FHWA REGION NO.	STATE	PROJECT NO.	YEAR	SHEET NO.	TOTAL SHEETS
7	KANSAS	87U-1247-01	1992	47	79

O D 10¾" T. = 0.25"
O D 12¾" T. = 0.25 Min.
O D 14" T. = 0.25 Min.

Note:
Pile shall be driven with a steel head having a projecting ring fitting inside the pipe. Clearance between ring and pipe should be ¼".

PIPE PILE SPLICE DETAIL

Note:
Pile pipe may be spiral welded, longitudinal welded, or seamless steel pipe.

¾" Driving Rℓ

O D

¾" Round Rℓ

PLAIN ROUND CAST-IN-PLACE PIPE PILE

Head

5 turns 1" pitch

16 turns-3" pitch

Continuous spiral W5 wire-6" pitch

W5 wire spiral ties

12" or 14"

1" 1" 1"

12" or 14"

2" Cl.

Note: If additional driving is required, use 1" pitch as shown.

Build-up

W5 wire 6" pitch

12" 3"

15" lap

5"

#5-bars

8 - ⅜" ø 270K strands
@ 16,000 Lbs. each
12" x 12" piles

8 - 7/16" ø 270K strands
@ 21,700 Lbs. each
14" x 14" piles

BUILD UP SECTION

Tip

12" OR 14" PRESTRESSED CONCRETE PILES

9 - 7/16" ø 270K strands
@ 21,700 Lbs. each

W5 wire spiral Ties

4 11/16"

1'-4"

8-#6 bars
Typ. both build-up sections

BUILD-UP WITHOUT DRIVING

Prestress pile

W5 wire spiral ties

See note "A"

Prestress pile 5 turns 1" pitch

BUILD-UP WITH DRIVING

16" PRESTRESSED CONCRETE PILE

Length (L)

Pick-up point

0.7 L 0.3 L

SINGLE POINT PICK-UP

Pick-up points

0.21 L 0.58 L 0.21 L

DOUBLE POINT PICK-UP

PICK-UP POINTS FOR PRESTRESSED PILING

Max. length - 55' single point pick-up
Max. length - 80' double point pick-up

Note: Piles shall be marked at Pick-up points to indicate proper points for attaching handling lines.

45° (Min)

0 to ⅛"

1/16" to ⅛"

SECTION THRU FLANGE

PILE SPLICE DETAIL
(H-PILE)

PRESTRESSED PILES

Method of attachment of pile to build-up may be by any of the methods given in the notes on "Alternate Methods. If mild reinforcing steel is used for attachment, the area shall be no less than that used in the build-up.

ALTERNATE METHODS:
Method of attachment of a pile to build-up may be by any of the following methods:
1. Cut off at least 2'-0" of pile and expose a minimum of 2'-0" of strands.
2. Cast 8-#6 bars (equally spaced) into pile head. All bars shall extend into pile head and project from pile head a minimum of 2'-0".
3. Drill 8 holes in pile head (equally spaced) for installation of 8 grouted dowel bars of same size and length as in 2.
4. Provide cored holes for bars as in 3.

If a pile splice is required on pile bents, the joint shall be located at least 15' below finished ground line after driving.

No bars or strands are to extend from head of pile or build-up into footing or pile cap unless approved by the Engineer.

FOR INFORMATION ONLY EQUIVALENT POINT BEARING PILES		
STEEL PILES	CONCRETE PILES	
	Pipe	Pre-stress
HP10x42	10 ¾	
HP12x53	12 ¾	
HP14x73	14	12
HP14x102		14
HP14x117		16

SPECIFICATIONS: Standard Specifications for State Road and Bridge Construction as currently used by the Kansas Department of Transportation (Ed. 1990). The following items are covered in Division 700 of the Standard Specifications:

CONCRETE: Concrete for cast-in-place shall be f'c = 3,000 PSI. Concrete for prestressed shall be f'c = 5,000 PSI.

WELDING: All field welding shall meet the requirements of the Standard Specifications.

TEST PILES: Test piles shall be driven where called for on the bridge plans. The test piles located within the limits of the substructure will become a part of the bridge pile system.

SPLICES: Splices for steel piles and shell piling shall be in accordance with details shown on this sheet and the Standard Specifications.

Prestressed concrete pile splices shall be made in accordance with the Manufacturer's recommendations subject to the approval of the Engineer.

DRIVING FORMULA: Driving formula shall conform to the Standard Specifications.

MEASUREMENT AND PAYMENT: Measurement and payment for all piles shall comply with the Standard Specifications.

The following items are covered in Division 1000 of the Standard Specifications:

REINFORCEMENT: Reinforcing bars shall be new billet steel, ASTM A 615, Grade 40 or Grade 60. Hoops and spirals may be either plain or deformed bars.

PRESTRESSING STEEL: Prestressed strand shall be Grade 270 uncoated seven-wire stress relieved or low relaxation strand.

CAST-IN-PLACE SHELLS: Steel shells for cast-in-place piles shall conform to the requirements of the Standard Specifications.

All piles driven without a mandrel shall be of the minimum thicknesses shown. Piles driven with a mandrel shall be of sufficient strength and thickness to withstand driving without injury and to resist harmful distortion and/or buckling due to soil pressure after the mandrel is removed.

Improperly driven, broken or otherwise defective pipe pile shall be removed and replaced or otherwise corrected to the satisfaction of the Engineer, or an additional pile shall be driven at no extra cost.

The Contractor shall maintain a light suitable for visual inspection of the pile on the job at all times prior to and during the filling of the pipe.

STEEL PILE: Steel pile shall conform to the requirements of the Standard Specifications.

PILE POINTS: Pile points shall conform to the dimensions shown and to requirements of the Standard Specifications. Pile points shall be welded to the pile.

PAINT: All paint shall comply with the Standard Specifications, or as specified on the plans.

MILL TEST REPORTS: Steel piles test reports and steel shell test reports shall comply with the Standard Specifications.

NO.	DATE	REVISIONS	BY	APP'D
1	2-14-90	Revise notes.	LRR	KFH

KANSAS DEPARTMENT OF TRANSPORTATION

STANDARD PILE DETAILS

STD. NO. 110

FHWA APPROVAL		3-28-90	APP'D	KENNETH F. HURST
DESIGNED	DETAILED	RDR	QUANTITIES	TRACED
DESIGN CK.	DETAIL CK.	KDD	QUAN. CK.	TRACE CK.

K9331

ORIG. FROM BRUNS. PROJ. CO.
DESIGN DATE CHECKS DATE
DETAIL DATE DATE
QUANTITIES DATE DATE
TRACING DATE DATE
RETRACED DATE DATE

STAND
ZFA3:F110,47J110X00X00.DGN
13-APR-1990 17:08
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