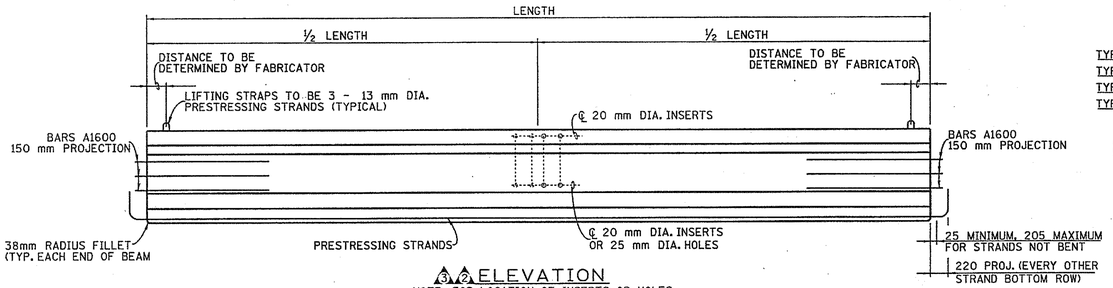
STDM142.DGN

| PROJECT NO. | YEAR | SHEET NO. |
|---|---|---|
| | 1996 | |

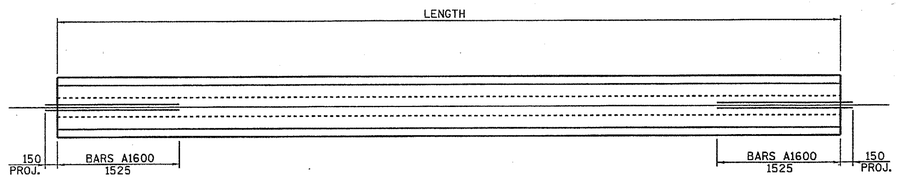
REVISIONS

| NO. | DATE | BY | BRIEF DESCRIPTION |
|---|---|---|---|
| 1 | 6-10-96 | BRB | NEW METRIC STANDARD |
| 2 | 7-31-00 | CMH | DELETED BARS C1500. REVISED NOTE 6, BENDING DETAIL FOR PRESTRESSING STRANDS, PLAN & ELEVATION |
| 3 | 4-8-05 | JHW | REV. 20mm CHAMFER TO A 38mm RADIUS FILLET AT END OF BEAMS |

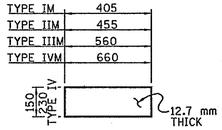



3 2 ELEVATION

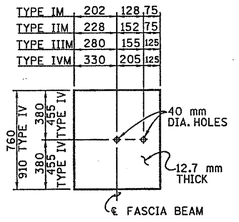
NOTE: FOR LOCATION OF INSERTS OR HOLES SEE FRAMING PLAN IN CONTRACT DRAWINGS.




2 PLAN

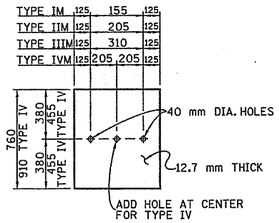



ABUTMENT



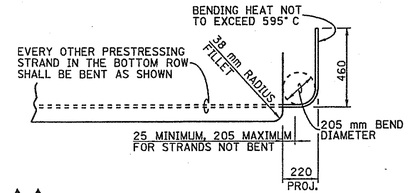

BENT FASCIA BEAM

NOTE: DO NOT LOCATE ANCHORS OUTSIDE THE CENTERLINE OF THE FASCIA BEAM.

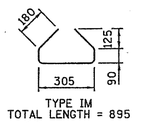


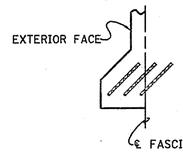

BENT INTERIOR BEAM

## ELASTOMERIC BEARING PAD DETAILS




3 2 BENDING DETAIL FOR PRESTRESSING STRANDS



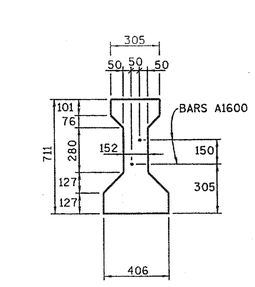




FIELD BEND STRANDS AS NECESSARY FOR OUTSIDE OF FASCIA BEAM ONLY

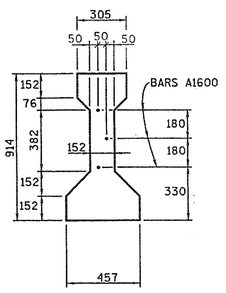
2 HALF ELEVATION END OF BEAM

## BEAM NOTES:

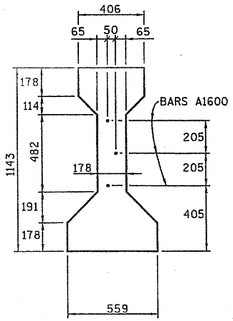
1) THE TOP OF ALL BEAMS ARE TO BE ROUGH FLOATED. AT APPROXIMATELY THE TIME OF INITIAL SET, THE TOP OF THE BEAMS SHALL ALSO BE SCRUBBED TRANSVERSELY WITH A COARSE WIRE BRUSH TO REMOVE ALL LAITANCE AND PRODUCE A ROUGH SURFACE.
2) MILD STEEL REINFORCING SHALL BE ASTM A615M GRADE 400.
3) ALL PRESTRESSING STRANDS SHALL BE 13 mm DIA. ASTM GRADE 1860 MPa, 7 WIRE UNCOATED STRESS RELIEVED LOW RELAXATION PRESTRESSING STRANDS.
4) AN INITIAL FORCE OF 137908 N SHALL BE APPLIED TO EACH STRAND IN ALL BEAMS.
5) AFTER THE BEAM IS REMOVED FROM THE PRESTRESSING BED, BARS PROJECTING FROM THE ENDS OF THE BEAM SHALL BE COLD BENT (DO NOT HEAT). THE MINIMUM DIAMETER OF THE BEND SHALL BE IN ACCORDANCE WITH STANDARD CRSI HOOK DETAILS.
2 6) THE PRESTRESSING STRANDS SHALL BE LEFT PROJECTING AS SHOWN IN THE BENDING DETAIL FROM THE ENDS OF THE BEAMS. THE STRANDS SHALL BE CUT WITHOUT HEATING ADJACENT STRANDS. THERE SHALL NOT BE ANY PROTECTIVE COATING PLACED ON THE ENDS OF THE BEAM OR ON THE PROJECTING STRANDS.
7) COST OF ELASTOMERIC BEARING PADS AND RUBBER BONDING CEMENT TO BE INCLUDED IN THE COST OF THE PRESTRESSED BEAMS.
8) THE SEQUENCE FOR TRANSFER OF STRESS OR THE CUTTING STRANDS SHALL BE IN ACCORDANCE WITH ARTICLE 615.14 OF THE "STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION" AND SHALL BE SHOWN ON THE APPROVED SHOP DRAWINGS. AT NO TIME SHALL MORE THAN 1/6th OF THE TOTAL PRESTRESSING FORCE BE ECCENTRIC ABOUT THE CENTERLINE OF THE BEAM.
9) PRESTRESSING STRANDS SHALL NOT BE GREATER THAN NOMINAL 13 mm DIAMETER.



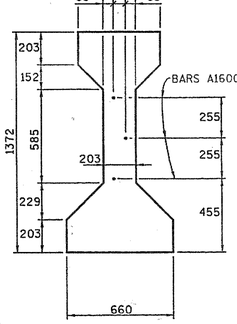

2 TYPE IM



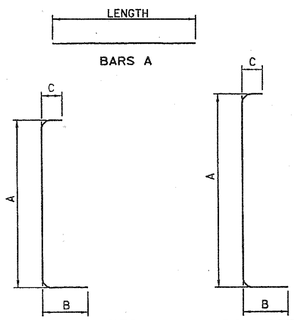

2 TYPE IIM




2 TYPE IIIM




2 TYPE IVM

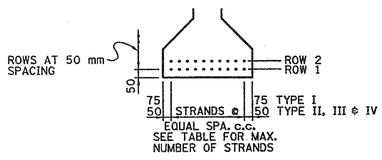



BENDING DIMENSIONS

| TYPE | A | B | C | LENGTH |
|---|---|---|---|---|
| IM | 610 | 180 | 125 | 915 |
| IIM | 785 | 205 | 125 | 1115 |
| IIIM | 1040 | 280 | 125 | 1445 |
| IVM | 1270 | 330 | 125 | 1725 |

BENDING DIMENSIONS

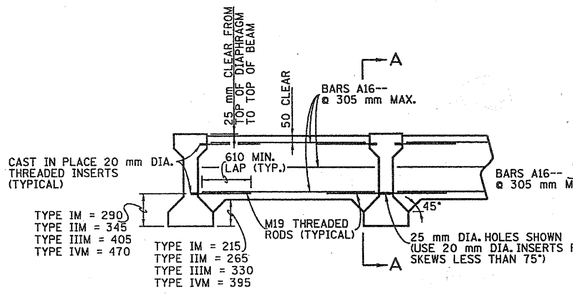
| TYPE | A | B | C | LENGTH |
|---|---|---|---|---|
| IM | 785 | 180 | 125 | 1090 |
| IIM | 990 | 205 | 125 | 1320 |
| IIIM | 1220 | 280 | 125 | 1625 |
| IVM | 1450 | 330 | 125 | 1905 |




## MAXIMUM NUMBER OF STRANDS PER ROW

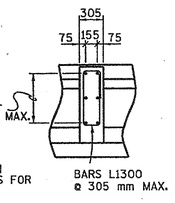
| ROW | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| TYPE IM | 6 | 6 | 4 | 2 | 2 | 2 | 2 | 2 |
| TYPE IIM | 8 | 8 | 6 | 4 | 2 | 2 | 2 | 2 |
| TYPE IIIM | 10 | 10 | 10 | 8 | 6 | 4 | 2 | 2 |
| TYPE IVM | 12 | 12 | 12 | 10 | 8 | 6 | 4 | 2 |

NOTE: USE A MAXIMUM OF 2 STRANDS PER ROW FOR ROW 9 AND HIGHER FOR ALL BEAM TYPES.

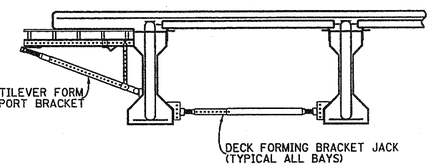



CAST IN PLACE INTERMEDIATE DIAPHRAGM

NOTE: AS AN ERECTION AID, THIS CAST IN PLACE INTERMEDIATE DIAPHRAGM MAY BE USED IN LIEU OF THE TEMPORARY ERECTION DIAPHRAGM SHOWN THIS SHEET.




SECTION A - A




TEMPORARY ERECTION DIAPHRAGM

## TEMPORARY ERECTION DIAPHRAGM NOTES:

THE CONTRACTOR SHALL BE RESPONSIBLE FOR SUPPORTING THE EXTERIOR GIRDERS DURING CONSTRUCTION TO PREVENT ROTATION OR OVERTURNING. ADDITIONAL TEMPORARY ERECTION DIAPHRAGMS SHOULD BE PROVIDED AS NECESSARY FOR PRESTRESSED CONCRETE I-BEAMS TO PREVENT ROTATION.

THE TEMPORARY ERECTION DIAPHRAGM SHOWN BELOW SHALL BE LOCATED IN ACCORDANCE WITH THE SPECIFICATIONS AND MUST BE USED AT ENDS OF BEAMS WHERE END DIAPHRAGMS ARE TO BE POURED CONCURRENTLY WITH THE BRIDGE DECK.

ALL UNITS ARE IN MILLIMETERS UNLESS NOTED OTHERWISE.

MINOR REVISION - FHWA APPROVAL NOT REQUIRED

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

# STANDARD DETAILS AND INTERMEDIATE DIAPHRAGM DETAILS FOR I-BEAMS 1996

DESIGNED BY MARK HOLLORAN DATE 1-95
DRAWN BY KIM FRANKENFIELD DATE 1-95
SUPERVISED BY MARK HOLLORAN DATE 1-95
CHECKED BY DATE

CORRECT Edward P. Wasserman
ENGINEER OF STRUCTURES

DIVISION OF METRIC

SHEET 2 OF 3
STDM-14-2