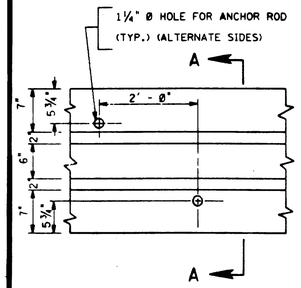
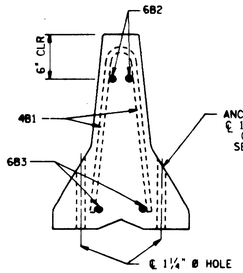
GENERAL NOTES:

1. STEEL PLATE SHALL BE ASTM A709, GRADE 36., GRADE 50 OR GRADE 50W.
2. REINFORCING BARS SHALL BE ASTM A615, GRADE 60.
3. CONCRETE SHALL BE WHITE OR GREY CLASS A (4500 PSI MIN. COMP. STRENGTH AT 28 DAYS)
4. CONCRETE CLEAR COVER FOR REINFORCING BARS SHALL BE 1½" (MIN.).
5. A MINIMUM OF (2) TWO RECESSED LIFTING DEVICES SHALL BE USED ON EACH SECTION. EACH LIFTING DEVICE SHALL HAVE A MINIMUM CAPACITY OF 6 TONS.
6. TUBE STEEL SHALL BE ASTM A500, GRADE B OR C.
7. ANCHOR RODS SHALL BE 1" Ø ASTM A36.
8. ANCHOR RODS ARE NOT REQUIRED IN EVERY UNIT. SEE TABLE OF JOINT TREATMENTS.
9. ALL END SECTIONS SHALL BE PINNED UNLESS OTHERWISE NOTED.
10. 2⅝" x 5½" DRAINAGE POCKETS - TWO REQUIRED IN SECTIONS 12' & GREATER, 1 REQUIRED IN 8' & 10' SECTIONS.
11. AFTER A BARRIER UNIT HAS BEEN PLACED AND THE CONNECTION KEY INSERTED, REMOVE ANY SLACK IN THE JOINT BY PULLING THE UNIT IN A DIRECTION PARALLEL TO ITS LONGITUDINAL AXIS.
12. THE PRECAST CONCRETE CURB, CONSTRUCTION BARRIER SHALL BE CAST IN STEEL FORMS.
13. THE PRECAST CONCRETE CURB SHALL BE UNITS OF 20', HOWEVER, OTHER LENGTHS MAY BE USED TO MEET FIELD CONDITIONS. THE NUMBER AND PLACEMENT OF THE 4B4 AND 4B5 BARS WILL VARY WITH THE LENGTH OF THE BARRIER UNIT AS SHOWN ON THE TABLE OF VARIABLE BARS. THE 6B2 AND 6B3 BARS SHALL BE 10" SHORTER THAN THE NOMINAL LENGTH OF THE BARRIER UNITS.
14. REINFORCING SHOWN IS THE MINIMUM REQUIRED. ADDITIONAL REINFORCING NECESSARY FOR HANDLING SHALL BE THE OPTION AND RESPONSIBILTY OF THE CONTRACTOR.
15. **SHOP DRAWINGS SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL**



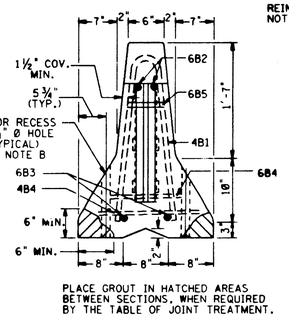
PLAN-ANCHOR RECESS

N.T.S.



SECTION A-A

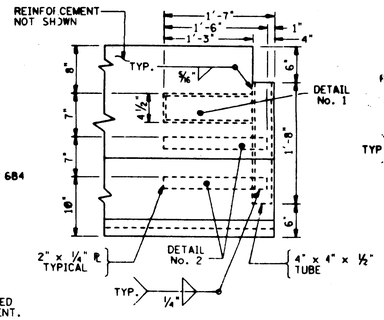
N.T.S.



PLACE GROUT IN HATCHED AREAS BETWEEN SECTIONS, WHEN REQUIRED BY THE TABLE OF JOINT TREATMENT.

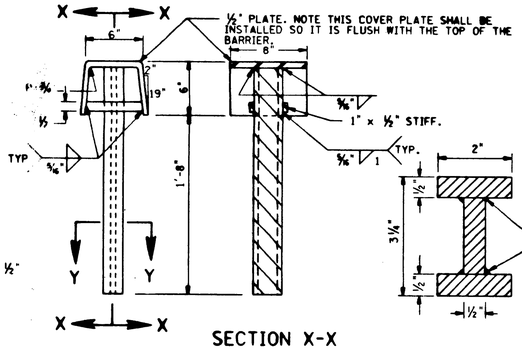
SECTION D-D

N.T.S.



ELEVATION

N.T.S.

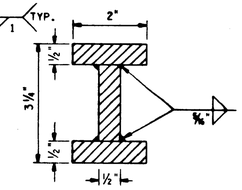


ELEVATION

N.T.S.

SECTION X-X

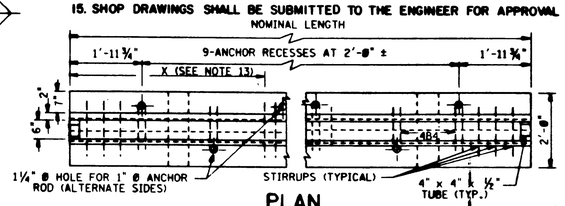
N.T.S.



SECTION Y-Y

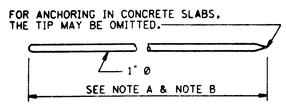
CONNECTION KEY

N.T.S.



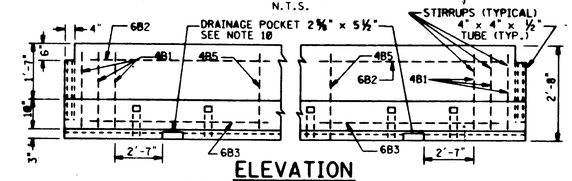
PLAN

N.T.S.



ANCHOR ROD

N.T.S.



ELEVATION
CONCRETE BARRIER

N.T.S.

NOTE A

THE LENGTH OF THE ANCHOR RODS SHALL BE SUCH THAT THE FOLLOWING MINIMUM EMBEDMENT LENGTHS ARE OBTAINED:

(a) INTO PORTLAND CEMENT CONCRETE PAVEMENTS 0'-5".
(b) INTO FLEXIBLE PAVEMENT 1'-6"
(c) INTO UNPAVED AREA 2'-6"

WHEN ANCHOR RODS ARE IN PLACE, THEY SHALL NOT PROJECT ABOVE THE PLANE OF THE CONCRETE SURFACE OF THE BARRIER.

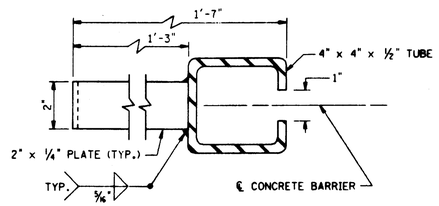
HOLES IN BRIDGE DECKS SHALL BE 1¼" Ø MAXIMUM AND MADE WITH A CORE DRILL OR ANY OTHER APPROVED ROTARY DRILLING DEVICE THAT DOES NOT IMPART AN IMPACT FORCE. **HOLES SHALL BE BLOWN CLEAN PRIOR TO PLACEMENT OF THE RODS.**

NOTE B

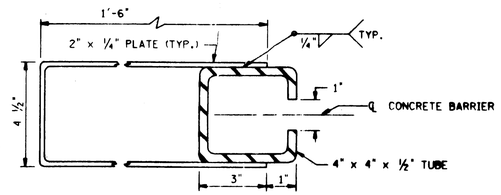
IN UNITS THAT ARE TO BE ANCHORED, PINS SHALL BE REQUIRED IN EVERY ANCHOR RECESS.

NOTE C

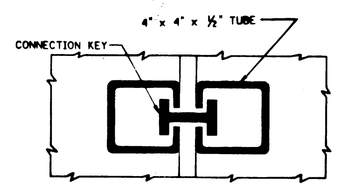
FOR INSTALLATION ON BRIDGE DECKS REFER TO BRIDGE PLANS FOR NECESSARY MODIFICATIONS AS REQUIRED.



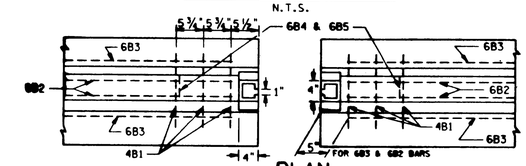
PLAN VIEW
DETAIL No. 1



PLAN VIEW
DETAIL No. 2

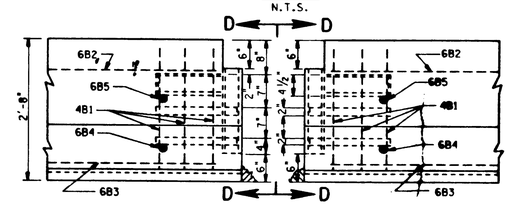


KEY IN PLACE



PLAN

N.T.S.



ELEVATION
BARRIER AT JOINT

N.T.S.

PRECAST CONCRETE CURB, CONSTRUCTION BARRIER JOINT CONNECTION DETAILS

N.T.S.

NOTE:

WELDING AND FABRICATION OF STEEL STRUCTURES SHALL BE IN ACCORDANCE WITH SECTIONS 1 THRU 6 OF THE ANSI/AASHTO/AWS D1.5 BRIDGE WELDING CODE AND SECTION 10 OF THE ANSI/AWS D.1 STRUCTURAL WELDING CODE. SURFACES TO BE WELDED SHALL BE FREE OF SCALE, SLAG, RUST, MOISTURE, GREASE, OR ANY OTHER MATERIAL THAT WILL PREVENT PROPER WELDING OR PRODUCE OBJECTIONAL FUMES. WELDING SHALL BE SHIELDED METAL ARC WELDING USING PROPERLY DRIED 5/32" Ø E7018 ELECTRODES.

NOTES:

AFTER REMOVAL OF THE BARRIER, THE HOLES IN THE SURFACE ON WHICH THE BARRIER SAT WHICH WERE USED TO ANCHOR THE SYSTEM, SHALL BE FILLED. THE ONLY EXCEPTION IS WHEN THE HOLES ARE IN AN AREA WHICH IS TO BE REMOVED. HOLES IN FLEXIBLE PAVEMENT, OR UNPAVED AREAS SHALL BE FILLED AS DIRECTED. HOLES IN PORTLAND CEMENT CONCRETE PAVEMENTS OR STRUCTURAL DECKS SHALL BE FILLED WITH NONSHRINK GROUT MATERIAL MEETING THE REQUIREMENTS OF SECTION 905.12

GENERAL NOTES (CONT.):

16. **ALTERNATE DESIGN A (TP-13) OR B (TP-14) MAY BE USED INTERCHANGEABLY IN ANY LOCATION WHERE TYPE 4 HAS BEEN SPECIFIED, EXCEPT THAT ALTERNATE DESIGN B (TP-14), JOINT CLASS D, MUST BE USED WHERE NO DEFLECTION OF THE BARRIER CAN BE TOLERATED.**

PRECAST CONCRETE CURB, CONSTRUCTION BARRIER TYPE 4

N.T.S.

TABLE OF VARIABLE BARS

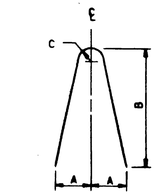
NOMINAL LENGTH OF BARRIER UNIT	MARK	"X"	NO. EACH SECTION
20'	4B4	N.A.	9
20'	4B5	6'-11"	2
18'	4B4	N.A.	8
18'	4B5	6'-5"	2
16'	4B4	N.A.	7
16'	4B5	5'-11"	2
14'	4B4	N.A.	6
14'	4B5	7'-0"	1
12'	4B4	N.A.	5
12'	4B5	6'-0"	1
10'	4B4	N.A.	4
10'	4B5	5'-0"	1
8'	4B4	N.A.	3
8'	4B5	-	0

"X" DISTANCE FROM END OF BARRIER TO 4B5 BAR

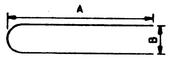
BARS LIST (EACH BARRIER SECTION)

MARK	SIZE	NUMBER IN EACH SECTION	LENGTH	TYPE	A	B	C	LOCATION
4B1	4	6	4'-11"	I	5"	26"	2"	STIRRUPS
4B4	4	SEE NOTE 13	3'-1"	II	15½"	4"		STIRRUPS
4B5	4	SEE NOTE 13	4'-11"	I	5"	26"	2"	STIRRUPS
6B2	6	2	SEE NOTE 13	STR.				LONGITUDINAL (TOP) NORMAL SECTION
6B3	6	2	SEE NOTE 13	STR.				LONGITUDINAL (BOTTOM) NORMAL SECTION
6B4	6	2	1'-2"	STR.				TRANSVERSE (BOTTOM) NORMAL SECTION
6B5	6	2	0'-6"	STR.				TRANSVERSE (TOP) NORMAL SECTION

JOINT CLASS	TABLE OF JOINT AND ANCHORAGE TREATMENTS	MAXIMUM BARRIER DEFLECTION
	JOINT TREATMENT	
A	CONNECTION KEY ONLY	42"
B	CONNECTION KEY & GROUT IN EVERY JOINT	16"
C	CONNECTION KEY & GROUT, IN EVERY JOINT & PIN EVERY OTHER UNIT. IN UNITS THAT ARE TO BE ANCHORED, PINS SHALL BE REQUIRED IN EVERY ANCHOR RECESS	11"



TYPE "I" BAR



TYPE "II" BAR

N.T.S.

0 ½ 1 2 3 4

ORIGINAL SIZE IN INCHES

APP.	NO.	DATE	REVISION
	2	9/05	REVISED NOTE Nº 3
	1	12/96	REVISED ASTM DESIGNATION
		1/94	ORIGINAL DRAWING

NEW JERSEY TURNPIKE AUTHORITY

NEW JERSEY TURNPIKE

PRECAST CONCRETE CONSTRUCTION BARRIER

TYPE 4 - ALT. A

OFFICE OF THE CHIEF ENGINEER
NEW BRUNSWICK NEW JERSEY

1994 STANDARD DRAWING TP-13

CONTRACT NO. SHEET NO. OF