

# CONSTRUCTION DRAWINGS FOR BID

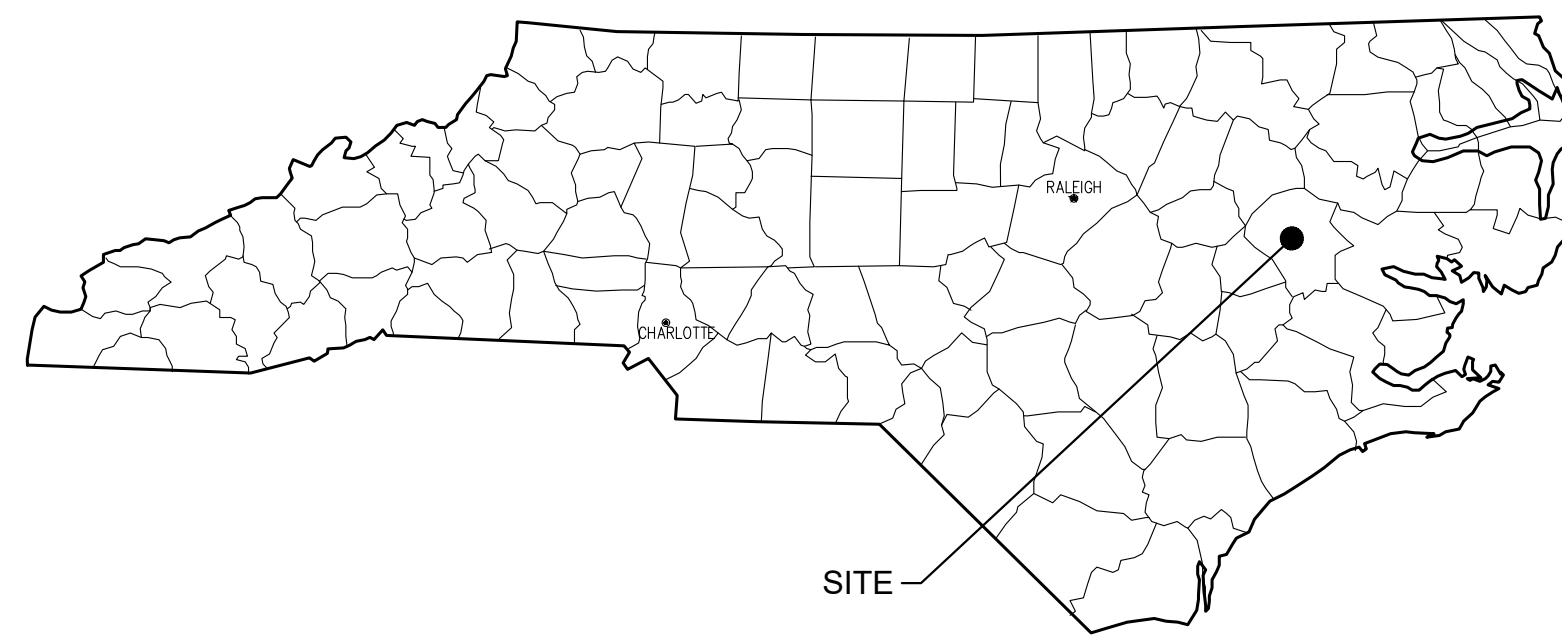
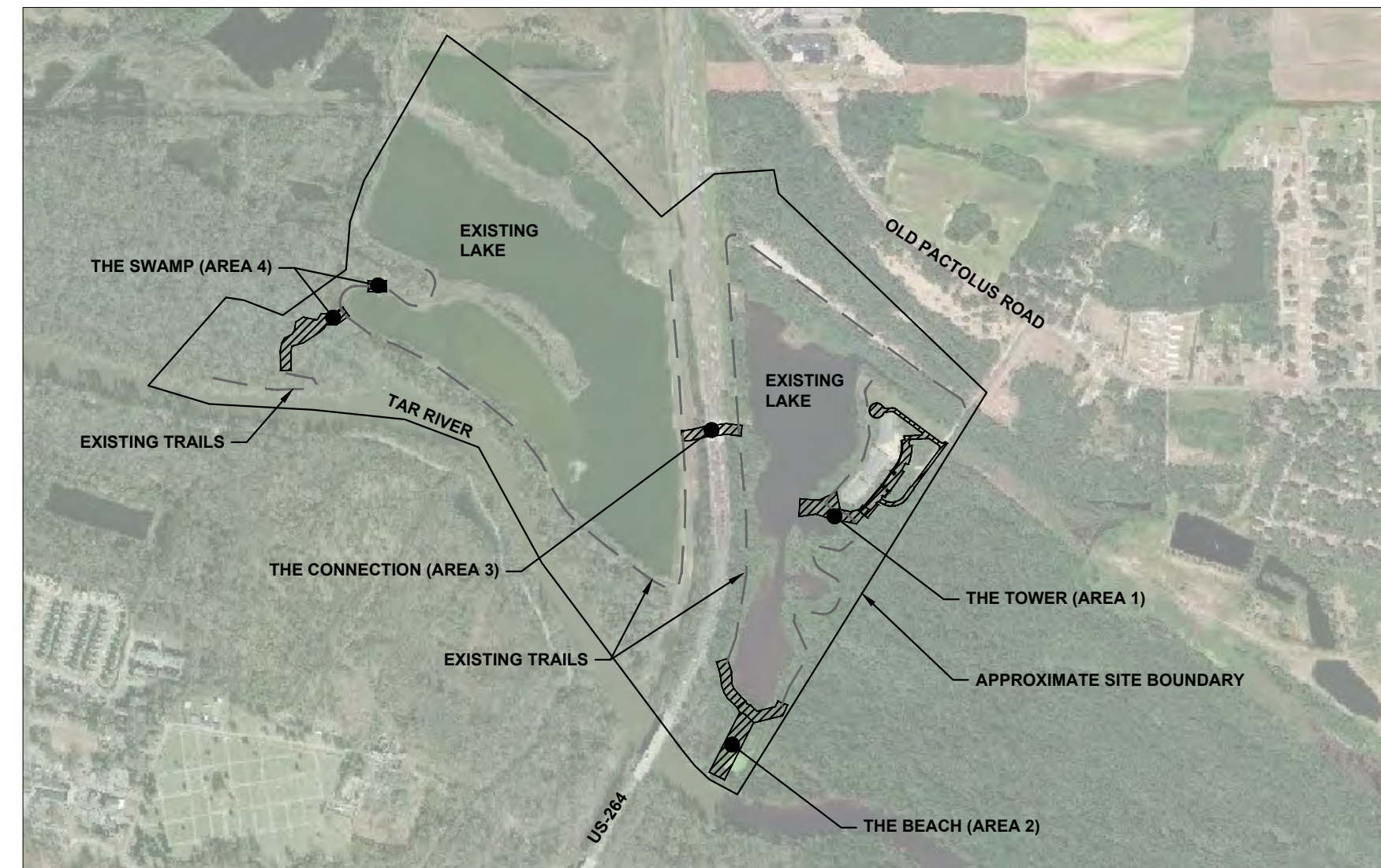
## FOR

# WILDWOOD PARK - OBSERVATION TOWER AND TRAILS

### CITY OF GREENVILLE RECREATION & PARKS DEPARTMENT 2000 CEDAR LANE GREENVILLE, NC 27858 PITT COUNTY

OVERALL SITE DATA	
MUNICIPALITY:	CITY OF GREENVILLE
OWNER:	CITY OF GREENVILLE, PO BOX 7207 GREENVILLE, NC 27835
LAND USE CLASSIFICATION:	(6) RECREATIONAL/ENTERTAINMENT
TOTAL PARCEL ACREAGE:	566 ACRES
TOTAL SITE ACREAGE:	283 ACRES
PROPOSED TOWER GROSS FLOOR AREA:	1,023 SF (0.02 ACRES)
PROPOSED TOWER HEIGHT:	120 FEET (12 STORIES)
TOTAL PARKING:	N/A
TOTAL ACCESSIBLE PARKING:	N/A
TOTAL AREA DISTURBED:	1.83 ACRES
EXISTING IMPERVIOUS AREA:	134,800 SF (3.09 ACRES)
PROPOSED IMPERVIOUS AREA:	22,652 SF (0.52 ACRES)
TOTAL IMPERVIOUS AREA:	157,252 SF (3.61 ACRES)
WATERSHED:	JOHNSON MILL/PARKERS CREEK/TAR-PAMLICO WATERSHED

PARCEL DATA					
PARCEL	1	2	3	4	5
NCPIN:	4698725454	4698536478	4698436559	4698432018	4688635909
PARCEL NUMBER:	088710	022504	035488	024274	028893
OWNER:	CITY OF GREENVILLE	CITY OF GREENVILLE	CITY OF GREENVILLE	CITY OF GREENVILLE	CITY OF GREENVILLE
PHYSICAL ADDRESS:	3450 BLUE HERON DR	0 NE GREENVILLE BV	0 OLD PACTOLUS RD	0 OLD PACTOLUS RD	1000 MUMFORD RD
LEGAL DESCRIPTION:	PHILLIP E. CARROLL	BOYD	TRIPP	RED BANKS (PITT #37)	RIVER PARK NORTH
MAP/BLOCK/LOT	4698-15-72-5454-000	4698-15-53-6478-000	4698-14-43-6559-000	4698-14-43-2018-000	4688-15-63-5909-000
DEED REFERENCE:	DB. 4012 PG. 124	DB. 4049 PG. 261	DB. 4049 PG. 261	DB. 4049 PG. 261	NOT FOUND
CURRENT ZONING:	HEAVY COMMERCIAL	OFFICE-RESIDENTIAL	OFFICE-RESIDENTIAL	OFFICE-RESIDENTIAL	INDUSTRY
CENSUS TRACT:	800	800	800	800	800
PARCEL ACREAGE:	101	137	28	7	293
APPROXIMATE IMPERVIOUS AREA:	3.09 AC	0.00 AC	0.00 AC	0.00 AC	0.00 AC



## PROJECT DESIGN TEAM

#### OWNER/DEVELOPER

CITY OF GREENVILLE  
GREENVILLE RECREATION & PARKS DEPARTMENT  
2000 CEDAR LANE  
GREENVILLE, NC 27858  
PHONE: (252) 329-4242  
CONTACT: MARK NOTTINGHAM, AICP  
EMAIL: MNOTTINGHAM@GREENVILLENC.GOV

#### SURVEYOR

RIVERS & ASSOCIATES, INC.  
107 EAST SECOND STREET  
GREENVILLE, NC 27858  
PHONE: (252) 752-4135  
CONTACT: PATRICK HARTMAN, P.L.S.  
EMAIL: PHARTMAN@RIVERSANDASSOCIATES.COM

#### LANDSCAPE ARCHITECT

KIMLEY-HORN & ASSOCIATES, INC  
421 FAYETTEVILLE STREET  
SUITE 600  
RALEIGH, NC 27601  
PHONE: (919) 678-4170  
CONTACT: MATT GROSS, RLA  
EMAIL: MATT.GROSS@KIMLEY-HORN.COM

#### GEOTECHNICAL ENGINEER

FALCON ENGINEERING, INC.  
1210 TRINITY ROAD, SUITE 110  
CARY, NC 27513  
PHONE: (919) 302-9758  
CONTACT: JEREMY R. HAMM, P.E.  
EMAIL: JHAMM@FALCONENGINEERS.COM

#### CIVIL ENGINEER

KIMLEY-HORN & ASSOCIATES, INC  
421 FAYETTEVILLE STREET  
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EMAIL: JOHN.KUZENSKI@KIMLEY-HORN.COM

#### STRUCTURAL ENGINEER

KIMLEY-HORN & ASSOCIATES, INC  
421 FAYETTEVILLE STREET  
SUITE 600  
RALEIGH, NC 27601  
PHONE: (919) 653-2990  
CONTACT: MITCH MAGEE, P.E.  
EMAIL: MITCH.MAGEE@KIMLEY-HORN.COM

#### ARCHITECT

IN SITU STUDIO  
704 N PERSON STREET  
RALEIGH, NC 27604  
PHONE: (919) 587-3949  
CONTACT: MATTHEW GRIFFITH, AIA  
EMAIL: MATT@INSITUSTUDIO.US

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C1.1	EXISTING CONDITIONS - RIVERS & ASSOCIATES, INC.
C1.2	EXISTING CONDITIONS - RIVERS & ASSOCIATES, INC.
C1.3	EXISTING CONDITIONS - RIVERS & ASSOCIATES, INC.
C1.4	EXISTING CONDITIONS - RIVERS & ASSOCIATES, INC.
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S.03	STRUCTURE LOCATIONS
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S.25	STAIR PLAN AND PROFILE
S.26	STAIR DETAILS
S.27	STRUCTURAL STANDARD NOTES

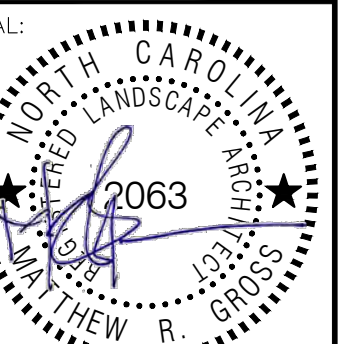
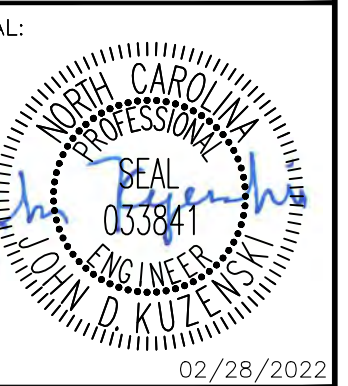
#### City of Greenville Site Plan Approval

Date _____	
<input type="checkbox"/> Approved	<input type="checkbox"/> Approved as Noted
Zoning	Engineering
Surveyor/Floodplain	Inspections
Fire/Rescue	GUC electric
GUC water/sewer	GUC gas
NCDOT	Vegetation
Traffic Services	Notes

*\*Site plan approval ONLY. Engineer/Architect/Surveyor shall be responsible for adequacy of design, errors or omissions in the plans. All plans shall meet all specifications, standards and applicable regulations.*

No.	REVISIONS	DATE
1	ISSUED FOR BID	02/28/2022 ASA

**Kimley»Horn**  
© 2022 KIMLEY-HORN AND ASSOCIATES, INC.  
421 FAYETTEVILLE STREET, SUITE 600, RALEIGH, NC 27601  
PHONE: 919-677-2000 FAX: 919-677-2050  
WWW.KIMLEY-HORN.COM



KHA PROJECT	012654010
DATE	02/28/2022
SCALE AS SHOWN	DESIGNED BY MRG
DRAWN BY	ASA
CHECKED BY	JDK

### COVER SHEET

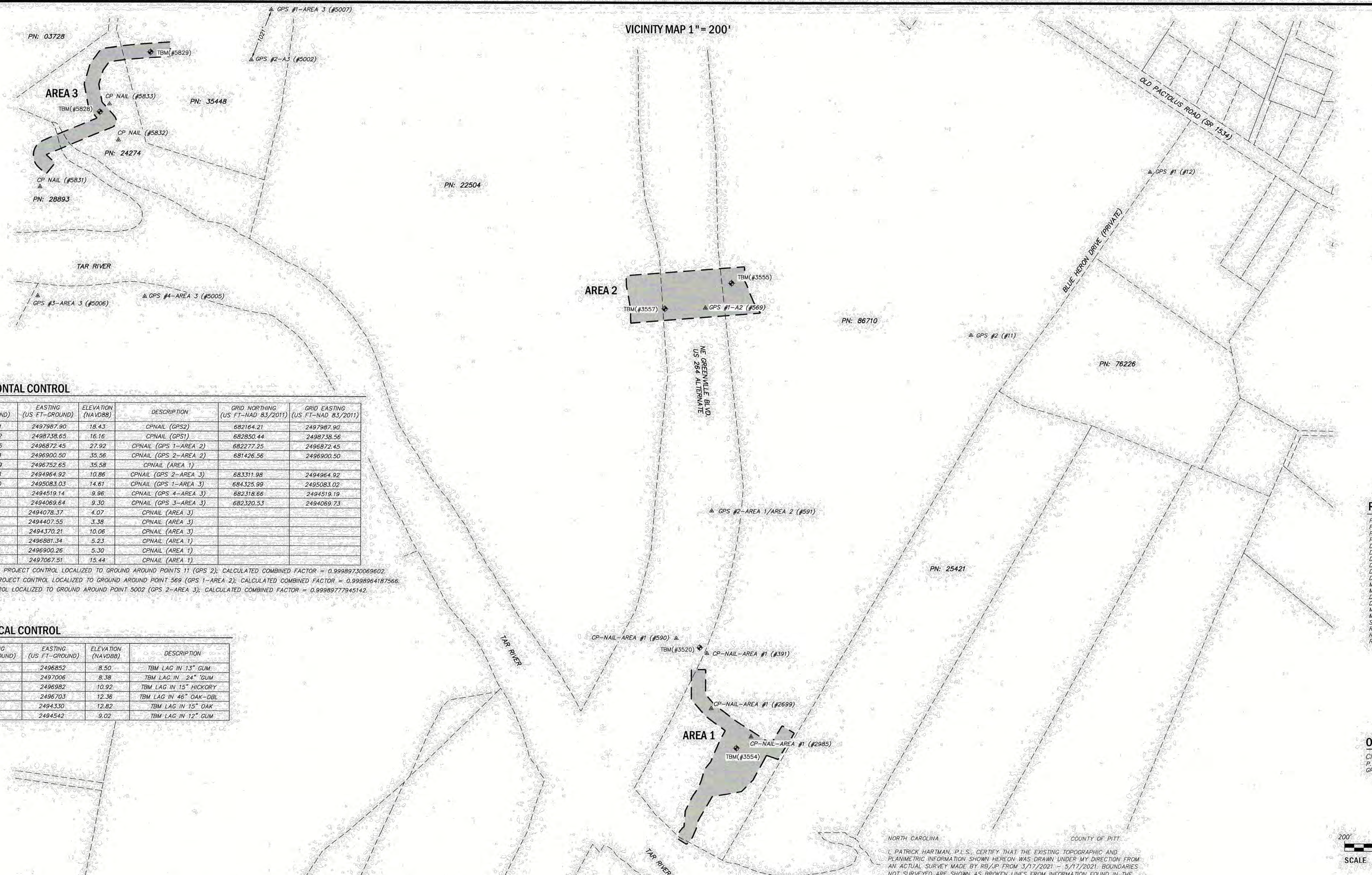
WILDWOOD PARK - OBSERVATION TOWER AND TRAILS PREPARED FOR CITY OF GREENVILLE CITY OF GREENVILLE NC

SHEET NUMBER  
**C0.0**

This document, together with the concepts and designs presented herein, as an instrument of service, is intended only for the specific purpose and client for which it was prepared. Reuse of and improper reliance on this document without written authorization and adaptation by Kimley-Horn and Associates, Inc. shall be without liability to Kimley-Horn and Associates, Inc.



VICINITY MAP 1" = 200'



**SURVEY HORIZONTAL CONTROL**

POINT	NORTHING (US FT-GROUND)	EASTING (US FT-GROUND)	ELEVATION (NAVD88)	DESCRIPTION	GRID NORTHING (US FT-NAD 83/2011)	GRID EASTING (US FT-NAD 83/2011)
11	682164.21	2497987.90	18.43	CPNAIL (GPS2)	682164.21	2497987.90
12	682850.52	2498738.65	16.16	CPNAIL (GPS1)	682850.44	2498738.56
569	682277.25	2496872.45	27.92	CPNAIL (GPS 1-AREA 2)	682277.25	2496872.45
591	681426.44	2496900.50	35.56	CPNAIL (GPS 2-AREA 2)	681426.56	2496900.50
590	680889.89	2496752.65	35.58	CPNAIL (AREA 1)		
5002	683311.98	2494964.92	10.86	CPNAIL (GPS 2-AREA 3)	683311.98	2494964.92
5007	684326.10	2495083.03	14.61	CPNAIL (GPS 1-AREA 3)	684325.99	2495083.03
5005	682318.55	2494519.14	9.96	CPNAIL (GPS 4-AREA 3)	682318.66	2494519.19
5006	682320.43	2494069.64	9.30	CPNAIL (GPS 3-AREA 3)	682320.53	2494069.73
5831	682778.99	2494078.37	4.07	CPNAIL (AREA 3)		
5832	682974.90	2494407.55	3.38	CPNAIL (AREA 3)		
5833	683125.88	2494370.21	10.06	CPNAIL (AREA 3)		
391	680828.47	2496881.34	5.23	CPNAIL (AREA 1)		
2699	680597.25	2496900.26	5.30	CPNAIL (AREA 1)		
2885	680479.72	2497067.51	15.44	CPNAIL (AREA 1)		

ORIGINAL SHELTER AREA PROJECT CONTROL LOCALIZED TO GROUND AROUND POINT 11 (GPS 2); CALCULATED COMBINED FACTOR = 0.99989730069602.  
 AREA 1 AND AREA 2 PROJECT CONTROL LOCALIZED TO GROUND AROUND POINT 569 (GPS 1-AREA 2); CALCULATED COMBINED FACTOR = 0.9998964187566.  
 AREA 3 PROJECT CONTROL LOCALIZED TO GROUND AROUND POINT 5002 (GPS 2-AREA 3); CALCULATED COMBINED FACTOR = 0.9998977945142.

**SURVEY VERTICAL CONTROL**

POINT	NORTHING (US FT-GROUND)	EASTING (US FT-GROUND)	ELEVATION (NAVD88)	DESCRIPTION
3520	680853	2496852	8.50	TBM LAG IN 13" GUM
3554	680431	2497006	8.38	TBM LAG IN 24" GUM
3555	682382	2496982	10.92	TBM LAG IN 15" HICKORY
3557	682273	2496703	12.36	TBM LAG IN 46" OAK-DBL
5828	683093	2494330	12.82	TBM LAG IN 15" OAK
5829	683344	2494542	9.02	TBM LAG IN 12" GUM

**REFERENCES:**

- P.N. 35488
- P.N. 24274
- P.N. 22504
- P.N. 86710
- D.B. 3863 PG. 527
- D.B. 4049 PG. 261
- D.B. Q41 PG. 206
- D.B. Z39 PG. 161
- D.B. W39 PG. 460
- D.B. 340 PG. 337
- M.B. 22 PG. 25
- M.B. 24 PG. 125
- D.B. M 43 PG. 364
- D.B. 696 PG. 437
- M.B. 60 PG. 174
- M.B. 37 PG. 5
- STATE HIGHWAY PLAN 6 8017568
- RIVERS DRAWING W-1520
- RIVERS DRAWING W-2682
- RIVERS DRAWING W-2731

**OWNER**

CITY OF GREENVILLE  
 P.O. BOX 7207  
 GREENVILLE, NC 27804



**NOTES**

1. ALL DISTANCES ARE HORIZONTAL GROUND MEASUREMENTS.
2. NO POINTS SET UNLESS OTHERWISE INDICATED.
3. THESE PROPERTIES ARE LOCATED WITHIN FEMA FLOODWAY AND A "ZONE AE" (AREAS DETERMINED TO BE INSIDE THE 1% ANNUAL CHANCE FLOODPLAIN), AS DETERMINED FROM FIRM MAP NUMBER 3720468800K, EFFECTIVE JULY 7, 2014. BASE FLOOD ELEVATIONS = 21.5 - 20.4 FEET +/- (NAVD88)
4. ELEVATIONS AND CONTOURS SHOWN ARE BASED ON NAVD88 DATUM. VERTICAL CONTROL ESTABLISHED FROM MULTIPLE NCGS RTN OBSERVATIONS (CLASS C). CONTOURS BELOW THE WATER SURFACE, IN RIPRAP AREA, AND LOW AREAS ALONG THE TAR RIVER (DUE TO INCONSISTENT TERRAIN FEATURES) MAY EXCEED THE 1/2" ALLOWABLE ERROR.
5. THIS SURVEY WAS PERFORMED WITHOUT THE BENEFIT OF A TITLE COMMITMENT REPORT. RIVERS & ASSOCIATES DOES NOT CLAIM THAT ALL MATTERS OF RECORD WHICH MAY OR MAY NOT AFFECT THIS PROPERTY ARE SHOWN HEREON.
6. PROPERTY SUBJECT TO ANY AND ALL EASEMENTS, RIGHTS OF WAY, RESTRICTIVE COVENANTS WHICH MAY BE OF RECORD.
7. UTILITIES: UNDERGROUND UTILITIES PLOTTED FROM PRIOR SURVEYS AND MAPS PROVIDED BY OTHERS AS NOTED. ACTUAL LOCATIONS MAY VARY. OTHER UTILITIES MAY EXIST. SURVEYOR CANNOT PROVIDE ACCURACY OF UNDERGROUND UTILITIES. CONTRACTOR SHOULD CONTACT NCB11 AT 1-800-832-4949 TO HAVE UNDERGROUND UTILITIES LOCATED PRIOR TO EXCAVATING OR TRENCHING. NCB11 TICKETS/NO TICKETS WERE REQUESTED.
8. UTILITIES: THE SURVEYOR MAKES NO GUARANTEE THAT THE UTILITIES SHOWN ARE COMPRISED OF ALL SUCH UTILITIES IN THE AREA OF SURVEY EITHER IN SERVICE OR ABANDONED. THE SURVEY FURTHER DOES NOT WARRANT THAT THE UNDERGROUND UTILITIES SHOWN ARE IN THE EXACT LOCATION INDICATED. THE SURVEYOR DOES HEREBY CERTIFY THAT ALL UTILITIES ARE LOCATED AS ACCURATELY AS POSSIBLE FROM INFORMATION AVAILABLE. THE SURVEYOR HAS NOT PHYSICALLY UNCOVERED AND LOCATED ANY UNDERGROUND UTILITIES.
9. PIPE INVERTS SHOWN HEREON WERE OBTAINED WITHOUT CONFINED SPACE ENTRY BY THE MOST PRACTICAL METHODS AVAILABLE TO THE SURVEYOR.
10. WETLANDS WERE DELINEATED BY KIMLEY HORN'S ENVIRONMENTAL SPECIALIST ON 4/16/2021. RIPARIAN BUFFER LOCATION IS SURVEYOR'S INTERPRETATION OF INFORMATION PROVIDED BY THE CITY OF GREENVILLE. THE LOCATION MAY CHANGE BASED ON ENVIRONMENTAL SPECIALIST'S SITE DETERMINATION.

**SHEET INDEX**

#	DESCRIPTION
1	COVER/NOTES/SURVEY VICINITY LOCATION
2	AREA 2 - TOPOGRAPHIC SURVEY/ SPOT ELEVATIONS
3	AREA 1 - TOPOGRAPHIC SURVEY/ SPOT ELEVATIONS
4	AREA 3 - TOPOGRAPHIC SURVEY/ SPOT ELEVATIONS

NORTH CAROLINA COUNTY OF PITT

I, PATRICK HARTMAN, P.L.S., CERTIFY THAT THE EXISTING TOPOGRAPHIC AND PLANIMETRIC INFORMATION SHOWN HEREON WAS DRAWN UNDER MY DIRECTION FROM AN ACTUAL SURVEY MADE BY RB/JP FROM 3/17/2021 - 5/17/2021. BOUNDARIES NOT SURVEYED ARE SHOWN AS BROKEN LINES FROM INFORMATION FOUND IN THE REFERENCED BOOKS AND PAGES; THAT THE RATIO OF PRECISION IS 1:10,000+; AND IN ACCORDANCE WITH THE US NATIONAL MAPPING ACCURACY STANDARDS, THE MAXIMUM VERTICAL ERROR IS NOT GREATER THAN ONE HALF THE CONTOUR INTERVAL EXCEPT AS NOTED (SEE NOTE 4); AND HORIZONTAL AND VERTICAL CONTROL WAS ESTABLISHED AT THE SITE BY NCGS RTN SOLUTION.

1) CLASS OF SURVEY:	CLASS A (HORZ.) CLASS C (VERT.)
2) POSITIONAL ACCURACY:	2 CM(HORZ.)
3) TYPE OF GPS FIELD PROCEDURE:	NCGS RTN
4) DATE OF SURVEY WORK:	3/17/2021-05/17/2021
5) DATUM/EPOCH:	NAD83/2011
6) PUBLISHED CONTROL/FIXED CONTROL:	NCGS RTN OR AS NOTED
7) GEOID MODEL:	2012B
8) COMBINED GRID FACTOR:	AS NOTED
9) UNITS:	US SURVEY FEET

WITNESS MY ORIGINAL SIGNATURE, LICENSE NUMBER AND SEAL THIS 17TH DAY OF MAY, 2021

*Patrick Hartman*  
 PROFESSIONAL LAND SURVEYOR LICENSE NO. L-4262

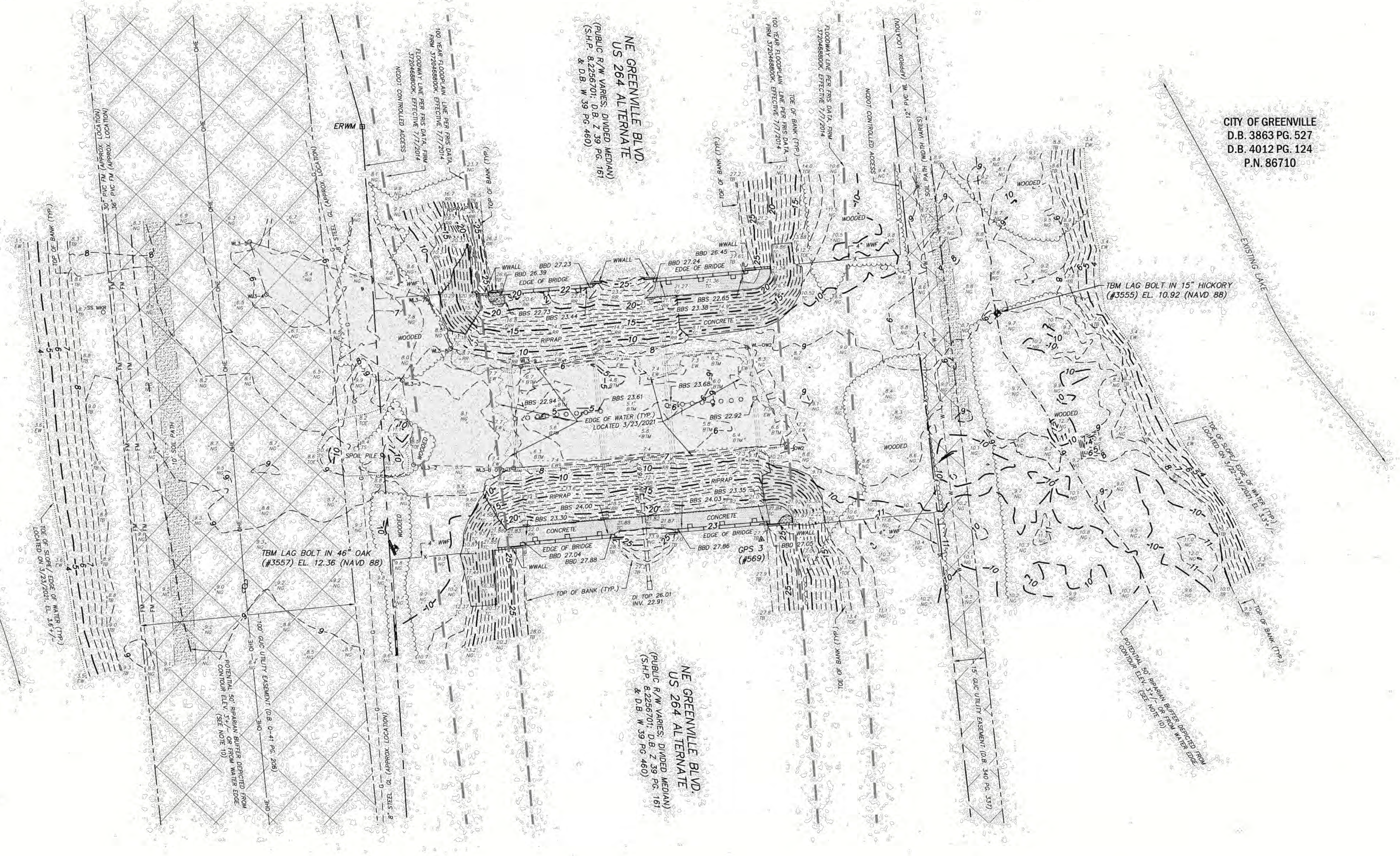
**REVISIONS:**

	NC License: F-0334 <b>Rivers &amp; Associates, Inc.</b> riversandassociates.com Since 1918		Engineers Planners Surveyors Landscape Architects 107 East Second Street Greenville, NC 27858 (252) 752-4155		
	TOPOGRAPHIC SURVEY FOR <b>KIMLEY-HORN &amp; CITY OF GREENVILLE</b> OF <b>A PORTION OF THE FUTURE                  WILDWOOD PARK</b> CITY OF GREENVILLE, PACTOLUS TOWNSHIP, PITT COUNTY, NC				
DATE 5/17/21	SURVEY RB/JP DRAFT PH/MS DESIGN CHECK PWI	SCALE 1" = 200'	DRAWING NO. W-3927	PROJECT NO. 2021019	SHEET 1 OF 4

**LEGEND**

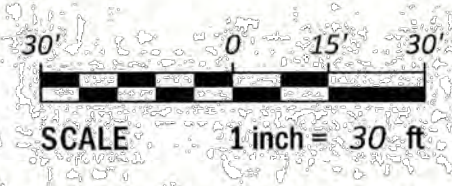
- CONTOURS
- DEPRESSED CONTOUR
- RIGHT OF WAY (R/W)
- EASEMENT LINE
- 100 YEAR FLOOD (PER NCRIS WEBSITE)
- FLOODWAY (PER NCRIS WEBSITE)
- EDGE OF SOIL DRIVE/PATH
- OVERHEAD TRANSMISSION LINE
- GAS LINE (GL) (APPROXIMATE FROM GUC GIS SCHEMATIC)
- FORCE MAIN LINE (APPROXIMATE FROM GUC GIS SCHEMATIC)
- WATER LINE (APPROXIMATE FROM GUC GIS SCHEMATIC)
- FENCE
- TOE OF SLOPE/BANK
- TOP OF SLOPE/BANK
- EDGE OF RIPRAP
- STORM DRAINAGE
- WOODS LINE
- EDGE OF WATER
- EDGE OF SPOIL PILE
- RIPARIAN BUFFER LINE
- WETLAND LINE MARKED BY KIMLEY-HORN
- D.B.** DEED BOOK
- M.B.** MAP BOOK
- P.G.** PAGE
- EL.** ELEVATION
- INV.** INVERT
- TYP.** TYPICAL
- P.N.** PARCEL NUMBER
- BBD** BOTTOM OF BRIDGE DECK ELEVATION
- BBS** BOTTOM OF BRIDGE SPAN ELEVATION
- CMP** CORRUGATED METAL PIPE
- PVC** POLY-VINYL CHLORIDE
- ELEC.** ELECTRIC
- WWE** WOVEN WIRE FENCE
- WWALL** MING WALL
- S.H.P.** STATE HIGHWAY PROJECT
- ERWMB** EXISTING RIGHT OF WAY MONUMENT
- TEMP** TEMPORARY BENCHMARK
- GPS # (#)** GPS CONTROL POINT
- TRN** TRANSMISSION POLE
- SS MKR** CARBONITE SEWER FM MARKER
- W.P.** WETLAND POINT
- O** BRIDGE COLUMN
- 20.0** NATURAL GROUND
- 30.0** TOP OF SLOPE/BANK (DITCH)
- 40.0** TOE OF SLOPE/BANK (DITCH)
- 50.0** TOP OF RIPRAP
- 60.0** EDGE OF WATER
- 70.0** TOP OF SPOIL PILE
- 80.0** BOTTOM OF WATER BODY
- 90.0** TOP OF CONCRETE
- CONCRETE
- GUC UTILITY EASEMENT (D.B. Q 41 PG. 206 & D.B. 340 PG. 337)
- SOIL ACCESS
- RIP RAP
- WETLANDS

CITY OF GREENVILLE  
D.B. 4049 PG. 261  
P.N. 22504



CITY OF GREENVILLE  
D.B. 3863 PG. 527  
D.B. 4012 PG. 124  
P.N. 86710

**AREA 2**  
(AREA 3 IN KIMLEY-HORN PLANS)



- NOTES**  
SEE SHEET 1
- OWNER**  
SEE SHEET 1
- REFERENCES:**  
SEE SHEET 1

	<p><b>Rivers &amp; ASSOCIATES, INC.</b> 107 East Second Street Greenville, NC 27858 (252) 752-4135</p>		<p>NC License: F-0334 Engineers Planners Surveyors Landscape Architects</p>
	<p>TOPOGRAPHIC SURVEY FOR KIMLEY-HORN &amp; CITY OF GREENVILLE OF A PORTION OF THE FUTURE WILDWOOD PARK CITY OF GREENVILLE, PACTOLUS TOWNSHIP, PITT COUNTY, NC</p>		
<p>DATE: 5/17/21</p>	<p>SCALE: 1" = 30'</p>	<p>DRAWING NO.: W-3927</p>	<p>PROJECT NO.: 2021019</p>
<p>SURVEY RB/IP DRAFT PH/MS DESIGN CHECK PMW</p>	<p>DATE: 5/17/21</p>	<p>SCALE: 1" = 30'</p>	<p>PROJECT NO.: 2021019</p>
		<p>DRAWING NO.: W-3927</p>	<p>PROJECT NO.: 2021019</p>
		<p>DATE: 5/17/21</p>	<p>SHEET 2 OF 4</p>

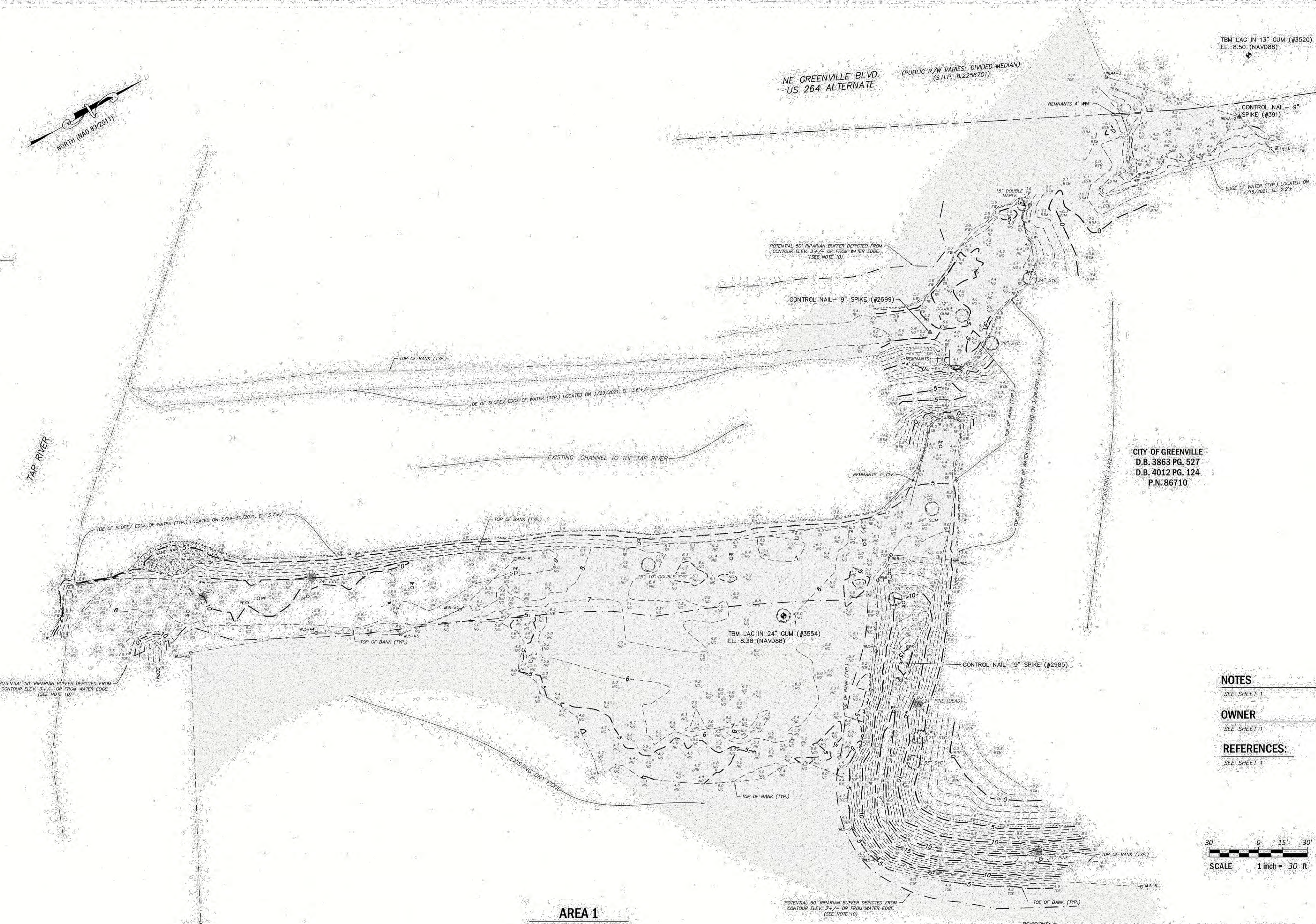
TBM LAG IN 13" GUM (#3520)  
EL. 8.50 (NAVDB8)

NE GREENVILLE BLVD  
US 264 ALTERNATE (PUBLIC R/W VARIES; DIVIDED MEDIAN)  
(S.H.P. 8.2256701)



**LEGEND**

- CONTOURS
- DEPRESSED CONTOUR
- RIGHT OF WAY (R/W)
- GIS PARCEL LINE
- FENCE
- TOE OF SLOPE/BANK
- TOP OF SLOPE/BANK
- EDGE OF WATER
- TOP OF BERM
- RIPARIAN BUFFER LINE
- WETLAND LINE MARKED BY KIMLEY HORN
- D.B.
- PG.
- EL.
- TYP.
- P.N.
- WWF
- CLF
- S.H.P.
- SYC
- TBM
- GPS # (▲)
- P.F.
- W.L.P.
- NATURAL GROUND
- TOP OF SLOPE/BANK (DITCH)
- TOE OF SLOPE/BANK (DITCH)
- EDGE OF WATER
- BOTTOM OF WATER BODY
- EXISTING TREES
- SAND BAR
- WETLANDS



CITY OF GREENVILLE  
D.B. 3863 PG. 527  
D.B. 4012 PG. 124  
P.N. 86710

**NOTES**

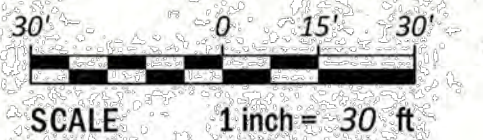
SEE SHEET 1

**OWNER**

SEE SHEET 1

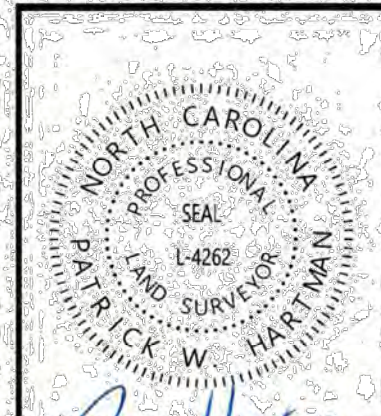
**REFERENCES:**

SEE SHEET 1



**AREA 1**

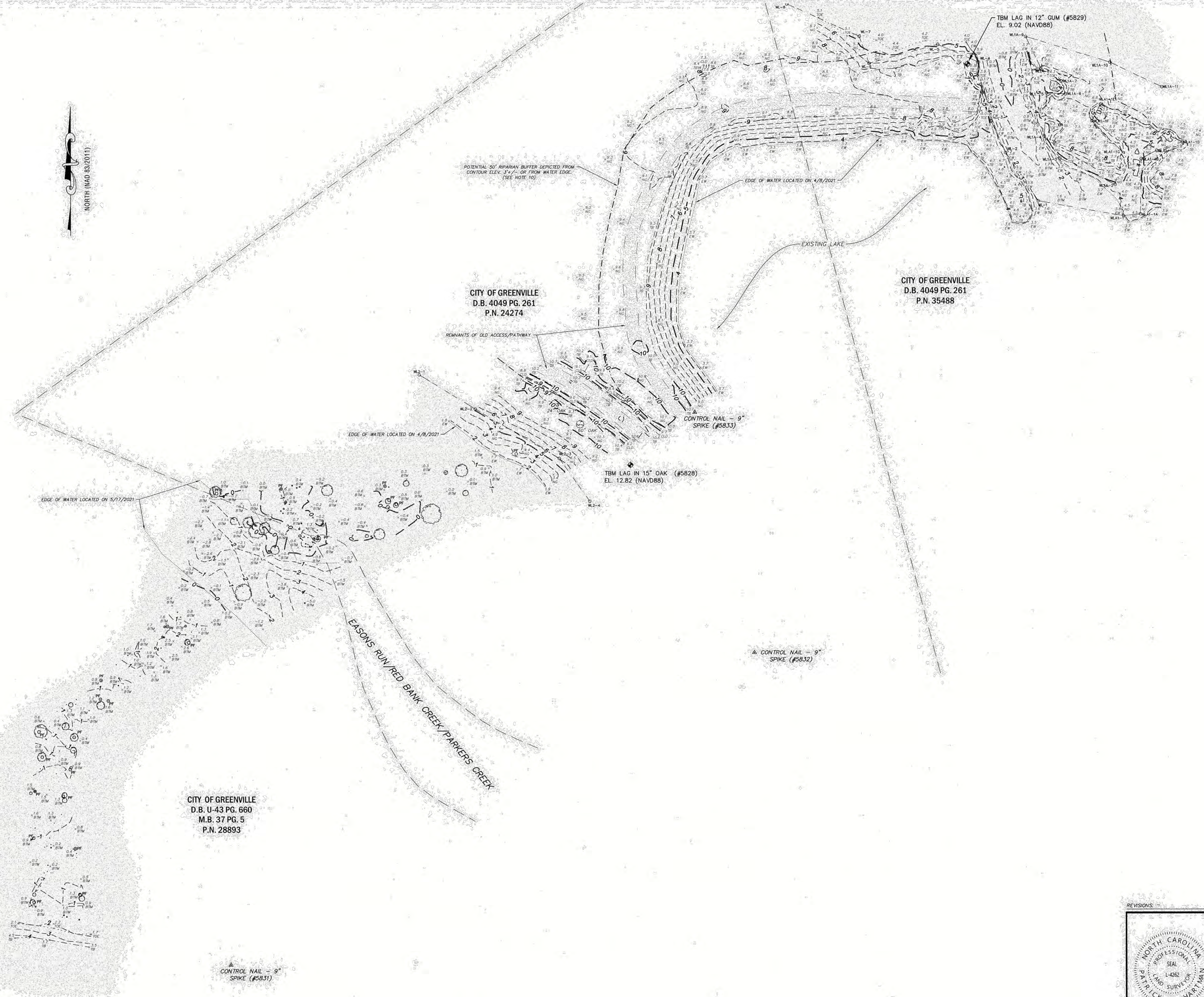
(AREA 2 IN KIMLEY-HORN PLANS)



**Rivers & Associates, Inc.**  
 NC License: F-0334  
 Engineers, Planners, Surveyors, Landscape Architects  
 107 East Second Street, Greenville, NC 27834  
 (252) 752-4136

TOPOGRAPHIC SURVEY FOR  
**KIMLEY-HORN & CITY OF GREENVILLE**  
 OF  
**A PORTION OF THE FUTURE WILDWOOD PARK**  
 CITY OF GREENVILLE, PACTOLUS TOWNSHIP, PITT COUNTY, NC

SURVEY RB/JP DRAFT PH/MS	SCALE 1" = 30'	DRAWING NO. W-3927	PROJECT NO. 2021019	SHEET 3 OF 4
DESIGN	CHECK PWH			



CITY OF GREENVILLE  
D.B. 4049 PG. 261  
P.N. 24274

CITY OF GREENVILLE  
D.B. 4049 PG. 261  
P.N. 35488

CITY OF GREENVILLE  
D.B. U-43 PG. 660  
M.B. 37 PG. 5  
P.N. 28893

**AREA 3**  
(AREA 4 IN KIMLEY-HORN PLANS)

**LEGEND**

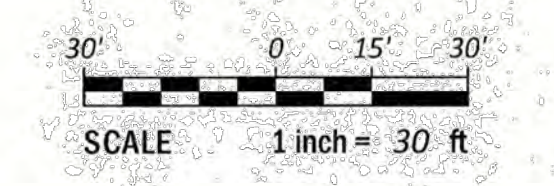
	CONTOURS
	DEPRESSED CONTOUR
	GIS PARCEL LINE
	TOE OF SLOPE/BANK
	TOP OF SLOPE/BANK
	EDGE OF WATER
	RIPIARIAN BUFFER LINE
	WETLANDS BOUNDARY LINE
	DEED BOOK
	D.B.
	PAGE
	ELEVATION
	TYPICAL
	PARCEL NUMBER
	TEMPORARY BENCHMARK
	WETLANDS POINT AND NUMBER
	CONTROL POINT
	PINK FLAG
	NATURAL GROUND
	TOE OF SLOPE/BANK (DITCH)
	TOP OF SLOPE/BANK (DITCH)
	EDGE OF WATER
	BOTTOM OF WATER BODY
	TUPELO/CYPRESS (SIZE VARIES SEE NOTE BELOW)
	BIRCH/OAK (SIZE VARIES, SEE NOTE BELOW)
	WETLANDS
	REMNANTS OF OLD PATHWAYS

NOTE: TREE SYMBOLS ARE DEPICTED AT THE ACTUAL TREE TRUNK DIAMETER. TUPELO/CYPRESS TREE TRUNKS FLARE AT THE BASE AND MAY DIFFER IN SIZE.

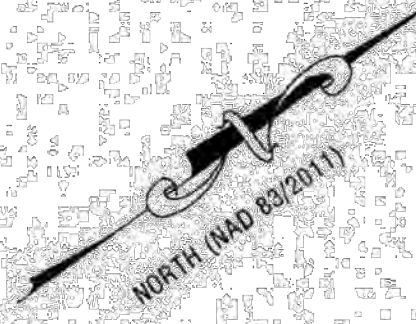
**NOTES**  
SEE SHEET 1

**OWNER**  
SEE SHEET 1

**REFERENCES:**  
SEE SHEET 1



	<p>NC License: F-0334</p> <p><b>Rivers &amp; Associates, Inc.</b></p> <p>107 East Second Street Greenville, NC 27656 (252) 752-4135</p>		<p>Engineers Planners Surveyors Landscape Architects</p>
	<p>TOPOGRAPHIC SURVEY FOR <b>KIMLEY-HORN &amp; CITY OF GREENVILLE</b> OF <b>A PORTION OF THE FUTURE WILDWOOD PARK</b> CITY OF GREENVILLE, PACTOLUS TOWNSHIP, PITT COUNTY, NC</p>		
<p>DATE: 5/17/21</p>	<p>SCALE: 1" = 30'</p>	<p>DRAWING NO.: W-3927</p>	<p>PROJECT NO.: 2021019</p>
<p>SURVEY RB/JP DRAFT PH/MS</p>	<p>DESIGN CHECK PHM</p>	<p>SHEET 4 OF 4</p>	<p>4 OF 4</p>

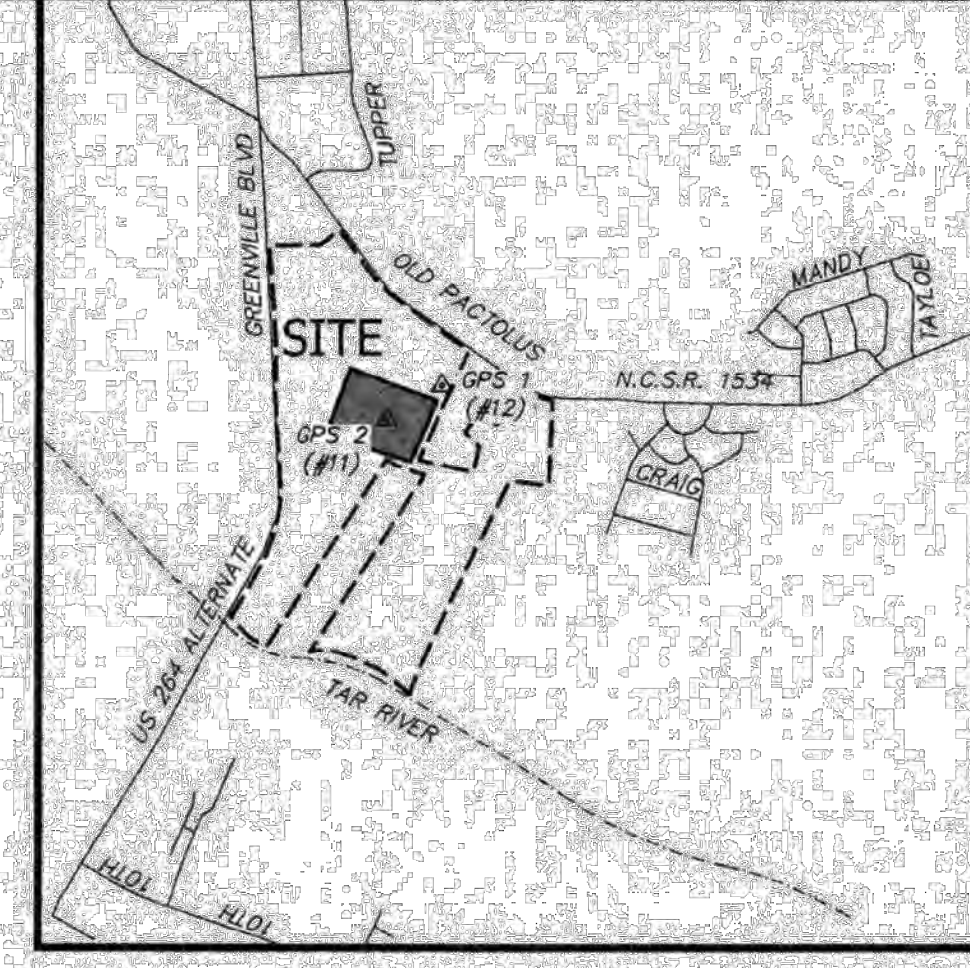
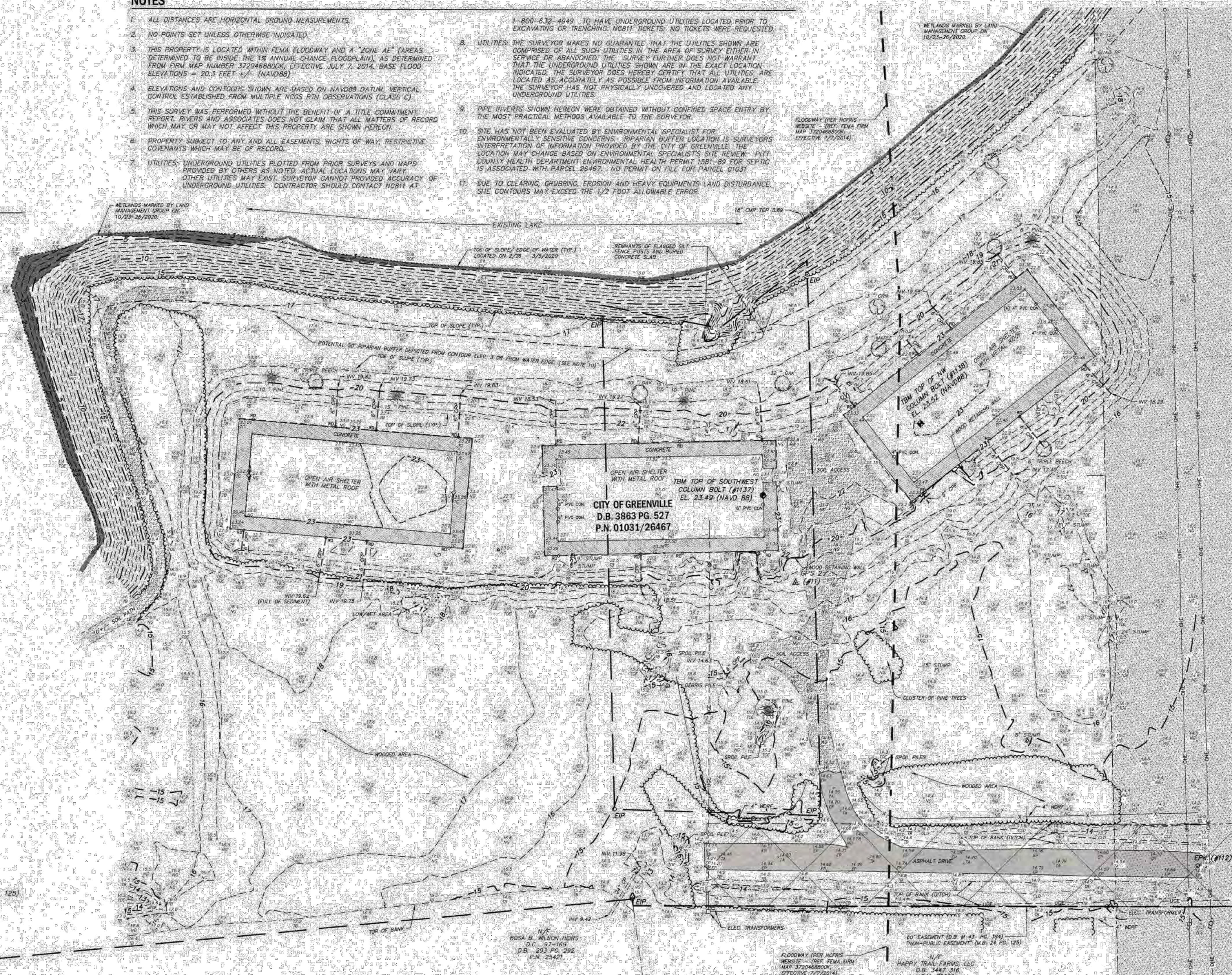


**NOTES**

- ALL DISTANCES ARE HORIZONTAL GROUND MEASUREMENTS.
- NO POINTS SET UNLESS OTHERWISE INDICATED.
- THIS PROPERTY IS LOCATED WITHIN FEMA FLOODWAY AND A "ZONE AE" (AREAS DETERMINED TO BE INSIDE THE 1% ANNUAL CHANCE FLOODPLAIN) AS DETERMINED FROM FIRM MAP NUMBER 372048800K, EFFECTIVE JULY 7, 2014. BASE FLOOD ELEVATIONS = 20.3 FEET +/- (NAVD88)
- ELEVATIONS AND CONTOURS SHOWN ARE BASED ON NAVD88 DATUM. VERTICAL CONTROL ESTABLISHED FROM MULTIPLE NGCS RTN OBSERVATIONS (CLASS C).
- THIS SURVEY WAS PERFORMED WITHOUT THE BENEFIT OF A TITLE COMMITMENT REPORT. RIVERS AND ASSOCIATES DOES NOT CLAIM THAT ALL MATTERS OF RECORD WHICH MAY OR MAY NOT AFFECT THIS PROPERTY ARE SHOWN HEREON.
- PROPERTY SUBJECT TO ANY AND ALL EASEMENTS, RIGHTS OF WAY, RESTRICTIVE COVENANTS WHICH MAY BE OF RECORD.
- UTILITIES: UNDERGROUND UTILITIES PLOTTED FROM PRIOR SURVEYS AND MAPS PROVIDED BY OTHERS AS NOTED. ACTUAL LOCATIONS MAY VARY. OTHER UTILITIES MAY EXIST. SURVEYOR CANNOT PROVIDE ACCURACY OF UNDERGROUND UTILITIES. CONTRACTOR SHOULD CONTACT NC811 AT 1-800-532-4949 TO HAVE UNDERGROUND UTILITIES LOCATED PRIOR TO EXCAVATING OR TRENCHING. NC811 TICKETS: NO TICKETS WERE REQUESTED.
- UTILITIES: THE SURVEYOR MAKES NO GUARANTEE THAT THE UTILITIES SHOWN ARE COMPRISED OF ALL SUCH UTILITIES IN THE AREA OF SURVEY EITHER IN SERVICE OR ABANDONED. THE SURVEY FURTHER DOES NOT WARRANT THAT THE UNDERGROUND UTILITIES SHOWN ARE IN THE EXACT LOCATION INDICATED. THE SURVEYOR DOES HEREBY CERTIFY THAT ALL UTILITIES ARE LOCATED AS ACCURATELY AS POSSIBLE FROM INFORMATION AVAILABLE. THE SURVEYOR HAS NOT PHYSICALLY UNCOVERED AND LOCATED ANY UNDERGROUND UTILITIES.
- PIPE INVERTS SHOWN HEREON WERE OBTAINED WITHOUT CONFINED SPACE ENTRY BY THE MOST PRACTICAL METHODS AVAILABLE TO THE SURVEYOR.
- SITE HAS NOT BEEN EVALUATED BY ENVIRONMENTAL SPECIALIST FOR ENVIRONMENTALLY SENSITIVE CONCERNS. RIPARIAN BUFFER LOCATION IS SURVEYOR'S INTERPRETATION OF INFORMATION PROVIDED BY THE CITY OF GREENVILLE. THE LOCATION MAY CHANGE BASED ON ENVIRONMENTAL SPECIALIST'S SITE REVIEW. PITT COUNTY HEALTH DEPARTMENT ENVIRONMENTAL HEALTH PERMIT 1831-89 FOR SEPTIC IS ASSOCIATED WITH PARCEL 26467. NO PERMIT ON FILE FOR PARCEL 01031.
- DUE TO CLEARING, GRUBBING, EROSION AND HEAVY EQUIPMENTS LAND DISTURBANCE, SITE CONTOURS MAY EXCEED THE 1/2 FOOT ALLOWABLE ERROR.

**LEGEND**

- CONTOURS
- DEPRESSED CONTOUR
- BOUNDARY LINE
- EASEMENT LINE
- FLOODWAY (PER NCRIS WEBSITE)
- EDGE OF SOIL DRIVE/PATH
- OVERHEAD ELECTRIC LINE
- UNDERGROUND ELECTRIC LINE
- FENCE
- TOE OF SLOPE/BANK (DITCH)
- TOP OF SLOPE/BANK (DITCH)
- CENTERLINE OF DITCH/SWALE
- STORM DRAINAGE
- WOODS LINE
- WETLANDS
- EDGE OF WATER
- EDGE OF SPOIL PILE
- EDGE OF DEBRIS PILE
- RIPARIAN BUFFER LINE
- NEW OR FORMERLY DEED BOOK
- M.B. MAP BOOK
- P.G. PAGE
- E.L. ELEVATION
- INV. INVERT
- TYP. TYPICAL
- CP CONCRETE PIPE
- OPP CORRUGATED PLASTIC PIPE
- CMP CORRUGATED METAL PIPE
- CONV CONDUIT
- PVC POLY-VINYL CHLORIDE
- ELEC. ELECTRIC
- WRT WOOD RAIL FENCE
- DRV ORNAMENTAL TREE
- BP BRADFORD PEAR TREE
- EIP EXISTING IRON PIPE
- OD OUTSIDE DIAMETER
- TEMPORARY BENCHMARK
- GPS CONTROL POINT
- POWER POLE
- LIGHT POLE
- CARBONITE POWER LINE MARKER
- TR TREE STUMP
- ROOF DRAIN
- NATURAL GROUND
- TOP OF SLOPE/BANK (DITCH)
- TOE OF SLOPE/BANK (DITCH)
- CENTERLINE OF DITCH
- EDGE OF PAVEMENT
- TOP OF ASPHALT
- TOP OF CONCRETE
- EXISTING TREES
- CONCRETE
- ASPHALT
- 60' EASEMENT (D.B. M 43 PG. 384) "NON-PUBLIC EASEMENT" (M.B. 24 PG. 125)
- 120' CAROLINA POWER AND LIGHT EASEMENT (D.B. 696 PG. 437)
- SOIL ACCESS
- WETLANDS



VICINITY MAP  
NOT TO SCALE

**REFERENCES:**

- P.N. 26467
- P.L. 01031
- D.B. 3863 PG. 527
- M.B. 24 PG. 25
- M.B. 24 PG. 125
- D.B. M 43 PG. 384
- D.B. 696 PG. 437
- M.B. 60 PG. 174



NORTH CAROLINA COUNTY OF PITT

I, PATRICK HARTMAN, P.L.S., CERTIFY THAT THE EXISTING TOPOGRAPHIC AND PLANIMETRIC INFORMATION SHOWN HEREON WAS DRAWN UNDER MY DIRECTION FROM AN ACTUAL SURVEY MADE BY RB/JM FROM 2/25/2020 - 3/10/2020. BOUNDARIES NOT SURVEYED ARE SHOWN AS BROKEN LINES FROM INFORMATION FOUND IN THE REFERENCED BOOKS AND PAGES; THAT THE RATIO OF PRECISION IS 1:10,000+; AND IN ACCORDANCE WITH THE US NATIONAL MAPPING ACCURACY STANDARDS, THE MAXIMUM VERTICAL ERROR IS NOT GREATER THAN ONE-HALF THE CONTOUR INTERVAL EXCEPT AS NOTED (SEE NOTE 11); AND HORIZONTAL AND VERTICAL CONTROL WAS ESTABLISHED AT THE SITE BY NGCS RTN SOLUTION.

1) CLASS OF SURVEY:	CLASS A (HORZ) CLASS C (VERT.)
2) POSITIONAL ACCURACY:	2 CM (HORZ)
3) TYPE OF GPS FIELD PROCEDURE:	NGCS RTN
4) DATE OF SURVEY WORK:	2/25/2020 - 03/10/2020
5) DATUM/EPOCH:	NA83/2011
6) PUBLISHED CONTROL/FIXED CONTROL:	NGCS RTN OR AS NOTED
7) GRID MODEL:	2011B
8) COMBINED GRID FACTOR:	0.999897300602
9) UNITS:	US SURVEY FEET

WITNESS MY ORIGINAL SIGNATURE, LICENSE NUMBER AND SEAL THIS 16TH DAY OF MARCH 2020.

*Patrick Hartman*  
PROFESSIONAL LAND SURVEYOR LICENSE NO. L-4252

**SURVEY HORIZONTAL CONTROL**

POINT	NORTHING (US FT-GROUND)	EASTING (US FT-GROUND)	ELEVATION (NAVD88)	DESCRIPTION	GRID NORTHING (US FT-NAD 83/2011)	GRID EASTING (US FT-NAD 83/2011)
11	682164.21	2497987.90	18.43	CPNAIL (GPS2)	682164.21	2497987.90
12	682850.52	2498738.65	16.16	CPNAIL (GPS1)	682850.44	2498738.56
1112	682281.79	2498325.71	14.54	EPK		

PROJECT CONTROL LOCALIZED TO GROUND AROUND POINTS 11 (GPS 2); CALCULATED COMBINED FACTOR = 0.999897300602.

**SURVEY VERTICAL CONTROL**

POINT	NORTHING (US FT-GROUND)	EASTING (US FT-GROUND)	ELEVATION (NAVD88)	DESCRIPTION
1137	682182.0	2497922.6	23.49	TBM TOP SW COLUMN BOLT
1138	682305.5	2497947.4	23.52	TBM TOP NW COLUMN BOLT

**OWNER**

CITY OF GREENVILLE  
P.O. BOX 7207  
GREENVILLE, NC 27804

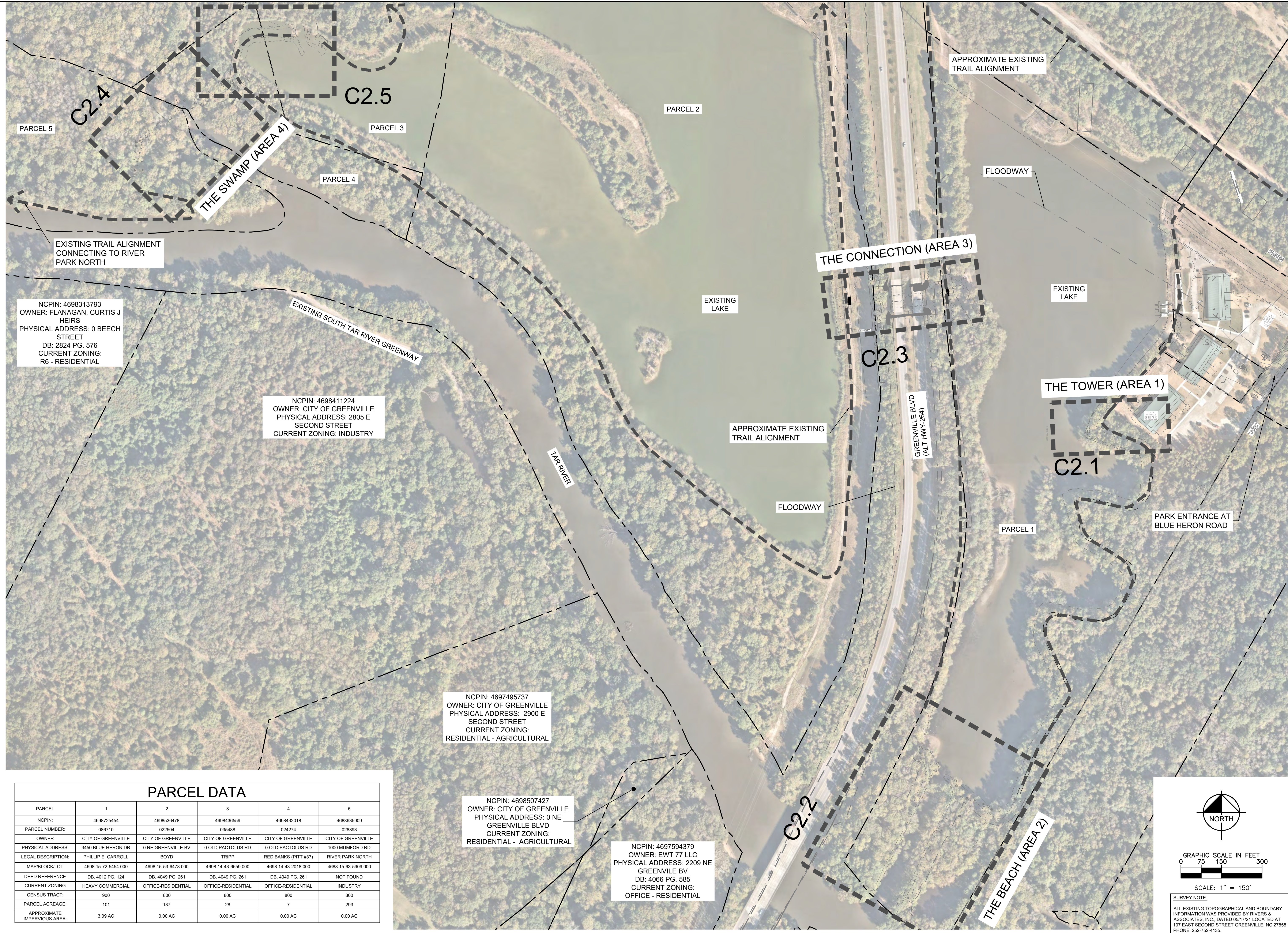
REVISIONS: #1 - 10/28/2020 - ADDED WETLANDS AND INDICATED 50' POTENTIAL BUFFER

NC License: F-0334  
**Rivers & Associates, Inc.**  
riversandassociates.com Since 1918  
Engineers Planners Surveyors Landscape Architects  
TOP EAST SW CORNER GREENVILLE, NC 27808 (252) 762-4135

TOPOGRAPHIC SURVEY FOR  
**CITY OF GREENVILLE**  
OF  
**A PORTION OF THE FUTURE WILDSIDE PARK**  
CITY OF GREENVILLE, PACTOLUS TOWNSHIP, PITT COUNTY, NC

DATE: 3/16/2020	SCALE: 1" = 40'	DRAWING NO.: W-3879	PROJECT NO.: 2017115.14	SHEET: 1 OF 1
SURVEY RB/JM DRAFT PH/MS	DESIGN CHECK PHH			

This document, together with the concepts and designs presented herein, is intended only for the specific purpose and client for which it was prepared. Reuse of and improper reliance on this document without written authorization and adaptation by Kimley-Horn and Associates, Inc. shall be without liability to Kimley-Horn and Associates, Inc.



EXISTING TRAIL ALIGNMENT  
CONNECTING TO RIVER  
PARK NORTH

NCPIN: 4698313793  
OWNER: FLANAGAN, CURTIS J  
HEIRS  
PHYSICAL ADDRESS: 0 BEECH  
STREET  
DB: 2824 PG. 576  
CURRENT ZONING:  
R6 - RESIDENTIAL

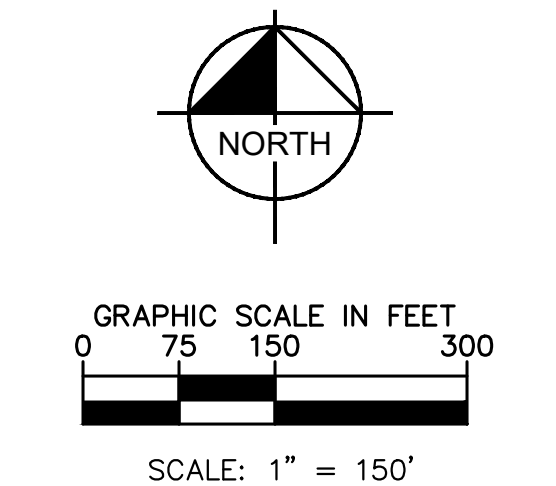
NCPIN: 4698411224  
OWNER: CITY OF GREENVILLE  
PHYSICAL ADDRESS: 2805 E  
SECOND STREET  
CURRENT ZONING: INDUSTRY

NCPIN: 4697495737  
OWNER: CITY OF GREENVILLE  
PHYSICAL ADDRESS: 2900 E  
SECOND STREET  
CURRENT ZONING:  
RESIDENTIAL - AGRICULTURAL

NCPIN: 4698507427  
OWNER: CITY OF GREENVILLE  
PHYSICAL ADDRESS: 0 NE  
GREENVILLE BLVD  
CURRENT ZONING:  
RESIDENTIAL - AGRICULTURAL

NCPIN: 4697594379  
OWNER: EWT 77 LLC  
PHYSICAL ADDRESS: 2209 NE  
GREENVILLE BV  
DB: 4066 PG. 585  
CURRENT ZONING:  
OFFICE - RESIDENTIAL

PARCEL DATA					
PARCEL	1	2	3	4	5
NCPIN:	4698725454	4698536478	4698436559	4698432018	4688635909
PARCEL NUMBER:	086710	022504	035488	024274	028893
OWNER:	CITY OF GREENVILLE	CITY OF GREENVILLE	CITY OF GREENVILLE	CITY OF GREENVILLE	CITY OF GREENVILLE
PHYSICAL ADDRESS:	3450 BLUE HERON DR	0 NE GREENVILLE BV	0 OLD PACTOLUS RD	0 OLD PACTOLUS RD	1000 MUMFORD RD
LEGAL DESCRIPTION:	PHILLIP E. CARROLL	BOYD	TRIPP	RED BANKS (PITT #37)	RIVER PARK NORTH
MAP/BLOCK/LOT	4698.15-72-5454.000	4698.15-53-6478.000	4698.14-43-6559.000	4698.14-43-2018.000	4688.15-63-5909.000
DEED REFERENCE	DB. 4012 PG. 124	DB. 4049 PG. 261	DB. 4049 PG. 261	DB. 4049 PG. 261	NOT FOUND
CURRENT ZONING	HEAVY COMMERCIAL	OFFICE-RESIDENTIAL	OFFICE-RESIDENTIAL	OFFICE-RESIDENTIAL	INDUSTRY
CENSUS TRACT:	900	800	800	800	800
PARCEL ACREAGE:	101	137	28	7	293
APPROXIMATE IMPERVIOUS AREA:	3.09 AC	0.00 AC	0.00 AC	0.00 AC	0.00 AC



**SURVEY NOTE:**  
ALL EXISTING TOPOGRAPHICAL AND BOUNDARY  
INFORMATION WAS PROVIDED BY RIVERS &  
ASSOCIATES, INC., DATED 05/17/21 LOCATED AT  
107 EAST SECOND STREET GREENVILLE, NC 27888  
PHONE: 252-752-4155.

No.	REVISIONS	DATE	BY
1	ISSUED FOR BID	02/28/2022	ASA

**Kimley >>> Horn**  
© 2022 KIMLEY-HORN AND ASSOCIATES, INC.  
421 FAYETTEVILLE STREET, SUITE 600, RALEIGH, NC 27601  
PHONE: 919-677-2000 FAX: 919-677-2050  
WWW.KIMLEY-HORN.COM  
#F-0102



KHA PROJECT	012654010
DATE	02/28/2022
SCALE	AS SHOWN
DESIGNED BY	MRC
DRAWN BY	ASA
CHECKED BY	JDK

**OVERALL  
DEMOLITION AND  
EROSION CONTROL**

WILDWOOD PARK - OBSERVATION  
TOWER AND TRAILS  
PREPARED FOR  
CITY OF GREENVILLE  
GREENVILLE, NC  
SHEET NUMBER  
**C2.0**





Know what's below.  
Call before you dig.

**PHASE 1 CONSTRUCTION SEQUENCE**

THE FOLLOWING PHASE 1 CONSTRUCTION SEQUENCE IS FURNISHED AS A GENERAL GUIDE FOR PREPARATION OF A SEQUENCE OF CONSTRUCTION EVENTS.

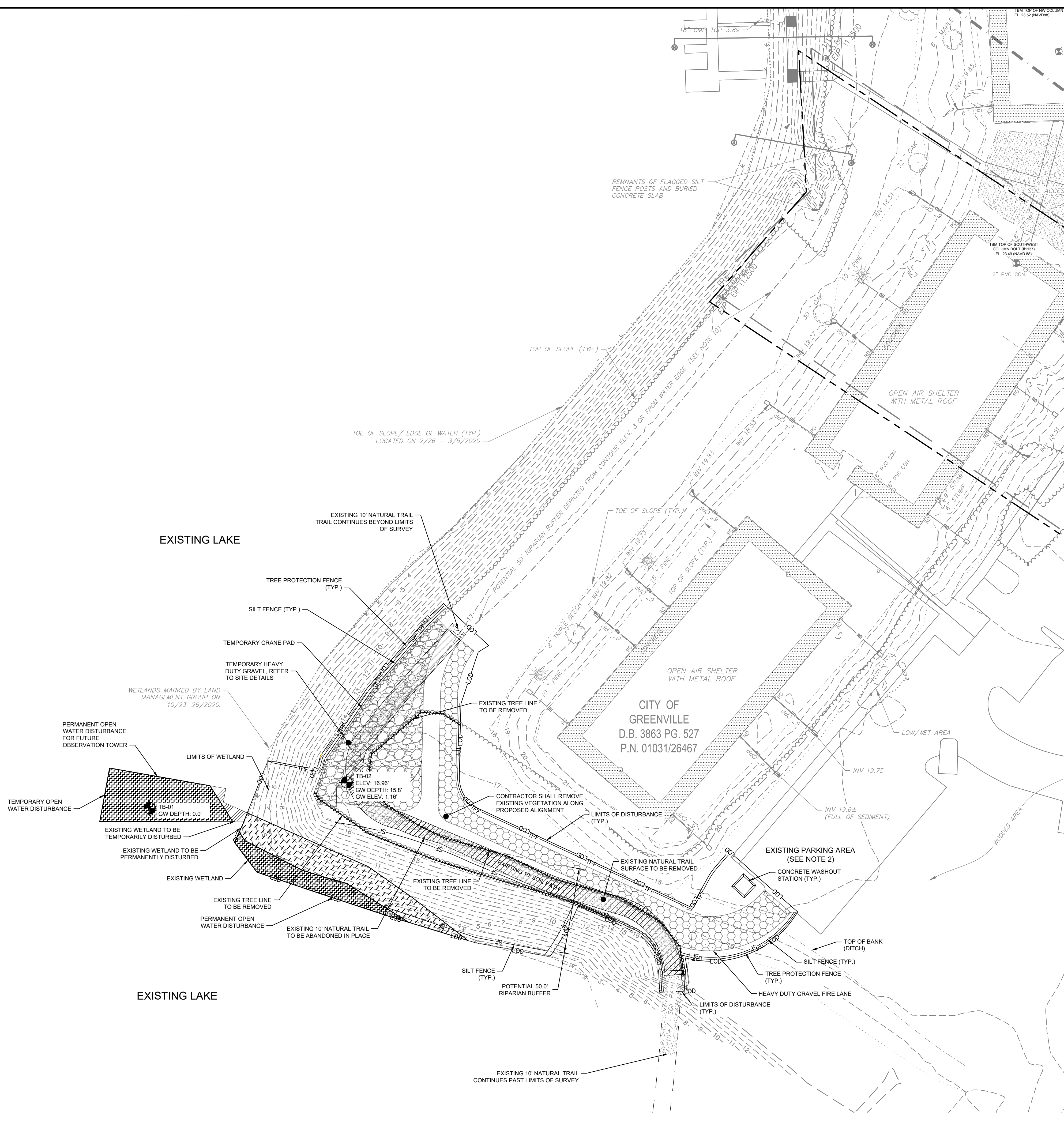
- OBTAIN GRADING/EROSION CONTROL PLAN APPROVAL FROM NCDCEQ.
- SET UP AN ON-SITE PRE-CONSTRUCTION CONFERENCE WITH NCDCEQ EROSION CONTROL INSPECTOR TO DISCUSS EROSION CONTROL MEASURES.
- CONTRACTOR TO INSTALL SILT FENCE, TREE PROTECTION FENCE, AND OTHER EROSION CONTROL MEASURES AS SHOWN ON PLANS. CONTRACTOR TO CLEAR ONLY AS NECESSARY TO INSTALL THESE DEVICES.
- INSTALL TEMPORARY CONSTRUCTION ACCESS ROADS AND TURN AROUND AREAS AND TEMPORARY STREAM CROSSING TO PROVIDE ACCESS TO CONSTRUCTION SITE AREAS. CONTRACTOR TO CLEAR ONLY AS NECESSARY TO INSTALL THESE MEASURES.
- CONTRACTOR TO ACCESS BRIDGE AND CULVERT LOCATIONS USING PROPOSED PATH FOOTPRINT. USE MUD MATS IN WETLAND AREAS AND OTHER LOW AREAS TO LIMIT IMPACTS.
- CALL FOR ON-SITE INSPECTION BY INSPECTOR ONCE ALL EROSION CONTROL MEASURES ARE INSTALLED.
- UPON APPROVAL AND RECEIPT OF USACE NATIONWIDE PERMIT #14 AND NCDWR GENERAL WATER QUALITY CERTIFICATION #4135, CLEARING AND DEMOLITION MAY BEGIN. MAINTAIN ALL EROSION AND SEDIMENT CONTROL MEASURES AS NECESSARY. EROSION CONTROL MEASURES SHALL BE RESTORED TO ORIGINAL DIMENSIONS WHEN SEDIMENT ACCUMULATES TO 50% OF DESIGN DEPTH.
- INSPECT AND REPAIR EROSION CONTROL MEASURES AFTER EVERY RAINFALL EVENT OF 1/2" OR GREATER OR EVERY SEVEN (7) CALENDAR DAYS.
- ALL EROSION CONTROL MEASURES SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE NCDCEQ EROSION AND SEDIMENT CONTROL PLANNING AND DESIGN MANUAL, U.S. DEPARTMENT OF AGRICULTURE, AND CITY OF GREENVILLE EROSION CONTROL ORDINANCE.

**NOTES**

- REFER TO THIS SHEET AND GENERAL NOTES SHEET C0.1 FOR GENERAL EROSION CONTROL NOTES AND MAINTENANCE AND SEEDBED PREPARATION AND SEEDING SCHEDULE.
- THIS PROJECT HAS COMBINED INFORMATION FROM PREVIOUS PHASING PLANS TO PROVIDE CONTEXT. REFER TO PLANS BY RIVERS AND ASSOCIATES WITH THE ADVENTURE PARK PROJECT. ALL INFORMATION WHICH DOES NOT EXIST IN THE FIELD TODAY, BUT HAS BEEN DEPICTED AS "EXISTING CONDITIONS" HEREIN SHALL BE BROUGHT TO THE ENGINEER OR LANDSCAPE ARCHITECT'S ATTENTION PRIOR TO CONSTRUCTION.
- SEE ENVIRONMENTAL PERMITS PACKAGE FOR EXTENTS OF ALL ENVIRONMENTAL IMPACTS AND REPORTS. REPORT INCLUDES OPEN WATER, WETLAND, AND BUFFER IMPACTS, TEMPORARY AND PERMANENT.

**LIMITS OF DISTURBANCE NOTE:**

CONTRACTOR SHALL ESTABLISH LIMITS OF DISTURBANCE AT A MINIMUM OF (FIFTY) 50'-0" INTERVALS. LIMITS OF ALIGNMENT STAKING SHALL BE VERIFIED BY ENGINEER AND/OR LANDSCAPE ARCHITECT PRIOR TO THE COMMENCEMENT OF CONSTRUCTION. LIMITS SHALL BE CLEARLY MARKED IN THE FIELD AND SHALL REMAIN IN PLACE THROUGHOUT THE DURATION OF CONSTRUCTION.



**LEGEND**

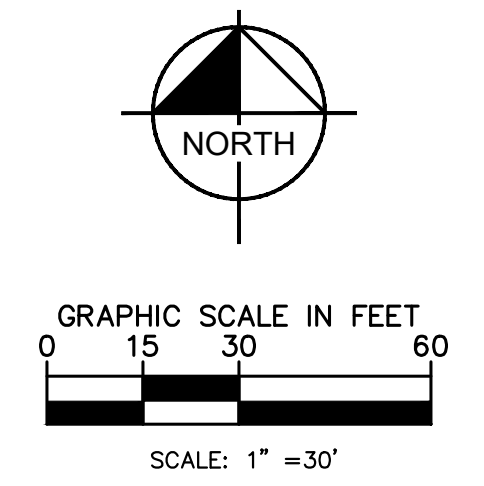
	CONTOURS		R	RADIUS
	DEPRESSED CONTOUR		A	ARC LENGTH
	BOUNDARY LINE		B	CHORD BEARING
	RIGHT OF WAY (R/W)		C	CHORD LENGTH
	STORM DRAINAGE		NPF	NO POINT FOUND
	GIS PARCEL LINE		EIP	EXISTING IRON PIPE
	TOE OF BANK (DITCH)		EIR	EXISTING IRON REBAR
	TOP OF BANK (DITCH)		PVC	POLY-VINYL CHLORIDE
	CENTERLINE OF DITCH		PVCCT	PVC TRUSS PIPE
	FENCE		DI	DRAINAGE INLET
	OVERHEAD ELECTRIC LINE		ORN	ORNAMENTAL TREE
	EASEMENT LINE		CP	CONCRETE PIPE
	WATER LINE (WL)		PN	PARCEL NUMBER
	SANITARY SEWER LINE (SS)		M.B.	MAP BOOK
	GAS LINE		D.B.	DEED BOOK
	UNDERGROUND COMMUNICATION		PG.	PAGE
	BUILDING		EL.	ELEVATION
	JOINT ROADWAY EASEMENT		INV.	INVERT
	SANITARY SEWER EASEMENT		TYP.	TYPICAL
	DRAINAGE EASEMENT		CONC.	CONCRETE
	UTILITY EASEMENT		CRUSHED ROCK	
	ELECTRIC EASEMENT		BACK OF CURB	
	CONCRETE			
	ASPHALT			
	RIPRAP			
	FH		FH	FIRE HYDRANT
	WV		WV	WATER VALVE
	LP		LP	LIGHT POLE
	MP		MP	METAL POST
	CO		CO	CLEAN OUT
	TEM		TEM	TEMPORARY BENCHMARK
	GM		GM	GAS METER
	CM		CM	CREPE MYRTLE TREE
	BP		BP	BRADFORD PEAR TREE
	CMP		CMP	CORRUGATED METAL PIPE
	TP		TP	TELEPHONE PEDESTAL
	GPS		GPS	GPS CONTROL POINT
	CLF		CLF	CHAIN LINK FENCE WITH BARBED WIRE
	SSM		SSM	SANITARY SEWER MANHOLE (MHSS)
	SSCM		SSCM	SANITARY SEWER CARSONITE MARKER
	CB		CB	CATCH BASIN AT BACK OF CURB
	ABS		ABS	ACRYLONITRILE BUTADIENE STYRENE

**DEMOLITION AND EROSION CONTROL LEGEND**

	PROPERTY LINE
	LIMITS OF DISTURBANCE
	DEMOLISH SITE ITEM
	SILT FENCE
	TREE PROTECTION FENCE
	DEMOLISH SITE ITEM/TREE TO BE REMOVED
	CONCRETE WASHOUT STATION
	NATURAL TRAIL TO BE REMOVED
	PERMANENT WETLAND DISTURBANCE
	TEMPORARY WETLAND DISTURBANCE
	TEMPORARY/PERMANENT OPEN WATER DISTURBANCE (SEE NOTE #3)
	SPOIL PILE TO BE REMOVED
	TEMPORARY HEAVY DUTY GRAVEL CONSTRUCTION ACCESS
	20' FIRE ACCESS DRIVE

**BORINGS**

Description	Northing	Easting
BGS-01	682792.95	2493966.99
BGS-02	682892.95	2493965.96
BGS-03	683000.02	2494048.00
BGS-04	683039.01	2494143.00
BGS-05	683102.00	2494220.00
BGS-06	683134.01	2494399.00
BT-01	680328.00	2496924.00
BW-01	680778.00	2496865.01
BW-02	680688.98	2496877.96
BW-03	680537.96	2497117.98
BW-04	680538.00	2497235.95
CT-01	682368.01	2496810.98
EB-01	680591.02	2496938.96
TB-01	681864.00	2497416.99
TB-02	681879.00	2497532.00
WB-01	683318.01	2494539.98



**NOTES:**  
 BGS - BLACK GUM SWAMP  
 WB - WESTERN BRIDGE  
 CT - CONNECTOR TRAIL  
 TB - TOWER BRIDGE  
 BW - BOARDWALK  
 EB - EAST BRIDGE  
 BT - BEACH TRAIL

**SURVEY NOTE:**  
 ALL EXISTING TOPOGRAPHICAL AND BOUNDARY INFORMATION WAS PROVIDED BY RIVERS & ASSOCIATES, INC. DATED 05/17/21 LOCATED AT 107 EAST SECOND STREET GREENVILLE, NC 27688 PHONE: 252-752-4135.

NO.	REVISIONS	DATE
1	ISSUED FOR BID	02/28/2022 ASA

**Kimley»Horn**

© 2022 KIMLEY-HORN AND ASSOCIATES, INC.  
 421 FAYETTEVILLE STREET, SUITE 600, RALEIGH, NC 27601  
 PHONE: 919-677-2000 FAX: 919-677-2050  
 WWW.KIMLEY-HORN.COM

SEAL:

KHA PROJECT 012654010  
 DATE 02/28/2022  
 SCALE AS SHOWN  
 DESIGNED BY MRC  
 DRAWN BY ASA  
 CHECKED BY JDK

**DEMOLITION AND PH1 EROSION CONTROL - THE TOWER**

**WILDWOOD PARK - OBSERVATION TOWER AND TRAILS PREPARED FOR CITY OF GREENVILLE**

GREENVILLE, NC

SHEET NUMBER **C2.1**



Know what's below. Call before you dig.

PHASE 1 CONSTRUCTION SEQUENCE

THE FOLLOWING PHASE 1 CONSTRUCTION SEQUENCE IS FURNISHED AS A GENERAL GUIDE FOR PREPARATION OF A SEQUENCE OF CONSTRUCTION EVENTS.

- 1. OBTAIN GRADING/EROSION CONTROL PLAN APPROVAL FROM NCDEQ.
2. SET UP AN ON-SITE PRE-CONSTRUCTION CONFERENCE WITH NCDEQ...
3. CONTRACTOR TO INSTALL SILT FENCE, TREE PROTECTION FENCE...
4. INSTALL TEMPORARY CONSTRUCTION ACCESS ROADS AND TURN...
5. CONTRACTOR TO ACCESS BRIDGE AND CULVERT LOCATIONS...
6. CALL FOR ON-SITE INSPECTION BY INSPECTOR...
7. UPON APPROVAL AND RECEIPT OF USACE NATIONWIDE PERMIT #14...
8. INSPECT AND REPAIR EROSION CONTROL MEASURES...
9. ALL EROSION CONTROL MEASURES SHALL BE CONSTRUCTED...

NOTES

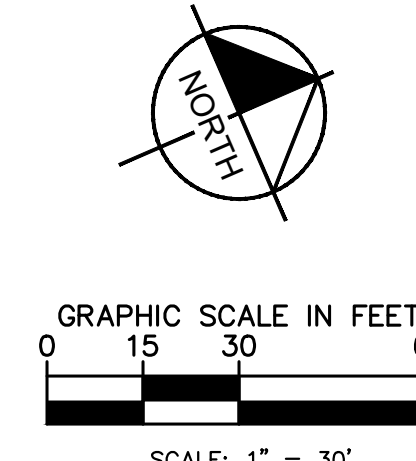
- 1. REFER TO THIS SHEET AND GENERAL NOTES SHEET C0.1 FOR...
2. THIS PROJECT HAS COMBINED INFORMATION FROM PREVIOUS...
3. SEE ENVIRONMENTAL PERMITS PACKAGE FOR EXTENTS OF ALL...

LEGEND

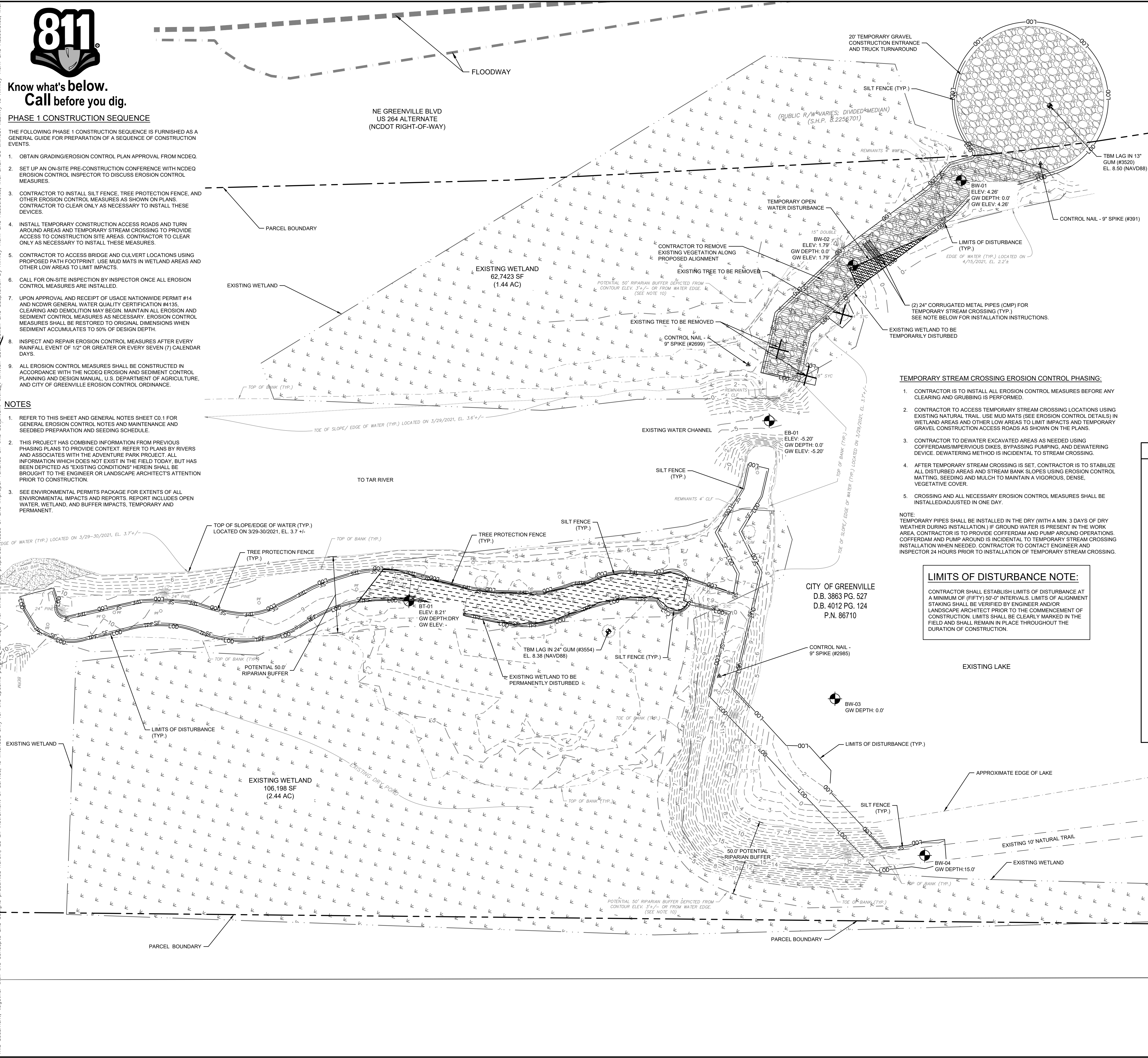
Legend containing symbols for contours, boundary lines, easements, and various utility lines. Includes a 'DEMOLITION AND EROSION CONTROL LEGEND' with symbols for property lines, limits of disturbance, and various site items.

BORINGS

Table with 3 columns: Description, Northing, Easting. Lists borings BGS-01 through WB-01 with their respective coordinates.



NOTES: BGS - BLACK GUM SWAMP, WB - WESTERN BRIDGE, CT - CONNECTOR TRAIL, TB - TOWER BRIDGE, BW - BOARDWALK, EB - EAST BRIDGE, BT - BEACH TRAIL



Project information including 'KIMLEY-HORN AND ASSOCIATES, INC.', address, phone, website, and revision table.

Professional seal for 'KIMLEY-HORN AND ASSOCIATES, INC.' dated 02/28/2022.

DEMOLITION AND PH 1 EROSION CONTROL - THE BEACH

Project title 'WILDWOOD PARK - OBSERVATION TOWER AND TRAILS PREPARED FOR CITY OF GREENVILLE', sheet number 'C2.2', and location 'GREENVILLE, NC'.

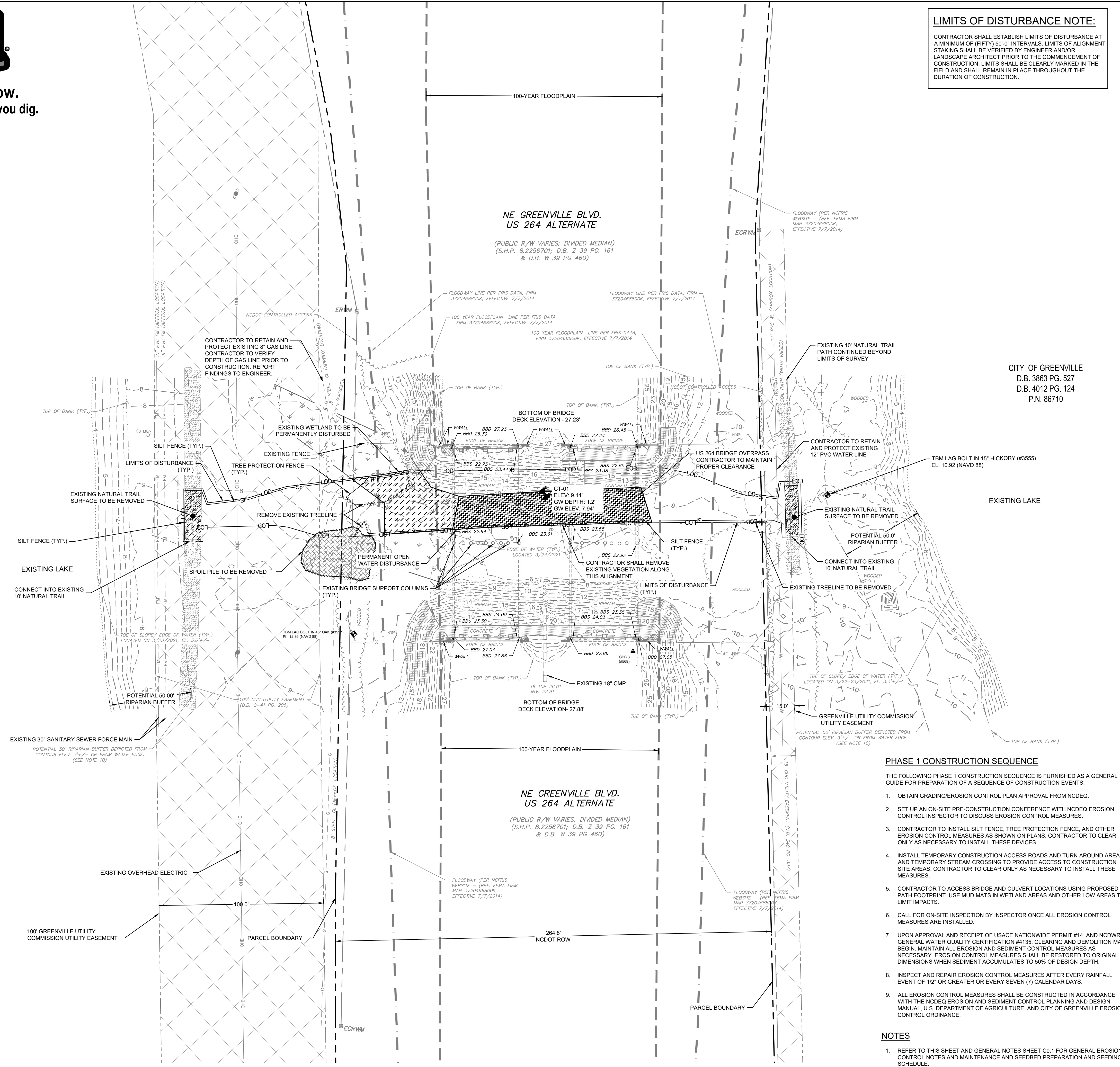


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CITY OF GREENVILLE  
D.B. 4049 PG. 261  
P.N. 22504

CITY OF GREENVILLE  
D.B. 3863 PG. 527  
D.B. 4012 PG. 124  
P.N. 86710



**LIMITS OF DISTURBANCE NOTE:**  
CONTRACTOR SHALL ESTABLISH LIMITS OF DISTURBANCE AT A MINIMUM OF (FIFTY) 50'-0" INTERVALS. LIMITS OF ALIGNMENT STAKING SHALL BE VERIFIED BY ENGINEER AND/OR LANDSCAPE ARCHITECT PRIOR TO THE COMMENCEMENT OF CONSTRUCTION. LIMITS SHALL BE CLEARLY MARKED IN THE FIELD AND SHALL REMAIN IN PLACE THROUGHOUT THE DURATION OF CONSTRUCTION.

**LEGEND**

	CONTOURS	R	RADIUS
	DEPRESSED CONTOUR	A	ARC LENGTH
	BOUNDARY LINE	B	CHORD BEARING
	RIGHT OF WAY (R/W)	C	CHORD LENGTH
	STORM DRAINAGE	NPF	NO POINT FOUND
	GAS PARCEL LINE	EIP	EXISTING IRON PIPE
	TOE OF BANK (DITCH)	EIR	EXISTING IRON REBAR
	CENTERLINE OF DITCH	PVC	POLY-VINYL CHLORIDE
	FENCE	PVCT	PVC TRUSS PIPE
	OVERHEAD ELECTRIC LINE	DI	DRAINAGE INLET
	EASEMENT LINE	ORN	ORNAMENTAL TREE
	WATER LINE (WL)	CP	CONCRETE PIPE
	SANITARY SEWER LINE (SS)	P.H.	PARCEL NUMBER
	GAS LINE	M.B.	MAP BOOK
	UNDERGROUND COMMUNICATION	D.B.	DEED BOOK
	WOODS LINE	PG.	PAGE
	BUILDING	EL.	ELEVATION
	JOINT ROADWAY EASEMENT	INV.	INVERT
	SANITARY SEWER EASEMENT	TYP.	TYPICAL
	DRAINAGE EASEMENT	CONC.	CONCRETE
	UTILITY EASEMENT		
	ELECTRIC EASEMENT		
	CONCRETE		
	ASPHALT		
	RIPRAP		
	FIRE HYDRANT		
	WATER VALVE		
	LIGHT POLE		
	METAL POST		
	CLEAN OUT		
	TEMPORARY BENCHMARK		
	GAS METER		
	CREPE MYRTLE TREE		
	BRADFORD PEAR TREE		
	CORRUGATED METAL PIPE		
	TELEPHONE PEDESTAL		
	GPS CONTROL POINT		
	CHAIN LINK FENCE WITH BARBED WIRE		
	SANITARY SEWER MANHOLE (MHSS)		
	SANITARY SEWER CARSONITE MARKER		
	CATCH BASIN AT BACK OF CURB		
	ACRYLONITRILE BUTADIENE STYRENE		

**DEMOLITION AND EROSION CONTROL LEGEND**

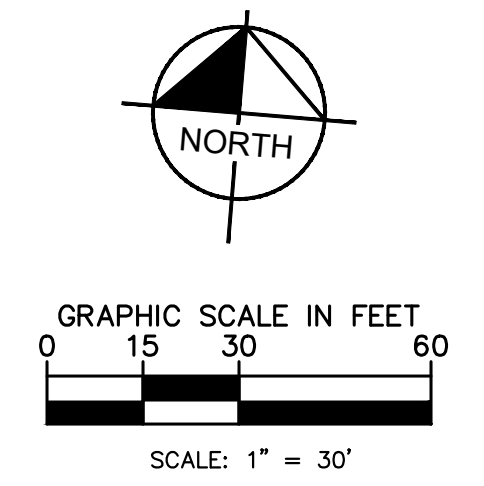
	PROPERTY LINE
	LIMITS OF DISTURBANCE
	DEMOLISH SITE ITEM
	SILT FENCE
	TREE PROTECTION FENCE
	DEMOLISH SITE ITEM/TREE TO BE REMOVED
	CONCRETE WASHOUT STATION
	NATURAL TRAIL TO BE REMOVED
	PERMANENT WETLAND DISTURBANCE
	TEMPORARY WETLAND DISTURBANCE
	TEMPORARY/PERMANENT OPEN WATER DISTURBANCE (SEE NOTE #3)
	SPOIL PILE TO BE REMOVED
	TEMPORARY HEAVY DUTY GRAVEL CONSTRUCTION ACCESS
	20' FIRE ACCESS DRIVE

- PHASE 1 CONSTRUCTION SEQUENCE**
- THE FOLLOWING PHASE 1 CONSTRUCTION SEQUENCE IS FURNISHED AS A GENERAL GUIDE FOR PREPARATION OF A SEQUENCE OF CONSTRUCTION EVENTS.
- OBTAIN GRADING/EROSION CONTROL PLAN APPROVAL FROM NCDCEQ.
  - SET UP AN ON-SITE PRE-CONSTRUCTION CONFERENCE WITH NCDCEQ EROSION CONTROL INSPECTOR TO DISCUSS EROSION CONTROL MEASURES.
  - CONTRACTOR TO INSTALL SILT FENCE, TREE PROTECTION FENCE, AND OTHER EROSION CONTROL MEASURES AS SHOWN ON PLANS. CONTRACTOR TO CLEAR ONLY AS NECESSARY TO INSTALL THESE DEVICES.
  - INSTALL TEMPORARY CONSTRUCTION ACCESS ROADS AND TURN AROUND AREAS AND TEMPORARY STREAM CROSSING TO PROVIDE ACCESS TO CONSTRUCTION SITE AREAS. CONTRACTOR TO CLEAR ONLY AS NECESSARY TO INSTALL THESE MEASURES.
  - CONTRACTOR TO ACCESS BRIDGE AND CULVERT LOCATIONS USING PROPOSED PATH FOOTPRINT. USE MUD MATS IN WETLAND AREAS AND OTHER LOW AREAS TO LIMIT IMPACTS.
  - CALL FOR ON-SITE INSPECTION BY INSPECTOR ONCE ALL EROSION CONTROL MEASURES ARE INSTALLED.
  - UPON APPROVAL AND RECEIPT OF USACE NATIONWIDE PERMIT #14 AND NCDWR GENERAL WATER QUALITY CERTIFICATION #4135, CLEARING AND DEMOLITION MAY BEGIN. MAINTAIN ALL EROSION AND SEDIMENT CONTROL MEASURES AS NECESSARY. EROSION CONTROL MEASURES SHALL BE RESTORED TO ORIGINAL DIMENSIONS WHEN SEDIMENT ACCUMULATES TO 50% OF DESIGN DEPTH.
  - INSPECT AND REPAIR EROSION CONTROL MEASURES AFTER EVERY RAINFALL EVENT OF 1/2" OR GREATER OR EVERY SEVEN (7) CALENDAR DAYS.
  - ALL EROSION CONTROL MEASURES SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE NCDCEQ EROSION AND SEDIMENT CONTROL PLANNING AND DESIGN MANUAL, U.S. DEPARTMENT OF AGRICULTURE, AND CITY OF GREENVILLE EROSION CONTROL ORDINANCE.

- NOTES**
- REFER TO THIS SHEET AND GENERAL NOTES SHEET CO.1 FOR GENERAL EROSION CONTROL NOTES AND MAINTENANCE AND SEEDBED PREPARATION AND SEEDING SCHEDULE.
  - THIS PROJECT HAS COMBINED INFORMATION FROM PREVIOUS PHASING PLANS TO PROVIDE CONTEXT. REFER TO PLANS BY RIVERS & ASSOCIATES WITH PROJECT. ALL INFORMATION WHICH DOES NOT EXIST IN THE FIELD TODAY, BUT HAS BEEN DEPICTED AS 'EXISTING CONDITIONS' HEREIN SHALL BE BROUGHT TO THE ENGINEER OR LANDSCAPE ARCHITECTS ATTENTION PRIOR TO CONSTRUCTION.
  - SEE ENVIRONMENTAL PERMITS PACKAGE FOR EXTENTS OF ALL ENVIRONMENTAL IMPACTS AND REPORTS. REPORT INCLUDES OPEN WATER, WETLAND, AND BUFFER IMPACTS, TEMPORARY AND PERMANENT.

**BORINGS**

Description	Northing	Easting
BGS-01	682792.95	2493966.99
BGS-02	682692.95	2493965.96
BGS-03	683000.02	2494048.00
BGS-04	683039.01	2494143.00
BGS-05	683102.00	2494220.00
BGS-06	683134.01	2494399.00
BT-01	680328.00	2496924.00
BW-01	680778.00	2496865.01
BW-02	680688.98	2496877.96
BW-03	680537.96	2497117.98
BW-04	680538.00	2497235.95
CT-01	682368.01	2496810.98
EB-01	680591.02	2496938.96
TB-01	681864.00	2497416.99
TB-02	681879.00	2497532.00
WB-01	683318.01	2494539.98

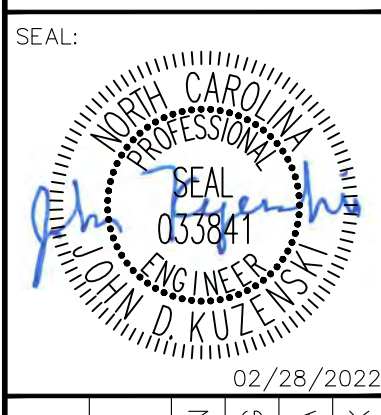


NOTES:  
BGS - BLACK GUM SWAMP  
WB - WESTERN BRIDGE  
CT - CONNECTOR TRAIL  
TB - TOWER BRIDGE  
BW - BOARDWALK  
EB - EAST BRIDGE  
BT - BEACH TRAIL

NO.	ISSUED FOR	BY	DATE
1	ISSUED FOR BID	ASA	02/28/2022

**Kimley-Horn**

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421 FAYETTEVILLE STREET, SUITE 600, RALEIGH, NC 27601  
PHONE: 919-677-2000 FAX: 919-677-2050  
WWW.KIMLEY-HORN.COM



KHA PROJECT	012654010
DATE	02/28/2022
SCALE	AS SHOWN
DESIGNED BY	ASA
DRAWN BY	JDK
CHECKED BY	JDK

**DEMOLITION AND PH 1 EROSION CONTROL - THE CONNECTION**

**WILDWOOD PARK - OBSERVATION TOWER AND TRAILS PREPARED FOR CITY OF GREENVILLE**

SHEET NUMBER **C2.3**



Know what's below.  
Call before you dig.

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- SET UP AN ON-SITE PRE-CONSTRUCTION CONFERENCE WITH NCDEQ EROSION CONTROL INSPECTOR TO DISCUSS EROSION CONTROL MEASURES.
- CONTRACTOR TO INSTALL SILT FENCE, TREE PROTECTION FENCE, AND OTHER EROSION CONTROL MEASURES AS SHOWN ON PLANS. CONTRACTOR TO CLEAR ONLY AS NECESSARY TO INSTALL THESE DEVICES.
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- CONTRACTOR TO ACCESS BRIDGE AND CULVERT LOCATIONS USING PROPOSED PATH FOOTPRINT. USE MUD MATS IN WETLAND AREAS AND OTHER LOW AREAS TO LIMIT IMPACTS.
- CALL FOR ON-SITE INSPECTION BY INSPECTOR ONCE ALL EROSION CONTROL MEASURES ARE INSTALLED.
- UPON APPROVAL AND RECEIPT OF USACE NATIONWIDE PERMIT #14 AND NCDWR GENERAL WATER QUALITY CERTIFICATION #4135, CLEARING AND DEMOLITION MAY BEGIN. MAINTAIN ALL EROSION AND SEDIMENT CONTROL MEASURES AS NECESSARY. EROSION CONTROL MEASURES SHALL BE RESTORED TO ORIGINAL DIMENSIONS WHEN SEDIMENT ACCUMULATES TO 50% OF DESIGN DEPTH.
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**NOTES**

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**LEGEND**

	CONTOURS	R	RADIUS
	DEPRESSED CONTOUR	A	ARC LENGTH
	BOUNDARY LINE	B	CHORD BEARING
	RIGHT OF WAY (R/W)	C	CHORD LENGTH
	STORM DRAINAGE	NPF	NO POINT FOUND
	GS PARCEL LINE	EIP	EXISTING IRON PIPE
	TOE OF BANK (DITCH)	EIR	EXISTING IRON REBAR
	TOP OF BANK (DITCH)	PVC	POLY-VINYL CHLORIDE
	CENTERLINE OF DITCH	PVC T	PVC TRUSS PIPE
	FENCE	DI	DRAINAGE INLET
	OVERHEAD ELECTRIC LINE	ORN	ORNAMENTAL TREE
	EASEMENT LINE	CP	CONCRETE PIPE
	WATER LINE (WL)	P.N.	PARCEL NUMBER
	SANITARY SEWER LINE (SS)	M.B.	MAP BOOK
	GAS LINE	D.B.	DEED BOOK
	UNDERGROUND COMMUNICATION	FG.	PAGE
	WOODS LINE	EL.	ELEVATION
	BUILDING	INV.	INVERT
	JOINT ROADWAY EASEMENT	TYP.	TYPICAL
	SANITARY SEWER EASEMENT	CONC.	CONCRETE
	DRAINAGE EASEMENT		
	UTILITY EASEMENT		
	ELECTRIC EASEMENT		
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	ACRYLONITRILE BUTADIENE STYRENE		

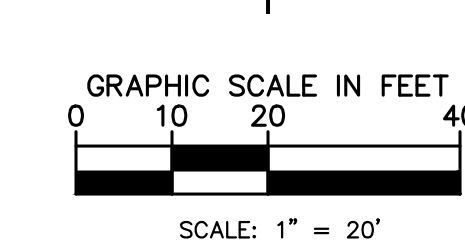
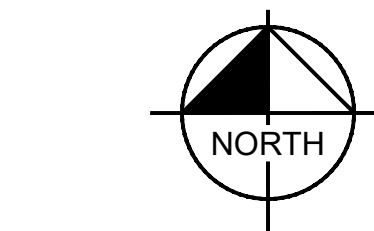
**DEMOLITION AND EROSION CONTROL LEGEND**

	PROPERTY LINE
	LIMITS OF DISTURBANCE
	DEMOLISH SITE ITEM
	SILT FENCE
	TREE PROTECTION FENCE
	DEMOLISH SITE ITEM/TREE TO BE REMOVED
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	NATURAL TRAIL TO BE REMOVED
	PERMANENT WETLAND DISTURBANCE
	TEMPORARY WETLAND DISTURBANCE
	TEMPORARY/PERMANENT OPEN WATER DISTURBANCE (SEE NOTE #3)
	SPOIL PILE TO BE REMOVED
	TEMPORARY HEAVY DUTY GRAVEL CONSTRUCTION ACCESS
	20' FIRE ACCESS DRIVE

**BORINGS**

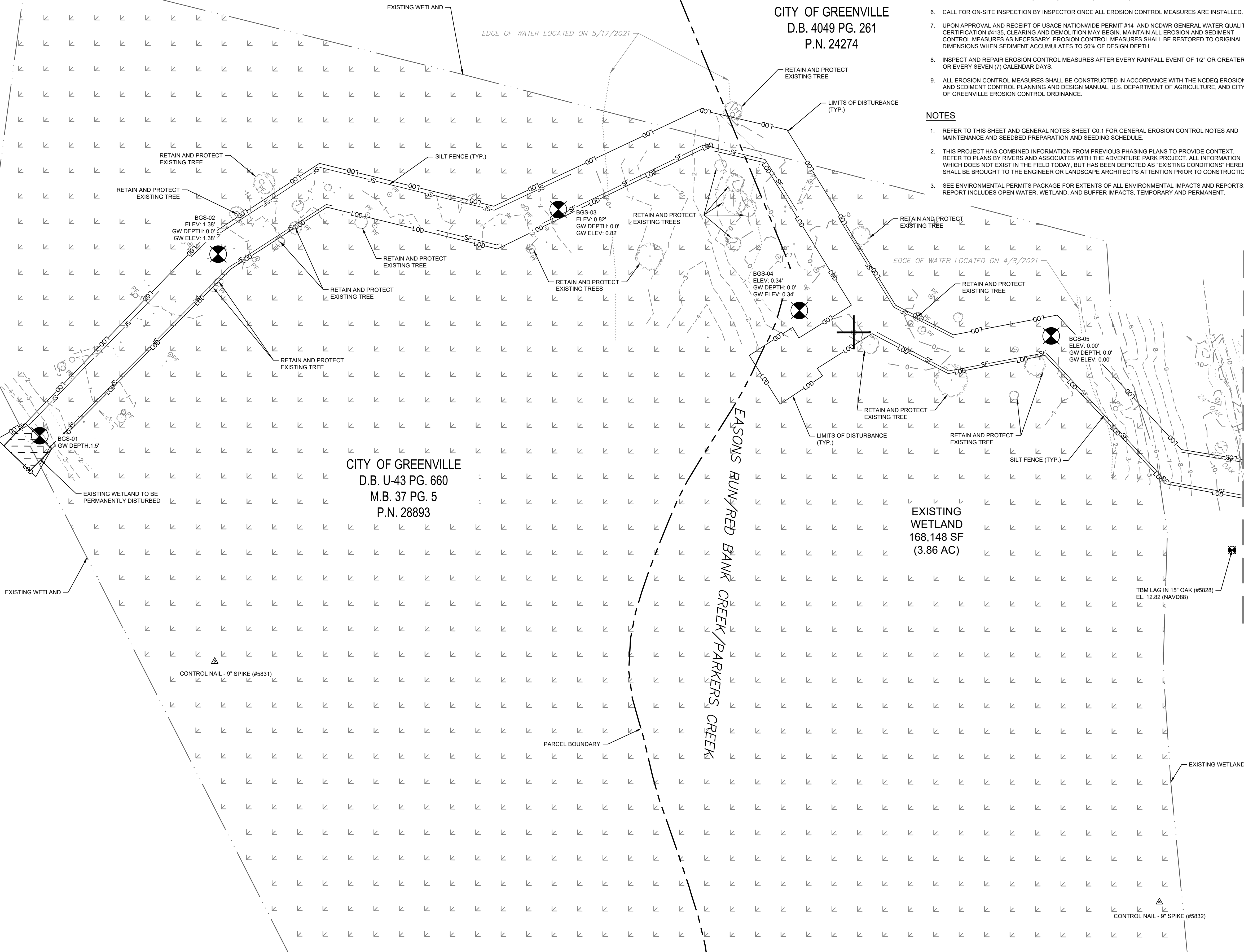
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 BW - BOARDWALK  
 EB - EAST BRIDGE  
 BT - BEACH TRAIL



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02/28/2022 ASA  
DATE

1 ISSUED FOR BID  
NO.

REVISIONS

#-0102

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 421 FAYETTEVILLE STREET, SUITE 600, RALEIGH, NC 27601  
 PHONE: 919-677-2000 FAX: 919-677-2050  
 WWW.KIMLEY-HORN.COM

SEAL:

02/28/2022  
DATE

KHA PROJECT 012654010  
DATE 02/28/2022  
SCALE AS SHOWN  
DESIGNED BY MRC  
DRAWN BY ASA  
CHECKED BY JDK

**DEMOLITION AND PH 1  
EROSION CONTROL - THE  
SWAMP**

**WILDWOOD PARK - OBSERVATION  
TOWER AND TRAILS  
PREPARED FOR  
CITY OF GREENVILLE**

GREENVILLE NC

SHEET NUMBER  
**C2.4**



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CITY OF GREENVILLE  
D.B. 4049 PG. 261  
P.N. 24274

CITY OF GREENVILLE  
D.B. 4049 PG. 261  
P.N. 35488

### LEGEND

	CONTOURS		R	RADIUS
	DEPRESSED CONTOUR		A	ARC LENGTH
	BOUNDARY LINE		B	CHORD BEARING
	RIGHT OF WAY (R/W)		C	CHORD LENGTH
	STORM DRAINAGE		NPF	NO POINT FOUND
	GIS PARCEL LINE		EIP	EXISTING IRON PIPE
	TOE OF BANK (DITCH)		EIR	EXISTING IRON REBAR
	CENTERLINE OF DITCH		PVC	POLY-VINYL CHLORIDE
	FENCE		PVCCT	PVC TRUSS PIPE
	OVERHEAD ELECTRIC LINE		DI	DRAINAGE INLET
	EASEMENT LINE		ORN	ORNAMENTAL TREE
	WATER LINE (WL)		CP	CONCRETE PIPE
	SANITARY SEWER LINE (SS)		P.N.	PARCEL NUMBER
	GAS LINE		M.B.	MAP BOOK
	UNDERGROUND COMMUNICATION		D.B.	DEED BOOK
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	JOINT ROADWAY EASEMENT		EL.	ELEVATION
	SANITARY SEWER EASEMENT		INV.	INVERT
	DRAINAGE EASEMENT		TYP.	TYPICAL
	UTILITY EASEMENT		CONC.	CONCRETE
	ELECTRIC EASEMENT		CRUSHED ROCK	CRUSHED ROCK
	CONCRETE		BACK OF CURB	BACK OF CURB
	ASPHALT			
	RIPRAP			
	FH			
	WV			
	LP			
	MP			
	CO			
	TEMP			
	GM			
	CM			
	BP			
	CMP			
	TP			
	GPS			
	CLF/BW			
	SSM			
	SSCM			
	CB			
	ABS			

### DEMOLITION AND EROSION CONTROL LEGEND

	PROPERTY LINE
	LIMITS OF DISTURBANCE
	DEMOLISH SITE ITEM
	SILT FENCE
	TREE PROTECTION FENCE
	DEMOLISH SITE ITEM/TREE TO BE REMOVED
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	PERMANENT WETLAND DISTURBANCE
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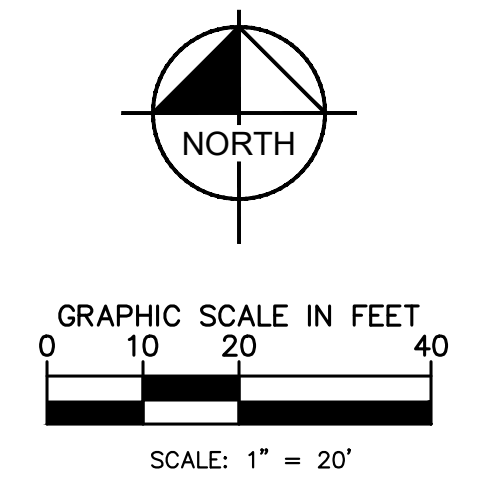
#### NOTES

1. REFER TO THIS SHEET AND GENERAL NOTES SHEET C0.1 FOR GENERAL EROSION CONTROL NOTES AND MAINTENANCE AND SEEDBED PREPARATION AND SEEDING SCHEDULE.
2. THIS PROJECT HAS COMBINED INFORMATION FROM PREVIOUS PHASING PLANS TO PROVIDE CONTEXT. REFER TO PLANS BY RIVERS AND ASSOCIATES WITH THE ADVENTURE PARK PROJECT. ALL INFORMATION WHICH DOES NOT EXIST IN THE FIELD TODAY, BUT HAS BEEN DEPICTED AS "EXISTING CONDITIONS" HEREIN SHALL BE BROUGHT TO THE ENGINEER OR LANDSCAPE ARCHITECT'S ATTENTION PRIOR TO CONSTRUCTION.
3. SEE ENVIRONMENTAL PERMITS PACKAGE FOR EXTENTS OF ALL ENVIRONMENTAL IMPACTS AND REPORTS. REPORT INCLUDES OPEN WATER, WETLAND, AND BUFFER IMPACTS, TEMPORARY AND PERMANENT.

#### BORINGS

Description	Northing	Easting
BGS-01	682792.95	2493966.99
BGS-02	682692.95	2493965.96
BGS-03	683000.02	2494048.00
BGS-04	683039.01	2494143.00
BGS-05	683102.00	2494220.00
BGS-06	683134.01	2494399.00
BT-01	680328.00	2496924.00
BW-01	680778.00	2496865.01
BW-02	680688.98	2496877.96
BW-03	680537.96	2497117.98
BW-04	680538.00	2497235.95
CT-01	682368.01	2496810.98
EB-01	680591.02	2496938.96
TB-01	681864.00	2497416.99
TB-02	681879.00	2497532.00
WB-01	683318.01	2494539.98

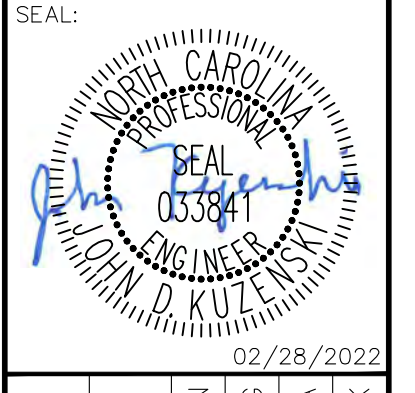
**NOTES:**  
BGS - BLACK GUM SWAMP  
WB - WESTERN BRIDGE  
CT - CONNECTOR TRAIL  
TB - TOWER BRIDGE  
BW - BOARDWALK  
EB - EAST BRIDGE  
BT - BEACH TRAIL



**SURVEY NOTE:**  
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NO.	REVISIONS	DATE
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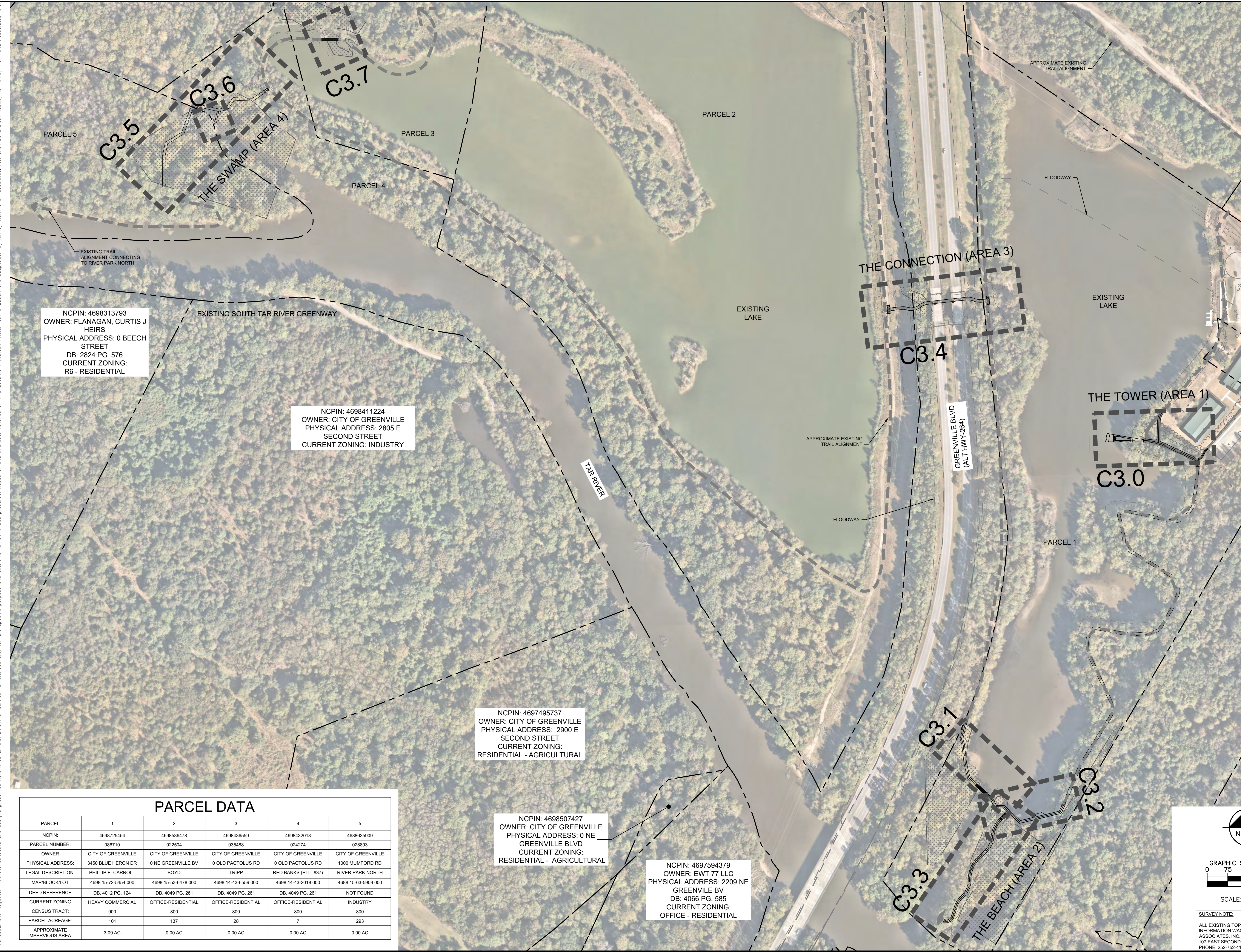
KHA PROJECT	012654010
DATE	02/28/2022
SCALE	AS SHOWN
DESIGNED BY	MRC
DRAWN BY	ASA
CHECKED BY	JDK

## DEMOLITION AND PH 1 EROSION CONTROL - THE SWAMP

WILDWOOD PARK - OBSERVATION  
TOWER AND TRAILS  
PREPARED FOR  
CITY OF GREENVILLE

SHEET NUMBER  
**C2.5**

Plotted By: Alterra, Andie - Sheet: Set: WILDWOOD PARK - OBSERVATION TOWER AND TRAILS - L:\Projects\C3.0 OVERALL SITE PLAN - February 25, 2022 05:15:58pm - K:\RAL\_LDEV\012654010 - Wildwood Park - Walkways - Tower Planning Phase\P10\_CAD\_Files\PlanSheets\C3.0 OVERALL SITE PLAN.dwg  
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NCPIN: 4698313793  
 OWNER: FLANAGAN, CURTIS J HEIRS  
 PHYSICAL ADDRESS: 0 BEECH STREET  
 DB: 2824 PG. 576  
 CURRENT ZONING: R6 - RESIDENTIAL

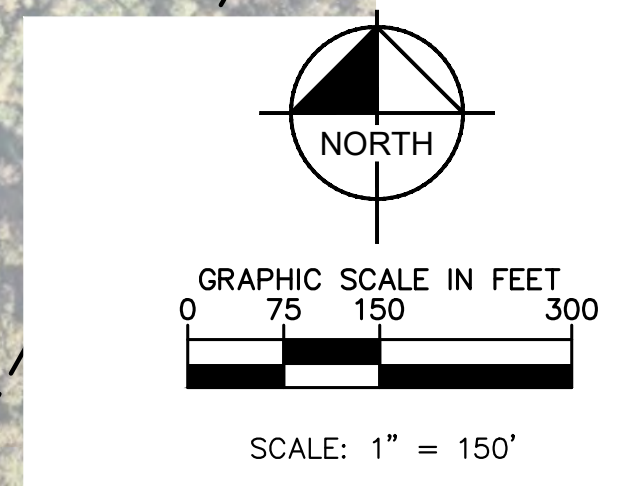
NCPIN: 4698411224  
 OWNER: CITY OF GREENVILLE  
 PHYSICAL ADDRESS: 2805 E SECOND STREET  
 CURRENT ZONING: INDUSTRY

NCPIN: 4697495737  
 OWNER: CITY OF GREENVILLE  
 PHYSICAL ADDRESS: 2900 E SECOND STREET  
 CURRENT ZONING: RESIDENTIAL - AGRICULTURAL

NCPIN: 4698507427  
 OWNER: CITY OF GREENVILLE  
 PHYSICAL ADDRESS: 0 NE GREENVILLE BV  
 CURRENT ZONING: RESIDENTIAL - AGRICULTURAL

NCPIN: 4697594379  
 OWNER: EWT 77 LLC  
 PHYSICAL ADDRESS: 2209 NE GREENVILLE BV  
 DB: 4066 PG. 585  
 CURRENT ZONING: OFFICE - RESIDENTIAL

PARCEL DATA					
PARCEL	1	2	3	4	5
NCPIN:	4698725454	4698536478	4698436559	4698432018	4688635909
PARCEL NUMBER:	086710	022504	035488	024274	028893
OWNER:	CITY OF GREENVILLE	CITY OF GREENVILLE	CITY OF GREENVILLE	CITY OF GREENVILLE	CITY OF GREENVILLE
PHYSICAL ADDRESS:	3450 BLUE HERON DR	0 NE GREENVILLE BV	0 OLD PACTOLUS RD	0 OLD PACTOLUS RD	1000 MUMFORD RD
LEGAL DESCRIPTION:	PHILLIP E. CARROLL	BOYD	TRIPP	RED BANKS (PITT #37)	RIVER PARK NORTH
MAP/BLOCK/LOT:	4698.15-72-5454.000	4698.15-53-6478.000	4698.14-43-6559.000	4698.14-43-2018.000	4688.15-63-5909.000
DEED REFERENCE:	DB. 4012 PG. 124	DB. 4049 PG. 261	DB. 4049 PG. 261	DB. 4049 PG. 261	NOT FOUND
CURRENT ZONING:	HEAVY COMMERCIAL	OFFICE-RESIDENTIAL	OFFICE-RESIDENTIAL	OFFICE-RESIDENTIAL	INDUSTRY
CENSUS TRACT:	900	800	800	800	800
PARCEL ACREAGE:	101	137	28	7	293
APPROXIMATE IMPERVIOUS AREA:	3.09 AC	0.00 AC	0.00 AC	0.00 AC	0.00 AC



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NO.	REVISIONS	DATE
1	ISSUED FOR BID	02/28/2022, ASA

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 #F-0102

SEAL:  
  
 KHA PROJECT: 012654010  
 DATE: 02/28/2022  
 SCALE AS SHOWN  
 DESIGNED BY: MRC  
 DRAWN BY: ASA  
 CHECKED BY: JDC  
 02/28/2022

**OVERALL SITE PLAN**

WILDWOOD PARK - OBSERVATION TOWER AND TRAILS  
 PREPARED FOR  
 CITY OF GREENVILLE  
 GREENVILLE, NC  
 SHEET NUMBER  
**C3.0**



Know what's below. Call before you dig.

SITE LEGEND	
	EXISTING CONTOUR
	WATER EDGE LINE
	LOD - LIMITS OF DISTURBANCE
	SF - SILT FENCE
	ADA ACCESSIBLE ROUTE
	FIELD WALK PINK FLAGGING
	WETLAND
	PRE-FABRICATED BRIDGE
	BOARDWALK
	CONCRETE SIDEWALK
	HEAVY DUTY GRAVEL PAVEMENT FOR 20' FIRE ACCESS DRIVE
	TEMPORARY HEAVY DUTY GRAVEL

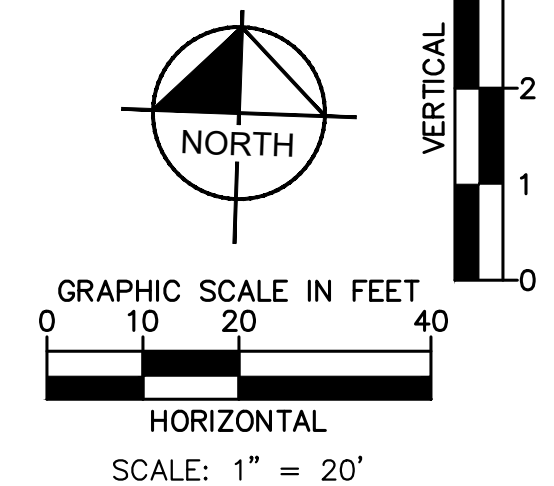
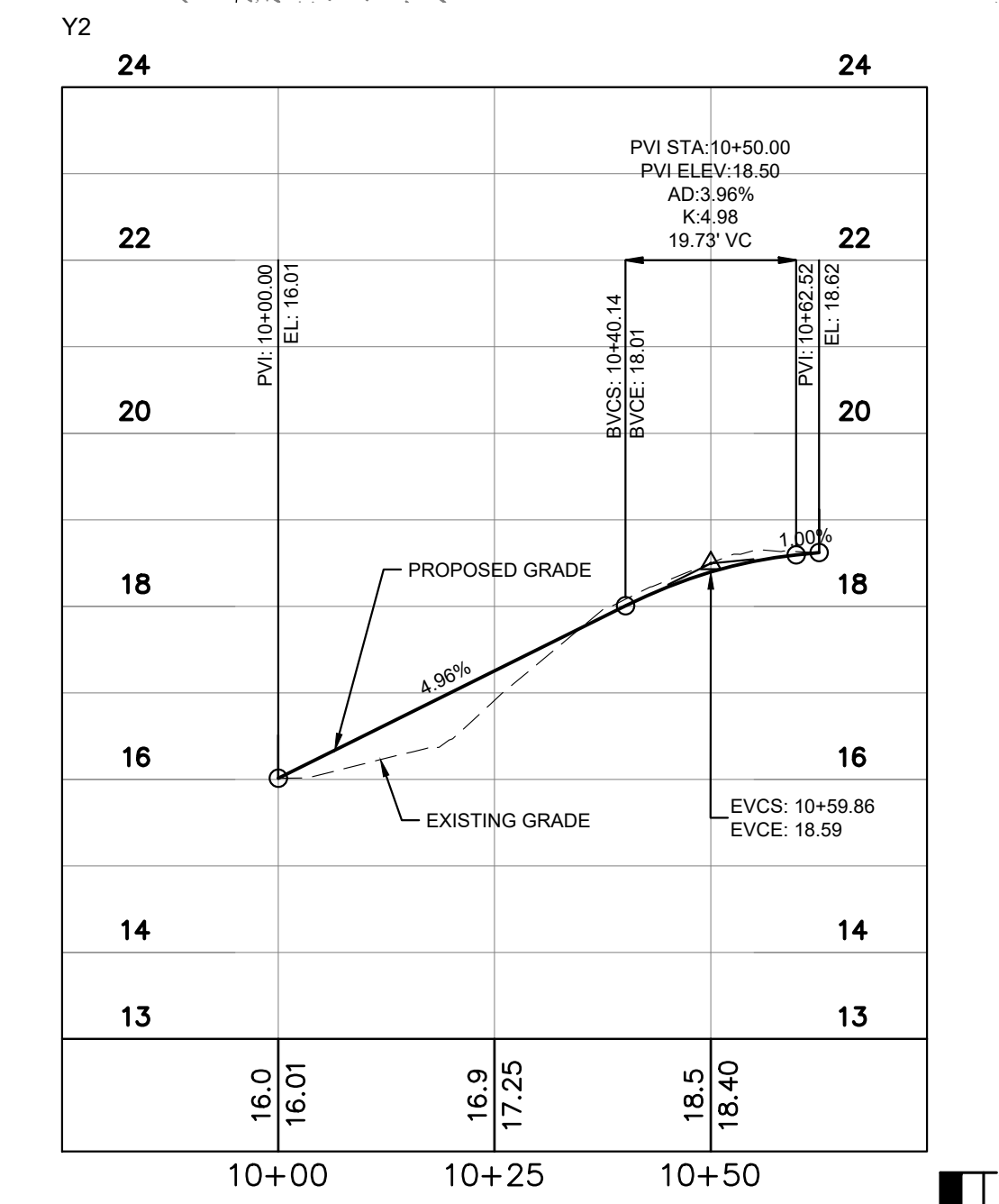
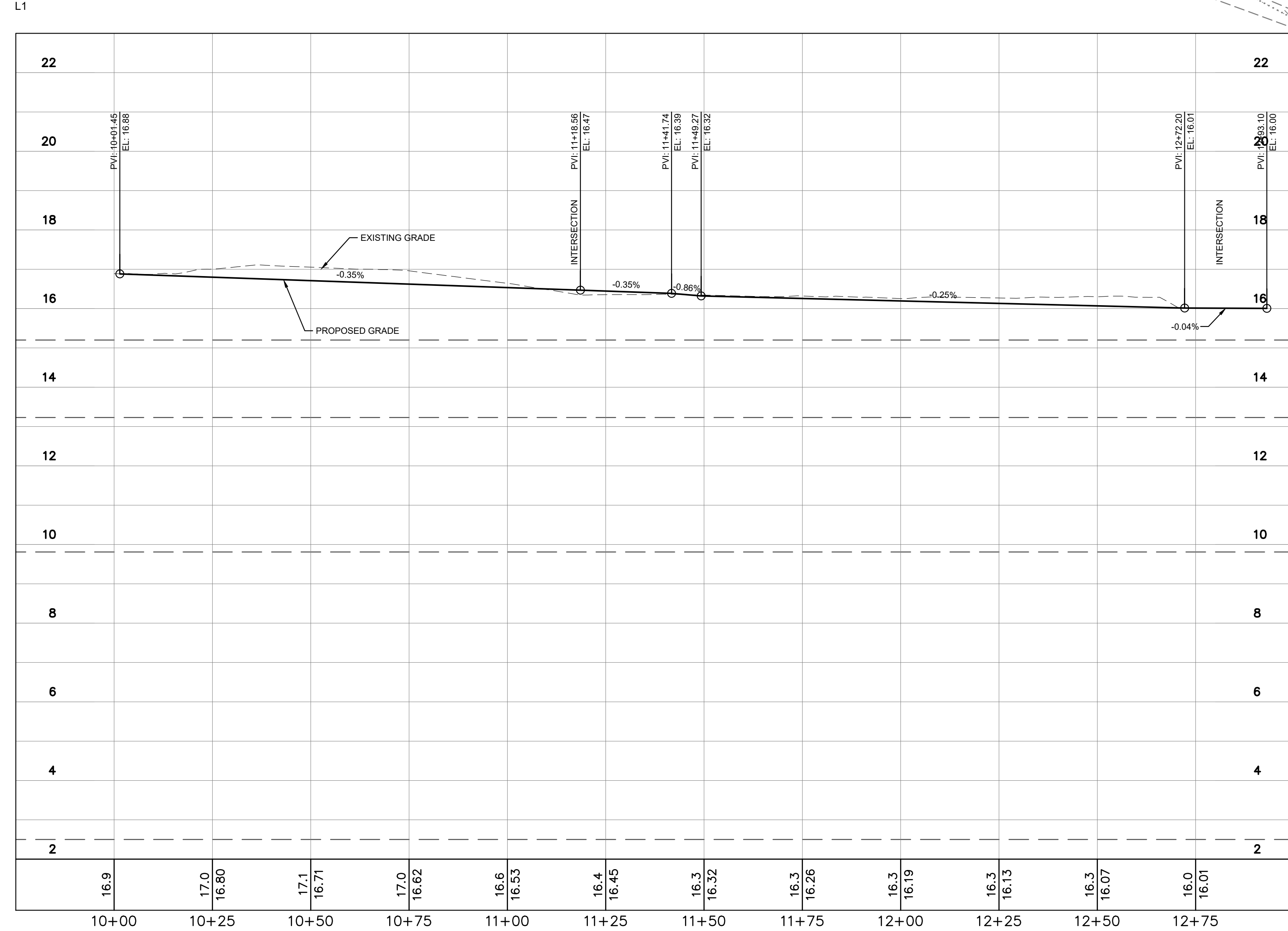
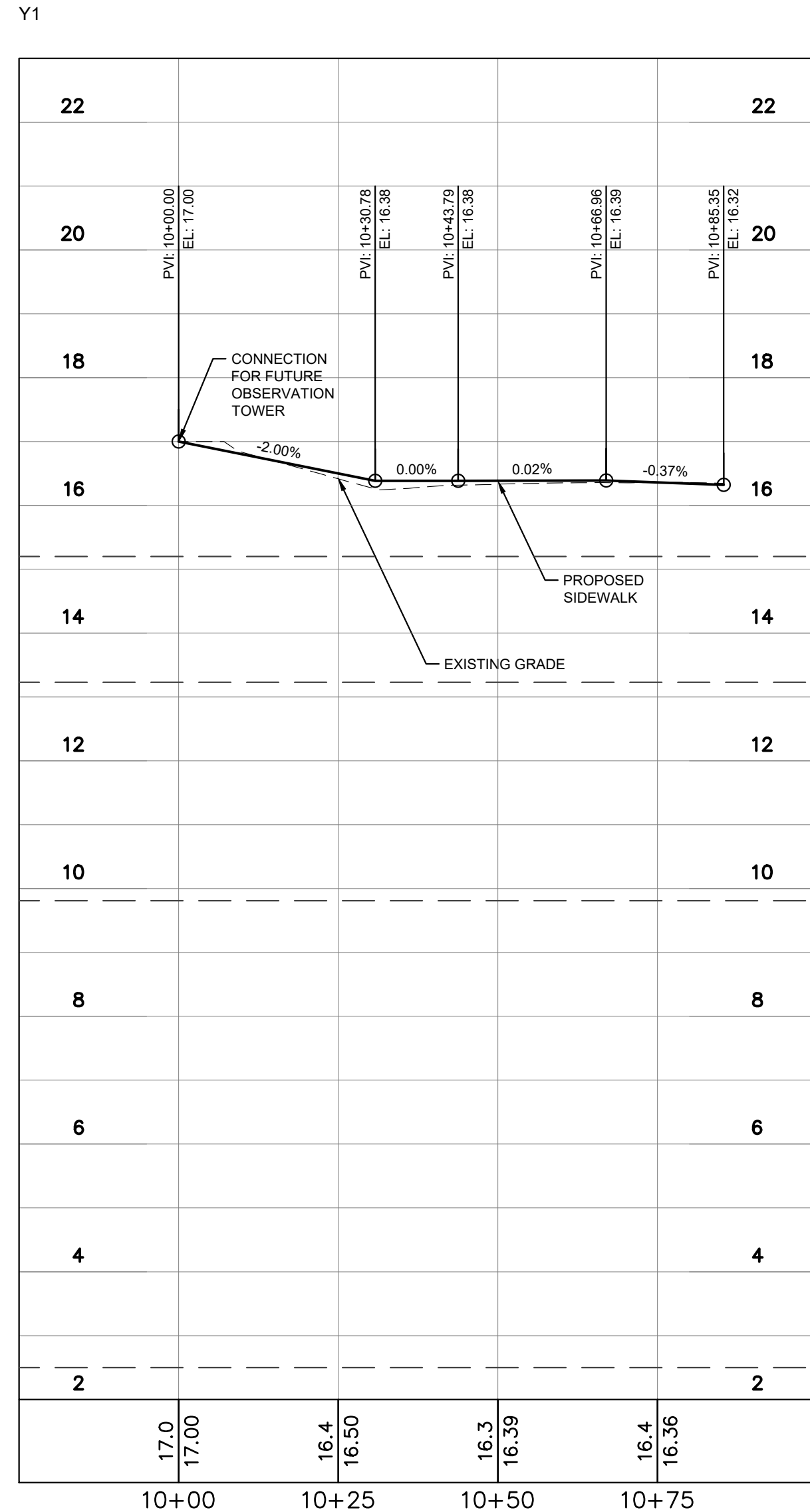
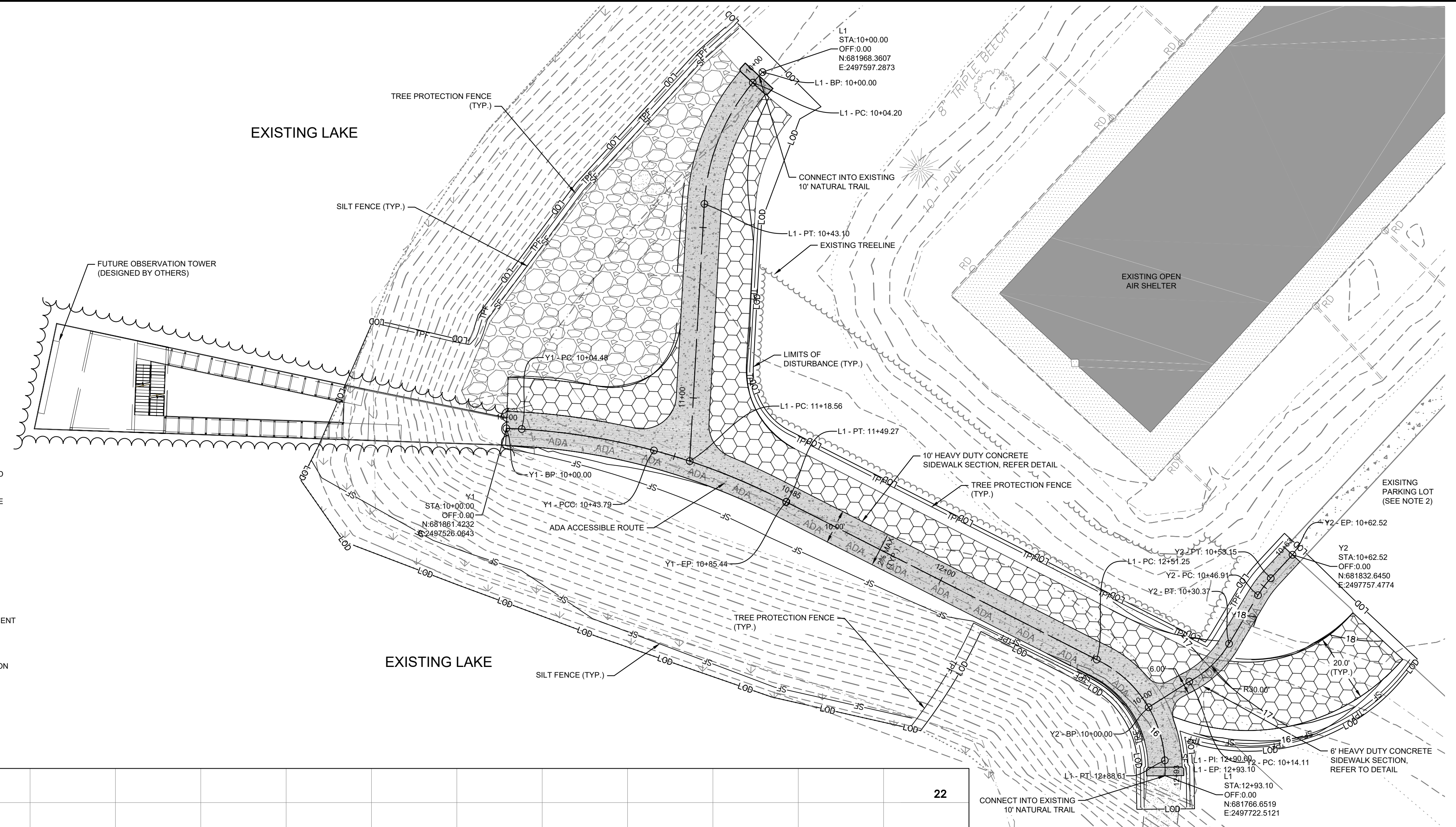
PHASE 2 CONSTRUCTION SEQUENCE

THE FOLLOWING PHASE 2 CONSTRUCTION SEQUENCE IS FURNISHED AS A GENERAL GUIDE FOR PREPARATION OF A SEQUENCE OF CONSTRUCTION EVENTS.

- BEGIN MASS GRADING OF PROPOSED SIDEWALKS AND TRAILS. MAINTAIN EROSION CONTROL DEVICES AS NEEDED.
- CONSTRUCT BOARDWALKS, PRE-FABRICATED BRIDGES, AND PROPOSED SIDEWALKS AS SHOWN ON PLANS.
- WHILE IMPROVEMENTS ARE BEING INSTALLED, CONTRACTOR IS TO STABILIZE ALL DISTURBED AREAS AND STREAM BANK SLOPES USING EROSION CONTROL MATTING, SEEDING, AND MULCH TO MAINTAIN A DENSE VEGETATIVE COVER.
- UPON RECEIPT OF BUILDING PERMIT, CONSTRUCT OBSERVATION TOWER AS SHOWN ON ARCHITECTURAL PLANS. CONTRACTOR TO PROVIDE CONSTRUCTION SEQUENCE FOR CRANE ACCESS AND OPERATIONS AND MATERIAL LAY-DOWN AREA.
- INSPECT AND REPAIR EROSION CONTROL MEASURE AFTER EVERY RAINFALL EVENT OF 1/2" OR GREATER OR EVERY SEVEN (7) CALENDAR DAYS.
- REMOVE TEMPORARY CONSTRUCTION ACCESSSES UPON PROJECT COMPLETION.
- WHEN CONSTRUCTION IS COMPLETE AND ALL AREAS ARE STABILIZED COMPLETELY, CALL NCDEQ INSPECTORS FOR INSPECTIONS.
- REMOVE TEMPORARY EROSION CONTROL MEASURES AND SEED OR STABILIZE ANY RESULTING BARE AREAS.
- WHEN VEGETATION HAS BECOME ESTABLISHED, CALL FOR A FINAL SITE INSPECTION BY NCDEQ INSPECTOR.
- ALL EROSION CONTROL MEASURES SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE NCDEQ EROSION AND SEDIMENT CONTROL PLANNING AND DESIGN MANUAL, U.S. DEPARTMENT OF AGRICULTURE, AND CITY OF GREENVILLE EROSION CONTROL ORDINANCE.

NOTES

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Plotted By: Alterra, Andie - Sheet: Set: WILDWOOD PARK - OBSERVATION TOWER AND TRAILS - LODGE/C3.1 - PLAN AND PROFILE - THE TOWER.dwg  
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KHA PROJECT	012654010
DATE	02/28/2022
SCALE	AS SHOWN
DESIGNED BY	MRC
DRAWN BY	ASA
CHECKED BY	JDK

**PLAN AND PROFILE - THE TOWER (AREA 1)**

**WILDWOOD PARK - OBSERVATION TOWER AND TRAILS PREPARED FOR CITY OF GREENVILLE**

SHEET NUMBER **C3.1**

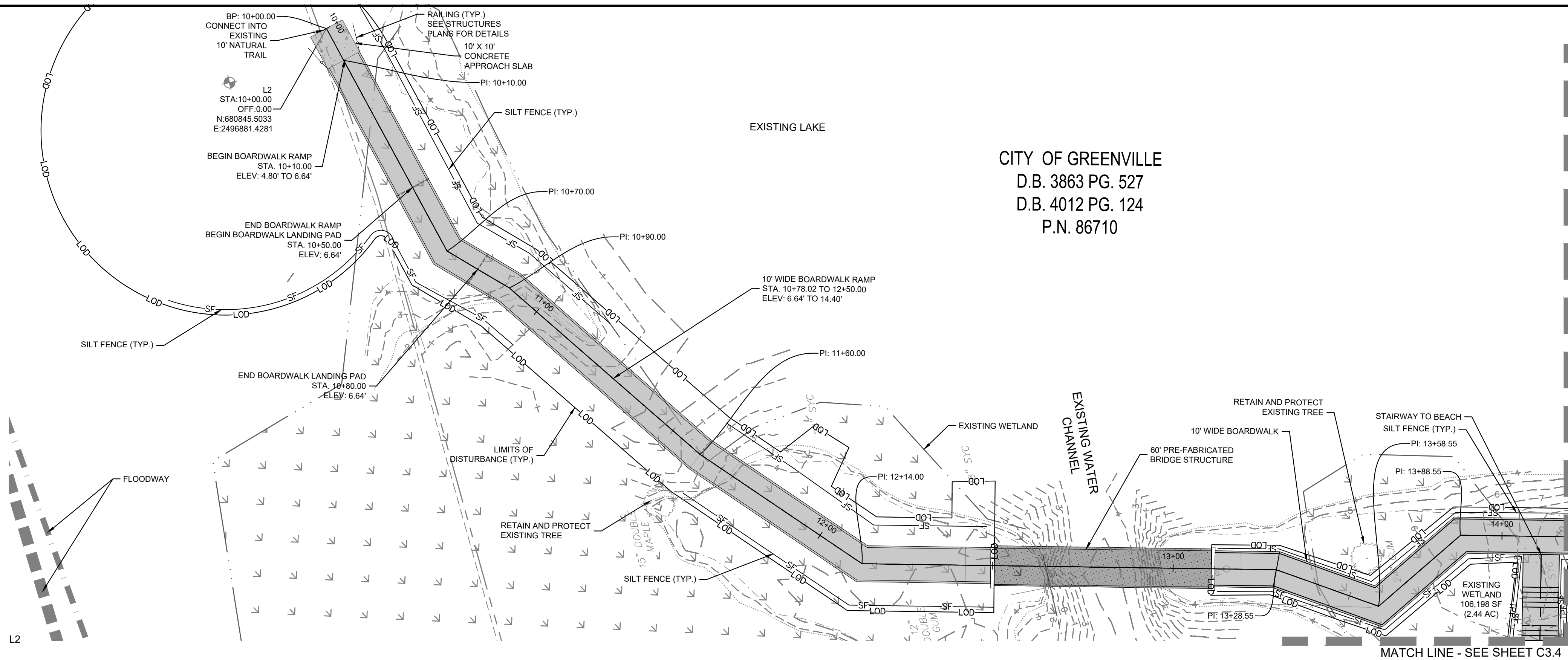
Plotted By: Alterra, Andie - Sheet: Set: WILDWOOD PARK - OBSERVATION TOWER AND TRAILS - L0001.C3.1 - PLAN AND PROFILE - THE BEACH (AREA 2) - February 28, 2022 11:49:55am - K:\RAL\LDVA\012654010-Wildwood-Park-Walkways-Tower-Planning-Phase\10-CAD-Files\PlanSheets\C3.1-PLAN-AND-PROFILE-THE-BEACH.dwg  
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**SITE LEGEND**

	EXISTING CONTOUR
	WATER EDGE LINE
	LIMITS OF DISTURBANCE
	SILT FENCE
	ADA ACCESSIBLE ROUTE
	FIELD WALK PINK FLAGGING
	WETLAND
	PRE-FABRICATED BRIDGE
	BOARDWALK
	CONCRETE SIDEWALK
	HEAVY DUTY GRAVEL PAVEMENT FOR 20' FIRE ACCESS DRIVE
	TEMPORARY HEAVY DUTY GRAVEL



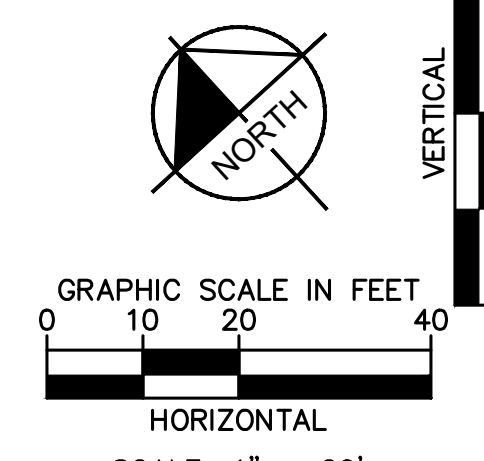
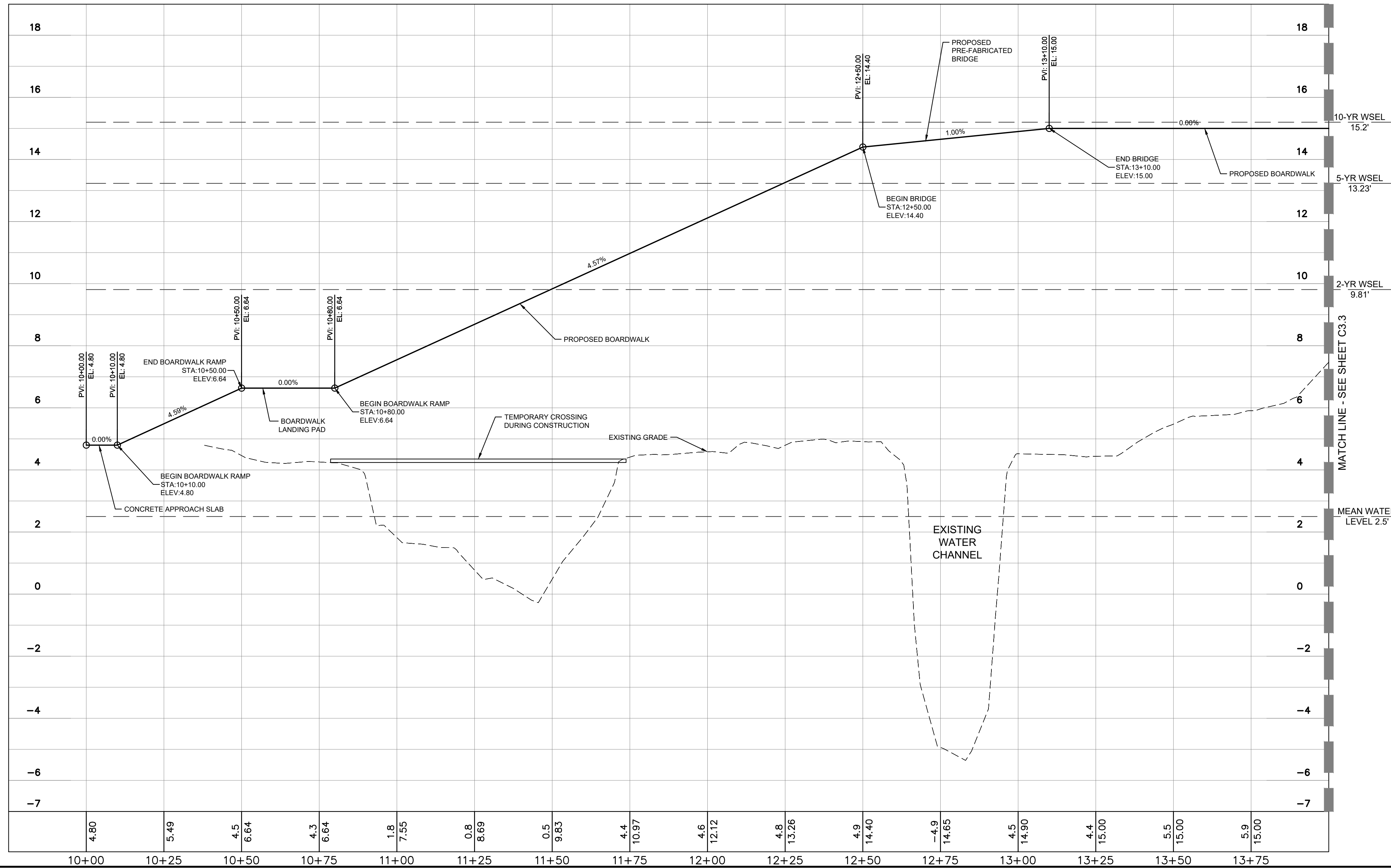
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D.B. 3863 PG. 527  
D.B. 4012 PG. 124  
P.N. 86710

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SEAL: [Professional Engineer Seal for David K. Quarta, State of North Carolina, License No. 35187, dated 03/28/2022]

KHA PROJECT: 012654010  
DATE: 02/28/2022  
SCALE: AS SHOWN  
DESIGNED BY: MRC  
DRAWN BY: ASA  
CHECKED BY: JDX

**PLAN AND PROFILE - THE BEACH (AREA 2)**

WILDWOOD PARK - OBSERVATION TOWER AND TRAILS  
PREPARED FOR  
CITY OF GREENVILLE  
GREENVILLE, NC

SHEET NUMBER  
**C3.2**



Plotted By: Alterra, Andie - Sheet: Sct.WILDWOOD PARK - OBSERVATION TOWER AND TRAILS - L0401C3.2 PLAN AND PROFILE - THE BEACH (AREA 2) - February 28, 2022 11:54:18am - K:\RAL\LDVA\012654010-Wildwood Park-Walkways-Tower-Planning Phase 2-Plan-Profile-CAD Files\PlanSheets\C3.4 PLAN AND PROFILE - THE BEACH.dwg  
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	LIMITS OF DISTURBANCE
	SILT FENCE
	ADA ACCESSIBLE ROUTE
	FIELD WALK PINK FLAGGING
	WETLAND
	PRE-FABRICATED BRIDGE
	BOARDWALK
	CONCRETE SIDEWALK
	HEAVY DUTY GRAVEL PAVEMENT FOR 20' FIRE ACCESS DRIVE
	TEMPORARY HEAVY DUTY GRAVEL

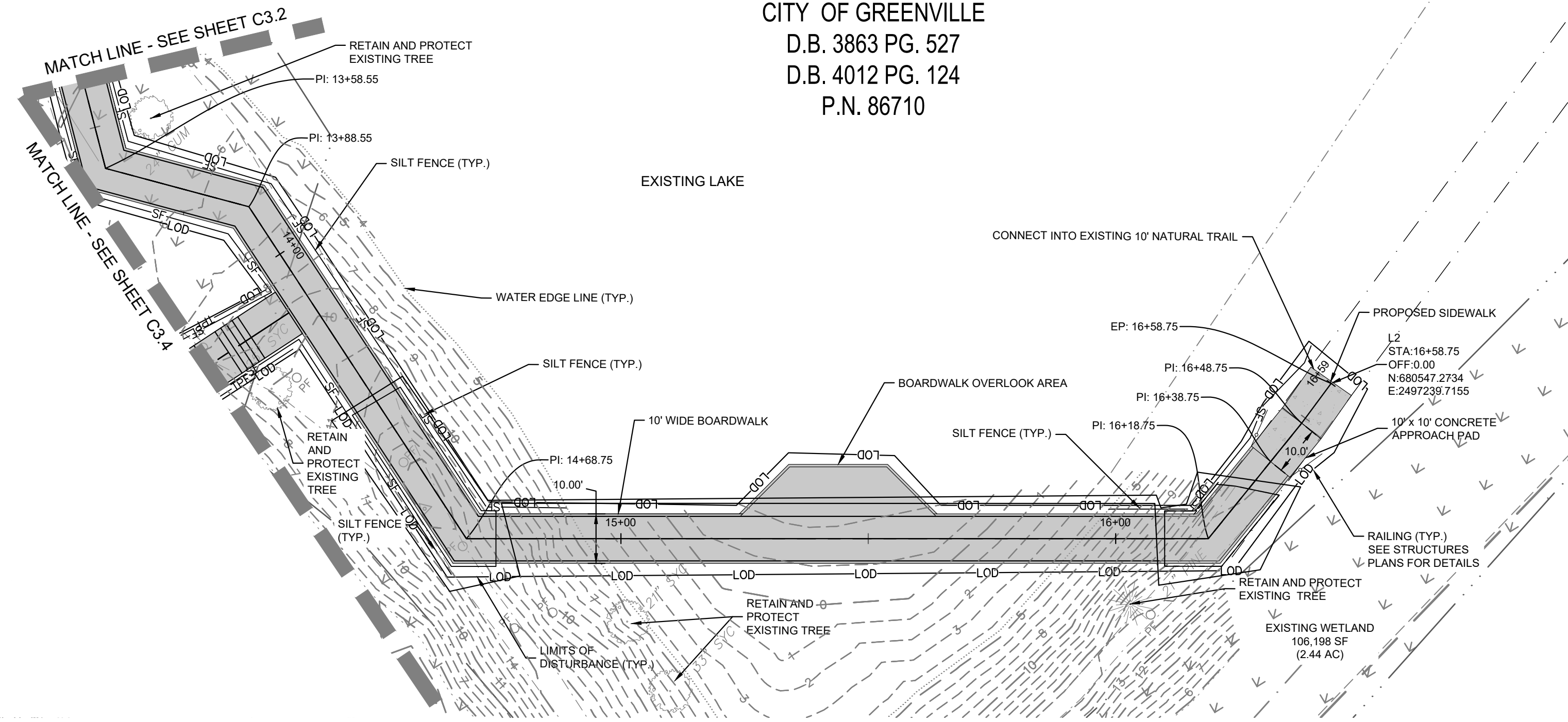
**PHASE 2 CONSTRUCTION SEQUENCE**

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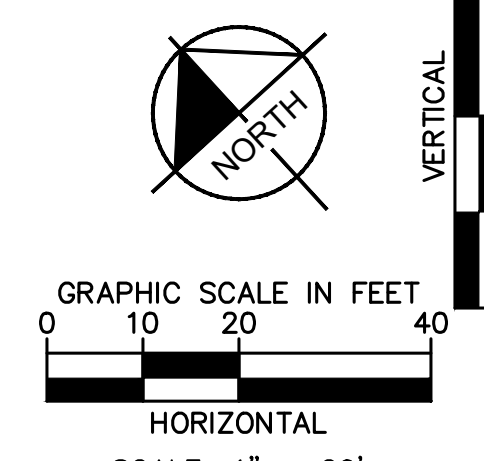
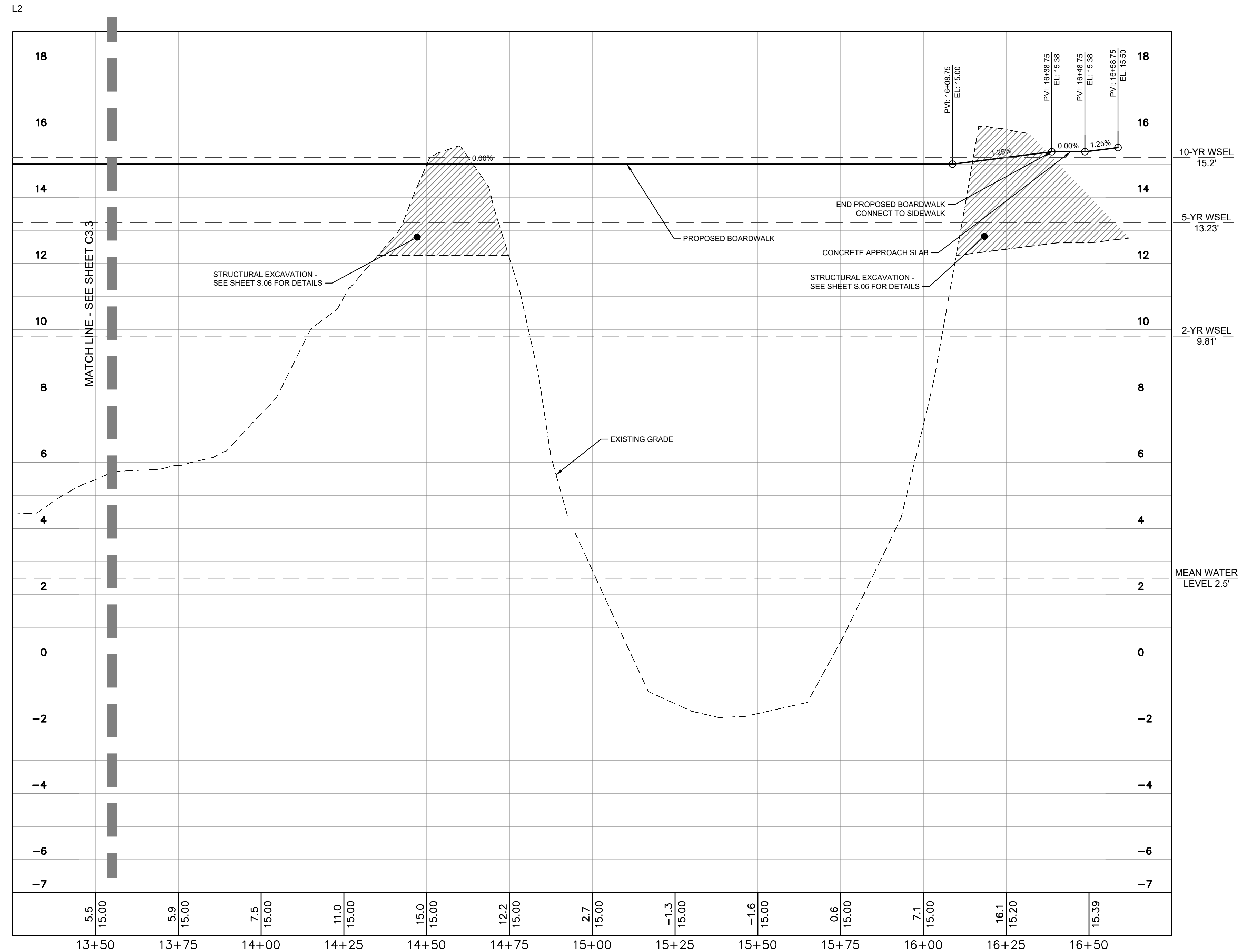
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CITY OF GREENVILLE  
D.B. 3863 PG. 527  
D.B. 4012 PG. 124  
P.N. 86710



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 # - 0102

SEAL:  
  
 KHA PROJECT 012654010  
 DATE 02/28/2022  
 SCALE AS SHOWN  
 DESIGNED BY MRC  
 DRAWN BY ASA  
 CHECKED BY JDK  
 02/28/2022

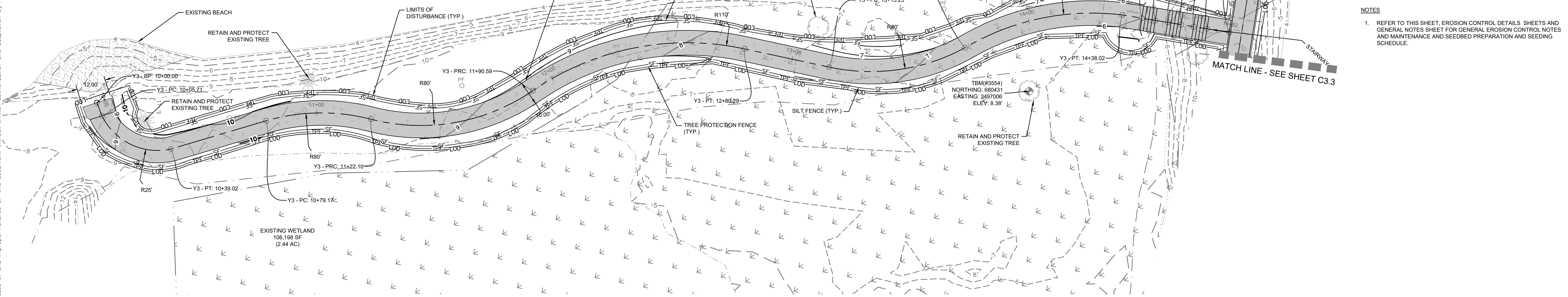
**PLAN AND PROFILE - THE BEACH (AREA 2)**

**WILDWOOD PARK - OBSERVATION TOWER AND TRAILS PREPARED FOR CITY OF GREENVILLE**  
 GREENVILLE NC  
 SHEET NUMBER **C3.3**

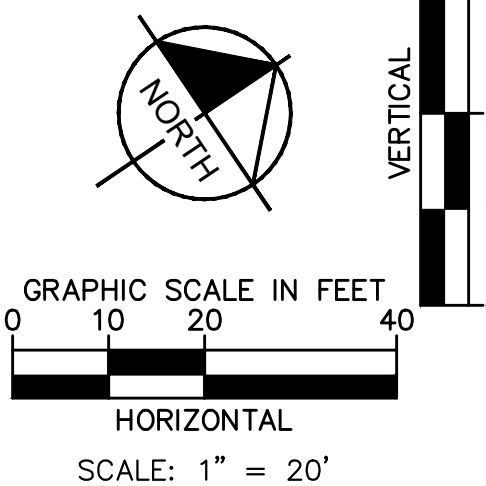
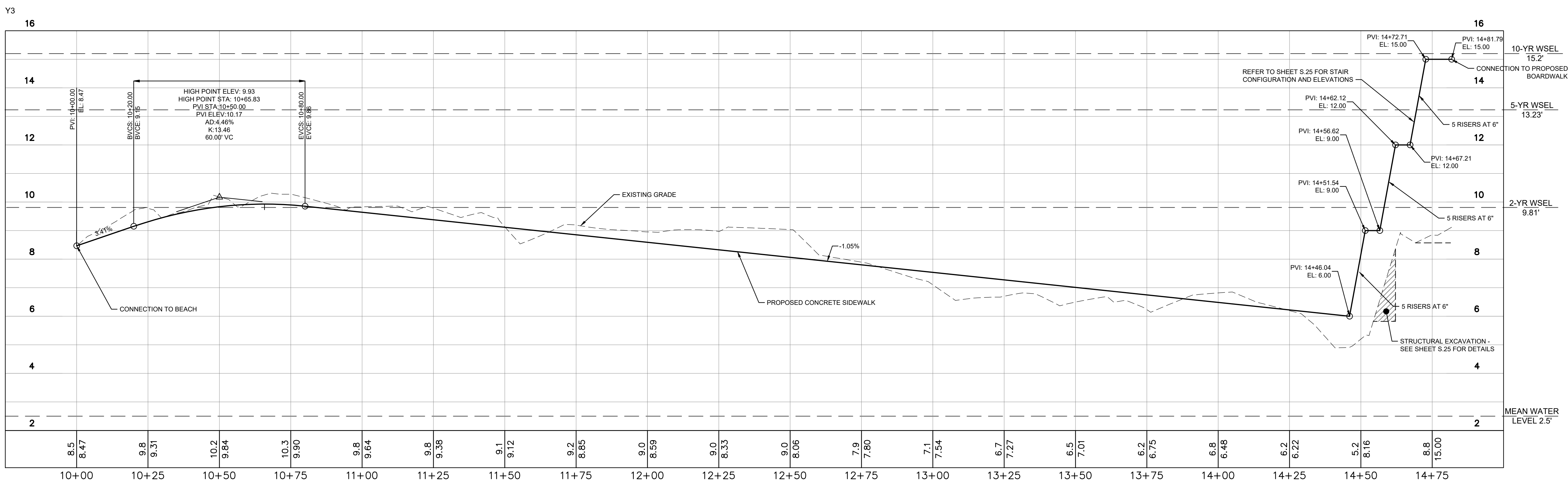


Know what's below. Call before you dig.

SITE LEGEND	
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	LIMITS OF DISTURBANCE
	SILT FENCE
	ADA ACCESSIBLE ROUTE
	FIELD WALK PINK FLAGGING
	WETLAND
	PRE-FABRICATED BRIDGE
	BOARDWALK
	CONCRETE SIDEWALK
	HEAVY DUTY GRAVEL PAVEMENT FOR 20' FIRE ACCESS DRIVE
	TEMPORARY HEAVY DUTY GRAVEL



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  - WHEN CONSTRUCTION IS COMPLETE AND ALL AREAS ARE STABILIZED COMPLETELY, CALL NCDEQ INSPECTORS FOR INSPECTIONS.
  - REMOVE TEMPORARY EROSION CONTROL MEASURES AND SEED OR STABILIZE ANY RESULTING BARE AREAS.
  - WHEN VEGETATION HAS BECOME ESTABLISHED, CALL FOR A FINAL SITE INSPECTION BY NCDEQ INSPECTOR.
  - ALL EROSION CONTROL MEASURES SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE NCDEQ EROSION AND SEDIMENT CONTROL PLANNING AND DESIGN MANUAL, U.S. DEPARTMENT OF AGRICULTURE, AND CITY OF GREENVILLE EROSION CONTROL ORDINANCE.
- NOTES**
- REFER TO THIS SHEET, EROSION CONTROL DETAILS SHEETS AND GENERAL NOTES SHEET FOR GENERAL EROSION CONTROL NOTES AND MAINTENANCE AND SEEDING PREPARATION AND SCHEDULING.



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WWW.KIMLEY-HORN.COM

SEAL: [Professional Engineer Seal]

02/28/2022

KHA PROJECT	012654010
DATE	02/28/2022
SCALE	AS SHOWN
DESIGNED BY	MRC
DRAWN BY	ASA
CHECKED BY	JDK

**PLAN AND PROFILE - THE BEACH (AREA 2)**

**WILWOOD PARK - OBSERVATION TOWER AND TRAILS PREPARED FOR CITY OF GREENVILLE**

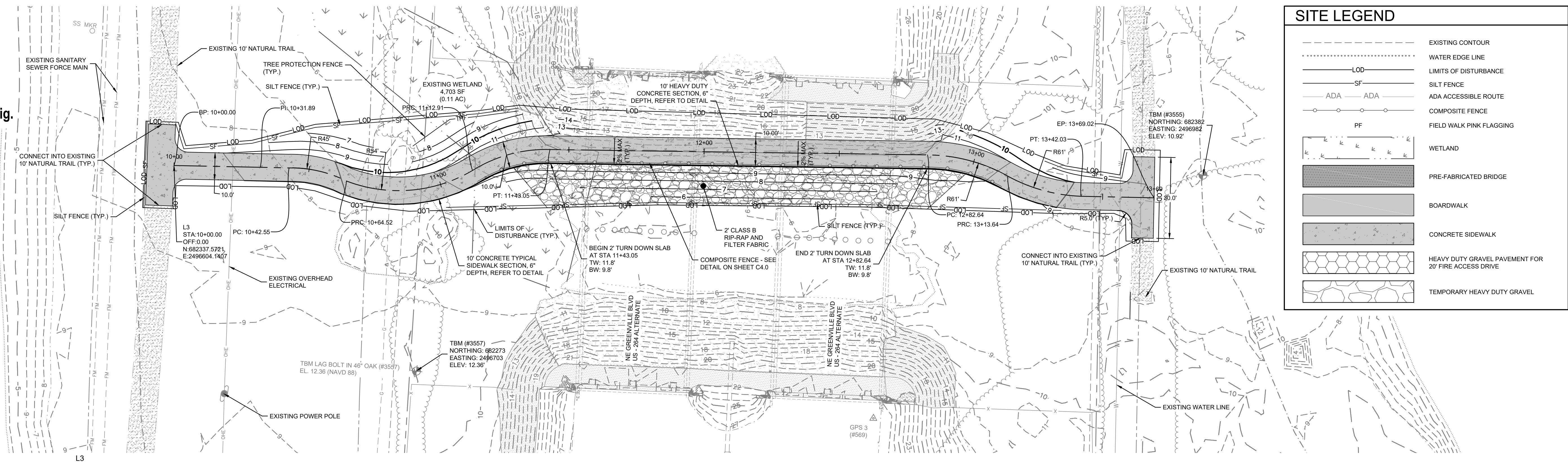
GREENVILLE, NC

SHEET NUMBER **C3.4**

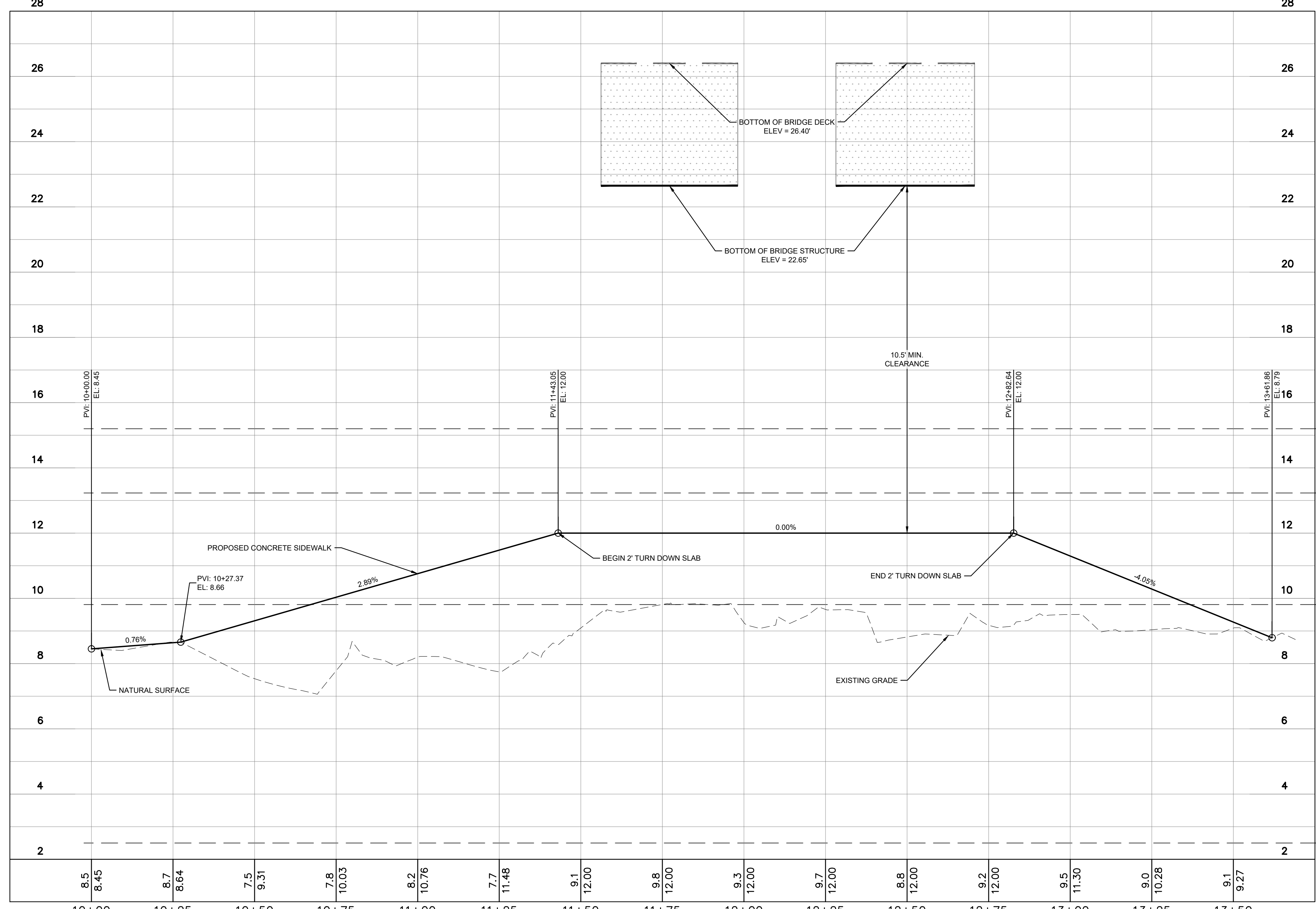
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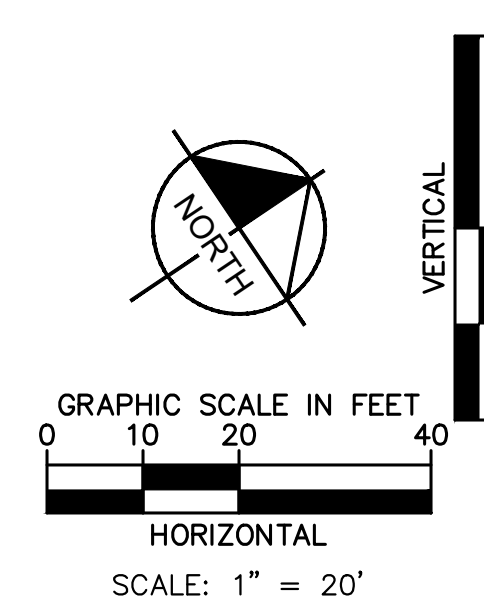
Know what's below. Call before you dig.



SITE LEGEND	
	EXISTING CONTOUR
	WATER EDGE LINE
	LIMITS OF DISTURBANCE
	SILT FENCE
	ADA ACCESSIBLE ROUTE
	COMPOSITE FENCE
	FIELD WALK PINK FLAGGING
	WETLAND
	PRE-FABRICATED BRIDGE
	BOARDWALK
	CONCRETE SIDEWALK
	HEAVY DUTY GRAVEL PAVEMENT FOR 20' FIRE ACCESS DRIVE
	TEMPORARY HEAVY DUTY GRAVEL



- PHASE 2 CONSTRUCTION SEQUENCE**
- THE FOLLOWING PHASE 2 CONSTRUCTION SEQUENCE IS FURNISHED AS A GENERAL GUIDE FOR PREPARATION OF A SEQUENCE OF CONSTRUCTION EVENTS.
- BEGIN MASS GRADING OF PROPOSED SIDEWALKS AND TRAILS. MAINTAIN EROSION CONTROL DEVICES AS NEEDED.
  - AFTER BRIDGE AND CULVERTS ARE SET, CONTRACTOR IS TO STABILIZE ALL DISTURBED AREAS AND STREAM BANK SLOPES USING EROSION CONTROL MATTING, SEEDING, AND MULCH TO MAINTAIN A DENSE VEGETATIVE COVER.
  - INSPECT AND REPAIR EROSION CONTROL MEASURE AFTER EVERY RAINFALL EVENT OF 1/2" OR GREATER OR EVERY SEVEN (7)
  - REMOVE TEMPORARY HEAVY DUTY GRAVEL CRANE PAD AREA AND TEMPORARY CONSTRUCTION ACCESSES UPON PROJECT COMPLETION.
  - WHEN CONSTRUCTION IS COMPLETE AND ALL AREAS ARE STABILIZED COMPLETELY, CALL NCDEQ INSPECTORS FOR INSPECTIONS.
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- NOTES**
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Plotted By: Alterra, Andie - Sheet: Set: WILDWOOD PARK - OBSERVATION TOWER AND TRAILS - WILDWOOD PARK - WALKWAYS - TOWER PLANNING PHASE 2 - PLAN AND PROFILE - THE CONNECTION (AREA 3) - FEBRUARY 25, 2022 05:16:42pm. K:\REAL\DEVA\012654010\_Wildwood\_Park-Walkways\_Tower\Planning\_Phase2\03.5\_Plan\_and\_Profile\_The\_Connection\_Area3.dwg  
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SEAL:

02/28/2022

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DATE	02/28/2022
SCALE	AS SHOWN
DESIGNED BY	MRC
DRAWN BY	ASA
CHECKED BY	JDK

**PLAN AND PROFILE - THE CONNECTION (AREA 3)**

**WILDWOOD PARK - OBSERVATION TOWER AND TRAILS PREPARED FOR CITY OF GREENVILLE**

GREENVILLE, NC

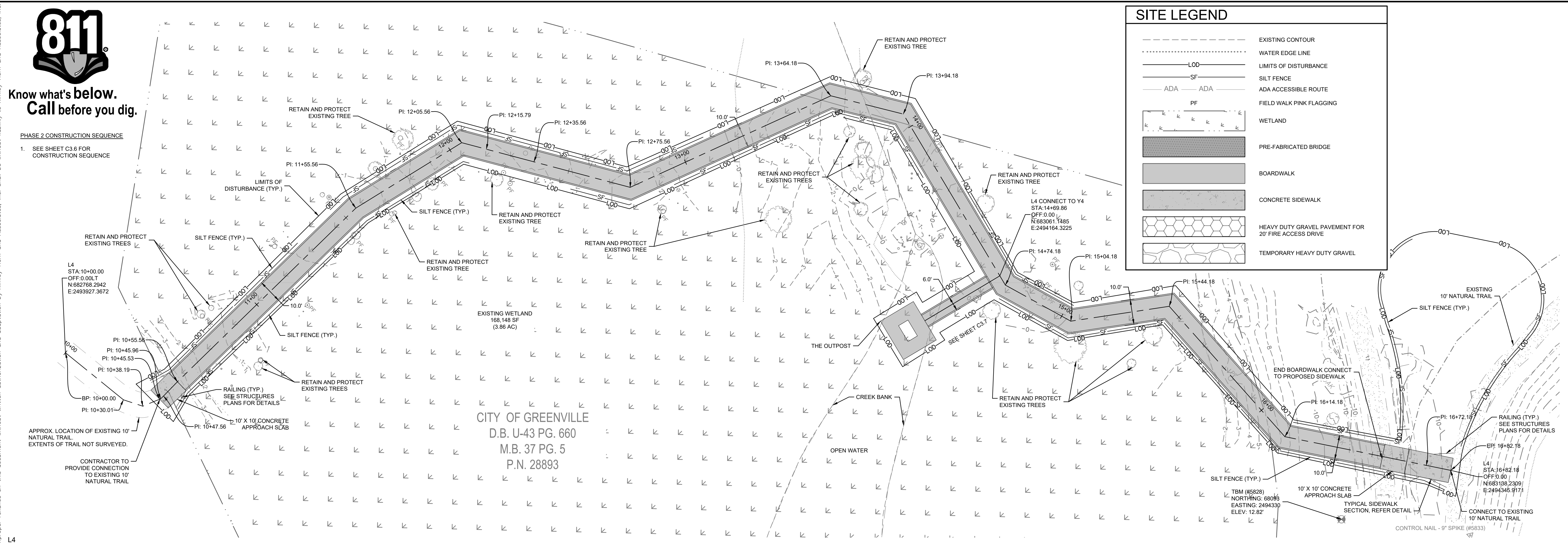
SHEET NUMBER **C3.5**



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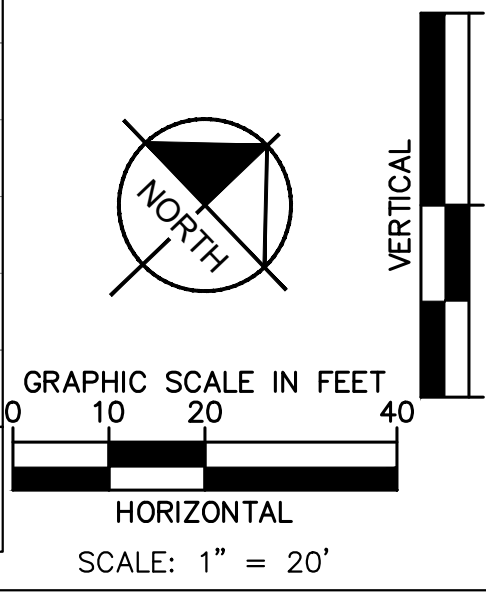
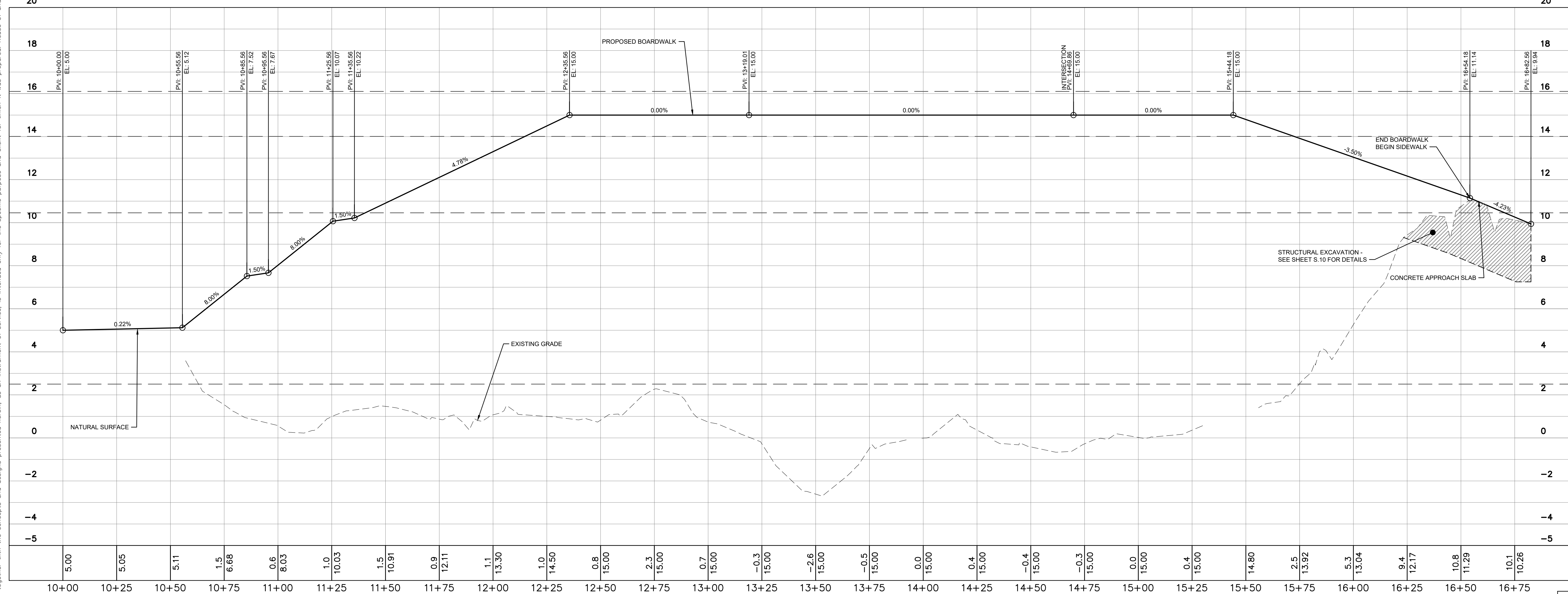
PHASE 2 CONSTRUCTION SEQUENCE

- SEE SHEET C3.6 FOR CONSTRUCTION SEQUENCE



SITE LEGEND	
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	LIMITS OF DISTURBANCE
	SILT FENCE
	ADA ACCESSIBLE ROUTE
	FIELD WALK PINK FLAGGING
	WETLAND
	PRE-FABRICATED BRIDGE
	BOARDWALK
	CONCRETE SIDEWALK
	HEAVY DUTY GRAVEL PAVEMENT FOR 20' FIRE ACCESS DRIVE
	TEMPORARY HEAVY DUTY GRAVEL

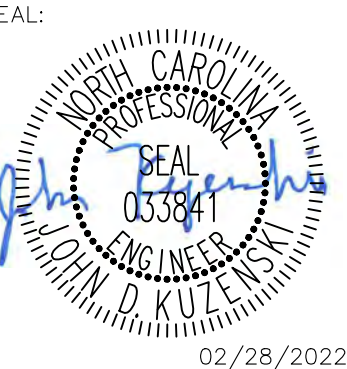
CITY OF GREENVILLE  
D.B. U-43 PG. 660  
M.B. 37 PG. 5  
P.N. 28893



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#F-0102



KHA PROJECT	012654010
DATE	02/28/2022
SCALE	AS SHOWN
DESIGNED BY	MRC
DRAWN BY	ASA
CHECKED BY	JDK

**PLAN AND PROFILE -  
THE SWAMP (AREA 4)**

WILDWOOD PARK - OBSERVATION TOWER AND TRAILS  
PREPARED FOR  
CITY OF GREENVILLE  
GREENVILLE, NC

SHEET NUMBER  
**C3.6**



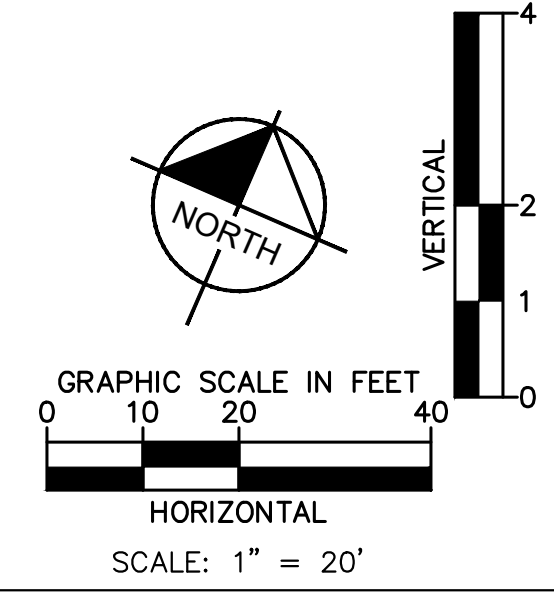
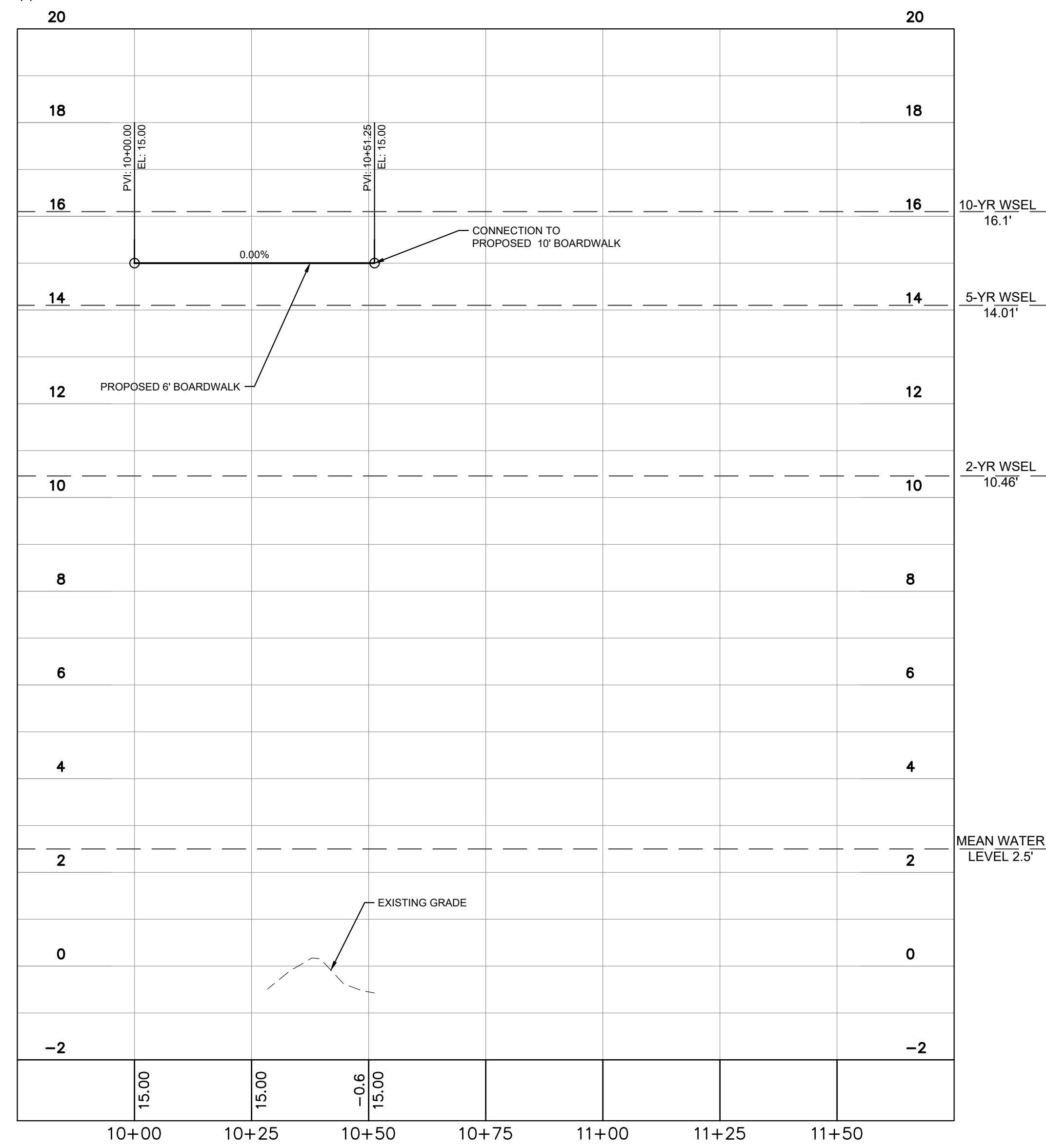
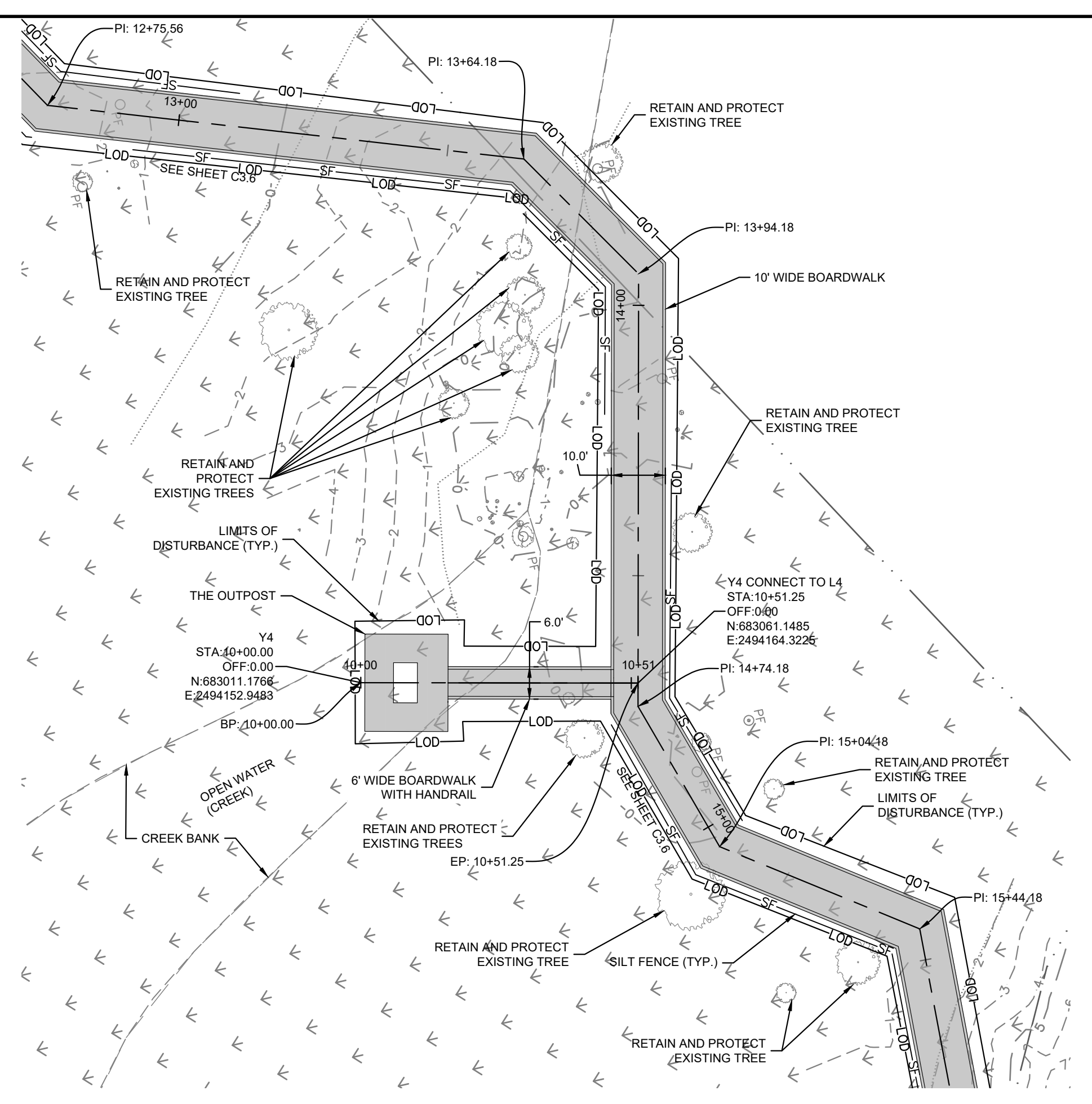
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Plotted by: alexander. Andrie. Sheet Set: WILWOOD PARK - OBSERVATION TOWER AND TRAILS. LAYOUT: C3.6 PLAN AND PROFILE - THE SWAMP (AREA 4). February 28, 2022. 02:53:14pm. K:\VIAL\_LIEVA\2654010\_Midwood\_Park\_Walkways\_Tower\_Planning\_Phase2\10\_CAD\_Figs\Plan\Sheet\3.6\_Plan\_Profile\3.6\_Plan\_Profile.dwg. This document, together with the concepts and designs presented herein, is intended only for the specific purpose and client for which it was prepared. Reuse of and improper reliance on this document without written authorization and adaptation by Kimley-Horn and Associates, Inc. shall be without liability to Kimley-Horn and Associates, Inc.

SITE LEGEND	
	EXISTING CONTOUR
	WATER EDGE LINE
	LIMITS OF DISTURBANCE
	SILT FENCE
	ADA ACCESSIBLE ROUTE
	FIELD WALK PINK FLAGGING
	WETLAND
	PRE-FABRICATED BRIDGE
	BOARDWALK
	CONCRETE SIDEWALK
	HEAVY DUTY GRAVEL PAVEMENT FOR 20' FIRE ACCESS DRIVE
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  - CONSTRUCT BOARDWALKS, PRE-FABRICATED BRIDGES, AND PROPOSED SIDEWALKS AS SHOWN ON PLANS.
  - WHILE IMPROVEMENTS ARE BEING INSTALLED, CONTRACTOR IS TO STABILIZE ALL DISTURBED AREAS AND STREAM BANK SLOPES USING EROSION CONTROL MATTING, SEEDING, AND MULCH TO MAINTAIN A DENSE VEGETATIVE COVER.
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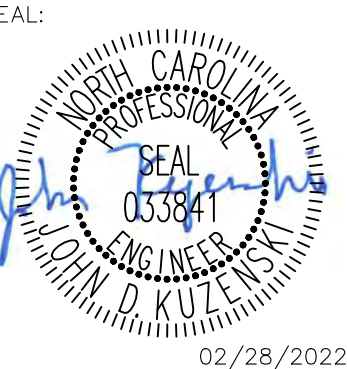
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KHA PROJECT	012654010
DATE	02/28/2022
SCALE	AS SHOWN
DESIGNED BY	MRC
DRAWN BY	ASA
CHECKED BY	JDK

**PLAN AND PROFILE -  
THE SWAMP (AREA 4)**

**WILWOOD PARK - OBSERVATION  
TOWER AND TRAILS  
PREPARED FOR  
CITY OF GREENVILLE**

SHEET NUMBER  
**C3.7**



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SITE LEGEND	
	EXISTING CONTOUR
	WATER EDGE LINE
	LOD
	LIMITS OF DISTURBANCE
	SILT FENCE
	ADA ACCESSIBLE ROUTE
	ADA
	ADA
	FIELD WALK PINK FLAGGING
	PF
	WETLAND
	PRE-FABRICATED BRIDGE
	BOARDWALK
	CONCRETE SIDEWALK
	HEAVY DUTY GRAVEL PAVEMENT FOR 20' FIRE ACCESS DRIVE
	TEMPORARY HEAVY DUTY GRAVEL

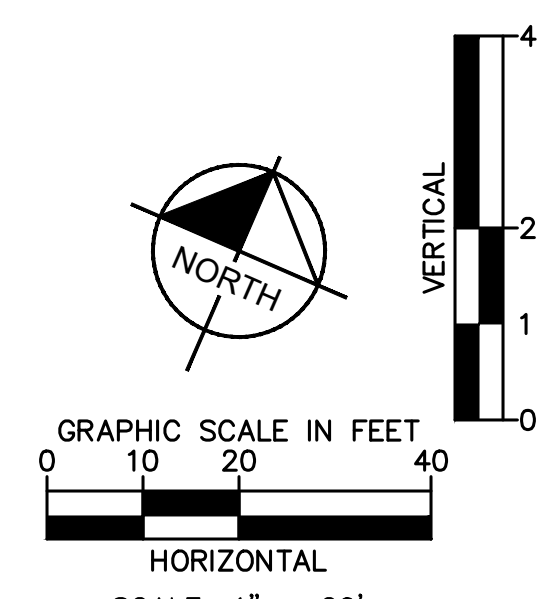
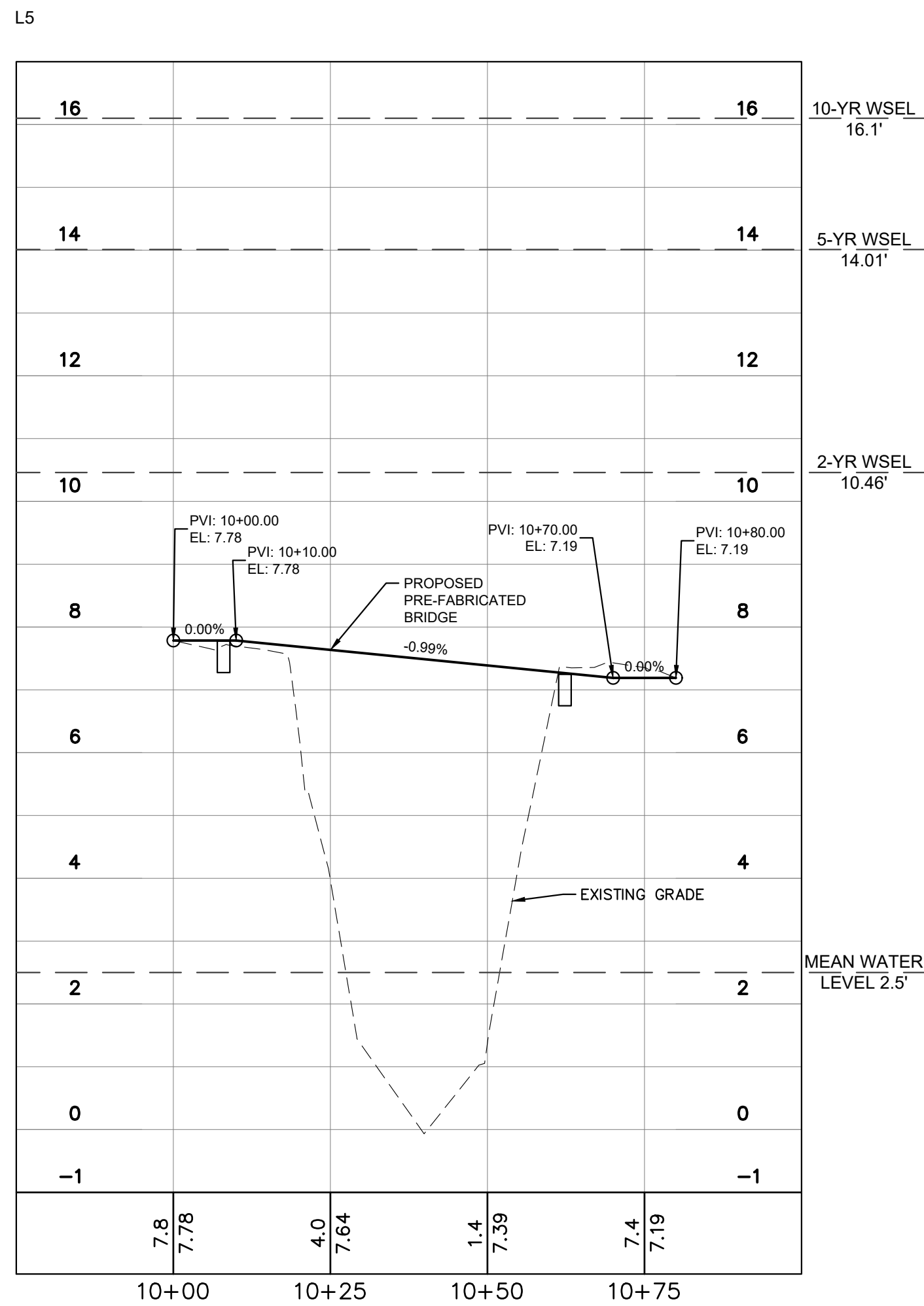
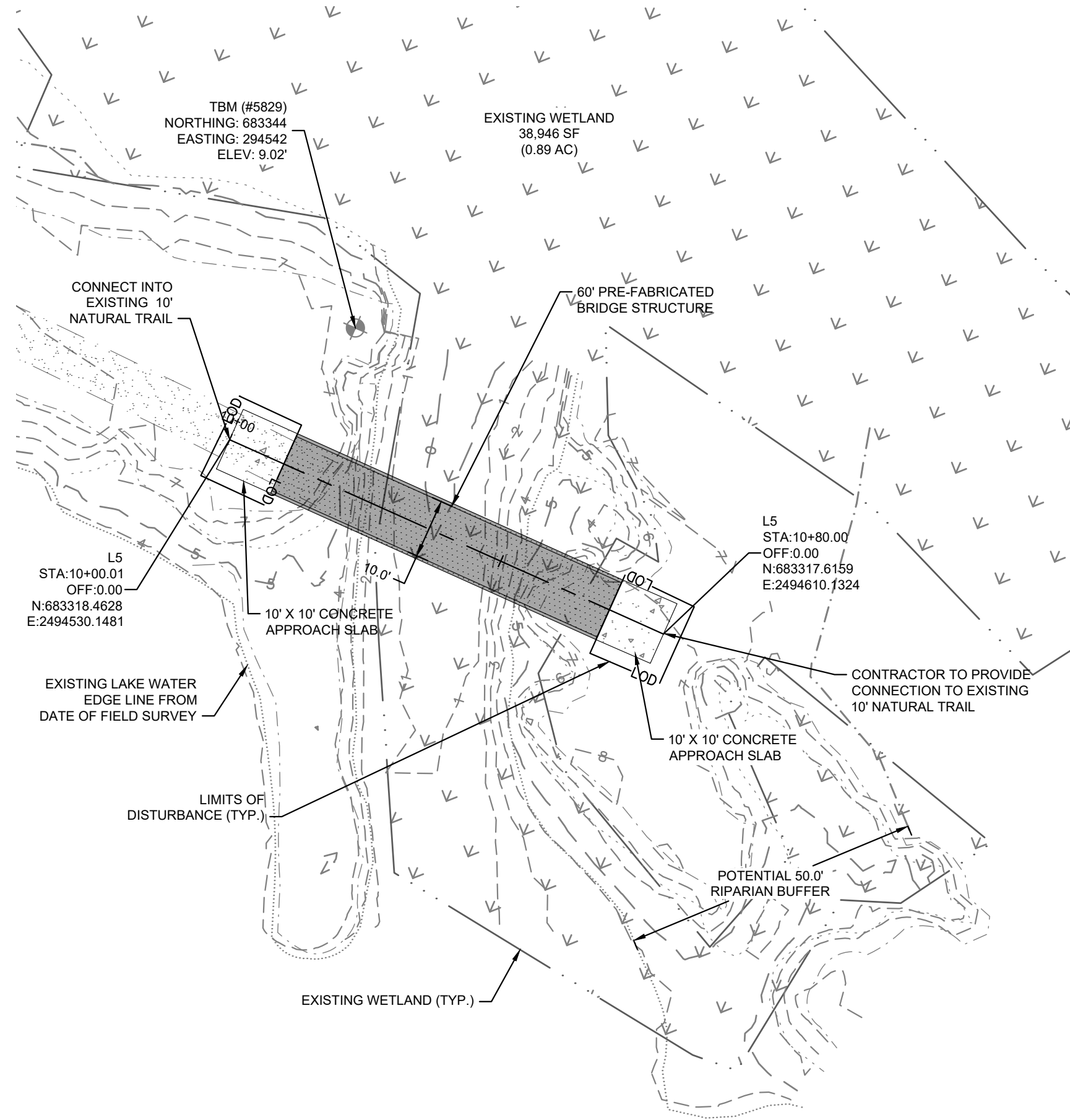
**PHASE 2 CONSTRUCTION SEQUENCE**

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**NOTES**

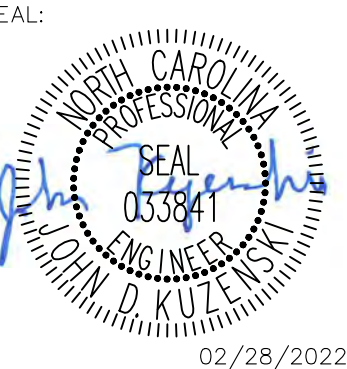
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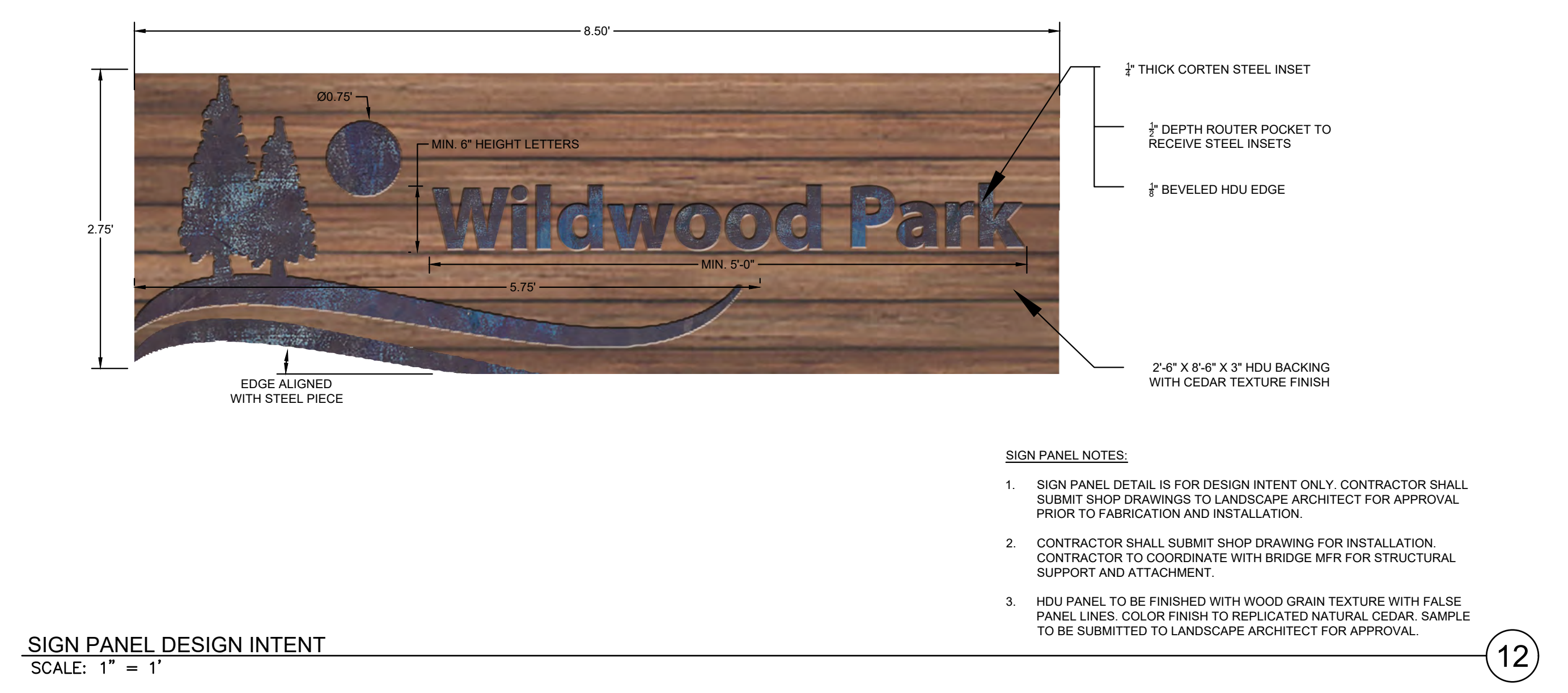
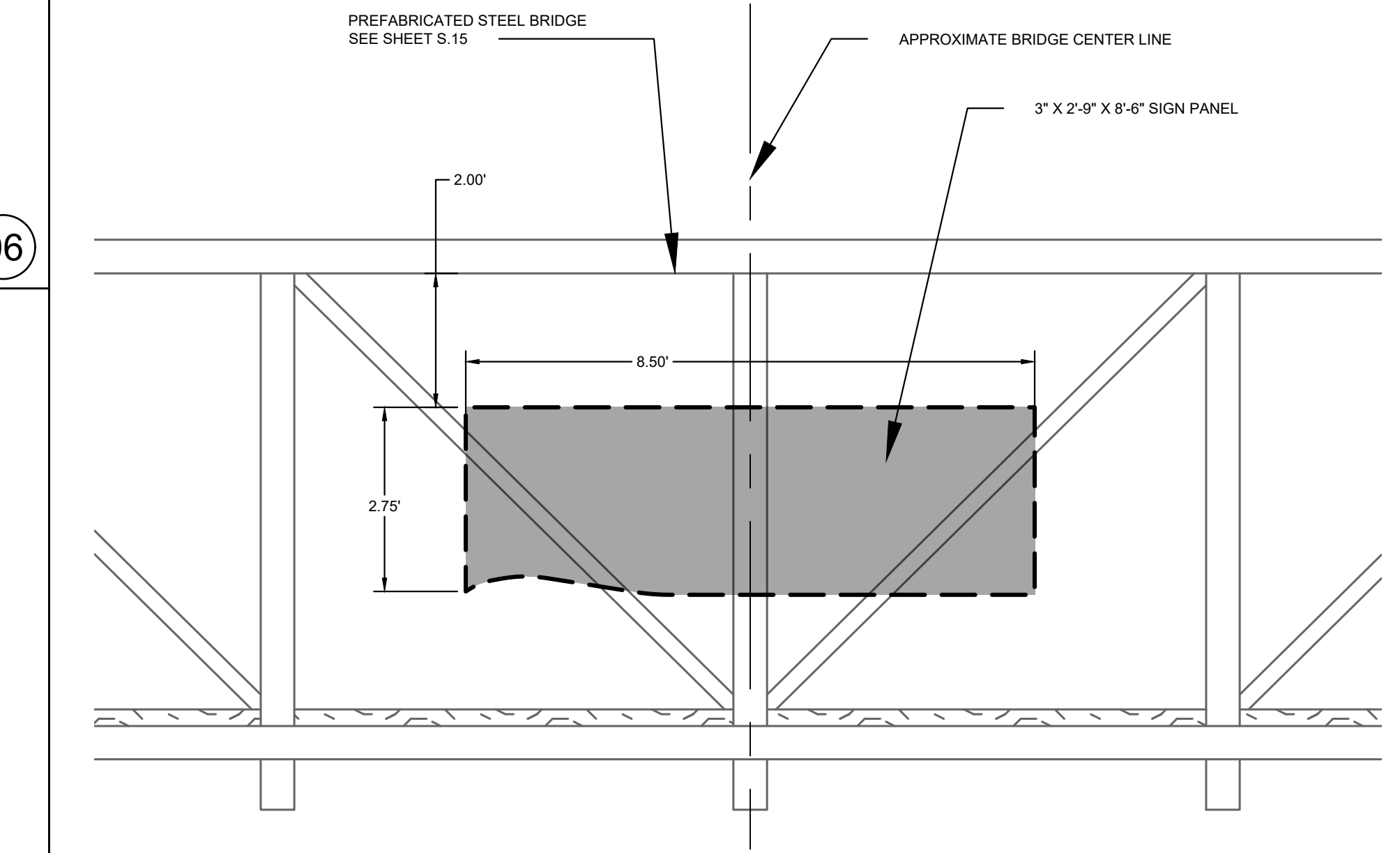
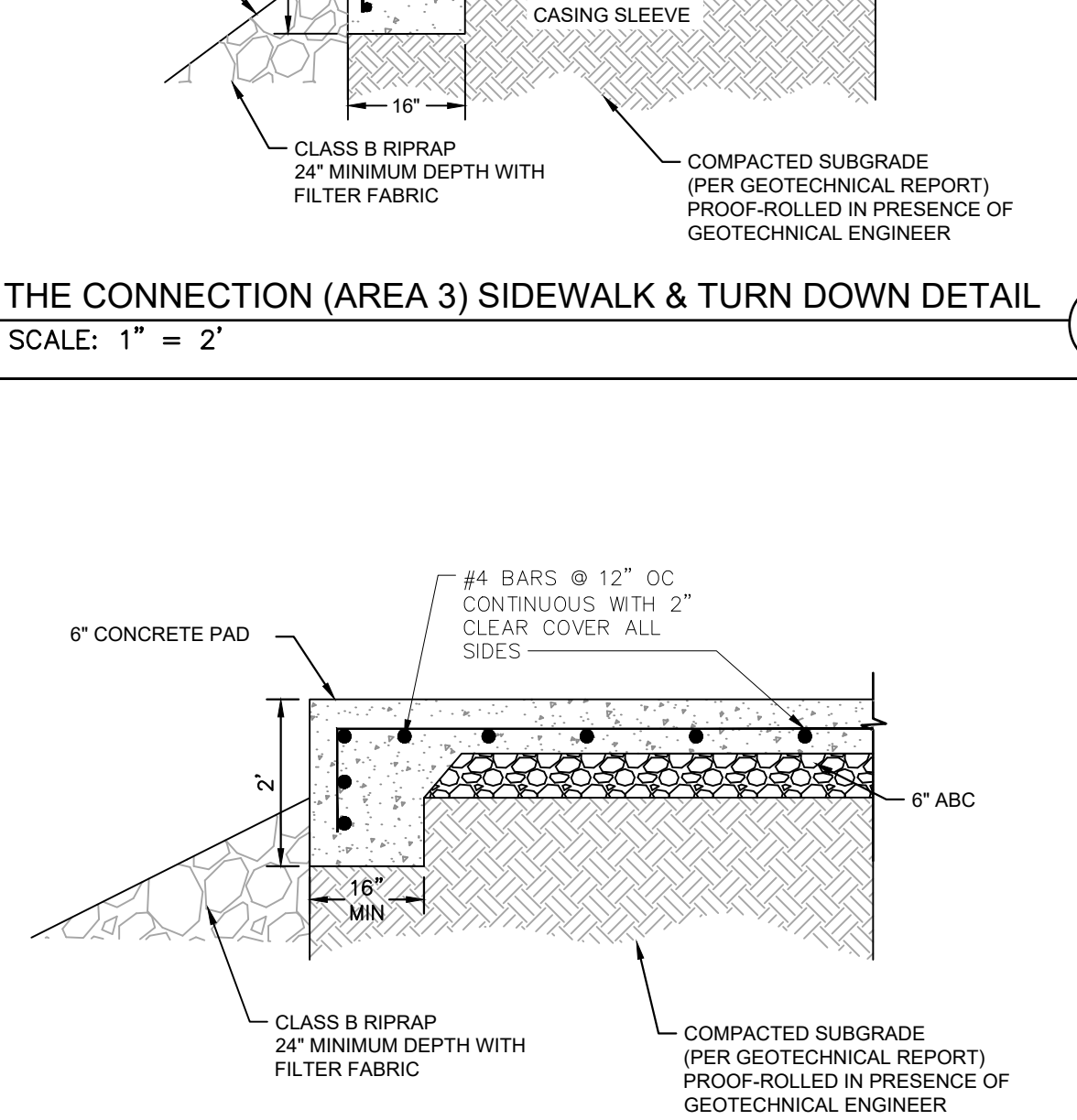
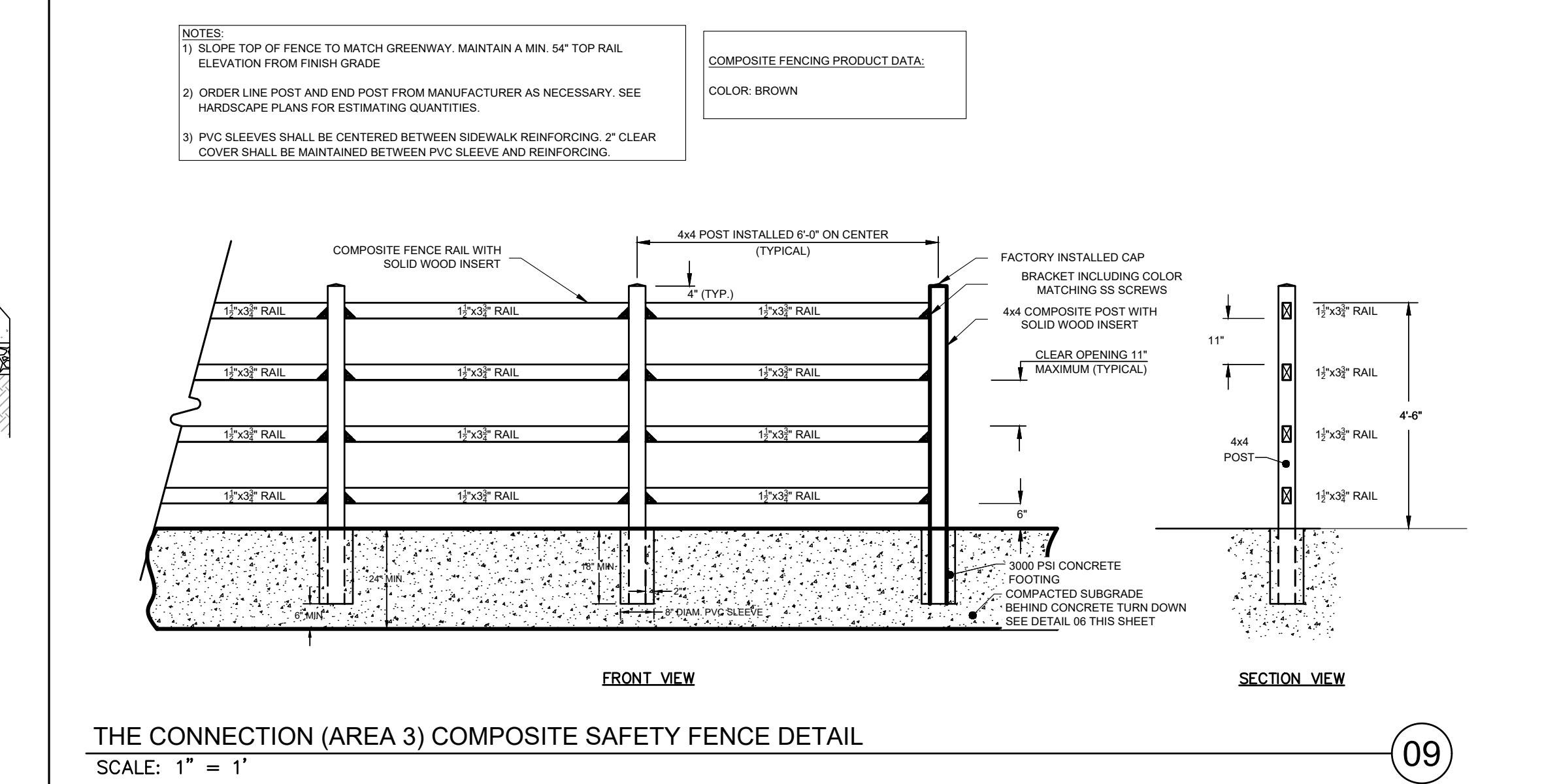
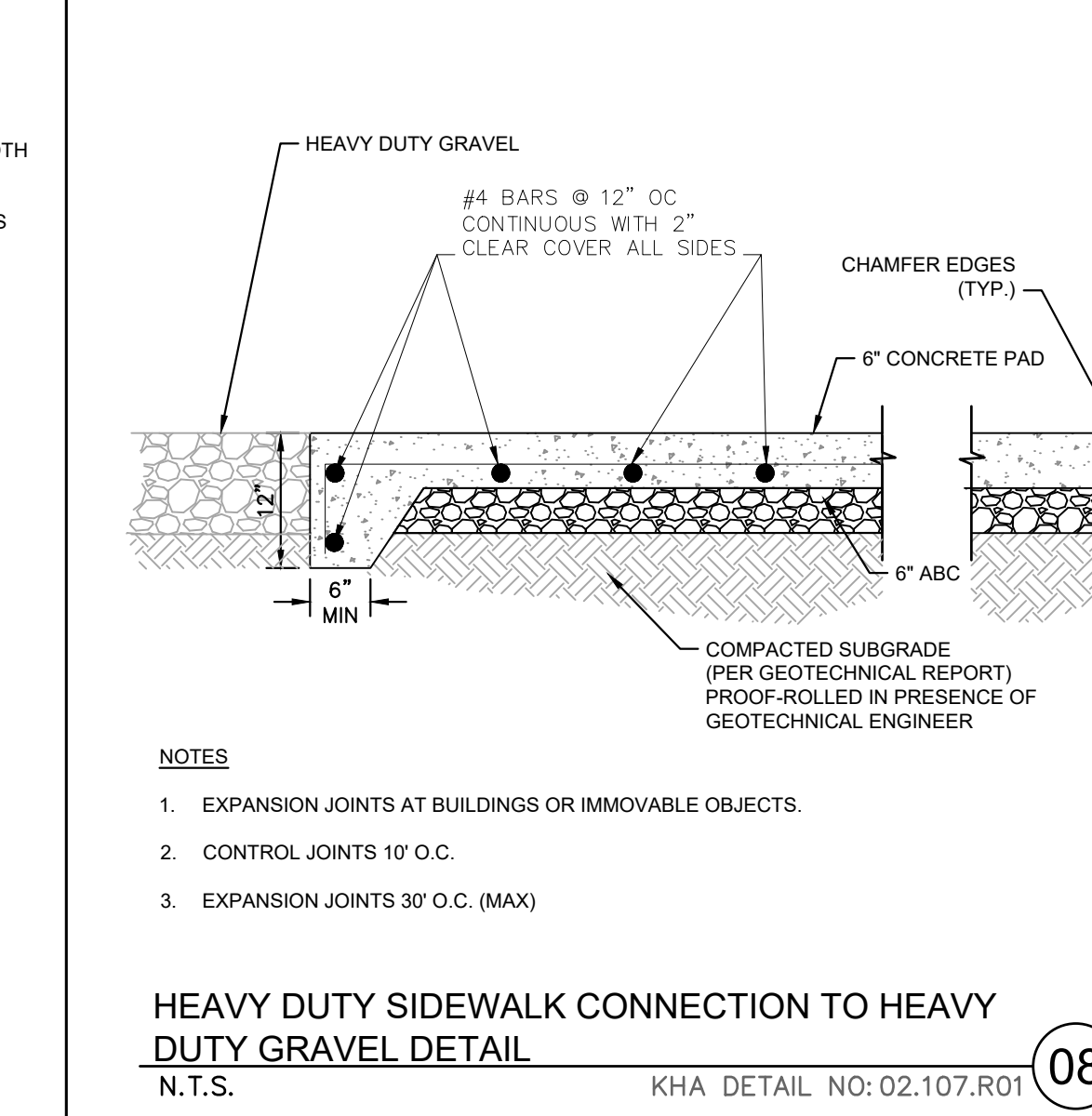
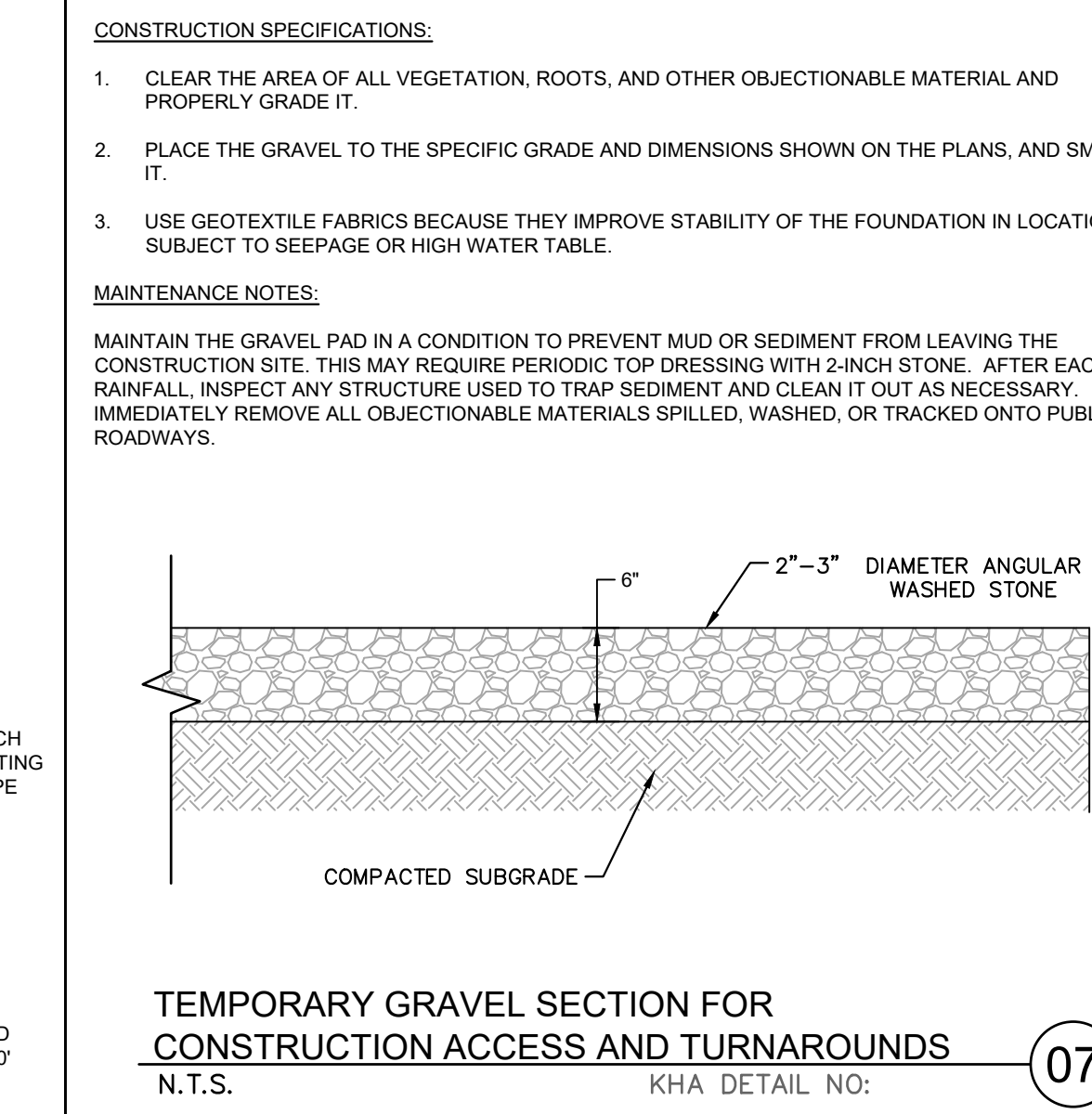
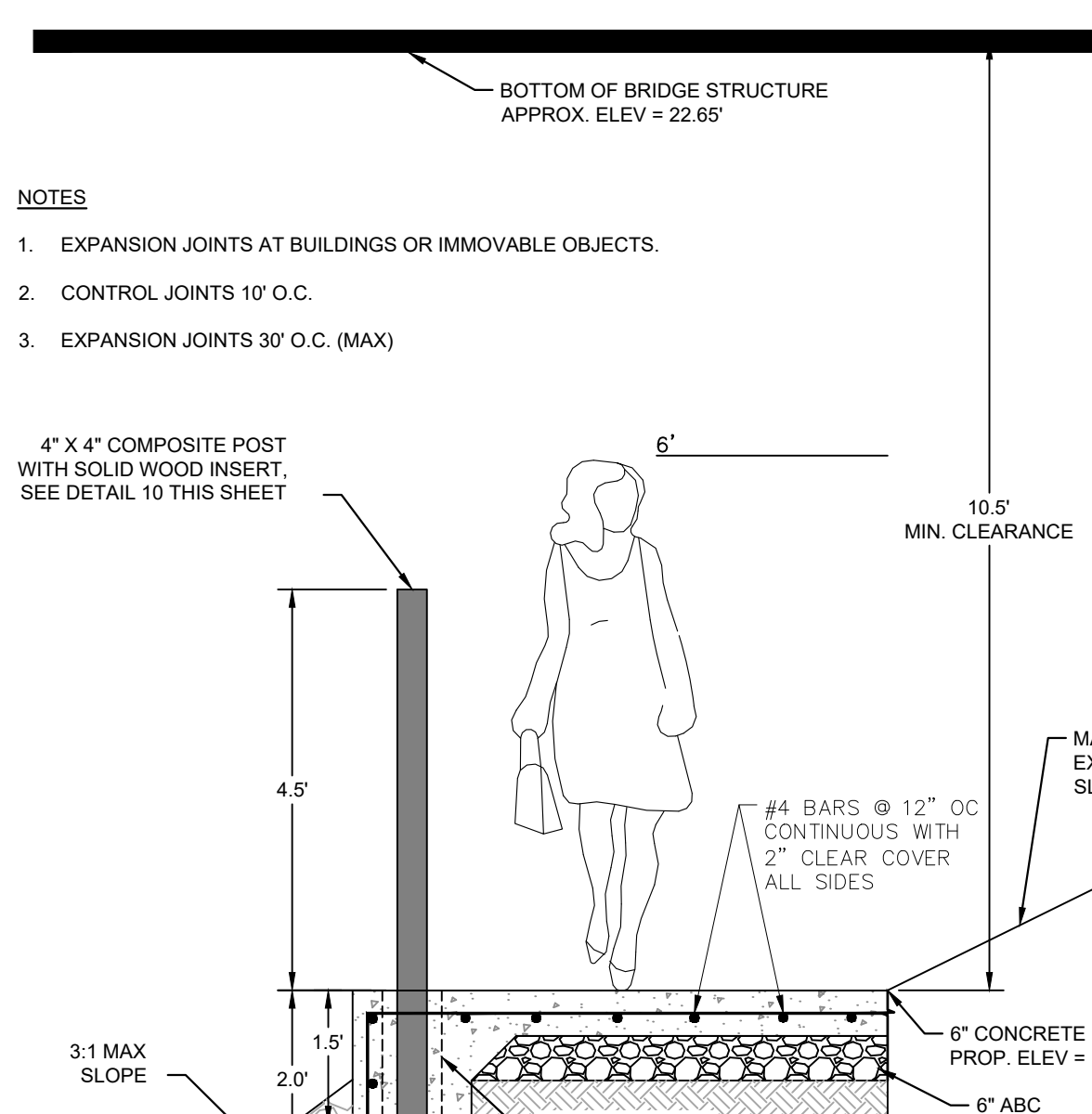
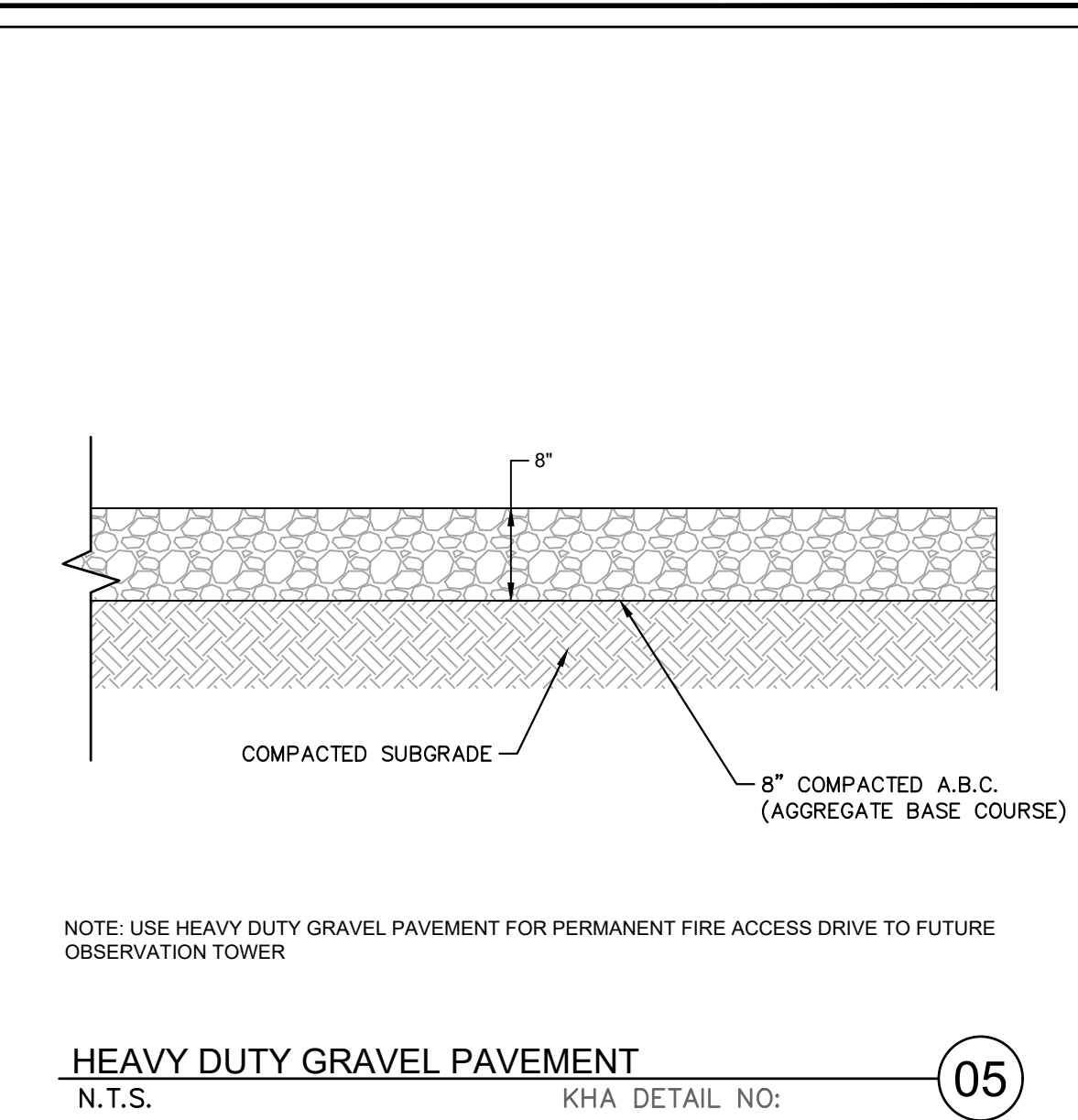
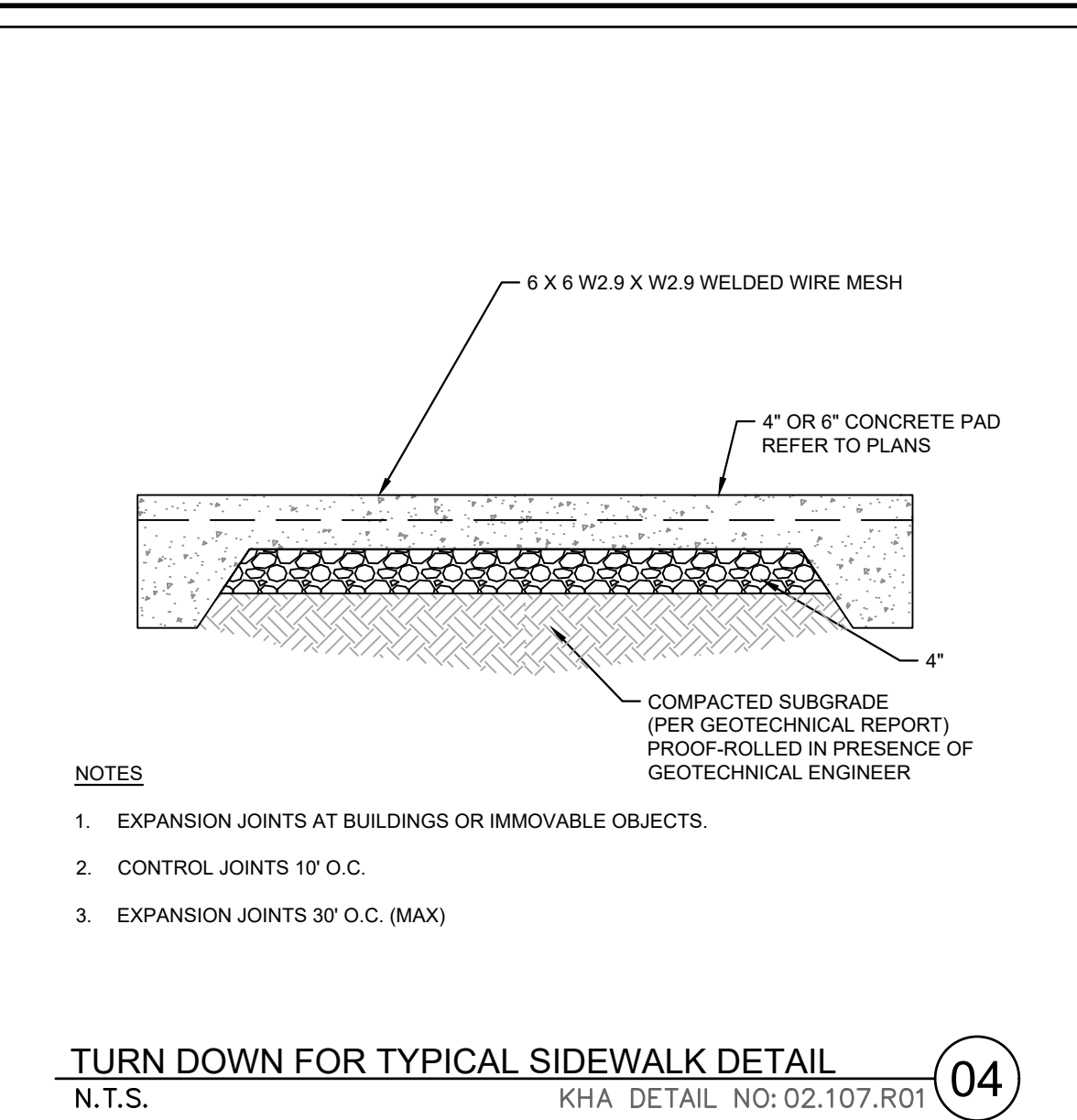
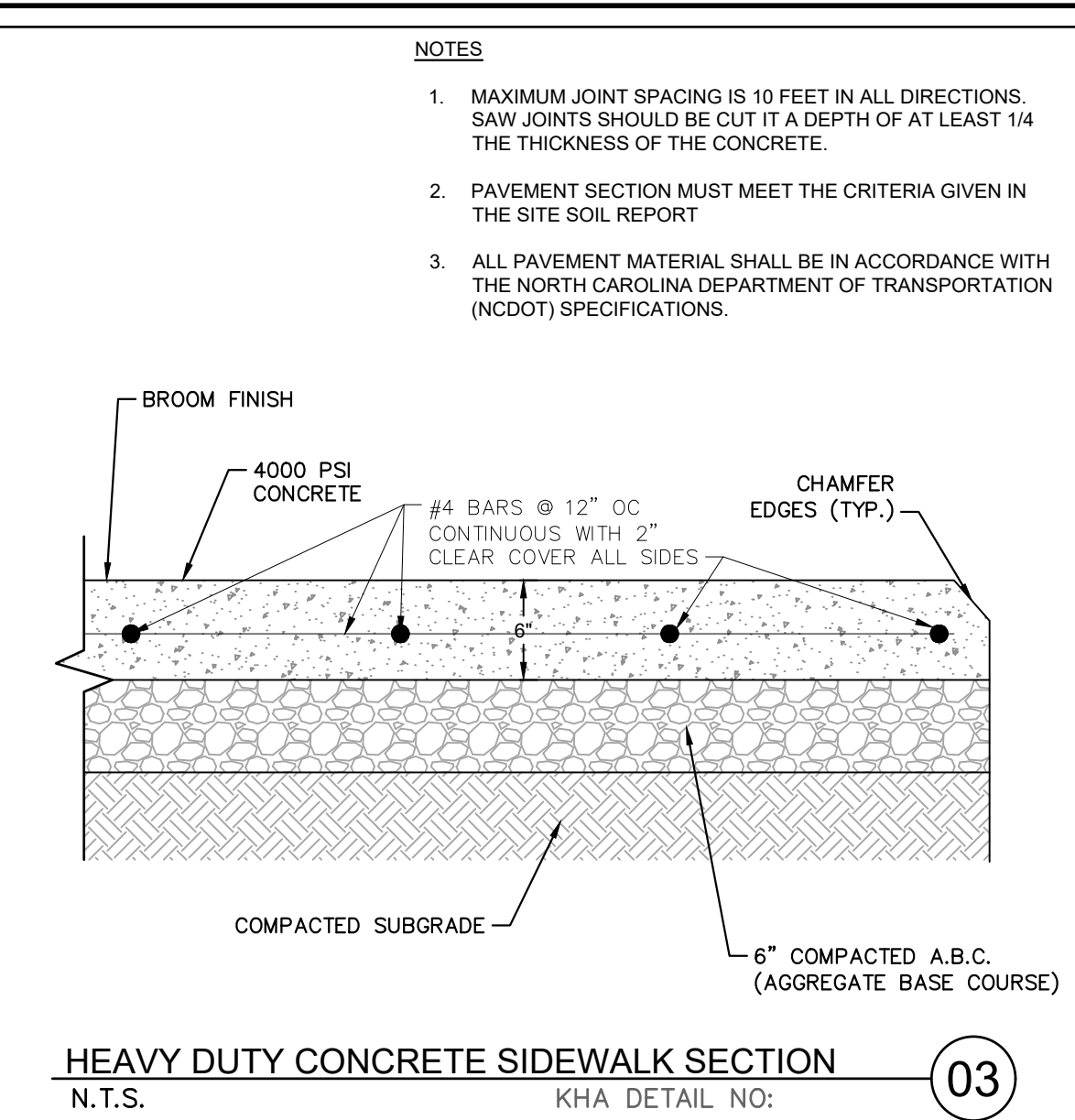
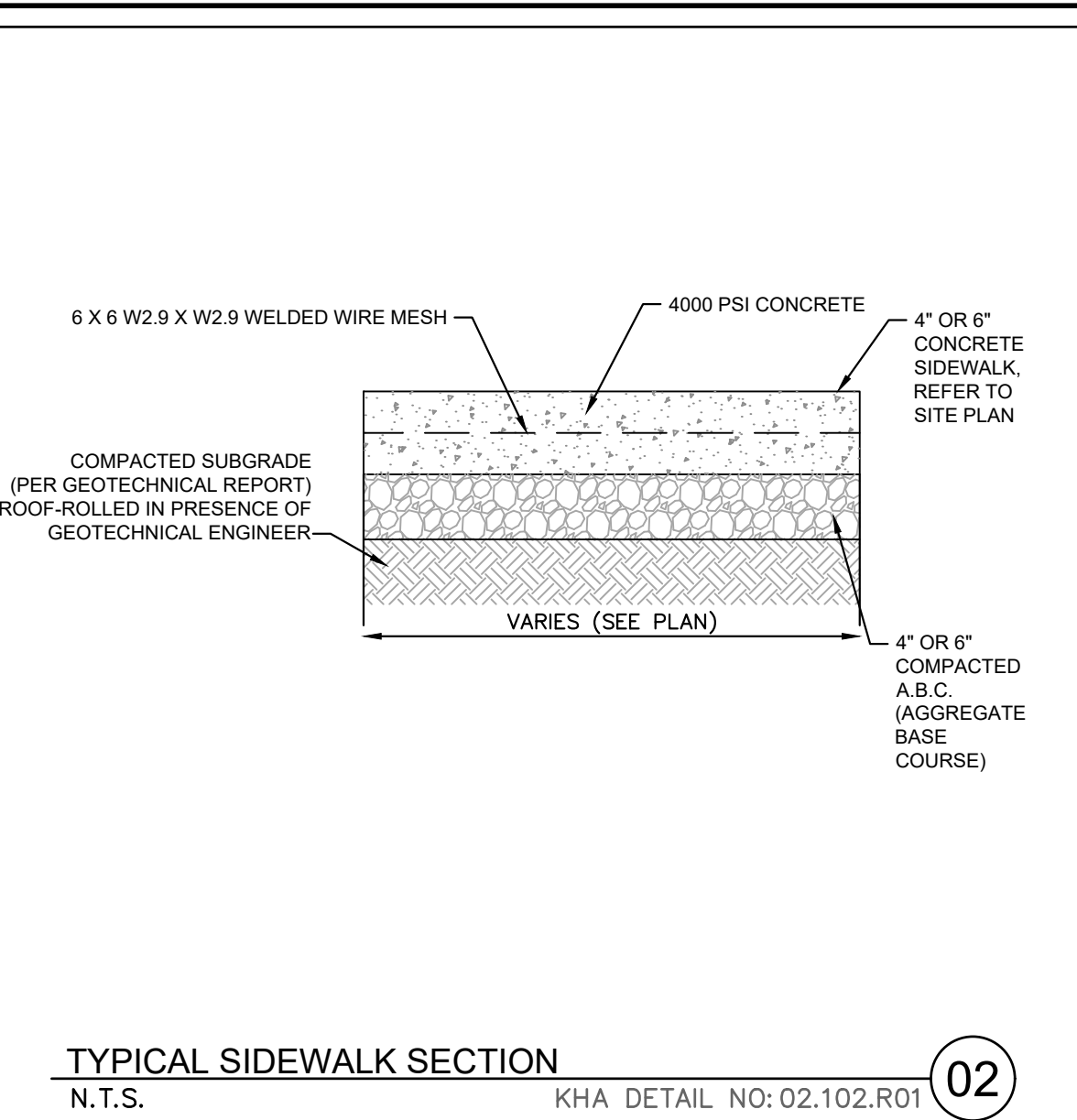
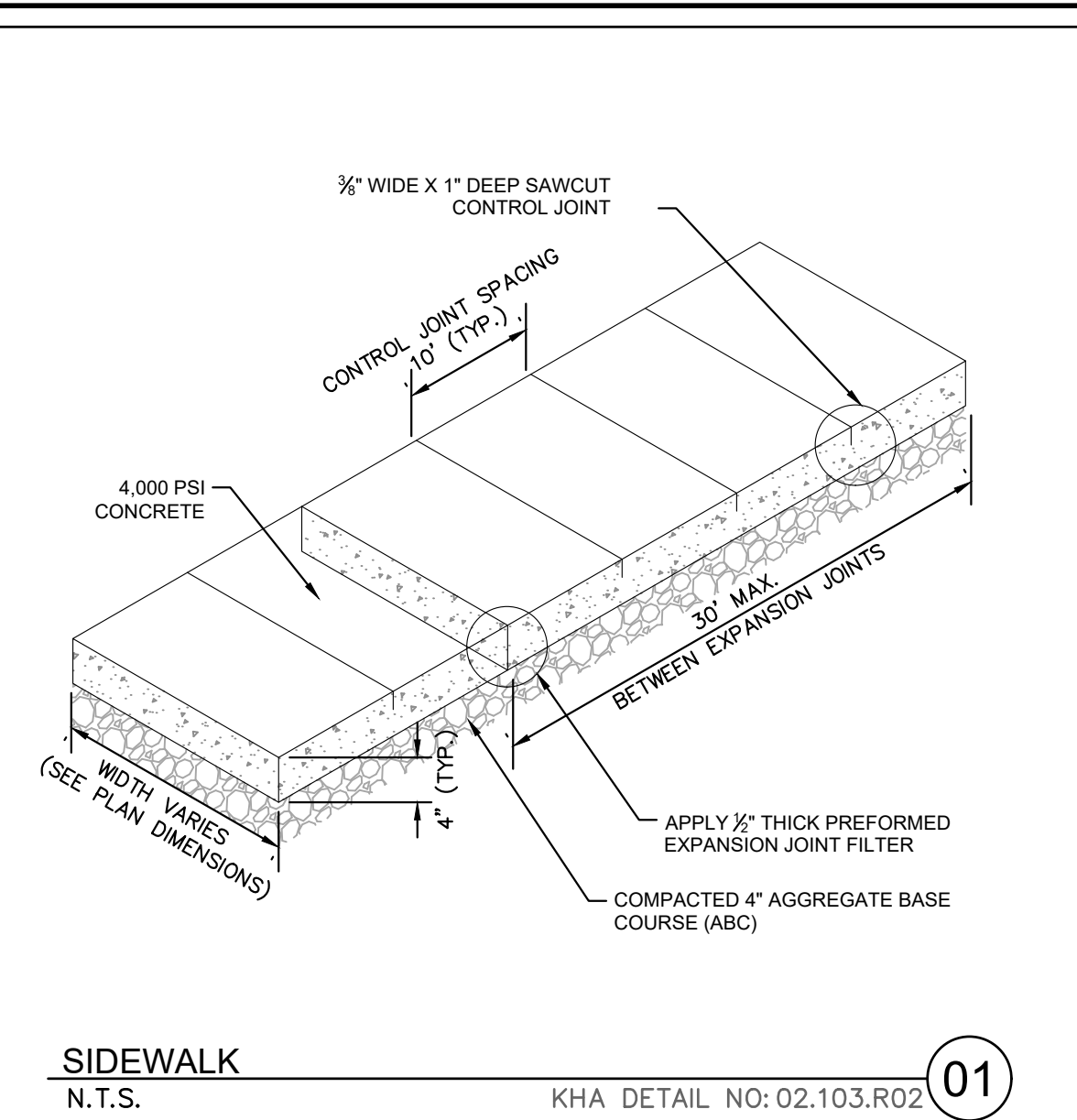
KHA PROJECT	012654010
DATE	02/28/2022
SCALE	AS SHOWN
DESIGNED BY	MRC
DRAWN BY	ASA
CHECKED BY	JDK

**PLAN AND PROFILE -  
 THE SWAMP (AREA 4)**

WILWOOD PARK - OBSERVATION TOWER AND TRAILS  
 PREPARED FOR  
 CITY OF GREENVILLE  
 GREENVILLE, NC

SHEET NUMBER  
**C3.8**

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- NOTES**
1. MAXIMUM JOINT SPACING IS 10 FEET IN ALL DIRECTIONS. SAW JOINTS SHOULD BE CUT IT A DEPTH OF AT LEAST 1/4 THE THICKNESS OF THE CONCRETE.
  2. PAVEMENT SECTION MUST MEET THE CRITERIA GIVEN IN THE SITE SOIL REPORT
  3. ALL PAVEMENT MATERIAL SHALL BE IN ACCORDANCE WITH THE NORTH CAROLINA DEPARTMENT OF TRANSPORTATION (NCDOT) SPECIFICATIONS.

- NOTES**
1. EXPANSION JOINTS AT BUILDINGS OR IMMOVABLE OBJECTS.
  2. CONTROL JOINTS 10' O.C.
  3. EXPANSION JOINTS 30' O.C. (MAX)

- CONSTRUCTION SPECIFICATIONS:**
1. CLEAR THE AREA OF ALL VEGETATION, ROOTS, AND OTHER OBJECTIONABLE MATERIAL AND PROPERLY GRADE IT.
  2. PLACE THE GRAVEL TO THE SPECIFIC GRADE AND DIMENSIONS SHOWN ON THE PLANS, AND SMOOTH IT.
  3. USE GEOTEXTILE FABRICS BECAUSE THEY IMPROVE STABILITY OF THE FOUNDATION IN LOCATIONS SUBJECT TO SEEPAGE OR HIGH WATER TABLE.
- MAINTENANCE NOTES:**
- MAINTAIN THE GRAVEL PAD IN A CONDITION TO PREVENT MUD OR SEDIMENT FROM LEAVING THE CONSTRUCTION SITE. THIS MAY REQUIRE PERIODIC TOP DRESSING WITH 2-INCH STONE. AFTER EACH RAINFALL, INSPECT ANY STRUCTURE USED TO TRAP SEDIMENT AND CLEAN IT OUT AS NECESSARY. IMMEDIATELY REMOVE ALL OBJECTIONABLE MATERIALS SPILLED, WASHED, OR TRACKED ONTO PUBLIC ROADWAYS.

- NOTES**
1. EXPANSION JOINTS AT BUILDINGS OR IMMOVABLE OBJECTS.
  2. CONTROL JOINTS 10' O.C.
  3. EXPANSION JOINTS 30' O.C. (MAX)

- NOTES**
1. EXPANSION JOINTS AT BUILDINGS OR IMMOVABLE OBJECTS.
  2. CONTROL JOINTS 12' O.C.
  3. EXPANSION JOINTS 30' O.C. (MAX)

- SIGN PANEL NOTES:**
1. SIGN PANEL DETAIL IS FOR DESIGN INTENT ONLY. CONTRACTOR SHALL SUBMIT SHOP DRAWINGS TO LANDSCAPE ARCHITECT FOR APPROVAL PRIOR TO FABRICATION AND INSTALLATION.
  2. CONTRACTOR SHALL SUBMIT SHOP DRAWING FOR INSTALLATION. CONTRACTOR TO COORDINATE WITH BRIDGE MFR FOR STRUCTURAL SUPPORT AND ATTACHMENT.
  3. HDU PANEL TO BE FINISHED WITH WOOD GRAIN TEXTURE WITH FALSE PANEL LINES. COLOR FINISH TO REPLICATED NATURAL CEDAR. SAMPLE TO BE SUBMITTED TO LANDSCAPE ARCHITECT FOR APPROVAL.

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**SURVEY NOTE:**  
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KHA PROJECT 012654010		DATE 02/28/2022		SCALE AS SHOWN		DESIGNED BY MRC		DRAWN BY ASA		CHECKED BY JKK	
KHA PROJECT 012654010		DATE 02/28/2022		SCALE AS SHOWN		DESIGNED BY MRC		DRAWN BY ASA		CHECKED BY JKK	
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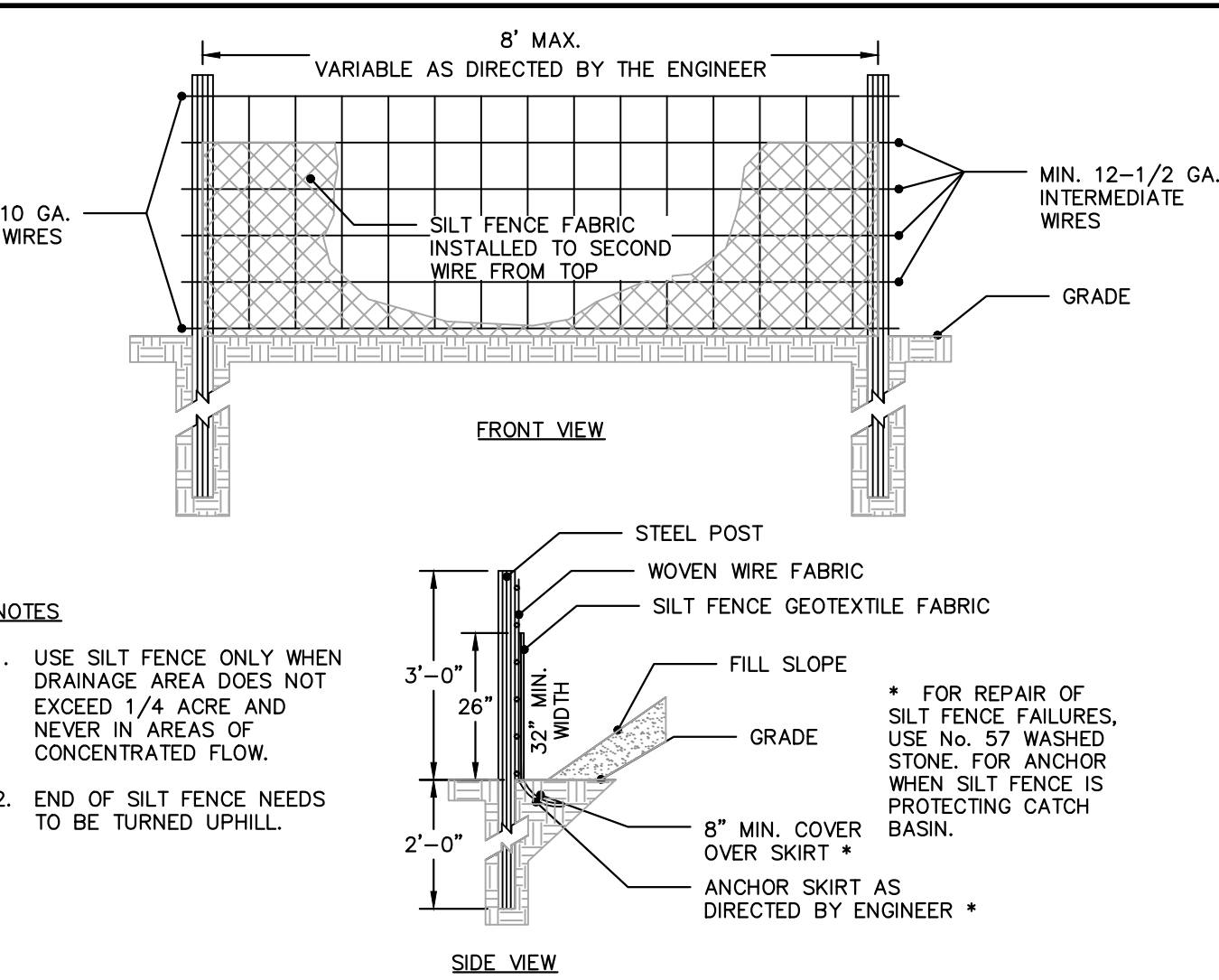
**WILDWOOD PARK - OBSERVATION TOWER AND TRAILS PREPARED FOR CITY OF GREENVILLE**

**SIDEWALK DETAILS**

GREENVILLE, NC

SHEET NUMBER  
**C4.0**

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**CONSTRUCTION SPECIFICATIONS**

**MATERIALS**

- USE A SYNTHETIC FILTER FABRIC OF AT LEAST 95% BY WEIGHT OF POLYOLEFINS OR POLYESTER, WHICH IS CERTIFIED BY THE MANUFACTURER OR SUPPLIER AS CONFORMING TO THE REQUIREMENTS IN ASTM D 6461. SYNTHETIC FILTER FABRIC SHOULD CONTAIN ULTRAVIOLET RAY INHIBITORS AND STABILIZERS TO PROVIDE A MINIMUM OF 6 MONTHS OF EXPECTED USABLE CONSTRUCTION LIFE AT A TEMPERATURE RANGE OF 0 TO 120°F.
- ENSURE THAT POSTS FOR SEDIMENT FENCES ARE 1.25 LB/LINEAR FT MINIMUM STEEL WITH A MINIMUM LENGTH OF 5 FEET. MAKE SURE THAT STEEL POSTS HAVE PROJECTIONS TO FACILITATE FASTENING THE FABRIC.
- FOR REINFORCEMENT OF STANDARD STRENGTH FILTER FABRIC, USE WIRE FENCE WITH A MINIMUM 14 GAUGE AND A MAXIMUM MESH SPACING OF 6 INCHES.

**CONSTRUCTION**

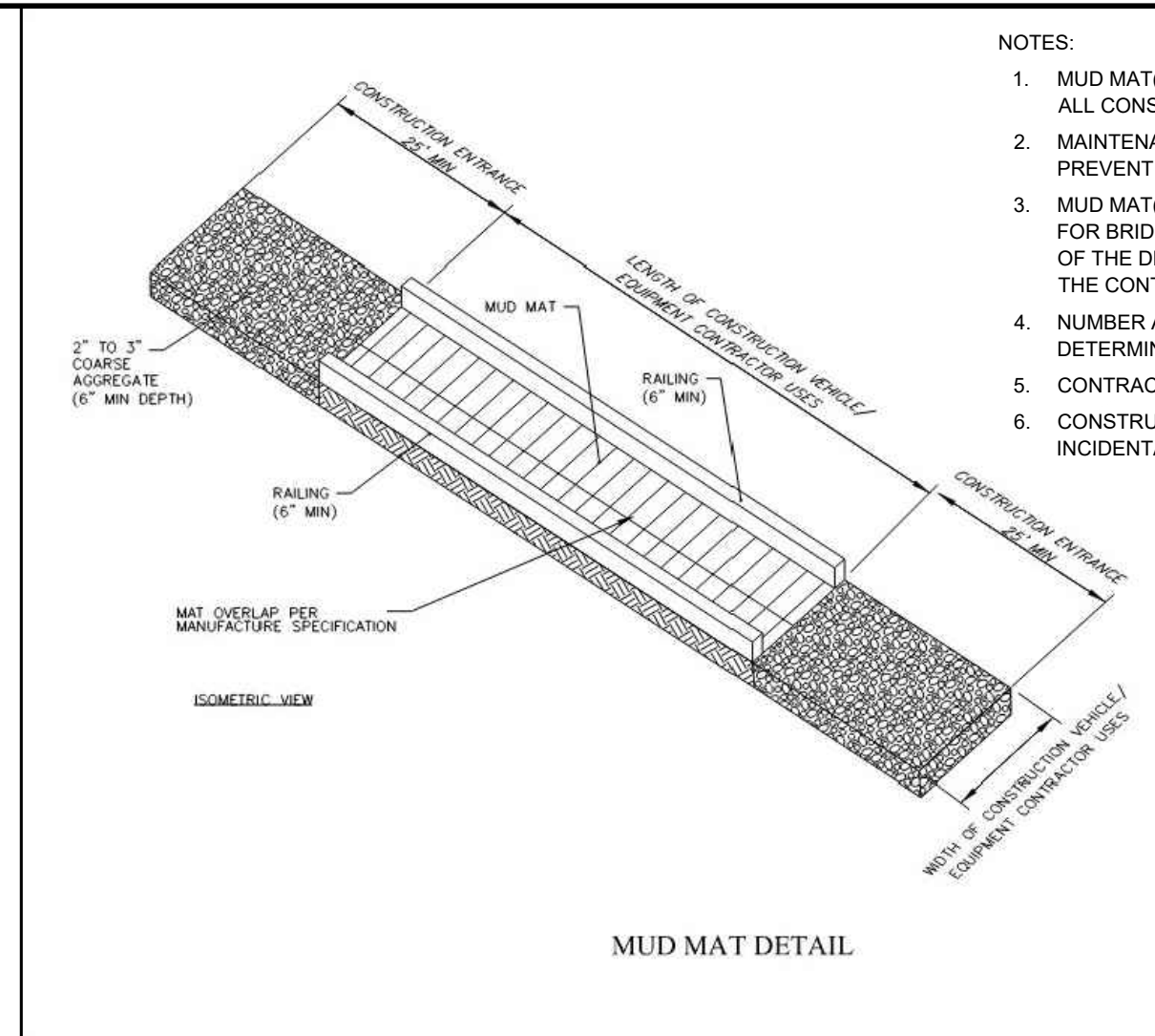
- CONSTRUCT THE SEDIMENT BARRIER OF STANDARD STRENGTH OR EXTRA STRENGTH SYNTHETIC FILTER FABRICS.
- ENSURE THAT THE HEIGHT OF THE SEDIMENT FENCE DOES NOT EXCEED 24 INCHES ABOVE THE GROUND SURFACE. (HIGHER FENCES MAY IMPOUND VOLUMES OF WATER SUFFICIENT TO CAUSE FAILURE OF THE STRUCTURE.)
- CONSTRUCT THE FILTER FABRIC FROM A CONTINUOUS ROLL CUT TO LENGTH OF THE BARRIER TO AVOID JOINTS. WHEN JOINTS ARE NECESSARY, SECURELY FASTEN THE FILTER CLOTH ONLY AT A SUPPORT POST WITH A 4 FEET MINIMUM OVERLAP TO THE NEXT POST.
- SUPPORT STANDARD STRENGTH FILTER FABRIC BY WIRE MESH SUPPORT TO THE BOTTOM OF THE TRENCH. FASTEN THE WIRE REINFORCEMENT, THEN FABRIC ON THE UPSLOPE SIDE OF THE FENCE POST. WIRE OR PLASTIC ZIP TIES SHOULD HAVE MINIMUM 50 POUND TENSILE STRENGTH.
- WHEN A WIRE MESH SUPPORT FENCE IS USED, SPACE POSTS A MAXIMUM OF 8 FEET APART. SUPPORT POSTS SHOULD BE DRIVEN SECURELY INTO THE GROUND A MINIMUM OF 24 INCHES.
- EXTRA STRENGTH FILTER FABRIC WITH 6 FEET POST SPACING DOES NOT REQUIRE WIRE MESH SUPPORT FENCE. SECURELY FASTEN THE FILTER FABRIC DIRECTLY TO POSTS. WIRE OR PLASTIC ZIP TIES SHOULD HAVE MINIMUM 50 POUND TENSILE STRENGTH.
- EXCAVATE A TRENCH APPROXIMATELY 4 INCHES WIDE AND 8 INCHES DEEP ALONG THE PROPOSED LINE OF POSTS AND UPSLOPE FROM THE BARRIER.
- PLACE 12 INCHES OF THE FABRIC ALONG THE BOTTOM AND SIDE OF THE TRENCH.
- BACKFILL THE TRENCH WITH SOIL PLACED OVER THE FILTER FABRIC AND COMPACT. THOROUGH COMPACTION OF THE BACKFILL IS CRITICAL TO SILT FENCE PERFORMANCE.
- DO NOT ATTACH FILTER FABRIC TO EXISTING TREES.

**MAINTENANCE**

INSPECT SEDIMENT FENCES AT LEAST ONCE A WEEK AND AFTER EACH RAINFALL. MAKE ANY REQUIRED REPAIRS IMMEDIATELY. SHOULD THE FABRIC OF A SEDIMENT FENCE COLLAPSE, TEAR, DECOMPOSE OR BECOME INEFFECTIVE, REPLACE IT PROMPTLY. REMOVE SEDIMENT DEPOSITS AS NECESSARY TO PROVIDE ADEQUATE STORAGE VOLUME FOR THE NEXT RAIN AND TO REDUCE PRESSURE ON THE FENCE. TAKE CARE TO AVOID UNDERMINING THE FENCE DURING CLEANOUT. REMOVE ALL FENCING MATERIALS AND UNSTABLE SEDIMENT DEPOSITS AND BRING THE AREA TO GRADE AND STABILIZE IT AFTER THE CONTRIBUTING DRAINAGE AREA HAS BEEN PROPERLY STABILIZED.

**TEMPORARY SILT FENCE**  
N.T.S.

KHA DETAIL NO: 01.302.R02 **01**

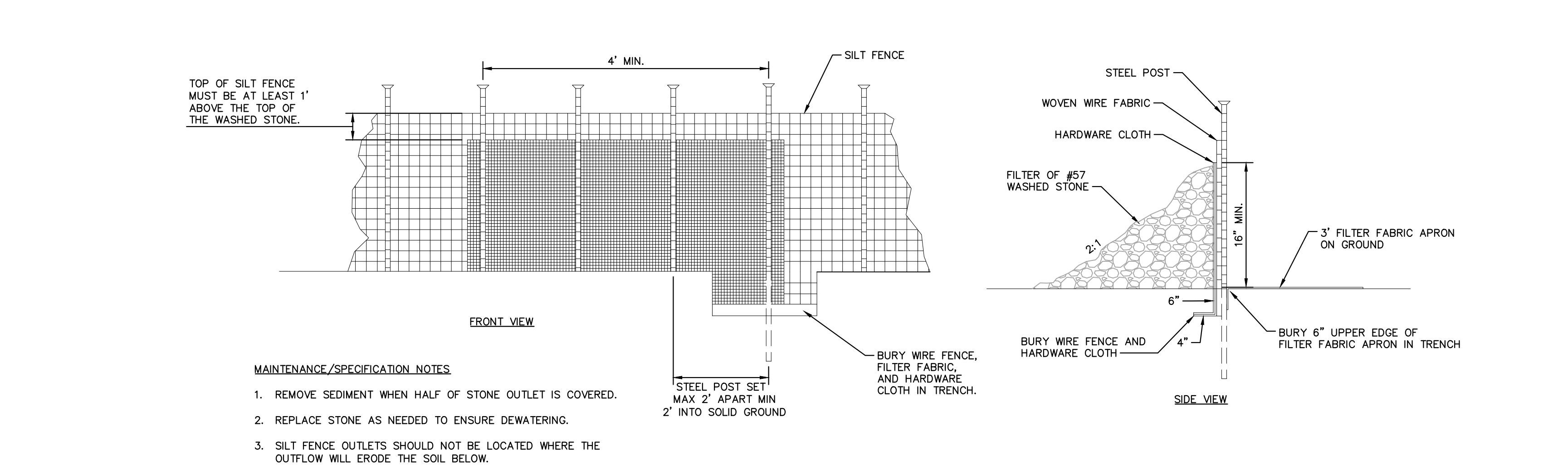


**NOTES:**

- MUD MAT(S) SHOULD BE LOCATED TO PROVIDE FOR UTILIZATION BY ALL CONSTRUCTION VEHICLES.
- MAINTENANCE: MUST BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR DIRECT FLOW OF MUD INTO WETLAND.
- MUD MAT(S) SHALL BE UTILIZED IN WETLAND AREAS TO LIMIT IMPACTS FOR BRIDGE AND BOARDWALK CONSTRUCTION. FREQUENT CHECKS OF THE DEVICE AND TIMELY MAINTENANCE MUST BE PROVIDED BY THE CONTRACTOR.
- NUMBER AND LOCATION OF MUD MATS TO MINIMIZE IMPACTS OR DETERMINED BY THE ENGINEER.
- CONTRACTOR MAY SUBMIT ALTERNATE MUD MAT FOR APPROVAL.
- CONSTRUCTION ENTRANCE APPROACHES TO MUD MAT SHALL BE INCIDENTAL TO THE MUD MAT PA ITEM.

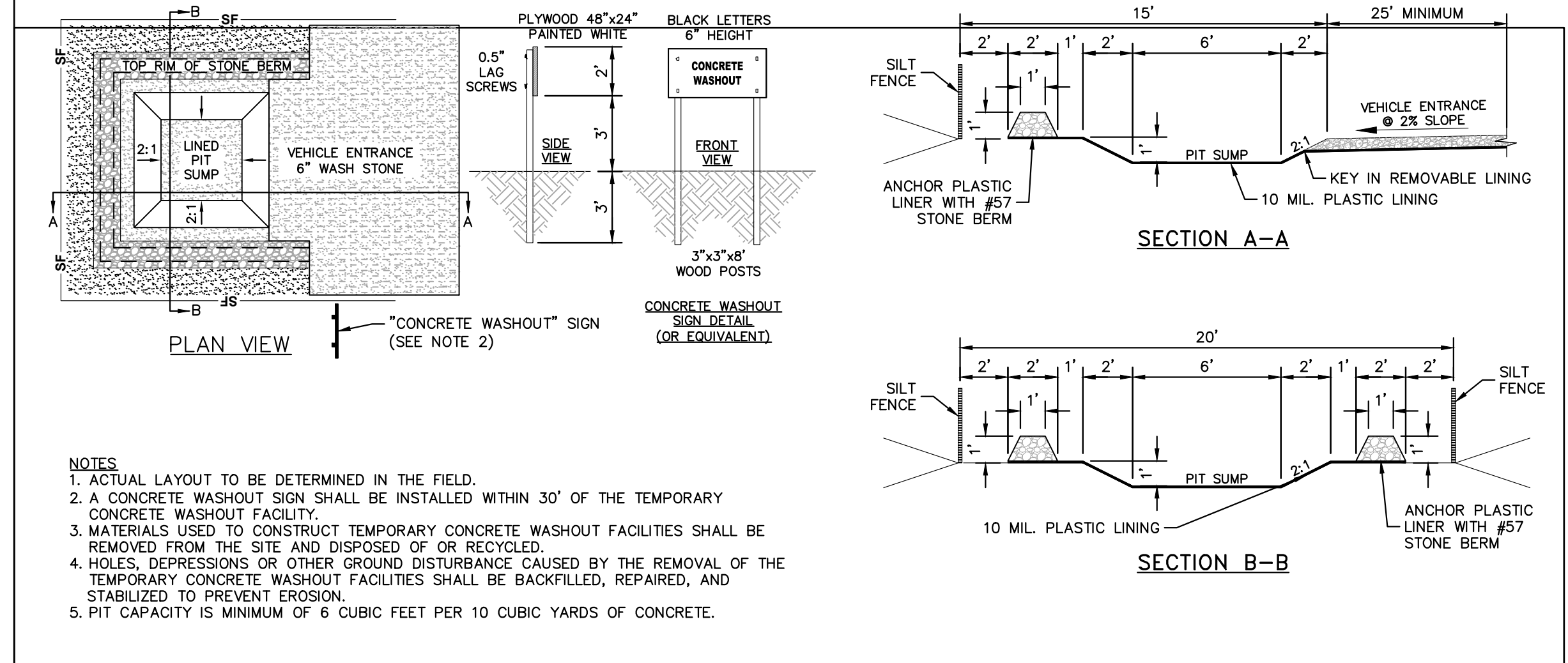
**MUDMAT DETAIL**  
N.T.S.

**02**



**SILT FENCE OUTLET**  
N.T.S.

KHA DETAIL NO: 01.303.R02 **03**



**CONCRETE WASHOUT STATION**  
N.T.S.

01.102.R01 **04**

**SEDIMENTATION AND EROSION CONTROL**

**EROSION CONTROL GUIDE**

ANY EROSION CONTROL DEVICES OR METHODS SHALL BE IN ACCORDANCE WITH THE NORTH CAROLINA DEPARTMENT OF NATURAL RESOURCES - EROSION AND SEDIMENTATION CONTROL PANNING AND DESIGN MANUAL AND ALL AMENDMENTS. THE EROSION CONTROL DEVICES AND METHODS THAT FOLLOW ARE SUPPLEMENTAL TO THE STATE MANUAL. OTHER DEVICES & METHODS NOT INCLUDED IN THE STATE MANUAL, MAY BE SUBMITTED TO THE CITY ENGINEER FOR APPROVAL.

**EROSION CONTROL NOTES:**

- Scheduling of a preconstruction conference with the Engineering Division is required prior to initiating land disturbing activities. For scheduling please call (252) 329-4467. A 24-hour notice is required. No person may initiate a land disturbing activity before notifying the City of the date of the land disturbing activity.
- No land disturbing activity beyond that required to install appropriate erosion control may proceed until erosion control measures are inspected and approved by the City.
- Seeding and mulching or otherwise providing ground cover devices or structures sufficient to restrain erosion for all exposed slopes is required within 21 working days of completing any phase of grading.
- Contractor shall inspect and maintain all erosion control devices on a weekly basis and after each major storm event. Failure to maintain erosion control devices may result in an issuance of stop work order or civil penalties up to \$5,000 per day of violation. Sites utilizing sediment traps must also specify a maximum depth of sediment prior to clean out.
- The City Engineer reserves the right to require additional erosion control measures should the plan or its implementation prove to be inadequate.
- Acceptance and approval of this plan is conditioned upon your compliance with Federal and State water quality laws, regulations and rules. In addition, local City and County ordinances or rules may also apply to this land disturbing activity. Approval by the City does not supersede any other permit or approval.

A. Please be advised of the rules to protect and maintain existing buffers along watercourses in the Neuse and Tar River basins. These rules are enforced by the Division of Water Quality (DWQ). Direct any questions about the applicability of these rules to your project to the regional water quality supervisor, Washington Regional Office at (252) 946-6481.

**SEEDING AND MULCHING:**

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

All Roadway Areas		September 1 - February 28	
March 1 - August 31	50# Tall Fescue	50# Tall Fescue	
	10# Centipede	10# Centipede	
	25# Bermudagrass (hulled)	35# Bermudagrass (hulled)	
	500# Fertilizer	500# Fertilizer	
	4000# Limestone	4000# Limestone	

Water and Borrow Locations		September 1 - February 28	
March 1 - August 31	75# Tall Fescue	75# Tall Fescue	
	25# Bermudagrass (hulled)	35# Bermudagrass (hulled)	
	500# Fertilizer	500# Fertilizer	
	4000# Limestone	4000# Limestone	

Note: 50# of Bahiagrass may be substituted for either Centipede or Bermudagrass only upon Engineer's request.

Approved Tall Fescue Cultivars					
2nd Millennium	Chipper	Focus	Masterpiece	Quest	Titan Ltd.
Averger	Coronado	Grande II	Matador	Rebel Exada	Titanium
Barlexas	Coyote	Greenkeeper	Matador GT	Rebel Sentry	Tomchawk
Barlexas II	DaVinci	Greystone	Millennium	Regiment II	Tacer
Barrera	Dynasty	Inferno	Montauk	Rembrandt	Trooper
Barrington	Dominion	Justice	Mustang 3	Rendition	Turbo
Billmore	Duster	Jaguar 3	Olympic Gold	Scorpion	Ultimate
Bingo	Endeavor	Kalahari	Padre	Shelby	Watchdog
Bravo	Escalade	Kentucky 31	Paraiso	Signia	Wolfpack
Cayenne	Falcon II, III, IV & V	Kitty Hawk	Picasso	Silverstar	
Chapel Hill	Fidelity	Kitty Hawk 2000	Piedmont	Southern Choice II	
Chesapeake	Finesse II	Lexington	Pure Gold	Stetson	
Constitution	Firebird	Magellan	Prospect	Tarheel	

On cut and fill slopes 2:1 or steeper Centipede shall be applied at a rate of 5 pounds per acre and add 20# of Sericea Lespedeza from January 1 - December 21.

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.

All areas seeded and mulched shall be tacked with asphalt. Crimping of straw in lieu of asphalt tack shall not be allowed on projects.

**CRIMPING STRAW MULCH:**

Crimping shall be required on projects adjacent to any section of roadway where traffic is to be maintained or allowed during construction. In areas within six feet of the edge of pavement, straw is to be applied and then crimped. After the crimping operation is complete, an additional application of straw shall be applied and immediately tacked with a sufficient amount of undiluted emulsified asphalt.

Straw mulch shall be sufficient length and quality to withstand the crimping operation.

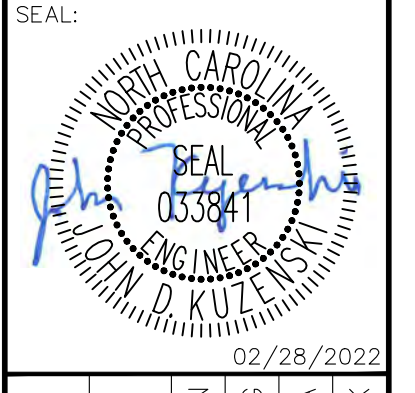
Crimping equipment including power source shall be subject to the approval of the Engineer providing that maximum spacing of crimper blades shall not exceed 8'.

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NO.	ISSUED FOR	DATE	BY
1	ISSUED FOR BID	02/28/2022	ASA

**Kimley-Horn**

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WWW.KIMLEY-HORN.COM



KHA PROJECT	012654010
DATE	02/28/2022
SCALE	AS SHOWN
DESIGNED BY	MRC
DRAWN BY	ASA
CHECKED BY	JDK

**EROSION CONTROL DETAILS**

WILDWOOD PARK - OBSERVATION TOWER AND TRAILS PREPARED FOR CITY OF GREENVILLE

GREENVILLE, NC

SHEET NUMBER **C4.1**



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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**

Required Ground Stabilization Timeframes		
Site Area Description	Stabilize within this many calendar days after ceasing land disturbance	Timeframe variations
(a) Perimeter dikes, swales, ditches, and perimeter slopes	7	None
(b) High Quality Water (HQW) Zones	7	None
(c) Slopes steeper than 3:1	7	If slopes are 10' or less in length and are not steeper than 2:1, 14 days are allowed -7 days for slopes greater than 50' in length and with slopes steeper than 4:1 -7 days for perimeter dikes, swales, ditches, perimeter slopes and HQW Zones -10 days for Falls Lake Watershed
(d) Slopes 3:1 to 4:1	14	-7 days for perimeter dikes, swales, ditches, perimeter slopes and HQW Zones -10 days for Falls Lake Watershed unless there is zero slope
(e) Areas with slopes flatter than 4:1	14	-7 days for perimeter dikes, swales, ditches, perimeter slopes and HQW Zones -10 days for Falls Lake Watershed unless there is zero slope

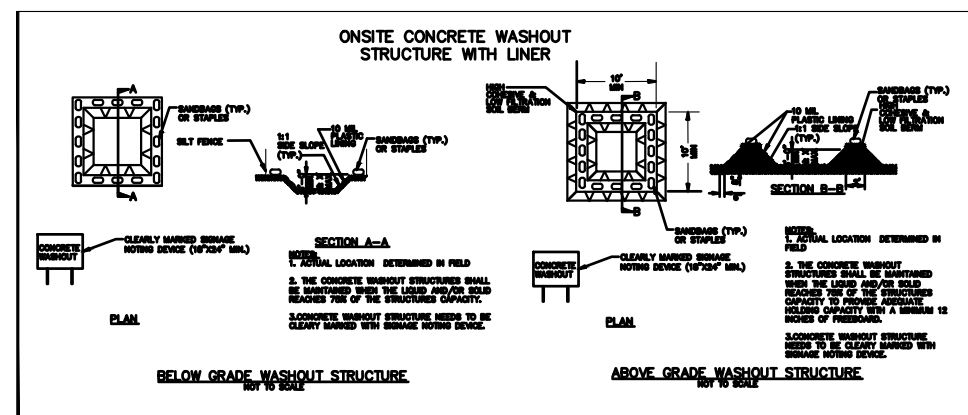
**Note:** After the permanent cessation of construction activities, any areas with temporary ground stabilization shall be converted to permanent ground stabilization as soon as practicable but in no case longer than 90 calendar days after the last land disturbing activity. Temporary ground stabilization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

**GROUND STABILIZATION SPECIFICATION**

Temporary Stabilization	Permanent Stabilization
• Temporary grass seed covered with straw or other mulch and tackifiers • Hydroseeding • Rolled-erosion control products with or without temporary grass seed • Appropriately applied straw or other mulch • Plastic sheeting	• Permanent grass seed covered with straw or other mulch and tackifiers • Geotextile fabrics such as permanent soil reinforcement matting • Hydroseeding • Shrubs or other permanent plantings covered with mulch • Uniform and evenly distributed ground cover sufficient to resist erosion • Structural methods such as concrete, asphalt or retaining walls • Rolled-erosion control products with grass seed

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

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



- CONCRETE WASHOUTS**
- Do not discharge concrete or cement slurry from the site.
  - Dispose of, or recycle/settle, hardened concrete residue in accordance with local and state solid waste regulations and at an approved facility.
  - 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.
  - 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.
  - 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.
  - 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.
  - 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.
  - 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.
  - 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.
  - 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.

- LITTER, BUILDING MATERIAL AND LAND CLEARING WASTE**
- Never bury or burn waste. Place litter and debris in approved waste containers.
  - Provide a sufficient number and size of waste containers (e.g. dumpster, trash receptacle) on site to contain construction and domestic wastes.
  - Locate waste containers at least 50 feet away from storm drain inlets and surface waters unless no other alternatives are reasonably available.
  - 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.
  - Cover waste containers at the end of each workday and before storm events or provide secondary containment. Repair or replace damaged waste containers.
  - Anchor all lightweight items in waste containers during times of high winds.
  - Empty waste containers as needed to prevent overflow. Clean up immediately if containers overflow.
  - Dispose waste off-site at an approved disposal facility.
  - On business days, clean up and dispose of waste in designated waste containers.

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

- PORTABLE TOILETS**
- 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.
  - Provide staking or anchoring of portable toilets during periods of high winds or in high foot traffic areas.
  - 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**
- 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.
  - Protect stockpile with silt fence installed along toe of slope with a minimum offset of five feet from the toe of stockpile.
  - Provide stable stone access point when feasible.
  - 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.

- HERBICIDES, PESTICIDES AND RODENTICIDES**
- Store and apply herbicides, pesticides and rodenticides in accordance with label restrictions.
  - 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.
  - 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.
  - Do not stockpile these materials onsite.

- HAZARDOUS AND TOXIC WASTE**
- Create designated hazardous waste collection areas on-site.
  - Place hazardous waste containers under cover or in secondary containment.
  - Do not store hazardous chemicals, drums or bagged materials directly on the ground.

**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, 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.

Inspect	Frequency (during normal business hours)	Inspection records must include:
(1) Rain gauge maintained in good working order	Daily	Daily rainfall amounts. If no daily rain gauge observations are made during weekend or holiday periods, and no individual daily rainfall information is available, record the cumulative rain measurement for those unattended days (and this will determine if a site inspection is needed). Days on which no rainfall occurred shall be recorded as "zero". The permittee may use another rain-measuring device approved by the Division.
(2) E&S Measures	At least once per 7 calendar days and within 24 hours of a rain event > 1.0 inch in 24 hours	1. Identification of the measures inspected. 2. Date and time of the inspection. 3. Name of the person performing the inspection. 4. Evidence of indicators of stormwater pollution such as oil sheen, floating or suspended solids or discoloration. 5. Indication of visible sediment leaving the site. 6. Description, evidence, and date of corrective actions taken.
(3) Stormwater discharge outfalls (SDOs)	At least once per 7 calendar days and within 24 hours of a rain event > 1.0 inch in 24 hours	1. Identification of the discharge outfall inspection. 2. Date and time of the inspection. 3. Name of the person performing the inspection. 4. Evidence of indicators of stormwater pollution such as oil sheen, floating or suspended solids or discoloration. 5. Indication of visible sediment leaving the site. 6. Description, evidence, and date of corrective actions taken.
(4) Perimeter of site	At least once per 7 calendar days and within 24 hours of a rain event > 1.0 inch in 24 hours	If visible sedimentation is found outside site limits, then a record of the following shall be made: 1. Description, evidence, and date of corrective actions taken, and 2. An explanation as to the actions taken to control future releases.
(5) Streams or wetlands onsite (where applicable)	At least once per 7 calendar days and within 24 hours of a rain event > 1.0 inch in 24 hours	If the stream or wetland has increased visible sedimentation or a stream has visible increased turbidity from the construction activity, then a record of the following shall be made: 1. Description, evidence and date of corrective actions taken, and 2. Records of the required reports to the appropriate Division Regional Office per Part III, Section C, Item 2(a) of this permit of this permit.
(6) Ground stabilization measures	After each phase of grading	1. The phase of grading (installation of perimeter E&S measures, dewatering and silt bagging, installation of storm drainage facilities, completion of all land disturbing activity, construction or redevelopment, permanent ground cover). 2. Documentation that the required ground stabilization measures have been provided within the required timeframe or an assurance that they will be provided as soon as possible.

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

**PART III SELF-INSPECTION, RECORDKEEPING AND REPORTING**

**SECTION B: RECORDKEEPING**

**1. E&S Plan Documentation**  
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 documented in the manner described:

Item to Document	Documentation Requirements
(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.	Initial and date each E&S Measure on a copy of the approved E&S Plan or complete, date and sign an inspection report that lists each E&S Measure shown on the approved E&S Plan. This documentation is required upon the initial installation of the E&S Measures or if the E&S Measures are modified after initial installation.
(b) A phase of grading has been completed.	Initial and date a copy of the approved E&S Plan or complete, date and sign an inspection report to indicate completion of the construction phase.
(c) Ground cover is located and installed in accordance with the approved E&S Plan.	Initial and date a copy of the approved E&S Plan or complete, date and sign an inspection report to indicate compliance with approved ground cover specifications.
(d) The maintenance and repair requirements for all E&S Measures have been performed.	Complete, date and sign an inspection report.
(e) Corrective actions have been taken to E&S Measures.	Initial and date a copy of the approved E&S Plan or complete, date and sign an inspection report to indicate the completion of the corrective action.

**2. Additional Documentation**  
In addition to the E&S Plan documents above, the following items shall be kept on the site and available for agency 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:

- This general permit as well as the certificate of coverage, after it is received.
- Records of inspections made during the previous 30 days. 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.
- All data used to complete the Notice of Intent and other inspection records shall be maintained for a period of three years after project completion and made available upon request. [40 CFR 122.41]

**PART III SELF-INSPECTION, RECORDKEEPING AND REPORTING**

**SECTION C: REPORTING**

**1. Occurrences that must be reported**  
Permittees shall report the following occurrences:  
(a) Visible sediment deposition in a stream or wetland.  
(b) Oil spills if:  
• They are 25 gallons or more,  
• They are less than 25 gallons but cannot be cleaned up within 24 hours,  
• They cause sheen on surface waters (regardless of volume), or  
• They are within 100 feet of surface waters (regardless of volume).

- Releases of hazardous substances in excess of reportable quantities under Section 311 of the Clean Water Act (Ref: 40 CFR 110.3 and 40 CFR 117.3) or Section 102 of CERCLA (Ref: 40 CFR 302.4) or G.S. 143-215.85.
- Anticipated bypasses and unanticipated bypasses.
- Noncompliance with the conditions of this permit that may endanger health or the environment.

**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 Division's Emergency Response personnel at (800) 662-7956, (800) 858-0368 or (919) 733-3300.

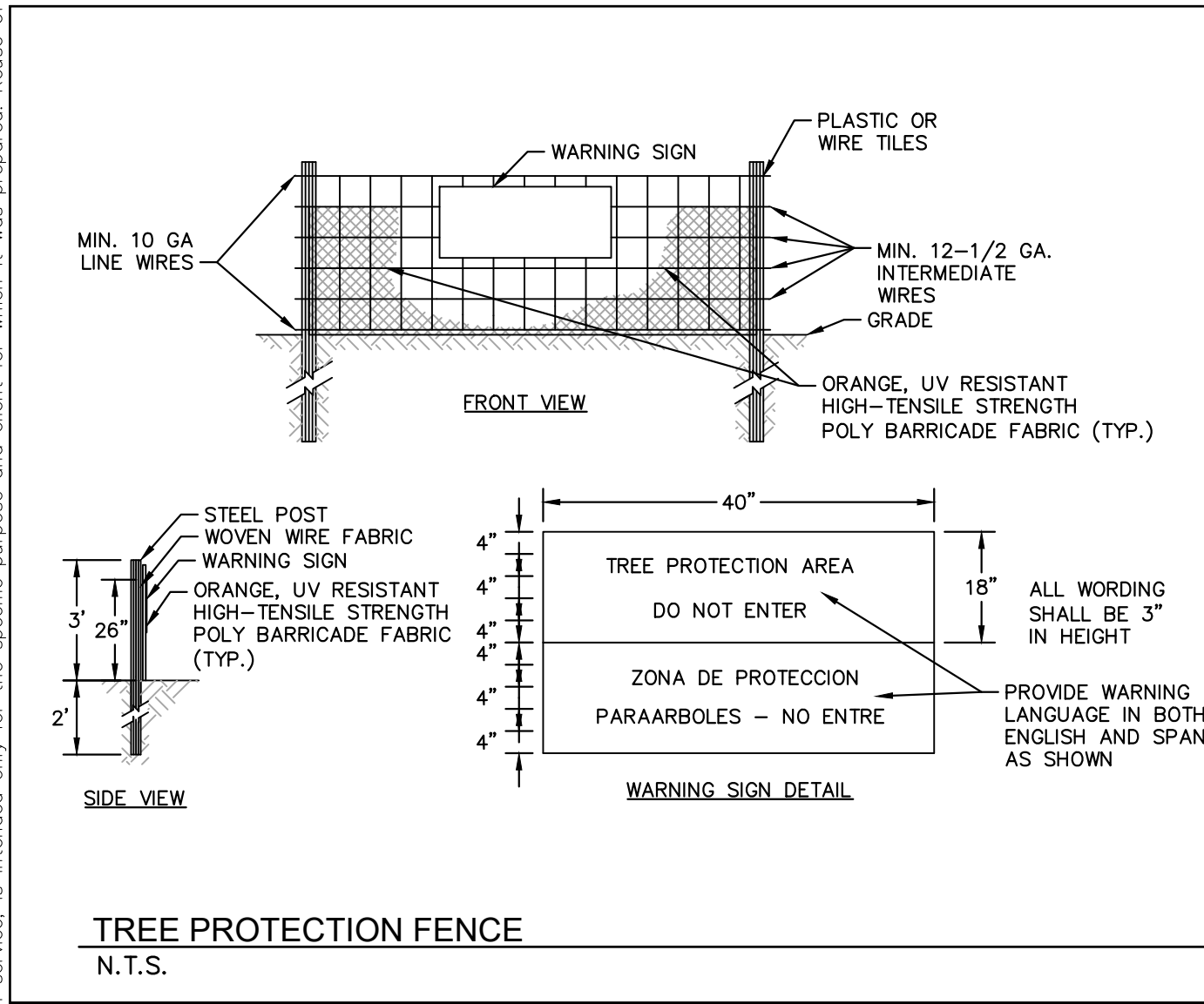
Occurrence	Reporting Timeframes (After Discovery) and Other Requirements
(a) Visible sediment deposition in a stream or wetland	• <b>Within 24 hours</b> , an oral or electronic notification. • <b>Within 7 calendar days</b> , a report that contains a description of the sediment and actions taken to address the cause of the deposition. Division staff may waive the requirement for a written report on a case-by-case basis. • If the stream is named on the NC 303(d) list as impaired for sediment-related causes, the permittee may be required to perform additional monitoring, inspections or apply more stringent practices if staff determine that additional requirements are needed to assure compliance with the federal or state impaired-waters conditions.
(b) Oil spill and release of hazardous substances per item 1(b)-(c) above	• <b>Within 24 hours</b> , an oral or electronic notification. The notification shall include information about the date, time, nature, volume and location of the spill or release.
(c) Anticipated bypasses [40 CFR 122.41(m)(3)]	• <b>A report at least ten days before the date of the bypass, if possible.</b> The report shall include an evaluation of the anticipated quality and effect of the bypass.
(d) Unanticipated bypasses [40 CFR 122.41(m)(3)]	• <b>Within 24 hours</b> , an oral or electronic notification.
(e) Noncompliance with the conditions of this permit that may endanger health or the environment [40 CFR 122.41(f)(7)]	• <b>Within 7 calendar days</b> , a report that contains a description of the noncompliance, and its causes; the period of noncompliance, including exact dates and times; and if the noncompliance has not been corrected, the anticipated time noncompliance is expected to continue; and steps taken or planned to reduce, eliminate, and prevent recurrence of the noncompliance. [40 CFR 122.41(f)(6).] • Division staff may waive the requirement for a written report on a case-by-case basis.

**NCG01 GROUND STABILIZATION AND MATERIALS HANDLING**

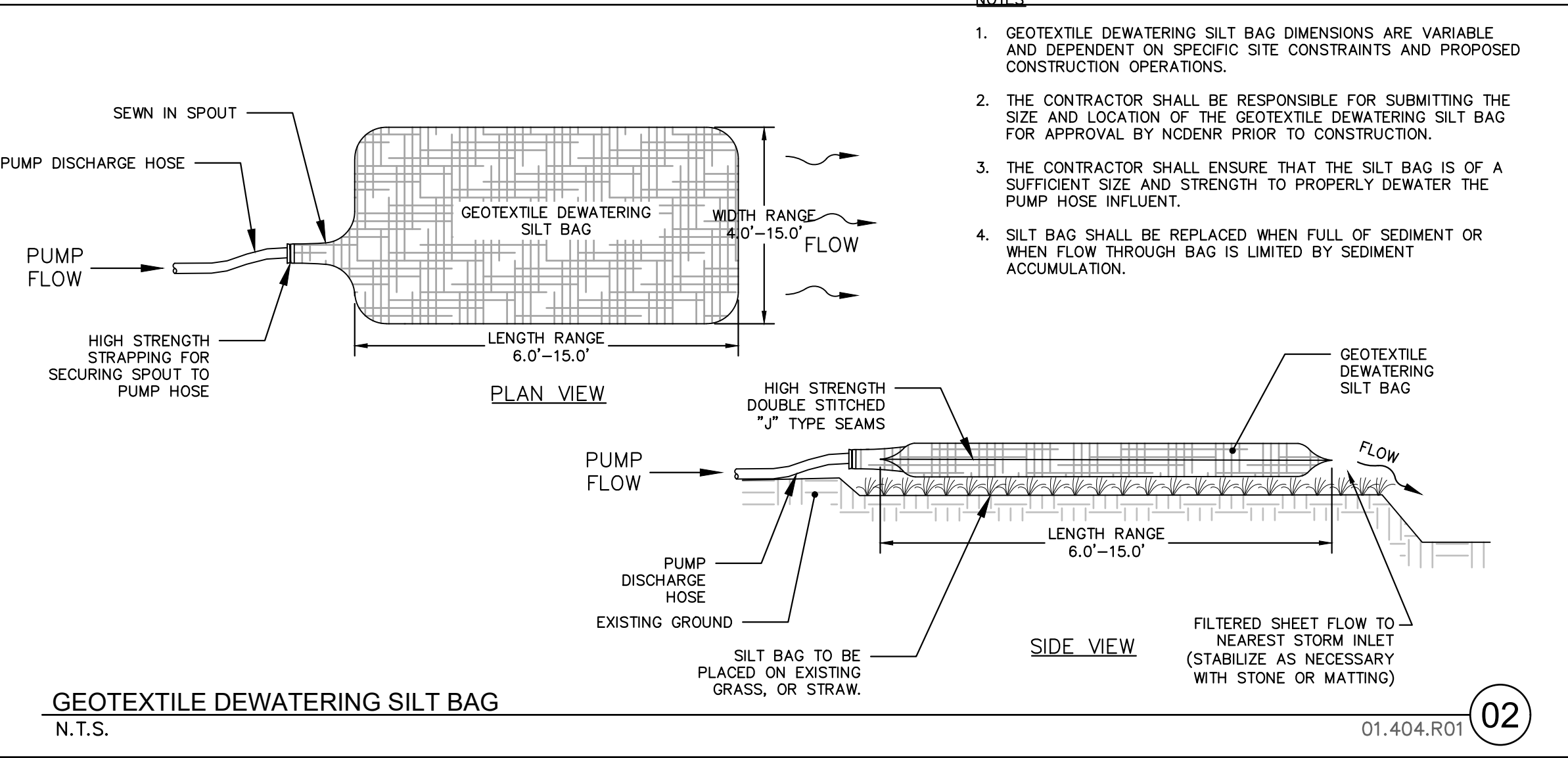
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**NCG01 SELF-INSPECTION, RECORDKEEPING AND REPORTING**

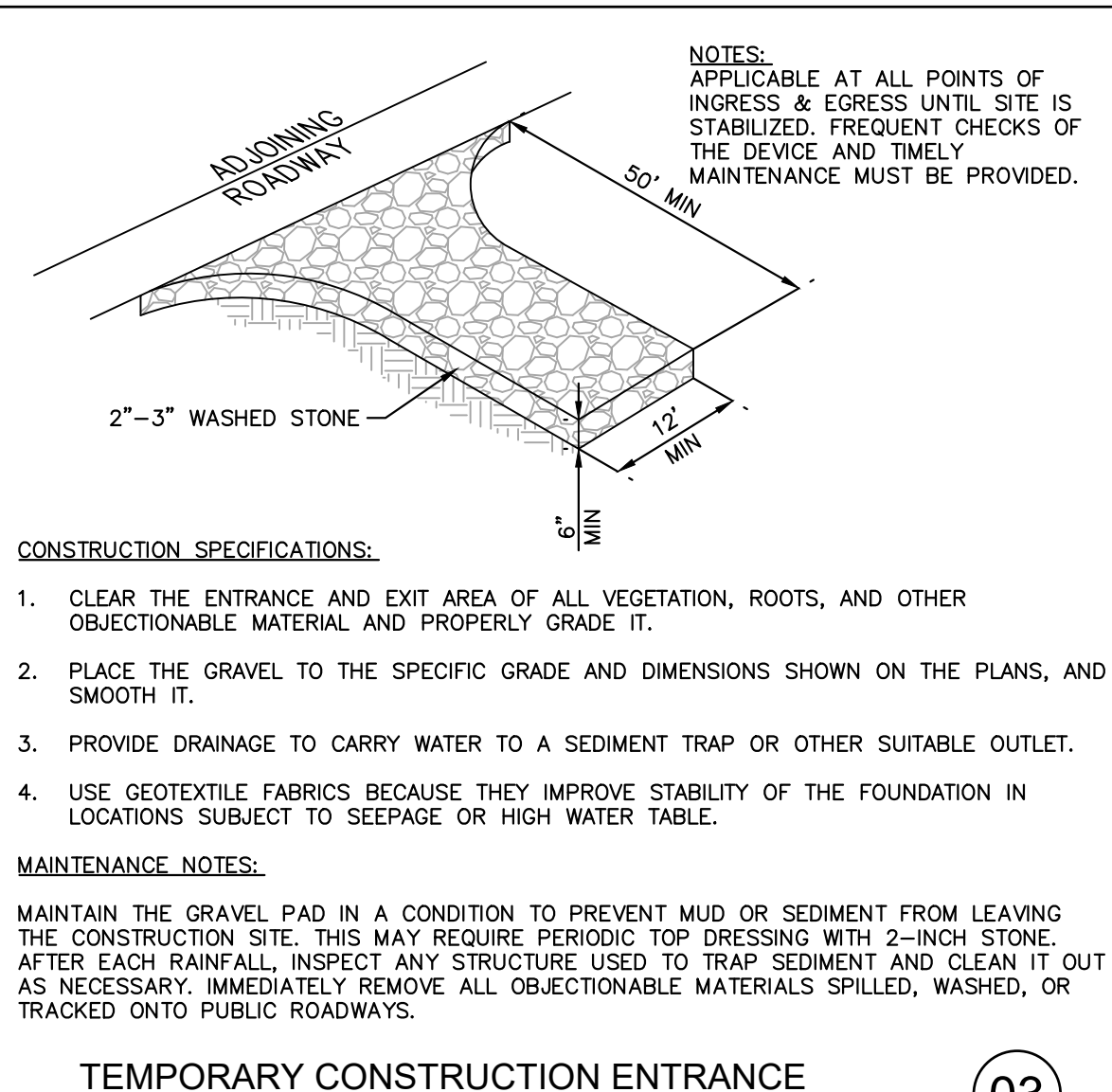
EFFECTIVE: 04/01/19



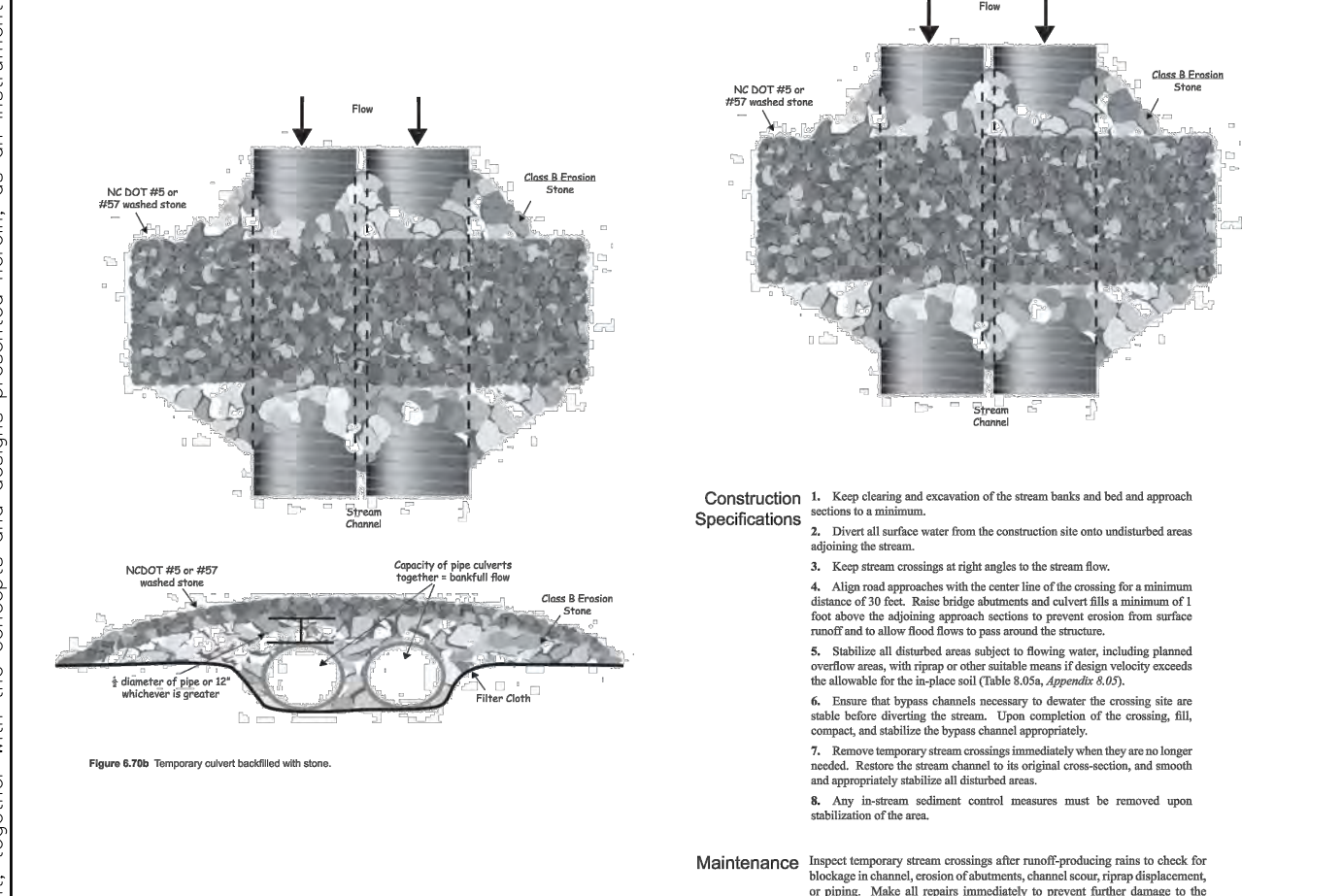
- NOTES**
- TREE PROTECTION FENCING MUST BE INSTALLED AT A MINIMUM RADIUS OF THE CRITICAL ROOT ZONE (CRZ) OF TREES. (CRZ DEFINED AS RADIUS x 1.25' (FT) PER INCH AT DBH FROM TRUNK OF TREE).
  - IF CONSTRUCTION OCCURS WITHIN THE CRZ AT LEAST 12" OF MULCH AND/OR LOGGING MATTS SHALL BE PLACED WHERE MACHINERY MANEUVERS TO REDUCE SOIL COMPACTION IN THIS ZONE.
  - THE TREE PROTECTION FENCING MUST NOT BE VIOLATED FOR THE ENTIRE DURATION OF THE PROJECT.
  - THERE WILL BE ZERO TOLERANCE FOR STORING OR PARKING VEHICLES, SUPPLIES, OR EQUIPMENT UNDER PROTECTED TREES.
  - IMPACT PROTECTION DEVICES MUST BE REMOVED AFTER CONSTRUCTION.
  - WARNING SIGNS TO BE MADE OF DURABLE, WEATHERPROOF MATERIAL. LETTERS TO BE 3" HIGH MINIMUM, CLEARLY LEGIBLE AND SPACED AS SHOWN.
  - SIGNS SHALL BE PLACED AT 50' MAXIMUM INTERVALS, PLACE A SIGN AT EACH END OF LINEAR TREE PROTECTION AND 50' ON CENTER THEREAFTER. FOR TREE PROTECTION AREAS LESS THAN 200' IN PERIMETER, PROVIDE NO LESS THAN ONE SIGN PER PROTECTION AREA.
  - ATTACH SIGNS SECURELY TO FENCE POSTS AND FABRIC. MAINTAIN TREE PROTECTION FENCE THROUGHOUT DURATION OF PROJECT.
  - SHOULD THE FABRIC OF A PROTECTION FENCE COLLAPSE, TEAR, DECOMPOSE OR BECOME INEFFECTIVE, CONTRACTOR SHALL REPLACE IT PROMPTLY.



- NOTES**
- GEOTEXTILE DEWATERING SILT BAG DIMENSIONS ARE VARIABLE AND DEPENDENT ON SPECIFIC SITE CONSTRAINTS AND PROPOSED CONSTRUCTION OPERATIONS.
  - THE CONTRACTOR SHALL BE RESPONSIBLE FOR SUBMITTING THE SIZE AND LOCATION OF THE GEOTEXTILE DEWATERING SILT BAG FOR APPROVAL BY NCDNR PRIOR TO CONSTRUCTION.
  - THE CONTRACTOR SHALL ENSURE THAT THE SILT BAG IS OF A SUFFICIENT SIZE AND STRENGTH TO PROPERLY DEWATER THE PUMP HOSE INFLUENT.
  - SILT BAG SHALL BE REPLACED WHEN FULL OF SEDIMENT OR WHEN FLOW THROUGH BAG IS LIMITED BY SEDIMENT ACCUMULATION.



- CONSTRUCTION SPECIFICATIONS:**
- CLEAR THE ENTRANCE AND EXIT AREA OF ALL VEGETATION, ROOTS, AND OTHER OBJECTIONABLE MATERIAL AND PROPERLY GRADE IT.
  - PLACE THE GRAVEL TO THE SPECIFIC GRADE AND DIMENSIONS SHOWN ON THE PLANS, AND SMOOTH IT.
  - PROVIDE DRAINAGE TO CARRY WATER TO A SEDIMENT TRAP OR OTHER SUITABLE OUTLET.
  - USE GEOTEXTILE FABRICS BECAUSE THEY IMPROVE STABILITY OF THE FOUNDATION IN LOCATIONS SUBJECT TO SEEPAGE OR HIGH WATER TABLE.
- MAINTENANCE NOTES:**  
MAINTAIN THE GRAVEL PAD IN A CONDITION TO PREVENT MUD OR SEDIMENT FROM LEAVING THE CONSTRUCTION SITE. THIS MAY REQUIRE PERIODIC TOP DRESSING WITH 2-INCH STONE. AFTER EACH RAINFALL, INSPECT ANY STRUCTURE USED TO TRAP SEDIMENT AND CLEAN IT OUT AS NECESSARY. IMMEDIATELY REMOVE ALL OBJECTIONABLE MATERIALS SPILLED, WASHED, OR TRACKED ONTO PUBLIC ROADWAYS.



- MAINTENANCE NOTES:**  
IN GENERAL, ALL EROSION AND SEDIMENT CONTROL MEASURES WILL BE CHECKED AND MAINTAINED DAILY AND AFTER EACH RAINFALL GREATER THAN 0.5 INCHES. ANY SEDIMENT THAT HAS BEEN TRANSPORTED BEYOND THE PROJECT LIMITS SHALL BE REMOVED. THE FOLLOWING ITEMS WILL BE CHECKED IN PARTICULAR:
- CONSTRUCTION ENTRANCE:**  
INSPECT CONSTRUCTION ROADS AND PARKING AREAS PERIODICALLY FOR CONDITION OF SURFACE. TOP DRESS WITH NEW GRAVEL AS NEEDED. CHECK ROAD DITCHES AND OTHER SEEDED AREAS FOR EROSION AND SEDIMENTATION AFTER RUNOFF-PRODUCING RAINS. MAINTAIN ALL VEGETATION IN A HEALTHY, VIGOROUS CONDITION. SEDIMENT PRODUCING AREAS SHOULD BE TREATED IMMEDIATELY.
- SILT FENCE:**  
INSPECT SEDIMENT FENCES AT LEAST ONCE A WEEK AND AFTER EACH RAINFALL. MAKE ANY REQUIRED REPAIRS IMMEDIATELY. SHOULD THE FABRIC OF A SEDIMENT FENCE COLLAPSE, TEAR, DECOMPOSE, OR BECOME INEFFECTIVE, REPLACE IT IMMEDIATELY. REMOVE SEDIMENT DEPOSITS AS NECESSARY TO PROVIDE ADEQUATE STORAGE VOLUME FOR THE NEXT RAIN AND TO REDUCE PRESSURE ON THE FENCE. TAKE CARE TO AVOID UNDERMINING THE FENCE DURING CLEANOUT. REMOVE ALL FENCING MATERIALS AND UNSTABLE SEDIMENT DEPOSITS AND BRING THE AREA TO GRADE AND STABILIZE IT AFTER THE CONTRIBUTING DRAINAGE AREA HAS BEEN PROPERLY STABILIZED.
- SILT FENCE GRAVEL OUTLET:**  
INSPECT SEDIMENT FENCE GRAVEL OUTLETS AT LEAST ONCE A WEEK AND AFTER EACH RAINFALL. MAKE ANY REQUIRED REPAIRS IMMEDIATELY. REMOVE SEDIMENT DEPOSITS AS NECESSARY TO PROVIDE ADEQUATE STORAGE VOLUME FOR THE NEXT RAIN. ANY RIP RAP DISPLACED MUST BE REPLACED IMMEDIATELY.

**SELF MONITORING AND INSPECTION NOTIFICATION**

THE SEDIMENTATION POLLUTION CONTROL ACT WAS AMENDED IN 2006 TO REQUIRE THAT PERSONS RESPONSIBLE FOR LAND-DISTURBING ACTIVITIES INSPECT A PROJECT AFTER EACH PHASE OF THE PROJECT TO MAKE SURE THAT THE FOLLOWING APPROVED EROSION AND SEDIMENTATION CONTROL PLAN IS BEING FOLLOWED. RULES DETAILING THE DOCUMENTATION OF THESE INSPECTIONS BECAME EFFECTIVE OCTOBER 1, 2010. TO SIMPLIFY DOCUMENTATION OF SELF-INSPECTION REPORTS AND NPDES SELF-MONITORING REPORTS, A COMBINED FORM IS NOW AVAILABLE. THE NEW FORM WAS DEVELOPED TO SATISFY THE REQUIREMENTS OF THE SEDIMENTATION POLLUTION CONTROL ACT AND THE NPDES STORMWATER PERMIT FOR CONSTRUCTION ACTIVITIES. NCG 010000. BEGINNING AUGUST 1, 2013, THE DIVISION OF ENERGY, MINERAL, AND LAND RESOURCES IS RESPONSIBLE FOR ADMINISTERING BOTH THE SPCA AND THE NPDES STORMWATER PERMIT FOR CONSTRUCTION ACTIVITIES. NCG 010000. THE COMBINED FORM SHOULD MAKE IT EASIER TO COMPLY WITH SELF-INSPECTION REQUIREMENTS. THE COMBINED SELF-MONITORING FORM IS AVAILABLE AS A PDF AND WORD DOCUMENT FROM THE LAND QUALITY WEB SITE.

[https://files.nc.gov/nceq/Energy%20Mineral%20and%20Land%20Resources/Stormwater/NCG010000\\_Final\\_Permit\\_2019\\_04\\_01.pdf](https://files.nc.gov/nceq/Energy%20Mineral%20and%20Land%20Resources/Stormwater/NCG010000_Final_Permit_2019_04_01.pdf)

IF YOU HAVE QUESTIONS, PLEASE CONTACT THE LAND QUALITY SECTION AT NCDQE REGIONAL OFFICE.

**Kimley-Horn & Associates, Inc.**  
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#1-0102

REVISIONS: 1. ISSUED FOR BID 02/28/2022 ASA BY

**WILWOOD PARK - OBSERVATION TOWER AND TRAILS PREPARED FOR CITY OF GREENVILLE**

KHA PROJECT 012654010 DATE 02/28/2022 SCALE AS SHOWN DESIGNED BY MRC DRAWN BY ASA CHECKED BY JDK

**EROSION CONTROL DETAILS**

02/28/2022

GREENVILLE

SHEET NUMBER C4.2

ALL EXISTING TOPOGRAPHICAL AND BOUNDARY INFORMATION WAS PROVIDED BY RIVERS & ASSOCIATES, INC. DATED 05/17/21 LOCATED AT 107 EAST SECOND STREET GREENVILLE, NC 27688 PHONE: 252-752-4135.



Know what's below. Call before you dig.

GENERAL NOTES

SPECIFICATION

- 1. CURRENT EDITIONS OF THE AASHTO LRFD GUIDE SPECIFICATIONS FOR PEDESTRIAN BRIDGES, NORTH CAROLINA DEPARTMENT OF TRANSPORTATION BICYCLE FACILITIES PLANNING AND DESIGN GUIDELINES, NORTH CAROLINA DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN MANUAL, NORTH CAROLINA DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR ROADS AND STRUCTURES, AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, AND THE INCORPORATED PROJECT SPECIAL PROVISIONS.
2. FOR CRANE SAFETY, SEE SPECIAL PROVISIONS.
3. FOR PREFABRICATED PEDESTRIAN BRIDGE, SEE SPECIAL PROVISIONS.
4. FOR TIMBER BOARDWALK, SEE SPECIAL PROVISIONS.
5. FOR STRUCTURAL STANDARD NOTES REFER TO SHEET S.27.

MATERIAL AND WORKMANSHIP

- 1. PROVIDE ALL MATERIAL AND WORKMANSHIP IN ACCORDANCE WITH THE NORTH CAROLINA DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR ROADS AND STRUCTURES, 2018 EDITION, UNLESS OTHERWISE SPECIFIED ON THE PLANS OR IN THE SPECIAL PROVISIONS.

DESIGN DATA

- 1. UNIFORM PEDESTRIAN LIVE LOAD.....90 PSF
2. VEHICULAR LIVE LOAD.....AASHTO H-5
3. WIND LOAD.....PER AASHTO
4. WATER LOAD.....PER AASHTO
STREAM VELOCITIES:
A. "THE BEACH" STRUCTURES: 4.00 FEET/SEC
B. "THE SWAMP" STRUCTURES: 2.99 FEET/SEC
5. SEISMIC LOAD.....PER AASHTO
6. TEMPERATURE LOAD.....PER AASHTO

WATER ELEVATIONS

- 1. THE WATER ELEVATIONS SHOWN IN THE PLANS ARE FOR INFORMATION ONLY AND THE ACTUAL WATER ELEVATION DURING CONSTRUCTION MAY VARY DEPENDING ON WEATHER CONDITIONS AND SEASONAL FLUCTUATIONS.
2. THE GROUND WATER ELEVATIONS, AS DETERMINED DURING GEOTECHNICAL BORINGS, ARE AS FOLLOWS:
A. "THE BEACH" TIMBER BOADWALK
I. BW-01: 5.5 FEET
II. BW-02: 5.3 FEET
III. BW-03: 5.8 FEET
IV. BW-04: 11.3 FEET
B. "THE BEACH" PREFABRICATED PEDESTRIAN BRIDGE
I. EB-01: 5.9 FEET
C. "THE SWAMP" TIMBER BOADWALK AND OBSERVATION DECK
I. BCS-04: N/A
II. BCS-06: 2.4 FEET
D. "THE SWAMP" PREFABRICATED PEDESTRIAN BRIDGE
I. WB-01: 4.6 FEET
3. ADDITIONAL PAYMENT FOR DEWATERING WILL NOT BE ALLOWED. CONTRACTOR SHALL INCLUDE COST IN INCIDENTAL ITEMS.

CAST-IN-PLACE CONCRETE

- 1. SUBSTRUCTURE CONCRETE: TO BE CLASS "A" (CAST-IN-PLACE) F'c = 3000 PSI EXCEPT AS NOTED OTHERWISE.
2. BRIDGE DECKS: CLASS "AA" (CAST-IN-PLACE) F'c = 4000 PSI FOR BRIDGE DECKS SHALL BE IN ACCORDANCE WITH SECTION 1000 OF THE STANDARD SPECIFICATIONS.
3. CONCRETE WORK SHALL FOLLOW THE PROVISIONS OF SECTION 1000 OF THE STANDARD SPECIFICATIONS.
4. REINFORCING STEEL: SHALL BE ASTM A615 GRADE 60 UNLESS NOTED OTHERWISE. SEE SECTION 1070 OF THE STANDARD SPECIFICATIONS.
5. CHAMFER ALL EXPOSED EDGES 3/4" UNLESS OTHERWISE NOTED.

STRUCTURAL TIMBER AND LUMBER

- 1. STRUCTURAL FRAMING, DECKING, NAILERS, AND PEDESTRIAN RAIL COMPONENTS SHALL BE PRESSURE TREATED SOUTHERN PINE SURFACE DRY (S4S) WITH A MOISTURE CONTENT OF 19% OR LESS, MEETING THE REQUIREMENTS OF SECTION 1082 OF THE STANDARD SPECIFICATIONS, UNLESS NOTED OTHERWISE.
2. ALL TIMBER PILES SHALL BE SOUTHERN PINE CONFORMING TO ASTM D25. WHERE PILES ARE CUT OFF AT TOP OF PILE CAP, MINIMUM BUTT DIAMETER SHALL BE 8".
3. TIMBER AND LUMBER SHALL BE TREATED WITH WATERBORNE PRESERVATIVES (CCA OR ACO) IN ACCORDANCE WITH AWPA STANDARD U1, COMMODITY SPECIFICATION A, TO THE REQUIREMENTS OF THE FOLLOWING USE CATEGORIES:
A. PILES: UC4C
B. BACKWALLS, WINGWALLS, CAP BEAMS AND STRINGERS: UC4B
D. DECKING, PEDESTRIAN RAILING COMPONENTS, ALL OTHER LUMBER: UC3B
4. EACH DECKING MEMBER SHALL BE INSTALLED BARK SIDE UP TO PREVENT CUPPING.
5. MAXIMUM SPACING BETWEEN DECKING MEMBERS SHALL BE 1/4".
7. ALL SAW CUTS, BOLT HOLES, AND OTHER HOLES SHALL BE TREATED WITH APPROPRIATE PRESERVATION SOLUTION PRIOR TO INSTALLING BOLTS.
8. UNLESS NOTED OTHERWISE, MECHANICAL WOOD CONNECTIONS SHALL BE INSTALLED PER MANUFACTURER RECOMMENDATIONS, WITH ALL FASTENER HOLES FULLY POPULATED.
9. ALL CONNECTORS SHALL BE INSTALLED PER THE MANUFACTURER'S RECOMMENDATIONS.
10. ALL FASTENERS, CONNECTORS AND BOLTS SHALL BE HOT-DIP GALVANIZED AND CONFORM TO ASTM F3125 GRADE A325, WITH NUTS CONFORMING TO ASTM A563 AND WASHERS CONFORMING TO ASTM F436, UNLESS NOTED OTHERWISE.
11. ALL BOLTED CONNECTIONS SHALL INCLUDE OVERSIZED OGEE WASHERS INSTALLED BETWEEN THE WOOD AND THE BOLT HEAD AND BETWEEN THE WOOD AND THE NUT.
12. ATTACH BLOCKING TO JOIST USING TWO (2) #12 x 5" HOT-DIP GALVANIZED WOOD SCREWS, CONFORMING TO ASTM A153, AT EACH SIDE OF BLOCKING. PREDRILL AS REQUIRED TO AVOID SPLITTING.
13. ATTACH FLOOR DECKING TO EACH JOIST USING TWO (2) #12 X 5" HOT-DIP GALVANIZED WOOD SCREWS, CONFORMING TO ASTM A153, AT EACH JOIST. PREDRILL AS REQUIRED TO AVOID SPLITTING.
14. ATTACH SIDE RAIL TO POST USING TWO (2), AND TOP RAIL TO POST USING FOUR (4), #8 x 3-1/2" HOT-DIP GALVANIZED WOOD SCREWS, CONFORMING TO ASTM A153, AT EACH POST. PREDRILL AS REQUIRED TO AVOID SPLITTING.
15. ALL LONGITUDINAL RAILING MEMBERS SHALL SPAN A MINIMUM OF TWO RAIL POST SPACINGS.

PREFABRICATED STEEL PEDESTRIAN BRIDGE SUPERSTRUCTURE

- 1. PREFABRICATED STEEL PEDESTRIAN BRIDGE SUPERSTRUCTURE, ANCHOR BOLTS, AND BEARING PADS SHALL BE DESIGNED BY THE CONTRACTOR'S ENGINEER BASED UPON THE SPECIFIED DESIGN CRITERIA. THE PREFABRICATED STEEL PEDESTRIAN BRIDGE SUPERSTRUCTURE PLANS AND CALCULATIONS SHALL BE SIGNED AND SEALED BY A PROFESSIONAL ENGINEER LICENSED IN THE STATE OF NORTH CAROLINA. PLANS AND CALCULATIONS SHALL BE SUBMITTED TO THE PROJECT ENGINEER FOR REVIEW AND APPROVAL. THE PREFABRICATED STEEL PEDESTRIAN BRIDGE SUPERSTRUCTURE CALCULATIONS SHALL INCLUDE A SUMMARY OF REACTIONS FOR ABUTMENTS. THE PREFABRICATED STEEL PEDESTRIAN BRIDGE SUPERSTRUCTURE FABRICATION SHALL NOT BEGIN UNTIL ALL APPROVALS HAVE BEEN RECEIVED.
2. PREFABRICATED STEEL PEDESTRIAN BRIDGE SHALL BE A STEEL PRATT TRUSS.
3. THE BRIDGE CLEAR PATH WIDTH SHALL BE 10'-0" AND SHALL BE MEASURED BETWEEN THE INSIDE FACES OF SAFETY AND RUB RAILING ELEMENTS.
4. SAFETY RAILING SYSTEM SHALL BE A MINIMUM OF 4'-6" ABOVE THE TOP OF BRIDGE DECK.
5. ALL STRUCTURAL STEEL FOR PREFABRICATED STEEL PEDESTRIAN BRIDGE SHALL BE WEATHERING STEEL AND SHALL CONFORM TO NCDOT STANDARD SPECIFICATIONS AND PREFABRICATED STEEL PEDESTRIAN BRIDGE SPECIAL PROVISION.
A. ALL STRUCTURAL STEEL TUBE SHAPES SHALL CONFORM TO ASTM A847.
B. ALL STRUCTURAL STEEL CHANNEL AND ANGLES SHALL CONFORM TO ASTM A588.
C. ALL OTHER STEEL PLATES, SHAPES AND BARS SHALL CONFORM TO ASTM A588.
D. ALL ANCHORS BOLTS ARE GALVANIZED AND SHALL CONFORM TO ASTM A499. ALL HIGH STRENGTH BOLTS SHALL BE WEATHERING STEEL AND CONFORM TO ASTM F3125 GRADE A325. WASHERS & NUTS SHALL MATCH FINISH OF BOLT.
6. ALL STRUCTURAL STEEL WELDS SHALL CONFORM TO THE LATEST PROVISIONS OF THE STRUCTURAL WELDING CODE, AWS D1.5. ALL WELDERS SHALL BE QUALIFIED IN ACCORDANCE WITH THE ABOVE AWS CODE.
7. SPLICES, IF REQUIRED FOR THE PREFABRICATED STEEL PEDESTRIAN BRIDGE SUPERSTRUCTURE, SHALL BE CLEARLY NOTED ON THE SHOP DRAWINGS AND NECESSARY CALCULATIONS PROVIDED.
8. WEEP HOLES SHALL BE PROVIDED FOR DRAINAGE OF BRIDGE TUBULAR MEMBERS, AND SHALL BE CLEARLY NOTED ON THE SHOP DRAWINGS.
9. THE BRIDGE DECK SHALL BE CAST-IN-PLACE CONCRETE.

PEDESTRIAN BRIDGE SUBSTRUCTURE

- 1. THE SUBSTRUCTURE DESIGN WAS BASED UPON THE INFORMATION AVAILABLE FROM THE PREFABRICATED PEDESTRIAN BRIDGE MANUFACTURERS. THE DESIGN OF THE BRIDGE CANNOT PROVIDE REACTIONS WHICH EXCEED THOSE SHOWN BELOW WITHOUT APPROVAL FROM THE ENGINEER. ALL REACTIONS ARE ALLOWABLE LOADS FROM THE PREFABRICATED TRUSS. VERTICAL REACTIONS SHOWN ARE PER BASE PLATE (4 PER BRIDGE). LATERAL AND LONGITUDINAL REACTIONS SHOWN ARE PER BENT (2 PER BRIDGE).
60' BRIDGE:
A. VERTICAL LOADS:
DEAD LOAD.....11,000 LBS
UNIFORM LIVE LOAD.....13,000 LBS
VEHICLE LOAD.....5,000 LBS
WIND UPLIFT.....5.025 LBS
BUOYANCY.....12,640 LBS
B. LATERAL LOADS:
WIND.....3,400 LBS
STREAM FLOW ("BEACH" STRUCTURE).....7,910 LBS
STREAM FLOW ("SWAMP" STRUCTURE).....4,260 LBS
C. LONGITUDINAL LOADS:
TEMPERATURE.....3,200 LBS
2. CONSTRUCTION OF THE PEDESTRIAN BRIDGE END BENTS AND BENTS SHALL NOT BEGIN UNTIL ALL APPROVALS FOR PREFABRICATED PEDESTRIAN BRIDGE SUPERSTRUCTURE HAVE BEEN RECEIVED.
3. PEDESTRIAN BRIDGE END BENT AND BENT DETAILS SHALL BE COORDINATED WITH THE PREFABRICATED PEDESTRIAN BRIDGE PLANS, TO BE PROVIDED BY THE PREFABRICATED PEDESTRIAN BRIDGE MANUFACTURER, NOTIFY ENGINEER IMMEDIATELY IF CONFLICTS ARE IDENTIFIED. CONSTRUCTION OF THE END BENTS AND BENTS SHALL NOT BEGIN UNTIL SUPERSTRUCTURE SHOP DRAWINGS ARE APPROVED AND ALL CONFLICTS RESOLVED.
4. REINFORCEMENT IN CAP MAY BE SHIFTED TO CLEAR ANCHOR BOLTS.
5. THE TOP SURFACE OF END BENTS AND BENTS CAPS, EXCEPT AT BRIDGE SEATS, SHALL BE SLOPED TRANSVERSELY AT A MINIMUM RATE OF 2%.
6. END BENTS BACKWALL SHALL BE PLACED AFTER BRIDGE HAS BEEN ERECTED. TOP OF BACKWALL SHALL FOLLOW BRIDGE DECK GRADE.
7. THE END BENTS AND BENTS SHALL BE CURED IN ACCORDANCE WITH NCDOT STANDARD SPECIFICATIONS.

APPROACH RAILINGS

- 1. APPROACH RAILINGS SHALL BE PROVIDED AT EACH CORNER OF THE BRIDGE AS SHOWN ON THE PLANS, AND PER PREFABRICATED STEEL PEDESTRIAN BRIDGE SPECIAL PROVISION.

CONSTRUCTION

- 1. SPECIAL NOTE TO CONTRACTOR: CONTRACTOR SHALL USE EXTREME CARE AND TAKE ANY MEASURES NECESSARY TO ENSURE THAT NO DEBRIS IS DROPPED INTO THE WATERWAY. ANY DEBRIS WHICH IS ALLOWED TO DROP ON THE BANKS BELOW THE BRIDGE SHALL NOT BE ALLOWED TO ENTER THE STREAM AND SHALL BE REMOVED AND DISPOSED OF BY THE CONTRACTOR. COST OF REMOVAL AND DISPOSAL OF DEBRIS SHALL BE INCLUDED IN THE UNIT PRICE BID FOR OTHER ITEMS.

SURVEY NOTE: ALL EXISTING TOPOGRAPHICAL AND BOUNDARY INFORMATION WAS PROVIDED BY RIVERS & ASSOCIATES, INC. 107 EAST SECOND STREET GREENVILLE, NC 27858 PHONE: 252-752-4135 DATED 05/17/21.

Plotted By: Mosee, Mitch - Sheet Set: WILDWOOD PARK - OBSERVATION TOWER AND TRAILS - Layout: S.01 - April 22, 2022 - 02:01:42pm - \\kimley-horn.com\SE - RALI\RALI-LEVA\012654010 - Wildwood\_Park - Walkways - Tower\_Visiting\_Phase\_V10\_CAD\_Files\PlanSheets\SO1 - BRIDGE\_GENERAL\_NOTES.dwg

Table with columns for REVISIONS, NO., and DATE. Includes a row for ISSUED FOR BID on 02/28/2022.

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Table with columns for KHA PROJECT, DATE, SCALE, DESIGNED BY, DRAWN BY, CHECKED BY. Values include 012654010, 02/28/2022, AS SHOWN, BMK, JJK, MDW.

BRIDGE GENERAL NOTES

WILDWOOD PARK - OBSERVATION TOWER AND TRAILS PREPARED FOR CITY OF GREENVILLE GREENVILLE NC

This document, together with the concepts and designs presented herein, as an instrument of service, is intended only for the specific purpose and client for which it was prepared. Reuse of and improper reliance on this document without written authorization and adoption by Kimley-Horn and Associates, Inc. shall be without liability to Kimley-Horn and Associates, Inc.



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**CABLE STRANDS FOR PEDESTRIAN RAILS AT OBSERVATION DECK**

- CABLE STRANDS SHALL BE 1/8" DIAMETER 1x19 TYPE 316 STAINLESS STEEL.
- END ANCHORAGES SHALL BE AS SHOWN ON THE PLANS AND SHALL BE ANCHORED ON BACK SIDE OF POST.
- CABLES SHALL BE TENSIONED USING TURNBUCKLE ASSEMBLY. TENSION CABLES TO A MAXIMUM LOAD OF 50 POUNDS. INITIAL TENSION SHALL PREVENT SAGGING UNDER SELF WEIGHT OF CABLE.
- BARRIER CABLES THAT PASS THROUGH A HOLE IN THEIR ANCHORAGE SHALL HAVE THE HOLE SEALED TO PREVENT WATER FROM FOLLOWING THE PATH OF THE BARRIER CABLE TO THE ANCHORAGE.
- INSTALL TOP RAIL, RUB RAIL, AND SIDE RAIL PRIOR TO INSTALLATION OF CABLES.
- TOP RAIL, RUB RAIL AND SIDE RAIL SHALL SPAN A MINIMUM OF TWO RAIL POSTS SPACINGS.
- CONTACT ENGINEER IF RAIL POST EXPERIENCES EXCESSIVE DEFLECTION DURING CABLE INSTALLATION.

**FOUNDATIONS**

- FOR PILES, SEE SECTION 450 OF THE STANDARD SPECIFICATIONS.
- PILES FOR FOUNDATION TYPES NO. 1, 2, 4 AND 6 ARE DESIGNED FOR A FACTORED RESISTANCE OF 5 TONS PER PILE.
- DRIVE PILES FOR FOUNDATION TYPES NO. 1, 2, 4 AND 6 TO A REQUIRED DRIVING RESISTANCE OF 8.5 TONS PER PILE.
- PILES FOR FOUNDATION TYPES NO. 3 AND 5 ARE DESIGNED FOR A FACTORED RESISTANCE OF 6.5 TONS PER PILE.
- DRIVE PILES FOR FOUNDATION TYPES NO. 3 AND 5 TO A REQUIRED DRIVING RESISTANCE OF 11 TONS PER PILE.
- PILES FOR FOUNDATION TYPE NO. 7 ARE DESIGNED FOR A FACTORED RESISTANCE OF 30 TONS PER PILE.
- DRIVE PILES FOR FOUNDATION TYPE NO. 7 TO A REQUIRED DRIVING RESISTANCE OF 50 TONS PER PILE.
- STEEL PILE POINTS ARE REQUIRED FOR TIMBER PILES FOR FOUNDATION TYPES 2 THROUGH 6.
- STEEL H-PILE POINTS ARE REQUIRED FOR FOUNDATION TYPE. NO. 7 FOR STEEL PILE POINTS, SEE SECTION 450 OF THE STANDARD SPECIFICATIONS.
- INSTALL PILES FOR FOUNDATION TYPES NO. 2, 4, AND 6 TO A TIP ELEVATION NO HIGHER THAN 10 FEET BELOW EXISTING GROUND SURFACE.
- INSTALL PILES FOR FOUNDATION TYPES NO. 3 AND 5 TO A TIP ELEVATION NO HIGHER THAN 12 FEET BELOW EXISTING GROUND SURFACE.
- INSTALL PILES FOR FOUNDATION TYPE NO. 7 TO A TIP ELEVATION NO HIGHER THAN 14 FEET BELOW EXISTING GROUND SURFACE.
- IF NECESSARY, PREDRILL PILE LOCATIONS FOR FOUNDATION TYPES 2 THROUGH 7 TO AN ELEVATION NO LOWER THAN THE "TIP NO HIGHER THAN" ELEVATIONS IN NOTES 9 THROUGH 11 WITH EQUIPMENT THAT WILL RESULT IN A MAXIMUM PREDRILLING DIAMETER OF 8 INCHES. FOR PREDRILLING FOR PILES, SEE SECTION 450 OF THE STANDARD SPECIFICATIONS.

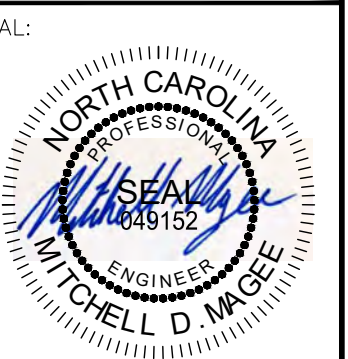
TOTAL BILL OF MATERIALS				
	TIMBER BOARDWALK <sub>1</sub>	PREFABRICATED STEEL PEDESTRIAN BRIDGE <sub>2</sub>	RIP RAP CLASS II (2'-0" THICK)	GEOTEXTILE FOR DRAINAGE
	LUMP SUM	LUMP SUM	TONS	S.Y.
STRUCTURE #1 (-L2- STA. 10+00.00 - STA. 12+51.00)	LUMP SUM		20	15
STRUCTURE #1 (-L2- STA. 12+51.00 - STA. 13+09.00)		LUMP SUM		
STRUCTURE #1 (-L2- STA. 13+09.00 - STA. 15+23.91)	LUMP SUM			
STRUCTURE #1 (-L2- STA. 15+23.91 - STA. 15+63.91)	LUMP SUM			
STRUCTURE #1 (-L2- STA. 15+63.91 - STA. 16+48.75)	LUMP SUM		20	15
STRUCTURE #1 (STAIRS @ -Y3-)	LUMP SUM			
STRUCTURE #2 (-L4- STA. 10+45.56 - STA. 11+55.56)	LUMP SUM		25	15
STRUCTURE #2 (-L4- STA. 11+55.56 - STA. 15+74.18)	LUMP SUM			
STRUCTURE #2 (-L4- STA. 15+74.18 - STA. 16+84.18)	LUMP SUM		20	15
STRUCTURE #2 (OBSERVATION DECK @ -Y4-)	LUMP SUM			
STRUCTURE #3		LUMP SUM	55	35

- LUMP SUM PAY ITEMS FOR TIMBER BOARDWALK SHALL INCLUDE LABOR, MATERIALS, EQUIPMENT, DELIVERY AND OTHER INCIDENTALS AS NECESSARY FOR THE TIMBER BOARDWALK, APPROACH RAILING, PEDESTRIAN RAILINGS, PILE PREDRILLING, STEEL PILE POINTS, PILE DRIVE SETUP, PILE TESTING (WHERE REQUIRED) DEWATERING, ETC.
- LUMP SUM PAYMENT FOR PREFABRICATED STEEL PEDESTRIAN BRIDGE SHALL INCLUDE ALL ENGINEERING, LABOR, MATERIALS, EQUIPMENT, DELIVERY, AND OTHER INCIDENTALS NECESSARY FOR THE PREFABRICATED STEEL PRATT TRUSS PEDESTRIAN BRIDGE, CAST-IN-PLACE CONCRETE SUBSTRUCTURE, PILES, BEARING PADS, ANCHOR BOLTS, APPROACH RAILINGS, PILE PREDRILLING, STEEL PILE POINTS, PILE DRIVE SETUP, PILE TESTING (WHERE REQUIRED), DEWATERING, EPOXY PROTECTIVE COATING, ETC.

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KHA PROJECT	012654010
DATE	02/28/2022
SCALE	AS SHOWN
DESIGNED BY	BMK
DRAWN BY	JK
CHECKED BY	MDW

**BRIDGE GENERAL NOTES**

WILDWOOD PARK - OBSERVATION TOWER AND TRAILS  
PREPARED FOR  
CITY OF GREENVILLE  
GREENVILLE NC

SHEET NUMBER  
**S.02**

Plotted By: Masee, Mitch Sheet Set: WILDWOOD PARK - OBSERVATION TOWER AND TRAILS Layout: S.02 February 25, 2022 04:49:59pm K:\REAL\DEVA\12654010\_Mildwood\_Park\_Trails\Work\Drawings\Tower\Planning\_Phase\110\_CAD\_Files\Plan\Sheet\1102\_Bridge\_GENERAL\_NOTES.dwg



Know what's below.  
Call before you dig.

S.07  
S.08  
S.09  
S.10

STRUCTURE #2  
"THE SWAMP"

S.11  
STRUCTURE #3  
"THE SWAMP"

APPROXIMATE EXISTING TRAIL ALIGNMENT

FLOODWAY

EXISTING LAKE

EXISTING LAKE

APPROXIMATE EXISTING TRAIL ALIGNMENT

FLOODWAY

US-264

SOUTH TAR RIVER GREENWAY

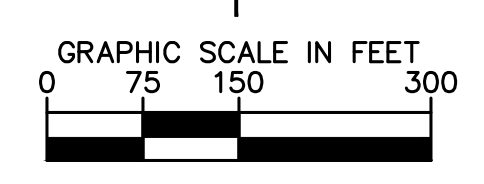
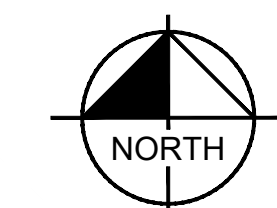
TAR RIVER

STRUCTURE #1  
"THE BEACH"

S.04

S.05

S.06



Plotted By: Masee, Mitch Sheet Set: WILDWOOD PARK - OBSERVATION TOWER AND TRAILS Layout: S03 February 25, 2022 04:50:43pm K:\RAL\_DEV\012654010\_Wildwood\_Park-Walkways-Tower\Planning\_Phase\P10\_CAD\_Files\PlanSheets\S03\_STRUCTURE\_LOCATIONS.dwg

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DESIGNED BY: BMK  
DRAWN BY: JJK  
CHECKED BY: MDW

# STRUCTURE LOCATIONS

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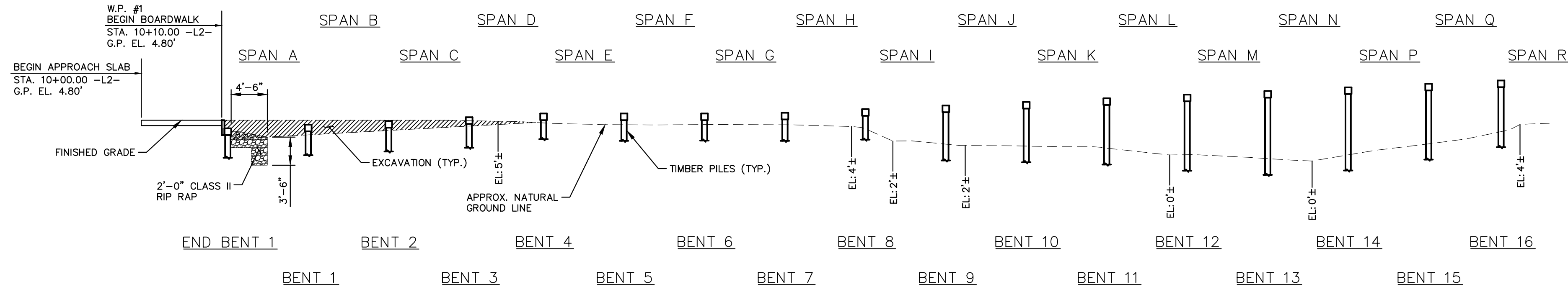


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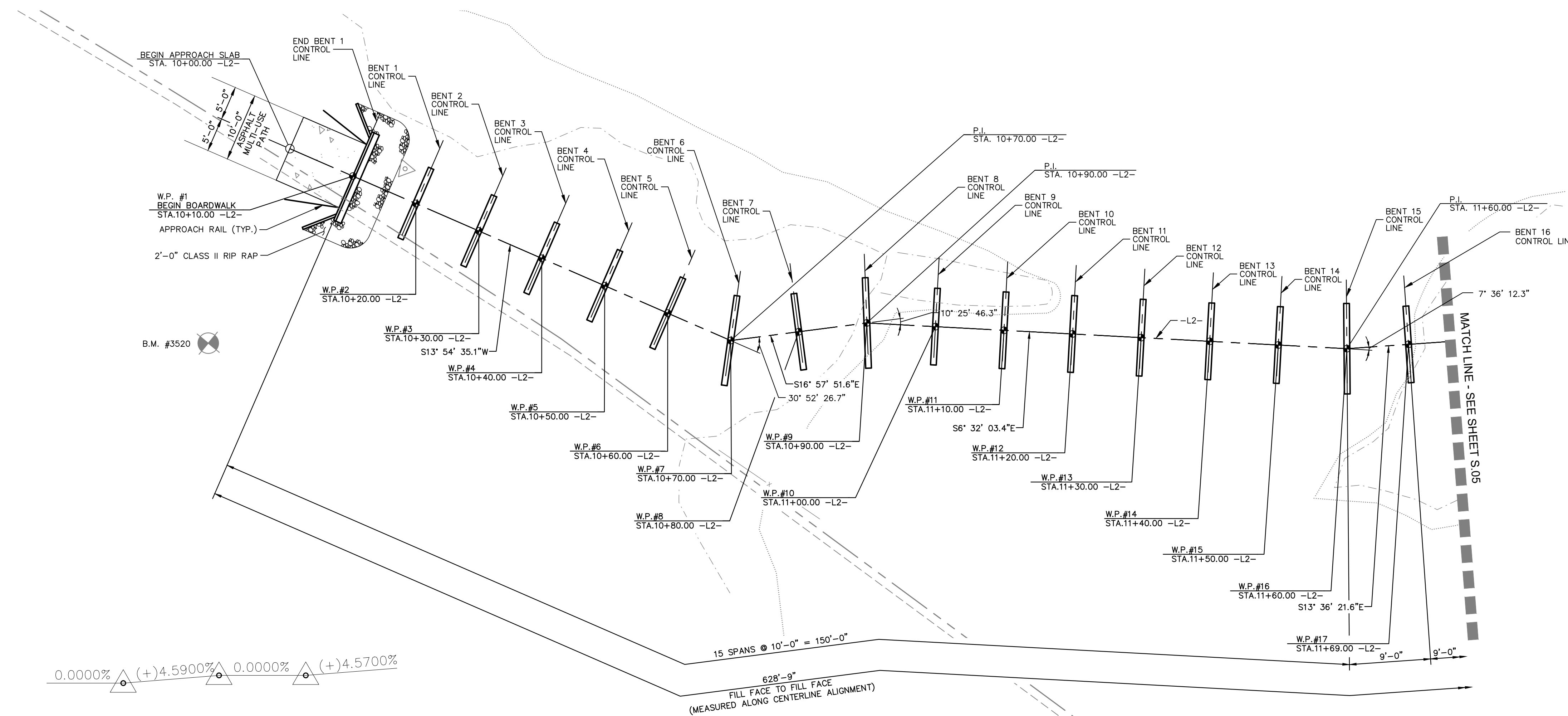
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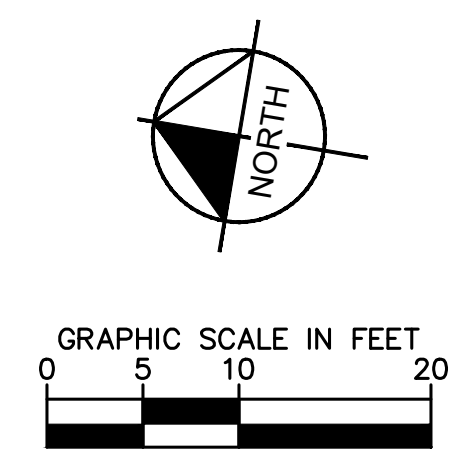
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(SECTIONS @ BENTS AND END BENTS ARE @ RIGHT ANGLES)  
(LONGITUDINAL BRACING NOT SHOWN FOR CLARITY)



-L2- VERTICAL CURVE DATA

PVI STA. = 10+10.00 -L2- EL. = 4.80' V.C. = 0'	PVI STA. = 10+50.00 -L2- EL. = 6.64' V.C. = 0'	PVI STA. = 10+80.00 -L2- EL. = 6.64' V.C. = 0'
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PLAN  
(PILES NOT SHOWN IN PLAN VIEW)

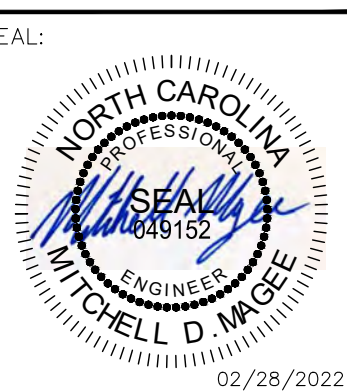


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SCALE	AS SHOWN
DESIGNED BY	BMA
DRAWN BY	JK
CHECKED BY	MDW

PLAN AND PROFILE -  
THE BEACH (AREA 2)  
(STRUCTURE #1)

WILDWOOD PARK - OBSERVATION  
TOWER AND TRAILS  
PREPARED FOR  
CITY OF GREENVILLE  
GREENVILLE, NC  
SHEET NUMBER  
**S.04**



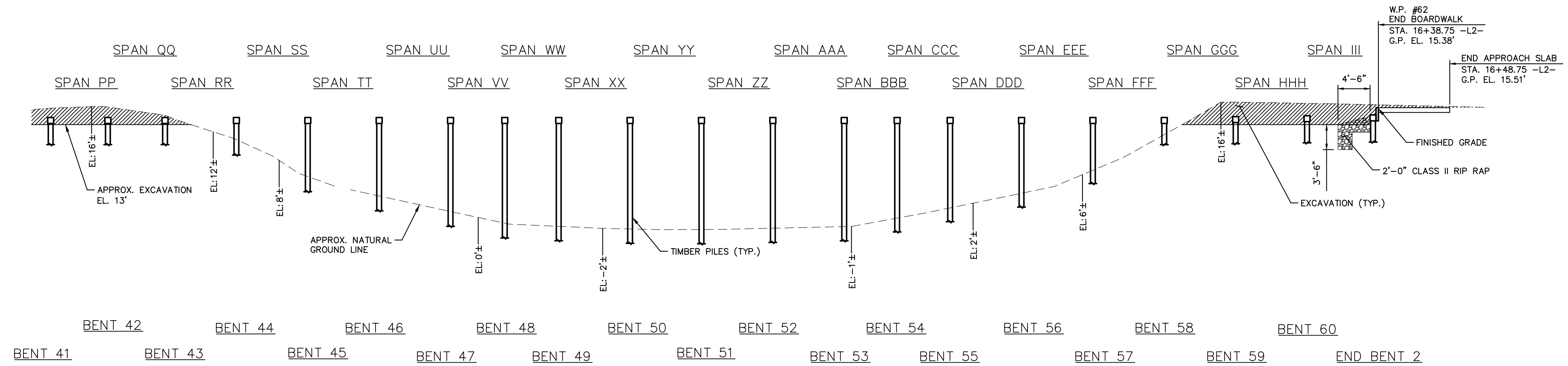


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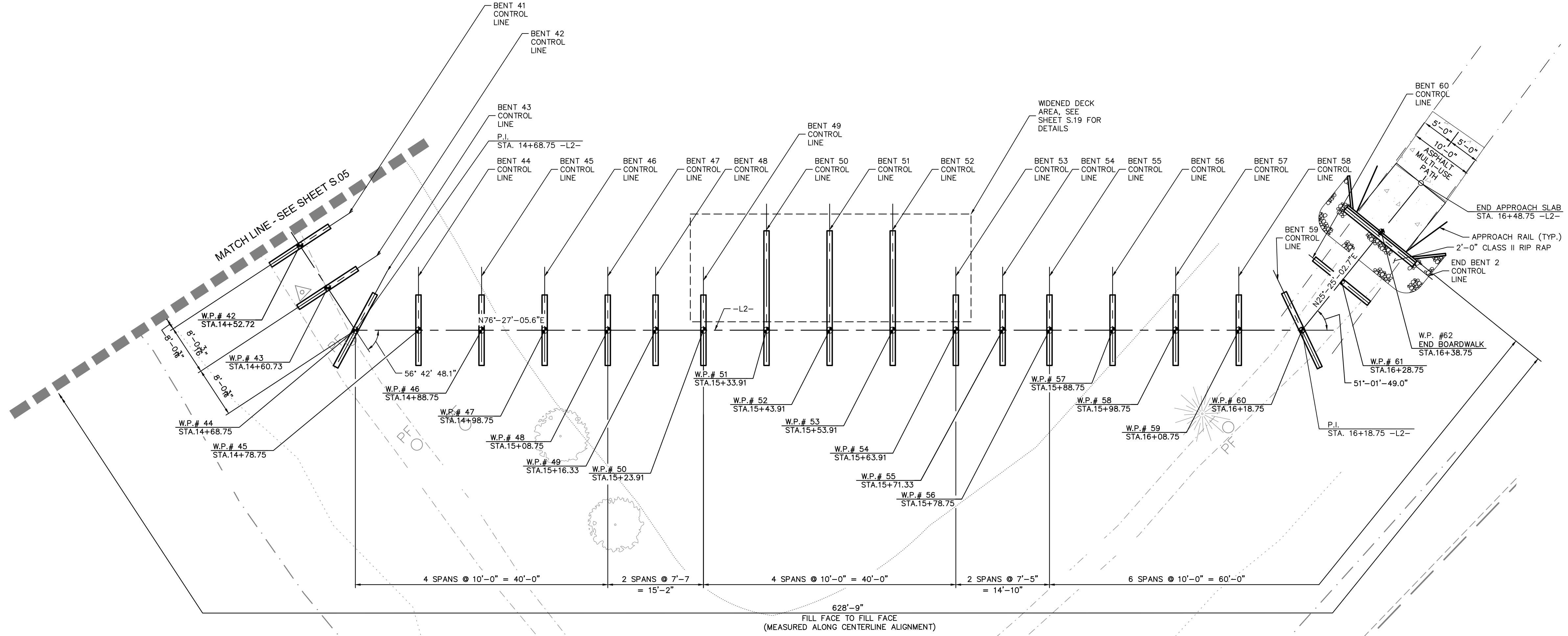
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16+00

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(LONGITUDINAL BRACING NOT SHOWN FOR CLARITY)

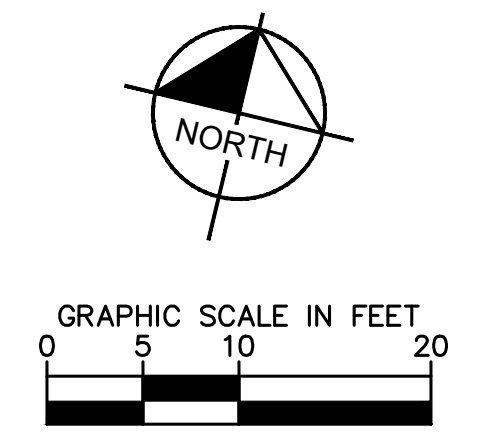


PLAN  
(PILES NOT SHOWN IN PLAN VIEW)

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**-L2- VERTICAL CURVE DATA**

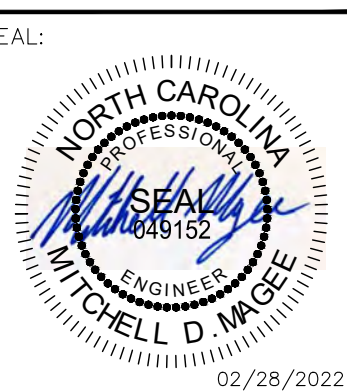
PVI STA. = 16+08.75 -L2-  
EL. = 15.00'  
V.C. = 0'



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**PLAN AND PROFILE -  
THE BEACH (AREA 2)  
(STRUCTURE #1)**

WILDWOOD PARK - OBSERVATION TOWER AND TRAILS  
PREPARED FOR  
CITY OF GREENVILLE  
GREENVILLE, NC

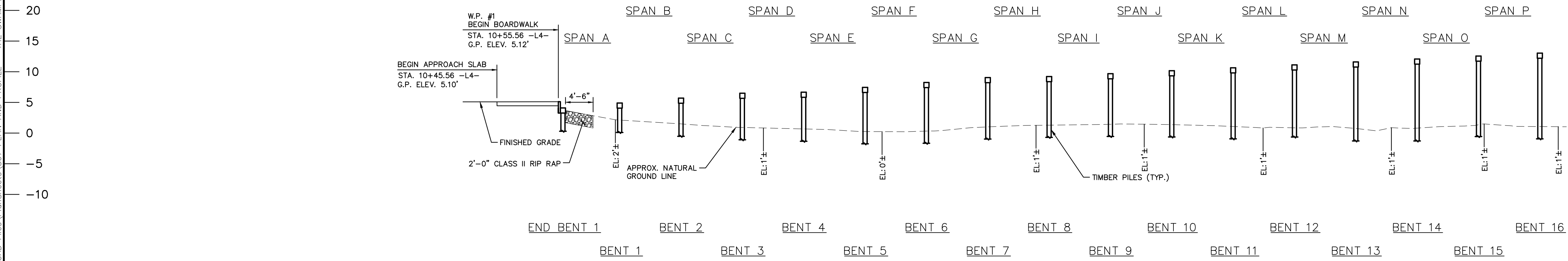
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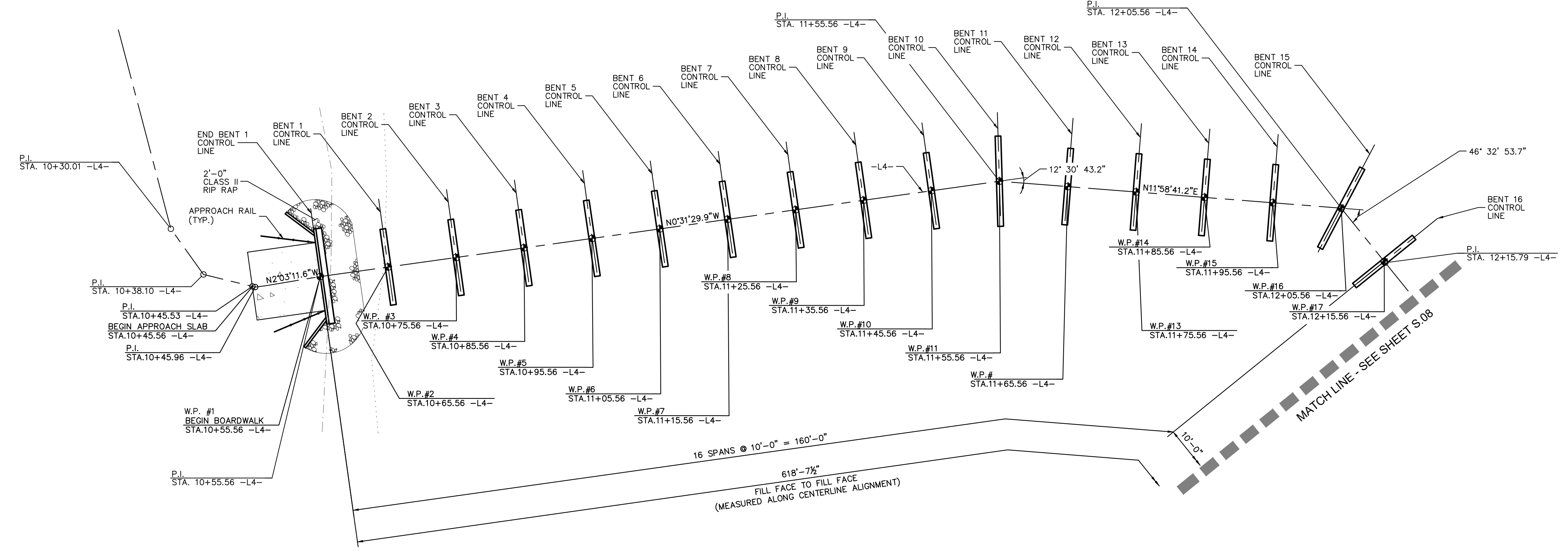


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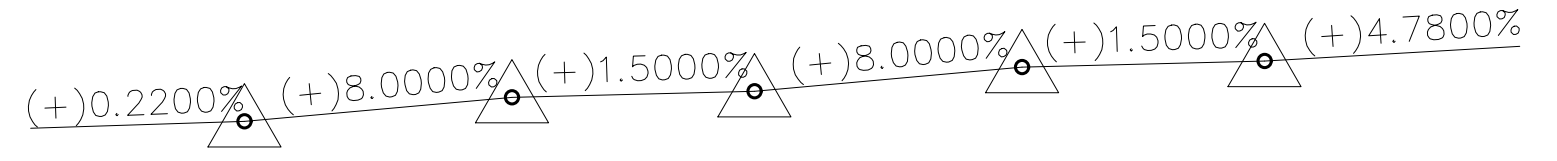
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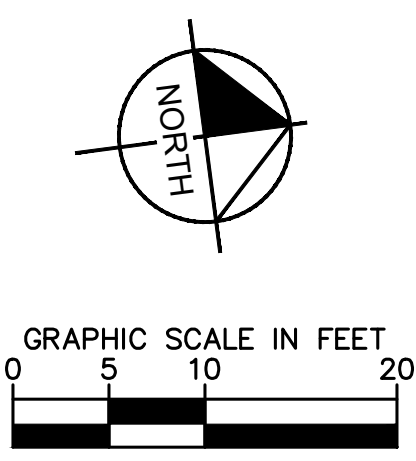
SECTION ALONG -L4-  
(SECTIONS @ BENTS AND END BENTS ARE @ RIGHT ANGLES)  
(LONGITUDINAL BRACING NOT SHOWN FOR CLARITY)



PLAN  
(PILES NOT SHOWN IN PLAN VIEW)



PVI STA.	ELEV.	V.C.	PVI STA.	ELEV.	V.C.	PVI STA.	ELEV.	V.C.	PVI STA.	ELEV.	V.C.	PVI STA.	ELEV.	V.C.
10+55.56	5.12'	0'	10+85.56	7.52'	0'	10+95.56	7.67'	0'	11.25.56	10.07'	0'	11.35.56	10.22'	0'



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DATE	02/28/2022
SCALE AS SHOWN	BMK JIK MDW
DESIGNED BY	MDW
DRAWN BY	JIK
CHECKED BY	MDW

PLAN AND PROFILE -  
THE SWAMP (AREA 4)  
(STRUCTURE #2)

WILDWOOD PARK - OBSERVATION  
TOWER AND TRAILS  
PREPARED FOR  
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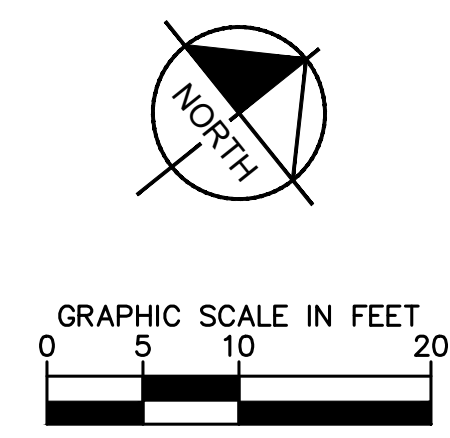
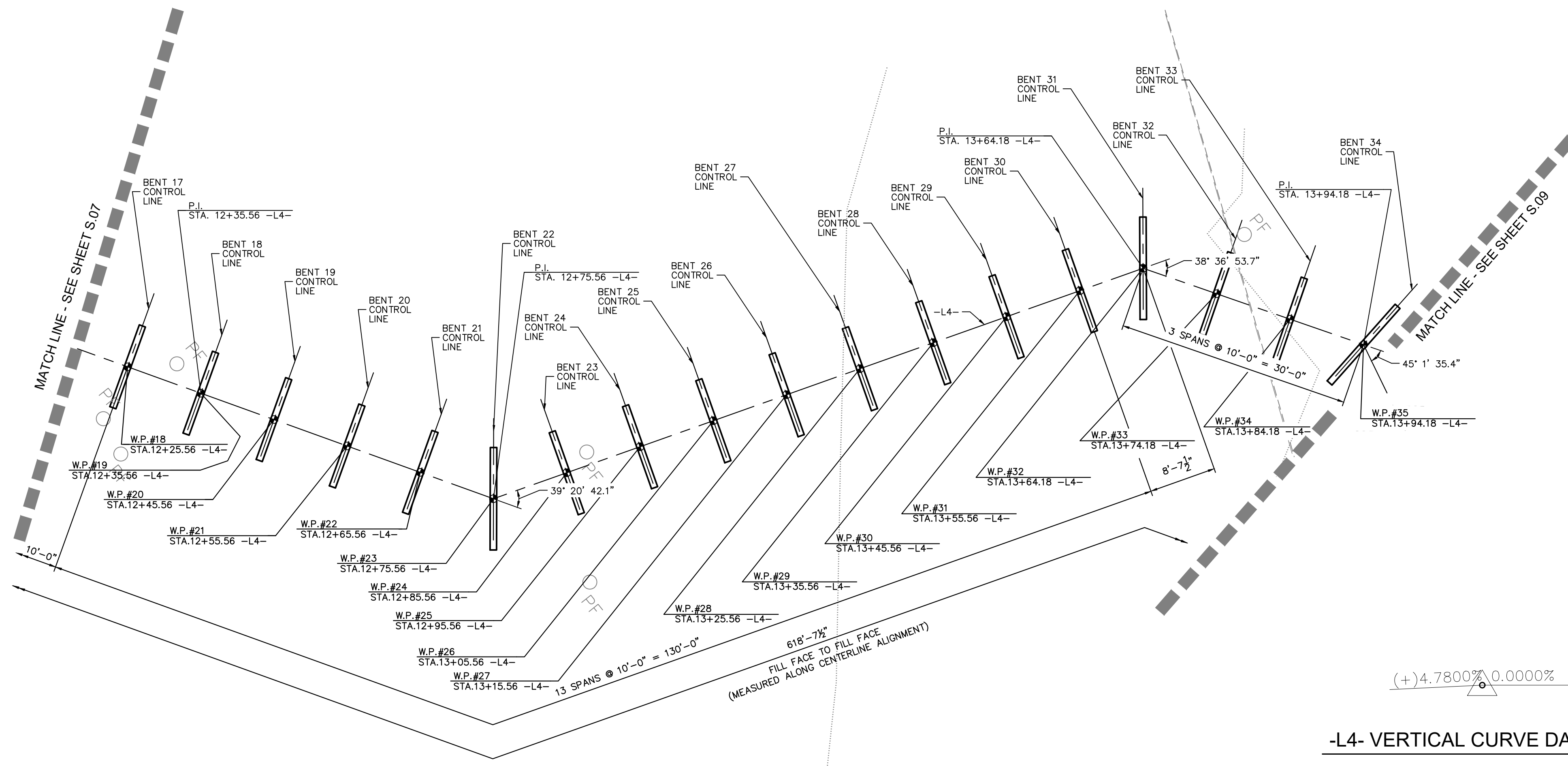
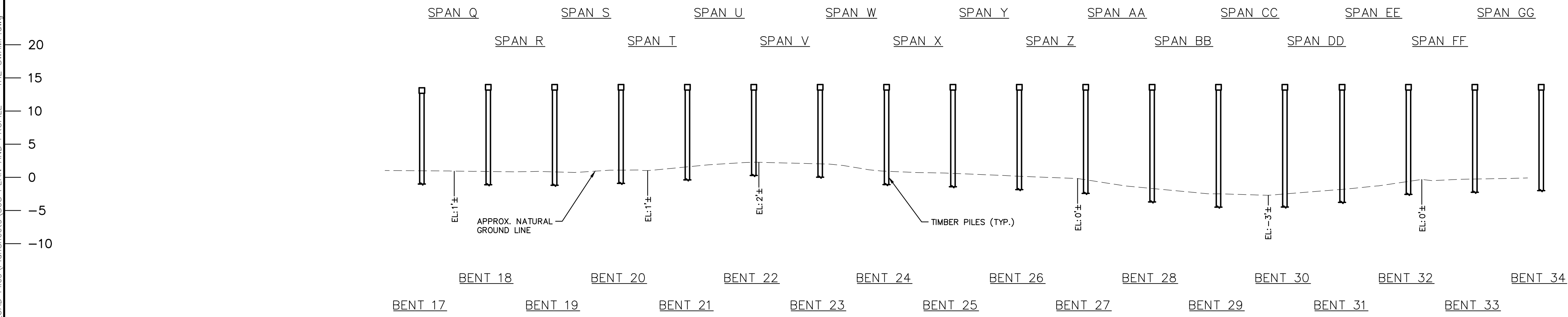


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13+00

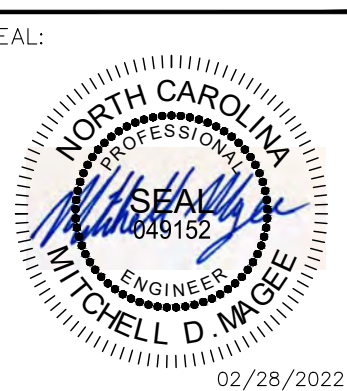
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DRAWN BY	JK
CHECKED BY	MDW

**PLAN AND PROFILE -  
 THE SWAMP (AREA 4)  
 (STRUCTURE #2)**

WILDWOOD PARK - OBSERVATION TOWER AND TRAILS  
 PREPARED FOR  
 CITY OF GREENVILLE  
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SHEET NUMBER  
**S.08**

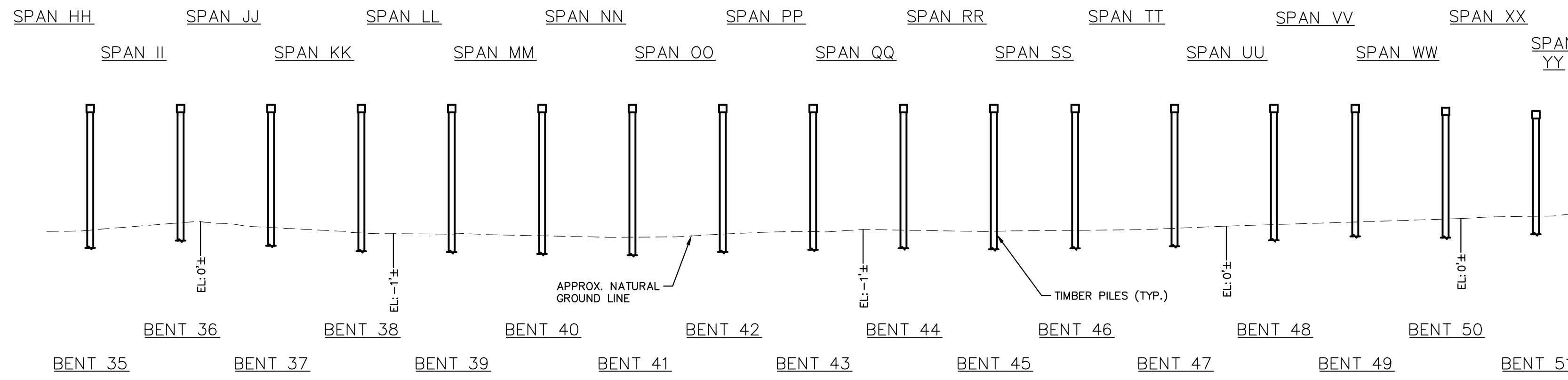
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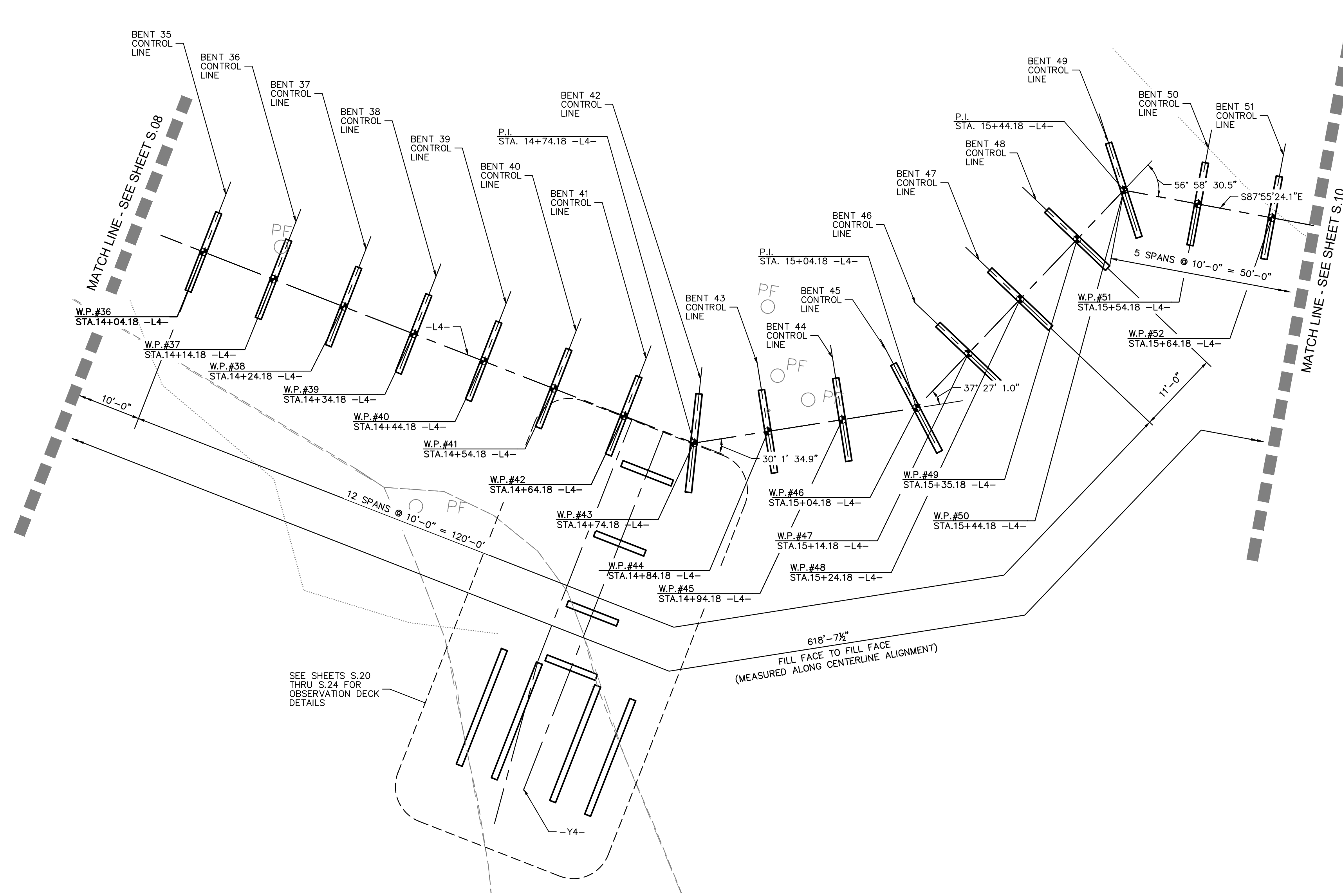
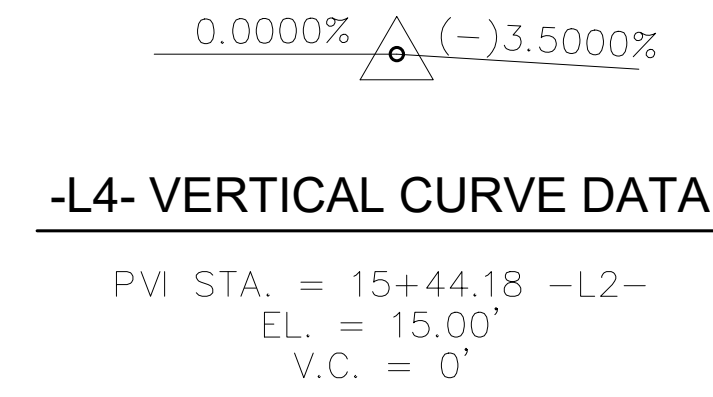
Know what's below.  
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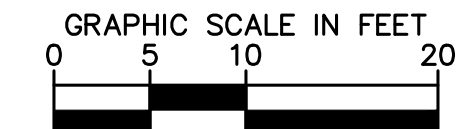
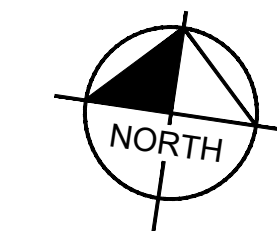
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SECTION ALONG -L4-  
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(LONGITUDINAL BRACING NOT SHOWN FOR CLARITY)



PLAN  
(PILES NOT SHOWN IN PLAN VIEW)



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KHA PROJECT	012654010
DATE	02/28/2022
SCALE AS SHOWN	BMS JJK MDW
DESIGNED BY	BMS
DRAWN BY	JJK
CHECKED BY	MDW

**PLAN AND PROFILE -  
THE SWAMP (AREA 4)  
(STRUCTURE #2)**

WILDWOOD PARK - OBSERVATION  
TOWER AND TRAILS  
PREPARED FOR  
CITY OF GREENVILLE  
GREENVILLE NC

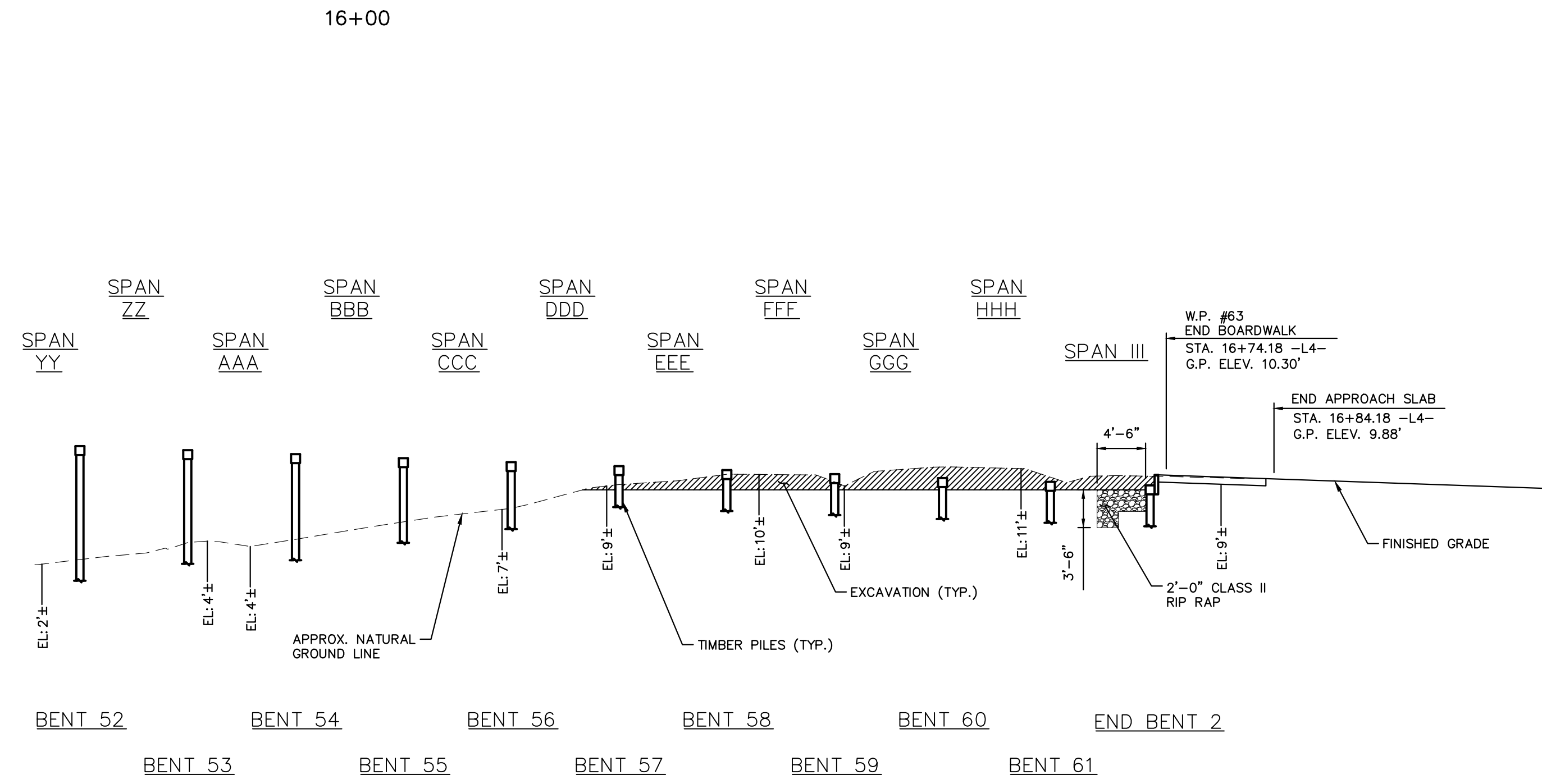
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**S.09**



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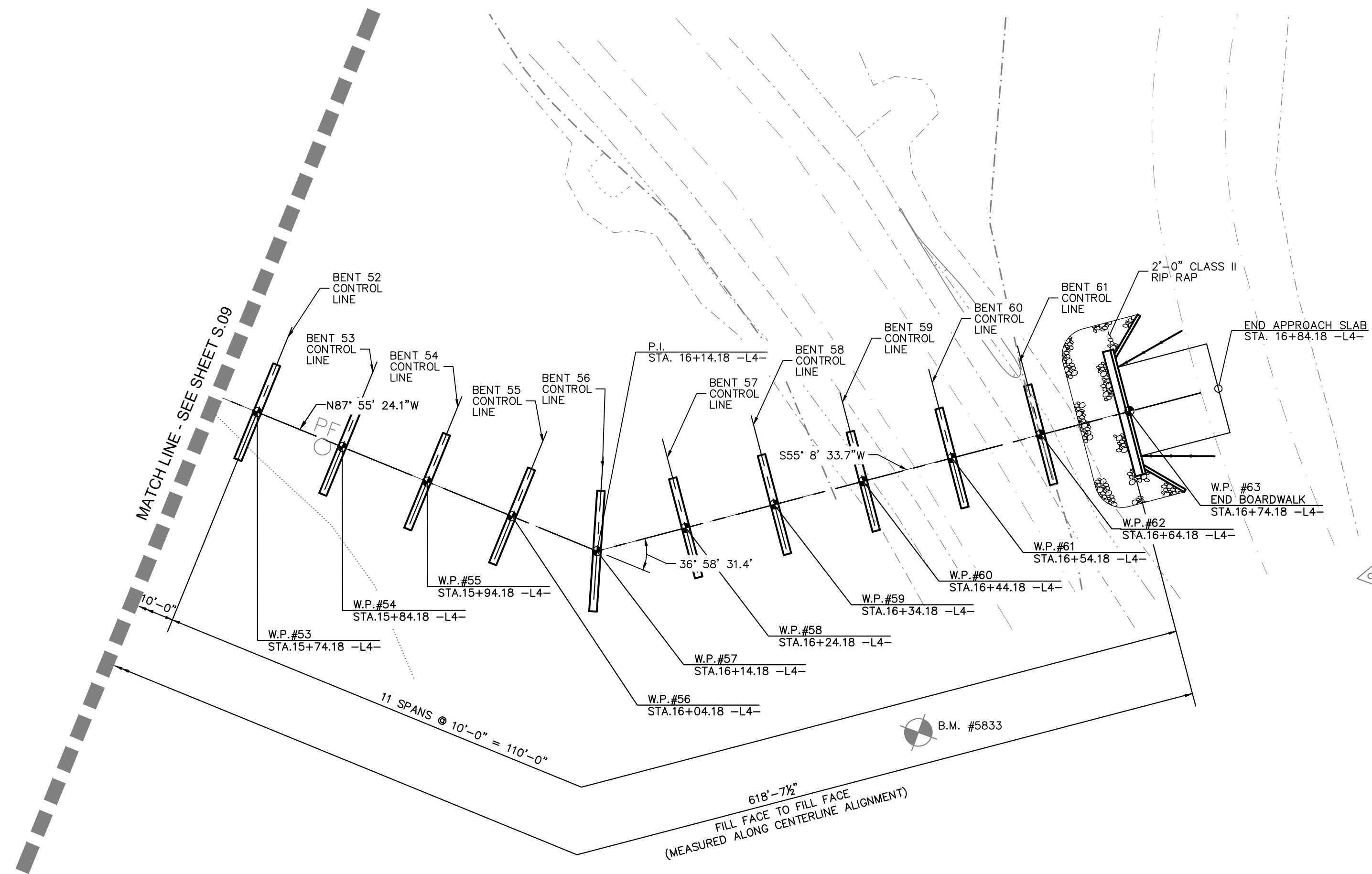


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(SECTIONS @ BENTS AND END BENTS ARE @ RIGHT ANGLES)  
(LONGITUDINAL BRACING NOT SHOWN FOR CLARITY)

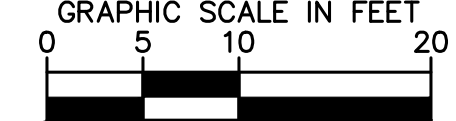
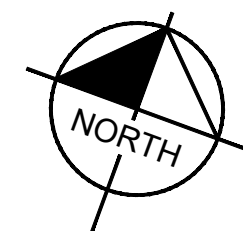
(-)3.5000% (-)4.2300%

-L4- VERTICAL CURVE DATA

PVI STA. = 16+54.18 -L4-  
EL. = 11.14'  
V.C. = 0'



PLAN  
(PILES NOT SHOWN IN PLAN VIEW)



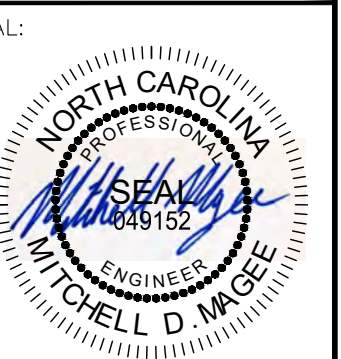
SURVEY NOTE:  
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PLAN AND PROFILE -  
THE SWAMP (AREA 4)  
(STRUCTURE #2)

WILDWOOD PARK - OBSERVATION  
TOWER AND TRAILS  
PREPARED FOR  
CITY OF GREENVILLE  
GREENVILLE NC

SHEET NUMBER  
S.10

KHA PROJECT  
012654010  
DATE  
02/28/2022  
SCALE AS SHOWN  
DESIGNED BY BMS  
DRAWN BY JJK  
CHECKED BY MDW



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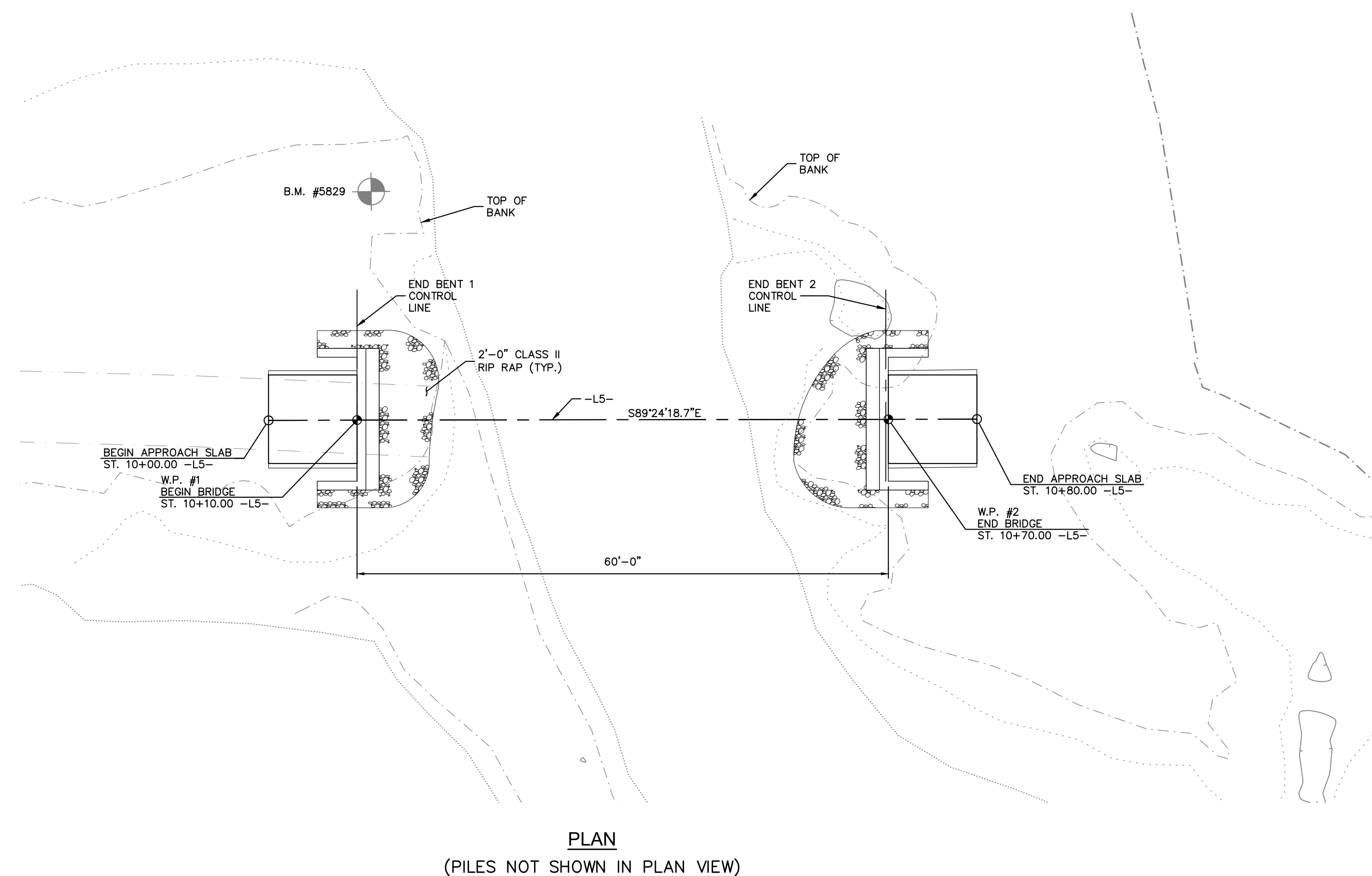
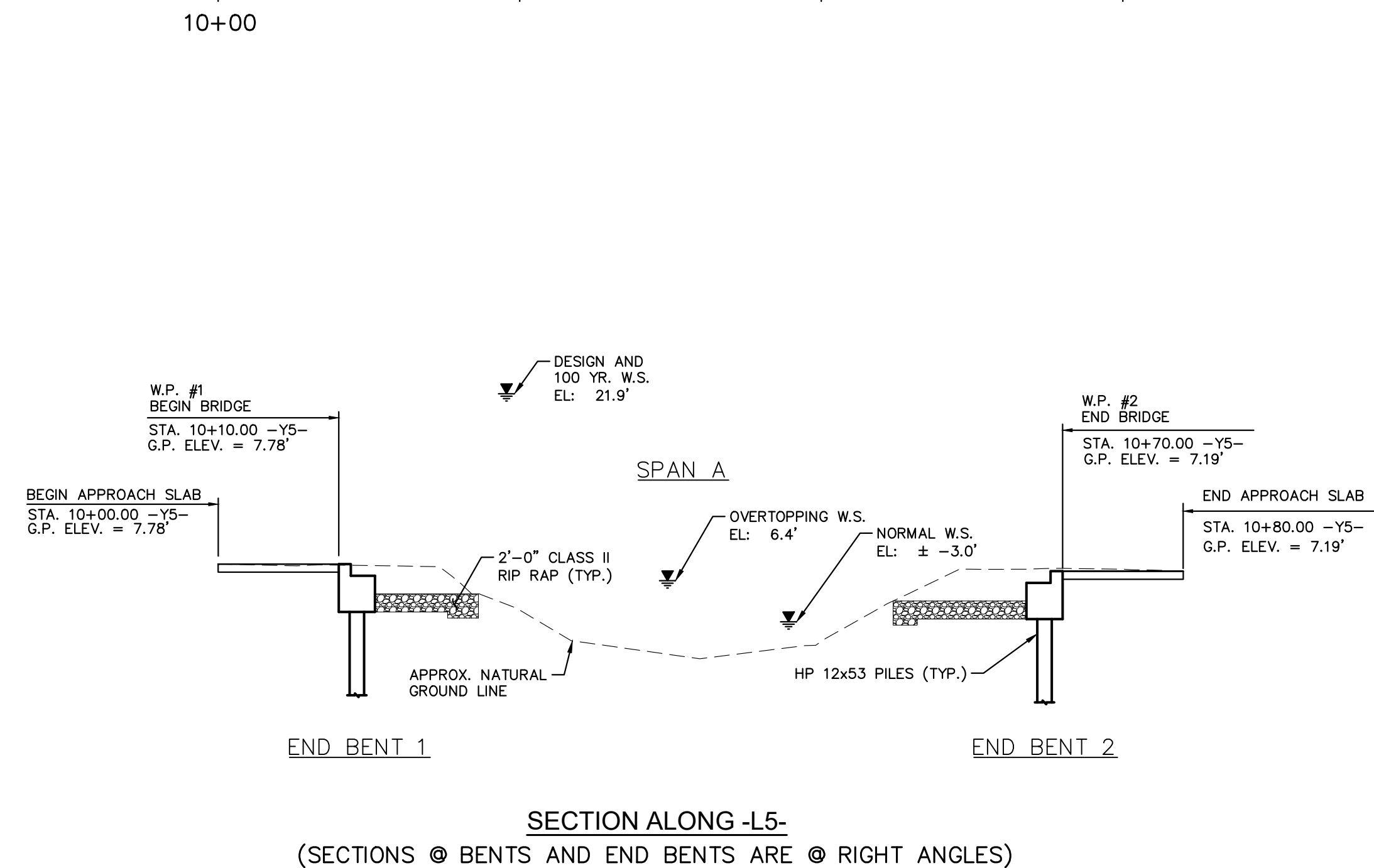
NO.	REVISIONS	DATE	BY
1	ISSUED FOR BID	02/28/22	ASA



Know what's below.  
Call before you dig.

Plotted By: Magese, Mitch - Sheet Set: WILDWOOD PARK - OBSERVATION TOWER AND TRAILS - Layout: S11 - February 25, 2022 - 04:58:45pm - K:\V\AL\LD\EX\012654010 - Wildwood - Park - Walkways - Tower\Planning Phase\PI0\_CAD Files\PlanSheets\S11\_Plan\_and\_Profile - THE SWAMP.dwg

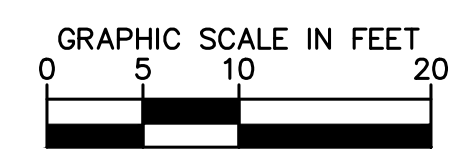
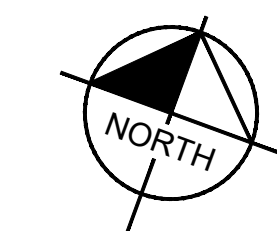
20  
15  
10  
5  
0  
-5  
-10



0.0000% (-)0.9900% 0.0000%

-L5- VERTICAL CURVE DATA

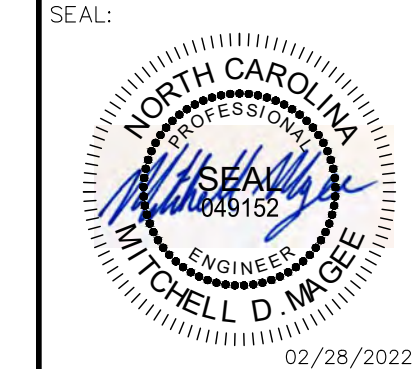
PVI STA. = 10+10.00 -L5-	PVI STA. = 10+70.00 -L5-
EL. = 7.78'	EL. = 7.19'
V.C. = 0'	V.C. = 0'



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KHA PROJECT	012654010
DATE	02/28/2022
SCALE	AS SHOWN
DESIGNED BY	BMS
DRAWN BY	JK
CHECKED BY	MDW

**PLAN AND PROFILE -  
THE SWAMP (AREA 4)  
(STRUCTURE #3)**

**WILDWOOD PARK - OBSERVATION  
TOWER AND TRAILS  
PREPARED FOR  
CITY OF GREENVILLE**

GREENVILLE NC

SHEET NUMBER  
**S.11**

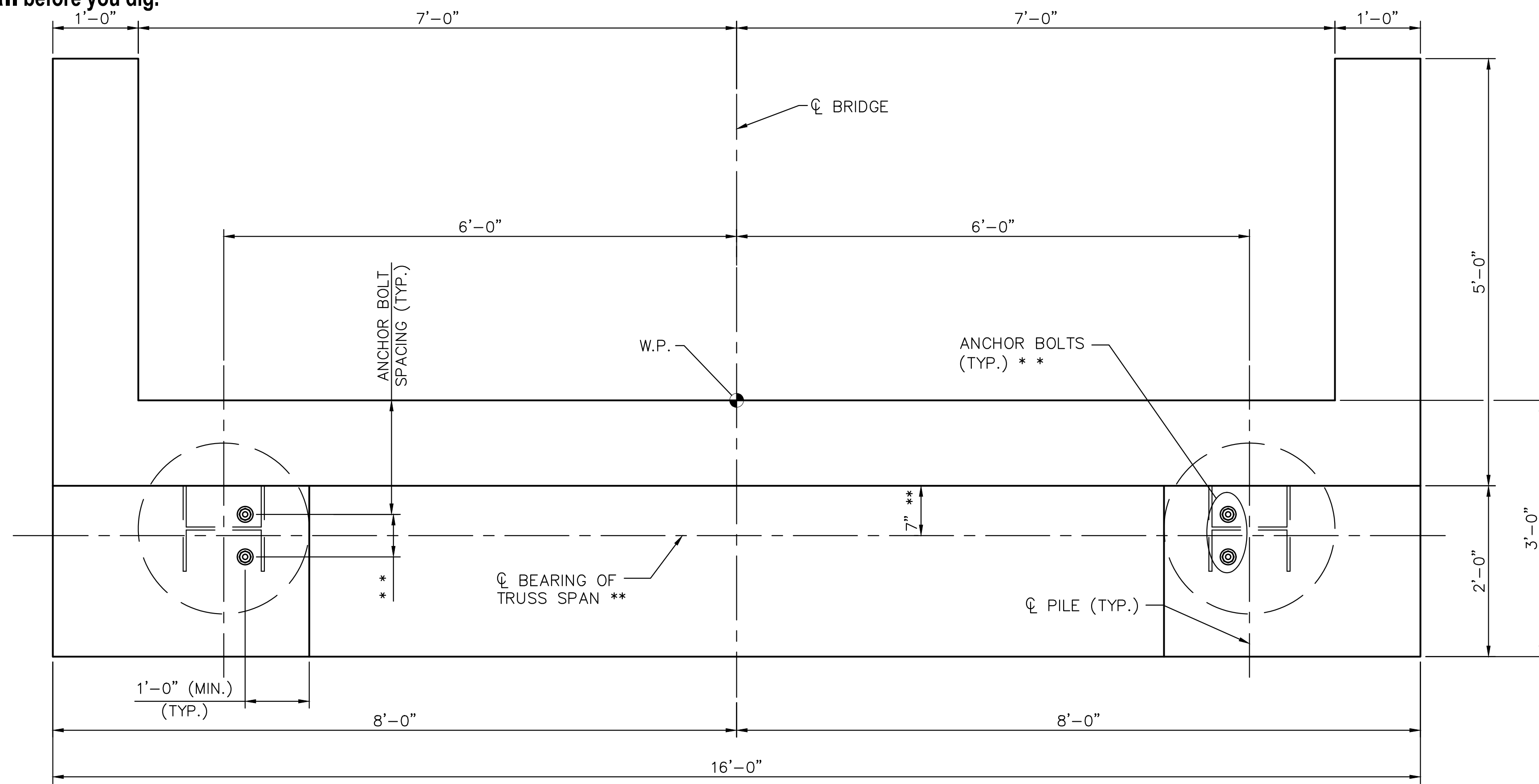
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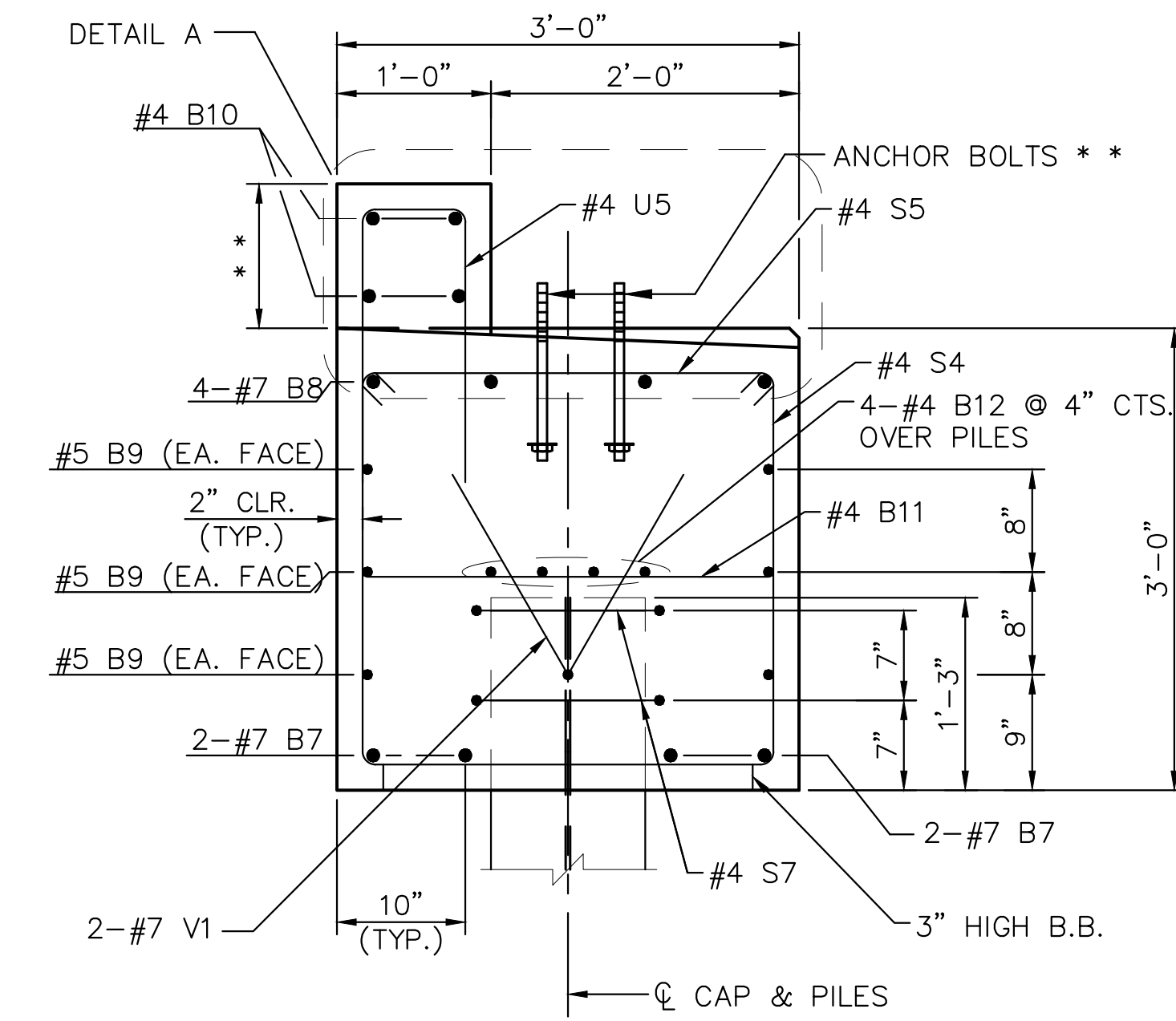
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### NOTES

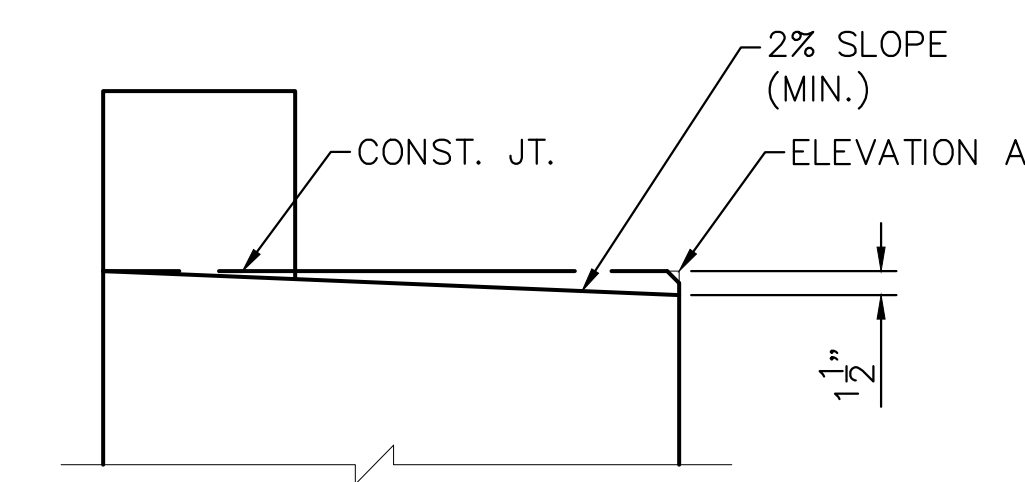
\*\* REFER TO PREFABRICATED PEDESTRIAN BRIDGE PLANS (BY OTHERS) FOR ANCHOR BOLT PLACEMENT, DETAILS, AND FOR DIMENSIONS NOT SHOWN. MINIMUM EMBEDMENT OF ANCHOR BOLTS SHALL BE 15".



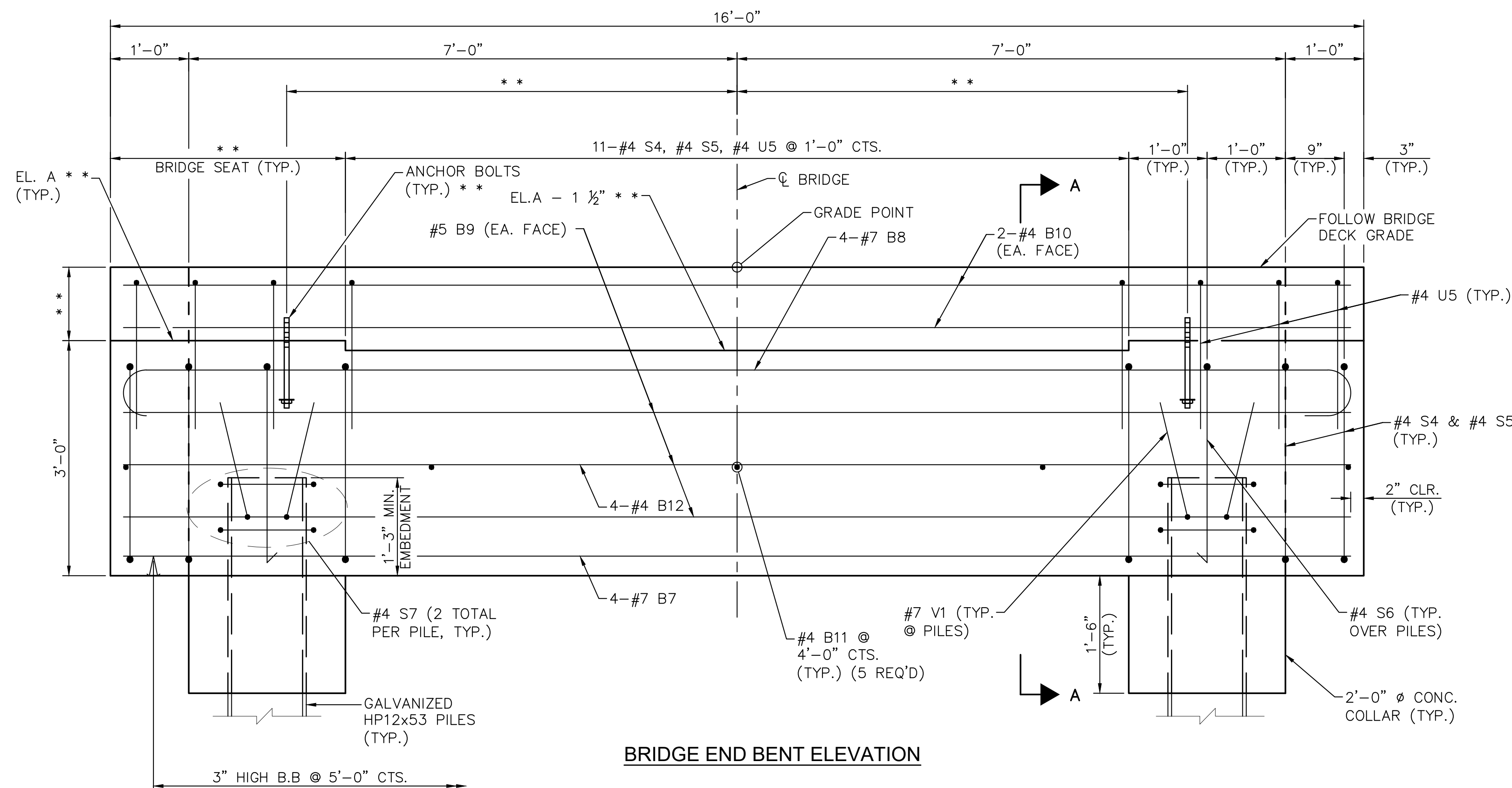
**BRIDGE END BENT PLAN**



**SECTION A-A**



**DETAIL A**



**BRIDGE END BENT ELEVATION**

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KHA PROJECT	012654010
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SCALE	AS SHOWN
DESIGNED BY	BMK
DRAWN BY	JK
CHECKED BY	MDW

## BRIDGE END BENT DETAILS

WILDWOOD PARK - OBSERVATION TOWER AND TRAILS  
PREPARED FOR  
CITY OF GREENVILLE  
GREENVILLE NC

SHEET NUMBER  
**S.12**

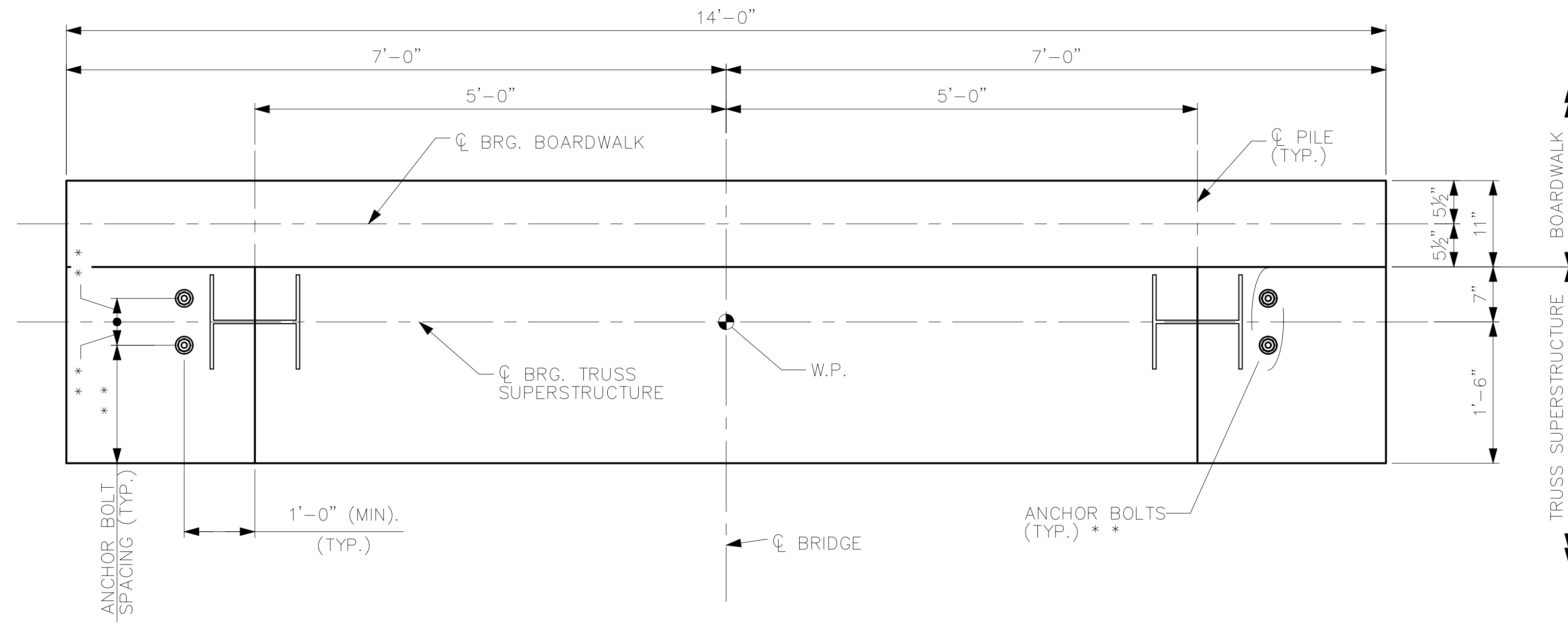
Plotted By: Magesh, Mitch - Sheet Set: WILDWOOD PARK - OBSERVATION TOWER AND TRAILS - Layout: S.12 - February 25, 2022 - 04:58:57pm - k:\NRA\LDEVA\012654010\_Wildwood\_Park-Walkways\_Tower\Planning\_Phase\PI0-CAD\_Files\PlanSheet\S12\_BRIDGE\_END\_BENT\_DETAILS.dwg



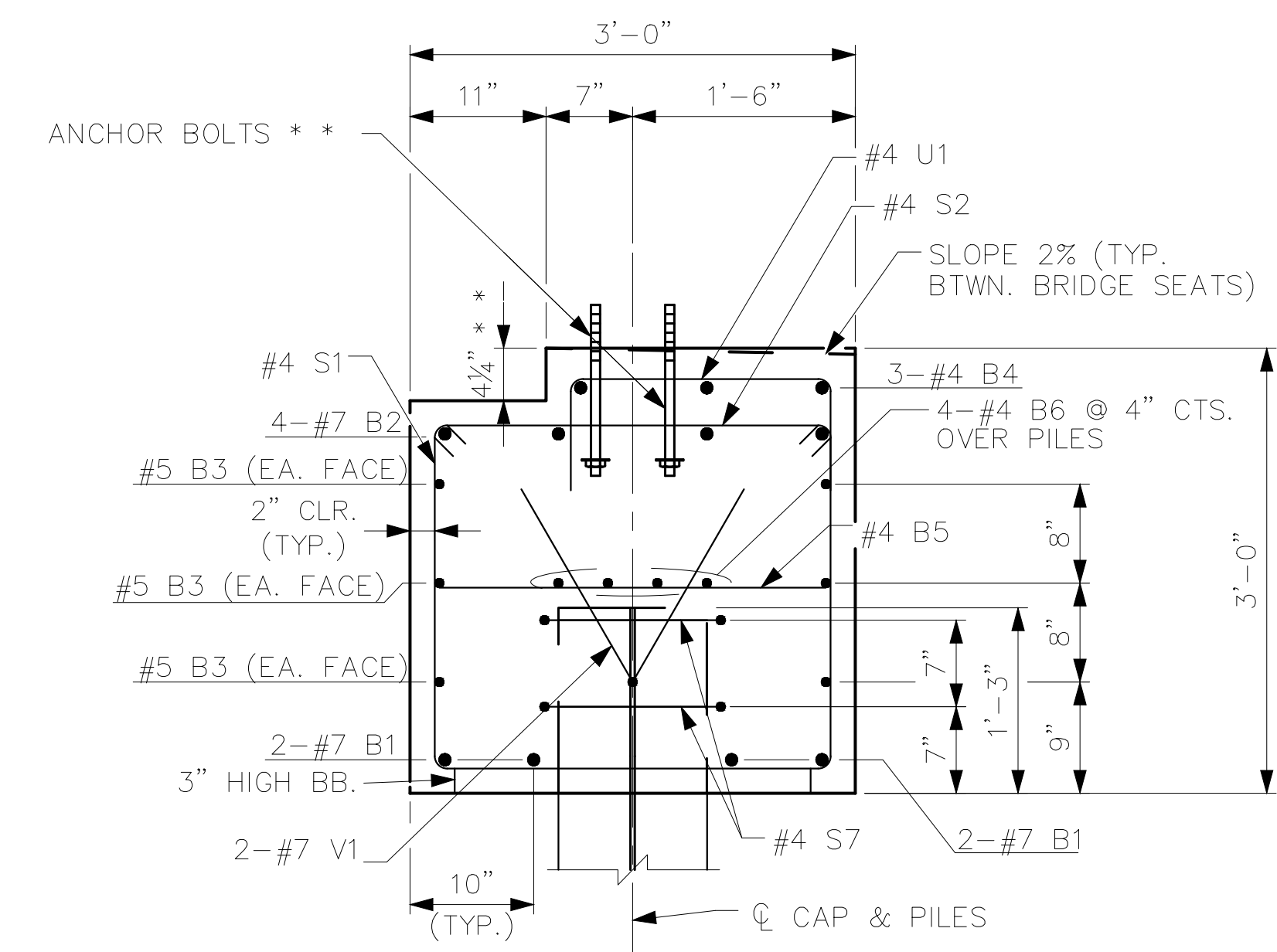
Know what's below.  
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### NOTES

\* \* REFER TO PREFABRICATED PEDESTRIAN BRIDGE PLANS (BY OTHERS) FOR ANCHOR BOLT PLACEMENT, DETAILS, AND DIMENSIONS NOT SHOWN. MINIMUM EMBEDMENT OF ANCHOR BOLTS SHALL BE 15".

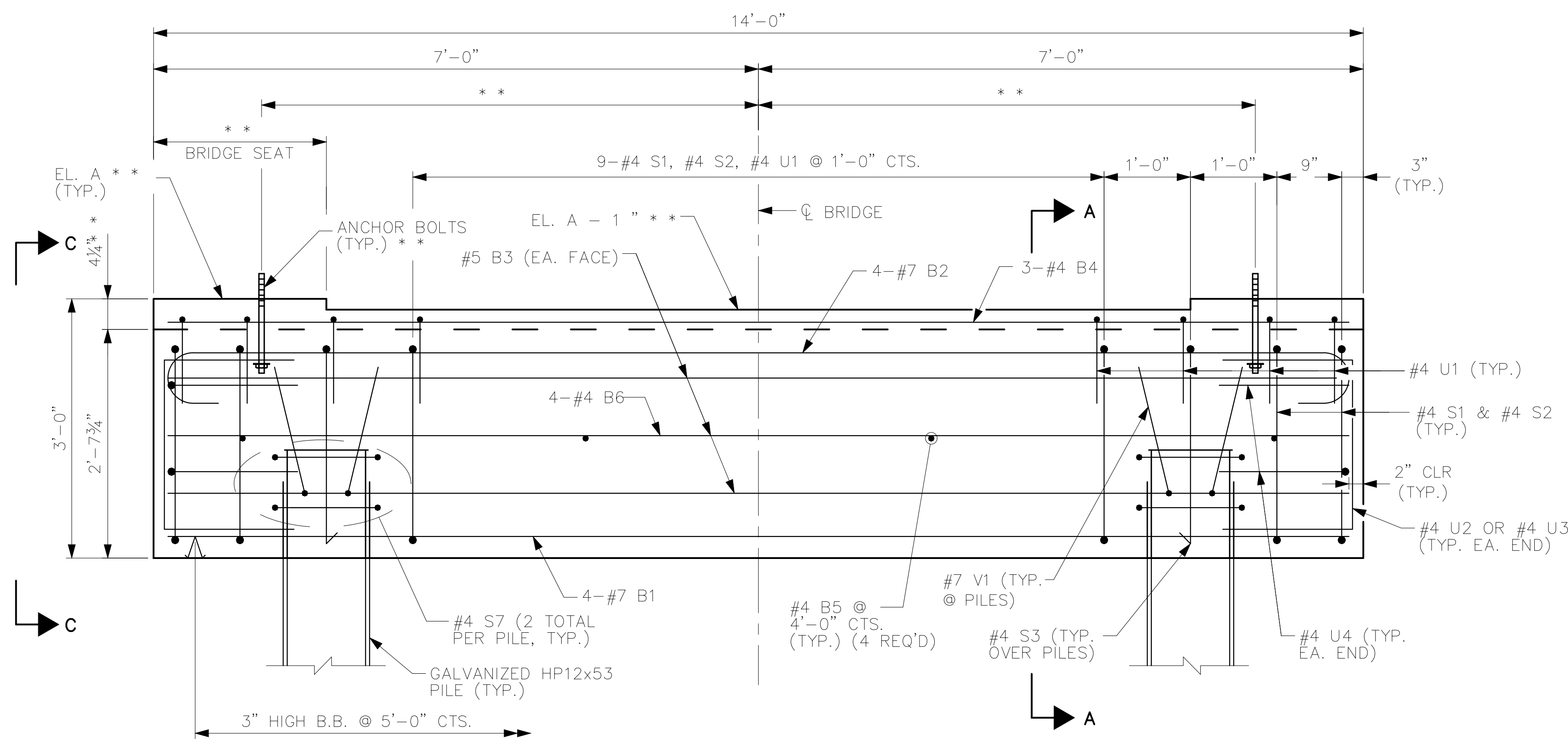


BRIDGE BENT PLAN

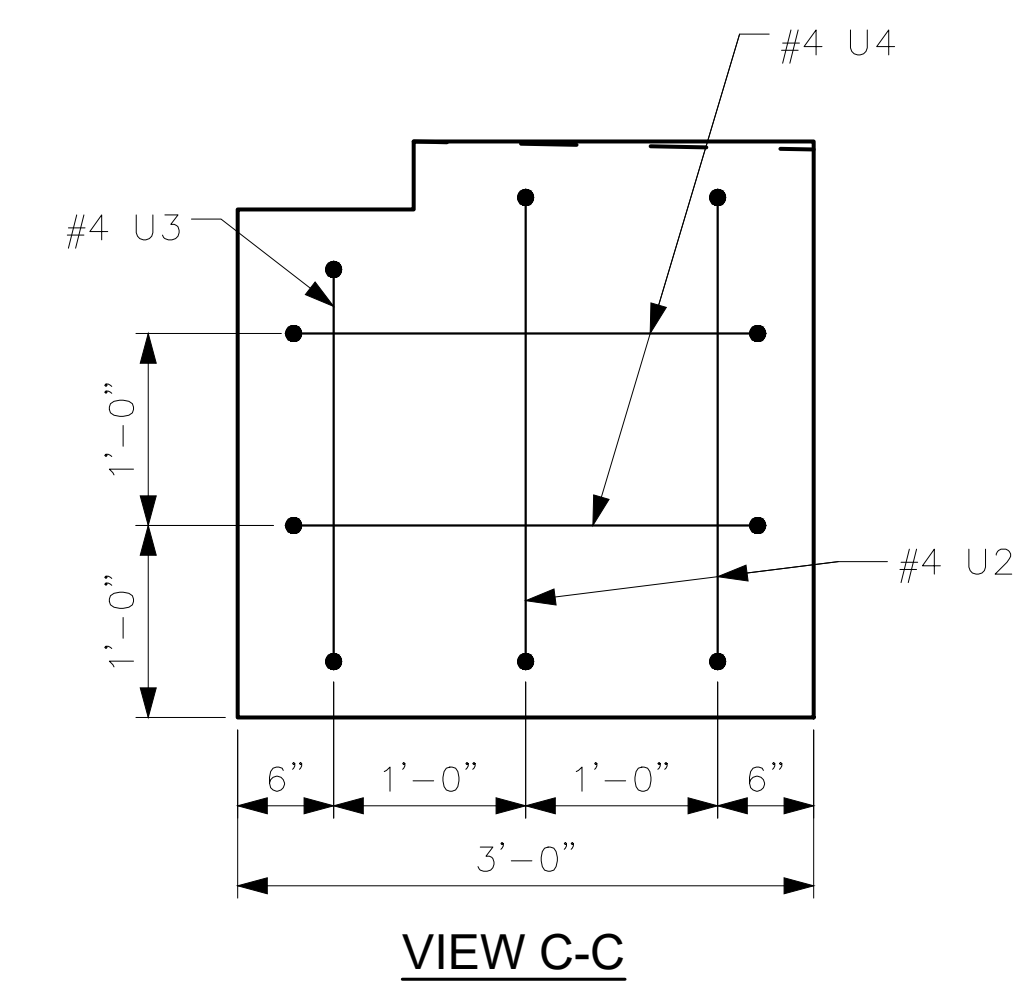


NOTE: TIMBER BOARDWALK TO BRIDGE CONNECTION NOT SHOWN FOR CLARITY.

SECTION A-A



BRIDGE BENT ELEVATION



VIEW C-C

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KHA PROJECT 012654010  
DATE 02/28/2022  
SCALE AS SHOWN  
DESIGNED BY BMK  
DRAWN BY JJK  
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## BRIDGE BENT DETAILS

WILDWOOD PARK - OBSERVATION TOWER AND TRAILS  
PREPARED FOR  
CITY OF GREENVILLE  
GREENVILLE NC

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SHEET NUMBER  
**S.13**

Plotted By: Masee, Mitch - Sheet Set: WILDWOOD PARK - OBSERVATION TOWER AND TRAILS - Layout: S13 - February 25, 2022 - 04:58:07pm - K:\RAL\LD\VA\012654010 - Wildwood - Park - Walkway - Tower - Planning - Phase: P10 - CAD - Files - PlanSheets\S13 - BRIDGE BENT - DETAILS.dwg



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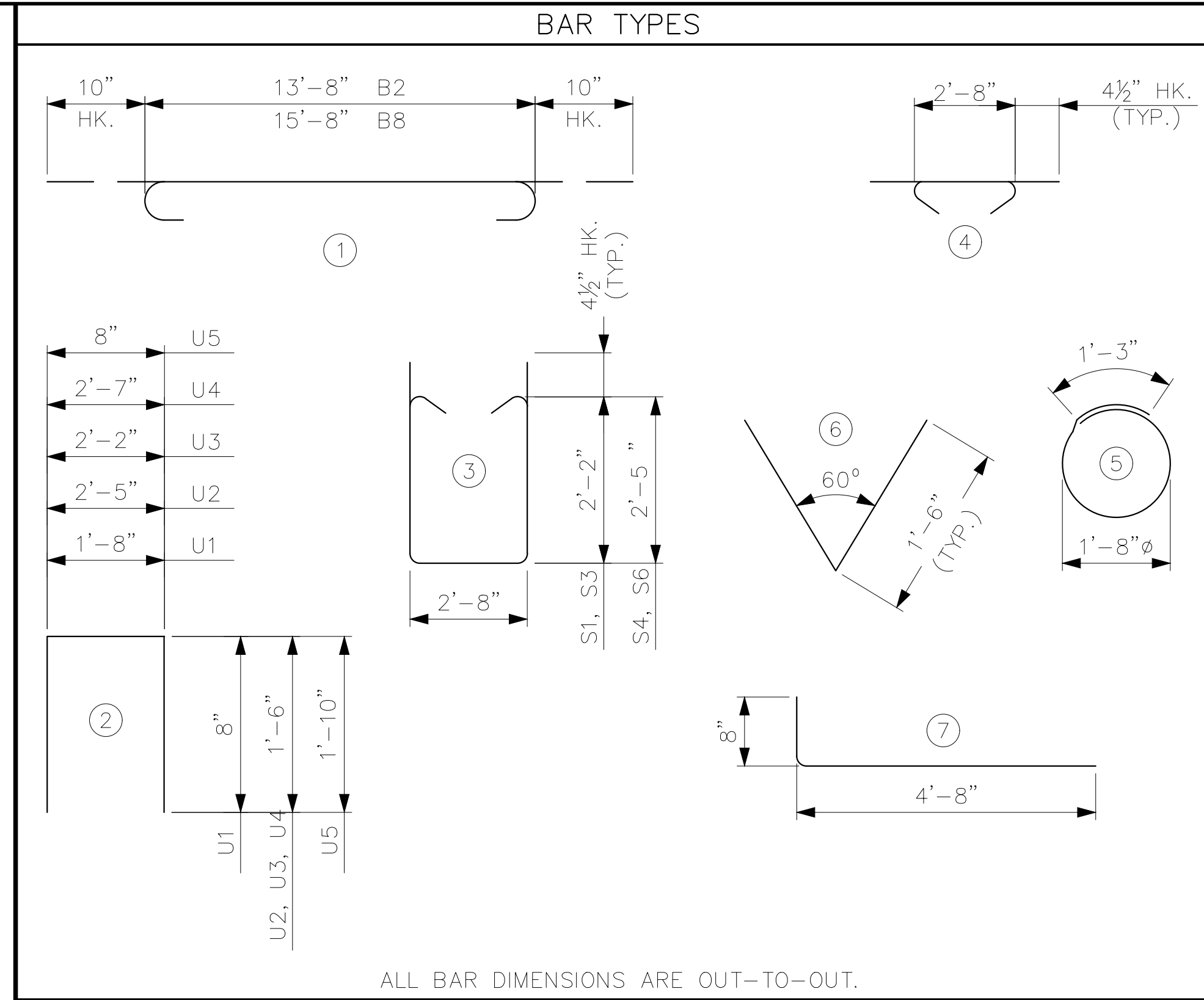
### NOTES

\*\* REFER TO PREFABRICATED PEDESTRIAN BRIDGE AND PRECAST CONCRETE BOARDWALK PLANS (BY OTHERS) FOR ANCHOR BOLT PLACEMENT AND DETAILS, AND FOR DIMENSIONS NOT SHOWN OR REQUIRING VERIFICATION BY THE PREFABRICATED BRIDGE ENGINEER.

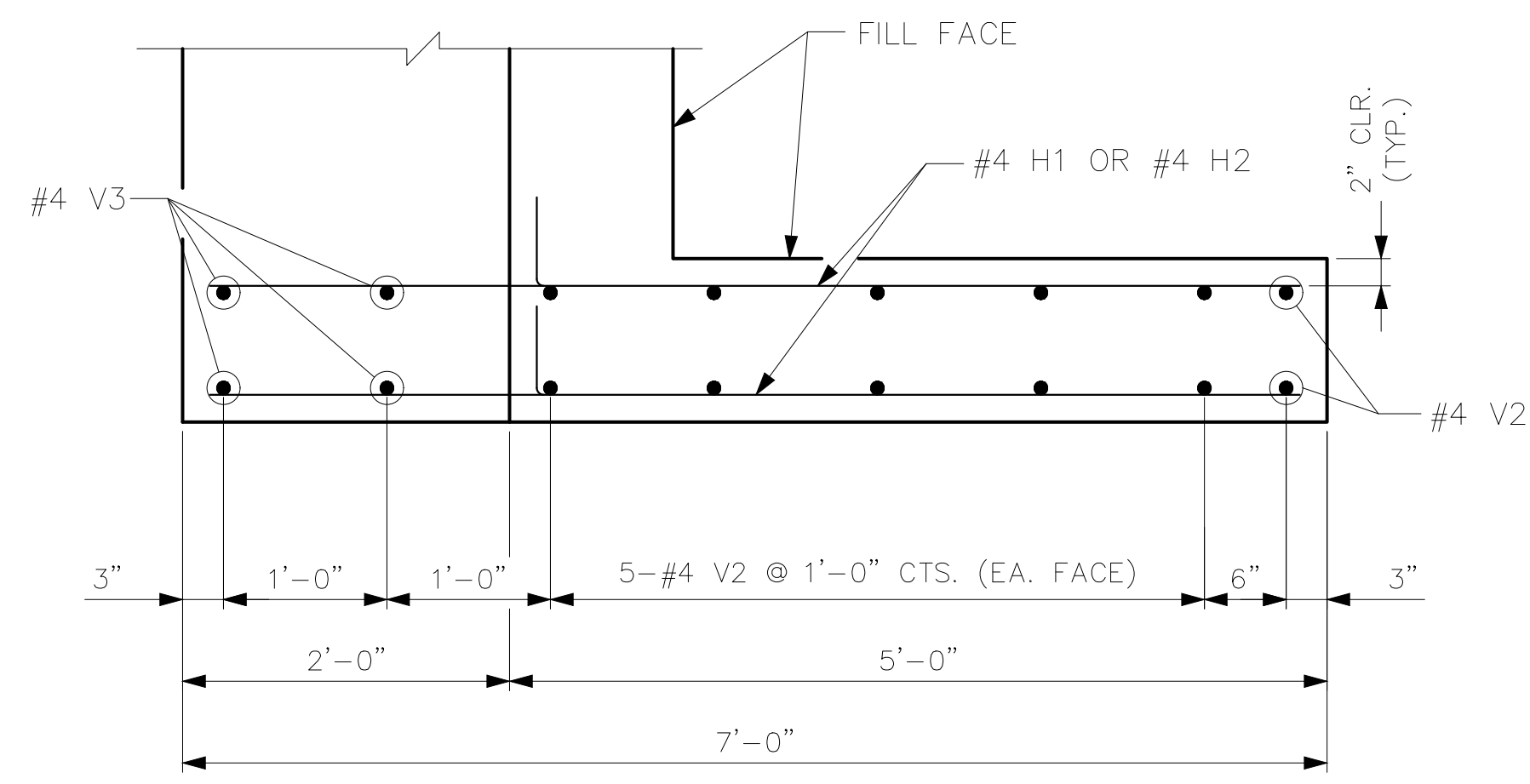
CONTRACTOR MUST UPDATE DIMENSIONS BASED ON ACTUAL INFORMATION PROVIDED BY THE PEDESTRIAN BRIDGE FABRICATOR.

ADHESIVE ANCHOR SYSTEM SHALL HAVE A MINIMUM PULLOUT STRENGTH (ALLOWABLE) OF 10 KIPS. THE ADHESIVE ANCHOR SYSTEM SHALL BE CHOSEN FROM THOSE ON THE NCDOT APPROVED PRODUCTS LIST.

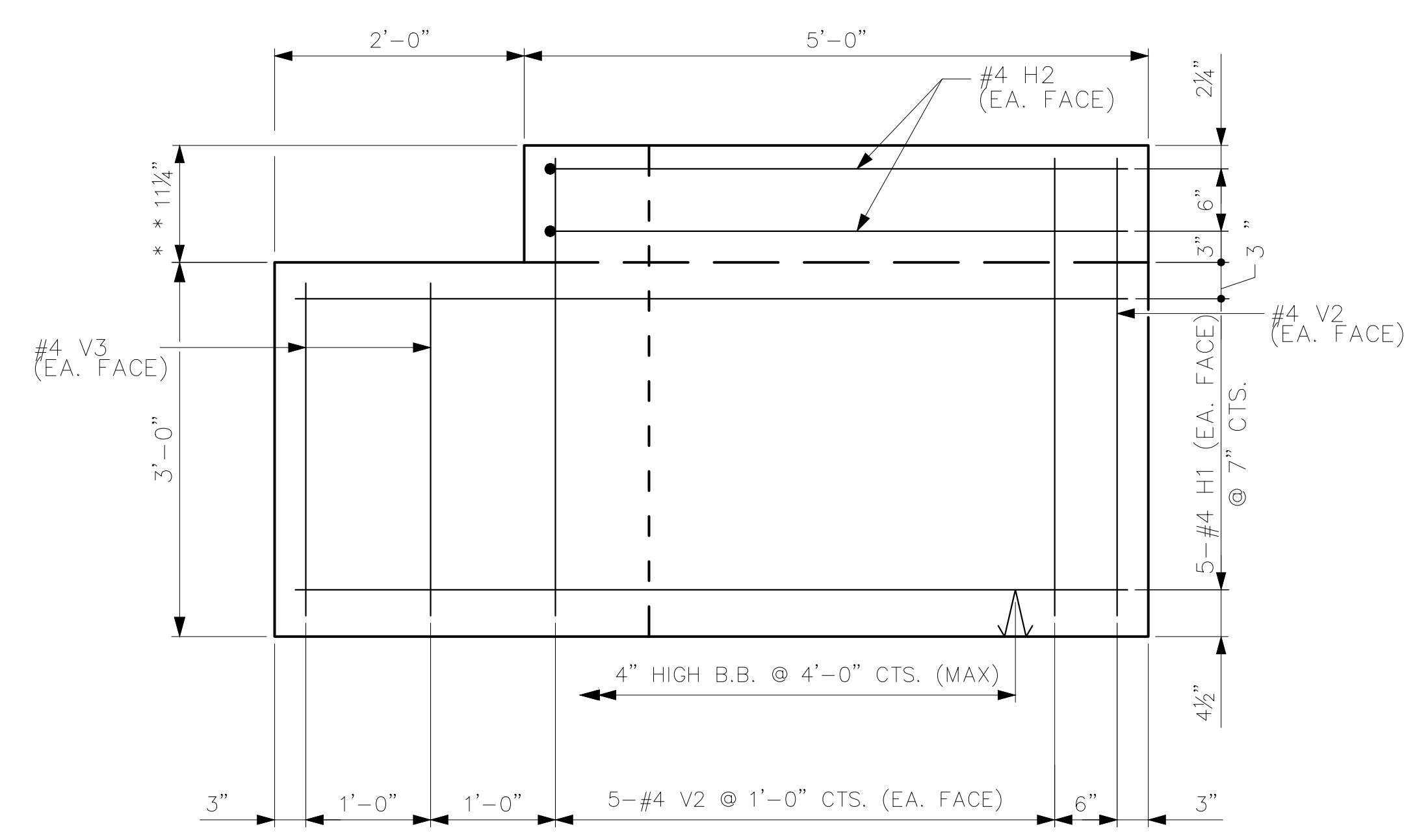
FOR SETTING TIMBER BOARDWALK ANCHOR BOLTS, THE CONTRACTOR SHALL USE AN ADHESIVE BONDING SYSTEM. SEE ADHESIVELY ANCHORED BOLTS IN TIMBER BOARDWALK SPECIAL PROVISION. LEVEL ONE FIELD TESTING OF BONDING IS REQUIRED.



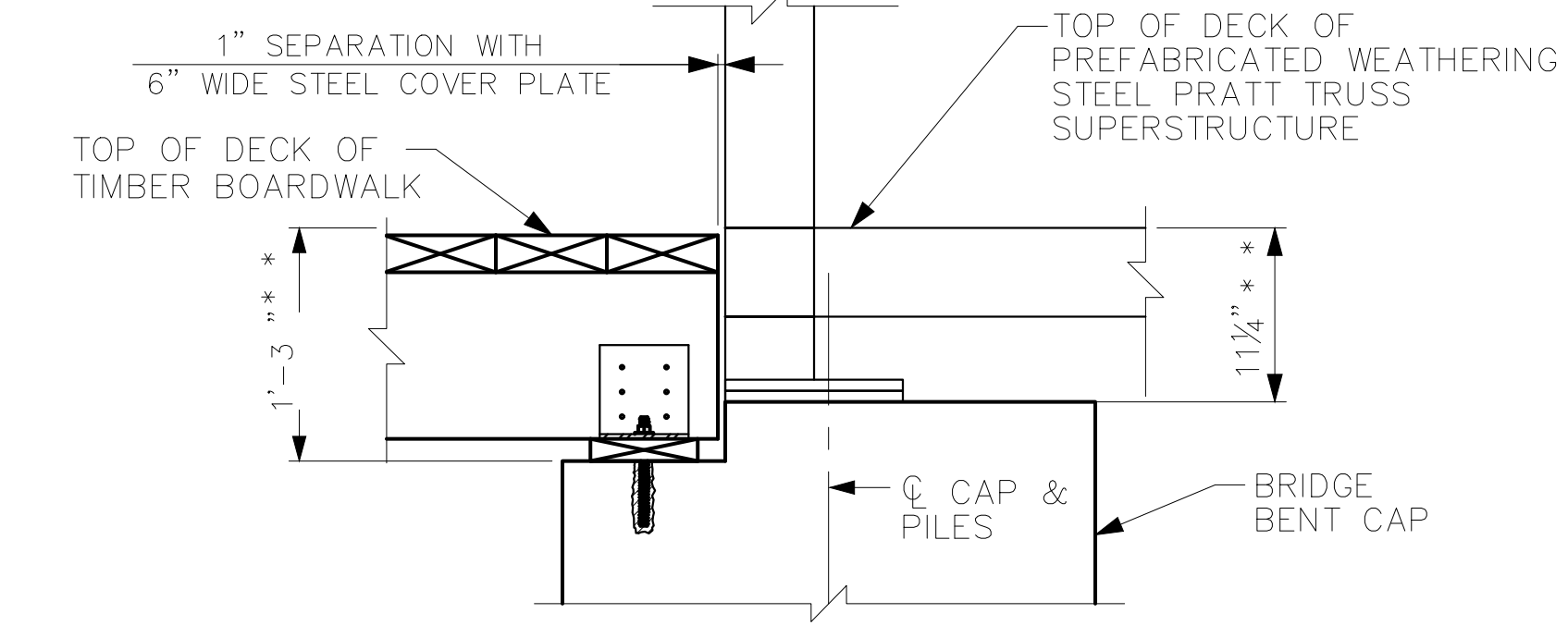
BILL OF MATERIAL FOR ONE BRIDGE BENT (2 REQ'D)							BILL OF MATERIAL FOR ONE BRIDGE END BENT (2 REQ'D)							
BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT		BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT		
B1	4	7	STR	13'-8"	112		B7	4	7	STR	15'-8"	128		
B2	4	7	1	15'-4"	125		B8	4	7	1	17'-4"	142		
B3	6	5	STR	13'-8"	86		B9	6	5	STR	15'-8"	98		
B4	3	4	STR	13'-8"	27		B10	4	4	STR	15'-8"	42		
B5	4	4	STR	2'-8"	7		B11	5	4	STR	2'-8"	9		
B6	4	4	STR	13'-8"	37		B12	4	4	STR	15'-8"	42		
U1	15	4	2	3'-0"	30		U5	17	4	2	4'-4"	49		
U2	4	4	2	5'-5"	14		U3	2	4	2	5'-2"	7		
U3	2	4	2	5'-2"	7		S4	15	4	3	8'-3"	83		
U4	4	4	2	5'-7"	15		S5	15	4	4	3'-5"	34		
S1	13	4	3	7'-9"	67		S6	2	4	3	8'-3"	11		
S2	13	4	4	3'-5"	30		S7	4	4	5	6'-6"	17		
S3	2	4	3	7'-9"	10		V1	4	7	6	3'-0"	25		
S7	4	4	5	6'-6"	17		V2	24	4	STR	3'-6"	56		
V1	4	7	6	3'-0"	25		V3	8	4	STR	2'-7"	14		
							H1	20	4	STR	6'-8"	89		
							H2	8	4	7	5'-4"	29		
REINFORCING STEEL					LBS.	610	REINFORCING STEEL					LBS.	868	
CLASS A CONCRETE					C. Y.	5.0	CLASS A CONCRETE					C. Y.	7.0	



BRIDGE END BENT WING PLAN

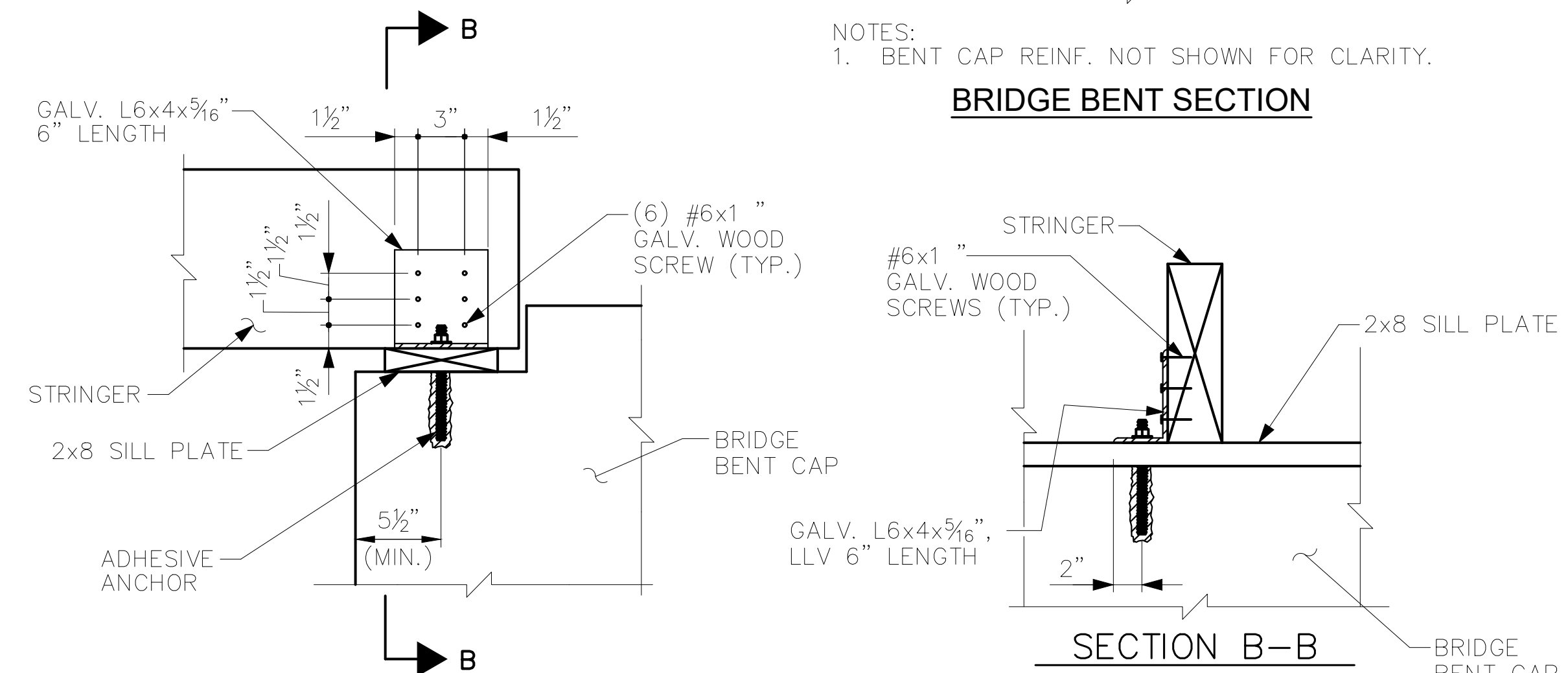


BRIDGE END BENT WING ELEVATION



NOTES:  
1. BENT CAP REINF. NOT SHOWN FOR CLARITY.

BRIDGE BENT SECTION

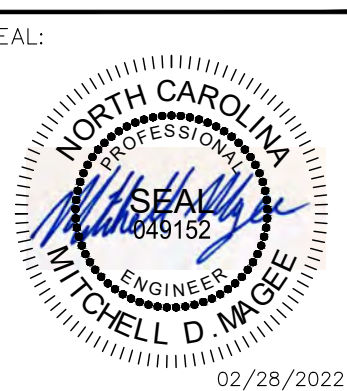


NOTES:  
1. SINGLE STRINGER SHOWN. CONNECTIONS SIMILAR FOR EACH STRINGER.  
2. ANGLES TO BE PLACED ON INTERIOR FACE OF OUTSIDE STRINGERS.  
3. DECKING, BLOCKING, BRIDGE, AND BENT CAP REINF. NOT SHOWN FOR CLARITY.

TIMBER BOARDWALK TO BRIDGE BENT CONNECTION

NO.	REVISIONS	DATE
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KHA PROJECT	012654010
DATE	02/28/2022
SCALE	AS SHOWN
DESIGNED BY	BMK
DRAWN BY	JJK
CHECKED BY	MDW

## BRIDGE END BENT BILL OF MATERIAL

WILDWOOD PARK - OBSERVATION TOWER AND TRAILS PREPARED FOR CITY OF GREENVILLE  
GREENVILLE NC

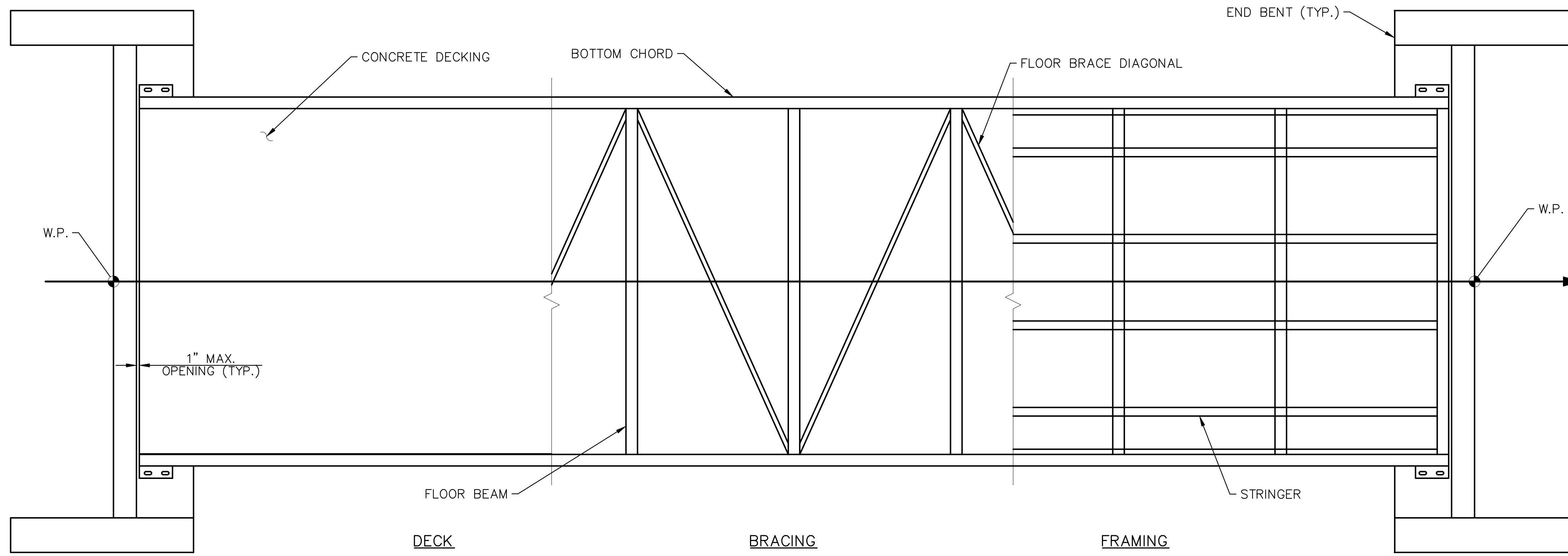
SHEET NUMBER  
**S.14**

Plotted By: Magesh, Mitch Sheet Set: WILDWOOD PARK - OBSERVATION TOWER AND TRAILS Layout: S.14 February 25, 2022 04:58:17pm K:\V\AL\DEV\012654010\_Wildwood\_Park-Walkway-Tower\Planning Phase\P10\_CAD\_Files\PlanSheet\S14\_BRIDGE\_END\_BENT\_BILL\_OF\_MATERIAL.dwg

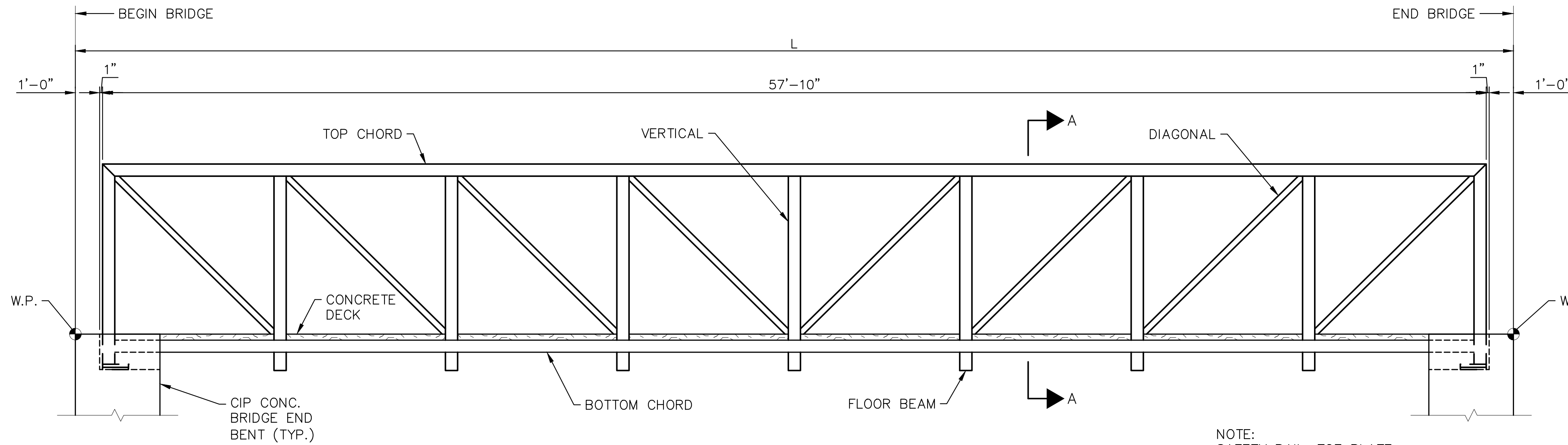


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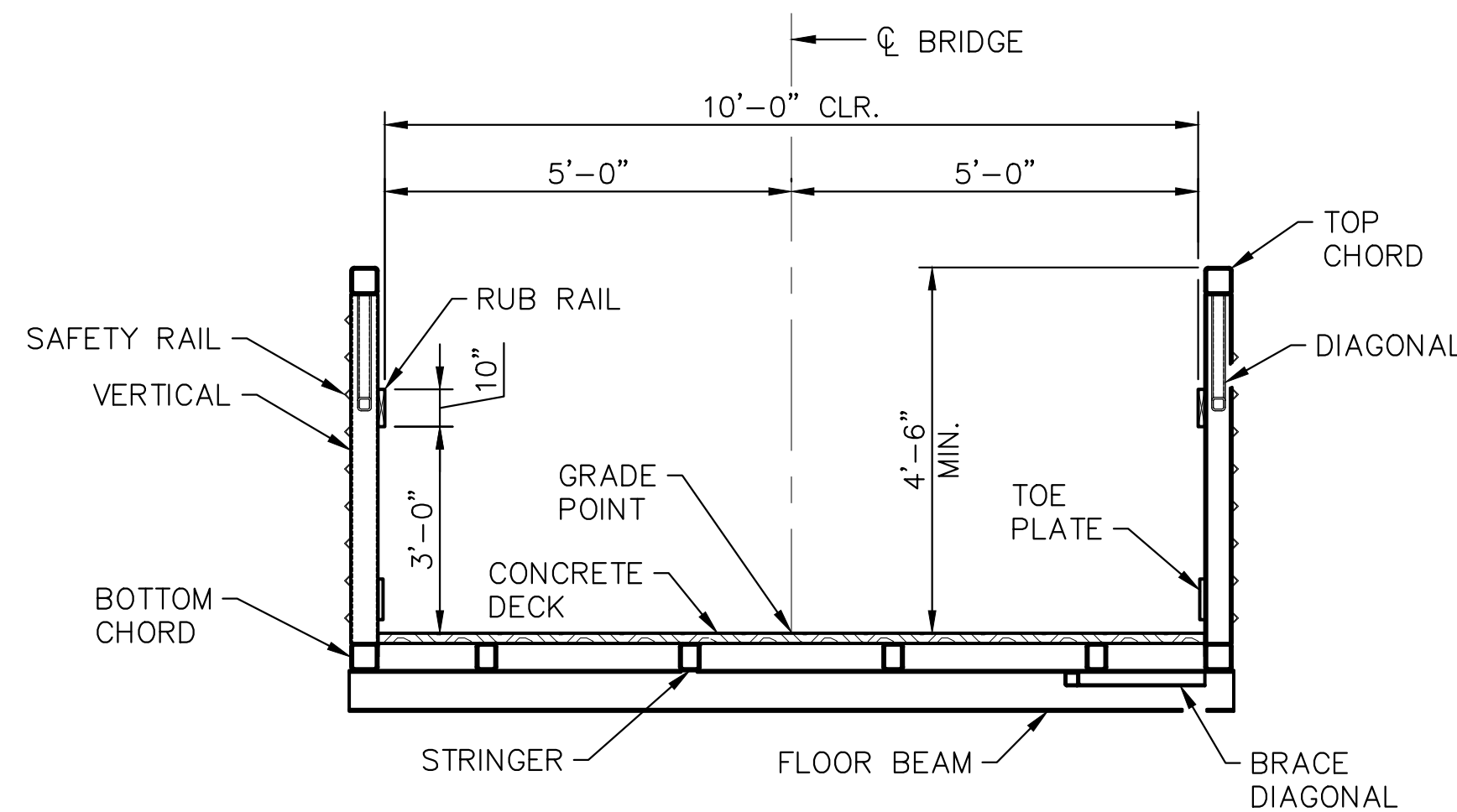
Plotted By: Masee, Mitch - Sheet Set: WILDWOOD PARK - OBSERVATION TOWER AND TRAILS - Layout: S15 - February 25, 2022 - 04:59:29pm - K:\RAL\DEVA\012654010 - Wildwood\_Park\_Walkways\_Tower\_Planning\_Phase\PH0\_CAD\_Files\PlanSheets\S15\_PREFABRICATED\_PEDESTRIAN\_BRIDGE\_DETAILS.dwg



PREFABRICATED PEDESTRIAN BRIDGE PLAN



PROPOSED 60' PREFABRICATED STEEL BRIDGE ELEVATION  
(PRATT TRUSS)



SECTION A-A

NOTES

PREFABRICATED PEDESTRIAN BRIDGE DETAILS SHOWN FOR AESTHETIC REQUIREMENT AND MINIMUM LAYOUT REQUIREMENTS ONLY. CONTRACTOR'S ENGINEER SHALL BE RESPONSIBLE FOR THE DESIGN AND DETAIL OF THE SUPERSTRUCTURE. SEE SPECIAL PROVISIONS.

PREFABRICATED PEDESTRIAN BRIDGE DETAILS SHOWN FOR END BENT SUBSTRUCTURES. BRIDGE BENT SPAN WITH TIMBER BOARDWALK APPROACHES SIMILAR.

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KHA PROJECT	012654010
DATE	02/28/2022
SCALE	AS SHOWN
DESIGNED BY	BMK
DRAWN BY	JK
CHECKED BY	MDW

**PREFABRICATED PEDESTRIAN BRIDGE DETAILS**

**WILDWOOD PARK - OBSERVATION TOWER AND TRAILS**  
PREPARED FOR  
**CITY OF GREENVILLE**  
GREENVILLE, NC

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SHEET NUMBER  
**S.15**

ISSUED FOR BID	02/28/22	ASA
REVISIONS		
No.		BY





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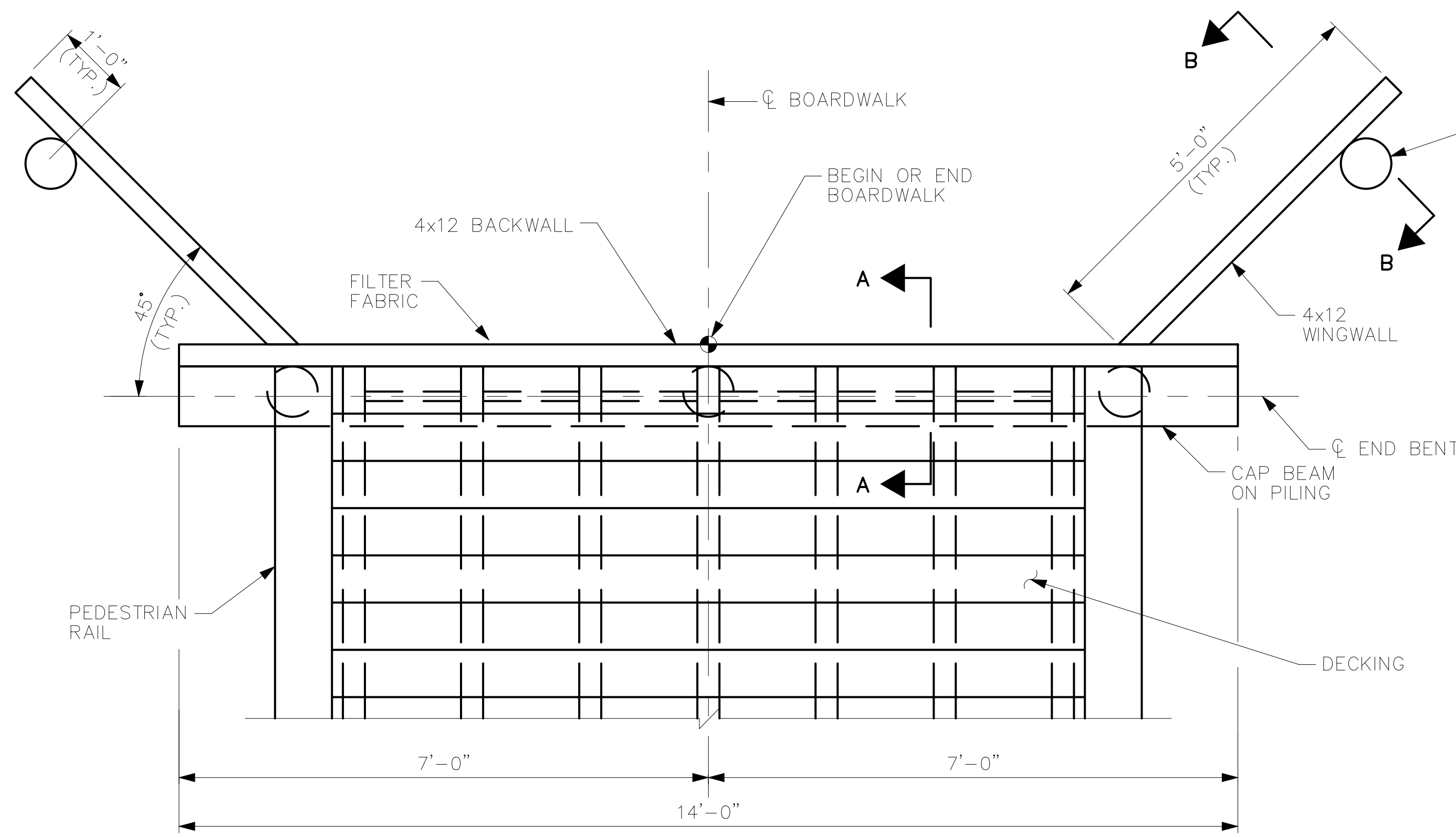
### NOTES

STRINGER TO CAP BEAM CLIP SHALL BE:  
1. SIMPSON STRONG TIE LTS12  
2. USP TIE RT4  
3. OR APPROVED EQUAL

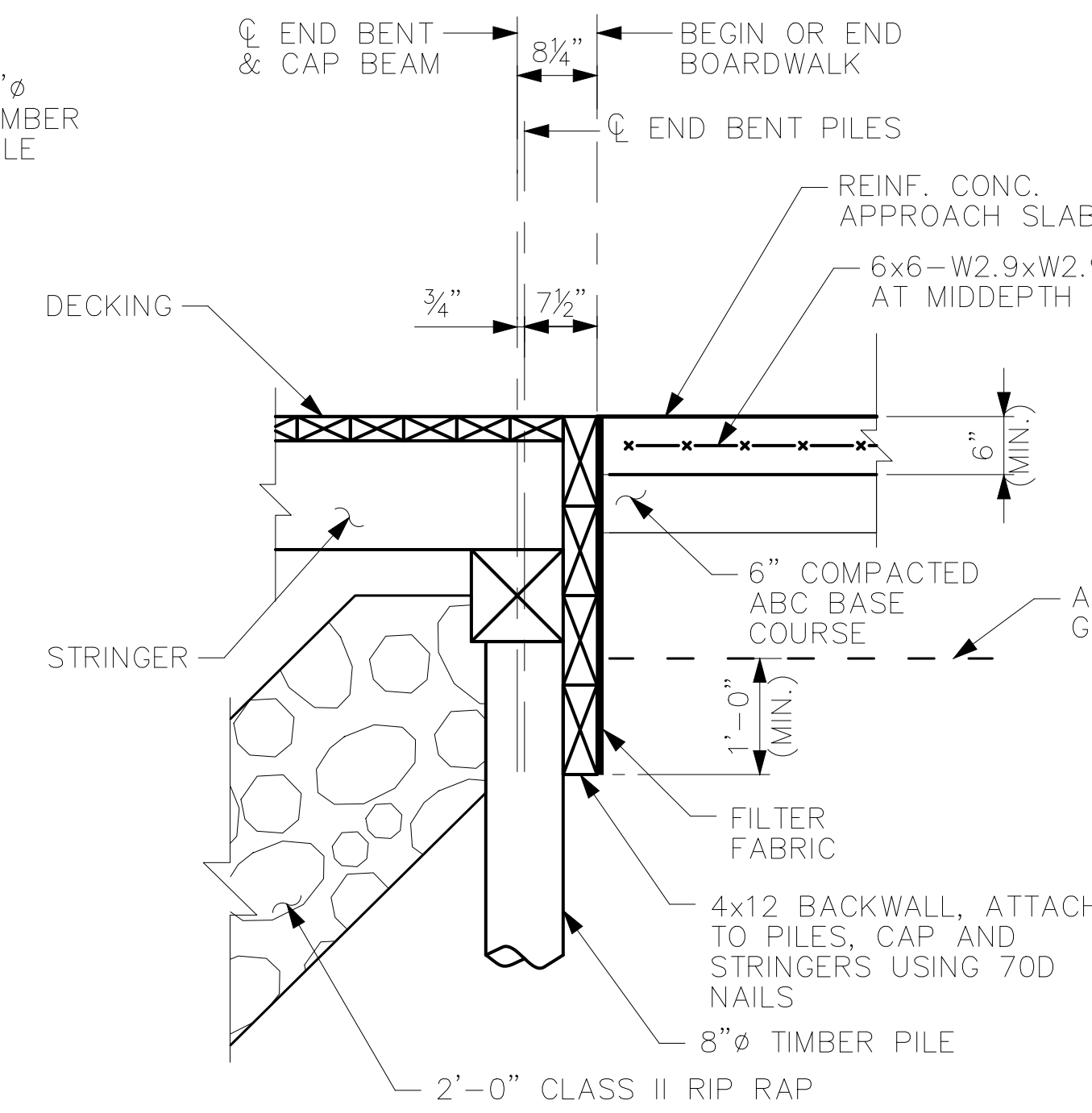
CAP BEAM TO PILING STRAP SHALL BE:  
1. SIMPSON MSTA12 FLAT STRAP  
2. USP MSTA12 FLAT STRAP  
3. OR APPROVED EQUAL

TIMBER PILES SHALL HAVE MINIMUM TIP DIAMETER OF 8"

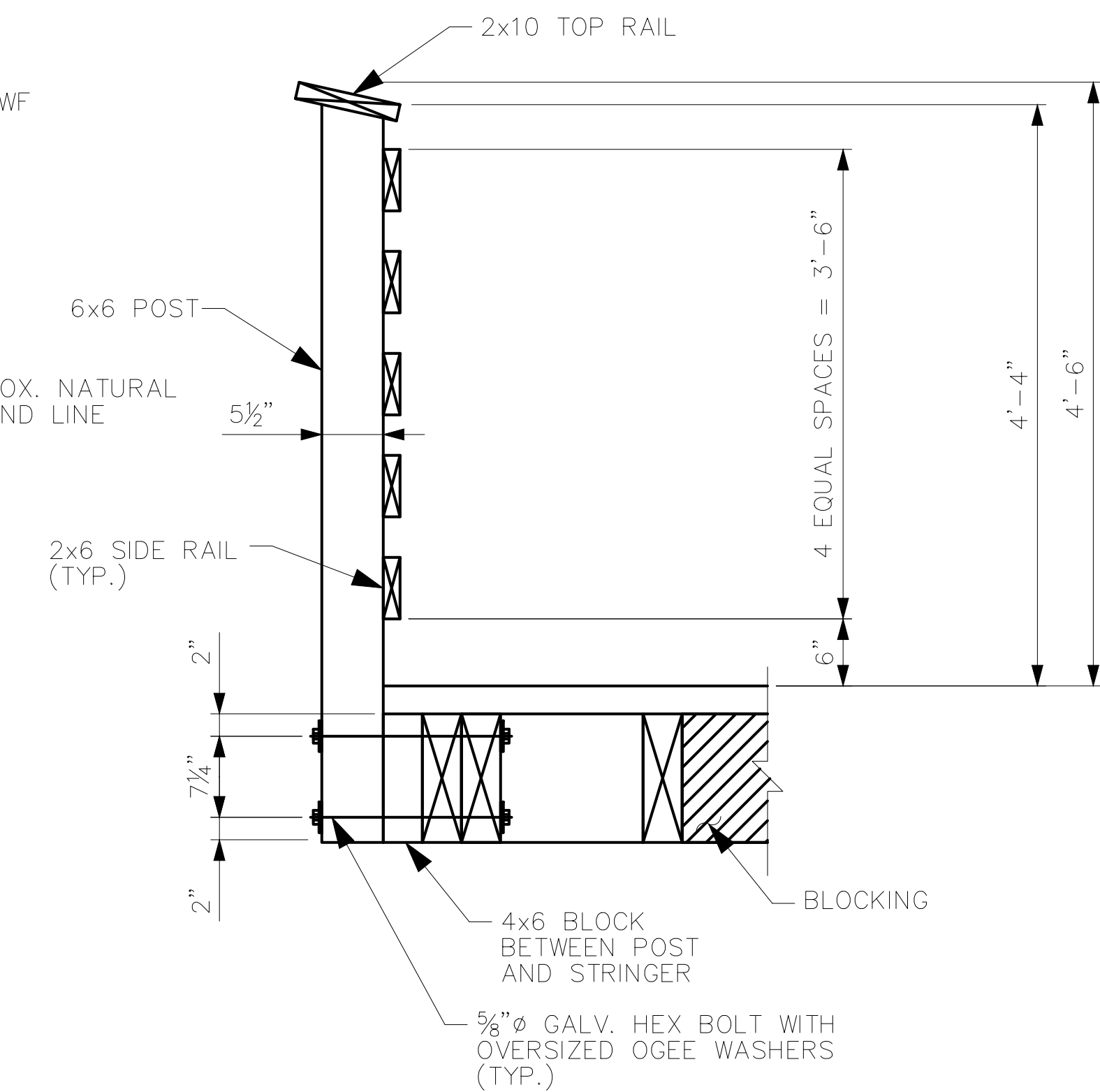
STRINGERS MAY BE SPACED AS NECESSARY WITHOUT EXCEEDING DECKING SPAN OF 1'-6 3/4".



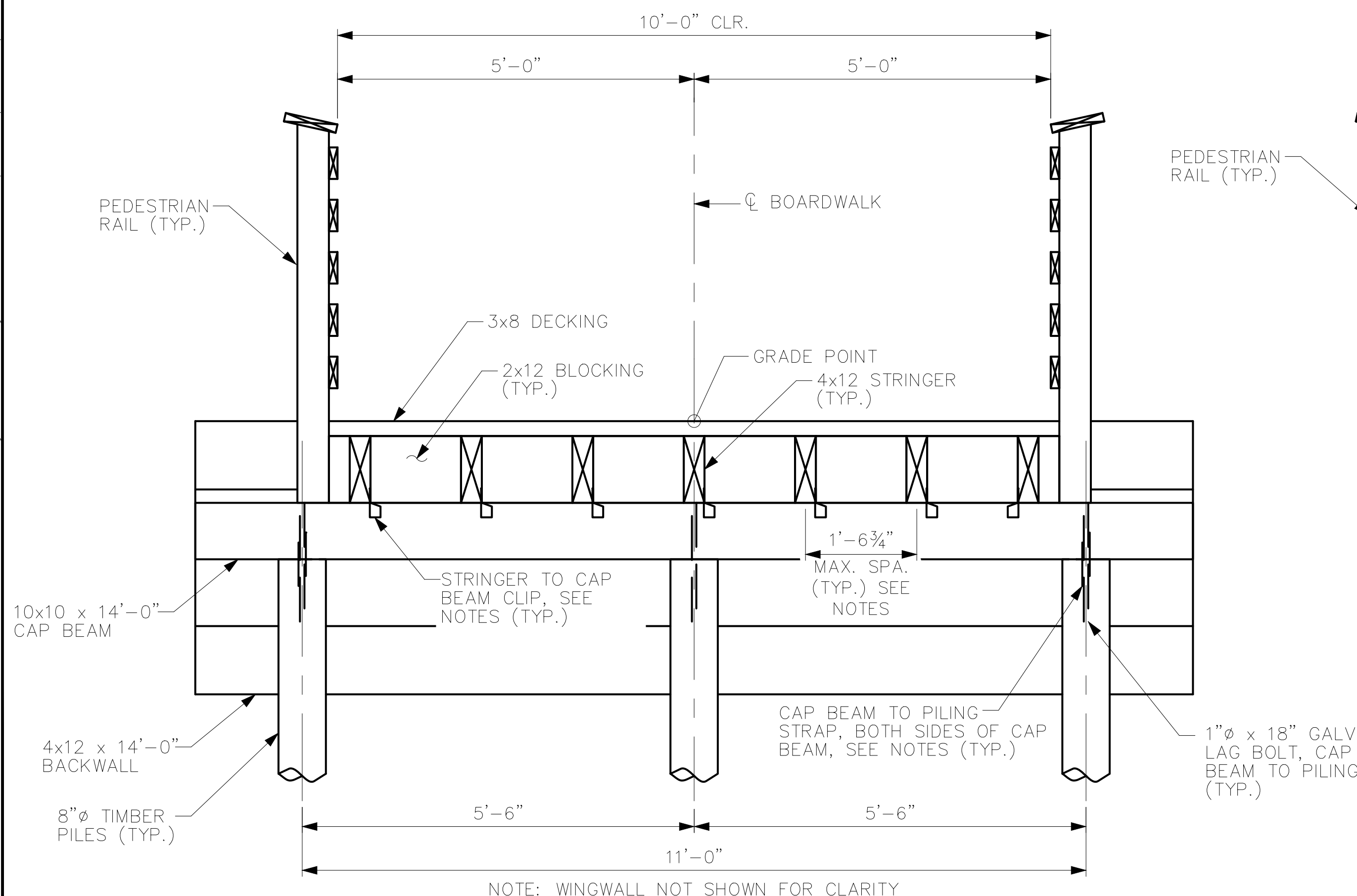
TIMBER BOARDWALK END BENT PLAN



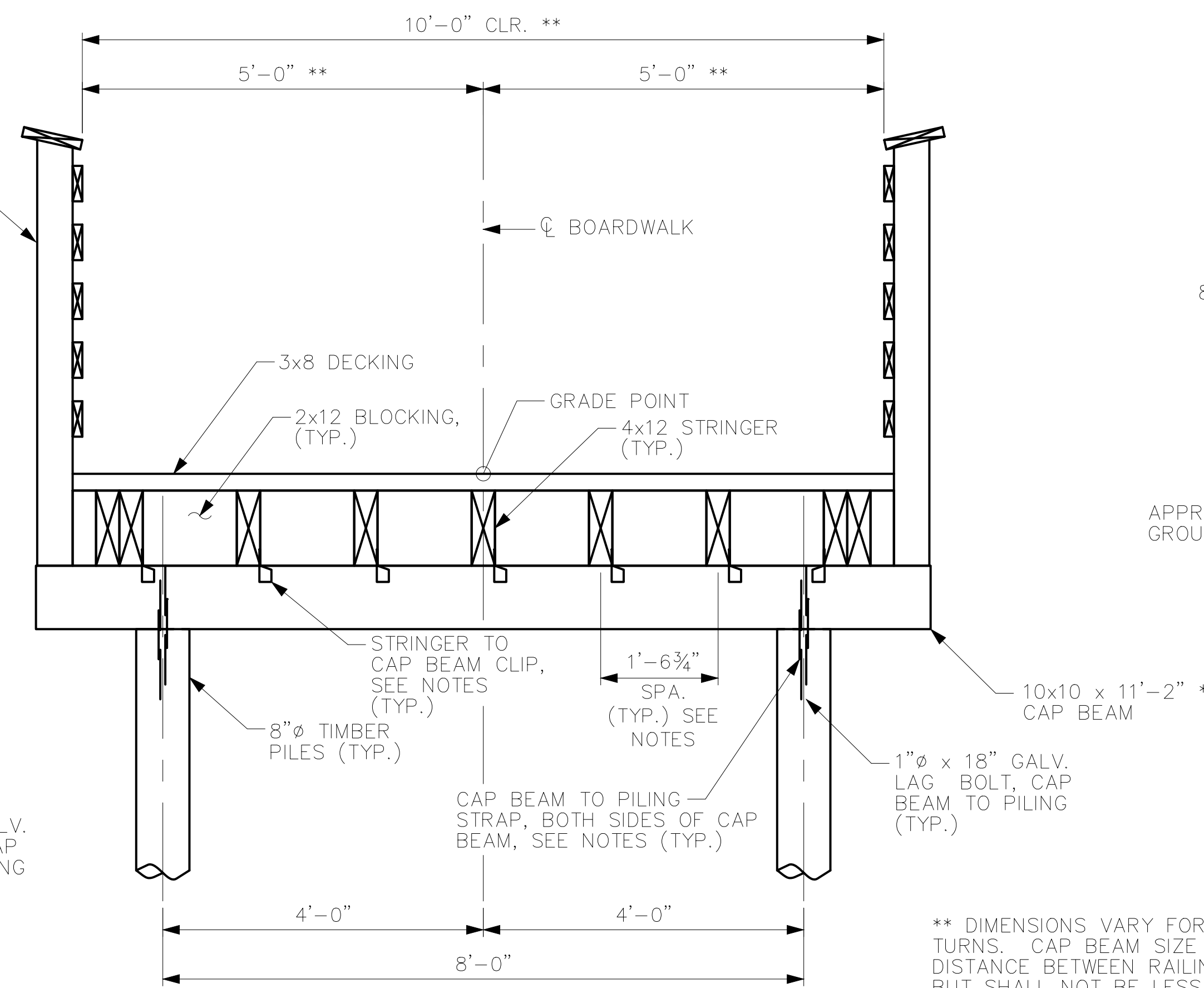
SECTION A-A  
(RAILING NOT SHOWN FOR CLARITY)



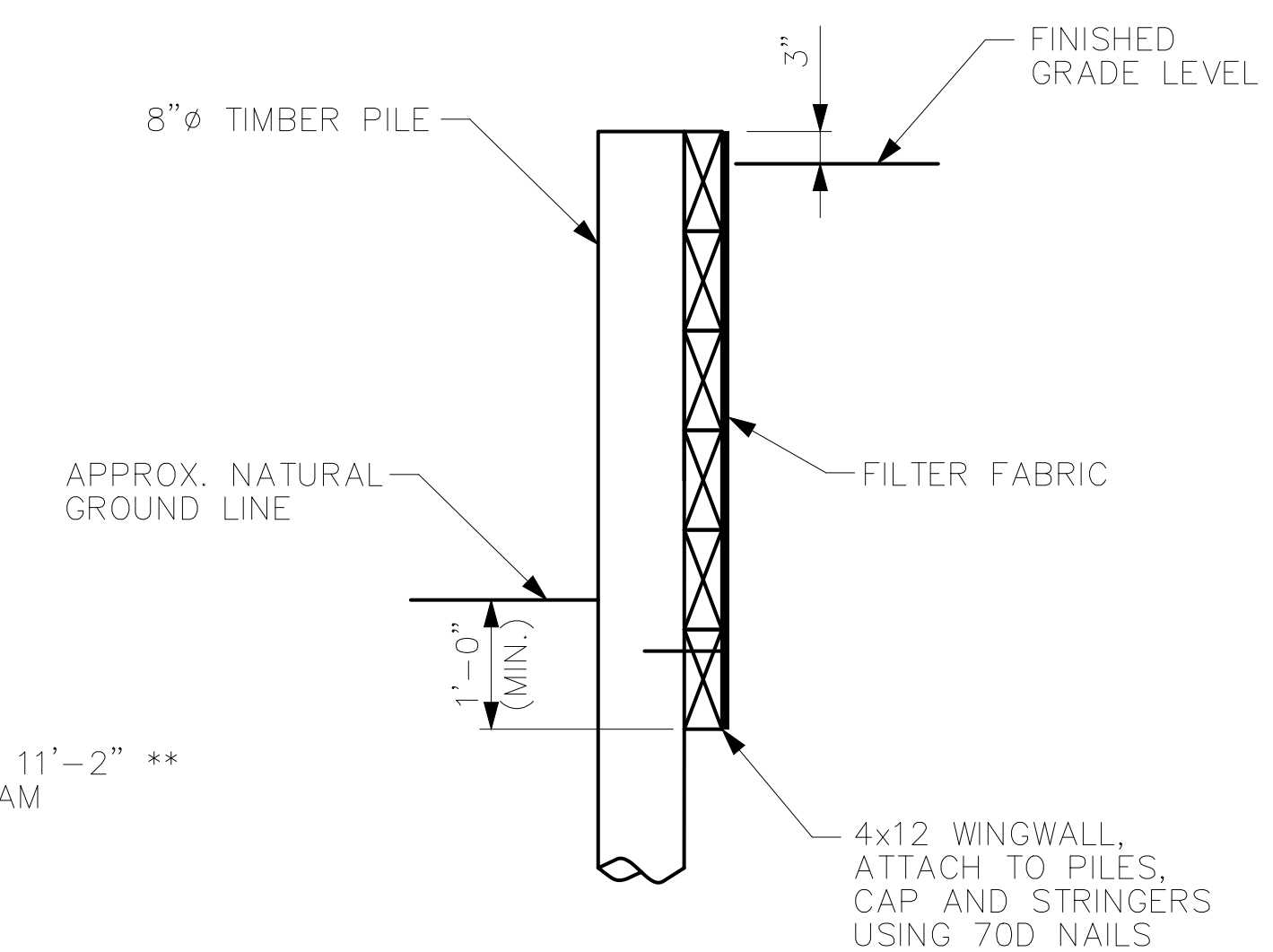
PEDESTRIAN RAIL DETAIL



TIMBER BOARDWALK END BENT ELEVATION



TIMBER BOARDWALK BENT ELEVATION



SECTION B-B

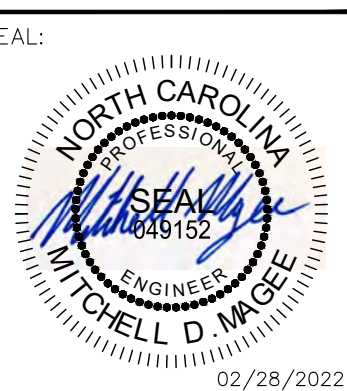
\*\* DIMENSIONS VARY FOR BENTS LOCATED AT BOARDWALK TURNS. CAP BEAM SIZE INCREASES TO 10x10x13'-2". CLEAR DISTANCE BETWEEN RAILINGS VARIES FOR THESE LOCATIONS BUT SHALL NOT BE LESS THAN 10'-0".  
-L2- BENTS AT TURNS: BENT 6, BENT 8, BENT 15, BENT 21, BENT 28, BENT 31, BENT 34, BENT 43, BENT 59.  
-L4- BENTS AT TURNS: BENT 10, BENT 15, BENT 22, BENT 31, BENT 34, BENT 42, BENT 45, BENT 49, BENT 56.

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NO.	REVISIONS	DATE	BY
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KHA PROJECT	012654010
DATE	02/28/2022
SCALE	AS SHOWN
DESIGNED BY	BMK
DRAWN BY	JJK
CHECKED BY	MDW

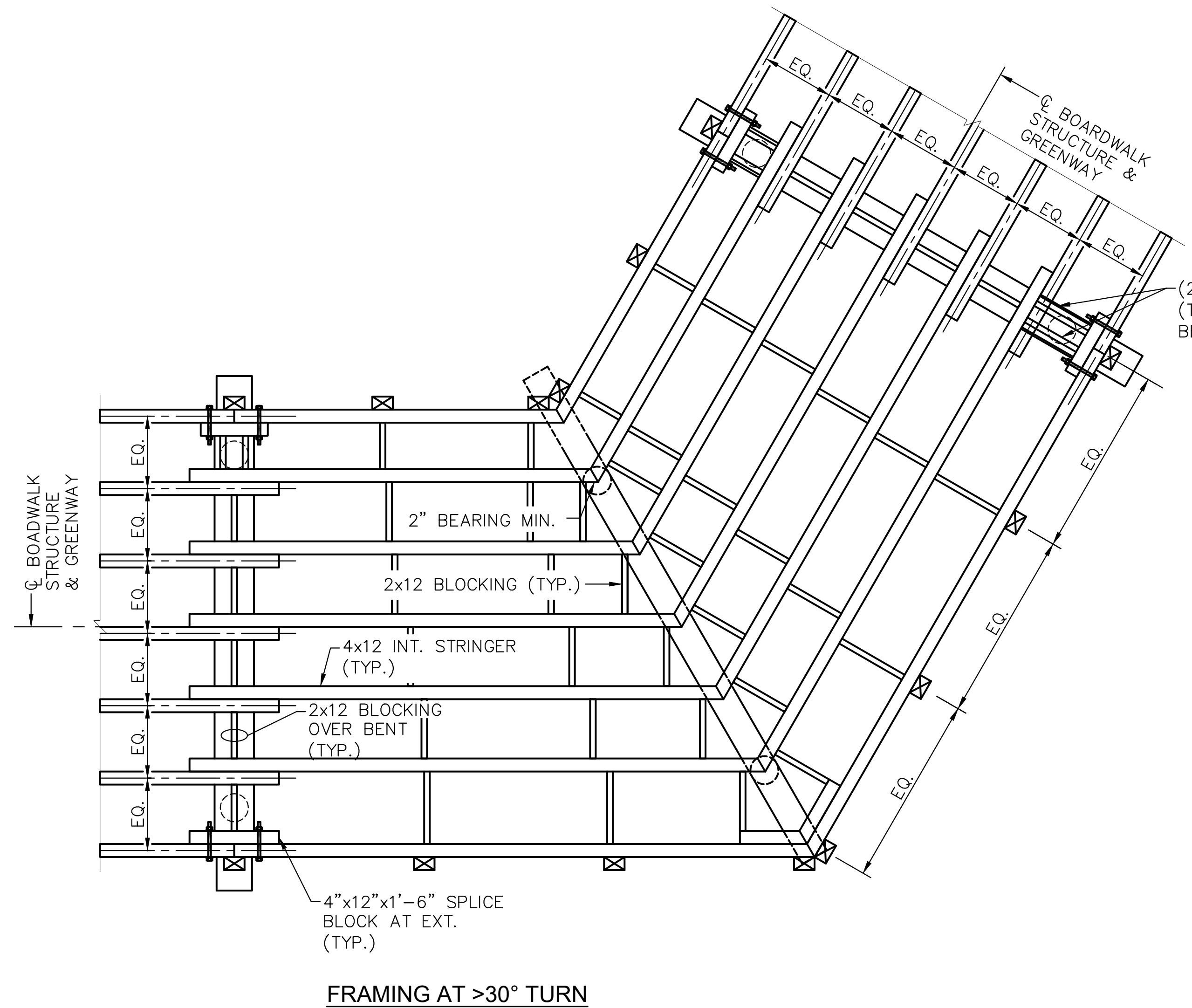
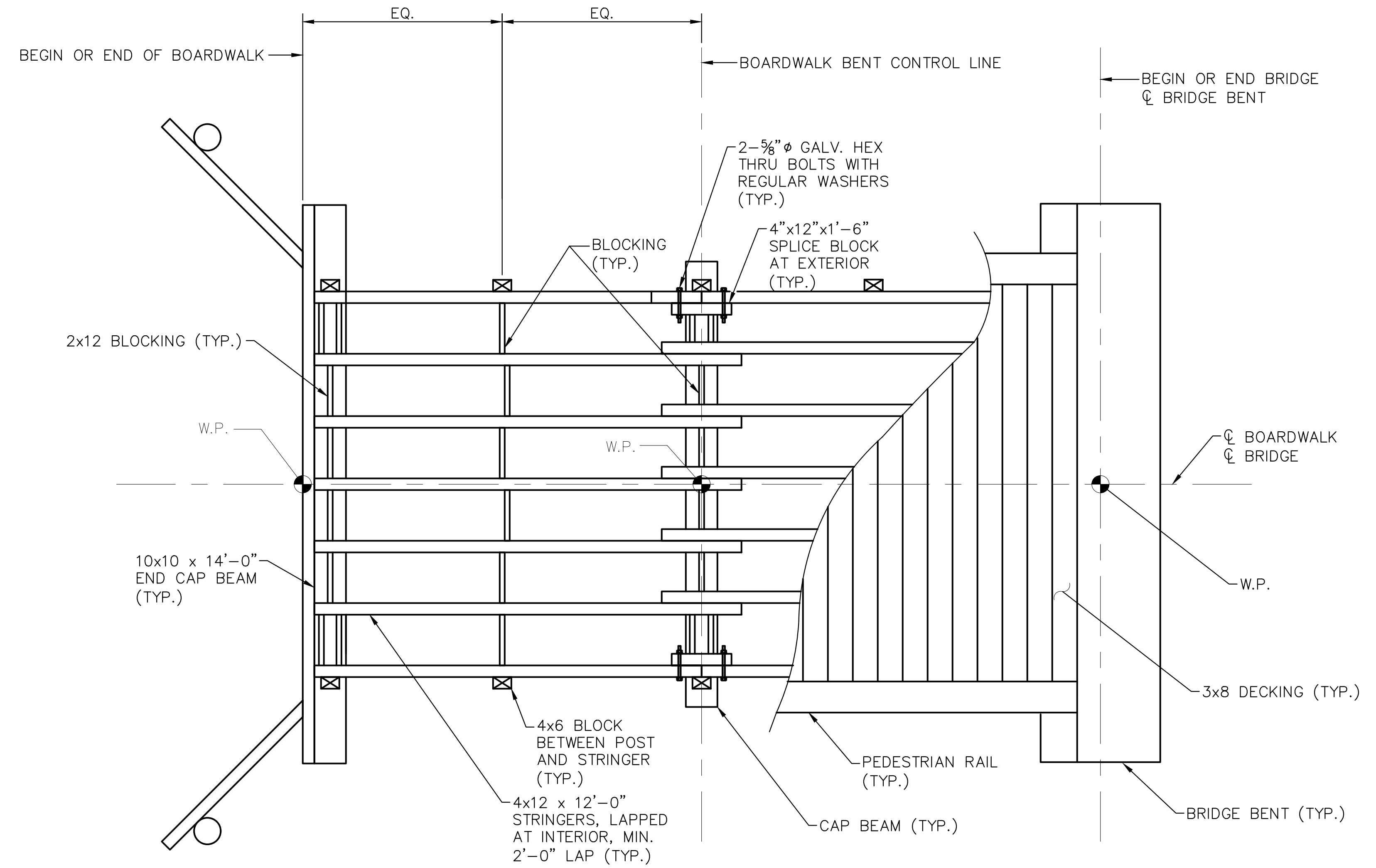
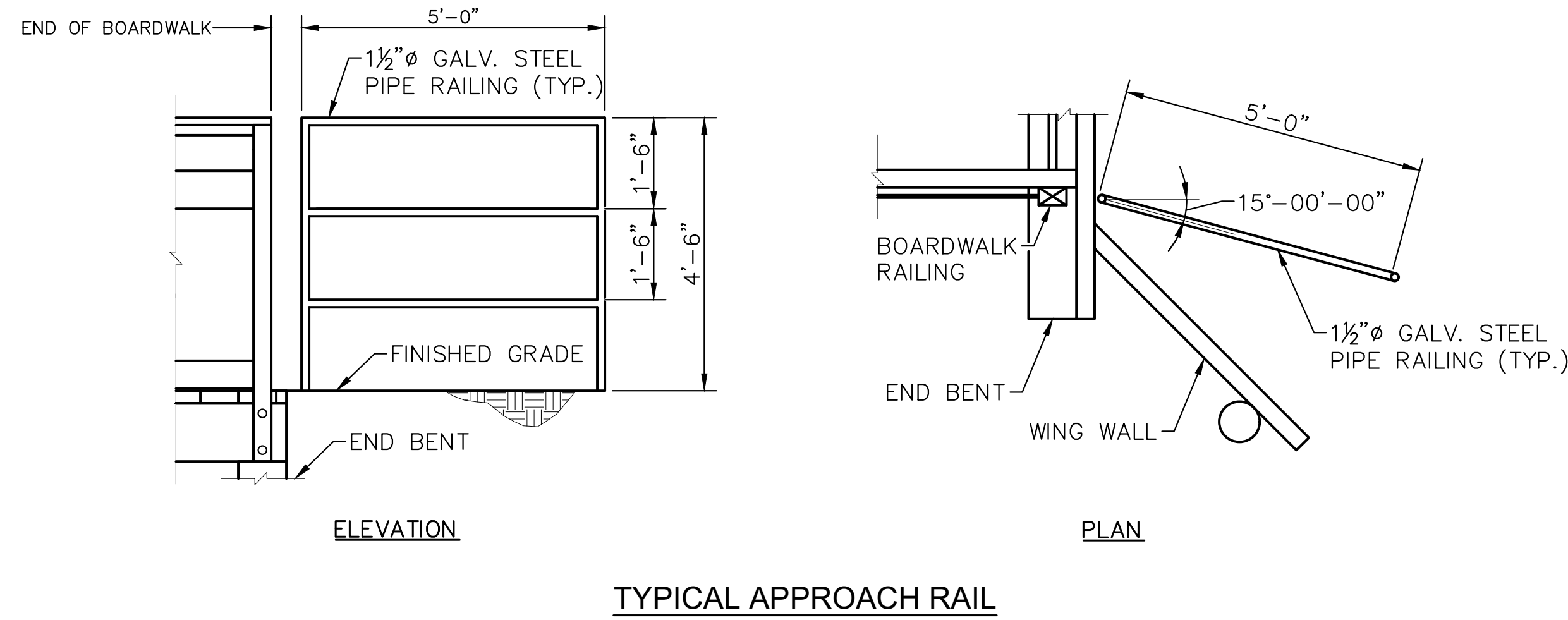
## TIMBER BOARDWALK DETAILS

WILDWOOD PARK - OBSERVATION TOWER AND TRAILS  
PREPARED FOR  
CITY OF GREENVILLE  
GREENVILLE, NC  
SHEET NUMBER  
**S.16**

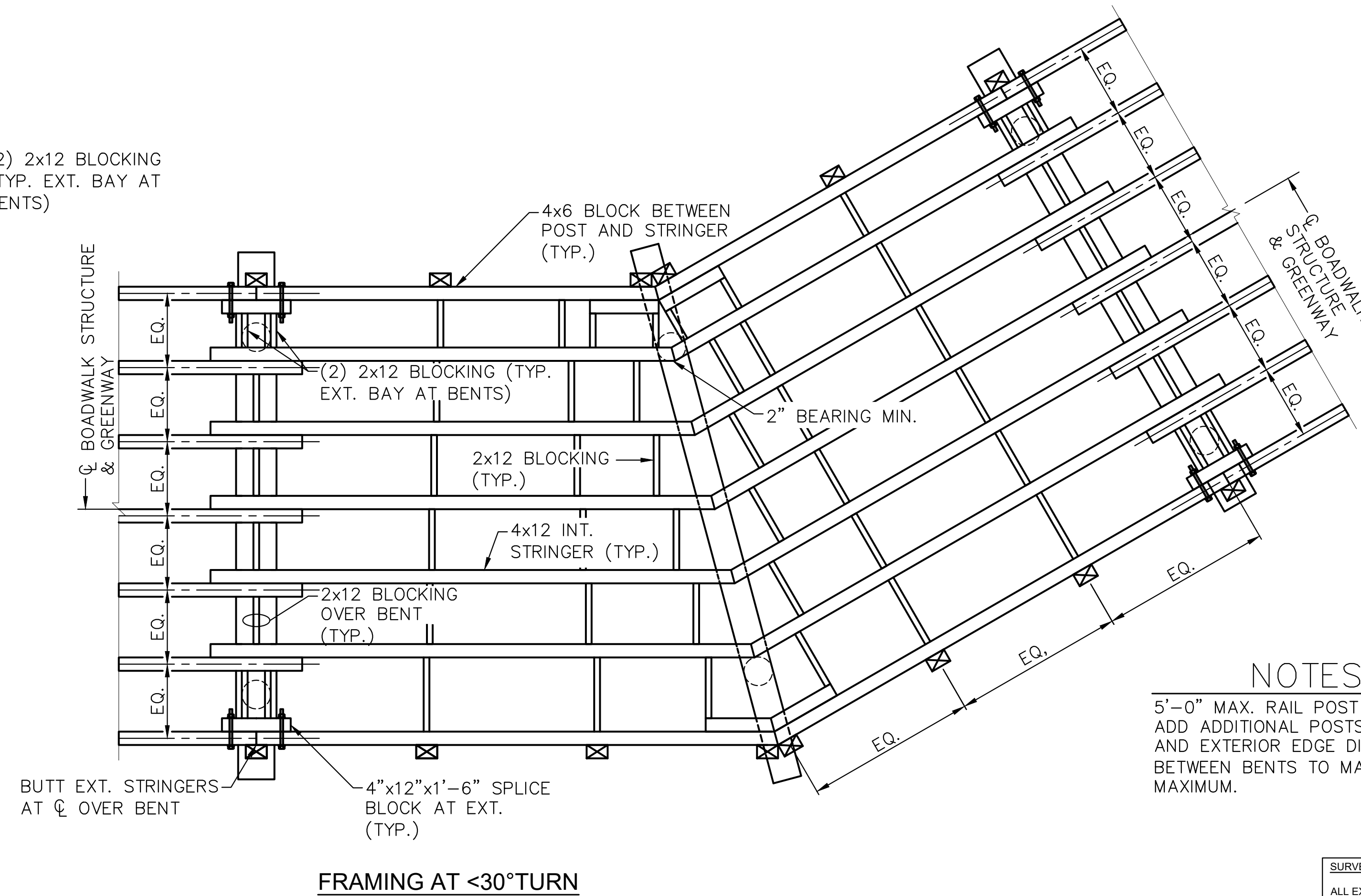


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(2) 2x12 BLOCKING (TYP. EXT. BAY AT BENTS)



**NOTES**

5'-0" MAX. RAIL POST SPACING.  
ADD ADDITIONAL POSTS FOR SPANS AND EXTERIOR EDGE DISTANCES BETWEEN BENTS TO MAINTAIN 5'-0" MAXIMUM.

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02/28/2022

KHA PROJECT 012654010  
DATE 02/28/2022  
SCALE AS SHOWN  
DESIGNED BY BMK  
DRAWN BY JJK  
CHECKED BY MDW

**TIMBER BOARDWALK FRAMING DETAILS**

WILDWOOD PARK - OBSERVATION TOWER AND TRAILS  
PREPARED FOR  
CITY OF GREENVILLE  
GREENVILLE, NC

SHEET NUMBER  
**S.17**

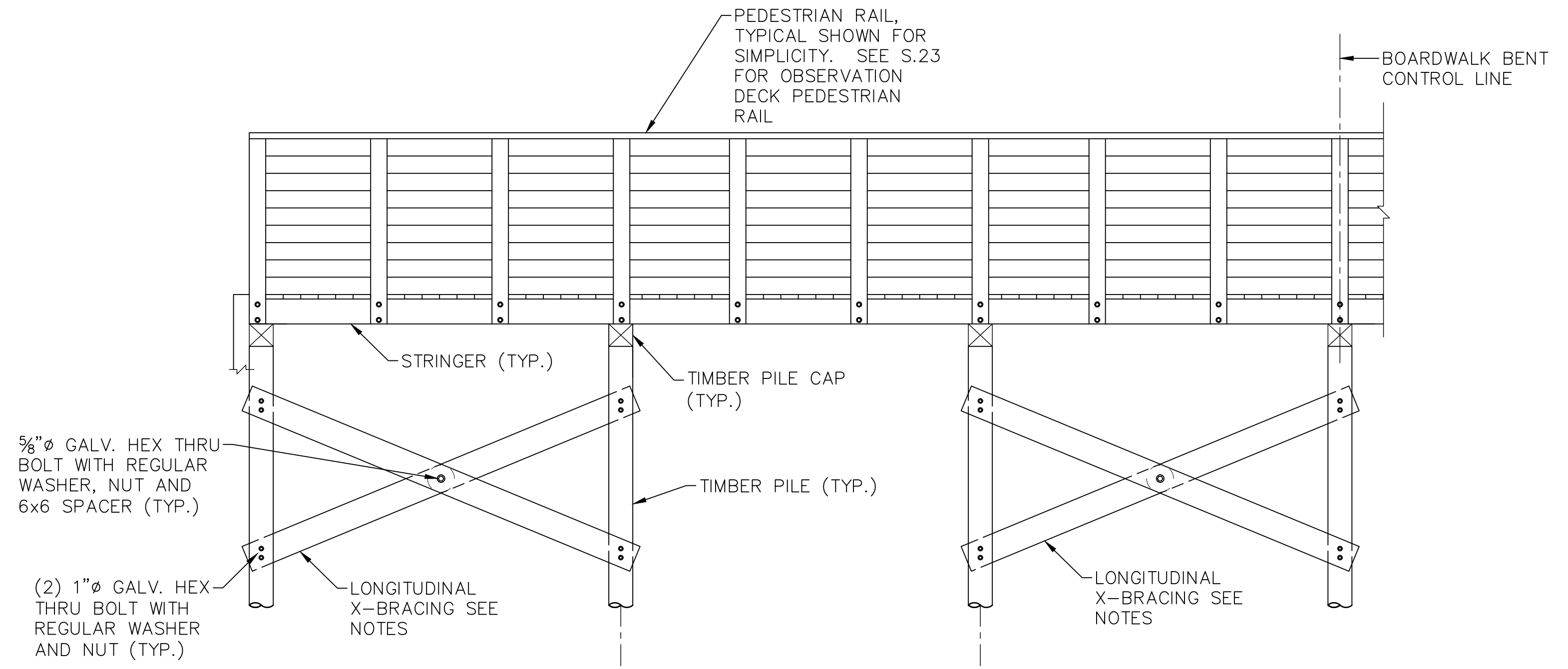


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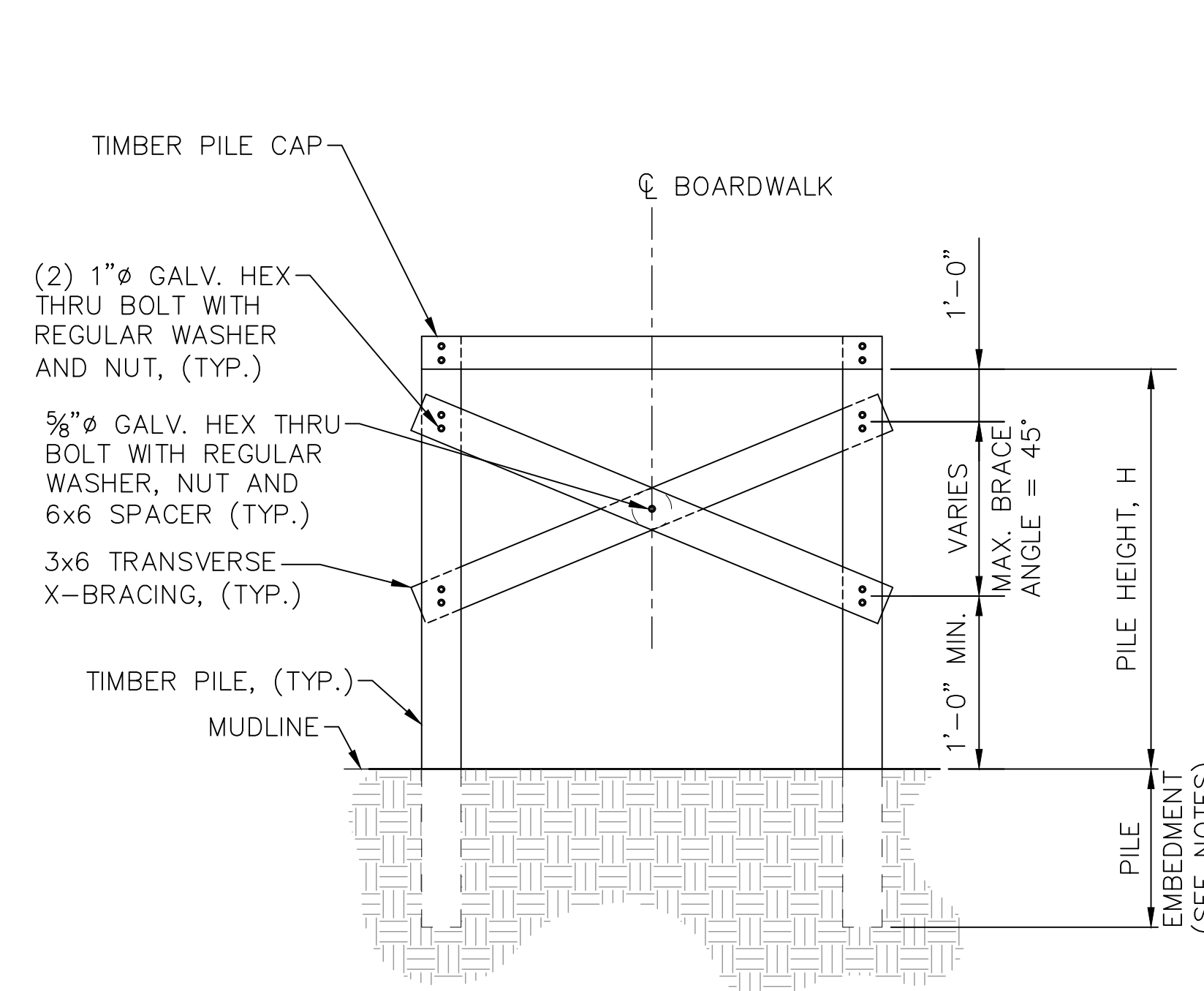
FOUNDATION AND BRACING REQUIREMENTS								
ALIGNMENT	BENT NO.	PILE TYPE	NO. PILES (PER SUBSTRUCTURE UNIT), EA.	FOUNDATION TYPE	ESTIMATED PILE LENGTH (PER PILE), FT.	LATERAL BRACING (DETAIL B)	LONGITUDINAL BRACING (DETAIL A)	
-L2- (THE BEACH)	END BENT 1	8" DIA. TIMBER	3	1	35	NO	NO	
	1 - 5	8" DIA. TIMBER	2	2	40	NO	NO	
	6	8" DIA. TIMBER	2	3	45	NO	NO	
	7	8" DIA. TIMBER	2	2	40	NO	NO	
	8	8" DIA. TIMBER	2	3	45	NO	NO	
	9 - 11	8" DIA. TIMBER	2	2	40	NO	NO	
	12 - 14	8" DIA. TIMBER	2	2	40	YES	NO	
	15	8" DIA. TIMBER	2	3	45	YES	NO	
	16 - 20	8" DIA. TIMBER	2	2	40	NO	NO	
	21	8" DIA. TIMBER	2	3	45	NO	NO	
	22 - 24	8" DIA. TIMBER	2	2	40	YES	NO	
	25 - 26	HP 12x53	2	7	55	NO	NO	
	27	8" DIA. TIMBER	2	2	40	YES	YES	
	28	8" DIA. TIMBER	2	3	45	YES	YES	
	29	8" DIA. TIMBER	2	2	40	YES	YES	
	30	8" DIA. TIMBER	2	2	40	YES	NO	
	31	8" DIA. TIMBER	2	3	45	YES	NO	
	32 - 33	8" DIA. TIMBER	2	2	40	YES	NO	
	34	8" DIA. TIMBER	2	3	45	YES	NO	
	35 - 42	8" DIA. TIMBER	2	2	40	NO	NO	
	43	8" DIA. TIMBER	2	3	45	NO	NO	
	44	8" DIA. TIMBER	2	2	40	NO	NO	
	45	8" DIA. TIMBER	2	2	40	YES	NO	
	46 - 48	8" DIA. TIMBER	2	2	40	YES	YES	
	49	8" DIA. TIMBER	2	4	50	YES	YES	
	50 - 52	8" DIA. TIMBER	4	6	50	YES	YES	
	53	8" DIA. TIMBER	2	4	50	YES	YES	
54	8" DIA. TIMBER	2	5	55	YES	YES		
55 - 56	8" DIA. TIMBER	2	2	40	YES	YES		
57	8" DIA. TIMBER	2	2	40	YES	NO		
END BENT 2	8" DIA. TIMBER	3	1	35	NO	NO		
-L4- (THE SWAMP)	1 - 6	8" DIA. TIMBER	2	2	40	NO	NO	
	END BENT 1	8" DIA. TIMBER	3	1	35	NO	NO	
	1 - 4	8" DIA. TIMBER	2	2	40	NO	NO	
	5 - 9	8" DIA. TIMBER	2	2	40	YES	NO	
	10	8" DIA. TIMBER	2	3	45	YES	NO	
	11 - 13	8" DIA. TIMBER	2	2	40	YES	YES	
	14	8" DIA. TIMBER	2	4	50	YES	YES	
	15	8" DIA. TIMBER	2	3	45	YES	YES	
	16 - 23	8" DIA. TIMBER	2	4	50	YES	YES	
	24	8" DIA. TIMBER	2	3	45	YES	YES	
	25 - 32	8" DIA. TIMBER	2	4	50	YES	YES	
	33	8" DIA. TIMBER	2	5	55	YES	YES	
	34 - 43	8" DIA. TIMBER	2	4	50	YES	YES	
	44	8" DIA. TIMBER	2	5	55	YES	YES	
	45 - 46	8" DIA. TIMBER	2	4	50	YES	YES	
	47	8" DIA. TIMBER	2	5	55	YES	YES	
	48 - 50	8" DIA. TIMBER	2	4	50	YES	YES	
	51	8" DIA. TIMBER	2	5	55	YES	YES	
	52 - 53	8" DIA. TIMBER	2	4	50	YES	YES	
	54	8" DIA. TIMBER	2	2	40	YES	YES	
	55 - 56	8" DIA. TIMBER	2	2	40	YES	NO	
	57	8" DIA. TIMBER	2	2	40	NO	NO	
	58	8" DIA. TIMBER	2	3	45	NO	NO	
	59 - 61	8" DIA. TIMBER	2	2	40	NO	NO	
	END BENT 2	8" DIA. TIMBER	3	1	35	NO	NO	
	-Y4- (THE SWAMP)	1 - 4	8" DIA. TIMBER	4	6	50	YES **	YES **
		5 - 8	8" DIA. TIMBER	2	4	50	YES **	YES **
-Y5- (THE SWAMP)	END BENT 1	HP 12x53	2	7	55	NO	NO	
	END BENT 2	HP 12x53	2	7	55	NO	NO	

\*\* TWO ROWS OF BRACING REQUIRED; SEE 'DETAIL C' THIS SHEET.

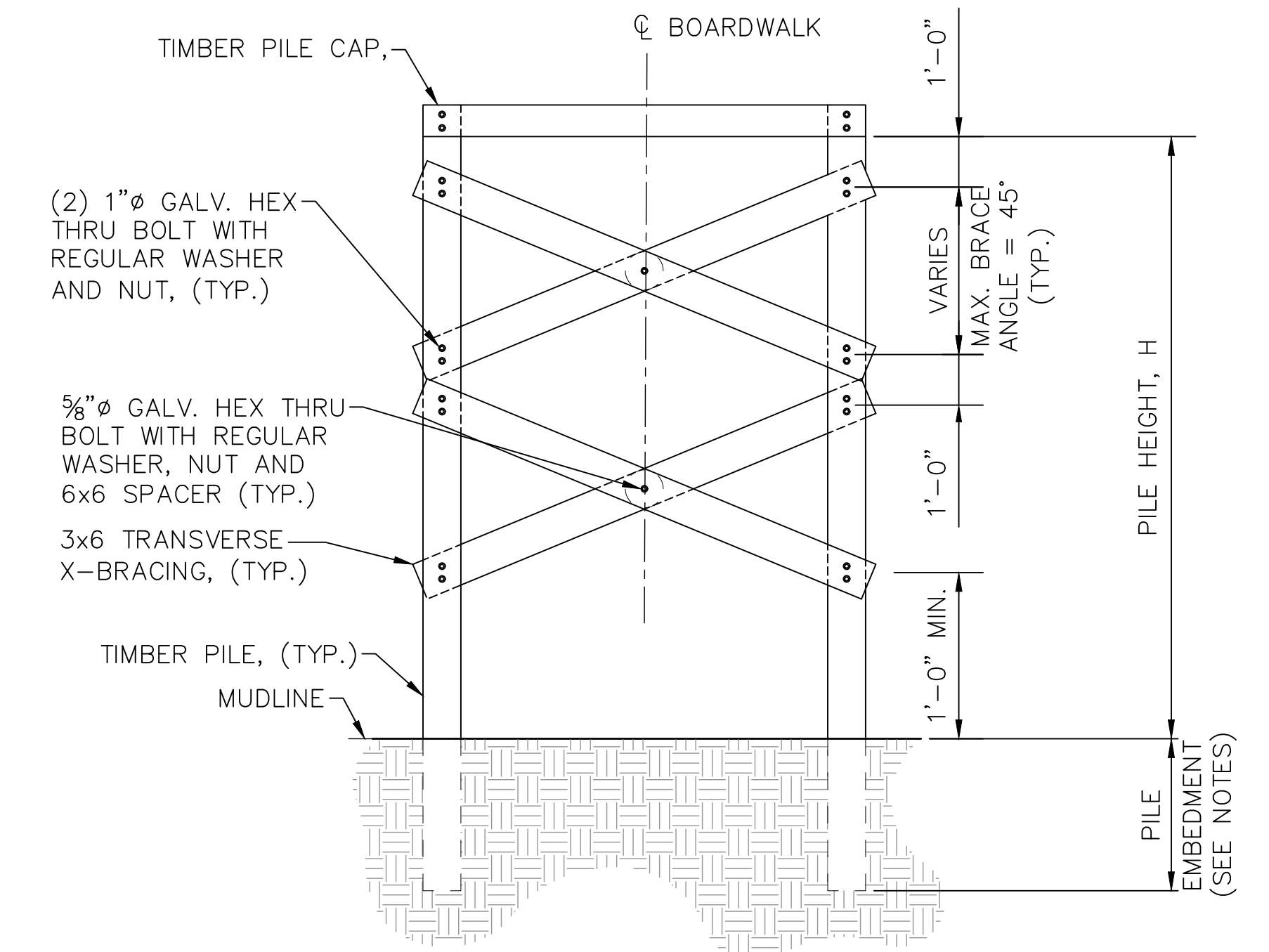


- NOTES:
- PROVIDE LONGITUDINAL 3x6 X-BRACING ON EACH SIDE OF BOARDWALK WHEN DICTATED IN "FOUNDATION AND BRACING REQUIREMENT" TABLE.
  - WHERE REQUIRED, PROVIDE TWO ROWS OF LONGITUDINAL BRACING SIMILAR TO 'DETAIL C'.

DETAIL A - LONGITUDINAL BRACING



DETAIL B - LATERAL BRACING



DETAIL C - LATERAL BRACING

- NOTES:
- SEE GEOTECHNICAL REPORT FOR FOUNDATION TYPE INFORMATION AND MINIMUM PILE EMBEDMENT.
  - PROVIDE MIN CLEARANCE OF 7x BOLT DIAMETER FROM BOLT TO END OF BRACING.
  - WHERE BRACES ARE REQUIRED, BRACE ANGLE TO BE MAXIMIZED UP TO 45°.

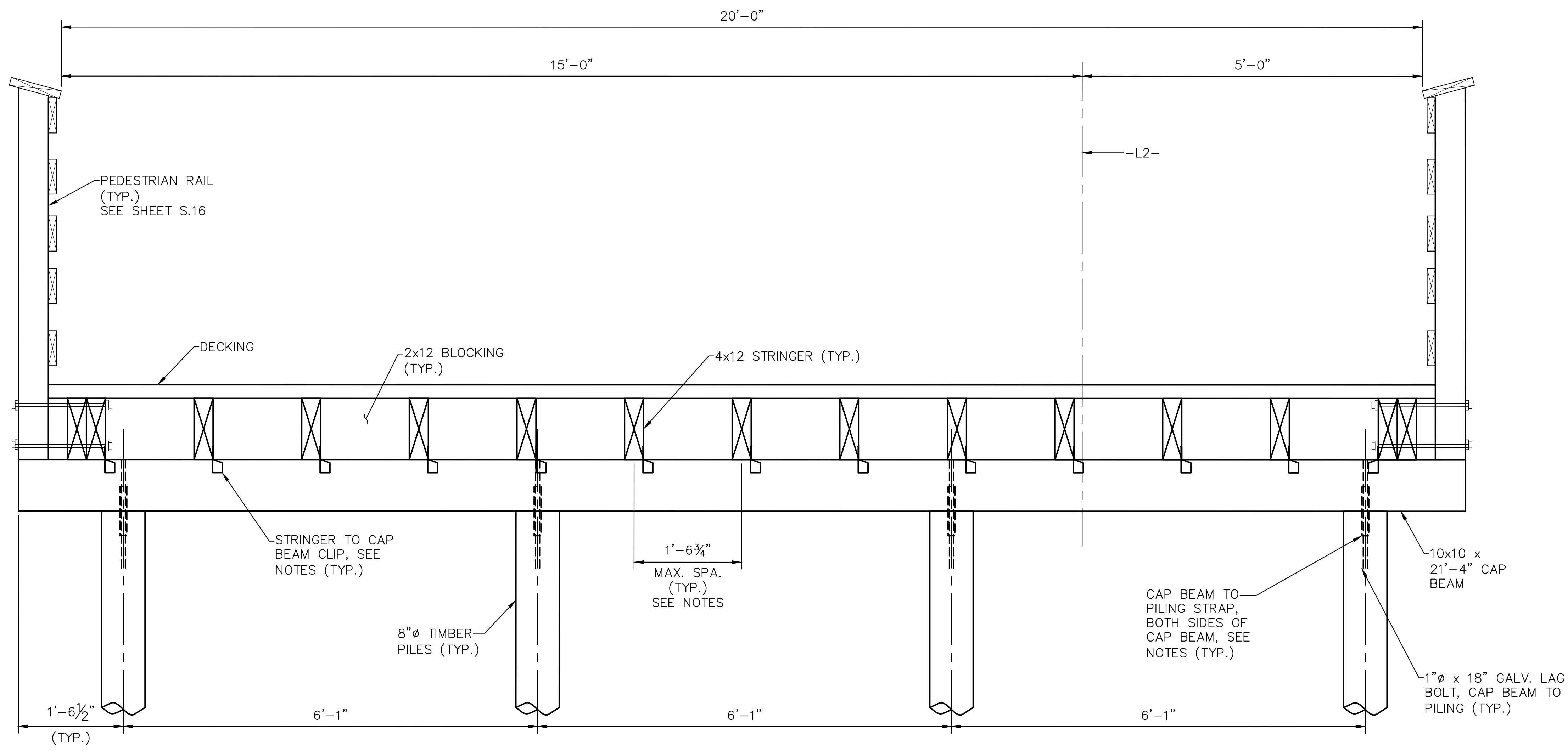
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NORTH CAROLINA PROFESSIONAL SEAL M. MITCHELL D. MACE ENGINEER 02/28/2022				
<b>TIMBER BOARDWALK BRACING AND PILE DETAILS</b>				
WILDWOOD PARK - OBSERVATION TOWER AND TRAILS PREPARED FOR CITY OF GREENVILLE GREENVILLE, NC				
SHEET NUMBER <b>S.18</b>				

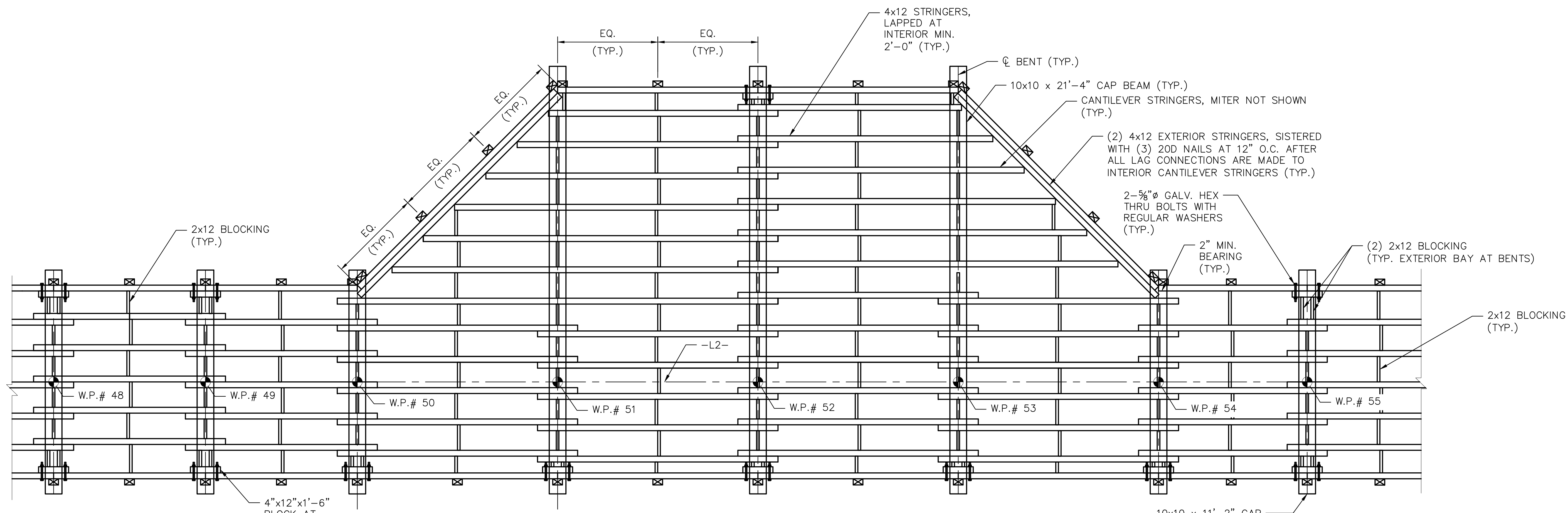


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TIMBER BOARDWALK BENT ELEVATION AT WIDENED PATH



TIMBER BOARDWALK DECK FRAMING PLAN AT WIDENED PATH  
(PILES AND DECKING NOT SHOWN FOR CLARITY)

NOTES

- STRINGER TO CAP BEAM CLIP SHALL BE:
  1. SIMPSON STRONG TIE LTS12
  2. USP TIE RT4
  3. OR APPROVED EQUAL
- CAP BEAM TO PILING STRAP SHALL BE:
  1. SIMPSON MSTA12 FLAT STRAP
  2. USP MSTA12 FLAT STRAP
  3. OR APPROVED EQUAL
- CONNECT CANTILEVER STRINGERS WITH (3) 3/8" DIA. LAG SCREWS THROUGH 4x12 EXTERIOR STRINGER PRIOR TO SISTERING. USE 3/8"x12" LAG SCREWS. PROVIDE 2 1/2" EDGE DISTANCE ON TOP AND BOTTOM OF STRINGER TO LAG SCREWS.
- STRINGERS MAY BE SPACED AS NECESSARY WITHOUT EXCEEDING DECKING SPAN OF 1'-6 3/4".

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DATE	02/28/2022
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DESIGNED BY	BMK
DRAWN BY	JK
CHECKED BY	MDW

WIDENED DECK  
DETAILS

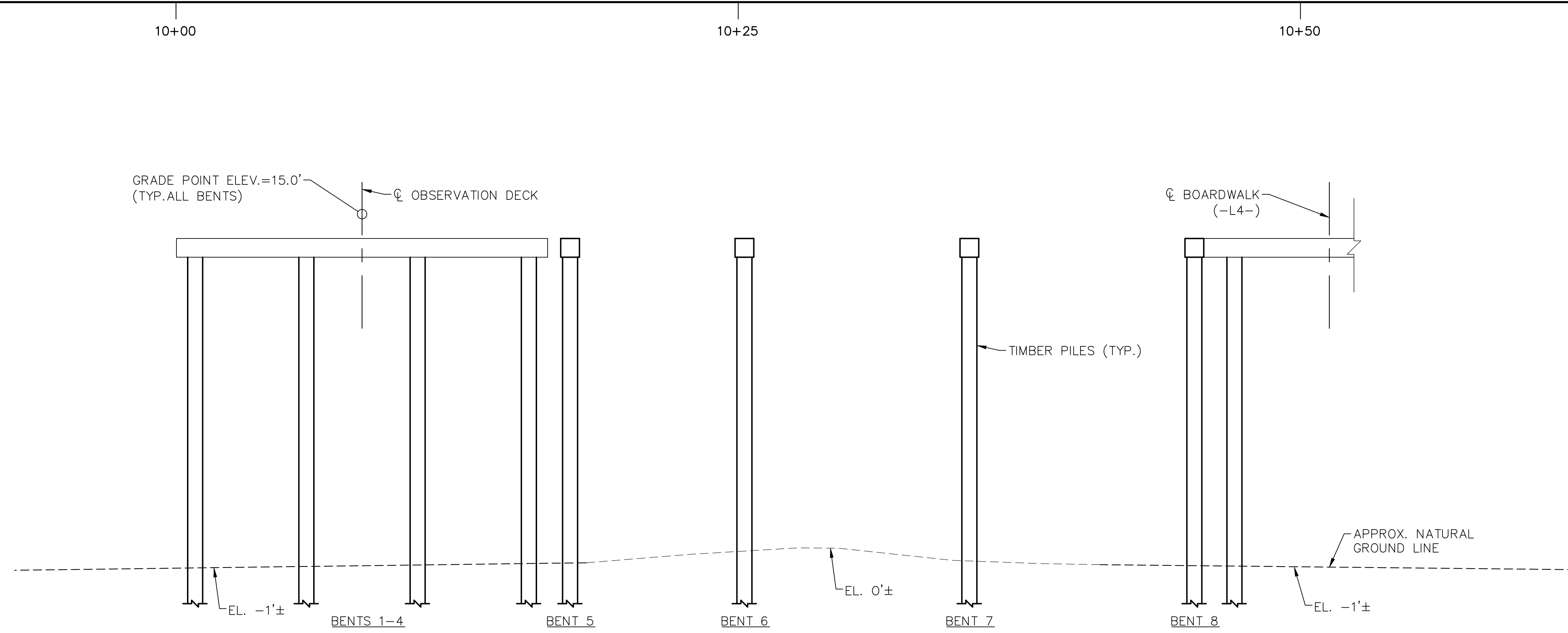
WILDWOOD PARK - OBSERVATION  
TOWER AND TRAILS  
PREPARED FOR  
CITY OF GREENVILLE  
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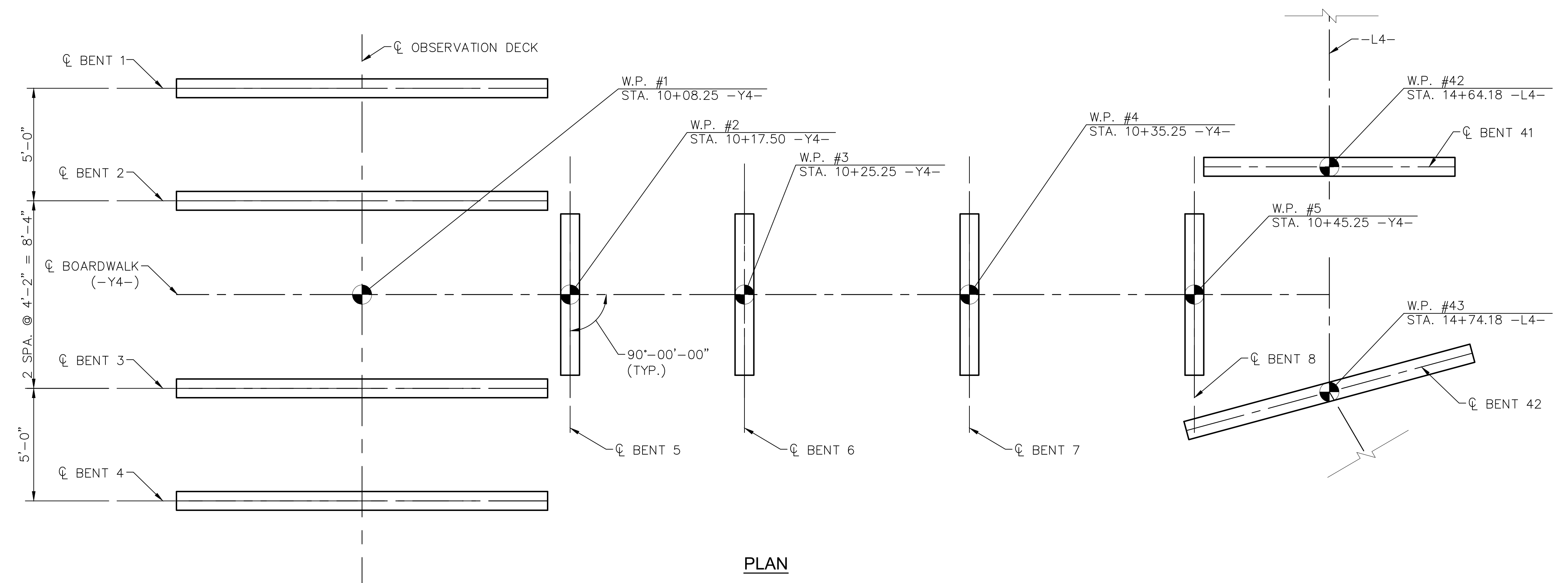


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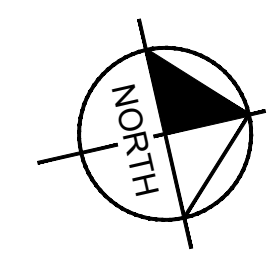
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1  
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-1  
-2  
-3  
-4  
-5



**SECTION ALONG OBSERVATION DECK (-Y4-)**  
(SECTIONS @ BENTS ARE @ RIGHT ANGLES)  
(LONGITUDINAL BRACING NOT SHOWN FOR CLARITY)



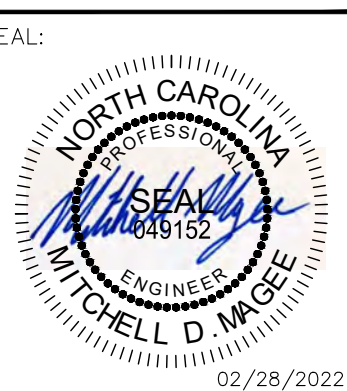
**PLAN**  
(PILES NOT SHOWN IN PLAN VIEW)



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**OBSERVATION DECK  
DETAILS**

**WILDWOOD PARK - OBSERVATION  
TOWER AND TRAILS**  
PREPARED FOR  
**CITY OF GREENVILLE**  
GREENVILLE NC

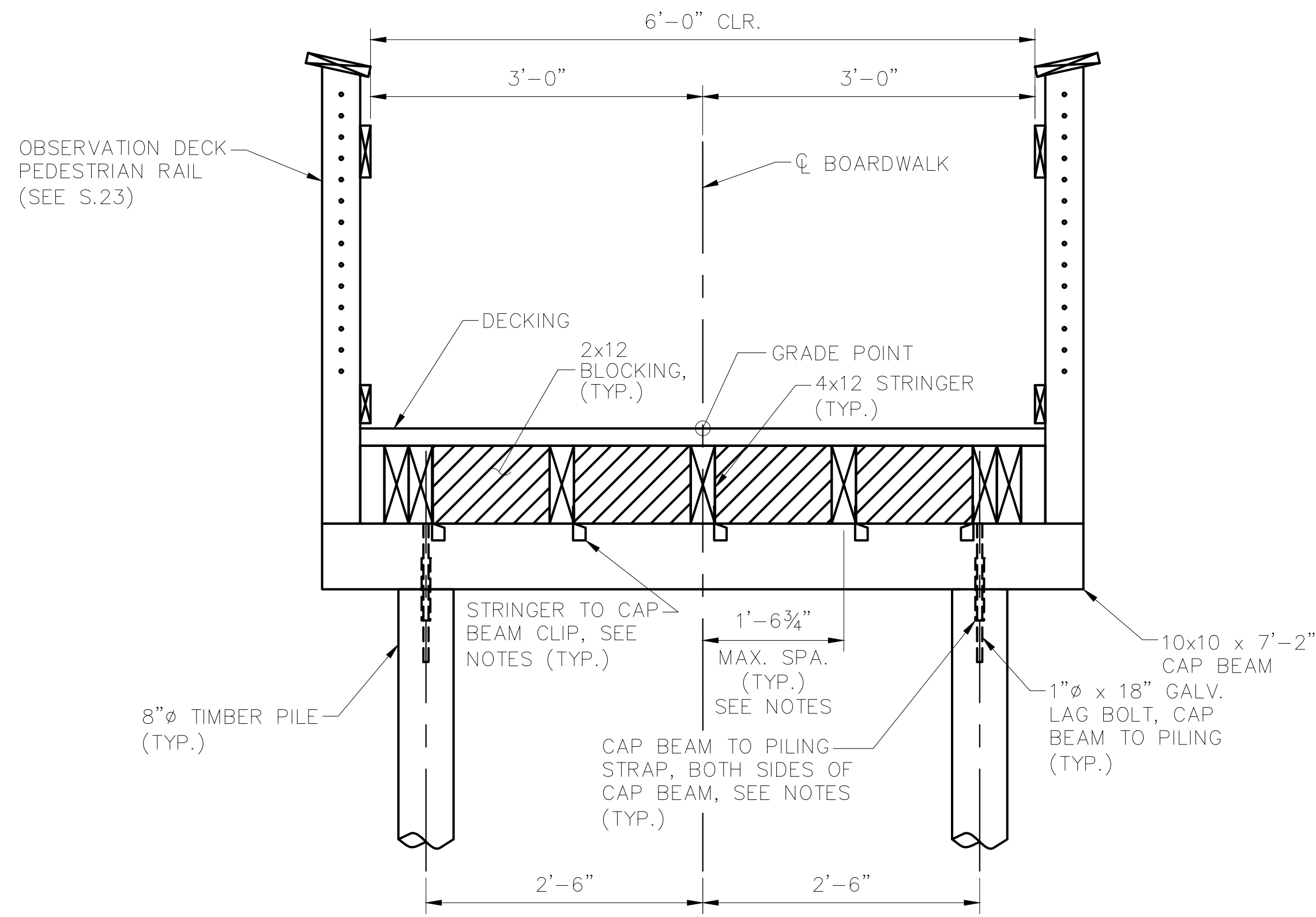
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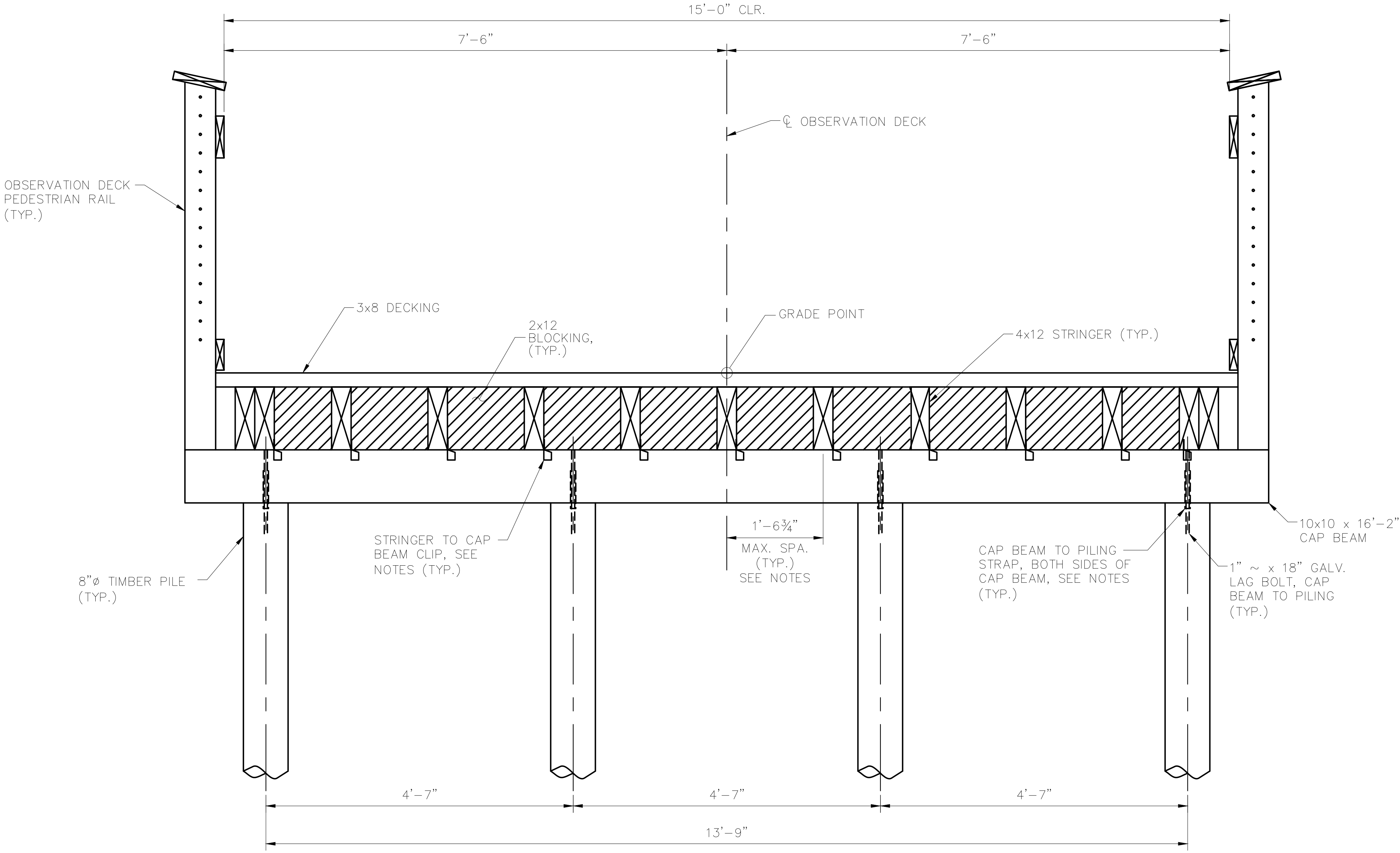


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**TIMBER BOARDWALK BENT ELEVATION**  
BENTS 5 THROUGH 8



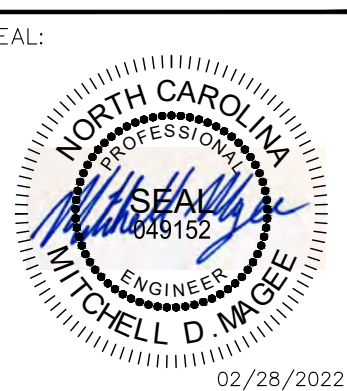
**TIMBER OBSERVATION DECK BENT ELEVATION**

**NOTES**

- STRINGER TO CAP BEAM CLIP SHALL BE:
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  2. USP TIE RT4
  3. OR APPROVED EQUAL
- CAP BEAM TO PILING STRAP SHALL BE:
  1. SIMPSON MSTA12 FLAT STRAP
  2. USP MSTA12 FLAT STRAP
  3. OR APPROVED EQUAL
- STRINGERS MAY BE SPACED AS NECESSARY WITHOUT EXCEEDING DECKING SPAN OF 1'-6 3/4".

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CHECKED BY	MDW
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**OBSERVATION DECK  
DETAILS**

WILDWOOD PARK - OBSERVATION  
TOWER AND TRAILS  
PREPARED FOR  
CITY OF GREENVILLE  
GREENVILLE NC

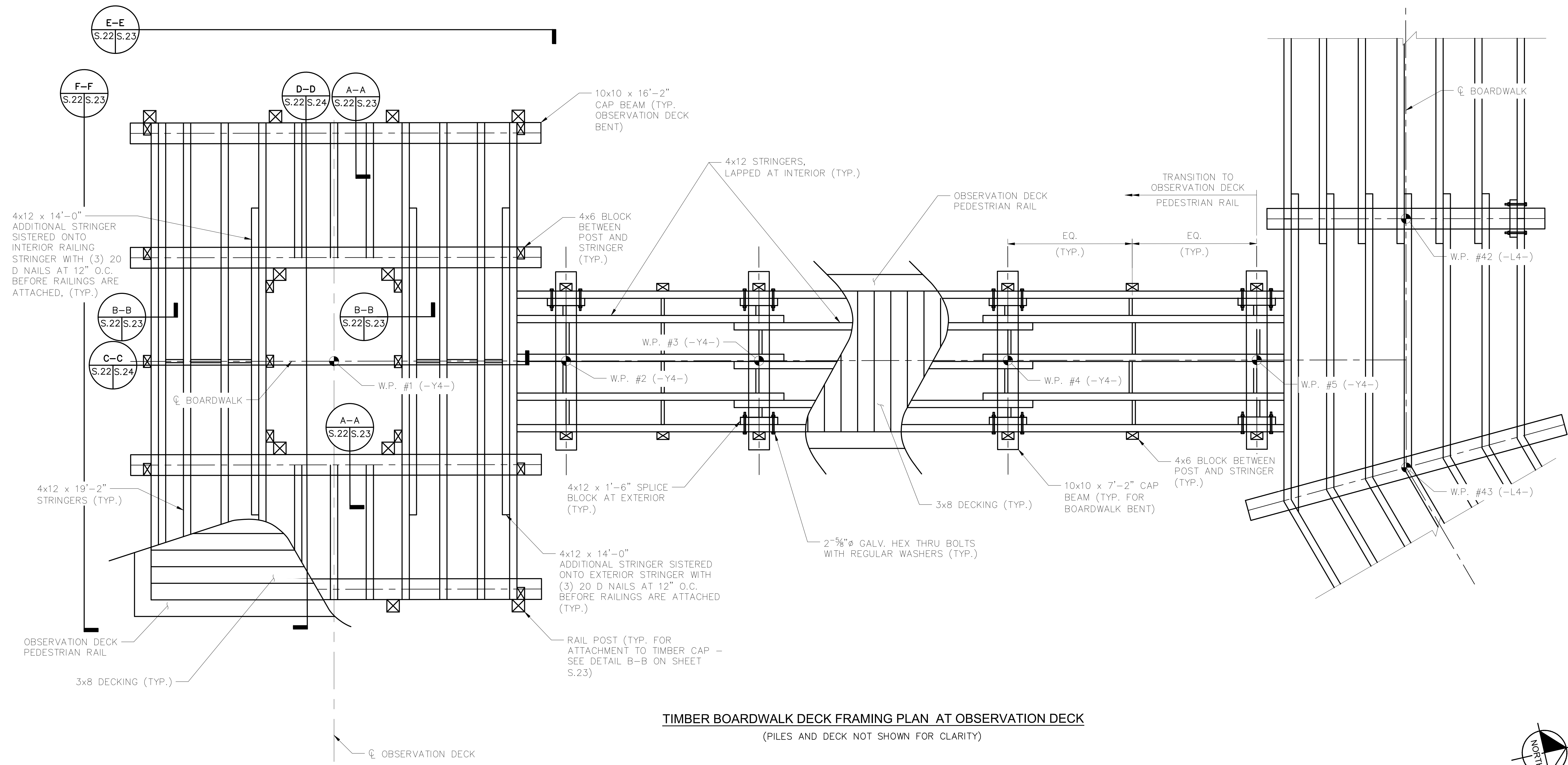
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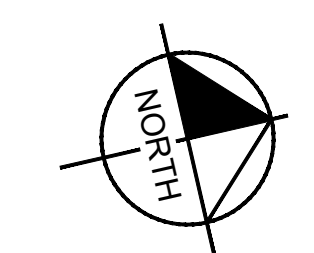


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**TIMBER BOARDWALK DECK FRAMING PLAN AT OBSERVATION DECK**  
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**OBSERVATION DECK  
DETAILS**

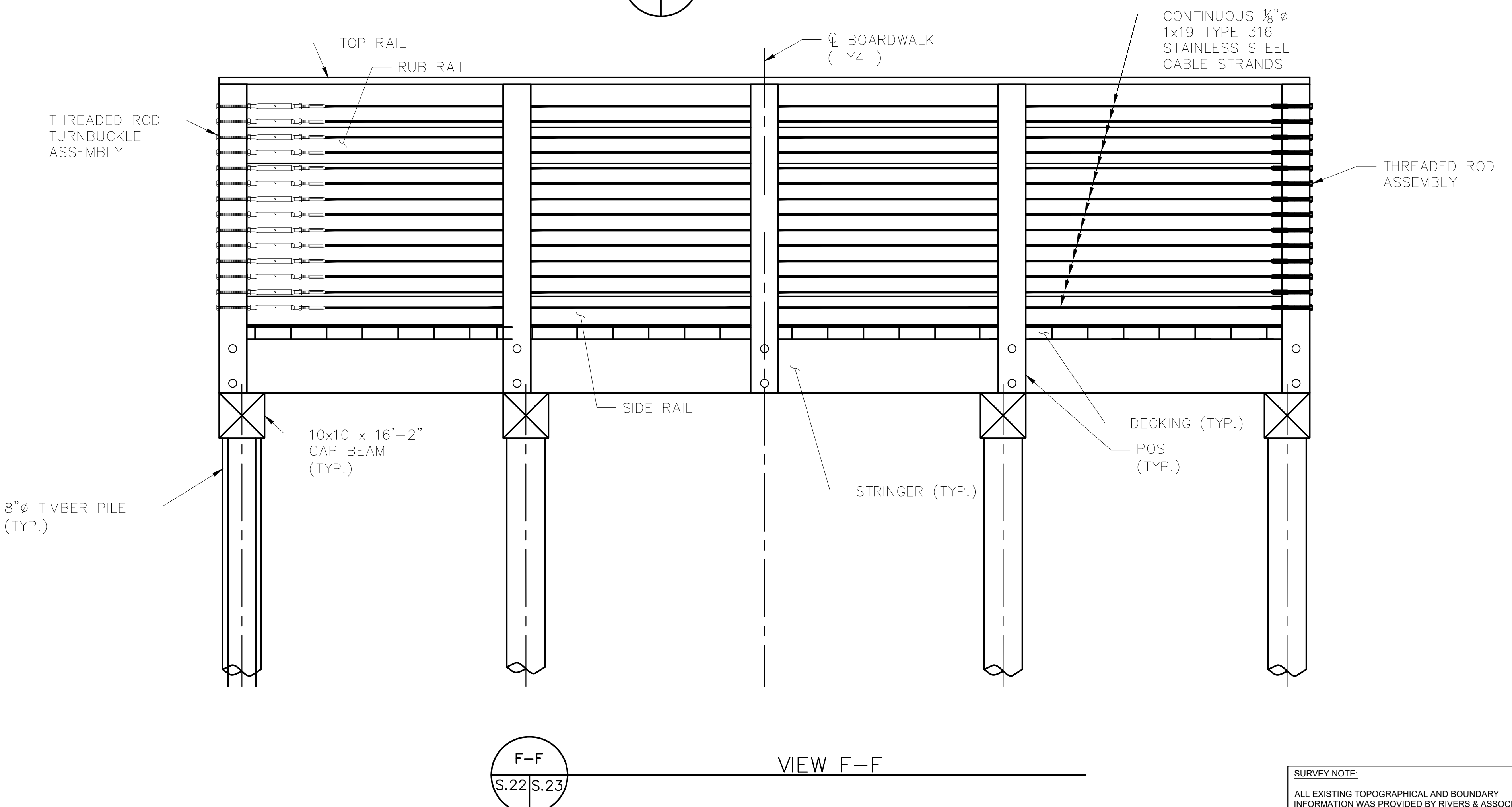
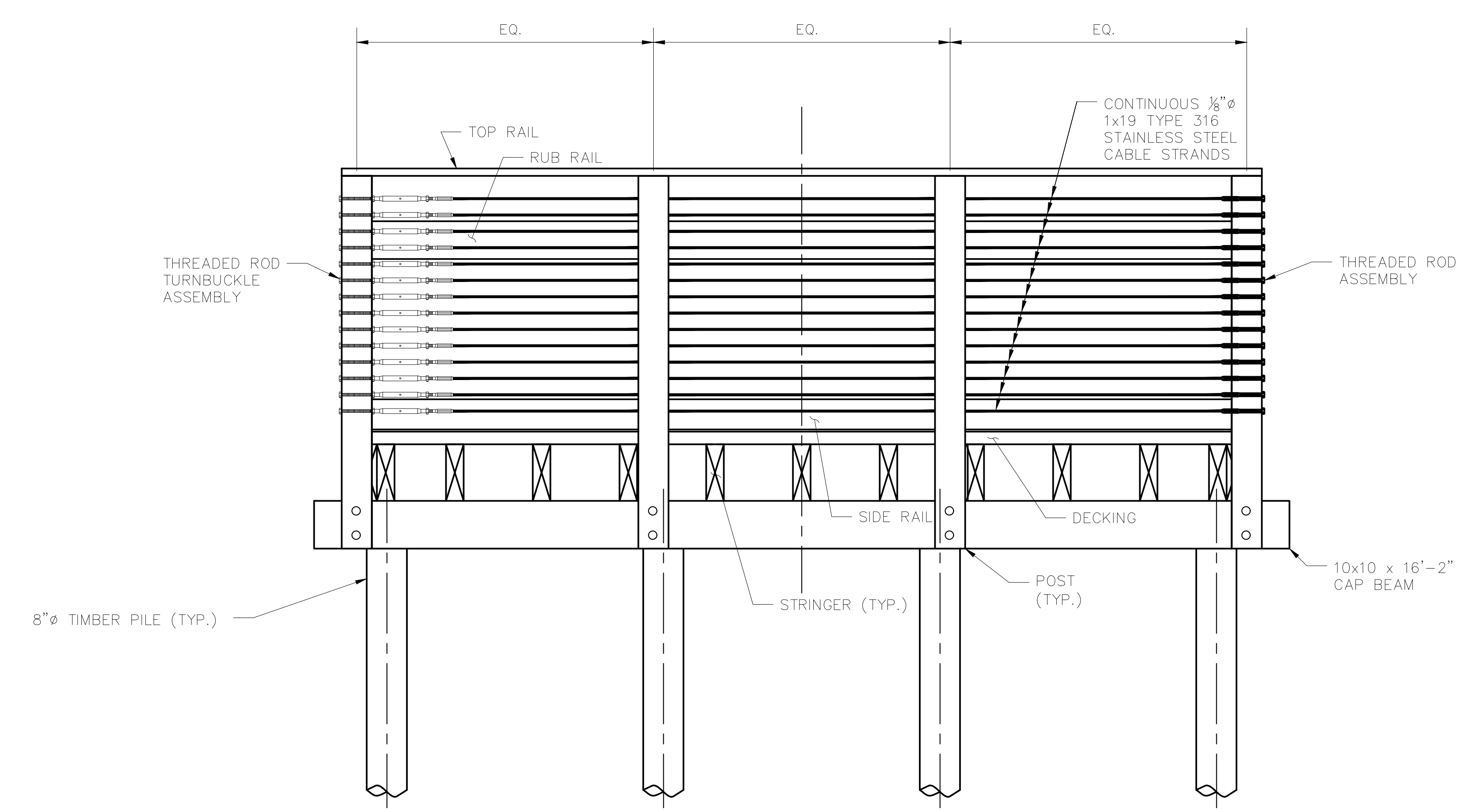
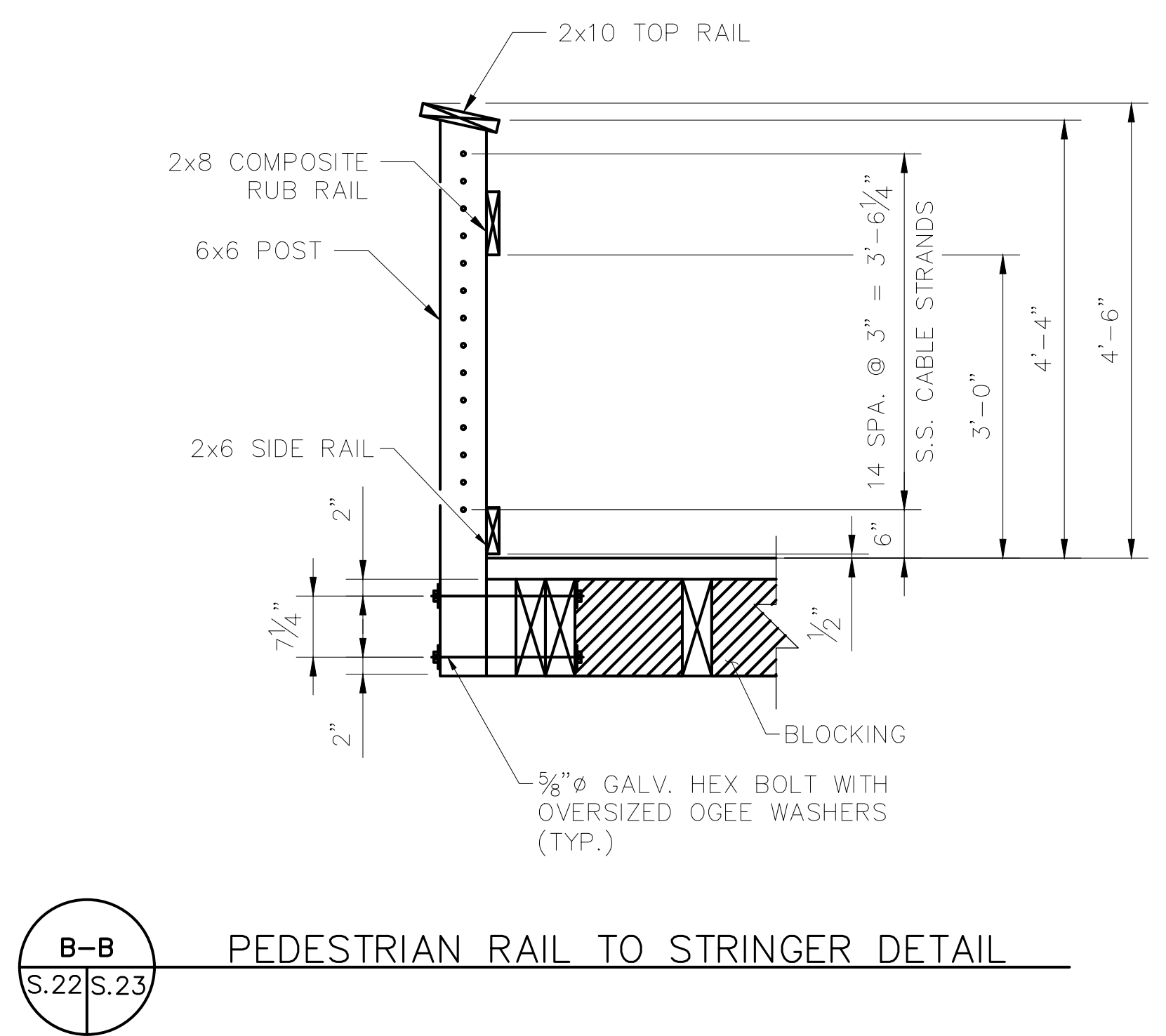
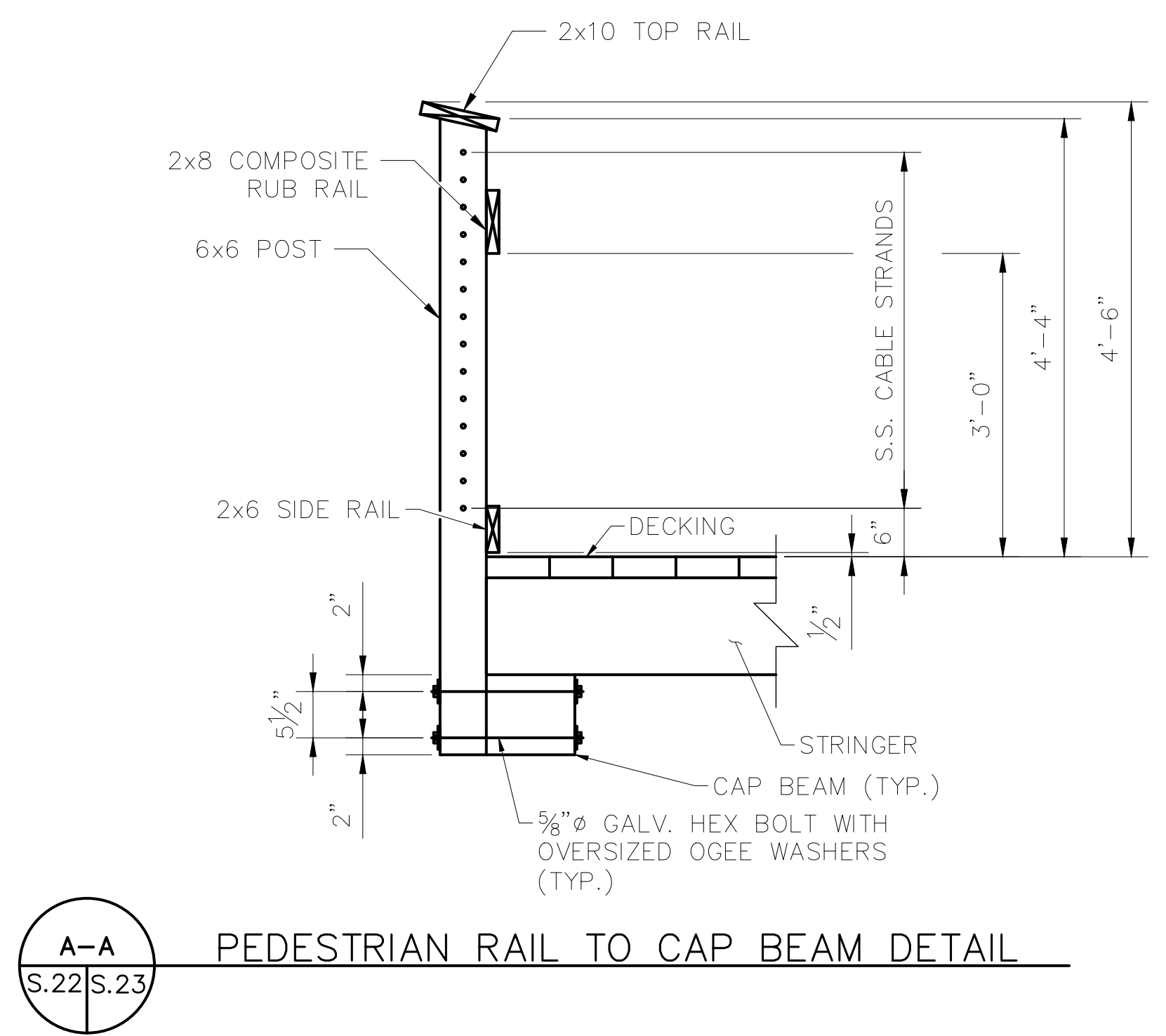
WILDWOOD PARK - OBSERVATION TOWER AND TRAILS  
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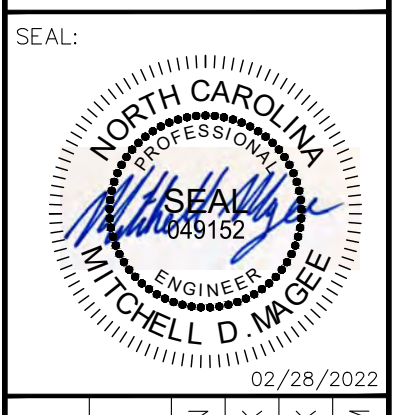
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SCALE	AS SHOWN
DESIGNED BY	BMK
DRAWN BY	JJK
CHECKED BY	MDW

**OBSERVATION DECK RAILING DETAILS**

WILDWOOD PARK - OBSERVATION TOWER AND TRAILS  
PREPARED FOR  
CITY OF GREENVILLE  
GREENVILLE, NC

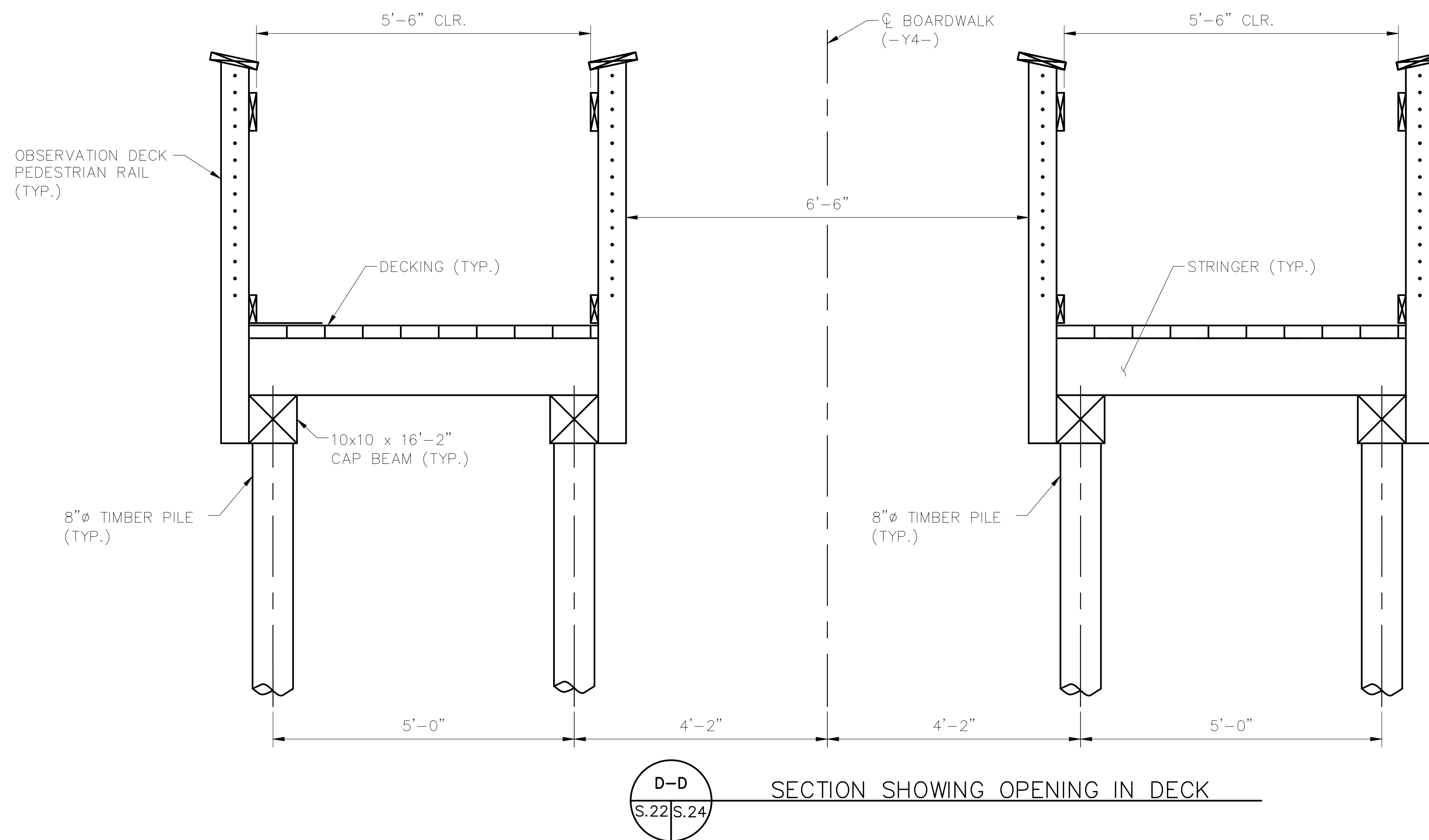
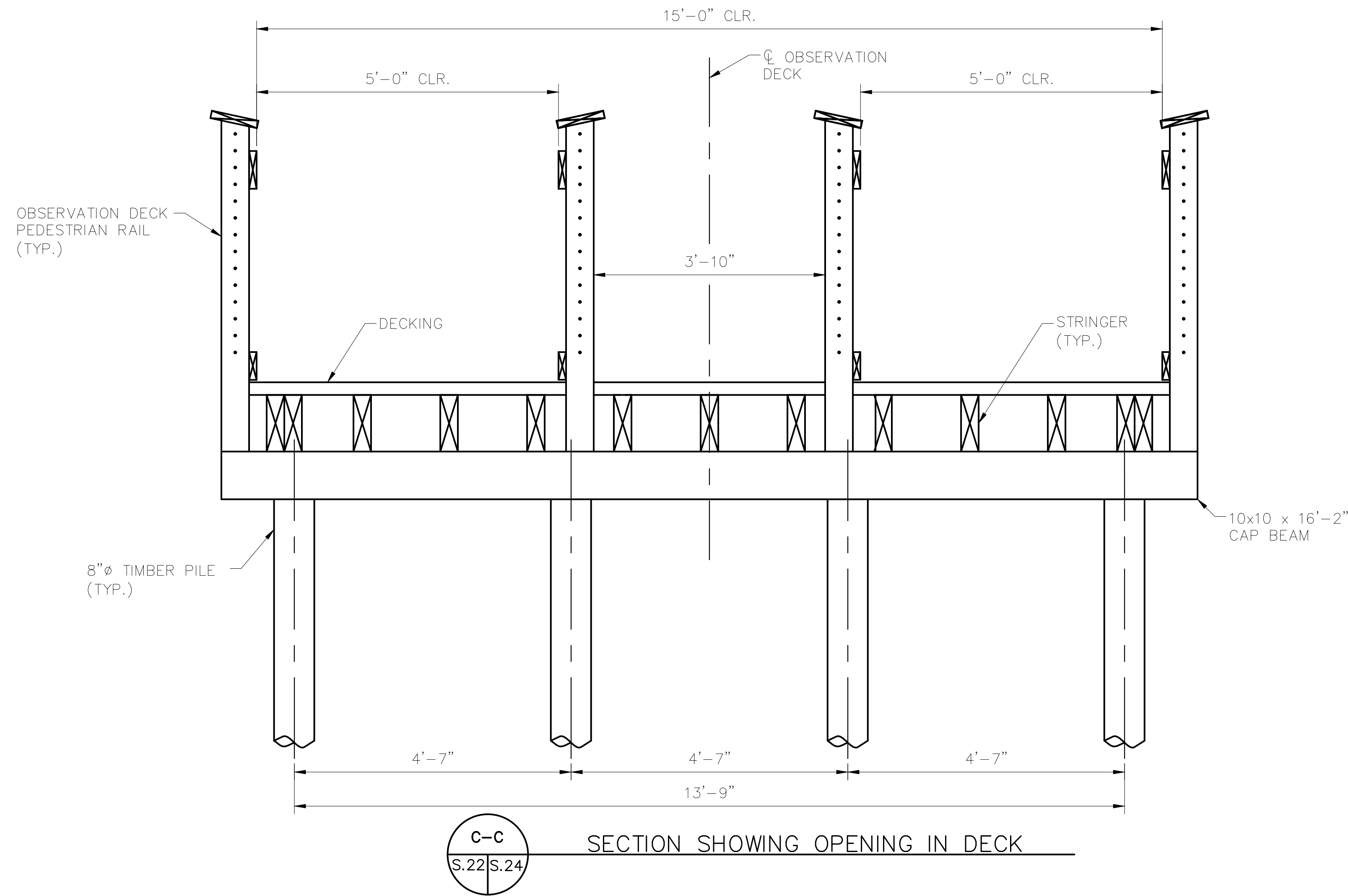
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DRAWN BY	JJK
CHECKED BY	MDW

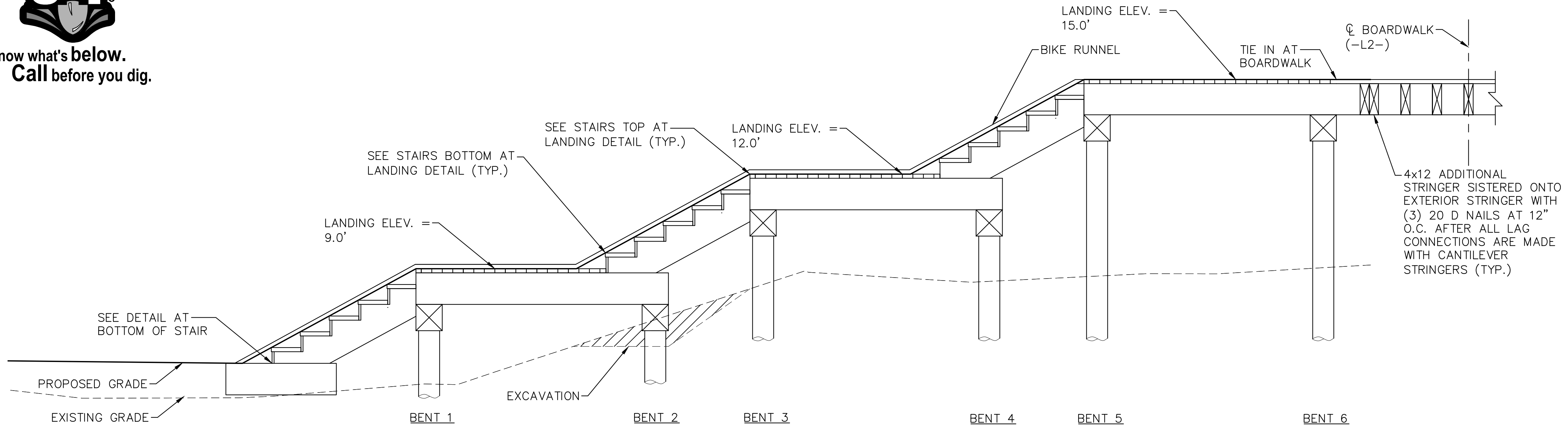
# OBSERVATION DECK DETAILS

WILDWOOD PARK - OBSERVATION TOWER AND TRAILS  
PREPARED FOR  
CITY OF GREENVILLE  
GREENVILLE NC

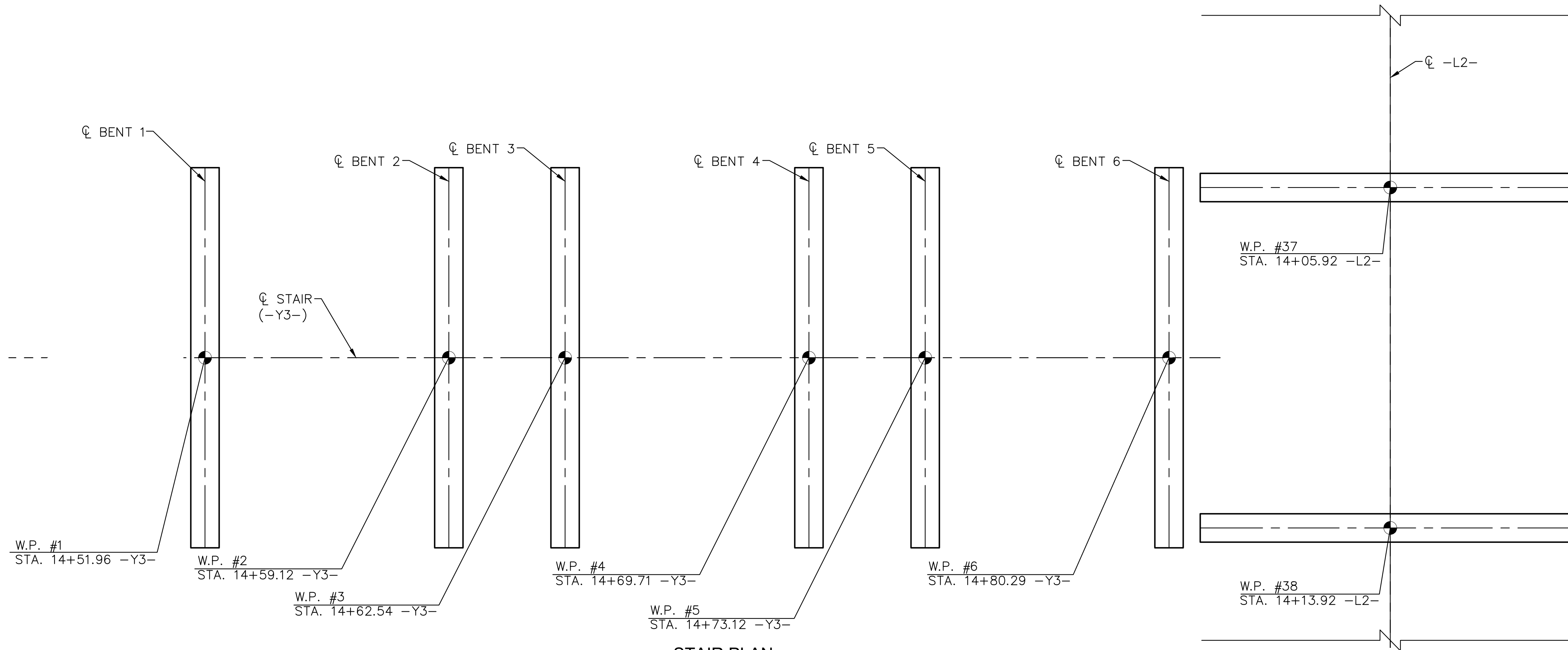
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**S.24**



Know what's below.  
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STAIR ELEVATION



STAIR PLAN

NO.	REVISIONS	DATE	BY
1	ISSUED FOR BID	02/28/22	ASA

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 #F-0102



KHA PROJECT	012654010
DATE	02/28/2022
SCALE	AS SHOWN
DESIGNED BY	BMK
DRAWN BY	JK
CHECKED BY	MDW

STAIR PLAN AND PROFILE

WILDWOOD PARK - OBSERVATION TOWER AND TRAILS  
 PREPARED FOR  
 CITY OF GREENVILLE  
 GREENVILLE, NC

SHEET NUMBER  
**S.25**

**SURVEY NOTE:**  
 ALL EXISTING TOPOGRAPHICAL AND BOUNDARY INFORMATION WAS PROVIDED BY RIVERS & ASSOCIATES, INC., 107 EAST SECOND STREET GREENVILLE, NC 27858. PHONE: 252-752-4135 DATED 05/17/21.

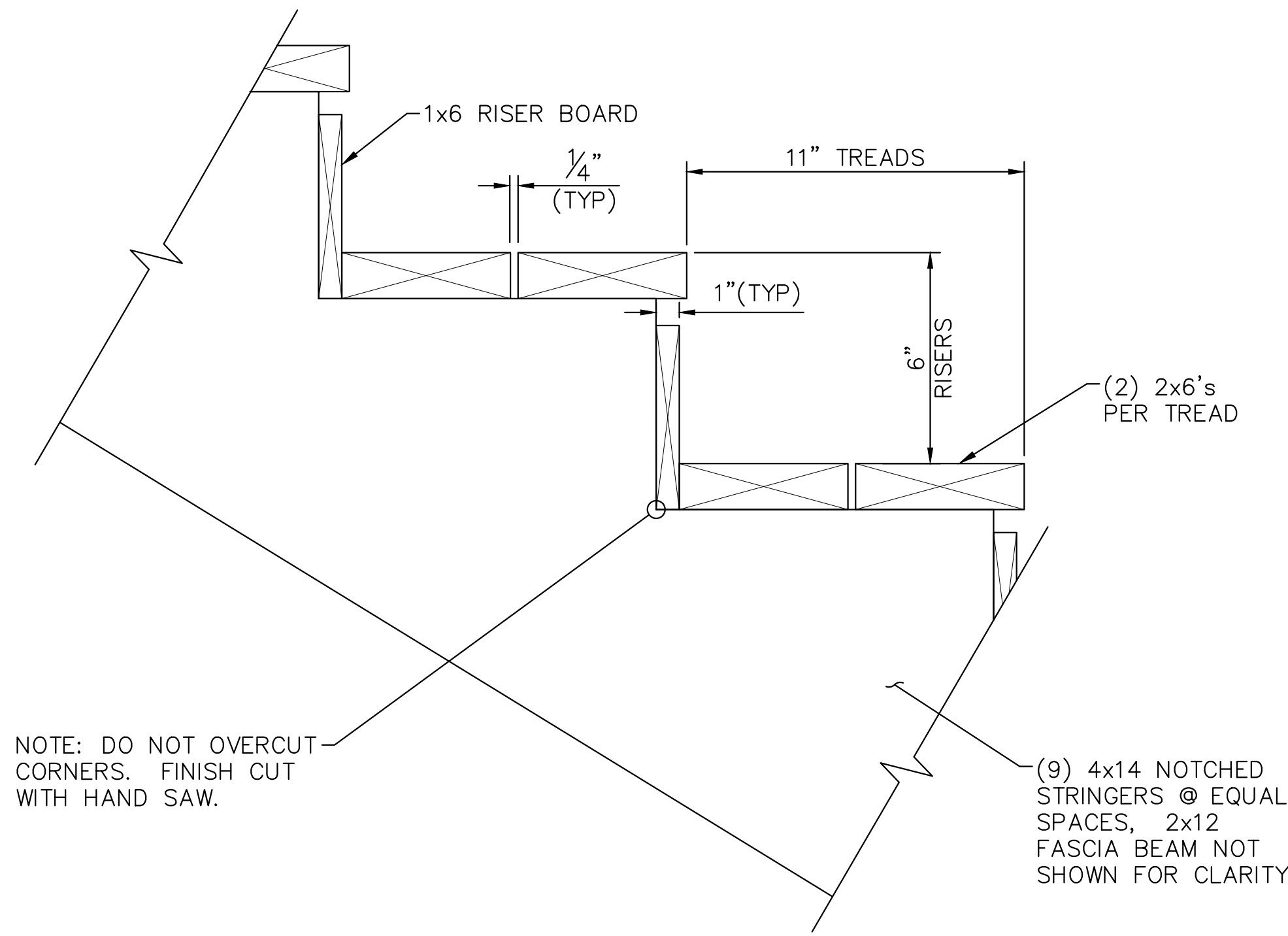
Plotted By: Masee, Mitch - Sheet Set: WILDWOOD PARK - OBSERVATION TOWER AND TRAILS - Layout: S25 - February 25, 2022 - 04:48:09pm - K:\RAL\DEV\012654010 - Wildwood\_Park - Walkways - Tower - Planning - Phase: P10 - CAD - Files - PlanSheets\S25 - STAIR - DETAILS.dwg

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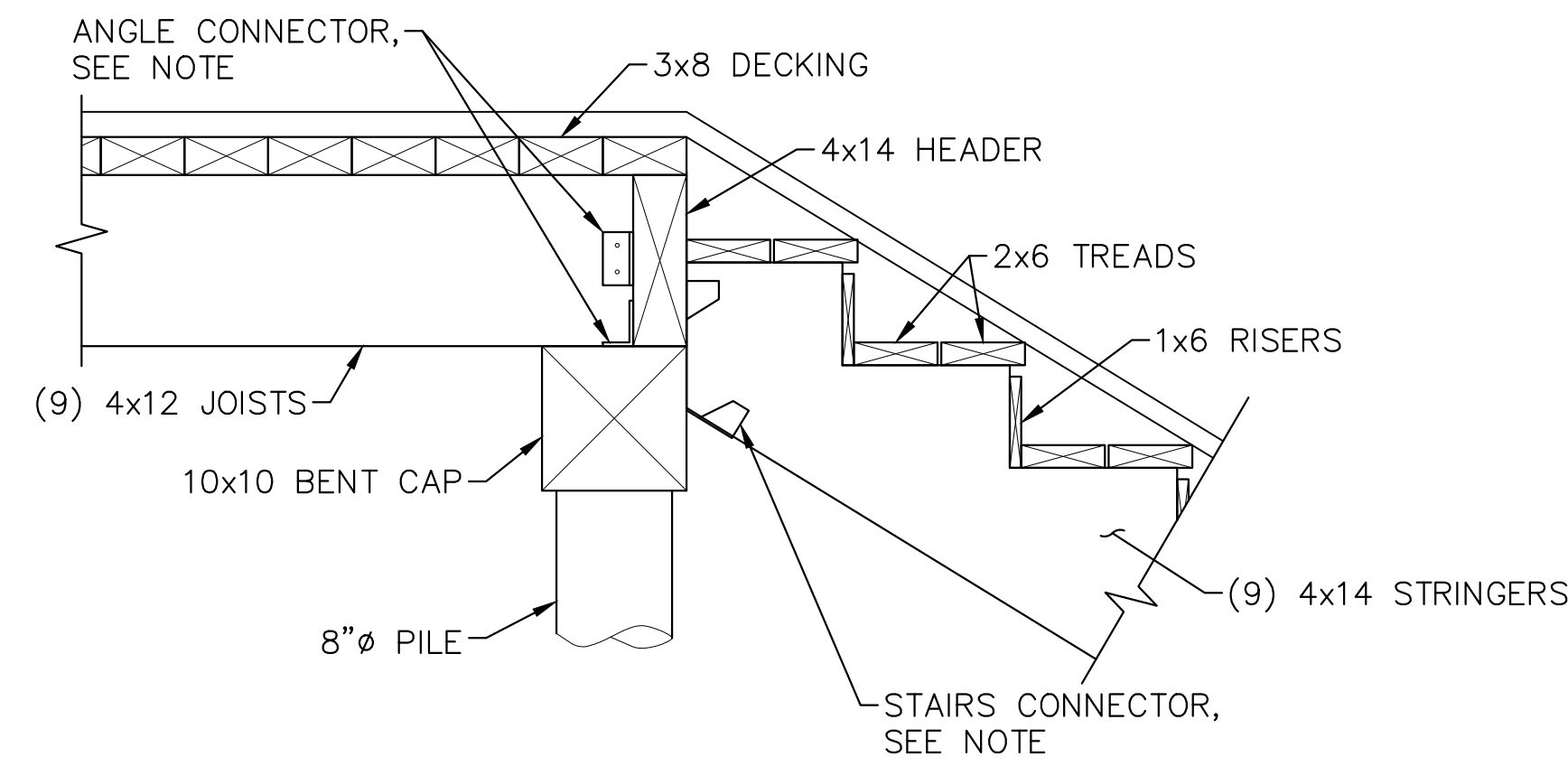


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Plotted By: Masee, Mitch - Sheet Set: WILDWOOD PARK - OBSERVATION TOWER AND TRAILS - February 25, 2022 - 05:07:35pm - K:\RAL\DEV\012654010 - Wildwood\_Park\_Walkway\_Tower\_Planning\_Phase\P10\_CAD\_Files\PlanSheets\S26-STAIR\_DETAILS.dwg

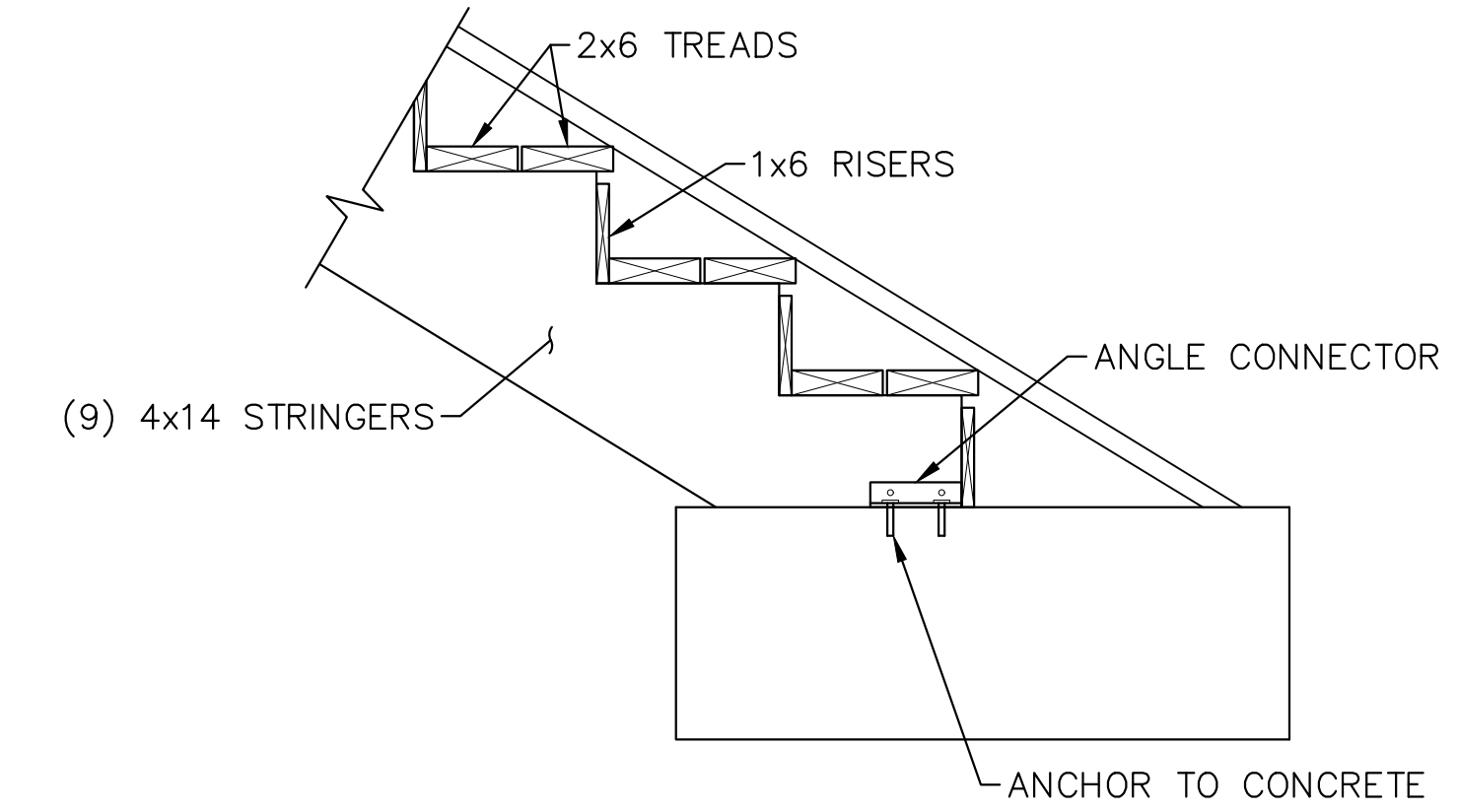


TYPICAL RISER DETAIL

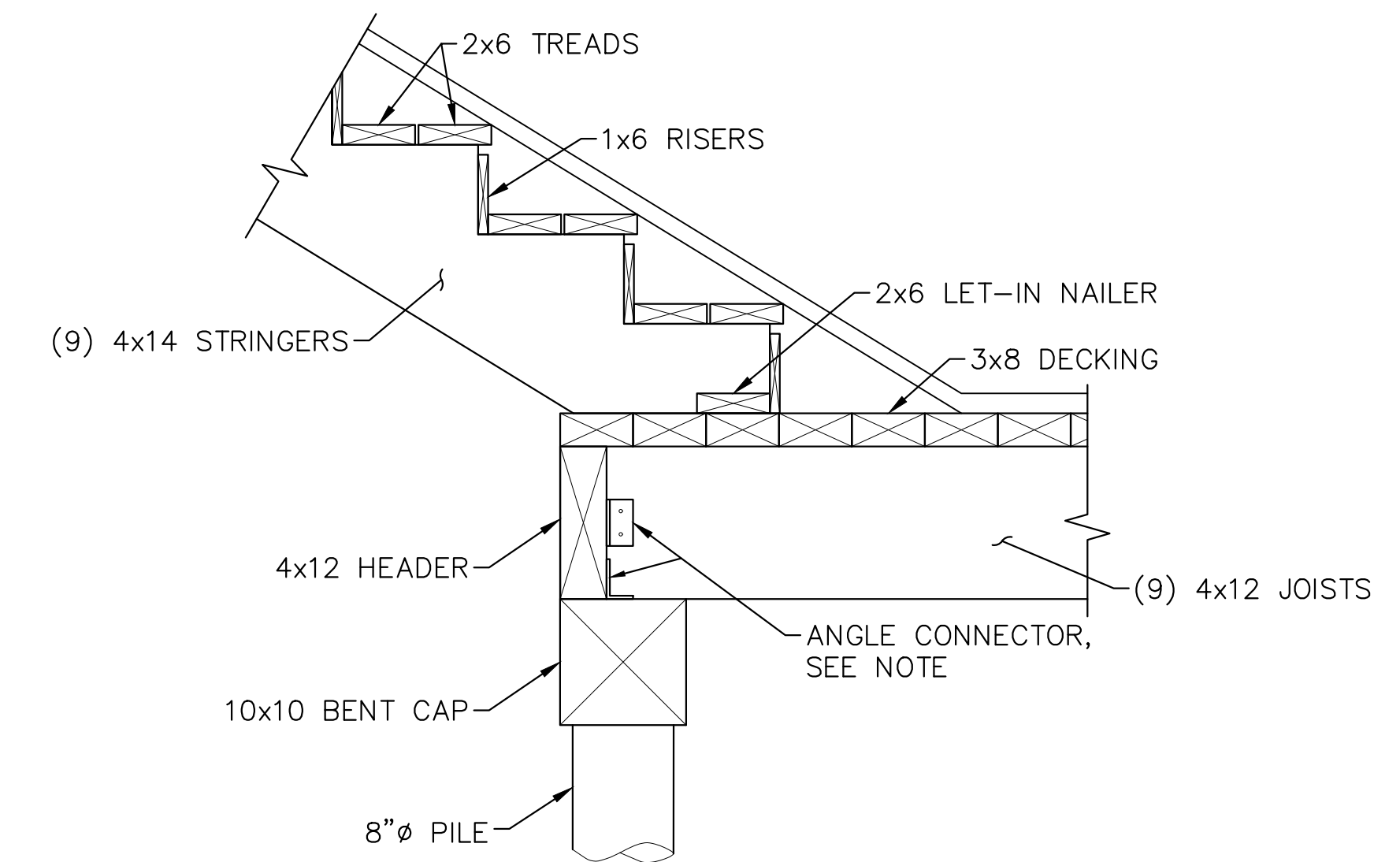


STAIRS AT TOP OF LANDING DETAIL  
2x12 FASCIA BEAMS NOT SHOWN FOR CLARITY

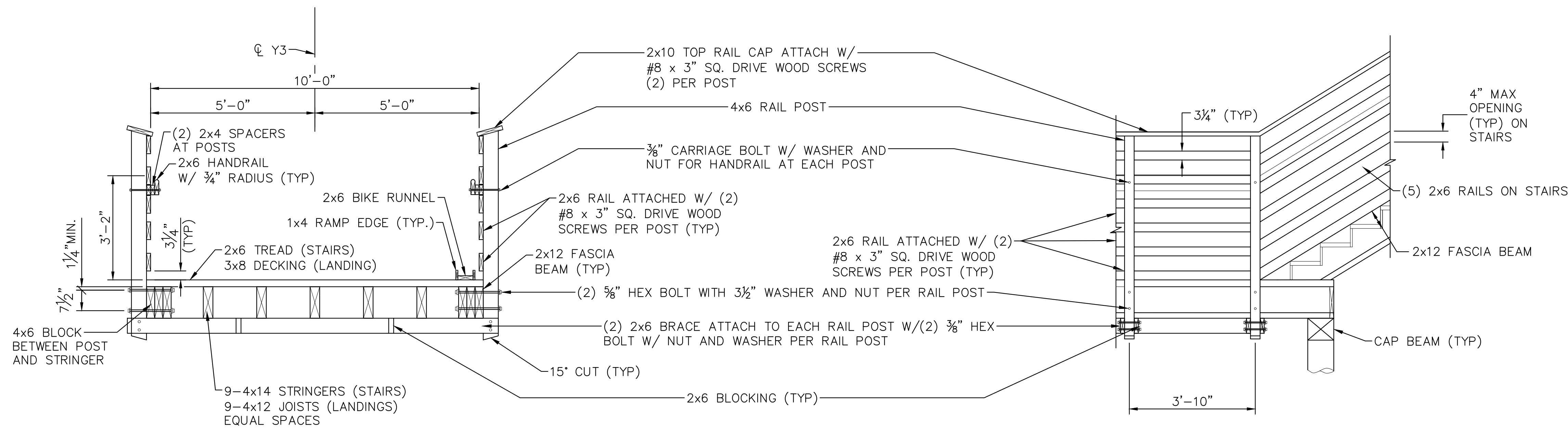
- CONNECTOR NOTE:  
CLIP CONNECTOR SHALL BE:  
1. SIMPSON STRONG TIE LTS12  
2. USP TIE RT4  
3. OR APPROVED EQUAL
- ANGLE CONNECTOR SHALL BE:  
1. SIMPSON STRONG TIE HGA10  
2. USP GUSSET ANGLES HGA10  
3. OR APPROVED EQUAL
- STAIRS CONNECTOR SHALL BE:  
1. SIMPSON STRONG TIE LSSR410Z  
2. USP SLOPE HANGERS LSSR410Z  
3. OR APPROVED EQUAL



DETAIL AT BOTTOM OF STAIRS

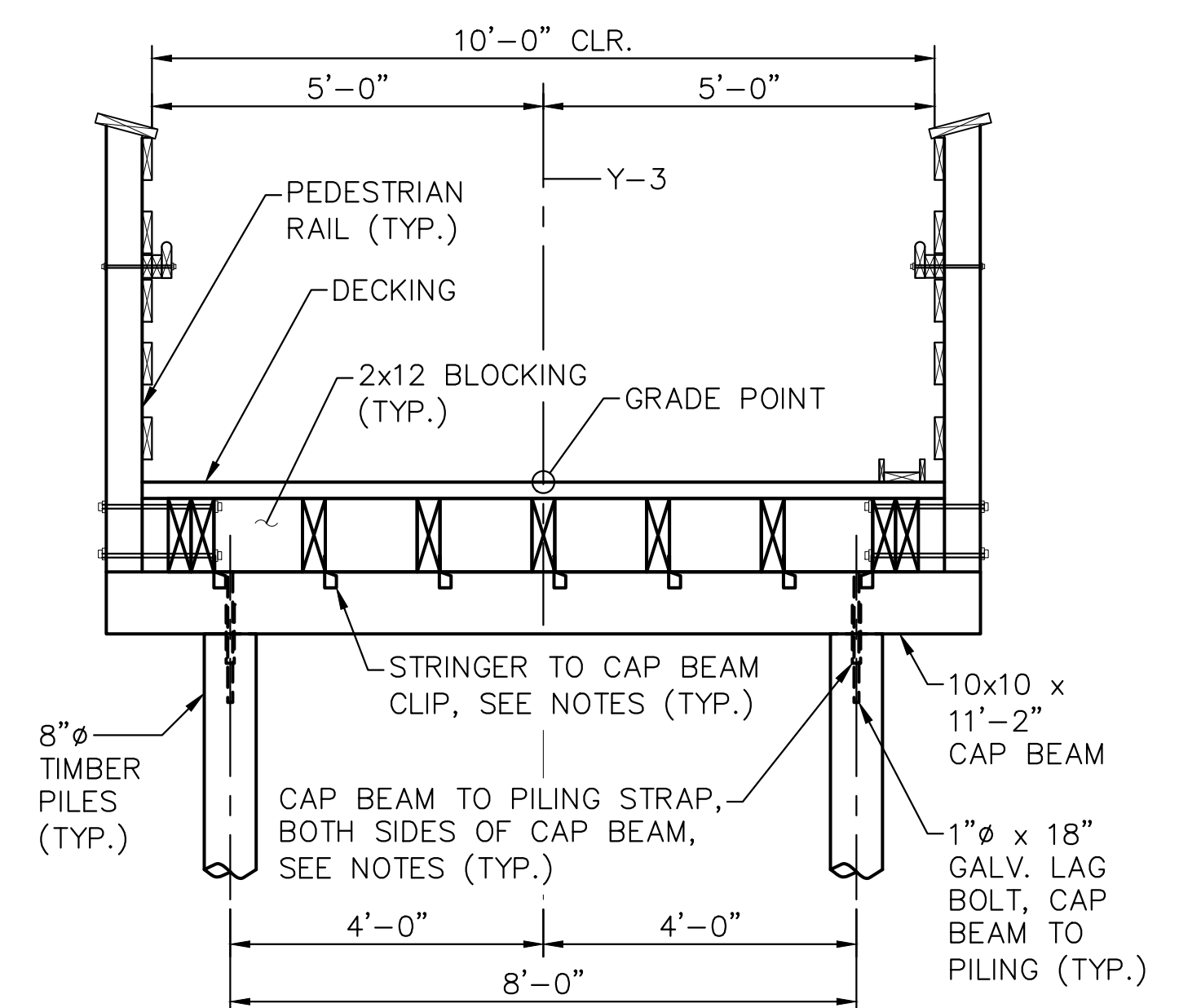


STAIRS AT BOTTOM OF LANDING DETAIL  
2x12 FASCIA BEAMS NOT SHOWN FOR CLARITY



TYPICAL SECTION THROUGH STAIRS  
NOTE: SECTION CUT AT NOSE OF STAIR TREAD

PARTIAL STAIRS ELEVATION



TIMBER STAIR BENT ELEVATION

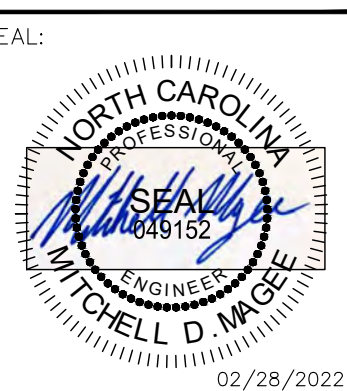
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NOTES

STAIR GEOMETRY AND DETAILS SHOWN ARE CONCEPTUAL. CONTRACTOR TO SUBMIT GEOMETRY AND DETAILS FOR APPROVAL.

NO.	REVISIONS	DATE	BY
1	ISSUED FOR BID	02/28/22	ASA

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KHA PROJECT	012654010
DATE	02/28/2022
SCALE	AS SHOWN
DESIGNED BY	BMK
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STAIR DETAILS

WILDWOOD PARK - OBSERVATION TOWER AND TRAILS  
PREPARED FOR  
CITY OF GREENVILLE  
GREENVILLE, NC  
SHEET NUMBER  
**S.26**



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Plotted By: Masee, Mitch - Sheet Set: WILDWOOD - PARK - OBSERVATION TOWER AND TRAILS - Layout: S27 - February 25, 2022 - 05:07:45pm - K:\REAL\DEV\012654010 - Wildwood - Park - Walkways - Tower Planning - Phase 1 - IO - CAD - Files\PlanSheets\S27 - STRUCTURAL - STANDARD NOTES.dwg

## STANDARD NOTES

### DESIGN DATA:

SPECIFICATIONS - - - - - A.A.S.H.T.O. (CURRENT)  
 LIVE LOAD - - - - - SEE PLANS  
 IMPACT ALLOWANCE - - - - - SEE A.A.S.H.T.O.  
 STRESS IN EXTREME FIBER OF  
 STRUCTURAL STEEL - AASHTO M270 GRADE 36 - - - 20,000 LBS. PER SQ. IN.  
 - AASHTO M270 GRADE 50W - - - 27,000 LBS. PER SQ. IN.  
 - AASHTO M270 GRADE 50 - - - 27,000 LBS. PER SQ. IN.  
 REINFORCING STEEL IN TENSION - GRADE 60 - - - - 24,000 LBS. PER SQ. IN  
 CONCRETE IN COMPRESSION - - - - - 1,200 LBS. PER SQ. IN.  
 CONCRETE IN SHEAR - - - - - SEE A.A.S.H.T.O.  
 STRUCTURAL TIMBER - TREATED OR UNTREATED  
 EXTREME FIBER STRESS - - - - - 1,800 LBS. PER SQ. IN.  
 COMPRESSION PERPENDICULAR TO GRAIN OF TIMBER - - - 375 LBS. PER SQ. IN.  
 EQUIVALENT FLUID PRESSURE OF EARTH - - - - - 30 LBS. PER CU. FT. (MINIMUM)

### MATERIAL AND WORKMANSHIP:

EXCEPT AS MAY OTHERWISE BE SPECIFIED ON PLANS OR IN THE SPECIAL PROVISIONS, ALL MATERIAL AND WORKMANSHIP SHALL BE IN ACCORDANCE WITH THE 2018 "STANDARD SPECIFICATIONS FOR ROADS AND STRUCTURES" OF THE N. C. DEPARTMENT OF TRANSPORTATION.

STEEL SHEET PILING FOR PERMANENT OR TEMPORARY APPLICATIONS SHALL BE HOT ROLLED.

### CONCRETE:

UNLESS OTHERWISE REQUIRED ON PLANS, CLASS A CONCRETE SHALL BE USED FOR ALL PORTIONS OF ALL STRUCTURES WITH THE EXCEPTION THAT: CLASS AA CONCRETE SHALL BE USED IN BRIDGE SUPERSTRUCTURES, ABUTMENT BACKWALLS, AND APPROACH SLABS; AND CLASS B CONCRETE SHALL BE USED FOR SLOPE PROTECTION AND RIP RAP.

### CONCRETE CHAMFERS:

UNLESS OTHERWISE NOTED ON THE PLANS, ALL EXPOSED CORNERS ON STRUCTURES SHALL BE CHAMFERED 3/4" WITH THE FOLLOWING EXCEPTIONS: TOP CORNERS OF CURBS MAY BE ROUNDED TO 1 1/2" RADIUS WHICH IS BUILT INTO CURB FORMS; CORNERS OF TRANSVERSE FLOOR EXPANSION JOINTS SHALL BE ROUNDED WITH A 1/4" FINISHING TOOL UNLESS OTHERWISE REQUIRED ON PLANS; AND CORNERS OF EXPANSION JOINTS IN THE ROADWAY FACES AND TOPS OF CURBS AND SIDEWALKS SHALL BE ROUNDED TO A 1/4" RADIUS WITH A FINISHING STONE OR TOOL UNLESS OTHERWISE REQUIRED ON PLANS.

### DOWELS:

DOWELS WHEN INDICATED ON PLANS AS FOR CULVERT EXTENSIONS, SHALL BE EMBEDDED AT LEAST 12" INTO THE OLD CONCRETE AND GROUTED INTO PLACE WITH 1:2 CEMENT MORTAR.

### ALLOWANCE FOR DEAD LOAD DEFLECTION, SETTLEMENT, ETC. IN CASTING SUPERSTRUCTURES:

BRIDGES SHALL BE BUILT ON THE GRADE OR VERTICAL CURVE SHOWN ON PLANS. SLABS, CURBS AND PARAPETS SHALL CONFORM TO THE GRADE OR CURVE.

ALL DIMENSIONS WHICH ARE GIVEN IN SECTION AND ARE AFFECTED BY DEAD LOAD DEFLECTIONS ARE DIMENSIONS AT CENTER LINE OF BEARING UNLESS OTHERWISE NOTED ON PLANS. IN SETTING FORMS FOR STEEL BEAM BRIDGES AND PRESTRESSED CONCRETE GIRDER BRIDGES, ADJUSTMENTS SHALL BE MADE DUE TO THE DEAD LOAD DEFLECTIONS FOR THE ELEVATIONS SHOWN. WHERE BLOCKS ARE SHOWN OVER BEAMS FOR BUILDING UP TO THE SLAB, THE VERTICAL DIMENSIONS OF THE BLOCKS SHALL BE ADJUSTED BETWEEN BEARINGS TO COMPENSATE FOR DEAD LOAD DEFLECTIONS, VERTICAL CURVE ORDINATE, AND ACTUAL BEAM CAMBER. WHERE BOTTOM OF SLAB IS IN LINE WITH BOTTOM OF TOP FLANGES, DEPTH OF SLAB BETWEEN BEARINGS SHALL BE ADJUSTED TO COMPENSATE FOR DEAD LOAD DEFLECTION, VERTICAL CURVE ORDINATE, AND ACTUAL BEAM CAMBER.

IN SETTING FALSEWORK AND FORMS FOR REINFORCED CONCRETE SPANS, AN ALLOWANCE SHALL BE MADE FOR DEAD LOAD DEFLECTIONS, SETTLEMENT OF FALSEWORK, AND PERMANENT CAMBER WHICH SHALL BE PROVIDED FOR IN ADDITION TO THE ELEVATIONS SHOWN. AFTER REMOVAL OF THE FALSEWORK, THE FINISHED STRUCTURES SHALL CONFORM TO THE PROFILE AND ELEVATIONS SHOWN ON THE PLANS AND CONSTRUCTION ELEVATIONS FURNISHED BY THE ENGINEER.

DETAILED DRAWINGS FOR FALSEWORK OR FORMS FOR BRIDGE SUPERSTRUCTURE AND ANY STRUCTURE OR PARTS OF A STRUCTURE AS NOTED ON THE PLANS SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL BEFORE CONSTRUCTION OF THE FALSEWORK OR FORMS IS STARTED.

### REINFORCING STEEL:

ALL REINFORCING STEEL SHALL BE DEFORMED. DIMENSIONS RELATIVE TO PLACEMENT OF REINFORCING ARE TO CENTERS OF BARS UNLESS OTHERWISE INDICATED IN THE PLANS. DIMENSIONS ON BAR DETAILS ARE TO CENTERS OF BARS OR ARE OUT TO OUT AS INDICATED ON PLANS.

WIRE BAR SUPPORTS SHALL BE PROVIDED FOR REINFORCING STEEL WHERE INDICATED ON THE PLANS. WHEN BAR SUPPORT PIECES ARE PLACED IN CONTINUOUS LINES, THEY SHALL BE SO PLACED THAT THE ENDS OF THE SUPPORTING WIRES SHALL BE LAPPED TO LOCK LEGS ON ADJOINING PIECES.

### STRUCTURAL STEEL:

AT THE CONTRACTOR'S OPTION, HE MAY SUBSTITUTE 7/8"Ø SHEAR STUDS FOR THE 3/4"Ø STUDS SPECIFIED ON THE PLANS. THIS SUBSTITUTION SHALL BE MADE AT THE RATE OF 3 - 7/8"Ø STUDS FOR 4 - 3/4"Ø STUDS, AND STUD SPACING CHANGES SHALL BE MADE AS NECESSARY TO PROVIDE THE SAME EQUIVALENT NUMBER OF 7/8"Ø STUDS ALONG THE BEAM AS SHOWN FOR 3/4"Ø STUDS BASED ON THE RATIO OF 3 - 7/8"Ø STUDS FOR 4 - 3/4"Ø STUDS. STUDS OF THE LENGTH SPECIFIED ON THE PLANS MUST BE PROVIDED. THE MAXIMUM SPACING SHALL BE 2'-0".

EXCEPT AT THE INTERIOR SUPPORTS OF CONTINUOUS BEAMS WHERE THE COVER PLATE IS IN CONTACT WITH BEARING PLATE, THE CONTRACTOR MAY, AT HIS OPTION, SUBSTITUTE FOR THE COVER PLATES DESIGNATED ON THE PLANS COVER PLATES OF THE EQUIVALENT AREA PROVIDED THESE PLATES ARE AT LEAST 3/16" IN THICKNESS AND DO NOT EXCEED A WIDTH EQUAL TO THE FLANGE WIDTH LESS 2" OR A THICKNESS EQUAL TO 2 TIMES THE FLANGE THICKNESS. THE SIZE OF FILLET WELDS SHALL CONFORM TO THE REQUIREMENTS OF THE CURRENT ANSI/AASHTO/AWS " BRIDGE WELDING CODE". ELECTROSLAG WELDING WILL NOT BE PERMITTED.

WITH THE SOLE EXCEPTION OF EDGES AT SURFACES WHICH BEAR ON OTHER SURFACES, ALL SHARP EDGES AND ENDS OF SHAPES AND PLATES SHALL BE SLIGHTLY ROUNDED BY SUITABLE MEANS TO A RADIUS OF APPROXIMATELY 1/8" INCH OR EQUIVALENT FLAT SURFACE AT A SUITABLE ANGLE PRIOR TO PAINTING, GALVANIZING, OR METALLIZING.

### HANDRAILS AND POSTS:

METAL STANDARDS AND FACES OF THE CONCRETE END POSTS FOR THE METAL RAIL SHALL BE SET NORMAL TO THE GRADE OF THE CURB, UNLESS OTHERWISE SHOWN ON PLANS. THE METAL RAIL AND TOPS OF CONCRETE POSTS USED WITH THE ALUMINUM RAIL SHALL BE BUILT PARALLEL TO THE GRADE OF THE CURB.

METAL HANDRAILS SHALL BE IN ACCORDANCE WITH THE PLANS. RAILS SHALL BE AS MANUFACTURED FOR BRIDGE RAILING. CASTINGS SHALL BE OF A UNIFORM APPEARANCE. FINIS AND OTHER DEFORMATIONS RESULTING FROM CASTING OR OTHERWISE SHALL BE REMOVED IN A MANNER SO THAT A UNIFORM COLORING OF THE COMPLETED CASTING SHALL BE OBTAINED. CASTINGS WITH DISCOLORATIONS OR OF NON-UNIFORM COLORING WILL NOT BE ACCEPTED. CERTIFIED MILL REPORTS ARE REQUIRED FOR METAL RAILS AND POSTS.

### SPECIAL NOTES:

GENERALLY, IN CASE OF DISCREPANCY, THIS STANDARD SHEET OF NOTES SHALL GOVERN OVER THE SPECIFICATIONS, BUT THE REMAINDER OF THE PLANS SHALL GOVERN OVER NOTES HEREON, AND SPECIAL PROVISIONS SHALL GOVERN OVER ALL. SEE SPECIFICATIONS ARTICLE 105-4.

**Kimley** **Horn**

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SEAL:



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**STRUCTURAL  
STANDARD NOTES**

WILDWOOD PARK - OBSERVATION  
TOWER AND TRAILS  
PREPARED FOR  
CITY OF GREENVILLE  
GREENVILLE NC

SHEET NUMBER  
**S.27**

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