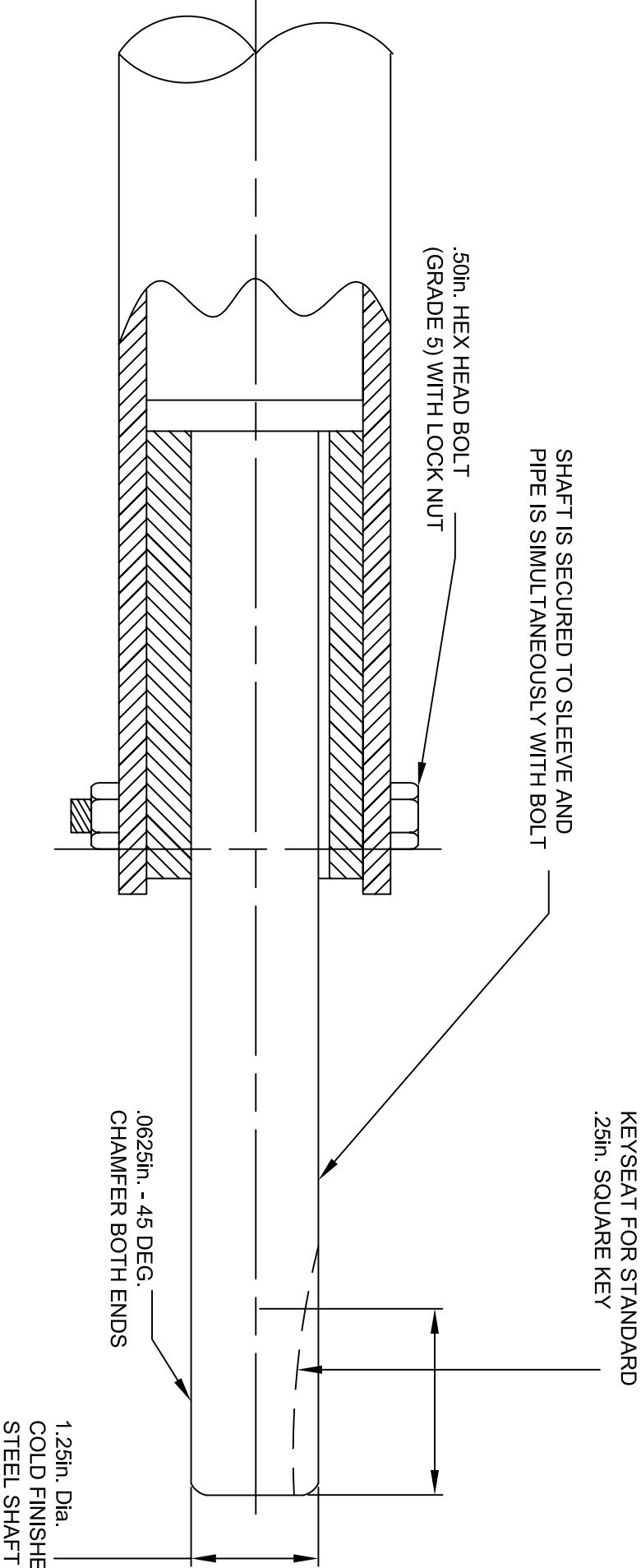
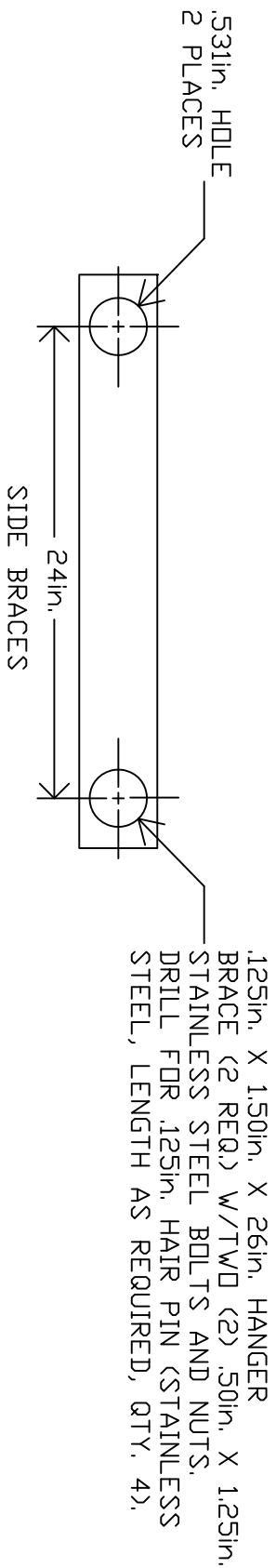
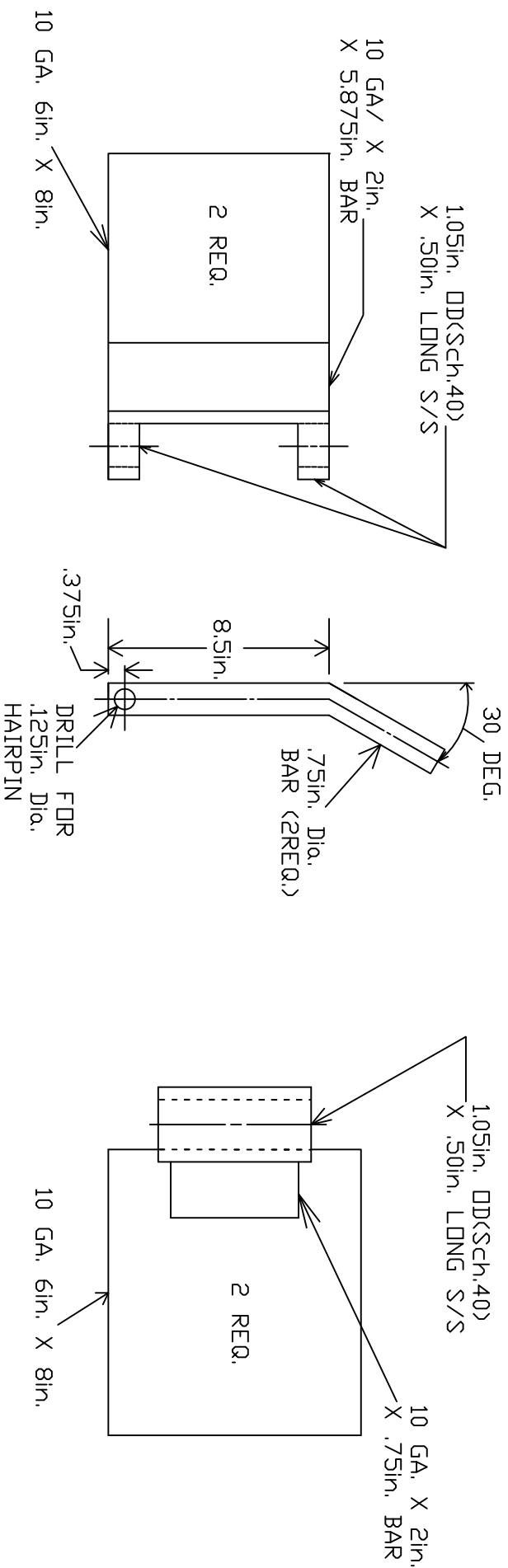


VIEW SHOWING DRIVE SLEEVE INSERTED FOR CHAIN AND SPROCKET DRIVE OF
DEPARTMENT SPREADERS STEEL AND STAINLESS STEEL PRIOR TO 1994.



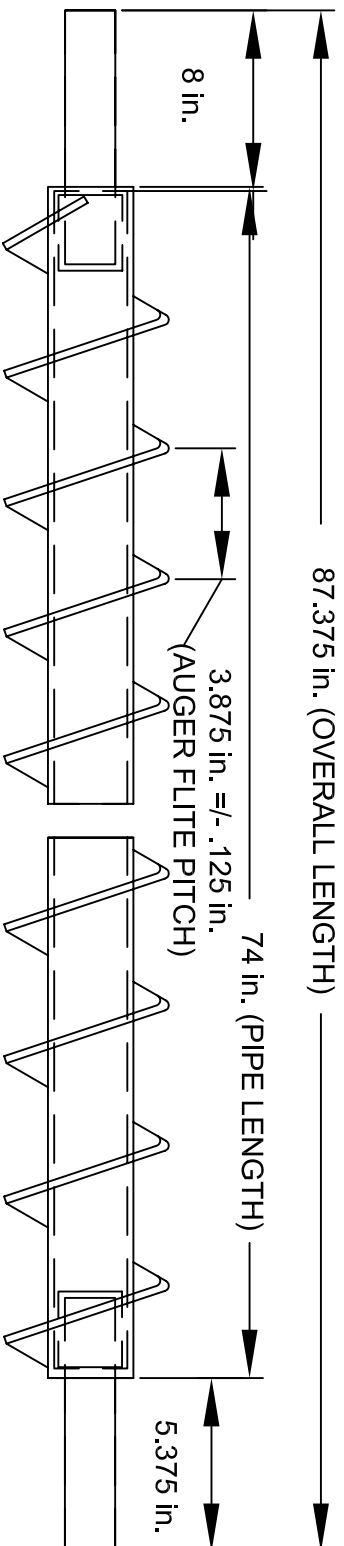
NOTE: ALL DIMENSIONS IN INCHES

PA DEPARTMENT OF TRANSPORTATION					
REVISIONS			Auger Drive Sleeve		
NO.	DATE	BY	Instructions		
1	05-22-02	DWG			
2	10-02-06	CJW	DRAWN BY DLW	SCALE N/A	EQN-3
3			DATE 01-02-98	CH'D BY WHM	SHEET 2 OF 2



- NOTES:
1. ALL DIMENSIONS IN INCHES
 2. MATERIAL OF CONSTRUCTION: STAINLESS STEEL THROUGHOUT, AISI TYPE 304.

PA DEPARTMENT OF TRANSPORTATION					
REVISIONS			QUICK DETACH SPREADER KIT		
NO.	DATE	BY	DRAWN BY	SCALE	EQN-3A
1	01/05/98	DLW	DLW	N/A	
2	05/23/02	DWG	DATE 01/05/98	CHK'D BY WHM	SHEET 1 OF 1



HELICOID FLIGHT (RIGHT HAND)
SINGLE CONTINUOUS SCREW TYPE
(BAR SIZE, BEFORE ROLLING, TO BE
SUCH THAT FLITING O.D. IS AS SHOWN
IN END VIEW AT RIGHT, AND OUTER
EDGE THICKNESS IS AS SHOWN IN
FLITING THICKNESS SPECIFICATION)

VIEW SHOWING COMPLETE
AUGER WELDMENT

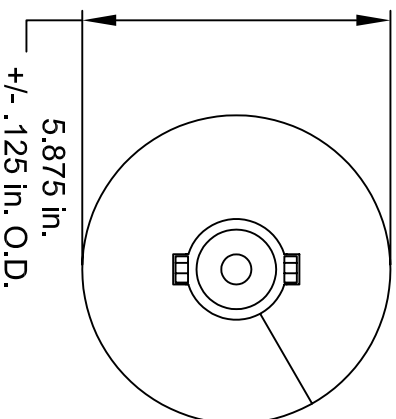
2 in. (2.375 O.D.)
SCHEDULE 80 (.20 in. WALL)
CARBON STEEL PIPE
(PIPE SIZE E.R.W. TUBING ACCEPTABLE)

SPECIFICATION NOTES

1. PIPE PORTIONED WITH (WITH WELDED FITTING) TO BE STRAIGHT TO GIVE MAXIMUM OF .20 IN. TOTAL RUNOUT
2. BOTH STUB SHAFT CENTERLINES TO LIE ON PIPE CENTERLINE TO GIVE MAXIMUM OF .20 IN. TOTAL RUNOUT
3. ALL SURFACES OF SLEEVE, SHAFT, AND OTHER PIPE WHICH MAKE CONTACT WITH EACH OTHER TO BE COATED WITH ANTI-SEIZE COMPOUND
4. SHAFT IS REMOVED, AND NOT USED, WHEN AUGER IS USED IN A DIRECT DRIVE APPLICATION

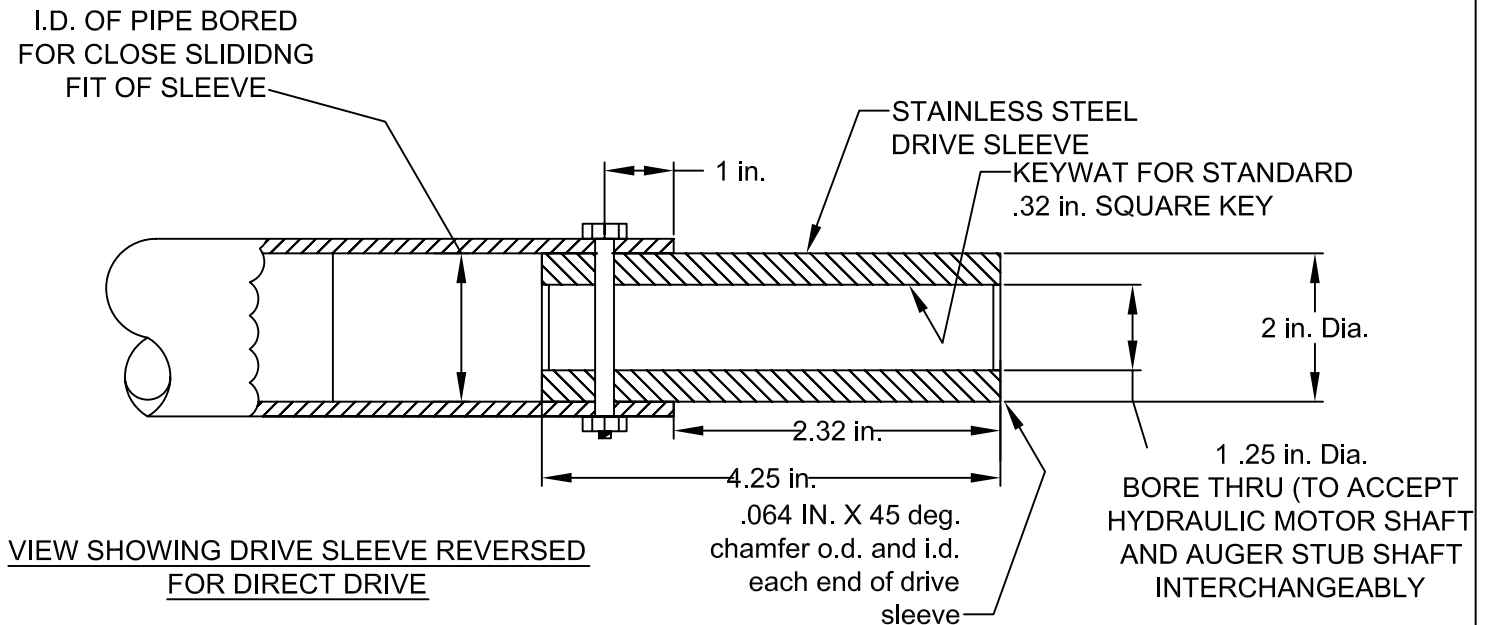
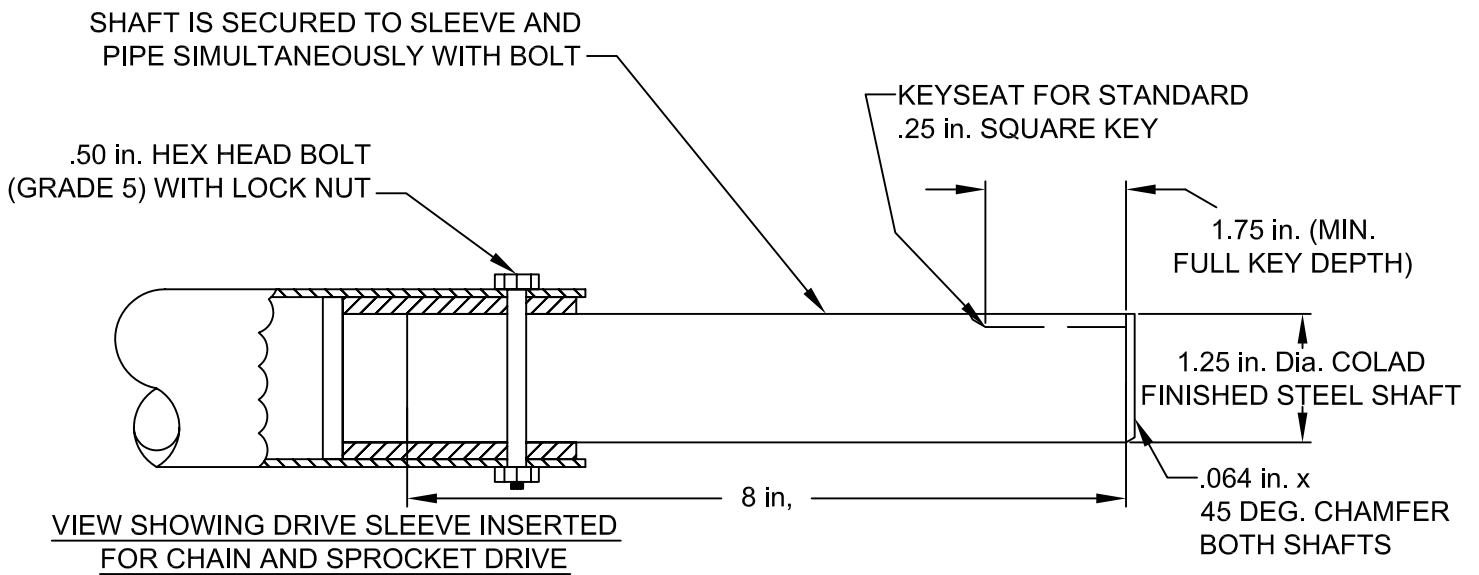
DO NOT SCALE DRAWING TOLERANCES (UNLESS OTHERWISE NOTED)	
FLAME CUTTING, NIBBLING & WELDING	+/- .060
SHEARING & FORMING	+/- .030
PUNCHING	+/- .020
HOLE DIAMETERS	+ .015/- .005
ANGLES	+/- 2 DEG
DECIMAL MACHINING	0.0- +/- .040
	0.00- +/- .020
	0.000- +/- .005

IMPLIED TOLERANCES DO NOT APPLY
TO REFERENCE DIMENSIONS



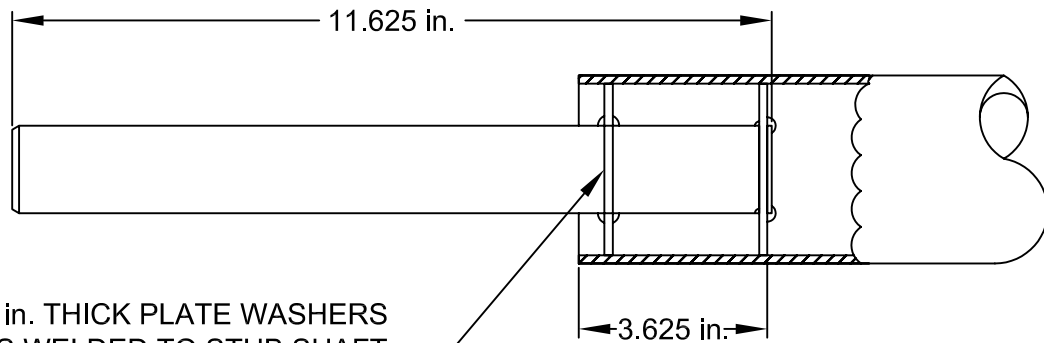
PA DEPARTMENT OF TRANSPORTATION

REVISIONS			PennDOT SPREADER AUGER DETAIL (S/S & RUBBER THOUGH)		
NO.	DATE	BY			
1	01-09-98	DLW	<div> <div>DRAWN BY</div> <div>DLW</div> </div> <div> <div>SCALE</div> <div>N/A</div> </div> <div> <div>EQU-N-6</div> </div>		
2	05-28-02	DWG			
3	9-14-07	BAG			



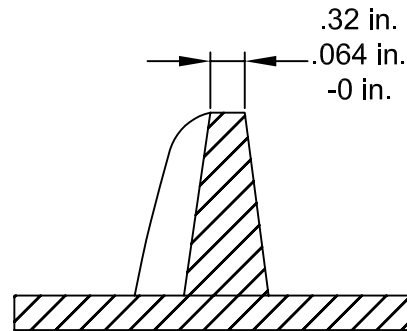
PA DEPARTMENT OF TRANSPORTATION

REVISIONS			PennDOT SPREADER AUGER DETAIL (S/S & RUBBER THROUGH)		
NO.	DATE	BY			
1	01-09-98	DLW			
2	05-28-02	DWG	DRAWN BY DLW	SCALE N/A	EQN-6
3	9-20-07	BAG	DATE 01-09-98	CHK'D BY WHM	SHEET 2 OF 3



.125 in. THICK PLATE WASHERS
CONTINUOUS WELDED TO STUB SHAFT
AND AUGER PIPE

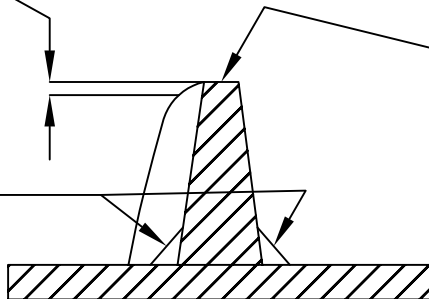
WASHERS TO FIT I.D. OF PIPE WITH
CLOSE SLIDING FIT SO NO FLEXING
OF SHAFT EXISTS AFTER FINAL WELDING



FLITING THICKNESS SPECIFICATION (BEFORE HARDSURFACING)

.125 in. (MINIMUM)
HARDSURFACE

CONTINUOUS WELD
BOTH SIDES OF
FLITING



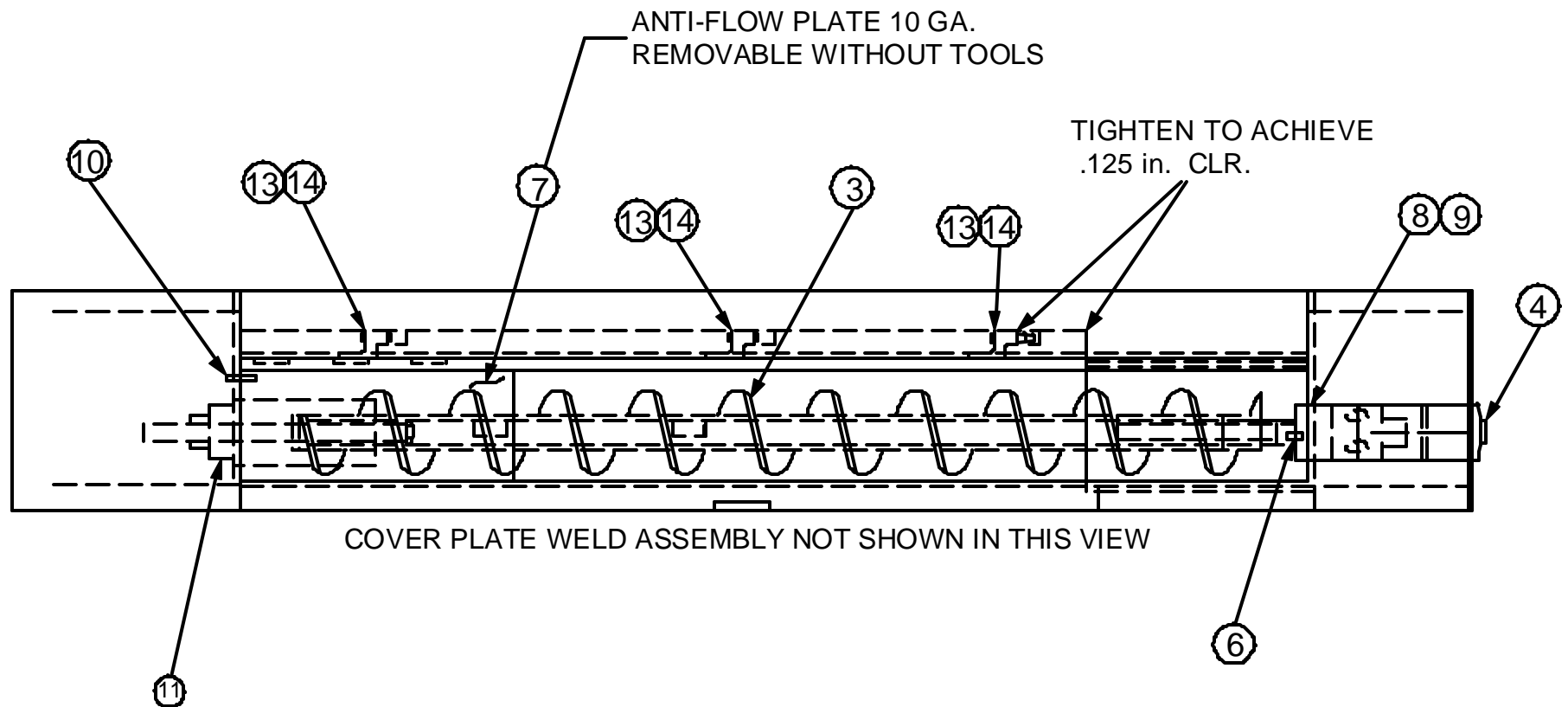
OUTER FLITE PERIPHERY CONTINUOUSLY
HARDSURFACED WITH ABRASIVE RESISTANCE
WELDING ROD (OR WIRE) EQUIVALENT TO
STOODY 121 (ROCKWELL HARDNESS C-44),
AND TO BE FULL WIDTH OF FLITING
THICKNESS AT OUTEREDGE

WELDIONG AND HARDURFACE SPECIFICATION

PA DEPARTMENT OF TRANSPORTATION

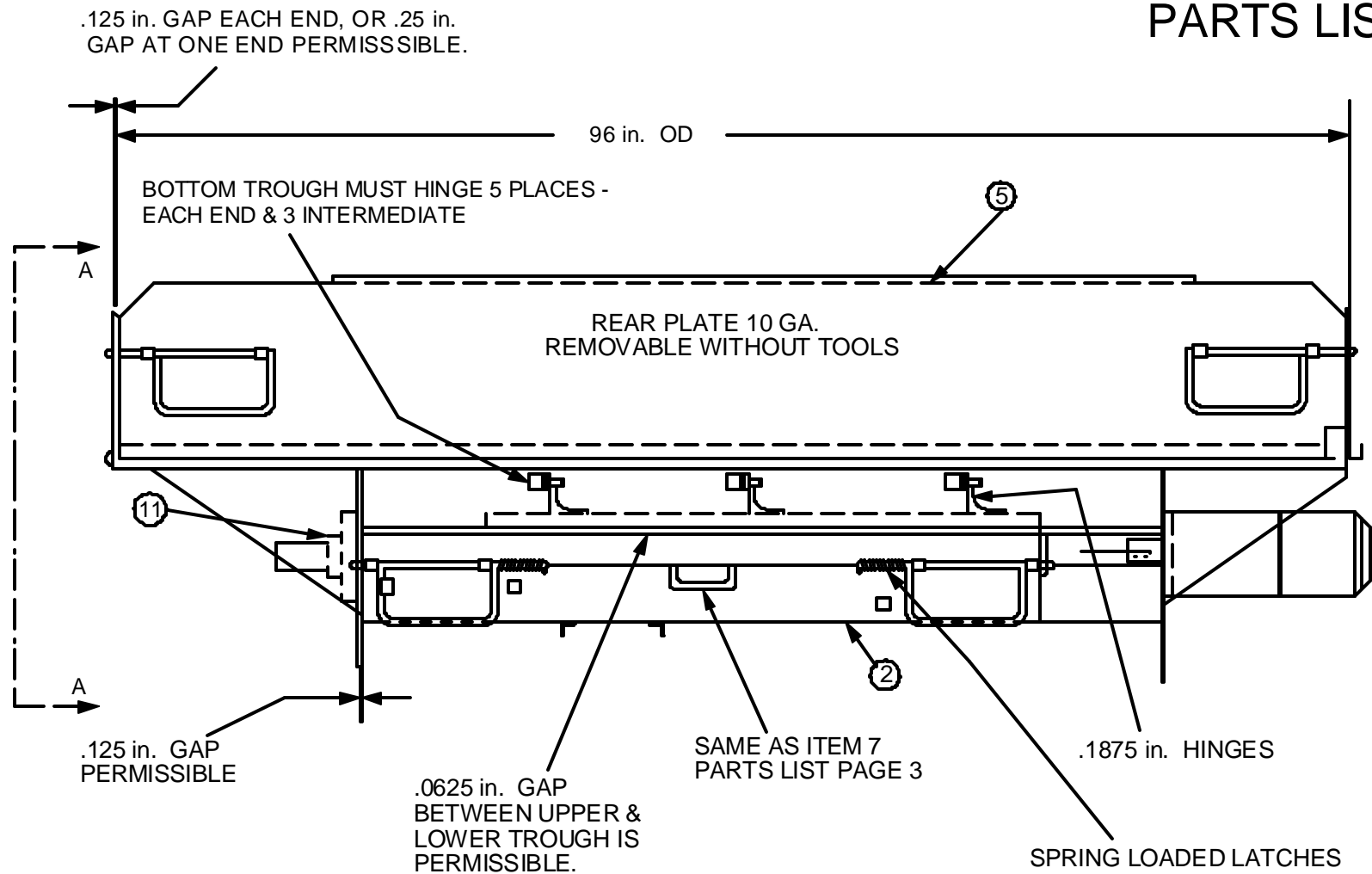
REVISIONS			PennDOT SPREADER AUGER DETAIL (S/S & RUBBER THROUGH)		
NO.	DATE	BY			
1	1-09-98	DLW	DRAWN BY DLW	SCALE N/A	EQN-6
2	05-28-02	DWG			
3	09-20-07	BAG	DATE 01-09-98	CHK'D BY WHM	SHEET 3 OF 3

PARTS LIST A



REVISIONS			COMMONWEALTH OF PENNSYLVANIA DEPARTMENT OF TRANSPORTATION		
NO.	DATE	BY	STAINLESS STEEL SPREADER WITH QUICK DISCONNECT SPINNER		
1	01/10/96	SWW			
2	02/03/98	DLW			
3	06/03/02	DWG	DRAWN BY DLW	SCALE N / A	MATERIAL
4			CHKD WHM	DATE 02/03/98	DRW NO. EQN-9
5					SHEET 1 OF 5

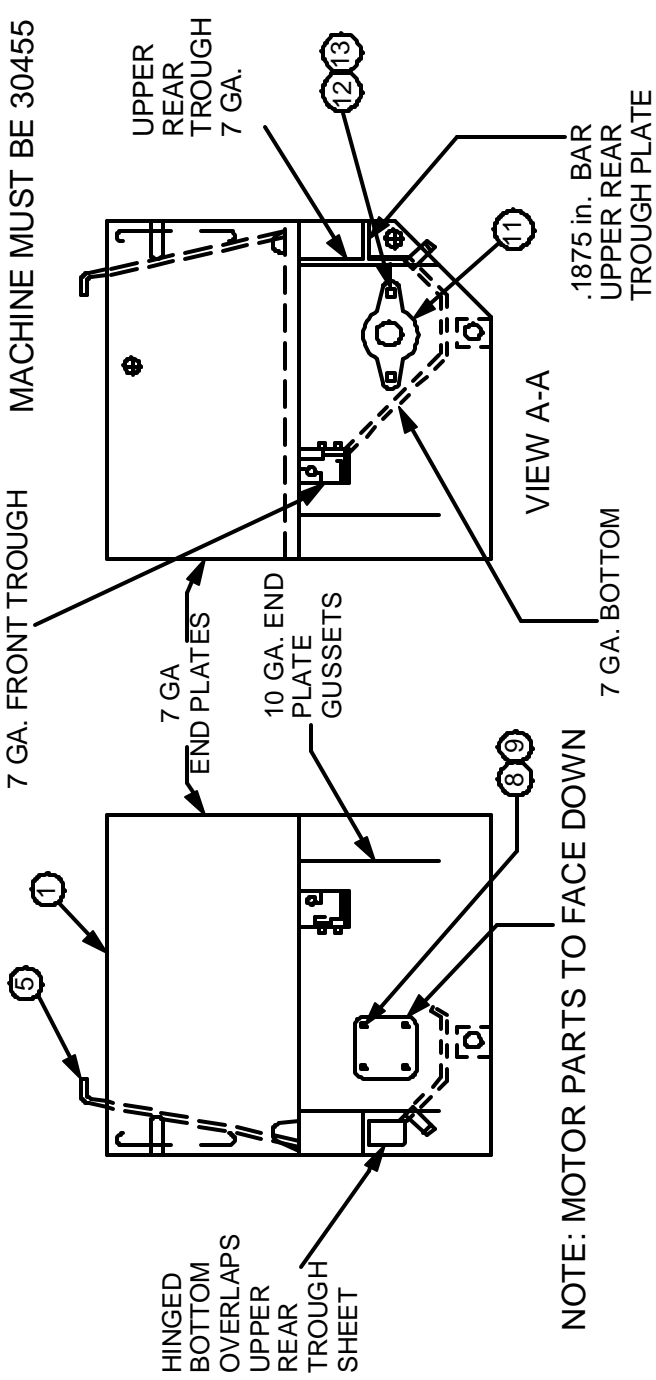
PARTS LIST A



NOTE:
OVERALL HEIGHT AND DEPTH 18 in.
INSIDE TROUGH WIDTH OPENING 81 in.
+ or - .50 in.

REVISIONS			COMMONWEALTH OF PENNSYLVANIA DEPARTMENT OF TRANSPORTATION		
NO.	DATE	BY	STAINLESS STEEL SPREADER WITH QUICK DISCONNECT SPINNER		
1	01/10/96	SWW			
2	02/03/98	DLW			
3	06/03/02	DWG	DRAWN BY DLW	SCALE N / A	MATERIAL
4			CHKD WHM	DATE 02/03/98	DRW NO.
5					EQN-9 SHEET 2 OF 5

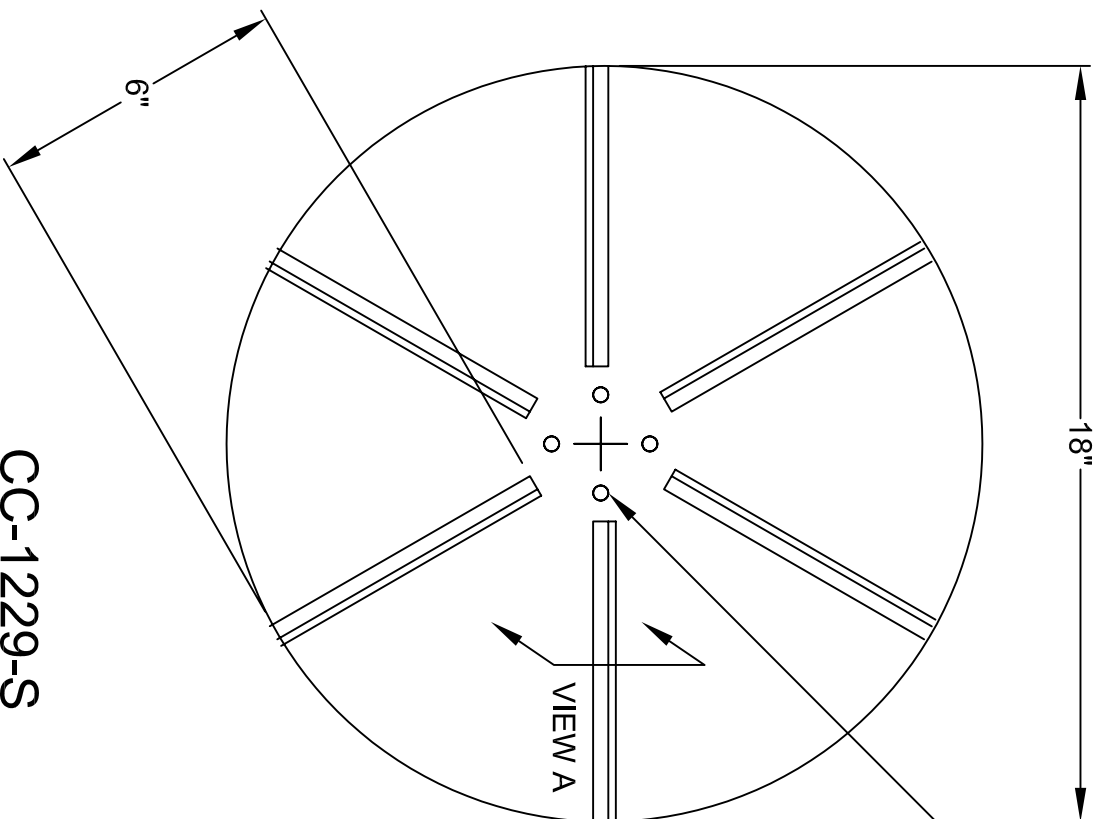
PARTS LIST A



PARTS LISTING FOR PAGES 1, 2, & 3.

PARTS LIST A	
ITEM	QTY. NAME
2	1 LOWER TROUGH ASSEMBLY
3	1 AUGER ASSEMBLY
4	1 AUGER MOTOR
5	1 COVER PLATE ASSEMBLY
6	1 SOC HD CUP PT SET SCR .3125 in. - 18 NC x .25 in.
7	1 GATE OPENING BAFFLE WELD ASSEMBLY
8	4 HEX HEAD CAP SCREW .375 in. - 16 NC x .75 in.
9	4 LOCK WASHER .375 in.
10	1 HAIRPIN COTTER (.20 in. x 1.875 in.)
11	1 FLANGED BALL BEARING UNIT 2 BOLT MOUNTING 1.25 in.
12	3 HEX HEAD CAP SCREW (.375 in. - 16 NC x 1.50 in.)
13	6 HEX HEAD LOCK NUT (.375 in. - 16 NC - GRIPCO)
14	3 HEX HEAD CAP SCREW (.375 in. - 16 NC x 1 in.)

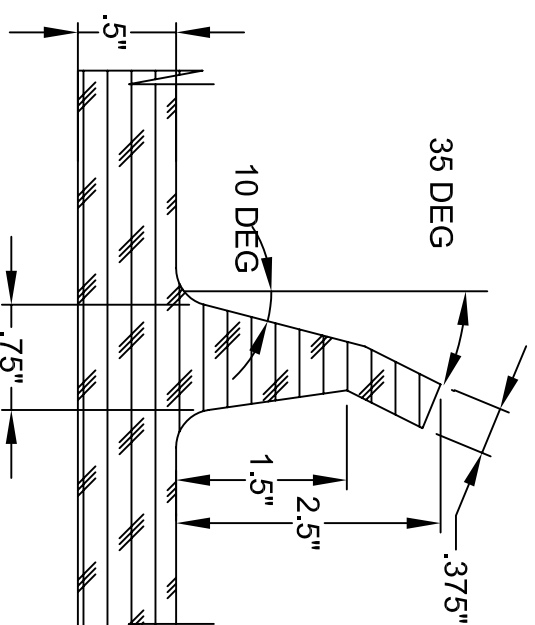
REVISIONS			COMMONWEALTH OF PENNSYLVANIA DEPARTMENT OF TRANSPORTATION		
NO.	DATE	BY	DRAWN BY	SCALE	MATERIAL
1	01/10/96	SWW			
2	02/03/98	DLW			
3	06/03/02	DWG	DLW	N/A	
4			WHM	DATE	02/03/98
5					
					EQN-9
					SHEET 3 OF 5



CC-1229-S

.375 Dia. HOLE REINFORCED
WITH STEEL WASHERS (4)
PLACES ON 4" B.C.

- NOTES:
1. MATERIAL 80 DURO. URETHANE
 2. WEIGHT 8.1 lbs. PER PIECE
 3. ROTATION: COUNTER CLOCKWISE
 4. ALL DIMENSIONS IN INCHES.



PA DEPARTMENT OF TRANSPORTATION

REVISIONS			SPINNER / SPREADER TAILGATE URETHANE		
NO.	DATE	BY			
1	06-03-02	DWG			
2	05-23-07	CJW			
3					

C.U.E. Inc
11 Leonberg Township
16066 U.S.A.

DATE	DRAWN BY	SCALE	CHECK BY
02-03-98	DLW	N/A	WHM

EQN-9B
SHEET 1 OF 1

DRIVE BEARINGS:

THE FOLLOWING SHALL INDICATE MINIMUM REQUIREMENTS INCLUDING ALL GENUINE PARTS, ACCESSORIES, EQUIPMENT, AND SAFETY FEATURES CONSIDERED STANDARD, WHETHER MENTIONED HEREIN OR NOT. THE VEHICLE SHALL COMPLY WITH ALL CURRENT APPLICABLE FEDERAL SAFETY STANDARDS AND OSHA REQUIREMENTS.

THE PURPOSE OF THESE SPECIFICATIONS IS TO DESCRIBE A BEARING CAPABLE OF BEING USED ON OUR TAILGATE SPREADERS.

UNLESS OTHERWISE SPECIFIED, EACH UNIT SHALL INCLUDE ALL SPECIFIED PARTS, MADE AVAILABLE FOR THE INDICATED MODEL BY THE EQUIPMENT MANUFACTURER.

SPECIFIED ITEMS NOT AVAILABLE THROUGH THE EQUIPMENT MANUFACTURER SHALL CONFORM TO THE BEST QUALITY STANDARDS KNOWN TO THAT PARTICULAR INDUSTRY.

EACH UNIT SHALL BE CLEAN, LUBRICATED, AND SERVICED READY FOR IMMEDIATE OPERATION.

PERFORMANCE:

THE PROPOSED UNIT SHALL BE IDENTICAL WITH THE STANDARD OR IMPROVED MODEL AND A CURRENT PRODUCTION UNIT IN USE BY THE INDUSTRY FOR THE PAST TWELVE MONTHS PRECEDING THIS BID OPENING.

IT SHALL BE THE RESPONSIBILITY OF THE BIDDER TO ASSURE THAT THE PROPOSED EQUIPMENT CONFORMS TO THE SPECIFICATIONS AND PERFORMS SATISFACTORILY ACCORDING TO THESE SPECIFICATIONS.

GRADE:

REFERENCE: AMERICAN FRICTION BEARING MANUFACTURERS ASSOCIATION #1, PRECISION

TYPE:

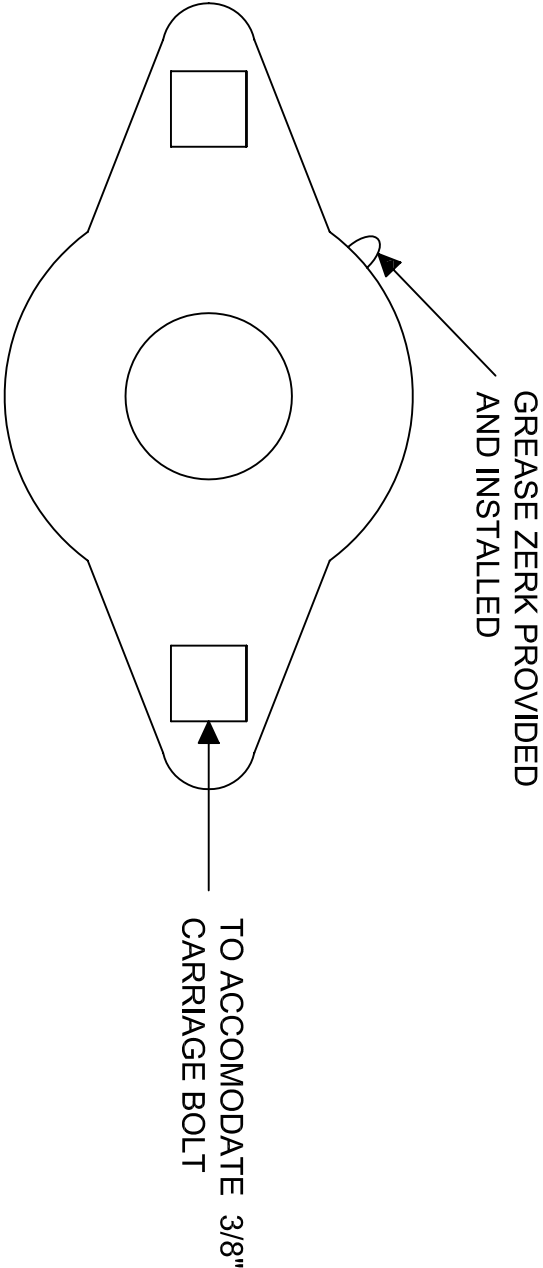
SELF-ALIGNING, ANTI-FRICTION, THRUST, RE-LUBE TYPE.

MOUNTING:

2 BOLT UNIT FLANGED UNIT TYPE. SEE DRAWING.

PA DEPARTMENT OF TRANSPORTATION					
REVISIONS			SPREADER BEARING INFORMATION		
NO.	DATE	BY			
1	4-4-07	KNH			
2			DRAWN BY	DLW	SCALE
3			DATE	06/26/97	CHKD BY
				WHM	SHEET 1 OF 2

MOUNTINGS:
2 BOLT (SQUARE HOLES) FLANGED UNIT TYPE. SEE DRAWING.



SHAFT DIAMETER: 1-1/4"

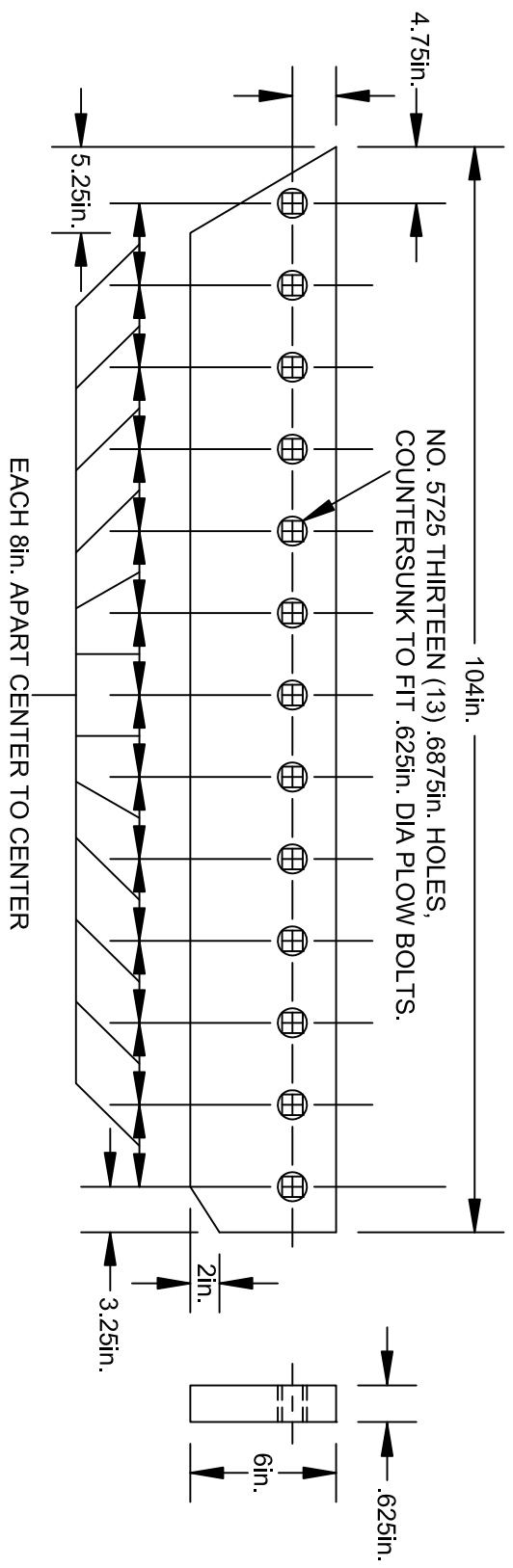
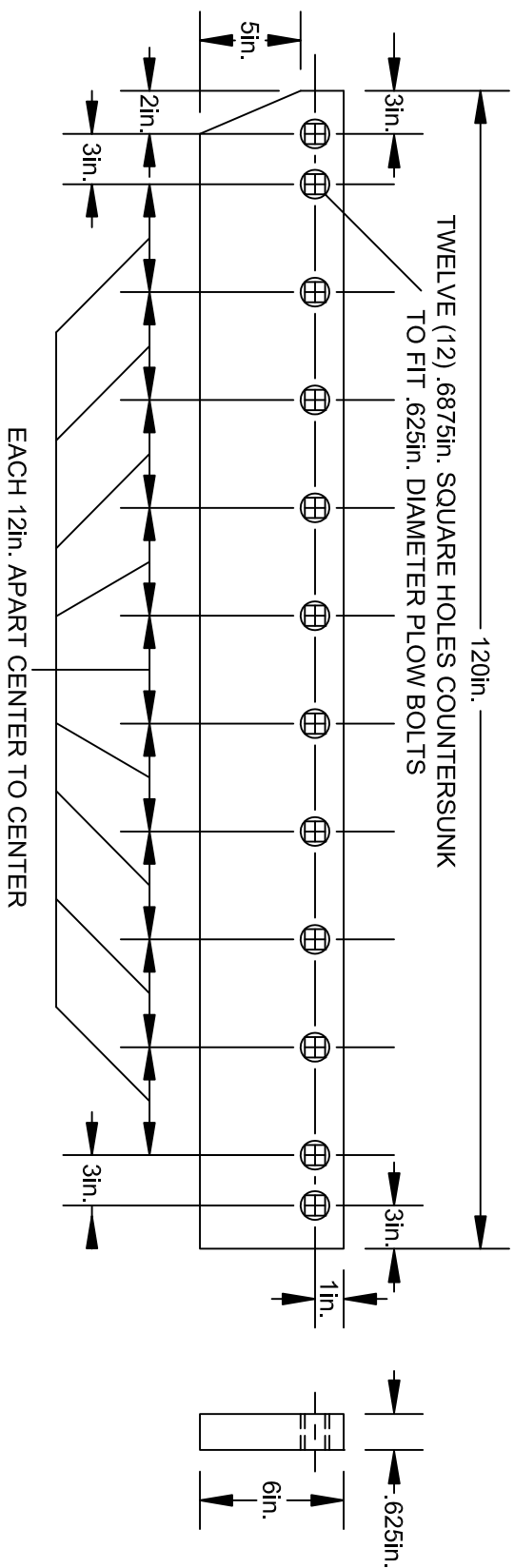
LOCKING: RETAINING COLLAR SHALL BE ECCENTRIC WITH SET SCREW.

HOUSING: CASE, DUCTILE OR MALLEABLE IRON.

REFERENCE: LINK BELT FXWG 2E2ou, FAFNIR GVF-TDS, ROBERTS FBPZ-20L, BROWNING MODEL #VF2E-120SM, SST MODEL #SAFG 206-20G, IPTCI MODEL SALF 206-20

NOTE: ALL SET SCREWS HOLDING BEARING COLLARS SHALL BE TREATED WITH LOCKTITE AND PROPERLY TORQUED.

PA DEPARTMENT OF TRANSPORTATION				
REVISIONS			SPREADER BEARING INFORMATION	
NO.	DATE	BY		
1	4-4-07	KNH		
2				
3				
			DRAWN BY	DLW
			DATE	06/26/97
			SCALE	N/A
			CHECK BY	WHM
			EQU-# 10	
			SHEET 2 OF 2	



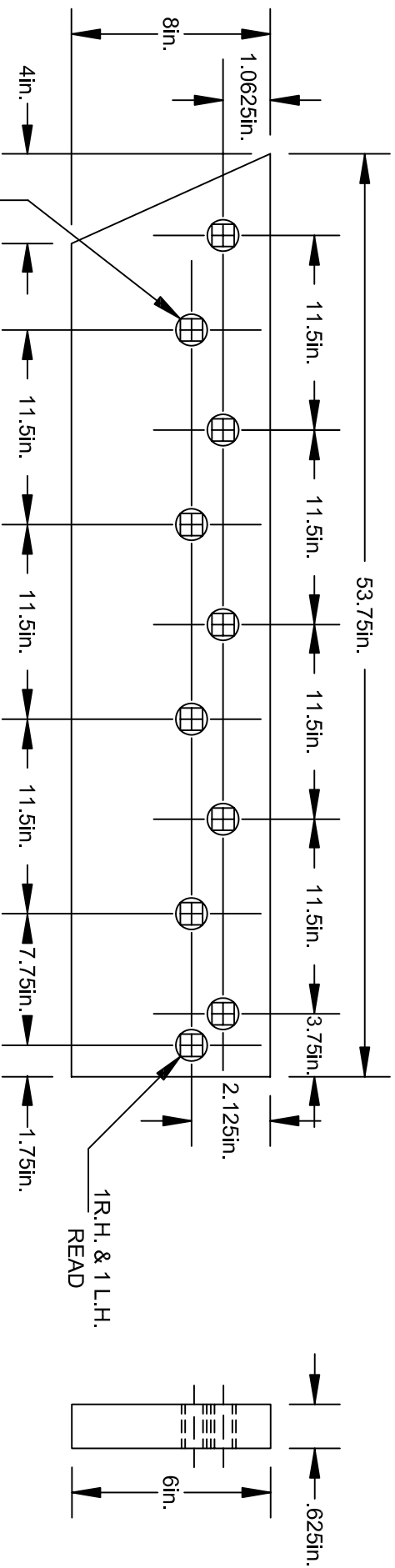
NOTES:

1. ALL DIMENSIONS ARE IN INCHES.
2. MATERIAL: CARBON STEEL AISI 1080-1085
BRINELL HARDNESS 250-325*.

EACH BLADE SECTION SHALL BE PUNCHED WITH A DATE OF
MANUFACTURE AND THE MANUFACTURER'S NAME.

*STEEL SPECIFICATION.

PA DEPARTMENT OF TRANSPORTATION			
REVISIONS			STEEL CUTTING EDGES FOR SNOW PLOWS
NO.	DATE	BY	
1	09-07-06	CJW	
2	03-30-07	CJW	DRAWN BY DLW
3	06-14-07	KNH	SCALE N/A
			CHECKED BY WHM
			DATE 02-06-96
			SHEET 1 OF 2



TEN (10) .6875in.
SQUARE HOLES,
COUNTERSUNK TO
FIT .625in. DIA.
PLOW BOLTS.

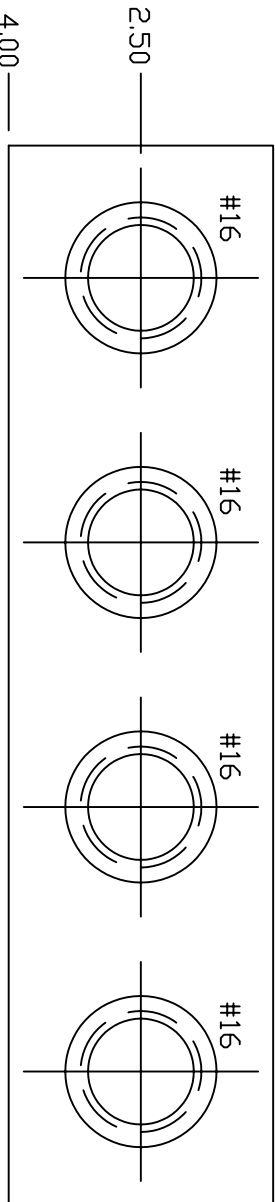
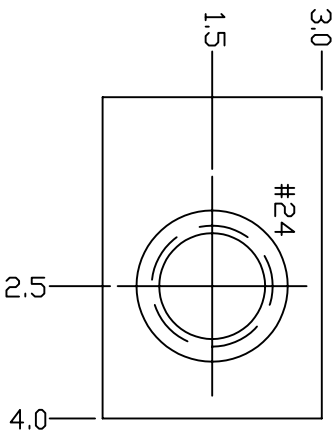
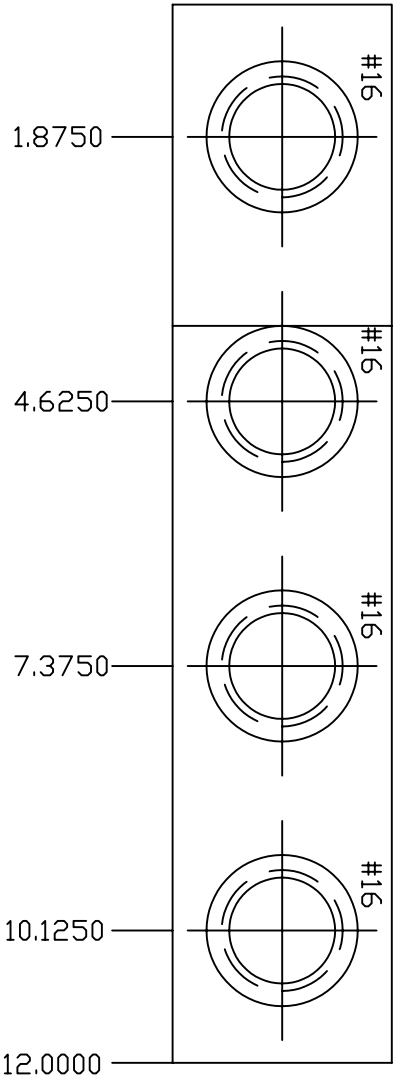
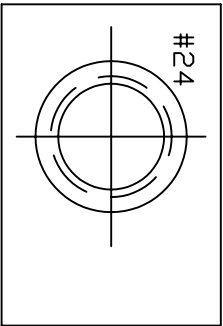
NOTES:

1. ALL DIMENSIONS ARE IN INCHES.
2. MATERIAL: CARBON STEEL AISI 1080-1085
BRINELL HARDNESS 250-325*

EACH BLADE SECTION SHALL BE PUNCHED WITH A DATE OF
MANUFACTURE AND THE MANUFACTURER'S NAME.

*STEEL SPECIFICATION.

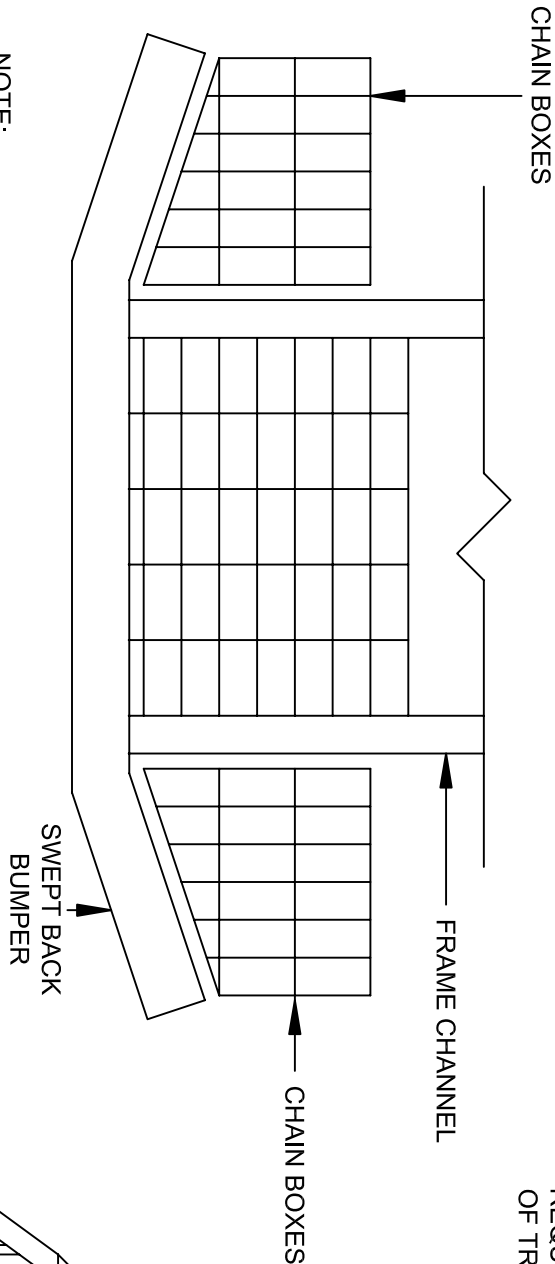
PA DEPARTMENT OF TRANSPORTATION			
REVISIONS			STEEL CUTTING EDGES FOR SNOW PLOWS
NO.	DATE	BY	
1	09-11-06	CJW	
2	03-30-07	CJW	
3	06-14-07	KNH	DATE 05-13-98
		DRAWN BY DLW	SCALE N/A
		CHECK BY WHM	EQN-16A
		SHEET 2 OF 2	



PA DEPARTMENT OF TRANSPORTATION

REVISIONS			RETURN MANIFOLD		
NO.	DATE	BY			
1	08-03-01	DWG			
2	11-02-06	CJW	DRAWN BY	GAH	SCALE N/A
3	11-03-09	TOD	DATE	03-01-00	CHK'D BY LA
			EQU-23		
			SHEET 1 OF 1		

AERIAL VIEW

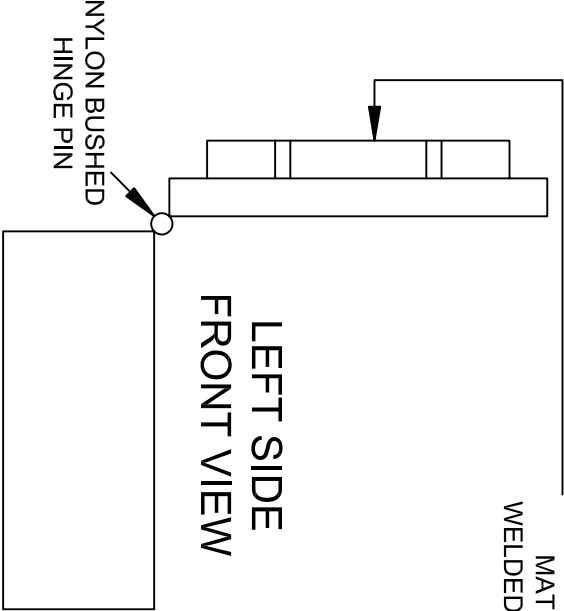


* LEFT SIDE BOX SHOWN, REVERSE FOR RIGHT SIDE.
* GIVEN DIMENSIONS ARE APPROXIMATE AND MAY REQUIRE ALTERATION TO ADAPT TO MAKE / MODEL OF TRUCK AND STYLE OF BUMPER.

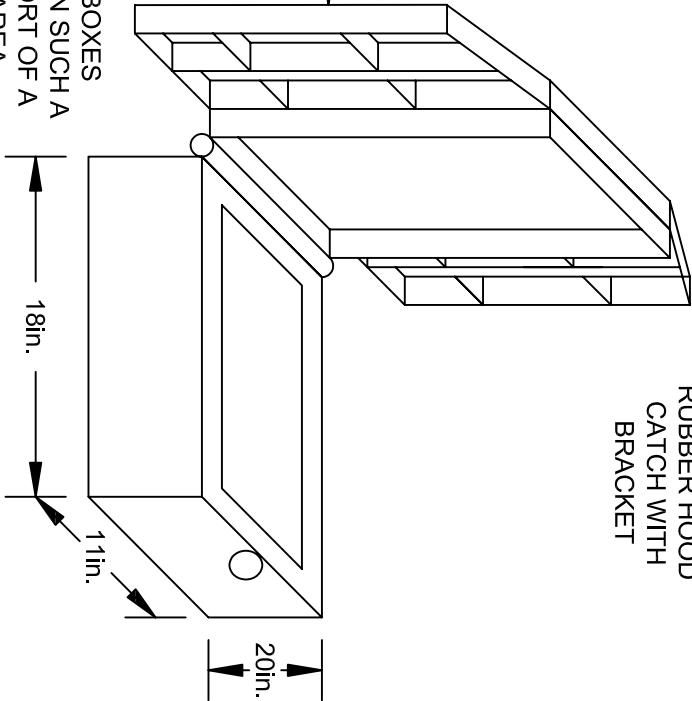
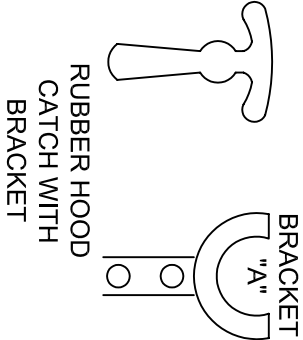
NOTE:
THERE SHALL BE SUFFICIENT ALUMINUM BUSTIN TYPE MATERIAL TO COVER THE ENTIRE AREA FROM GRILL TO BUMPER AND FRAME RAIL TO FRAME RAIL.

ALUMINUM
BUSTIN TYPE
MATERIAL
WELED IN PLACE

LEFT SIDE
FRONT VIEW



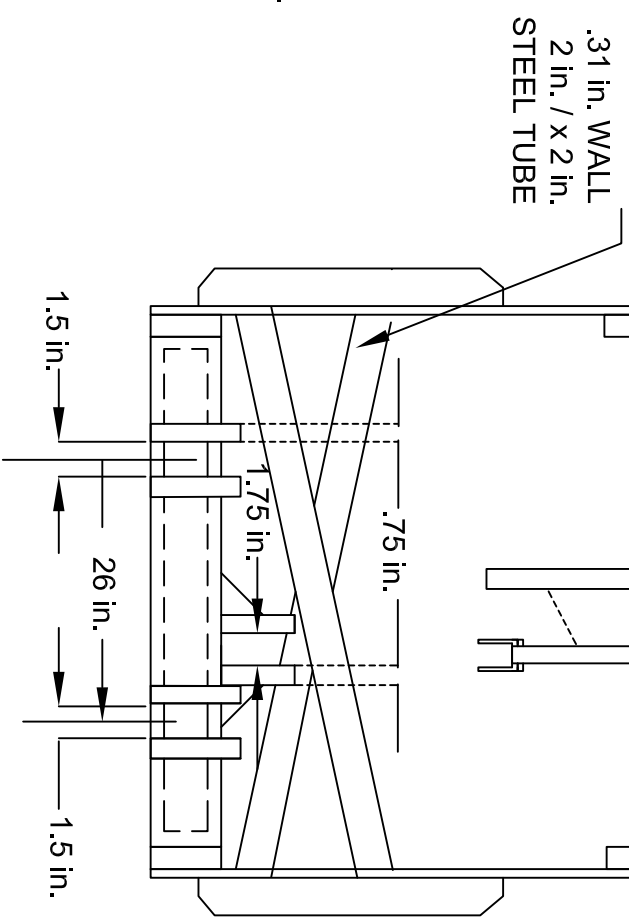
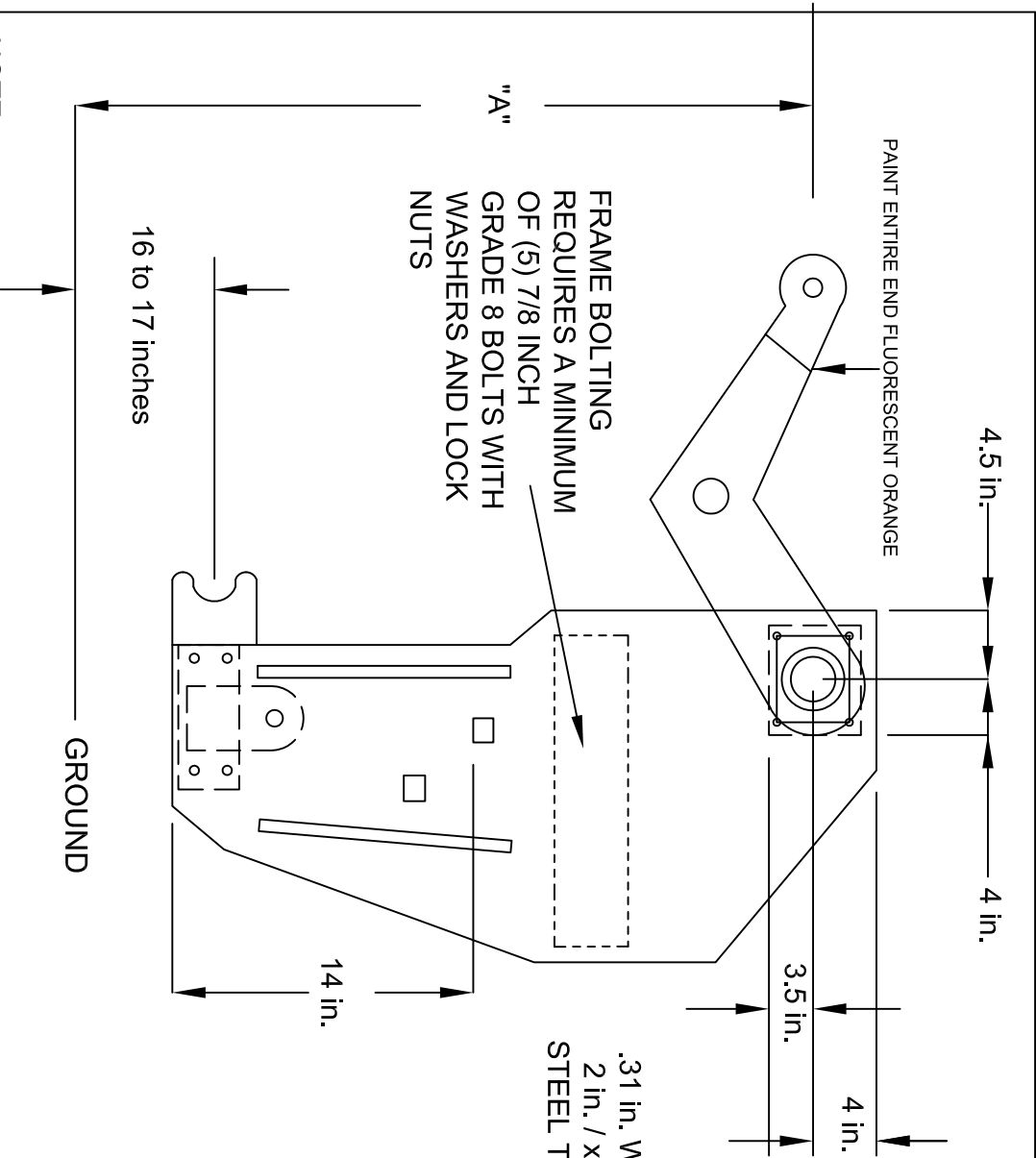
GRILL TO BUMPER AND BOXES
SHALL BE SUPPORTED IN SUCH A
WAY TO ENSURE SUPPORT OF A
200 lb. MAN IN ANY 12in. AREA.



PA DEPARTMENT OF TRANSPORTATION

REVISIONS

NO.	DATE	BY	DUMP TRUCK CHAIN BOXES		
1	11-10-98	DJA			
2	05-22-02	DWVG	WHM	N/A	EQN-32
3	07-17-07	KNH	DATE 05-13-93	CHK'D BY RED	SHEET 1 OF 1



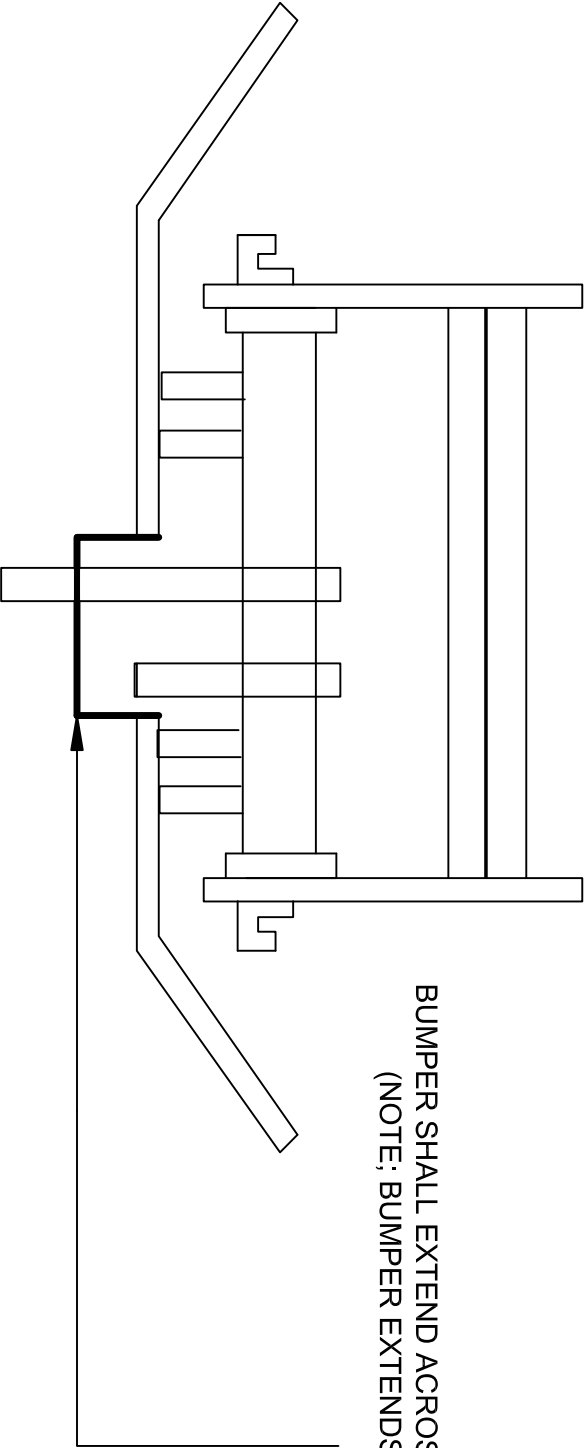
NOTE:

- ALL GREASE ZERKS SHALL BE SURROUNDED BY A SHORT LENGTH OF PIPE (WELDED IN PLACE) OR PLACED IN A RECESSED HOLE.
- "A" - HEIGHT SHALL BE SUFFICIENT TO AFFORD UNRESTRICTED LIFT FOR PennDOT PLOWS. 16 INCH MINIMUM LIFT.
- ALL FINAL DIMENSINS AND ANGLES SHALL BE VERIFIED THROUGH FIELD VISITATION AND CORRESPONDING WITH EQUIPMENT DIVISION.
- ALL HYDRAULIC CONNECTIONS TO THE PLOW HOIST CYLINDER SHALL BE POSITIONED TO THE SIDES OR REAR TO PREVENT HOSE DAMAGE WHILE CONNECTING/DISCONNECTING TO THE FRONT PLOW.

PA DEPARTMENT OF TRANSPORTATION

REVISIONS			FRONT PLOW HITCH ASSEMBLY		
NO.	DATE	BY			
1	07-15-09	TOD			
2	06-10-13	JFM			
3	04-27-15	GAW			

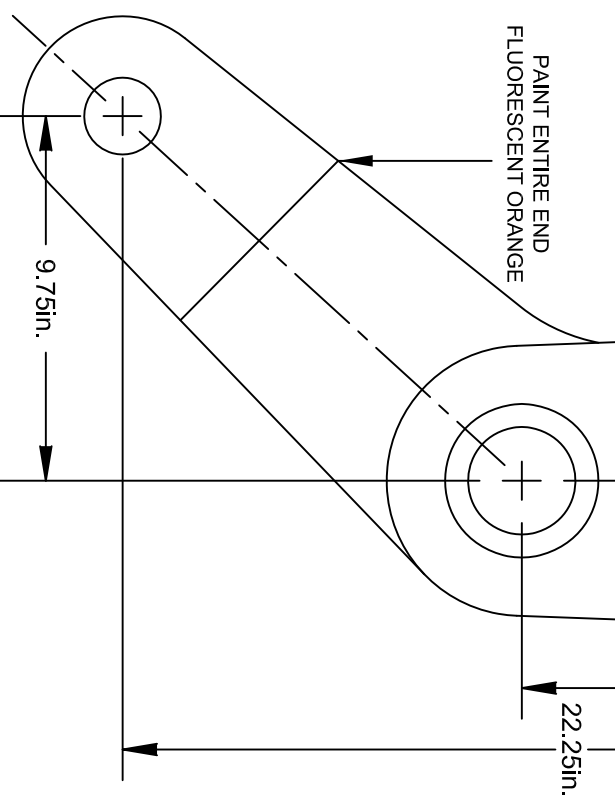
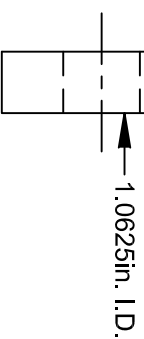
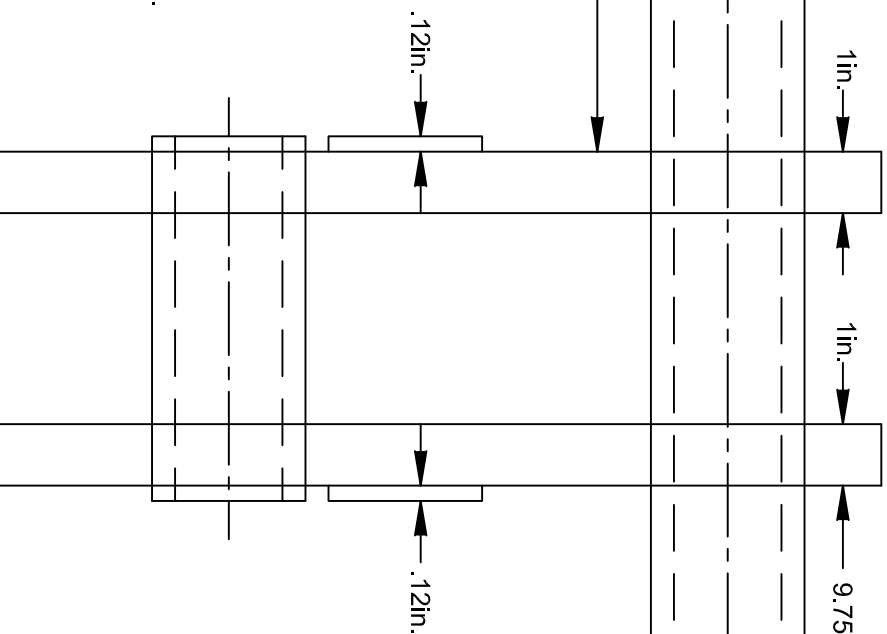
FRONT PLOW HITCH ASSEMBLY					
DRAWN BY	SCALE				
SWW	N/A				
DATE	09-25-95	CHKD BY	WHM	SHEET 1 OF 4	



BUMPER SHALL EXTEND ACROSS THE ENTIRE FRONT OF TRUCK
(NOTE: BUMPER EXTENDS AROUND PLOW CYLINDER)

ADDITIONAL BUMPER SUPPORTS SHALL BE FABRICATED
AND INSTALLED TO INSURE BUMPER RIGIDITY

PA DEPARTMENT OF TRANSPORTATION					
REVISIONS			FRONT PLOW HITCH ASSEMBLY		
NO.	DATE	BY			
1	07-15-09	TOD			
2	06-10-13	JFM	<small>DRAWN BY</small> SWW	<small>SCALE</small> N/A	EQN-50
3	04-27-15	GAW	<small>DATE</small> 09-25-95	<small>CHK'D BY</small> WHM	SHEET 2 OF 4

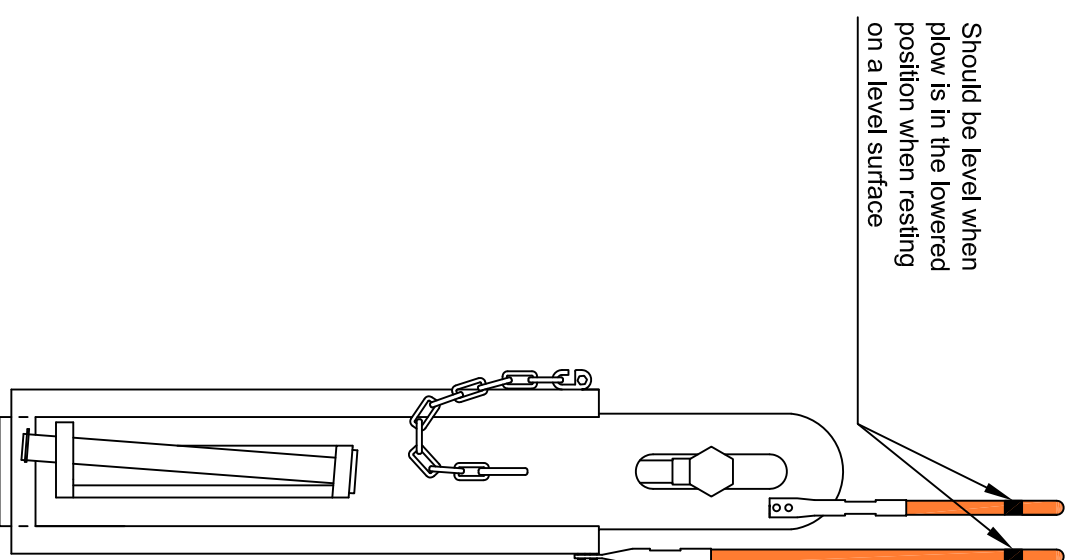


PA DEPARTMENT OF TRANSPORTATION

LOW PROFILE MOUNTING

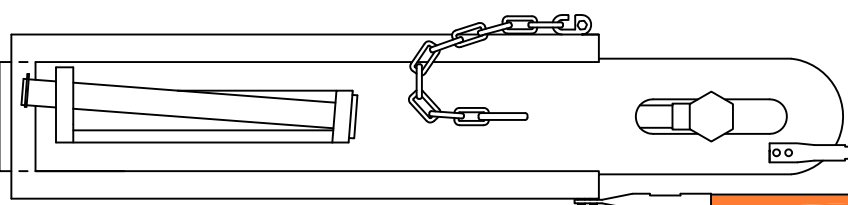
REVISIONS			LOW PROFILE MOUNTING		
NO.	DATE	BY			
1	07-19-07	KNH			
2	06-10-13	JFM			
3	04-27-15	GAW			
DRAWN BY		DLW	SCALE		N/A
DATE		01-05-95	CHECKED BY		WHM
SHEET 4 OF 4					

LOWERED POSITION

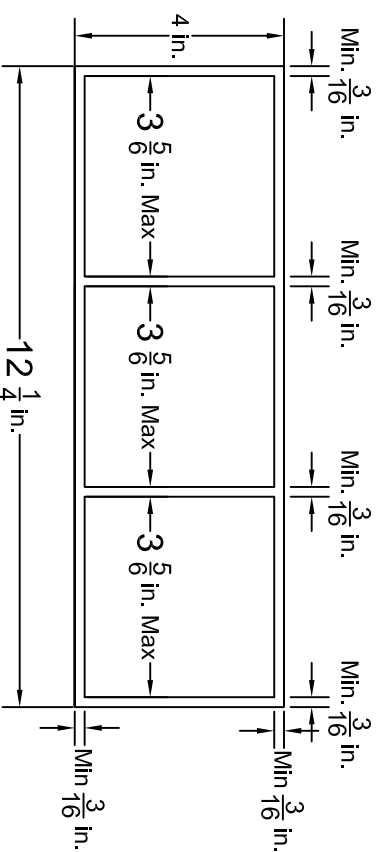
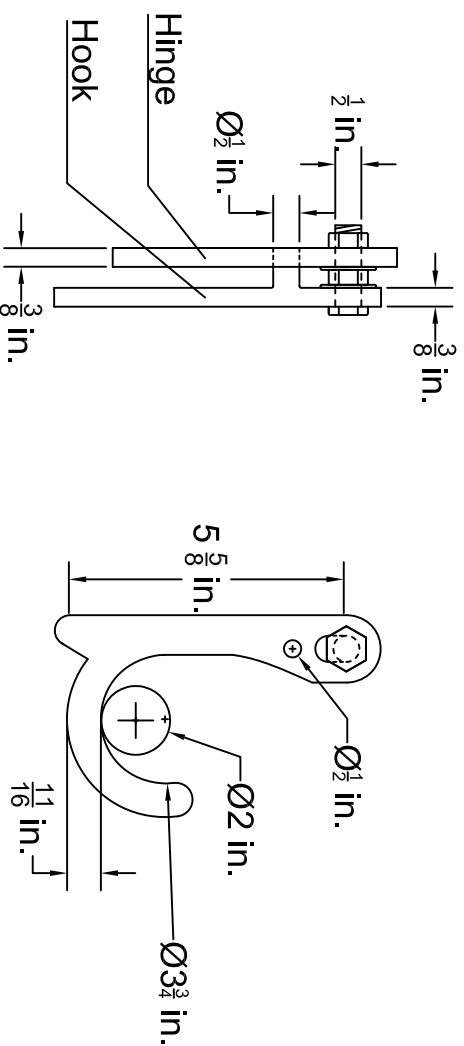
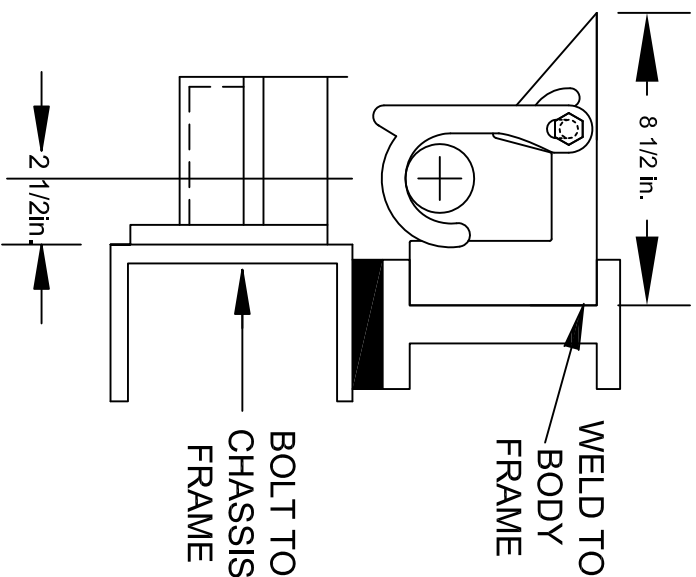
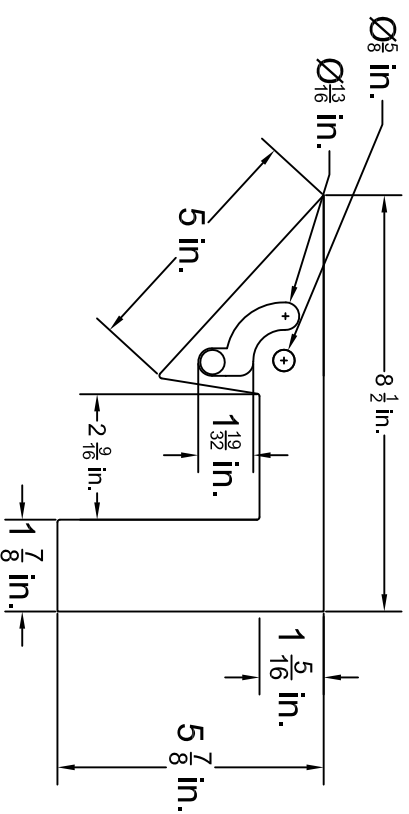


Should be level when plow is in the lowered position when resting on a level surface

PA DEPARTMENT OF TRANSPORTATION



FRONT VIEW



PA DEPARTMENT OF TRANSPORTATION

REVISIONS

NO.	DATE	BY	BED PROP SYSTEM			
1	7-13-09	TOD				
2	7-02-12	MJW	DRAWN BY	WHM	SCALE	N/A
3	6-05-14	ACT	DATE	11-06-89	CHKD BY	RED

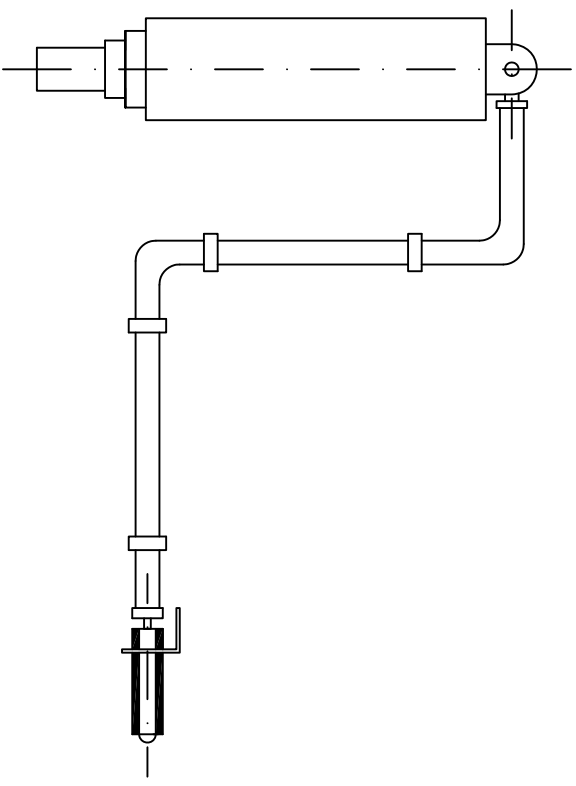
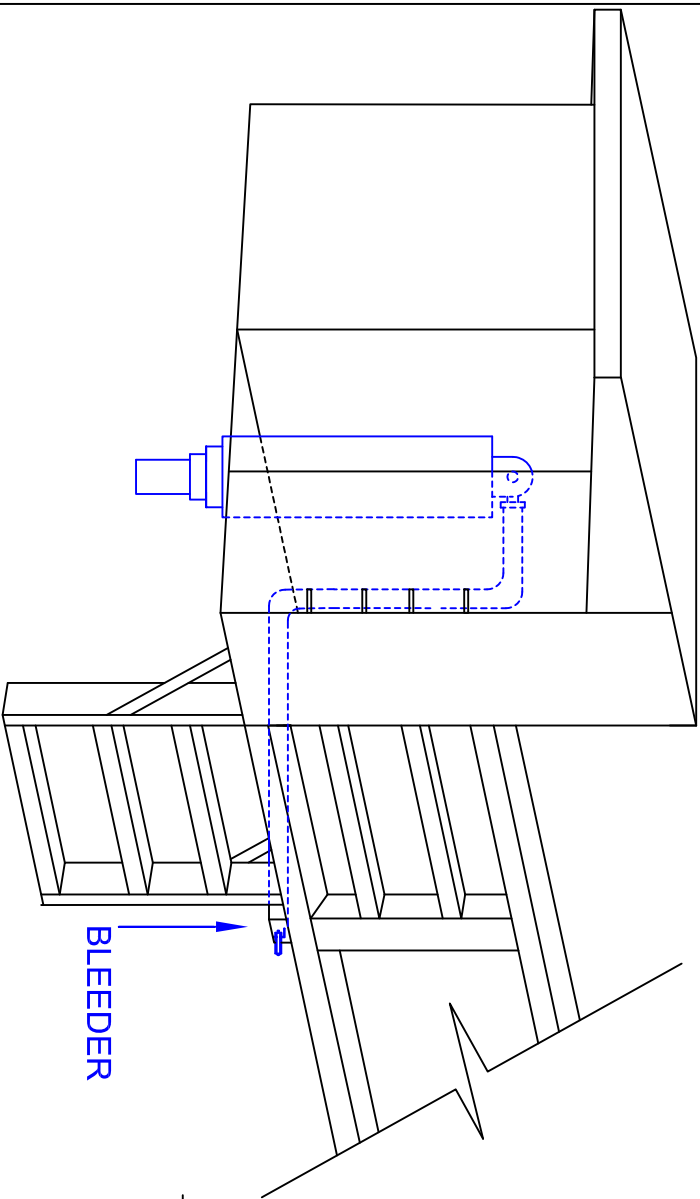
BED PROP SYSTEM

EQN-62

BILL OF MATERIAL	
	DESCRIPTION
A.	PROP STOP- 12 1/4 in. X 4 in. MINIMUM 3/16 in. STEEL CONSTRUCTION
B.	HINGE- 6 in. X 6 in. MINIMUM 3/16 in. ALUMINUM CONSTRUCTION
C.	POST- 2in. X 27in. (SCH80) STEEL PIPE
D.	HOOK- 4 in. X 6 1/2 in. MINIMUM 3/16 in. STEEL CONSTRUCTION

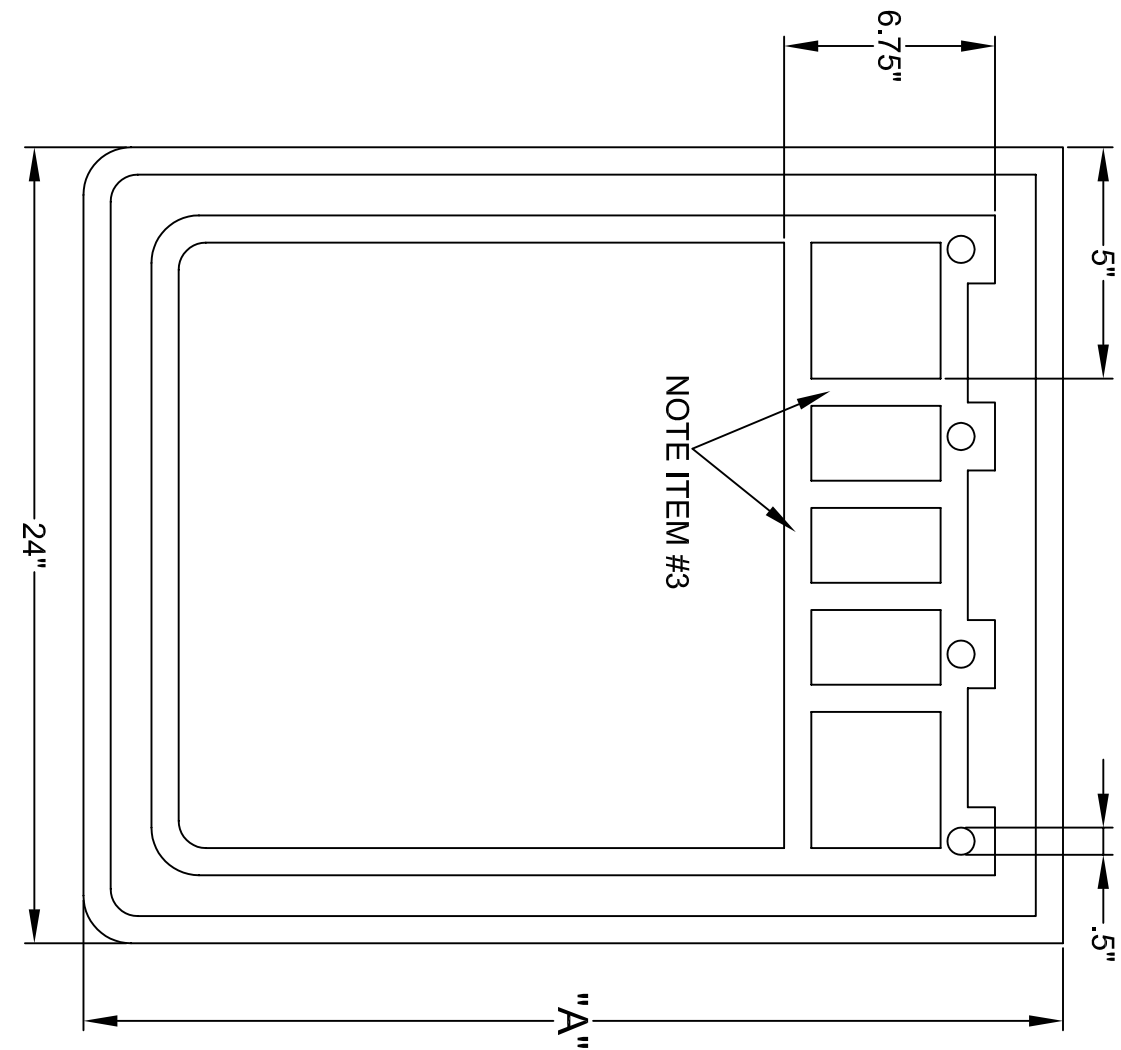
- NOTES**
- TWO (2) SAFETY PROPS ARE REQUIRED PER VEHICLE.
 - WHEN RELEASED FROM CRADLE, THE BED PROP SHALL BE FREE TO FREE-FALL. PROPS SHALL FALL INTO STOP "A" AS BED IS RAISED, UN-ASSISTED. HINGE "B" SHALL BE DESIGNED TO NOT ALLOW THE BED PROP TO TRAVEL PAST THE LAST POCKET ON THE PROP STOP "A".
 - BOLTS SHALL BE GRADE 8 WITH GRADE 8 LOCK NUTS.
 - ALL EDGES SHALL BE SMOOTH.

PA DEPARTMENT OF TRANSPORTATION									
REVISIONS				BED PROP SYSTEM DUMP TRUCK					
NO.	DATE	BY							
1	7-13-09	TOD							
2	7-02-12	MJW							
3	6-05-14	ACT							
				DRAWN BY	WHM	SCALE	N/A		EQN-62
				DATE	11-06-89	CHKD BY	RED		SHEET 2 OF 2



LINE SHALL BE SECURED WITH EXTRUDED CUSHION LOOP CLAMPS EVERY 12 inches (min) UTILIZING STUDS OR BOLTS.

PA DEPARTMENT OF TRANSPORTATION					
REVISIONS			DUMP TRUCK HOIST CYLINDER BLEEDER		
NO.	DATE	BY			
1	10-24-06	CJW			
2	7-13-09	TOD	<small>DRAWN BY</small> DLW	<small>SCALE</small> N/A	EQN-63
3	7-02-12	MJW	<small>DATE</small> 08-14-97	<small>CHK'D BY</small> WHM	SHEET 1 OF 1



NOTE: DIMENSION "A"
DEPENDANT ON
REQUISITION

SAFETY

PA DEPARTMENT OF TRANSPORTATION					
REVISIONS			SPLASH GUARDS-RUBBER TRAILER & TRUCK		
NO.	DATE	BY			
1	05-28-02	DWG			
2	11-28-06	CJW	DRAWN BY S.T.	SCALE N/A	EQN-66
3	07-20-09	TOD	DATE 11-18-87	CHKD BY RED	SHEET 1 OF 2

FENDERS AND FLAPS: VEHICLES SPECIFIED UNDER THIS SUBCHAPTER SHALL BE EQUIPPED WITH FENDERS WHICH PROVIDE AT LEAST AS MUCH COVERAGE OF THE WHEEL AS THE ORIGINAL EQUIPMENT. ALL WHEELS SHALL BE SUFFICIENTLY COVERED WITH FENDERS OR FLAPS SO AS TO PREVENT LOOSE OBJECTS, RAIN, SNOW, AND THE LIKE FROM BEING THROWN ABOUT IN A MANNER WHICH MAY INTERFERE WITH OTHER PERSONS USING THE HIGHWAY.

REAR WHEEL SHIELDS: VEHICLE SPECIFIED UNDER THIS SUBCHAPTER EXCEPT TRUCK-TRACTOR WHILE TOWING A TRAILER SHALL BE CONSTRUCTED OR EQUIPPED AS FAR AS TO BAR WATER OR OTHER ROAD SURFACES THROWN FROM REAR WHEELS OF SUCH VEHICLE OR COMBINATION AT TANGENTS ESCCEEDING 22.5 DEGREES, MEASURED FROM ROAD SURFACE FROM PASSING IN STRAIGHT LINE TO THE REAR OF SUCH VEHICLE. SEE 75 PA C554533 (RELATING TO REAR WHEEL SHIELDS)

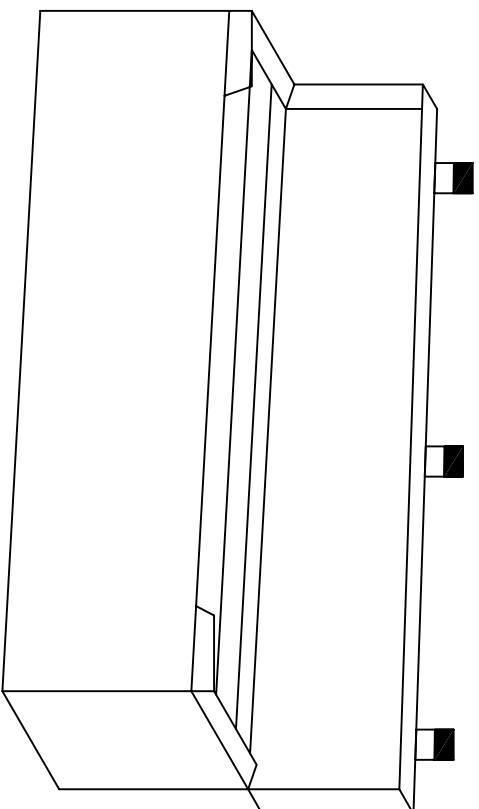
AREA 6.75"x24" ACROSS THE TOP IS ACCEPTABLE IN SOLID VIS RIBS PROVIDED IT MEASURES .225" IN THICKNESS

THE BODY OF SPLASH GUARD SHALL BE A MINIMUM OF .09375" THE TRIM AREA SHALL BE $\frac{3}{8}$ " MINIMUM THICKNESS. THE BODY AREA IS THE AREA WITHIN THE OUTSIDE DIMENSIONS OF 24"x36" TOLERANCES +/- .250" THE WEIGHT OF THE SPLASH GUARD SHALL BE 6LBS FOR 24"x30" AND 7.5lbs x 24" x 36" MINIMUM.

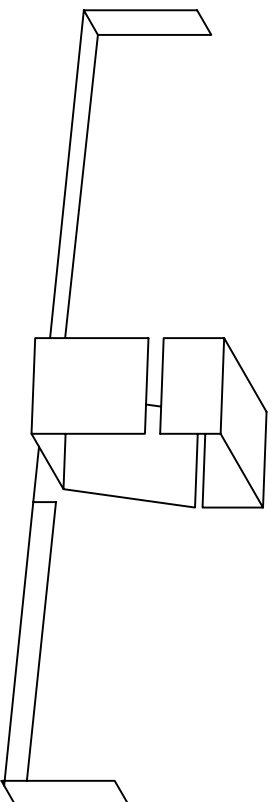
NOTE:

1. MATERIAL: MOLDED NATURAL OR SYNTHETIC BLACK TIRE CHORD IMPREGNATED RUBBER. OIL AND SALT RESISTANT.
2. ANTI-SAIL NOT ACCEPTABLE.
3. MANUFACTURERS STANDARD SIZE ACCEPTABLE IF ALL MINIMUM THICKNESS, DIMENSIONS, AND WEIGHT SPECIFICATIONS ARE MET.
4. AS PER PA VEHICLES EQUIPMENT AND INSPECTION REGULATIONS, SECTION 175-108.
5. DIMENSION "A" WILL BE 30" OF 36" AS NECESSARY, WHEN INSTALLED TO MEET PA MOTOR VEHICLE CODE OR AS SPECIFIED ON THE CONTRACT.

PA DEPARTMENT OF TRANSPORTATION						
REVISIONS			SPLASH GUARDS-RUBBER TRAILER & TRUCK			
NO.	DATE	BY				
1	05-28-02	DWG				
2	11-28-06	CJW	DRAWN BY	S.T.	SCALE	EQN-66
			DATE		CHKD BY	
3	07-20-09	TOD	11-18-87	RED		SHEET 2 OF 2



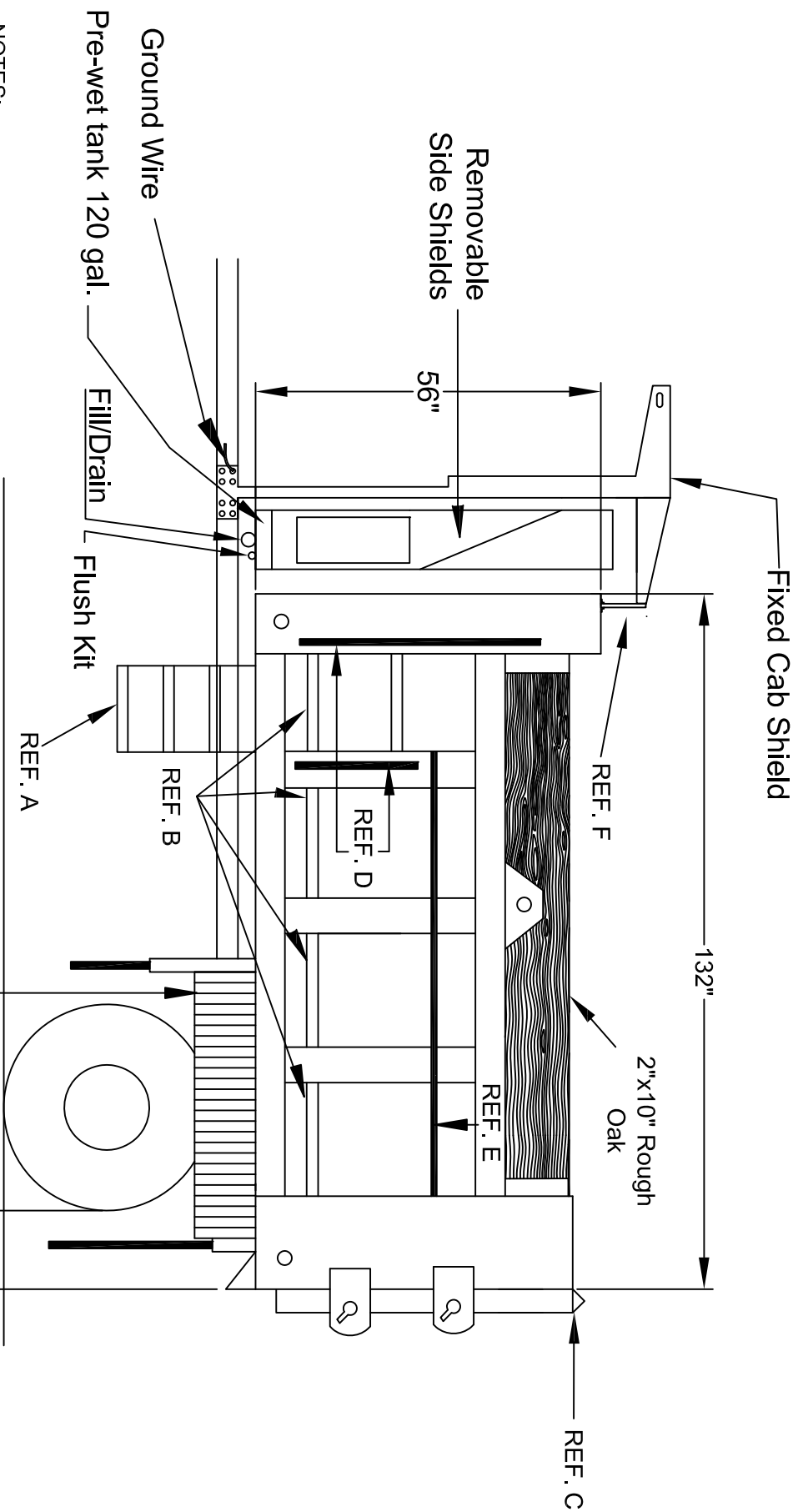
JAMES KING & CO.
1-800-824-8635
TRIANGLE PART #1005
OR APPROVED EQUAL



JAMES KING & CO.
1-800-824-8635
STEEL BRACKET PART #1005-B1
OR APPROVED EQUAL

BOLTS, NUTS AND FENDER WASHERS SHALL BE
USED TO SECURE METAL BRACKET.

PA DEPARTMENT OF TRANSPORTATION					
REVISIONS			TRIANGLE STORAGE BOX AND BRACKET		
NO.	DATE	BY			
1	11-28-06	CJW			
2	05-31-07	KNH			
3	07-20-09	TOD			
		DRAWN BY	WHM	SCALE	EQN-66A
		CHECK BY	RED	SHEET 1 OF 1	



NOTES:

- LADDER SHALL BE BUSTIN ALUMINUM PART # SALA305 - NO SUBSTITUTE. LADDER SHALL BE BOLTED, UTILIZING GRADE 8 BOLTS & LOCK NUTS, MOUNTED ON CENTER BETWEEN THE REAR OF THE DRIVERS SIDE FRONT CORNER POST AND THE FRONT OF THE FIRST VERTICAL SIDE BRACE.
- STEPS SHALL BE FULL WIDTH BETWEEN VERTICAL SIDE BRACES AND FLUSH WITH OUTSIDE EDGE OF BRACES. BUSTIN PART #DE0602 (PART # FOR 20 FOOT LENGTH), 2 3/4" WIDTH X 1 1/2" HIGH X 3/16" THICKNESS WITH SERATED EDGES OR EQUAL.
- INVERTED 1 1/2 INCH ANGLE ALUMINUM.
- GRAB HANDLES 3/4 INCH ALUMINUM.
- 3/4 INCH ALUMINUM ROUND STOCK FOR TARP TIE DOWN.
- MATERIAL GUARD 1" THICK SKIRT BOARD RUBBER PER SPECIFICATION.

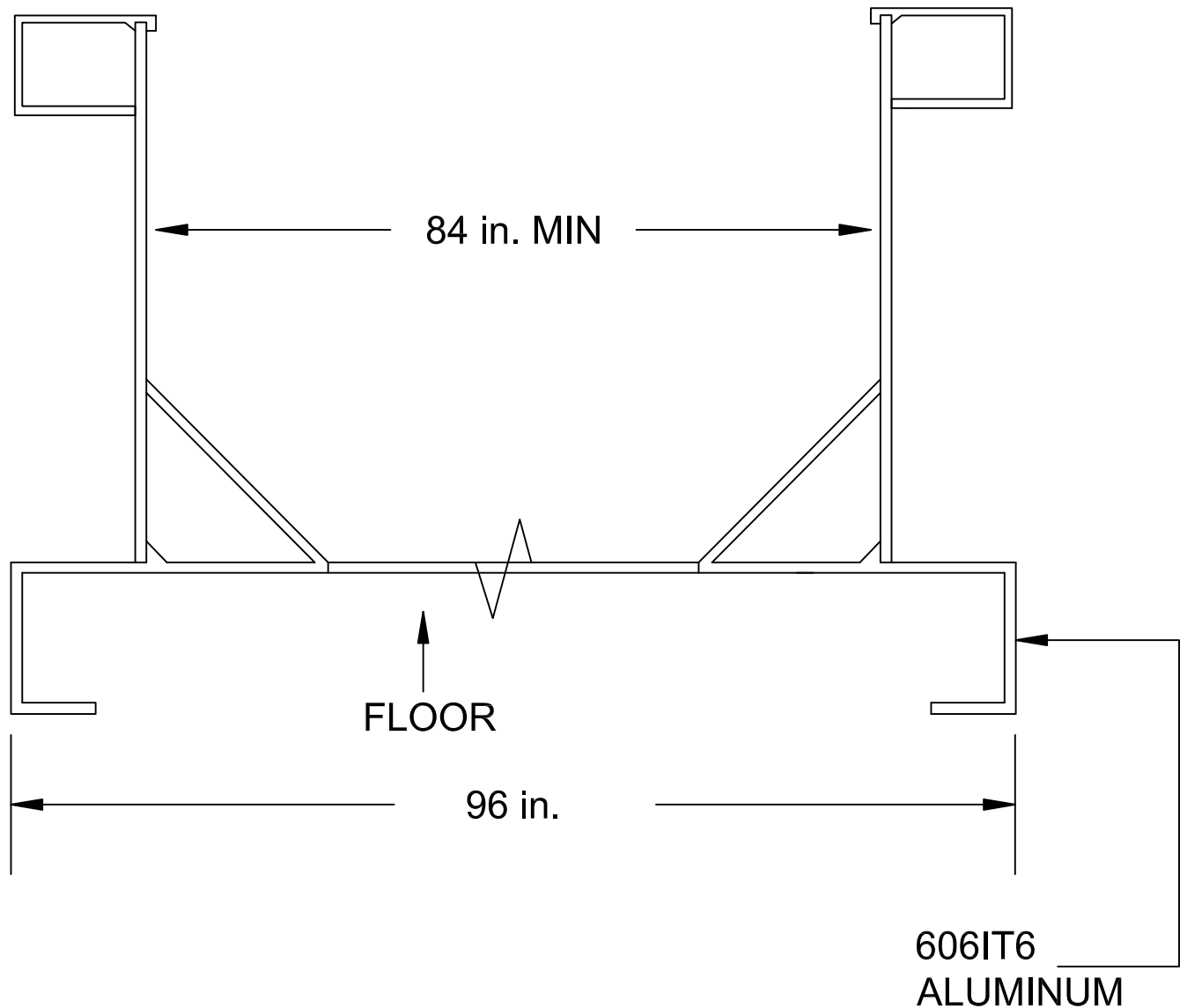
PA DEPARTMENT OF TRANSPORTATION

REVISIONS			SINGLE AXLE DUMP BODY		
NO.	DATE	BY			
1	11-02-09	TOD			
2	07-25-12	MJW			
3	4-27-15	GAW			

DRAWN BY		SCALE	
DLW		N/A	
DATE		CHECKED BY	
11-05-97		WHM	

EQN-76

SHEET 1 OF 8

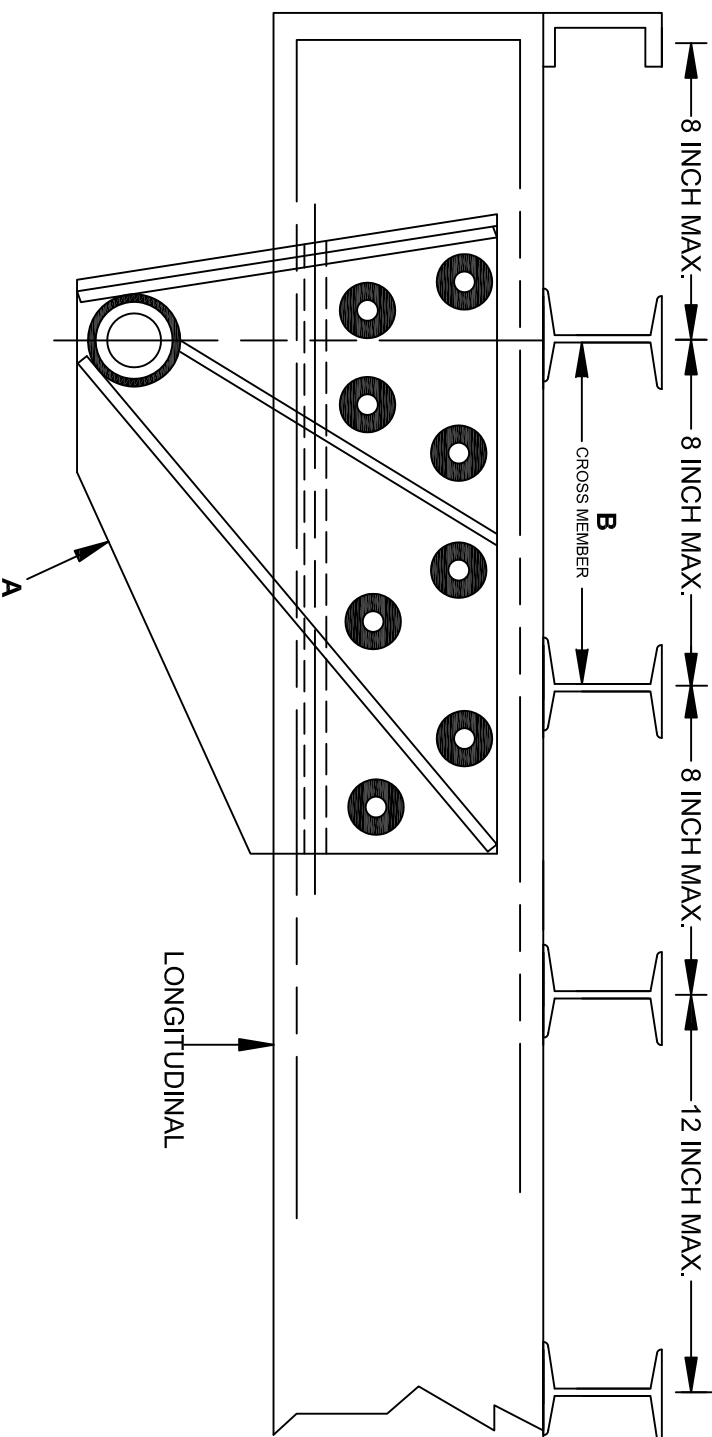
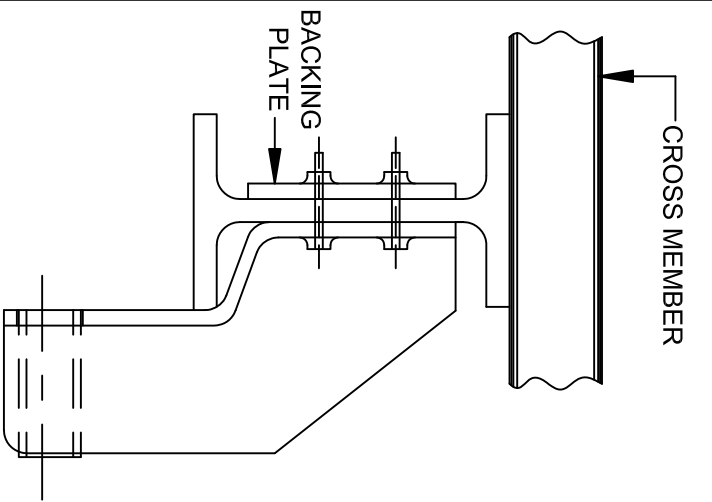


FLOOR:

1. ONE-PIECE BODY FLOOR SHALL BE .375 in. MINIMUM THICK ABRASION-RESISTANT ALUMINUM OF GRADE 5454H 34.
2. THE MATERIALS HAULED IN THESE VEHICLES WILL BE SALT, ABRASIVE AGGREGATE, WET MUD, ETC.
3. ALL DIMENSIONS IN INCHES.

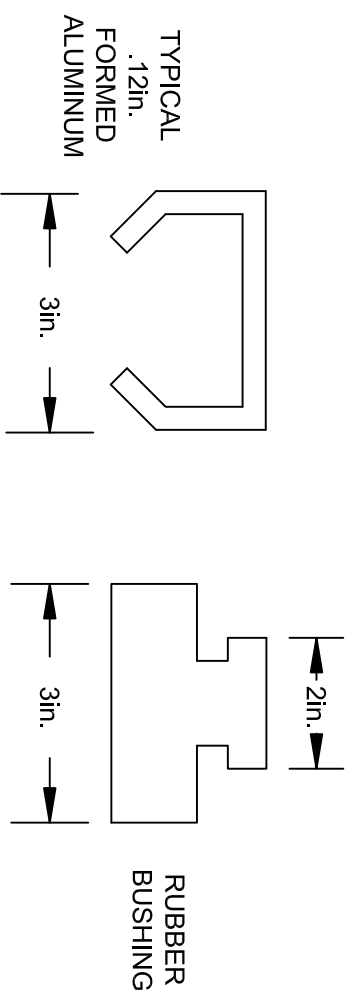
PA DEPARTMENT OF TRANSPORTATION

REVISIONS			SINGLE AXLE DUMP BODY		
NO.	DATE	BY			
1	11-02-09	TOD			
2	07-25-12	MJW	DRAWN BY DLW	SCALE N/A	EQN- 76
3	04-27-15	GAW	DATE 11-05-97	CHK'D BY WHM	SHEET 2 OF 8

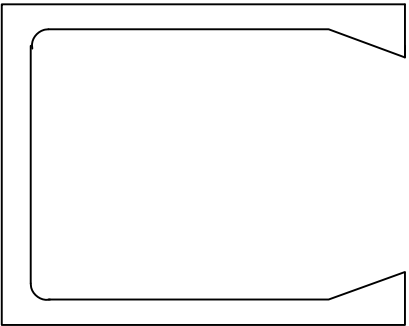


NOTES:

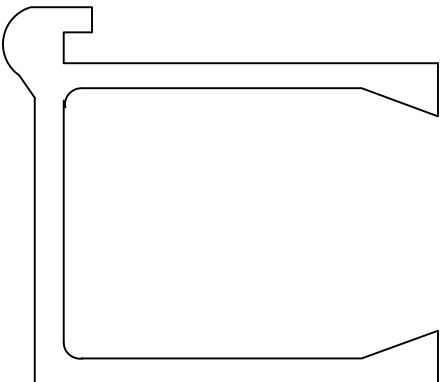
- BED MOUNTING BRACKETS SHALL BE A WEB STYLE DESIGN AND SPAN ACCROSS TWO CROSS MEMBERS. THE WEB MOUNT SHALL BE DESIGNED FOR SEVERE DUTY SERVICE. THE BOLTS (8 MINIMUM) SHALL BE OF GRADE 8 MINIMUM WITH SELF-LOCKING GRADE 8 NUTS.
 - THE LAST FOUR CROSS-MEMBERS SHALL BE PLACED ON 8 INCH MAXIMUM CENTERS, WITH THE BALANCE ON 12 INCH MAXIMUM CENTERS.
- THE BODY SHALL BE SHOCK MOUNTED TO AVOID STRESS ON ROUGH ROADS WHEN EMPTY.
 - "FULL-LENGTH" BODY TO FRAME RUBBER MOUNTING SYSTEM.
 - THE REAR PIN HINGE SHALL BE A MINIMUM OF 2 INCH DIAMETER, AND SHALL HAVE A GREASABLE HINGE BUSHING 1/2 INCH WALL.
 - THERE SHALL BE MYLAR OR APPROVED EQUAL BETWEEN METAL BRACKETS AND ALUMINUM LONGITUDINAL RAILS



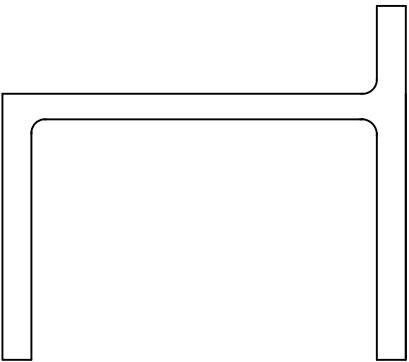
PA DEPARTMENT OF TRANSPORTATION					
REVISIONS			SINGLE AXLE DUMP BODY		
NO.	DATE	BY			
1	11-02-09	TOD			
2	07-25-12	MJW			
3	04-27-15	GAW			
			DRAWN BY	DLW	SCALE
			DATE	09-25-97	CHKD BY
			WHM SHEET 3 OF 8		
			EQU-76		



APPROVED HOIST CYLINDER
CHANNEL EXTRUSIONS

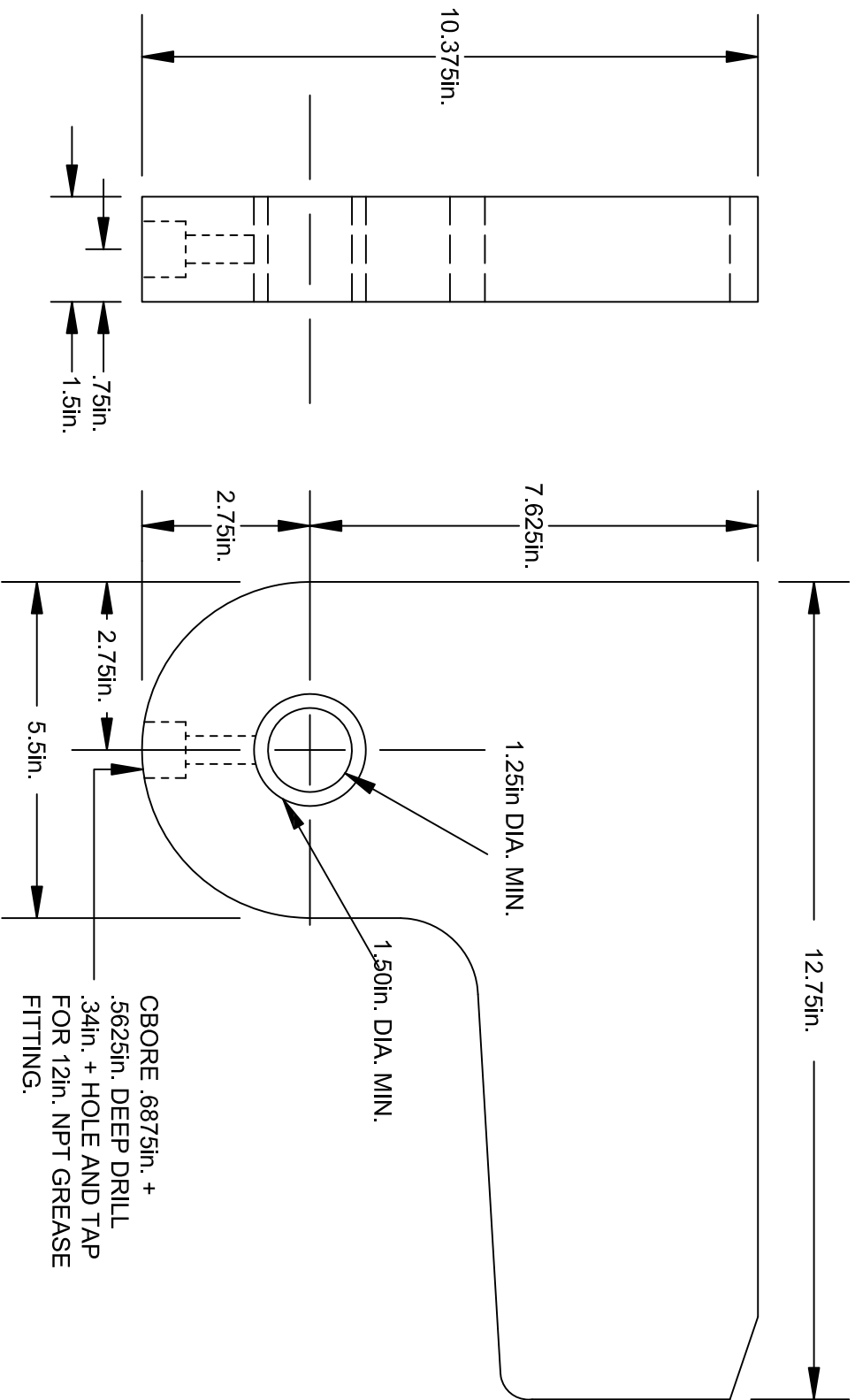


APPROVED FRONT CROSS
MEMBER EXTRUSION



APPROVED REAR
CROSSMEMBER EXTRUSIONS

PA DEPARTMENT OF TRANSPORTATION						
REVISIONS			SINGLE AXLE DUMP BODY			
NO.	DATE	BY				
1	07-25-12	MJW				
2	04-27-15	GAW				
3						
			DRAWN BY	TOD	SCALE	
			DATE	11-02-09	N/A	EQN-76
			CH'D BY	DMA	SHEET 4 OF 8	

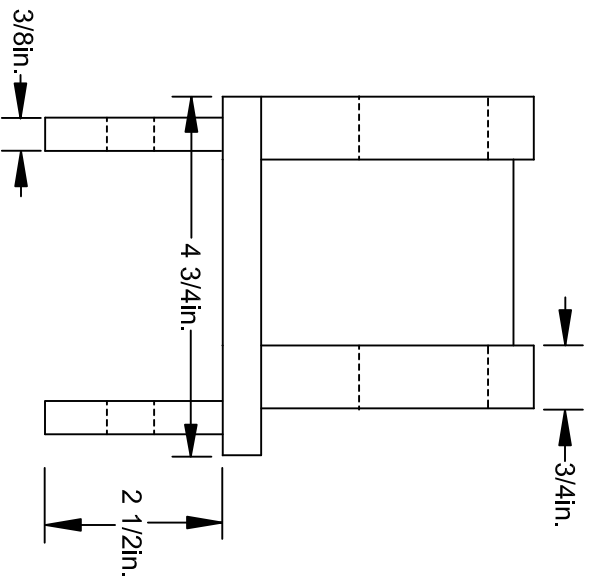
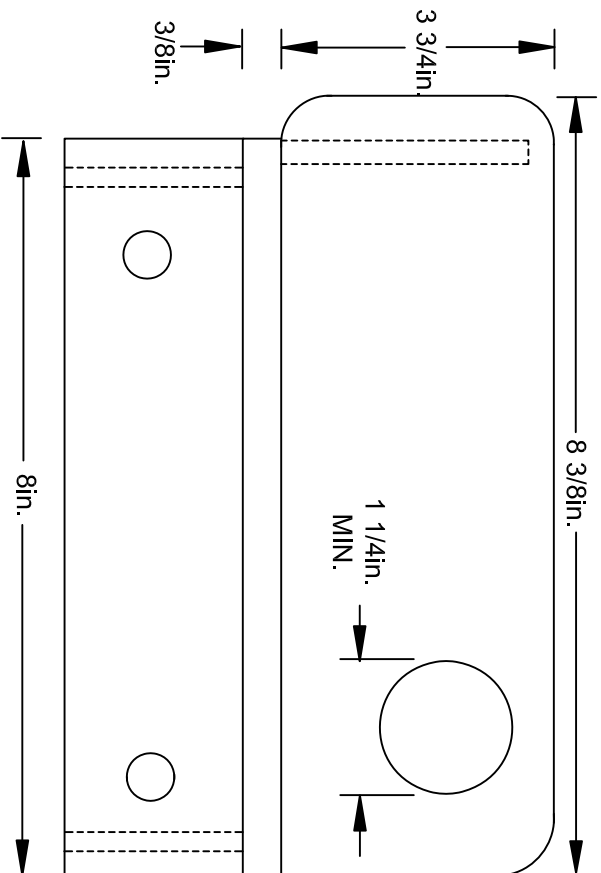
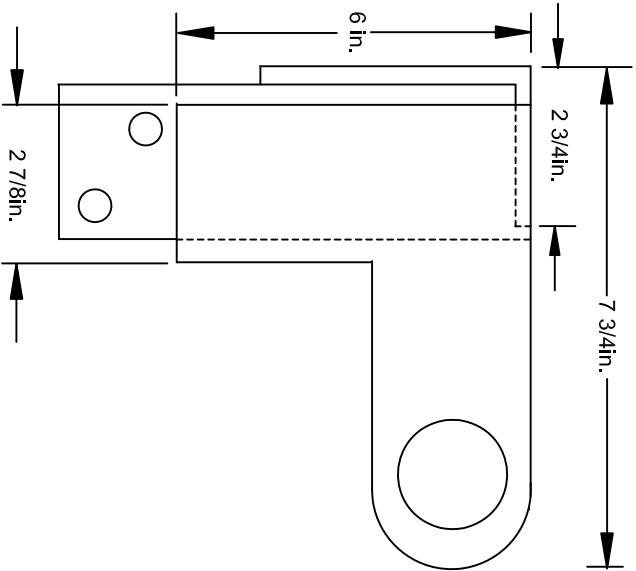
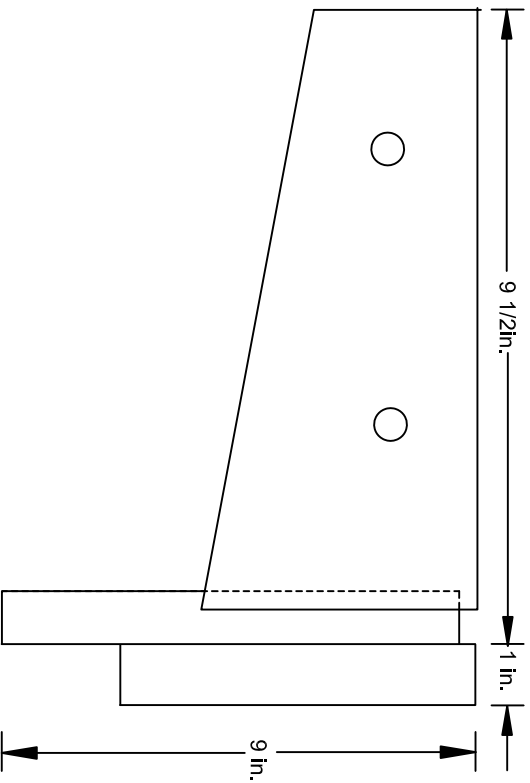


PA DEPARTMENT OF TRANSPORTATION

REVISIONS			SINGLE AXLE DUMP BODY		
NO.	DATE	BY			
1	11-02-09	TOD			
2	07-25-12	MJW			
3	04-27-15	GAW			

DATE	DRAWN BY	SCALE	CHKD BY
09-25-97	DLW	N/A	WHM

EQN-76
SHEET 5 OF 8

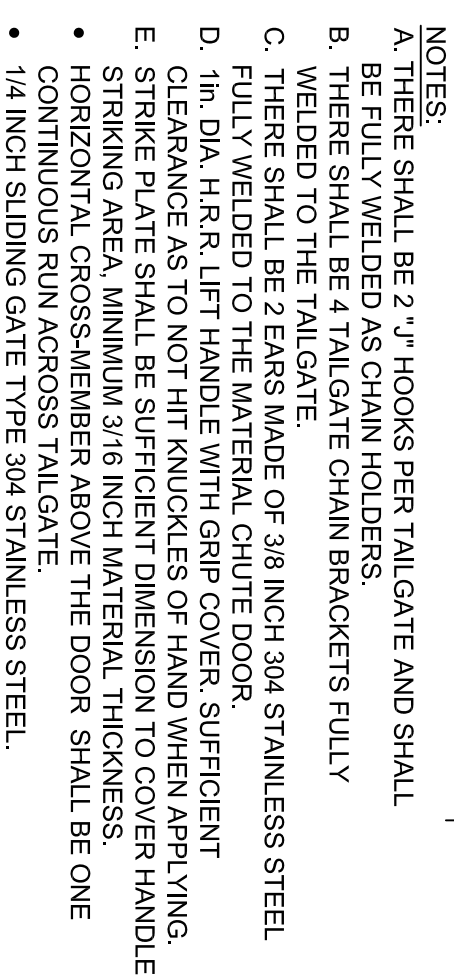


PA DEPARTMENT OF TRANSPORTATION

REVISIONS				SINGLE AXLE DUMP BODY			
NO.	DATE	BY					
1	07-25-12	MJW					
2	04-27-15	GAW					
3							

DRAWN BY		SCALE		EQN-76	
TOD		N/A			
DATE		DMA		SHEET 6 OF 8	
11-02-09					

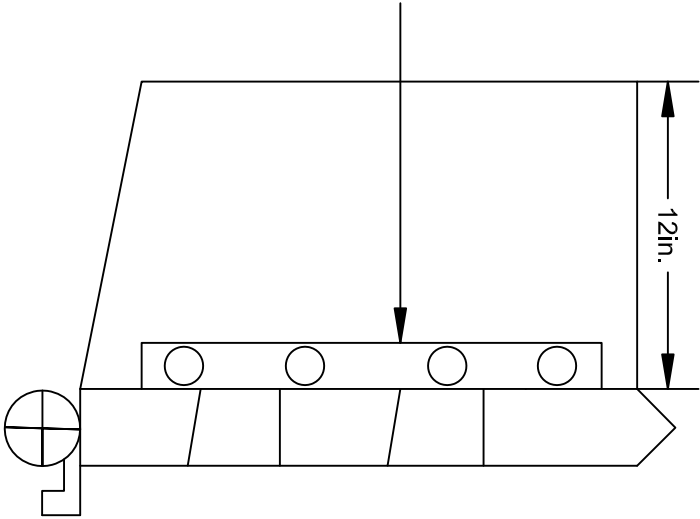
FOR CONSPICUITY STRIPING, REFER TO EQN-122



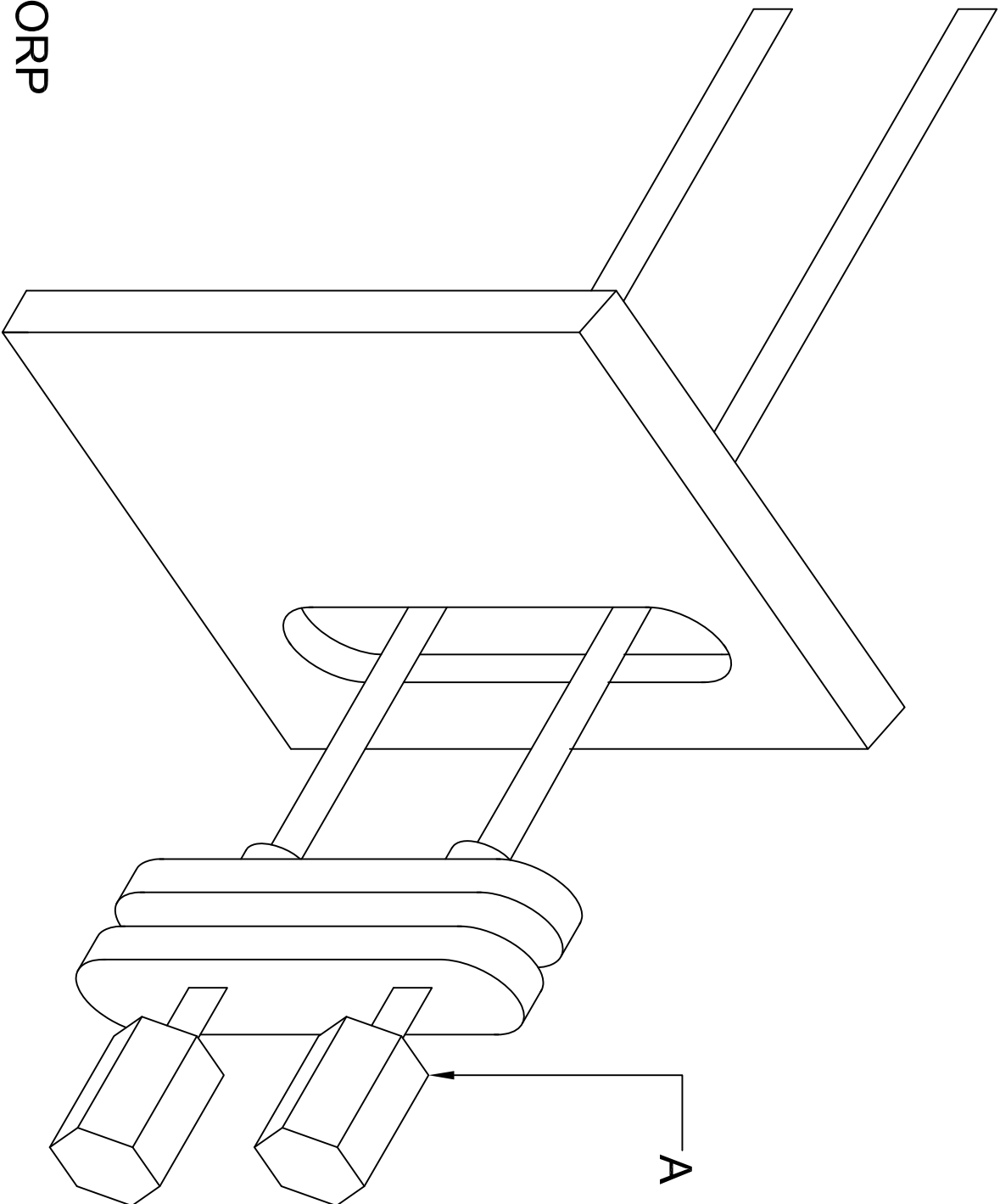
PA DEPARTMENT OF TRANSPORTATION				
REVISIONS			SINGLE AXLE TAILGATE	
NO.	DATE	BY		
1	11-02-09	TOD		
2	07-25-12	MJW		
3	04-27-15	GAW		
DRAWN BY			SM	SCALE
DATE			08-11-93	N/A
CHD BY			RED	EQN-76
			SHEET 7 OF 8	

TAILGATE WINGS
LEFT AND RIGHT INSIDE

NOTES:
2in. ANGLE ALUMINUM WITH 4
SLOTTED HOLES .375in. X 1in. ON
OUTER SIDE. .375in. STAINLESS
STEEL COUNTERSUNK MACHINE
SCREWS WITH STAINLESS STEEL
NUTS AND FLAT WASHERS SHALL
BE USED.



PA DEPARTMENT OF TRANSPORTATION					
REVISIONS			SINGLE AXLE DUMP BODY		
NO.	DATE	BY			
1	11-02-09	TOD			
2	07-25-12	MJW	DRAWN BY SM	SCALE N/A	EQN-76
3	04-27-15	GAW	DATE 08-11-93	CHKD BY RED	SHEET 8 OF 8

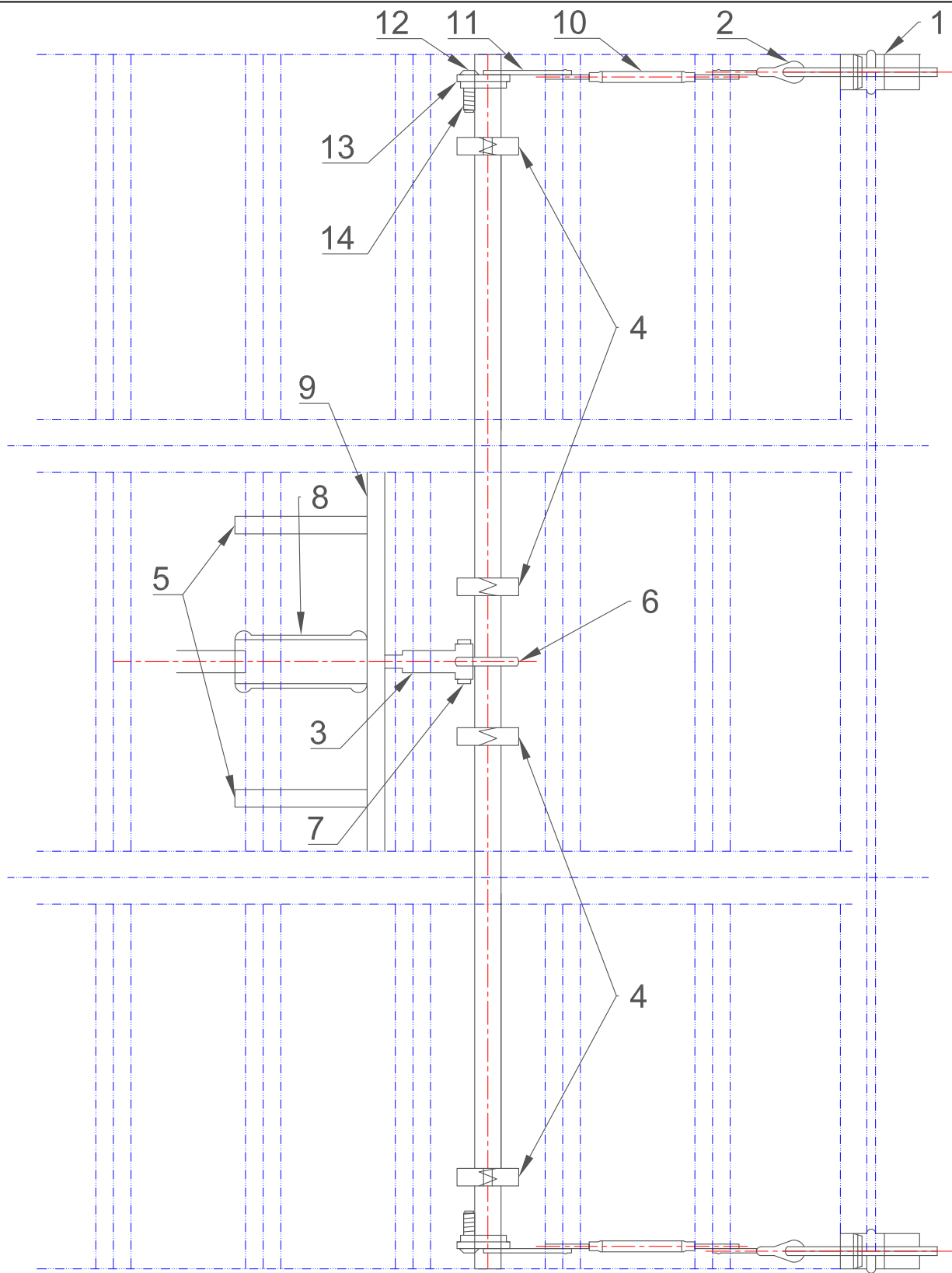


A.
PANA PACIFIC CORP
541 DIVISION STREET
CAMPBELL, CALIFORNIA 95008
408-374-7900

PART #531 277 C1

PA DEPARTMENT OF TRANSPORTATION			
REVISIONS			C.B. RADIO CONNECTIONS
NO.	DATE	BY	
1	08-15-90	WHM	
2	07-02-97	DLW	
3	10-27-06	CJW	

1	08-15-90	WHM	SCALE	EQN-78
2	07-02-97	DLW	N/A	
3	10-27-06	CJW	RED	SHEET 1 OF 1



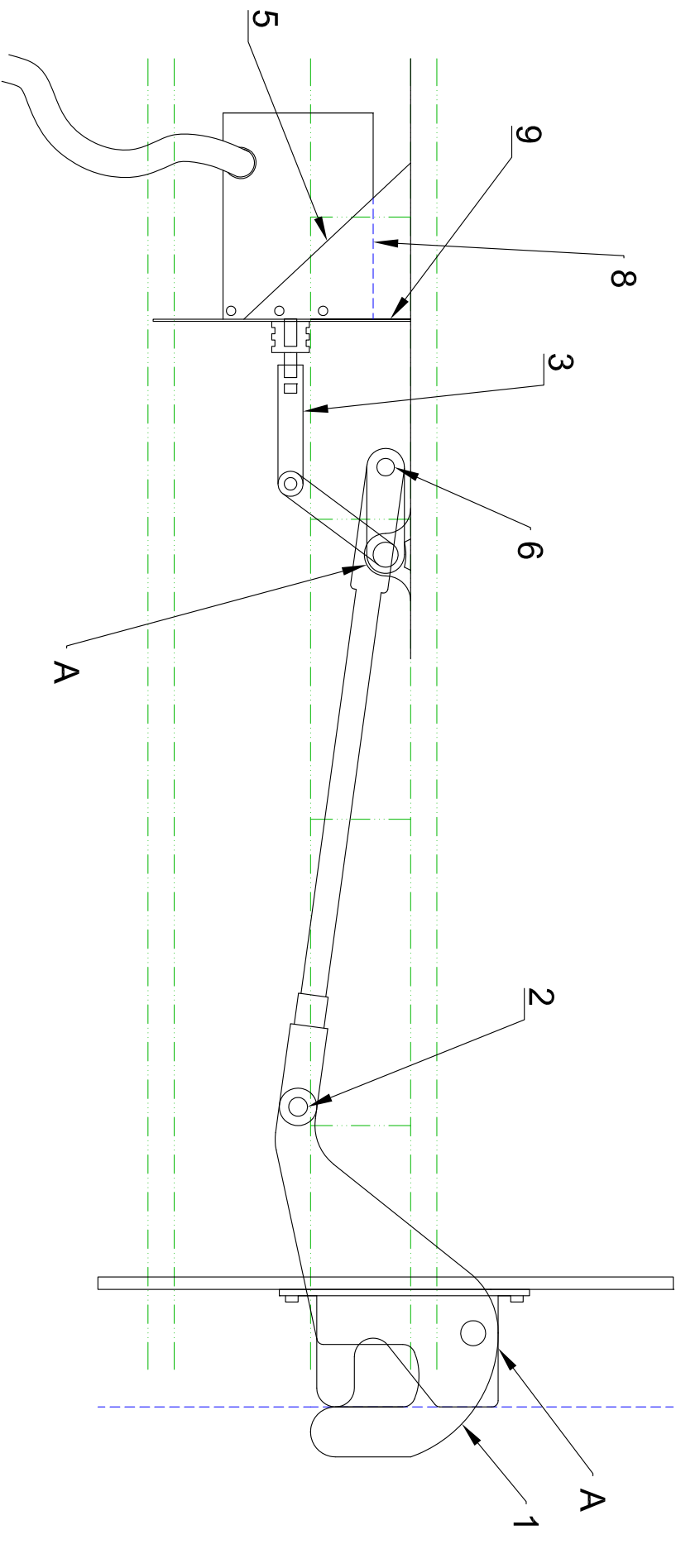
PA DEPARTMENT OF TRANSPORTATION

REVISIONS

NO.	DATE	BY
1	10-06-97	DLW
2	06-03-02	DWG
3	05-30-13	JFM

AIR TAILGATE, HARDWARE (DUMP TRUCK)

DRAWN BY	WHM	SCALE	3:1	EQN-78A
DATE	08-04-95	CHK'D BY	RED	SHEET 1 OF 3



AIR HOSE SHALL BE OF PROPER LENGTH AND CLAMPED SUFFICIENTLY TO ELIMINATE CHAFING. AIR LINE SHALL BE COVERED IN PLASTIC LOOM WHERE IT EXTENDS THROUGH THE BULKHEAD FITTING/S.

NOTES: A - DRILLED AND TAPED WITH ZERK FITTING OR NYLON BUSHING
BUYERS TEL. (440) 974-8888

PA DEPARTMENT OF TRANSPORTATION

REVISIONS

NO.	DATE	BY	AIR TAILGATE, HARDWARE (DUMP TRUCK)		
1	08-10-01	DWG			
2	06-03-02	DWG			
3	05-30-13	JFM			

DATE	DRAWN BY	SCALE	EQN-78A
08-04-95	WHM	2:1	
08-04-95	RED		

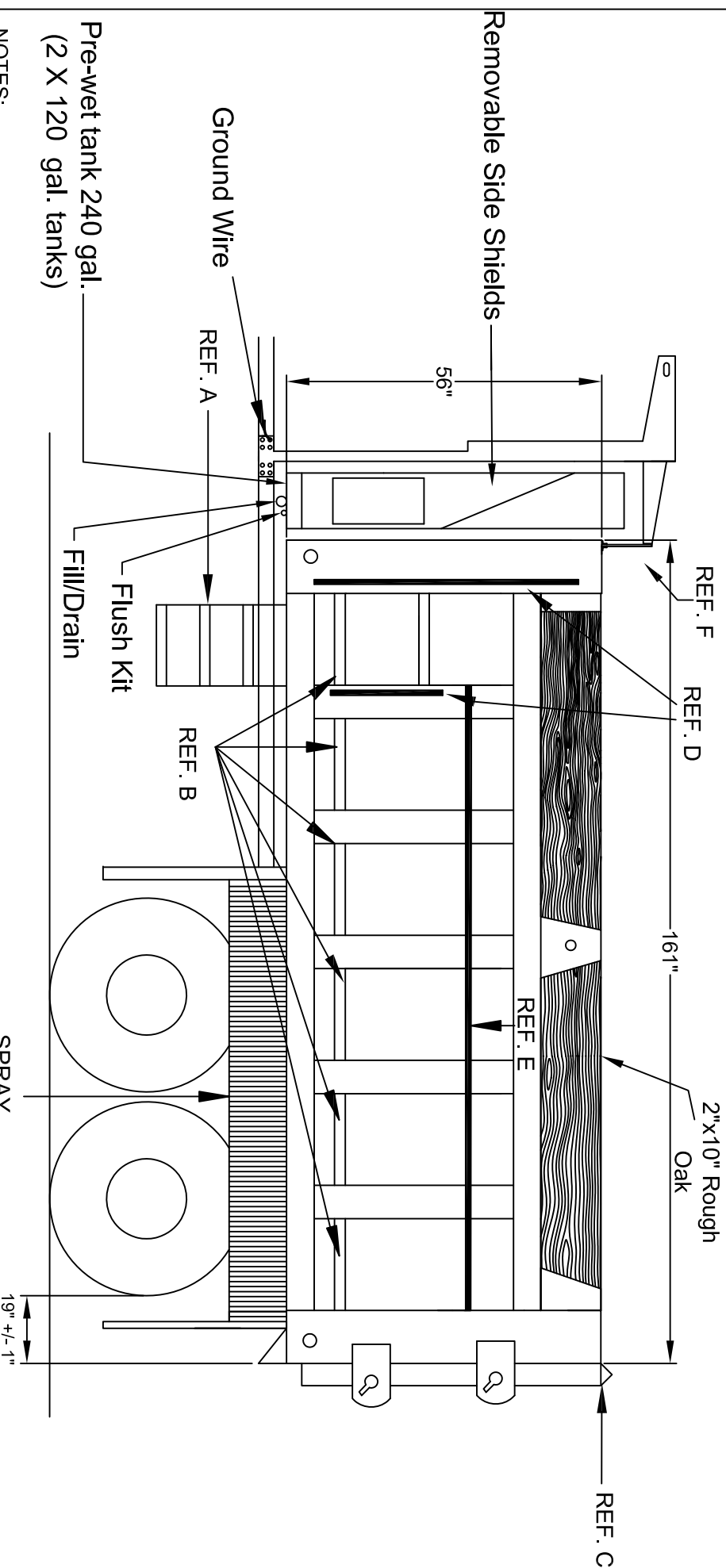
BILL OF MATERIAL (PARTIAL LIST)

<u>ITEM</u>	<u>QTY</u>	<u>DESCRIPTION</u>
1	2	HEAVY HARDWARE ASSEMBLY (LATCHING)
2	2	CLEVIS (BUYERS #2708-6C/ .50 in.)
3	1	AIR CYLINDER CLEVIS
4	4	BEARING BLOCK ASSEMBLY (WITH ZERK FITTING)
5	2	GUSSET
6	1	CAM / LINKAGE
7	1	YOKE PIN (BUYERS #B2708-1/2-8A/ .75in.)
8	1	AIR CYLINDER (AIR OVER SPRING OR AIR OVER AIR)
9	1	CYLINDER SUPPORT PLATE
10	2	TURNBUCKLE .625 in. x 6 in.
11	2	REAR LENGTH BAR
12	2	BOLT .625 IN. x 2 in.
13	2	FLAT WASHER .625 in.
14	3	NUT .625 in. NYLON LOCK

PA DEPARTMENT OF TRANSPORTATION

REVISIONS			AIR TAILGATE, HARDWARE (DUMP TRUCK)		
NO.	DATE	BY			
1	10-06-97	DLW			
2	06-03-02	DWG	DRAWN BY WHM	SCALE N/A	EQN-78A
3	06-03-13	JFM	DATE 08-04-95	CHK'D BY RED	SHEET 3 OF 3

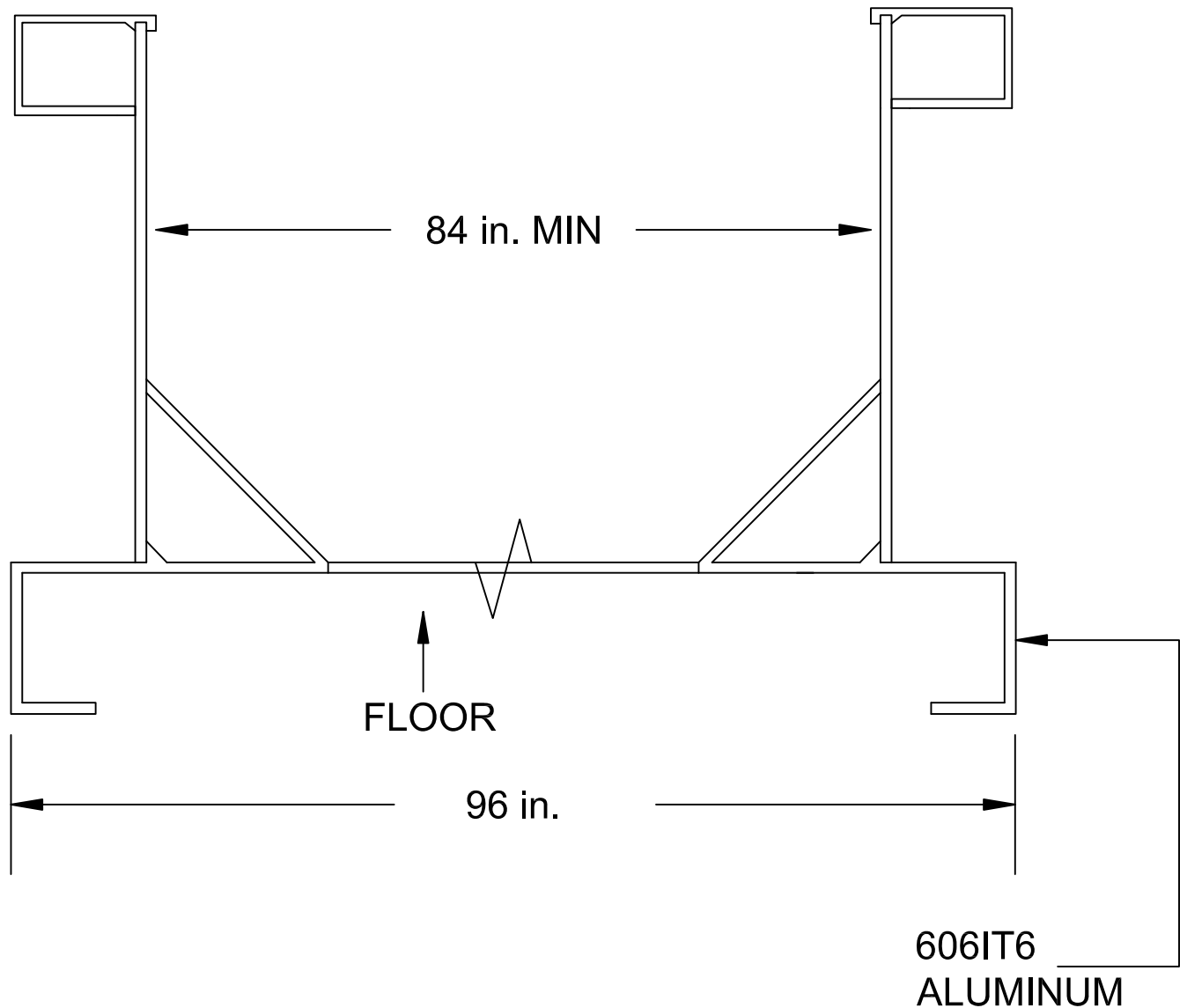
Fixed Cab Shield



NOTES:

- A. LADDER SHALL BE BUSTIN ALUMINUM PART # SALA305 - NO SUBSTITUTE. LADDER SHALL BE BOLTED, UTILIZING GRADE 8 BOLTS & LOCK NUTS, MOUNTED ON CENTER BETWEEN THE REAR OF THE DRIVERS SIDE FRONT CORNER POST AND THE FRONT OF THE FIRST VERTICAL SIDE BRACE.
- B. STEPS SHALL BE FULL WIDTH BETWEEN VERTICAL SIDE BRACES AND FLUSH WITH OUTSIDE EDGE OF BRACES, BUSTIN PART #DE0602 (PART # FOR 20 FOOT LENGTH), 2 3/4" WIDTH X 1 1/2" HIGH X 3/16" THICKNESS WITH SERRATED EDGES OR EQUAL.
- C. INVERTED 1 1/2 INCH ANGLE ALUMINUM.
- D. GRAB HANDLES 3/4 INCH ALUMINUM.
- E. 3/4 INCH ALUMINUM ROUND STOCK FOR TARP TIE DOWN.
- F. MATERIAL GUARD 1" THICK SKIRT BOARD RUBBER PER SPECIFICATION.

PA DEPARTMENT OF TRANSPORTATION				
REVISIONS			TYPE IV DUMP BODY	
NO.	DATE	BY		
1	07-13-09	TOD		
2	07-23-12	MJW	DRAWN BY DLW	SCALE N/A
3	04-27-15	GAW	CHECKED BY WHM	EQN-79A
			DATE 10-08-97	SHEET 1 OF 10

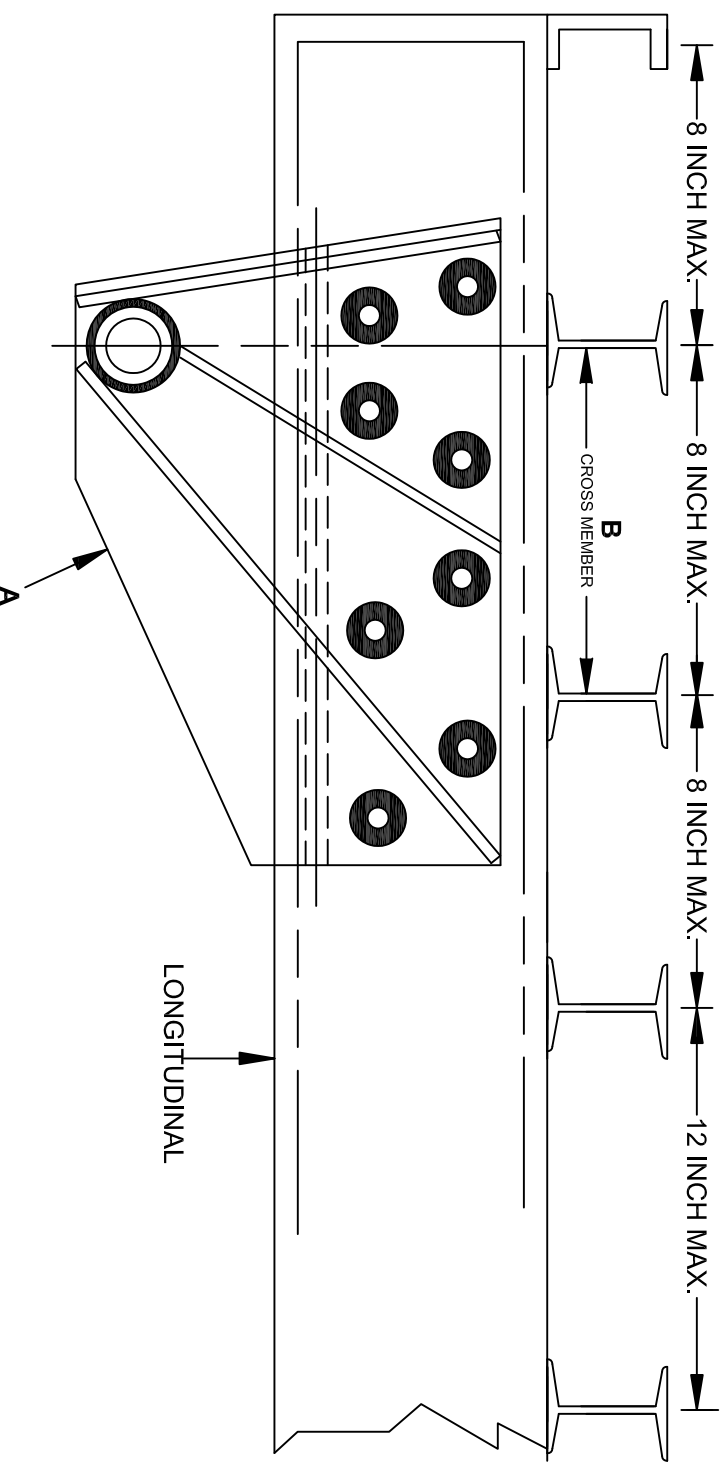


FLOOR:

1. ONE-PIECE BODY FLOOR SHALL BE .375 in. MINIMUM THICK ABRASION-RESISTANT ALUMINUM OF GRADE 5454H 34.
2. THE MATERIALS HAULED IN THESE VEHICLES WILL BE SALT, ABRASIVE AGGREGATE, WET MUD, ETC.
3. ALL DIMENSIONS IN INCHES.

PA DEPARTMENT OF TRANSPORTATION

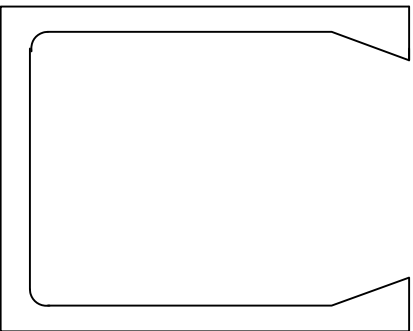
REVISIONS			TYPE IV DUMP BODY		
NO.	DATE	BY			
1	07-13-09	TOD			
2	07-23-12	MJW	DRAWN BY DLW	SCALE N/A	EQN-# 79A
3	04-27-15	GAW	DATE 11-05-97	CHK'D BY WHM	SHEET 2 OF 10



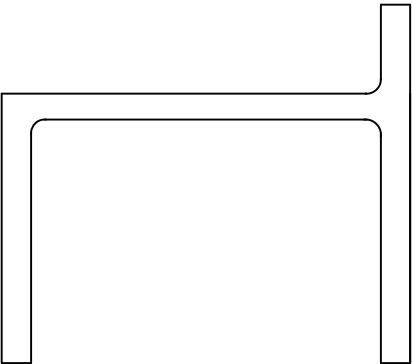
- A. BED MOUNTING BRACKETS SHALL BE A WEB STYLE DESIGN AND SPAN ACCROSS TWO CROSS MEMBERS. THE WEB MOUNT SHALL BE DESIGNED FOR SEVERE DUTY SERVICE. THE BOLTS (8 MINIMUM) SHALL BE OF GRADE 8 MINIMUM WITH SELF-LOCKING GRADE 8 NUTS.
- B. THE LAST FOUR CROSS-MEMBERS SHALL BE PLACED ON 8 INCH MAXIMUM CENTERS, WITH THE BALANCE ON 12 INCH MAXIMUM CENTERS.

-
- This diagram shows a cross-section of the rubber bushing assembly. It consists of a central rubber bushing (labeled 'RUBBER BUSHING') sandwiched between two aluminum plates (labeled 'TYPICAL .12in. FORMED ALUMINUM'). The rubber bushing has a complex, stepped profile. The top plate has a width of 2in. and the bottom plate has a width of 3in. The total height of the assembly is 3in.

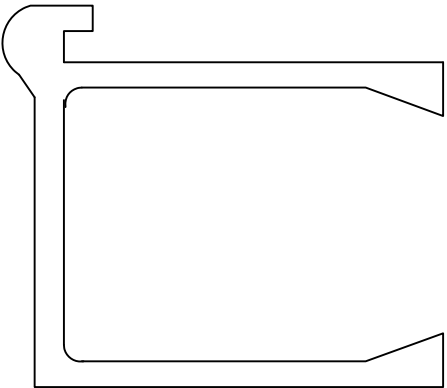
PA DEPARTMENT OF TRANSPORTATION				
REVISIONS			TYPE IV DUMP BODY	
NO.	DATE	BY		
1	07-13-09	TOD		
2	07-23-12	IMJW		
3	04-27-15	GAW		
DRAWN BY		DLW	SCALE	
DATE		09-25-97	CHK'D BY	WHM
			SHEET 3 OF 10	



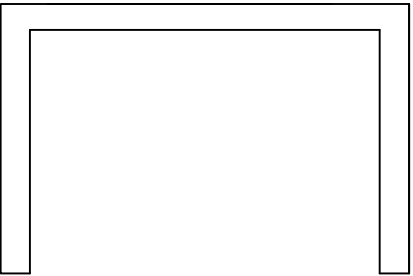
APPROVED HOIST CYLINDER
CHANNEL EXTRUSIONS



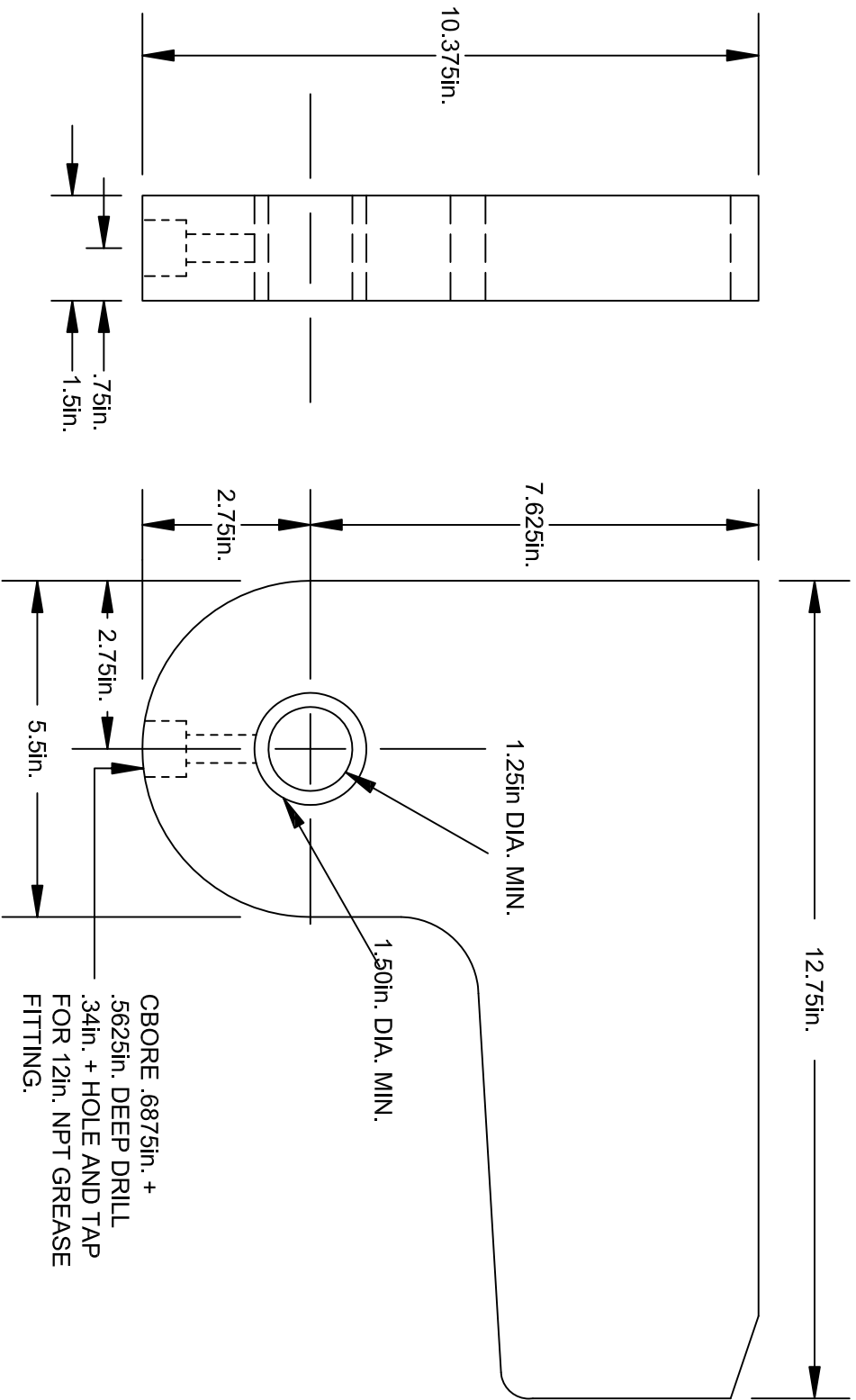
APPROVED REAR
CROSSMEMBER EXTRUSIONS



APPROVED FRONT CROSS
MEMBER EXTRUSION



PA DEPARTMENT OF TRANSPORTATION					
REVISIONS			TYPE IV DUMP BODY		
NO.	DATE	BY			
1	07-23-12	MJW			
2	04-27-15	GAW			
3					
			DRAWN BY TOD	SCALE N/A	EQN-79A
			DATE 07-13-09	CHK'D BY DMA	SHEET 4 OF 10



PA DEPARTMENT OF TRANSPORTATION

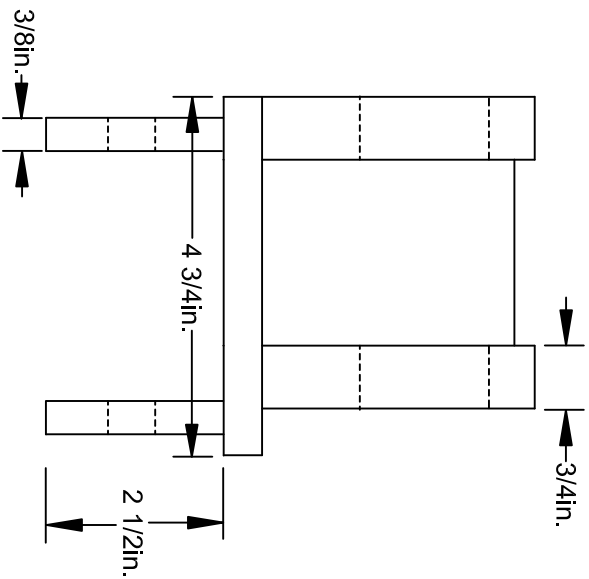
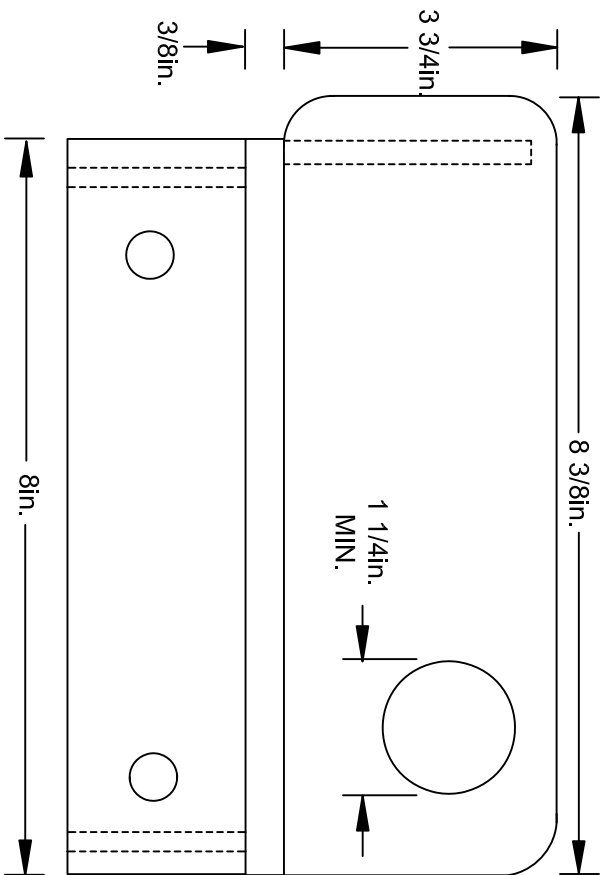
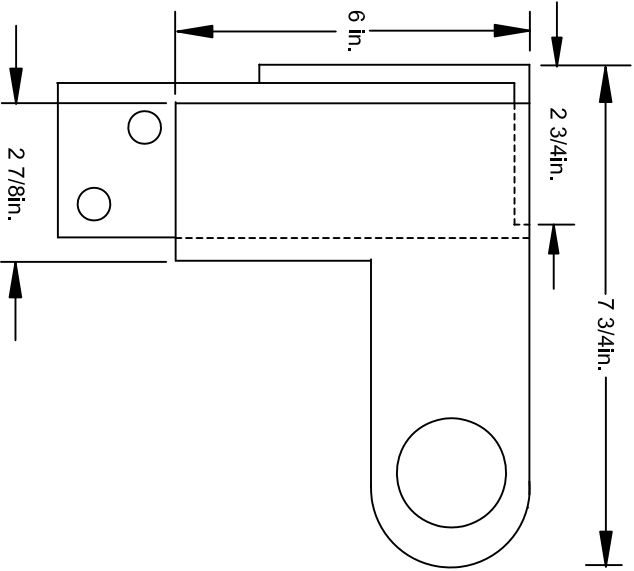
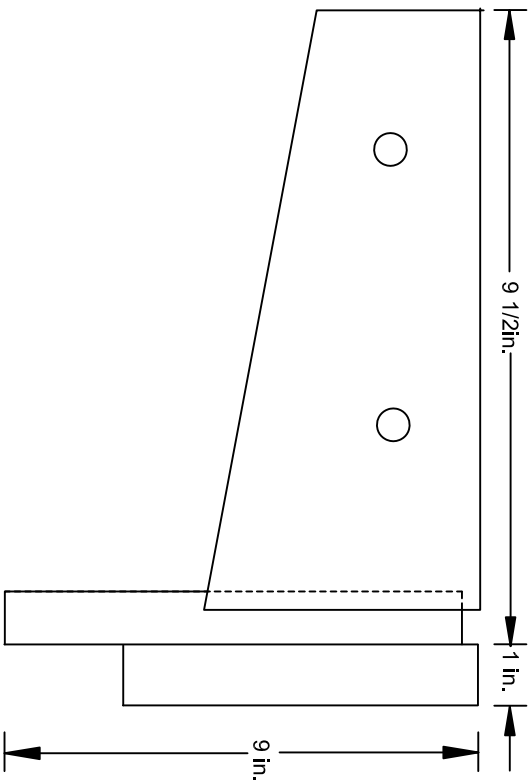
REVISIONS

NO.	DATE	BY	TYPE IV DUMP BODY
-----	------	----	-------------------

1	07-13-09	TOD	
---	----------	-----	--

2	07-23-12	MJW	DLW	SCALE	N/A	EQN-# 79A
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3	04-27-15	GAW	DATE	09-25-97	CHKD BY	WHM	SHEET 5 OF 10
---	----------	-----	------	----------	---------	-----	---------------

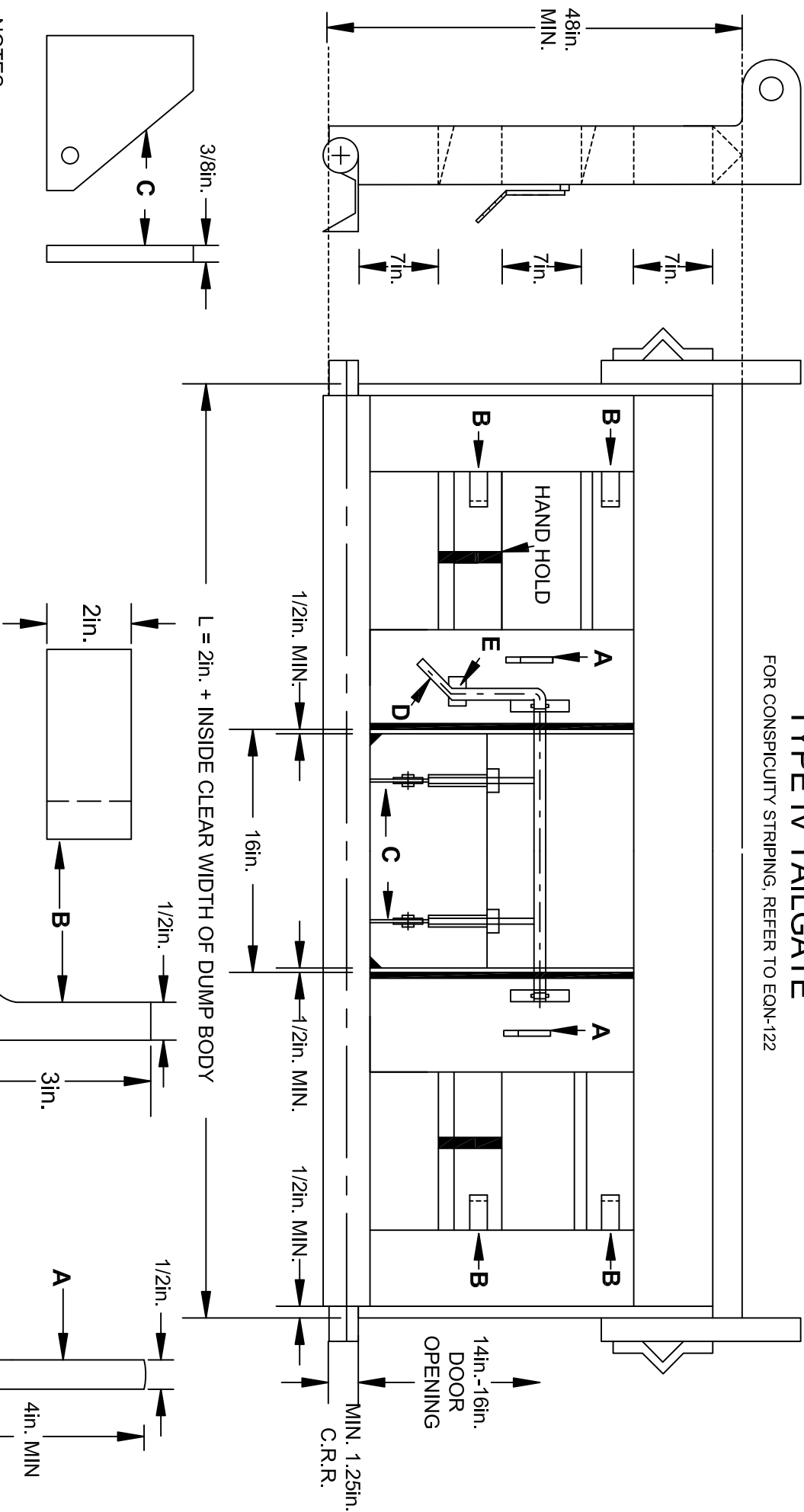


PA DEPARTMENT OF TRANSPORTATION

REVISIONS				TYPE IV DUMP BODY			
NO.	DATE	BY					
1	07-23-12	MJW					
2	04-27-15	GAW					
3							

DRAWN BY: TOD
 DATE: 07-13-09
 SCALE: N/A
 EQN-# 79A
 SHEET 6 OF 10

TYPE IV TAILGATE
FOR CONSPICUITY STRIPING, REFER TO EQN-122

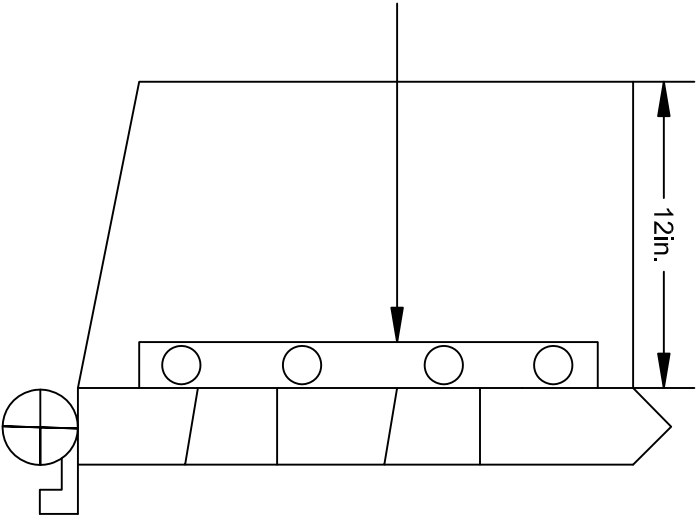


- NOTES:
- A. THERE SHALL BE 2 "J" HOOKS PER TAILGATE AND SHALL BE FULLY WELDED AS CHAIN HOLDERS.
 - B. THERE SHALL BE 4 TAILGATE CHAIN BRACKETS FULLY WELDED TO THE TAILGATE.
 - C. THERE SHALL BE 2 EARS MADE OF 3/8 INCH 304 STAINLESS STEEL FULLY WELDED TO THE MATERIAL CHUTE DOOR.
 - D. 1in. DIA. H.R.R. LIFT HANDLE WITH GRIP COVER. SUFFICIENT CLEARANCE AS TO NOT HIT KNUCKLES OF HAND WHEN APPLYING.
 - E. STRIKE PLATE SHALL BE SUFFICIENT DIMENSION TO COVER HANDLE STRIKING AREA, MINIMUM 3/16 INCH MATERIAL THICKNESS.
 - HORIZONTAL CROSS-MEMBER ABOVE THE DOOR SHALL BE ONE CONTINUOUS RUN ACROSS TAILGATE.
 - 1/4 INCH SLIDING GATE TYPE 304 STAINLESS STEEL.

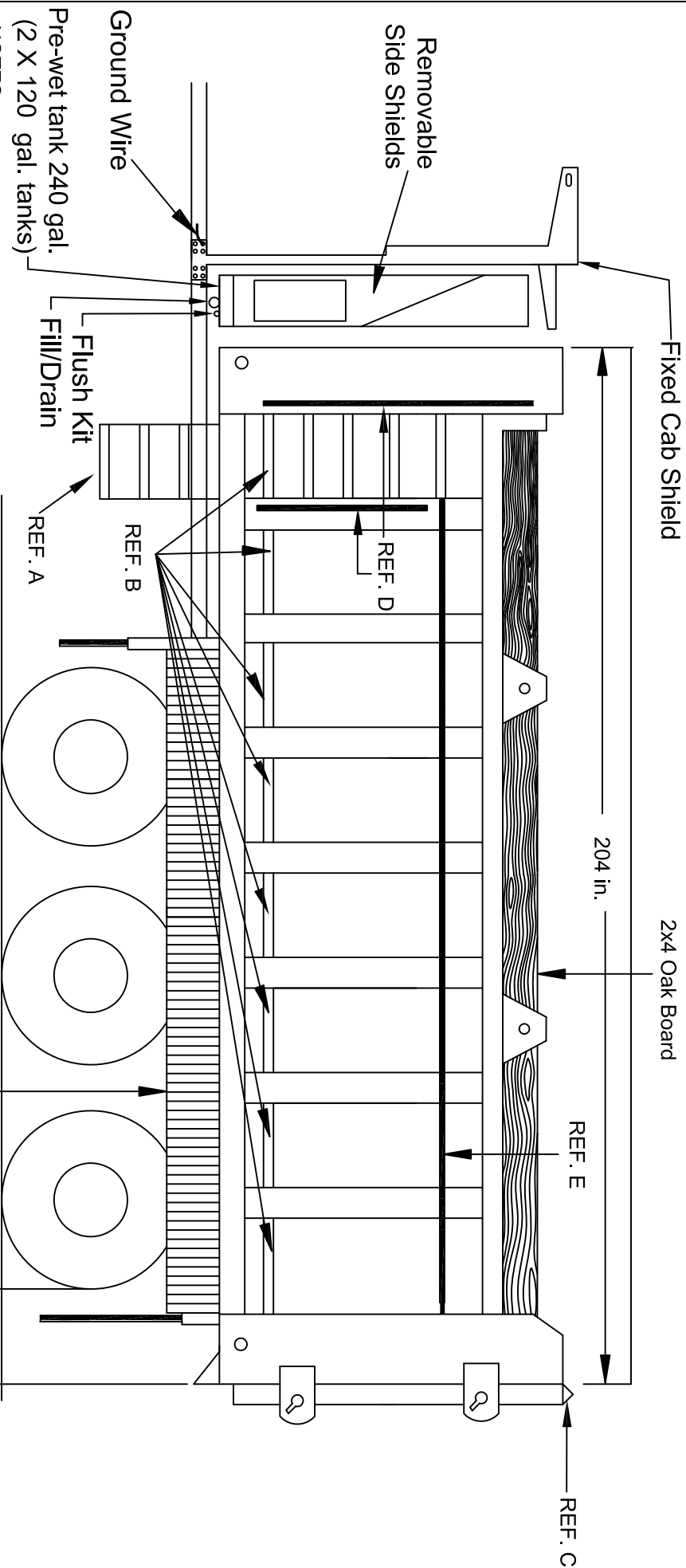
PA DEPARTMENT OF TRANSPORTATION			
REVISIONS			TYPE IV DUMP BODY
NO.	DATE	BY	
1	07-13-09	TOD	
2	07-23-12	MJW	
3	04-27-15	GAW	
			DRAWN BY SM
			DATE 08-11-93
			SCALE N/A
			CHRD BY RED
			EQN-79A
			SHEET 7 OF 10

TAILGATE WINGS
LEFT AND RIGHT INSIDE

NOTES:
2in. ANGLE ALUMINUM WITH 4
SLOTTED HOLES .375in. X 1in. ON
OUTER SIDE. .375in. STAINLESS
STEEL COUNTERSUNK MACHINE
SCREWS WITH STAINLESS STEEL
NUTS AND FLAT WASHERS SHALL
BE USED.



PA DEPARTMENT OF TRANSPORTATION						
REVISIONS			TYPE IV DUMP BODY			
NO.	DATE	BY				
1	07-13-09	TOD				
2	07-23-12	MJW	DRAWN BY SM	SCALE N/A	EQN-79A	
3	04-27-15	GAW	DATE 08-11-93	CHKD BY RED	SHEET 8 OF 10	

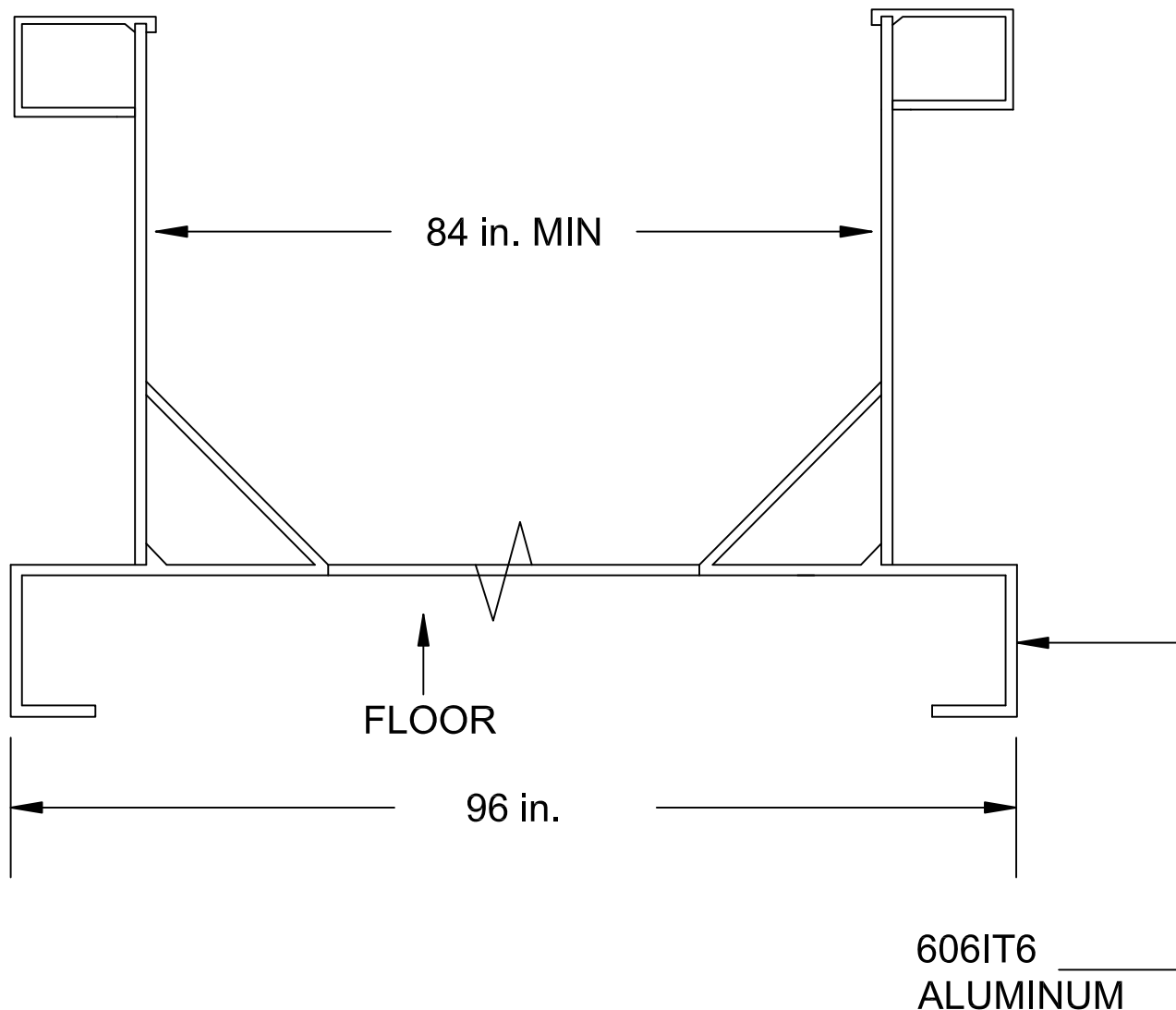


NOTES:

- A. LADDER SHALL BE BUSTIN ALUMINUM PART # SALA305 - NO SUBSTITUTE. LADDER SHALL BE BOLTED, UTILIZING GRADE 8 BOLTS & LOCK NUTS, MOUNTED ON CENTER BETWEEN THE REAR OF THE DRIVERS SIDE FRONT CORNER POST AND THE FRONT OF THE FIRST VERTICAL SIDE BRACE.
- B. STEPS SHALL BE FULL WIDTH BETWEEN VERTICAL SIDE BRACES AND FLUSH WITH OUTSIDE EDGE OF BRACES, BUSTIN PART #DE0602 (PART # FOR 20 FOOT LENGTH), 2 3/4" WIDTH X 1 1/2" HIGH X 3/16" THICKNESS WITH SERRATED EDGES OR EQUAL.
- C. INVERTED 1 1/2 INCH ANGLE ALUMINUM.
- D. GRAB HANDLES 3/4 INCH ALUMINUM.
- E. 3/4 INCH ALUMINUM ROUND STOCK FOR TARP TIE DOWN.

PA DEPARTMENT OF TRANSPORTATION

REVISIONS			TRI-AXLE DUMP BODY		
NO.	DATE	BY			
1	10-20-09	TOD			
2	6-25-12	MJW	DRAWN BY	DLW	SCALE
3	08-19-14	ACT	DATE	11-05-97	CHKD BY
				WHM	EQN-79T
			SHEET 1 OF 9		



FLOOR:

1. ONE-PIECE BODY FLOOR SHALL BE .375 in. MINIMUM THICK ABRASION-RESISTANT ALUMINUM OF GRADE 5454H 34.
2. THE MATERIALS HAULED IN THESE VEHICLES WILL BE SALT, ABRASIVE AGGREGATE, WET MUD, ETC.
3. ALL DIMENSIONS IN INCHES.

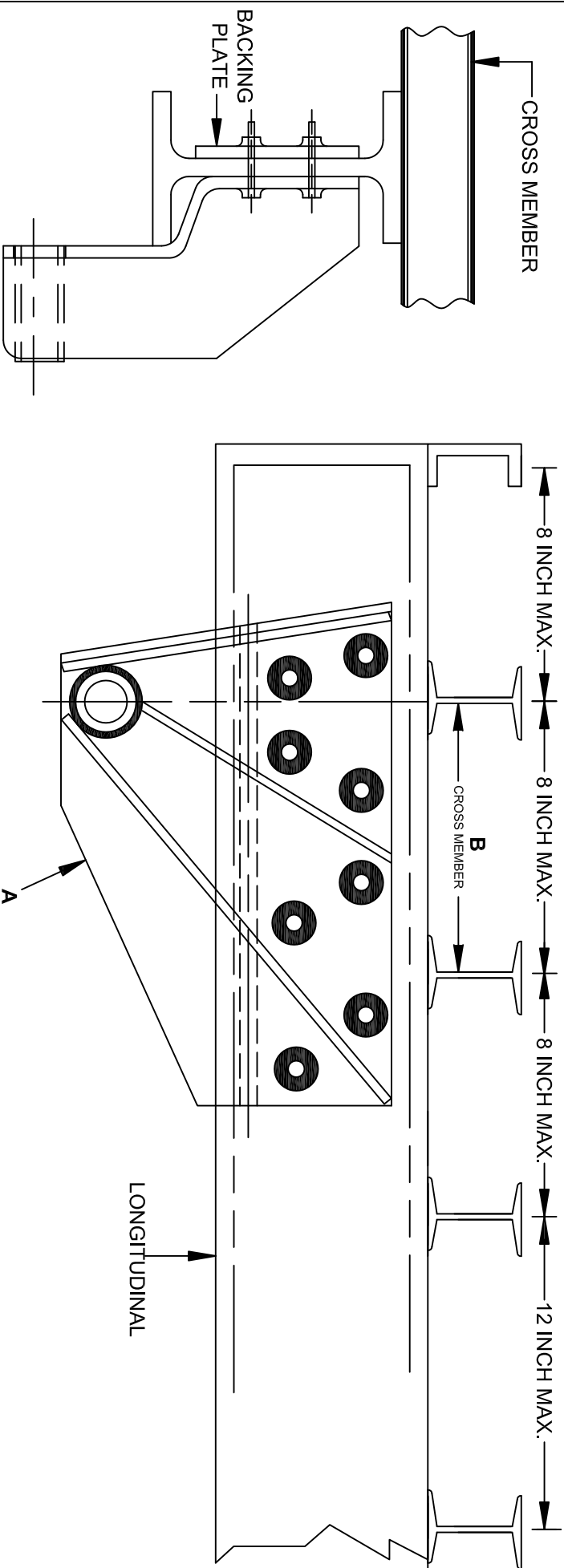
PA DEPARTMENT OF TRANSPORTATION

REVISIONS

NO.	DATE	BY
1	10-20-09	TOD
2	06-25-12	MJW
3	08-19-14	ACT

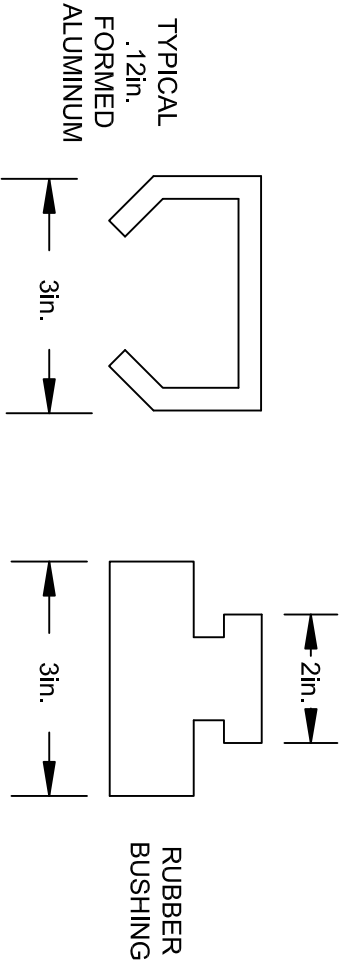
TRI-AXLE DUMP BODY

DRAWN BY	DLW	SCALE	N/A	EQN-79-T
DATE	11-05-97	CHK'D BY	WHM	SHEET 2 OF 9

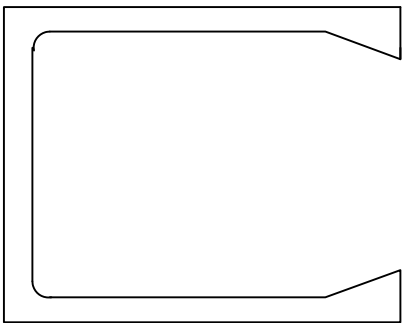


NOTES:

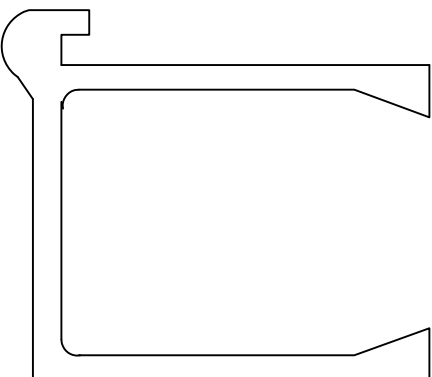
- A. BED MOUNTING BRACKETS SHALL BE A WEB STYLE DESIGN AND SPAN ACCROSS TWO CROSS MEMBERS. THE WEB MOUNT SHALL BE DESIGNED FOR SEVERE DUTY SERVICE. THE BOLTS (8 MINIMUM) SHALL BE OF GRADE 8 MINIMUM WITH SELF-LOCKING GRADE 8 NUTS.
- B. THE LAST FOUR CROSS-MEMBERS SHALL BE PLACED ON 8 INCH MAXIMUM CENTERS, WITH THE BALANCE ON 12 INCH MAXIMUM CENTERS.
- THE BODY SHALL BE SHOCK MOUNTED TO AVOID STRESS ON ROUGH ROADS WHEN EMPTY.
- "FULL-LENGTH" BODY TO FRAME RUBBER MOUNTING SYSTEM.
- THE REAR PIN HINGE SHALL BE A MINIMUM OF 2 INCH DIAMETER, AND SHALL HAVE A GREASABLE HINGE BUSHING 1/2 INCH WALL. THERE SHALL BE MYLAR OR APPROVED EQUAL BETWEEN METAL BRACKETS AND ALUMINUM LONGITUDINAL RAILS



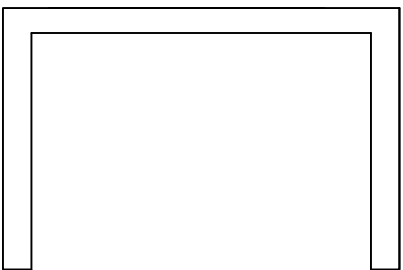
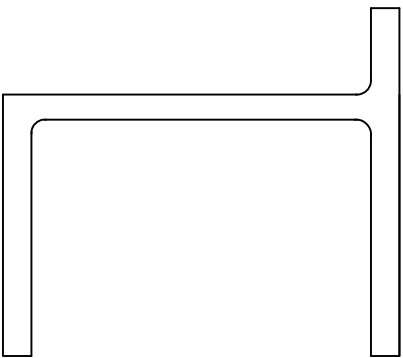
PA DEPARTMENT OF TRANSPORTATION					
REVISIONS			TRI-AXLE DUMP BODY		
NO.	DATE	BY			
1	10-20-09	TOD			
2	06-25-12	MJW	DRAWN BY	DLW	SCALE
3	08-19-14	ACT	DATE	09-25-97	CHK'D BY
			WHM SHEET 3 OF 9		



APPROVED HOIST CYLINDER
CHANNEL EXTRUSIONS

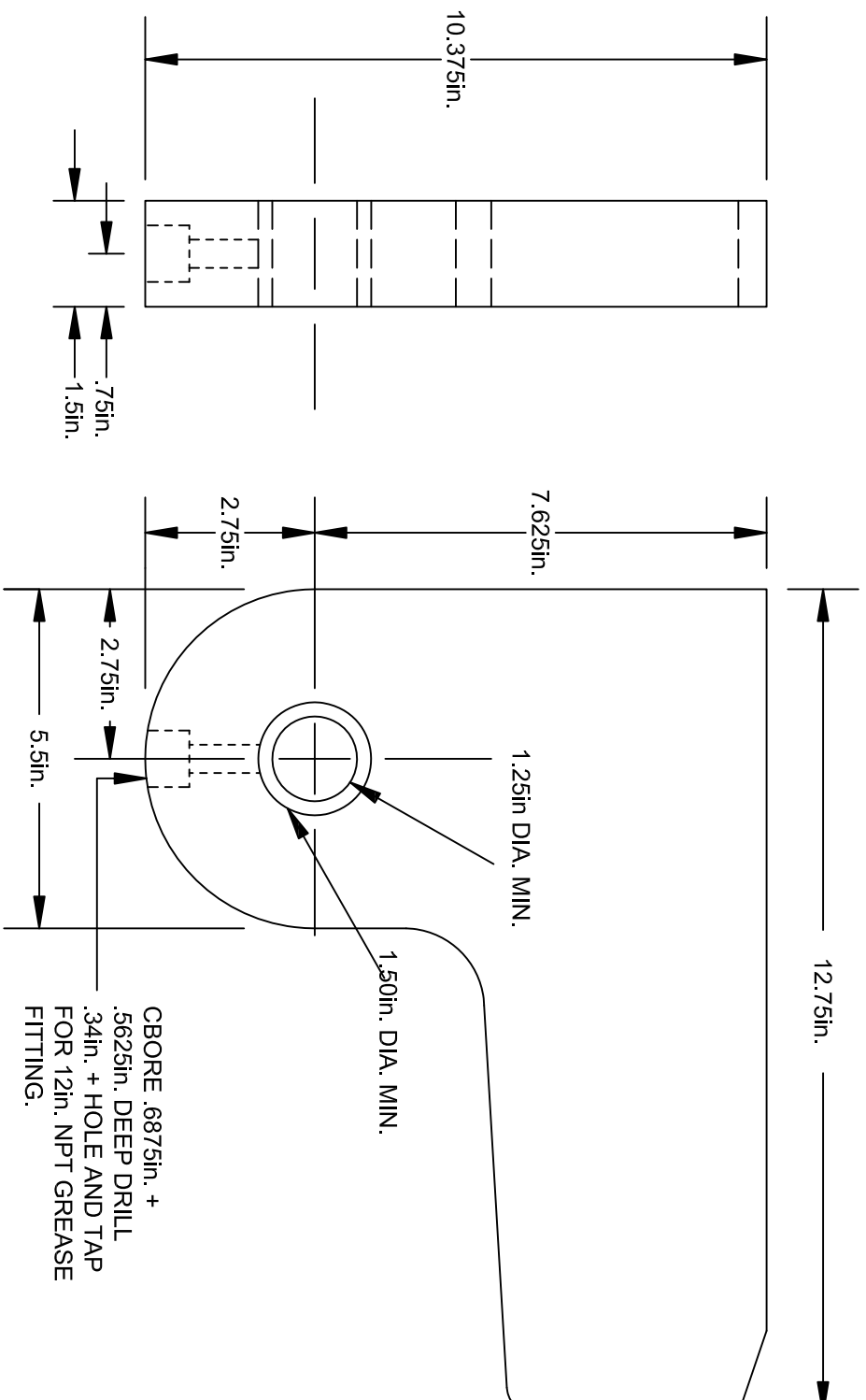


APPROVED FRONT CROSS
MEMBER EXTRUSION

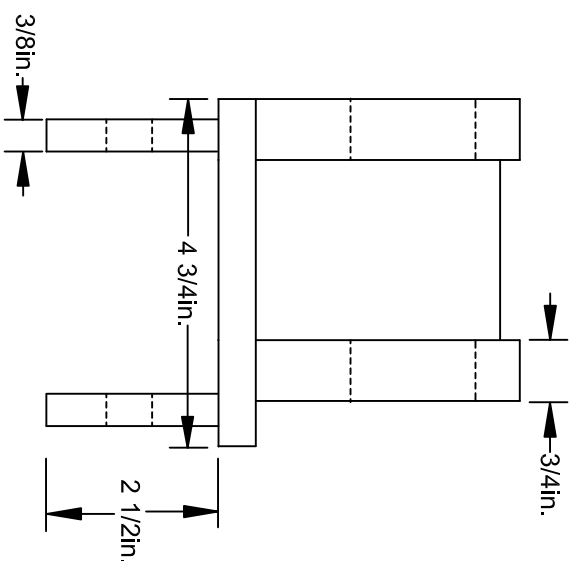
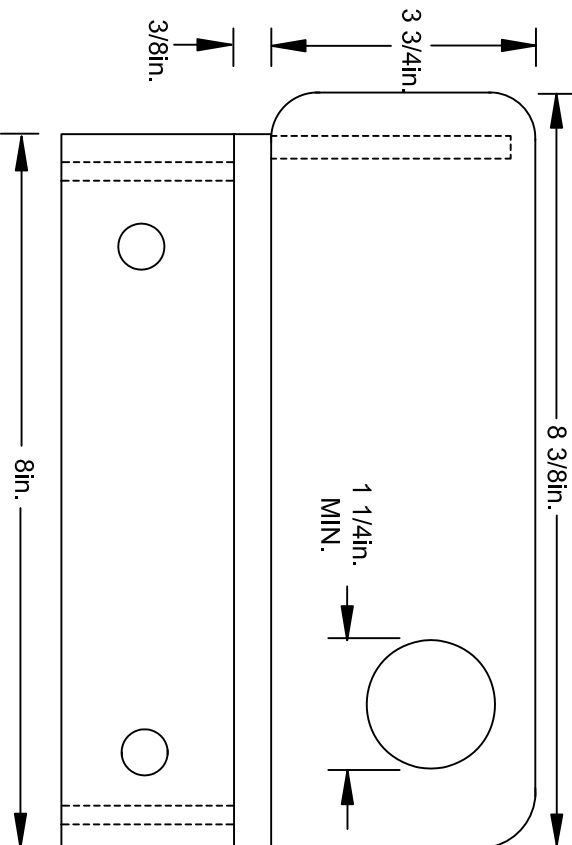
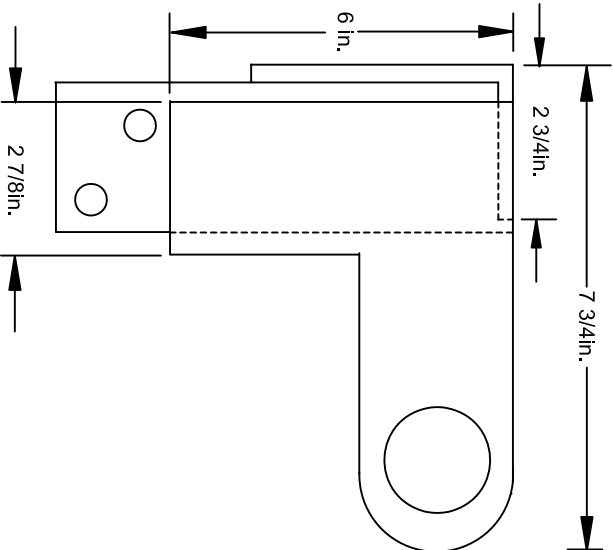
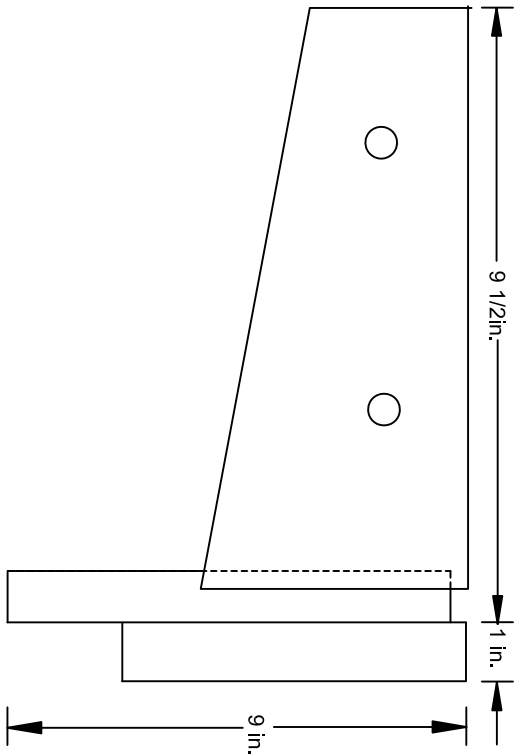


APPROVED REAR
CROSSMEMBER EXTRUSIONS

PA DEPARTMENT OF TRANSPORTATION						
REVISIONS			TRI AXLE DUMP BODY			
NO.	DATE	BY				
1	06-25-12	MJW				
2	08-19-14	ACT				
3						
			DRAWN BY	TOD	SCALE	
			DATE	10-20-09	DMA	SHEET 4 OF 9



PA DEPARTMENT OF TRANSPORTATION									
REVISIONS				TRI-AXLE DUMP BODY					
NO.	DATE	BY							
1	10-20-09	TOD							
2	06-25-12	MJW		DRAWN BY	DLW	SCALE	N/A	EQN-79T	
3	08-19-14	ACT		DATE	09-25-97	CHECK'D BY	WHM	SHEET 5 OF 9	



PA DEPARTMENT OF TRANSPORTATION

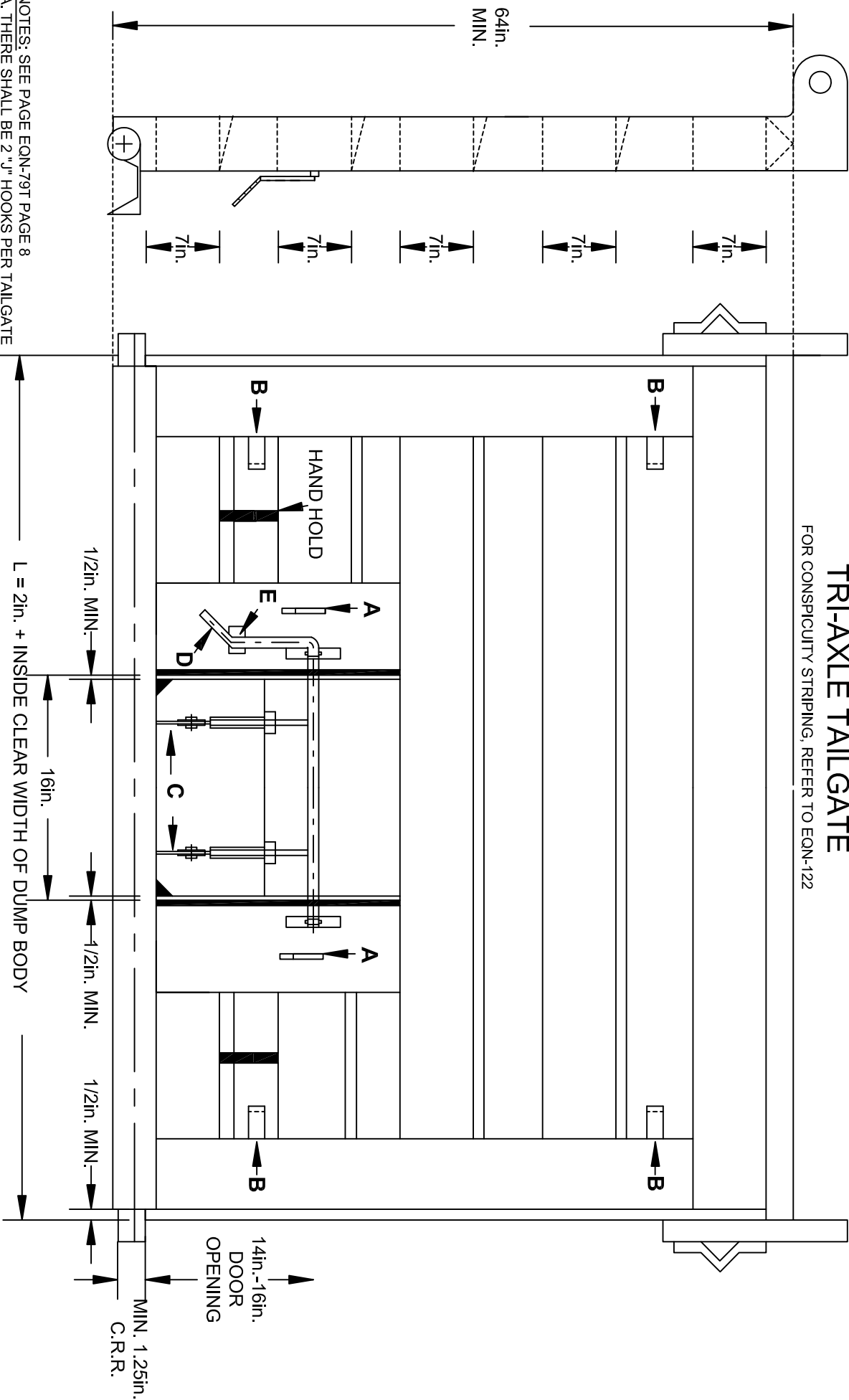
REVISIONS			TRI-AXLE DUMP BODY		
NO.	DATE	BY			
1	06-25-12	MJW			
2	08-19-14	ACT			
3					

NO.	DATE	BY	SCALE	TOD	EQN-79T
1	06-25-12	MJW	N/A		
2	08-19-14	ACT	N/A		
3			N/A		

10-20-09 DMA SHEET 6 OF 9

TRI-AXLE TAILGATE

FOR CONSPICUITY STRIPING, REFER TO EQN-122



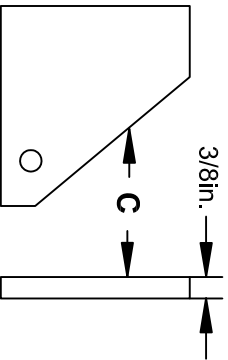
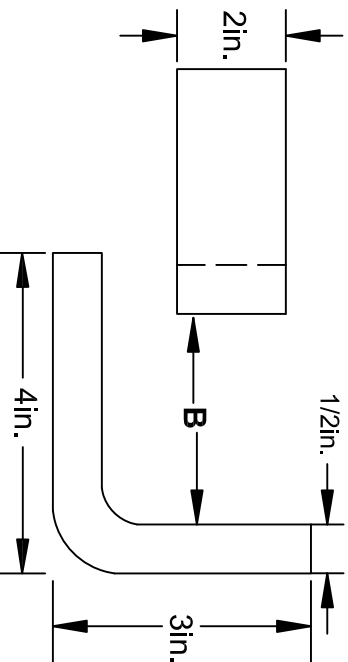
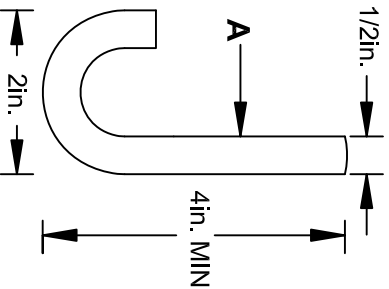
NOTES: SEE PAGE EQN-79T PAGE 8

- A. THERE SHALL BE 2 "J" HOOKS PER TAILGATE AND SHALL BE FULLY WELDED AS CHAIN HOLDERS.
- B. THERE SHALL BE 4 TAILGATE CHAIN BRACKETS FULLY WELDED TO THE TAILGATE.
- C. THERE SHALL BE 2 EARS MADE OF 3/8 INCH 304 STAINLESS STEEL FULLY WELDED TO THE MATERIAL CHUTE DOOR.
- D. 1in. DIA. H.R.R. LIFT HANDLE WITH GRIP COVER. SUFFICIENT CLEARANCE AS TO NOT HIT KNUCKLES OF HAND WHEN APPLYING.
- E. STRIKE PLATE SHALL BE SUFFICIENT DIMENSION TO COVER HANDLE STRIKING AREA. MINIMUM 3/16 INCH MATERIAL THICKNESS.
- HORIZONTAL CROSS-MEMBER ABOVE THE DOOR SHALL BE ONE CONTINUOUS RUN ACROSS TAILGATE.
- 1/4 INCH SLIDING GATE TYPE 304 STAINLESS STEEL.

PA DEPARTMENT OF TRANSPORTATION

REVISIONS			TRI-AXLE DUMP BODY		
NO.	DATE	BY			
1	10-20-09	TOD			
2	06-25-12	MJW			
3	08-19-14	ACT			

DRAWN BY	SM	SCALE	N/A	EQN-79T
DATE	08-11-93	CHKD BY	RED	SHEET 7 OF 9



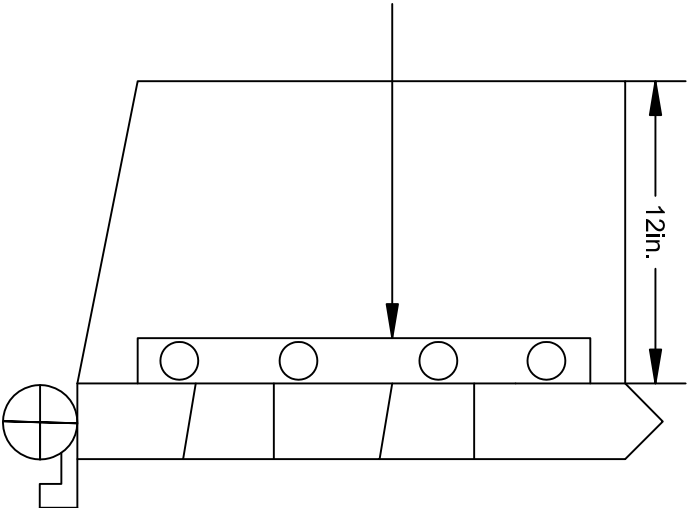
PA DEPARTMENT OF TRANSPORTATION

REVISIONS				TRI-AXLE DUMP BODY			
NO.	DATE	BY	TOD				
1	10-20-09						
2	06-25-12	MJW					
3	08-19-14	ACT					

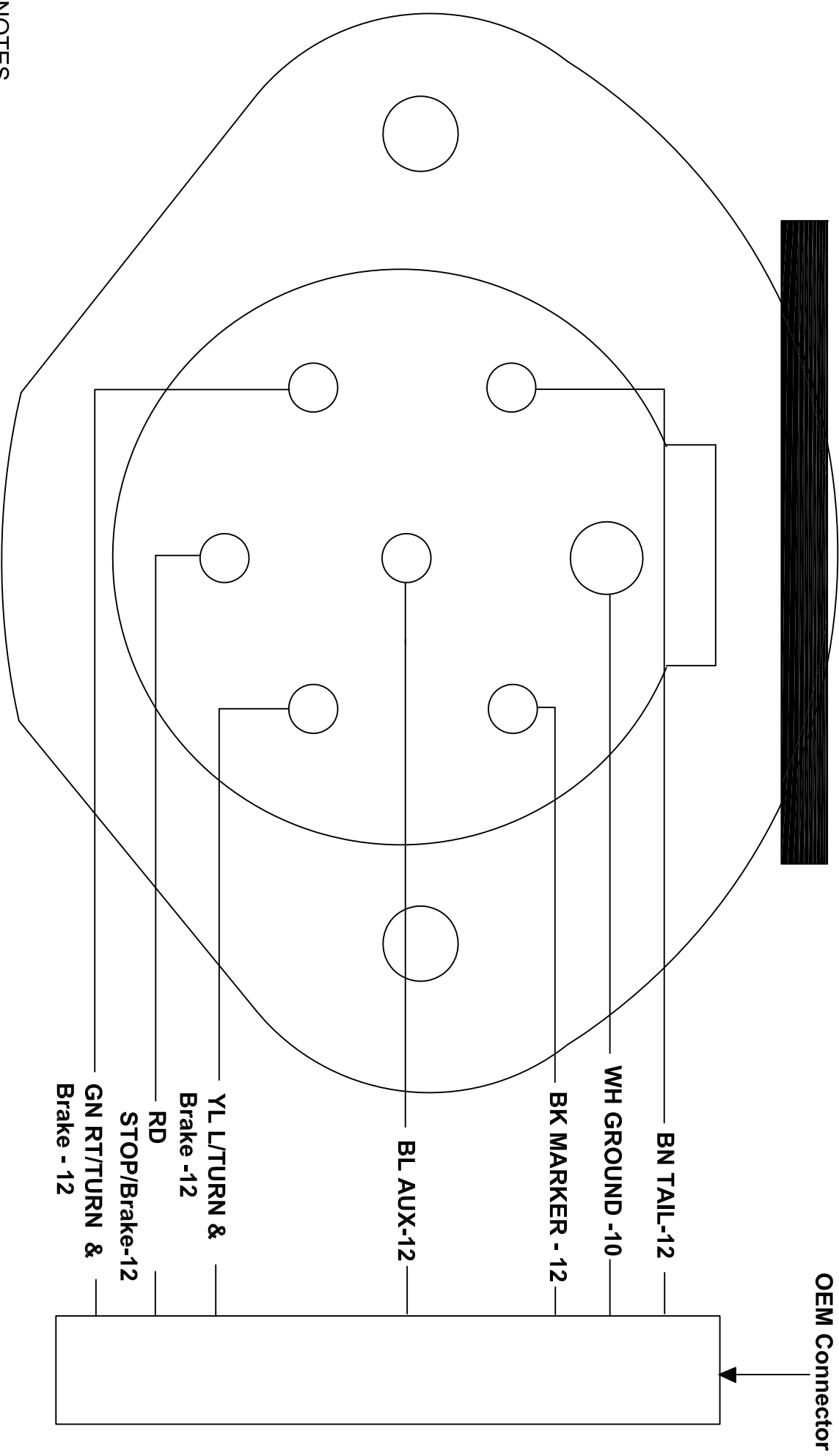
DRAWN BY	SM	SCALE	N/A	EQN-79T
DATE	08-11-93	CHK'D BY	RED	SHEET 8 OF 9

TAILGATE WINGS LEFT AND RIGHT INSIDE

NOTES:
2in. ANGLE ALUMINUM WITH 4
SLOTTED HOLES .375in. X 1in. ON
OUTER SIDE. .375in. STAINLESS
STEEL COUNTERSUNK MACHINE
SCREWS WITH STAINLESS STEEL
NUTS AND FLAT WASHERS SHALL
BE USED.



PA DEPARTMENT OF TRANSPORTATION					
REVISIONS			TRI-AXLE DUMP BODY		
NO.	DATE	BY			
1	10-20-09	TOD			
2	06-25-12	MJW	DRAWN BY	SM	SCALE
3	08-19-14	ACT	DATE	08-11-93	CHK'D BY
				RED	SHEET 9 OF 9
					EQN-79T
					N/A



NOTES

- View of female connector, standing at rear of truck, looking in at the connector.
- Brake lights shall function with turn signals.
- Wire shall be 7 way (1-10 guage; 6-12 guage) per ATA color code, clamped every 18" min.
- Connection shall be made using the factory OEM trailer wiring harness.
- All connections shall be water tight.

PA DEPARTMENT OF TRANSPORTATION				
REVISIONS			WIRING DIAGRAM/ 7 WAY CONNECTOR	
NO.	DATE	BY	DRAWN BY DJA SCALE N/A CHK'D BY WHM	
1	11-29-06	CJW		
2	08-12-08	MHH		
3	11-12-09	TOD	DATE 07-22-95	SHEET 1 OF 1

The diagram illustrates the internal layout of the Dump Truck Rear Module. It shows a rectangular chassis with various components mounted inside. At the top, there are three rectangular modules labeled 'STOP / TAIL / TURN', 'REVERSE', and 'YELLOW STROBE'. Below these, there are two larger rectangular modules, each containing a smaller rectangular component. The bottom of the chassis features a large rectangular module labeled 'C'. A dimension line at the bottom indicates a distance of 0.75in. - 1.00in. between the bottom of the chassis and the bottom of the 'C' module.

○

ENLARGED VIEW

REAR VIEW

☐

PA-1234A

PENNsylvania

A-1234A
PENNSYLVANIA

1

Min. 1in.

Min. 10in.

C:\DCL\JF\

25 in. MIN.

28 in.

—

A. HEIGHT OF LIGHTS SHALL NOT EXCEED 72" FROM TOP OF STOP / TURN / TAIL

LIGHT TO GROUND, BODY UNLOADED.

B. CENTERLINE OF FRAME RAILS.

C. SHALL BE ONE PIECE DESIGN, $\frac{3}{8}$ INCH X 6 INCH MINIMUM 6061-T6 ALUMINUM.

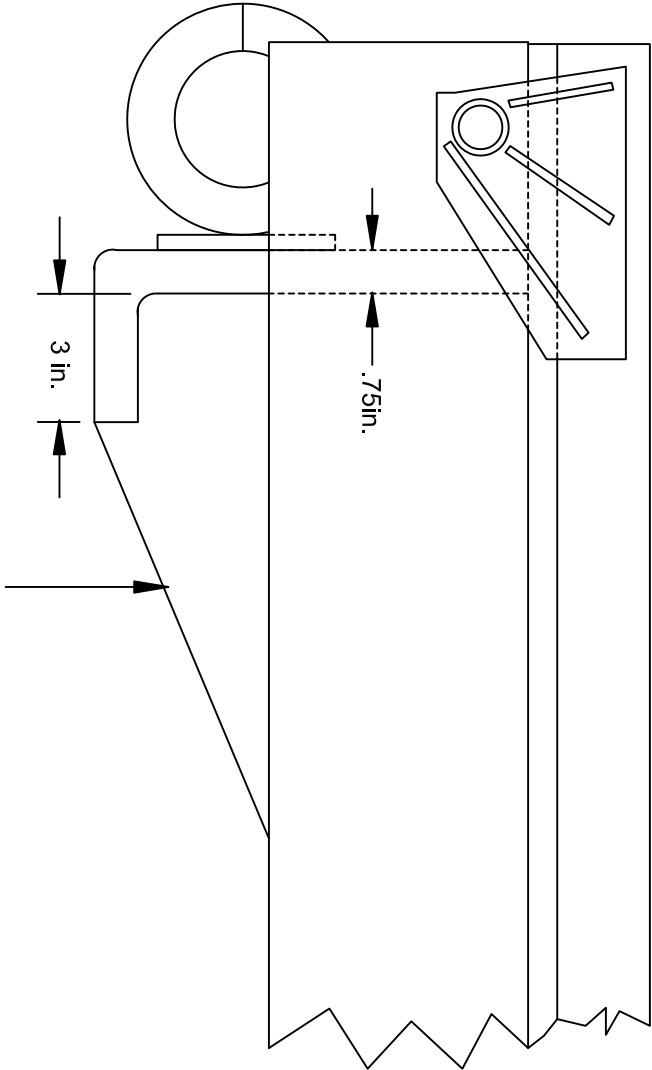
IT SHALL BE COMPLETELY WELDED.

D. AIR BRAKE OPTION

PA DEPARTMENT OF TRANSPORTATION							
REVISIONS			DUMP TRUCK REAR MODULE				
NO.	DATE	BY					
1	07-02-12	MLW	DRAWN BY	WHM	SCALE	N/A	EQN-81X
2	05-20-13	JFM	DATE	11-02-93	CHK'D BY	DMA	SHEET 1 OF 2
3	06-30-14	ACT					

DUMP TRUCK REAR MODULE

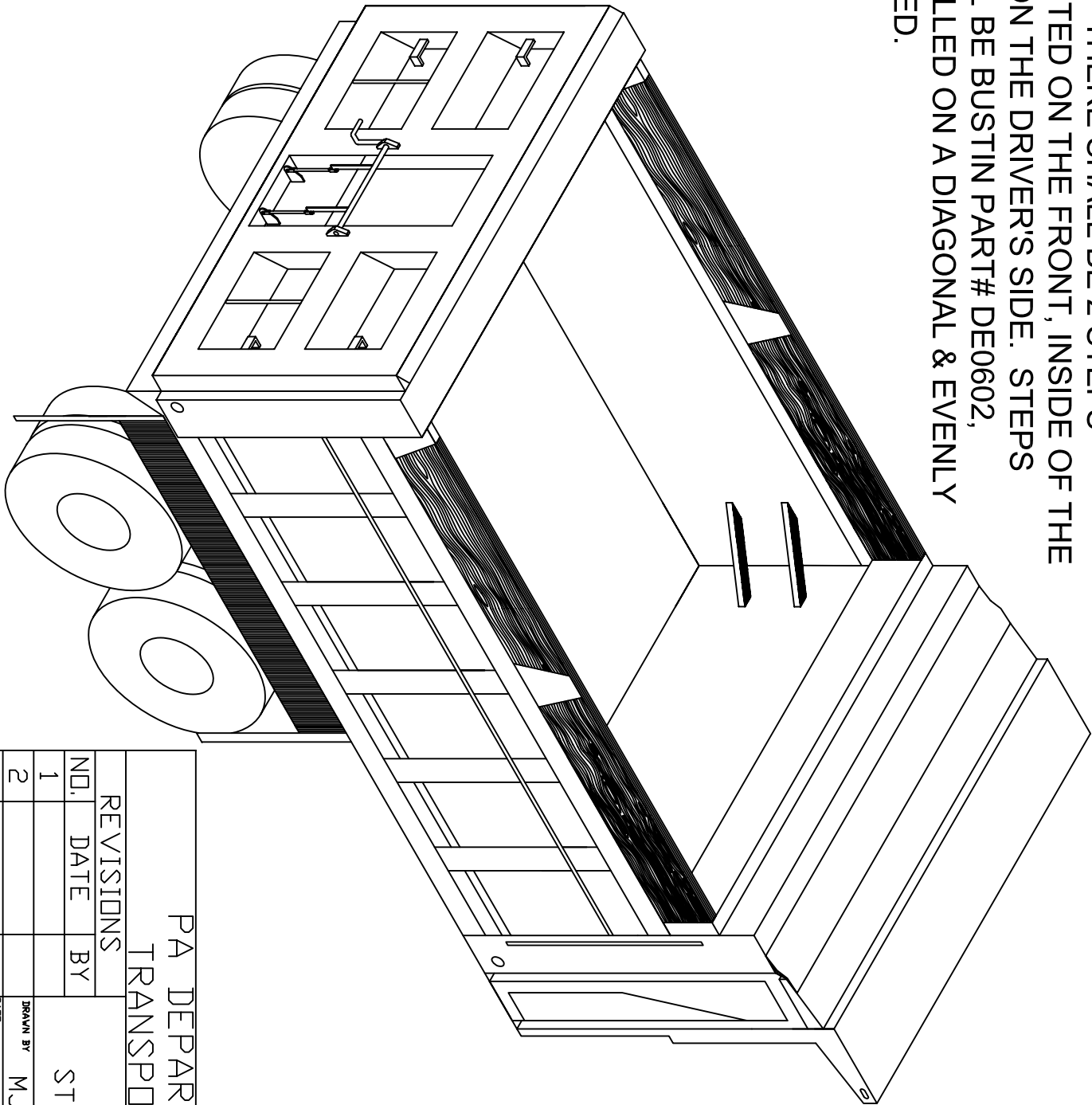
THIS DRAWING IS NOT INTENDED TO SHOW ACTUAL BODY HINGE PIN PLACEMENT. CORRECT BODY HINGE PIN PLACEMENT TO MEET THE VEHICLES INTENT STATEMENT IS THE VENDORS RESPONSIBILITY.



GUSSETS AND SUPPORTS SHALL BE CONSTRUCTED TO MEET 25 TON PINTLE REQUIREMENTS.

PA DEPARTMENT OF TRANSPORTATION					
REVISIONS			DUMP TRUCK REAR MODULE		
NO.	DATE	BY			
1	07-02-12	MJW	<small>DRAWN BY</small> WHM	<small>SCALE</small> N/A	EQN-81X
2	05-20-13	JFM	<small>DATE</small> 07-23-09	<small>CHK'D BY</small> DMA	SHEET 2 OF 2
3	06-30-14	ACT			

NOTE: THERE SHALL BE 2 STEPS
MOUNTED ON THE FRONT, INSIDE OF THE
BED ON THE DRIVER'S SIDE. STEPS
SHALL BE BUSTIN PART# DE0602,
INSTALLED ON A DIAGONAL & EVENLY
SPACED.



PA DEPARTMENT OF
TRANSPORTATION

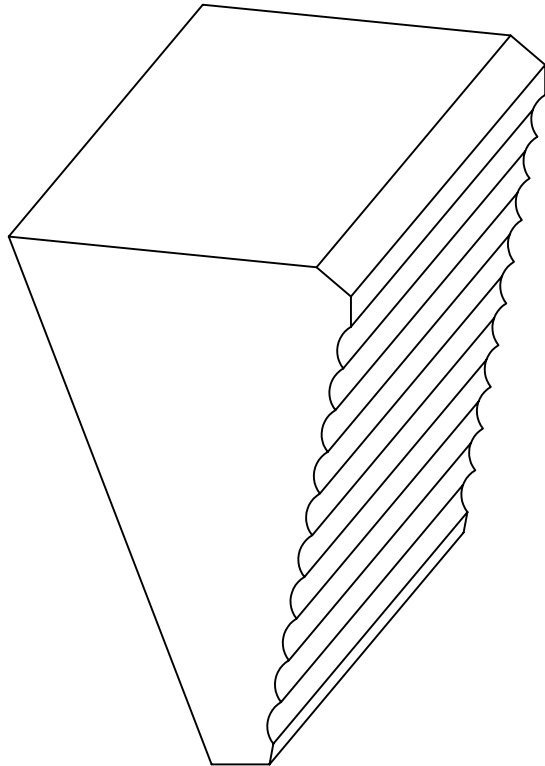
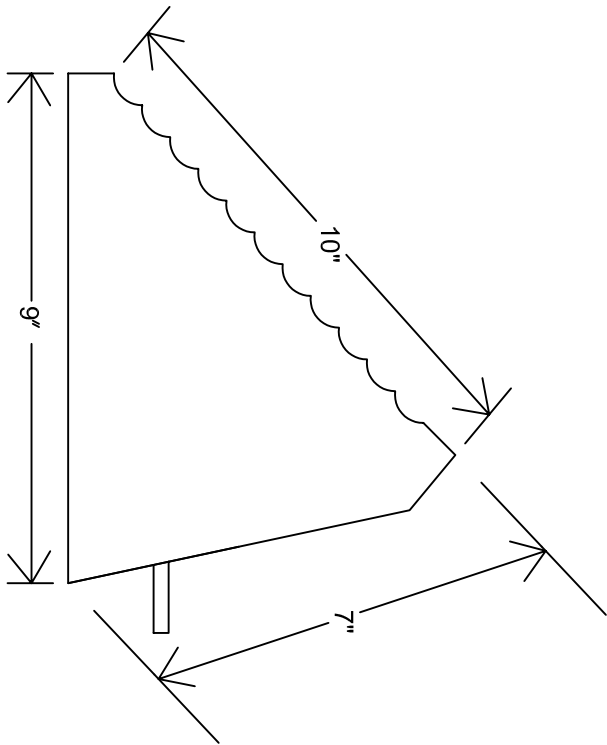
REVISIONS

NO.	DATE	BY
1		
2		
3		

DUMP BODY
STEP CONFIGURATION

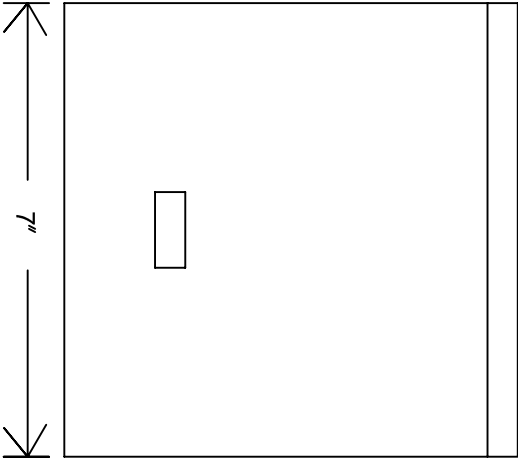
1			DRAWN BY	MJW	SCALE	N/A	EQN-81Y
2			DATE	07-02-12	CHK'D BY		SHEET 1 OF 1
3							

CHOCK REF. BUYERS WC1467 OR EQUAL WITH ROPE

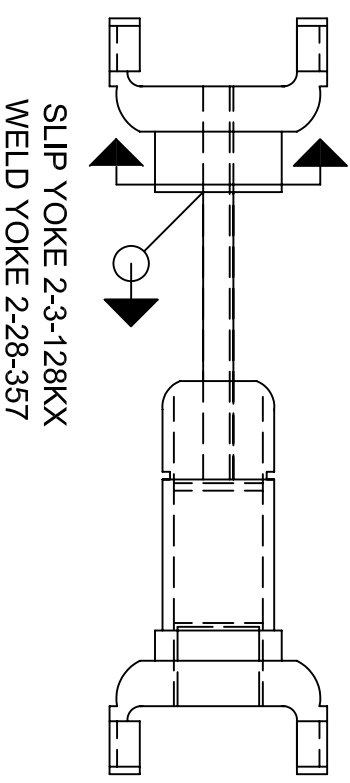
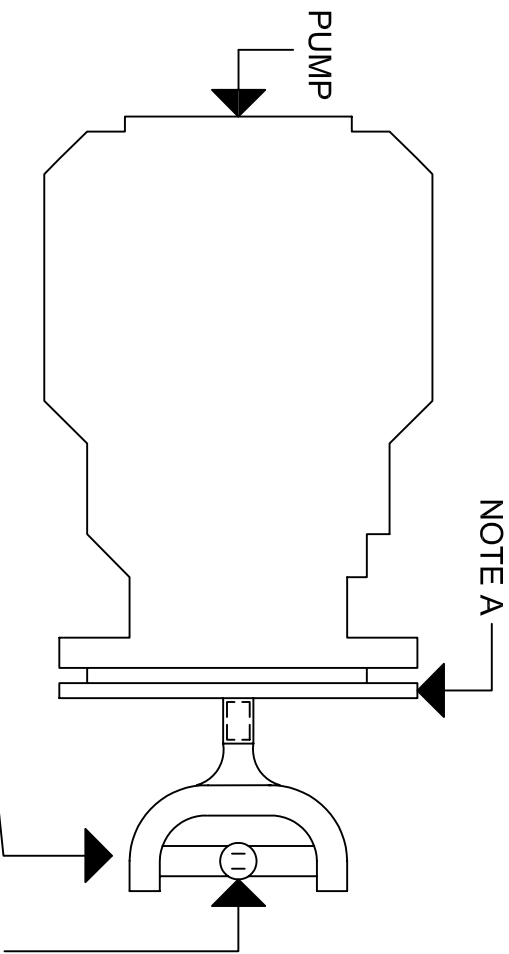


WC 1467

FINAL LOCATIONS SHALL BE DETERMINED AT THE PRE-BUILD MEETING. HOLDERS SHALL BE ALUMINUM.
TWO CHOCKS PER TRUCK SHALL BE SUPPLIED.
SHALL HAVE 4 FEET OF 3/8 INCH NYLON ROPE TIEING THE TWO CHOCKS TOGETHER.



PA DEPARTMENT OF TRANSPORTATION					
REVISIONS			CHOCK AND HOLDER		
NO.	DATE	BY			
1	07-23-09	TOD	DRAWN BY	KNH	SCALE
					N/A
2	09-28-11	TOD	DATE	07/19/05	CHK'D BY
					KGK
			SHEET 1 OF 1		



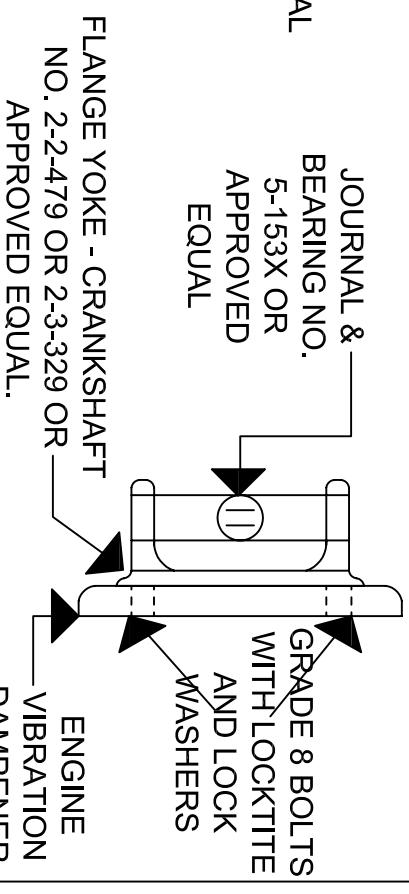
COMPANION FLANGE ADAPTER
NO. N3-1-1013-8 OR 35SF-1.50-37

JOURNAL &
BEARING
NO. 5-153X OR
APPROVED EQUAL

NOTE A
PUMP MOUNTING BRACKET SHALL BE $\frac{5}{8}$ in.,
MINIMUM, FORMED STEEL CHANNEL. AS
PER EQN - 90 SHEET 2

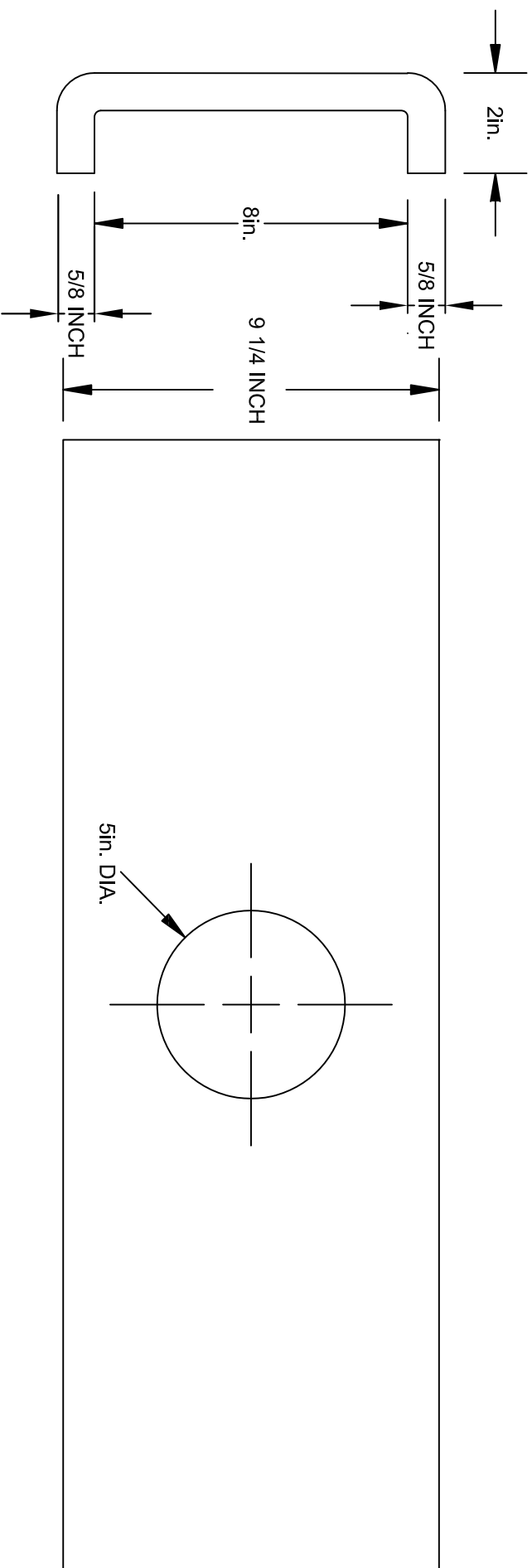
NOTES:

- 1.) DRIVESHAFT ASSEMBLY SHALL BE FACTORY BALANCED.
- 2.) SPICER 1310 SERIES, OR NEAPCO. NO SUBSTITUTE.
STANDARDIZATION.
- 3.) SLEEVE YOKE SHALL BE 1.375 in. I.D. 16 SPLINES.
- 4.) END YOKE ADAPTER SHALL ACCOMODATE 1.5 in.,
KEYED SHAFT.



PA DEPARTMENT OF TRANSPORTATION					
REVISIONS			DUMP TRUCK PTO ASSEMBLY		
NO.	DATE	BY			
1	4-6-07	KNH			
2	07-20-09	TOD			
3					

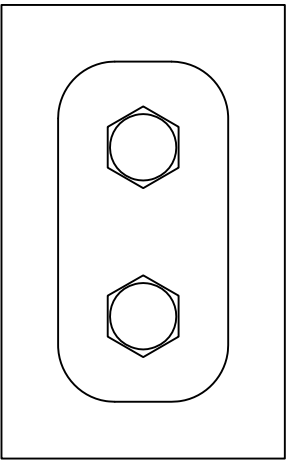
DRAWN BY	DLW	SCALE	N/A	EQN-# 90
DATE	07/17/97	CHK'D BY	WHM	SHEET 1 OF 2



PUMP MOUNTING BRACKET, REGARDLESS OF DESIGN, SHALL BE A MINIMUM 5/8 in. FORMED STEEL CHANNEL. THE PUMP BRACKET SHALL BE SLOPED TO MATCH THE ENGINE CRANKSHAFT. WIDTH DIMENSION SHALL BE FULL FRAME RAIL WIDTH. BRACKETRY TO ATTACH PUMP MOUNTING BRACKET TO TRUCK FRAME RAILS SHALL BE MINIMUM 5/8 in. THICKNESS. BRACKETS SHALL BE EITHER FULLY WELDED OR USE 3/4 in. GRADE 8 BOLTS OF SUFFICIENT LENGTH AND GRADE 8 LOCK NUTS, MINIMUM TWO BOLTS PER MOUNTING SURFACE.

PA DEPARTMENT OF TRANSPORTATION

REVISIONS			PUMP MOUNTING BRACKET		
NO.	DATE	BY			
1	07-03-97	DLW	<div> <div>DRAWN BY</div> <div>SWW</div> <div>SCALE</div> <div>N/A</div> <div>EQN-90</div> </div>		
2	06-03-02	DWG			
3	07-20-09	TOD			
			<div> <div>DATE</div> <div>12-04-95</div> <div>CHK'D BY</div> <div>RED</div> <div>SHEET</div> <div>2 OF 4</div> </div>		

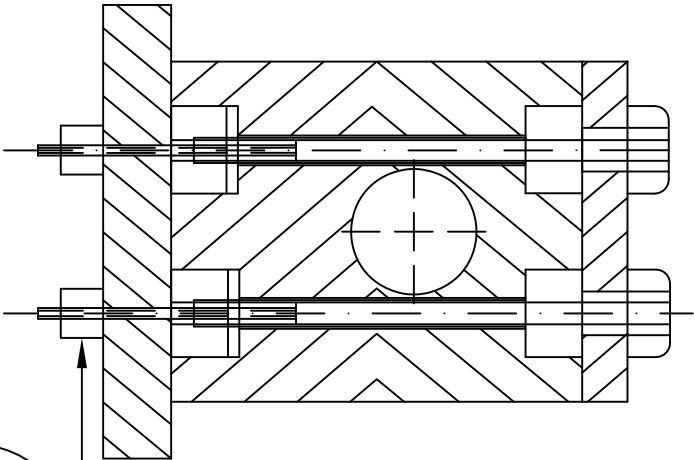


HYDRAULIC HOSES/ FITTINGS
HYDRAULIC HOSES SHALL NOT EXTEND BELOW THE TOP OF THE FRONT AXLE. ALL HYDRAULIC HOSES SHALL BE ADEQUATELY CLAMPED, SHIELDED FROM EXHAUST SYSTEM AND PREVENTED FROM RUBBING UP AGAINST ANY PART OF THE TRUCK FRAME BODY.

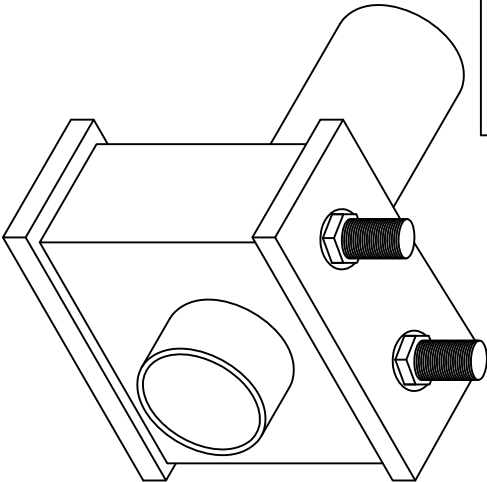
HYCON CLAMPS AS REQUIRED TO PREVENT CHAFFING OR RUBBING. DUE TO THE VARIATIONS OF SIZES PART NUMBERS HAVE NOT BEEN INCLUDED. WELD-ON OR BOLT-ON ARE ACCEPTABLE. AVAILABLE IN STANDARD AND HEAVY DUTY SERIES. LOCATIONS TO BE APPROVED BY CHIEF, EQUIPMENT DIVISION
REF: HYCON CORPORATION, LEHIGH VALLEY, PA, PHONE: 800-755-0546

OR
BEHRINGER PIPE SYSTEM INC., TEL: 201-589-0546

NOTE:
ALL BOLTS/NUTS SHALL BE COATED WITH NEVER SIEZE.



BOLT SHALL EXTEND BEYOND BASE



PA DEPARTMENT OF TRANSPORTATION				
REVISIONS			HOSES AND CLAMPS HYCON	
NO.	DATE	BY		
1	11-22-95	SWW		
2	08-15-97	DLW	DRAWN BY LM	SCALE N/A EQN-94
3	04-18-13	CJW	DATE RED	CHKD BY 11-03-78 SHEET 1 OF 2

FRONT COUPLERS SHALL BE MOUNTED TO A MANIFOLD PLATE POSITIONED IN THE CENTER OF THE FRONT FRAME EXTENSION WHICH HOUSES THE PTO ASSEMBLY. MOUNTING SEQUENCE SHALL BE AS FOLLOWS MOVING LEFT TO RIGHT WHEN FACING THE FRONT OF THE VEHICLE:

TWO (2) REVERSIBLE PLOW COUPLERS 5100-S2-8B AEROQUIP MALE, 5100-S2-8B AEROQUIP FEMALE

TWO (2) PLOW HOIST CYLINDER COUPLER 5100-S2-8B AEROQUIP MALE, RIGHT OF PUMP, OR SNAP TITILE 78-N8-6F

REAR COUPLERS SHALL BE MOUNTED TO A MANIFOLD PLATE ATTACHED AND CENTERED TO THE BOTTOM OF REAR FRAME CROSS MEMBER OR MOUNTED THROUGH REAR CROSS MEMBER IF POSSIBLE. MOUNTING SEQUENCE SHALL BE AS FOLLOWS MOVING LEFT TO RIGHT WHEN FACING THE REAR OF THE VEHICLE:

$\frac{1}{2}$ " SPINNERS-5100-S2-10B AEROQUIP, MALE, OR SNAP TITE 78N12F
 $\frac{3}{4}$ " AUGER-5100-S2-12B AEROQUIP MALE, OR SNAP-TITE 78N12-12F
1" RETURN-5100-S2-16B AEROQUIP MALE, OR SNAP-TIE 78N16-16F

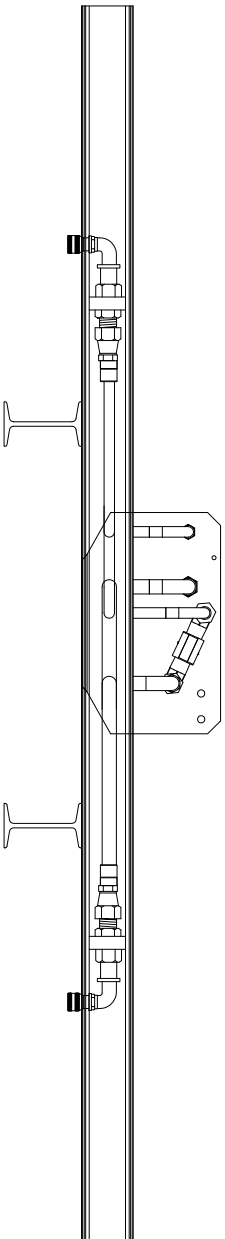
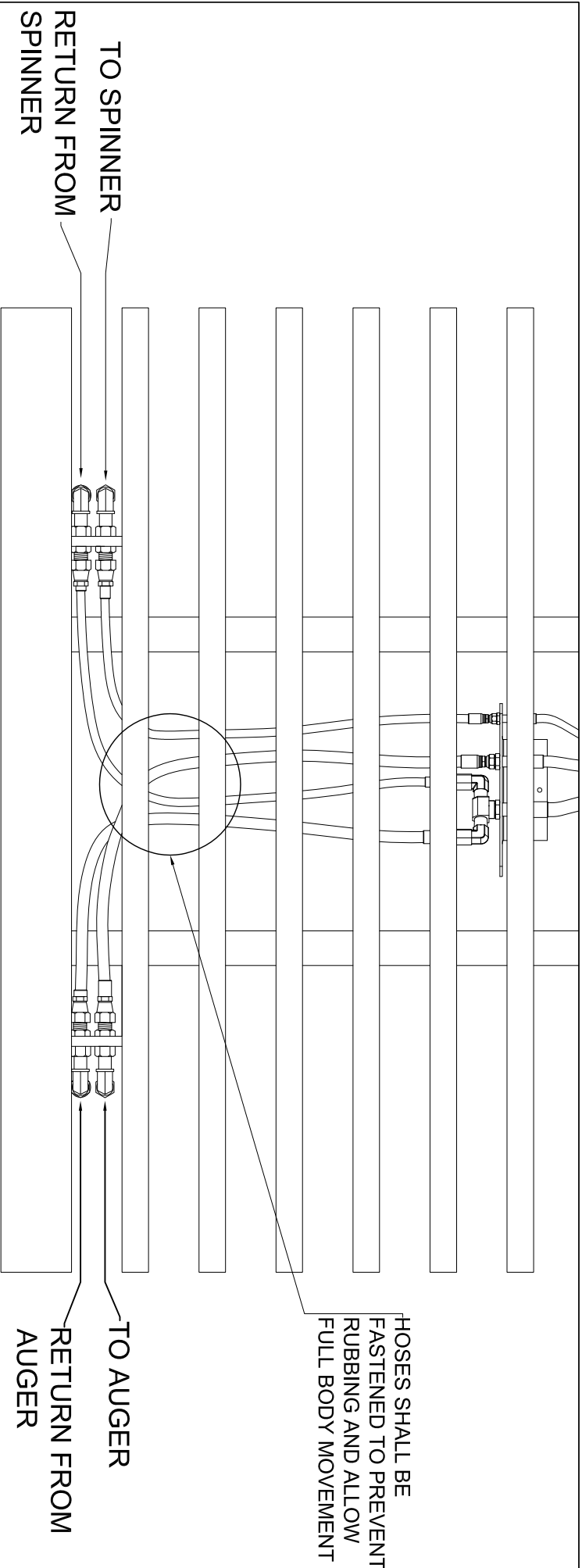
COUPLERS SHALL HAVE DUST PLUGS AFFIXED CHAINS TO PREVENT LOSS OF CAPS.

ADDITIONAL COUPLER/CAP INFORMATION

AEROQUIP	SNAP-TITE	PARKER-HANNFIN	FASTER
5100-S7-8S	78DC-8		
5100-S2-8B	78N8-6F		
5100-S2-10B	78N12-8F	6105-08	
5100-S2-12B	78N12-12F	6105-12	FB 12/34NPT-M5
5100-S2-16B	78N16-16F	6105-16	FB 16/1NPT-M5
5100-S7-12S	78DC-12	6105-12	FB-12/34NPT-F5
5100-S7-16S	78DC-16	6105-16	FB-16/1NPT-F5

NOTE: Aeroquip 1-800-230-1996
SnapTite 814-838-5700

PA DEPARTMENT OF TRANSPORTATION				
REVISIONS			HOSES AND CLAMPS HYCON	
NO.	DATE	BY		
1	11-22-95	SWW		
2	08-15-97	DLW	DRAWN BY LM	SCALE N/A
3	04-18-13	CJW	DATE RED	CHK'D BY 11-03-78
				SHEET 2 OF 2



LOOKING FROM REAR OF BODY

5600 SERIES, 1 EACH (MALE & FEMALE) ON EACH SIDE, QUICK COUPLERS MUST BE USED FOR SPINNER & AUGER CONNECTIONS.

4,000 PSI HOSES WITH JIC HOSE ENDS SHALL BE USED.

ONLY APPROVED STEEL HYDRAULIC FITTINGS SHALL BE USED.

PA DEPARTMENT OF TRANSPORTATION					
REVISIONS			Rear Hose Manifold		
NO.	DATE	BY			
1	6/18/12	MJW			
2	8/1/13	JFM			
		DRAWN BY	JDS	SCALE	EQN-100
		DATE	6/15/12	CHK'D BY	SHEET 1 OF 1

SECTION 393.86 READS AS FOLLOWS: "EVERY MOTOR VEHICLE, EXCEPT TRUCK-TRACTORS, POLE TRAILERS, AND VEHICLES IN DRIVEWAY-TOWAWAY OPERATIONS, THE DATE OF MANUFACTURE OF WHICH IS SUBSEQUENT TO DECEMBER 31, 1952, WHICH IS SO CONSTRUCTED THAT THE BODY OR THE CHASSIS ASSEMBLY IF WITHOUT A BODY HAS A CLEARANCE AT THE REAR END OF MORE THAN 30 in. FROM THE GROUND WHEN EMPTY, SHALL BE PROVIDED WITH BUMPERS OR DEVICES SERVING SIMILAR PURPOSES WHICH SHALL BE SO CONSTRUCTED AND LOCATED THAT: (A) THE CLEARANCE BETWEEN THE EFFECTED BOTTOM OF THE BUMPERS OR DEVICES AND THE GROUND SHALL NOT EXCEED 30 in. WITH VEHICLE EMPTY; (B) THE MAXIMUM DISTANCE BETWEEN THE CLOSEST POINTS BETWEEN BUMPERS, OR DEVICES, IF MORE THAN ONE IS USED, SHALL NOT EXCEED 24 in.; (C) THE MAXIMUM TRANSVERSE DISTANCE FROM THE WIDEST PART OF THE MOTOR VEHICLE AT THE REAR TO THE BUMPER OR DEVICE SHALL NOT EXCEED 18 in.; (D) THE BUMPER OR DEVICES SHALL BE LOCATED NOT MORE THAN 24 in. FORWARD OF THE EXTREME REAR OF THE VEHICLE; (E) AND THE BUMPER OR DEVICES SHALL BE SUBSTANTIALLY CONSTRUCTED AND FIRMLY ATTACHED. MOTOR VEHICLES CONSTRUCTED AND MAINTAINED SO THAT THE BODY, CHASSIS, OR OTHER PARTS OF THE VEHICLE AFFORD THE REAR END PROTECTION CONTEMPLATED SHALL BE DEEMED TO BE IN COMPLIANCE WITH THIS SECTION."

THE REGULATIONS ALSO REQUIRE ALL MOTOR VEHICLES TRANSPORTING HAZARDOUS MATERIALS REQUIRING PLACARDING BE EQUIPPED WITH REAR END PROTECTION (REFERENCE 49CFR PART 397, 49 CFR SECTION 177.823, 49 CFR PART 172, AND 49 CFR SECTION 171.12A).

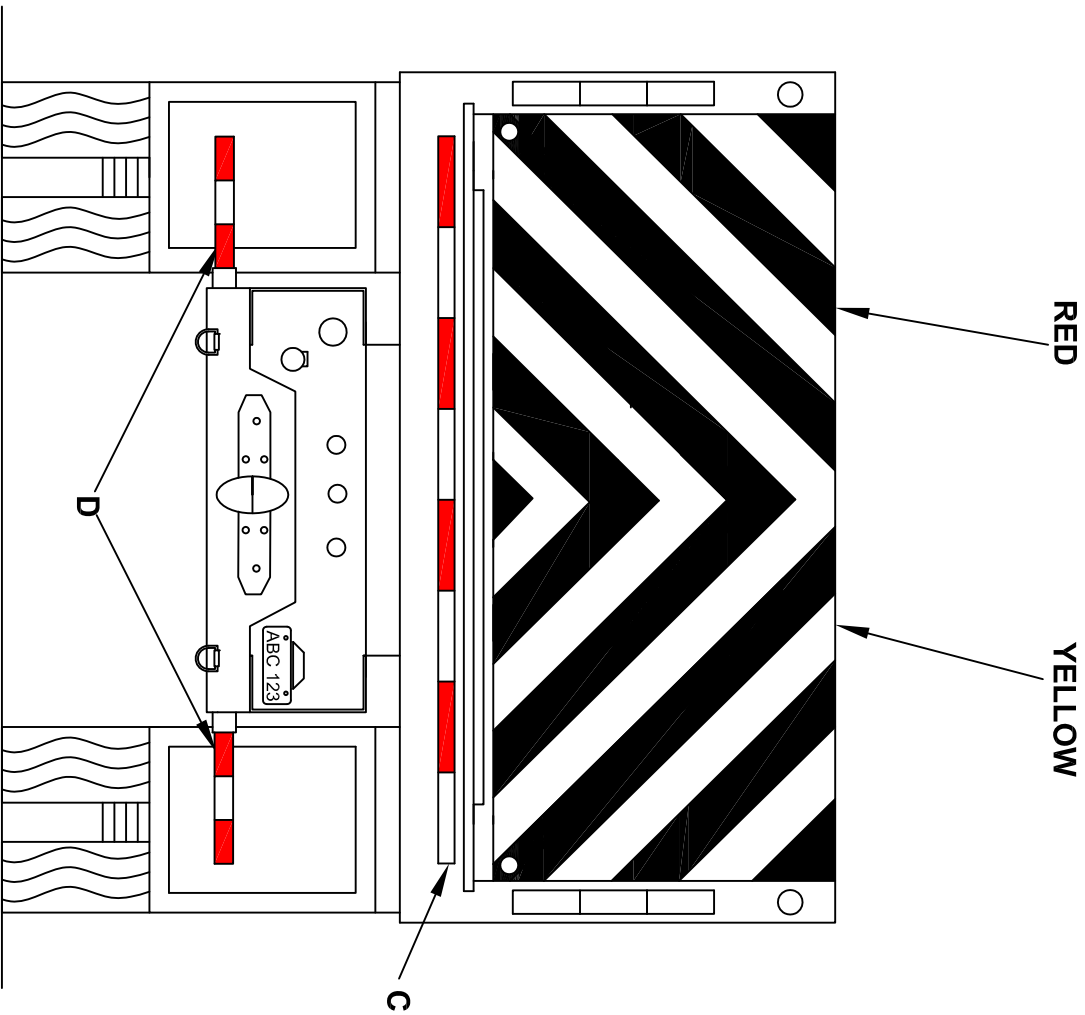
ALTHOUGH SECTION 393.86 DOES NOT SET FORTH SPECIFIC PERFORMANCE REQUIREMENTS FOR THE REAR END PROTECTION STRUCTURE, SUBPART J - SPECIFICATIONS FOR CONTAINERS FOR MOTOR VEHICLE TRANSPORTATION OF PART 178 - SHIPPING CONTAINER SPECIFICATIONS OF SUBCHAPTER C - HAZARDOUS MATERIAL REGULATIONS OF CHAPTER I - RESEARCH AND SPECIAL PROGRAMS ADMINISTRATION DOES CONTAIN SPECIFIC PERFORMANCE REQUIREMENTS FOR REAR END PROTECTION ON CARGO TANK MOTOR VEHICLES (REFERENCE SECTIONS 178.337-10(D), 178.338-10(C), 178.345-8(D), 178.346-8, 178.347-8, AND 178.348-8). PENNSYLVANIA HAS ADOPTED 49 CFR 393.86 REAR END PROTECTION FOR COMMERCIAL MOTOR VEHICLES WITH A GVW OF 17,000 lbs. / 7711.07 kg. OR MORE OPERATED IN INTRASTATE COMMERCE, AND ANY SIZE VEHICLE HAULING HAZARDOUS MATERIALS REQUIRING PLACARDS WITH AN ADDITIONAL REQUIREMENT: "SOME PART OF THE HORIZONTAL BUMPER BAR SHALL FALL WITHIN 16-30in. / 40.64-76.2cm. ABOVE GROUND LEVEL." SEE TITLE 67 CHAPTER 175 OF THE PENNSYLVANIA CODE FOR THE SPECIFIC REQUIREMENTS FOR REAR END PROTECTION ON COMMERCIAL MOTOR VEHICLES WITH A GVW OF 10,001-17,000 lbs. / 4536.38-7711.07 kg. OPERATED IN INTRASTATE COMMERCE.

COMMONWEALTH OF PENNSYLVANIA

DEPARTMENT OF TRANSPORTATION

REVISIONS			UNDERRIDE PROTECTION		
NO.	DATE	BY			
1	07/08/97	DLW			
2	07/01/03	KGK	<div><div>DRAWN BY</div>DLW</div>	<div><div>SCALE</div>N/A</div>	EQN -118
3	06/26/09	TOD	<div><div>DATE</div>02-04-92</div>	<div><div>CHK'D BY</div>RR</div>	SHEET 1 OF 1

ANY / ALL REVISIONS SHALL
SUPERSEDE THE ABOVE



A THE ALUMINUM TAILGATE SHALL BE UNPAINTED. THE TAILGATE SHALL BE STRIPED AS SHOWN WITH 8" WIDE ALTERNATING RED/YELLOW BANDS CREATING A CHEVRON (INVERTED V) AT 45 DEGREE ANGLES, ACROSS THE GATE TO SERVE AS A SAFETY WARNING SYSTEM.

B TAPE SHALL BE REFLEXITE DAYBRIGHT V92 CONSPICUITY SHEETING. RED - SRH4R PN# 18716, LIME - SRH4Y PN# 18836 VC 312. TWO 4" SHEETS CAN BE COMBINED TO EQUAL THE 8" REQUIREMENT.

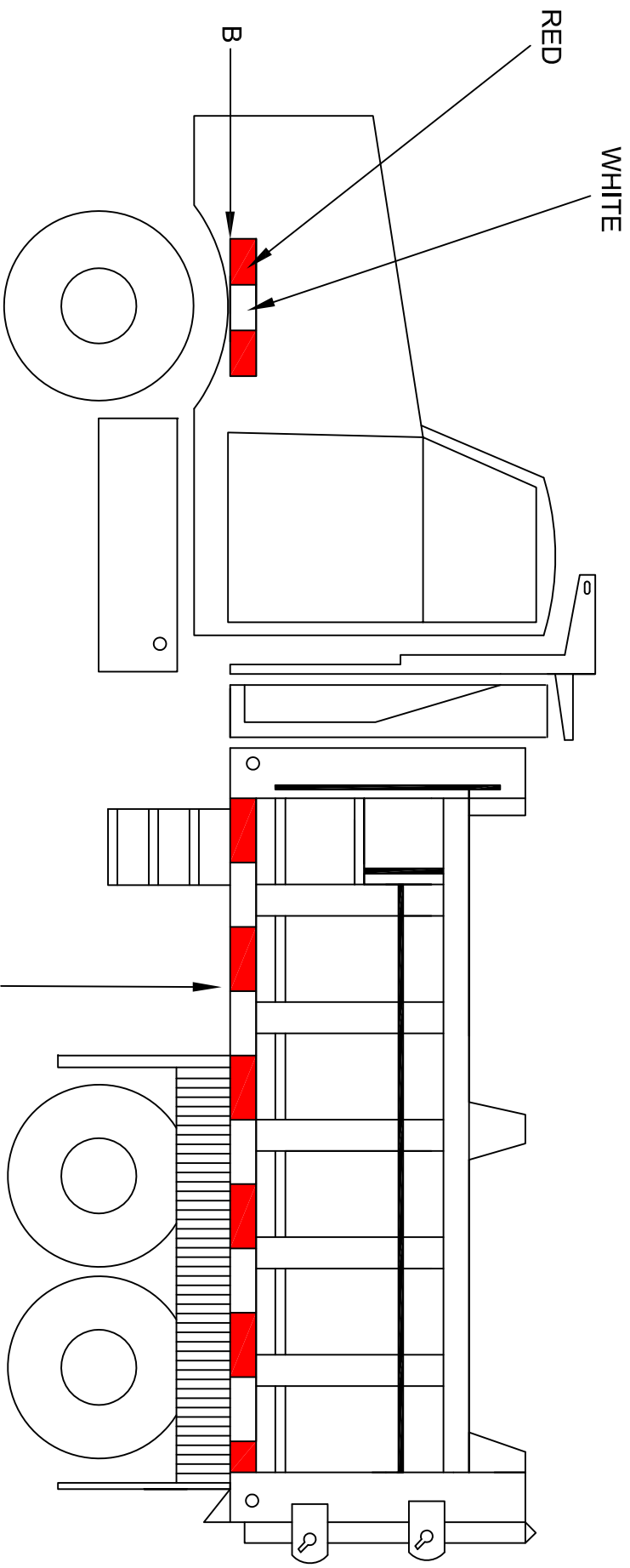
C THE ENTIRE WIDTH DIRECTLY UNDER THE TAILGATE SHALL BE COVERED WITH 1 1/2" WIDE SCOTCHLITE CONSPICUITY SHEETING SERIES 980 OR REFLEXITE CONSPICUITY II SYSTEM. MATERIAL SHALL BE RED/SILVER, CONTINUOUS BACKING.

D THE ENTIRE LENGTH OF BOTH ICC BARS SHALL BE COVERED WITH 1 1/2" WIDE SCOTCHLITE CONSPICUITY SHEETING SERIES 980 OR REFLEXITE CONSPICUITY II SYSTEM. MATERIAL SHALL BE RED/SILVER, CONTINUOUS BACKING.

THIS DRAWING SHALL BE FOR CONSPICUITY REFERENCE ONLY, NOT TAILGATE CONSTRUCTION.

THIS VEHICLE SHALL COMPLY WITH THE RULES OF THE NATIONAL HIGHWAY TRAFFIC SAFETY ADMINISTRATION (NHTSA). THE MOST CURRENT REGULATIONS SHALL BE ADHERED TO.

PA DEPARTMENT OF TRANSPORTATION					
REVISIONS			DUMP BODY REFLECTIVE SHEETING		
NO.	DATE	BY			
1	12-23-09	PMK			
2	05-20-13	JFM	DRAWN BY GRL	SCALE N/A	EQN-122
3	06-30-14	ACT	DATE 10-11-94	CHG'D BY RED	SHEET 1 OF 2

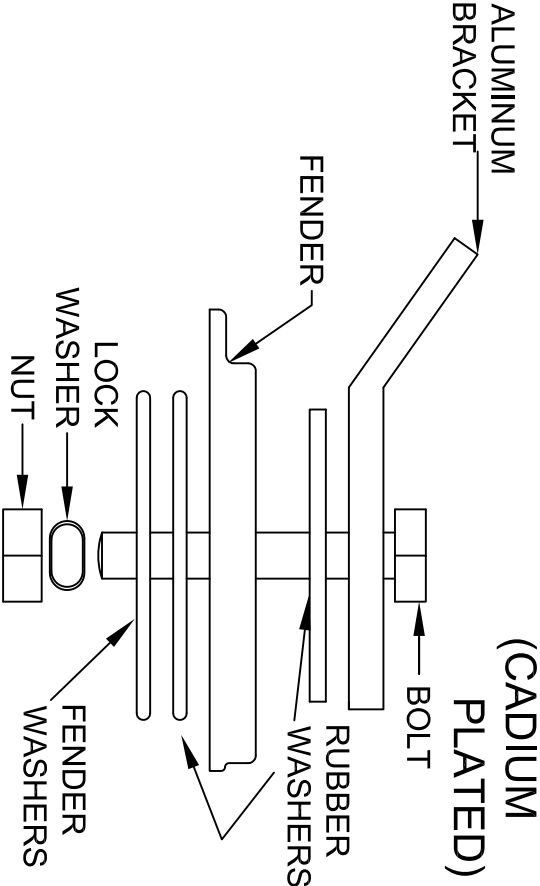


A THE ENTIRE LENGTH OF BODY RUB RAILS SHALL BE COVERED WITH 2" WIDE SCOTCHLITE CONSPICUITY SHEETING SERIES 980 OR REFLEXITE CONSPICUITY II SYSTEM MATERIAL SHALL BE RED/SILVER, CONTINUOUS BACKING.

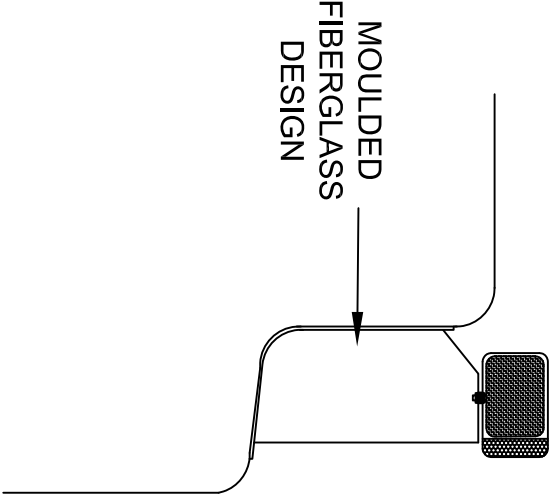
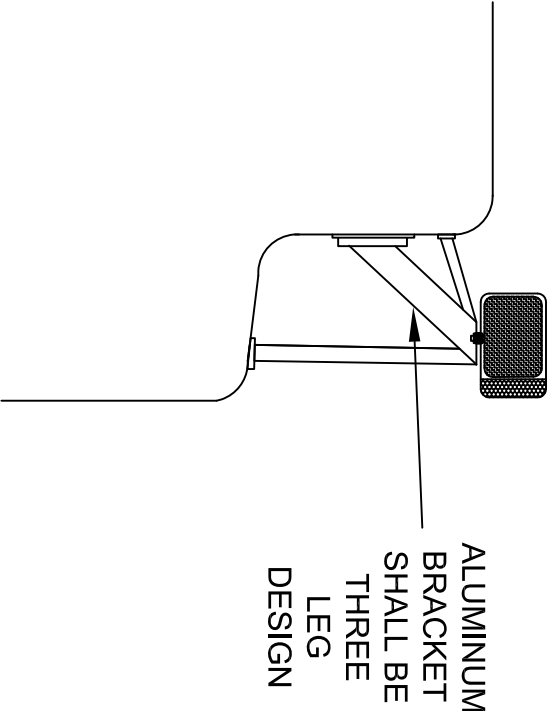
B THE AREA ABOVE FRONT TIRES SHALL BE COVERED WITH MINIMUM 18 INCHES, 2" WIDE SCOTCHLITE CONSPICUITY SHEETING SERIES 980 OR REFLEXITE CONSPICUITY II SYSTEM MATERIAL SHALL BE RED/SILVER, CONTINUOUS BACKING. ITEM B NEEDS TO BE AS CLOSE AS POSSIBLE IN A STRAIGHT LINE WITH ITEM A. ALTERNATE PLACEMENT OF ITEM B NEEDS TO BE APPROVED BY THE CHIEF OF THE EQUIPMENT DIVISION

THE CHIEF OF THE EQUIPMENT DIVISION SHALL APPROVE ALL STRIPING AND MONITOR THE PRODUCTION BY THE SUCCESSFUL VENDOR. ALL DIMENSIONS IN INCHES.

PA DEPARTMENT OF TRANSPORTATION					
REVISIONS			DUMP BODY REFLECTIVE SHEETING		
NO.	DATE	BY			
1	12-23-09	PMK			
2	05-20-13	JFM	DRAWN BY TOD	SCALE N/A	EQN-122
3	06-30-14	ACT	DATE 07-14-09	CHKD BY DAA	SHEET 2 OF 2



NOTE: BRACKET DIMENSIONS ARE NOT GIVEN DUE TO THE MANY VARIABLES. BRACKETS MUST BE CONSTRUCTED OF MATERIALS CAPABLE OF SUSTAINED SUPPORT OF THE LIGHT ASSEMBLY WHILE OFFERING MINIMUM VIBRATION/JIGGLE. RUBBER PAD (MINIMUM THICKNESS 0.25") BETWEEN BRACKET AND BODY. THE HEIGHT AND WIDTH OF THE BRACKET WILL BE GOVERNED BY THE APPLICATION AND SHALL MEET THE PENNSYLVANIA MOTOR VEHICLE CODE.



PA DEPARTMENT OF TRANSPORTATION									
REVISIONS				AUXILIARY SNOW PLOW LIGHT					
NO.	DATE	BY							
1	05-16-02	DWG	DRAWN BY WHM SCALE N/A EQN-124						
2	02-28-07	CJW							
3	04-22-15	GAW							
		DATE	11-16-88	CHGD BY		RED	SHEET 1 OF 1		

THIS VEHICLE SHALL COMPLY WITH THE RULES OF THE NATIONAL HIGHWAY TRAFFIC SAFETY ADMINISTRATION (NHTSA) IN THAT:

THE MOUNTING HEIGHT OF THE HORIZONTAL STRIPES ARE RESTRICTED TO THE SAME HEIGHT AS OTHER RETROREFLECTIVE DEVICES CURRENTLY REQUIRED BY STANDARD NUMBER 108. THE CENTER OF THE MATERIAL MUST NOT BE LESS THAN 15in. ABOVE THE ROAD SURFACE, AND THE UPPER EDGE NOT MORE THAN 60in. ABOVE IT.

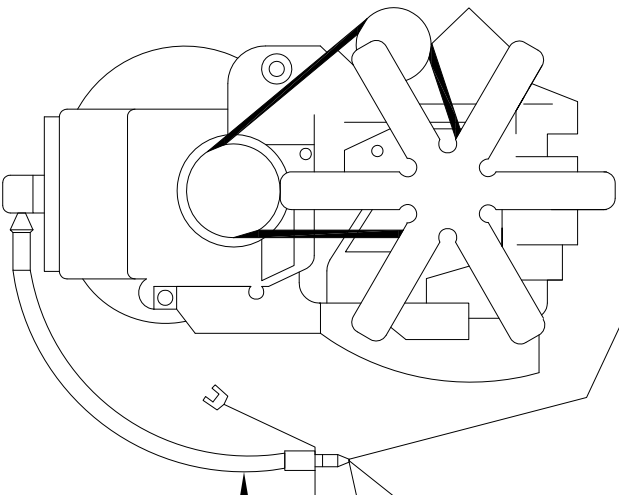
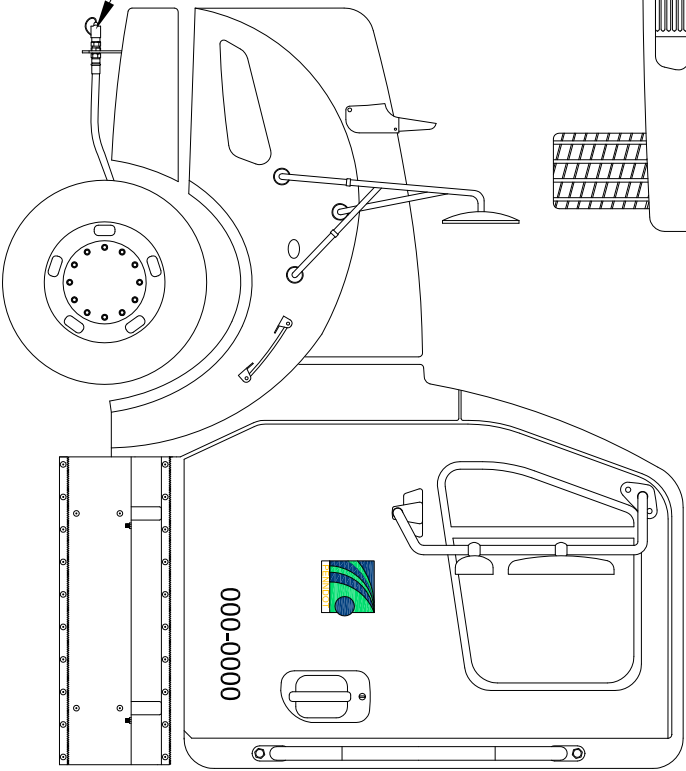
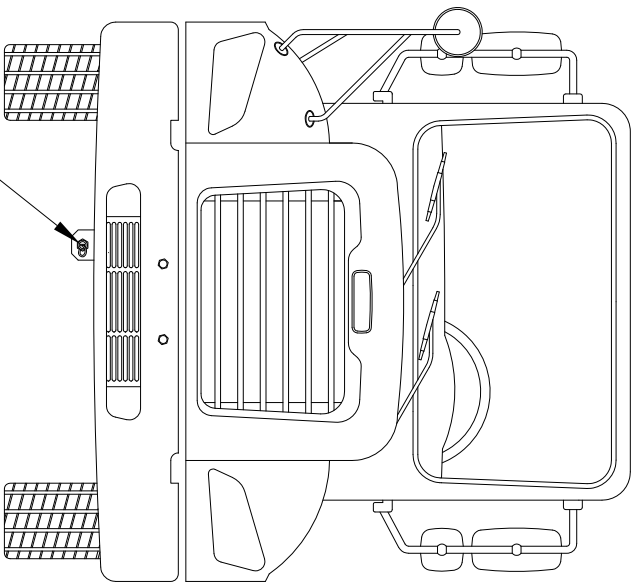
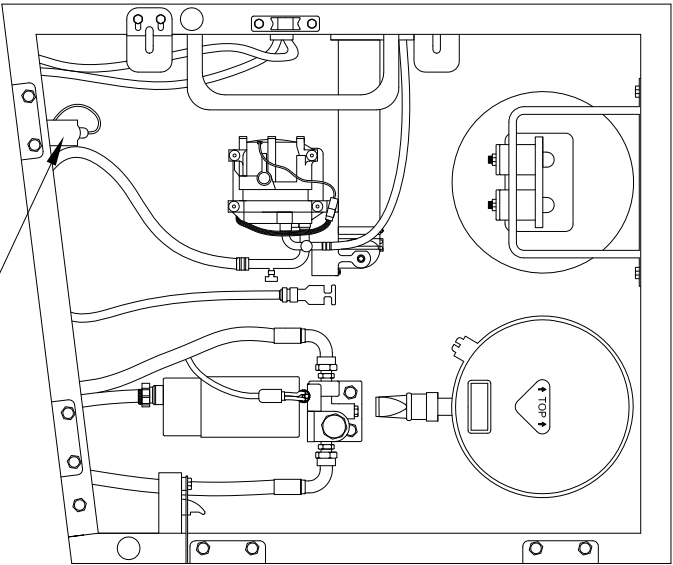
REFLECTIVE MATERIAL SHALL BE APPLIED TO THE HORIZONTAL BAR OF THE REAR UNDERIDE DEVICE IN ADDITION TO THE FLOOR LEVEL HORIZONTAL STRIPE. THE UPPER CORNERS ARE TO BE MARKED BY TWO 90 DEGREE ANGLE BRACKETS OF WHITE STRIPES 12in. BY TWO INCHES WIDE, INDICATING THE WIDTH AND HEIGHT OF THE TRAILER.

THE CONFIGURATION SHALL IDENTIFY THE VEHICLE AS TO ITS ESTIMATED SIZE AND THE CLOSING DISTANCE TO IT. THE DISTRIBUTION OF SPACES AND MATERIALS SHALL BE AS UNIFORM AS PRACTICAL AND INDICATE THE FULL LENGTH AND WIDTH OF THE VEHICLE. THE COLORS SHALL BE PLACED IN ALTERNATING SEQUENCE WITH MORE THAN TWO-THIRDS OF THE MATERIAL IN COLOR.

CONSPICUITY TAPE SHALL BE REFLECTORIZED. 2in. WIDE, MATERIAL SHALL BE APPLIED. MATERIAL SHALL BE RED/SILVER CONTINUOUS BACKING REFLEXITE CONSPICUITY II SYSTEM OR 3M SCOTCHLITE CONSPICUITY SHEETING SERIES 980.

THE MOST CURRENT REGULATIONS SHALL BE ADHERED TO.

PA DEPARTMENT OF TRANSPORTATION						
REVISIONS			CONSPICUITY TAPE STRIPING REQUIREMENTS			
NO.	DATE	BY				
1	05-16-02	DWG				
2	11-03-06	CJW	<div>DRAWN BY</div> DLW	<div>SCALE</div> N/A	EQN-127A	
3	01-02-09	MHH	<div>DATE</div> 11-07-97	<div>CHECK BY</div> DMA	SHEET 1 OF 1	



DISCONNECT
COUPLING
FLOCS
ENGINE KIT

PA DEPARTMENT OF TRANSPORTATION

REVISIONS

NO.	DATE	BY	FAST LUBE OIL CHANGE SYSTEM OVERVIEW AND PARTS LIST
1	07-01-03	BLD	
2	10-20-06	CJW	
3	06-19-13	JFM	

DATE	DRAWN BY	SCALE	CHK'D BY
08-22-97	DLW	N/A	WHM

1. CONTACT AEROQUIP WITH YOUR DRAIN PAN PLUG SIZE
2. AEROQUIP DEALER TELEPHONE NUMBERS:

ADVANCED FLUID CONNECTORS..... 717-757-1068
 AIR BRAKE & POWER EQUIPMENT CO.. 717-622-6188
 AMERICAN BEARING & POWER..... 717-569-3291
 GOODALL RUBBER COMPANY 610-534-2100
 POWER DRIVES INC..... 814-833-8181
 R L MILLER INC..... 412-833-6800
 R L MILLER INC..... 814-456-8900
 SRG/BEVCO..... 610-358-3100
 VOTO MANUFACTURERS SALES CO.... 814-226-7101

FLOCS SHALL INCLUDE, BUT NOT LIMITED TO:

- A. DUST CAP 5657-12
- B. HOSE TO SUIT LENGTH
- C. HOSE FITTING TO SUIT
- D. ADAPTER TO SUIT
- E. HOSE CLAMP #900729-6
- F. BRACKET TO SUIT
- G. COUPLING 5602-12-12S

PA DEPARTMENT OF TRANSPORTATION				
REVISIONS			FAST LUBE OIL CHANGE SYSTEM OVERVIEW AND PARTS LIST	
NO.	DATE	BY		
1	07-01-03	BLD		
2	10-20-06	CJW	<small>DRAWN BY</small> DLW	<small>SCALE</small> N/A EQN-351A
3	06-19-13	JFM	<small>DATE</small> 08-22-97	<small>CHK'D BY</small> WHM SHEET 2 OF 2

Centralized Lubrication System On Road Equipment EQN - 501

There shall be an automatic centralized lubrication system professionally installed to maintain all the daily, weekly, and monthly lubrication points. Only electrically controlled, #2 chassis grease systems shall be accepted. The use of pneumatic systems is unacceptable. The requirements for the lubrication system components and installation procedures are outlined below. It is the responsibility of the vendor to ensure that the automatic lubrication system complies with all of these requirements.

1. Performance Requirements

- The system pump shall be capable of delivering NLGI #2 grease over a temperature range of minus 10 degrees Fahrenheit to 120 degrees Fahrenheit.
- The pump shall have an integral adjustable timer to change the grease delivery intervals as needed.
- The system shall use a fused electric pump, either 12 Volt DC or 24 Volt DC depending on application. Pneumatic pumps are not acceptable.
- The pump shall be equipped with a pressure relief valve device at the pump outlet to protect the pump from damage due to over pressure.
- For ease of service, the pump shall have a pumping element located on the side that can be removed and replaced or repaired as needed without having to remove or disassemble the pump.
- The pump shall use a clear or translucent reservoir to allow for visual inspection of the grease level. Reservoir shall have a full level indicator. Bladder type reservoirs are not acceptable.
- The grease reservoir shall be a minimum four pound capacity.
- The system shall have a cab mounted fault light that will notify the operator of a lube system fault and low grease level. If any point in the system will not take grease, the fault light shall illuminate.
- The system shall be a positive displacement series progressive type, using primary and secondary valves.
- All secondary valves shall be non-segmented to minimize the potential leak path and or sources of contamination.
- All valves shall be made of corrosion resistant coated carbon steel.
- The positive displacement proportioning valves shall have a tee and high back pressure grease fittings at each valve inlet for manual filling, system testing, and to fill repaired lines.
- The system shall have a manual override fitting to enable the system to be manually operated if the pump is inoperable.
- Equipment shall have a 2 year manufacturer's warranty.

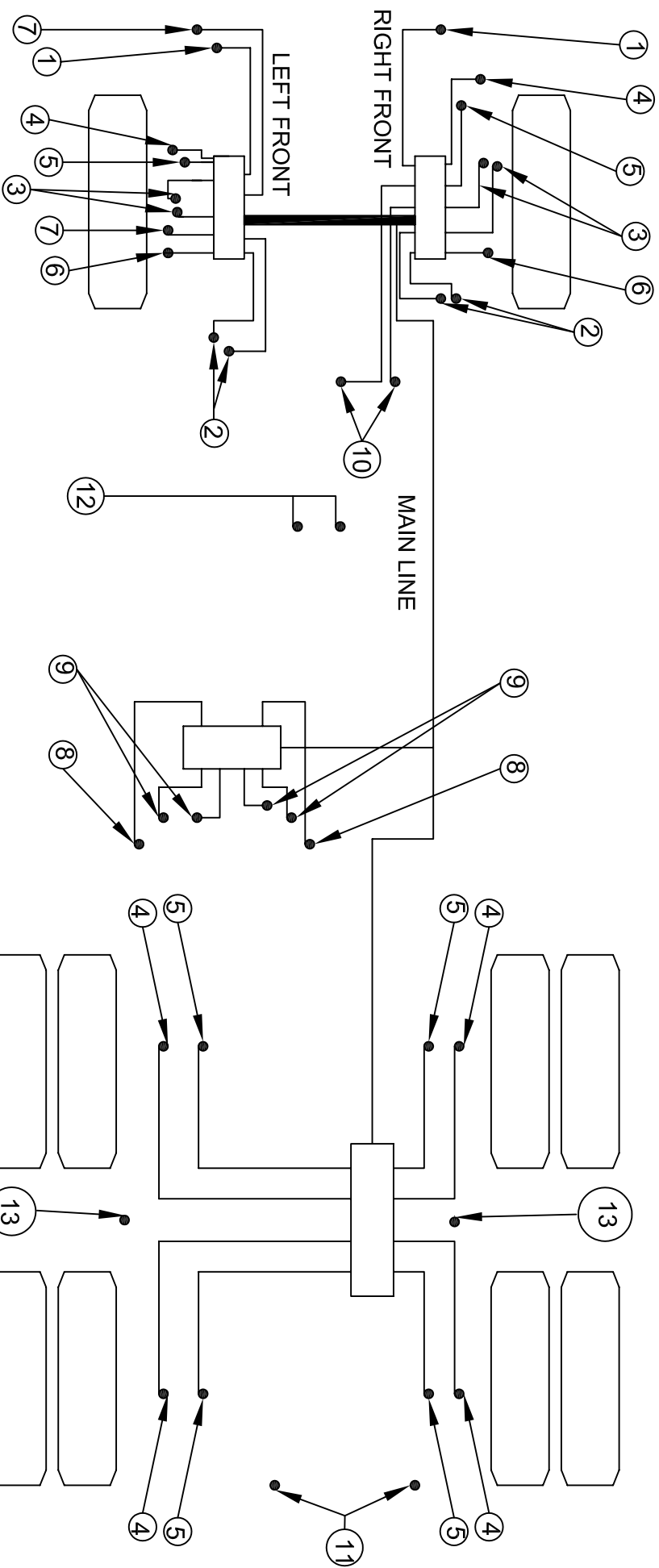
2. Installation Requirements - On Road

- The system shall use only high pressure hose (4,000 psig operating, 10,000 psig burst). All hoses are to be of US standard sizes (1/8" ID hose 5/16 OD) and readily available from local sources.
- All hoses shall use a two piece re-usable hose end with quick disconnects at the valve outlet for ease of inspection and repair.
- All lines from the secondary valves to the chassis or body inlet points shall be flexible with at least a 500 PSI working pressure. All tubing shall be standard size (1/4 inch OD) and readily available from local sources.
- All line runs will be secured to the chassis or air lines via tie wraps. Protective wrap shall be used for all lines run over any edge of the chassis and especially at the termination points for front suspension including upper & lower king pins, tie rod ends and any exposed lines that are not fixed. The use of steel tubing is prohibited.
- The pump shall be installed in a safe location on the truck chassis that is protected and easy to monitor the grease level and refill. For exact mounting location, contact PennDOT Equipment Division, Specification Unit - 717.787.2123
- Ground Level filling shall be provided for all lube systems. Remote lines are acceptable if reservoir is viewable from remote fill location.
- Installations shall be warranted for 2 years of operation.

PA DEPARTMENT OF TRANSPORTATION

REVISIONS			CENTRALIZED LUBE SYSTEM	
NO.	DATE	BY		
1			SCALE N/A	EQN-501
2			DRAWN BY TOD	
3			DATE 6-8-09	CHK'D BY SHEET 1 OF 2

MINIMUM TYPICAL LUBE POINTS
TANDEM AXLE



MINIMUM TYPICAL
VEHICLE LUBE POINTS.

*ALL LUBRICATION
POINTS SHALL BE
INCORPORATED INTO
THE ON-BOARD GREASE
SYSTEM, INCLUDING ALL
CHASSIS AND BODY
POINTS, EXCEPT
LOCATIONS RESTRICTED
BY ROTATING DESIGN; IE:
DRIVESHAFT & PTO

- 1. FRONT SPRING PIN
- 2. FRONT SPRING SHACKLES
(UPPER AND LOWER)
- 3. KING PIN (UPPER AND LOWER)
- 4. BRAKE CAM SHAFT
- 5. BRAKE SLACK ADJUSTER
- 6. TIE ROD
- 7. DRAG LINK
- 8. FIFTH WHEEL PIVOT (IF APPLICABLE)
- 9. FIFTH WHEEL PLATE (IF APPLICABLE)
- 10. CLUTCH CROSS SHAFT
- 11. REAR DUMP BED HINGE (1 EACH SIDE)
- 12. TOP AND BOTTOM OF HOIST CYL.

13. DEPENDING ON APPLICATION, ALL REAR SUSPENSION,
TRUNIONS, LEAF SPRINGS

PA DEPARTMENT OF TRANSPORTATION				
REVISIONS			CENTRALIZED LUBE SYSTEM GENERIC ARRANGEMENT	
NO.	DATE	BY		
1	12-15-00	GAH		
2	01-02-07	CJW	DRAWN BY GAH	SCALE N/A
3	06-09-09	TOD	DATE 8-31-99	CHECK'D BY LHA
4				
5				
			EON-501 SHEET 2 OF 2	

ITEM NUMBER	DESCRIPTION	TRUCK REAR LB.	TRUCK REAR KG.	TRUCK FRONT LB.	TRUCK FRONT KG.	TOTAL LB. OR KG.
1.	CHASSIS WEIGHT					
2.	DIESEL FUEL					
3.	DRIVER					200 lb.
4.	BODY					
5.	BODY HOIST					
6.	SPREADER					600 lb.
7.	PLOW FRAME					500 lb.
8.	SNOW PLOW					*
9.	FRONT PTO, ADAPTER & PUMP					150 lb.
10.	PAYLOAD					250 lb.
11.	HYDRAULIC OIL & TANK					365 lb.
12.	PATROL STYLE WING PLOW					1000 lb.
13.	FRONT WING POST (PATROL)					300 lb.
14.	REAR WING POST (PATROL)					250 lb.
15.	PREWET TANK ____ GALLON					

NOTES:

- (1) THE INFO. SHALL BE SUBMITTED IN ITS ENTIRETY & SUBMITTED WITH BID.
- (2) ALL THE ACCESSORIES REQUIRED TO BE "FULLY OPERATIONAL" MUST BE INCLUDED IN THE CALCULATION OF WEIGHTS, AS APPLICABLE.

(3) FOR INFORMATION:

MATERIAL WEIGHTS:

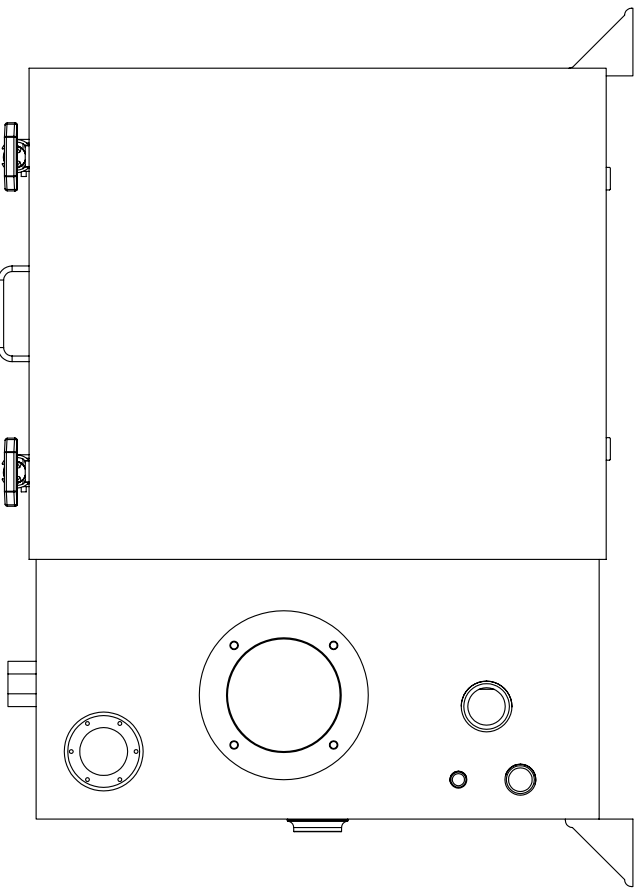
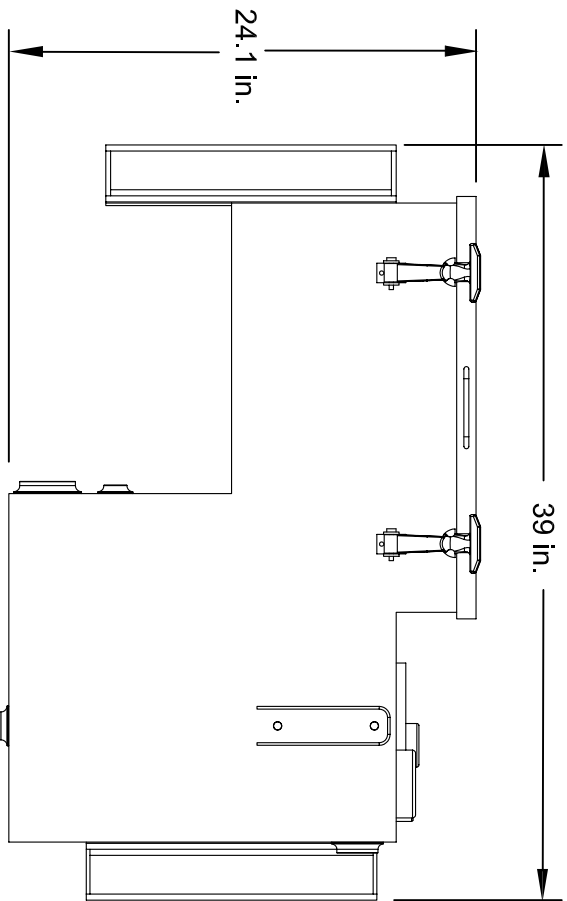
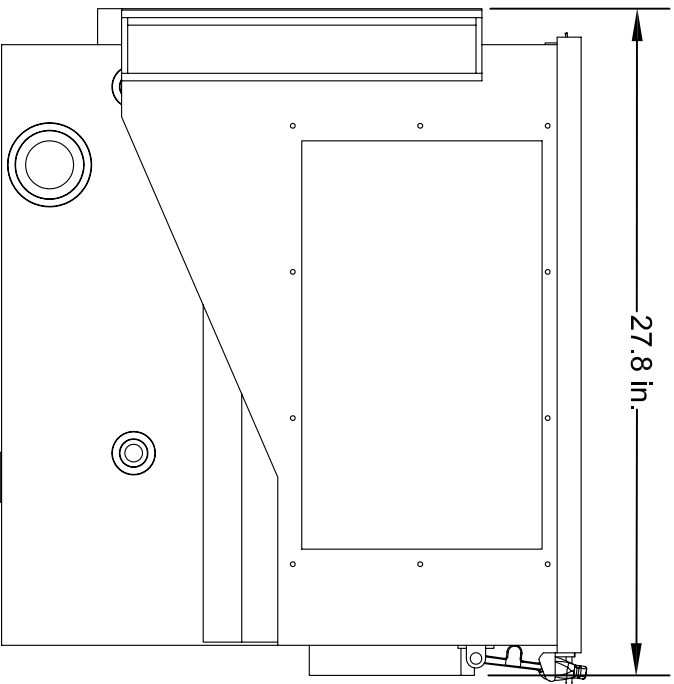
SALT 2,000 lb. PER CUBIC YARD

AGGREGATE 2,800 lb. PER CUBIC YARD

(*) TYPE II = 2,900 lb. TYPE IV = 3,500 lb.

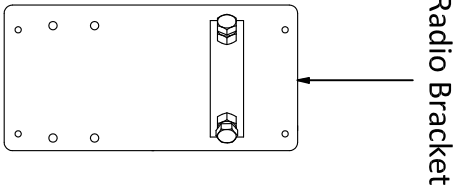
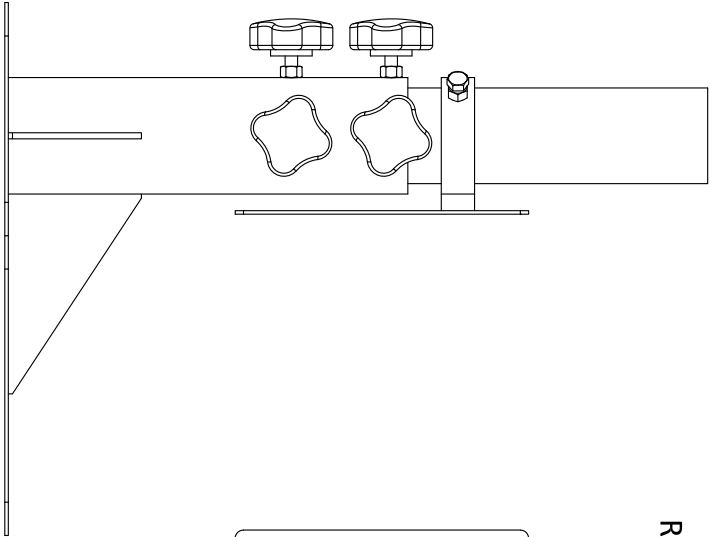
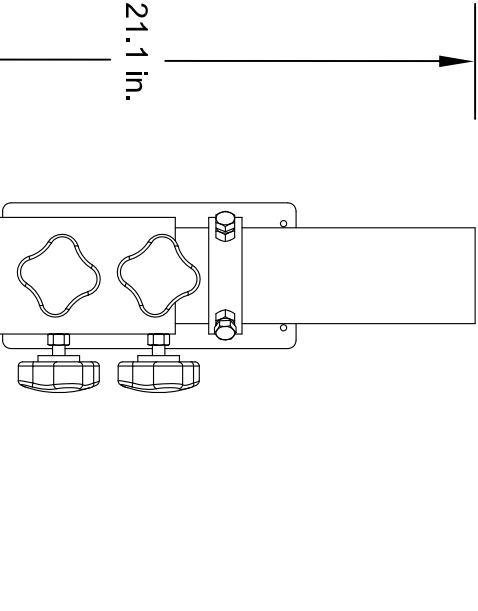
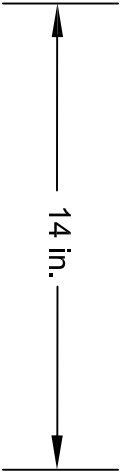
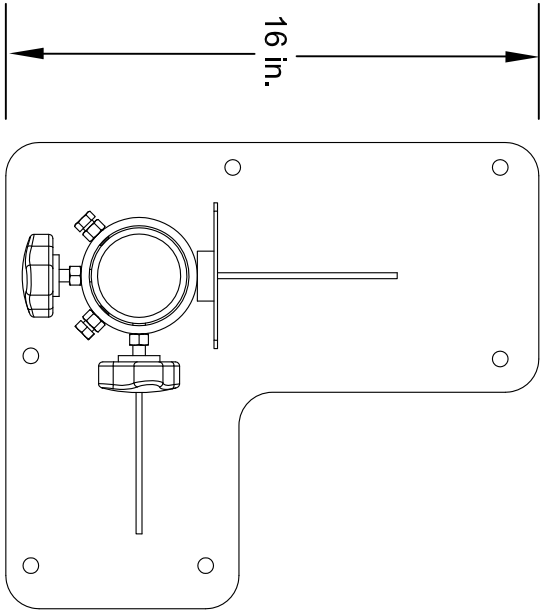
PA DEPARTMENT OF TRANSPORTATION					
REVISIONS			DUMP TRUCK WEIGHT DISTRIBUTION MINIMUM DATA REQUIRED		
NO.	DATE	BY			
1	05-28-28	DWG			
2	05-16-07	KNH			
3	07-20-09	TOD			

DRAWN BY	DLW	SCALE	N/A	EQN-507B
DATE	07-14-97	CHECK BY	WHM	SHEET 1 OF 1

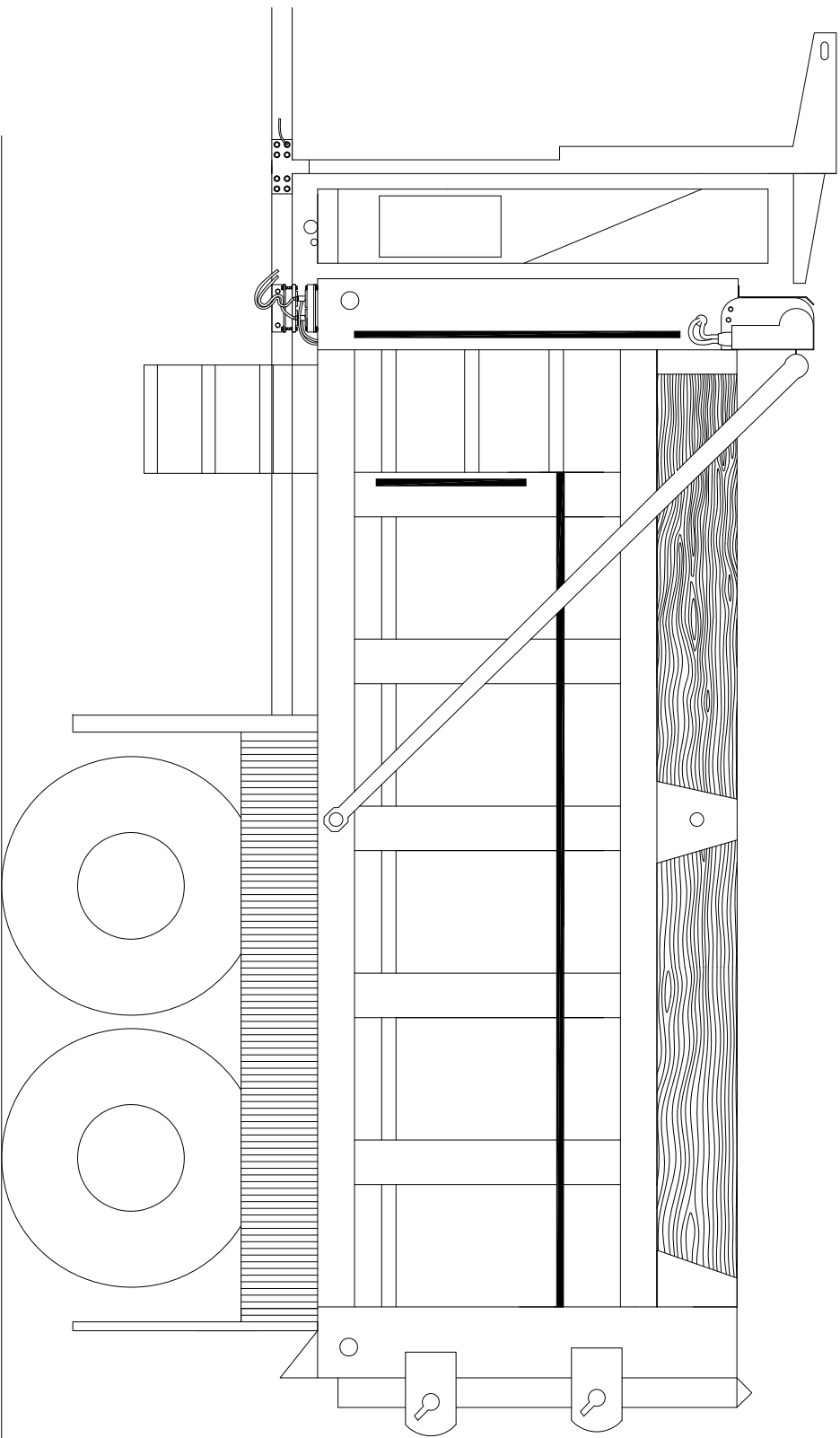


PA DEPARTMENT OF TRANSPORTATION				
REVISIONS			DUMP TRUCK VALVE ENCLOSURE / TANK COMBO	
NO.	DATE	BY		
1				
2				
3				
			DRAWN BY	TOD
			DATE	11-03-09
			SCALE	N/A
			CHECK BY	DMA
			EQU-508	
			SHEET 1 OF 1	

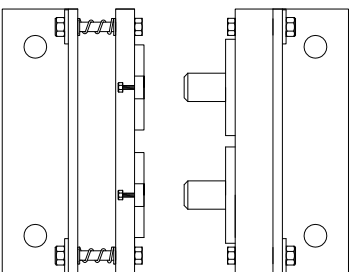
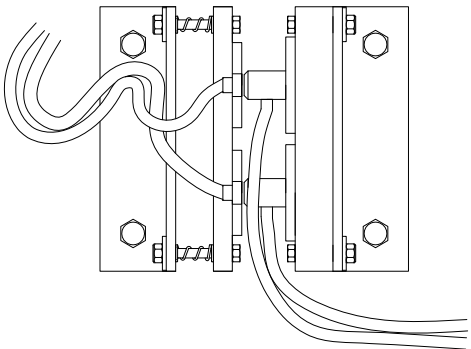
NOTE: SPREADER CONTROL BASE SHALL BE PROPERLY BRACED TO ELIMINATE FLOOR FLEX. ADDITIONAL SUPPORT BRACKET SHALL BE VENDORS RESPONSIBILITY.



PA DEPARTMENT OF TRANSPORTATION					
REVISIONS			DUMP TRUCK SPREADER CONTROL BASE WITH RADIO BRACKET		
NO.	DATE	BY			
1					
2					
3					
			DRAWN BY	TOD	SCALE
			DATE	11-03-09	N/A
			CHK'D BY	DMA	EQN-509
			SHEET 1 OF 1		



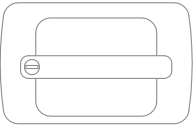
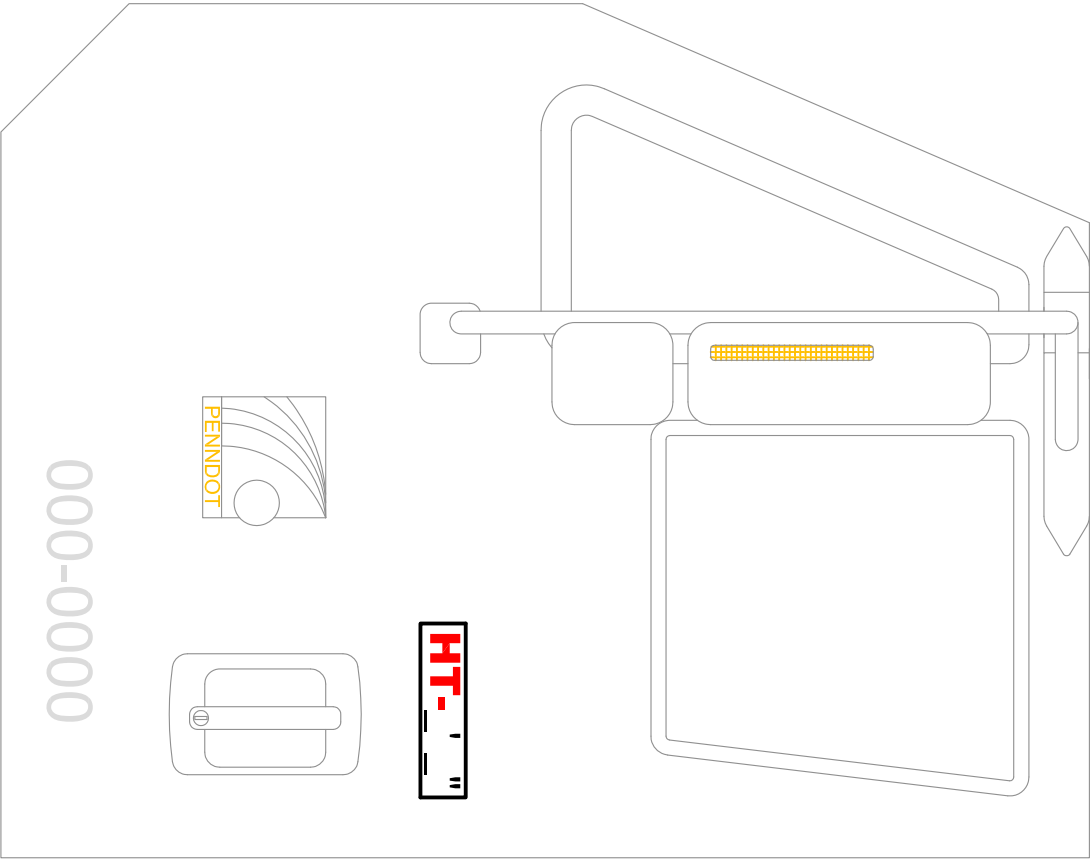
SCALED BY 5



PA DEPARTMENT OF TRANSPORTATION

REVISIONS

NO.	DATE	BY	WIRELESS CONNECT AND TARP		
1	00-00-00	INT	DRAWN BY	JFM	SCALE
2			DATE	05-28-13	CHK'D BY
3					INT
			SHEET 1 OF 1		



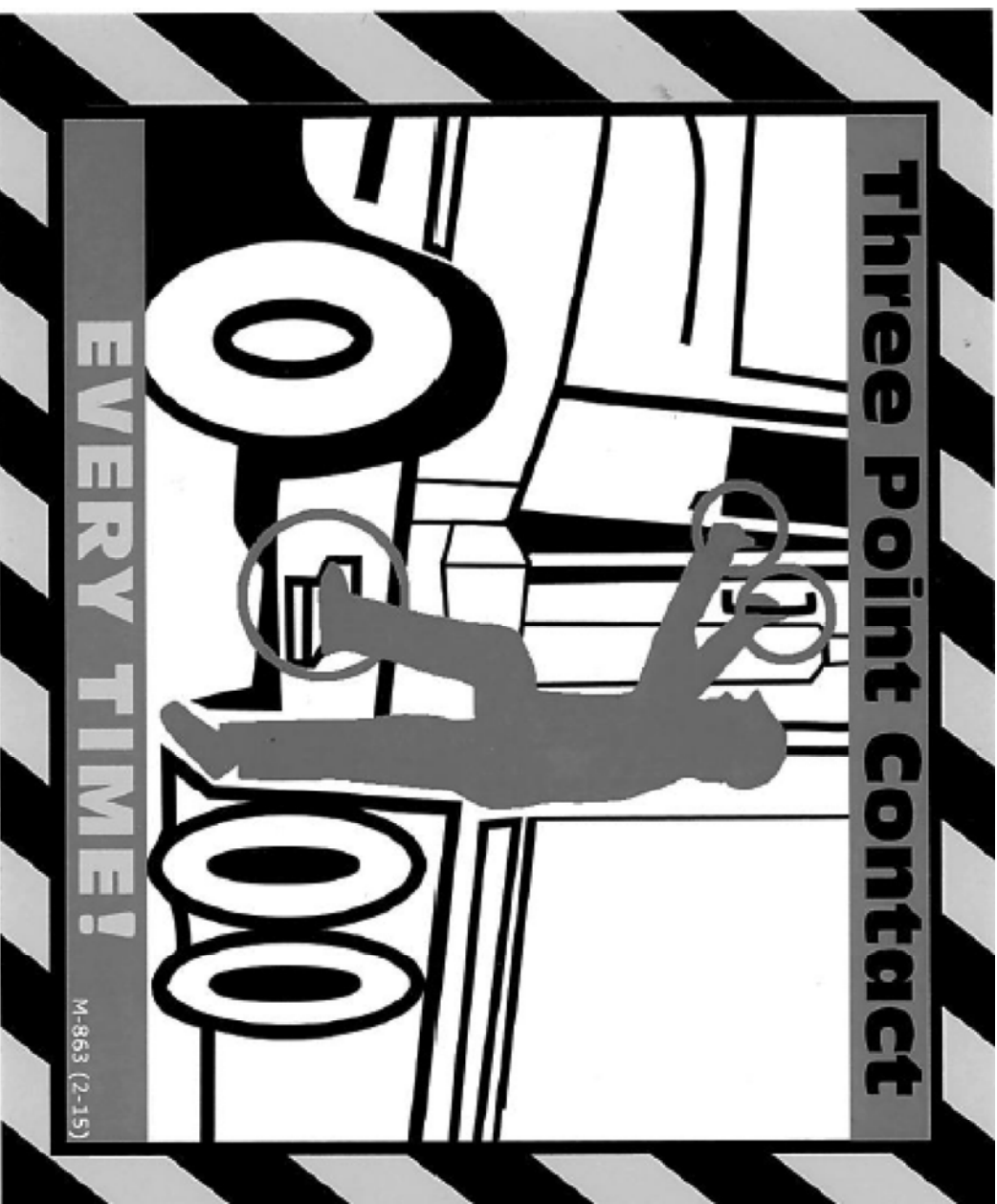
000-0000

PA DEPARTMENT OF TRANSPORTATION

REVISIONS

NO.	DATE	BY	MAX TRAVEL HEIGHT STICKER		
1	00-00-00	INT			
2			DRAWN BY JFM	SCALE 2	EQN-552
3			DATE 05-29-13	CHK'D BY INT	SHEET 1 OF 1

THERE SHALL BE A PERMANENT DECAL, 2 INCH HIGH RED LETTERS ON WHITE BACKGROUND AFFIXED BY THE DRIVER SIDE DOOR HANDLE STATING THE OVERALL MAXIMUM TRAVEL HEIGHT OF THE COMPLETED AND UNLOADED UNIT.

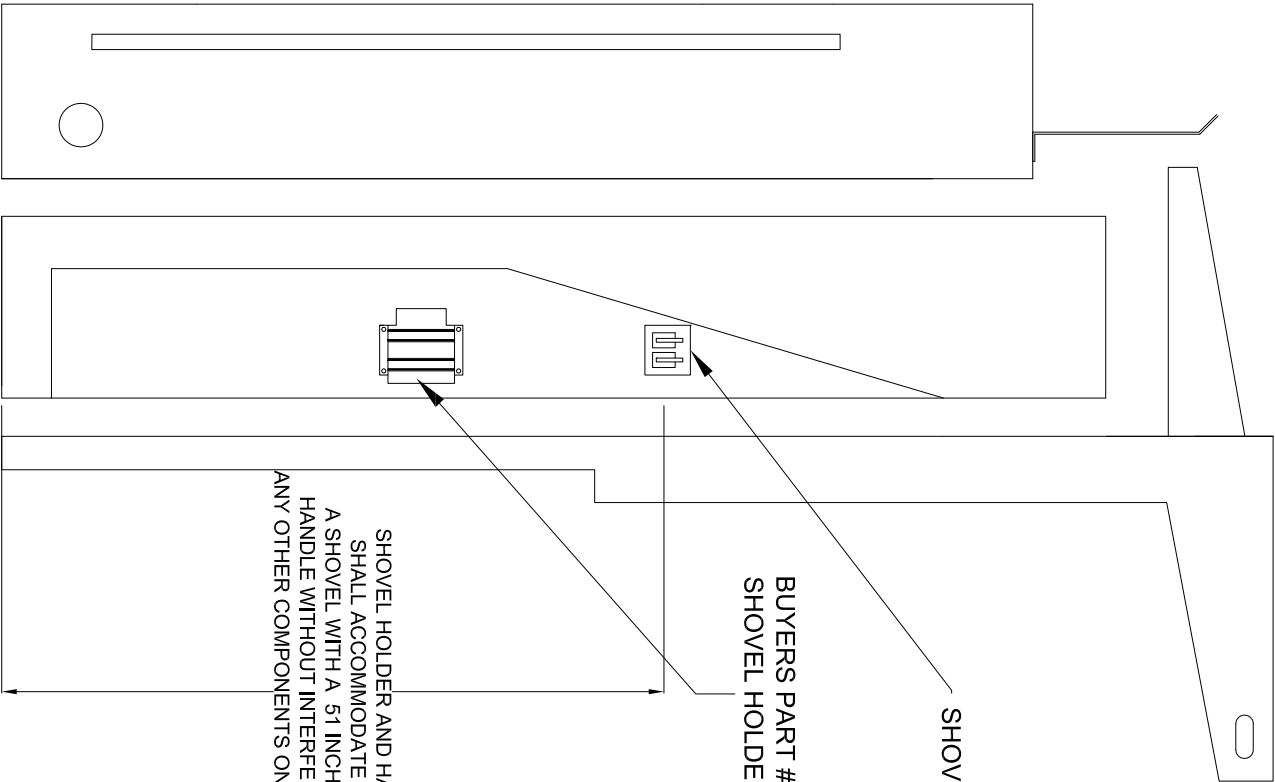


THERE SHALL BE THREE (3) PERMANENT DECALS, 4 INCH HIGH X 5 INCH WIDE, ONE EACH TO BE AFFIXED BY THE DRIVER, PASSENGER SIDE DOOR HANDLES AND THE DUMP BODY LADDER.

PA DEPARTMENT OF TRANSPORTATION

REVISIONS

NO.	DATE	BY	THREE POINTS OF CONTACT STICKER		
1	00-00-00	INT			
2			DRAWN BY	GAW	SCALE N/A EQN-552-1
3			DATE	03-23-15	CHKD BY TOD SHEET 1 OF 1



SHOVEL HOLDER HOOKS

BUYERS PART #SH675SS
SHOVEL HOLDER

SHOVEL HOLDER AND HANGER
SHALL ACCOMMODATE UP TO
A SHOVEL WITH A 51 INCH LENGTH
HANDLE WITHOUT INTERFERING WITH
ANY OTHER COMPONENTS ON THE TRUCK.

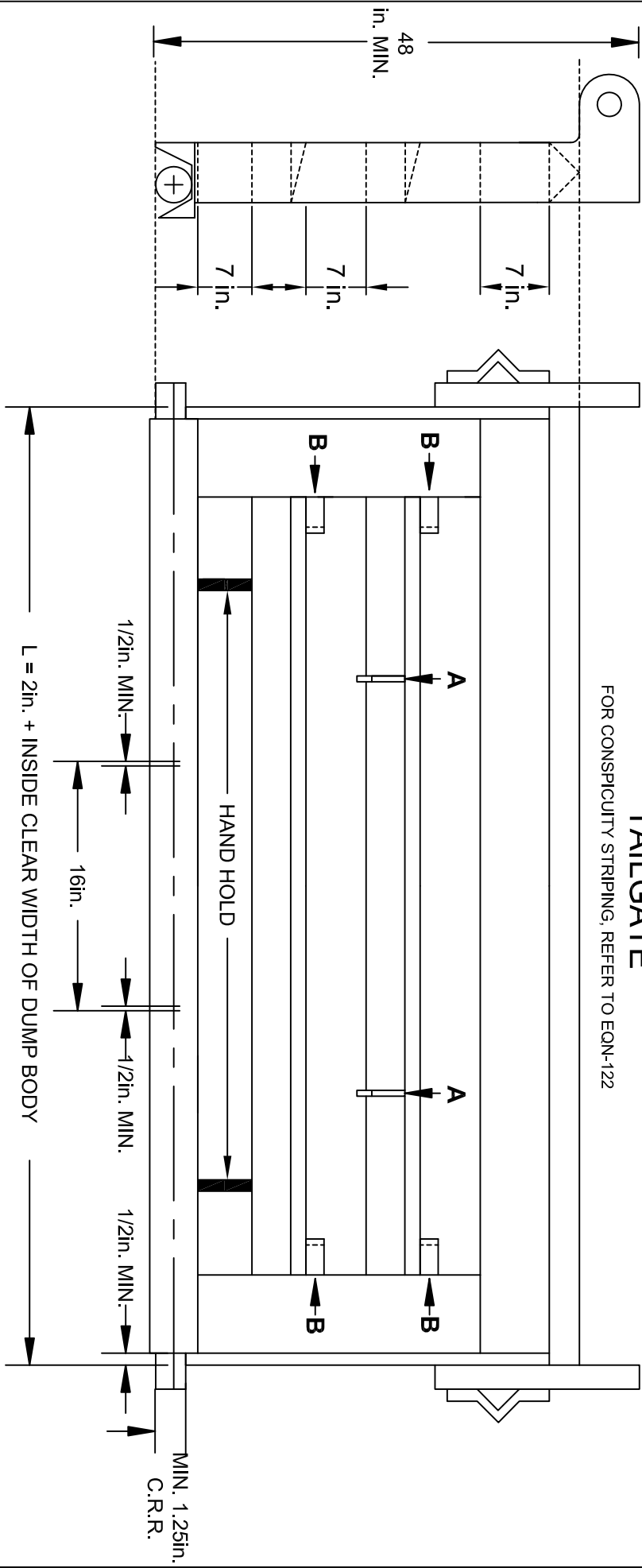
PA DEPARTMENT OF TRANSPORTATION

REVISIONS			SHOVEL HOLDER		
NO.	DATE	BY			
1	00-00-00	INT			
2					
3					

DRAWN BY		SCALE		EQU-557	
JFM		2.2			
DATE		CHK'D BY		SHEET 1 OF 1	
05-20-13		INT			

TAILGATE

FOR CONSPICUITY STRIPING, REFER TO EQN-122



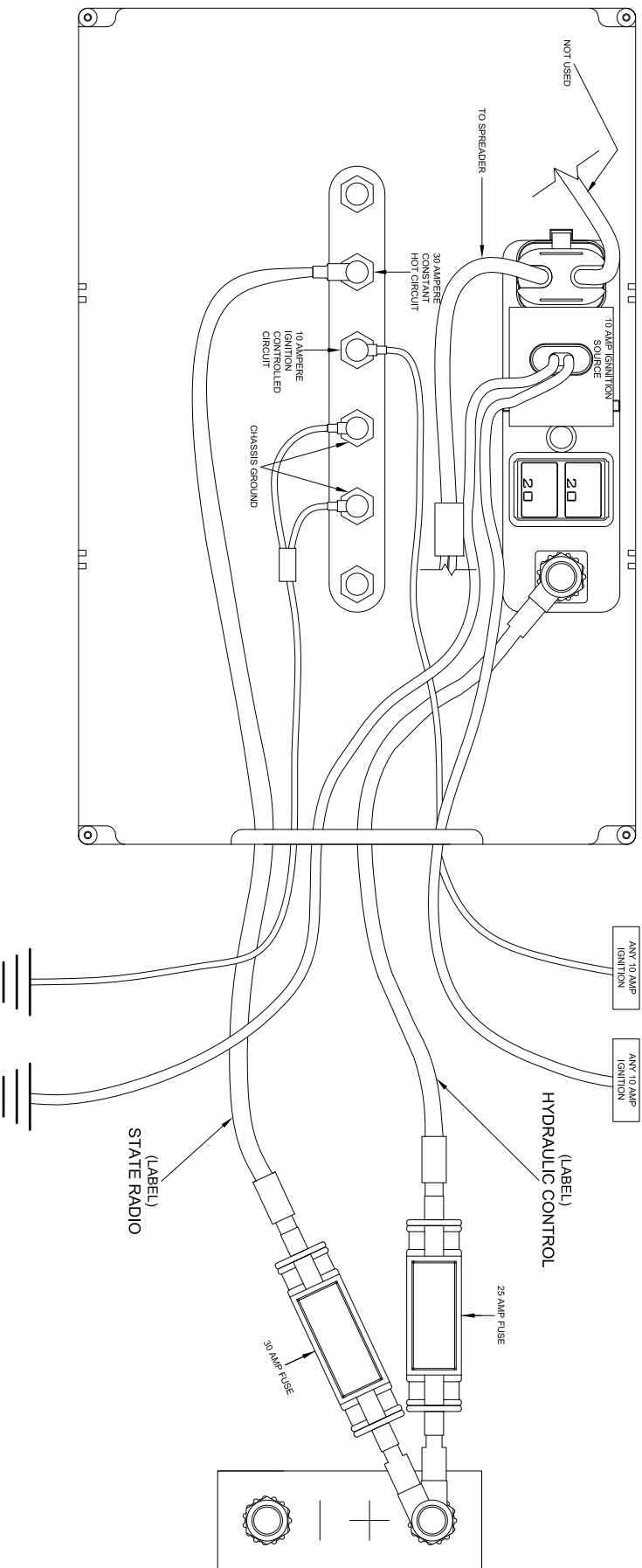
NOTES:

- A. THERE SHALL BE 2 "J" HOOKS PER TAILGATE AND SHALL BE FULLY WELDED AS CHAIN HOLDERS.
- B. THERE SHALL BE 4 TAILGATE CHAIN BRACKETS FULLY WELDED TO THE TAILGATE.
- HORIZONTAL CROSS-MEMBER ABOVE THE DOOR SHALL BE ONE CONTINUOUS RUN ACROSS TAILGATE.
- COMPLETE TAILGATE SHALL BE TYPE 304 STAINLESS STEEL.

PA DEPARTMENT OF TRANSPORTATION

REVISIONS			TAILGATE		
NO.	DATE	BY			
1					
2					
3					

DRAWN BY	JFM	SCALE	N/A	EQN-561
DATE	01-06-14	CHKD BY	RED	SHEET 1 OF 1



NOTE:

EACH CIRCUIT SHALL BE SUPPLIED INDIVIDUALLY, LABELED, PROPERLY SIZED, PROTECTED FROM WEATHER, AND SEALED TO BE WATERTIGHT.

PA DEPARTMENT OF TRANSPORTATION			
REVISIONS			POWER DISTRIBUTION BOX FOR STATE RADIO AND SPREADER CONTROLS
NO.	DATE	BY	
1	00-00-00	INT	
2			
3			
		DRAWN BY	JFM
		SCALE	N/A
		CHK'D BY	INT
		DATE	01-08-14
			EQN-562
			SHEET 1 OF 1