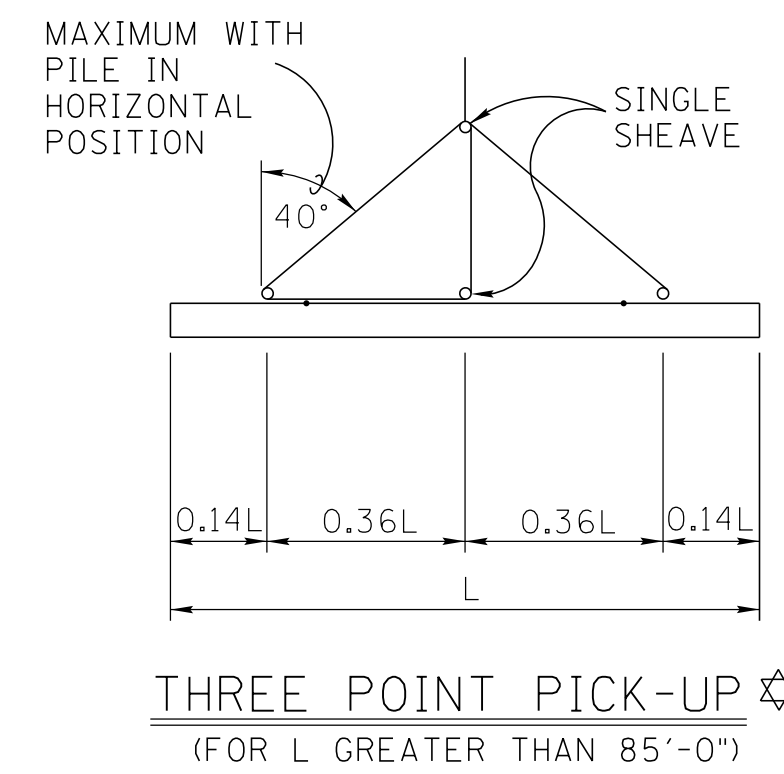
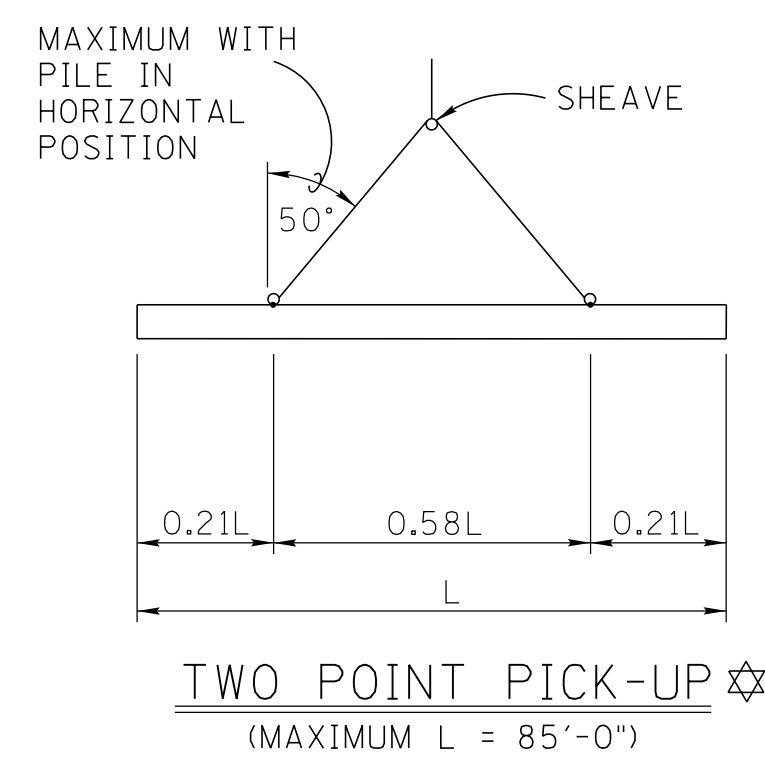


BURIED PILE DETAILS
(SHOWING SPIRAL TIE SPACING)

LOW RELAXATION	ASTM GRADE	STRAND DIAMETER	* NUMBER OF STRANDS - PER PILE			MINIMUM ULTIMATE TENSILE STRENGTH PER STRAND (LBS)	INITIAL PRESTRESSING FORCE PER STRAND (LBS)
			"D" = 14" SQ.	"D" = 16" SQ.	"D" = 18" SQ.		
	270	1/2"	6	8	10	41,300	31,003

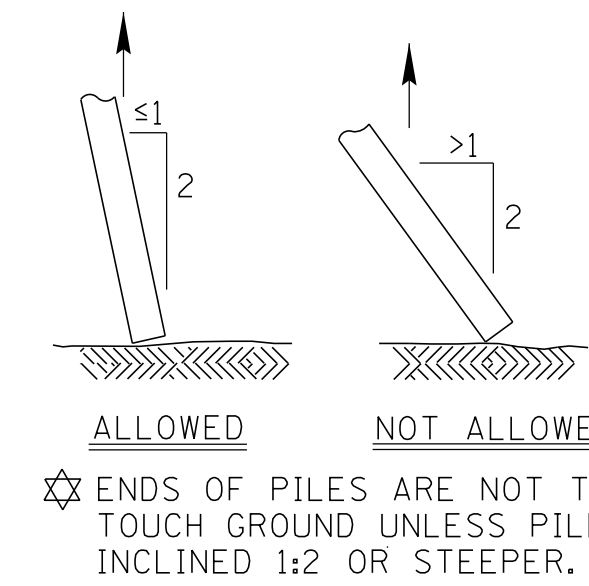
* DENOTES: NUMBER BASED ON FINAL PRESTRESSING FORCE OF 700 PSI. WHEN ADDITIONAL PRESTRESSING IS REQUIRED FOR DESIGN, THE CONTRACT PLANS SHALL SHOW THE NUMBER OF STRANDS.

PRECAST PRESTRESSED CONCRETE PILE PROPERTIES



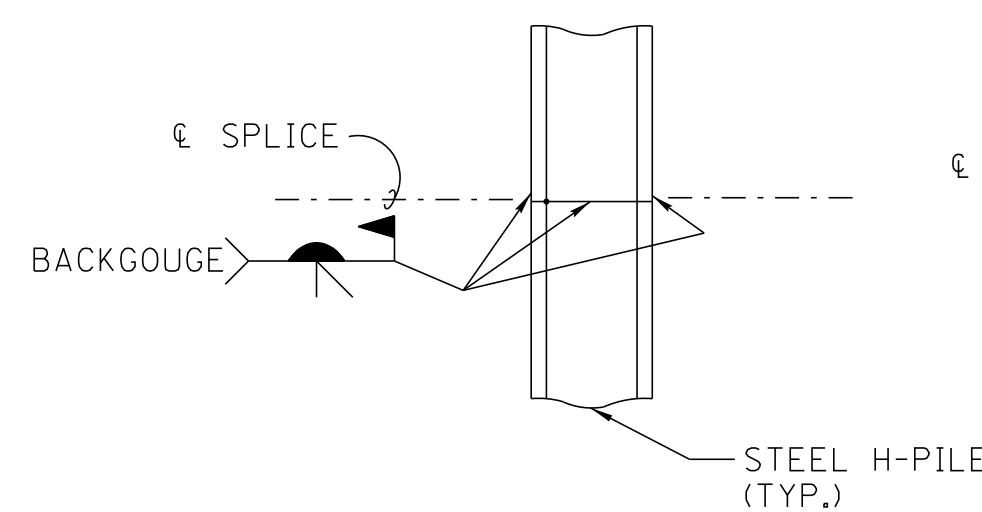
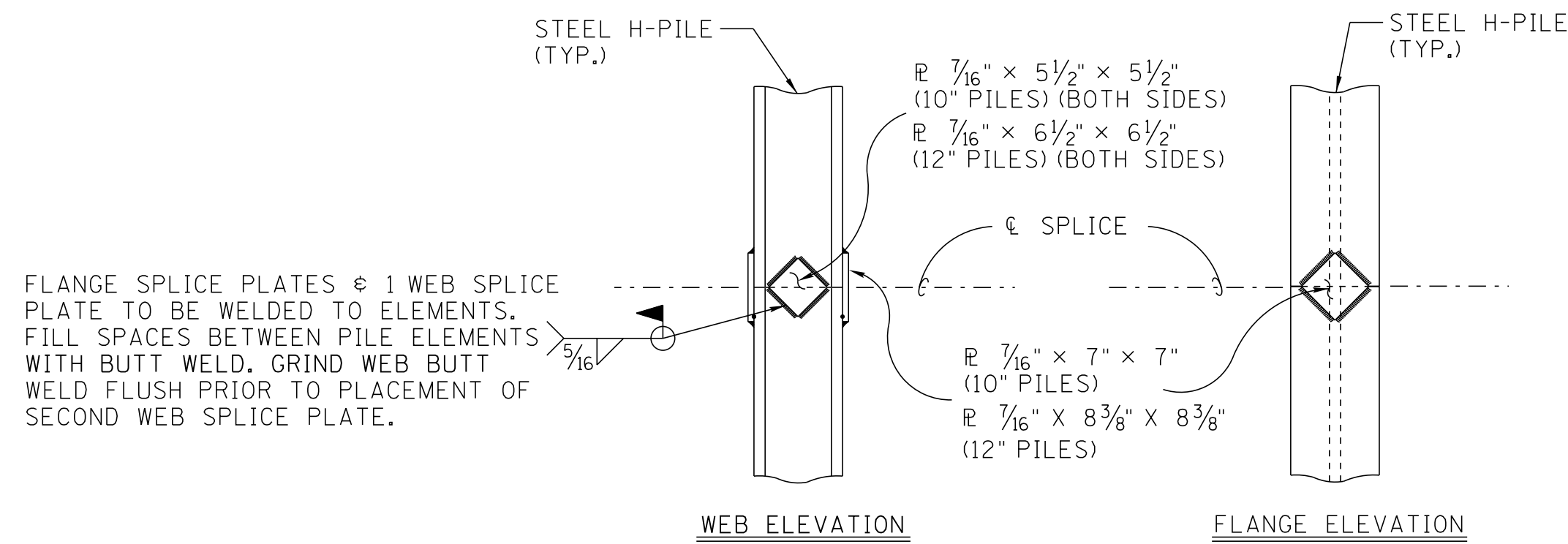
PILE HANDLING DETAILS

NOTE: PILES TO BE MARKED AT PICK-UP POINTS TO INDICATE PROPER PLACE FOR ATTACHING HANDLING LINES. IN HANDLING THE PILES, THEY SHALL BE SUPPORTED ONLY AT THE POINTS INDICATED. PILES TO BE PICKED UP BY PULLING ON BOTH LINES UNIFORMLY. NOTE THAT SINGLE POINT PICKUPS ARE NOT PERMITTED.



GENERAL NOTES

- CONSTRUCTION SPECIFICATIONS: TENNESSEE DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION (CURRENT EDITION).
- DESIGN SPECIFICATIONS: AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS WITH INTERIMS (CURRENT EDITION).
- CHOICE OF PILES: TO BE SPECIFIED ON THE CONTRACT DRAWINGS OF EACH BRIDGE.
- REINFORCING STEEL: TO BE ASTM A615, GRADE 60; SPIRAL TIES SHALL BE TIED TO CORNER STRANDS AT INTERVALS ADEQUATE TO PREVENT EXCESSIVE MOVEMENT DURING VIBRATION.
- DRIVING FORMULA: PILES SHALL BE DRIVEN TO A MINIMUM CAPACITY AS SPECIFIED ON THE CONTRACT DOCUMENTS AS DETERMINED BY THE DRIVING FORMULAS STIPULATED IN THE STANDARD SPECIFICATIONS.
- MILL TEST REPORTS: NOTARIZED MILL TEST REPORTS SHALL BE REQUIRED FOR ALL STEEL PILES.
- WELDING: AASHTO/AWS D1.5 (CURRENT EDITION) FOR STEEL H-PILES, AWS D1.1 (CURRENT EDITION) STRUCTURAL WELDING CODE FOR STEEL PIPE PILES, AND SECTION 602 OF THE STANDARD SPECIFICATIONS.
- STRUCTURAL STEEL: SHALL CONFORM TO ASTM A709 GRADE 50 FOR STEEL HP PILES AND ASTM A252 GRADE 3 MODIFIED WITH A MINIMUM YIELD STRESS OF 50 KSI FOR STEEL PIPE PILES.
- PILE TIPS: WHEN CALLED FOR ON THE CONTRACT DOCUMENTS, STRUCTURAL STEEL FOR CAST POINTS SHALL CONFORM TO ASTM A148 OR ASTM A27. ATTACHMENT OF CAST STEEL POINTS SHALL BE BY WELDING IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS AND AASHTO/AWS D1.5 (CURRENT EDITION) BRIDGE WELDING CODE FOR STEEL H-PILES AND AWS D1.1 (CURRENT EDITION) STRUCTURAL WELDING CODE FOR STEEL PIPE PILES.
- CONCRETE IN THE PRECAST PRESTRESSED PILES SHALL BE CLASS P AND SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH (F'C) OF 5000 PSI AT 28 DAYS. COMPRESSIVE STRENGTH AT TRANSFER OF PRESTRESSING FORCE SHALL NOT BE LESS THAN 4000 PSI.
- PRESTRESSING REINFORCEMENT: SEVEN-WIRE LOW RELAXATION STRANDS SHALL CONFORM TO ASTM A416 GRADE 270. BROKEN WIRES WITHIN INDIVIDUAL STRANDS SHALL BE PERMITTED UP TO 2% OF THE TOTAL NUMBER OF WIRES IN EACH PILE, PROVIDED THAT THERE IS NOT MORE THAN ONE BROKEN WIRE PER STRAND. TWO OR MORE BROKEN WIRES PER STRAND WILL BE CAUSE FOR REPLACEMENT OF THE STRAND, EVEN THOUGH THE TWO BROKEN WIRES ARE WITHIN THE 2% LIMITATION.
- PRECAST REINFORCED (NON-PRESTRESSED) CONCRETE PILES SHALL NOT BE PERMITTED.



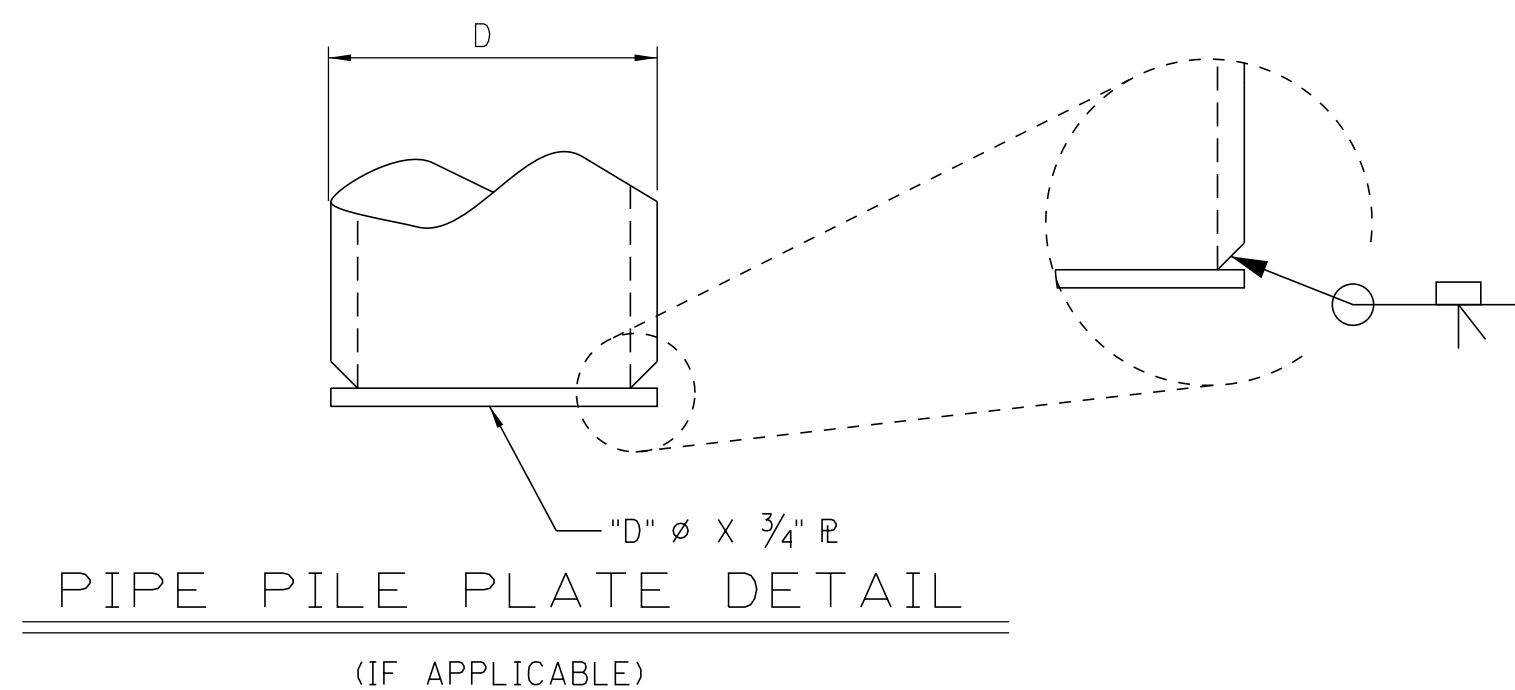
ALTERNATE "A"

ALTERNATE "B"

NOTE: THE CONTRACTOR MAY USE ALTERNATE "A" OR ALTERNATE "B" FOR STEEL H-PILES.

STEEL PILE SPLICE DETAILS

SPLICING OF STEEL PILES SHALL BE IN STRICT ACCORDANCE WITH THE AASHTO/AWS D1.5 (CURRENT EDITION) FOR STEEL H-PILES AND AWS D1.1 (CURRENT EDITION) FOR STEEL PIPE PILES. FIELD WELDS MAY BE MADE WITH MEMBERS IN THE HORIZONTAL OR VERTICAL POSITION PROVIDED THE APPROPRIATE PREQUALIFIED AASHTO/AWS D1.5 OR AWS D1.1 WELD JOINT IS USED FOR THAT POSITION. THE WORK SHALL BE PERFORMED BY AN AWS CERTIFIED WELDER. WELDING OF GALVANIZED STEEL PIPE PILES SHALL BE IN STRICT ACCORDANCE WITH AWS D1.1 (CURRENT EDITION).



STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
STANDARD
PILE
DETAILS
2023

DESIGNED BY K. MCLAUGHLIN DATE _____
DRAWN BY K. MCLAUGHLIN DATE _____
SUPERVISED BY TAK DATE _____
CHECKED BY TAK DATE _____

CORRECT *Del A Krivyayev*
ENGINEER OF STRUCTURES