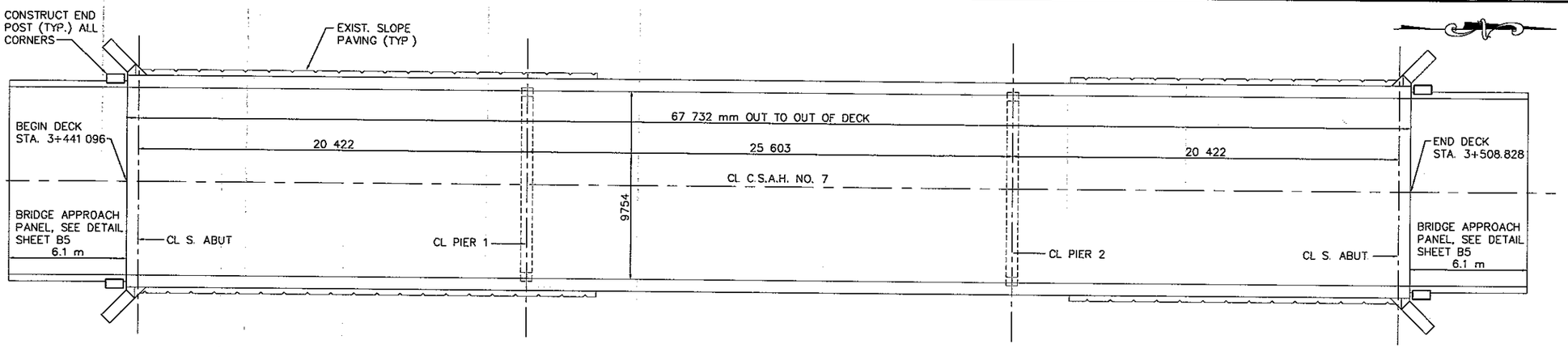
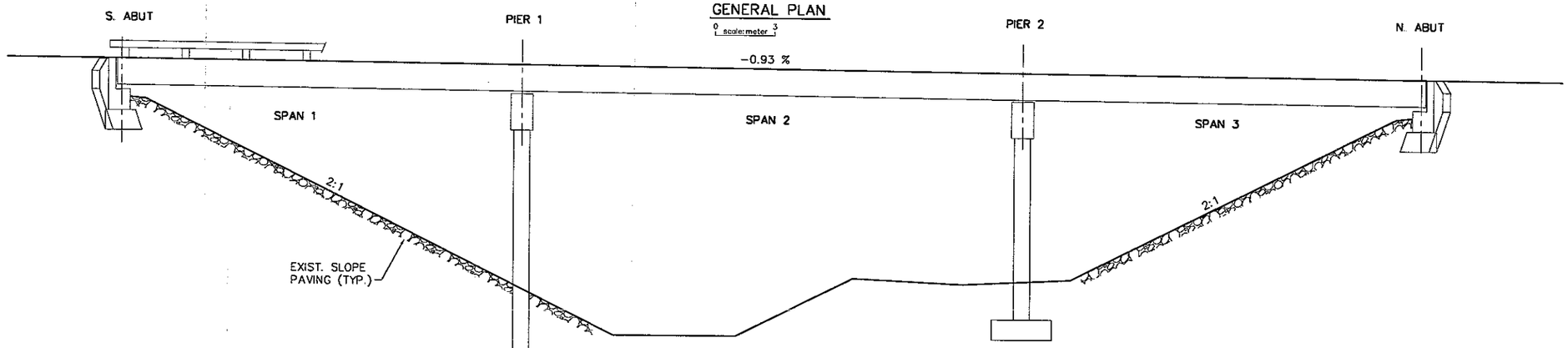


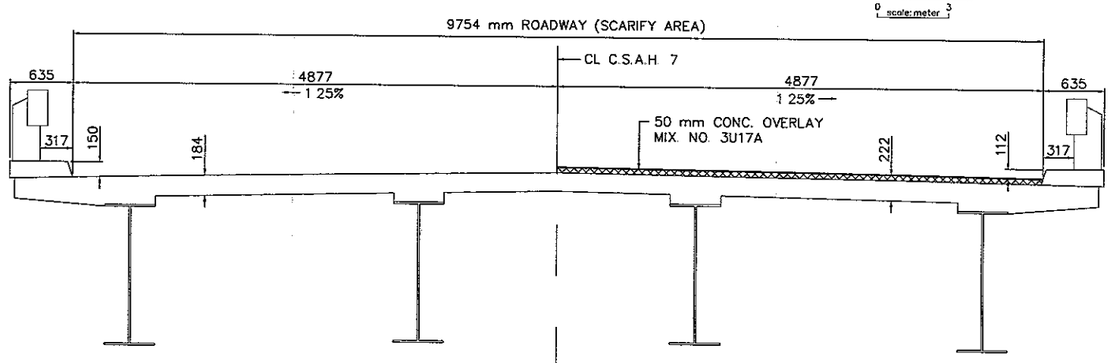
GENERAL PLAN

0 scale:meter 3



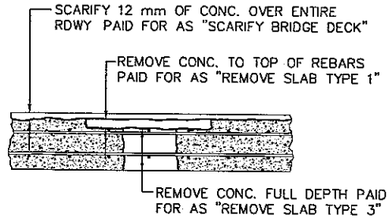
ELEVATION

0 scale:meter 3



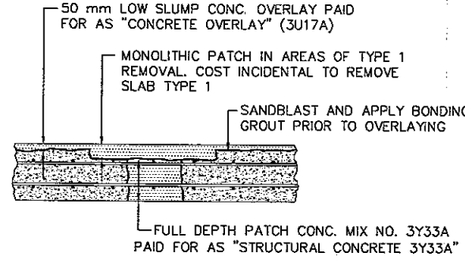
TYPICAL TRANSVERSE SECTION

0 scale:meter 1



BRIDGE DECK REMOVALS

NO SCALE



OVERLAY DETAILS

NO SCALE

SCHEDULE OF QUANTITIES FOR ENTIRE BRIDGE

ITEM NO.	2021.501	2301.551	2401.512	2401.602	2402.591	2404.501	2433.505	2433.505	2433.604	2433.607	2478.602
ITEM	MOBILIZATION	BRIDGE APPROACH PANEL	STRUCTURAL CONCRETE (3Y33A)	CONCRETE END POST	EXPANSION JOINT DEVICES TYPE 100	CONCRETE OVERLAY (3U17A)	REMOVE SLAB, TYPE 1	REMOVE SLAB, TYPE 3	SCARIFY BRIDGE DECK	CONSTRUCT EXPANSION JOINTS	EPOXY, POLYURETHANE OVERCOAT PAINT SYSTEM (FIELD)
UNIT	LUMP SUM	EACH	m^2	EACH	m	m^2	m^2	m^2	m^2	m	LUMP SUM
QUANTITY	1	2	33 (P)	4	21	779	66	33	660	22	1

DESIGN DATA

MAXIMUM ALLOWABLE DESIGN STRESSES:

REINFORCED CONCRETE:
f'c = 28 MPa n = 8 fy = 420 MPa Reinf.

DECK AREA: 660 m^2

PROJECTED ADT 482 (2018)

INDEX

SHEET NO.	DESCRIPTION
B1	BRIDGE GENERAL PLAN AND ELEVATION
B2	DECK DETAILS
B3	WATERPROOF EXPANSION DEVICE
B4	WATERPROOF EXPANSION DEVICE (MEDIAN)
B5	BRIDGE APPROACH PANEL
B6–B7	END POST DETAILS

CONSTRUCTION NOTES

THE 1995 EDITION OF THE MINNESOTA DEPT. OF TRANSPORTATION "STANDARD SPECIFICATIONS FOR CONSTRUCTION" SHALL GOVERN.

THE FIRST TWO DIGITS OF EACH BAR MARK INDICATE THE BAR SIZE.
BARS MARKED WITH THE SUFFIX "E" SHALL BE EPOXY COATED.

NO CUTTING WILL BE PERMITTED UNTIL THE CUTTING LIMITS HAVE BEEN OUTLINED BY THE CONTRACTOR AND APPROVED BY THE ENGINEER. REMOVAL AND RECONSTRUCTION SHALL CONFORM TO MN/DOT 2433.

APPROVED BONDING GROUT SHALL BE APPLIED TO ALL VERTICAL EDGES BETWEEN NEW AND INPLACE CONCRETE AT JOINT AND SLAB RECONSTRUCTION

PROVIDE SAW CUTS IN CONCRETE WEARING COURSE OVER ALL CONSTRUCTION JOINTS IN EXISTING SLAB SEAL WITH CONCRETE JOINT SEALER AS PER MN/DOT 3720.

ALL EXISTING REINFORCEMENT TO REMAIN INPLACE EXCEPT AS NOTED OR DIRECTED BY THE ENGINEER.

ALL NEW AND REPLACEMENT REINFORCEMENT, DOWELS AND ANCHORAGES TO BE EPOXY COATED.

AS-BUILT

FEB 14 2001

ENGINEERING

COUNTY APPROVAL

5/11/99 DATE — Richard Sherman, COUNTY ENGINEER, OLMSTED CO.

WIDSETH SMITH NOLTING ENGINEERS ARCHITECTS LAND SURVEYORS PROJECT MANAGERS
ALEXANDRIA, MINNESOTA
PHONE 320-762-8149 FAX 320-762-0263 www.wsn-mn.com

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY REGISTERED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA

Kent A. Loch

DATE 5-5-1999 REG. NO. 21179

C.S.A.H. NO. 7 OLMSTED COUNTY

MINNESOTA DEPARTMENT OF TRANSPORTATION

Bridge No. 55516

6.4 km S.W. OF EYOTA ON CSAH NO. 7 OVER CHICAGO AND NORTHWESTERN RAILWAY CO. TRACKS

STEEL BEAM SPAN, 9.75 m ROADWAY, 0°0'0" SKEW

OVERLAY AND REPAIR

SPAN IDENT NO. 401

GENERAL PLAN AND ELEVATION

SEC. 2 & 3 T 105 N R 12 W

ORION TOWNSHIP OLMSTED COUNTY

APPROVED 5-13-99

Donald J. Flemming
STATE BRIDGE ENGINEER

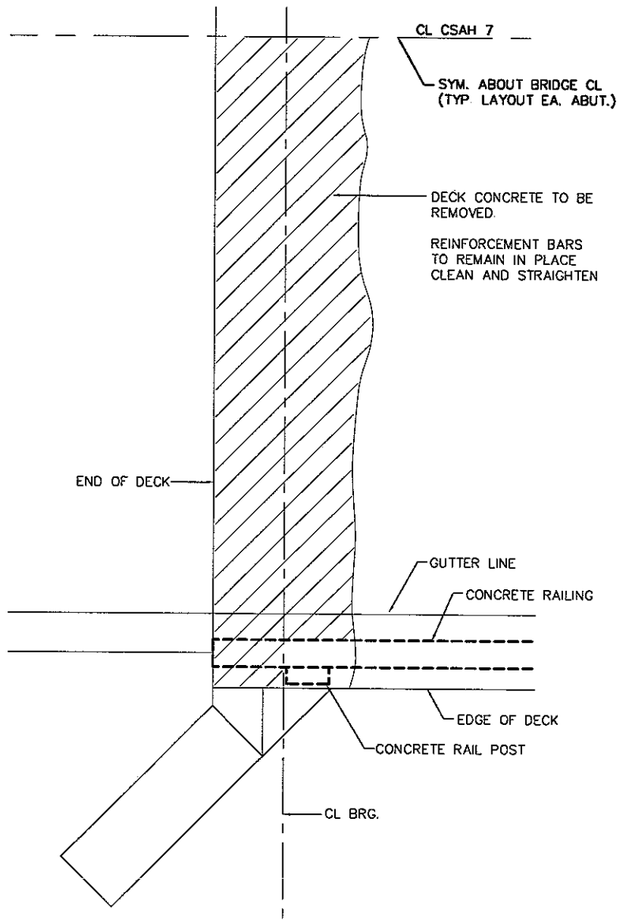
STATE PROJ NO. 55-607-11

DES. BY T.J.M.	DR. BY J.A.K.
CHK. BY K.A.R.	CHK. BY T.J.M.

SHEET NO. B1 OF B7 SHEETS

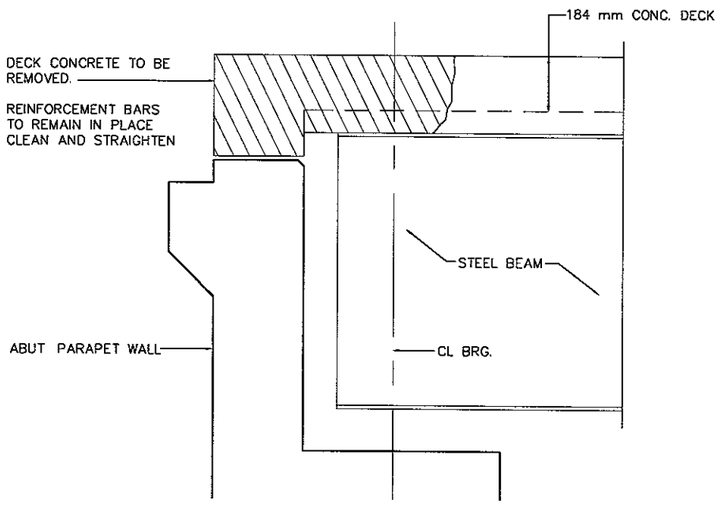
minnesota metric

ALL DIMENSIONS ARE IN MILLIMETERS (mm) AND ALL ELEVATIONS ARE IN METERS (m) EXCEPT AS NOTED.



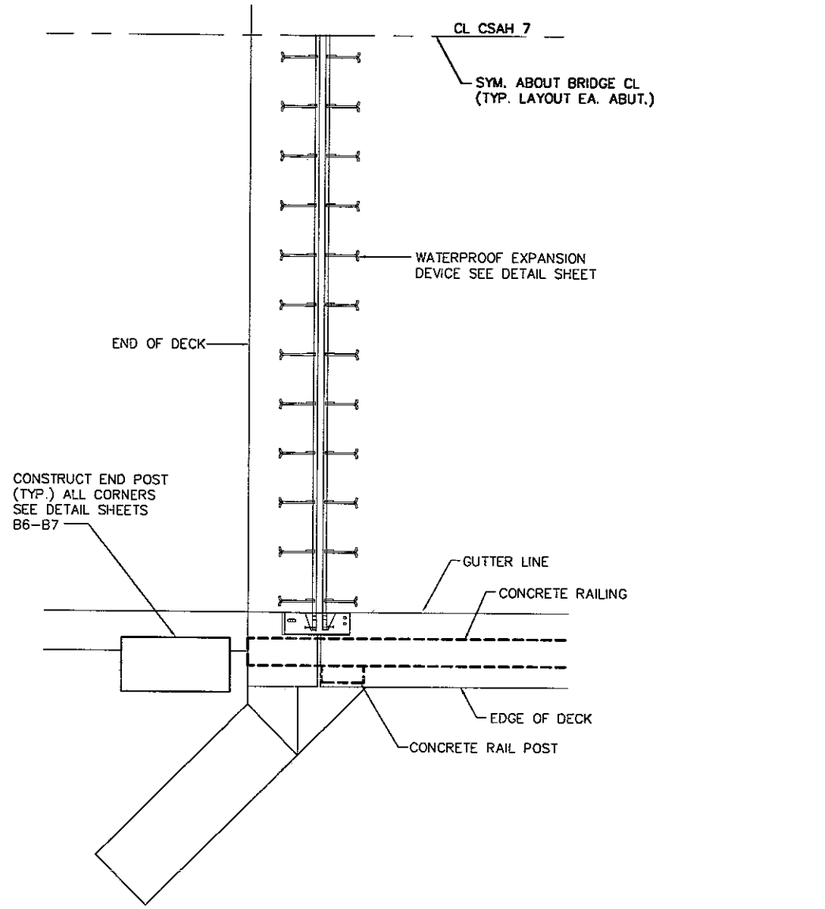
EXISTING PLAN VIEW

0 SCALE: meter 1



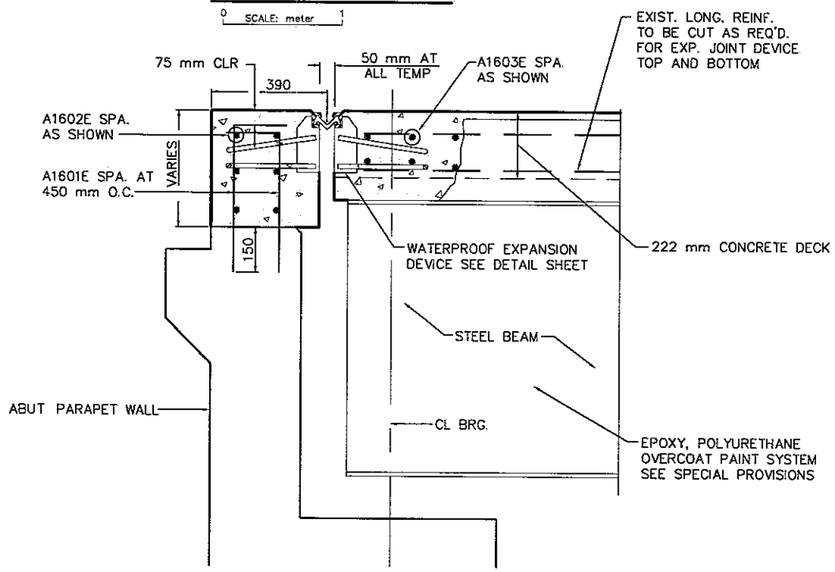
EXISTING SECTION

0 SCALE: meter 0.5



PROPOSED PLAN VIEW

0 SCALE: meter 1



PROPOSED SECTION

0 SCALE: meter 0.5

BILL OF REINFORCEMENT

	BAR	NO.	LENGTH	SHAPE	LOCATION
Ⓐ	S1601E	84	640	BENT	END BLOCK TIE
	S1602E	12	10 700	STRAIGHT	EXPAN. DEVICE
	S1603E	12	9900	STRAIGHT	SLAB TRANS.

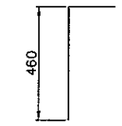
EST. OF MATERIALS (FOR INFO. PURPOSES ONLY)

①	BRIDGE SLAB CONCRETE (3Y33A)	5.5	m^3
①	REINFORCEMENT BARS	474	kg

① PAYMENT INCLUDED IN PRICE BID FOR "CONSTRUCT EXPANSION JOINT"

Ⓐ 150 mm EMBEDMENT

BAR SHAPES:



S1601E

AS-BUILT

FEB 14 2001

ENGINEERING

ALL DIMENSIONS ARE IN MILLIMETERS (mm) AND ALL ELEVATIONS ARE IN METERS (m) EXCEPT AS NOTED.

minnesota metric

CERTIFIED BY: Kent A. Fisher PROFESSIONAL ENGINEER

REG. NO. 21179 55 1999

WIDSETH SMITH NOLTING

ENGINEERS
ARCHITECTS
LAND SURVEYORS
PROJECT MANAGERS

ALEXANDRIA PHONE 320-762-8149 FAX 320-762-0263 www.wsn-mn.com

DECK DETAILS

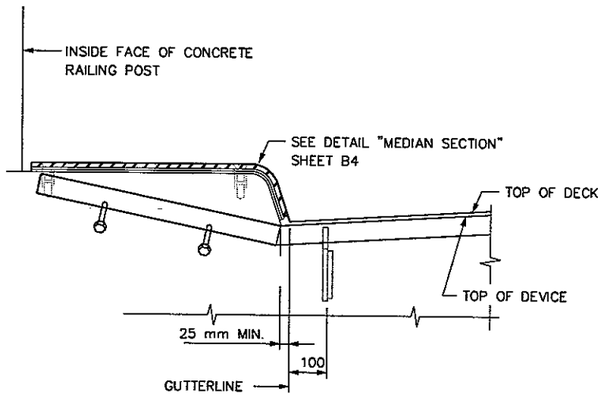
APPROVED 5-13-99

DES. BY	T.J.M.	DR. BY	J.A.K.
CHK. BY	K.A.R.	CHK. BY	T.J.M.

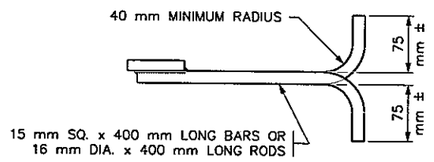
BRIDGE NO. 55516

WSN 460A181

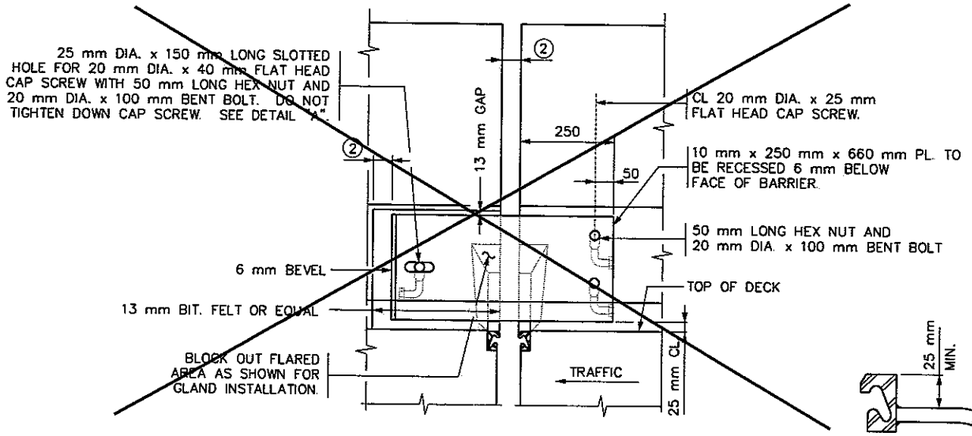
S.P. NO. 55-607-11 SHEET NO. B2 OF B7 SHEETS



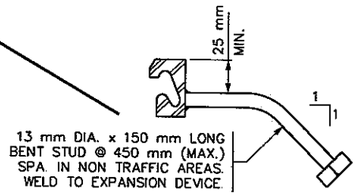
SECTION THROUGH RAILING



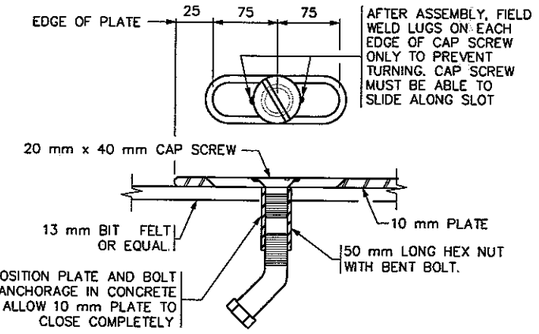
BAR-ROD DETAIL



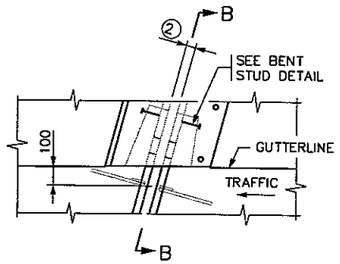
RAILING ELEVATION



BENT STUD DETAIL

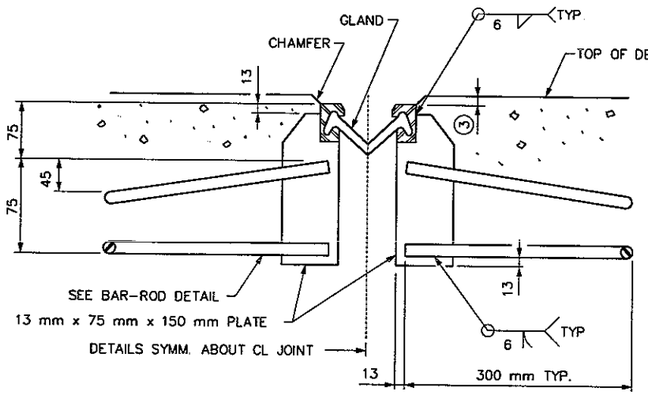


DETAIL "A"

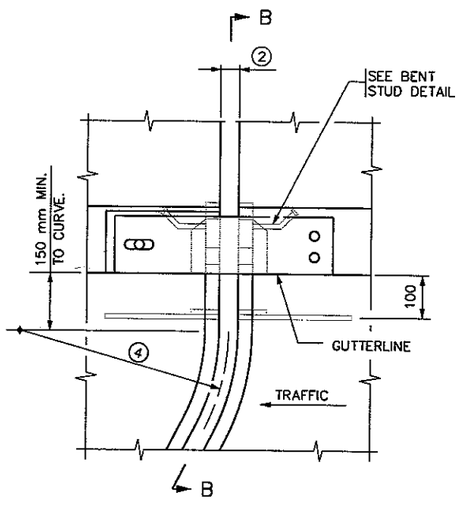


PLAN VIEW @ EXPANSION DEVICE

(MEDIAN OR SIDEWALK ALTERNATE)

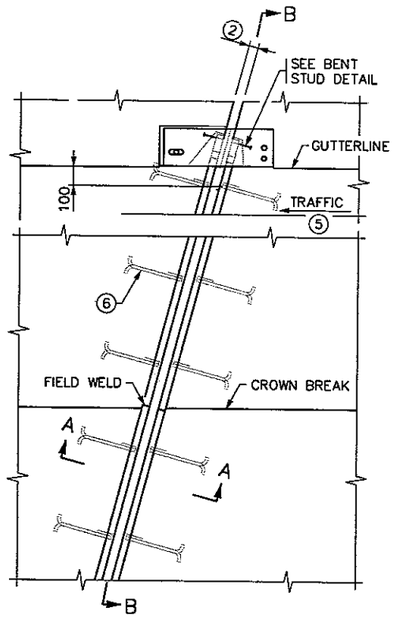


SECTION A-A



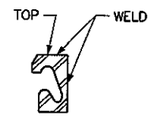
PLAN VIEW @ EXPANSION DEVICE

(WITH CURVED DEVICE ALTERNATE)

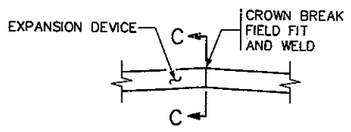


PLAN VIEW @ EXPANSION DEVICE

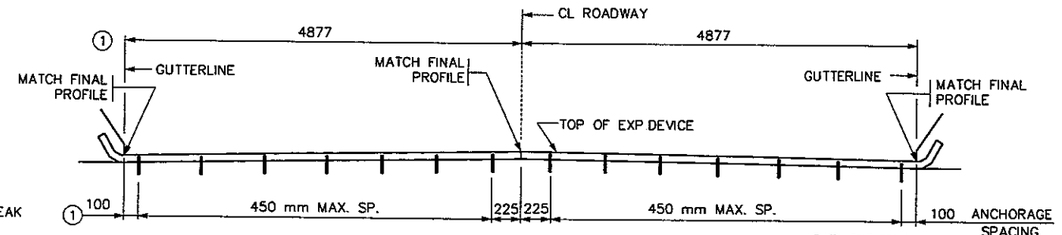
(WITH STRAIGHT DEVICE)



SECTION C-C



DETAIL B



SECTION B-B ~ ALONG CL JOINT

(ELEVATIONS SHOWN ARE 3 mm BELOW TOP OF SLAB @ CL JT.)

NOTES

GALVANIZE STRUCTURAL STEEL AFTER FABRICATION AS PER SPEC. 3394. GALVANIZE FASTENERS AS PER SPEC. 3392.

JOINTS IN EXTRUSION SHALL BE LOCATED AT BREAKS IN TRANSVERSE PROFILE AND AS OTHERWISE REQUIRED. JOINTS SHALL BE CLOSE FIT AND WELDED. REPAIR AFTER WELDING AS PER SPEC. 2471.3L.

STRUCTURAL STEEL SHALL COMPLY WITH SPEC. 3306 OR SPEC. 3309.

EXPANSION DEVICE SHALL BE STRAIGHTENED TO A TOLERANCE OF 1 mm IN 1 METER.

CAP SCREWS SHALL BE COUNTERSUNK 2 mm BELOW TOP OF PLATE.

LENGTH OF PAYMENT FOR DEVICE IS FROM OUT TO OUT OF EXTRUSION ALONG CENTERLINE OF JOINT

(1) DIMENSIONS ARE ALONG CENTERLINE OF JOINT

(2) mm AT 7°C; mm AT 32°C.

(3) 3 mm (6 mm MAX.) 13 mm (16 mm MAX.) WHEN SNOWPLOW FINGERS ARE USED. SNOWPLOW FINGERS ARE REQUIRED FOR SKEWS OVER 15° AND LESS THAN 50°.

(4) SEE SUPERSTRUCTURE DETAILS FOR RADIUS.

(5) SEE SHEET 1 FOR DIRECTION OF TRAFFIC.

(6) PLACE BAR-ROD NORMAL TO JOINT ON NEW BRIDGES AND JOINT REPLACEMENTS. ON JOINT REPLACEMENTS WHEN SKEW IS OVER 15° AND LESS THAN 50° BEND RODS PARALLEL TO CL ROADWAY

AS-BUILT

FEB 14 2001

ENGINEERING

APPROVED: MONTH DATE, 1996

STATE BRIDGE ENGINEER

S.P. NO. 55-607-11

FIG. 5-397.627M

CERTIFIED BY: Kent A. Peterson PROFESSIONAL ENGINEER

REG. NO. 21179 5-5 1999

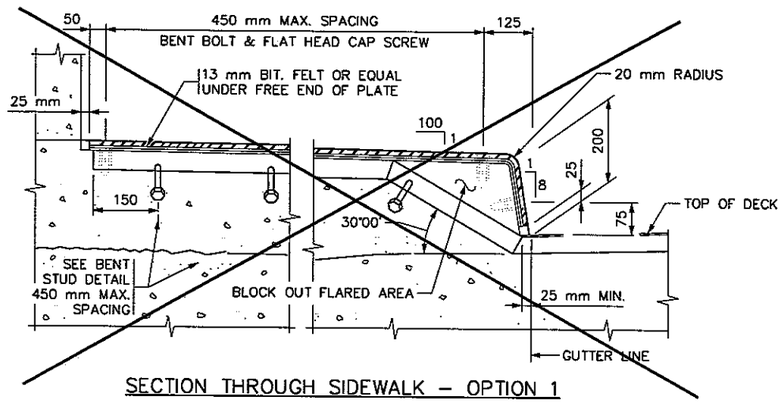
TITLE: WATERPROOF EXPANSION DEVICE (WITH TYPE F BARRIER)

460A168

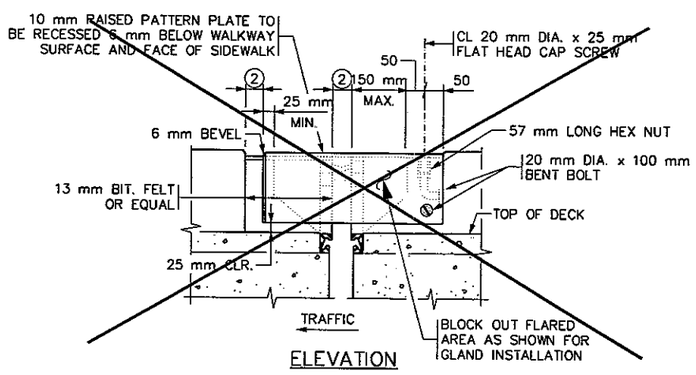
DES: T.J.M.	DR: J.A.K.	APPROVED: 5-13-99
CHK: K.A.R.	CHK: T.J.M.	

Sheet No. B3 of B7 Sheets

Bridge No. 55516

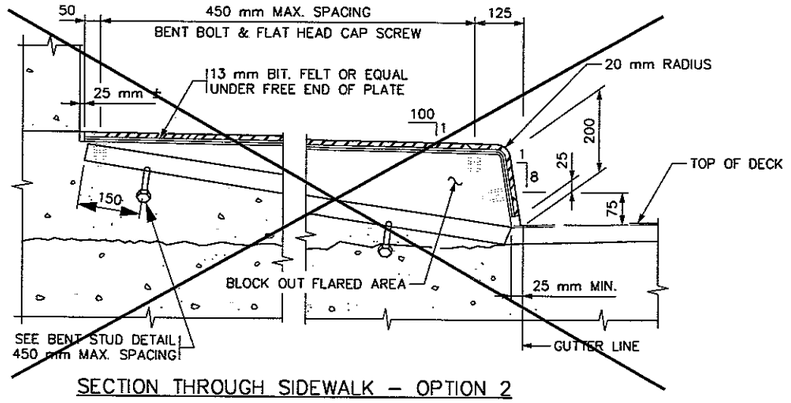


SECTION THROUGH SIDEWALK – OPTION 1

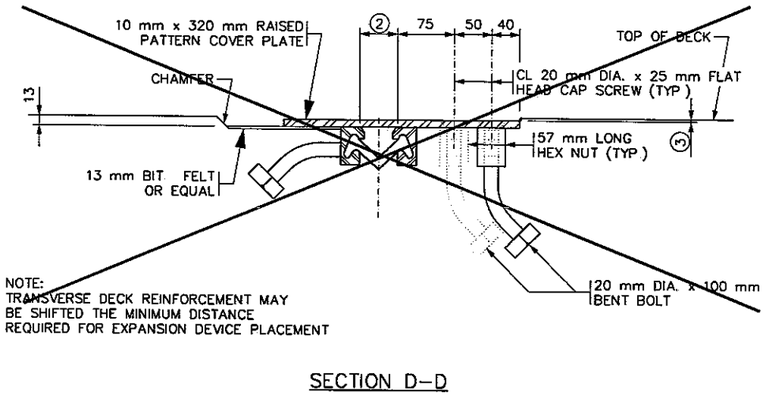


ELEVATION

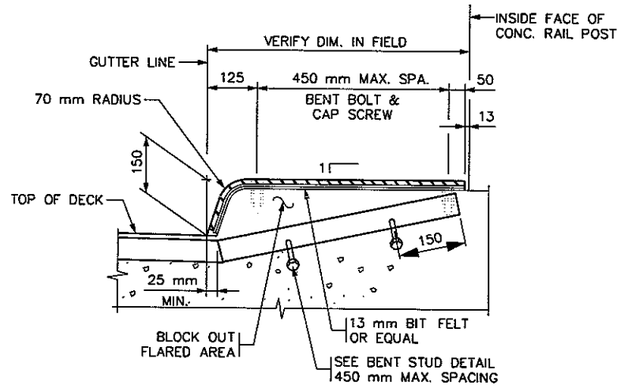
SIDEWALK DETAILS



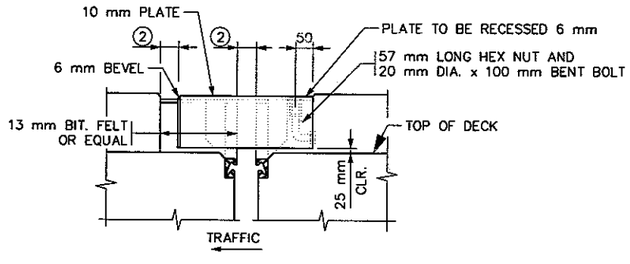
SECTION THROUGH SIDEWALK – OPTION 2



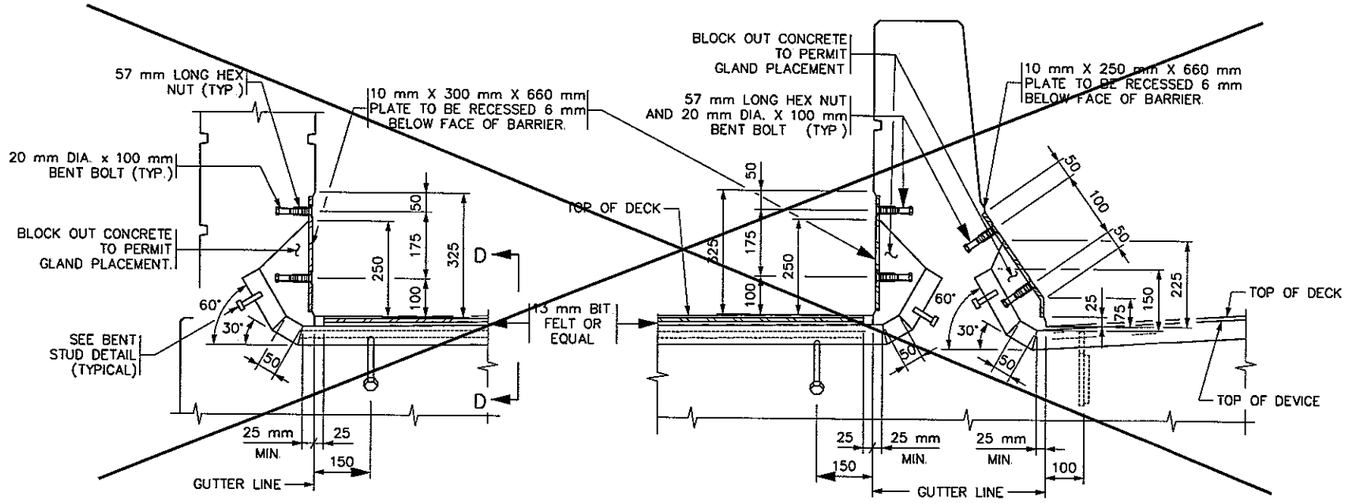
SECTION D–D



MEDIAN SECTION



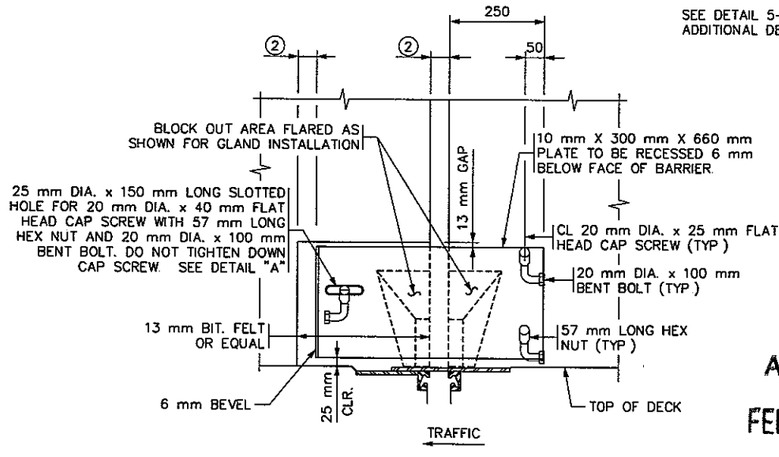
MEDIAN ELEVATION



CONCRETE PARAPET RAILING

TYPE F RAILING

SECTION THROUGH RAILINGS – INTEGRAL SIDEWALK



INSIDE ELEVATION

(CONCRETE PARAPET RAILING & BACK OF TYPE F RAILING)

NOTES:

SEE DETAIL 5–397.627M FOR ADDITIONAL DETAILS AND NOTES.

AS-BUILT

FEB 14 2001

ENGINEERING

APPROVED: _____

STATE BRIDGE ENGINEER

CERTIFIED BY: Kenneth Kahn PROFESSIONAL ENGINEER

REG. NO. 21179 55 1999

S.P. NO. 55–607–11

FIG. 5–397.630M

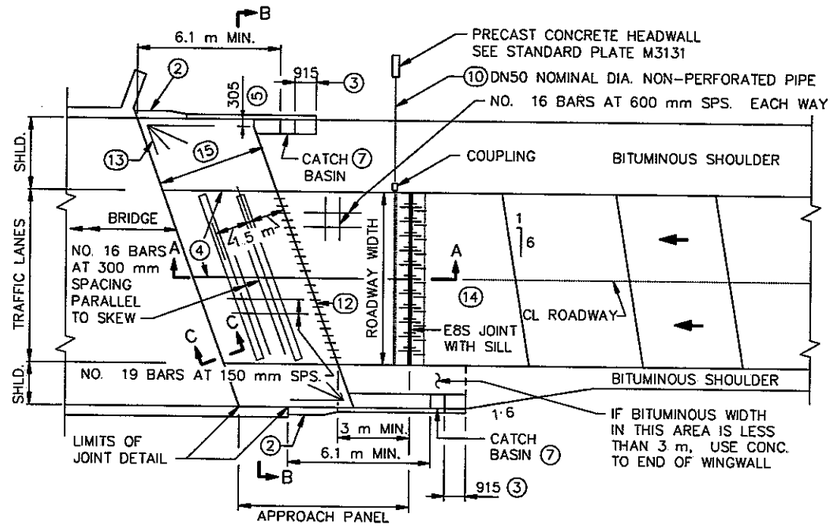
TITLE: WATERPROOF EXPANSION DEVICE (WITH RAISED MEDIAN OR SIDEWALK)

460A006

DES: T.J.M.	DR: J.A.K.	APPROVED: 5-13-99
CHK: K.A.R.	CHK: T.J.M.	

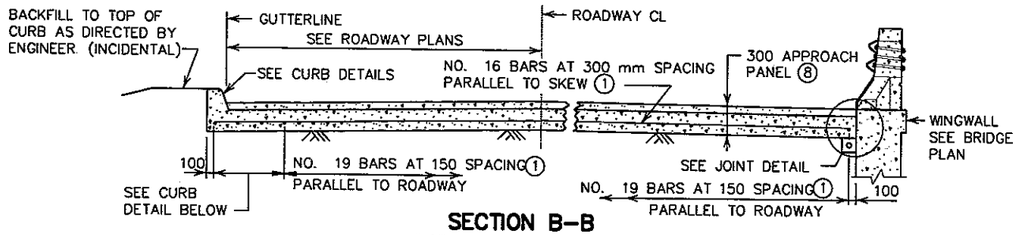
Sheet No. B4 of B7 Sheets

Bridge No. 55516



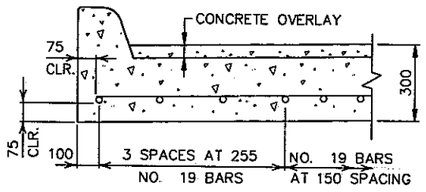
DIVIDED–URBAN ROADWAY PLAN

PARALLEL & NONPARALLEL WINGWALLS



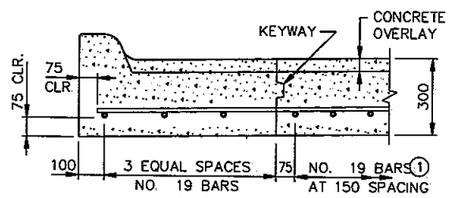
SECTION B–B

(SEE ROADWAY PLAN VIEW)



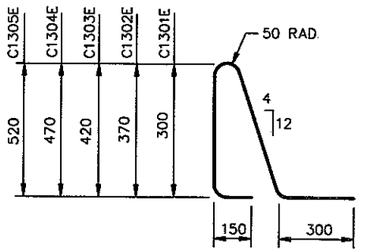
CURB DETAIL

(B4 INTEGRANT CURB)

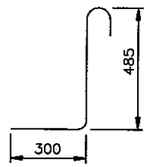


CURB DETAIL

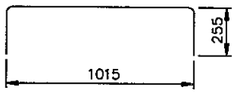
(B424 MODIFIED CURB AND GUTTER)



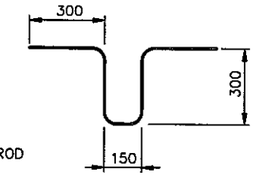
C1301E– C1305E ①



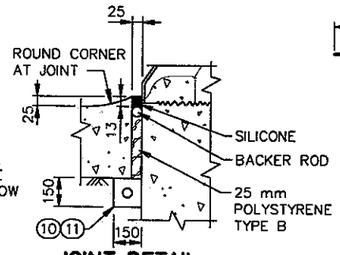
S1306E



S1307E

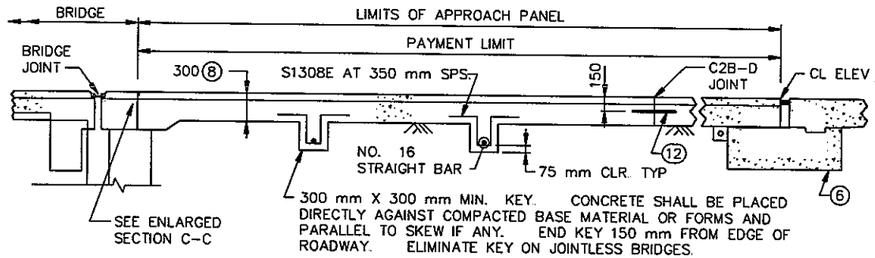


S1308E



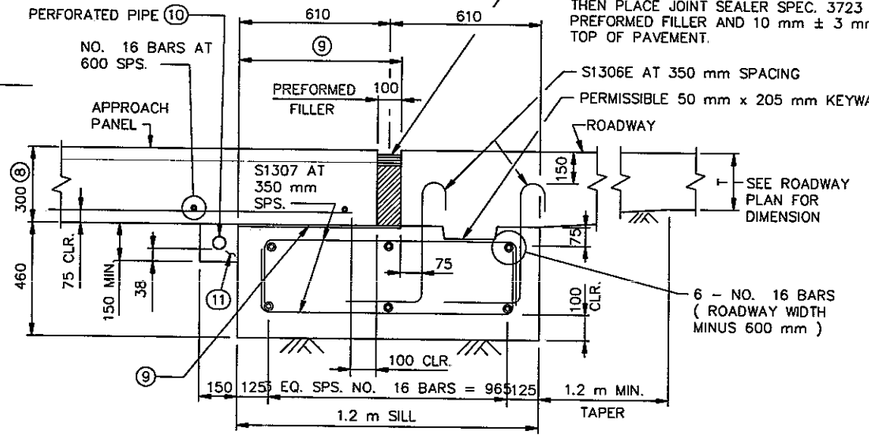
JOINT DETAIL

(AT PARALLEL WINGWALLS)

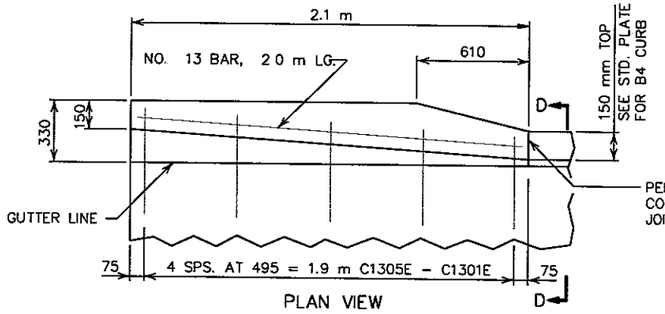


SECTION A–A

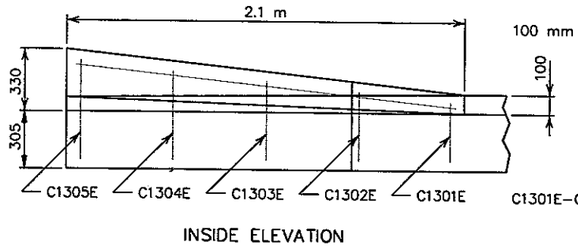
(SOME REINFORCEMENT NOT SHOWN)



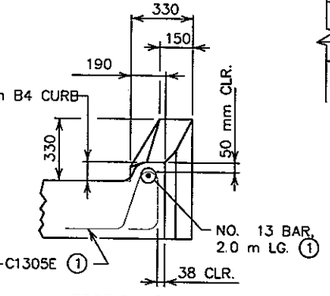
E8S JOINT DETAIL ⑥



PLAN VIEW

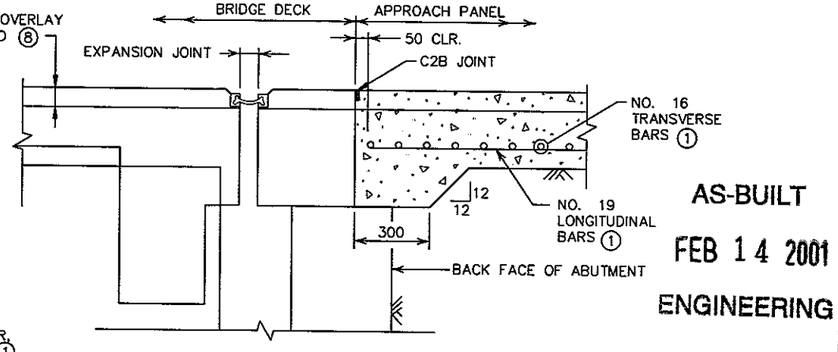


INSIDE ELEVATION



SECTION D–D

CURB TRANSITION DETAILS



SECTION C–C

(PARAPET ABUTMENT SHOWN)

AS-BUILT

FEB 14 2001

ENGINEERING

NOTES:

① ALL REINFORCEMENT IN APPROACH PANEL, SILL AND CURB SHALL BE GRADE 420 AND EPOXY COATED AS PER SPEC. 3301

② TRANSITION FACE OF 100 mm CURB INTO PROFILE OF BRIDGE RAILING. SEE CURB TRANSITION DETAILS.

③ TRANSITION APPROACH PANEL CURB HEIGHT 100 mm TO 0 mm WHERE THERE IS NO ROADWAY CURB.

④ L2KT OR L1T LONGITUDINAL JOINTS AS REQUIRED. SEE STANDARD PAVEMENT JOINT SHEET FOR DETAILS.

⑤ EDGE OF PANEL PERPENDICULAR TO GUTTER FOR SKEWS OVER 45°

⑥ 460 mm X 1.2 m CONCRETE SILL UNDER TRAFFIC LANES ONLY WHEN MAINLINE ROADWAY PAVEMENT IS CONCRETE. CONCRETE SILL AND CURBING IF REQUIRED IS INCLUDED IN APPROACH PANEL PAY ITEM

⑦ LOCATION MAY BE ON OR OFF THE APPROACH PANEL AS DETERMINED BY THE DESIGNER. SEE ROAD DESIGN MANUAL CHAPTER 7 FOR CATCH BASIN INFORMATION

⑧ APPROACH SLAB THICKNESS SHOWN INCLUDES ANY CONCRETE OVERLAY THAT MAY BE REQUIRED. CHECK BRIDGE PLANS FOR OVERLAYS. CONCRETE OVERLAYS TO BE INCLUDED IN BRIDGE QUANTITIES AND DONE AT THE SAME TIME BY BRIDGE CONTRACTOR.

⑨ PLACE PLASTIC SHEETING SPEC. 3756 AS APPROVED BY THE ENGINEER TO BREAK BOND. COVER AREA SHOWN IN DETAIL.

⑩ 50 mm NOMINAL DIA. THERMOPLASTIC PIPE, AS PER ASTM D1785M, SCHEDULE 40. SLOPE PIPE TO DITCH ON LOW SIDE. FURNISHING AND INSTALLING DRAIN SYSTEM SHALL BE INCIDENTAL, WITH NO DIRECT PAYMENT. WRAP PERFORATED PIPE WITH GEOTEXTILE AS PER SPEC. 3733. 3 mm PER 300 mm MINIMUM SLOPE.

⑪ BACKFILL WITH FINE AGGREGATE, SPEC. 3149, MODIFIED TO 0–3% PASSING A 75 µm SIEVE.

⑫ CONTRACTION JOINT C2B–D WITH 38 mm DIA. X 450 mm LG. EPOXY COATED DOWEL BARS AT 300 mm SPACING PARALLEL TO CL OF ROADWAY. CAGES NOT REQUIRED.

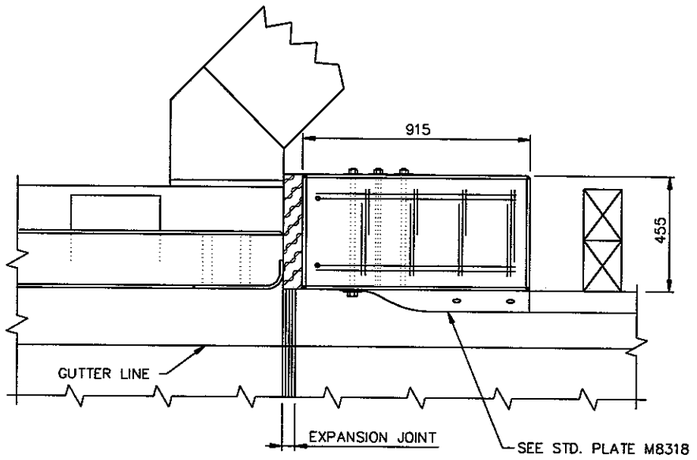
⑬ FAN 4 – NO. 16 BARS 2.4 m LONG AS SHOWN FOR SKEWS OVER 45°.

⑭ SEE STANDARD PLAN SHEET FOR BRIDGE APPROACH TRANSITION INFORMATION.

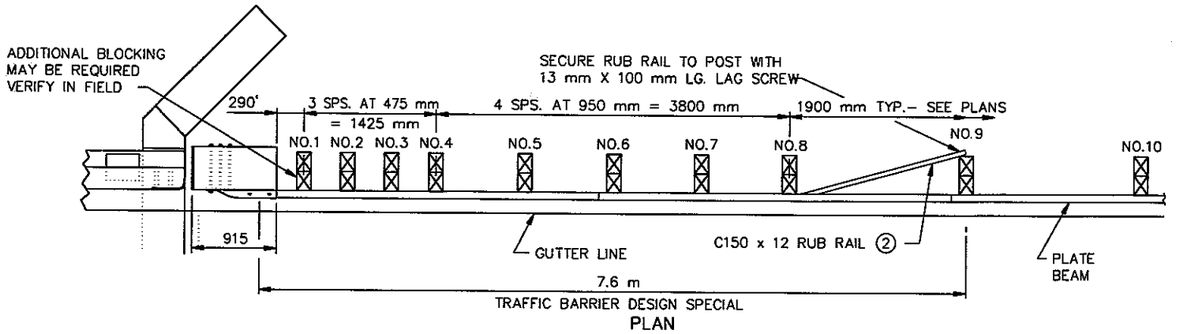
⑮ 6.1 m TO 40° SKEWS, 4.6 m OVER 40° SKEWS.

NOTE: ALL DIMENSIONS ARE IN MILLIMETERS, EXCEPT AS NOTED.

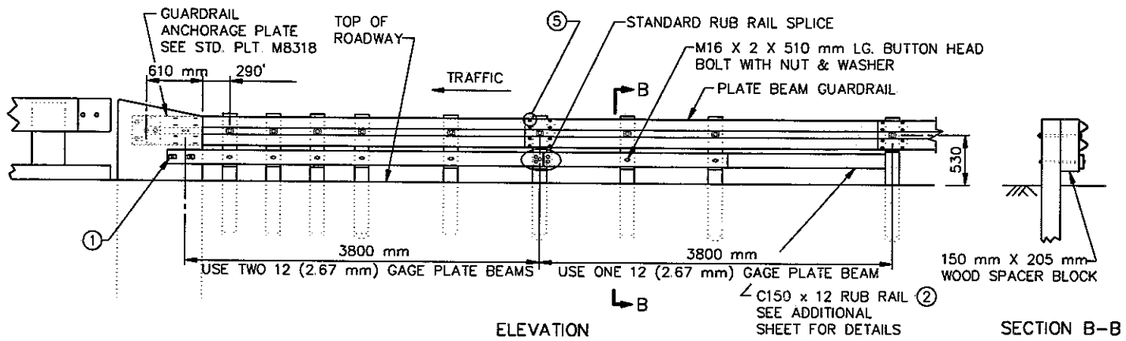
REVISION DATE 4-16-97	STANDARD SHEET NO. 5-297.223M STANDARD APPROVED: FEBRUARY 24, 1994	TITLE: **BRIDGE APPROACH PANEL** WITH OR WITHOUT CONCRETE OVERLAY CONCRETE ROADWAY
	STATE PROJ. NO. 55–607–11	SHEET NO. B5 OF B7 SHEETS



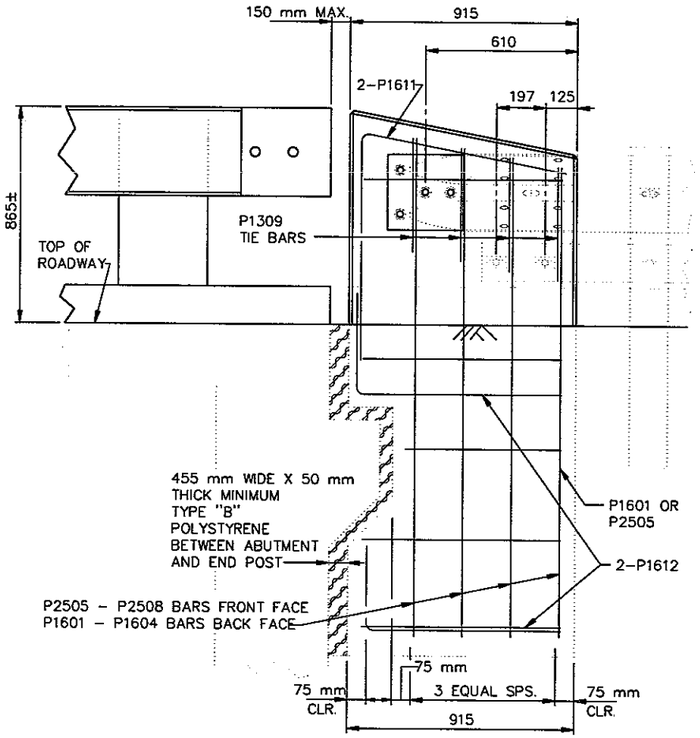
PLAN VIEW
(45° WINGWALL SHOWN)



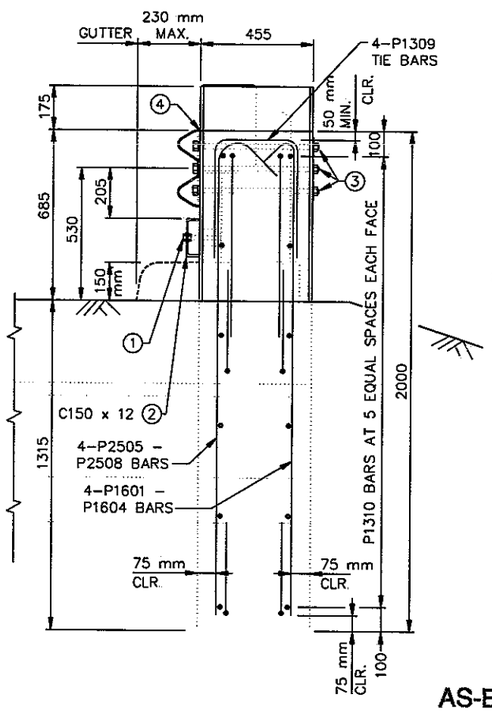
PLAN



ELEVATION SECTION B–B



INSIDE ELEVATION



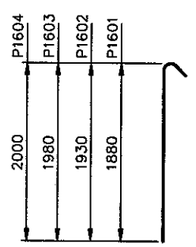
END VIEW

END POST DETAILS

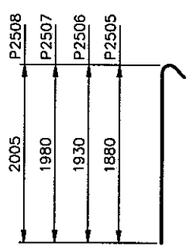
GENERAL ASSEMBLY DETAILS

END POST REINFORCEMENT				
BAR	NO.	LENGTH	SHAPE	LOCATION
P1601	1	2030 mm	BENT	VERTICAL – OUTSIDE FACE
P1602	1	2060 mm	BENT	VERTICAL – OUTSIDE FACE
P1603	1	2110 mm	BENT	VERTICAL – OUTSIDE FACE
P1604	1	2135 mm	BENT	VERTICAL – OUTSIDE FACE
P2505	1	2160 mm	BENT	VERTICAL – INSIDE FACE
P2506	1	2185 mm	BENT	VERTICAL – INSIDE FACE
P2507	1	2235 mm	BENT	VERTICAL – INSIDE FACE
P2508	1	2260 mm	BENT	VERTICAL – INSIDE FACE
P1309	4	1220 mm	BENT	TOP – TIE BAR
P1310	12	815 mm	STRAIGHT	HORIZONTAL
P1611	2	1700 mm	BENT	TOP
P1612	4	1220 mm	BENT	BOTTOM & MIDDLE

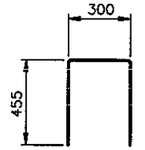
* CUT IN FIELD AS NECESSARY



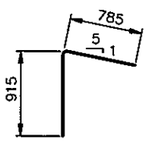
P1601 – P1604



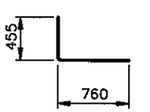
P2505 – P2508



P1309



P1611



P1612

NOTES:

CONSTRUCT AS PER SPEC. 2401

REINFORCEMENT TO BE SPEC. 3301, GRADE 60 AND SHALL BE EPOXY COATED.

C.I.P. CONCRETE SHALL BE 3Y46.

SOIL COMPACTION AT END POST AS PER SPEC. 2451

GUARDRAIL CONNECTION TO BE THE SAME AS REQUIRED ON BRIDGE RAILINGS, SEE BRIDGE DETAILS MANUAL FOR ADDITIONAL INFORMATION.

① M16 X 2 BOLTS, NUTS & PLATE WASHERS WITH APPROVED CONCRETE ANCHORS, LOCATE CONCRETE ANCHORS TO MISS BRIDGE REINFORCEMENT

② RUB RAIL SHALL BE USED WHEN THERE IS NO CURBING ON APPROACH PANEL.

③ M22 X 2.5 H.S. BOLT OR EQUAL THREADED ROD, 75 mm X 50 mm X 6 mm PLATE WASHER, AND HEX NUT (4 REQUIRED)

④ TIMBER BLOCKING MAY BE REQUIRED BEHIND GUARDRAIL CONNECTION AND RUB RAIL DEPENDING ON CURB WIDTH.

⑤ M16 X 2 X 32 mm LG. BUTTON HEAD BOLTS AND NUTS TYPICAL AT SPLICES.

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FEB 14 2001

ENGINEERING

NOTE: ALL DIMENSIONS ARE IN MILLIMETERS, EXCEPT AS NOTED.

minnesota mdot

REVISION DATE 4-21-97

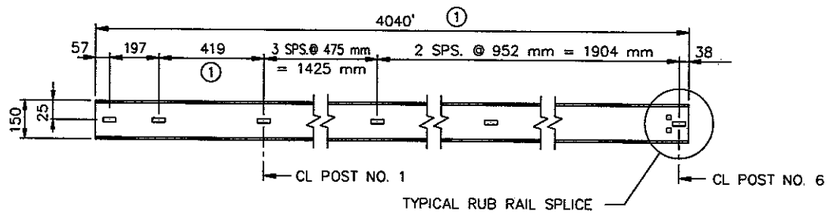
STANDARD SHEET NO. 5-297.609M (1 OF 2)

STANDARD APPROVED: MARCH 16, 1992

TITLE: GUARDRAIL IMPROVEMENTS AT ONE LINE RAIL BRIDGES NEW END POST AND WITH OR WITHOUT APPROACH CURB

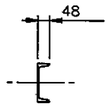
STATE PROJ. NO. 55–607–11

SHEET NO. B6 OF B7 SHEETS

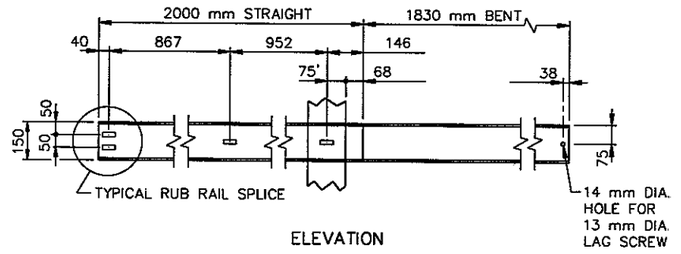


ELEVATION

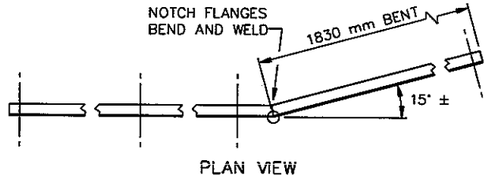
STRAIGHT SECTION



SECTION THRU RUB RAIL



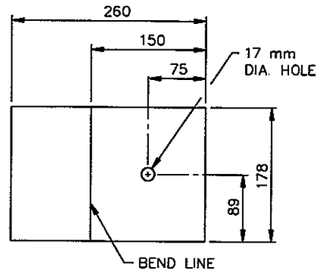
ELEVATION



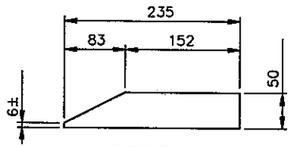
PLAN VIEW

BENT SECTION

RUB RAIL DETAILS

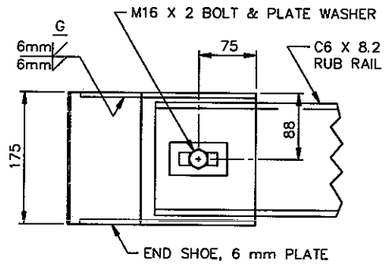


TOP PLATE

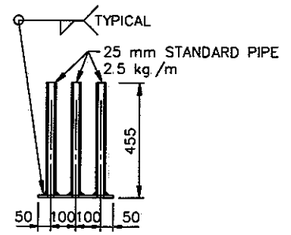


SIDE PLATE
(2 REQUIRED)

END SHOE PLATE DETAILS
(6 mm PLATE)



RUB RAIL END SHOE
(USE IF TWO WAY TRAFFIC WITH NO MEDIAN)



GUARDRAIL CONNECTION DETAIL

NOTES:

GALVANIZE ALL HARDWARE AS PER SPEC. 3392.

USE END SHOE ON RUB RAIL IF TWO WAY TRAFFIC WITH NO MEDIAN.

RUB RAIL IS C6 x 8.2

STRUCTURAL STEEL AS PER SPEC. 3306 UNLESS OTHERWISE NOTED.

ALL SLOTTED HOLES ARE 17 mm x 50 mm.

ALL SQUARE HOLES ARE 17 mm.

GALVANIZE STRUCTURAL SHAPES AS PER SPEC. 3394 AFTER FABRICATION UNLESS OTHERWISE NOTED.

① VERIFY DIMENSION IN FIELD.

AS-BUILT

FEB 14 2001

ENGINEERING

NOTE: ALL DIMENSIONS ARE IN MILLIMETERS, EXCEPT AS NOTED.

minnesota metric	STANDARD SHEET NO. 5-297.609M (2 OF 2)	TITLE: GUARDRAIL IMPROVEMENTS AT ONE LINE RAIL BRIDGES NEW END POST AND WITH OR WITHOUT APPROACH CURB
	STANDARD APPROVED: MARCH 16, 1992	
REVISION DATE 3-14-94	STATE PROJ NO.	SHEET NO. B7 OF B7 SHEETS