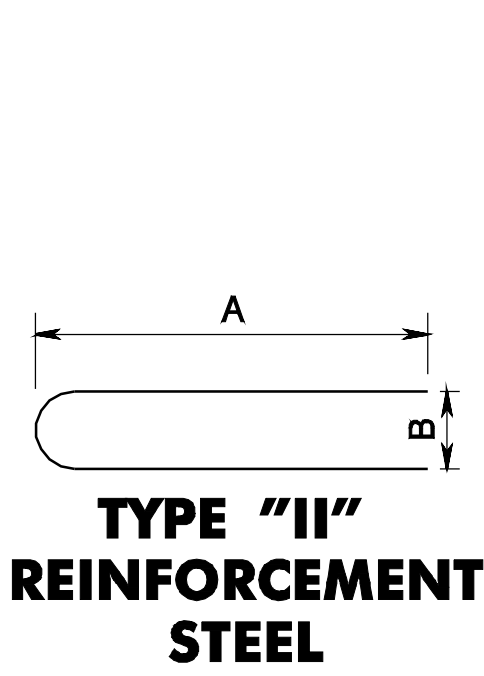
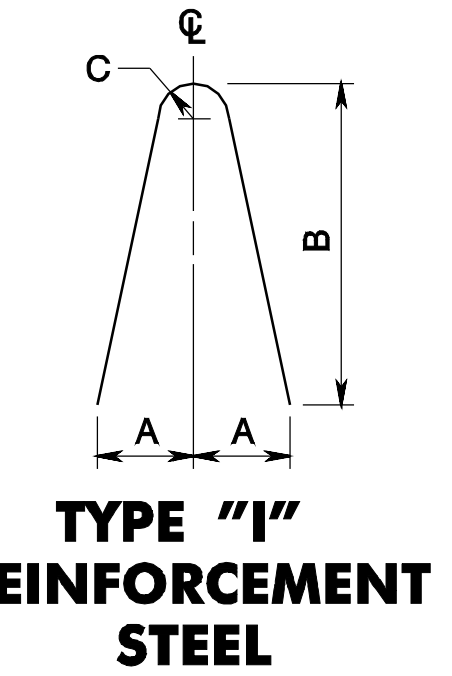
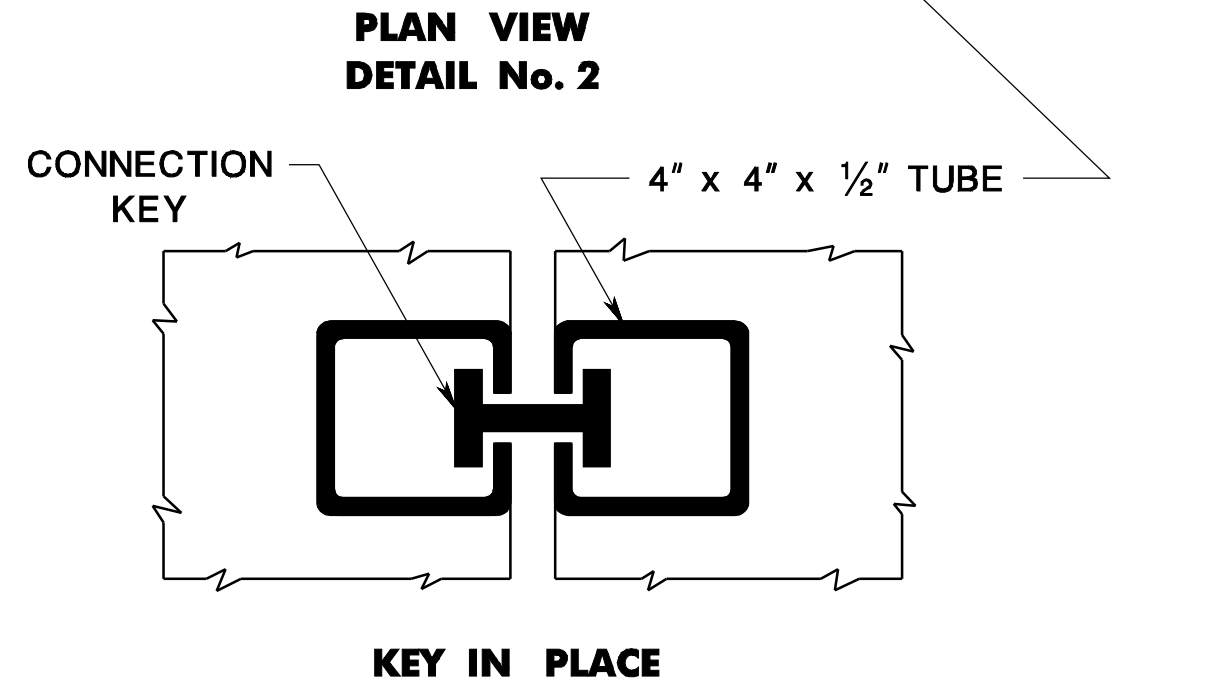
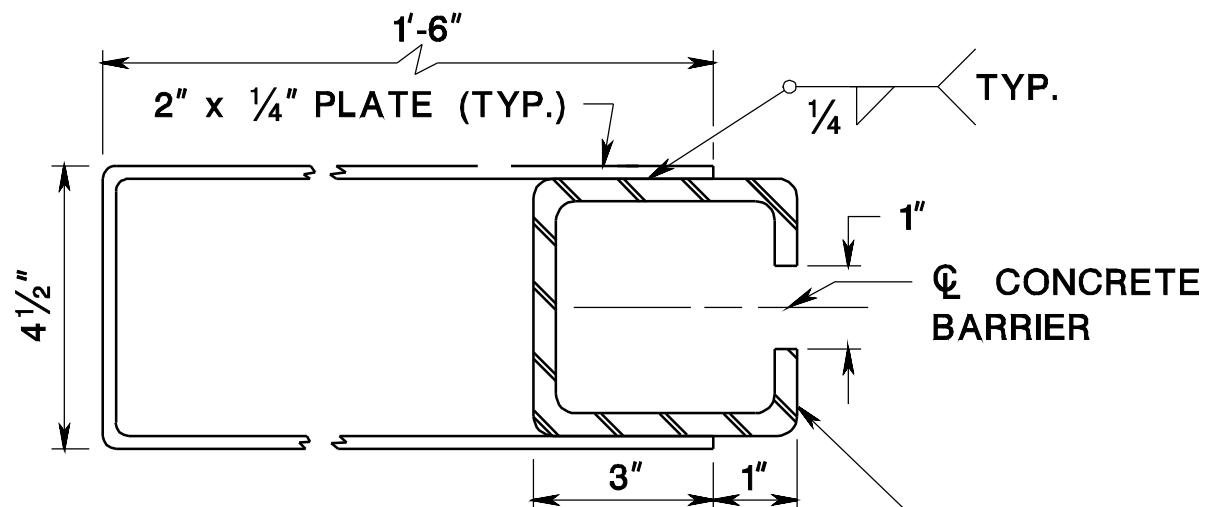
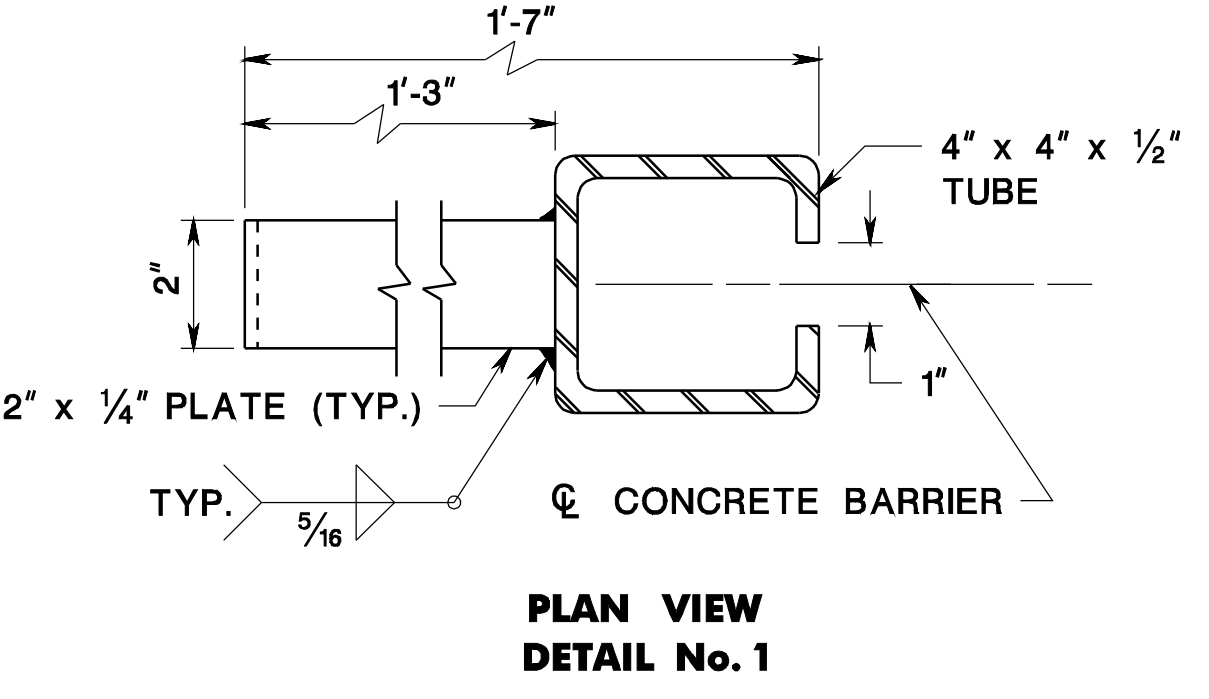
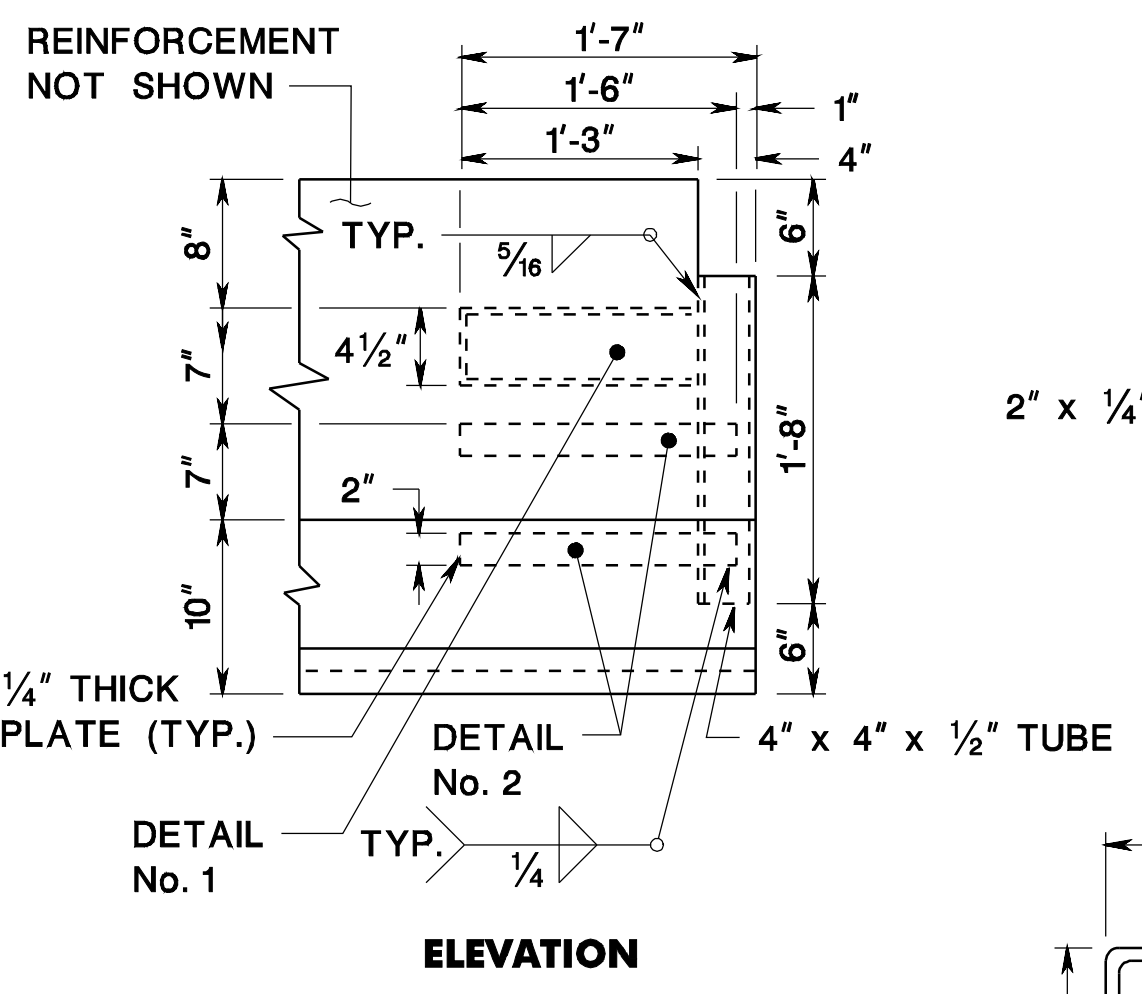
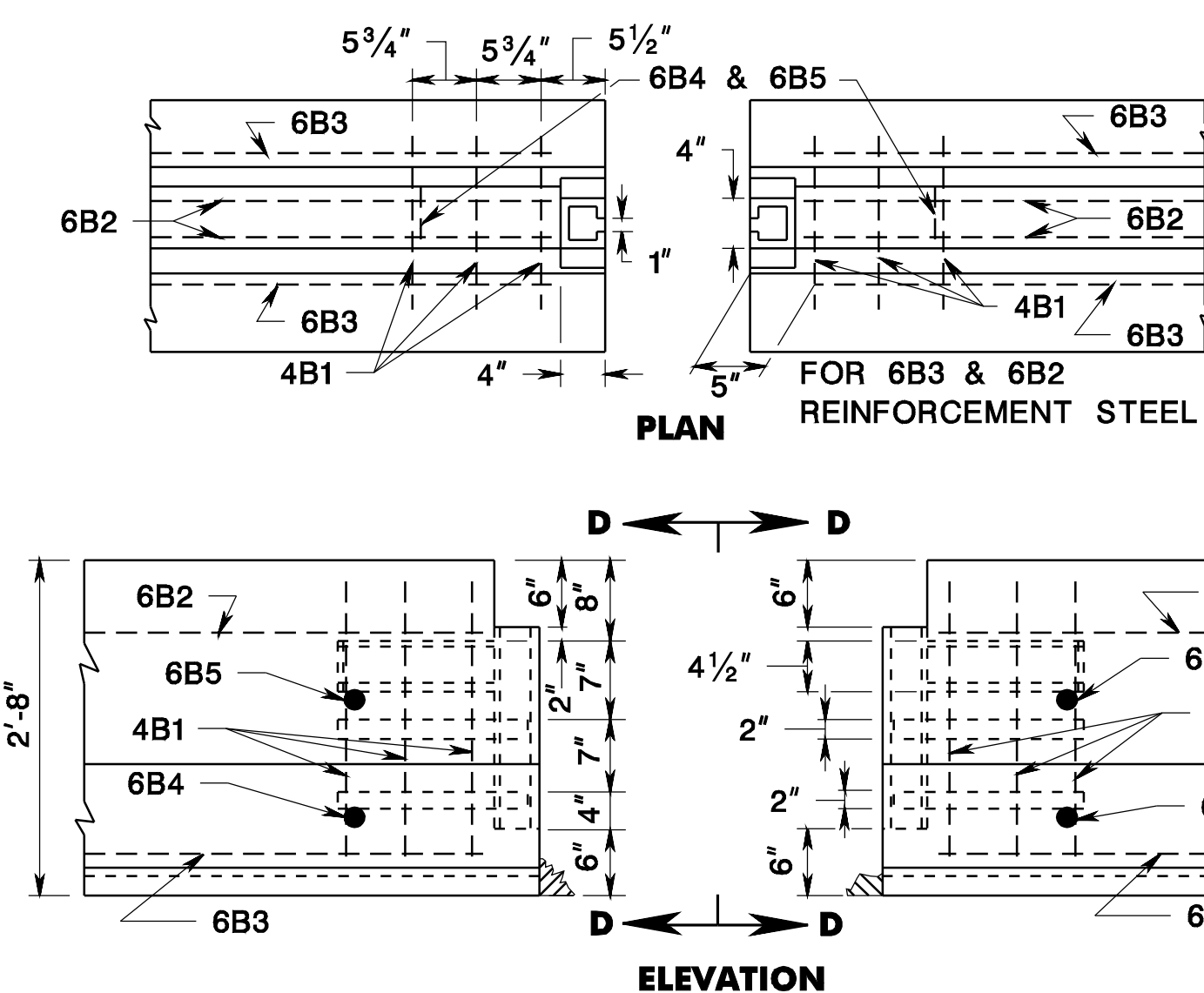


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**PRECAST CONCRETE CURB, CONSTRUCTION BARRIER JOINT CONNECTION DETAILS**



**GENERAL NOTES:**

- STEEL PLATE SHALL BE ASTM A36, A588, A441 OR A572 GRADE 50.
- REINFORCEMENT STEEL SHALL BE ASTM A615, GRADE 60.
- CONCRETE SHALL BE CONCRETE CLASS B.
- CONCRETE CLEAR COVER FOR REINFORCEMENT STEEL SHALL BE 1 1/2" (MIN.).
- TUBE STEEL SHALL BE ASTM A500, GRADE B OR C.
- ANCHOR PINS SHALL BE 1 INCH DIA. ASTM A36.
- ANCHOR PINS ARE NOT REQUIRED IN EVERY UNIT. SEE TABLE OF JOINT TREATMENTS.
- ALL END SECTIONS SHALL BE PINNED UNLESS OTHERWISE NOTED.
- 2 5/8" X 5 1/2" DRAINAGE POCKETS - TWO REQUIRED IN SECTIONS 12 FEET AND GREATER. ONE REQUIRED IN 8 FOOT AND 10 FOOT SECTIONS.
- 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 IT'S LONGITUDINAL AXIS.
- THE PRECAST CONCRETE CURB, CONSTRUCTION BARRIER SHALL BE CAST IN STEEL FORMS.
- THE PRECAST CONCRETE CURB SHALL BE UNITS OF 20 FEET, HOWEVER, OTHER LENGTHS MAY BE USED TO MEET FIELD CONDITIONS, THE NUMBER AND PLACEMENT OF THE 4B4 AND 4B5 REINFORCEMENT STEEL WILL VARY WITH THE LENGTH OF THE BARRIER UNIT AS SHOWN ON THE TABLE OF VARIABLE REINFORCEMENT STEEL. THE 6B2 AND 6B3 REINFORCEMENT STEEL SHALL BE 10 INCHES SHORTER THAN THE NOMINAL LENGTH OF THE BARRIER UNITS.
- REINFORCING SHOWN IS THE MINIMUM REQUIRED. ADDITIONAL REINFORCING NECESSARY FOR HANDLING SHALL BE THE OPTION AND RESPONSIBILITY OF THE CONTRACTOR.
- 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" DIA. E7018 ELECTRODES.
- 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 NON-SHRINK GROUT MATERIAL MEETING THE REQUIREMENTS OF SECTION 903.07, EXCEPT THAT IN LATEX MODIFIED CONCRETE BRIDGE DECK, A COMPATIBLE NON-SHRINK GROUT MATERIAL SHALL BE USED.

**NOTE A**

THE LENGTH OF THE ANCHOR PINS SHALL BE SUCH THAT THE FOLLOWING MINIMUM EMBEDMENT LENGTHS ARE OBTAINED:  
 (a) INTO CONCRETE PAVEMENT 0'-5"  
 (b) INTO FLEXIBLE PAVEMENT 1'-6"  
 (c) INTO UNPAVED AREA 2'-6"

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

HOLES IN BRIDGE DECKS SHALL BE 1/4" DIAMETER MAXIMUM AND MADE WITH A CORE DRILL OR ANY OTHER APPROVED ROTARY DRILLING DEVICE THAT DOES NOT IMPART AN IMPACT FORCE.

**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 AND GENERAL NOTE 15.

**NOTES:**

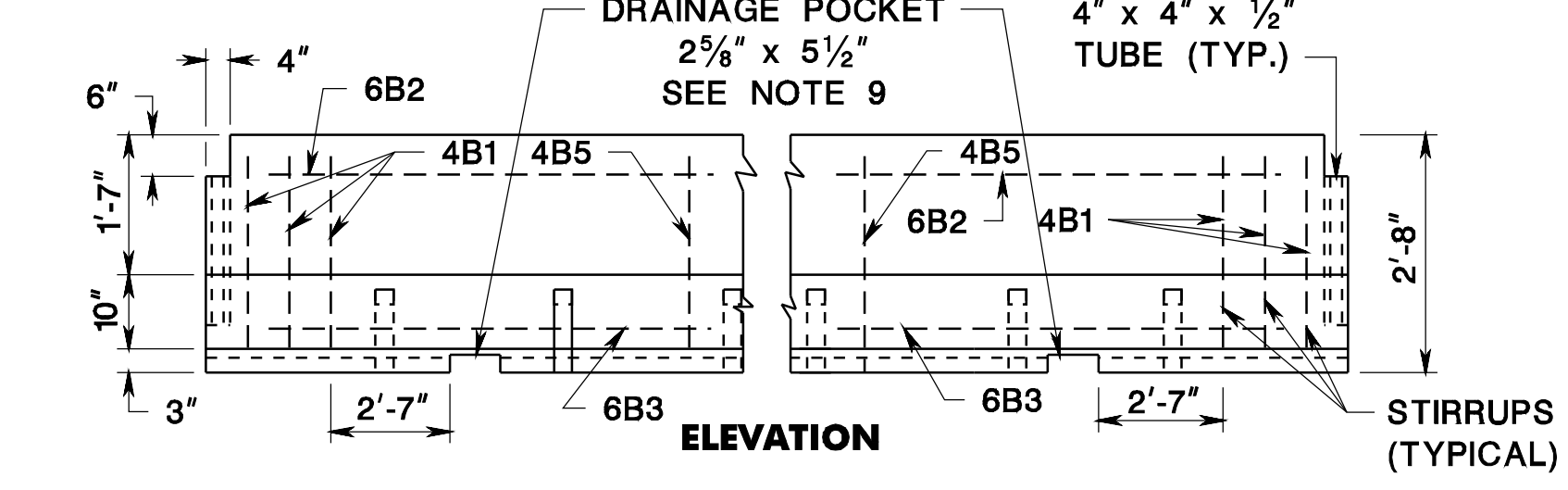
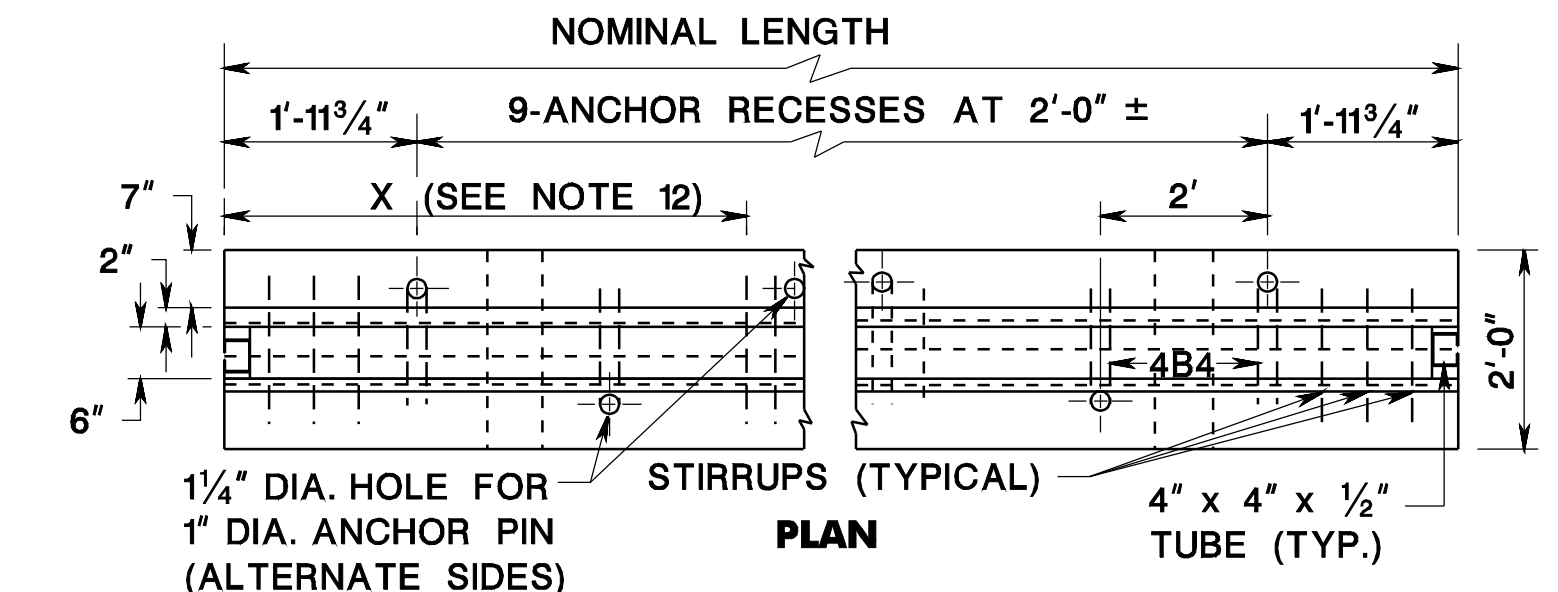
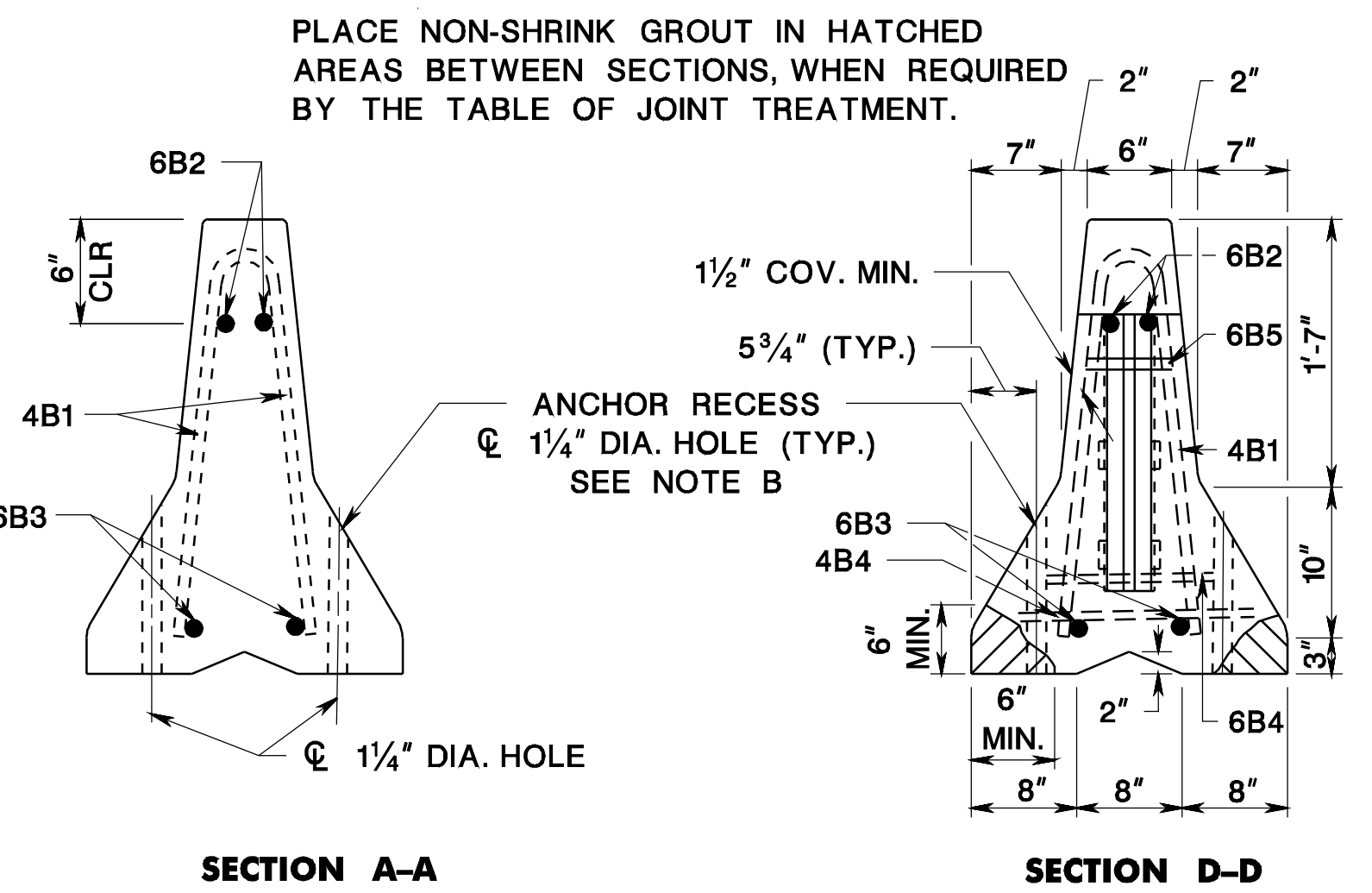
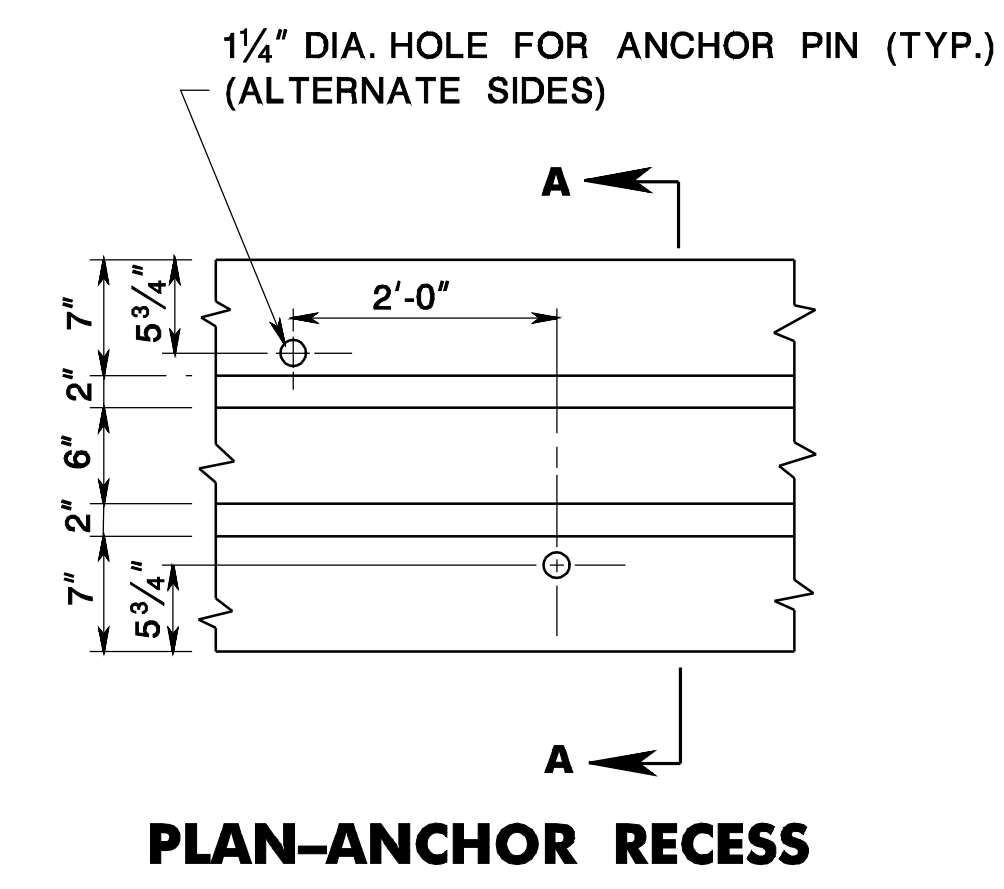
REINFORCEMENT STEEL IS IN METRIC UNITS.

**CONSTRUCTION BARRIER CURB, TYPE 4 (ALTERNATE A)**

N.T.S.

NEW JERSEY DEPARTMENT OF TRANSPORTATION

**CONSTRUCTION DETAILS**



**CONCRETE BARRIER**

**REINFORCEMENT STEEL LIST (EACH BARRIER SECTION)**

MARK	SIZE	NUMBER IN EACH SECTION	LENGTH	TYPE	A	B	C	LOCATION
4B1	#13	6	4'-11"	I	5"	26"	2"	STIRRUPS
4B4	#13	SEE NOTE 12	3'-1"	II	15 1/2"	4"		STIRRUPS
4B5	#13	SEE NOTE 12	4'-11"	I	5"	26"	2"	STIRRUPS
6B2	#19	2	SEE NOTE 12	STR.				LONGITUDINAL (TOP) NORMAL SECTION
6B3	#19	2	SEE NOTE 12	STR.				LONGITUDINAL (BOTTOM) NORMAL SECTION
6B4	#19	2	1'-2"	STR.				TRANSVERSE (BOTTOM) NORMAL SECTION
6B5	#19	2	0'-6"	STR.				TRANSVERSE (TOP) NORMAL SECTION

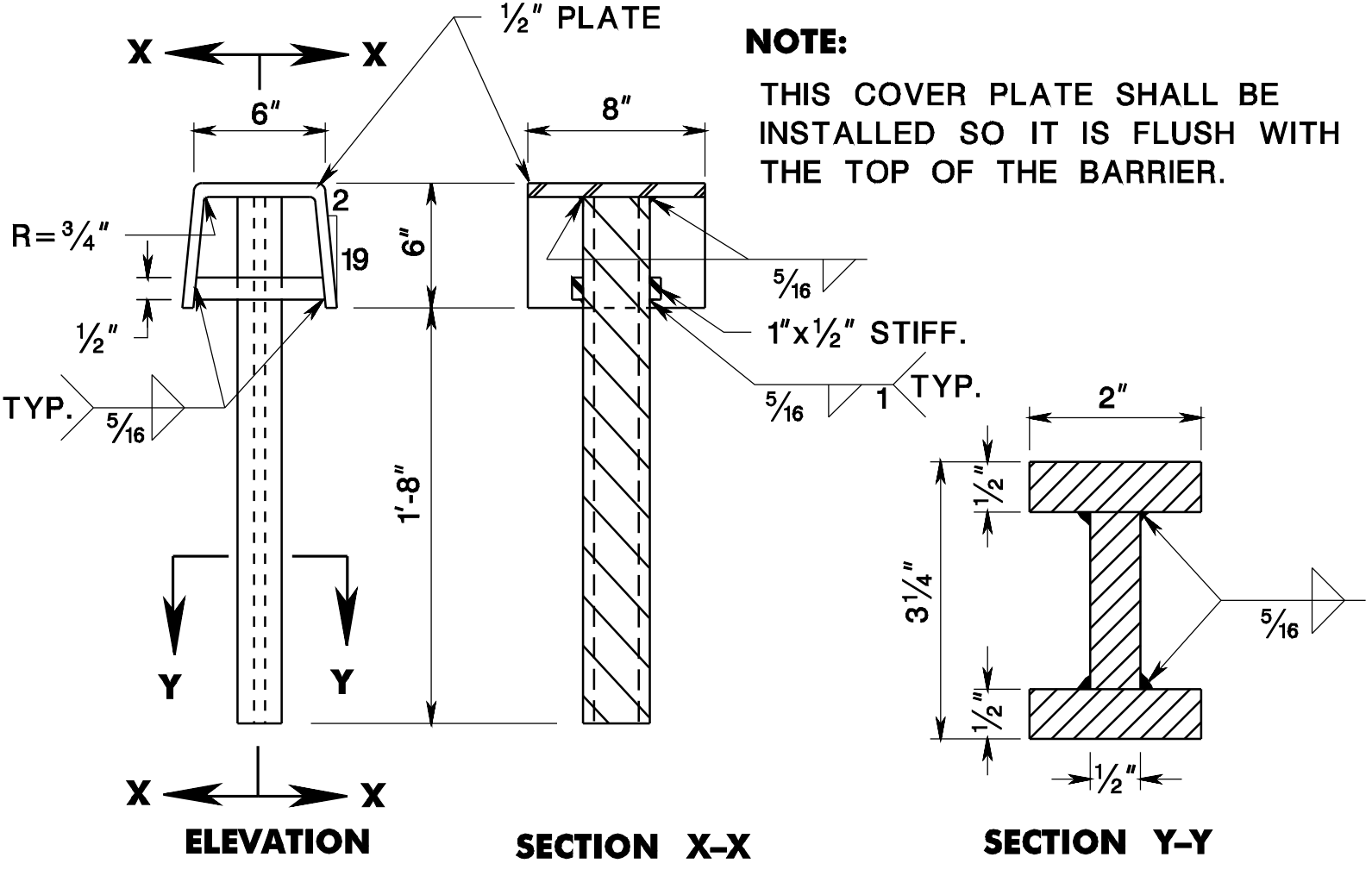
**TABLE OF JOINT AND ANCHORAGE TREATMENTS FOR TYPE 4 APPLICATIONS ONLY**

JOINT CLASS	JOINT TREATMENT
A	CONNECTION KEY ONLY
B	CONNECTION KEY AND GROUT IN EVERY JOINT
C	CONNECTION KEY AND GROUT IN EVERY JOINT AND PIN EVERY OTHER UNIT. IN UNITS THAT ARE TO BE ANCHORED, PINS SHALL BE REQUIRED IN EVERY ANCHOR PIN RECESS

**TABLE OF VARIABLE REINFORCEMENT STEEL**

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 REINFORCEMENT STEEL



**CONNECTION KEY**

CD-159-4.1