# STORAGE IN APPROVED MAGAZINES OF GUIDANCE AND CONTROL SECTION, FOR THE SPARROW MISSILE, PACKED I PER CNU-243/E CONTAINER

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		APPROVED BY ORDER OF COMMANDING GENERAL, U. S. ARMY MATERIEL DEVELOPMENT AND READINESS COMMAND (DARCOM)  JOHN SHAND DEFENSE AMMUNITION CENTER AND SCHOOL			
		JULY 1981			
		CLASS	DIVISION	DRAWING	FILE
		19	48	7059/ 2C	SP 1-2-3-4 14-22J3

## GENERAL NOTES

- A. THIS DOCUMENT HAS BEEN PREPARED AND ISSUED IN ACCORDANCE WITH AR 740-1 AND AUGMENTS TM 743-200-1 (CHAPTER 5).
- B. THE STORAGE PROCEDURES SPECIFIED IN THIS DRAWING ARE APPLICABLE TO THE GUIDANCE AND CONTROL SECTIONS (SPARROW) PACKED ONE (1) PER CNU-243/E METAL SHIPPING AND STORAGE CONTAINER. SUBSEQUENT REFERENCE TO CONTAINER MEANS THE CNU-243/E CONTAINER WITH CONTENTS.
- C. FOR DETAILS OF THE CNU-243/E SHIPPING AND STORAGE CONTAINER, SEE "CONTAINER DETAIL" ON PAGE 3.
  - CONTAINER DIMENSIONS-----85-1/2" LONG BY 18-1/2" WIDE BY 23-1/8" HIGH. GROSS WEIGHT-----405 POUNDS ( APPROX ).
- D. THE STORAGE PROCEDURES DEPICTED WITHIN THIS DOCUMENT ARE APPLICABLE FOR STORAGE IN VARIOUS TYPES AND SIZES OF MAGAZINES. THE STORAGE PROCEDURES DEPICTED FOR THE SPECIFIC TYPES OF MAGAZINES MAY ALSO BE UTILIZED TO STORE CONTAINERS IN OTHER TYPES OF APPROVED MAGAZINES. MINOR ADJUSTMENTS MAY BE MADE TO FACILITATE STORAGE IN OTHER TYPES OF MAGAZINES, HOWEVER, THE BASIC PRINCIPLES AS DEPICTED HEREIN WILL BE FOLLOWED.
- E. AISLE DIMENSIONS AS SHOWN HEREIN MAY BE ADJUSTED TO SUIT LOCAL CONDITIONS AND/OR AVAILABLE MATERIAL HANDLING EQUIPMENT (MHE), HOWEVER, AN 18" MINIMUM INSPECTION AISLE MUST BE MAINTAINED AT THE AFT END OF THE CONTAINER WHERE THE HUMIDITY INDICATOR IS LOCATED.
- F. IT MAY BE NECESSARY TO OMIT A ROW OF LENGTHWISE STORED STACKS FOR SUFFICIENT WIDTH TO ACCOMPLISH STACKING OPERATIONS. IF A ROW IS OMITTED THE LENGTH OF THE WEDGE MUST BE ADJUSTED.
- G. WEDGES ARE REQUIRED TO PERMIT LEVEL STACKING OF THE CONTAINERS IN IGLOO, ARCH TYPE AND STRADLEY MAGAZINES, WHICH HAVE FLOORS THAT SLOPE TOWARD THE SIDEWALL OF THE MAGAZINE. IN OVAL ARCH, CORBETTA AND RECTANGULAR MAGAZINES, STACK-STABILIZING DUNNAGE IN THE FORM OF "SHIMS" PROBABLY WILL BE REQUIRED TO ACHIEVE SOUND AND ACCEPTABLE STABLE STACKS. SHIM MATERIAL OF VARYING THICKNESS WILL BE USED AS REQUIRED TO GAIN LEVEL OR NEARLY LEVEL STACKS AND SOLID BEARING WITHIN A STACK FROM THE FLOOR OF A MAGAZINE TO THE TOP OF THE STACK.
- H. IF AVAILABLE MHE PERMITS, ADDITIONAL CONTAINERS MAY BE STORED WITHIN THE FRONTAL AREA AND/OR OTHER AVAILABLE AREA OF THE MAGAZINE.
- J. STORED CONTAINERS MUST NOT CONTACT THE WALLS OF A MAGAZINE. TO PROVIDE FOR THIS MANDATORY CLEARANCE REQUIREMENT, CONTAINERS MAY BE ELIMINATED FROM THE DEPICTED STORAGE PATTERN AS NECESSARY.
- K. OTHER COMPATIBLE ITEMS MAY BE STORED IN A MAGAZINE WHICH IS PARTIALLY FILLED WITH THE DESIGNATED ITEM.
- L. THE HEIGHT OF THE PACKAGE GUARD ON SOME FORKLIFT TRUCKS MAY NOT PERMIT PLACEMENT OF SOME TOP LAYER CONTAINERS IN THE STACKS SHOWN IN THE STORAGE VIEWS HEREIN, UNLESS TWO UPPER CONTAINERS ARE HANDLED AS ONE LIFT OR THE PACKAGE GUARD IS REMOVED (TINE CARRIAGE WILL IN MOST INSTANCES PROVIDE ADEQUATE PACKAGE GUARD PROTECTION), ONLY A FORK LIFT TRUCK OF ADEQUATE CAPACITY WILL BE USED WHEN LIFTING TWO CONTAINERS AS ONE LIFT.
- M. STACK STABILIZING STRAPS, 3/4" X .028" OR THICKER X 10'-0" STEEL STRAPPING WILL BE INSTALLED AROUND THE FOURTH LAYER CONTAINERS OF TWO ADJACENT CONTAINER STACKS IF EITHER STACK IS FIVE OR MORE CONTAINERS HIGH; TWO (2) STRAPS ARE REQUIRED FOR EACH DOUBLE STACK AS SHOWN. <u>CAUTION</u>: A SINGLE STACK MUST NOT BE STACKED MORE THAN FOUR (4) CONTAINERS HIGH WITHOUT BEING STRAPPED TO AN ADJACENT STACK. POSITION ANTI-CHAFING MATERIAL UNDER STEEL STRAPPING AT ALL POINTS OF STRAPP/CONTAINERS CONTACT. SEAL THE LAP JOINT OF THE STRAPPING WITH ONE (1) STRAP SEAL LOCATED SO AS NOT TO BE IN CONTACT WITH THE CONTAINER.

( CONTINUED AT RIGHT )

### ( GENERAL NOTES CONTINUED )

- N. IF THE QUANTITY OF CONTAINERS FOR A MAGAZINE IS TO BE REDUCED FROM WHAT IS SHOWN HEREIN "FOR ANY REASON, SUCH AS A LIMITED QUANTITY TO BE STORED "THE DELINEATED PROCEDURES ARE TO BE ADJUSTED BY OMITTING STACKS RATHER THAN BY OMITTING LAYERS."
- O. DUNNAGE LUMBER SPECIFIED THROUGHOUT THIS PROCEDURAL DRAWING IS OF NOMINAL SIZE. FOR EXAMPLE, 2" X 4" MATERIAL IS ACTUALLY 1-1/2" THICK BY 3-1/2" WIDE.
- P. PORTIONS OF THE MAGAZINES, SUCH AS SIDEWALLS, END WALLS, AND ROOFS, HAVE NOT BEEN SHOWN IN THE STORAGE VIEWS FOR CLARITY PURPOSES.
- Q. CONTAINERS PRESENTLY STORED IN ACCORDANCE WITH A PRIOR APPROVED DRAWING NEED NOT BE RE-STORED SOLELY TO CONFORM TO THE PROCE-DURES SPECIFIED IN THIS DOCUMENT.
- R. FOR ADDITIONAL GUIDANCE, ATTENTION IS DIRECTED TO THE "SPECIAL NOTES" SECTIONS WHICH ARE IMMEDIATELY ADJACENT TO THE DEPICTED STORAGE METHODS.

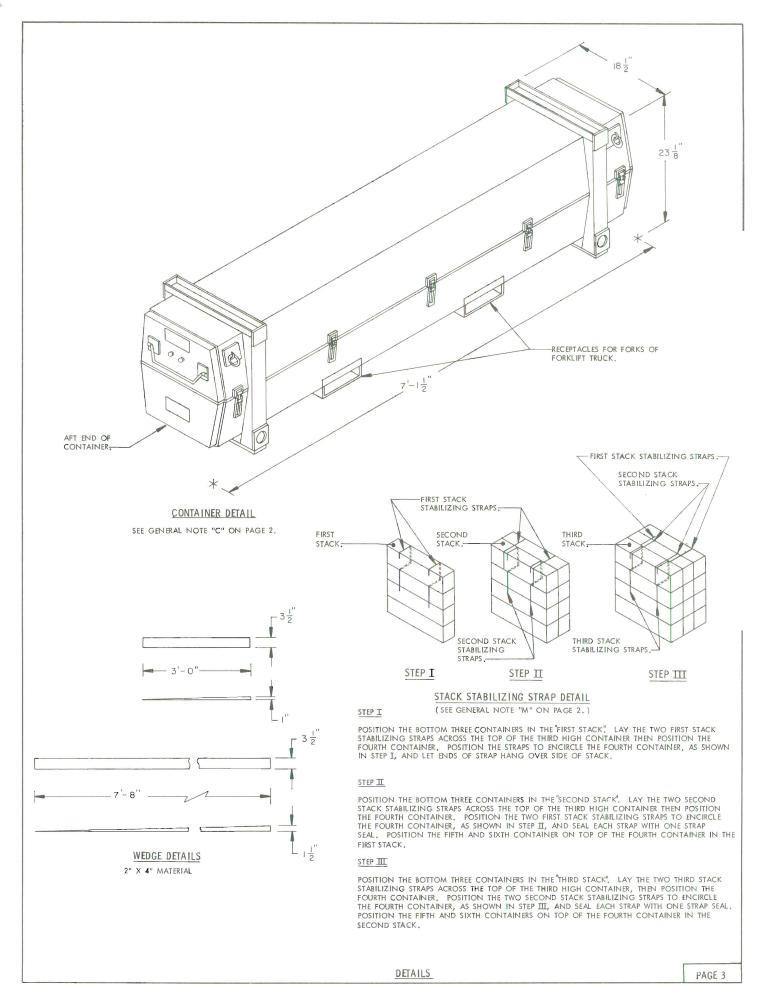
# MATERIAL SPECIFICATIONS

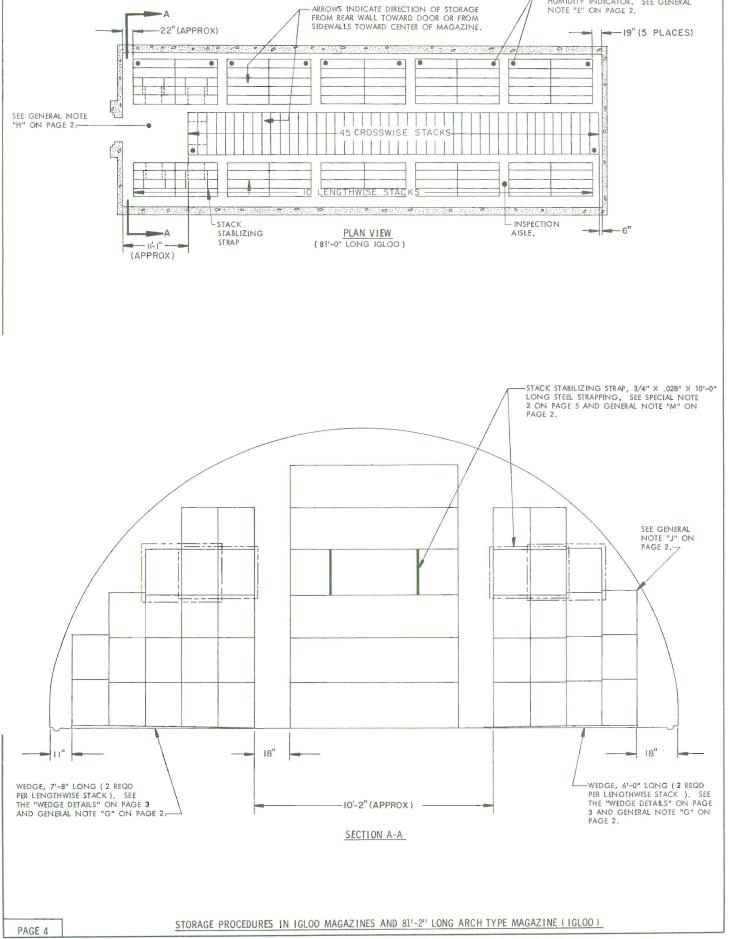
LUMBER----:: SEE TM 743-200-1, DUNNAGE LUMBER, FED SPEC MM-L-751.

STRAPPING, STEEL----:: FED SPEC QQ-S-781; CLASS I, TYPE I OR IV, HEAVY DUTY FINISH B (GRADE 2).

SEAL, STRAP-----: FED SPEC QQ-S-781; TYPE D, STYLE I, II, OR IV, CLASS H, FINISH B (GRADE 2).

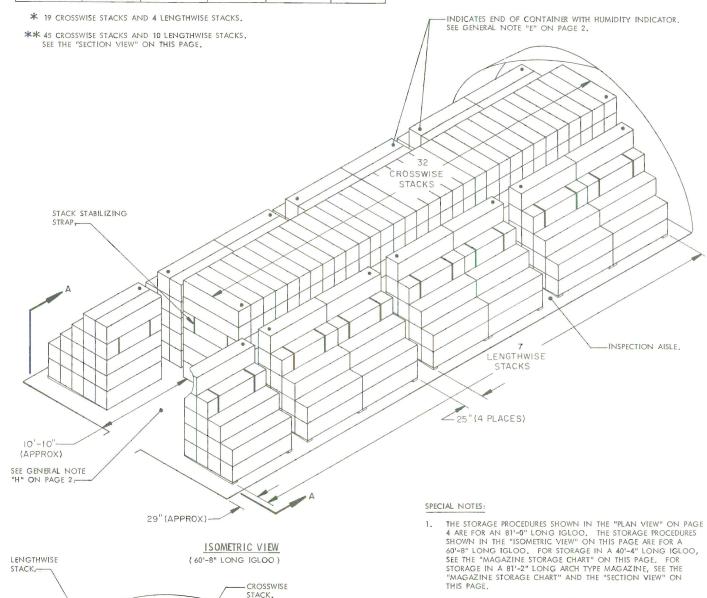
ANTI-CHAFING MATERIAL-----: NEUTRAL BARRIER MATERIAL, MIL-B-121 (OR EQUAL).





-INDICATES END OF CONTAINER WITH HUMIDITY INDICATOR. SEE GENERAL NOTE "E" ON PAGE 2.

	MAC	SAZINE STORAG	E CHART		
MAG LENGTH	MAG WIDTH	MAG HEIGHT	CNTRS PER CROSSWISE STACKS	CNTRS PER LENGTHWISE STACKS	CNTRS PER MAG
81'-0"	26'-6"	12'-9"	270	360	630
60'-8"	26'-6"	12'-9"	192	252	444
40'-4" *	26'-6"	12'-9"	114	144	258
81'-2" **	26'-6"	12'-1-3/4"	225	330	555



# LENGTHWISE (60"-8" LONG IGLOO) CROSSWISE STACK. 14" 18" 10'-2" (APPROX.)

2. STACK STABILIZING STRAPS MUST BE PRE-POSITIONED. SEE "STACK STABILIZING STRAP DETAIL", ON PAGE 3. INSTALL TO ENCIRCLE TWO ADJACENT CONTAINERS IN THE FOURTH LAYER OF THE STACKS AS SHOWN. THESE STRAPS ARE ONLY REQUIRED IN THE STACKS OF A ROW WHEN THE STACK IS FIVE CONTAINERS OR MORE IN HEIGHT. SEE GENERAL NOTE "M" ON PAGE 2. ALTHOUGH REQUIRED, ALL STACK STABILIZING STRAPS HAVE NOT BEEN SHOWN IN SOME VIEWS FOR CLARITY PURPOSES.

FOR "GENERAL NOTES" AND "MATERIAL SPECIFICATIONS", SEE PAGE 2.

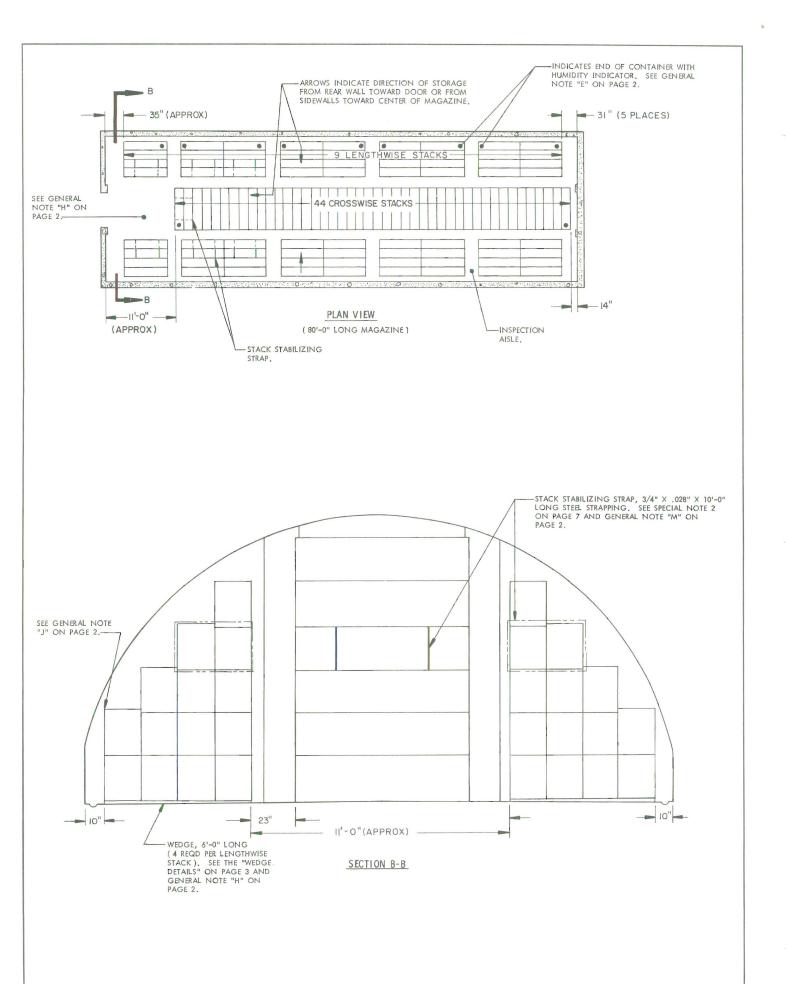
# BILL OF MATERIAL ( PER LENGTHWISE STACK )

WEDGE, 7'-8" LONG------2 REQD WEDGE, 6'-0" LONG-------2 REQD SHIMS------AS REQD

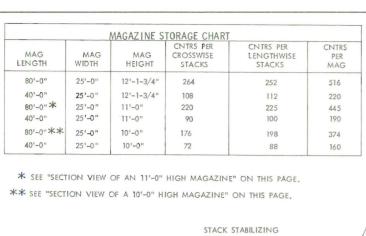
SECTION VIEW OF AN 81'-2" LONG X 26'-6" WIDE X 12'-1-3/4" HIGH MAGAZINE

SEE SPECIAL NOTE 1 ON THIS PAGE.

STORAGE PROCEDURES IN IGLOO MAGAZINES AND 81'-2" LONG ARCH TYPE MAGAZINE (IGLOO)



STORAGE PROCEDURES IN ARCH TYPE MAGAZINES (IGLOO)



STRAP .

AGE.

SEE

CROSSWISE
STACKS

STACKS

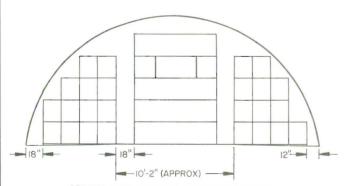
INDICATES END OF CONTAINER WITH HUMIDITY INDICATOR
SEE GENERAL NOTE "E" ON PAGE 2.

CROSSWISE
STACKS

LENGTHWISE
STACKS

INSPECTION AISLE.

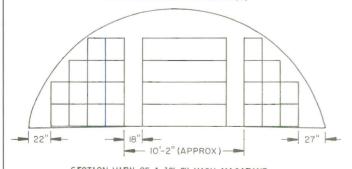
ISOMETRIC VIEW
(40'-0" LONG IGLOO)



II'-9" (APPROX)

SEE GENERAL NOTE "H" ON PAGE 2,—

# SECTION VIEW OF AN 11'-0' HIGH MAGAZINE SEE SPECIAL NOTE 1 ON THIS PAGE.



# SECTION VIEW OF A 10'-0" HIGH MAGAZINE

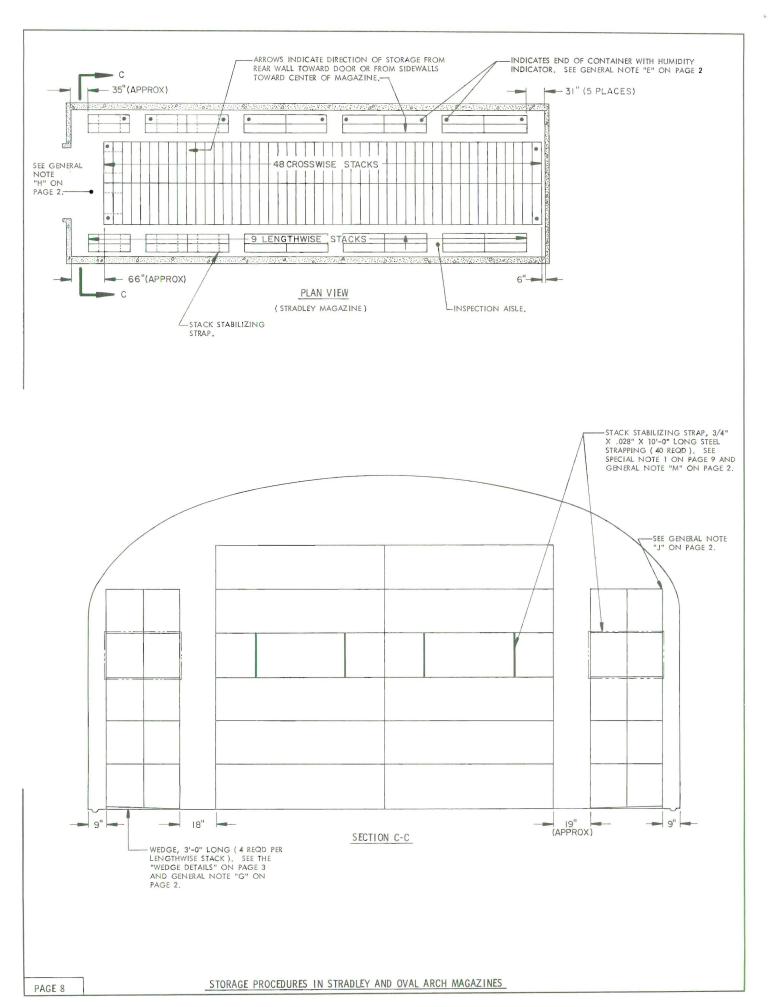
SEE SPECIAL NOTE 1 ON THIS PAGE.

# SPECIAL NOTES:

STORAGE PROCEDURES IN ARCH TYPE MAGAZINES (IGLOO)

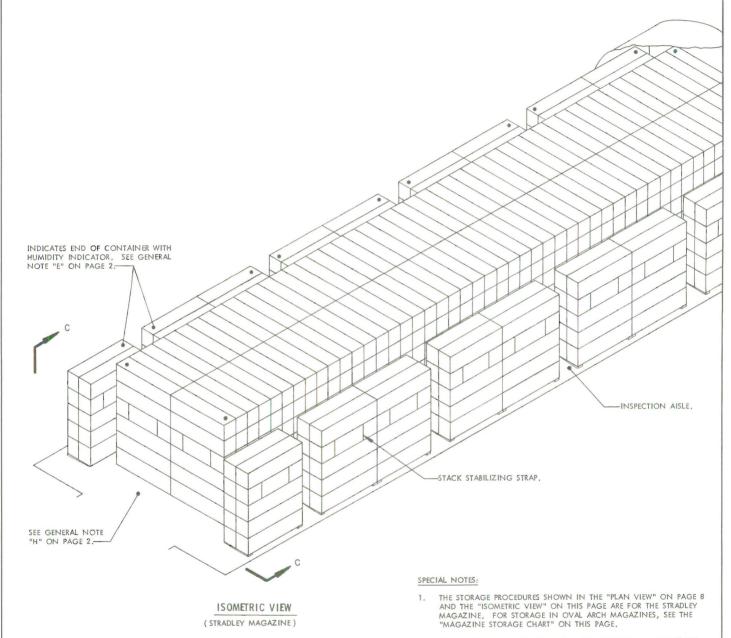
- 1. THE STORAGE PROCEDURES SHOWN IN THE "PLAN VIEW" ON PAGE 6 ARE FOR AN 80'-0" LONG BY 25'-0" WIDE BY 12'-1-3/4" HIGH ARCH TYPE MAGAZINE. THE STORAGE PROCEDURES SHOWN IN THE "ISOMETRIC VIEW" ON THIS PAGE ARE FOR A 40'-0" LONG BY 25'-0" WIDE BY 12'-1-3/4" HIGH ARCH TYPE MAGAZINE. FOR STORAGE IN AN 80'-0" LONG BY 25'-0" WIDE BY 11'-0" HIGH AND/OR A 40'-0" LONG BY 25'-0" WIDE BY 11'-0" HIGH ARCH TYPE MAGAZINE, SEE THE "MAGAZINE STORAGE CHART" AND THE "SECTION VIEW OF AN 11'-0" HIGH MAGAZINE "ON THIS PAGE. FOR STORAGE IN AN 80'-0" LONG BY 25'-0" WIDE BY 10'-0" HIGH AND /OR A 40'-0" LONG BY 25'-0" WIDE BY 10'-0" HIGH ARCH TYPE MAGAZINE, SEE THE "MAGAZINE STORAGE CHART" AND THE "SECTION VIEW OF A 10'-0" HIGH MAGAZINE" ON THIS PAGE.
- 2. STACK STABILIZING STRAPS MUST BE PRE-POSITIONED. SEE "STACK STABILIZING STRAP DETAIL", ON PAGE 3. INSTALL TO ENCIRCLE TWO ADJACENT CONTAINERS IN THE FOURTH LAYER OF THE STACKS AS SHOWN. THESE STRAPS ARE ONLY REQUIRED IN THE STACKS OF A ROW WHEN THE STACK IS FIVE CONTAINERS OR MORE IN HEIGHT. SEE GENERAL NOTE "M" ON PAGE 2. ALTHOUGH REQUIRED, ALL STACK STABILIZING STRAPS HAVE NOT BEEN SHOWN IN SOME VIEWS FOR CLARITY PURPOSES.

FOR "GENERAL NOTES" AND "MATERIAL SPECIFICATIONS" SEE PAGE 2.



	MA	GAZINE STORAG	E CHART		
MAG LENGTH	MAG WIDTH	MAG HEIGHT	CNTRS PER CROSSWISE STACKS	CNTRS PER LENGTHWISE STACKS	CNTRS PER MAG
80'-0" 89'-0" <b>*</b>	25'-0" 24'-10"	14'-0" 14'-4"	576 612	180 200	756 812

\* 51 CROSSWISE STACKS AND 10 LENGTHWISE STACKS.

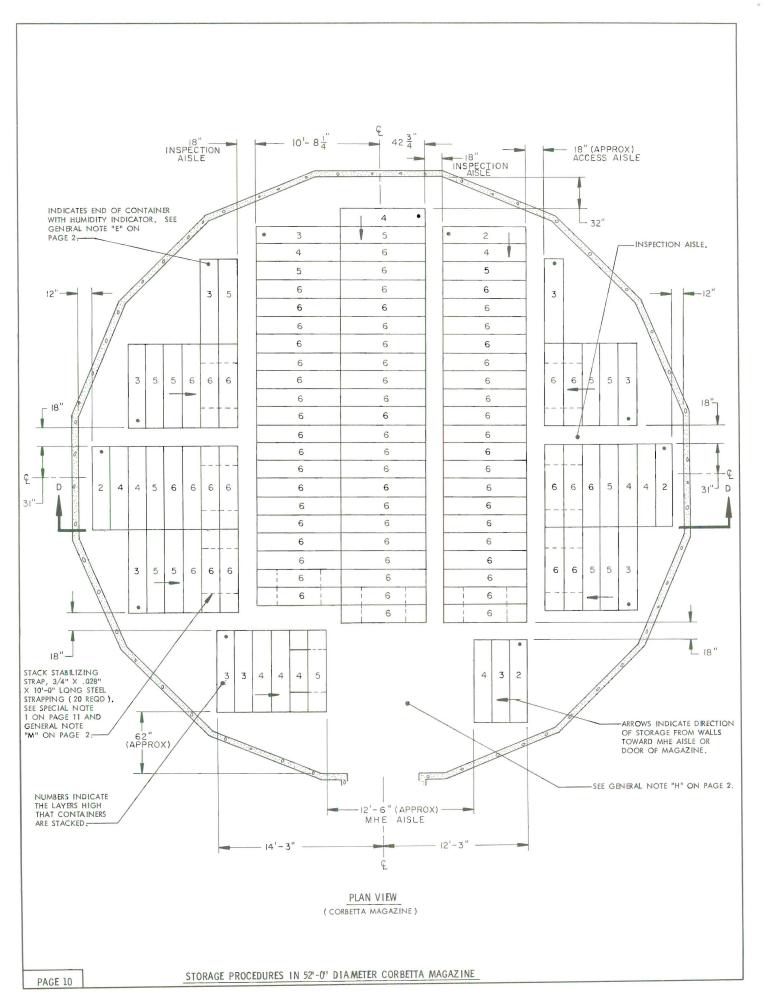


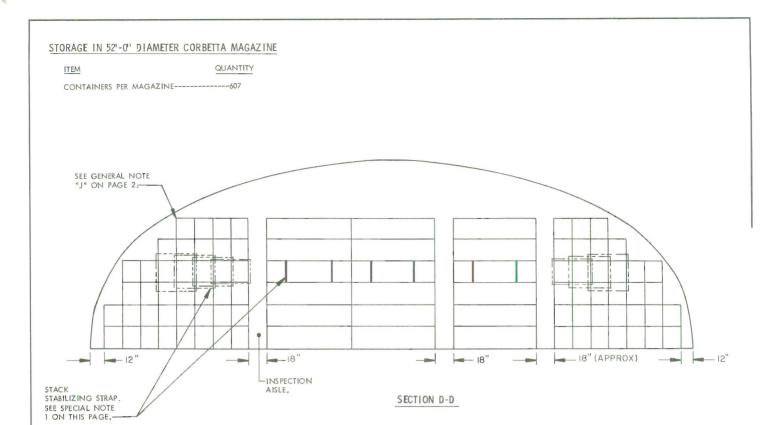
BILL OF MATERIAL ( PER LENGTHWISE STACK )

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FOR "GENERAL NOTES" AND "MATERIAL SPECIFICATIONS", SEE PAGE 2.

STORAGE PROCEDURES IN STRADLEY AND OVAL ARCH MAGAZINES

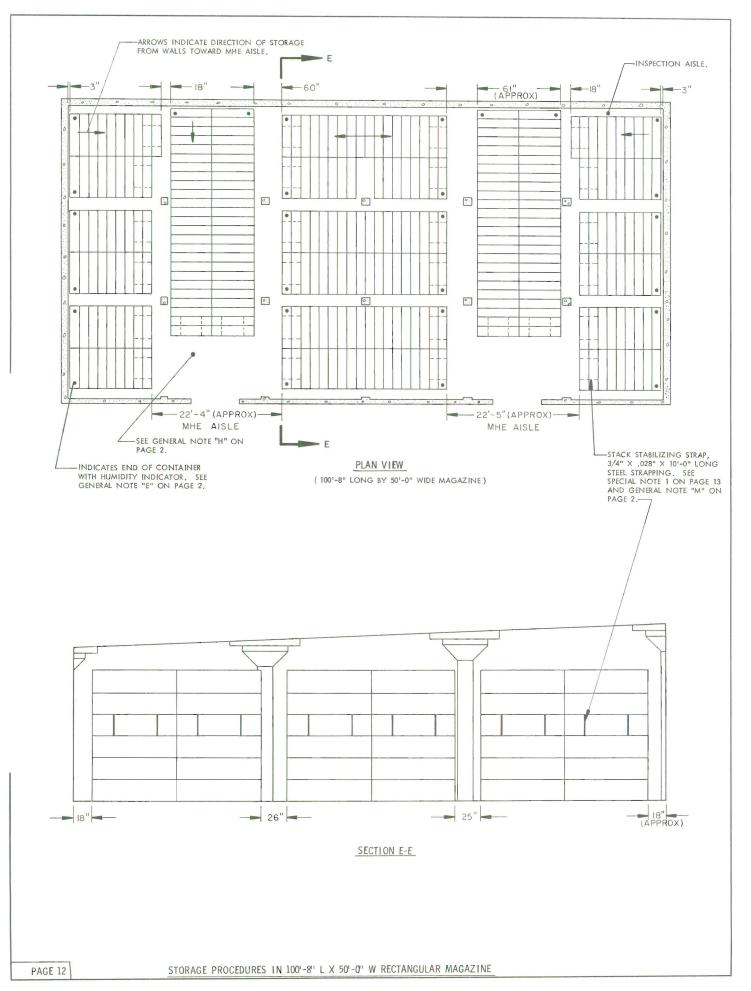


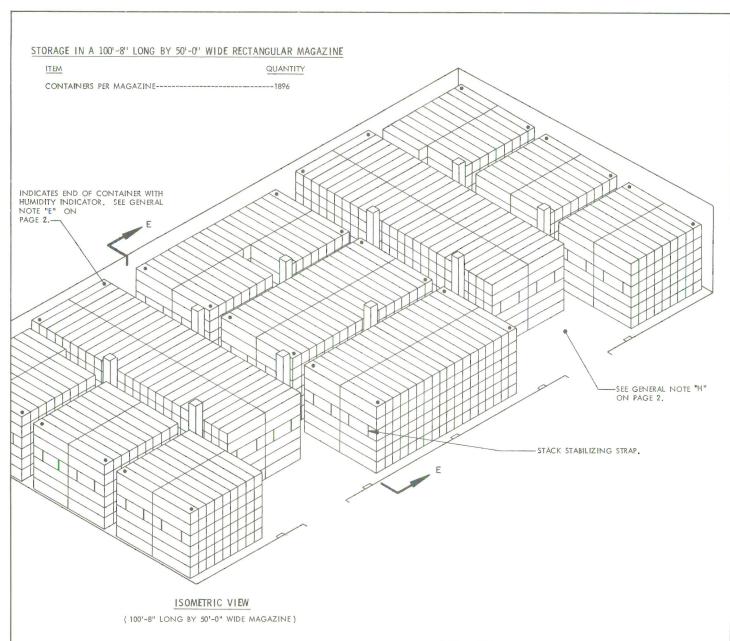


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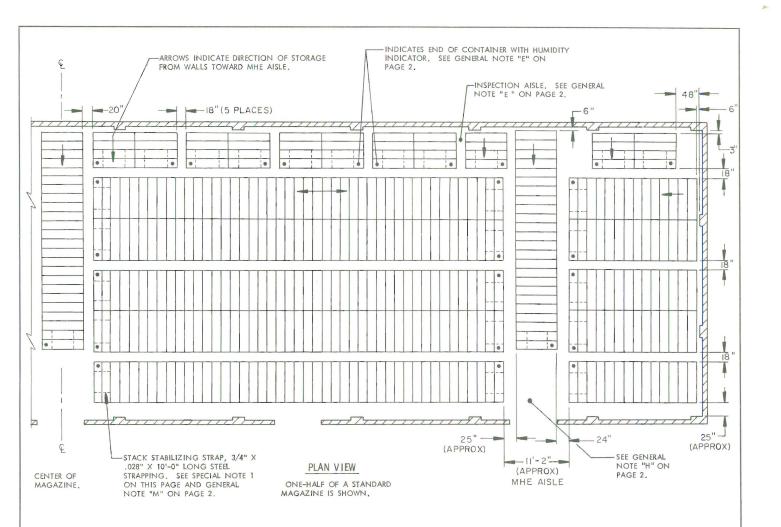


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FOR "GENERAL NOTES" AND "MATERIAL SPECIFICATIONS", SEE PAGE 2.

STORAGE PROCEDURES IN 100'-8" L X 50'-0" W RECTANGULAR MAGAZINE



# STORAGE IN ONE-HALF OF A STANDARD MAGAZINE

ITEM

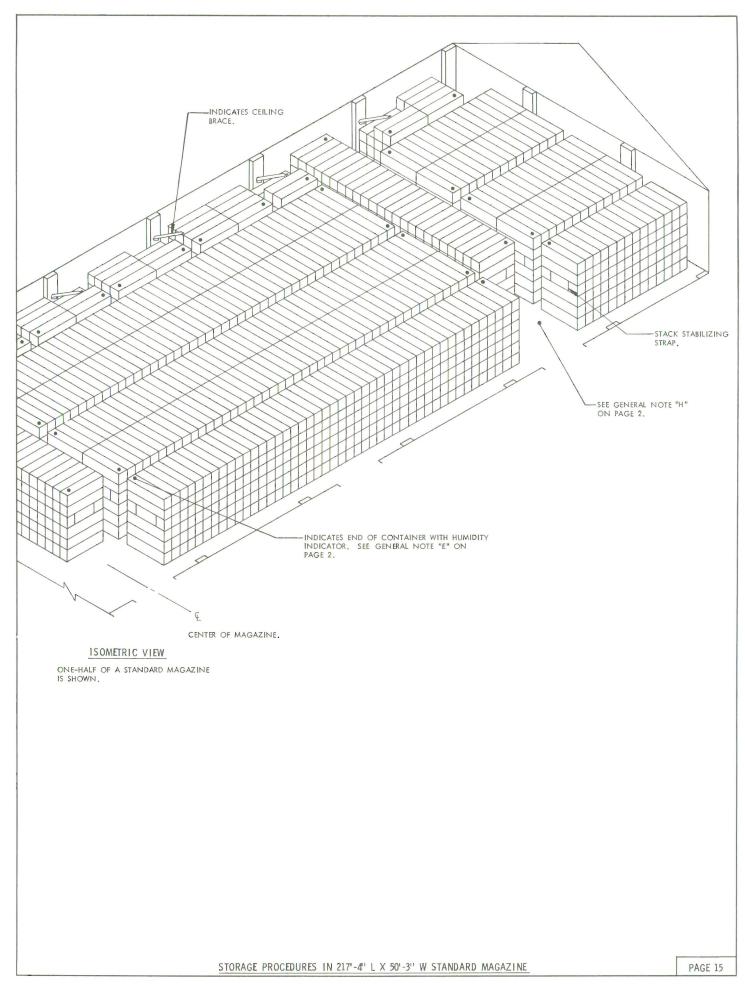
QUANTITY

CONTAINERS PER ONE-HALF MAGAZINE-----2, 240

# SPECIAL NOTE:

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STORAGE PROCEDURES IN 217'-4" L X 50'-3" W STANDARD MAGAZINE



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PAGE 16		