



DEPARTMENT OF THE ARMY
US ARMY DEFENSE AMMUNITION CENTER AND SCHOOL
SAVANNA, ILLINOIS 61074-9639

REPLY TO
ATTENTION OF:

04 FEB 1995

SMCAC-DET (702-3b)

MEMORANDUM FOR All Holders of U.S. Army Materiel Command 19-48 Series
Containerization Drawings

SUBJECT: Shipment of Hazard Compatibility Groups G and H Ammunition

1. Reference letter, U.S. Coast Guard (USCG), G-MTH-1, 8 February 1995, no subject. (enclosure 1)
2. During the shipment of ammunition having hazard compatibility groups "G" and "H", questions have arisen regarding as to what is to be construed as a "fillet of cement", "other material", and "across the door opening", as required by Title 49 Code of Federal Regulations (CFR). Interpretations by numerous Department of Defense (DOD) and Department of Transportation (DOT) agencies have been varied and require resolution to avoid delays in future shipments.
3. As evidenced in enclosure 1, when loaded with subject ammunition, the purpose of applying some sort of material across the door opening of an intermodal freight container is to provide secondary containment. This secondary containment is necessary should a material spill or leakage occur from the primary containment, that being the item package. The secondary containment will then prohibit the hazardous material from spilling/leaking out of the intermodal container during shipment or when the doors are opened.
4. To comply with the regulatory requirements, as well as other guidance in the use of the intermodal containers, recommend methods of containment as follows:
 - a. Initially, when an intermodal container is to be loaded with subject hazard compatibility group items, the container floor must be capable of not allowing any leaking material (i.e., granules, powder, or liquid) to pass through. Generally, as long as the container floor has no direct light leaks, the container can be used for UN Class 1 (explosive) items. In this case, however, the floor must not allow light to enter either direct or indirect openings. If joints between floorboards are questionable, then the joints must be caulked. The same applies for the joint between the floorboards and any adjacent metal container parts; e.g., side rails, end rails, forklift tunnels, etc.
 - b. To ensure that possible leaking material is contained within an end opening intermodal container, a piece of dunnage lumber must be blocked in place across the entire width of the container doorway opening. This piece will be at least a nominal 2-inch by 4-inch piece, positioned on edge so that the 4-inch dimension is vertical. To preclude absorption of leaking material into the dunnage piece, it must also be wrapped with plastic (polyethylene sheet).

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Finally, a bead of caulking will be run on the load side, where the dunnage/plastic contacts the sidewalls and the floor of the container. Additional information is at enclosure 2.

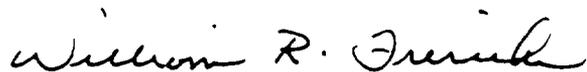
c. Similarly, when loading a side opening intermodal freight container, the same sort of procedure must be followed. Since the entire side of this type of intermodal container opens, more than one piece of dunnage may be required. A procedure as stated in the preceding paragraph may be used with the addition of a caulked joint between containment pieces. Further guidance and information is at enclosure 3.

d. Since wooden dunnage is the most common material used in the blocking and bracing of a load, 4.b. and 4.c. refer to the use of wood as a containment source. Metal or plastic material can also be used, if available. If either of these is used, again a bead of caulking will be required to ensure a seal between the container and the containment piece. These pieces will also have to be blocked or held in position to ensure that they do not become dislodged during transport.

5. By providing a containment method, whether as described in the preceding paragraphs or another one locally devised, conformance to Title 49 CFR will be maintained and shipments of the subject hazard compatibility groups will not be frustrated.

6. The POC is Mr. Gregory L. Willis, SMCAC-DET, DSN 585-8075, commercial (815) 273-8075, or datafax (815) 273-8811.

FOR THE DIRECTOR:



WILLIAM R. FRERICHS
Chief, Transportation Engineering Division

3 Encls
as

CF (w/encls):
Commandant, U.S. Coast Guard, ATTN: G-MTH-1/G-MPS-1/G-MVI-2,
Washington, DC 20593-0001

FAX TRANSMITTAL

of pages: 1

TO

83097825811

P.03

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G-MTH-1

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16703/49-176.136(c)

FEB 8 1995

Mr. Harris Yeager
Safety Manager
HQ. Military Traffic Management Command
5611 Columbia Pike
Falls Church, VA 22041-5050

Dear Mr. Yeager:

This letter is in response to a December 2, 1994, inquiry from the Chief, Munitions Division, Headquarters, U.S. Army Pacific, concerning the last sentence of section 176.136(c) in Title 49 CFR. Because of the many possibilities for acceptable compliance with the transportation regulations, precise wording and definition are often not dictated in order to permit the use of a variety of innovative procedures and materials.

The intent of the last sentence in section 176.136(c) is to prepare the freight container to provide secondary containment in the event of a material spill within the container, and specifically to prevent that spill from escaping through the door opening. As indicated in the second sentence of section 176.136(c), this provision applies to certain Class 1 materials in compatibility groups G and H unless they are stowed in the manner specified. These materials pose additional hazards due to smoke or tear-producing fumes, and therefore must be confined if leakage from the primary containment (packaging) should occur.

The terms "fillet of cement", "other material" and "across the door opening" may be taken to mean the placement of a substantial filler, caulk, coaming of solid material or combination of these that seals the bottom of the door opening to prevent leakage. This sealing arrangement should be inside the doors to do this, otherwise a spill may not be effectively contained when the doors are opened. The material(s) of construction should be adequate for the purpose intended, that is substantial enough to withstand the rigors of transport and to contain leakage of a reasonable amount of hazardous material. As general guidance, the seal at vertical joints in the doors should be effective to a height of at least 10 centimeters (3.95 inches) above the floor of the container. The material(s) of construction also should be resistant to degradation by spilled cargo and otherwise be inert (i.e. present no incompatibility).

If you have other questions or wish additional information at a later date, please contact Mr. W. C. Hallow at (202) 267-1577.

Sincerely,

K. J. ELDRIDGE
Captain, U.S. Coast Guard
Chief, Hazardous Materials Branch
Marine Technical and Hazardous
Materials Division
By direction of the Commandant

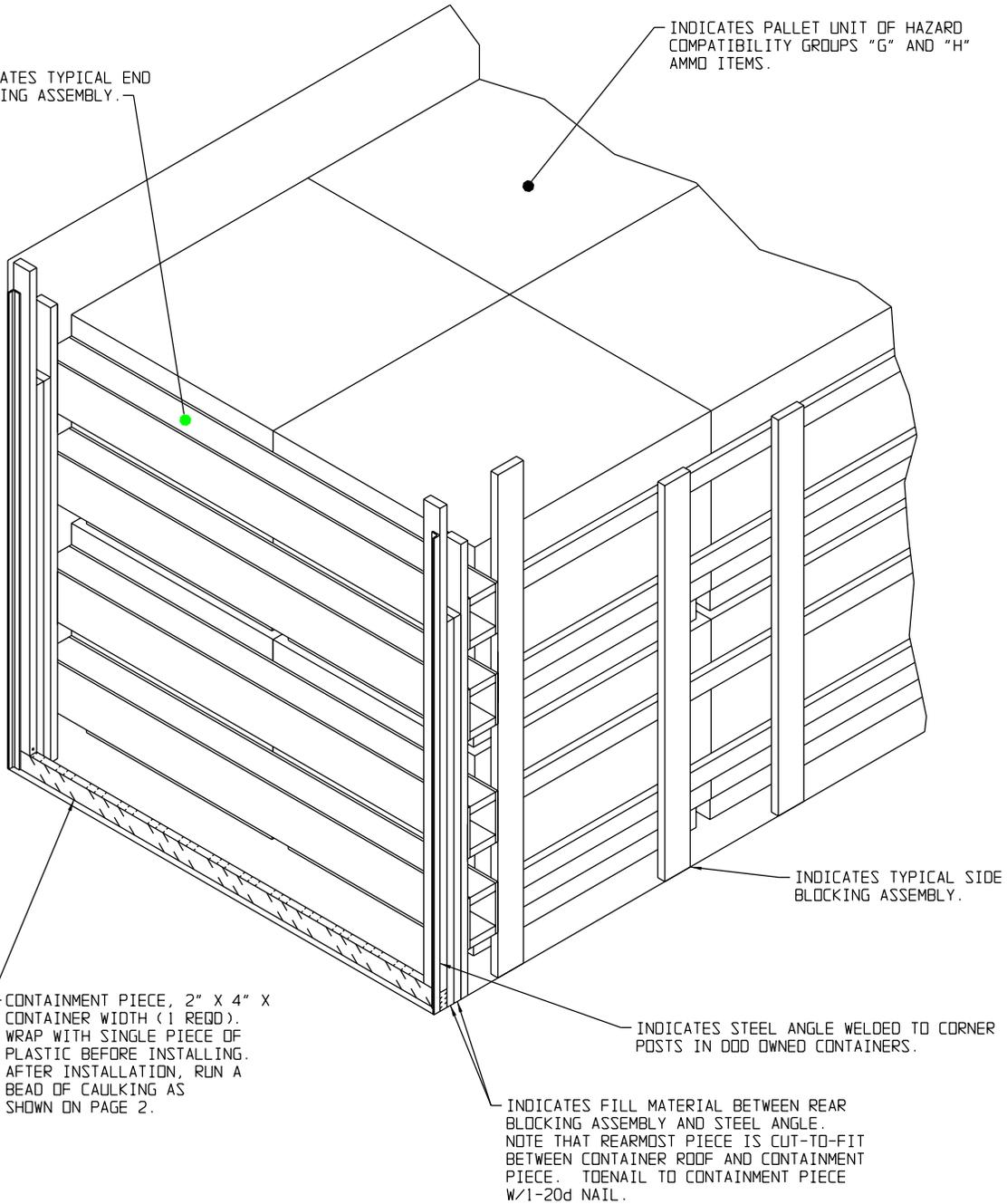
bc: G-MPS-1
(WCH)4-ARMYFILLET 13JAN95

Encl 1

TOTAL P.03

INDICATES TYPICAL END
BLOCKING ASSEMBLY.

INDICATES PALLET UNIT OF HAZARD
COMPATIBILITY GROUPS "G" AND "H"
AMMO ITEMS.



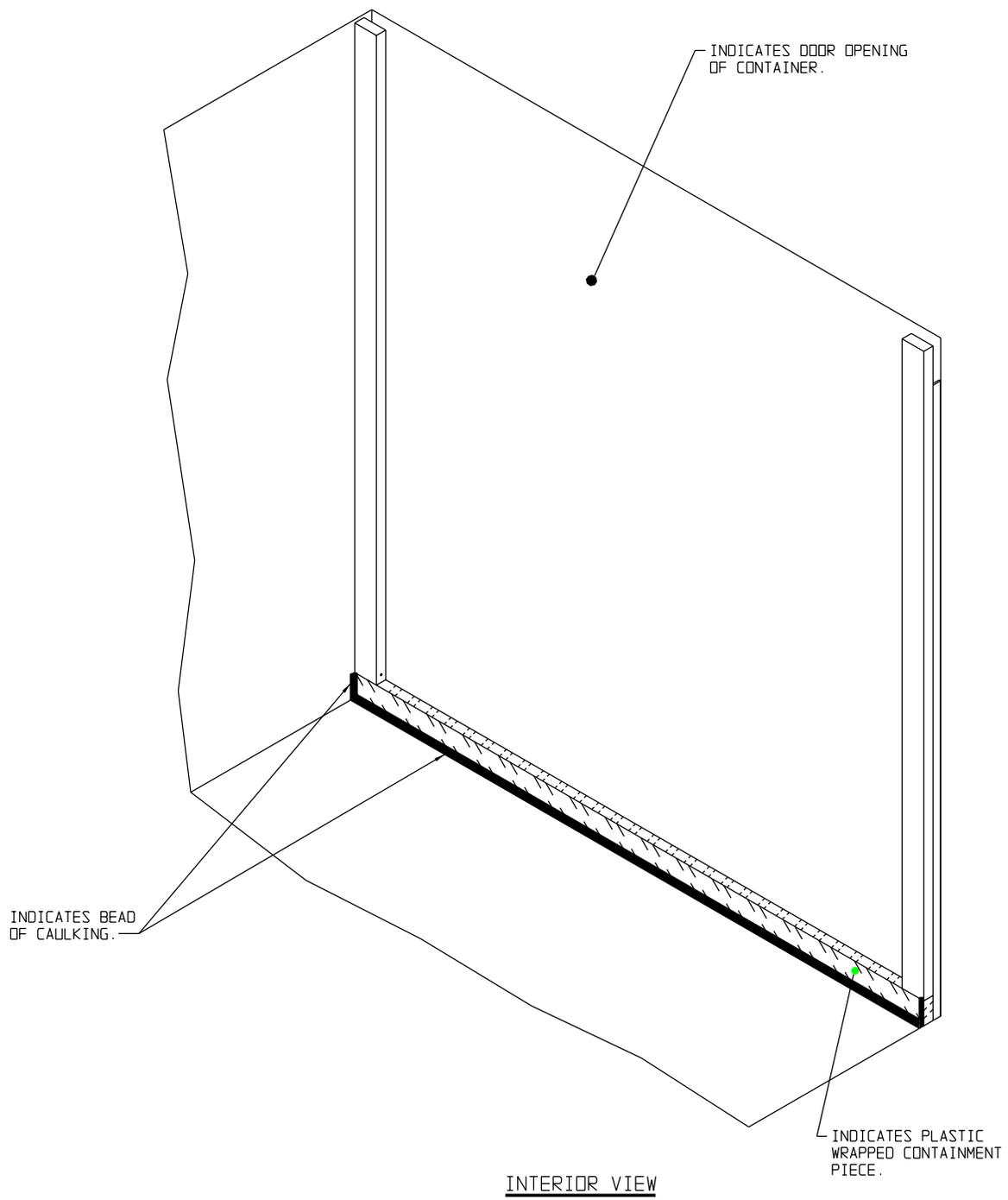
INDICATES TYPICAL SIDE
BLOCKING ASSEMBLY.

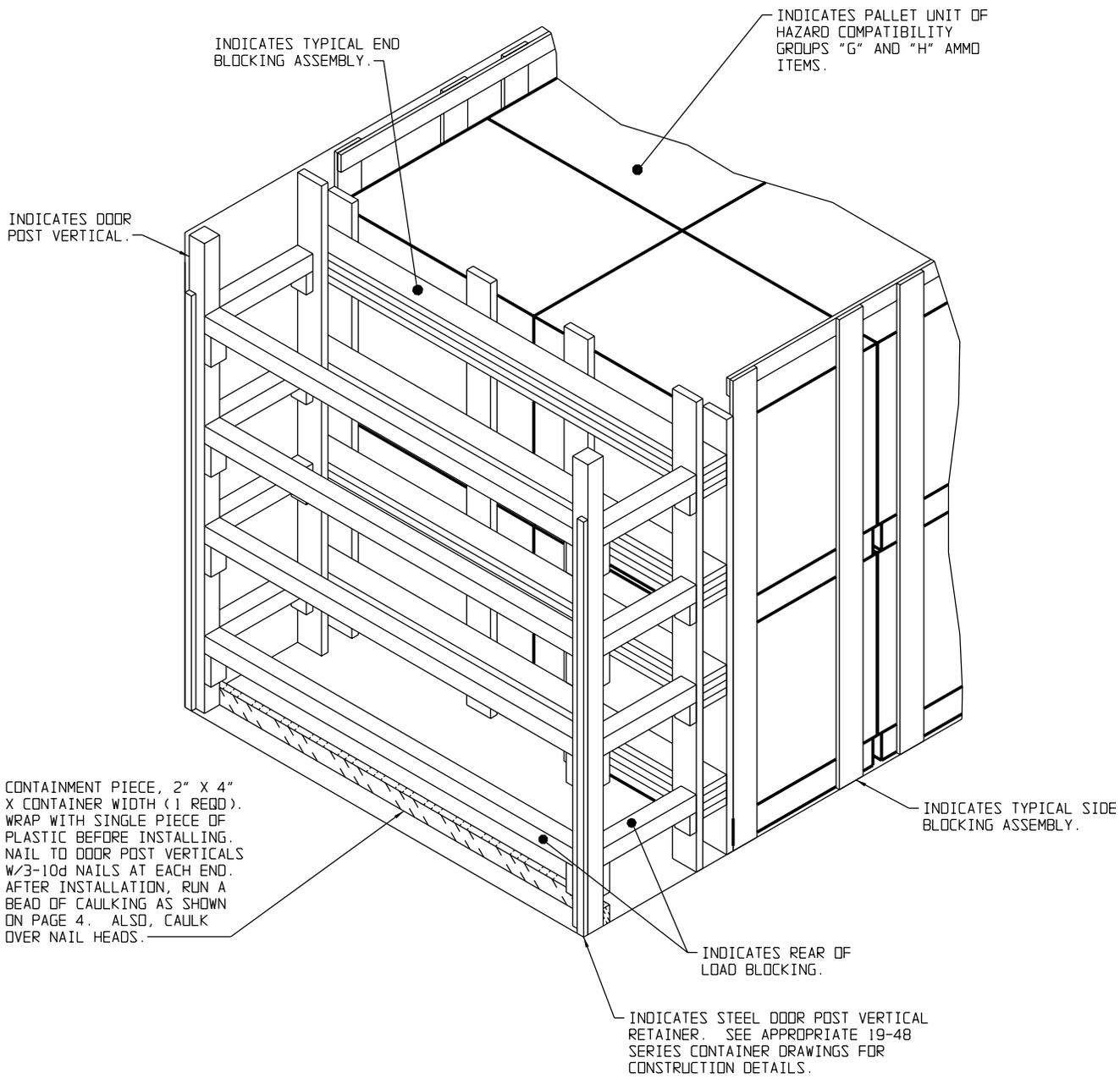
CONTAINMENT PIECE, 2" X 4" X
CONTAINER WIDTH (1 REQD).
WRAP WITH SINGLE PIECE OF
PLASTIC BEFORE INSTALLING.
AFTER INSTALLATION, RUN A
BEAD OF CAULKING AS
SHOWN ON PAGE 2.

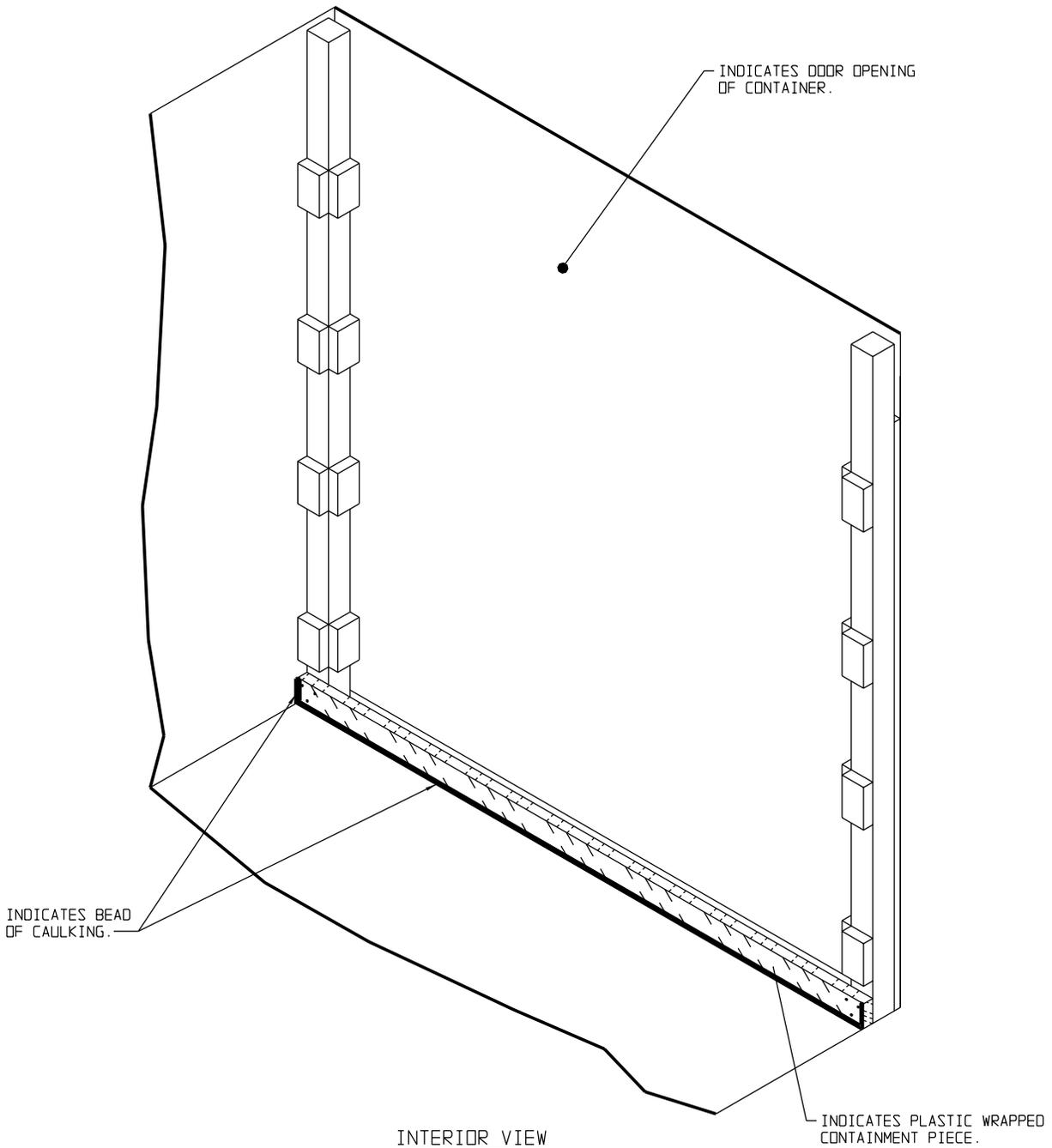
INDICATES STEEL ANGLE WELDED TO CORNER
POSTS IN OOD OWNED CONTAINERS.

INDICATES FILL MATERIAL BETWEEN REAR
BLOCKING ASSEMBLY AND STEEL ANGLE.
NOTE THAT REAR MOST PIECE IS CUT-TO-FIT
BETWEEN CONTAINER ROOF AND CONTAINMENT
PIECE. TOENAIL TO CONTAINMENT PIECE
W/1-20d NAIL.

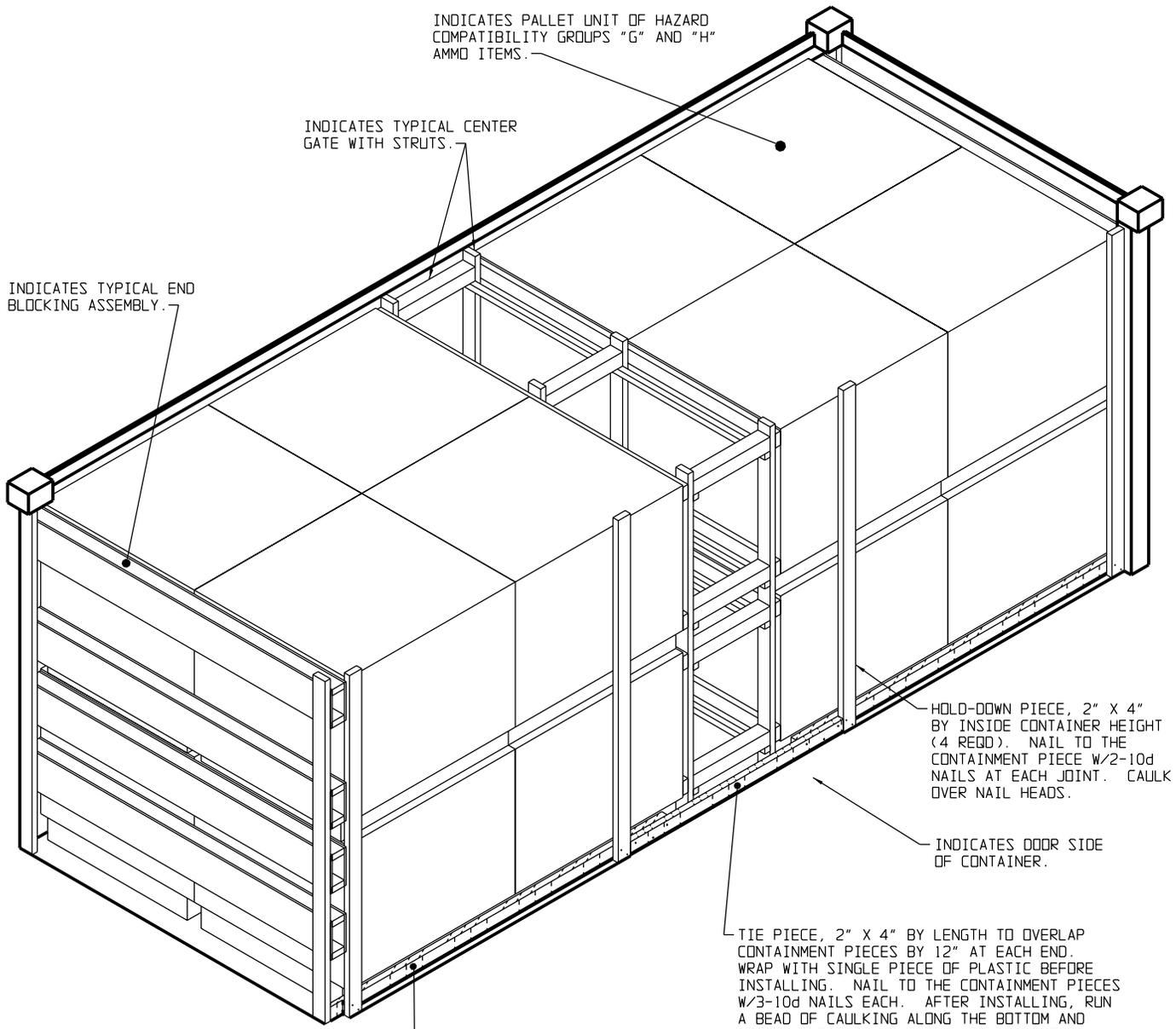








INTERIOR VIEW



INDICATES PALLET UNIT OF HAZARD COMPATIBILITY GROUPS "G" AND "H" AMMO ITEMS.

INDICATES TYPICAL CENTER GATE WITH STRUTS.

INDICATES TYPICAL END BLOCKING ASSEMBLY.

HOLD-DOWN PIECE, 2" X 4" BY INSIDE CONTAINER HEIGHT (4 REQD). NAIL TO THE CONTAINMENT PIECE W/2-10d NAILS AT EACH JOINT. CAULK OVER NAIL HEADS.

INDICATES DOOR SIDE OF CONTAINER.

TIE PIECE, 2" X 4" BY LENGTH TO OVERLAP CONTAINMENT PIECES BY 12" AT EACH END. WRAP WITH SINGLE PIECE OF PLASTIC BEFORE INSTALLING. NAIL TO THE CONTAINMENT PIECES W/3-10d NAILS EACH. AFTER INSTALLING, RUN A BEAD OF CAULKING ALONG THE BOTTOM AND AROUND THE ENDS AS SHOWN ABOVE AND ON PAGE 6. CAULK OVER NAIL HEADS.

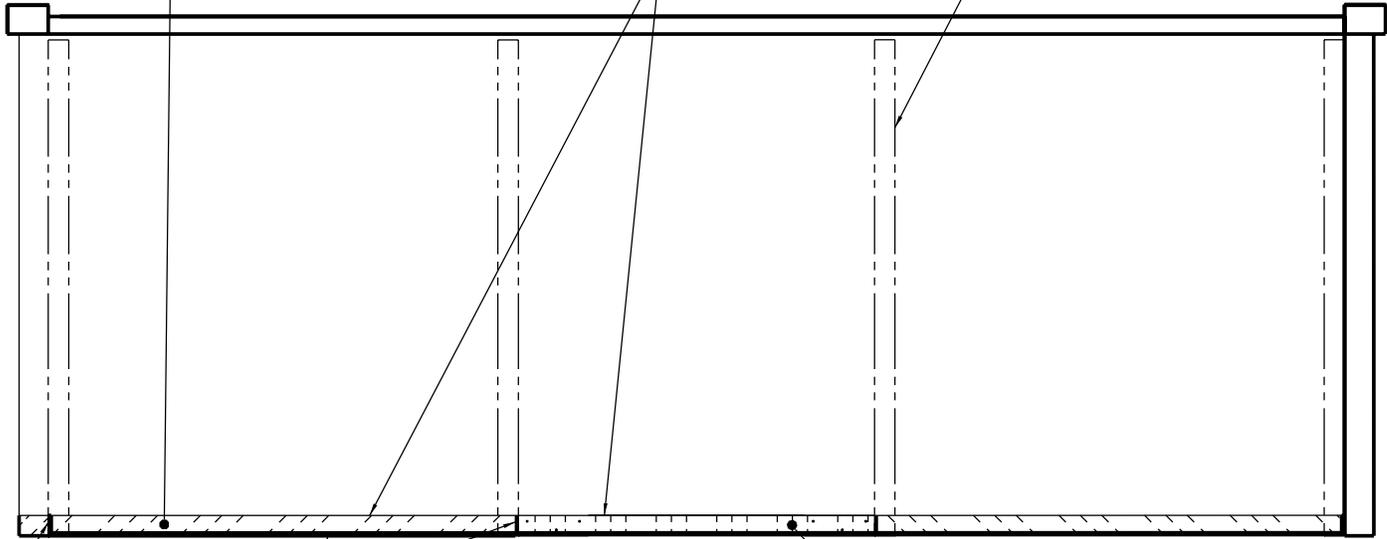
CONTAINMENT PIECE, 2" X 4" X 8'-0" (2 REQD). WRAP WITH SINGLE PIECE OF PLASTIC BEFORE INSTALLING. AFTER INSTALLATION, RUN A BEAD OF CAULKING ALONG THE BOTTOM AND UP THE SIDES WHERE THE BOARD CONTACTS THE CORNER POST AND TIE PIECE AS SHOWN ABOVE AND ON PAGE 6. NOTE THAT THE END OF BOARD WILL HAVE TO BE NOTCHED TO FIT BEHIND THE DOOR POST.



CONTAINMENT PIECE, 2" X 4" X 8'-0" (2 REQD).
WRAP WITH SINGLE PIECE OF PLASTIC BEFORE
INSTALLING. AFTER INSTALLATION, RUN A BEAD
OF CAULKING ALONG THE BOTTOM AND UP THE SIDES
WHERE THE BOARD CONTACTS THE CORNER POST
AND TIE PIECE AS SHOWN ABOVE AND ON PAGE 5.
NOTE THAT THE END OF BOARD WILL HAVE TO BE
NOTCHED TO FIT BEHIND THE DOOR POST.

INDICATES CONTAINMENT PIECE
HOLD-DOWNS AS SHOWN ON PAGE 5.

INDICATES PLASTIC WRAPPED
CONTAINMENT AND TIE PIECES.



SIDE VIEW

INDICATES BEAD OF CAULKING.

TIE PIECE, 2" X 4" BY LENGTH TO OVERLAP
CONTAINMENT PIECES BY 12" AT EACH END.
WRAP WITH SINGLE PIECE OF PLASTIC BEFORE
INSTALLING. NAIL TO THE CONTAINMENT PIECES
W/3-10d NAILS EACH. AFTER INSTALLING, RUN
A BEAD OF CAULKING ALONG THE BOTTOM AND
AROUND THE ENDS AS SHOWN ABOVE AND ON
PAGE 5. CAULK OVER NAIL HEADS.