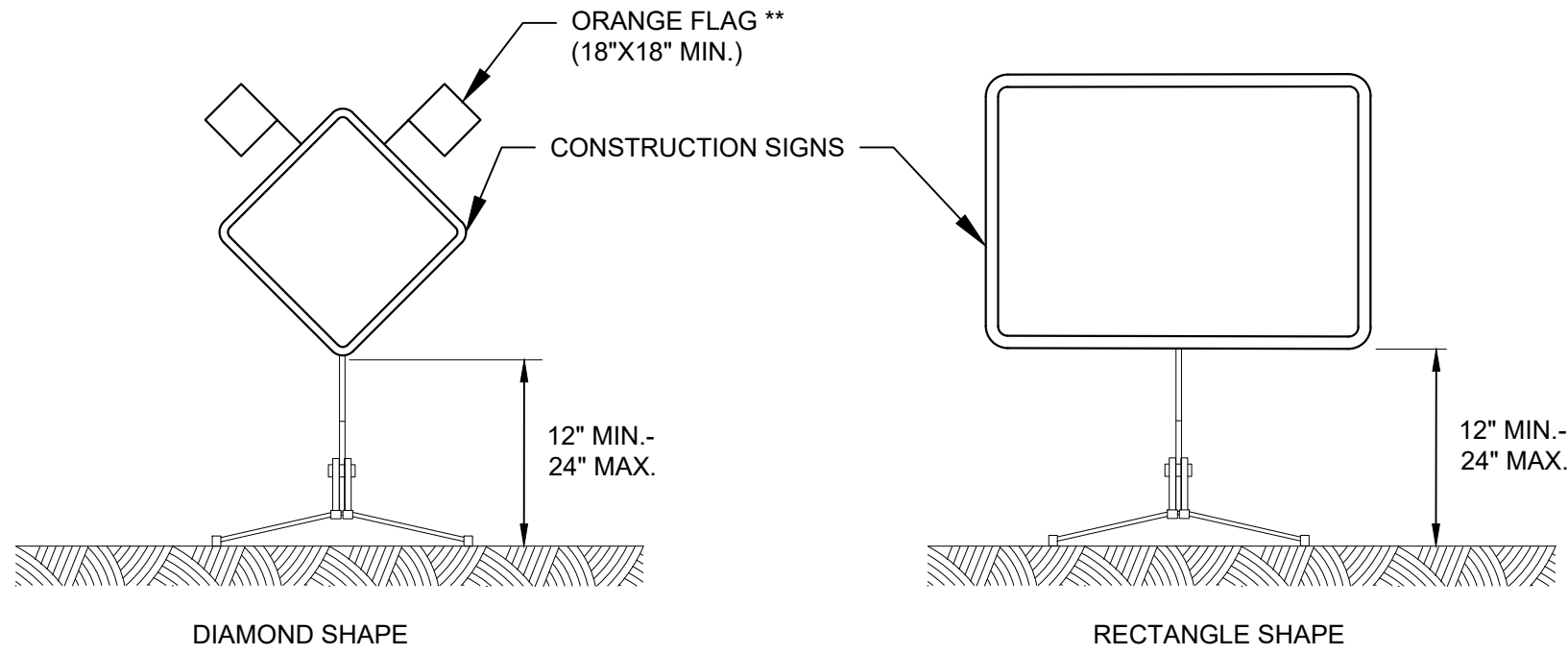
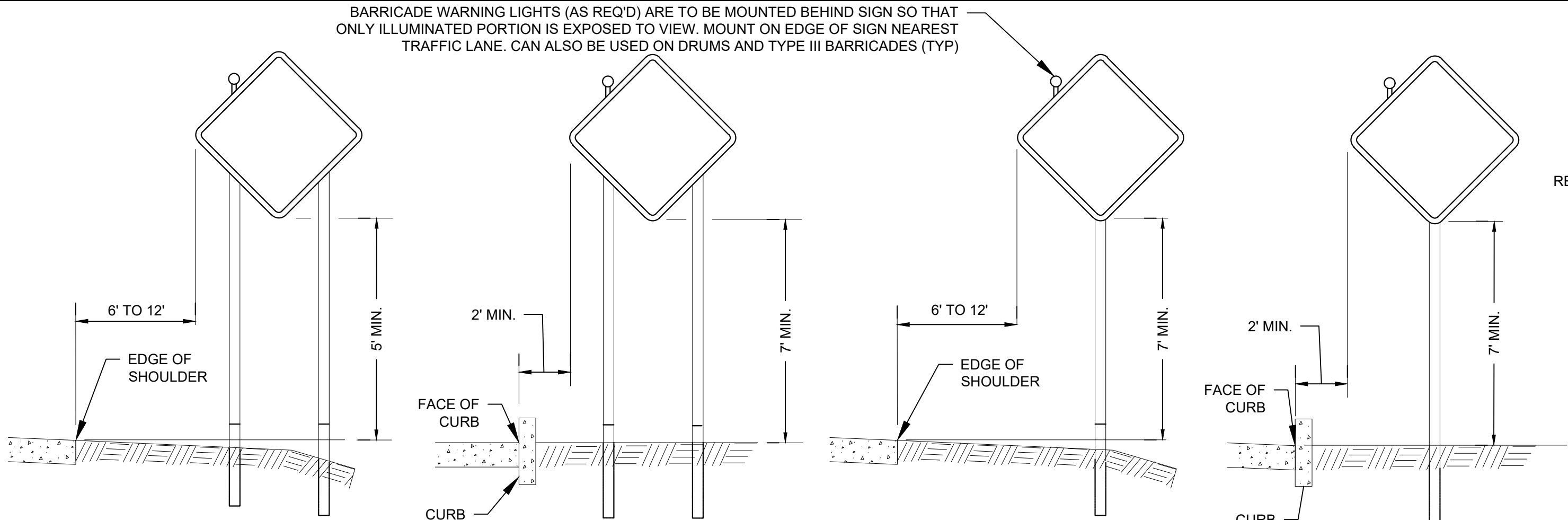




CONSTRUCTION SIGNS

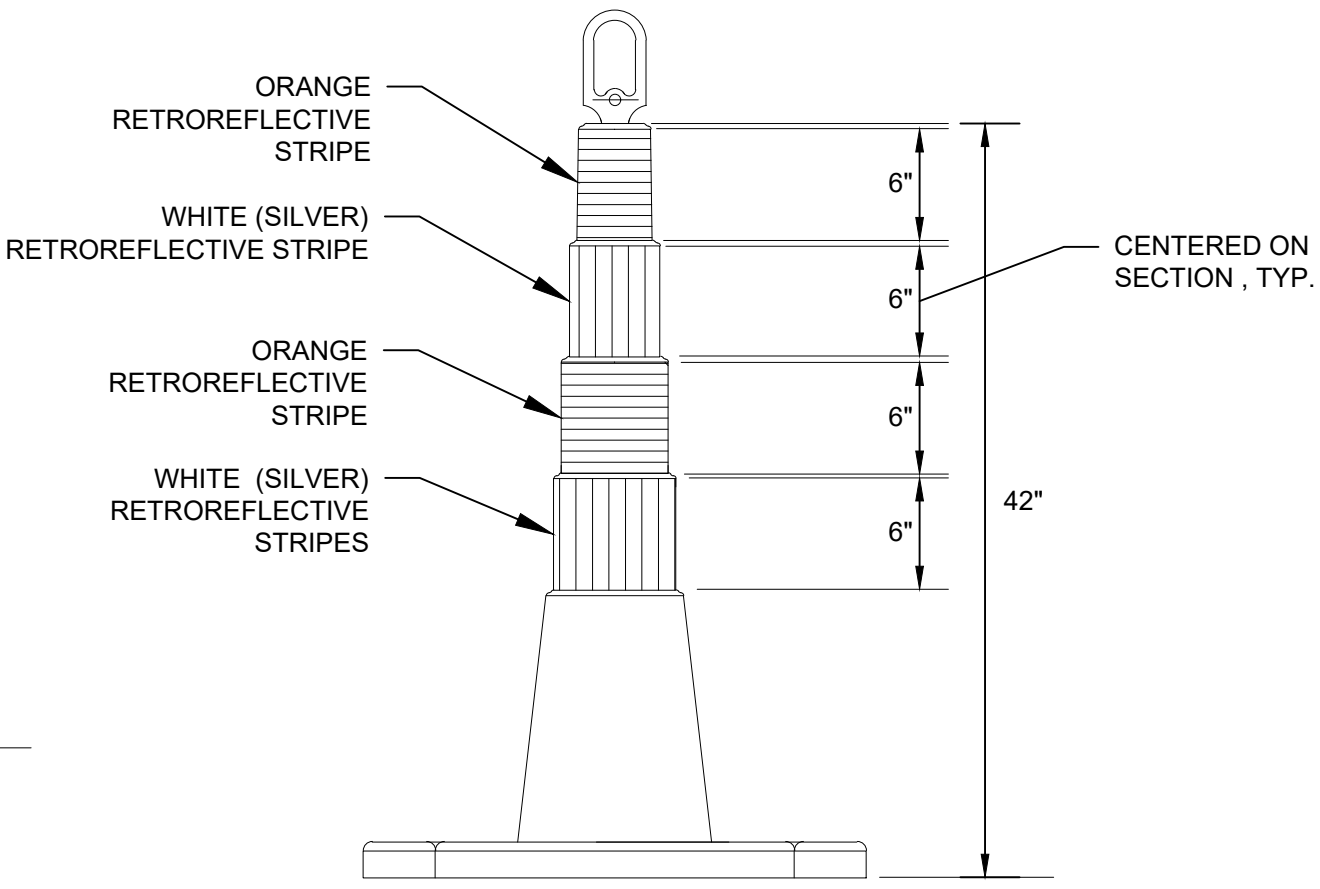
NOTES FOR PORTABLE SIGN SUPPORTS:

- SIGNS AND THEIR PORTABLE SUPPORTS SHALL CONFORM TO THE REQUIREMENTS OF NCHRP REPORT 350 (TL-3) AND THE LATEST EDITION OF MUTCD.
- MOUNTING HEIGHT OF SIGNS SHALL BE A MINIMUM OF 12" AND A MAXIMUM OF 24". SIGNS SHALL BE MOUNTED HIGHER AS NEEDED TO MEET FIELD CONDITIONS OR AS DIRECTED BY THE AUTHORITY.
- THE AUTHORITY RESERVES THE RIGHT TO REJECT ANY SUPPORT DEEMED SUITABLE FOR THE PURPOSES INTENDED.
- PORTABLE SIGN SUPPORTS SHALL BE STABILIZED IN A MANNER THAT WILL NOT AFFECT THEIR COMPLIANCE WITH NCHRP REPORT 350 (TL-3). SIGNS NEED TO BE STABILIZED AS NEEDED, WHICH MAY INCLUDE SAND BAGS OR OTHER WEIGHTED DEVICES.
- ROLL-UP SIGNS ARE PERMITTED FOR SHORT DURATION WORK ZONES (LESS THAN 1 HOUR).
- USE 48" SIGNS ON ARTERIAL ROADWAYS WHEN FEASIBLE.



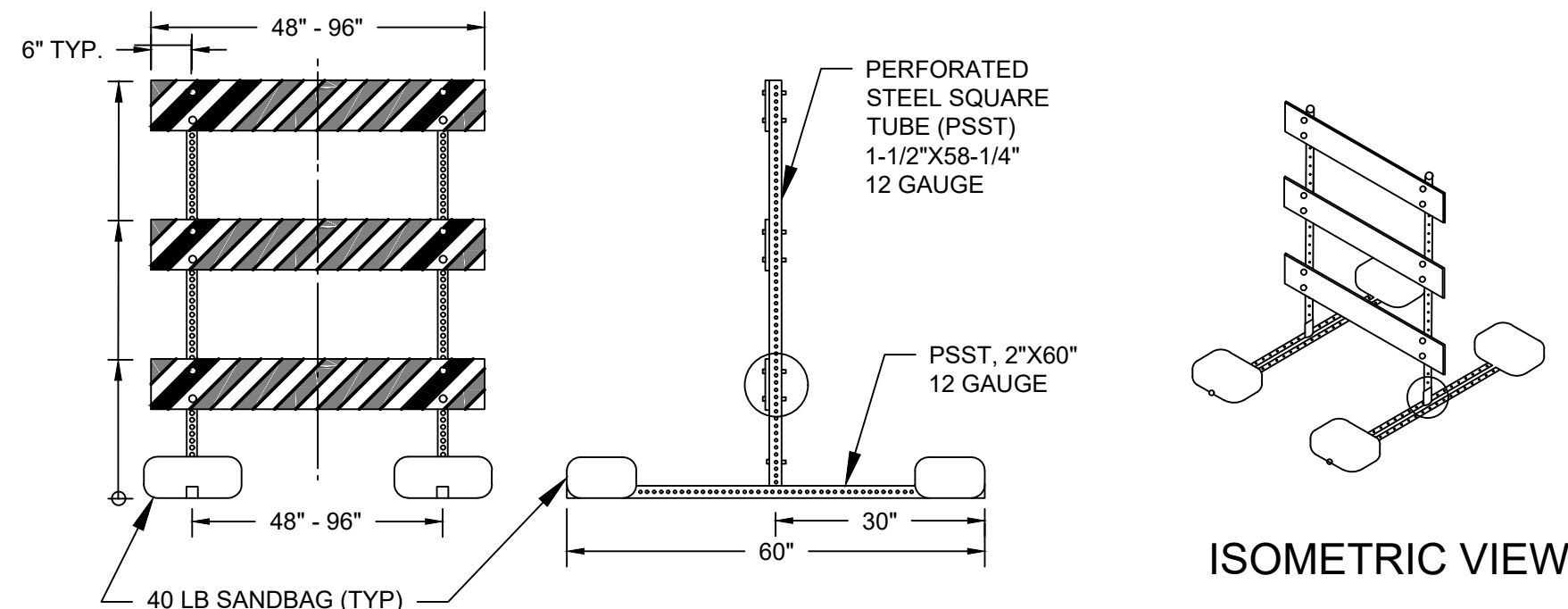
PLACEMENT OF CONSTRUCTION SIGNS
TYPICAL LONG TERM INSTALLATION

- NOTES:
- SUPPORTS SHALL BE METAL SIGN POSTS AND HAVE BREAK-AWAY FEATURES.



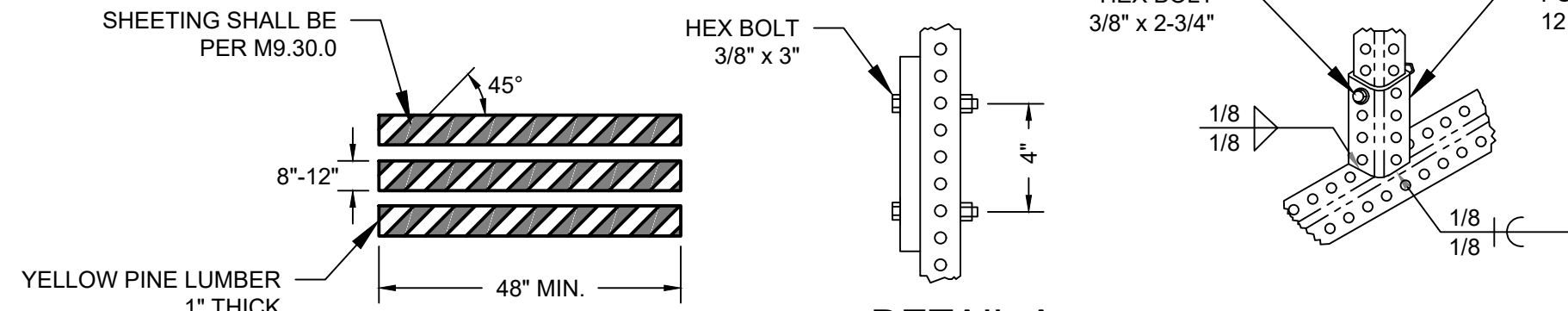
TRAFFIC CONE

- NOTES:
- TRAFFIC CONES SHALL CONFORM TO THE REQUIREMENTS OF NCHRP REPORT 350 (TL-3) AND THE LATEST EDITION OF THE MUTCD.
 - IF RUBBER CONES ARE USED, THEY SHALL HAVE INTERIOR RIBS FOR RIGIDITY.
 - IF PLASTIC CONES ARE USED, THEY SHALL BE COLOR IMPREGNATED.



ELEVATION VIEWS

ISOMETRIC VIEW



BOARD DETAIL

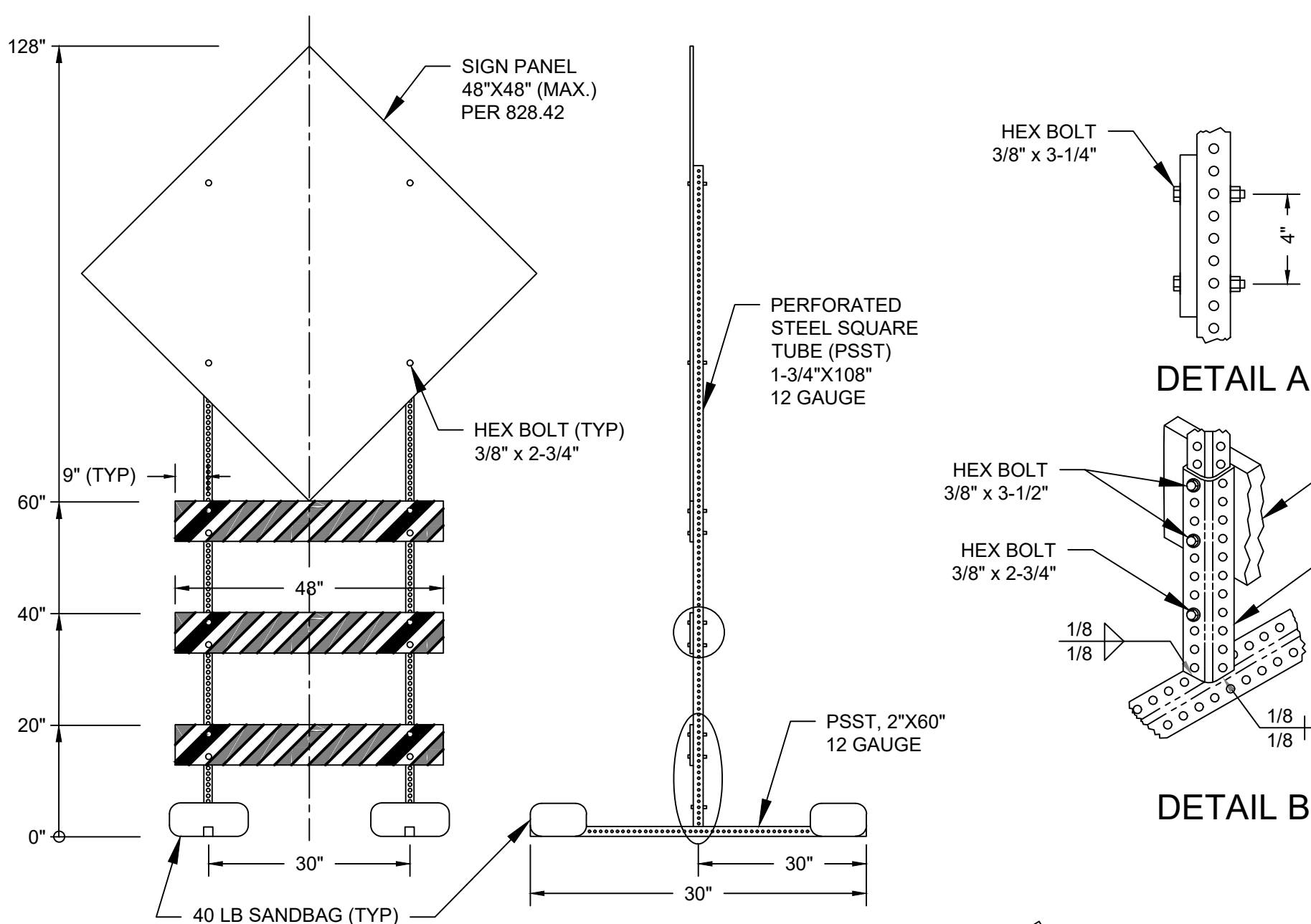
DETAIL A

DETAIL B

NOTES:

- THE MINIMUM LENGTH FOR TYPE III BARRICADES SHALL BE 48 INCHES. EACH BARRICADE RAIL SHALL BE 8 TO 12 INCHES WIDE. BARRICADES USED ON FREEWAYS, EXPRESSWAYS, AND OTHER HIGH-SPEED ROADWAYS SHALL HAVE A MINIMUM OF 270 SQUARE INCHES OF RETROFLECTIVE AREA FACING ROAD USERS.
- STRIPES ON BARRICADE RAILS SHALL BE ALTERNATING ORANGE AND WHITE RETROFLECTIVE STRIPES SLOPING DOWNWARD AT AN ANGLE OF 45 DEGREES IN THE DIRECTION ROAD USERS ARE TO PASS. STRIPES SHALL BE 6 INCHES WIDE.
- WHERE BARRICADES EXTEND ENTIRELY ACROSS A ROADWAY, THE STRIPES SHOULD SLOPE DOWNWARD IN THE DIRECTION TOWARD WHICH ROAD USERS MUST TURN.
- WHERE BOTH RIGHT AND LEFT TURNS ARE PROVIDED, THE BARRICADE STRIPES SHOULD SLOPE DOWNWARD IN BOTH DIRECTIONS FROM THE CENTER OF THE BARRICADE OR BARRICADES.
- WHERE NO TURNS ARE INTENDED, THE STRIPES SHOULD BE POSITIONED TO SLOPE DOWNWARD TOWARD THE CENTER OF THE BARRICADE OR BARRICADES.
- ALL BOLTS SHALL BE GRADE 5, WITH TWO F844 WASHERS, ONE LOCKWASHER, AND ONE HEX HEAD NUT ON EACH BOLT.

TYPE III BARRICADE



ELEVATION VIEWS

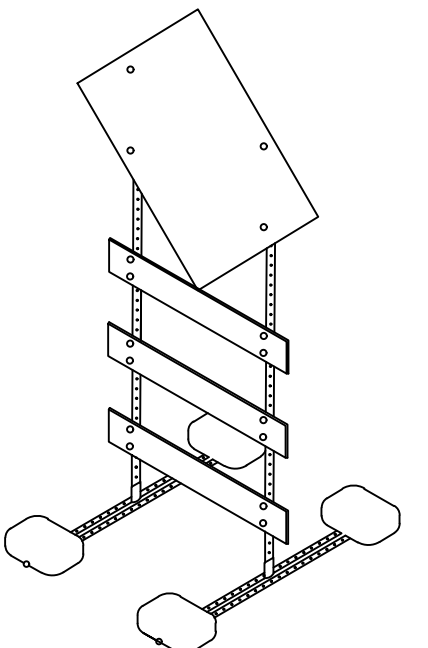
DETAIL A

DETAIL B

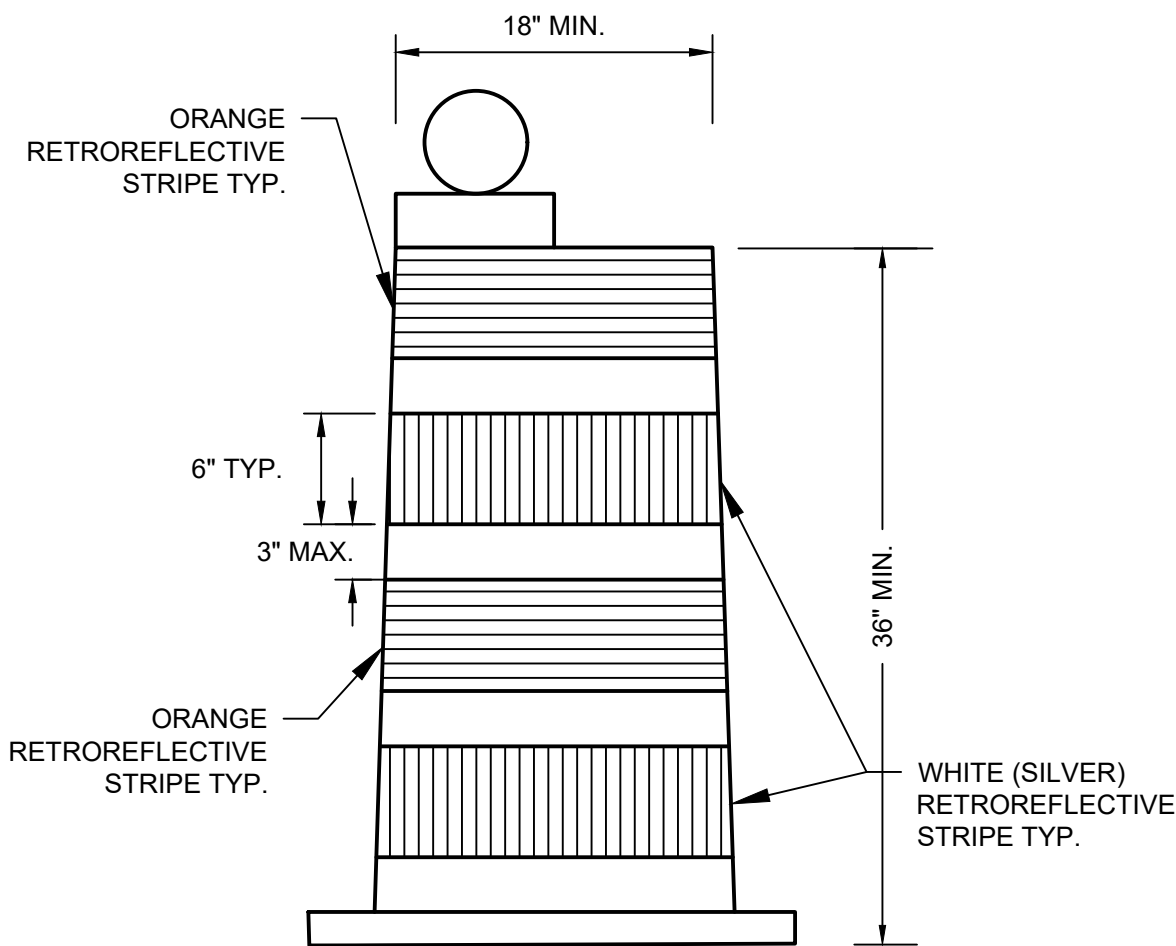
NOTES:

- THE MINIMUM LENGTH FOR TYPE III BARRICADES SHALL BE 48 INCHES. EACH BARRICADE RAIL SHALL BE 8 TO 12 INCHES WIDE. BARRICADES USED ON FREEWAYS, EXPRESSWAYS, AND OTHER HIGH-SPEED ROADWAYS SHALL HAVE A MINIMUM OF 270 SQUARE INCHES OF RETROFLECTIVE AREA FACING ROAD USERS.
- STRIPES ON BARRICADE RAILS SHALL BE ALTERNATING ORANGE AND WHITE RETROFLECTIVE STRIPES SLOPING DOWNWARD AT AN ANGLE OF 45 DEGREES IN THE DIRECTION ROAD USERS ARE TO PASS. STRIPES SHALL BE 6 INCHES WIDE.
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- WHERE BOTH RIGHT AND LEFT TURNS ARE PROVIDED, THE BARRICADE STRIPES SHOULD SLOPE DOWNWARD IN BOTH DIRECTIONS FROM THE CENTER OF THE BARRICADE OR BARRICADES.
- WHERE NO TURNS ARE INTENDED, THE STRIPES SHOULD BE POSITIONED TO SLOPE DOWNWARD TOWARD THE CENTER OF THE BARRICADE OR BARRICADES.
- ALL BOLTS SHALL BE GRADE 5, WITH TWO F844 WASHERS, ONE LOCKWASHER, AND ONE HEX HEAD NUT ON EACH BOLT.

TYPE III BARRICADE WITH SIGN



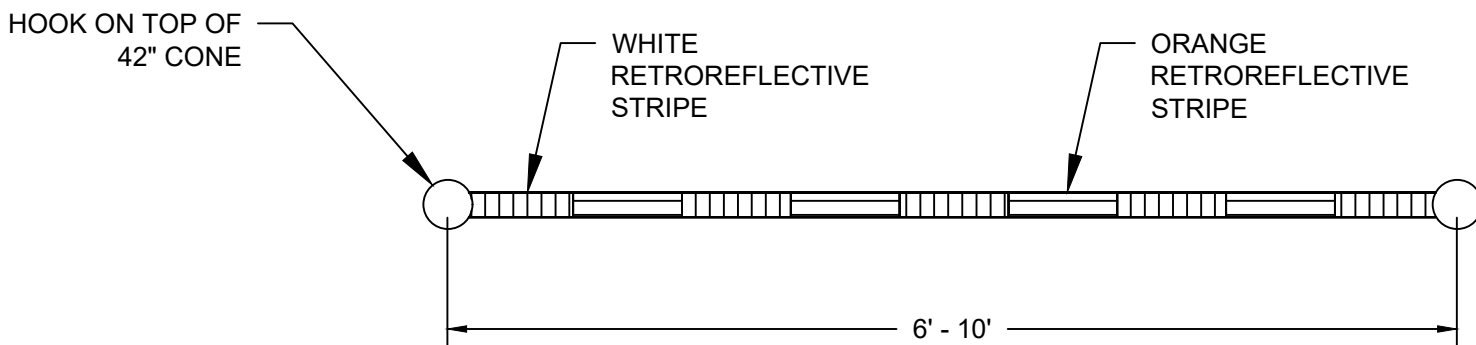
ISOMETRIC VIEW



TRAFFIC DRUM

NOTES:

- TRAFFIC DRUM SHALL CONFORM TO THE REQUIREMENTS OF NCHRP REPORT 350 (TL-3) AND THE LATEST EDITION OF THE MUTCD.
- THE ENTIRE AREA OF ORANGE AND WHITE STRIPES SHALL BE RETROFLECTIVE SHEETING AS REQUIRED IN THE SPECIFICATIONS.
- THE SECTIONS OF DRUMS NOT COVERED WITH RETROFLECTIVE STRIPES SHALL BE ORANGE.



TRAFFIC CONE BAR



REFERENCE:						CONTRACT NO. : 8086	CAD FILE NO. : 3.3-CT-504		MASSACHUSETTS WATER RESOURCES AUTHORITY	 100 SUMMER STREET BOSTON, MA 02110 617-426-7330	 BLACK & VEATCH 200 SUMMIT DRIVE, SUITE 340 BURLINGTON, MA 01803 781-656-5800	METROPOLITAN WATER TUNNEL PROGRAM CONTRACT PACKAGE 3.3 NEEDHAM DEWATERING DRAINAGE LINE	DRAWING NO. CT-504
						ACCESSION NO. : NOT USED	SECTION NO. :						
						DATE: SEPTEMBER, 2026	DESIGNED BY: MBR						
						DRAWN BY: MBR							
						CHECKED BY: GMP							
						APPROVED BY: REC							
						SCALE: NTS							
	NO.	DATE	BY	CHK'D	REVISION								