET REBAR WITH IDENTIFICATION CAP
 FIP FOUND IRON PIPE
 FCM FOUND CONCRETE MONUMENT
 FR FOUND REBAR AT GRADE
 AG ABOVE GRADE
 BG BELOW GRADE
 NTS NOT TO SCALE
 P.F., SL. PLAT FILE, SLIDE
 D.B., PG. DEED BOOK, PAGE
 FH FIRE HYDRANT
 SM SANITARY SEWER MANHOLE
 CB CABLE TV BOX
 UP UTILITY POLE
 S/S SOIL/SEDIMENT
 SW SURFACE WATER/SEDIMENT
 F FLOODWAY BOUNDARY
 F FLOODZONE AE BOUNDARY
 CH CHAIN LINK FENCE
 S SANITARY SEWER LINE
 A ASPHALT

BOUNDARY CALL TABLE

Course	Bearing	Distance
L1	S33°10'16"E	50.87
L2	S11°45'55"W	18.94
L3	S04°43'09"W	36.54
L4	S12°45'41"W	32.14
L5	S01°07'23"W	44.52
L6	S24°45'52"E	52.44
L7	S08°18'37"E	89.99
L8	S27°24'54"W	36.23
L9	S27°24'29"E	23.94
L10	S10°04'00"E	36.11
L11	S10°04'00"E	44.85
L12	S18°57'17"W	32.12
L13	S07°20'15"E	16.99
L14	S48°35'02"E	45.92
L15	S11°20'23"E	49.21
L16	S74°47'05"E	27.85
L17	S48°59'59"E	14.92
L18	S11°22'50"E	18.10
L19	S08°54'37"W	28.43
L20	S10°20'14"E	15.46
L21	S12°45'41"W	12.79
L22	S12°45'41"W	26.85
L23	S43°17'08"E	40.43
L24	S11°20'23"E	26.51
L25	S08°18'37"E	23.83
L26	S11°20'23"E	14.88
L27	S01°25'25"W	11.09
L28	S07°24'54"E	18.20
L29	S07°24'54"E	25.70
L30	S30°38'51"W	33.44
L31	S01°07'23"W	32.65
L32	S17°42'44"W	59.89
L33	S12°45'41"E	25.37
L34	S04°29'05"W	19.23
L35	S10°05'19"E	35.88
L36	S42°53'49"W	44.33
L37	S08°25'51"W	79.32
L38	S08°18'37"E	33.45
L39	S07°24'54"E	27.78
L40	S08°24'12"E	24.46
L41	S48°25'18"E	21.57
L42	S07°24'54"E	36.83
L43	S40°17'07"E	26.48
L44	S17°42'44"W	14.88
L45	S01°05'57"W	28.53
L46	S18°43'51"E	18.65
L47	Rec: 368.50' Arc: 127.23' CA: 270°08'56"	126.24
L48	N77°40'05"W Arc: 148.93'	148.93
L49	Rec: 300.20' Arc: 148.33' CA: 271°02'21"	148.33
L50	Chc: 184.04' W CA: 271°02'21"	184.04
L51	N28°34'41"E	20.43
L52	N03°34'16"E	38.48
L53	N03°47'43"E	38.88
L54	N03°01'32"W	70.13
L55	N04°52'12"W	92.81
L56	N13°42'17"E	70.15
L57	N14°48'24"W	70.15
L58	N13°42'17"E	70.15
L59	N12°31'52"W	87.11
L60	N12°34'47"W	181.04
L61	N07°24'28"W	176.80
L62	N32°41'01"E	81.22
L63	N13°43'33"E	82.33
L64	N08°42'00"E	92.59
L65	S07°40'55"E	101.17

BOUNDARY TIE TABLE

Course	Bearing	Distance
T1	N07°24'33"W	267.92
T2	N03°34'16"E	17.41
T3	S30°38'51"W	18.83
T4	S12°45'41"E	45.92
T5	S33°10'48"W	137.65
T6	N02°35'36"W	100.10
T7	N45°12'21"W	81.69

FLOOD CERTIFICATION ZONE AE
 PORTIONS OF THIS PROPERTY ARE LOCATED IN ZONE AE PER FEMA FLOOD INSURANCE RATE MAP NUMBER 3700888500, EFFECTIVE DATE OF OCTOBER 2, 2009. THESE AREAS ARE DETERMINED TO BE WITHIN THE 1.0% ANNUAL CHANCE FLOOD (100-YEAR FLOOD).
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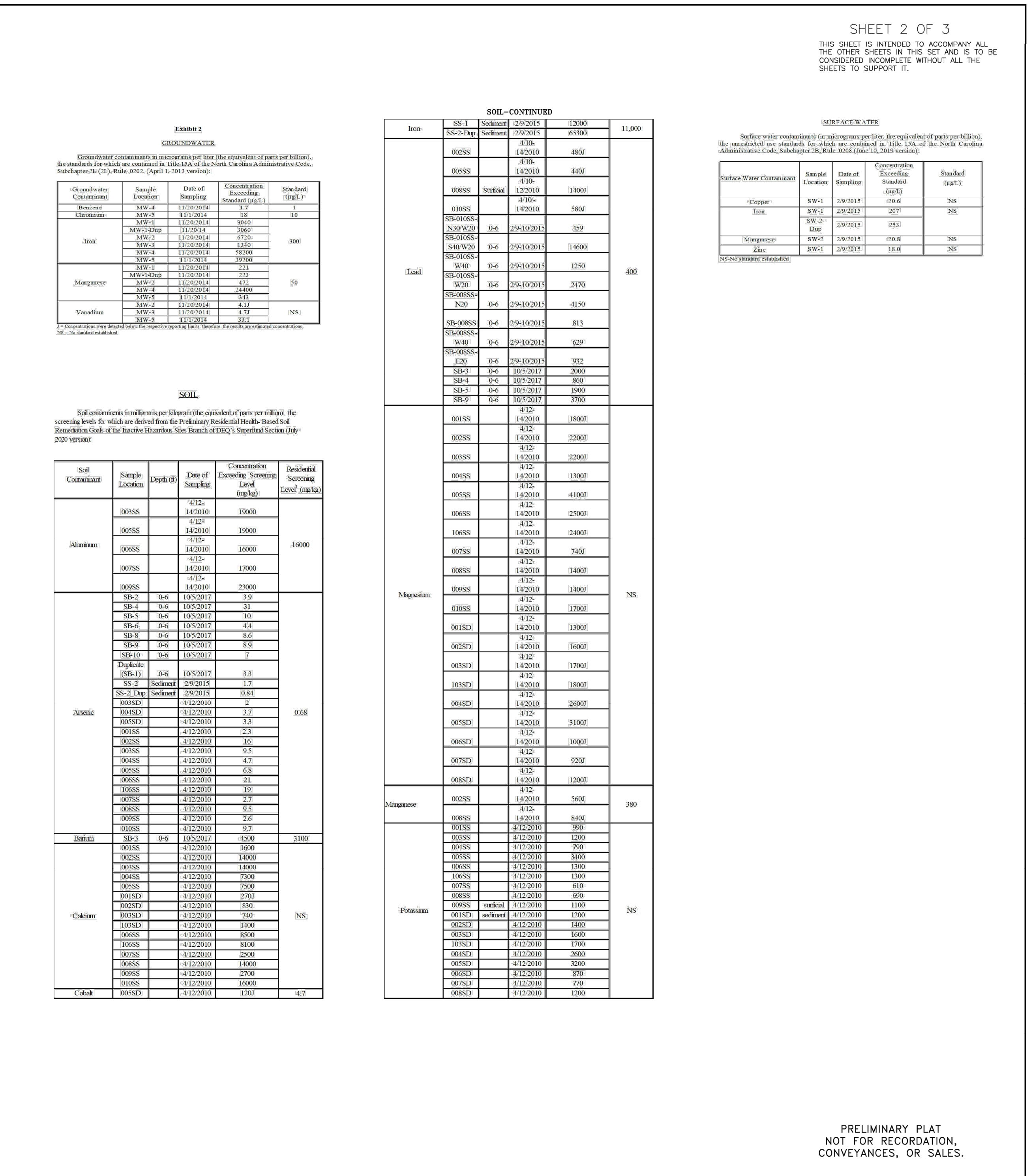
NCS MONUMENT PUBLIC N: 55819.13' E: 884138.45' (NAD 83/86)

PREPARED BY
CAROLINA MOUNTAIN SURVEYING
 FIRM LICENSE NUMBER #1205
 137 NORTH BROAD STREET, SUITE 2
 BREVARD, NORTH CAROLINA 28712
 (828) 883-2670
 CMSURVEYING@COMPORIUM.NET

EXHIBIT "B" to the Notice of Brownfields Property-SURVEY PLAT BOUNDARY SURVEY OF THE Tannery TAX PARCEL 8585-39-1604 PREPARED FOR THE CITY OF BREVARD
 CITY OF BREVARD, BREVARD TOWNSHIP
 TRANSLYVANIA COUNTY, NORTH CAROLINA
 OWNER OF RECORD: CITY OF BREVARD

DATE: MARCH 12, 2021
 FIELD RECORDS: DATA COLLECTOR
 DRAWING NUMBER: EXHIBIT B-PLAT
 COORDINATE FILE: CMS14062.CRD
 PROJECT NUMBER: CMS14062

GRAPHIC SCALE - FEET WRITTEN SCALE: 1"=100'



LEGEND
 NAD 83/86 NORTH AMERICAN DATUM 1986
 RW RIGHT OF WAY
 CP CALCULATED POINT
 P.B., SL. PLAY BOOK, SLIDE
 NCS NORTH CAROLINA GEODETIC SURVEY
 PIN TAX PARCEL IDENTIFICATION NUMBER
 SR/R SET R/R SPIKE
 SR/D SET REBAR WITH IDENTIFICATION CAP
 FIP FOUND IRON PIPE
 FCM FOUND CONCRETE MONUMENT
 FR FOUND REBAR AT GRADE
 AG ABOVE GRADE
 BG BELOW GRADE
 NTS NOT TO SCALE
 P.F., SL. PLAT FILE, SLIDE
 D.B., PG. DEED BOOK, PAGE
 FH FIRE HYDRANT
 SM SANITARY SEWER MANHOLE
 CB CABLE TV BOX
 UP UTILITY POLE
 S/S SOIL/SEDIMENT
 SW SURFACE WATER/SEDIMENT
 F FLOODWAY BOUNDARY
 F FLOODZONE AE BOUNDARY
 CH CHAIN LINK FENCE
 S SANITARY SEWER LINE
 A ASPHALT

BOUNDARY CALL TABLE

Course	Bearing	Distance
L1	S33°10'16"E	50.87
L2	S11°45'55"W	18.94
L3	S04°43'09"W	36.54
L4	S12°45'41"W	32.14
L5	S01°07'23"W	44.52
L6	S24°45'52"E	52.44
L7	S08°18'37"E	89.99
L8	S27°24'54"W	36.23
L9	S27°24'29"E	23.94
L10	S10°04'00"E	36.11
L11	S10°04'00"E	44.85
L12	S18°57'17"W	32.12
L13	S07°20'15"E	16.99
L14	S48°35'02"E	45.92
L15	S11°20'23"E	49.21
L16	S74°47'05"E	27.85
L17	S48°59'59"E	14.92
L18	S11°22'50"E	18.10
L19	S08°54'37"W	28.43
L20	S10°20'14"E	15.46
L21	S12°45'41"W	12.79
L22	S12°45'41"W	26.85
L23	S43°17'08"E	40.43
L24	S11°20'23"E	26.51
L25	S08°18'37"E	23.83
L26	S11°20'23"E	14.88
L27	S01°25'25"W	11.09
L28	S07°24'54"E	18.20
L29	S07°24'54"E	25.70
L30	S30°38'51"W	33.44
L31	S01°07'23"W	32.65
L32	S17°42'44"W	59.89
L33	S12°45'41"E	25.37
L34	S04°29'05"W	19.23
L35	S10°05'19"E	35.88
L36	S42°53'49"W	44.33
L37	S08°25'51"W	79.32
L38	S08°18'37"E	33.45
L39	S07°24'54"E	27.78
L40	S08°24'12"E	24.46
L41	S48°25'18"E	21.57
L42	S07°24'54"E	36.83
L43	S40°17'07"E	26.48
L44	S17°42'44"W	14.88
L45	S01°05'57"W	28.53
L46	S18°43'51"E	18.65
L47	Rec: 368.50' Arc: 127.23' CA: 270°08'56"	126.24
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 OWNER OF RECORD: CITY OF BREVARD

DATE: MARCH 12, 2021
 FIELD RECORDS: DATA COLLECTOR
 DRAWING NUMBER: EXHIBIT B-TABLES
 COORDINATE FILE: CMS14062.CRD
 PROJECT NUMBER: CMS14062

GRAPHIC SCALE - FEET WRITTEN SCALE: 1"=100'

SOIL-CONTINUED

Iron	SS-1	Soilnet	2/9/2015	1200	11,000
	SS-2 Dcp	Soilnet	2/9/2015	6300	
	002SS		4/10/142010	4807	
	005SS		4/10/142010	4401	
	008SS	Surfcd	4/10/122010	14007	
	010SS		4/10/142010	5802	
	SB-010SS		2/9/102015	459	
	SB-010SS		2/9/102015	14600	
	SB-010SS		2/9/102015	14600	
	SB-010SS		2/9/102015	1250	400
	SB-010SS		2/9/102015	2470	
	SB-010SS		2/9/102015	4150	
	SB-008SS		2/9/102015	813	
	SB-008SS		2/9/102015	629	
	SB-008SS		2/9/102015	932	
	SB-3		10/5/2017	2000	
	SB-4		10/5/2017	800	
	SB-5		10/5/2017	1900	
	SB-9		10/5/2017	3700	
	001SS		4/12/142010	18007	
	002SS		4/12/142010	22007	
	003SS		4/12/142010	22007	
	005SS		4/12/142010	13007	
	005SS		4/12/142010	41007	
	006SS		4/12/142010	19000	
	006SS		4/12/142010	24007	
	006SS		4/12/142010	24007	
	007SS		4/12/142010	7407	
	008SS		4/12/142010	14007	
	008SS		4/12/142010	14007	
	008SS		4/12/142010	17007	
	001SD		4/12/142010	13007	
	002SD		4/12/142010	16007	
	003SD		4/12/142010	17007	
	003SD		4/12/142010	18007	
	004SD		4/12/142010	26007	
	005SD		4/12/142010	31007	
	006SD		4/12/142010	10007	
	006SD		4/12/142010	12007	
	007SD		4/12/142010	9207	
	008SD		4/12/142010	5607	380
	008SS		4/12/142010	8407	
	001SS		4/12/2010	990	
	001SS		4/12/2010	1200	
	001SS		4/12/2010	790	
	002SS		4/12/2010	14000	
	003SS		4/12/2010	14000	
	003SS		4/12/2010	14000	
	003SS		4/12/2010	7800	
	003SS		4/12/2010	7500	
	001SD		4/12/2010	2707	
	002SD		4/12/2010	830	
	003SD		4/12/2010	740	
	003SD		4/12/2010	1400	
	006SS		4/12/2010	8500	
	006SS		4/12/2010	8100	
	007SS		4/12/2010	2900	
	008SS		4/12/2010	14000	
	008SS		4/12/2010	2700	
	001SS		4/12/2010	10000	
	005SD		4/12/2010	1207	4.7

GROUNDWATER

Groundwater Contaminant	Sample Location	Date of Sampling	Concentration Exceeding Standard (µg/L)	Standard (µg/L)
Benzo(a)pyrene	MW-4	11/20/2014	1.7	1
Chromium	MW-5	11/20/2014	18	18
	MW-3-Dnp	11/20/2014	3600	
	MW-2	11/20/2014	4700	300
	MW-3	11/20/2014	1140	
	MW-4	11/20/2014	5300	
	MW-5	11/20/2014	3930	
	MW-1	11/20/2014	733	
	MW-3-Dnp	11/20/2014	177	50
	MW-2	11/20/2014	2460	
	MW-5	11/20/2014	141	
	MW-2	11/20/2014	413	
	MW-3	11/20/2014	137	NS
	MW-5	11/20/2014	333	

*Concentration over listed below the respective regulated level. For results not related to concentration, NS = No standard established.

SOIL

Soil contaminants in milligrams per kilogram (the equivalent of parts per million), the screening levels for which are derived from the Preliminary Residential Health-Based Remediation Goals of the Inactive Hazardous Sites Branch of DEQ's Superfund Section (July 2009 version):

Soil Contaminant	Sample Location	Depth (ft)	Date of Sampling	Concentration Exceeding Screening Level (mg/kg)	Residential Screening Level (mg/kg)
	003SS	4/12	142010	19000	1600

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EROSION CONTROL NOTES:

- ALL SEDIMENT AND EROSION CONTROL MEASURES ARE TO BE INSPECTED BY THE CONTRACTOR AT LEAST ONCE EVERY SEVEN (7) DAYS AND AFTER ANY STORM EVENT OF 1" OR GREATER PRECIPITATION DURING 24 HOUR PERIOD. THE CONTRACTOR SHALL PROVIDE THE ENGINEER AND OWNER WITH COPIES OF HIS INSPECTION REPORT AND SHALL HAVE 5 DAYS TO REPAIR AND/OR CORRECT DEFICIENCIES. DAMAGED OR INEFFECTIVE DEVICES SHALL BE REPAIRED OR REPLACED AS NECESSARY.
- ALL DISTURBED AREAS WHERE CONSTRUCTION HAS TEMPORARILY OR PERMANENTLY CEASED SHALL BE STABILIZED WITH GRASSING AS SOON AS PRACTICABLE AND IN NO CASE EXCEEDING 14 DAYS FOLLOWING WORK STOPPAGE UNLESS SAID CONSTRUCTION WILL RESUME WITHIN THE SUBSEQUENT 5 DAYS.
- THE CONTRACTOR SHALL KEEP A LOG OF INSPECTION ACTIVITIES CONTAINING THE DATE OF THE INSPECTION, THE CONDITION OF THE EROSION CONTROL DEVICES AND WHAT REMEDIAL ACTION WAS TAKEN. THIS LOG IS TO BE SUBMITTED TO THE ENGINEER ON A MONTHLY BASIS.
- ALL EROSION CONTROL DEVICES SHALL BE PROPERLY MAINTAINED DURING ALL PHASES OF CONSTRUCTION UNTIL THE COMPLETION OF ALL CONSTRUCTION ACTIVITIES AND ALL DISTURBED AREAS HAVE BEEN STABILIZED. ADDITIONAL CONTROL DEVICES MAY BE REQUIRED DURING CONSTRUCTION IN ORDER TO CONTROL EROSION AND/OR OFFSITE SEDIMENTATION.
- THE CONTRACTOR SHALL TAKE NECESSARY ACTION TO MINIMIZE TRACKING OF MUD ONTO PAVED ROADWAY SURFACE FROM CONSTRUCTION AREAS, INCLUDING BUT NOT LIMITED TO EXTENDING THE MUD MAT. THE CONTRACTOR SHALL REMOVE MUD AND SOIL FROM THE PAVEMENT ON A DAILY BASIS. NO ADDITIONAL PAYMENT WILL BE MADE.
- SLOPES STEEPER THAN 3:1 SHALL BE STABILIZED AS NECESSARY WITH SYNTHETIC OR VEGETATIVE MATS IN ADDITION TO GRASSING/HYDRO SEEDING TO ENSURE THEIR INTEGRITY. TEMPORARY SLOPE DRAINS SHALL BE INSTALLED AS NECESSARY DURING CONSTRUCTION WHERE SAID SLOPES EXCEED 8 VERTICAL FEET. TEMPORARY BERMS MAY BE NEEDED UNTIL THE SLOPE IS BROUGHT TO GRADE.
- TEMPORARY DIVERSION BERMS/DITCHES SHALL BE PROVIDED AS NEEDED DURING CONSTRUCTION TO PROTECT WORK AREAS FROM UPSLOPE RUNOFF AND/OR TO DIVERT SEDIMENT LADEN WATER TO APPROPRIATE TRAPS OR STABLE OUTLETS.
- WHENEVER THE SOIL EROSION AND SEDIMENTATION CONTROL ADMINISTRATOR DETERMINES THAT SIGNIFICANT EROSION AND SEDIMENTATION OCCURRING AS A RESULT OF LAND-DISTURBING ACTIVITY, DESPITE APPLICATION AND MAINTENANCE OF PROTECTIVE PRACTICES, THE PERSON CONDUCTING THE LAND-DISTURBING ACTIVITY WILL BE REQUIRED TO AND SHALL TAKE ADDITIONAL PROTECTIVE ACTION.
- SOIL TEST SHALL BE PERFORMED TO DETERMINE APPLICABLE FERTILIZER RATES FOR ALL DISTURBED AREAS/AREAS TO BE SEED.

EROSION CONTROL CONSTRUCTION SEQUENCE:

- NOTIFY NCDOT LOS INSPECTOR 48 HOURS BEFORE PROJECT STARTS.
- NO MAJOR GRADING ACTIVITIES OR BASIN CONSTRUCTION ARE TO TAKE PLACE DURING WET WEATHER OR PERIODS OF PREDICTED WET WEATHER.
- THE MAXIMUM AMOUNT OF LINEAR FEET THE PROJECT CAN HAVE OPEN AT ONE TIME IS 500'.
- SITE MUST BE STORM READY BEFORE ANY EXTENDED BREAKS IN CONSTRUCTION ACTIVITIES INCLUDING WEEKENDS.
- INSTALL ALL APPLICABLE EROSION CONTROL MEASURES (I.E. SILT FENCING, MUD MAT, ETC.)
- CLEAR AND GRUB SITE AS REQUIRED
- COMMENCE GRADING OPERATIONS.
- INSPECT AND REPAIR EROSION CONTROL MEASURES AS APPLICABLE
- COMMENCE CONSTRUCTION OF PEDESTRIAN GREENWAY BASE.
- INSTALL STORMWATER MANAGEMENT DEVICES. (I.E. STORMWATER PIPE, ETC.) (PROVIDE EROSION CONTROL MEASURES)
- INSTALL MATTING ON ALL SLOPES GREATER THAN 3:1
- ESTABLISH PERMANENT COVER ON ALL GRADED SLOPES.
- COMMENCE PAVING FOR PROPOSED PEDESTRIAN GREENWAY.
- ESTABLISH STRAW OR MULCH COVER AND TEMPORARY GRASSING COVER ON ALL BANKS, DITCHES, CUT & FILL SLOPES, ETC. IMMEDIATELY AFTER GRADING OPERATIONS. MAINTAIN COVER UNTIL PERMANENT. PROVIDE SILT FENCING ALONG ALL TOE OF SLOPES
- REMOVE TEMPORARY EROSION CONTROL DEVICES AFTER PERMANENT COVER HAS BEEN ESTABLISHED.
- NOTIFY NCDOT LOS INSPECTOR WHEN PROJECT IS READY FOR CLOSE OUT INSPECTION.
- FILE FOR NPDES NCD010000 E-NOTICE OF TERMINATION WHEN FINAL CLOSE OUT INSPECTION REPORT IS RECEIVED FROM NCDOT LOS.

STABILIZATION REQUIREMENTS:
(4-30-2019)(Rev. 1-21-2025)

Stabilization for this project shall comply with the time frame guidelines as specified by the NCCG-010000 general construction permit issued by the North Carolina Department of Environmental Quality Division of Energy, Mineral and Land Resources. Temporary or permanent ground cover stabilization shall occur within the following time frames from the last land-disturbing activity:

- Stabilize perimeter dikes, swales, ditches, and perimeter slopes within 7 calendar days.
- Stabilize high quality water (HQW) zones within 7 calendar days.
- Stabilize slopes steeper than 3:1 within 7 calendar days.
 - If slopes are 10 feet or less in length and are not steeper than 2:1, 14 calendar days are allowed.
- Stabilize slopes 3:1 to 4:1 within 14 calendar days.
 - 7 calendar days for slopes greater than 50 feet in length and with slopes steeper than 4:1.
 - 7 calendar days for perimeter dikes, swales, ditches, perimeter slopes, and HQW Zones.
- Stabilize areas with slopes flatter than 4:1 within 14 calendar days.
 - 7 calendar days for perimeter dikes, swales, ditches, perimeter slopes, and HQW Zones.

The stabilization timeframe for High Quality Water (HQW) Zones shall be 7 calendar days with no exceptions for slope grades or lengths. High Quality Water Zones (HQW) Zones are defined by North Carolina Administrative Code 15A NCAC 04A.0105 (25). Temporary and permanent ground cover stabilization shall be achieved in accordance with the provisions in this contract and as directed.

NATIVE GRASS SEEDING AND MULCHING: (West)

Native Grass Seeding and Mulching shall be performed on the disturbed areas of wetlands and riparian areas, and adjacent to Stream Relocation and/or trout stream construction within a 50 foot zone on both sides of the stream or depression, measured from top of stream bank or center of depression. The stream bank of the stream relocation shall be seeded by a method that does not alter the typical cross section of the stream bank. Native Grass Seeding and Mulching shall also be performed in the permanent soil reinforcement mat section of preformed scour holes, and in other areas as directed.

The kinds of seed and fertilizer, and the rates of application of seed, fertilizer, and limestone, shall be as stated below. During periods of overlapping dates, the kind of seed to be used shall be determined. All rates are in pounds per acre.

August 1 - June 1	May 1 - September 1
18# Creeping Red Fescue	18# Creeping Red Fescue
8# Big Bluestem	8# Big Bluestem
6# Indiangrass	6# Indiangrass
4# Switchgrass	4# Switchgrass

35# Rye Grain	25# German or Browntop Millet
500# Fertilizer	500# Fertilizer
4000# Limestone	4000 Limestone

Approved Creeping Red Fescue Cultivars:

Aberdeen	Boreal	Epic	Cindy Lou
----------	--------	------	-----------

Fertilizer shall be 10-20-20 analysis. A different analysis of fertilizer may be used provided the 1-2-2 ratio is maintained and the rate of application adjusted to provide the same amount of plant food as a 10-20-20 analysis and as directed.

Temporary Seeding

Fertilizer shall be the same analysis as specified for *Seeding and Mulching* and applied at the rate of 400 pounds and seeded at the rate of 50 pounds per acre. German Millet or Browntop Millet shall be used in summer months and rye grain during the remainder of the year. The Engineer will determine the exact dates for using each kind of seed.

Fertilizer Topdressing

Fertilizer used for topdressing shall be 16-8-8 grade and shall be applied at the rate of 500 pounds per acre. A different analysis of fertilizer may be used provided the 2-1-1 ratio is maintained and the rate of application adjusted to provide the same amount of plant food as 16-8-8 analysis and as directed.

Supplemental Seeding

The kinds of seed and proportions shall be the same as specified for *Seeding and Mulching*, and the rate of application may vary from 25# to 75# per acre. The actual rate per acre will be determined prior to the time of topdressing and the Contractor will be notified in writing of the rate per acre, total quantity needed, and areas on which to apply the supplemental seed. Minimum tillage equipment, consisting of a sod seeder shall be used for incorporating seed into the soil as to prevent disturbance of existing vegetation. A clodbuster (ball and chain) may be used where degree of slope prevents the use of a sod seeder.

Mowing

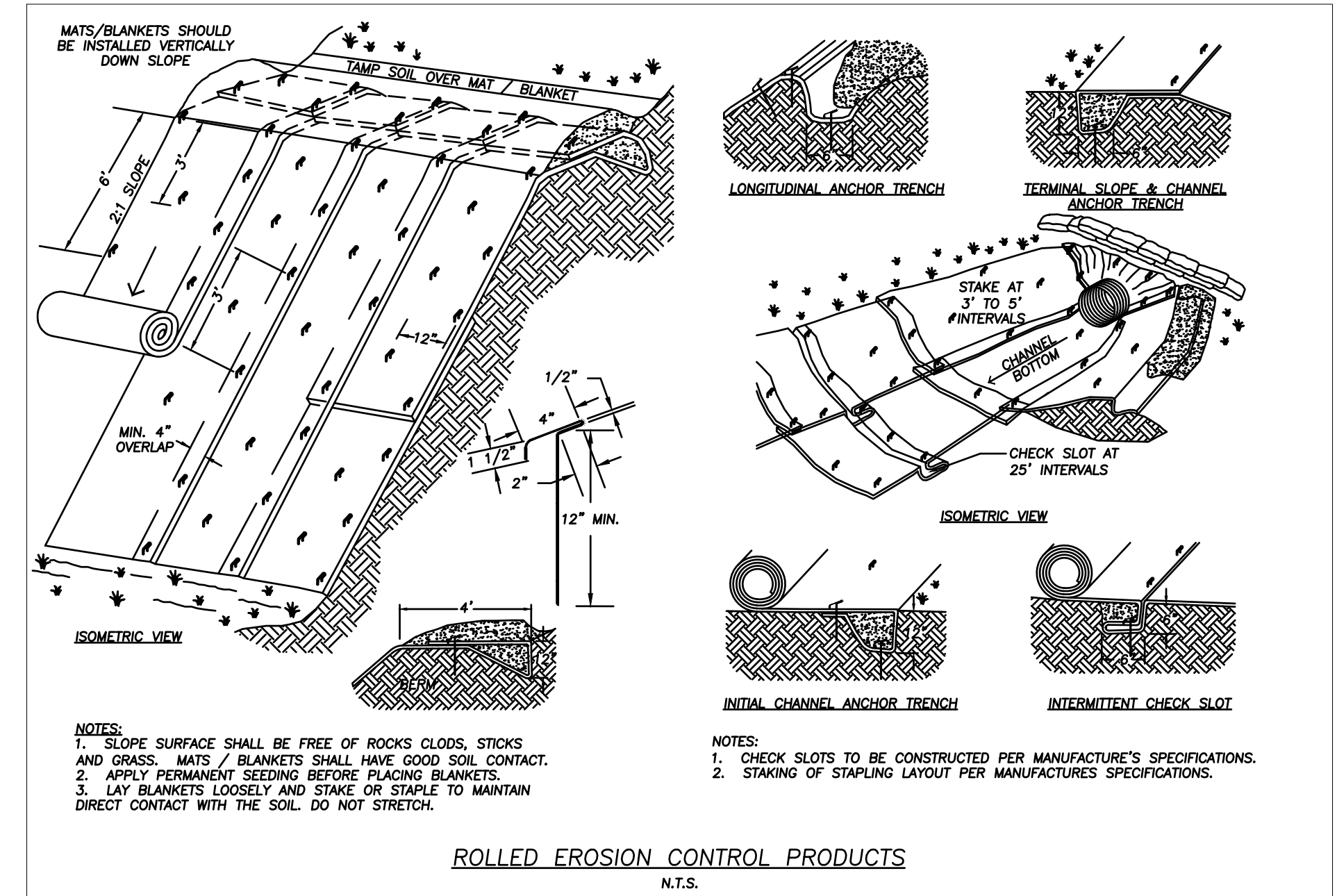
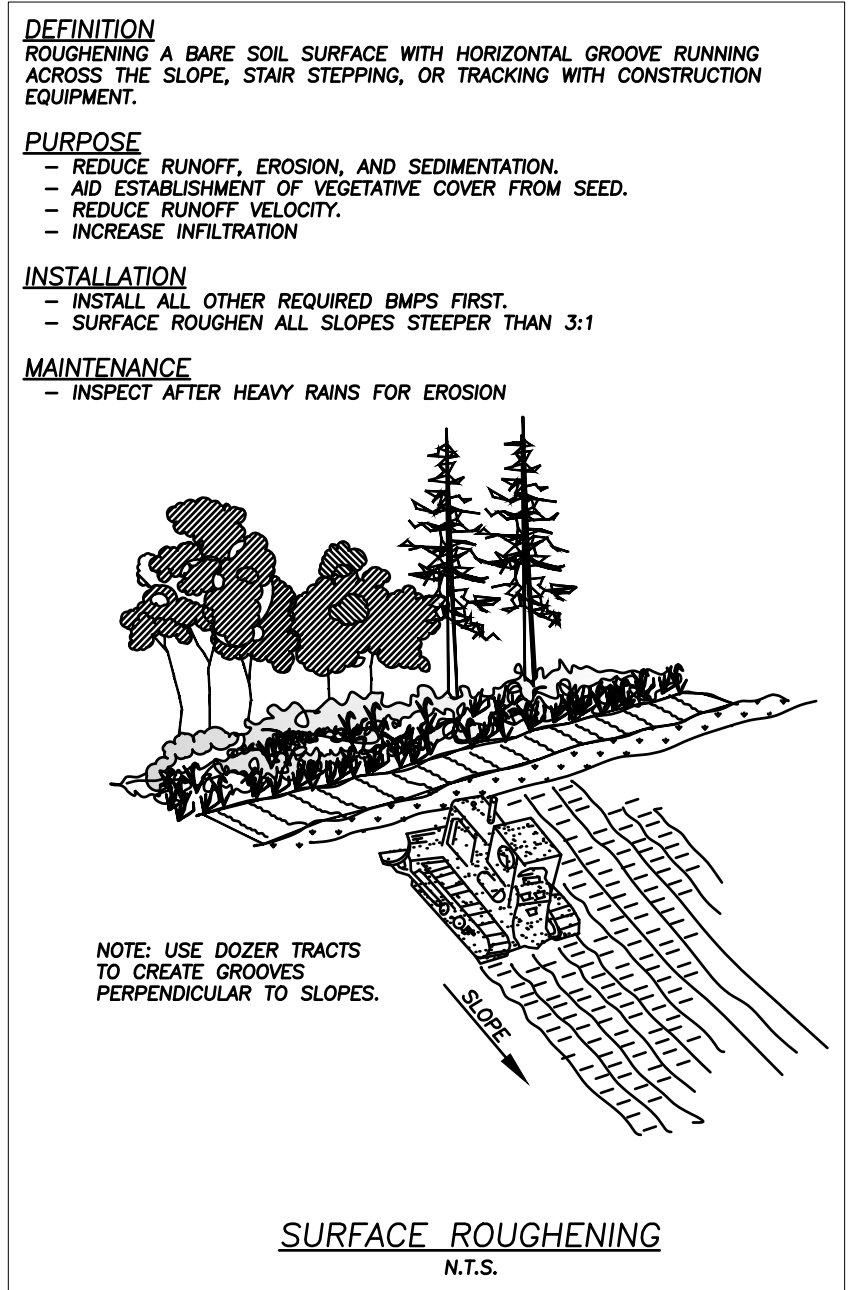
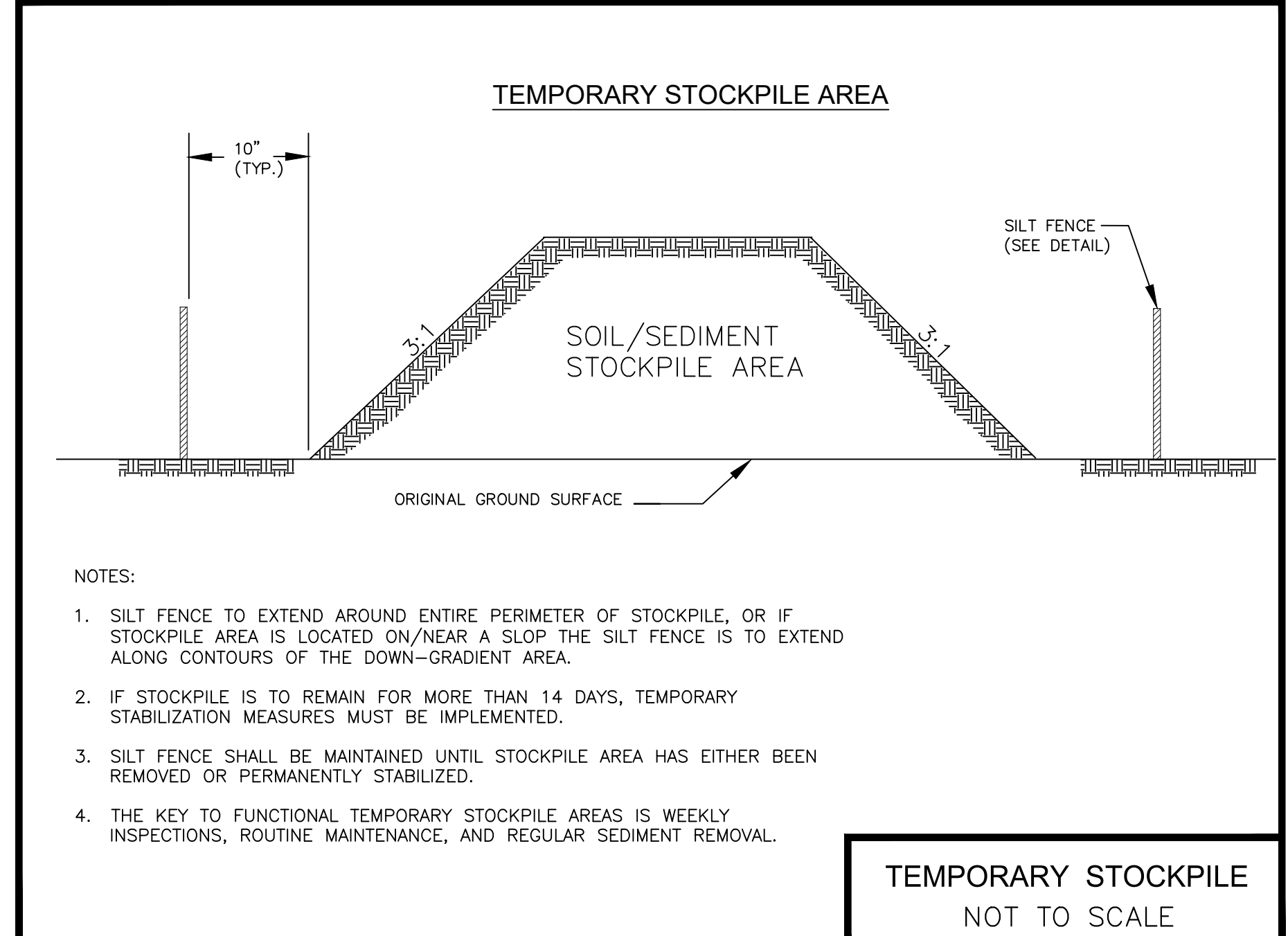
The minimum mowing height shall be 6 inches.

Measurement and Payment

Native Grass *Seeding and Mulching* will be measured and paid for in accordance with Article 1660-8 of the *Standard Specifications*.

SEEDING AND MULCH

REFERENCE: THE ABOVE IS FROM THE NCDOT'S "NATIVE SEEDING AND MULCHING_WEST (FULL)" SPECIAL PROVISION.



REVISIONS

NO.	DESCRIPTION	DATE	BY
1	REVISION BASED ON NCDOT REVIEW	1/24/25	MFC
2	REVISION BASED ON USDO REVIEW	1/27/26	MFC

APPROVALS

PROJECT ENG:	DESIGNED BY:	DRAWN BY:	CHECKED BY:	APPROVED:
AF	AF	JDK	MFC	AF



ALVIN FULLER, P.E.
8/28/2026

SUMMIT ENGINEERING GROUP INC.
ENGINEERS • PLANNERS • SURVEYORS
9601 Warren H. Abernathy Hwy.
Spartanburg, SC 29301
(864)949-1111

SHEET TITLE
STANDARD EROSION AND SEDIMENTATION CONTROL DETAILS
DATE: AUG. 2022 | SCALE: AS SHOWN

PROJECT
ESTATOE TRAIL PHASE III (CASHIERS VALLEY RD. TO ROSMAN HWY.) FOR THE CITY OF BREVARD, NC
TRANSYLVANIA COUNTY NORTH CAROLINA

N.B. NO.	SHEET
REF.	EC1
PROJECT NO.	OF
22017	
FILE: 22017-SEC	



N:\PROJECTS\22017 BREWARD - BIKE PATH.DWG 5/28/2026 9:36:22 AM

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GROUND STABILIZATION AND MATERIALS HANDLING PRACTICES FOR COMPLIANCE WITH THE NCG01 CONSTRUCTION GENERAL PERMIT

Implementing the details and specifications on this plan sheet will result in the construction activity being considered compliant with the Ground Stabilization and Materials Handling sections of the NCG01 Construction General Permit (Sections E and F, respectively). The permittee shall comply with the Erosion and Sediment Control plan approved by the delegated authority having jurisdiction. All details and specifications shown on this sheet may not apply depending on site conditions and the delegated authority having jurisdiction.

SECTION E: GROUND STABILIZATION

Table with 3 columns: Site Area Description, Stabilize within this many calendar days after ceasing land disturbance, and Timeframe variations. Rows include (a) Perimeter dikes, swales, ditches, and perimeter slopes; (b) High Quality Water (HQW) Zones; (c) Slopes steeper than 3:1; (d) Slopes 3:1 to 4:1; (e) Areas with slopes flatter than 4:1.

Note: After the permanent cessation of construction activities, any areas with temporary ground stabilization shall be converted to permanent ground stabilization as soon as practicable but in no case longer than 90 calendar days after the last land disturbing activity. Temporary ground stabilization shall be maintained in a manner to render the surface stable against accelerated erosion until permanent ground stabilization is achieved.

GROUND STABILIZATION SPECIFICATION

Table with 2 columns: Temporary Stabilization and Permanent Stabilization. Lists various methods like grass seed, mulch, hydroseeding, and erosion control products.

POLYACRYLAMIDES (PAMS) AND FLOCCULANTS

- 1. Select flocculants that are appropriate for the soils being exposed during construction, selecting from the NC DWR List of Approved PAMS/Flocculants.
2. Apply flocculants at or before the inlets to Erosion and Sediment Control Measures.
3. Apply flocculants at the concentrations specified in the NC DWR List of Approved PAMS/Flocculants and in accordance with the manufacturer's instructions.
4. Provide ponding area for containment of treated Stormwater before discharging effluents.
5. Store flocculants in leak-proof containers that are kept under storm-resistant cover or surrounded by secondary containment structures.

EQUIPMENT AND VEHICLE MAINTENANCE

- 1. Maintain vehicles and equipment to prevent discharge of fluids.
2. Provide drip pans under any stored equipment.
3. Identify leaks and repair as soon as feasible, or remove leaking equipment from the project.
4. Collect all spent fluids, store in separate containers and properly dispose as hazardous waste (recycle when possible).
5. Remove leaking vehicles and construction equipment from service until the problem has been corrected.
6. Bring used fuels, lubricants, coolants, hydraulic fluids and other petroleum products to a recycling or disposal center that handles these materials.

LITTER, BUILDING MATERIAL AND LAND CLEARING WASTE

- 1. Never bury or burn waste. Place litter and debris in approved waste containers.
2. Provide a sufficient number and size of waste containers (e.g. dumpster, trash receptacle) on site to contain construction and domestic wastes.
3. Locate waste containers at least 50 feet away from storm drain inlets and surface waters unless no other alternatives are reasonably available.
4. Locate waste containers on areas that do not receive substantial amounts of runoff from upland areas and does not drain directly to a storm drain, stream or wetland.
5. Cover waste containers at the end of each workday and before storm events or provide secondary containment. Repair or replace damaged waste containers.
6. Anchor all lightweight items in waste containers during times of high winds.
7. Empty waste containers as needed to prevent overflow. Clean up immediately if containers overflow.
8. Dispose waste off-site at an approved disposal facility.
9. On business days, clean up and dispose of waste in designated waste containers.

PAINT AND OTHER LIQUID WASTE

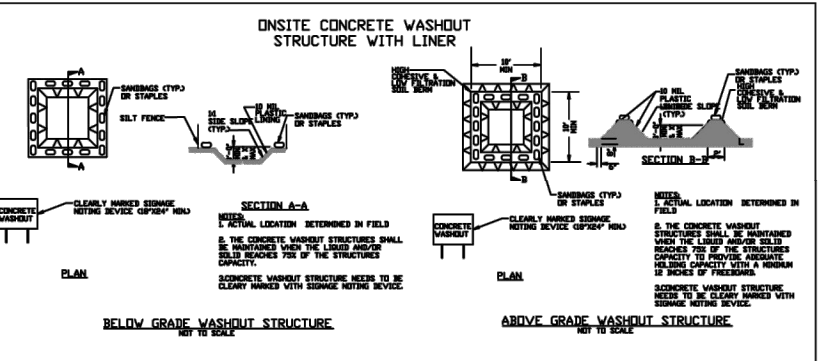
- 1. Do not dump paint and other liquid waste into storm drains, streams or wetlands.
2. Locate paint washouts at least 50 feet away from storm drain inlets and surface waters unless no other alternatives are reasonably available.
3. Contain liquid wastes in a controlled area.
4. Containment must be labeled, sized and placed appropriately for the needs of site.
5. Prevent the discharge of soaps, solvents, detergents and other liquid wastes from construction sites.

PORTABLE TOILETS

- 1. Install portable toilets on level ground, at least 50 feet away from storm drains, streams or wetlands unless there is no alternative reasonably available. If 50 foot offset is not attainable, provide relocation of portable toilet behind silt fence or place on a gravel pad and surround with sand bags.
2. Provide staking or anchoring of portable toilets during periods of high winds or in high foot traffic areas.
3. Monitor portable toilets for leaking and properly dispose of any leaked material. Utilize a licensed sanitary waste hauler to remove leaking portable toilets and replace with properly operating unit.

EARTHEN STOCKPILE MANAGEMENT

- 1. Show stockpile locations on plans. Locate earthen-material stockpile areas at least 50 feet away from storm drain inlets, sediment basins, perimeter sediment controls and surface waters unless it can be shown no other alternatives are reasonably available.
2. Protect stockpile with silt fence installed along toe of slope with a minimum offset of five feet from the toe of stockpile.
3. Provide stable stone access point when feasible.
4. Stabilize stockpile within the timeframes provided on this sheet and in accordance with the approved plan and any additional requirements. Soil stabilization is defined as vegetative, physical or chemical coverage techniques that will restrain accelerated erosion on disturbed soils for temporary or permanent control needs.



CONCRETE WASHOUTS

- 1. Do not discharge concrete or cement slurry from the site.
2. Dispose of, or recycle settled, hardened concrete residue in accordance with local and state solid waste regulations and at an approved facility.
3. Manage washout from mortar mixers in accordance with the above item and in addition place the mixer and associated materials on impervious barrier and within lot perimeter silt fence.
4. Install temporary concrete washouts per local requirements, where applicable. If an alternate method or product is to be used, contact your approval authority for review and approval. If local standard details are not available, use one of the two types of temporary concrete washouts provided on this detail.
5. Do not use concrete washouts for dewatering or storing defective curb or sidewalk sections. Stormwater accumulated within the washout may not be pumped into or discharged to the storm drain system or receiving surface waters. Liquid waste must be pumped out and removed from project.
6. Locate washouts at least 50 feet from storm drain inlets and surface waters unless it can be shown that no other alternatives are reasonably available. At a minimum, install protection of storm drain inlet(s) closest to the washout which could receive spills or overflow.
7. Locate washouts in an easily accessible area, on level ground and install a stone entrance pad in front of the washout. Additional controls may be required by the approving authority.
8. Install at least one sign directing concrete trucks to the washout within the project limits. Post signage on the washout itself to identify this location.
9. Remove leavings from the washout when at approximately 75% capacity to limit overflow events. Replace the tarp, sand bags or other temporary structural components when no longer functional. When utilizing alternative or proprietary products, follow manufacturer's instructions.
10. At the completion of the concrete work, remove remaining leavings and dispose of in an approved disposal facility. Fill pit, if applicable, and stabilize any disturbance caused by removal of washout.

HERBICIDES, PESTICIDES AND RODENTICIDES

- 1. Store and apply herbicides, pesticides and rodenticides in accordance with label restrictions.
2. Store herbicides, pesticides and rodenticides in their original containers with the label, which lists directions for use, ingredients and first aid steps in case of accidental poisoning.
3. Do not store herbicides, pesticides and rodenticides in areas where flooding is possible or where they may spill or leak into wells, stormwater drains, ground water or surface water. If a spill occurs, clean area immediately.
4. Do not stockpile these materials onsite.

HAZARDOUS AND TOXIC WASTE

- 1. Create designated hazardous waste collection areas on-site.
2. Place hazardous waste containers under cover or in secondary containment.
3. Do not store hazardous chemicals, drums or bagged materials directly on the ground.



NCG01 GROUND STABILIZATION AND MATERIALS HANDLING

EFFECTIVE: 04/01/19

PART III SELF-INSPECTION, RECORDKEEPING AND REPORTING

SECTION A: SELF-INSPECTION

Self-inspections are required during normal business hours in accordance with the table below. When adverse weather or site conditions would cause the safety of the inspection personnel to be in jeopardy, the inspection may be delayed until the next business day on which it is safe to perform the inspection. In addition, when a storm event of equal to or greater than 1.0 inch occurs outside of normal business hours, the self-inspection shall be performed upon the commencement of the next business day. Any time when inspections were delayed shall be noted in the inspection Record.

Table with 3 columns: Inspect, Frequency (during normal business hours), and Inspection records must include. Rows include (1) Rain gauge maintained in good working order; (2) E&S Measures; (3) Stormwater discharge outfalls (SDCO); (4) Perimeter of site; (5) Streams or wetlands onsite or offsite; (6) Ground stabilization measures.

NOTE: The rain inspection resets the required 7 calendar day inspection requirement.

PART III SELF-INSPECTION, RECORDKEEPING AND REPORTING

SECTION B: RECORDKEEPING

The approved E&S plan as well as any approved deviation shall be kept on the site. The approved E&S plan must be kept up-to-date throughout the coverage under this permit. The following items pertaining to the E&S plan shall be kept on site and available for inspection at all times during normal business hours.

Table with 2 columns: Item to Document and Documentation Requirements. Rows include (a) Each E&S measure has been installed and does not significantly deviate from the locations, dimensions and relative elevations shown on the approved E&S plan; (b) A phase of grading has been completed; (c) Ground cover is located and installed in accordance with the approved E&S plan; (d) The maintenance and repair requirements for all E&S measures have been performed; (e) Corrective actions have been taken to E&S measures.

2. Additional Documentation to be Kept on Site

In addition to the E&S plan documents above, the following items shall be kept on the site and available for inspectors at all times during normal business hours, unless the Division provides a site-specific exemption based on unique site conditions that make this requirement not practical.

- (a) This General Permit as well as the Certificate of Coverage, after it is received.

Records of inspections made during the previous twelve months. The permittee shall record the required observations on the Inspection Record Form provided by the Division or a similar inspection form that includes all the required elements. Use of electronically available records in lieu of the required paper copies will be allowed if shown to provide equal access and utility as the hard-copy records.

3. Documentation to be Retained for Three Years

All data used to complete the e-NOI and all inspection records shall be maintained for a period of three years after project completion and made available upon request. [40 CFR 122.41]

PART II, SECTION G, ITEM (4) DRAW DOWN OF SEDIMENT BASINS FOR MAINTENANCE OR CLOSE OUT

Sediment basins and traps that receive runoff from drainage areas of one acre or more shall use outlet structures that withdraw water from the surface when these devices need to be drawn down for maintenance or close out unless this is infeasible. The circumstances in which it is not feasible to withdraw water from the surface shall be rare (for example, times with extended cold weather). Non-surface withdrawals from sediment basins shall be allowed only when all of the following criteria have been met:

- (a) The E&S plan authority has been provided with documentation of the non-surface withdrawal and the specific time periods or conditions in which it will occur. The non-surface withdrawal shall not commence until the E&S plan authority has approved these items.
(b) The non-surface withdrawal has been reported as an anticipated bypass in accordance with Part III, Section C, Item (2)(c) and (d) of this permit.
(c) Dewatering discharges are treated with controls to minimize discharges of pollutants from stormwater that is removed from the sediment basin. Examples of appropriate controls include properly sited, designed and maintained dewatering tanks, weir tanks, and filtration systems.
(d) Vegetated, upland areas of the sites or a properly designed stone pad is used to the extent feasible at the outlet of the dewatering treatment devices described in Item (c) above.
(e) Velocity dissipation devices such as check dams, sediment traps, and riprap are provided at the discharge points of all dewatering devices, and
(f) Sediment removed from the dewatering treatment devices described in Item (c) above is disposed of in a manner that does not cause deposition of sediment into waters of the United States.



NCG01 SELF-INSPECTION, RECORDKEEPING AND REPORTING

EFFECTIVE: 04/01/19

Table with 3 columns: REVISIONS, APPROVALS, and PROJECT INFO. Includes fields for NO., DESCRIPTION, DATE, BY, and PROJECT NO.

Table with 3 columns: APPROVALS, PROJECT INFO, and PROJECT NO. Includes fields for PROJECT ENG., DESIGNED BY, DRAWN BY, CHECKED BY, and APPROVED BY.

After a permittee becomes aware of an occurrence that must be reported, he shall contact the appropriate Division regional office within the timeframes and in accordance with the other requirements listed below. Occurrences outside normal business hours may also be reported to the Department's Environmental Emergency Center personnel at (800) 858-0368.

2. Reporting Timeframes and Other Requirements

After a permittee becomes aware of an occurrence that must be reported, he shall contact the appropriate Division regional office within the timeframes and in accordance with the other requirements listed below. Occurrences outside normal business hours may also be reported to the Department's Environmental Emergency Center personnel at (800) 858-0368.

Table with 2 columns: Occurrence and Reporting Timeframes (After Discovery) and Other Requirements. Rows include (a) Visible sediment deposition in a stream or wetland; (b) Oil spills and release of hazardous substances per item 110-(c) above; (c) Anticipated bypasses; (d) Unanticipated bypasses; (e) Noncompliance with the conditions of this permit that may endanger health or the environment.



SUMMIT ENGINEERING GROUP, INC. ENGINEERS • PLANNERS • SURVEYORS 9601 Warren H. Abernathy Hwy. Spartanburg, SC 29301 (864)949-1111

NCDEQ NPDES GENERAL PERMIT AND STANDARD EROSION CONTROL DETAILS SHEET EC2 OF 20217

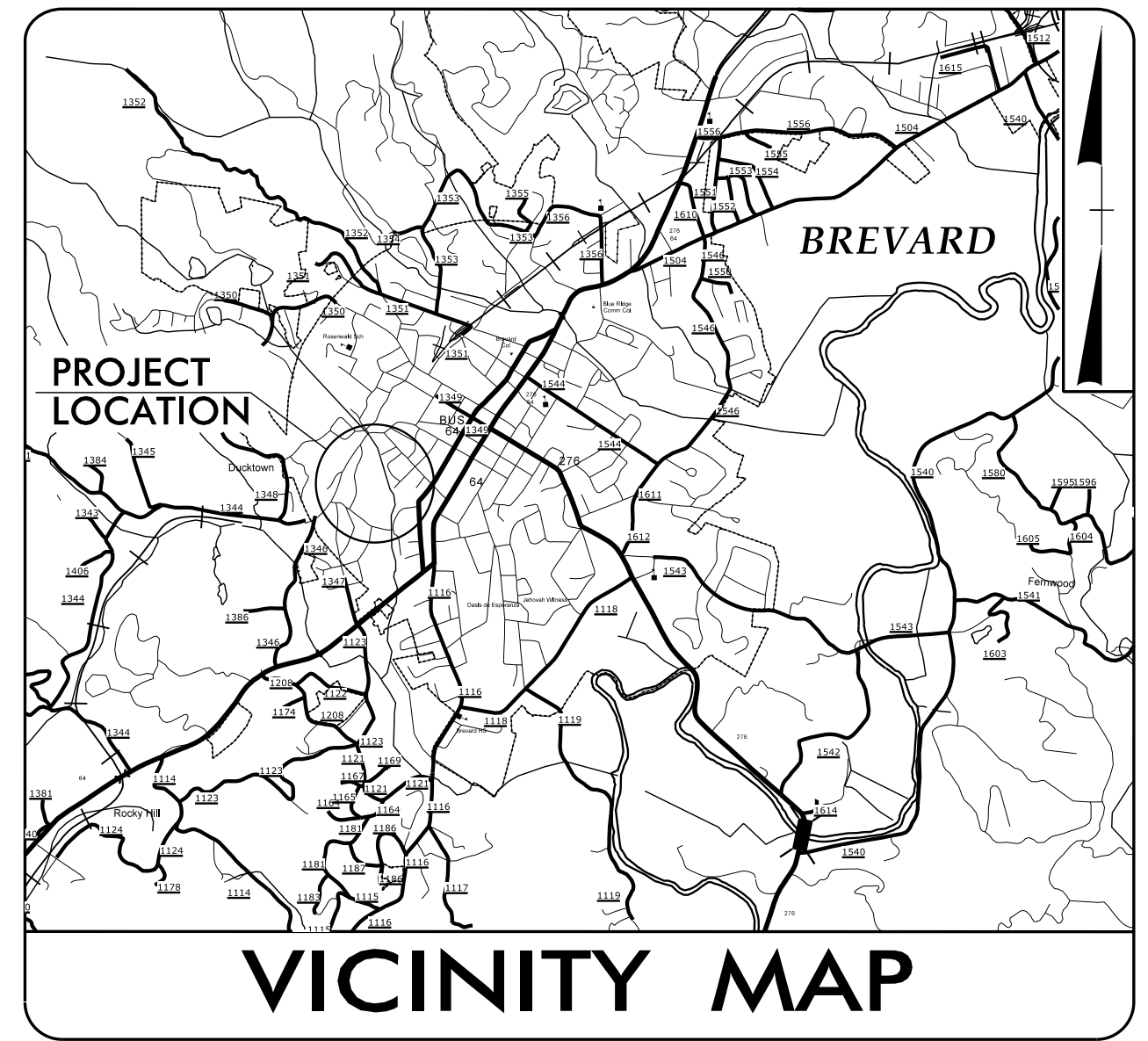
ESTATOE TRAIL PHASE III (CASHIERS VALLEY RD. TO ROSMAN HWY.) FOR THE CITY OF BREVARD, NC TRANSYLVANIA COUNTY NORTH CAROLINA

811 Know what's below. Call before you dig. N.C. One-Call Center Dial 811 or 1-800-632-4949

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09/20/16

PROJECT: BN-0011



STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

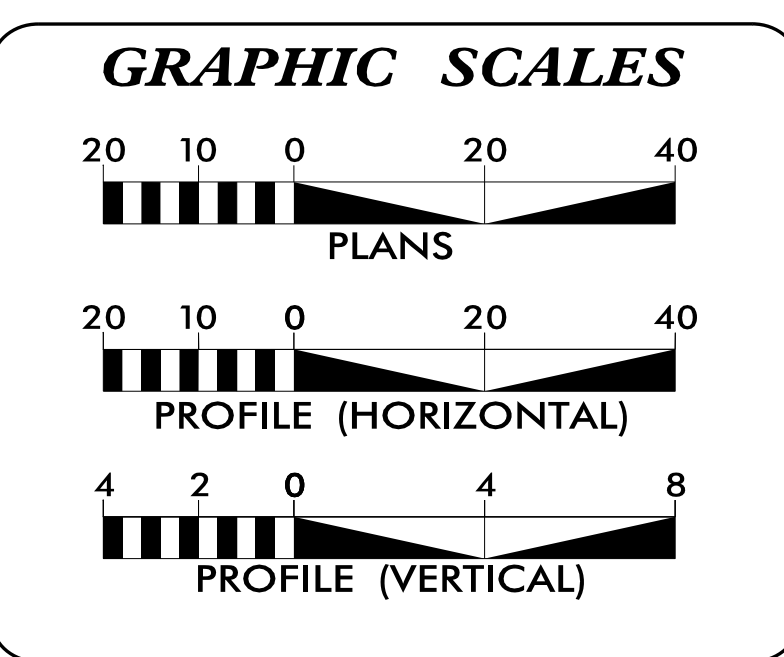
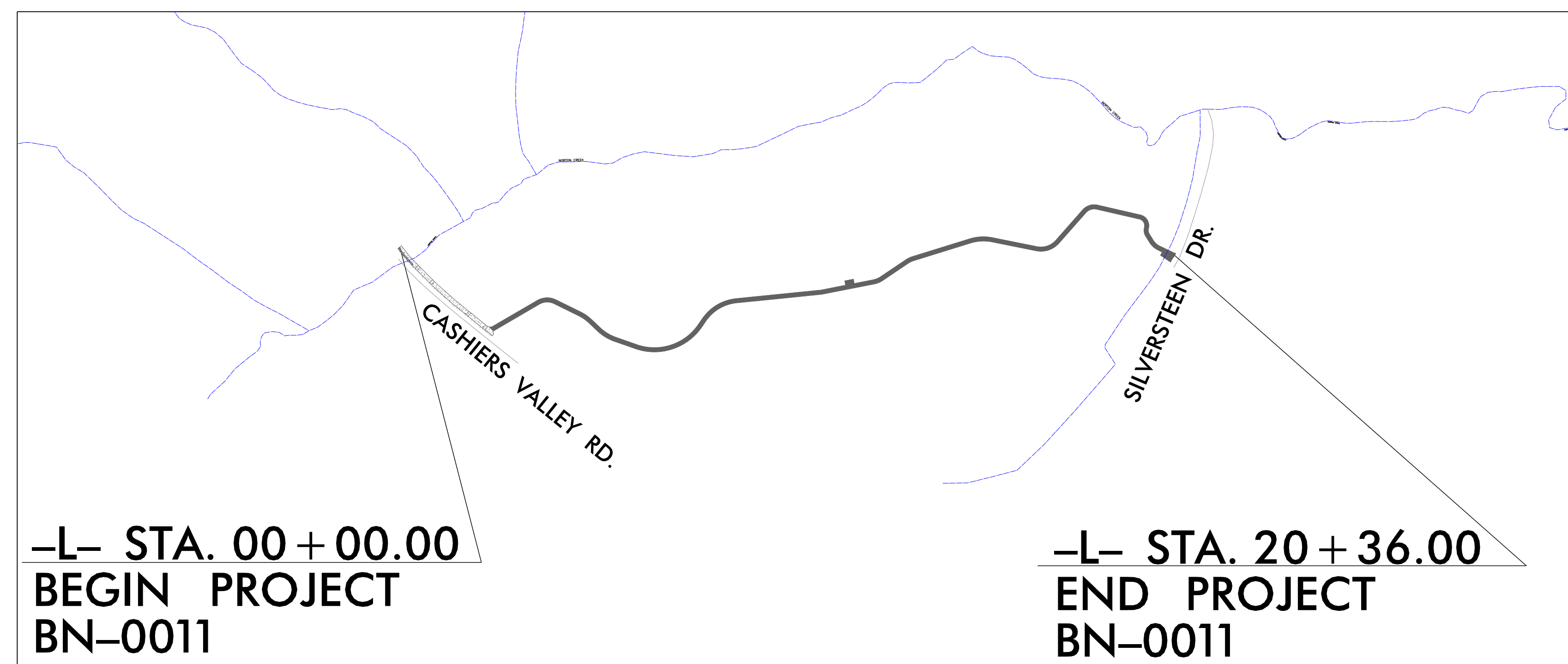
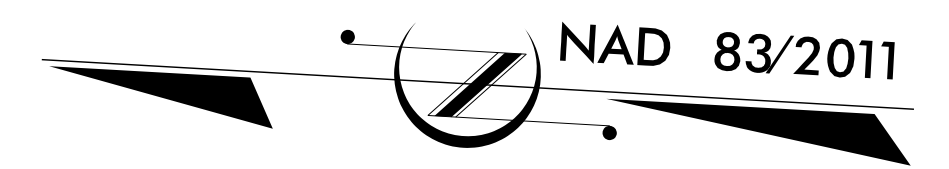
**UTILITIES BY OTHERS PLANS
TRANSYLVANIA COUNTY**

**LOCATION: ESTATOE TRAIL FROM CASHIERS VALLEY
ROAD TO SILVERSTEEN DR.**

TYPE OF WORK: POWER & COMMUNICATIONS

T.I.P. NO.	SHEET NO.
BN-0011	UO-1

NOTE:
ALL UTILITY WORK SHOWN ON THIS SHEET WILL BE DONE BY OTHERS. NO PAYMENT WILL BE MADE TO THE CONTRACTOR FOR UTILITY WORK SHOWN ON THIS SHEET.



INDEX OF SHEETS

<u>SHEET NO.:</u>	<u>DESCRIPTION:</u>
UO-1	TITLE SHEET
UO-2	UBO PLAN SHEET

UTILITY OWNERS WITH CONFLICTS

(A) POWER - DUKE ENERGY
(B) COMMUNICATIONS - COMPORIUM

PREPARED IN THE OFFICE OF:

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CORY WOOD UTILITY PROJECT MANAGER
CORY WOOD PROJECT UTILITY COORDINATOR

**DIVISION OF HIGHWAYS
DIVISION 14**
253 WEBSTER ROAD
SYLVA, NC 28779

ROBERT E. DYER ASST. DIVISION UTILITY ENGINEER

