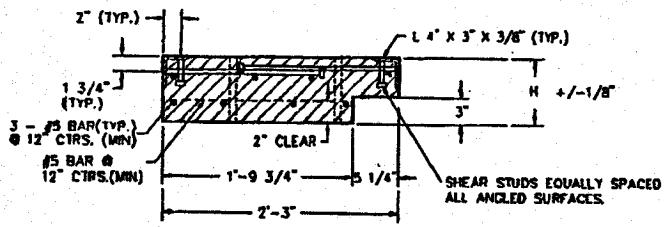
EXHIBIT "C" GOVERNMENT PLANS

Exhibit C consists of the following contract drawings in solicitation no. DACW37-00-B-0015:

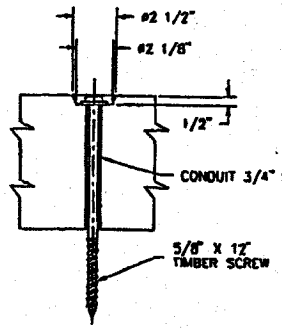
M-L8-38/400
M-L8-38/401
M-L8-38/402
M-L8-38/407
M-L8-38/408
M-L8-38/409
M-L8-38/410
M-L8-38/412
M-L8-38/415
M-L8-38/416
M-L8-69/400
M-L8-69/401

EXHIBIT "D" OWNER'S PLANS

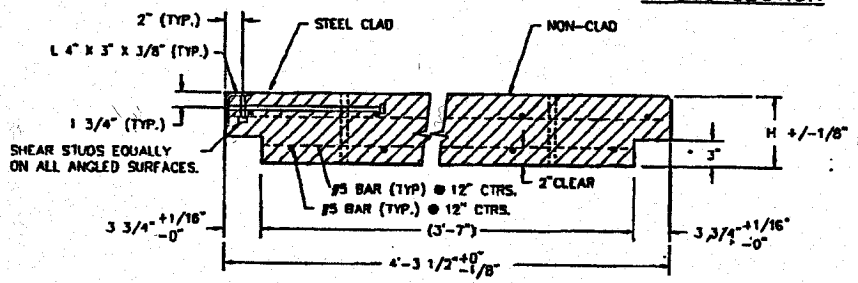


FIELD PANEL CROSS SECTION STEEL CLAD
NON-CLAD NOT SHOWN

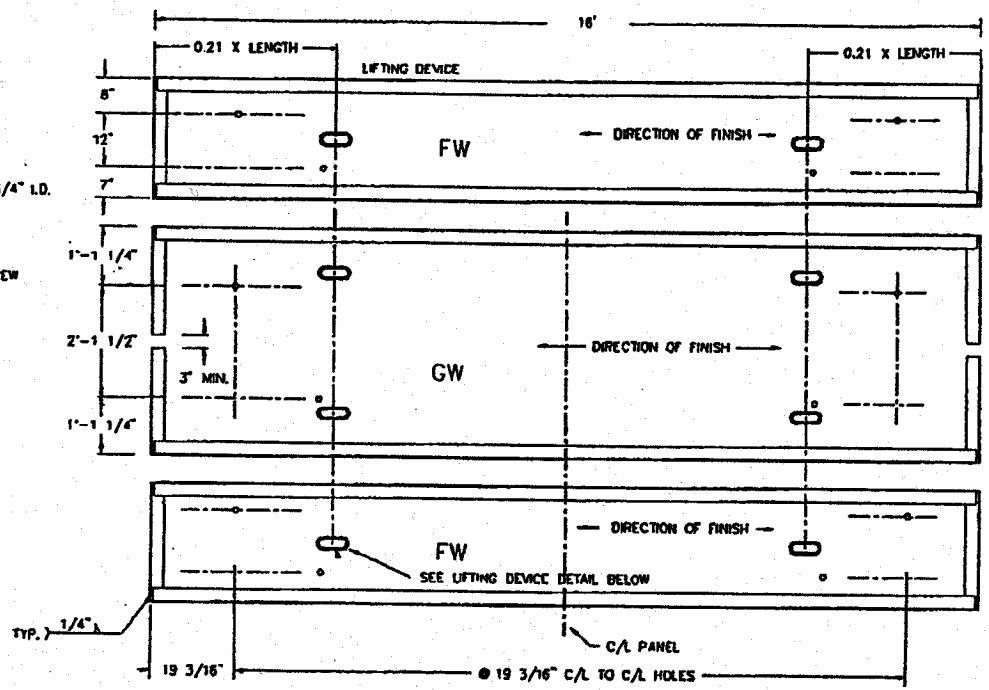
RAIL	H
136	7 11/16"
115	7 1/16"



TIMBER SPIKE
CROSS SECTION



GAGE PANEL CROSS SECTIONAL STEEL CLAD/NON-CLAD TYPICAL

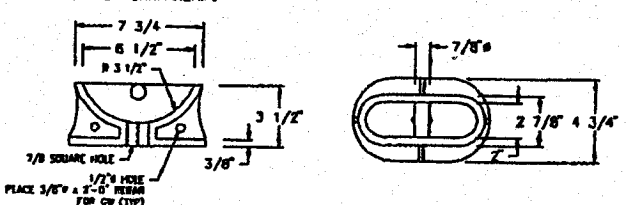


PLAN VIEW

PRECAST CONCRETE CROSSING PLANK FW ~190 LBS/FT
PRECAST CONCRETE CROSSING PLANK GW ~370 LBS/FT

MINIMUM DESIGN PARAMETERS FOR STEEL CLAD AND NON-CLAD CONCRETE CROSSINGS

1. DESIGN TO MEET 'AASHTO HS20-44' LOADING SPECIFICATION.
2. DESIGN AND DETAILS ARE FOR PANEL PLACEMENT ONTO 10" WOOD TIES SPACED ON 19 3/16" CENTERS.
   4'3 1/2" WIDE X 8' OR 16' GAGE PANEL
   2'3" WIDE X 8' OR 16' FIELD PANEL
   PANEL THICKNESS 136 LB. RAIL: ..... 7 11/16"
   115 LB. RAIL: ..... 7 1/16"
   TOP OF RAIL APPROXIMATELY 1/4" ABOVE PANEL SURFACE.
3. REINFORCEMENT REQUIREMENTS:
   REINFORCING STEEL TO CONFORM TO 'ASTM' SPECIFICATION 'A-615' GRADE 60.
   REINFORCEMENT TOP AND BOTTOM (LONG AXIS): ..... 4-#5 @ 12" CTRS. (MIN.) GAGE PANEL
   TOP AND BOTTOM (LONG AXIS): ..... 3-#5 @ 12" CTRS. (MIN.) FIELD PANEL
   TOP AND BOTTOM (SHORT AXIS): ..... #5 @ 12" CTRS. (MIN.)
4. STEEL CLADDING (SHUNT RESISTANT)
   STRUCTURAL STEEL TO CONFORM TO 'ASTM' SPECIFICATION 'A-36'.
   WELDING TO BE ARC PROCESS PER CURRENT 'AWS CODE D1.1'.
   MINIMUM SIZE: L 4" X 3" X 3/8" WITH 4" LEG VERTICAL.
   EXPOSED STEEL TO RECEIVE ONE COAT EPOXY PRIMER.
   END ANGLES FOR GAGE PANEL SHOULD HAVE 3" GAP MINIMUM TO IMPROVE SHUNT RESISTANCE.
   CLADDING ON ENDS OF PANELS SHOULD EXTEND BEYOND CONCRETE +1/8", -0" TO IMPROVE MATCH UP WITH ADJACENT PANELS.
   2" MINIMUM CONCRETE COVER FOR ALL REINFORCING/STRUCTURAL STEEL SHALL NOT BE ALLOWED TO COMPLETE AN ELECTRICAL CIRCUIT (GAGE PANEL) BETWEEN RAILS.
   CONCRETE COMPRESSIVE STRENGTH f'c=6000 PSI @ 28 DAYS.
   CONCRETE COMPRESSIVE STRENGTH = 2500 PSI MINIMUM BEFORE REMOVING FORMS.
5. CONCRETE
   CONCRETE TO HAVE FULL 28 DAY COMPRESSIVE STRENGTH BEFORE SHIPMENT.
   TOP SURFACE TO HAVE A LIGHT BROOM FINISH AND SHALL BE IN THE SAME DIRECTION AS LONG AXIS. ADDITIONALLY, TOP SURFACE SHALL BE NON-CRACK DESIGN AND SHOULD BE SEALED TO PREVENT ION MIGRATION DUE TO SALTING.
   THE ADDITION OF WATER TO THE SURFACE DURING FINISHING IS NOT PERMITTED.
   CONSTRUCTION AND O/C TO CONFORM WITH 'PRESTRESSED CONCRETE INSTITUTE'S' MANUAL 'MNL 116-77' AND 'AREA' SPECIFICATIONS 'CHAPTER 8'.
5. CONCRETE - CONTINUED
   SLUMP NOT TO EXCEED 3".
   AIR ENTRAINMENT = 6% +/- 1%.
   CEMENT TO BE TYPE "II" OR TYPE III, CONFORMING TO 'ASTM C150' AND SHALL NOT EXCEED 0.6% ALKALI EQUIVALENT FROM CHEMICAL ANALYSIS 'ASTM C114'.
   CEMENT AND AGGREGATE TO MEET 'ASTM C342' FOR ALKALI-SULFATE REACTIVITY.
6. TOLERANCES
   OUT OF SQUARE 3/16": (MEASURED ALONG DIAGONAL)
   LENGTH: +/- 1/4"
   WIDTH: +0, -1/8" GAGE PANEL, +/- 1/8" FIELD PANEL.
   WARPAGE: 1/8".
   THICKNESS: +/- 1/8".
7. MISCELLANEOUS
   MANUFACTURER TO MARK EACH PANEL WITH WEIGHT OF RAIL, WEIGHT OF PANEL, MANUFACTURERS ID AND MONTH/DAY/YEAR OF MANUFACTURE.
   MANUFACTURER TO FURNISH WRITTEN HANDLING AND INSTALLATION INSTRUCTIONS WITH EVERY CROSSING FURNISHED.
   MANUFACTURER TO WARRANTY PRODUCTS FOR TEN YEARS (MINIMUM) AGAINST DEFECTS IN MATERIALS AND WORKMANSHIP.



LIFTING DEVICE DETAIL
FOR 8' & 16' PANELS
MEDIUM R-3490 OR EQUIVALENT

BURLINGTON NORTHERN SANTA FE
STANDARD PLAN
ENGINEERING DEPT., FORT WORTH, TEXAS

PRECAST CONCRETE CROSSING
SHUNT RESISTANT
STEEL CLAD AND NON-CLAD
FOR WOOD & CONCRETE TIE TRACK

RAIL: 115 LB AND 136 LB

DATE: 02/26/97 | ITEM NO.: NONE

DWG. NO.	SHEET NO.	REV. NO.
2257	02	08

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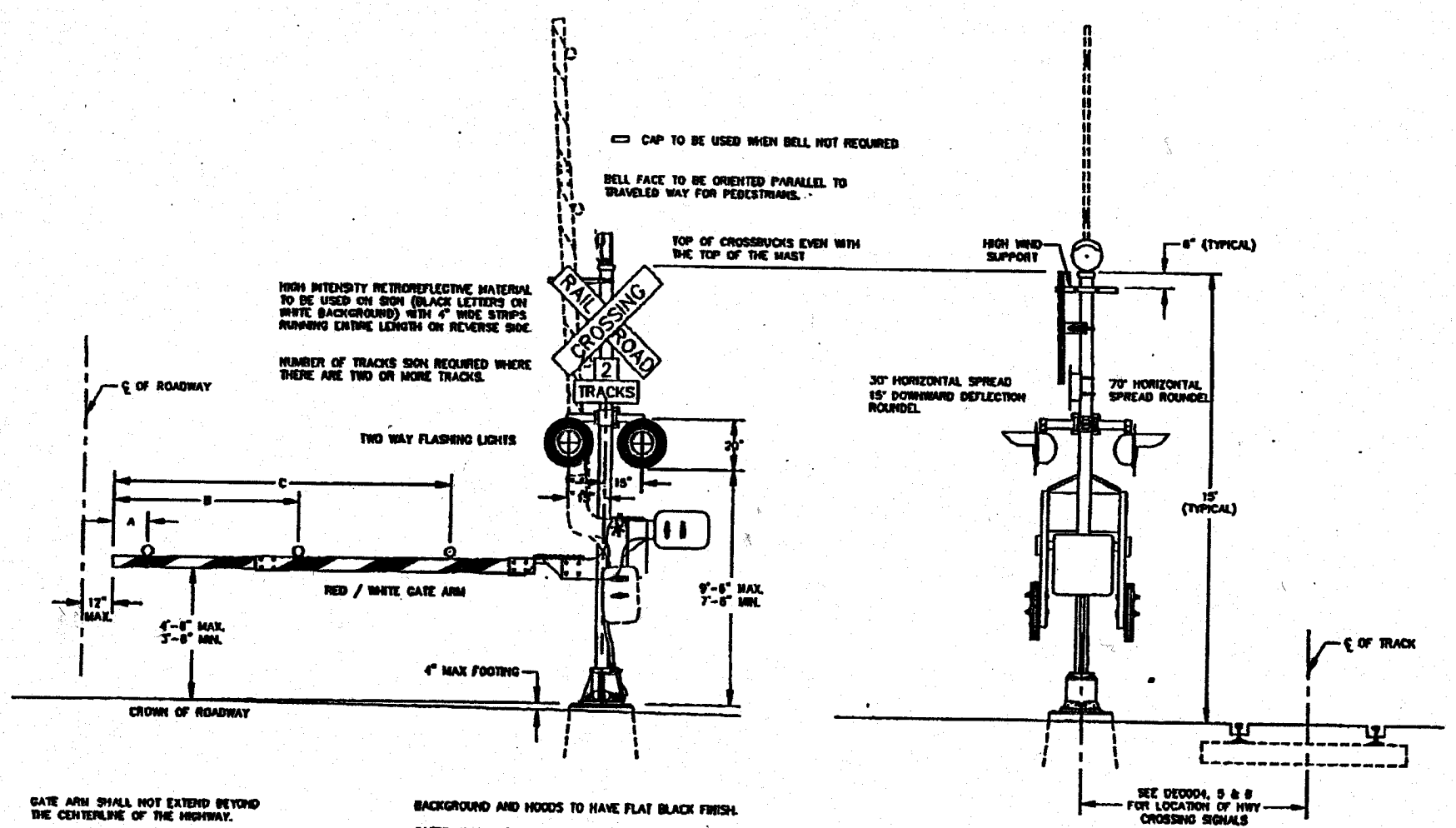

GATE ARM SHALL NOT EXTEND BEYOND THE CENTERLINE OF THE HIGHWAY.

THREE 4 INCH GATE ARM LIGHTS TO BE SPACED AS FOLLOWS:
A= 12 INCHES.
B= ONE-HALF THE DISTANCE OF "C".
C= EQUAL THE WIDTH OF THE TRAVELED PORTION OF THE TRAFFIC LANES.

SIGNAL FRAME, MAST, JCT. BASE AND MECHANISM CASE TO BE ALUMINUM.

BACKGROUND AND HOODS TO HAVE FLAT BLACK FINISH.

GATES OVER 30' WILL USE EM STYLE GATE MECHANISM OR LIGHT WEIGHT GATE ARMS.

ROUNDELS SHOWN ARE STANDARD, BUT OTHER ROUNDELS MAY BE INSTALLED AS NECESSARY FOR PROPER VISIBILITY OR AS REQUIRED BY THE ROAD AUTHORITY.

GENERAL SIGNALS "GATE KEEPER" MAY BE INSTALLED AS WARRANTED IN AREAS WHERE TRAFFIC SPEED DOES NOT EXCEED 30 MPH.

BURLINGTON NORTHERN RAILROAD COMPANY
SIGNAL DEPARTMENT — FORT WORTH, TEXAS

AUTOMATIC HIGHWAY CROSSING GATE

DRAWN: DPG	SCALE: 3/16=1'	STANDARD PLAN	DRAWING NO: DE0002.00
DATE: 2/9/93	1 SHEET OF 1		

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