

## STRUCTURAL SPECIFICATIONS:

1. FLOODGATE MATERIAL TO BE ALUMINUM AS FOLLOWS:  
 LID - 5" x 2 1/2" x 1/8" ALUM EXTRUSIONS - GRADE 6005-T5 MIN.  $F_y=35$  KSI  
 LID AND PAN - 2" x 2" x 1/4" ALUM TUBING - GRADE 6061 MIN.  $F_y=40$  KSI  
 PAN - 1/4" SMOOTH ALUM PLATE - GRADE 5052 MIN.  $F_y=30$  KSI  
 ALUM FLAT BARS, STRUCTURAL ANGLES, HINGES GRADE 6061-T6 MIN.  $F_y=40$  KSI  
 ALUM CHANNELS - 4" x 2" x 1/4" VERTICAL & 6" x 2" x 1/4" HORIZONTAL.
2. HINGE BOLTS, PINS, AND MACHINE SCREWS TO BE STAINLESS STEEL - GRADE 304, MIN.  $F_y=90$  KSI.
3. RETENTION ARM ANCHOR BOLTS SHALL BE STAINLESS STEEL STANDARD THREAD BOLTS SET IN VINYLESTER BASED ADHESIVE CONTAINED IN A GLASS CAPSULE, INSTALLED PER SIMPSON STRONG TIE SPECIFICATIONS.
4. ALUMINUM TO BE WELDED WITH ALUMINUM WIRE - PER 4043 AWS A5.10 3/64.
5. GROUT TO BE COMMERCIAL GRADE NON-SHRINKING GROUT.
6. ALL WELDS REQUIRED FOR STRUCTURAL STRENGTH OF THE LID OR PAN ARE CALLED OUT ON THESE DRAWINGS. ALL OTHER WELDING, NOT SHOWN OR CALLED OUT ON THESE DRAWINGS, ARE ESSENTIALLY NON-STRUCTURAL WELDS OR WELDS WITH NEGLIGIBLE LOADS AND RESULTING STRESSES. EXAMPLES OF SUCH WELDS ARE AT SEAMS, SIDES, PAN TROUGH, AND LID TRIM ANGLES. THESE WELDS ARE TO BE SIZED BY THE FABRICATOR, TAKING INTO CONSIDERATION ASSEMBLY, TRANSPORT LIFT AND CONTINUITY REQUIREMENTS. THEY MUST BE APPROVED BY FLOODBREAK.
7. ALL CONCRETE FOUNDATION POURS AND THEIR TIE-DOWNS TO EXISTING FOUNDATIONS SHOWN IN THESE DRAWINGS ARE FOR ILLUSTRATIVE PURPOSES ONLY. DESIGN OF THE CONCRETE FOUNDATION SLABS IS BY OTHERS. DESIGN AND SUPERVISION OF INSTALLATION OF RETENTION ARMS, ANCHOR BOLTS, AND GATE ANCHORS ARE BY FLOODBREAK. ALL CONCRETE TO BE 4000 PSI MINIMUM 28 DAY STRENGTH. REINFORCED IN EACH DIRECTION WITH ASTM - A615 MIN.  $F_y=60$  KSI. SPECIAL ATTENTION SHALL BE PAID TO PROPER SUPPORT OF RETENTION ARM ANCHOR BOLTS INTO THE SUPPORTING CONCRETE.
8. ALL GASKET MATERIAL TO BE EDPM RUBBER.

## TYPICAL VEHICULAR GATE

NOTE: LAYOUT, SIZES AND DETAIL ARE GATE-SPECIFIC. THIS VIEW SHOWN IS SECTIONED IN HALF.

# GENERAL ISOMETRIC LAYOUT



EXAMPLE VEHICULAR GATE  
28'-0" x 3'-8"

VG #SAMPLE

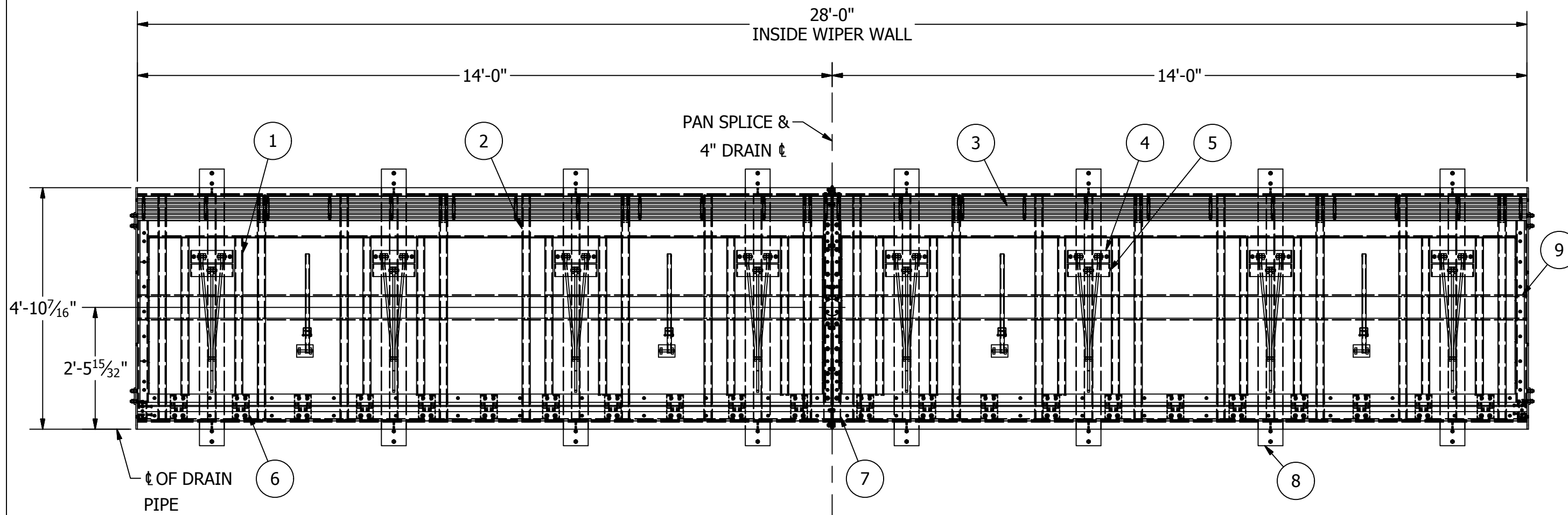
SCALE VARIES

DRAWN A. JOLLY


CHECKED

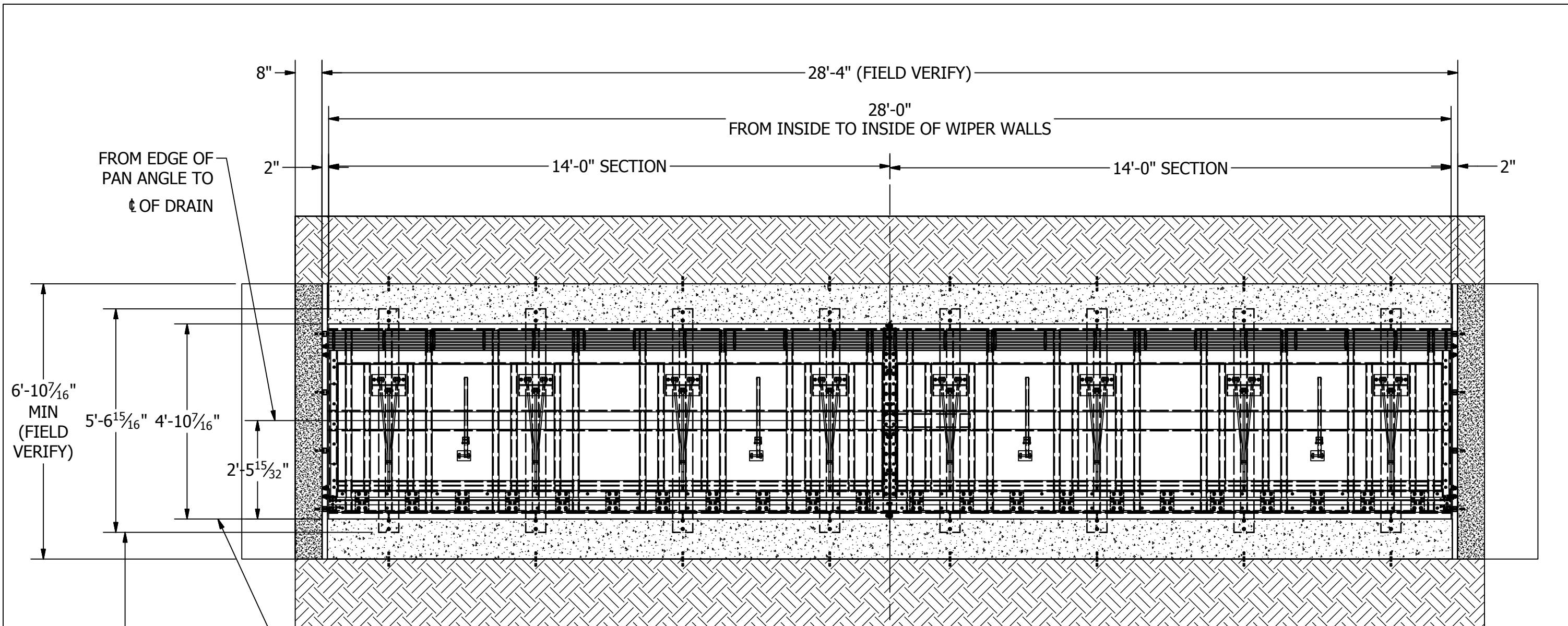
DATE 11/5/2013

SHEET 1 OF 8



TYP LID AND PAN LAYOUT

LEGEND		
ITEM	DESCRIPTION	
1	TYPICAL 2"x2"x1/4 LID STIFFENER TUBE	<b>EXAMPLE VEHICULAR GATE</b> 28'-0" x 3'-8"
2	TYPICAL 2"x2"x1/4 PAN STIFFENER TUBE	
3	TYPICAL GRATING	
4	TYPICAL PAN ANCHOR PLATE	VG #SAMPLE
5	TYPICAL LID ANCHOR PLATE AND RETENTION ARMS	SCALE VARIES
6	TYPICAL HINGE DETAIL	DRAWN A. JOLLY
7	TYPICAL PAN SPLICE JOINT DETAIL	CHECKED
8	TYPICAL 4" VERTICAL AND 6" HORIZONTAL INSTALL BRACKETS	DATE 11/5/2013
9	6"x2" CONTINUOUS DRAIN TROUGH	SHEET 2 OF 8



LID AND PAN INSTALLATION VIEW  
(WITH CONCRETE SET-DOWN)

GENERAL FORMULA FOR SET-DOWN:  
 GATE HEIGHT + 38.5" ± 1" = WIDTH  
 GATE LENGTH + 4" = LENGTH  
 12" TOPPING SLAB = DEPTH

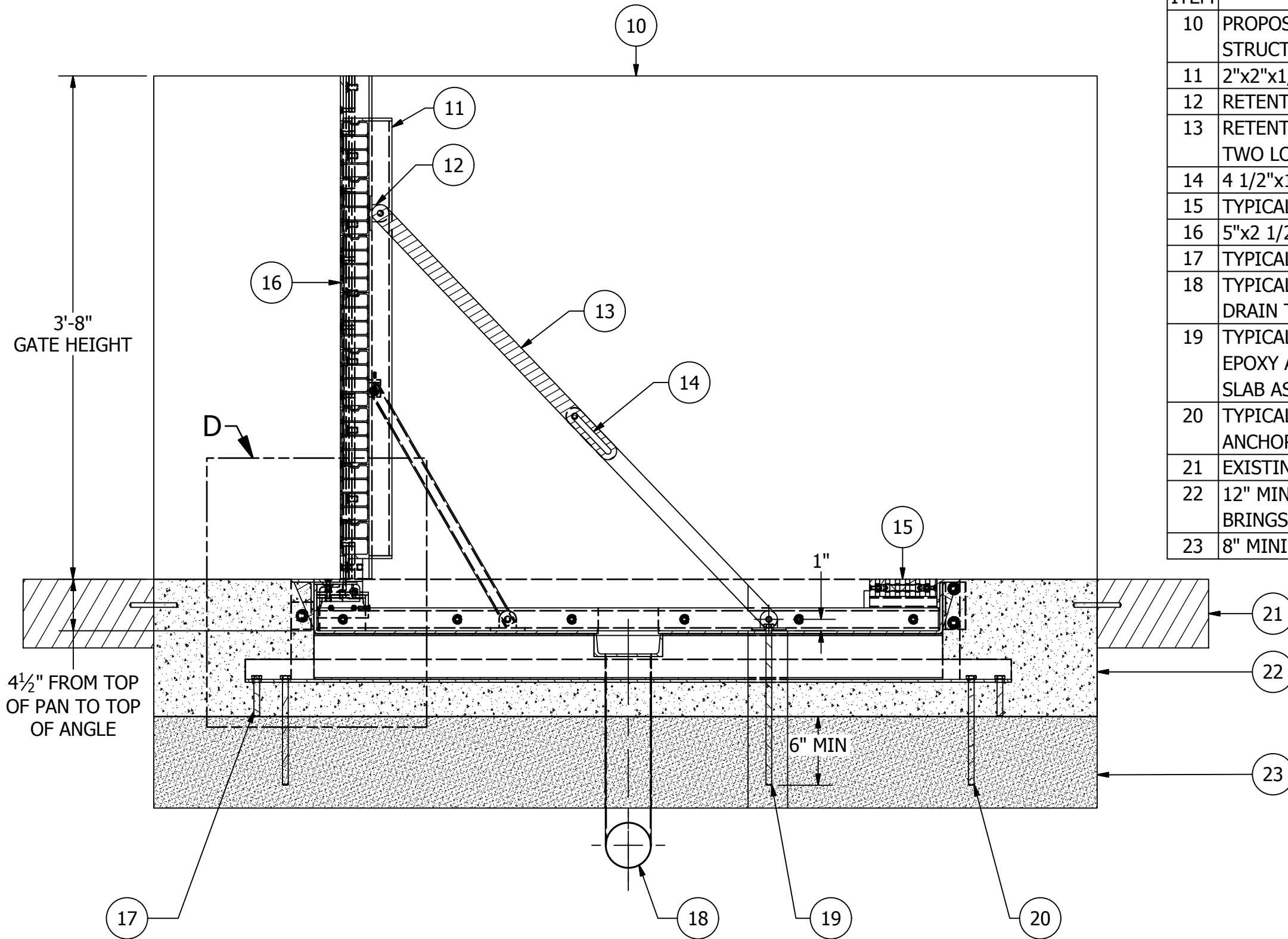


EXAMPLE VEHICULAR GATE  
28'-0" x 3'-8"


VG #SAMPLE	
SCALE	VARIES
DRAWN	A. JOLLY
CHECKED	
DATE	11/5/2013
SHEET 3 OF 8	



# TYPICAL CROSS-SECTION OF GATE ASSEMBLY



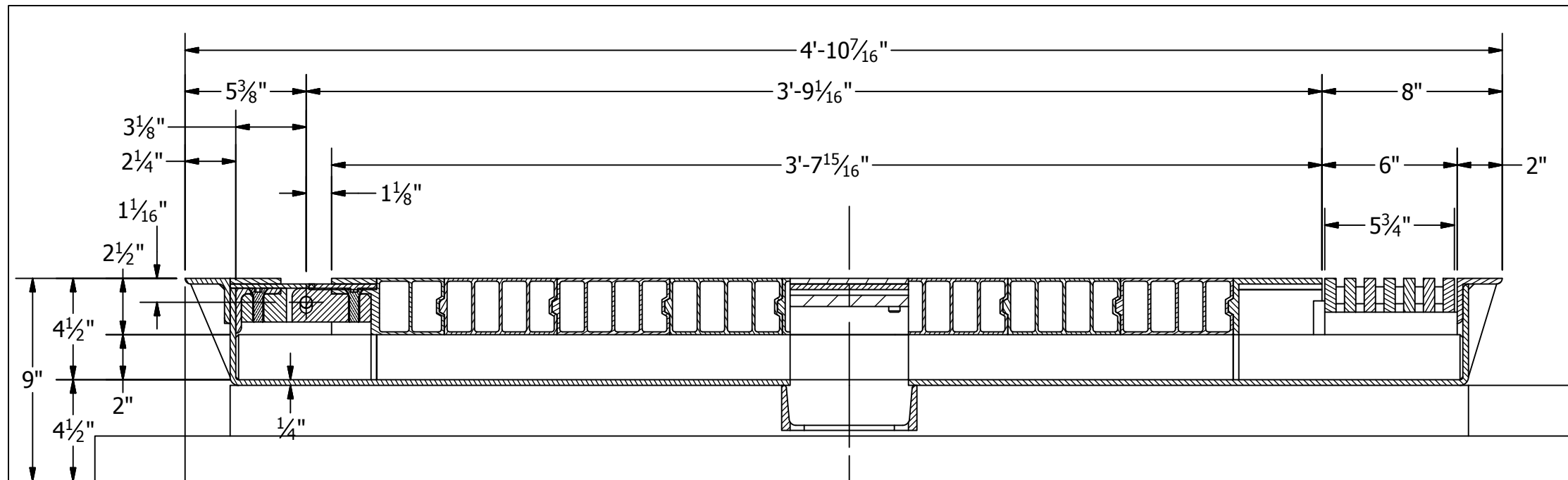
LEGEND	
ITEM	DESCRIPTION
10	PROPOSED OR EXISTING WIPER WALL SUPPORT STRUCTURE (BY OTHERS)
11	2"x2"x1/4" LID STIFFENER TUBE
12	RETENTION ARM ANCHOR PLATE
13	RETENTION ARMS: 1 1/2"x1/2" FLAT STOCK, ONE UPPER, TWO LOWER.
14	4 1/2"x1/2" SLOT W/ 1/2" STAINLESS STEEL PIN
15	TYPICAL GRATING
16	5"x2 1/2"x1/8" EXTRUDED RIBBED PANELS
17	TYPICAL 1/2" LEVELING BOLTS
18	TYPICAL 4" DRAIN INSTALLED IN 6"x2" CONTINUOUS DRAIN TROUGH
19	TYPICAL 1/2" STAINLESS STEEL ANCHOR BOLTS SET IN EPOXY AND ANCHORED INTO CONCRETE STRUCTURAL SLAB AS SHOWN
20	TYPICAL 1/2" STAINLESS STEEL INSTALLATION BOLTS ANCHORED INTO CONCRETE STRUCTURAL SLAB
21	EXISTING SURFACE
22	12" MINIMUM TOPPING SLAB ENVELOPES PAN AND BRINGS IT UP TO GRADE (FIELD VERIFY SET-DOWN)
23	8" MINIMUM CONCRETE STRUCTURAL SLAB (BY OTHERS)



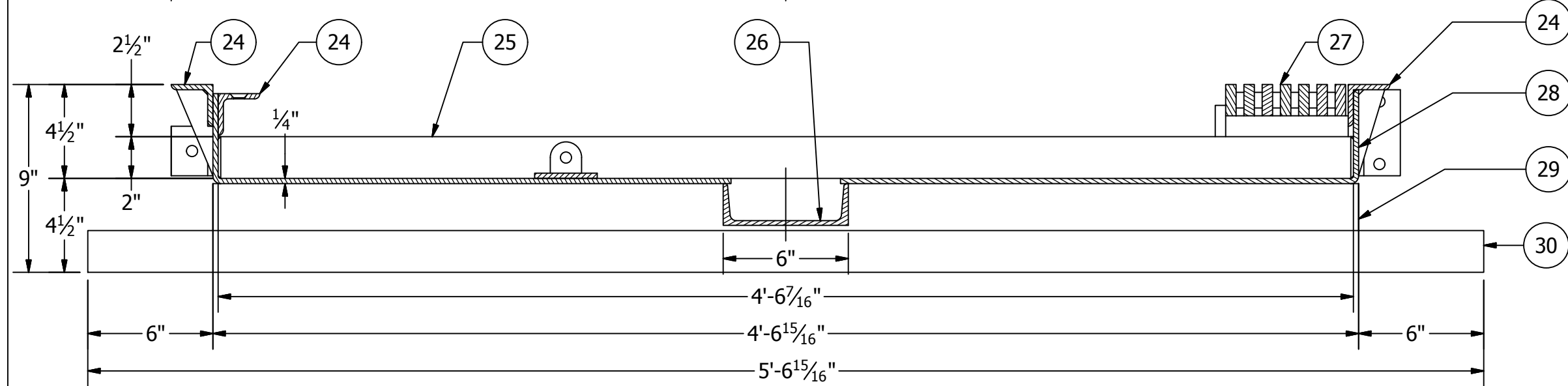
**EXAMPLE VEHICULAR GATE**  
28'-0" x 3'-8"

VG #SAMPLE

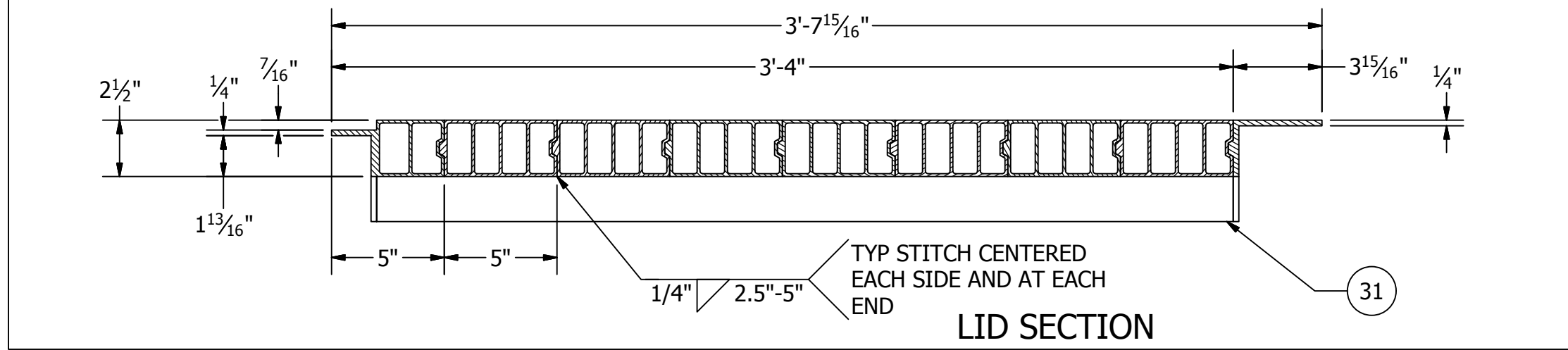
SCALE	VARIES
DRAWN	A. JOLLY
CHECKED	
DATE	11/5/2013
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LID AND PAN SECTION



PAN SECTION



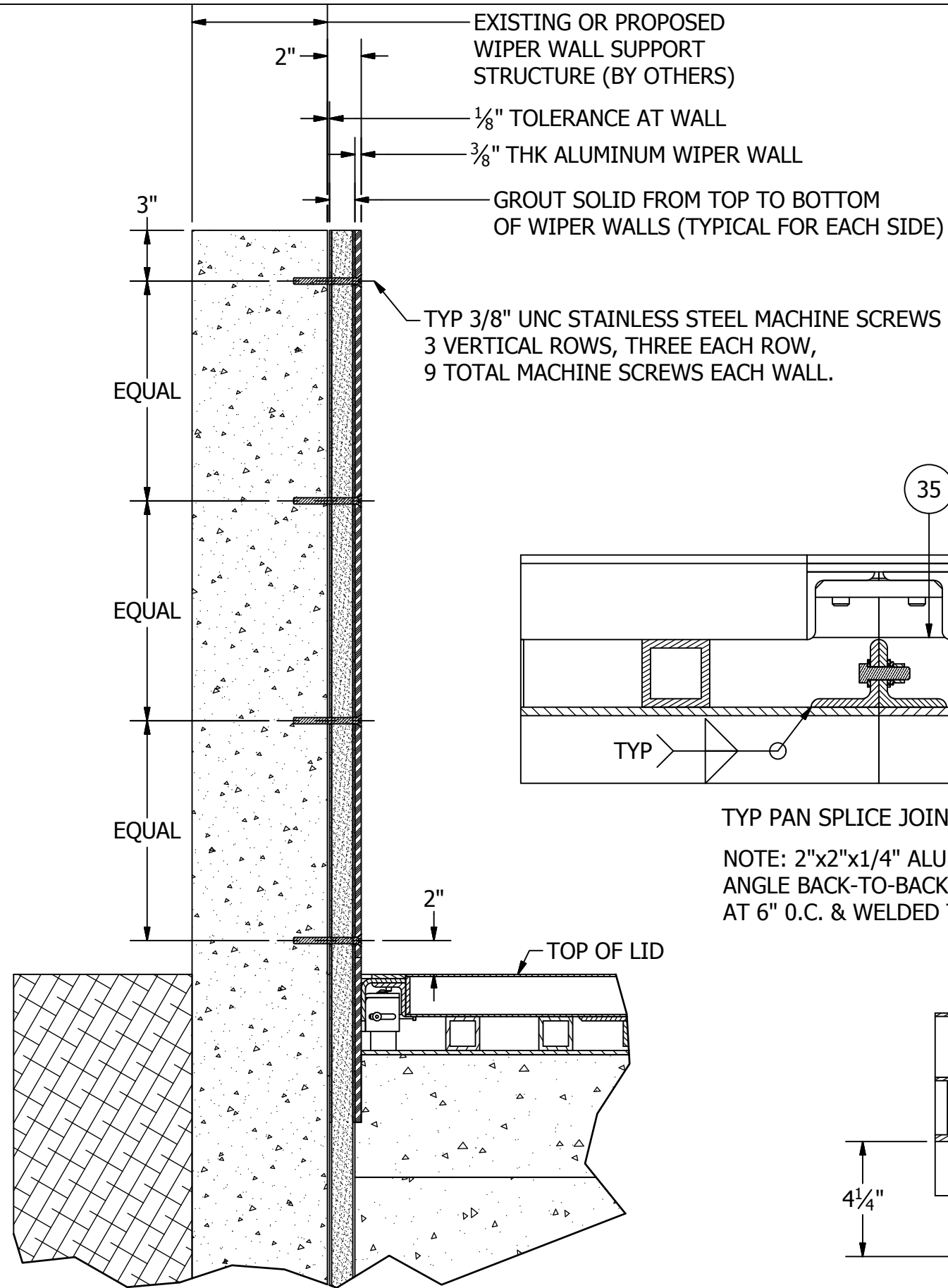
LID SECTION

LEGEND	
ITEM	DESCRIPTION
24	TYPICAL 2"x2"x1/4" ANGLE
25	TYPICAL 2"x2"x1/4 PAN STIFFENER TUBE
26	6"x2" CONTINUOUS DRAIN TROUGH
27	TYPICAL GRATING
28	PAN
29	4"x2"x1/4" VERTICAL CHANNEL INSTALL BRACKET
30	6"x2"x1/4" HORIZONTAL CHANNEL INSTALL BRACKET
31	TYPICAL 2"x2"x1/4 LID STIFFENER TUBE

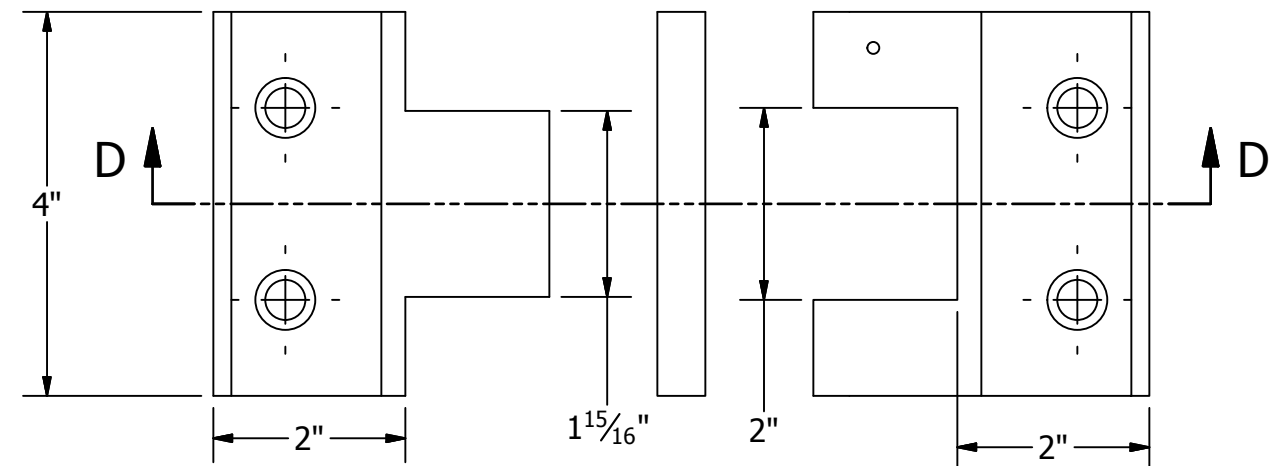


EXAMPLE VEHICULAR GATE  
28'-0" x 3'-8"

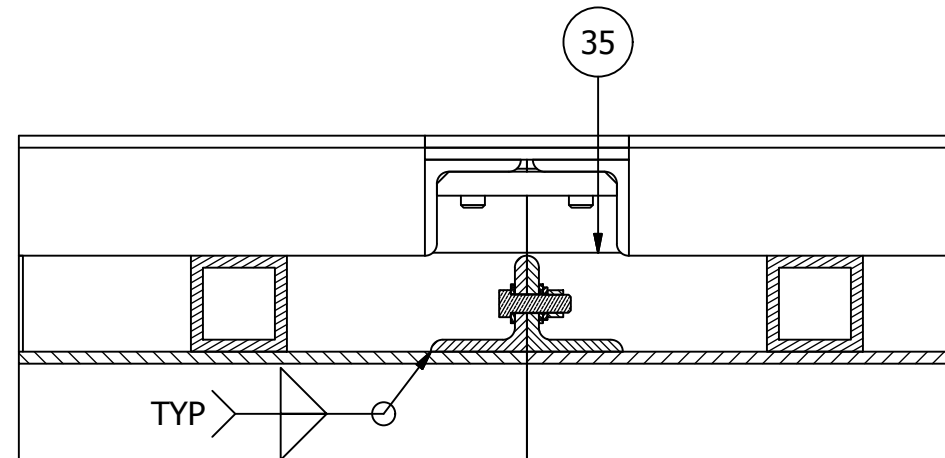
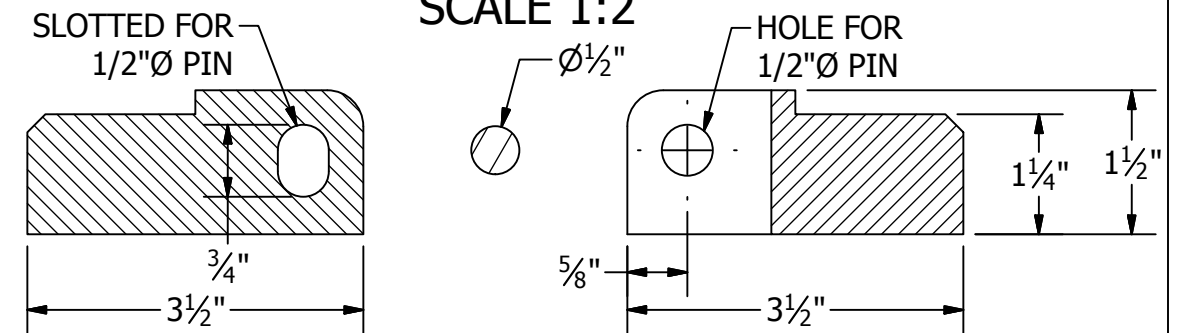
VG #SAMPLE	
SCALE	VARIABLES
DRAWN	A. JOLLY
CHECKED	
DATE	11/5/2013
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TYP WIPER WALL SECTION FRONT ELEVATION

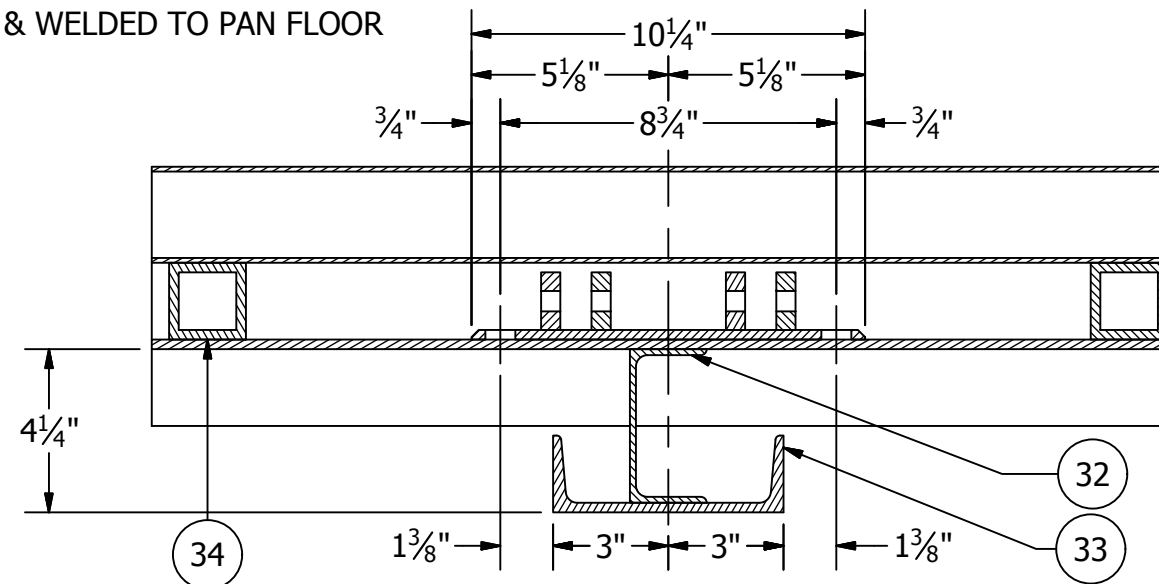


HINGE SECTION D-D  
SCALE 1:2



TYP PAN SPLICE JOINT DETAIL  
NOTE: 2"x2"x1/4" ALUMINUM  
ANGLE BACK-TO-BACK BOLTED  
AT 6" O.C. & WELDED TO PAN FLOOR

LEGEND	
ITEM	DESCRIPTION
32	4"x2"x1/4" VERTICAL INSTALL CHANNEL
33	6"x2"x1/4" HORIZONTAL INSTALL CHANNEL
34	TYPICAL 2"x2"x1/4" PAN STIFFENER TUBE
35	TYPICAL 2"x2"x1/4" ANGLE



TYP PAN COMPONENT ASSY



EXAMPLE VEHICULAR GATE  
28'-0" x 3'-8"

VG #SAMPLE

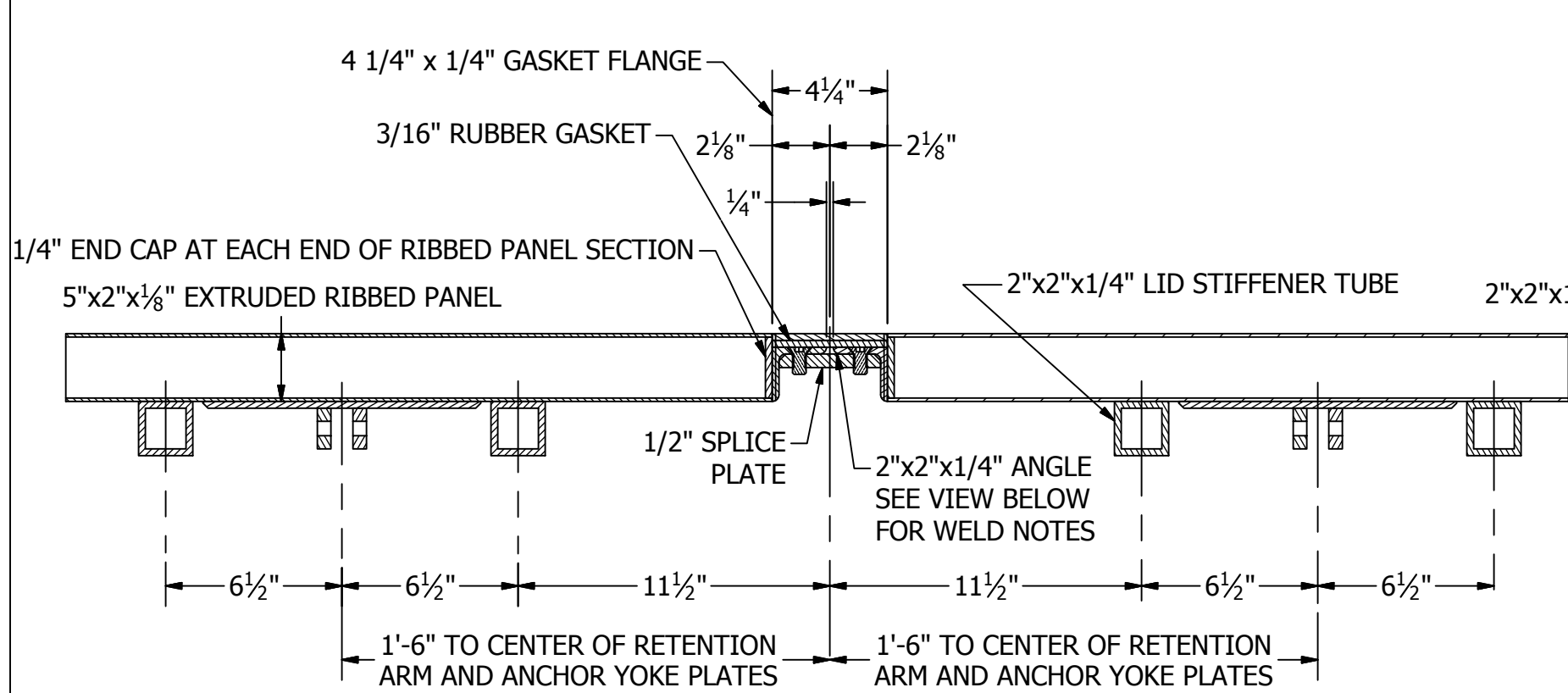
SCALE VARIES

DRAWN A. JOLLY

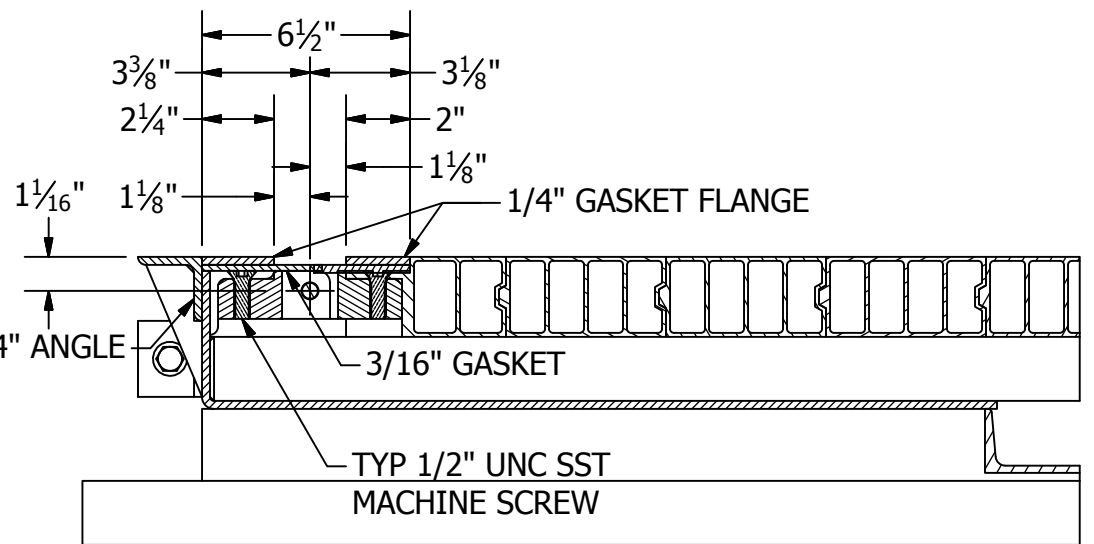
CHECKED

DATE 11/5/2013

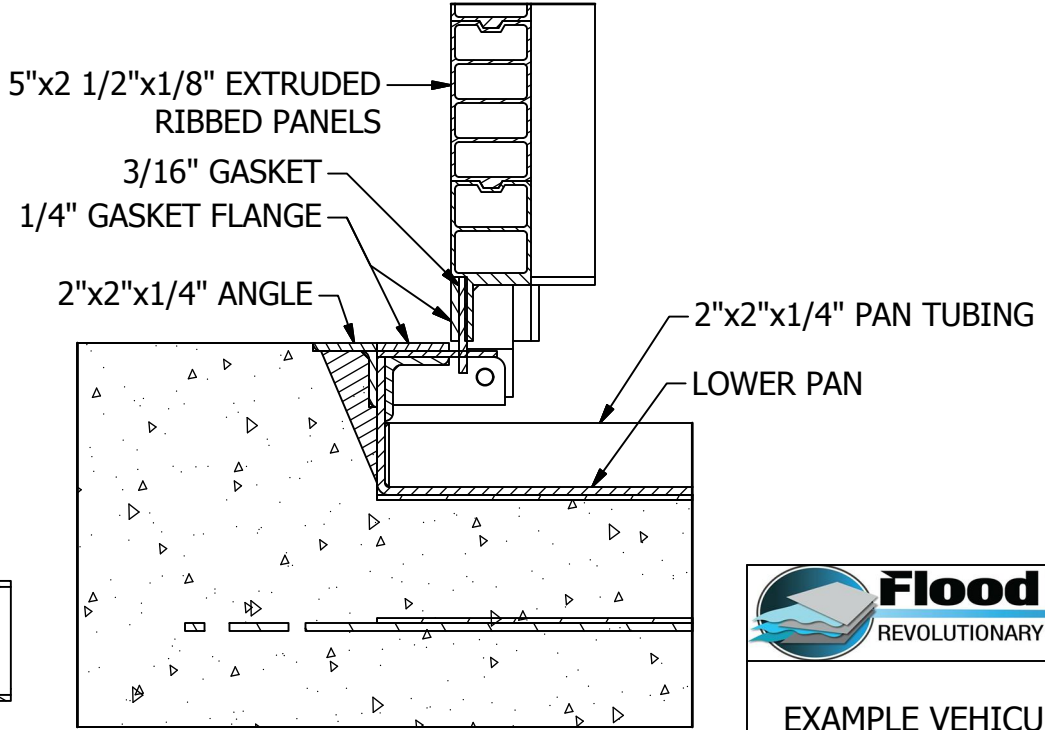
SHEET 6 OF 8



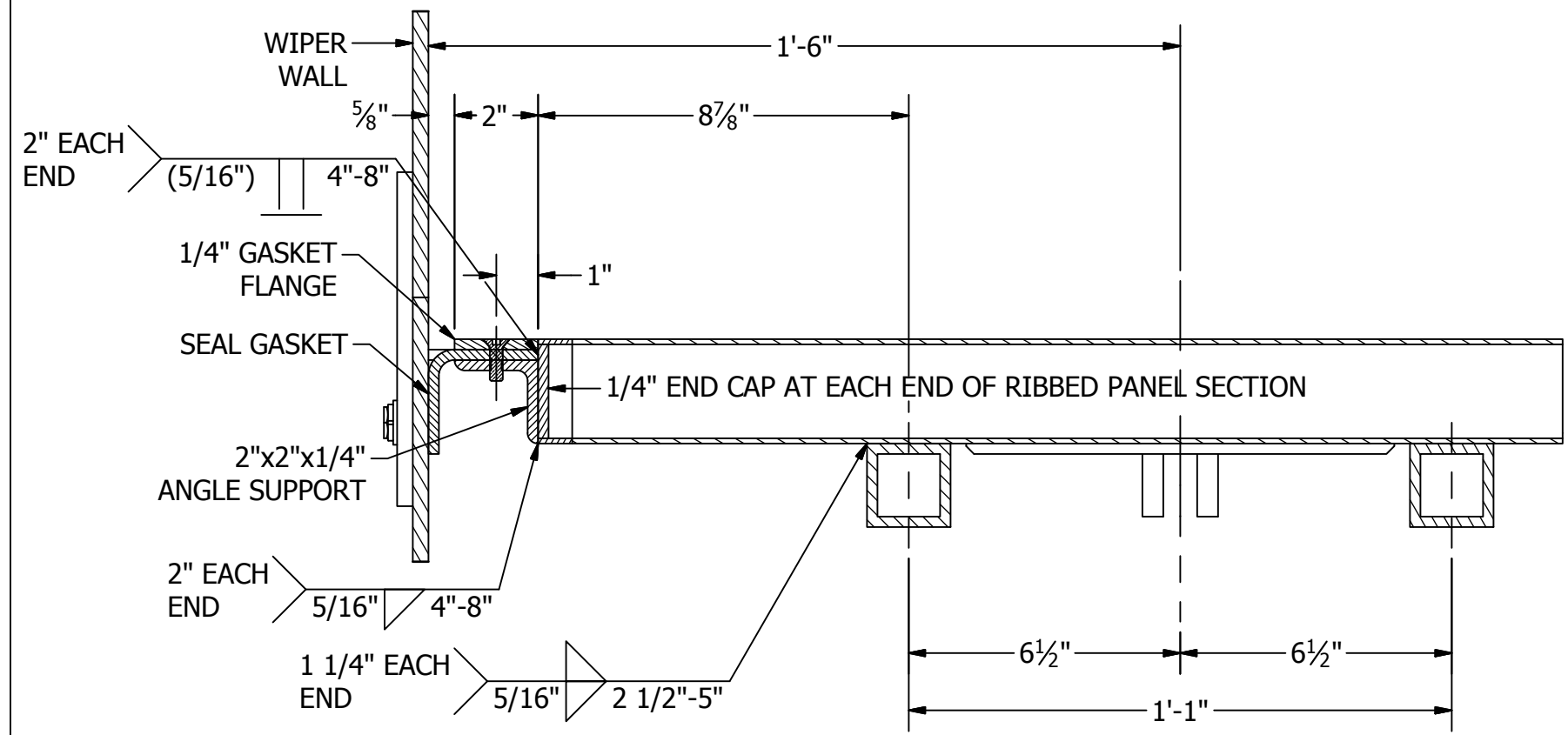
TYPICAL LID AT SPLICE



HINGE DETAIL CLOSED



DETAIL D  
HINGE DETAIL OPEN



TYPICAL LID AT WIPER WALL



EXAMPLE VEHICULAR GATE  
28'-0" x 3'-8"

VG #SAMPLE	
SCALE	VARIES
DRAWN	A. JOLLY
CHECKED	
DATE	11/5/2013
SHEET 7 OF 8	

