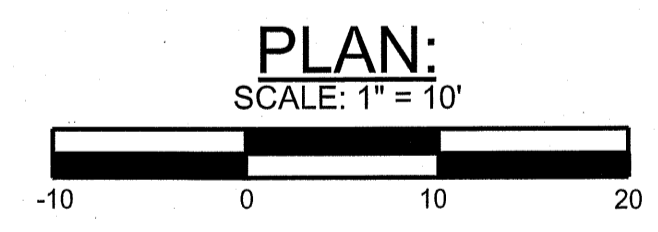


LEGEND:

APPROX. MEAN HIGH WATER (M.H.W.)	--- (M.H.W.) ---
APPROX. MEAN LOW WATER (M.L.W.)	--- (M.L.W.) ---
EXISTING CONTOUR	- - - 3.0 - - -
EXISTING SPOT ELEV.	2.76 +
APPROXIMATE PROPERTY LINE	— — — — —
TO REMAIN	T.R.
TO BE REMOVED	T.B.R.
LIMIT OF REPLACEMENT	- - - - -



INDEX OF DRAWINGS:

DRAWING NO.:	SHEET NO.:	TITLE:
444-02-001	1 OF 3	EXISTING CONDITIONS PLAN
444-02-002	2 OF 3	SITE PLAN
444-02-003	3 OF 3	BULKHEAD PLAN AND SECTION

EXISTING CONDITIONS PLAN NOTES:

1. ALL ELEVATIONS, TOPOGRAPHY AND ALIGNMENTS SHOWN ARE BASED UPON THE FIELD SURVEY PREPARED BY WILKINS-NOBLE, LLC, DATED 08/06/2020. THE ENGINEER DOES NOT WARRANT THAT THIS INFORMATION IS ENTIRELY CORRECT. THE CONTRACTOR SHALL EXAMINE A COPY OF SAID PLANS AND VISIT THE SITE IN ORDER TO DETERMINE, TO THEIR SATISFACTION, THE QUANTITIES OF WORK REQUIRED TO BE PERFORMED. HORIZONTAL DATUM: VIRGINIA SOUTH STATE PLANE. VERTICAL DATUM: NAVD '88.

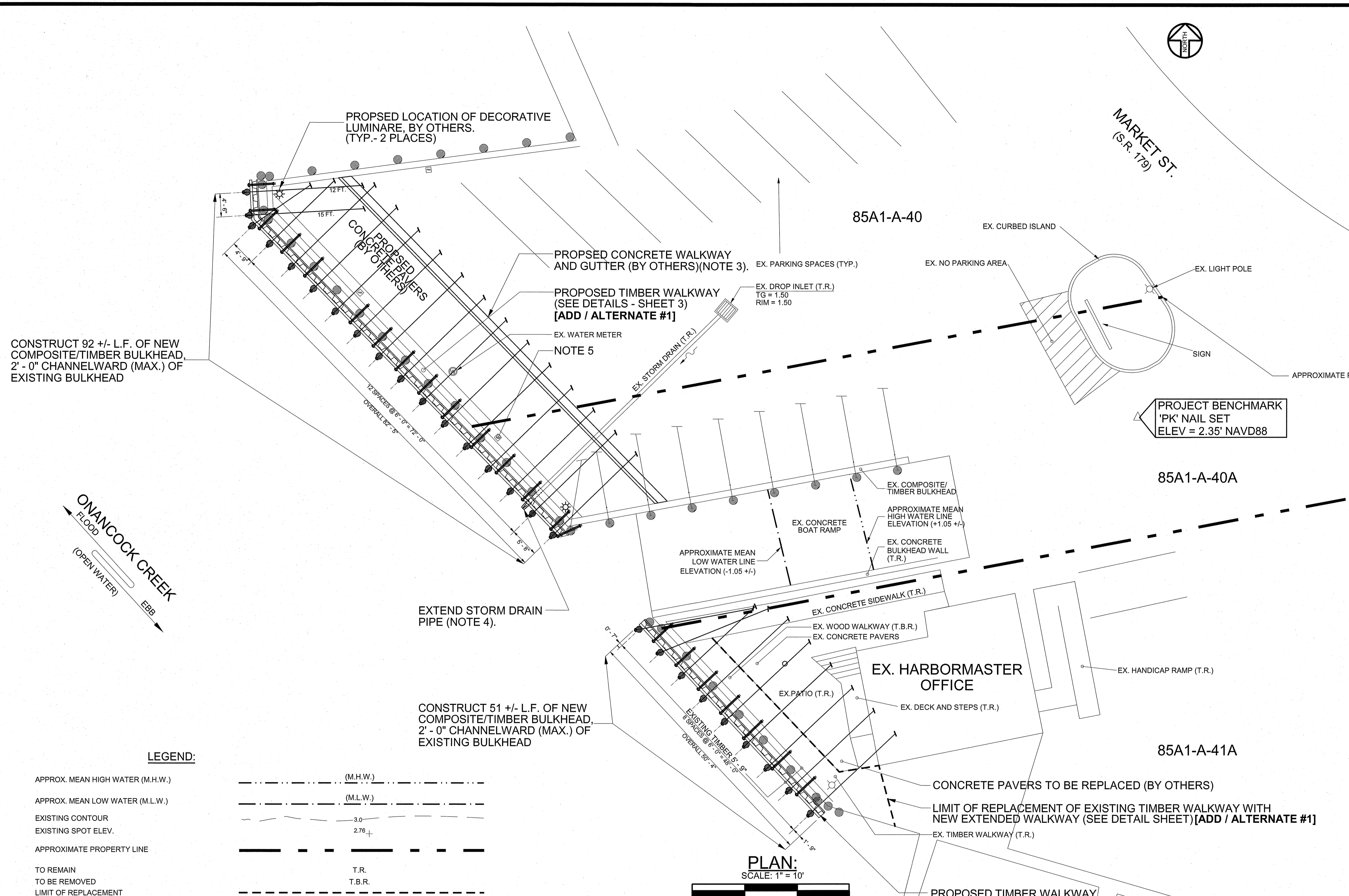
2. DATA REFERENCE:

PROPERTY ADDRESS	6 ONANCOCK WHARF ONANCOCK, VA 23417
TAX ID #:	85A1-A-40, 85A1-A-40A & 85A1-A-41A
COORDINATES:	LATITUDE: 37.711682° N LONGITUDE: -75.755346° W
ZONING:	INCORPORATED TOWN TOWN OF ONANCOCK
PROPERTY OWNER:	15 NORTH STREET ONANCOCK, VA 23417 (757) 787-3363
DEVELOPER:	TOWN OF ONANCOCK 15 NORTH STREET ONANCOCK, VA 23417 (757) 787-3363
WATER SUPPLY:	NONE
SEWER:	NONE
STRUCTURE SETBACKS:	N/A
PARKING REQUIREMENTS:	N/A

DESIGNED BY: JWS3	DRAWN BY: DBR	CHECKED BY: JWS3	EXISTING CONDITIONS PLAN		
			REVISIONS	ONANCOCK WHARF BULKHEAD	
			06/17/22	TAX MAP NOS. 85A1-A-40, 85A1-A-40A & 85A1-A-41A TOWN OF ONANCOCK, VIRGINIA SEVENTH ELECTION DISTRICT ACCOMACK COUNTY VIRGINIA	
			J. W. SALM ENGINEERING, INC.		
			9842 MAIN STREET, SUITE 3 BERLIN, MD 21811		
SCALE:	DATE:	DRAWING No.:	SHEET No.:		
1" = 10'	SEP. 2021	444-02-001	1 OF 3		

TIMBER TREATMENT SPECIFICATIONS REPORTED IN POUNDS PER CUBIC FEET (P.C.F.)					
MEMBER	USE CLASS	COPPER CHROMATED ARSENATE (CCA)	ALKALINE COPPER QUATERNARY (ACQ)	MICRONIZED COPPER AZOLE (MCA)	COPPER AZOLE (CA-2)
PILES	UC5B	2.5	N/P	N/P	N/P
CROSS BRACES, BEAMS, WHALERS, CAP BOARDS AND BACKER CLAMP BOARDS	UC5A	1.5	N/P	N/P	N/P
STRINGERS, WALKWAY, DECK BOARDS, SPLICE BLOCKS, WALKWAY, ETC.	UC4B	N/P	0.60	0.23	0.31

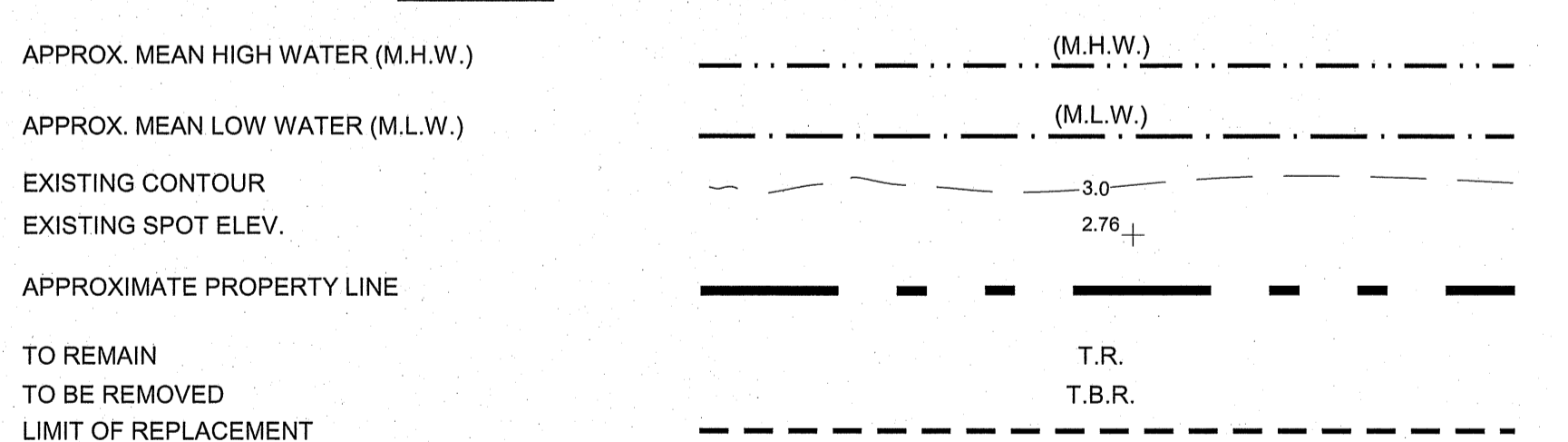
CONTRACTOR SHALL PROVIDE THE COUNTY WITH MANUFACTURER DATA AND MATERIAL CERTIFICATIONS FOR ALL MATERIALS ON THIS PROJECT.



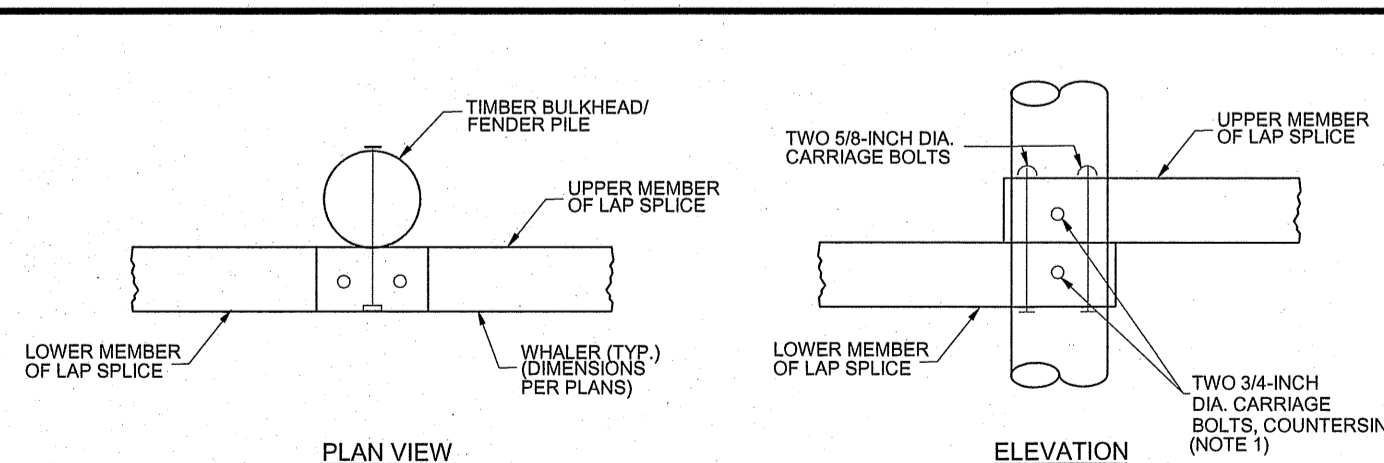
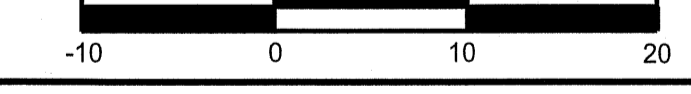
SITE PLAN NOTES:
 1) RESET EXISTING 30 FT ALUMINIUM FLAG POLE INTO NEW 36-INCH DIAMETER CONCRETE BASE

SCOPE OF WORK:
 1) FURNISH AND INSTALL NEW PILING, BULKHEAD, WHALERS AND APPURTENCES, ON NORTH SIDE OF EXISTING BOAT RAMP (92 +/- L.F.) AND ON SOUTH SIDE OF EXISTING BOAT RAMP (51 +/- L.F.)
 2) RESTORE IN-KIND ALL AREAS DISTURBED BY CONSTRUCTION.
 3) FURNISH AND INSTALL 87 +/- L.F. OF CAST-IN-PLACE CONCRETE CURB AND GUTTER (BY OTHERS) WITH STAMPED CONCRETE PATIO BEHIND (BY OTHERS). SEE DETAILED PATIO DESIGN, PROVIDED UNDER SEPARATE COVER.
 4) EXTEND EXISTING STROM DRAIN PIPE TO PENETRATE THROUGH NEW BULKHEAD. SEAL PENTRATION WITH PIPE/BULKHEAD SEAL IN ACCORDANCE WITH MANUFACTUER'S RECOMMENDATIONS AND PROVIDE TIDEFLEX SERIES TF-2 DUCK BILL CHECK VALVE AT END.
 5) EXISTING UTILITY PEDESTALS TO BE REMOVED BY CONTRACTOR FOR SALVAGE TO TOWN (TYP.- 2 PLACES). TWO NEW PEDESTALS WILL BE PROVIDED BY TOWN FOR CONTRACTOR INSTALATION AND COMPLETE UTILITY CONNECTION.

LEGEND:

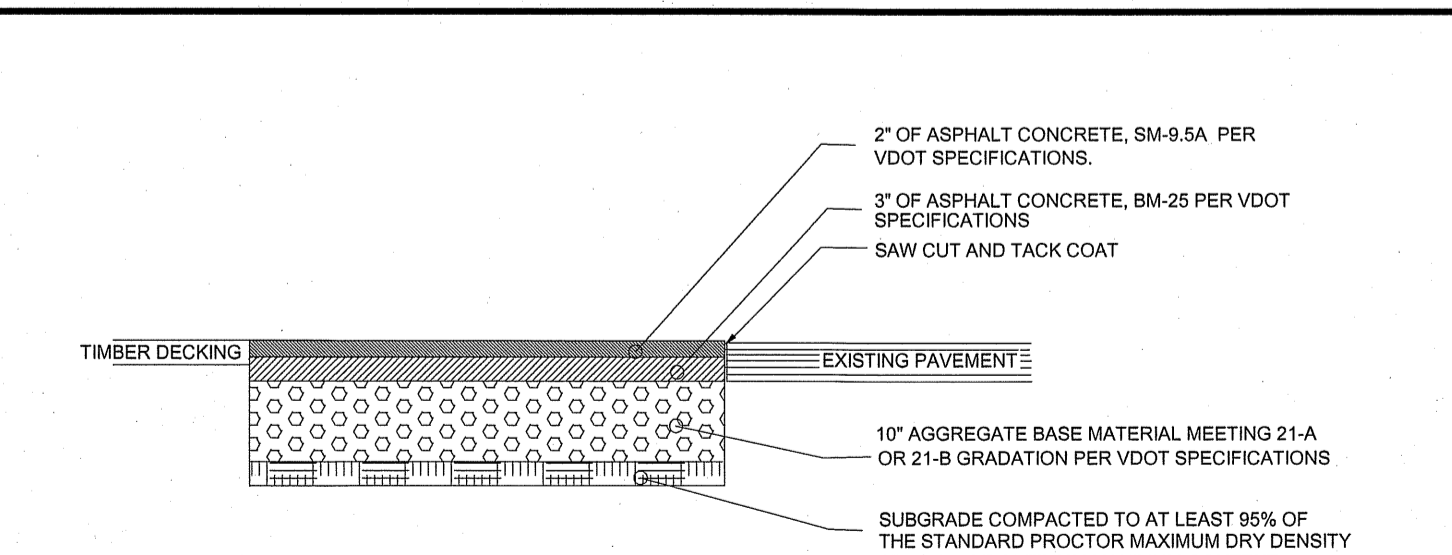


PLAN:
 SCALE: 1" = 10'



NOTES:
 1) TWO HORIZONTAL PILE/WHALER BOLTS ARE REQUIRED AT LAP CONNECTION LOCATIONS
 2) LAP SPICES SHALL BE LOCATED AT EVERY OTHER PILE, UNLESS APPROVED OTHERWISE, BY THE ENGINEER.

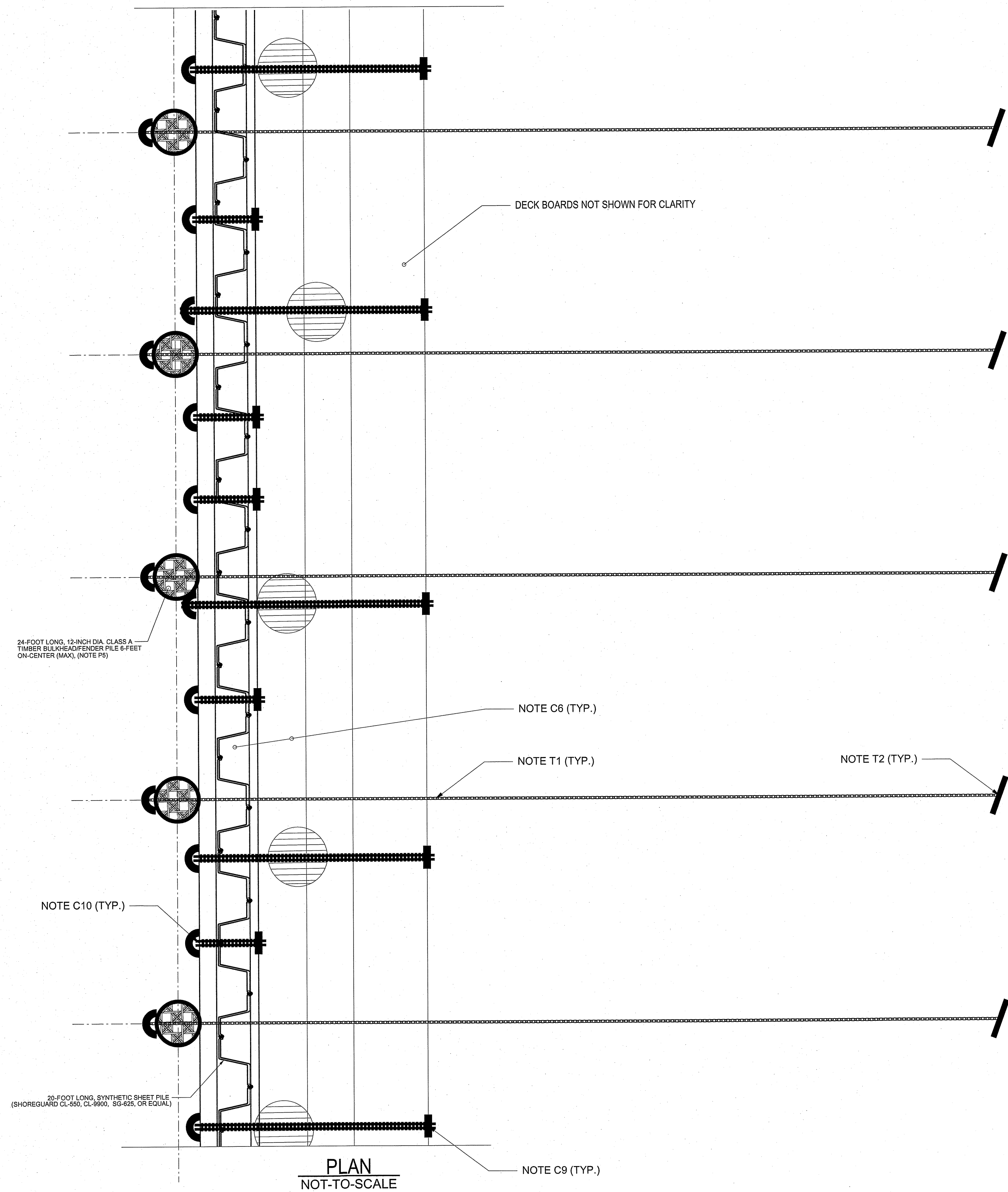
WHALER LAP SPICE DETAIL
 NOT-TO-SCALE



PAVEMENT REPAIR DETAIL
 NOT-TO-SCALE

ADD / ALTERNATE #1:
 FOR ADD / ALTERNATE #1 USE 2-INCH THICK COMPOSITE DECK BOARD IN LIEU OF 2-INCH THICK TIMBER WALKWAY DECK BOARD

DESIGNED BY: JRD	DRAWN BY: DBR	CHECKED BY: JWS3	SITE PLAN		
			ONANCOCK WHARF BULKHEAD TAX MAP NOS. 85A1-A-40, 85A1-A-40A & 85A1-A-41A TOWN OF ONANCOCK, VIRGINIA J. W. SALM ENGINEERING, INC. 9842 MAIN STREET, SUITE 3 BERLIN, MD 21811		
REVISIONS: A 06/17/22	SCALE: 1" = 10'	DATE: SEP. 2021	DRAWING No.:	SHEET No.:	
			444-02-002	2 OF 3	



TIE-BACK ANCHOR SPECIFICATION AND NOTES:

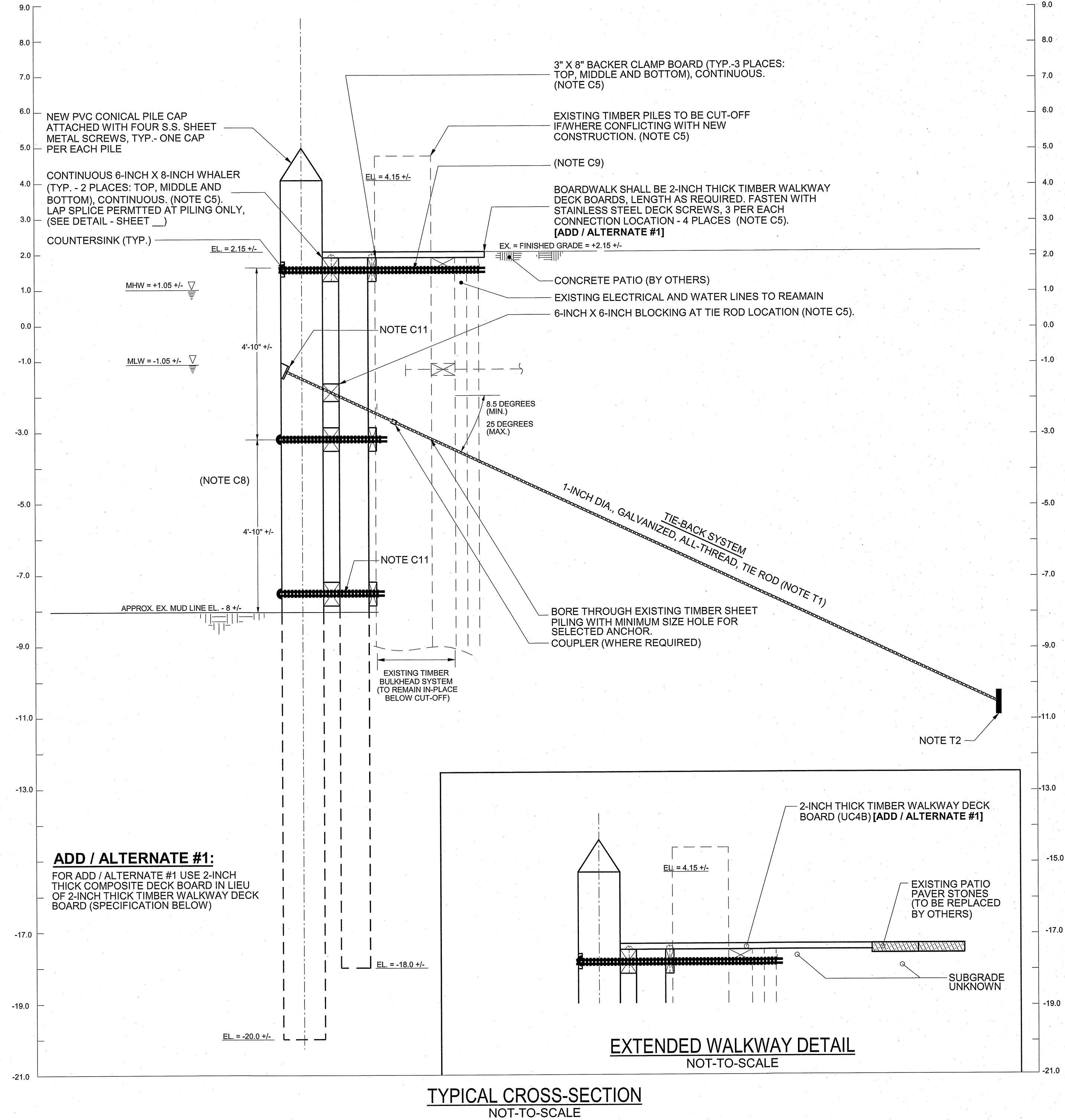
- T1. TIE RODS SHALL BE 1-INCH (NOMINAL) DIAMETER, B7 (GRADE 105 KSI) AS NOTED ON THE PLANS CONFORMING TO ASTM A193 THREADED ANCHOR RODS, HOT-DIP GALVANIZED IN ACCORDANCE WITH ASTM A153 OR EQUAL.
- T2. HELICAL SCREW, PLATIPUS® OR MANTA RAY® ANCHOR SHALL BE: CHANCE, TYPE SS5 1-1/2" HELICAL SCREW, PLATIPUS® OR MANTA RAY® ANCHOR SHALL BE: CHANCE, TYPE SS5 1-1/2" HELICAL PILES OR PLATIPUS® BAT MECHANICAL EARTH ANCHORS, HOT-DIP GALVANIZED IN ACCORDANCE WITH ASTM A153 OR MATNA RAY® ANCHOR. ACTUAL ANCHOR SIZE WILL BE SELECTED BY THE CONTRACTOR, ON-SITE TO RESULT IN A MINIMUM WORKING LOAD (ANCHOR STRENGTH) OF 8,500 POUNDS (8.5 KIPS) FOR EACH ANCHOR.
- T3. HORIZONTAL TIE-BACK ORIENTATION SHOULD GENERALLY BE PERPENDICULAR TO THE FACE OF THE BULKHEAD. UNLESS OTHERWISE SHOWN ON THE PLANS, VERTICAL ANGLE OF INCLINATION MAY VARY FROM 8.5-DEGREES TO A MAXIMUM OF 25-DEGREES; WITH THE FINAL ANGLE DETERMINATION BASED ON PRELIMINARY PROOF TEST LOADING OF ANCHORS AT SITE BEFORE CONSTRUCTION INSTALLATION AND AS FIELD ADJUSTED FOR VARIOUS SOIL CONDITIONS ENCOUNTERED. VERTICAL INCLINATION MAY REQUIRE THE USE OF BEVEL PLATES AND/OR WASHERS TO MATCH THE INCLINATION ANGLE.
- T4. EXTEND ANCHORS SO THAT ANCHORS ARE BEYOND THE ACTIVE SOIL WEDGE (PAST INTERNAL FRICTION ANGLE) AFTER LOAD-LOCKING, WHICH SHALL BE FIELD DETERMINED BY THE CONTRACTOR.
- T5. ANCHORS SHALL BE DRIVEN BY A QUALIFIED CONTRACTOR OR SUB-CONTRACTOR. THE CONTRACTOR OR SUB-CONTRACTOR IS REQUIRED TO MONITOR AND RECORD THE INSTALLATION, ANGLES, DEPTH, AND PROOF LOAD OF EACH ANCHOR. THIS INFORMATION IS TO BE PROVIDED TO THE TOWN IN AN ELECTRONIC FORM. THE DRIVING CONTRACTOR SHALL HAVE PREVIOUSLY COMPLETED THREE SUCCESSFUL ANCHOR INSTALLATION PROJECTS OR BE CERTIFIED BY THE ANCHOR MANUFACTURER.

T6. THE TOWN AT THEIR COST, MAY RANDOMLY INSPECT UP TO 10% OF THE ANCHORS DURING INSTALLATION BY THE CONTRACTOR OR SUB-CONTRACTOR. SHOULD THERE BE COMPLIANCE PROBLEMS WITH THIS INSTALLATION, THE COUNTY RESERVES THE RIGHT TO ASSIGN A FULL-TIME INSPECTOR OR PROFESSIONAL ENGINEER TO OBSERVE ALL ANCHOR INSTALLATION. THE COSTS OF THE TOWN'S FULL-TIME INSPECTOR OR PROFESSIONAL ENGINEER, IF REQUIRED, SHALL BE PAID FOR BY THE CONTRACTOR.

T7. CONTRACTOR SHALL FURNISH THE TIE-BACK AND ANCHOR SYSTEM SPECIFIED UNLESS A SUBSTITUTION IS SPECIFICALLY AUTHORIZED. SHOULD THE CONTRACTOR DESIRE TO UTILIZE A SUBSTITUTE ANCHOR SYSTEM TO THE SPECIFIED SYSTEM, THE CONTRACTOR SHALL CLEARLY INDICATE THIS WITH THEIR BID. ONLY SYSTEMS THAT DO NOT REQUIRE LARGE-SCALE DISTURBANCE WILL BE CONSIDERED. THE CONTRACTOR SHALL BE REQUIRED TO PROVIDE ALL DETAILS, INCLUDING INSTALLATION MEANS AND METHODS FOR ANY SUBSTITUTE SYSTEM. PROOF-LOADING WITH DIRECT TENSION MEASUREMENT IS REQUIRED, ALONG WITH ALL OTHERS APPLICABLE REQUIREMENTS NOTED ON THE PLANS. THE REQUEST FOR AN ALTERNATE SYSTEM MAY ALSO NECESSITATE ADDITIONAL REQUIREMENTS. THE DECISION FOR SUBSTITUTION AND/OR ANY ADDITIONAL REQUIREMENTS RESTS SOLELY WITH THE COUNTY; AND IS ENTIRELY WITHIN THEIR JURISDICTION. REQUESTS FOR SUBSTITUTE ANCHOR SYSTEMS WILL BE APPROVED AFTER THE BID DATE.

ADD / ALTERNATE #1 SPECIFICATIONS

- COMPOSITE DECK BOARDS SHALL CONSIST OF RECYCLED LINEAR LOW DENSITY POLYETHYLENE (LLDPE) AND RECYCLED WOOD. THE PRODUCT SHALL EXTRUDE INTO SHAPES AND SIZES AS FOLLOWS TREX TRANSCEND AND SQUARE EDGE DECKING BOARDS; 2X6 (1.375" X 5.5"), LENGTHS 16 AND 20 FEET COLOR TO BE SPECIFIED BY OWNER FROM TREX' STANDARD LIST OF COLORS.
- FASTENERS; SCREWS; SEE TREX 2013 INSTALLATION GUIDE, PAGE 29, ANY LISTED FASTENER FOR TRANSCEND IS ACCEPTABLE <http://s7d4.scene7.com/is/content/Trex/Installation%20Guide%202013.pdf>



CONSTRUCTION NOTES:

- C1. THE TIE-BACK SYSTEM SHALL CONSIST OF ANCHORS INSTALLED FROM THE WATER SIDE WITH NO LARGE-SCALE EXCAVATION BEHIND THE EXISTING BULKHEAD, AND TIE-RODS.
- C2. UNLESS OTHERWISE NOTED, ALL HARDWARE AND FASTENERS SHALL BE HOT DIP GALVANIZED.
- C3. WHERE POSSIBLE, ALL NUTS SHALL BE ON THE INSIDE OF THE STRUCTURES OR OTHERWISE COUNTERSUNK. DOMED, PAN-HEAD BOLTS SHALL BE PROVIDED FOR ALL EXPOSED BOLT HEADS.
- C4. ALL CUT ENDS OF FRP AND/OR SYNTHETIC MATERIALS SHALL BE SEALED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.
- C5. REFER TO TIMBER TREATMENT SPECIFICATIONS, SHEET 2.
- C6. BACKFILL WITH COMPACTED GRANULAR MATERIAL.
- C7. PROVIDE WEEP HOLE/DRAIN VENTS PER SHEET PILE MANUFACTURER'S RECOMMENDATION AND SPECIFICATIONS.
- C8. TIMBER PILES AND SHEET PILE MAY BE VIBRATORY DRIVEN.
- C9. 5/8-INCH DIA. CARRIAGE BOLT THROUGH NEW WHALER AND BACKER CLAMP BOARD AND THROUGH EXISTING BULKHEAD PILING, SHEETING AND WHALERS.
- C10. 3/4-INCH DIAMETER CARRIAGE BOLT THROUGH NEW PILING (WHEN PRESENT), TOP WHALER, BULKHEAD AND BACKER BOARD.
- C11. COUNTERSINK THE TIE-BACK SYSTEM. MATCH COUNTER BORE ANGLE TO TIE-ROD ANGLE (0-25 DEGREES). PROVIDE STANDARD GALVANIZED WASHER.

PILING AND TIMBER SPECIFICATIONS AND NOTES:

- P1. ALL PILING SHALL BE CLASS A, SOUTHERN YELLOW PINE NO. 2 WITH A 12-INCH DIAMETER BUTT, 8-INCH DIAMETER TIP AND CONFORMING TO ASTM D25.
- P2. ALL PILING SHALL BE TREATED IN ACCORDANCE WITH THE REQUIREMENTS AW/PA-C1 AND C3 FOR MARINE PILES AS NOTED ON SHEET 2.
- P3. ALL PILES ARE UP PILES. BASE BID LENGTH SHALL ALLOW FOR MINIMUM EMBEDMENT AND CUT-OFF ELEVATIONS AS INDICATED ON THE PLANS.
- P4. ALL PILING SHALL BE DRIVEN TO A MAXIMUM TOLERANCE IN ANY DIRECTION OF THREE (3) INCHES PER PILE. WHERE A PILE IS OUT OF POSITION MORE THAN THREE (3) INCHES, THE CONTRACTOR SHALL REMOVE AND RE-DRIVE THE PILES.
- P5. UNLESS OTHERWISE NOTED, ALL DIMENSIONAL TIMBER MEMBERS SHALL BE TREATED SOUTHERN YELLOW PINE, NO. 2, NOMINAL DIMENSIONS.

DESIGNED BY: JWS3	DRAWN BY: DBR	CHECKED BY: JWS3	BULKHEAD PLAN AND SECTION	
			ONANCOCK WHARF BULKHEAD TAX MAP NOS. 85A1-A-40, 85A1-A-40A & 85A1-A-41A SEVENTH ELECTION DISTRICT ACCOMACK COUNTY VIRGINIA J. W. SALM ENGINEERING, INC. 9842 MAIN STREET, SUITE 3 BERLIN, MD 21811	
REVISIONS 06/17/22 06/27/22			SCALE: N.T.S.	DATE: SEP. 2021
			DRAWING No.:	SHEET No.:
			444-02-003	3 OF 3