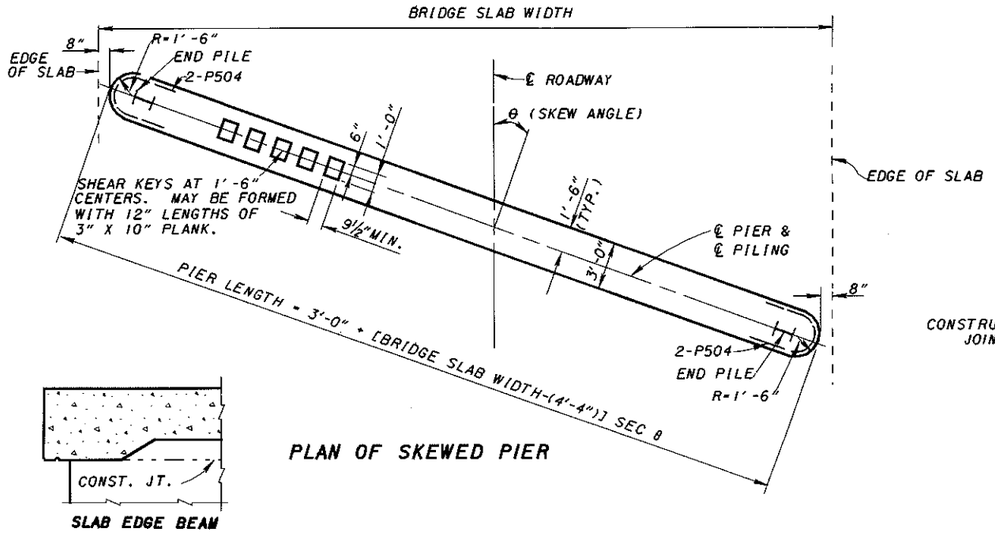
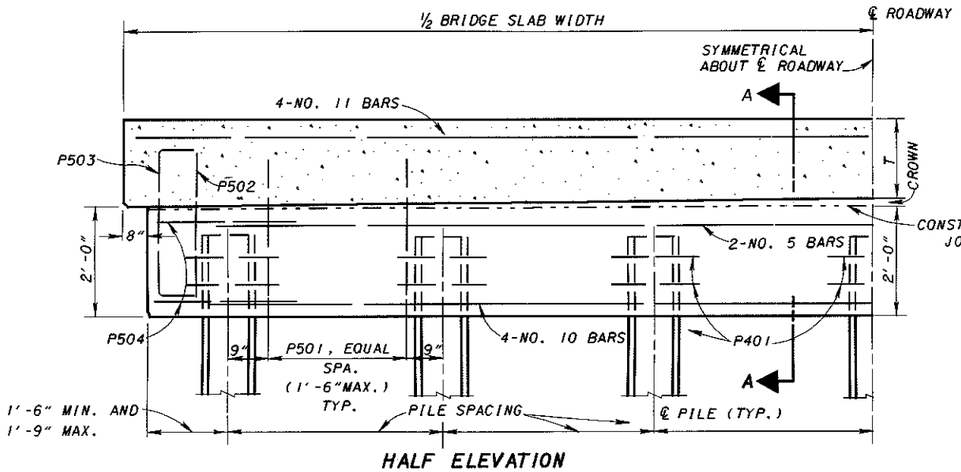


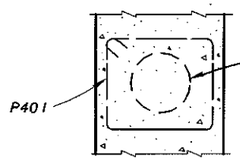

PLAN OF SKEWED PIER



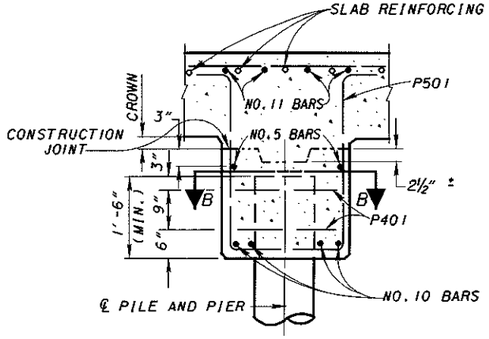

SLAB EDGE BEAM




HALF ELEVATION

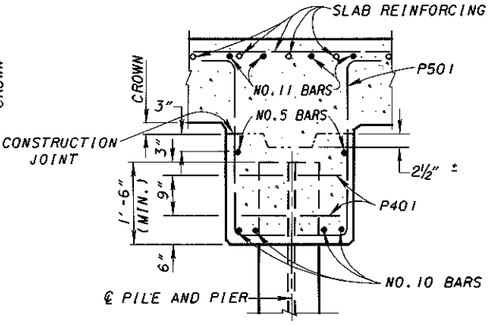



SECTION B-B



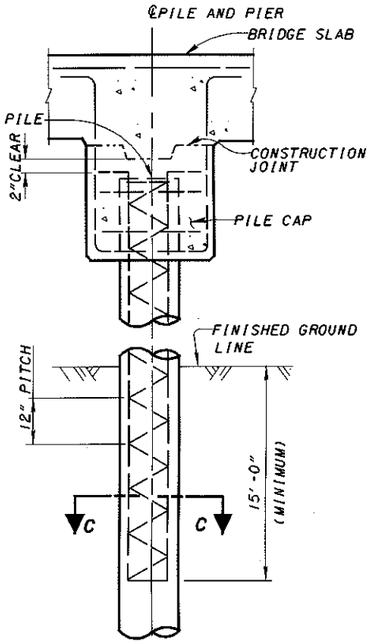

SECTION A-A

SHOWING 16" CAST-IN-PLACE CONCRETE PILE

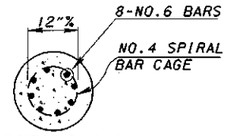



SECTION A-A

SHOWING STEEL PILE, HP12X53

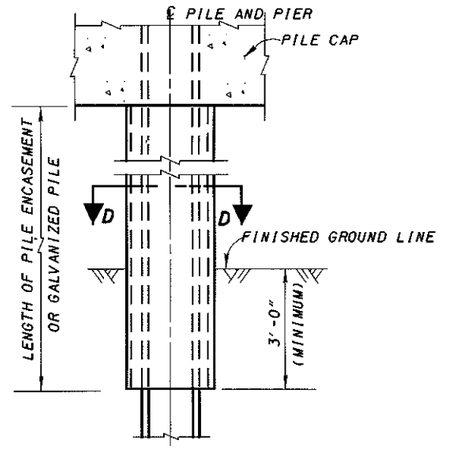



CONCRETE PILE REINFORCMENT

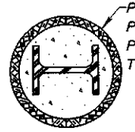



SECTION C-C

SHOWING 16"CAST-IN-PLACE REINFORCED CONCRETE PILE (REINFORCED CONCRETE PILES SHALL NOT BE ENCASED OR GALVANIZED)



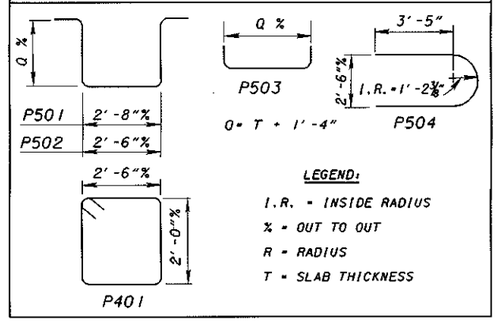

PILE ENCASEMENT




SECTION D-D

SHOWING STEEL PILE, HP12X53

BENDING DIAGRAMS




## GENERAL NOTES

DESIGN SPECIFICATIONS

THIS STANDARD DRAWING CONFORMS TO THE "STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES" ADOPTED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS, 1996, INCLUDING THE 1997, 1998 AND 1999 INTERIM SPECIFICATIONS AND THE ODOT BRIDGE DESIGN MANUAL.

DESIGN LOADING: HS25 AND THE ALTERNATE MILITARY LOADING.

DESIGN DATA:

CONCRETE CLASS "S" - COMPRESSIVE STRENGTH 4500 P.S.I.

REINFORCING STEEL - ASTM A615, A616 OR A617 GRADE 60, WITH A MINIMUM YIELD STRENGTH OF 60,000 P.S.I. AND SHALL BE EPOXY COATED.

SPIRAL REINFORCEMENT MAY BE PLAIN BARS, ASTM A82 OR A615 AND SHALL BE EPOXY COATED.

ITEM SPECIAL - PILE ENCASEMENT: ALL STEEL H PILES SHALL BE EITHER ENCASED OR GALVANIZED AS SHOWN.

CONCRETE FOR ENCASED PILES SHALL BE CLASS S OR CLASS C CONCRETE (SS 899.03) AND SHALL BE IN ACCORDANCE WITH SS 842, EXCEPT AS MODIFIED HEREIN. THE REQUIRED SLUMP IS 6", PLUS OR MINUS 2". THE MAXIMUM WATER TO CEMENT RATIO SHALL BE 0.5. IF CONCRETE IS PLACED UNDER WATER, THE REQUIREMENTS OF ADDING 10% MORE CEMENT TO THE CONCRETE SHALL BE WAIVED.

## GENERAL NOTES (CONTINUED)

THE GALVANIZING OPTION SHALL BE AS PER 711.02. THE GALVANIZED COATING THICKNESS SHALL BE A MINIMUM OF 4 MILS. ALL GOUGES, SCRAPES, SCRATCHES OR OTHER SURFACE IMPERFECTIONS CAUSED BY THE HANDLING OR THE DRIVING OF THE PILE SHALL BE REPAIRED TO THE SATISFACTION OF THE ENGINEER. PAYMENT FOR THE GALVANIZING WILL BE MADE AT THE CONTRACT UNIT PRICE FOR ITEM SPECIAL, PILE ENCASEMENT. PAYMENT WILL ONLY BE MADE FOR THE GALVANIZED LENGTH OF PILE AS REQUIRED BY THE PLAN AND/OR APPROVED BY THE ENGINEER. ALL GALVANIZING PROVIDED BEYOND THE PROJECT REQUIREMENTS IS AT THE CONTRACTOR'S EXPENSE.

THE LENGTH OF PILE ENCASEMENT SHALL BE MEASURED IN FEET ALONG THE LENGTH OF THE PILE. THIS ITEM INCLUDES ALL WORK AND MATERIALS NECESSARY TO FURNISH THE REQUIRED ENCASEMENT. PAYMENT WILL BE MADE AT THE CONTRACT UNIT PRICE PER FOOT OF PILE ENCASEMENT APPROVED IN PLACE.

FALSEWORK SUPPORT: ATTACHMENT OF THE FALSEWORK SUPPORT MEMBERS TO PIER PILES WILL BE PERMITTED IF THE ATTACHMENT IS MADE TO THE PORTION OF PILE ENCASED IN THE PIER CAP. THERE SHALL BE NO ECCENTRIC LOADS PRODUCED IN THE PILES BY ATTACHED FALSEWORK SUPPORT MEMBERS.

## DESIGN INSTRUCTIONS

GENERAL: THIS DRAWING PROVIDES GENERAL CONSTRUCTION DETAILS. THE PROJECT PLANS FOR EACH STRUCTURE SHALL SHOW STATIONS, SPAN LENGTHS, ROADWAY WIDTH, SKEW, CURVE AND SUPERELEVATION (IF ANY) ELEVATIONS, SUPERSTRUCTURE DETAILS, ESTIMATED QUANTITIES, REINFORCING STEEL LIST, PILE ENCASEMENT AND OTHER NECESSARY DETAILS AND SPECIAL NOTES.

REINFORCING STEEL: THE LONGITUDINAL #11, #10 AND #5 BARS, AT THE OPTION OF THE CONTRACTOR AND AT NO ADDITIONAL COST TO THE STATE, MAY BE FURNISHED EITHER IN ONE LENGTH AS SHOWN HEREIN, OR SPLICED. IF THE SPLICE OPTION IS CHOSEN, THE #11 BAR SHALL BE LAPPED 13'-6", THE #10 BAR SHALL BE LAPPED 10'-3" AND THE #5 BAR SHALL BE LAPPED 3'-7". A STAGGERED LAP SPLICE ARRANGEMENT SHOULD BE USED. PAYMENT FOR REINFORCING SHALL BE INCLUDED WITH CLASS S CONCRETE.

PILE INFORMATION: THE PILE TYPE AND SIZE SHALL BE SPECIFIED IN THE PROJECT PLANS. THE MINIMUM SIZE SHALL BE A 16" DIA. CAST-IN-PLACE REINFORCED CONCRETE PILE, AS SHOWN IN SECTION C-C, OR AN HP12X53 PILE AS SHOWN IN SECTION D-D. THE ULTIMATE BEARING VALUE AND ESTIMATED PAY LENGTH SHALL BE GIVEN IN THE STRUCTURE GENERAL NOTES. PILE SPACINGS SHALL NOT EXCEED 7'-6".

## DESIGN INSTRUCTIONS (CONTINUED)

SLAB THICKNESS: SEE SLAB STANDARD BRIDGE DRAWING FOR THE VALUE OF "T".

LIMITS OF DESIGN: THIS STANDARD DRAWING SHOULD NOT BE USED FOR ANY BRIDGE IN WHICH THE FOLLOWING LIMITS ARE EXCEEDED.

(A) SKEW ANGLE OF 35°.
(B) EXPOSED HEIGHT OF PILES EQUALS 20 FEET (CONSIDER SCOUR DEPTHS AND SOIL DENSITY)
(C) TO SUPPORT A CONTINUOUS SPAN ARRANGEMENT OF GREATER THAN 55'
(D) SLOPED EMBANKMENT, DEBRIS OR ICE FLOW LOADS WHICH WOULD CAUSE APPRECIABLE HORIZONTAL FORCE AGAINST THE PILE BENT
(E) ROCK OR OTHER FIRM MATERIAL WOULD PREVENT DRIVING PILES AT LEAST TEN FEET BELOW FINISHED GROUND LINE

16" C.I.P. REINFORCED CONCRETE PILES: THE REINFORCING STEEL SHALL BE EPOXY COATED AND SHOWN IN THE STRUCTURE'S REINFORCING BAR LIST AND BE INCLUDED IN ITEM 507, 16 INCH CAST-IN-PLACE PILES FURNISHED FOR PAYMENT.

DESIGN AGENCY
OFFICE OF STRUCTURAL ENGINEERING

STATE OF OHIO DEPARTMENT OF TRANSPORTATION
ENGINEER OF BRIDGES
Richard P. Sayre
12-19-94
DATE

| REVISIONS | PREPARED | CHECKED | REVIEWED |
|---|---|---|---|
| 04-20-01 | JAM | SAM | LMW |
| | DRAWN | | |
| | GFJ | | CPP-2-94 |

STANDARD
CAPPED PILE PIER
FOR CONTINUOUS SLAB BRIDGES

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