

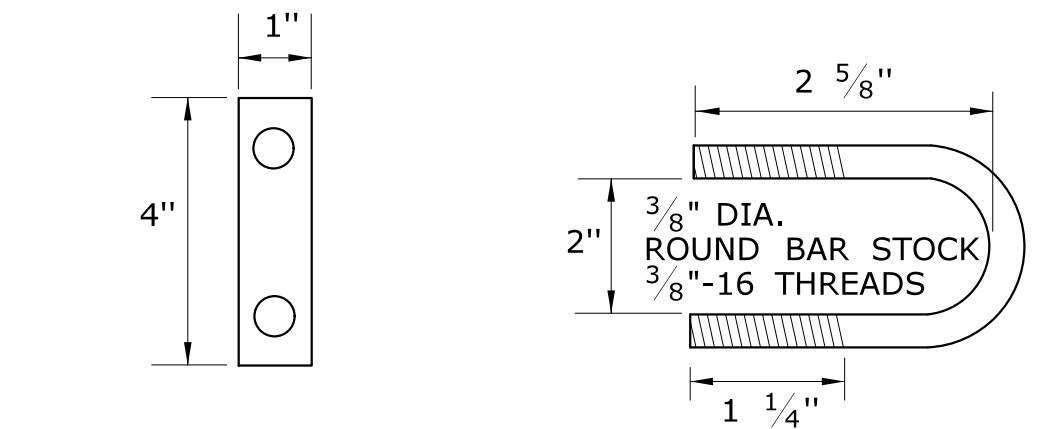
**GENERAL NOTES:**

- ALL STEEL PARTS SHALL BE FABRICATED FROM ALL PURPOSE CARBON GRADE STEEL CONFORMING TO THE MOST RECENT ISSUES OF THE FOLLOWING SPECIFICATIONS:
  - STEEL PLATES, SHAPES, AND BAR SHALL CONFORM TO ASTM A36;
  - STEEL SHEETS AND STRIPS SHALL CONFORM TO ASTM A569;
  - STEEL TUBING SHALL CONFORM TO ASTM A500, GRADE B; AND,
  - STEEL PIPE SHALL CONFORM TO ASTM A53, GRADE B.
- ALL WELDING SHALL BE PREFORMED BY CONNECTICUT DOT CERTIFIED WELDERS, AND SHALL CONFORM TO THE REQUIREMENTS OF THE STATE OF CONNECTICUT, DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FORM 814A (OR REVISION). WELDING ELECTRODES SHALL BE APPROVED BY THE ENGINEER BEFORE WORK BEGINS.
- ALL EDGES SHALL BE MACHINED IN A WORKMAN-LIKE MANNER AND SHALL BE FREE OF BURRS AND SHARP EDGES. ALL HOLES SHALL BE DRILLED OR MACHINE CUT.
- ALL NCIAS COMPONENTS SHALL BE INSPECTED AND APPROVED BY THE ENGINEER PRIOR TO SHIPPING. COMPLETE NCIAS UNITS SHALL BE ASSEMBLED, INSPECTED AND APPROVED BY THE ENGINEER PRIOR TO SHIPPING.

**CYLINDERS:**  
 ALL CYLINDERS SHALL BE SEAMLESS OR ELECTRIC FULL-DEPTH WELD, CUT SQUARE. CYLINDER DIMENSIONS SHALL BE AS SHOWN ON SHEETS 1804-B1 AND 1804-B2. NO SUBSTITUTIONS IN CYLINDER WALL THICKNESS SIZES WILL BE ACCEPTED. ALL FINISHED CYLINDERS SHALL BE WITHIN 1/4" OF THE SPECIFIED DIAMETER, MEASURES ACROSS ANY DIAMETER OF THE CYLINDER. EACH CYLINDER SHALL BE PERMANENTLY MARKED ON THE INSIDE WALL WITH ITS CORRESPONDING NUMBER DESIGNATION SHOWN ON THE PLANS. TWO (2) LIFTING RINGS SECURED ON THE INSIDE OF EACH CYLINDER AS SHOWN IN DETAIL A ON SHEET 1804-B1 SHALL BE PROVIDED. CYLINDERS 1 AND 2 SHALL BE EQUIPPED WITH BOX BEAM MEMBERS AS SHOWN IN SECTIONS A1-A1 AND A2-A2 ON SHEET 1804-B1. EACH BOX BEAM SHALL HAVE TWO (2) 1/2" x 1/2" V- NOTCHES CUT IN OPPOSING SIDES AND ENDS AS SHOWN FOR VENTING. CYLINDER 1 SHALL BE PROVIDED WITH 1 3/8" DIAMETER SHANK EYE-BOLT AND BACK-UP PLATES AS SHOWN ON SHEET 1804-B1. CYLINDERS 2 THROUGH 8 SHALL BE PROVIDED WITH U-BOLT ASSEMBLIES AS SHOWN ON SHEETS 1084-B1 AND 1804-B-2. EACH LEG OF EACH U-BOLT SHALL HAVE TWO (2) 3" x 14" NOTCHES CUT IN THE BOTTOM-REAR OF THE CYLINDER WALL AS SHOWN IN SECTION E-E ON SHEET 1804-B2. NOTCH DIMENSIONS SHOWN ARE MEASURED ON FLAT PLATE, PRIOR TO FORMING THE CYLINDER.

**STIFFENERS:**  
 CYLINDER 1 SHALL BE EQUIPPED WITH 1/2" DIAMETER STEEL TENSION RODS AS SHOWN ON SHEET 1804-B1. CYLINDERS 5 THROUGH 7 SHALL BE PROVIDED WITH A 1 1/2" ID SCHEDULE 40 STEEL COMPRESSION PIPE AS SHOWN ON SHEET 1804-B2. THE FIXED END OF THE PIPE SHALL HAVE A 1/2" x 1/2" V-NOTCH CUT AS SHOWN FOR VENTING, AND SHALL BE WELDED TO THE BACK-UP PLATE ON THE INSIDE OF THE CYLINDER. THE OTHER END SHALL NOT BE WELDED AND SHALL REST ON THE 1" x 2" PIPE SUPPORT AS SHOWN IN DETAIL B AND SECTION D-D ON SHEET 1804-B2. CYLINDER 8 SHALL BE EQUIPPED WITH TWO (2) 1 1/2" ID SCHEDULE 40 STEEL COMPRESSION PIPES, EACH WITH TWO (2) 1/2" x 1/2" V-NOTCHES CUT IN OPPOSING SIDES AND ENDS AS SHOWN FOR VENTING.

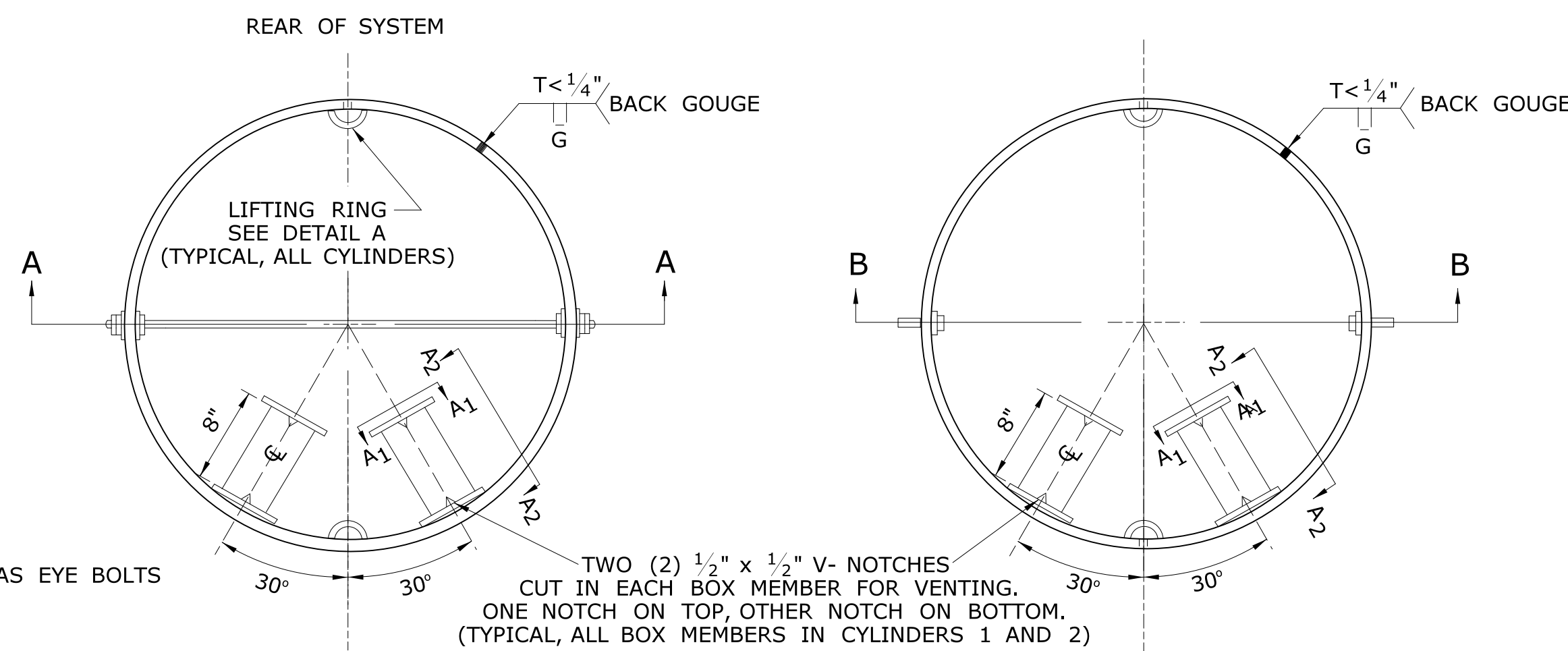
**CONNECTIONS:**  
 ALL CYLINDERS SHALL BE CONNECTED TO EACH OTHER WITH TWO (2) 2"- LONG x 7/8"- DIAMETER HEAVY HEX HEAD HIGH STRENGTH BOLTS CONFORMING TO ASTM A325 TYPE 1. EACH BOLT SHALL BE PROVIDED WITH TWO (2) WASHERS CONFORMING TO ASTM F436 AND ONE (1) HEAVY HEX NUT CONFORMING TO A563 GRADE DH. ALL NUTS, BOLTS, AND WASHERS SHALL BE MECHANICALLY DEPOSITED IN ACCORDANCE WITH ASTM B695, CLASS 50 TYPE 1. EACH CYLINDER SHALL HAVE 1" - DIAMETER HOLES DRILLED 8" FROM THE TOP AND BOTTOM OF THE CYLINDER WHERE THEY TOUCH EACH OTHER ALONG THE LONGITUDINAL CENTERLINE OF THE SYSTEM. THE REAR OF THE CYLINDER 8 SHALL HAVE FOUR (4) 1" - DIAMETER HOLES DRILLED AS SHOWN IN SECTION E-E ON SHEET 1804-B2. ALL CYLINDER CONNECTIONS SHALL BE POSITIONED TO PROVIDE THE PROPER ORIENTATION OF THE STIFFENERS AND OTHER CYLINDER APPURTENANCES AS SHOWN ON THE PLANS.



BACK PLATE (1/8" THICK)  
(DIMENSIONS MAY VARY)

**U-BOLT DETAIL**

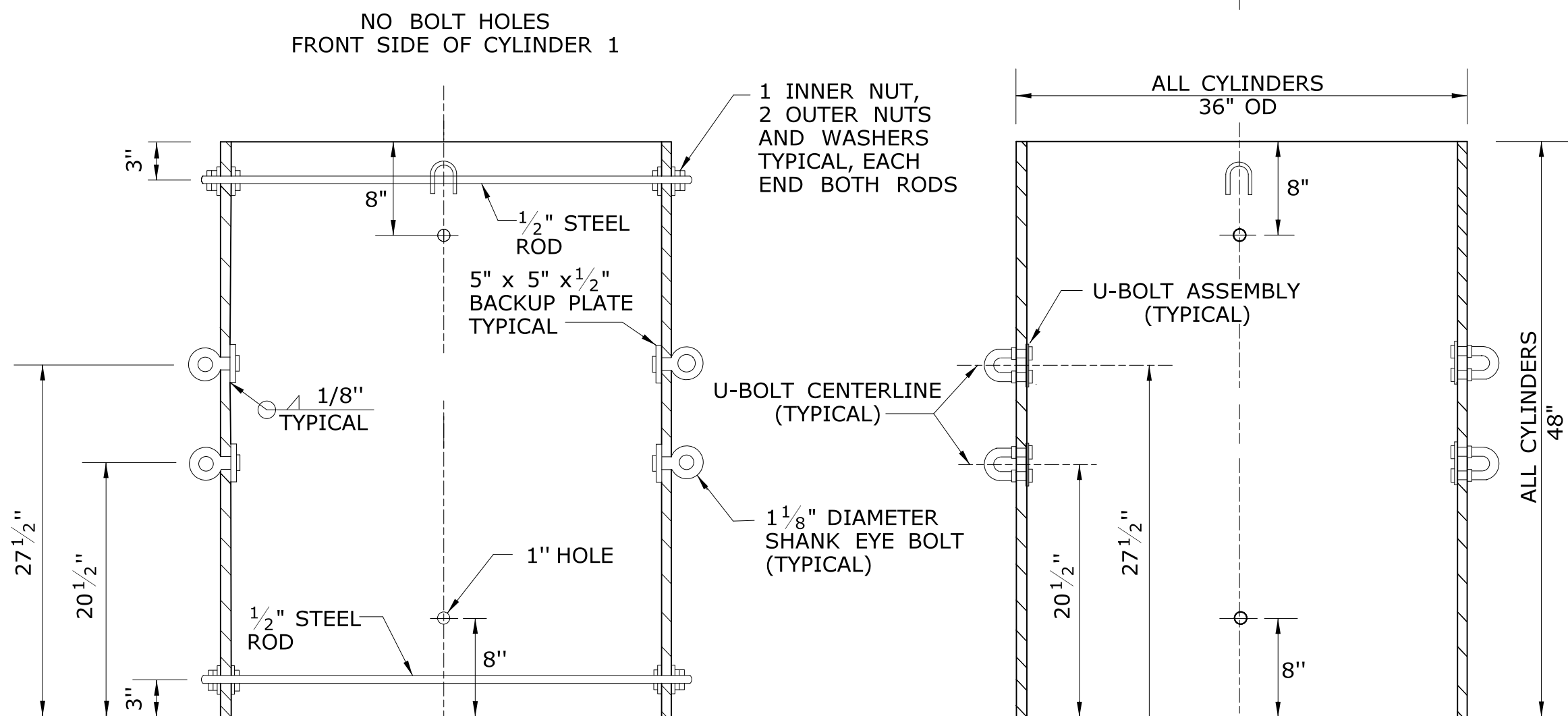
TYPICAL FOR CYLINDERS 2-8  
(BACK PLATE AND 4 NUTS PER U-BOLT)



NOTE : CYLINDER 1 HAS EYE BOLTS

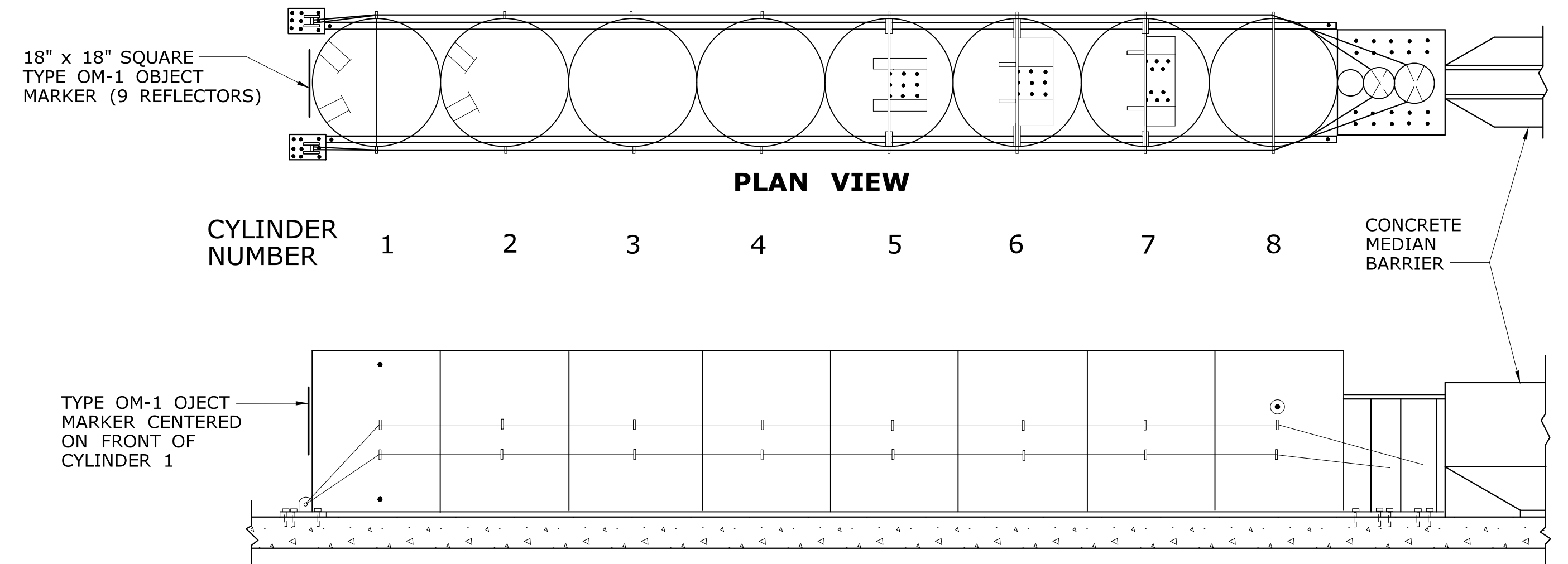
TWO (2) 1/2" x 1/2" V- NOTCHES CUT IN EACH BOX MEMBER FOR VENTING. ONE NOTCH ON TOP, OTHER NOTCH ON BOTTOM. (TYPICAL, ALL BOX MEMBERS IN CYLINDERS 1 AND 2)

CYLINDER 2 THRU 8 HAVE U-BOLTS



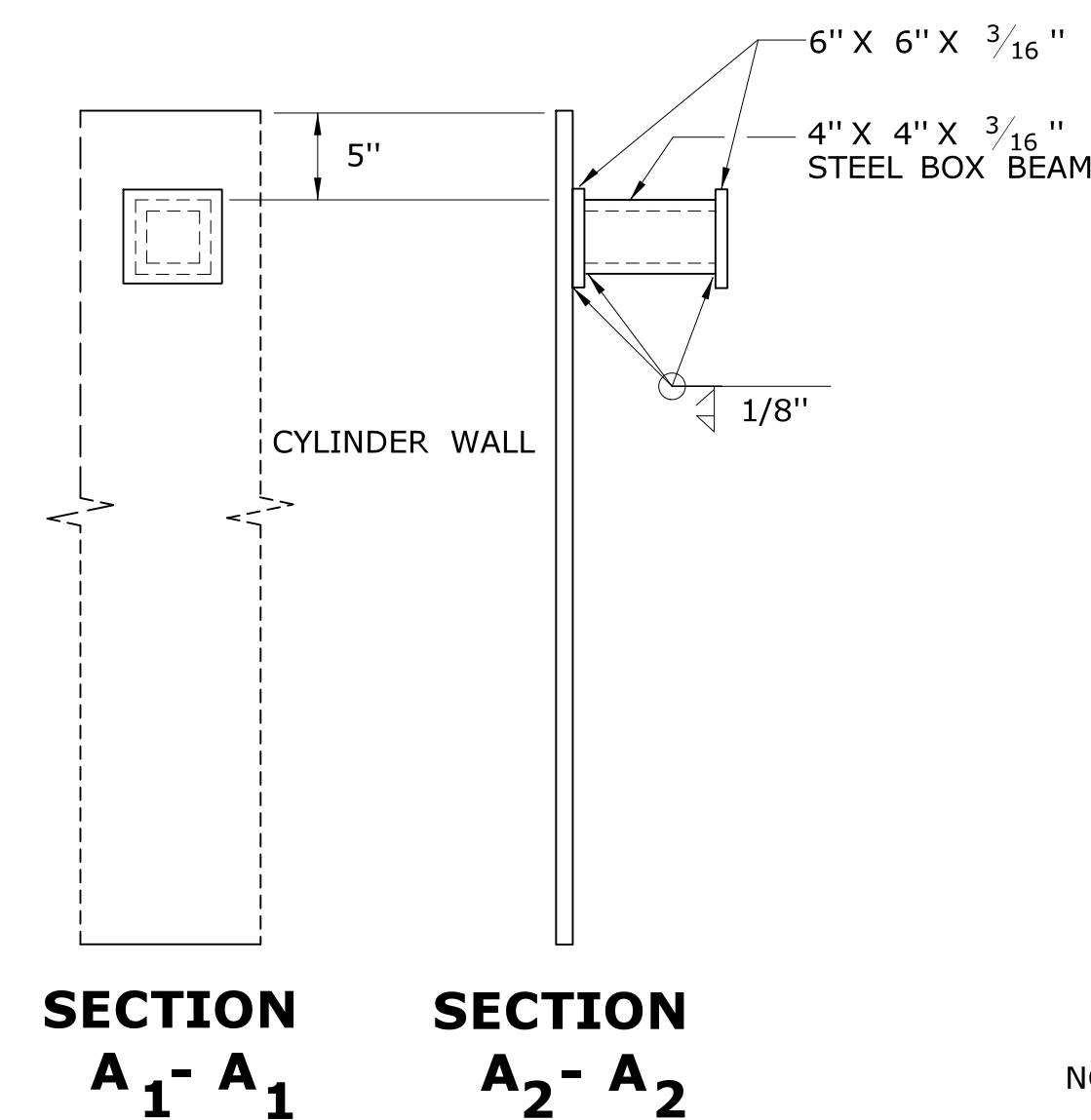
**SECTION A-A  
CYLINDER 1  
(GALVANIZED)**

**SECTION B-B  
CYLINDER 2  
(GALVANIZED)**



**PLAN VIEW**

**ELEVATION VIEW  
SYSTEM OVERVIEW**



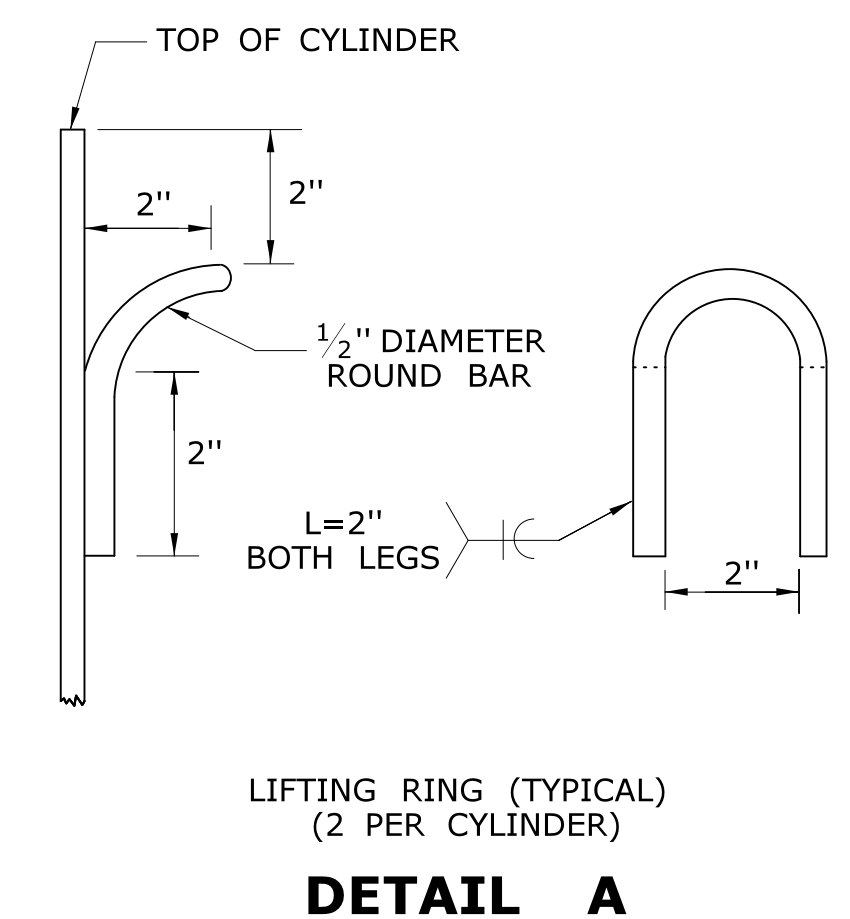
**SECTION A1-A1**

**SECTION A2-A2**

**CYLINDER WALL THICKNESS SCHEDULE**

CYLINDER NO.	THICKNESS
1	1/8"
2	3/16"
3	1/4"
4	1/4"
5	1/4"
6	5/16"
7	3/8"
8	1/4"

NOTE : ALL CYLANDERS ARE 48" LONG AND 36" OUTSIDE DIAMETER



LIFTING RING (TYPICAL)  
(2 PER CYLINDER)

**DETAIL A**

Revised 5/14/08

REV. DATE	REVISION DESCRIPTION	SHEET NO.	Plotted Date: 7/17/2013	DESIGNER/DRAFTER: CHECKED BY: NTS	<p><b>STATE OF CONNECTICUT DEPARTMENT OF TRANSPORTATION</b></p> <p>Filename: ...Wclast1_2008.dgn</p>	SIGNATURE/ BLOCK: <b>OFFICE OF ENGINEERING</b> APPROVED BY: DATE:	PROJECT TITLE:	TOWN:	PROJECT NO.
DRAWING TITLE: <b>MISCELLANEOUS CONNECTICUT DETAIL NCIAS CYLINDER FABRICATION DETAILS</b>								DRAWING NO. <b>1804-B1</b>	SHEET NO.