U.S. Department
of Transportation

Pipeline and Hazardous Materials Safety Administration

1200 New Jersey Avenue SE
Washington, DC 20590

MAR 3 0 2012

Mr. Chris Backus
Packaging engineer
Transportation Safety
CH2MHILL Plateau Remediation Company
P.O. Box 1600 MSIN T3-11
Richland, WA 99354

Ref. No.: 11-0289

Dear Mr. Backus:

This responds to your e-mail regarding the definition of "lifting attachment" under the Hazardous Materials Regulations (HMR; 49 CFR Parts 171-80) used to lift and properly secure Class 7 (radioactive) material packagings onto a conveyance. Subsequently, you provided pictures and diagrams of the packaging. You provided a scenario as follows:

> As your company often lifts steel boxes with a fork truck by placing the fork arms' inside pockets on the container bottom, are the fork pockets and the surrounding structural framework of the metal container considered a "lifting attachment that is a structural part of the package." "Would it then follow that all of these steel structural members (e.g., C-Channels, sheet metal, structural tubing, etc.) must have a minimum safety factor of three against yielding when used to lift the package with the fork truck."

Specifically, you ask what is meant by "lifting attachment" as used in §173.410(b), and whether fork pockets and the surrounding structural framework on steel boxes would be considered to be lifting attachments.

Each package used for the shipment of Class 7 (radioactive) materials must be designed so that the package can be easily handled and properly secured in or on a conveyance during transportation. Section 173.410(b) requires that each package used for the shipment of Class 7 (radioactive) materials must be designed so that—

> Each lifting attachment that is a structural part of the package must be designed with a minimum safety factor of three against yielding when used to lift the package in the intended manner, and it must be designed so that failure of any lifting attachment under excessive load would not impair the ability of the package to meet other requirements of this subpart. Any other structural part of

the package which could be used to lift the package must be capable of being rendered inoperable for lifting the package during transport or must be designed with strength equivalent to that required for lifting attachments.

As you note the boxes are often lifted by placing the arms of a fork truck into the pockets, the pockets would be considered to be lifting attachments. Other structural members that could not reasonably be used to lift the package by a fork truck or other means would not be considered to be lifting attachments. Any other structural part of the package must be capable of being rendered inoperable for lifting the package during transport or must be designed with strength equivalent to that required for lifting attachments (see §173.410(b)).

I hope this information is helpful. If we can be of further assistance, please contact us.

Sincerely,

Ben Supko
Acting Chief, Standards Development
Office of Hazardous Materials Standards

Engrum
§173.410(b)
RAM

11-0289

97-0239

Drakeford, Carolyn (PHMSA)

From: INFOCNTR (PHMSA)
Sent: Monday, November 14, 2011 3:39 PM
To: Drakeford, Carolyn (PHMSA)
Subject: FW: 49 CFR 173.410(b) interpretation requested

Hi Carolyn,

We received the following request for a letter of interpretation.

Thanks,
Victoria

Victoria Lehman
Hazmat Information Center (HMIC)
http://phmsa.dot.gov/hazmat/info-center
(202) 366-1035

From: Backus, Christopher L [mailto:Christopher_L_Backus@RL.gov]
Sent: Wednesday, November 09, 2011 3:27 PM
To: INFOCNTR (PHMSA)
Subject: 49 CFR 173.410(b) interpretation requested

97-0239
Completed by Ae via phone on 11/14/11 at 12:05 left vm

PHMSA Office of Hazardous Materials Safety:

49 CFR 173.410(b) states "Each lifting attachment that is a structural part of the package". There is some ambiguity as to the definition of "lifting attachment". We are asking if you can give a precise definition, as we often lift steel boxes with a fork truck by placing the fork arms inside of fork pockets on the container bottom. Are the fork pockets and the surrounding structural framework of the metal container considered a "lifting attachment that is a structural part of the package"? Would it then follow that all of these steel structural members (e.g. C-Channels, sheet metal, structural tubing, etc.) must have a "minimum safety factor of three against yielding when used to lift the package" with the fork truck?

Kind Regards,

Chris Backus
Packaging Engineer
Transportation Safety
CH2MHILL
Plateau Remediation Company
PO Box 1600 MSIN T3-11, Richland, WA 99354

Phone:509-373-2678
Fax:509-373-4051

Engrum, Helen (PHMSA)

From: Backus, Christopher L [Christopher_L_Backus@rl.gov]
Sent: Tuesday, February 21, 2012 11:55 AM
To: Engrum, Helen (PHMSA)
Subject: Example of a Structure with openings for Forklift Tines
Attachments: Fork Pocket Container Example.pdf

Hi Helen,

Please find attached a photo and sample sheet of a drawing for a container where forklift tines may be inserted beneath the container and the container structure used to support the weight of the container.

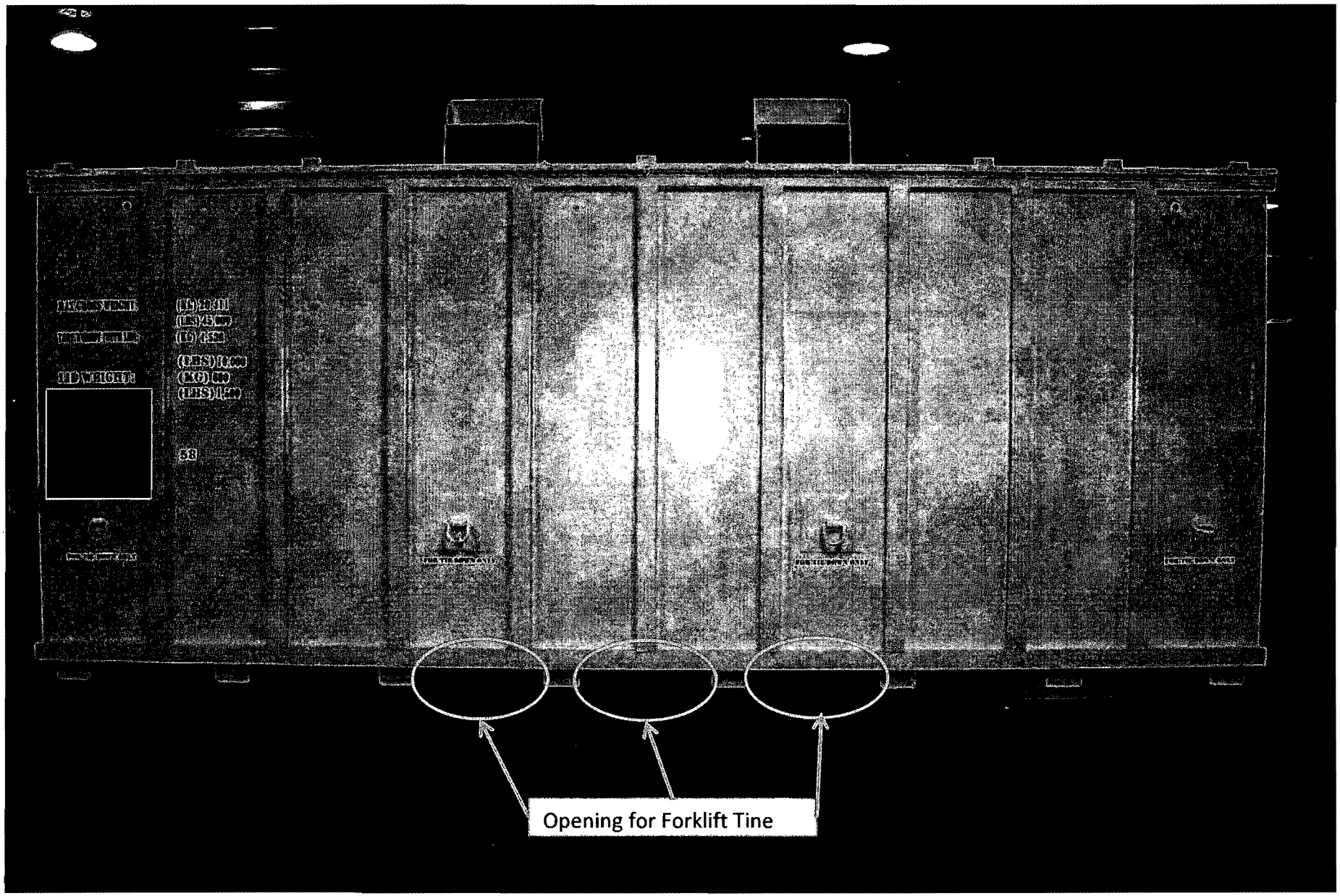
Thanks,

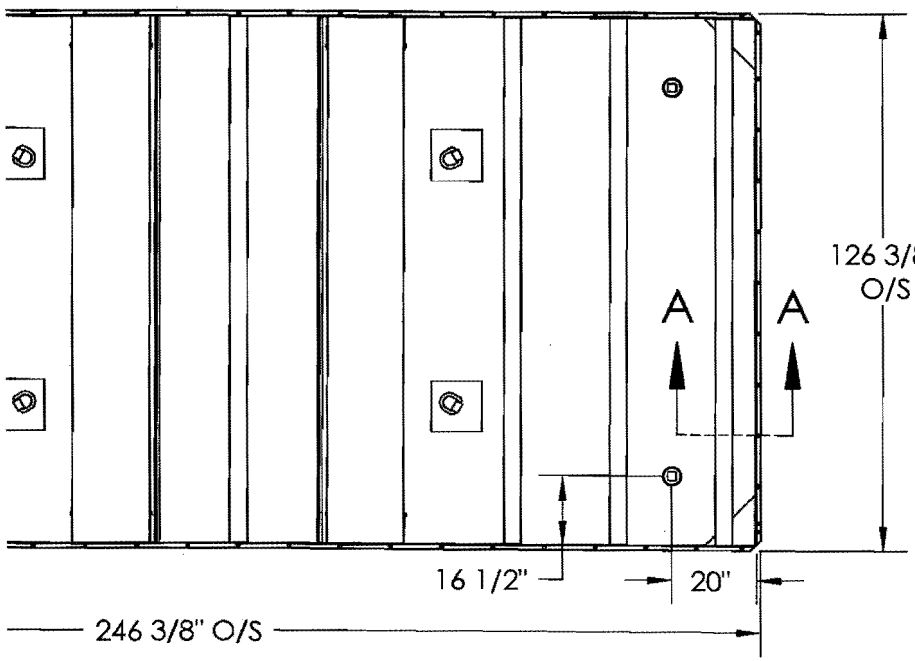
Chris Backus
Packaging Engineer
Transportation Safety

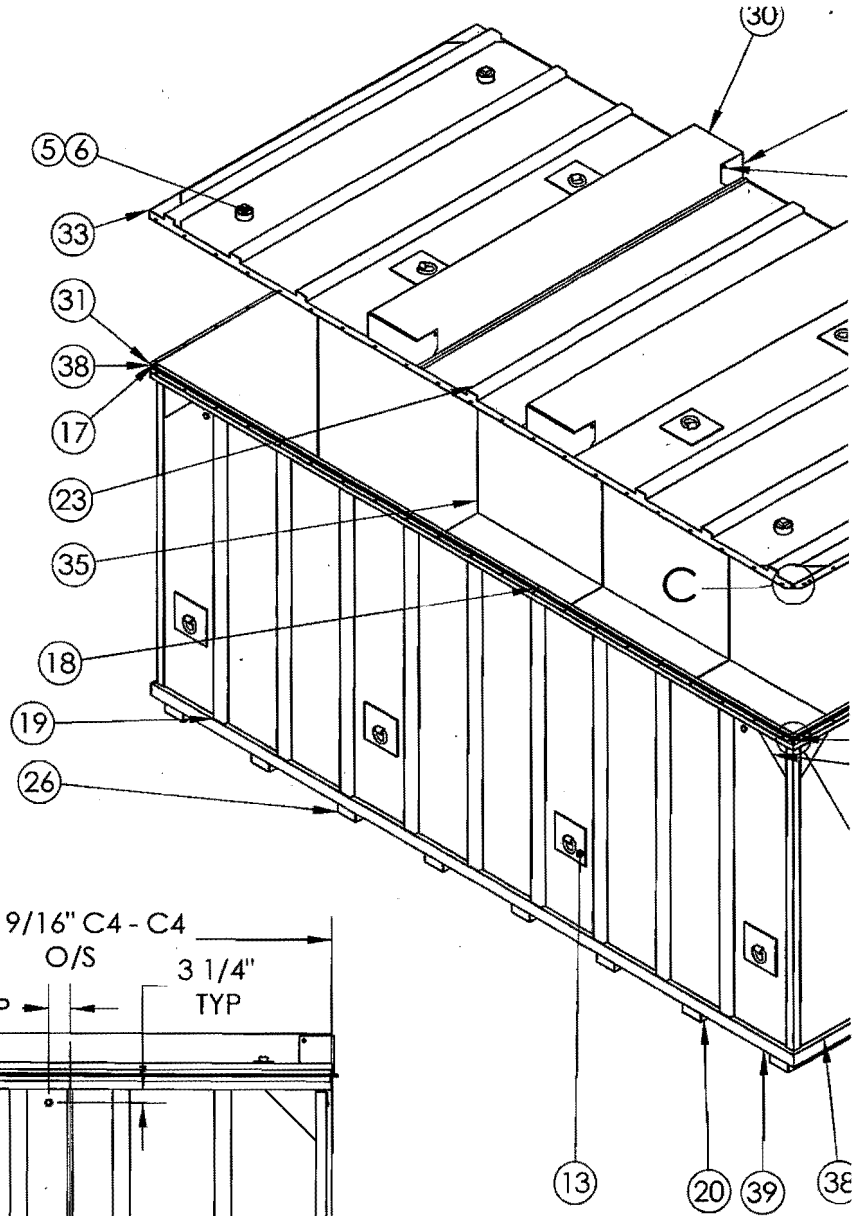
CH2MHILL
Plateau Remediation Company

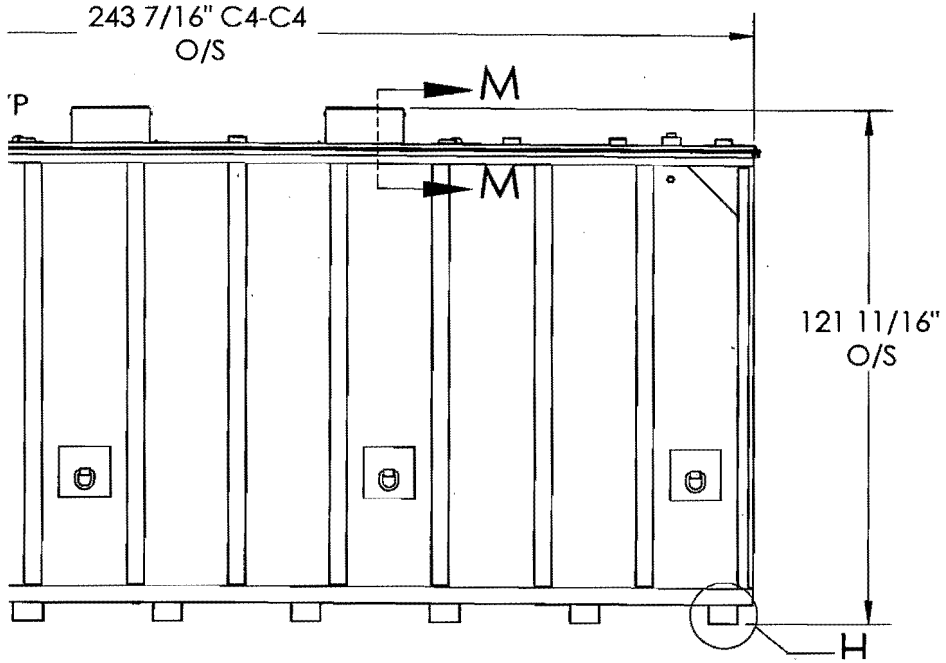
PO Box 1600 MSIN T3-11, Richland, WA 99354

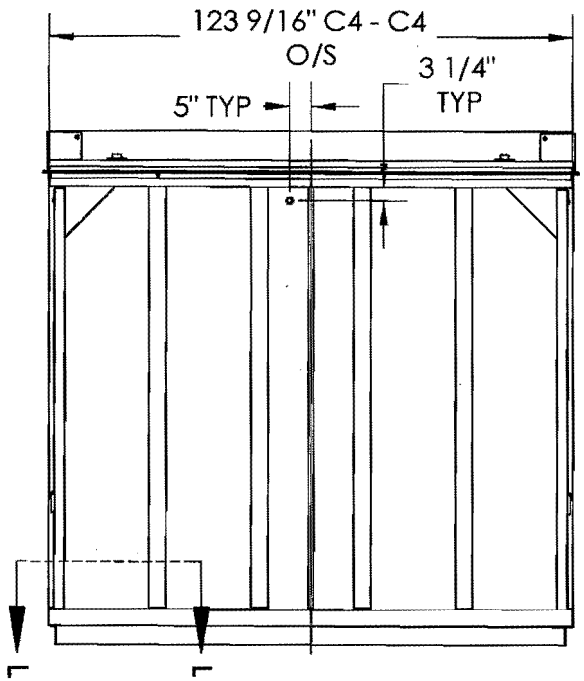
Phone:509-373-2678
Fax:509-373-4051
e-mail: Christopher_L_Backus@rl.gov


Opening for Forklift Tine









NOMINAL INSIDE DIMENSIONS: 240"
CLEAR INSIDE DIMENSIONS: 240"
NO