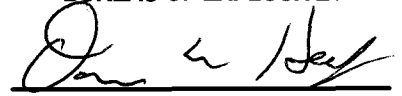


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DATE 6-21-2007



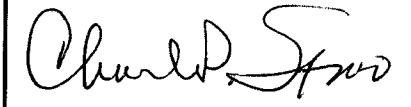

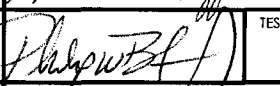
LOADING AND BRACING* ON COM- MERCIAL FLATRACK ISO CONTAIN- ERS OF BLU-122 BOMBS PACKED IN CNU-658 CONTAINERS

INDEX

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*THE PROCEDURES SHOWN HEREIN ARE APPLICABLE TO LOADS THAT ARE TO BE SHIPPED BY CONTAINER-ON-FLATCAR (COFC) RAIL, MOTOR, OR WATER CARRIERS.

U.S. ARMY MATERIEL COMMAND DRAWING

APPROVED, U.S. ARMY JOINT MUNITIONS COMMAND 	CAUTION: VERIFY PRIOR TO USE AT WWW.DAC.ARMY.MIL THAT THIS IS THE MOST CURRENT VERSION OF THIS DOCUMENT. THIS IS PAGE 1 OF 8.											
DO NOT SCALE		MAY 2007										
ENGINEER OR TECHNICIAN 	BASIC MELVIN SIX											
APPROVED BY ORDER OF COMMANDING GENERAL, U.S. ARMY MATERIEL COMMAND 	TRANSPORTATION ENGINEERING DIVISION 											
U.S. ARMY DEFENSE AMMUNITION CENTER	VALIDATION ENGINEERING DIVISION 	TESTED	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 15%;">CLASS</td> <td style="width: 15%;">DIVISION</td> <td style="width: 15%;">DRAWING</td> <td style="width: 15%;">FILE</td> </tr> <tr> <td style="text-align: center;">19</td> <td style="text-align: center;">48</td> <td style="text-align: center;">8854</td> <td style="text-align: center;">SP15PB23</td> </tr> </table>		CLASS	DIVISION	DRAWING	FILE	19	48	8854	SP15PB23
CLASS	DIVISION	DRAWING	FILE									
19	48	8854	SP15PB23									

GENERAL NOTES

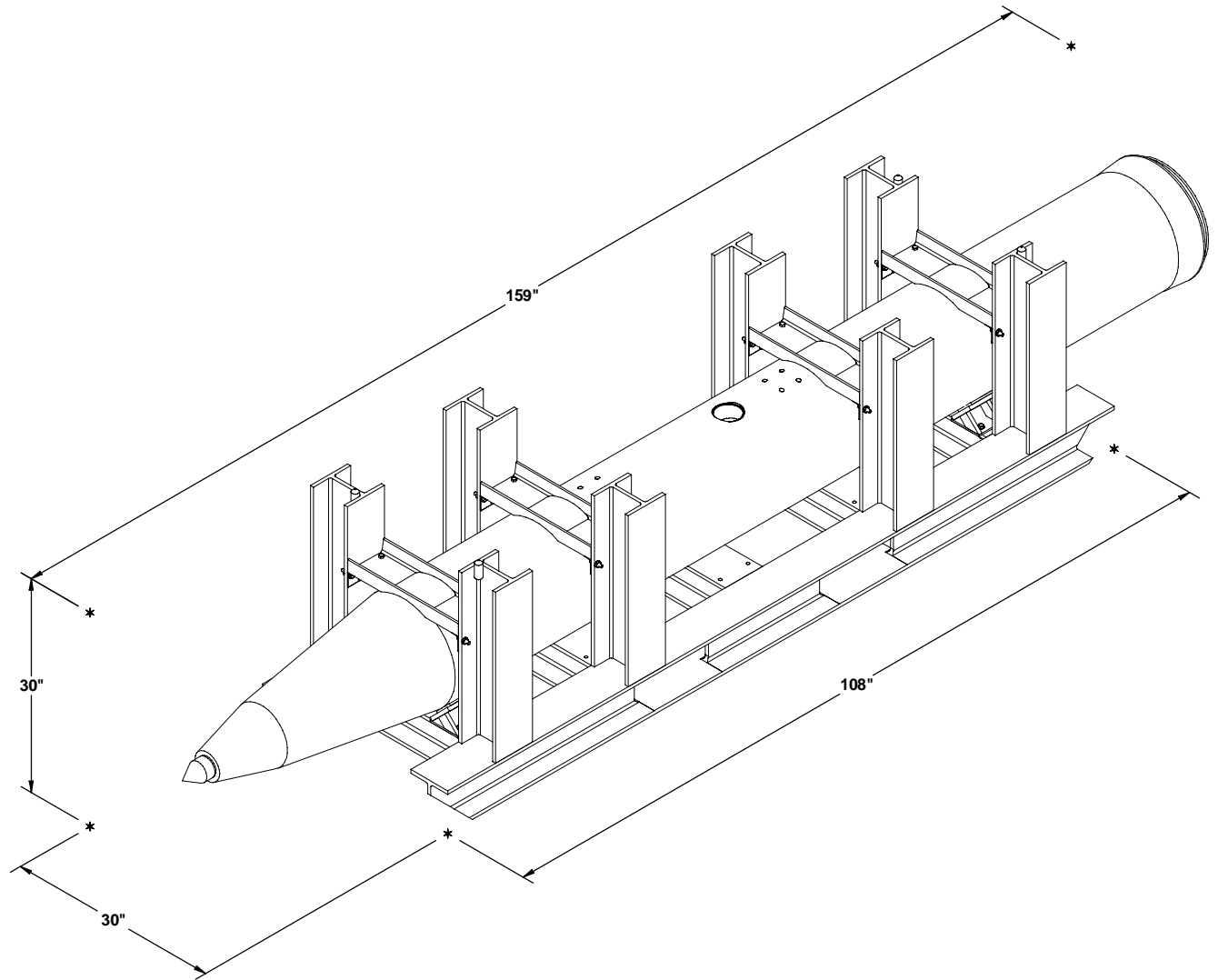
(GENERAL NOTES CONTINUED)

- A. THIS DOCUMENT HAS BEEN PREPARED AND ISSUED IN ACCORDANCE WITH AR 740-1 AND AUGMENTS TM 743-200-1 (CHAPTER 5).
- B. ALL LOADS SHIPPED BY THE PROCEDURES DEPICTED IN THIS DRAWING MUST BE IN ACCORDANCE WITH THE REQUIREMENTS SET FORTH IN TITLE 49, THE UNITED STATES CODE OF FEDERAL REGULATIONS; AR 55-355/AFM 75-2; DOD 4500.32-R; DOD 5100.76-M; DOD 6055.9-STD; AS WELL AS ANY AND ALL OTHER APPLICABLE SERVICE REGULATIONS.
- C. THE SPECIFIED OUTLOADING PROCEDURES ARE APPLICABLE TO LOADS OF BLU-122 BOMBS PACKED IN CNU-658 CONTAINERS. SUBSEQUENT REFERENCE TO CONTAINER HEREIN MEANS CONTAINER WITH BOMB INSTALLED. SEE AIR FORCE DRAWING X20065101 AND PAGE 3 FOR DETAILS OF THE CONTAINER. **CAUTION:** REGARDLESS OF THE QUANTITY OF CONTAINERS TO BE SHIPPED, THE "MAXIMUM GROSS WEIGHT" OF THE FLATRACK ISO CONTAINER MUST NOT BE EXCEEDED.
- D. THE LOAD AS SHOWN IS BASED ON A 5,700 POUND 20' LONG BY 8'-0" WIDE FLATRACK ISO CONTAINER WITH FULL HEIGHT ENDWALLS, AND INSIDE DIMENSIONS OF 19'-4" LONG BY 7'-2" WIDE. THE LOAD IS DESIGNED FOR TRAILER/CONTAINER-ON-FLATCAR (T/COFC) SHIPMENT, HOWEVER, THE LOAD AS DESIGNED CAN ALSO BE MOVED BY OTHER SURFACE MODES OF TRANSPORT. **NOTICE:** OTHER CONTAINERS OF THE SAME DESIGN CONFIGURATION CAN BE USED.
- E. WHEN LOADING CONTAINERS, THEY ARE TO BE POSITIONED SO AS TO ACHIEVE A TIGHT LOAD BETWEEN THE END BLOCKING ASSEMBLIES AND THE LADING. ALTHOUGH A TOTAL OF 1" OF UNBLOCKED SPACE ACROSS THE WIDTH OF A LOAD IS PERMITTED, LONGITUDINAL VOIDS WITHIN THE LOADS ARE TO BE HELD TO A MINIMUM, NOT EXCEEDING 1/2".
- F. DUNNAGE LUMBER SPECIFIED IS OF NOMINAL SIZE. FOR EXAMPLE, 1" X 4" MATERIAL IS ACTUALLY 3/4" THICK BY 3-1/2" WIDE AND 2" X 6" MATERIAL IS ACTUALLY 1-1/2" THICK BY 5-1/2" WIDE.
- G. A STAGGERED NAILING PATTERN WILL BE USED WHENEVER POSSIBLE WHEN NAILS ARE DRIVEN INTO JOINTS OF DUNNAGE ASSEMBLIES OR WHEN LAMINATING DUNNAGE. ADDITIONALLY, THE NAILING PATTERN FOR AN UPPER PIECE OF LAMINATED DUNNAGE WILL BE ADJUSTED AS REQUIRED SO THAT A NAIL FOR THAT PIECE WILL NOT BE DRIVEN THROUGH ONTO OR RIGHT BESIDE A NAIL IN A LOWER PIECE.
- H. PORTIONS OF THE FLATRACK DEPICTED WITHIN THIS DRAWING, SUCH AS PART OF THE ENDWALL, HAVE NOT BEEN SHOWN IN THE LOAD VIEWS FOR CLARITY PURPOSES.
- J. **MAXIMUM LOAD WEIGHT CRITERIA:**
- THE MAXIMUM LOAD WEIGHTS ARE CONTROLLED BY EQUIPMENT CAPABILITY FACTORS. ALTHOUGH THE HEAVIEST MAXIMUM LOADS ARE DELINEATED IN THE LOAD VIEWS, PROVISIONS ARE INCLUDED WITHIN THIS DRAWING SO THAT THE BASIC LOADS CAN BE ADJUSTED TO SATISFY A LESSER QUANTITY OF LADING UNITS. DEPENDING ON TRANSPORTATION ROUTING, IT MAY BE NECESSARY TO REDUCE THE LOAD WEIGHT TO SATISFY "WEIGHT LAWS" OF CERTAIN STATES. ALSO, IT MAY BE NECESSARY TO REDUCE THE LOAD WEIGHT TO SATISFY OTHER WEIGHT RESTRICTIONS IMPOSED ON THE INTERMODAL CONTAINER SYSTEM.
- K. REQUIREMENTS CITED WITHIN THE ASSOCIATION OF AMERICAN RAILROADS (AAR) INTERMODAL LOADING GUIDE APPLY WHEN THE SHIPMENT MOVES BY TRAILER/CONTAINER-ON-FLATCAR (T/COFC). SPECIAL T/COFC NOTES FOLLOW:
1. A LOADED CONTAINER MUST BE ON A CHASSIS EQUIPPED WITH TWO BOGIE ASSEMBLIES WHEN BEING MOVED IN TOFC SERVICE.
 2. THE LOAD LIMIT OF A T/COFC RAILCAR MUST NOT BE EXCEEDED, NOR WILL A CAR BE LOADED SO THAT THE TRUCK UNDER ONE END OF THE CAR CARRIES MORE THAN ONE-HALF OF THE LOAD LIMIT FOR THAT CAR.

(CONTINUED AT RIGHT)

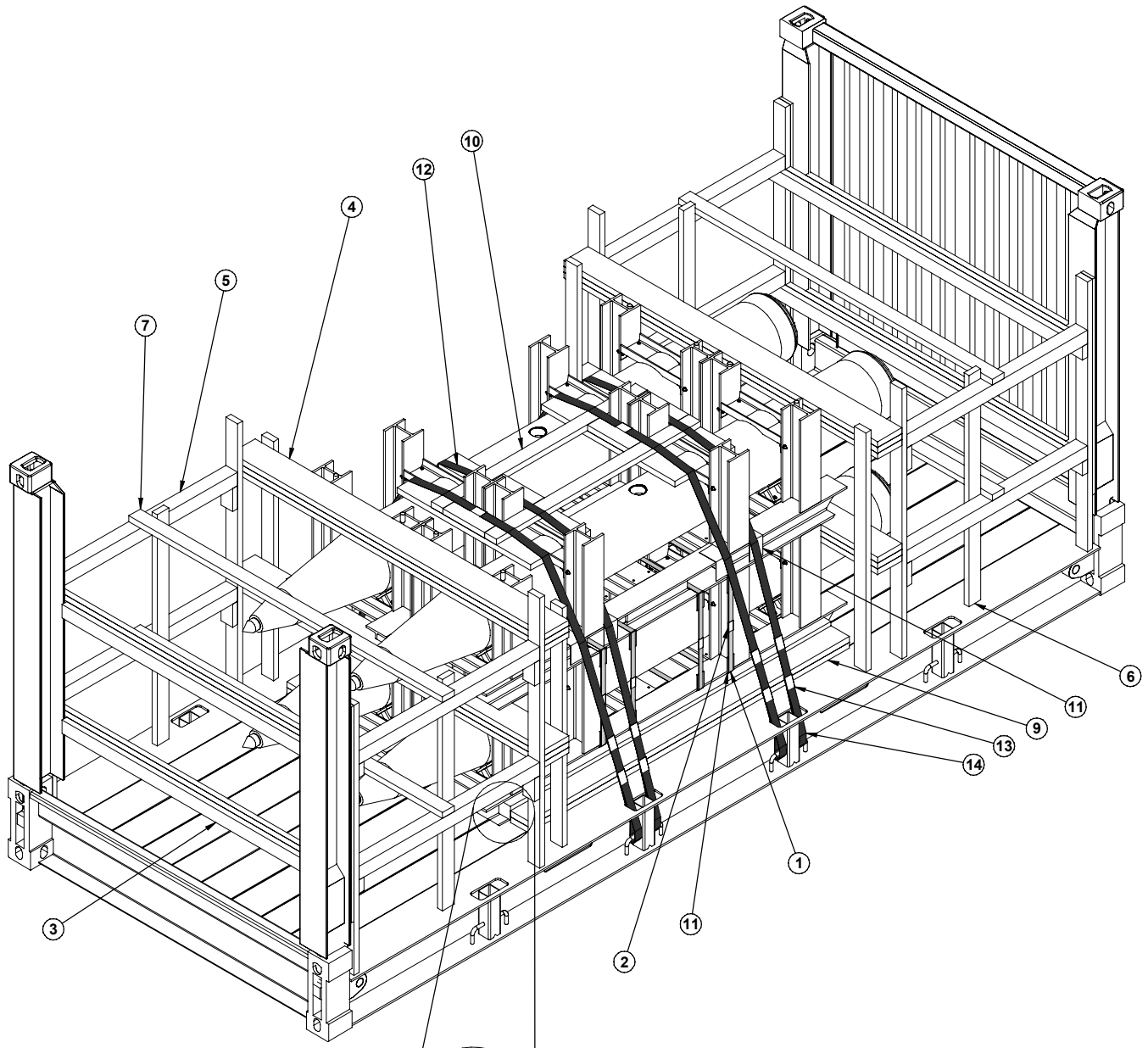
MATERIAL SPECIFICATIONS

- LUMBER - - - - - : SEE TM 743-200-1 (DUNNAGE LUMBER) AND VOL-UNTARY PRODUCT STANDARD PS 20.
- NAILS - - - - - : ASTM F1667; COMMON STEEL NAIL (NLCS OR NLCSMS).
- STRAPPING, STEEL - - : ASTM D3953; FLAT STRAPPING, TYPE 1, HEAVY DUTY, FINISH A, B (GRADE 2), OR C.
- SEAL, STRAP - - - - : ASTM D3953; CLASS H, FINISH A, B (GRADE 2), OR C, DOUBLE NOTCH TYPE, STYLE I, II, OR IV.
- STAPLE, STRAP - - - : COMMERCIAL GRADE.
- ANTI-CHAFING MATERIAL - - - - - : MIL-PRF-121 (OR EQUAL); NEUTRAL BARRIER MATERIAL.



CNU-658 CONTAINER

GROSS WEIGHT - - - - - 4,915 LBS (APPROX)
 CUBE - - - - - 82.8 CU FT (APPROX)



ISOMETRIC VIEW

INDICATES
CNU-658 SKID

SIDE BLOCKING DETAIL

(KEY NUMBERS CONTINUED)

- ⑩ STRAPPING ASSEMBLY (1 REQD). SEE DETAIL ON PAGE 7.
- ⑪ ANTI-CHAFING NEUTRAL BARRIER MATERIAL (AS REQD). POSITION UNDER ALL STRAPS AT POINTS OF CONTACT WITH THE CONTAINER, EXCEPT THROUGH FORKLIFT OPENINGS.
- ⑫ HOLD-DOWN STRAP, 2" X .050" OR .044" X 23'-6" LONG STEEL STRAPPING (4 REQD). INSTALL EACH STRAP FROM TWO PIECES, EACH 11'-9" LONG. FASTEN TO TIEDOWN PROVISION ON THE SIDE OF THE FLATRACK AND BRING UP TO THE TOP OF THE LOAD WHERE THEY CAN BE TENSIONED AND SEALED. STAPLE TO STRAPPING ASSEMBLY W/2 STAPLES EACH.
- ⑬ SEAL FOR 2" STRAPPING (20 REQD, 5 PER STRAP). FASTEN 2" HOLD DOWN STRAP WITH ONE SEAL AT EACH LOCATION CRIMPED WITH TWO PAIR OF NOTCHES. FASTEN PAD WITH ONE SEAL CRIMPED WITH TWO PAIR OF NOTCHES. SEE THE "TIEDOWN DETAIL" ON PAGE 8.
- ⑭ PAD, STRAPPING 2" X .050" OR .044" X 18" (8 REQD). PRE-POSITION THE PAD BETWEEN THE HOLD-DOWN STRAP AND THE FLATRACK TIEDOWN PROVISIONS. SEE THE "TIEDOWN DETAIL" ON PAGE 8.

KEY NUMBERS

- ① UNITIZING STRAP, 1-1/4" X .035" OR .031" X 11'-0" LONG STEEL STRAPPING (4 REQD PER CONTAINER STACK). INSTALL TO PASS THROUGH THE FORK POCKETS OF THE TWO CONTAINERS. SEAL WITH ONE SEAL CRIMPED WITH TWO PAIR OF NOTCHES OR WITH TWO SEALS, EACH CRIMPED WITH TWO PAIR OF NOTCHES. SEE GENERAL NOTE "Q" ON PAGE 2.
- ② SEAL FOR 1-1/4" STRAPPING (8 REQD, 1 PER STRAP). CRIMP EACH SEAL WITH TWO PAIR OF NOTCHES.
- ③ ENDWALL GATE (2 REQD). SEE DETAIL ON PAGE 7.
- ④ END BLOCKING ASSEMBLY (2 REQD). SEE DETAIL ON PAGE 6.
- ⑤ STRUT, 4" X 4" BY CUT-TO-FIT (REF: 54-1/2") (8 REQD). TOENAIL TO THE BUFFER PIECES OF THE END BLOCKING ASSEMBLY AND VERTICAL PIECES OF THE ENDWALL GATE W/2-12d NAILS AT EACH END. SEE THE "BEVEL-CUT" DETAIL ON PAGE 8.
- ⑥ VERTICAL STRUT BRACING, 2" X 4" X 60" (4 REQD). NAIL TO THE STRUTS W/2-10d NAILS AT EACH JOINT.
- ⑦ HORIZONTAL STRUT BRACING, 2" X 4" 7'-10" (4 REQD). NAIL TO THE STRUTS W/2-10d NAILS AT EACH JOINT.
- ⑧ SIDE BLOCKING PIECE, 4" X 4" X 8'-0" (2 REQD). POSITION TIGHT AGAINST THE SKID VERTICAL WALL. SEE THE "SIDE BLOCKING DETAIL" ABOVE.
- ⑨ SIDE BLOCKING, 2" X 6" X 8'-0" (DOUBLED) (2 REQD). POSITION TIGHT AGAINST THE SIDE BLOCKING PIECE. NAIL THE FIRST PIECE TO THE FLATRACK FLOOR W/8-10d NAILS. LAMINATE THE SECOND TO THE FIRST IN LIKE MANNER. TOENAIL TO THE SIDE BLOCKING PIECE W/4-12d NAILS. SEE THE "SIDE BLOCKING DETAIL" ABOVE.

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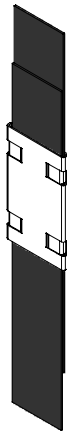
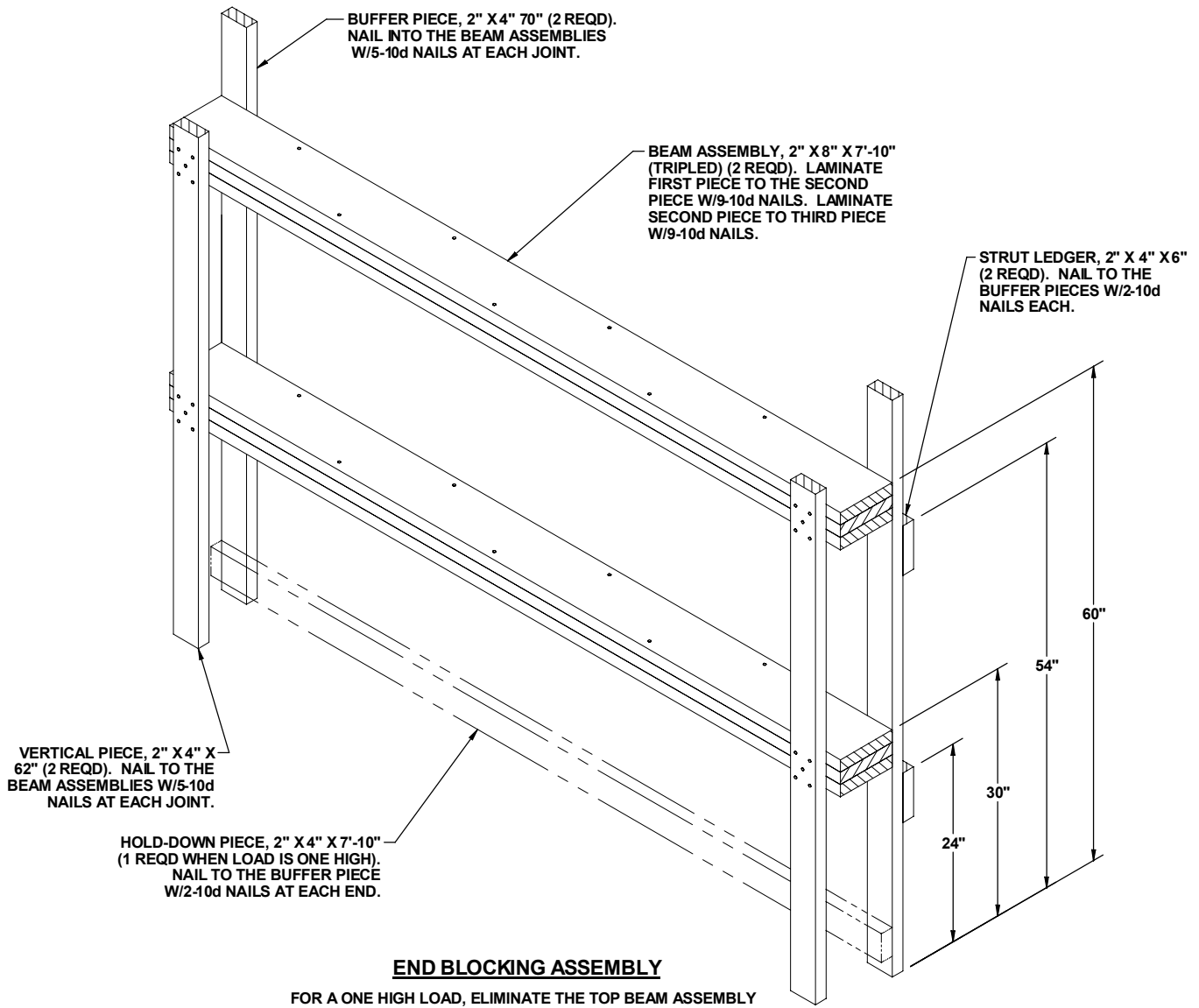
SPECIAL NOTES:

1. IF THE CORNER POSTS OF THE FLATRACK ARE SMOOTH, I.E., THE ENDWALL HINGE DOES NOT PROTRUDE FROM THE CORNER POST, THE FILL PIECES MAY BE ELIMINATED FROM THE ENDWALL GATES. ALSO, THE LENGTH OF THE FILL PIECE MUST BE ADJUSTED AS REQUIRED DEPENDING ON THE LENGTH OF THE PROTRUDING HINGE.
2. POSITION THE STRAPPING BOARD ASSEMBLY AND THE HOLD-DOWN STRAPS TO BE VERTICALLY IN LINE WITH THE FLATRACK TIEDOWN POINTS.
3. THE LOAD AS SHOWN MAY BE REDUCED TO ONE OR TWO CONTAINERS, IF DESIRED.

BILL OF MATERIAL		
LUMBER	LINEAR FEET	BOARD FEET
1" X 4"	19	12
2" X 4"	170	113
2" X 6"	46	46
2" X 8"	94	126
4" X 4"	53	72
NAILS	NO. REQD	POUNDS
6d (2")	24	1/4
10d (3")	268	4-1/4
12d (3-1/4")	40	3/4
STEEL STRAPPING, 1-1/4" -	88' REQD - - -	13 LBS
SEAL FOR 1-1/4" STRAPPING -	4 REQD - - -	1/2 LB
STEEL STRAPPING, 2" - - -	94' REQD - - -	32 LBS
SEAL FOR 2" STRAPPING - -	20 REQD -	4-1/2 LBS
STAPLE FOR 2" STRAPPING - -	8 REQD - - - -	NIL

LOAD AS SHOWN

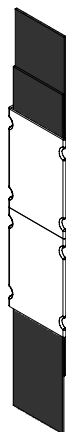
ITEM	QUANTITY	WEIGHT (APPROX)
CNU-658 - - - - -	4 - - - - -	19,660 LBS
DUNNAGE - - - - -	- - - - -	931 LBS
CONTAINER - - - - -	- - - - -	5,700 LBS
TOTAL WEIGHT - - - - -		26,291 LBS (APPROX)



ONE SEAL WITH
TWO PAIR OF
NOTCHES.

STRAP JOINT A

METHOD OF SECURING A
STRAP JOINT WHEN USING
A NOTCH-TYPE SEALER.

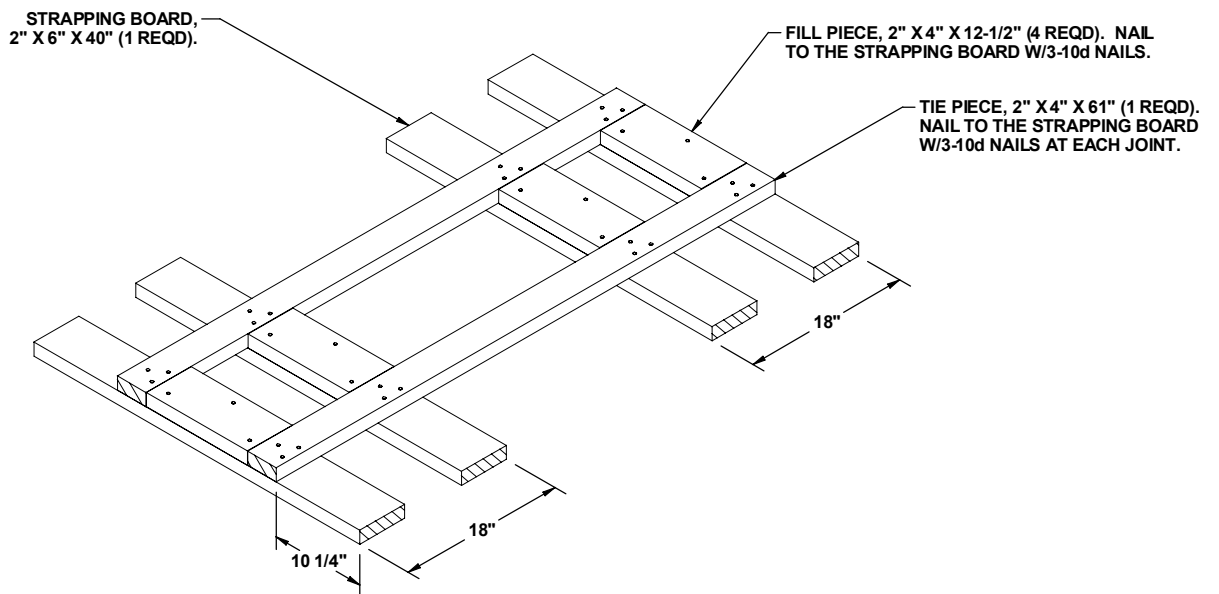
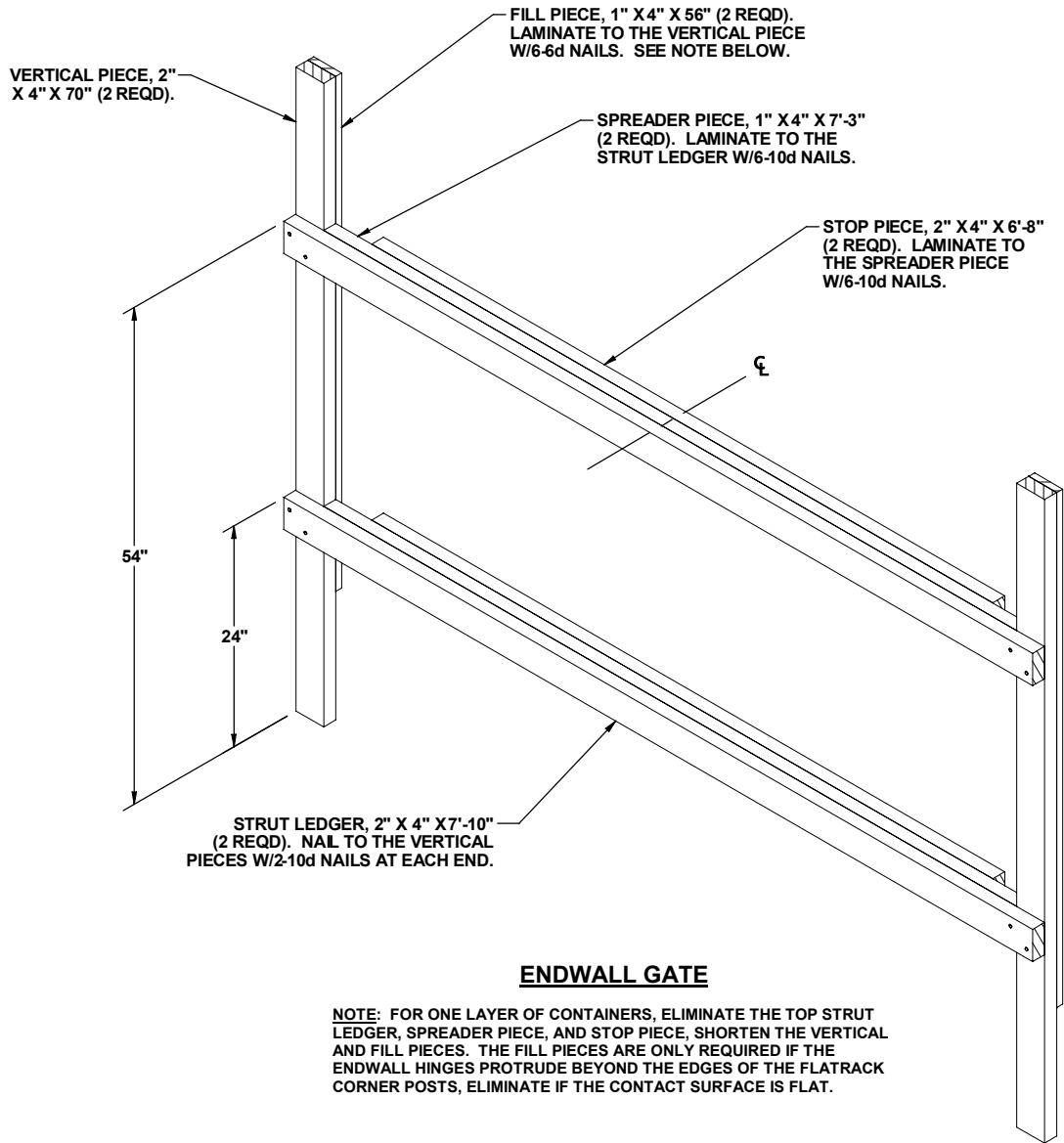


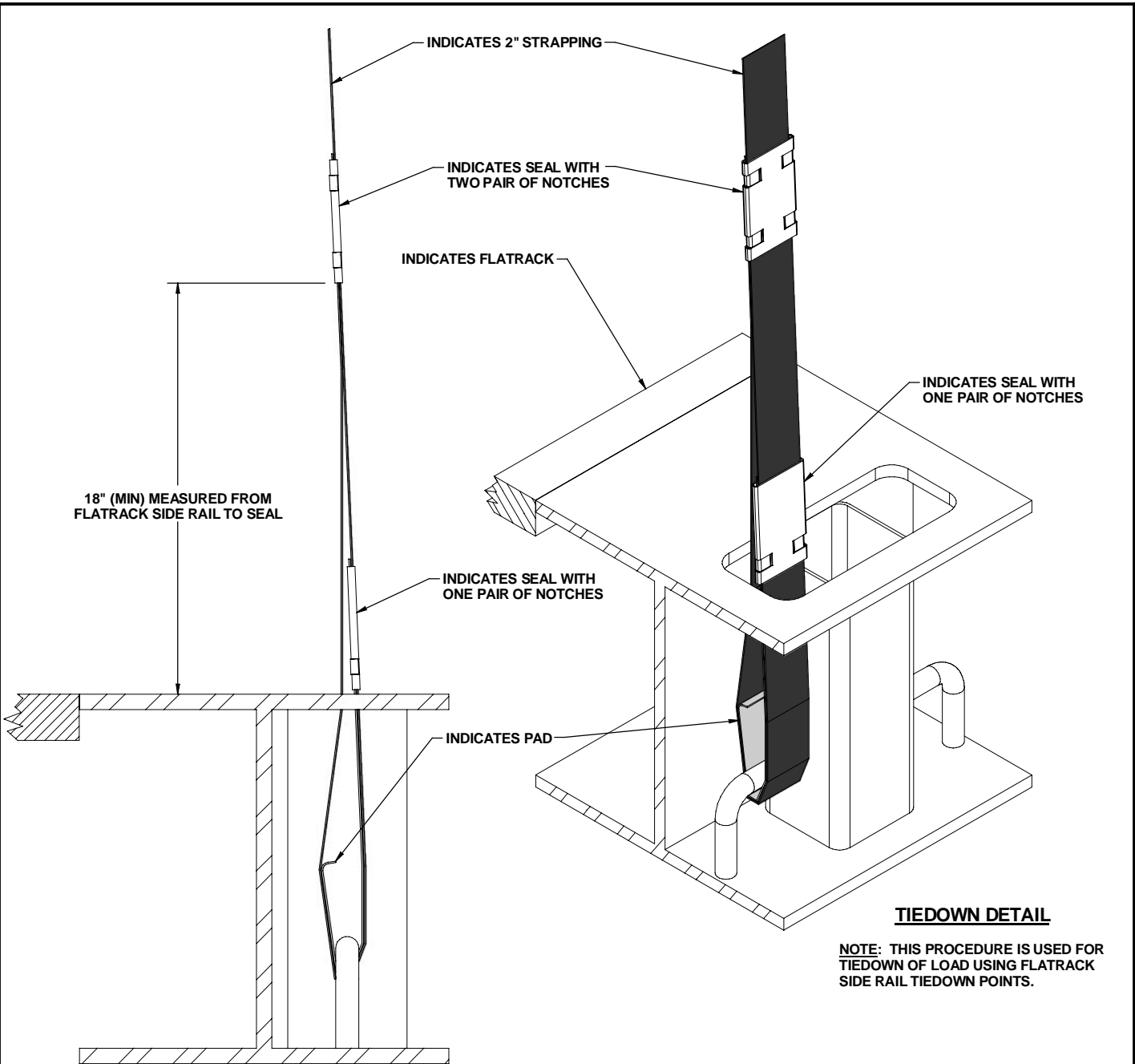
TWO SEALS, BUTTED
TOGETHER, WITH
TWO PAIR OF CRIMPS
EACH SEAL.

STRAP JOINT B

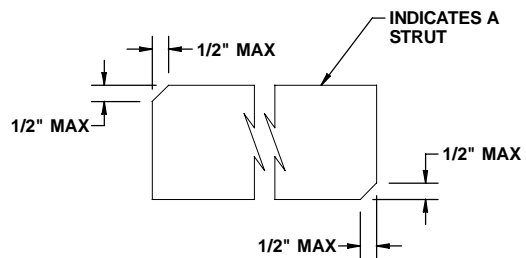
METHOD OF SECURING A
STRAP JOINT WHEN USING
A CRIMP-TYPE SEALER.

END-OVER-END LAP JOINT DETAILS





PARTIAL SIDE VIEW



BEVEL CUT

IF DESIRED, EACH END OF A STRUT MAY BE BEVEL-CUT AS SHOWN ABOVE TO FACILITATE THE ACHIEVEMENT OF A TIGHT END OF LOAD FIT.