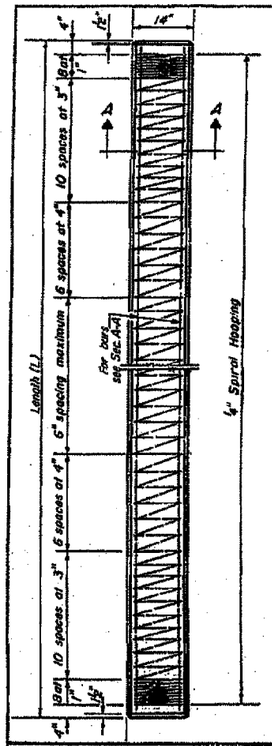
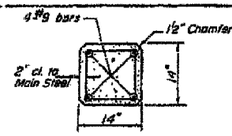
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

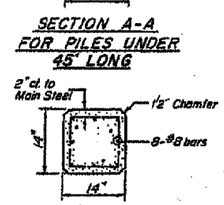
	FAP 1	APPROVED	22	17

SHEET NO
SHEETS





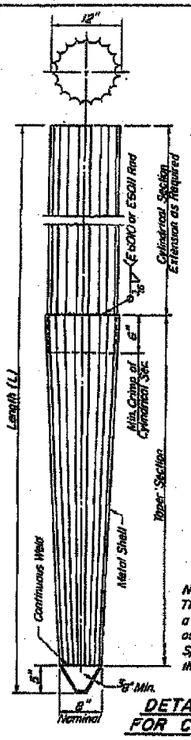
SECTION A-A
FOR PILES UNDER 45' LONG

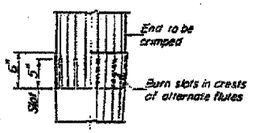


SECTION A-A
FOR PILES 45' OR MORE

Handling: For Pile lengths up to 45', use two slings placed at a distance of 0.21 L from each end. For Piles longer than 45' use three slings placed at a distance of 0.12 L from each end and at mid point of pile.

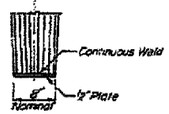
DETAIL OF PRECAST CONCRETE PILES





FIELD CRIMP DETAIL

Note. 6" Crimp shall either be supplied on the cylindrical section or made in the field as detailed.

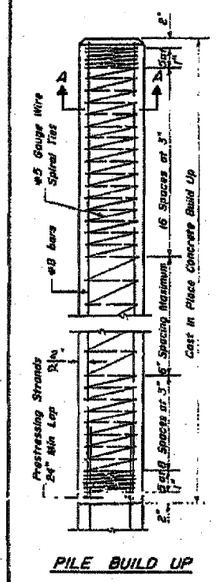


OPTIONAL FLAT END

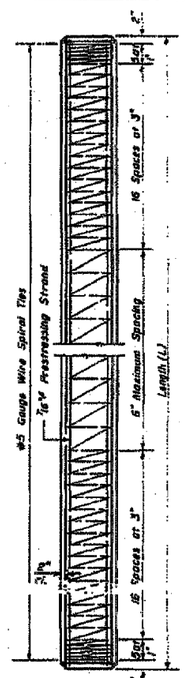
ALLOWABLE TAPER SECTIONS
10' Length - Taper 1" in 2'-6"
17' Length - Taper 1" in 4'-0"
25' Length - Taper 1" in 7'-0"
30' Length - Taper 1" in 7'-0"

NOTE:
The thickness of the shell shall be 0.1495 inches with a tolerance of 5%. The shell shall be in accordance with Article 710.05 (a) of the Standard Specification except that minimum yield strength for the steel after cold working shall be 50,000 psi

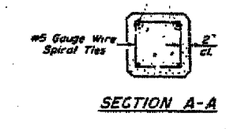
DETAIL OF TAPERED METAL SHELLS FOR CAST IN PLACE CONCRETE PILES



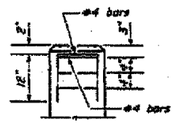
PILE BUILD UP



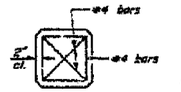
PILE PLAN



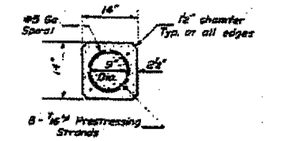
SECTION A-A



ELEVATION
(End Reinforcement)



PLAN
(End Reinforcement)



SECTION THRU PILE

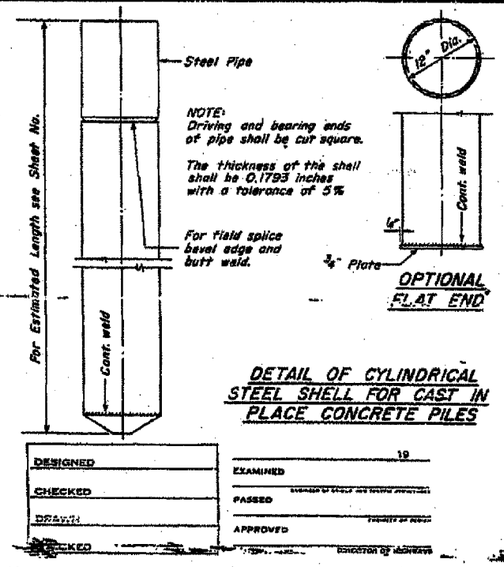
DESIGN STRESSES
f'c = 5,000 psi.
f'ci = 4,000 psi
fs = 270,000 psi. (31,000 lbs. - 7/16" or 41,300 lbs - ½" ϕ)
fs' = 189,000 psi. (21,700 lbs - 7/16" ϕ or 28,900 lbs - ½" ϕ)

CHART ADDED AT ABUTMENTS

NOTES
Prestressing steel shall be non-galvanized seven high strength stress-relieved 7-wire strand. The nominal diameter shall be 7/16" and the minimum nominal cross-sectional area shall be 0.115 sq.in or the equivalent 6-½" ϕ strands with a cross-sectional area of 0.153 sq.in. may be used.

For Pile lengths up to 85', use two slings placed at a distance of 0.21 L" from each end. For Piles longer than 85', use three slings placed at a distance of 0.12 L" from each end and at mid-point of pile. " L " Over all length of pile to be handled.

PRECAST PRESTRESSED CONCRETE PILE



OPTIONAL FLAT END

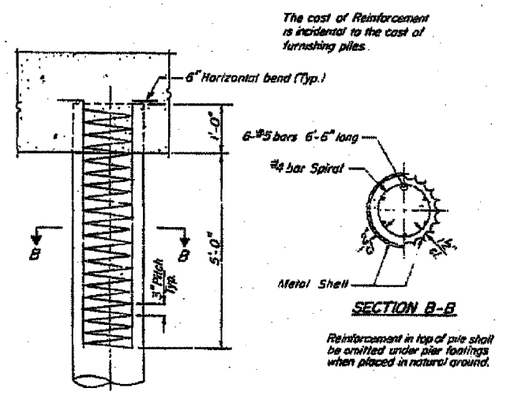
NOTE:
Driving end bearing ends of pipe shall be cut square.

The thickness of the shell shall be 0.1793 inches with a tolerance of 5%

DETAIL OF CYLINDRICAL STEEL SHELL FOR CAST IN PLACE CONCRETE PILES

DESIGNED	EXAMINED	19
CHECKED	PASSED	
DRAWN	APPROVED	
CHECKED		

X-3 8-30-80

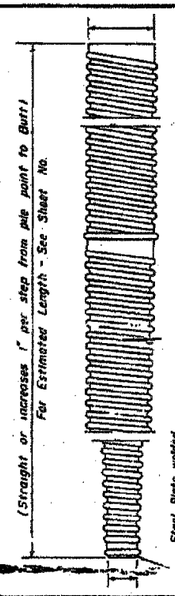


The cost of Reinforcement is incidental to the cost of furnishing piles.

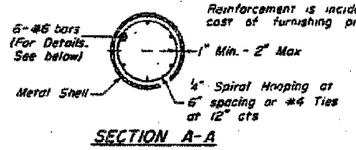
SECTION B-B

Reinforcement in top of pile shall be omitted under pier footings when placed in natural ground.

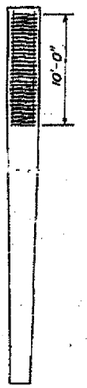
DETAIL OF REINFORCEMENT FOR METAL SHELLS



Reinforcement is incidental to the cost of furnishing piles

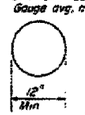


SECTION A-A

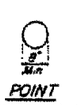


PILE REINFORCEMENT

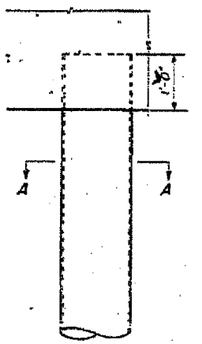
At least 10% of the length of pile shall have a Butt diameter equal to or greater than 12" Gauges are furnished to suit soil conditions (16 Gauge avg. thin.)



BUTT



POINT
(Applies only to Step Taper type pile.)



DETAIL OF MANDREL DRIVEN STRAIGHT OR STEP-TAPER PILES FOR CAST IN PLACE CONCRETE PILES

Bridge Sheet 7 of 7
Revised 6-15-84