

REVISIONS

1 JULY 89

APPENDIX E2

STORAGE IN 60' & 80' IGLOO AND
80' STRADLEY MAGAZINES OF BOMBS,
PALLETIZED AND UNPALLETIZED

<u>ITEM</u>	<u>INDEX</u>	<u>PAGE (S)</u>
GENERAL NOTES, AND MATERIAL SPECIFICATIONS -----		2
BOMB DATA -----		3
<u>PALLETIZED STORAGE PROCEDURES</u>		
250-POUND BOMB, MK81 SERIES -----		4-11
500-POUND BOMB, MK82 SERIES -----		12-19
750-POUND BOMB, M117 SERIES -----		20-27
1,000-POUND BOMB, MK83 SERIES -----		28-31
2,000-POUND BOMB, MK84 SERIES -----		32-35
3,000-POUND BOMB, M118 SERIES -----		36-39
<u>UNPALLETIZED STORAGE PROCEDURES</u>		
250-POUND BOMB, MK81 SERIES -----		40-43
500-POUND BOMB, MK82 SERIES -----		44-47
750-POUND BOMB, M117 SERIES -----		48-51
1,000-POUND BOMB, MK83 SERIES -----		52-55
2,000-POUND BOMB, MK84 SERIES -----		56-59
3,000-POUND BOMB, M118 SERIES -----		60-63
PLACEMENT OF BOMBS AND DUNNAGE -----		64
DETAILS -----		65-67
TYPICAL MULTIPLE LOT STORAGE PROCEDURES -----		68
DETAILS -----		69
SUU 30MM BOMB -----		70-73

CAUTION:
GENERAL NOTES ON PAGE 2
WILL BE THOROUGHLY READ
PRIOR TO STORAGE OPERATIONS

GENERAL NOTES

- A. THE STORAGE PROCEDURES AS SHOWN WITHIN THIS DRAWING ARE BASED ON THE DIMENSIONS AND EXPLOSIVE WEIGHTS OF THE BOMBS LISTED IN THE "BOMB UNIT DATA CHART" ON PAGE 3. THE PROCEDURES, HOWEVER, ARE ALSO APPLICABLE TO OTHER BOMBS WITHIN THE LISTED SERIES WHICH ARE DIFFERENT IN DIMENSIONS DUE TO VARIOUS BASE AND NOSE PROTECTORS. ALSO, BOMBS WITH AN EXPLOSIVE CONTENT WEIGHT OTHER THAN THAT LISTED, CAN BE STORED USING THE DEPICTED PROCEDURES. VARIATION IN DIMENSIONS MAY REQUIRE ADJUSTMENT TO THE WIDTH OF INSPECTION AISLES TO PROVIDE FOR MAXIMUM STORAGE, BUT THESE SHOULD GENERALLY BE NOT LESS THAN 18" WIDE. VARIATION IN EXPLOSIVE WEIGHTS MAY REQUIRE A REDUCTION IN THE NUMBER OF BOMBS TO BE STORED OR MAY PERMIT AN ADDITIONAL QUANTITY OF BOMBS TO BE STORED WHERE SPACE AND MATERIALS HANDLING EQUIPMENT (MHE) PERMITS, SUCH AS IN THE FRONTAL AREA OF A MAGAZINE. IT SHOULD BE NOTED, HOWEVER, THAT THE ALLOWABLE "EXPLOSIVE LIMIT" ESTABLISHED FOR A MAGAZINE MUST NOT BE EXCEEDED.
- B. TO ASSURE STABILITY OF A STACK, ALL LAYERS OF BOMBS, WHETHER PALLETIZED OR UNPALLETIZED, MUST BE STACKED IN VERTICAL ALIGNMENT WITH THE FIRST LAYER. IN SOME INSTANCES, IF DEEMED NECESSARY, ADDITIONAL DUNNAGING PIECES OR SHIMS FROM SCRAP LUMBER MAY BE USED TO ASSURE STACK STABILITY. ANY SUCH ADDITIONAL PIECES USED MAY BE NAILED TO THE DUNNAGE ASSEMBLY WITH APPROPRIATELY SIZED NAILS, IF DESIRED, OR SIMPLY WEDGED UNDER A BOMB SO THAT THE WEIGHT OF THE BOMB WILL RETAIN THE ADDED PIECE OR PIECES OF DUNNAGE LUMBER.
- C. STORED PALLET UNITS OR UNPALLETIZED BOMBS MUST NOT CONTACT THE WALLS OF A MAGAZINE. TO PROVIDE FOR THIS MANDATORY REQUIREMENT, IN THE STORAGE OF PALLET UNITS, THE SPACE AT THE SIDEWALL OF THE MAGAZINE MAY BE ADJUSTED ACCORDINGLY; IN THE STORAGE OF UNPALLETIZED BOMBS, A BOMB MAY BE OMITTED FROM THE SIDEWALL-END OF A LAYER AS NECESSARY.
- D. AISLE DIMENSIONS SHOWN HEREIN MAY BE ADJUSTED TO SUIT LOCAL CONDITIONS AND/OR AVAILABLE MATERIALS HANDLING EQUIPMENT (MHE). HOWEVER, AN AISLE IS REQUIRED AT THE BASE END AND AT THE NOSE END OF THE BOMBS TO FACILITATE INSPECTION.
- E. ITEM LOTS WILL NOT BE MIXED, BUT ONLY TO THE EXTENT THAT ITEMS FROM ONE LOT WILL NOT BE STACKED ON TOP OF ITEMS FROM ANOTHER LOT. IF MORE THAN ONE ITEM LOT IS TO BE STORED IN A MAGAZINE AND IT IS DESIRED OR REQUIRED TO HAVE EACH LOT ACCESSIBLE FOR REMOVAL, REFER TO THE MULTIPLE LOT STORAGE PATTERNS AS TYPICALLY SHOWN ON PAGE 68 FOR GUIDANCE.
- F. CAUTION: THE METHODS AND CONFIGURATIONS SHOWN HEREIN PROVIDE FOR STORAGE IN MAGAZINES WITH A MAXIMUM EXPLOSIVE LIMIT OF 500,000 POUNDS, AND THE QUANTITY OF PALLET UNITS AND/OR BOMBS ARE BASED ON THE EXPLOSIVE CONTENT PER BOMB AS INDICATED IN THE "BOMB UNIT DATA CHART" ON PAGE 3. CARE MUST BE EXERCISED WHEN STORING BOMBS, SO THAT THE ALLOWABLE EXPLOSIVE LIMIT, AS ESTABLISHED FOR THE SPECIFIC MAGAZINE TO BE USED, WILL NOT BE EXCEEDED. GENERALLY, IN 60' IGLOO MAGAZINES, DUE TO SPACE LIMITATIONS, THE QUANTITY OF BOMBS THAT CAN BE STORED, PALLETIZED OR UNPALLETIZED, WILL NOT ATTAIN AN EXPLOSIVE WEIGHT OF 500,000 POUNDS. FOR HELPFUL GUIDANCE, SEE THE APPLICABLE PROCEDURES DEPICTED FOR THE STORAGE OF A SPECIFIC SERIES BOMB IN A PARTICULAR TYPE OF MAGAZINE.
- G. BOMB STORAGE AS DEPICTED CAN BE ACCOMPLISHED BY MEANS OF CONVEYORS AND/OR FORKLIFT TRUCKS. GENERALLY, PALLETIZED UNITS MUST BE HANDLED BY FORKLIFTS AT THE BASE END OF THE BOMBS FOR STACKING AND WHEN NECESSARY FOR ENTERING IGLOO MAGAZINES HAVING SINGLE DOOR OPENINGS. HANDLING OF UNPALLETIZED BOMBS MAY BE ACCOMPLISHED BY MEANS OF A BEAM SUPPORTED BY OR SUSPENDED FROM THE FORK TINES OF A FORKLIFT. THE HOISTING AND/OR SUSPENSION LUGS OF THE BOMBS CAN BE USED FOR ATTACHMENT TO THE BEAM FOR LIFTING THE BOMB ONTO THE STACK. LARGE UNPALLETIZED BOMBS CAN ALSO BE HANDLED BY POSITIONING A TINE UNDER AND ALONG EACH SIDE OF THE BOMB FROM THE BASE END TO PROVIDE A "CRADLE" FOR LIFTING THE BOMB ONTO THE STACK. THE TINES MUST BE ADAPTED AND PROPERLY SPACED AND SECURED AGAINST LATERAL MOVEMENT. DEPENDING ON MATERIALS HANDLING EQUIPMENT (MHE) AVAILABLE, OTHER APPROVED METHODS FOR HANDLING THE BOMBS MAY BE USED.
- H. IF THE QUANTITY OF BOMBS STORED IN A MAGAZINE OCCUPIES ONLY A PART OF THE AVAILABLE SPACE, OTHER BOMBS AND/OR OTHER AMMUNITION ITEMS MAY BE STORED IN THE SAME MAGAZINE, PROVIDING ALL THE ITEMS ARE COMPATIBLE AND THE ALLOWABLE EXPLOSIVE LIMIT ESTABLISHED FOR THAT MAGAZINE IS NOT EXCEEDED.

(CONTINUED AT RIGHT)

MATERIAL SPECIFICATIONS

- LUMBER -----: SEE TM 743-200, DUNNAGE LUMBER; FED SPEC MM-L-751.
- NAILS -----: COMMON, FED SPEC FF-N-105.
- STRAPPING, STEEL ---: FED SPEC QQ-S-781, CLASS 1, TYPE I OR IV, HEAVY DUTY, FINISH A OR B (GRADE 2).
- STRAP SEAL -----: FED SPEC QQ-S-781, TYPE D, STYLE I, II, OR IV, CLASS H, FINISH A OR B (GRADE 2).

(GENERAL NOTES CONTINUED)

- J. NOTICE: PROVIDING THE AVAILABLE MHE PERMITS AND PROVIDING THE "EXPLOSIVE LIMIT" FOR A MAGAZINE WILL NOT BE EXCEEDED, AN ADDITIONAL LAYER OR ADDITIONAL LAYERS OF BOMBS MAY BE PLACED ON ONE OR MORE OF THE STACKS FOR EACH OF THE DELINEATED STORAGE ARRANGEMENTS SPECIFIED FOR UNPALLETIZED BOMBS. IF ANOTHER LAYER OF BOMBS IS ADDED TO A STACK AS SHOWN HEREIN, AN APPLICABLE INTERMEDIATE DUNNAGE ASSEMBLY OF A SUITABLE LENGTH MUST BE USED UNDER THAT ADDITIONAL LAYER.
- K. WITHIN THE "BOMB UNIT DATA CHART" ON PAGE 3, A SPECIFIC BOMB SIZE, AN EXPLOSIVE WEIGHT PER BOMB OR PALLET UNIT, A PALLET UNIT SIZE AND A PALLET UNIT WEIGHT HAVE BEEN SPECIFIED FOR EACH SERIES OF BOMB. THE STORAGE ARRANGEMENTS SPECIFIED ELSEWHERE WITHIN THIS 68-PAGE DOCUMENT ARE BASED ON THE DISPLAYED "DATA". STORAGE PROCEDURES AS SPECIFIED ARE ALSO APPLICABLE WHEN STORING BOMBS THAT DO NOT CONFORM EXACTLY WITH ONE OR MORE OF THE DATA ENTRIES LISTED FOR THAT SERIES OF BOMB WITHIN THE CHART. WHEN STORING A BOMB THAT DIFFERS IN SIZE OR EXPLOSIVE WEIGHT OR IN SOME OTHER MANNER, ADJUSTMENTS WILL BE MADE AS REQUIRED TO SATISFY SPECIFIED REQUIREMENTS, SUCH AS THE SIZE OF AN INSPECTION AISLE. SPECIAL ATTENTION WILL BE GIVEN TO "EXPLOSIVE WEIGHT", TO ENSURE THAT THE PERMITTED AMOUNT FOR A MAGAZINE IS NOT EXCEEDED, AND WHERE LESS EXPLOSIVE WEIGHT IS INVOLVED, TO ENSURE THAT MAXIMUM UTILIZATION OF STORAGE SPACE IS OBTAINED.

REVISIONS

REVISION NO. 1, DATED JULY 1989, CONSISTS OF:

1. ADDING PROCEDURES FOR STORAGE OF THE SUU 30 BOMB.

BOMB UNIT DATA CHART

SEE GENERAL NOTES "A", "F", AND "K" ON PAGE 2.

250-POUND BOMB, MK81 SERIES

UNPALLETIZED
 BOMB DIMENSIONS ----- 49-3/8" LONG X 9" DIAMETER.
 EXPLOSIVE WEIGHT ----- 100 LBS.

PALLETIZED (12/PALLET) AIR FORCE UNIT. SEE AF DWG TPO 1325-092-9848.
 UNIT DIMENSIONS ----- 40" LONG X 48" WIDE X 40" HIGH.
 GROSS WEIGHT ----- 3,240 LBS (APPROX).
 CUBE ----- 46.3 CU. FT.
 EXPLOSIVE WEIGHT/PALLET ----- 1,200 LBS.

PALLETIZED (12/PALLET) NAVY UNIT. SEE NWHL DWG WR-54/15A.
 UNIT DIMENSIONS ----- 36-3/8" LONG X 50-1/4" WIDE X 32-1/8" HIGH.
 GROSS WEIGHT ----- 3,158 LBS (APPROX).
 CUBE ----- 33.9 CU. FT.
 EXPLOSIVE WEIGHT/PALLET ----- 1,200 LBS.

500-POUND BOMB, MK82 SERIES

UNPALLETIZED
 BOMB DIMENSIONS ----- 61-3/8" LONG X 10-3/4" DIAMETER.
 EXPLOSIVE WEIGHT ----- 192 LBS.

PALLETIZED (6/PALLET) AIR FORCE UNIT. SEE AF DWG TPO 1325-294-4152.
 UNIT DIMENSIONS ----- 61-3/4" LONG X 33-1/4" WIDE X 31-1/2" HIGH.
 GROSS WEIGHT ----- 3,096 LBS (APPROX).
 CUBE ----- 37.4 CU. FT.
 EXPLOSIVE WEIGHT/PALLET ----- 1,152 LBS.

PALLETIZED (6/PALLET) NAVY UNIT. SEE NWHL DWG WR-54/152.
 UNIT DIMENSIONS ----- 61-15/16" LONG X 35-1/4" WIDE X 28-1/8" HIGH.
 GROSS WEIGHT ----- 3,209 LBS (APPROX).
 CUBE ----- 35.5 CU. FT.
 EXPLOSIVE WEIGHT/PALLET ----- 1,152 LBS.

750-POUND BOMB, M117 SERIES

UNPALLETIZED
 BOMB DIMENSIONS ----- 50-15/16" LONG X 16-1/8" DIAMETER.
 EXPLOSIVE WEIGHT ----- 386 LBS.

PALLETIZED (2/PALLET) AIR FORCE UNIT. SEE AF DWG TPO 1325-926-1868.
 UNIT DIMENSIONS ----- 56-1/4" LONG X 32-1/4" WIDE X 22-3/4" HIGH.
 GROSS WEIGHT ----- 1,626 LBS (APPROX).
 CUBE ----- 23.9 CU. FT.
 EXPLOSIVE WEIGHT/PALLET ----- 772 LBS.

PALLETIZED (4/PALLET) AIR FORCE UNIT.
 UNIT DIMENSIONS ----- 49-1/4" LONG X 32-1/4" WIDE X 42" HIGH.
 GROSS WEIGHT ----- 3,104 LBS (APPROX).
 CUBE ----- 38.6 CU. FT.
 EXPLOSIVE WEIGHT/PALLET ----- 1,544 LBS.

1,000-POUND BOMB, MK83 SERIES

UNPALLETIZED
 BOMB DIMENSIONS ----- 74-7/32" LONG X 14" DIAMETER.
 EXPLOSIVE WEIGHT ----- 445 LBS.

PALLETIZED (3/PALLET) NAVY UNIT. SEE NWHL DWG WR-54/35B.
 UNIT DIMENSIONS ----- 74-1/2" LONG X 43-1/2" WIDE X 19" HIGH.
 GROSS WEIGHT ----- 2,935 LBS (APPROX).
 CUBE ----- 35.5 CU. FT.
 EXPLOSIVE WEIGHT/PALLET ----- 1,335 LBS.

2,000-POUND BOMB, MK84 SERIES

UNPALLETIZED
 BOMB DIMENSIONS ----- 104" LONG X 18" DIAMETER.
 EXPLOSIVE WEIGHT ----- 945 LBS.

PALLETIZED (2/PALLET) NAVY UNIT. SEE NWHL DWG WR-54/127B.
 UNIT DIMENSIONS ----- 99" LONG X 38" WIDE X 24-1/4" HIGH.
 GROSS WEIGHT ----- 4,043 LBS (APPROX).
 CUBE ----- 52.6 CU. FT.
 EXPLOSIVE WEIGHT/PALLET ----- 1,890 LBS.

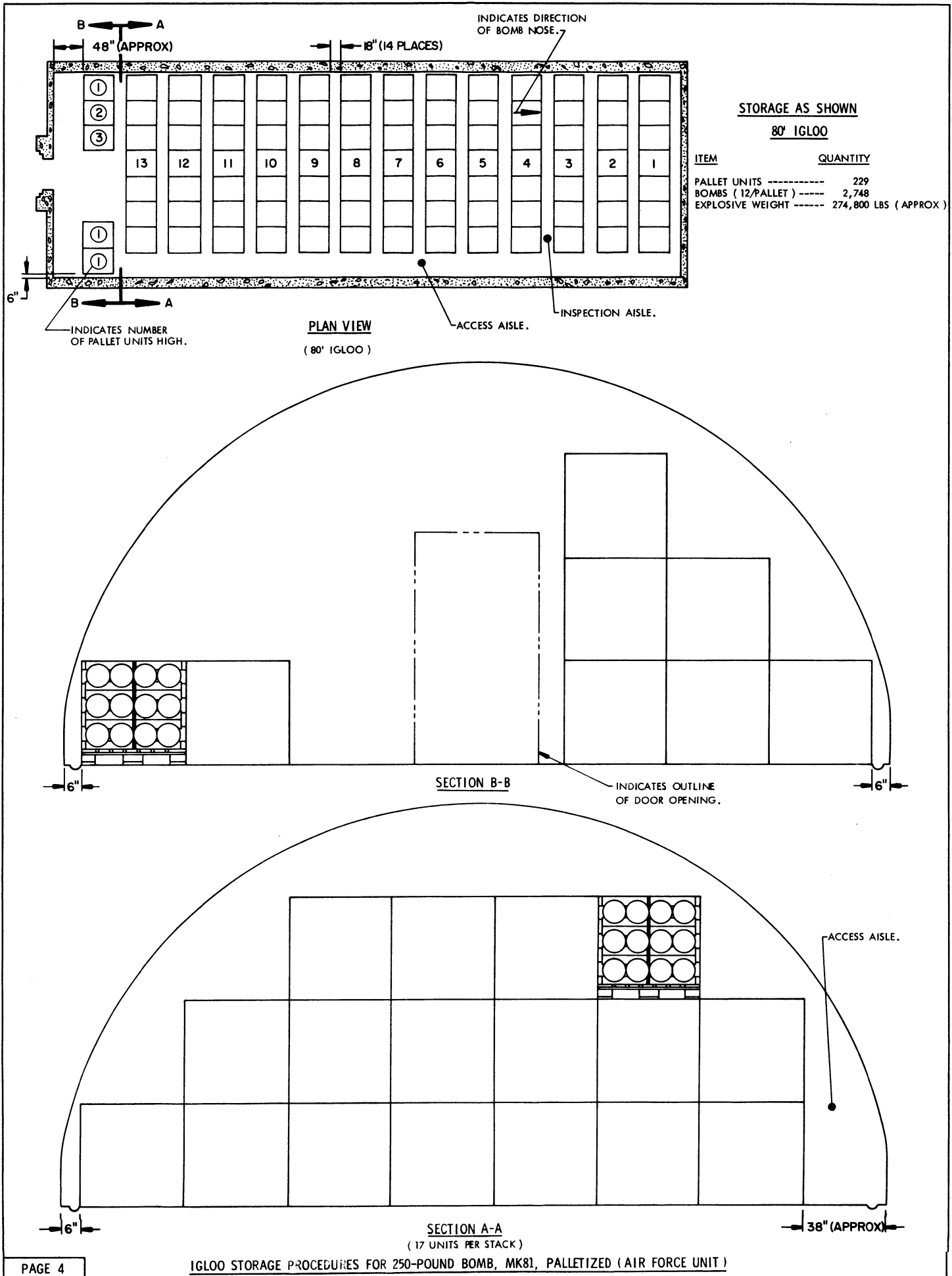
3,000-POUND BOMB, M118 SERIES

UNPALLETIZED
 BOMB DIMENSIONS ----- 91-11/16" LONG X 24-1/8" DIAMETER.
 EXPLOSIVE WEIGHT ----- 1,975 LBS.

PALLETIZED (1/PALLET) AIR FORCE UNIT. SEE AF DWG TPO 1325-028-5273.
 UNIT DIMENSIONS ----- 95-1/2" LONG X 24" WIDE X 31-1/2" HIGH.
 GROSS WEIGHT ----- 3,179 LBS (APPROX).
 CUBE ----- 44.7 CU. FT.
 EXPLOSIVE WEIGHT/PALLET ----- 1,975 LBS.

SUU 30 BOMB

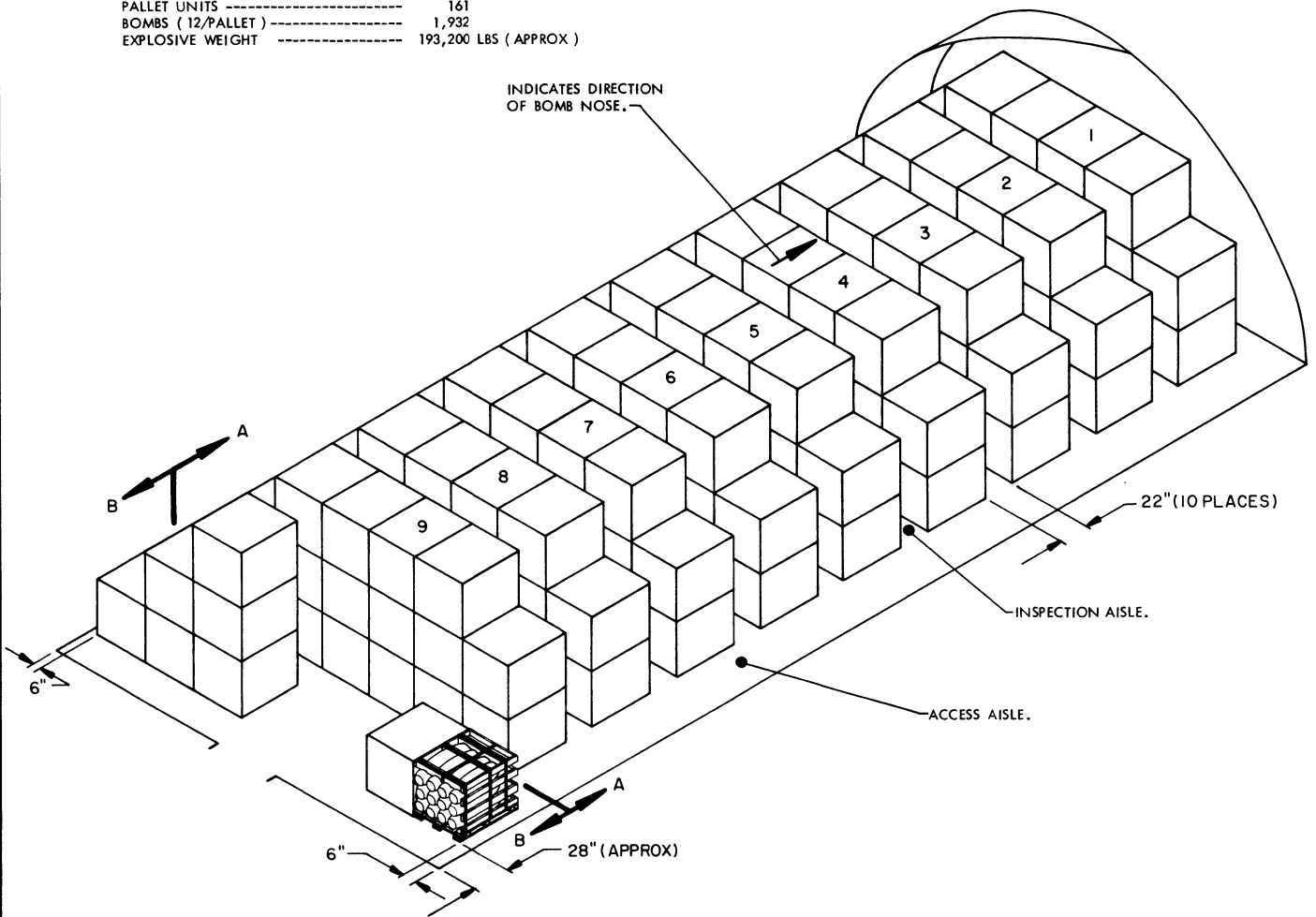
UNPALLETIZED
 BOMB DIMENSIONS ----- 80" LONG X 16" DIAMETER
 EXPLOSIVE WEIGHT ----- 158 LBS (MAX)



STORAGE AS SHOWN

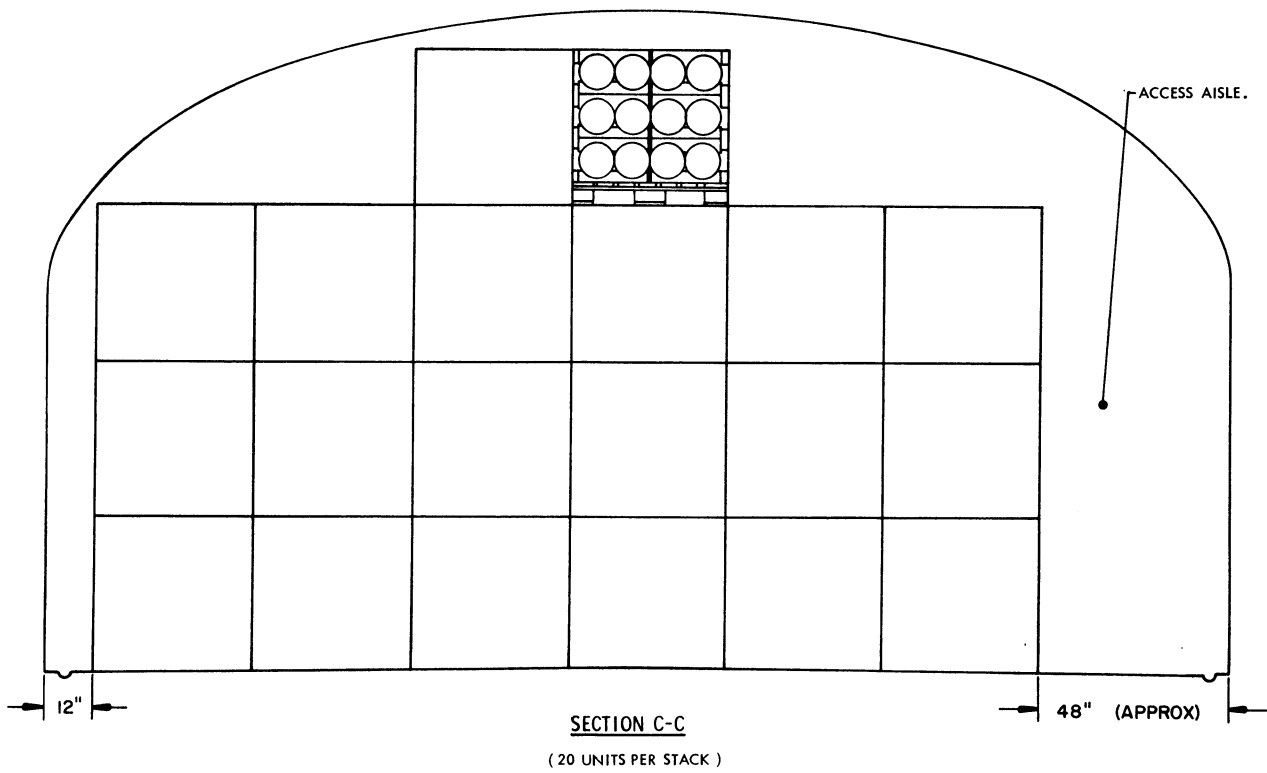
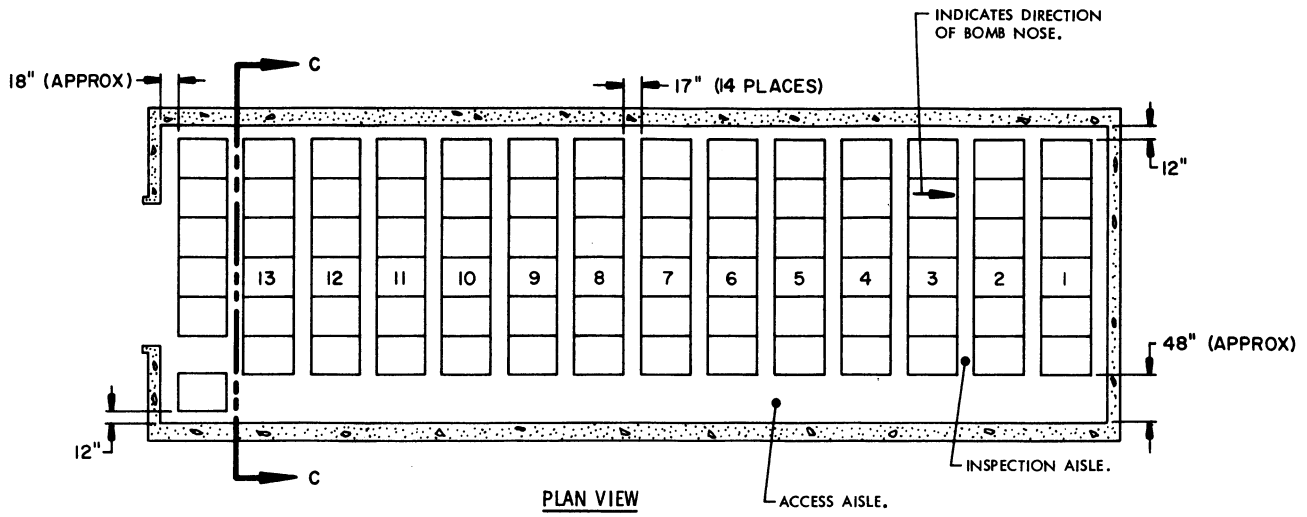
60' IGLOO

ITEM	QUANTITY
PALLET UNITS -----	161
BOMBS (12/PALLET) -----	1,932
EXPLOSIVE WEIGHT -----	193,200 LBS (APPROX)



ISOMETRIC VIEW
(60' IGLOO)

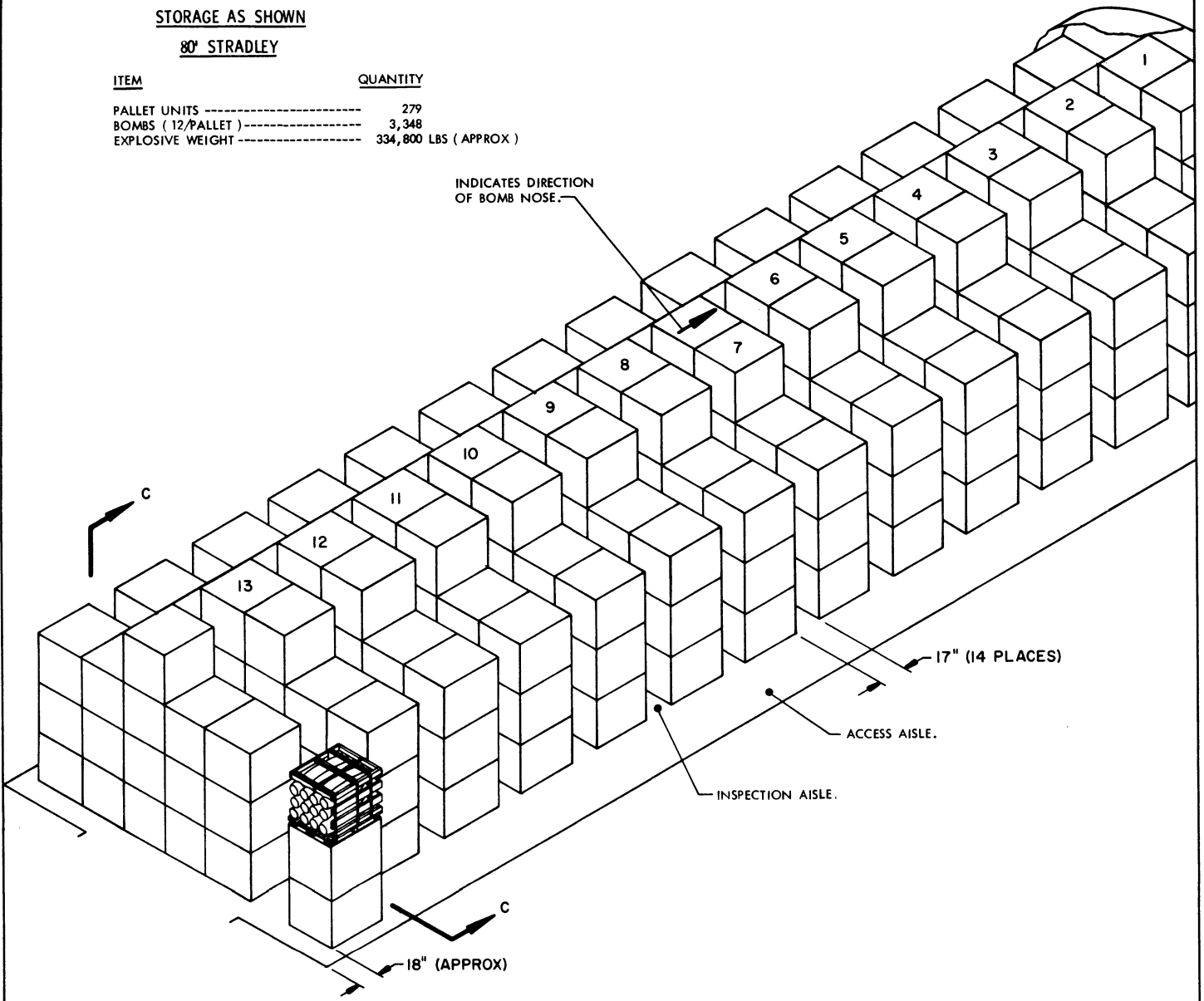
FOR "GENERAL NOTES" SEE PAGE 2.



STORAGE AS SHOWN

80' STRADLEY

ITEM	QUANTITY
PALLET UNITS -----	279
BOMBS (12/PALLET) -----	3,348
EXPLOSIVE WEIGHT -----	334,800 LBS (APPROX)



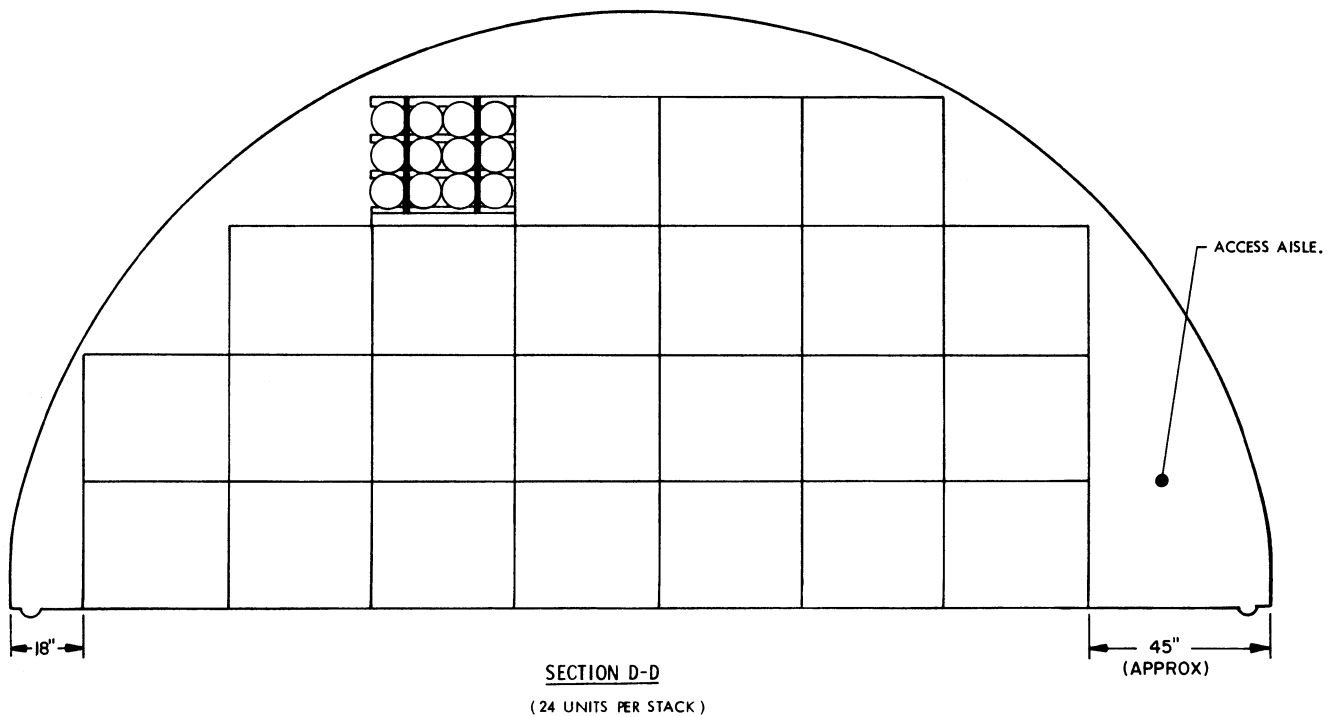
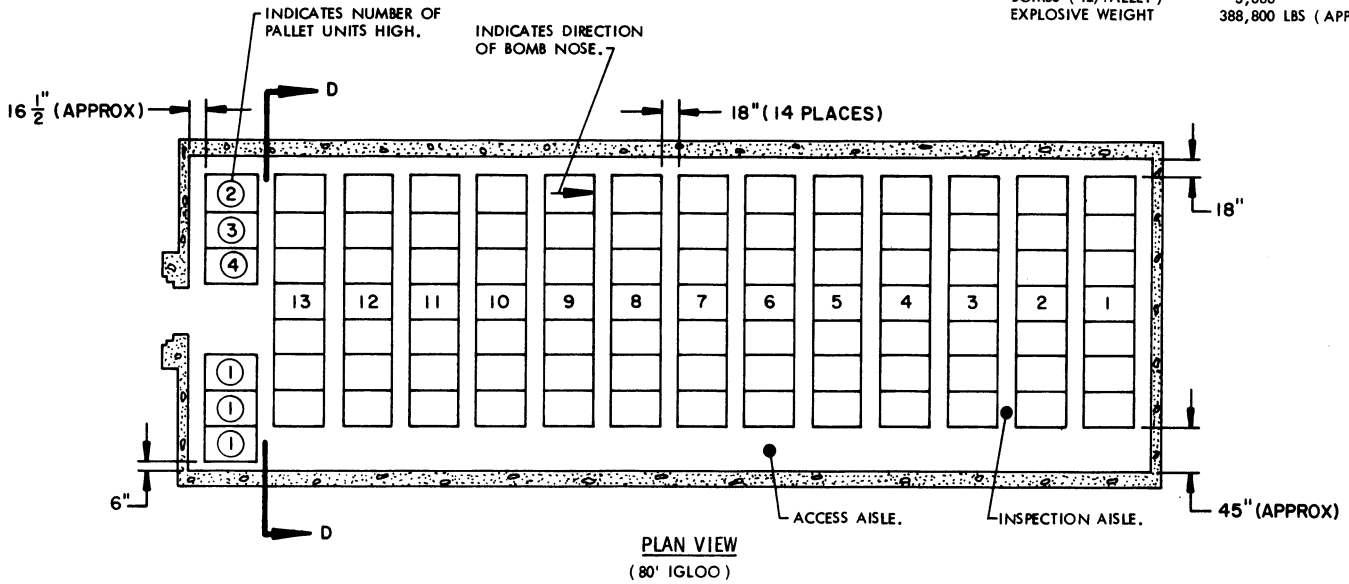
ISOMETRIC VIEW

FOR "GENERAL NOTES" SEE PAGE 2.

STORAGE AS SHOWN

80' IGLOO

ITEM	QUANTITY
PALLET UNITS	324
BOMBS (12/PALLET)	3,888
EXPLOSIVE WEIGHT	388,800 LBS (APPROX)

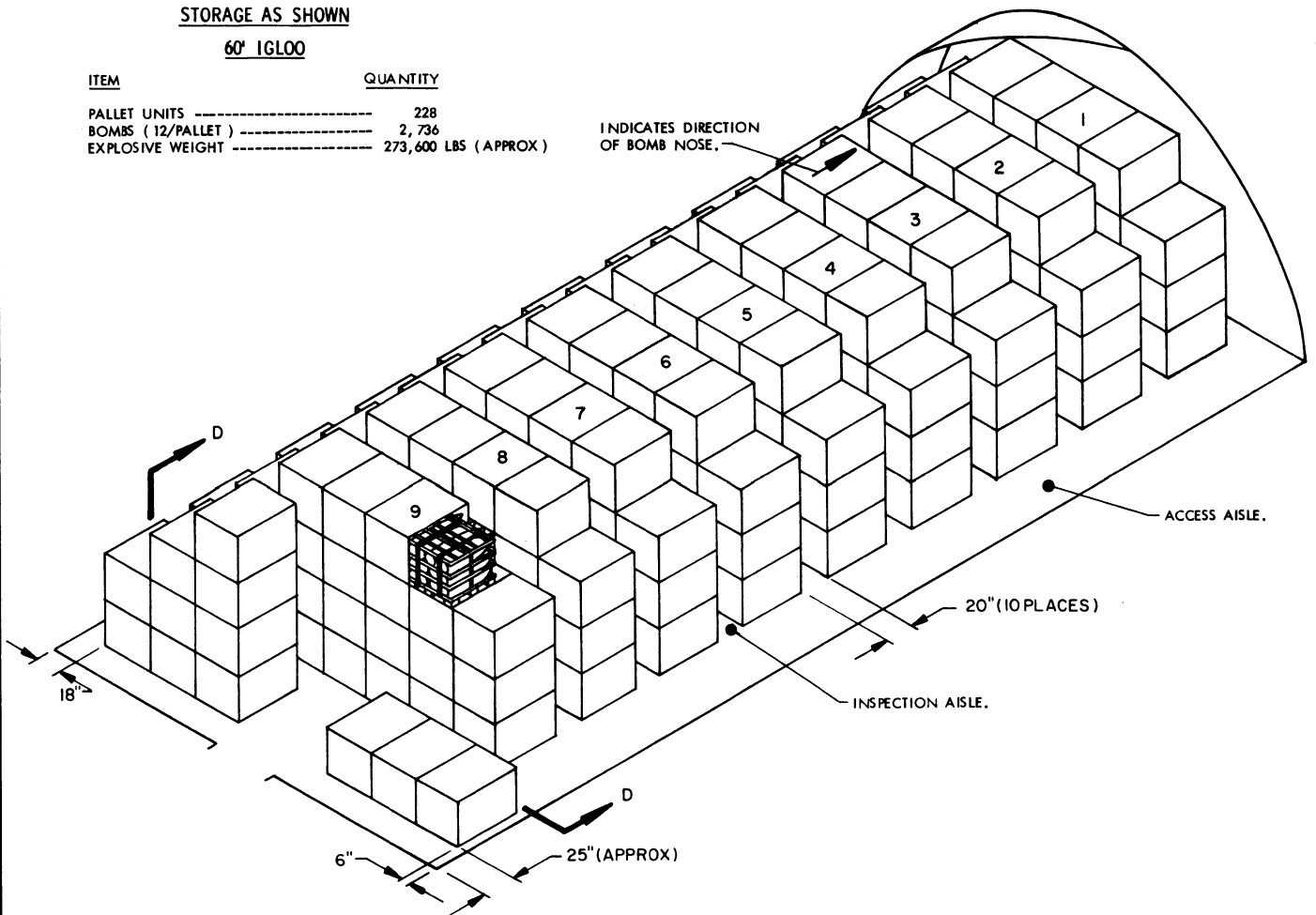


STORAGE AS SHOWN

60' IGLOO

ITEM	QUANTITY
PALLET UNITS -----	228
BOMBS (12/PALLET) -----	2, 736
EXPLOSIVE WEIGHT -----	273,600 LBS (APPROX)

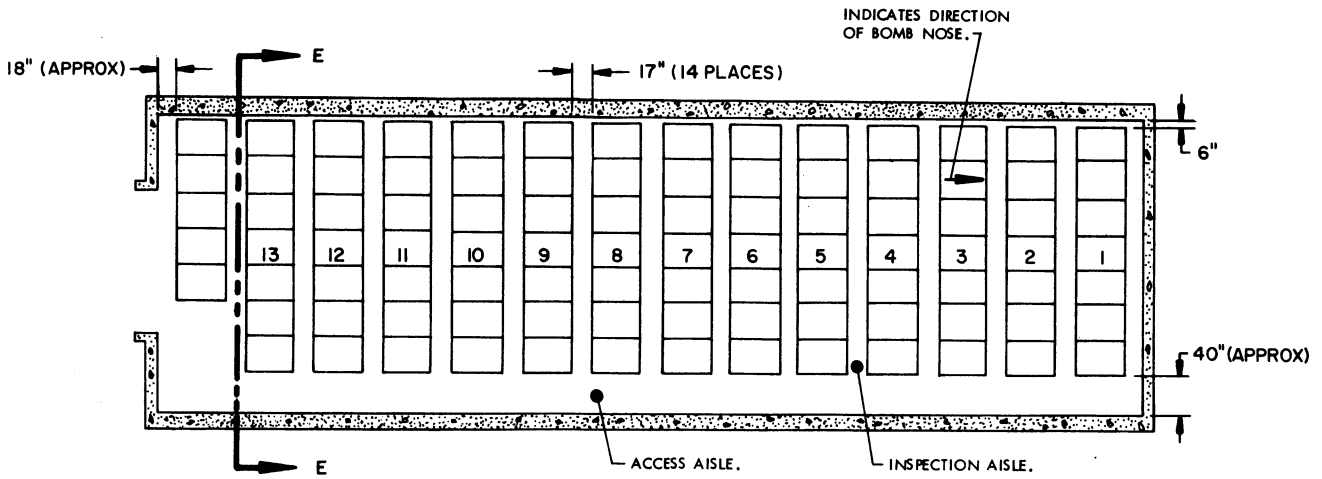
INDICATES DIRECTION OF BOMB NOSE.



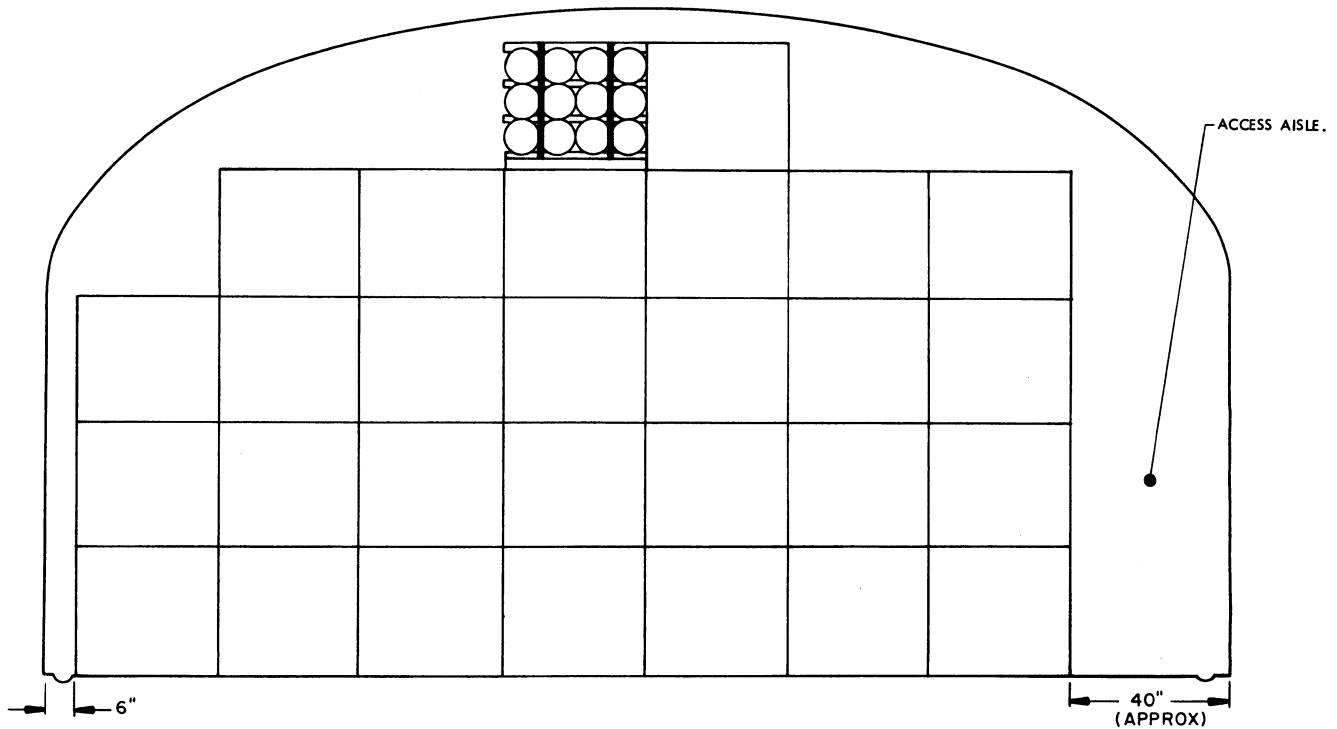
ISOMETRIC VIEW

(60' IGLOO)

FOR "GENERAL NOTES" SEE PAGE 2



PLAN VIEW

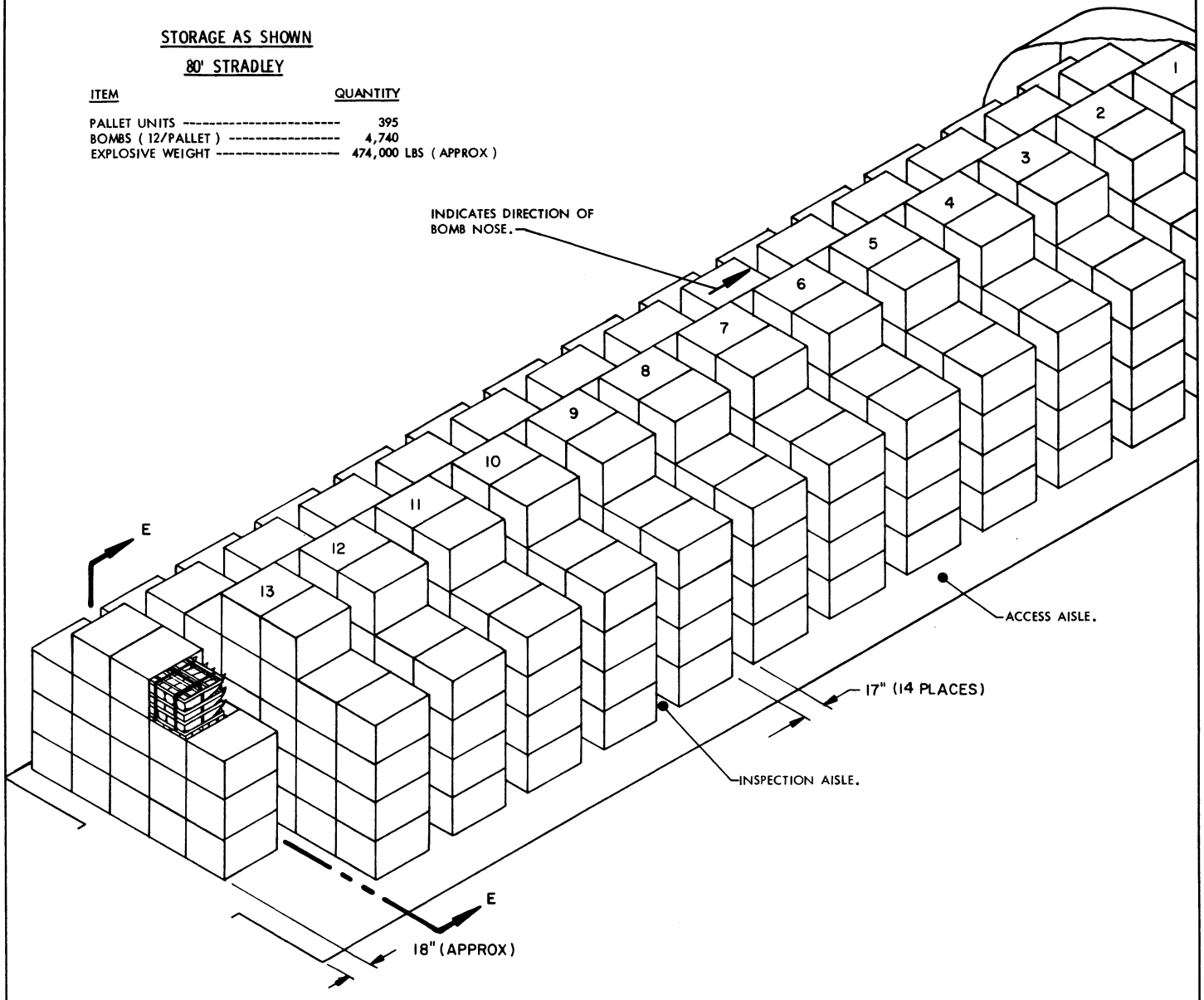


SECTION E-E
(29 UNITS PER STACK)

STORAGE AS SHOWN

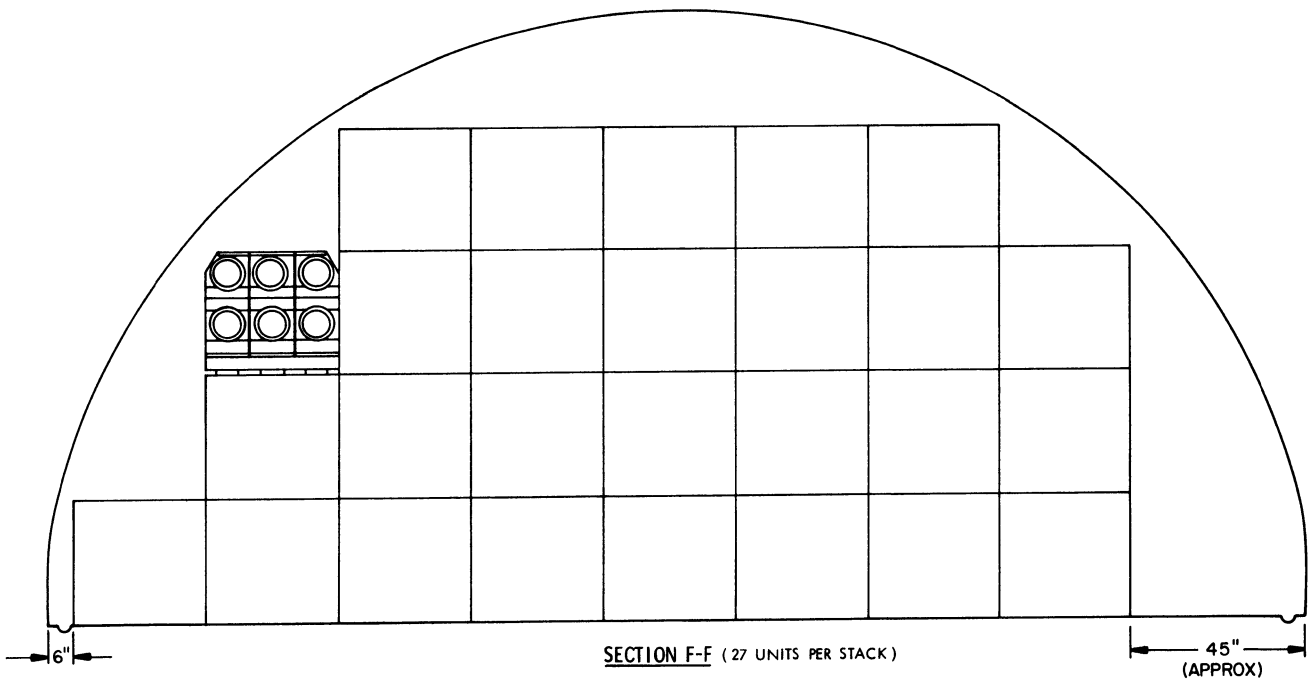
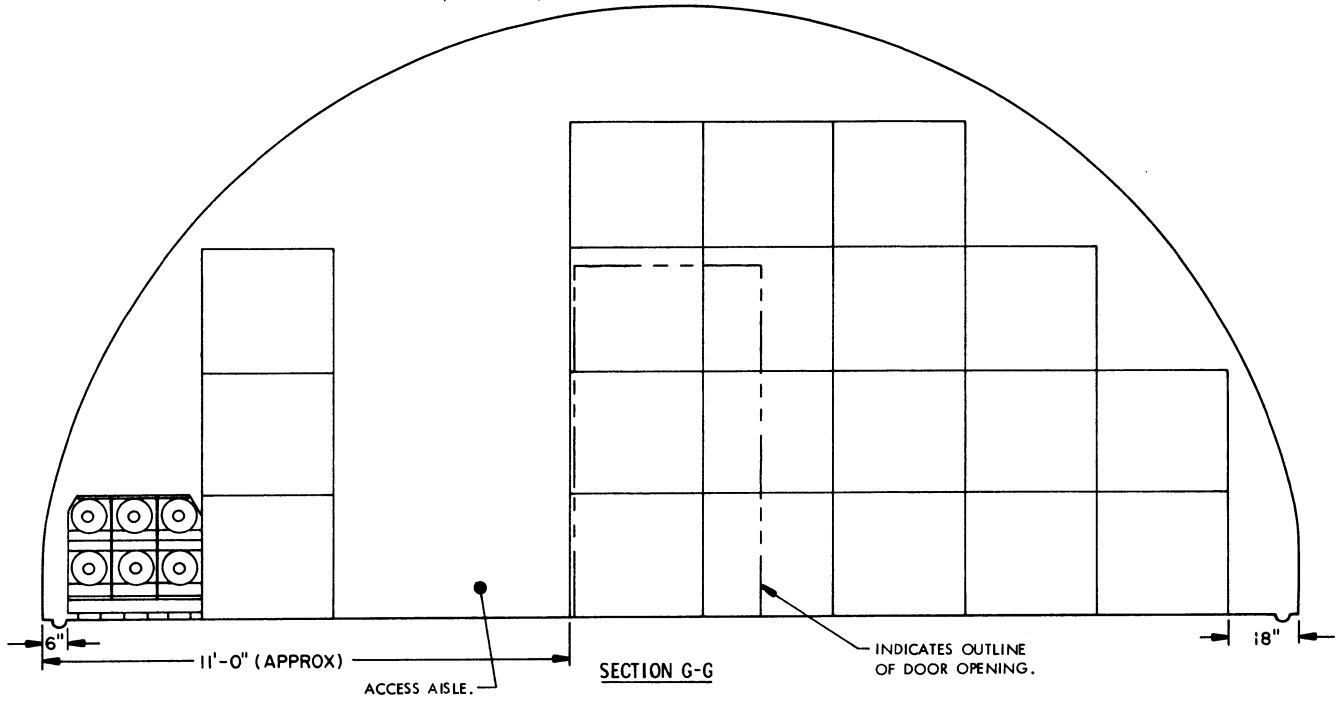
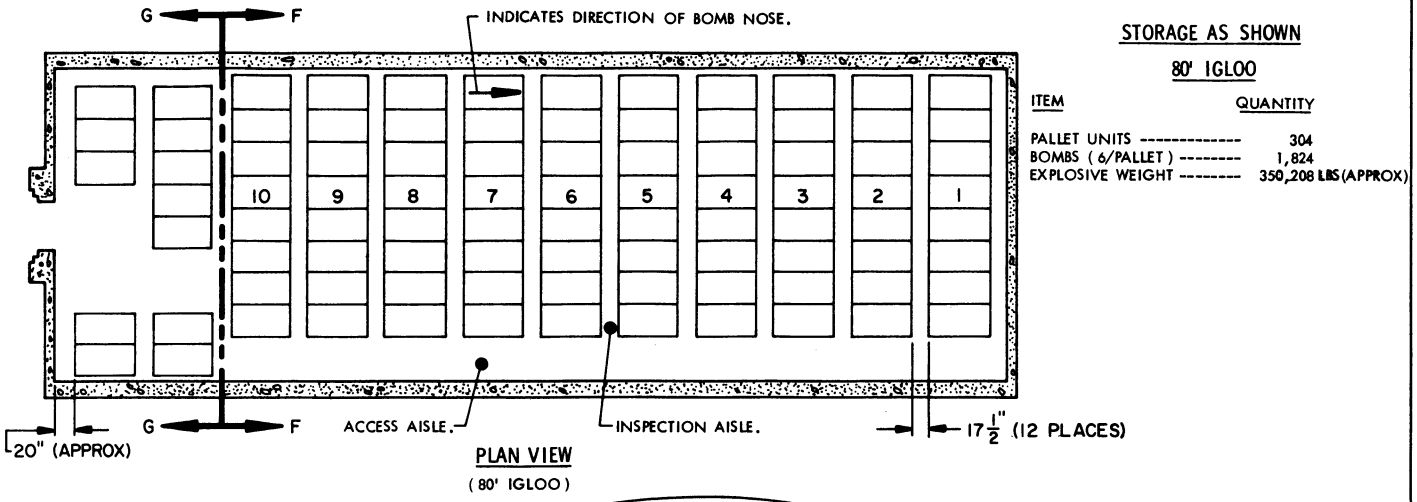
80' STRADLEY

ITEM	QUANTITY
PALLET UNITS -----	395
BOMBS (12/PALLET) -----	4,740
EXPLOSIVE WEIGHT -----	474,000 LBS (APPROX)



ISOMETRIC VIEW

FOR "GENERAL NOTES" SEE PAGE 2.

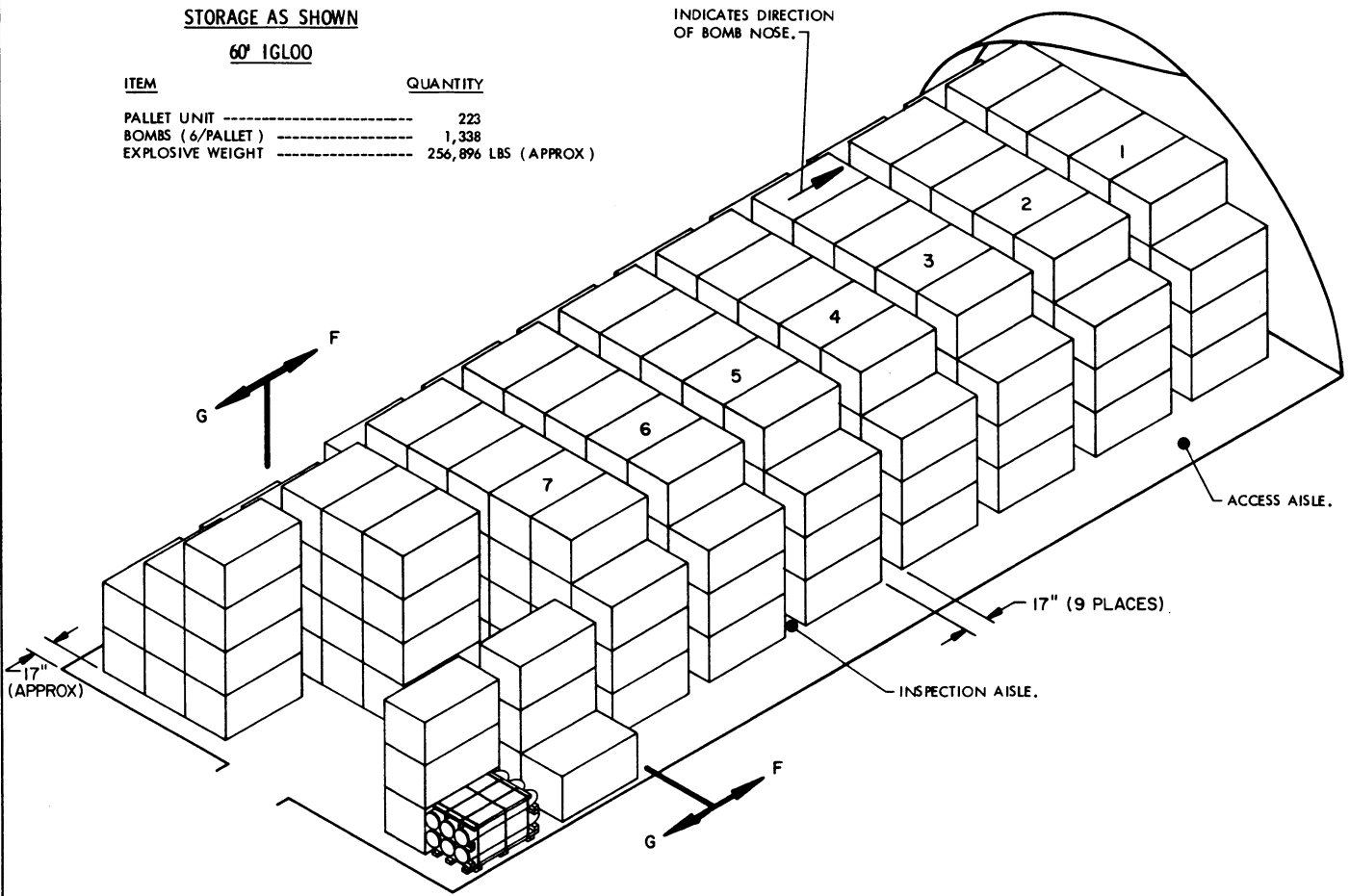


STORAGE AS SHOWN

60' IGLOO

ITEM	QUANTITY
PALLET UNIT -----	223
BOMBS (6/PALLET) -----	1,338
EXPLOSIVE WEIGHT -----	256,896 LBS (APPROX)

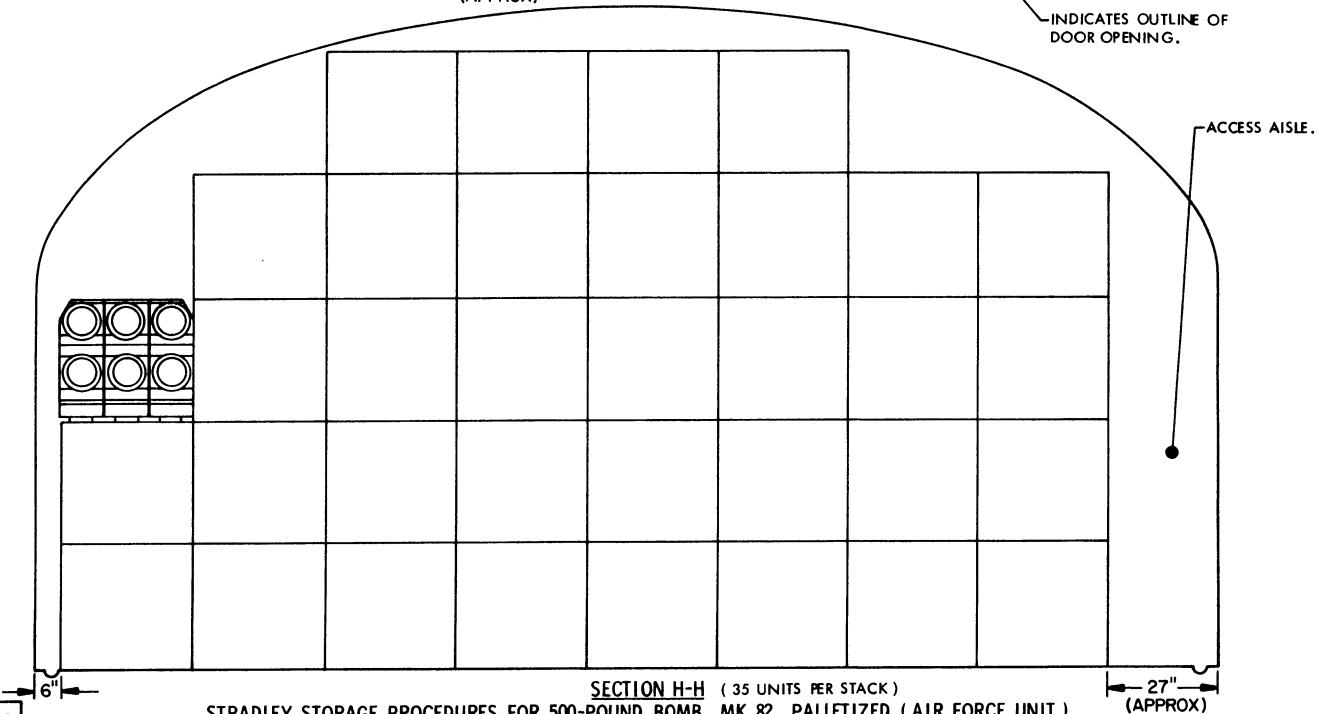
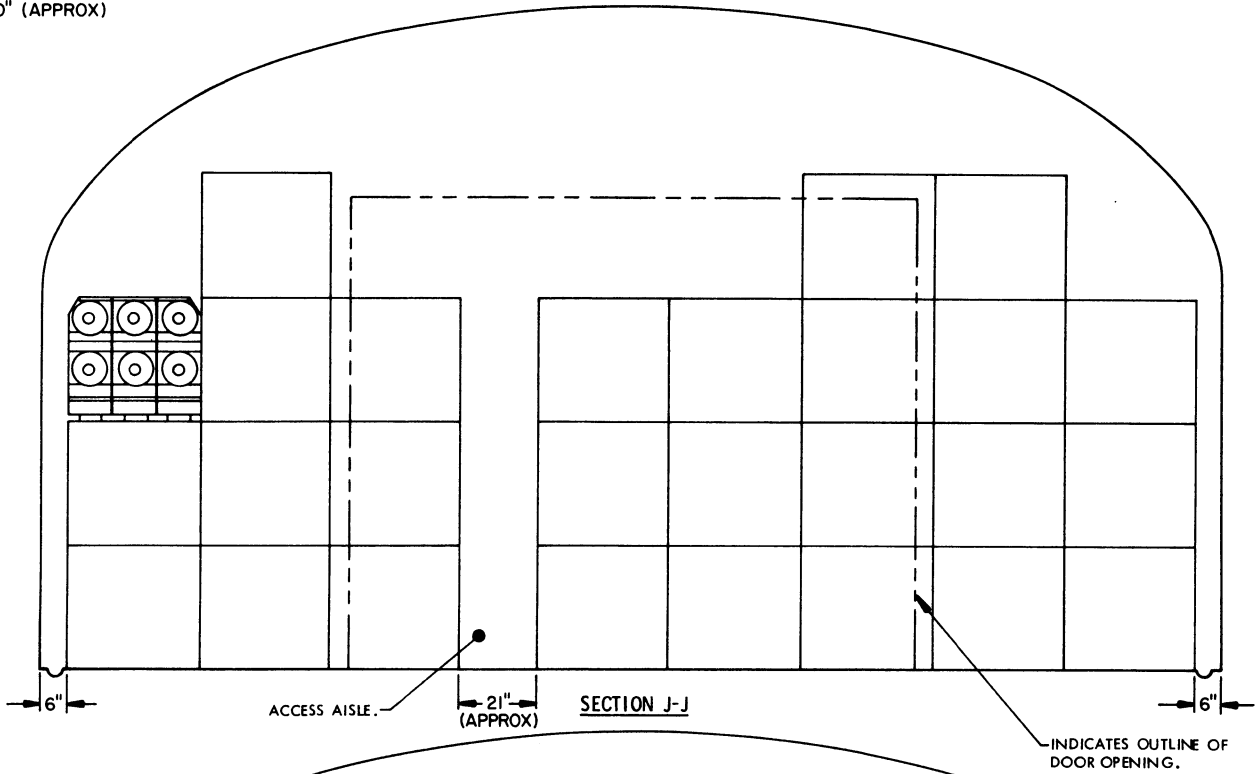
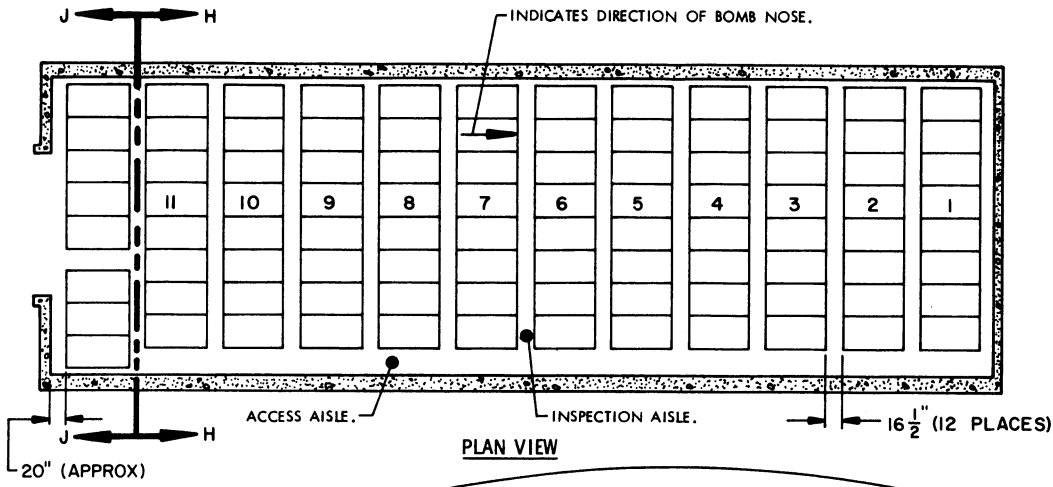
INDICATES DIRECTION OF BOMB NOSE.



ISOMETRIC VIEW

(60' IGLOO)

FOR "GENERAL NOTES" SEE PAGE 2.

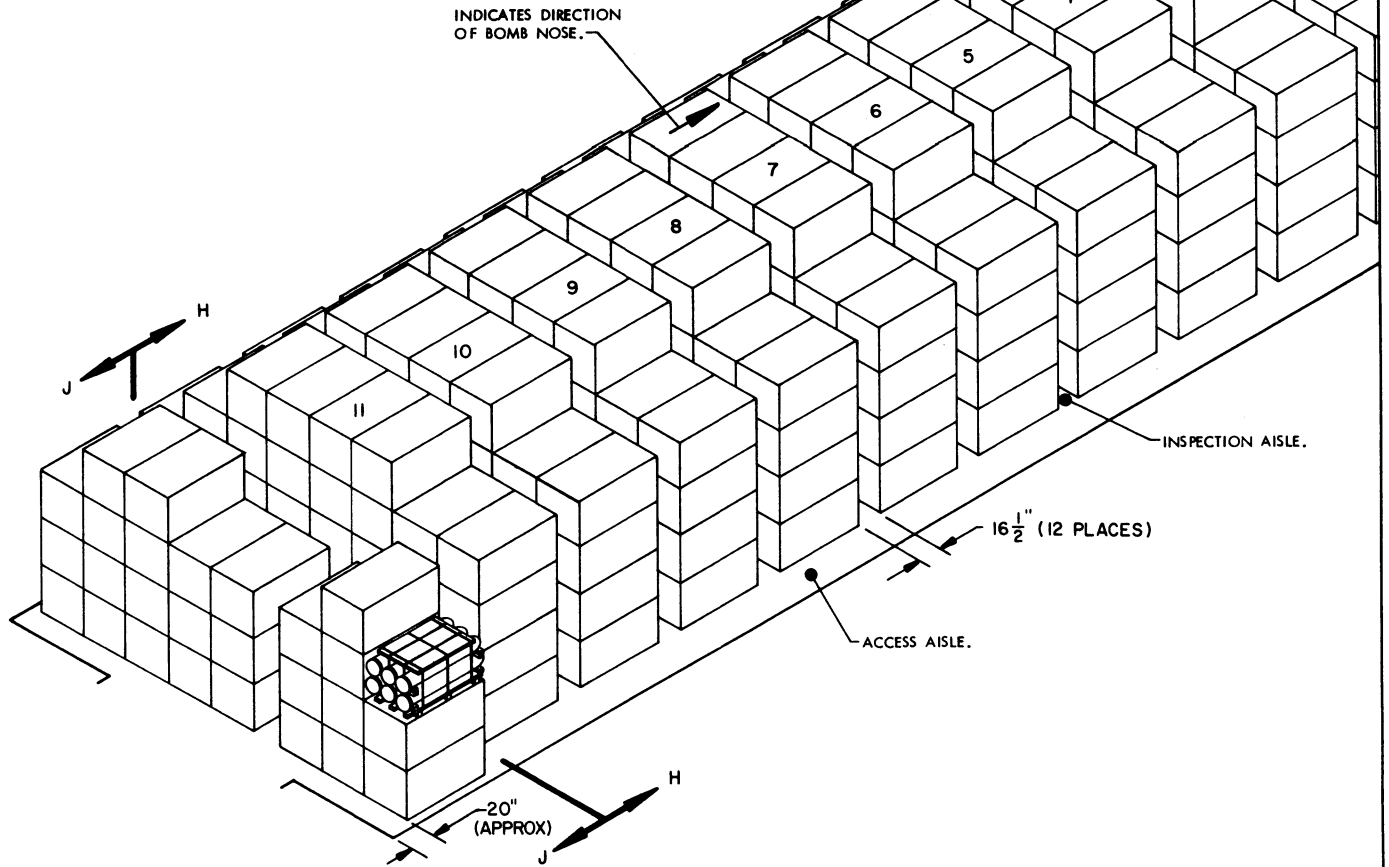


STRADLEY STORAGE PROCEDURES FOR 500-POUND BOMB, MK 82, PALLETIZED (AIR FORCE UNIT)

STORAGE AS SHOWN

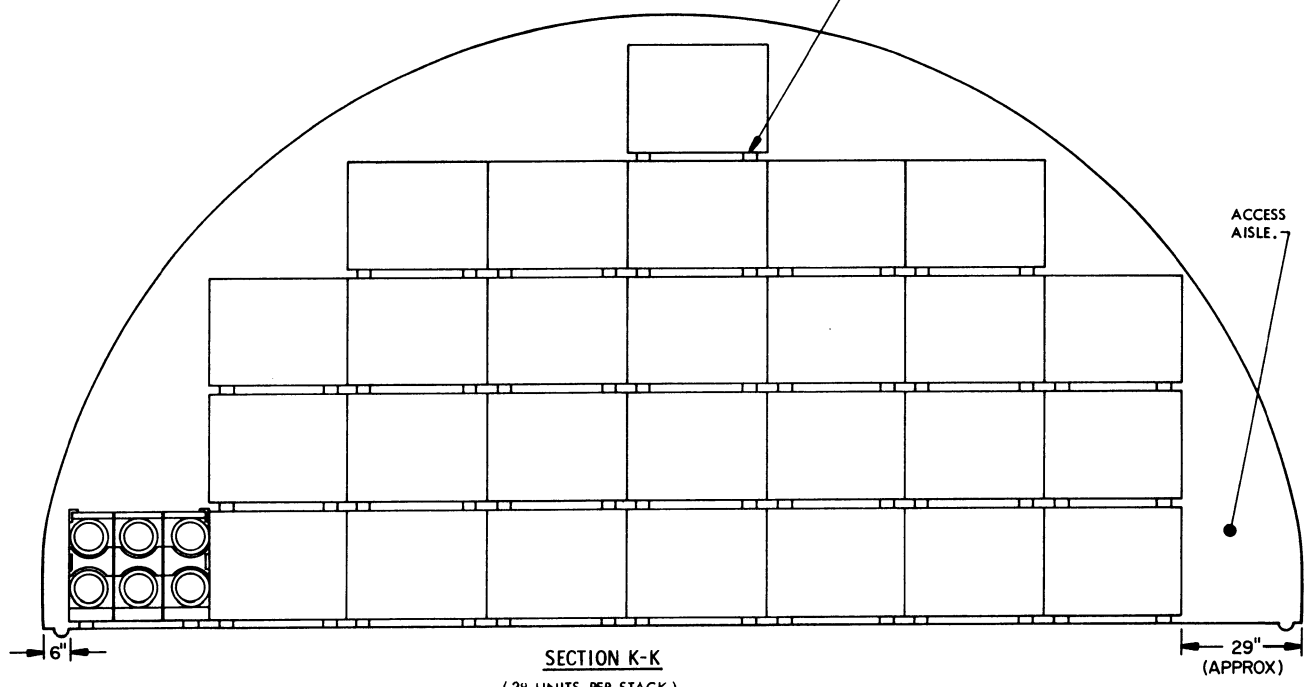
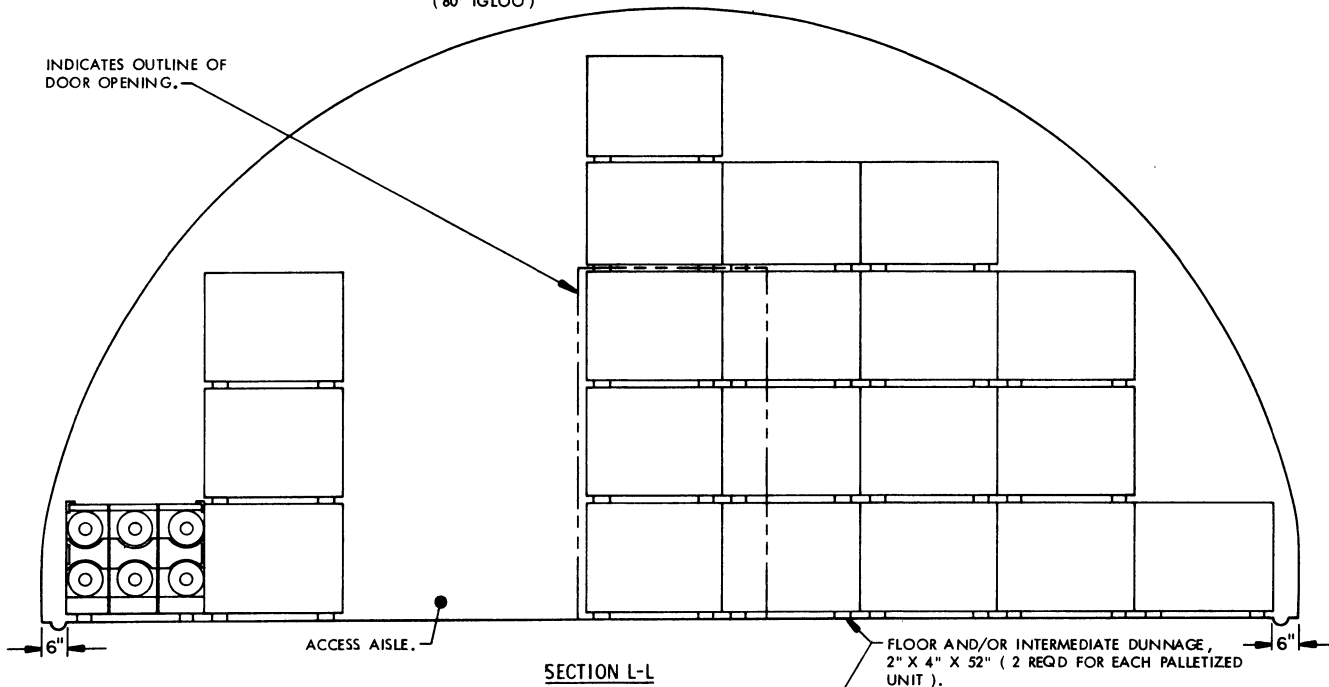
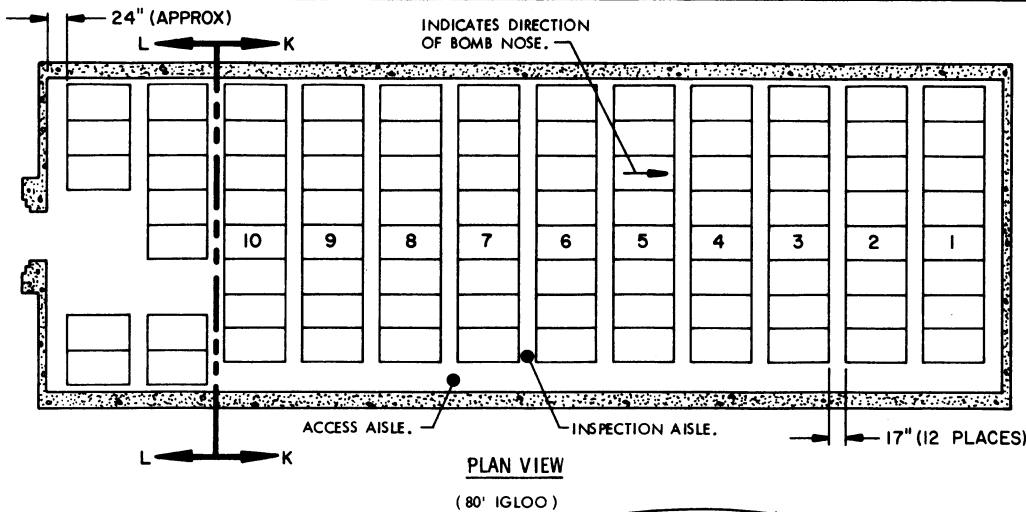
80' STRADLEY

ITEM	QUANTITY
PALLET UNITS -----	412
BOMBS (6/PALLET) -----	2,472
EXPLOSIVE WEIGHT -----	474,624 LBS (APPROX)



ISOMETRIC VIEW

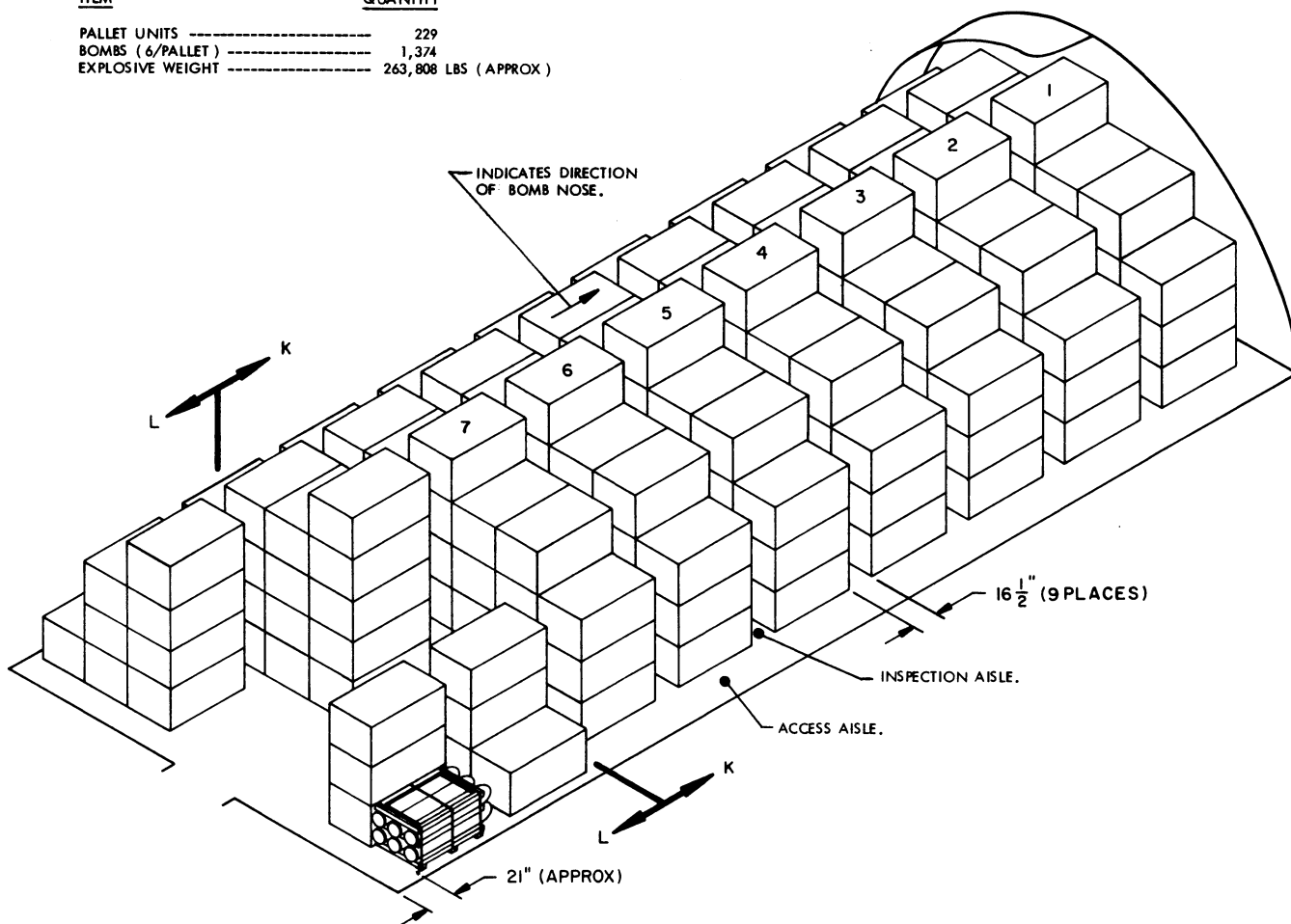
FOR "GENERAL NOTES" SEE PAGE 2.



STORAGE AS SHOWN

60' IGLOO

ITEM	QUANTITY
PALLET UNITS -----	229
BOMBS (6/PALLET) -----	1,374
EXPLOSIVE WEIGHT -----	263,808 LBS (APPROX)

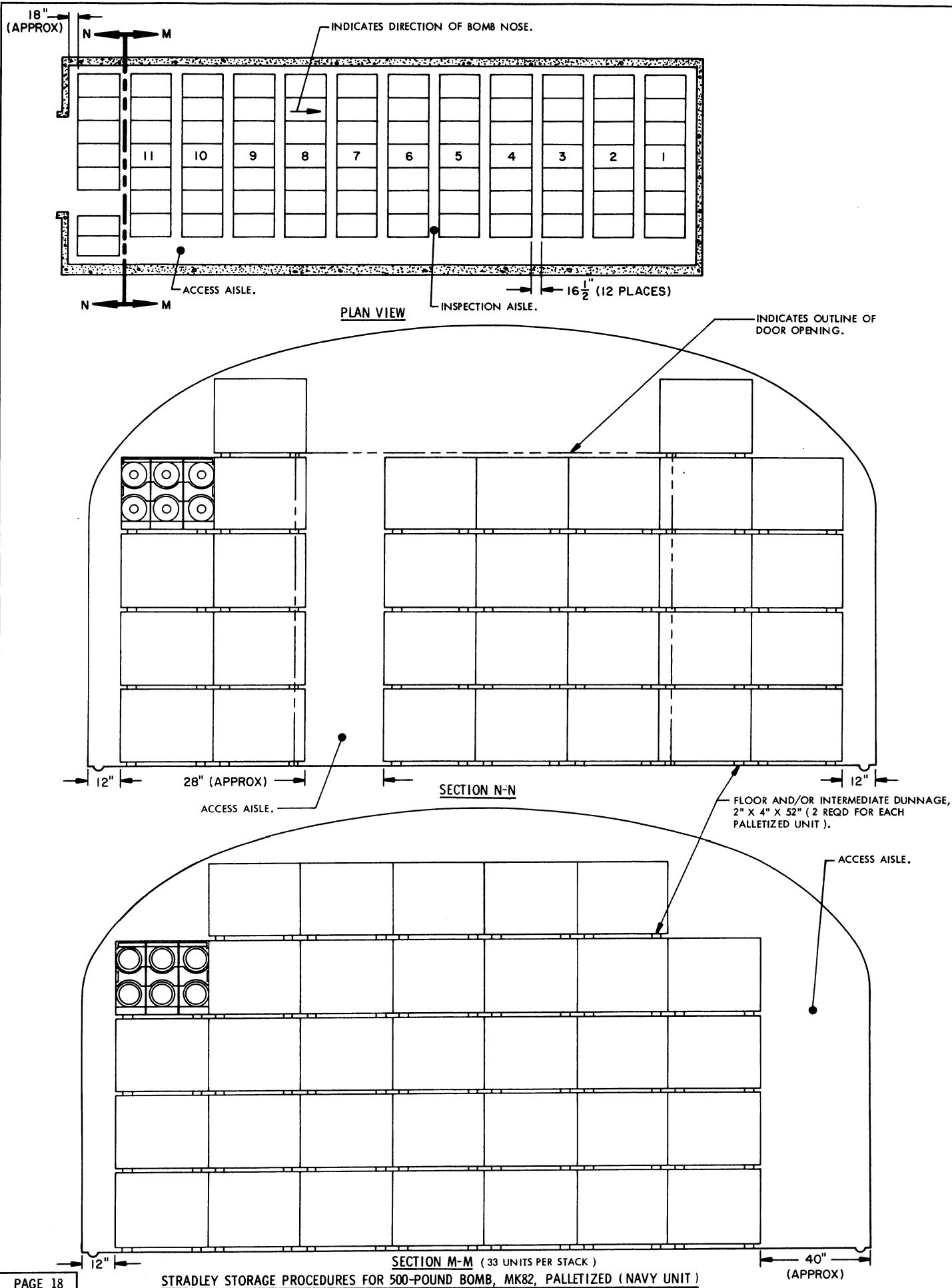


ISOMETRIC VIEW

(60' IGLOO)

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

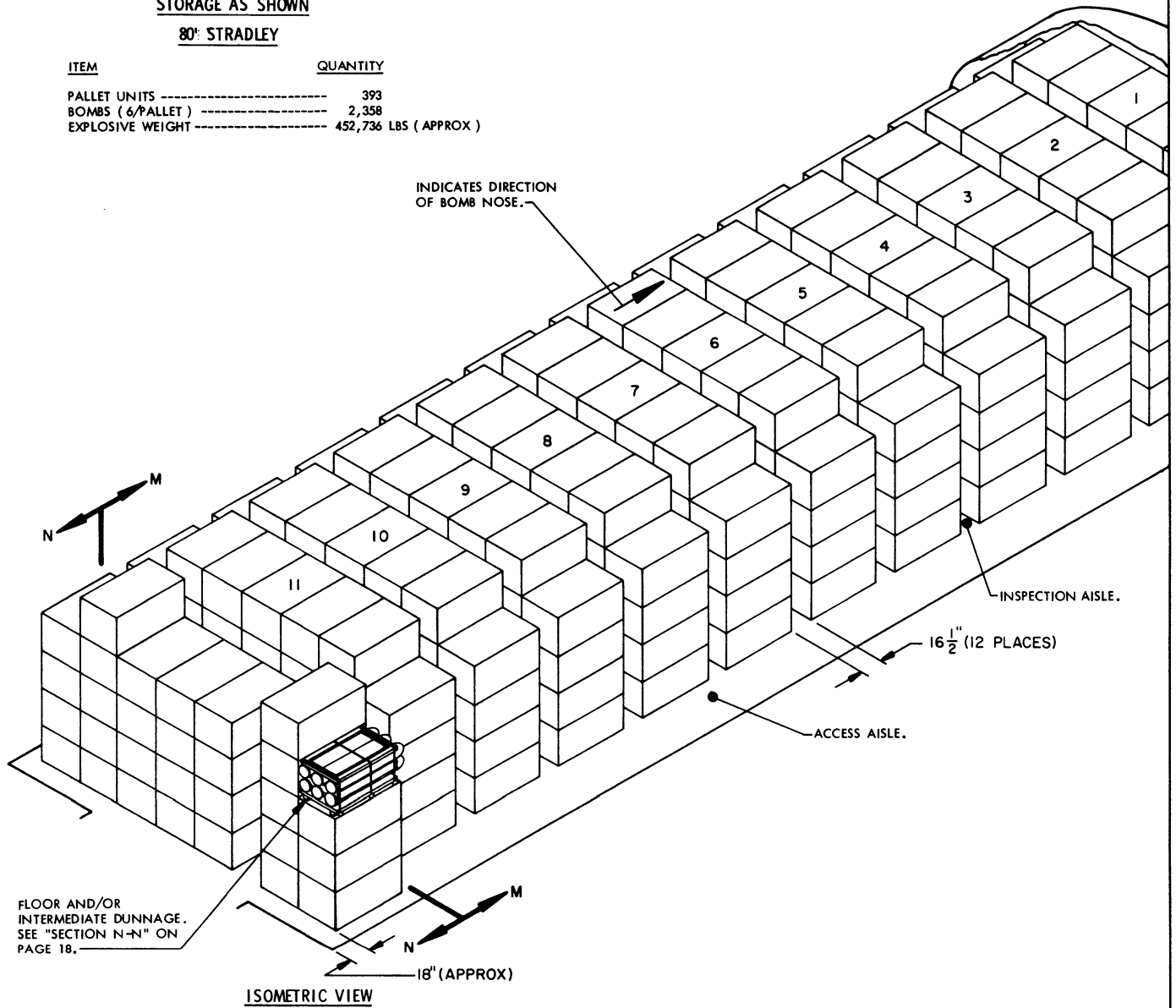
BILL OF MATERIAL PER STACK		
LUMBER	LINEAR FEET	BOARD FEET
2" X 4"	243	162



STORAGE AS SHOWN

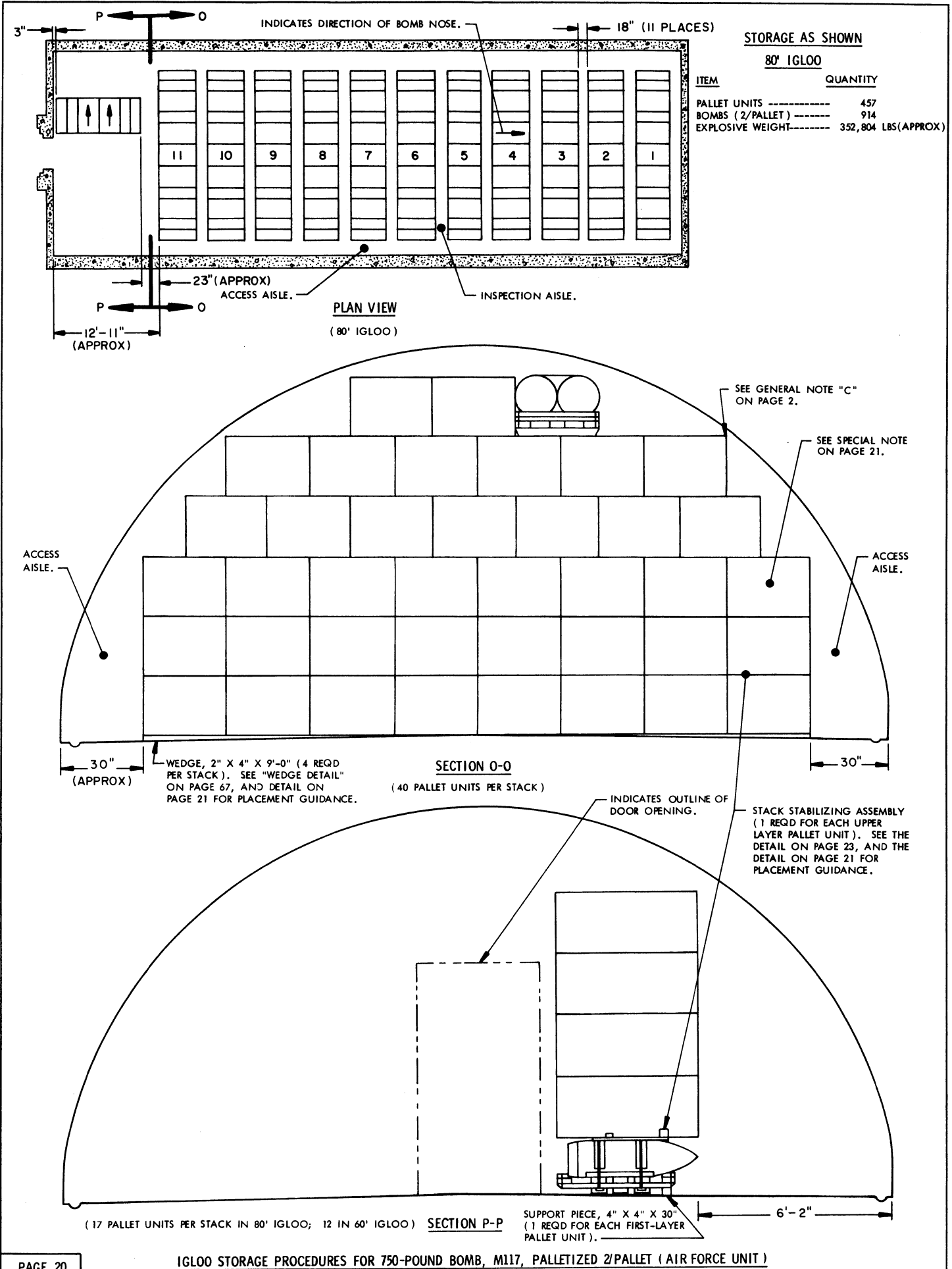
80' STRADLEY

ITEM	QUANTITY
PALLET UNITS -----	393
BOMBS (4/PALLET) -----	2,358
EXPLOSIVE WEIGHT -----	452,736 LBS (APPROX)



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

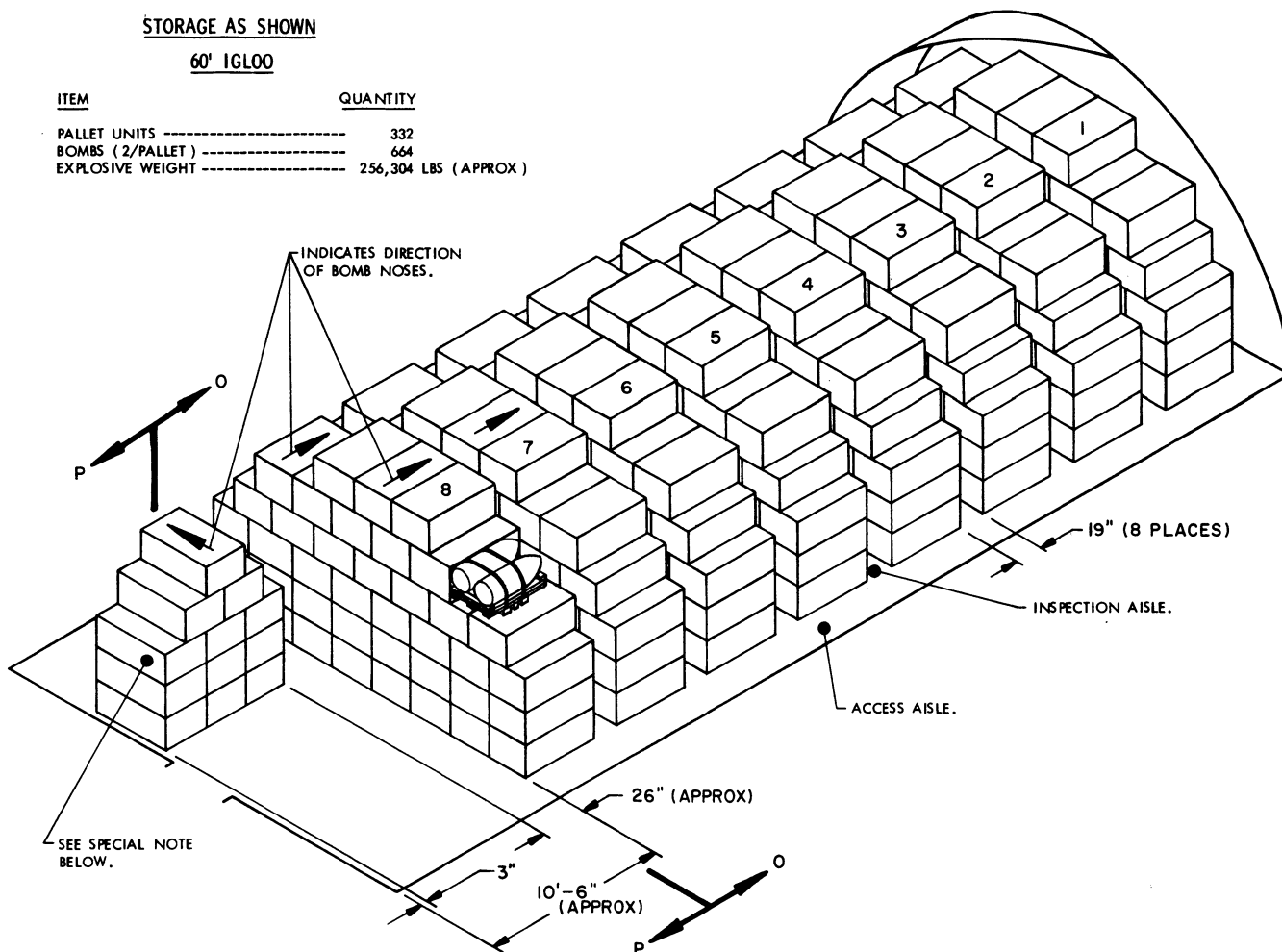
BILL OF MATERIAL PER STACK		
LUMBER	LINEAR FEET	BOARD FEET
2" X 4"	286	191



STORAGE AS SHOWN

60' IGLOO

ITEM	QUANTITY
PALLET UNITS -----	332
BOMBS (2/PALLET) -----	664
EXPLOSIVE WEIGHT -----	256,304 LBS (APPROX)



ISOMETRIC VIEW

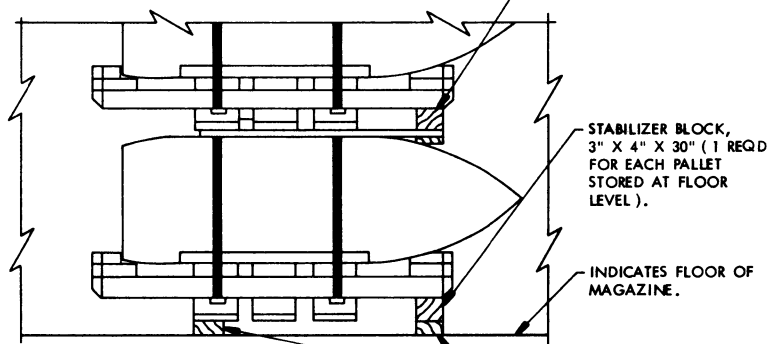
(60' IGLOO)

SPECIAL NOTE:

CAUTION: PALLET UNITS WILL NOT BE STACKED MORE THAN THREE (3) HIGH WITHOUT STAGGER-STACKING THE UPPER LAYERS AS SHOWN.

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

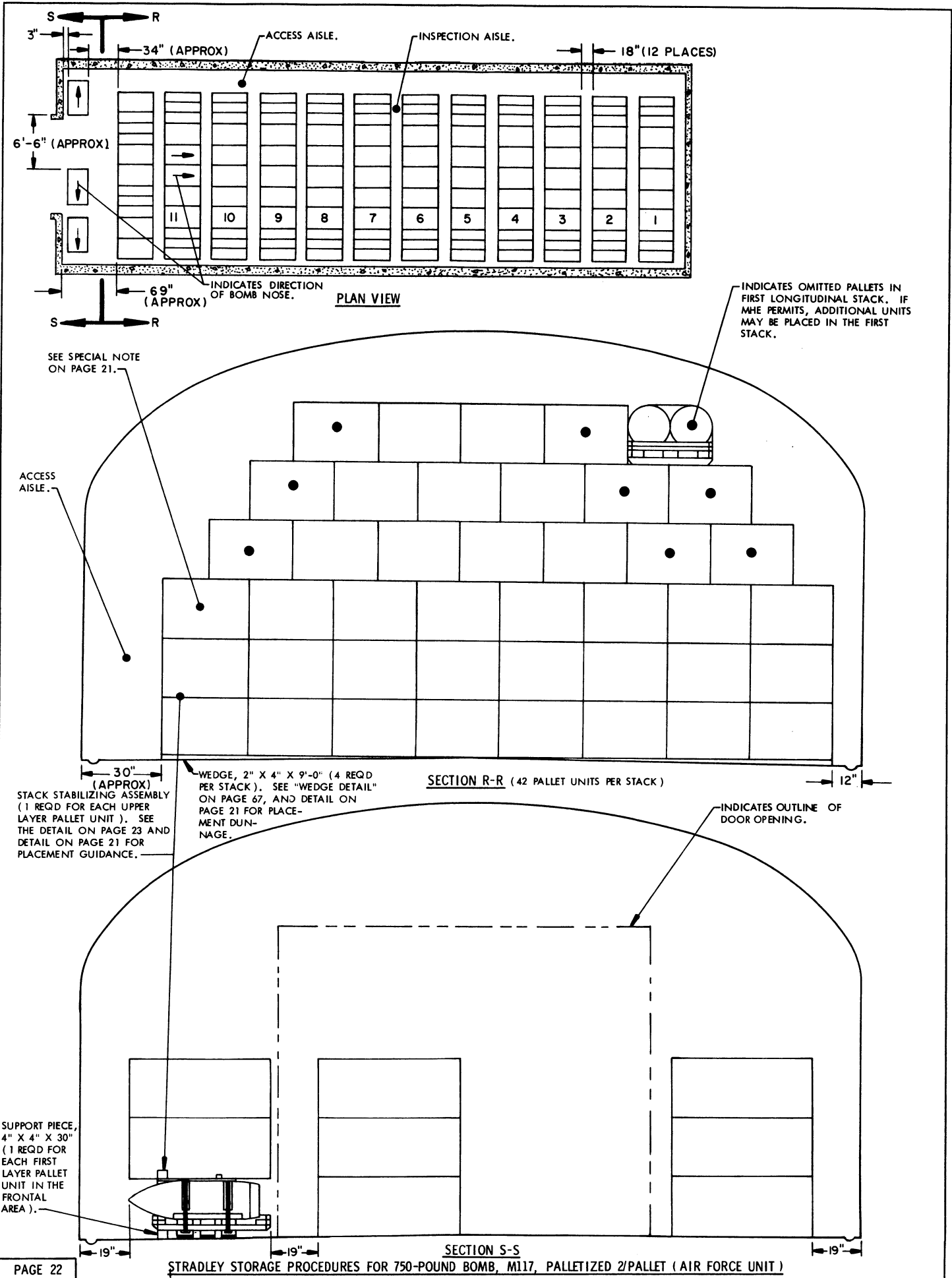
STACK STABILIZING ASSEMBLY (1 REQD FOR EACH PALLET STORED ABOVE FLOOR LEVEL). SEE DETAIL ON PAGE 23.



PLACEMENT OF WEDGES AND DUNNAGE

WEDGE, 2" X 4" X 9'-0". SEE "WEDGE DETAIL" ON PAGE 67. ALIGN THE WEDGE UNDER THE BASE END SKID AS SHOWN WITH THE SIDE OF THE WEDGE ALIGNED ON THE SIDE OF THE SKID.

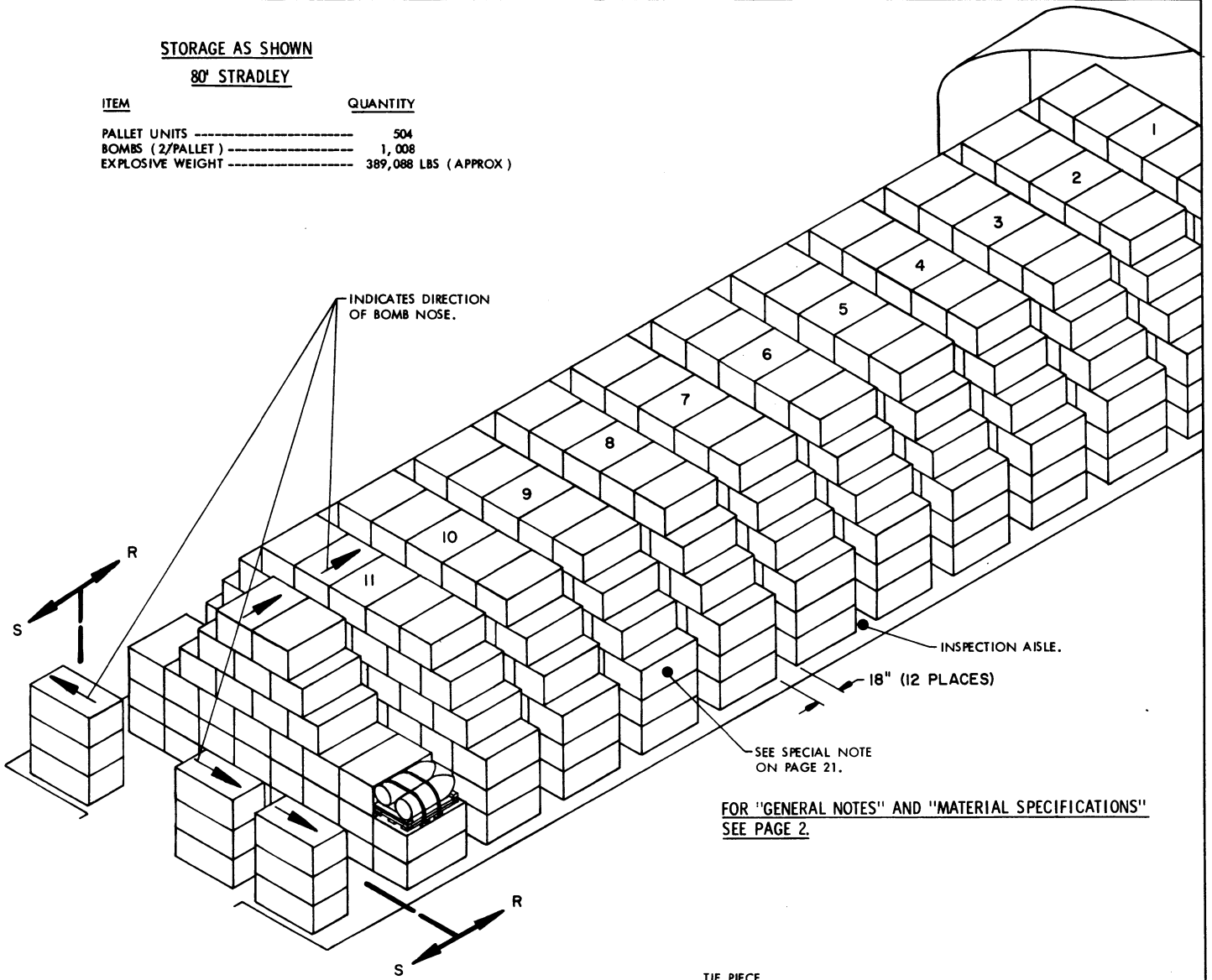
BILL OF MATERIAL PER STACK		
LUMBER	LINEAR FEET	BOARD FEET
1" X 2"	54	9
1" X 4"	240	80
3" X 4"	100	100
NAILS		POUNDS
4d (1-1/2")	128	1/2
12d (3-1/4")	128	2-1/4
WEDGE, 9'-0" -----		4 REQD



STORAGE AS SHOWN

80' STRADLEY

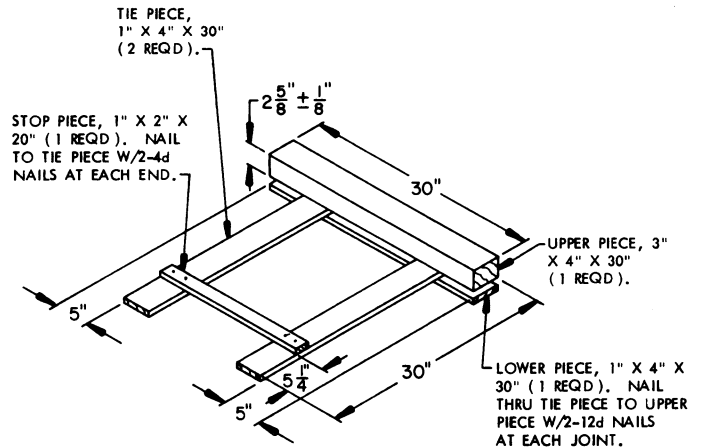
ITEM	QUANTITY
PALLET UNITS -----	504
BOMBS (2/PALLET) -----	1,008
EXPLOSIVE WEIGHT -----	389,088 LBS (APPROX)



ISOMETRIC VIEW

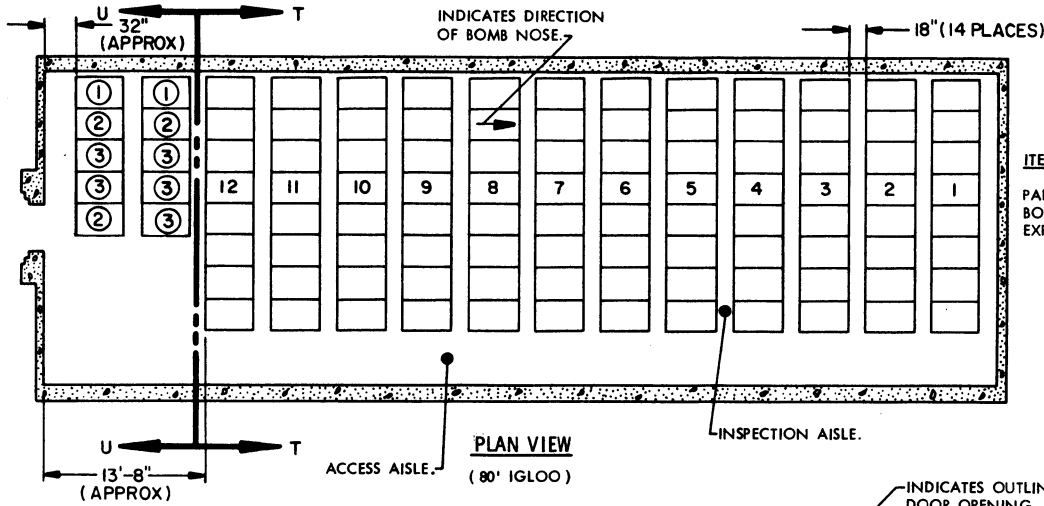
FOR "GENERAL NOTES" AND "MATERIAL SPECIFICATIONS" SEE PAGE 2.

BILL OF MATERIAL PER STACK		
LUMBER	LINEAR FEET	BOARD FEET
1" X 2"	57	10
1" X 4"	255	85
3" X 4"	105	105
NAILS	NO. REQD	POUNDS
4d (1-1/2")	136	1/2
12d (3-1/4")	136	2-1/2
WEDGE, 9'-0" -----	4 REQD	



STACK STABILIZING ASSEMBLY

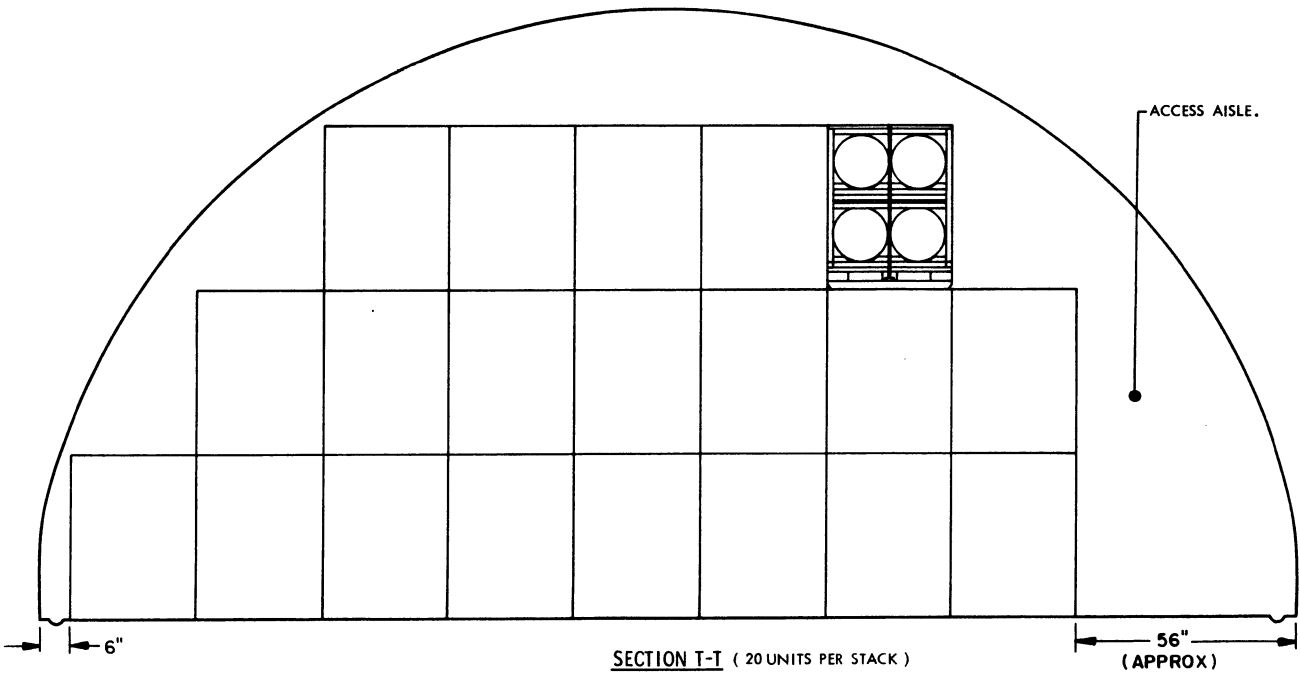
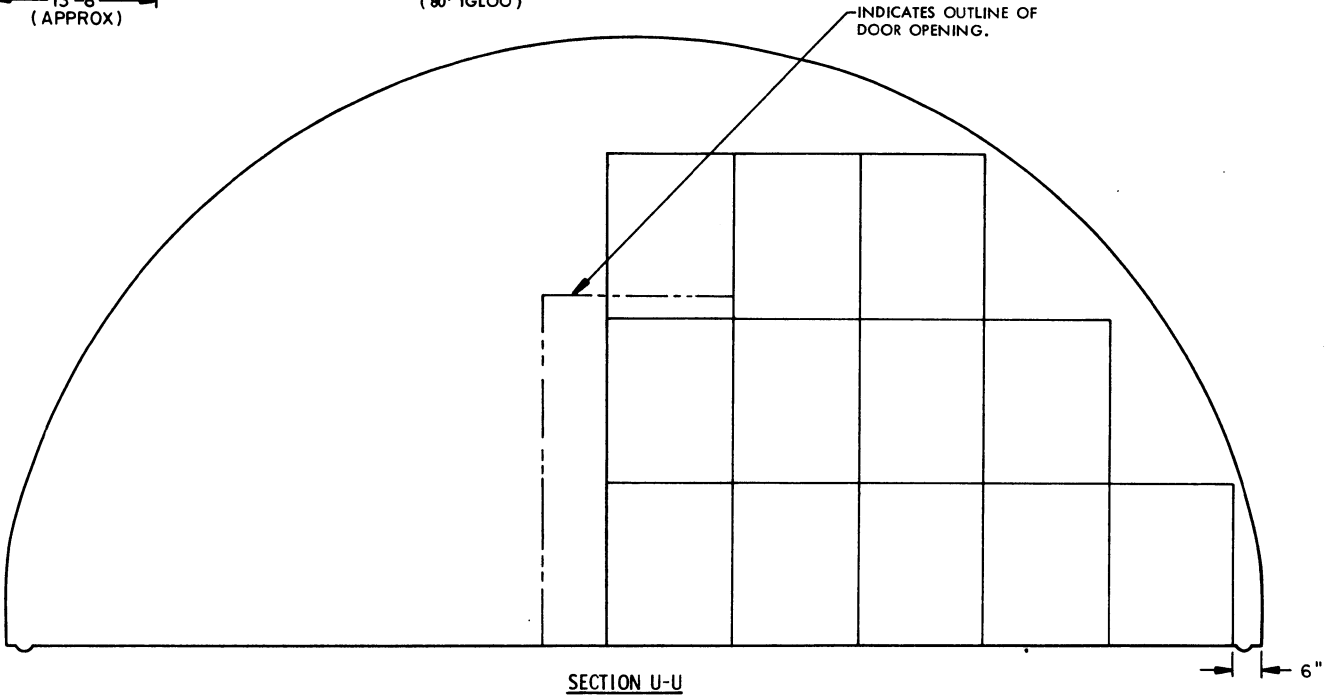
ONE ASSEMBLY AS SHOWN IS REQUIRED FOR EACH PALLET UNIT, EXCEPT FIRST-LAYER UNITS. NOTE THAT IF 3" X 4" MATERIAL IS NOT AVAILABLE, THE "UPPER PIECE" CAN BE MADE BY LAMINATING MATERIAL OF OTHER THICKNESSES, SUCH AS PROVIDED BY 2" X 4" AND 1" X 4" PIECES.



STORAGE AS SHOWN

80' IGLOO

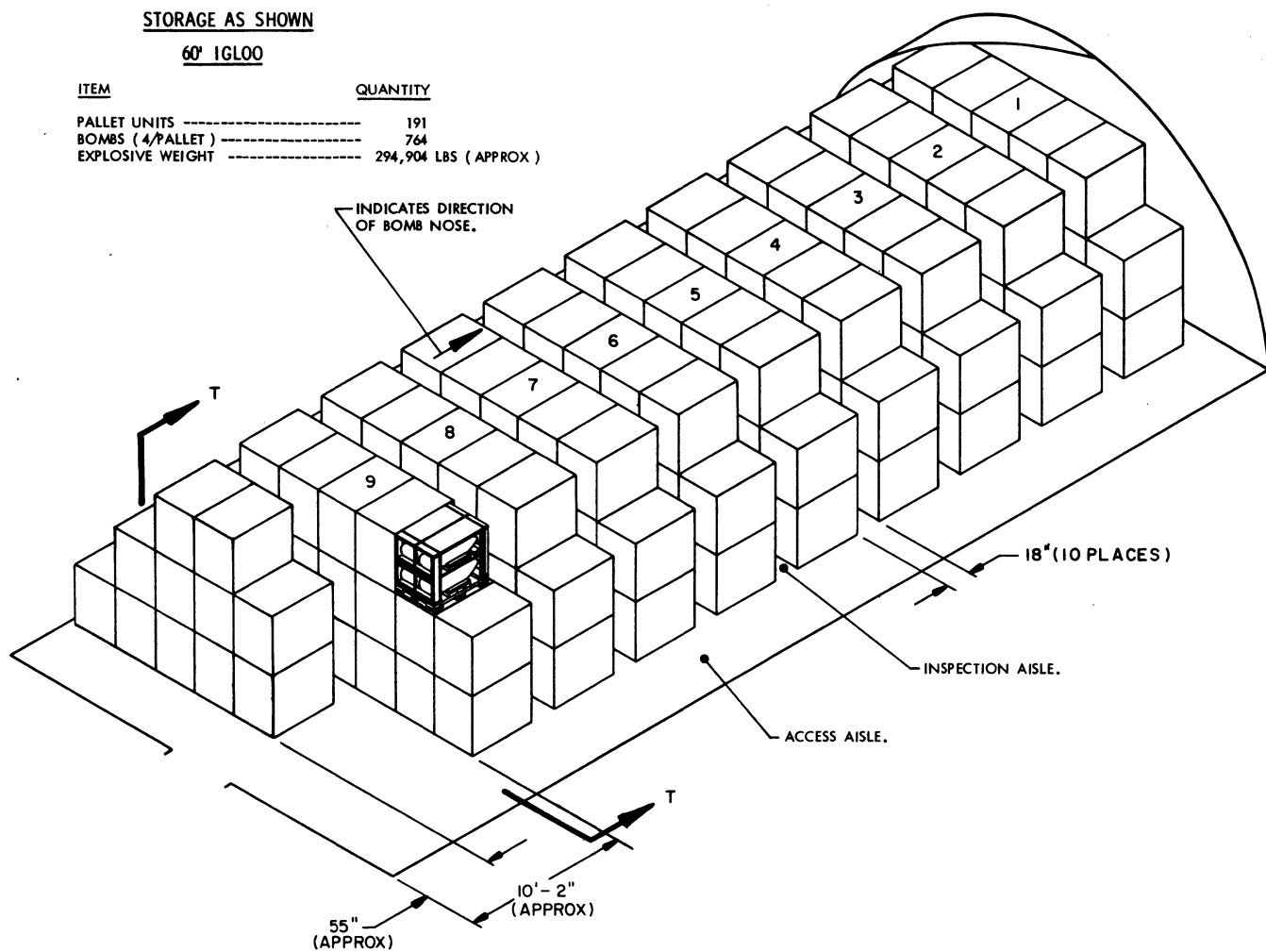
ITEM	QUANTITY
PALLET UNITS -----	263
BOMBS (4/PALLET) -----	1,052
EXPLOSIVE WEIGHT -----	406,072 LBS (APPROX)



STORAGE AS SHOWN

60' IGLOO

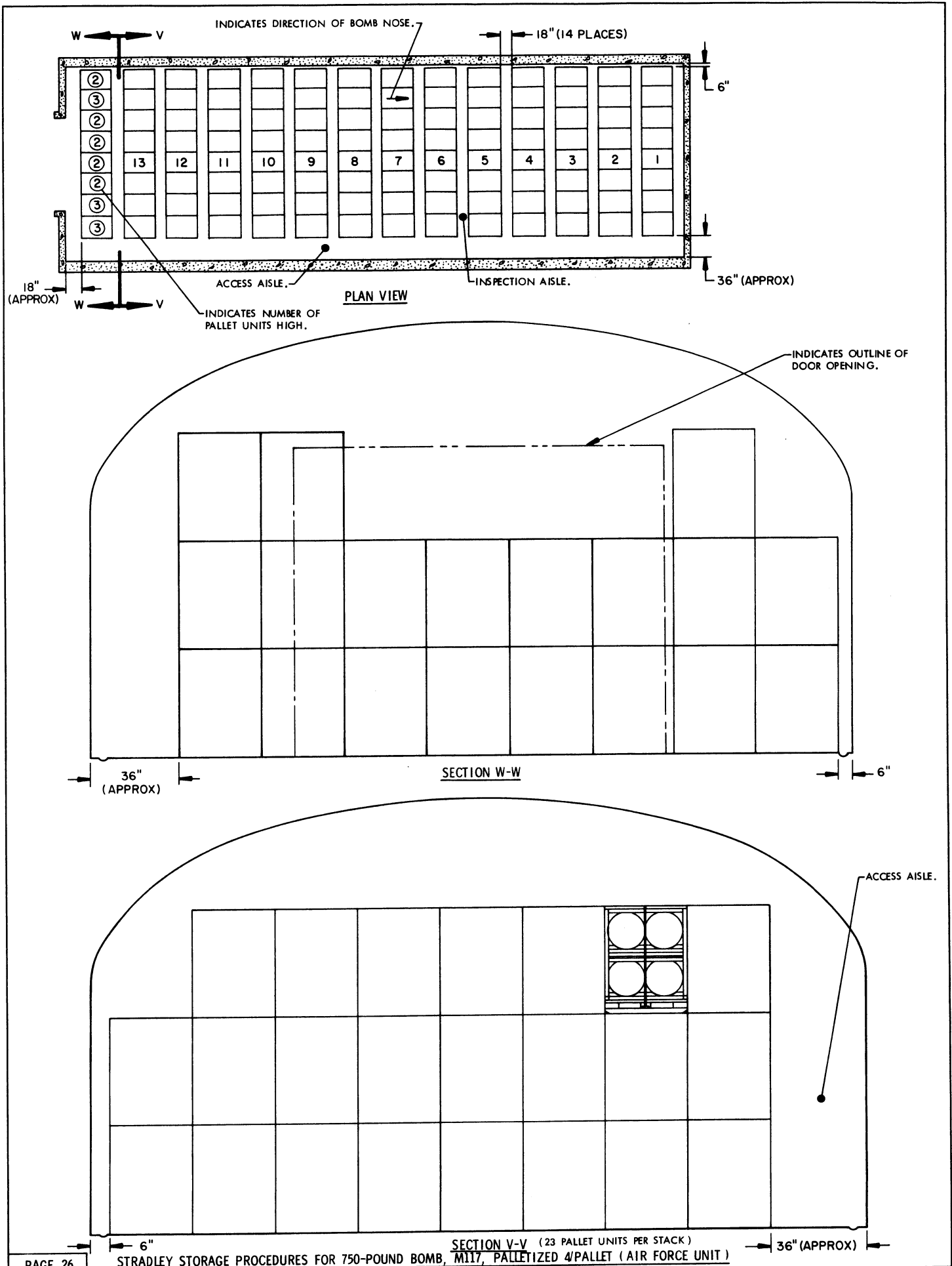
ITEM	QUANTITY
PALLET UNITS -----	191
BOMBS (4/PALLET) -----	764
EXPLOSIVE WEIGHT -----	294,904 LBS (APPROX)



ISOMETRIC VIEW

(60' IGLOO)

FOR "GENERAL NOTES" SEE PAGE 2.

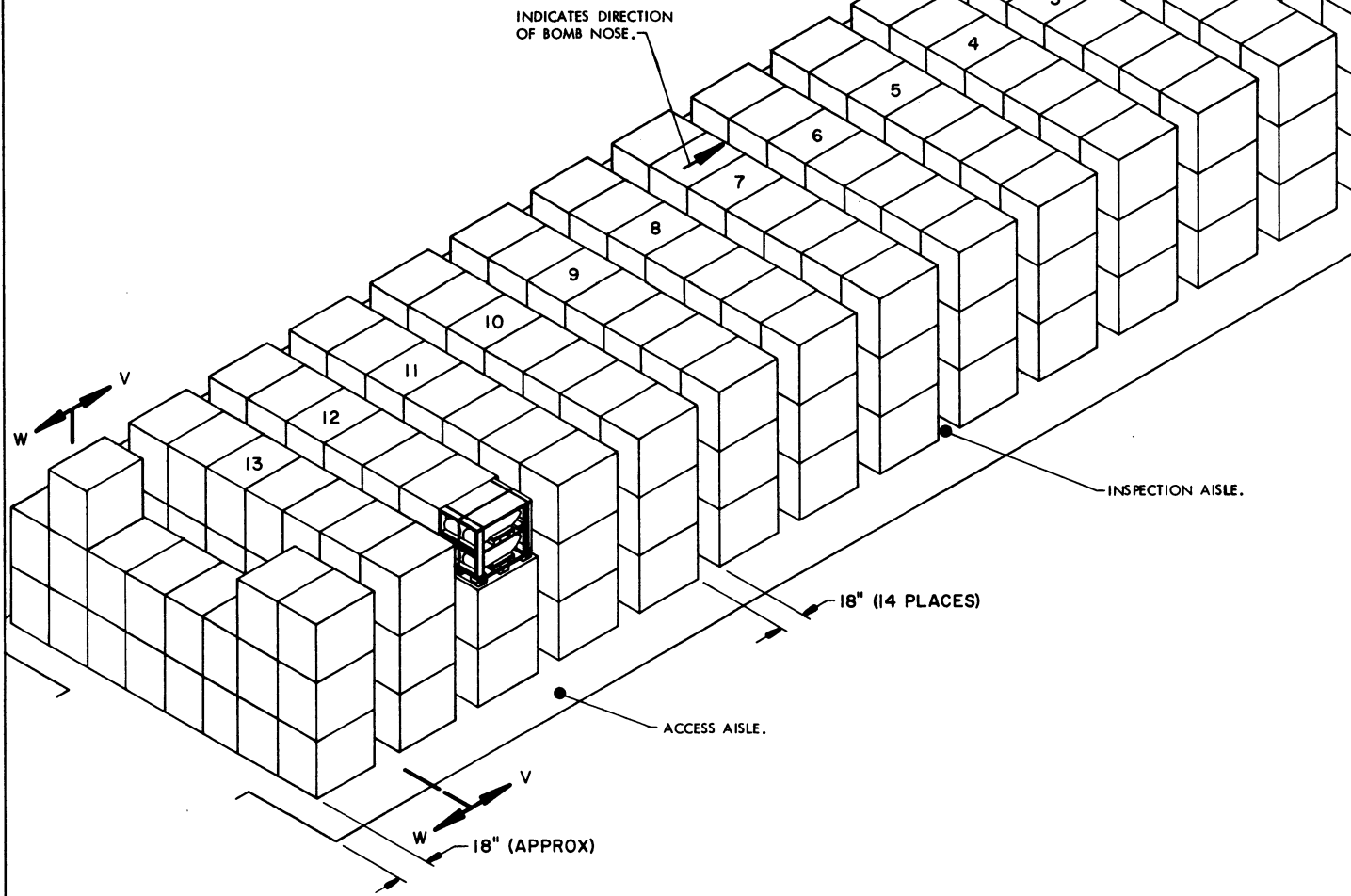


STORAGE AS SHOWN

80' STRADLEY

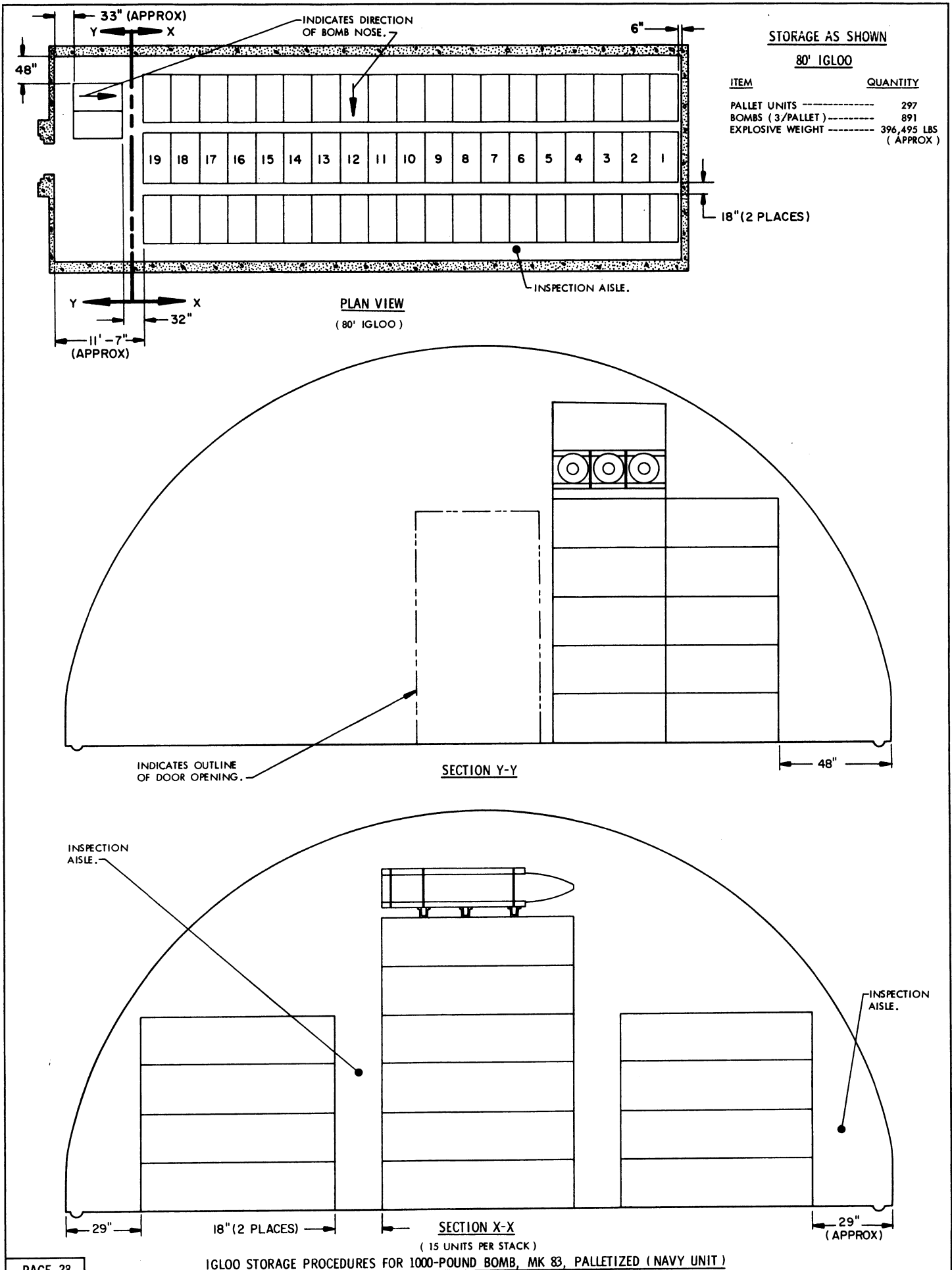
<u>ITEM</u>	<u>QUANTITY</u>
PALLET UNITS -----	318
BOMBS (4/PALLET) -----	1,272
EXPLOSIVE WEIGHT -----	490,992 LBS (APPROX)

INDICATES DIRECTION OF BOMB NOSE.



ISOMETRIC VIEW

FOR "GENERAL NOTES" SEE PAGE 2.

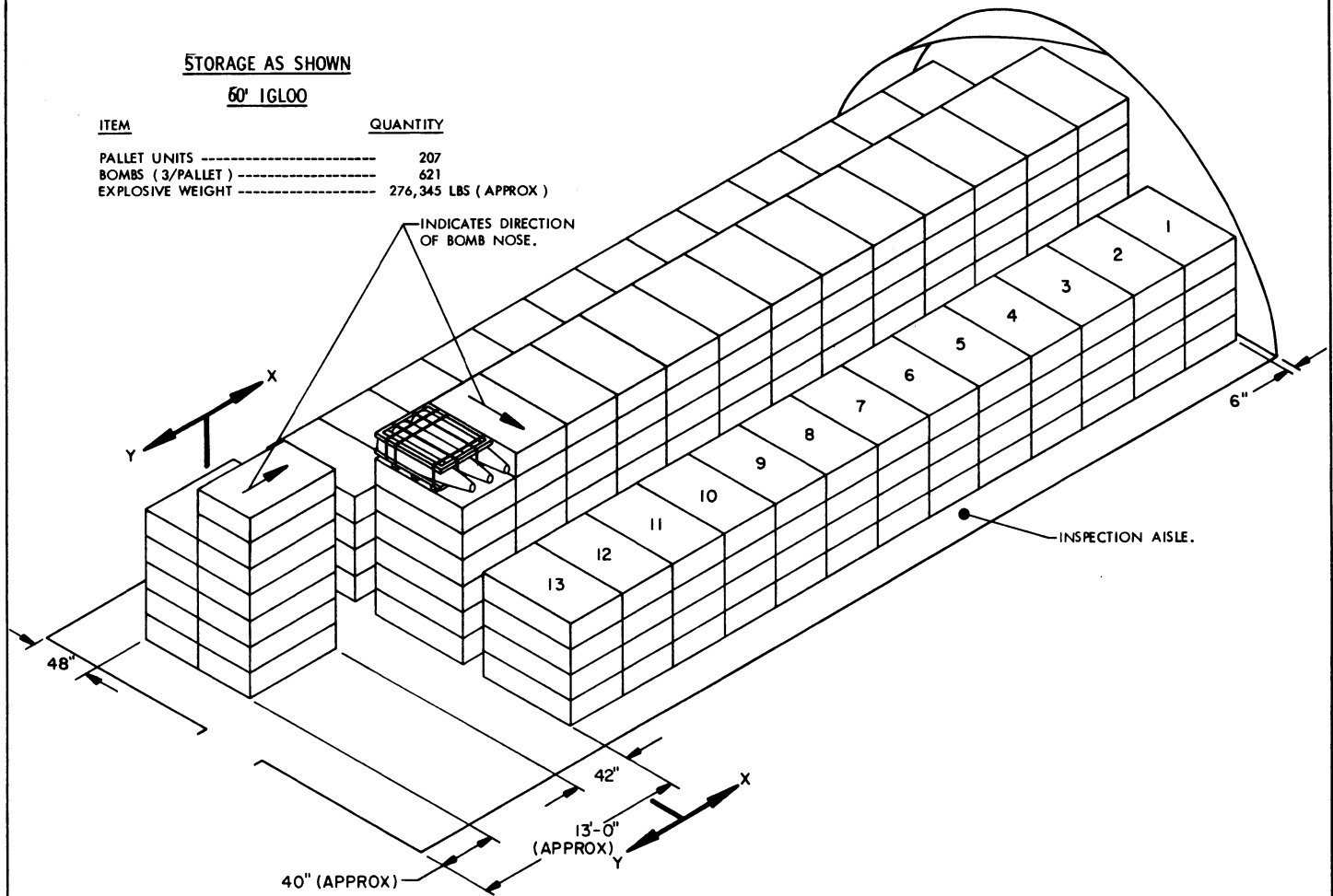


STORAGE AS SHOWN

60' IGLOO

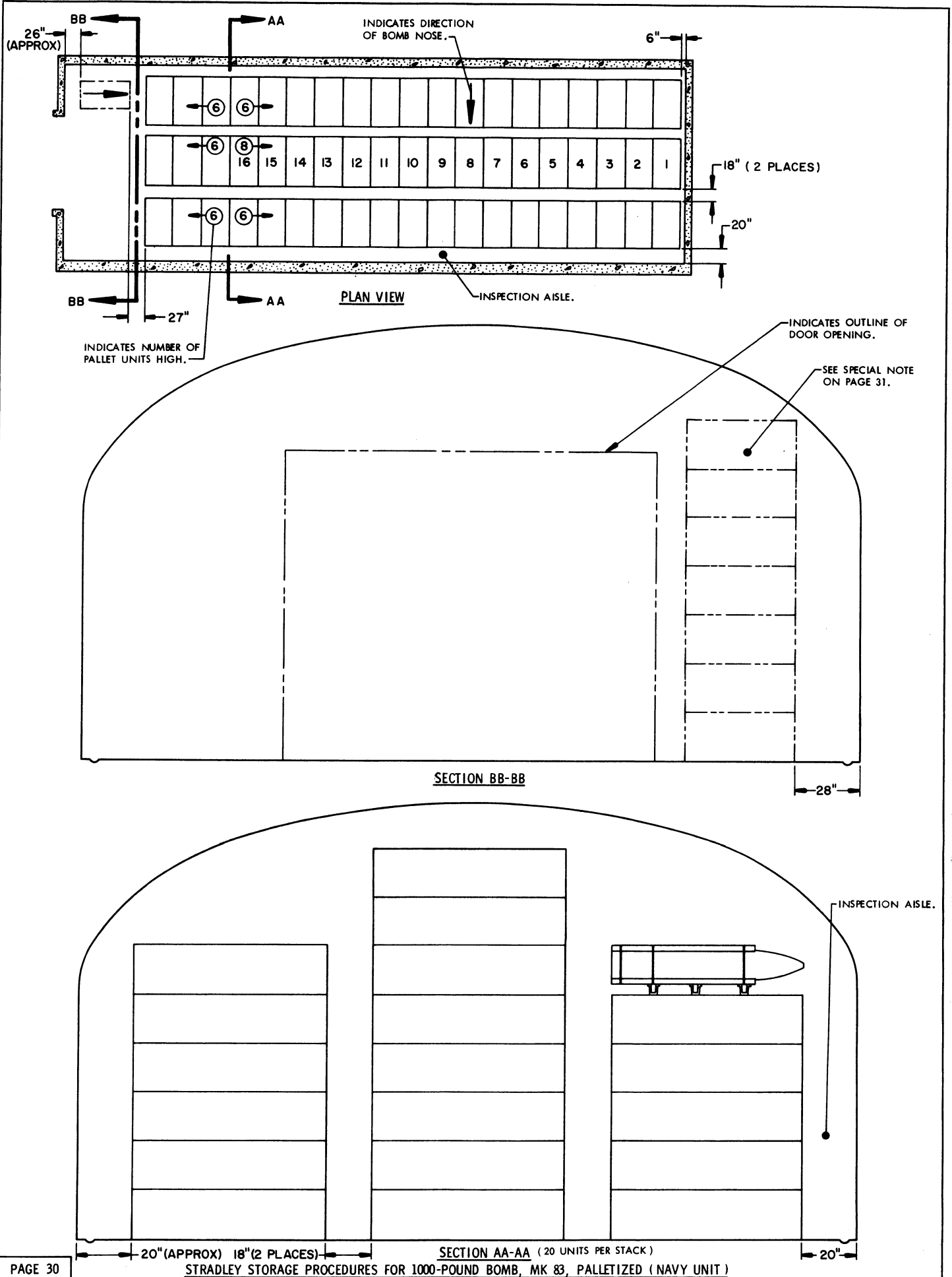
ITEM	QUANTITY
PALLET UNITS -----	207
BOMBS (3/PALLET) -----	621
EXPLOSIVE WEIGHT -----	276,345 LBS (APPROX)

INDICATES DIRECTION OF BOMB NOSE.



ISOMETRIC VIEW
(60' IGLOO)

FOR "GENERAL NOTES" SEE PAGE 2.

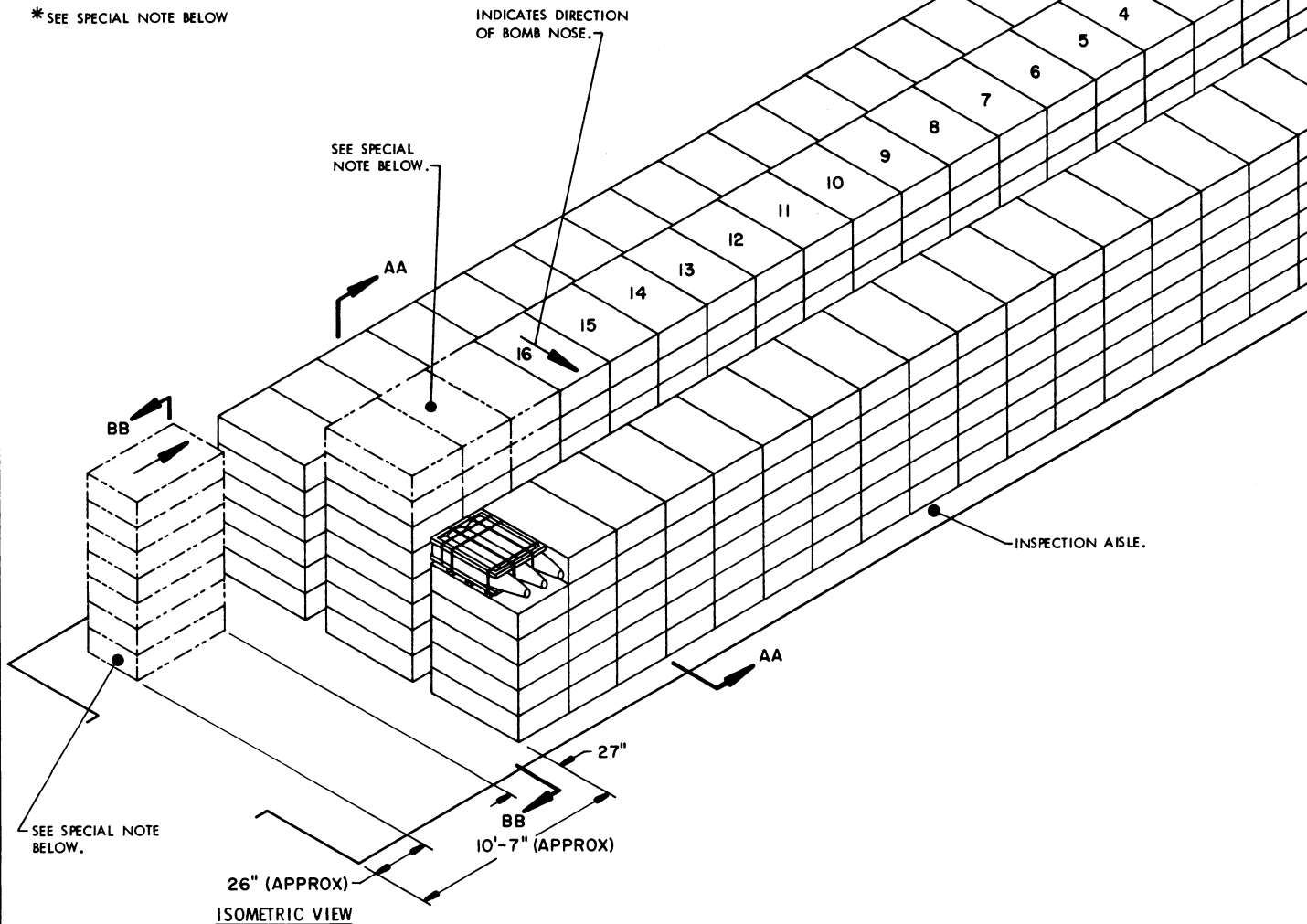


STORAGE AS SHOWN*

80' STRADLEY

ITEM	QUANTITY
PALLET UNITS -----	374
BOMBS (3/PALLET) -----	1,122
EXPLOSIVE WEIGHT -----	499,290 LBS (APPROX)

*SEE SPECIAL NOTE BELOW



ISOMETRIC VIEW

SPECIAL NOTE:

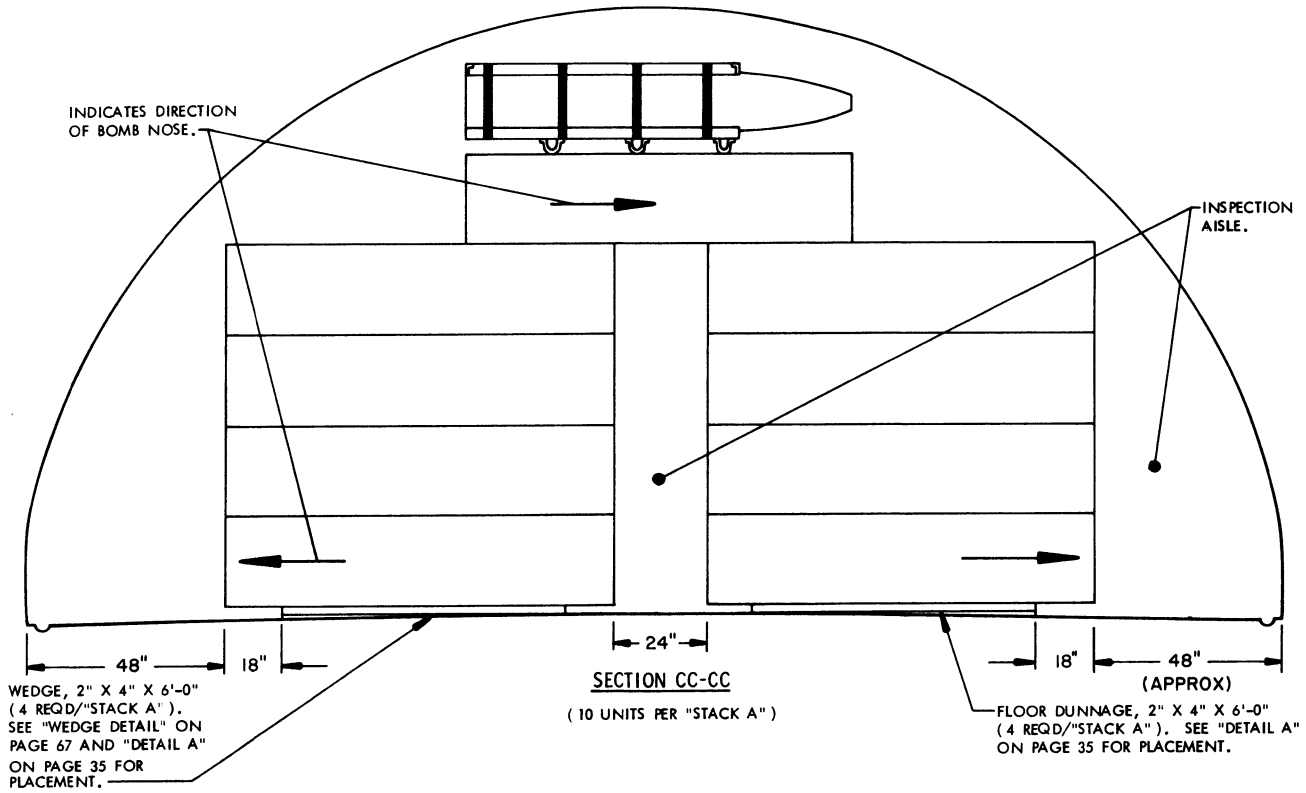
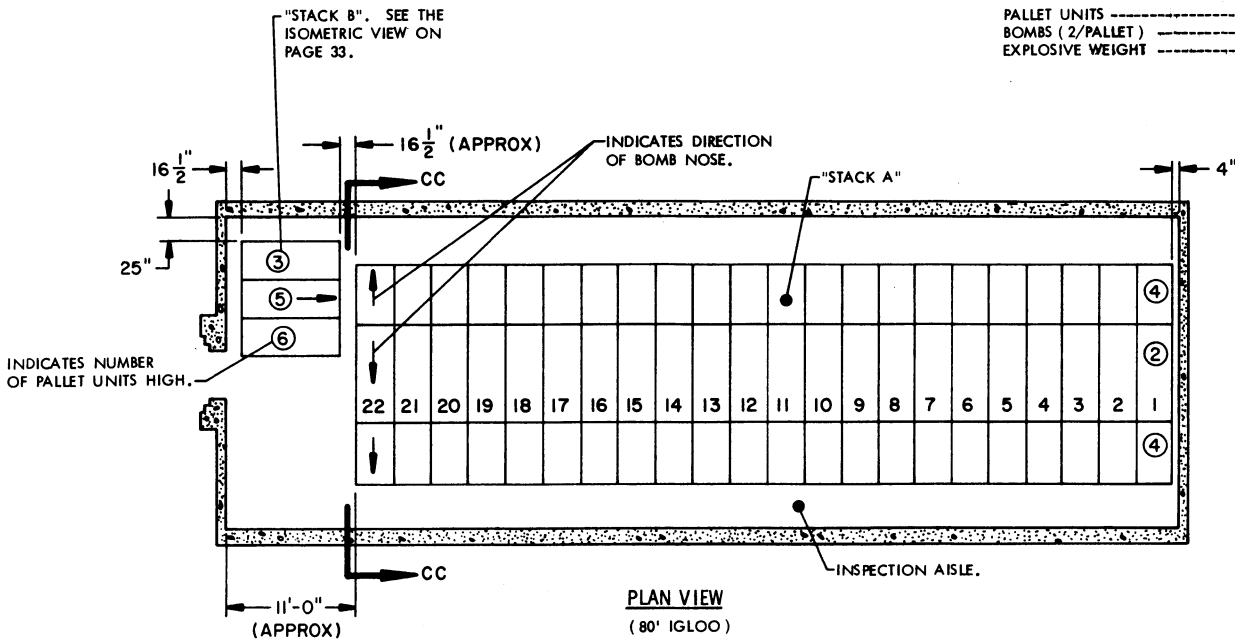
THE EXPLOSIVE WEIGHT OF THE "STORAGE AS SHOWN" IS BASED ON A BOMB HAVING 445 POUNDS EXPLOSIVE CONTENT. IF BOMBS WITH LESSER EXPLOSIVE CONTENT ARE BEING STORED, IT MAY BE POSSIBLE TO STORE ADDITIONAL PALLET UNITS AT THE FRONT OF THE MAGAZINE AS TYPICALLY SHOWN BY PHANTOM LINES IN THE STORAGE VIEWS. HOWEVER, THE EXPLOSIVE LIMIT FOR A MAGAZINE MUST NOT BE EXCEEDED.

FOR "GENERAL NOTES" SEE PAGE 2.

STORAGE AS SHOWN

80' IGLOO

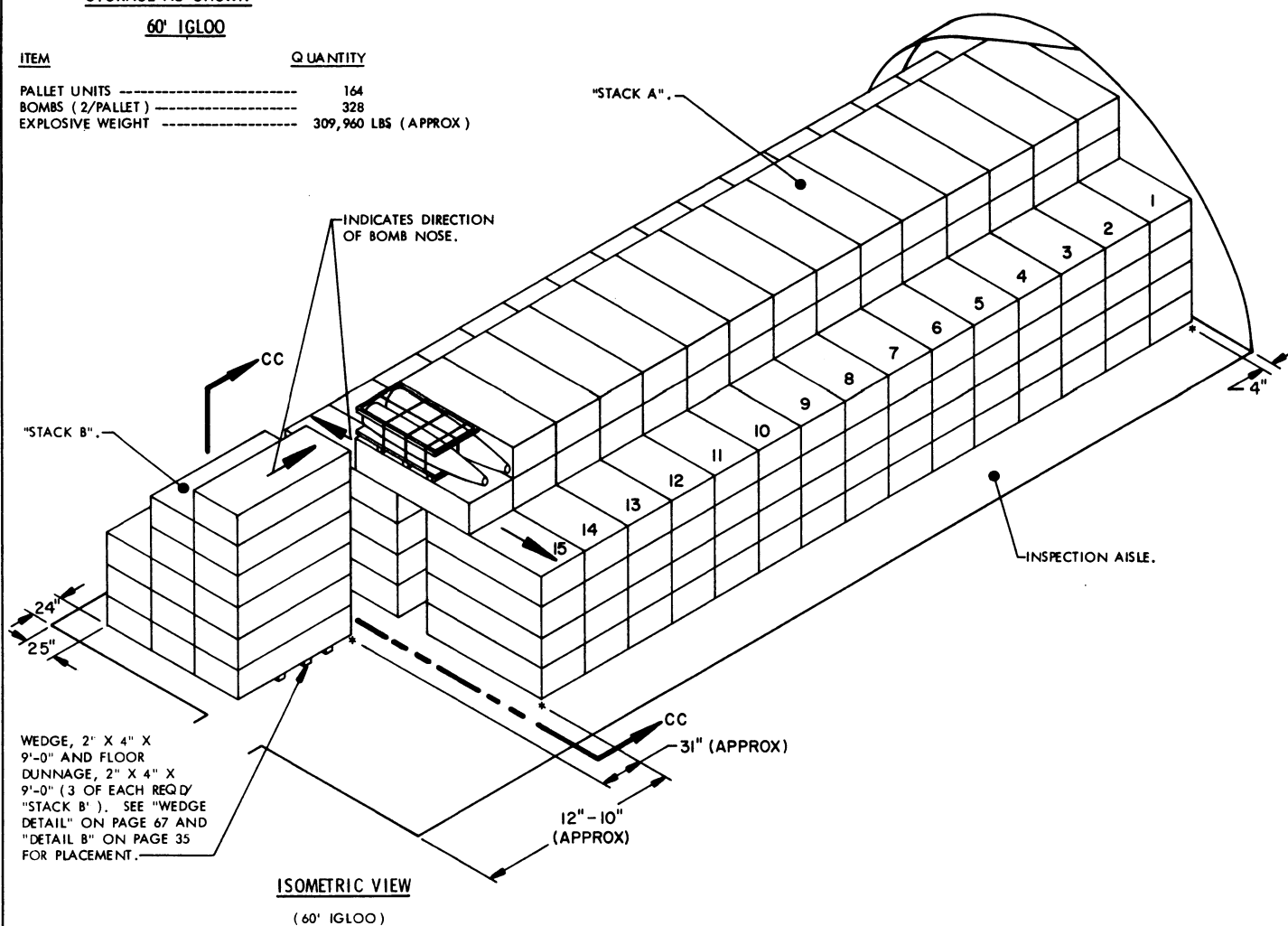
ITEM	QUANTITY
PALLET UNITS -----	234
BOMBS (2/PALLET) -----	468
EXPLOSIVE WEIGHT -----	442,260 LBS (APPROX)



STORAGE AS SHOWN

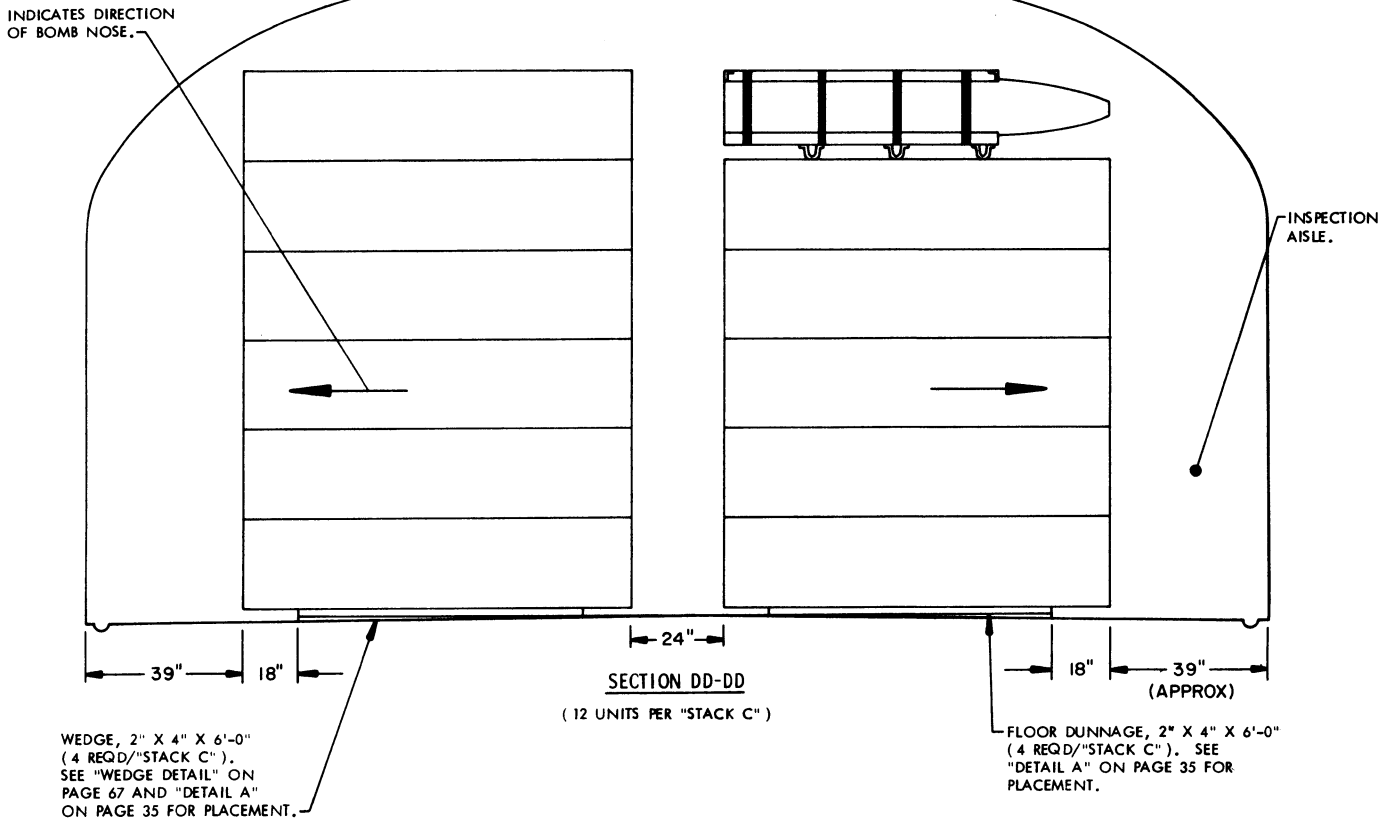
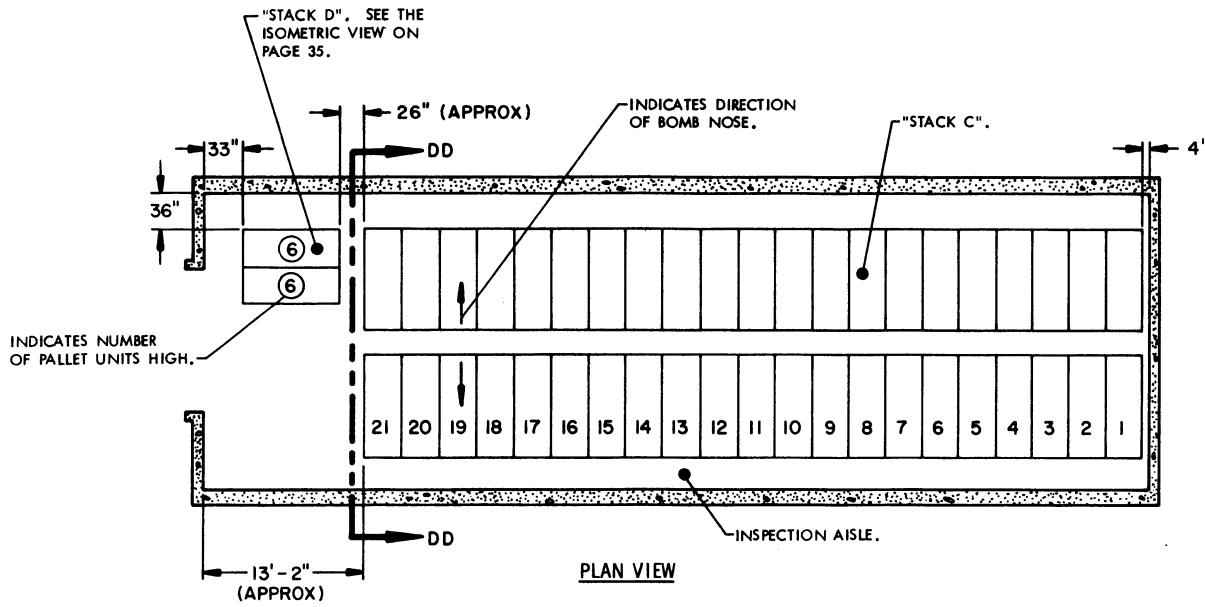
60' IGLOO

ITEM	QUANTITY
PALLET UNITS -----	164
BOMBS (2/PALLET) -----	328
EXPLOSIVE WEIGHT -----	309,960 LBS (APPROX)



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

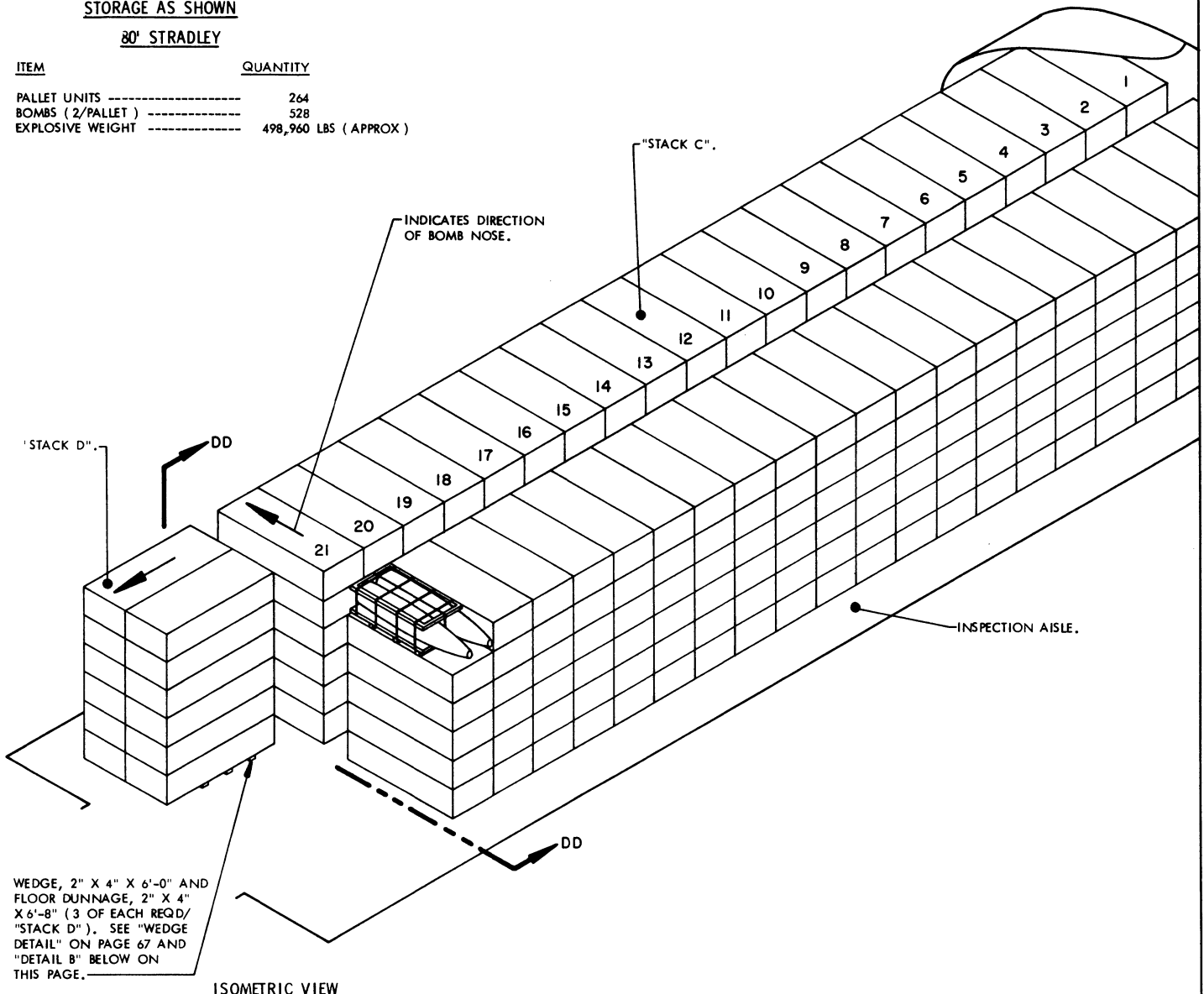
BILL OF MATERIAL PER STACK			
STACK	LUMBER	LINEAR FEET	BOARD FEET
A	2" X 4'	24	16
B	2" X 4'	27	18
A	WEDGE, 6'-0" -----	4	REQD
B	WEDGE, 9'-0" -----	3	REQD



STORAGE AS SHOWN

80' STRADLEY

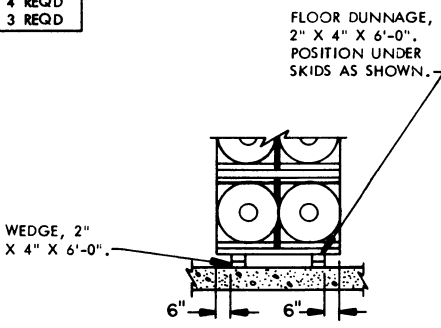
ITEM	QUANTITY
PALLET UNITS -----	264
BOMBS (2/PALLET) -----	528
EXPLOSIVE WEIGHT -----	498,960 LBS (APPROX)



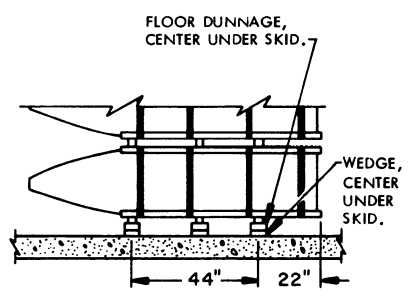
ISOMETRIC VIEW

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

BILL OF MATERIAL PER STACK			
STACK	LUMBER	LINEAR FEET	BOARD FEET
C	2" X 4"	24	16
D	2" X 4"	20	14
C	WEDGE, 6'-0" -----	4 REQD	
D	WEDGE, 6'-0" -----	3 REQD	



DETAIL A
PLACEMENT OF WEDGES AND FLOOR DUNNAGE FOR "STACK A" AND "STACK C".



DETAIL B
PLACEMENT OF WEDGES AND FLOOR DUNNAGE FOR "STACK B" AND "STACK D".

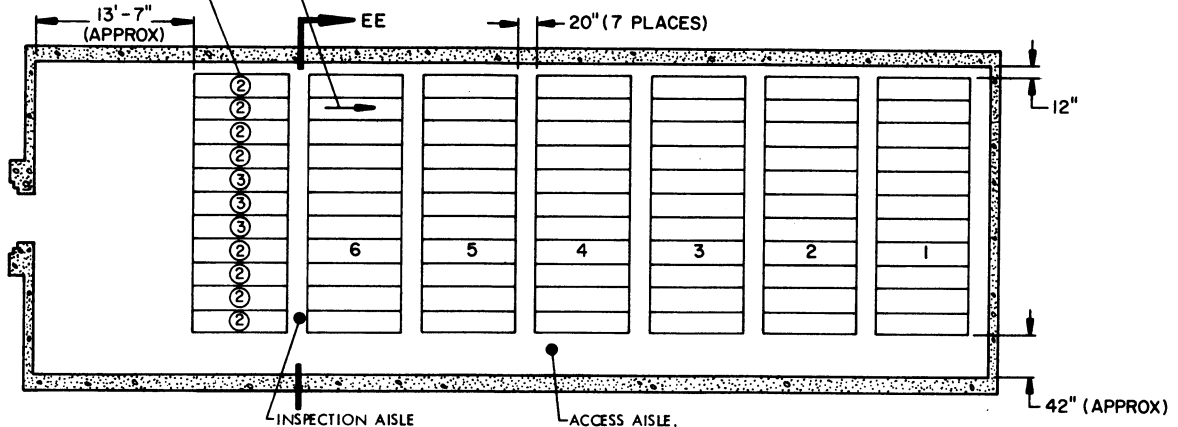
STORAGE AS SHOWN

80' IGLOO

ITEM	QUANTITY
PALLET UNITS -----	253
BOMBS (1/PALLET) -----	253
EXPLOSIVE WEIGHT -----	499,675 LBS (APPROX)

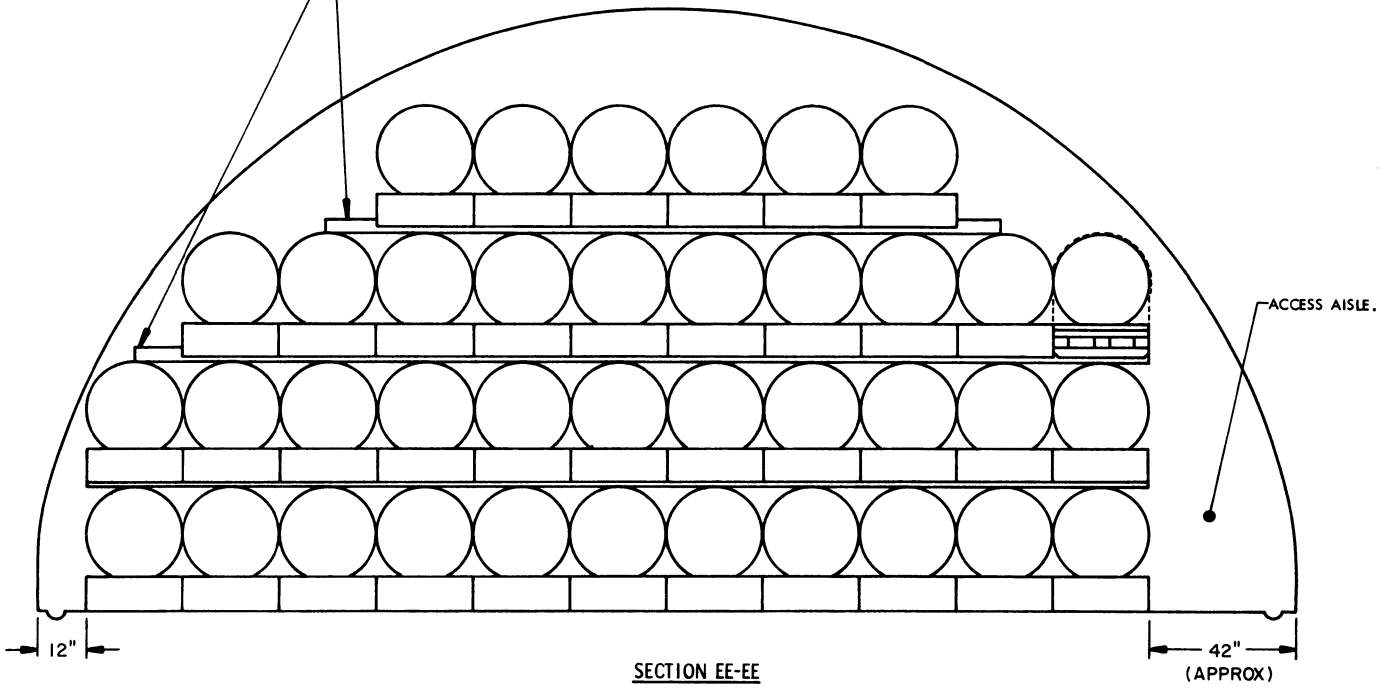
INDICATES NUMBER OF PALLET UNITS HIGH.

INDICATES DIRECTION OF BOMB NOSE.



PLAN VIEW
(80' IGLOO)

INTERMEDIATE DUNNAGE, 4" X 4" X LENGTH TO SUIT (3 REQD PER LAYER).
SEE THE "PLACEMENT OF DUNNAGE ON BOMBS" DETAIL ON PAGE 37.

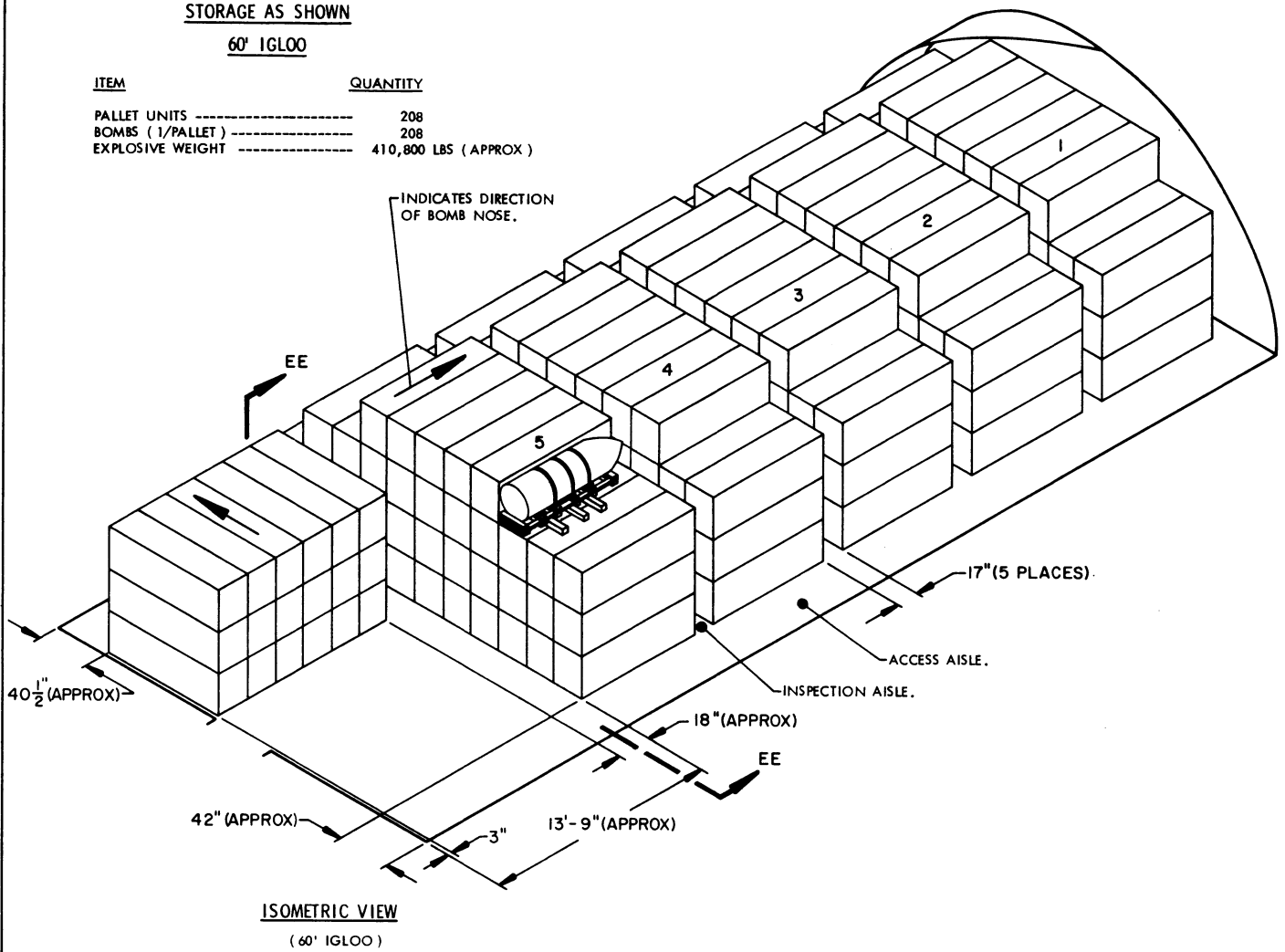


SECTION EE-EE
(38 UNITS PER STACK)

STORAGE AS SHOWN

60' IGLOO

ITEM	QUANTITY
PALLET UNITS -----	208
BOMBS (1/PALLET) -----	208
EXPLOSIVE WEIGHT -----	410,800 LBS (APPROX)



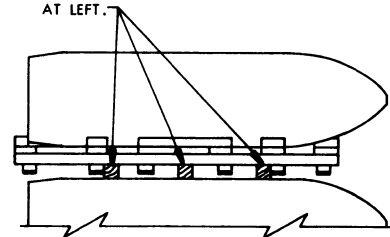
FOR "GENERAL NOTES" AND "MATERIAL SPECIFICATIONS" SEE PAGE 2.

BILL OF MATERIAL PER STACK		
LUMBER	LINEAR FEET	BOARD FEET
4" X 4"	171	228

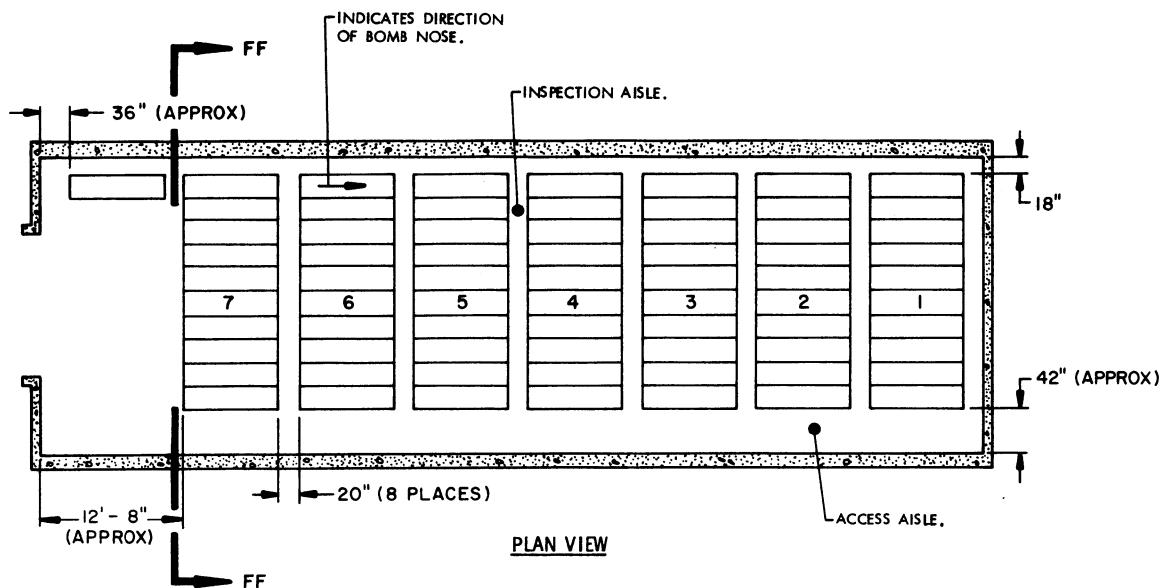
SPECIAL NOTE:

WHEN A LENGTH OF INTERMEDIATE DUNNAGE REQUIRES THE USE OF MORE THAN ONE PIECE OF MATERIAL, THE ENDS OF THE PIECES WILL BE BUTTED TOGETHER SO THAT THE JOINT WILL BE LOCATED BETWEEN BOMBS. THE JOINT MUST BE SPliced AT THE SIDE OF THE DUNNAGE PIECES WITH A 2" X 4" X 24" SPLICE PIECE CENTERED ON THE JOINT AND NAILED W/4-12d NAILS AT EACH END. THE JOINT IN ONE LENGTH OF DUNNAGE WITHIN A LAYER MUST BE STAGGERED FROM A JOINT IN AN ADJACENT LENGTH. ALSO, JOINTS OF INTERMEDIATE DUNNAGE FOR ONE LAYER OF BOMBS MUST BE STAGGERED FROM JOINTS OF AN ADJACENT LAYER.

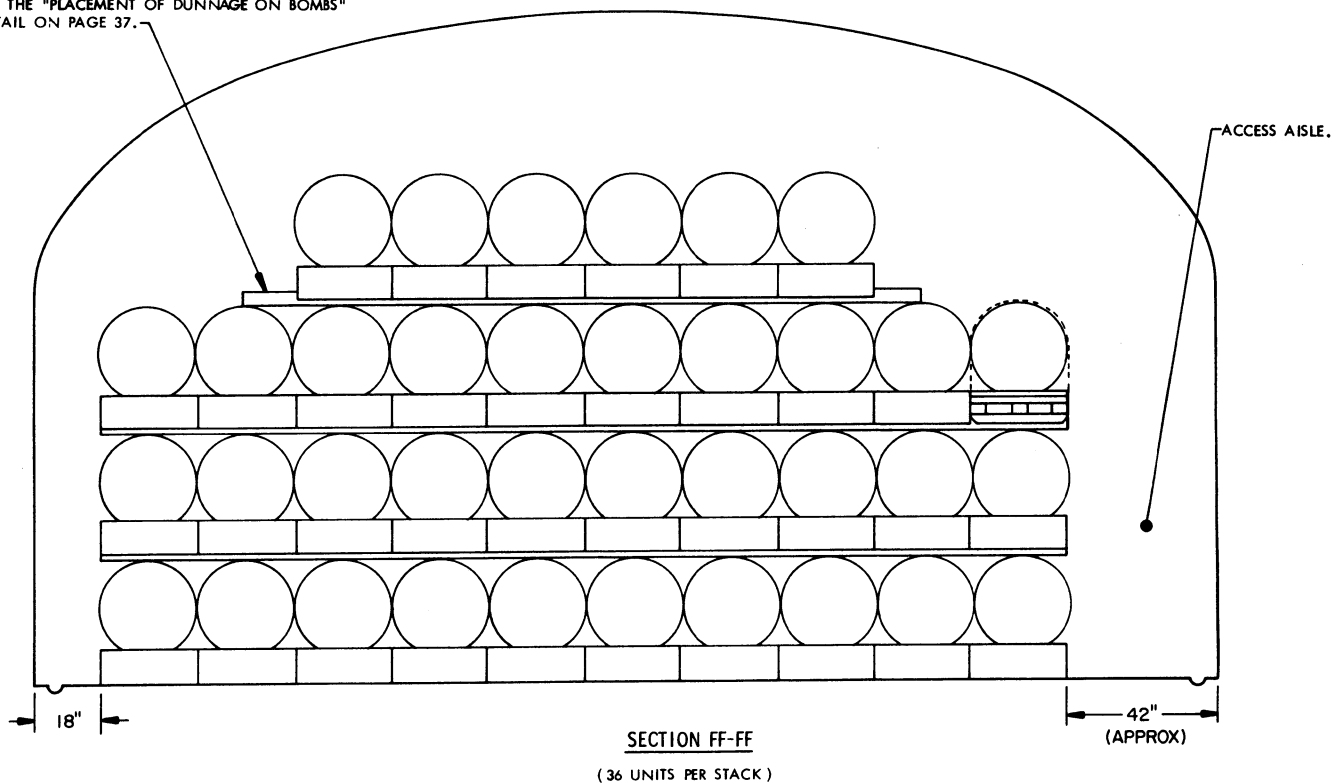
INTERMEDIATE DUNNAGE, 4" X 4" BY LENGTH TO SUIT (3 REQD PER LAYER). SEE THE SPECIAL NOTE AT LEFT.



PLACEMENT OF DUNNAGE ON BOMBS



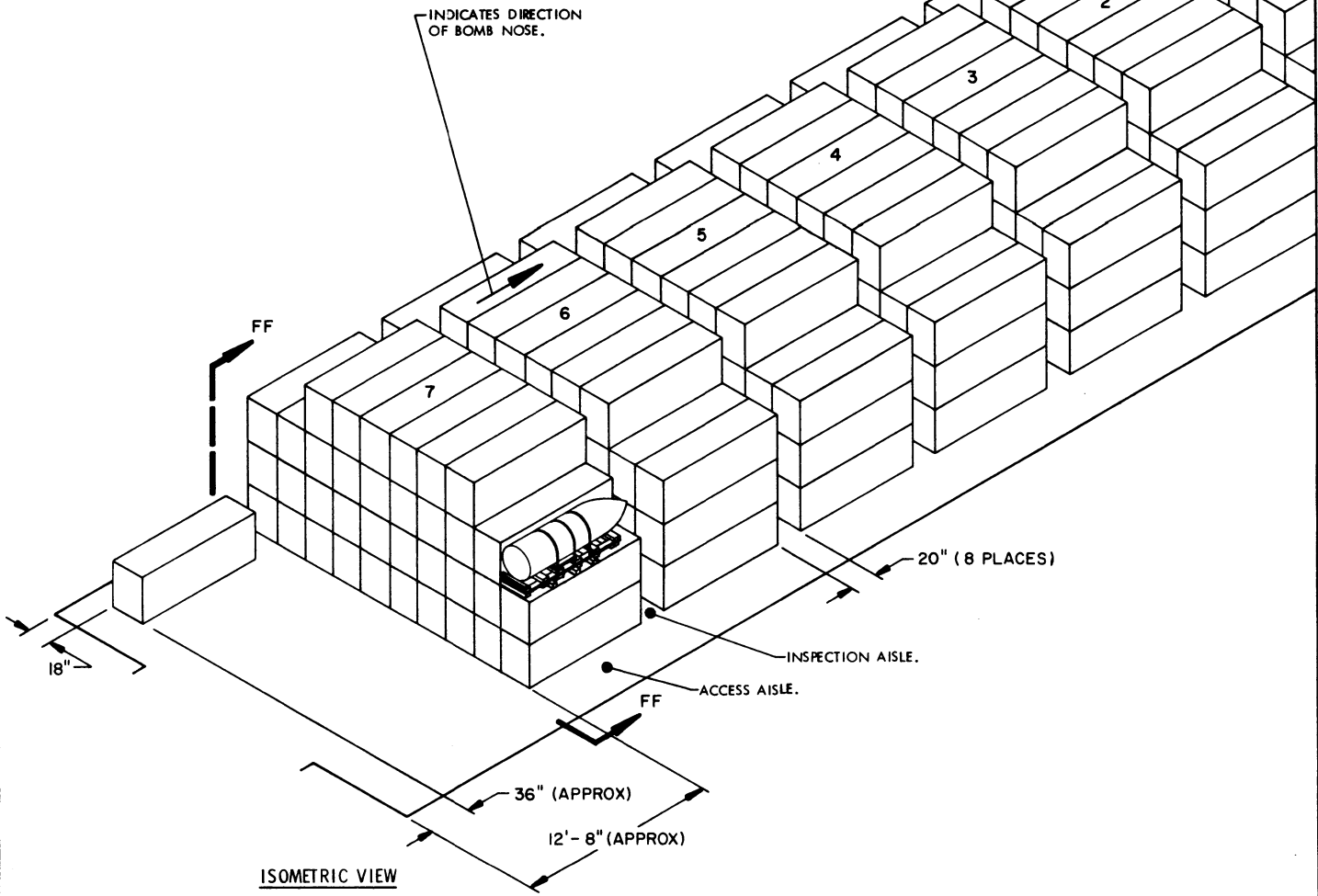
INTERMEDIATE DUNNAGE, 4" X 4" BY LENGTH TO SUIT (3 REQD PER LAYER).
SEE THE "PLACEMENT OF DUNNAGE ON BOMBS" DETAIL ON PAGE 37.



STORAGE AS SHOWN

80' STRADLEY

ITEM	QUANTITY
PALLET UNITS -----	253
BOMBS (1/PALLET) -----	253
EXPLOSIVE WEIGHT -----	499,675 LBS (APPROX)



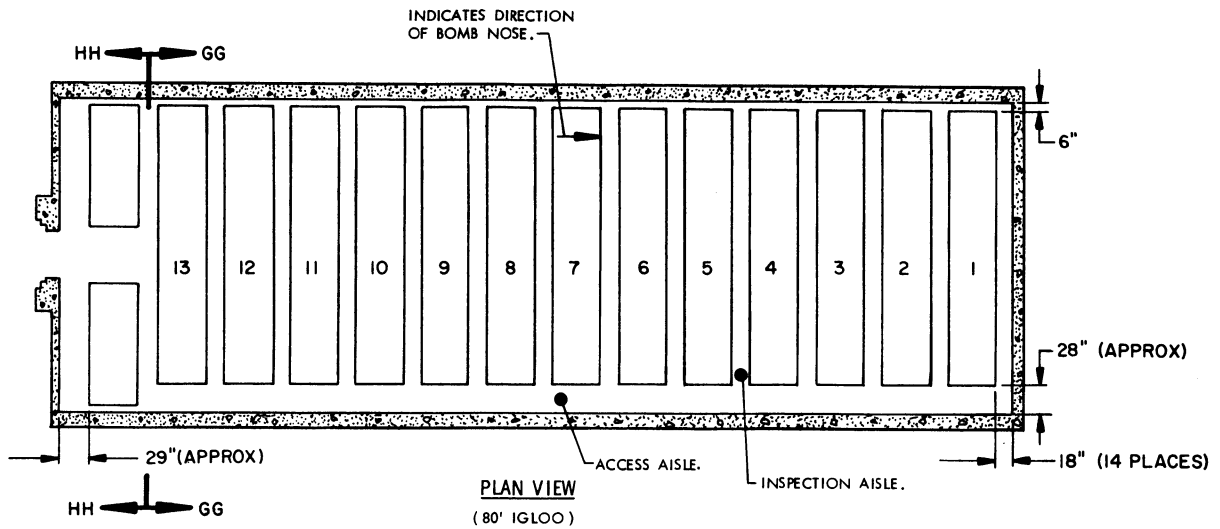
FOR "GENERAL NOTES" AND "MATERIAL SPECIFICATIONS" SEE PAGE 2.

BML OF MATERIAL PER STACK		
LUMBER	LINEAR FEET	BOARD FEET
4" X 4"	162	216

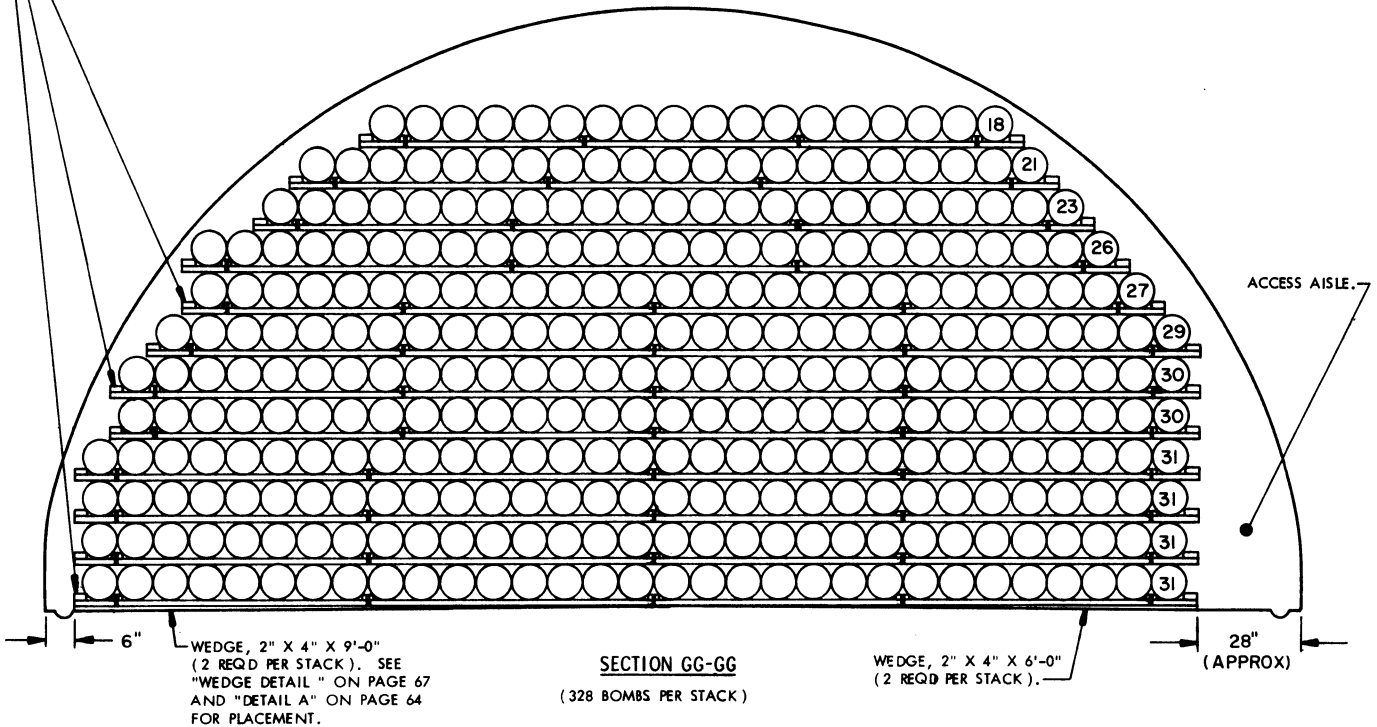
STORAGE AS SHOWN

80' IGLOO

ITEM	QUANTITY
BOMBS -----	4,518
EXPLOSIVE WEIGHT -----	451,800 LBS (APPROX)



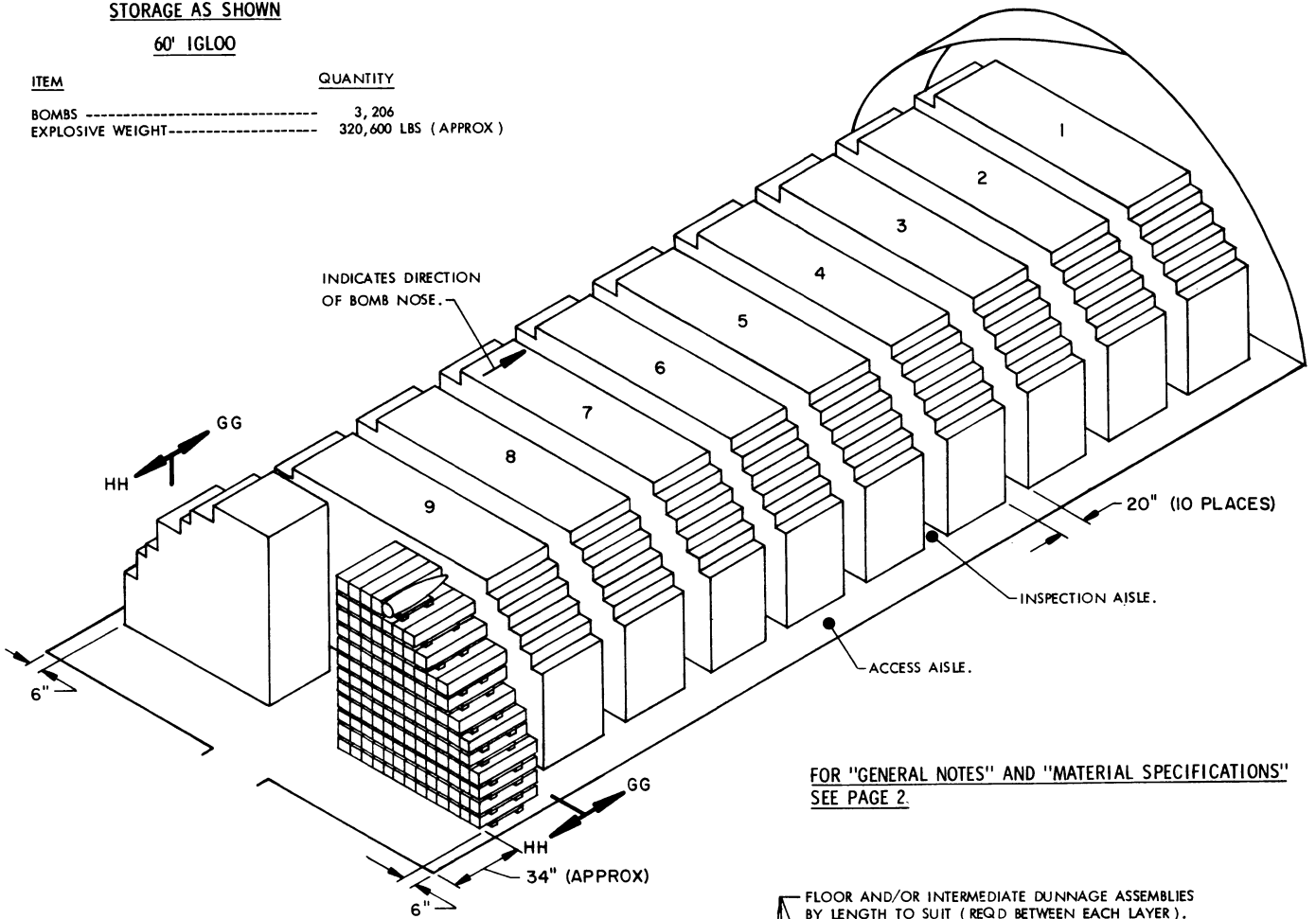
FLOOR AND/OR INTERMEDIATE DUNNAGE ASSEMBLIES BY LENGTH TO SUIT (REQD BETWEEN EACH LAYER). SEE THE "DUNNAGE ASSEMBLY A" DETAIL ON PAGE 65 AND "DETAIL A" ON PAGE 64 FOR PLACEMENT.



STORAGE AS SHOWN

60' IGLOO

ITEM	QUANTITY
BOMBS	3,206
EXPLOSIVE WEIGHT	320,600 LBS (APPROX)

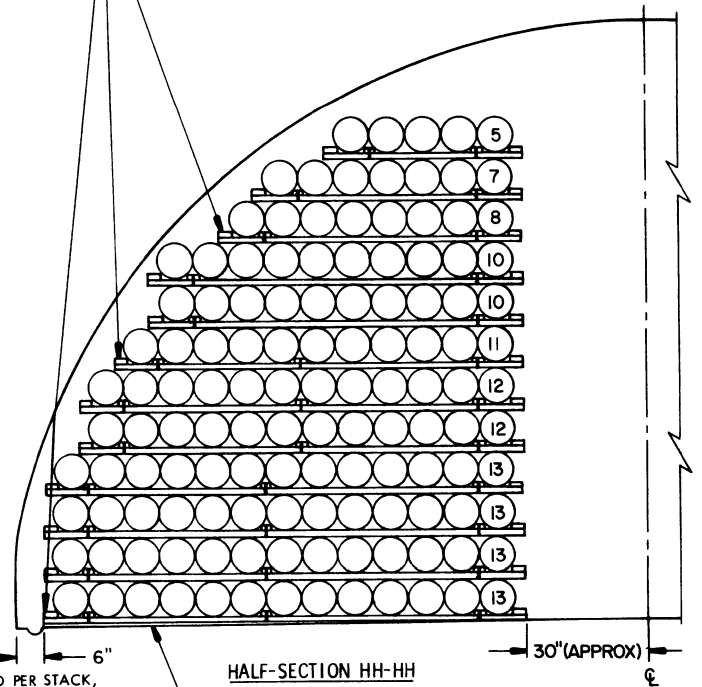


FOR "GENERAL NOTES" AND "MATERIAL SPECIFICATIONS" SEE PAGE 2.

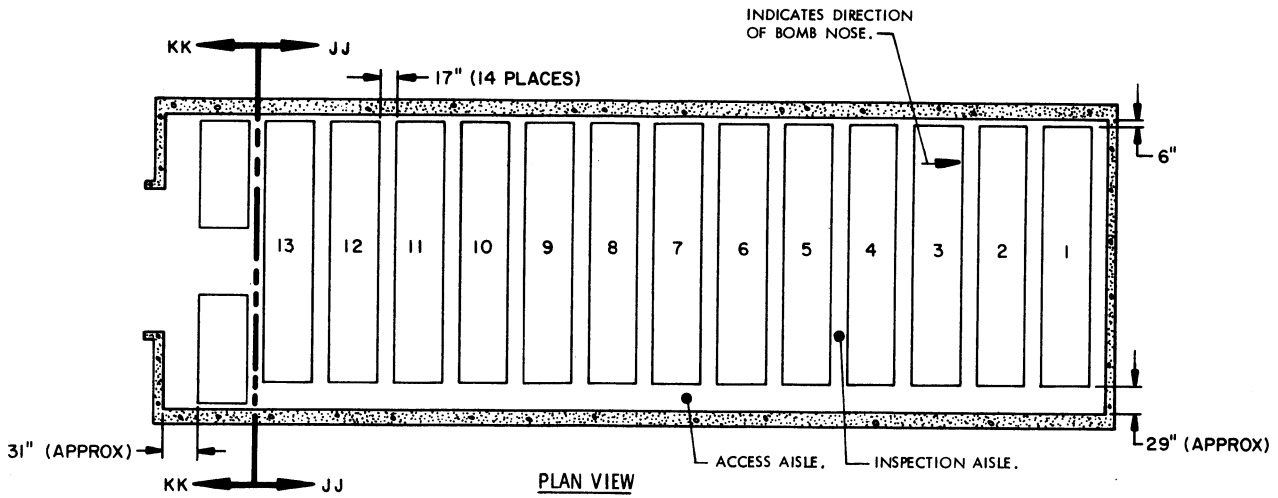
ISOMETRIC VIEW
(60' IGLOO)

FLOOR AND/OR INTERMEDIATE DUNNAGE ASSEMBLIES BY LENGTH TO SUIT (REQD BETWEEN EACH LAYER). SEE THE "DUNNAGE ASSEMBLY A" DETAIL ON PAGE 65 AND "DETAIL A" ON PAGE 64 FOR PLACEMENT

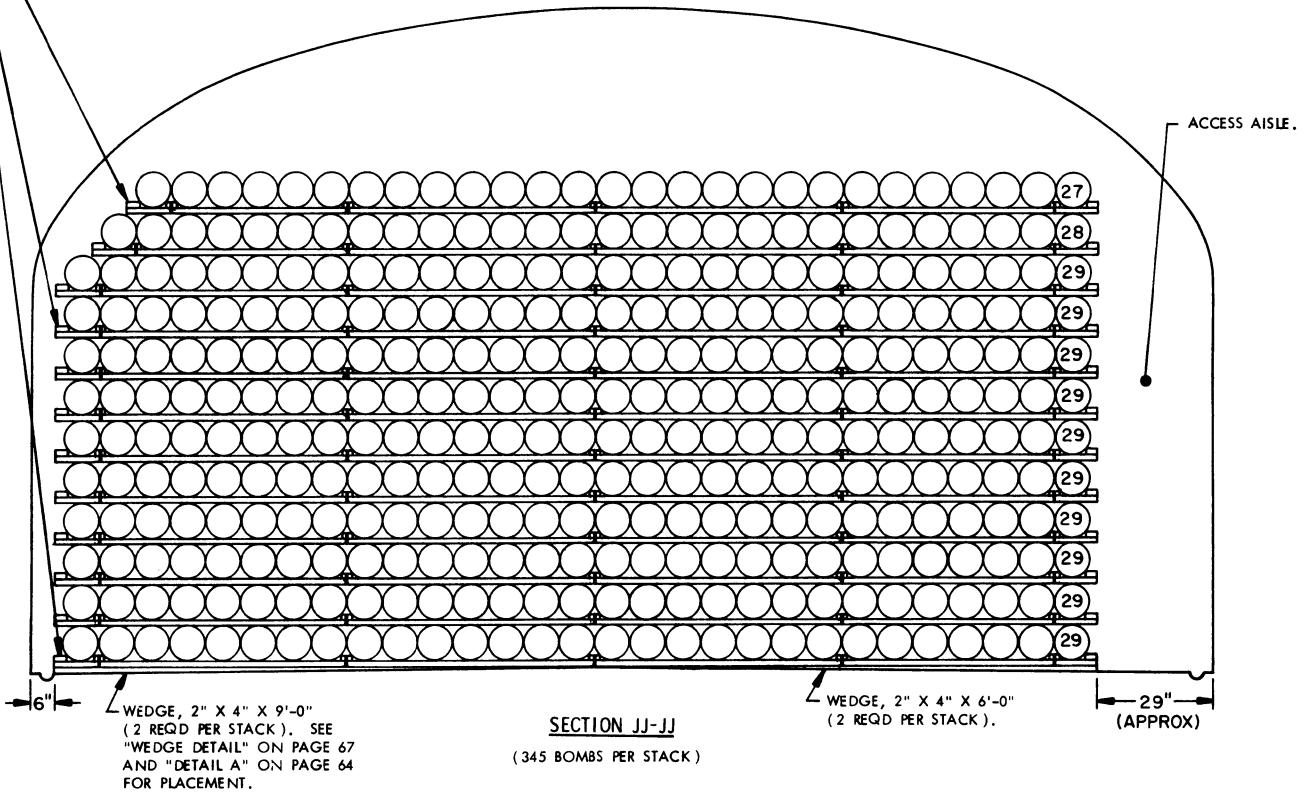
BILL OF MATERIAL PER STACK		
LUMBER	LINEAR FEET	BOARD FEET
1" X 4"	160	54
2" X 4"	678	452
NAILS		POUNDS
6d (2")	160	1
10d (3")	144	2-1/4
12d (3-1/4")	320	5-1/2
STEEL STRAPPING, 1-1/4" X .035"		480' REQD ----- 69 LBS
SEAL FOR 1-1/4" STRAPPING		80 REQD ----- 4 LBS
WEDGE, 9'-0"		2 REQD
WEDGE, 6'-0"		2 REQD



WEDGE, 2" X 4" X 9'-0" (4 REQD PER STACK, 2 PER HALF-STACK). SEE "WEDGE DETAIL" ON PAGE 67 AND "DETAIL A" ON PAGE 64 FOR PLACEMENT. (127 BOMBS PER HALF-STACK)



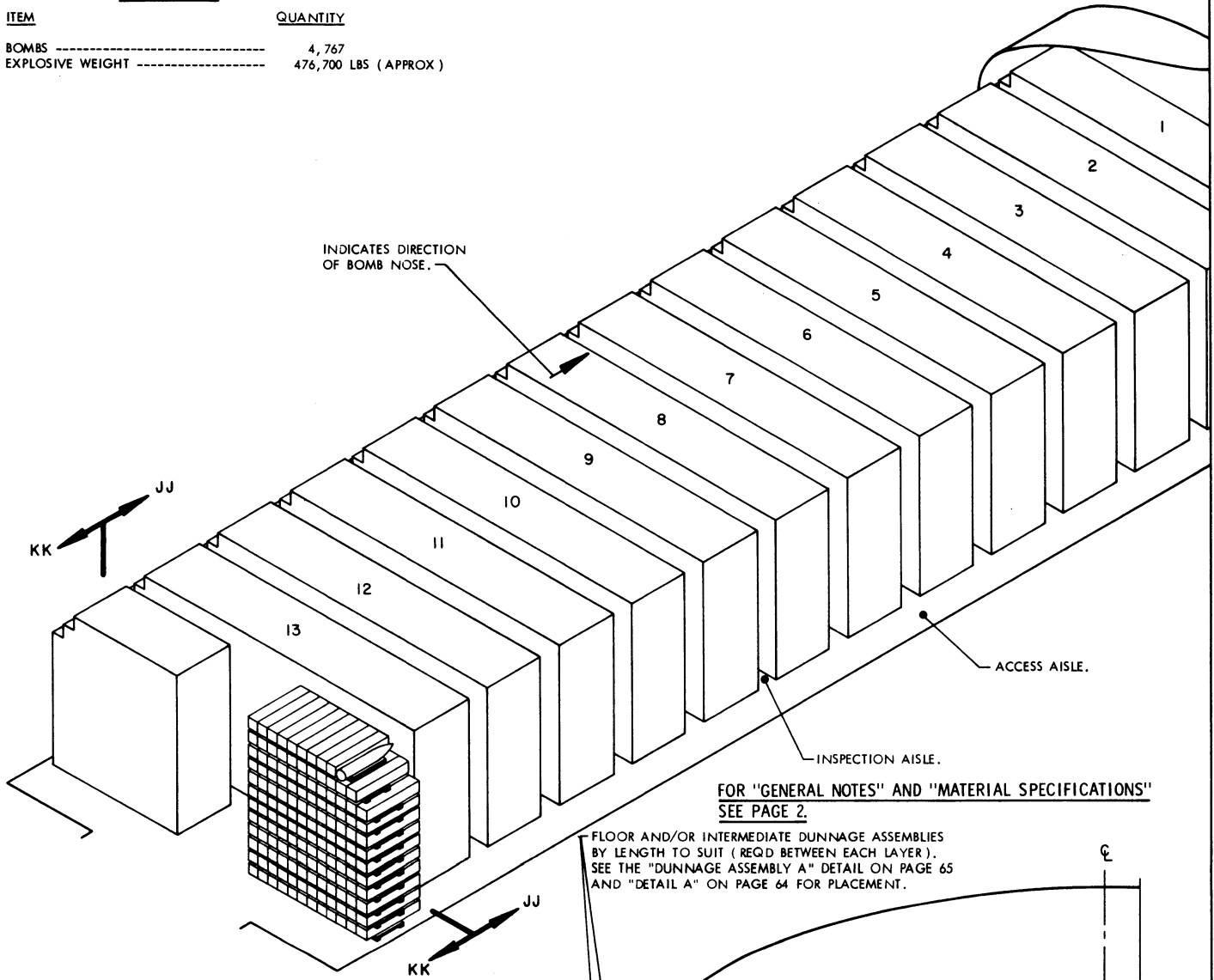
FLOOR AND/OR INTERMEDIATE DUNNAGE ASSEMBLIES BY LENGTH TO SUIT (REQD BETWEEN EACH LAYER). SEE THE "DUNNAGE ASSEMBLY A" DETAIL ON PAGE 65 AND "DETAIL A" ON PAGE 64 FOR PLACEMENT.



STORAGE AS SHOWN

80' STRADLEY

ITEM	QUANTITY
BOMBS -----	4,767
EXPLOSIVE WEIGHT -----	476,700 LBS (APPROX)

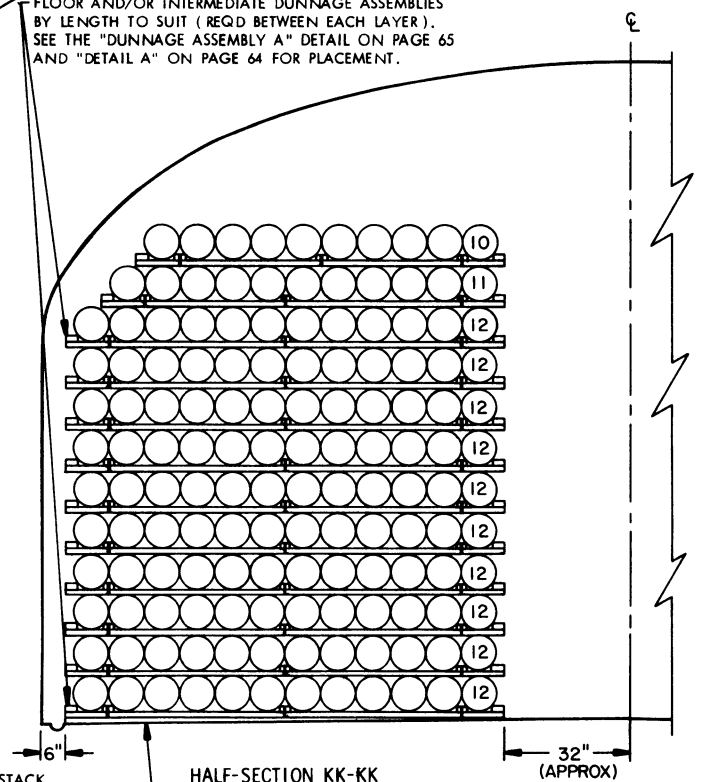


FOR "GENERAL NOTES" AND "MATERIAL SPECIFICATIONS" SEE PAGE 2.

FLOOR AND/OR INTERMEDIATE DUNNAGE ASSEMBLIES BY LENGTH TO SUIT (REQD BETWEEN EACH LAYER). SEE THE "DUNNAGE ASSEMBLY A" DETAIL ON PAGE 65 AND "DETAIL A" ON PAGE 64 FOR PLACEMENT.

ISOMETRIC VIEW

BILL OF MATERIAL PER STACK		
LUMBER	LINEAR FEET	BOARD FEET
1" X 4"	168	56
2" X 4"	696	464
NAILS	NO. REQD	POUNDS
6d (2")	168	1
10d (3")	144	2-1/4
12d (3-1/4")	336	5-3/4
STEEL STRAPPING, 1-1/4" X .035" -----	504' REQD -----	72 LBS
SEAL FOR 1-1/4" STRAPPING -----	84 REQD -----	4 LBS
WEDGE, 9'-0" -----	-----	2 REQD
WEDGE, 6'-0" -----	-----	2 REQD

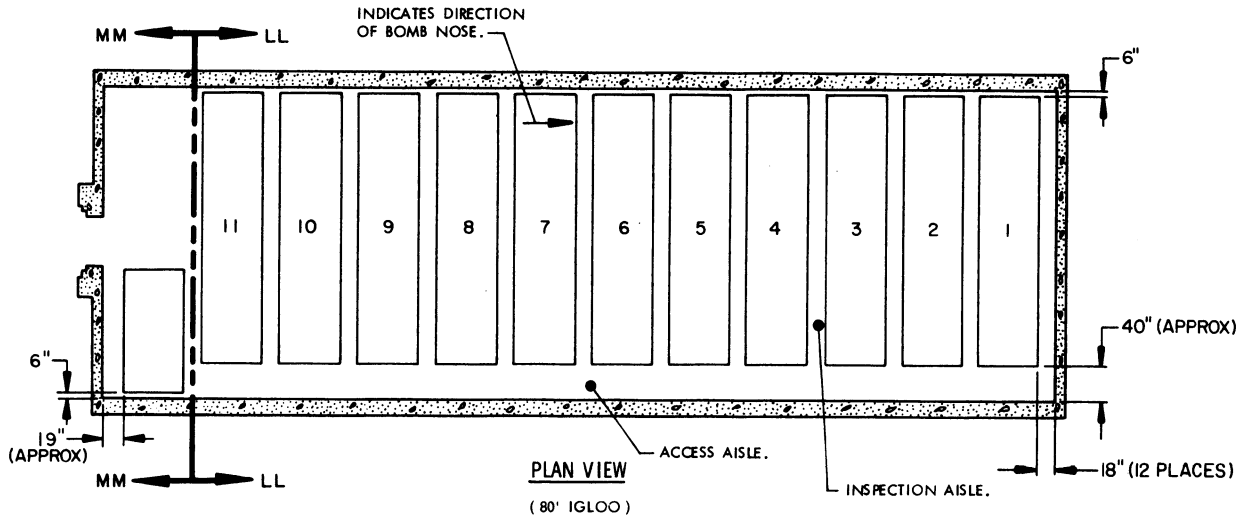


WEDGE, 2" X 4" X 9'-0" (4 REQD PER STACK, 2 PER HALF-STACK). SEE "WEDGE DETAIL" ON PAGE 67 AND "DETAIL A" ON PAGE 64 FOR PLACEMENT. (141 BOMBS PER HALF-STACK)

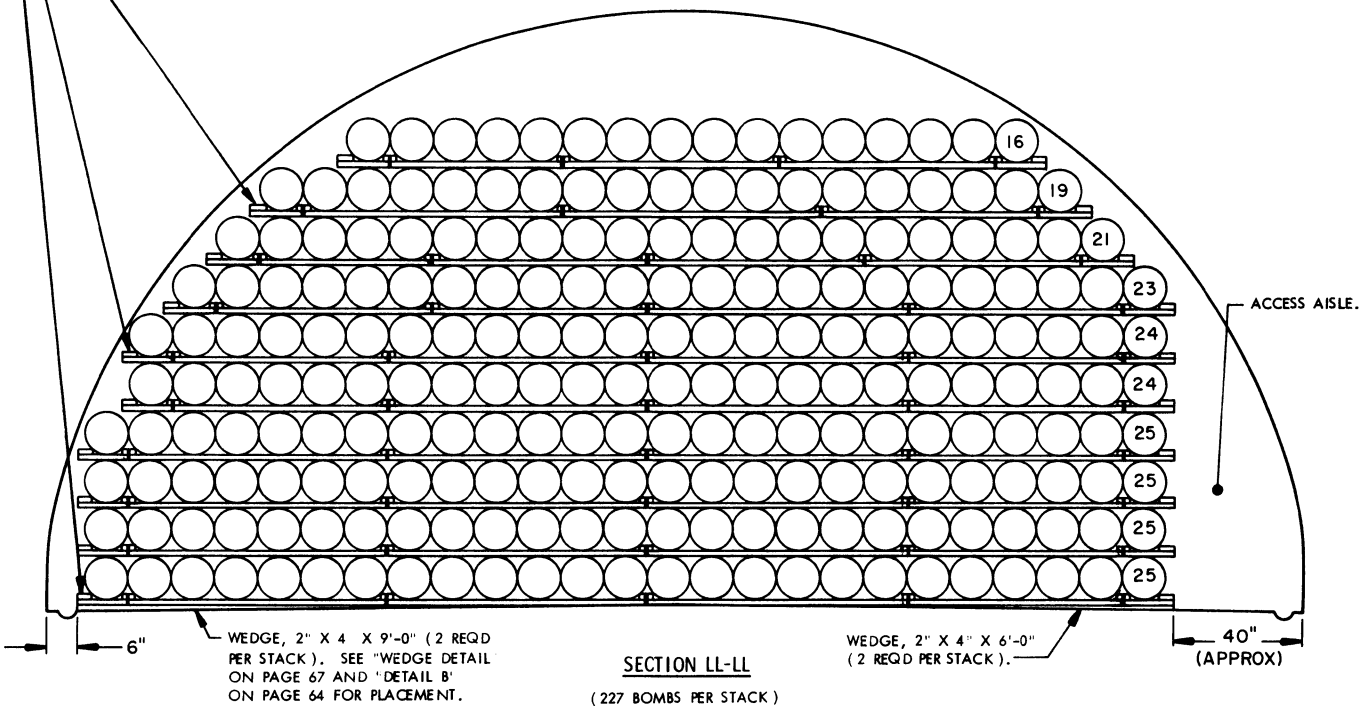
STORAGE AS SHOWN

80' IGLOO

ITEM	QUANTITY
BOMBS -----	2,590
EXPLOSIVE WEIGHT -----	497,280 LBS (APPROX)



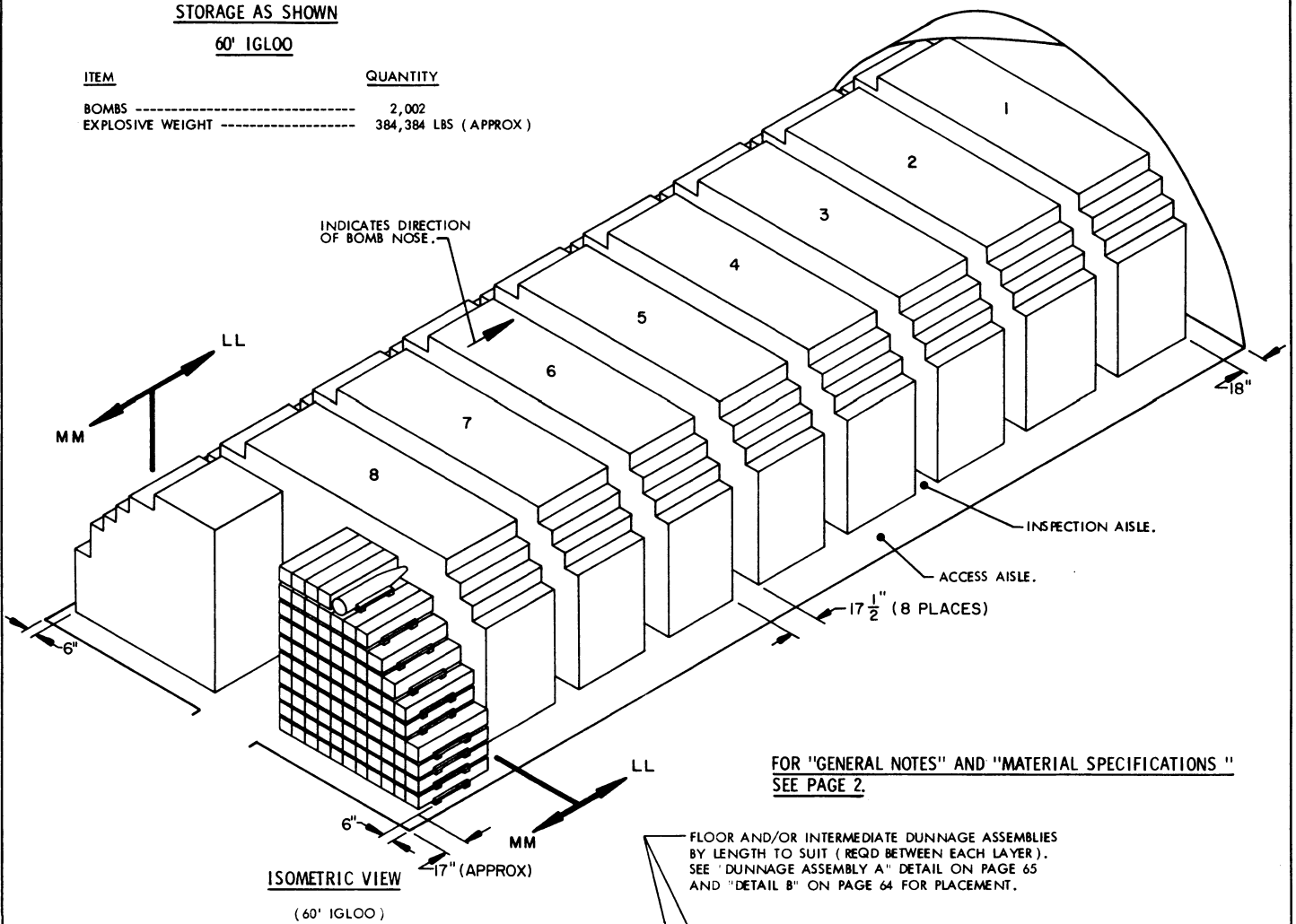
FLOOR AND/OR INTERMEDIATE DUNNAGE ASSEMBLIES BY LENGTH TO SUIT (REQD BETWEEN EACH LAYER). SEE THE "DUNNAGE ASSEMBLY A" DETAIL ON PAGE 65 AND "DETAIL B" ON PAGE 64 FOR PLACEMENT.



STORAGE AS SHOWN

60' IGLOO

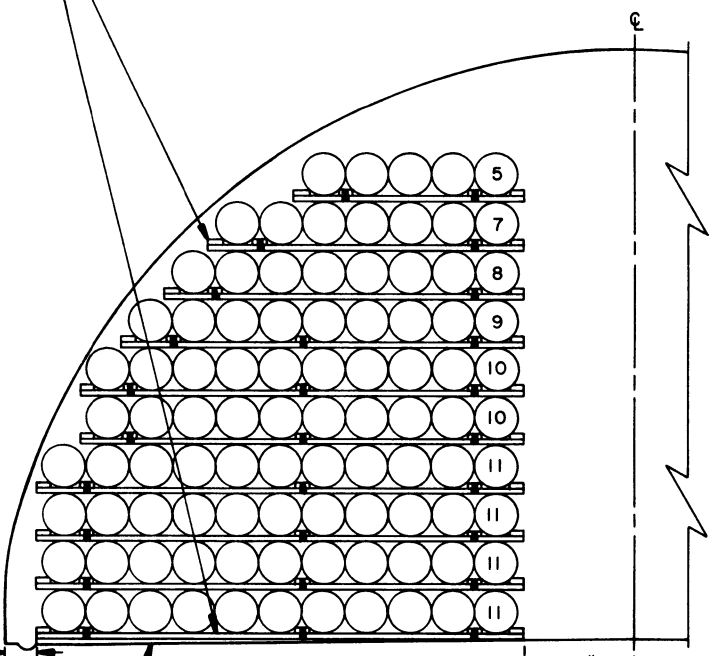
ITEM	QUANTITY
BOMBS -----	2,002
EXPLOSIVE WEIGHT -----	384,384 LBS (APPROX)



ISOMETRIC VIEW
(60' IGLOO)

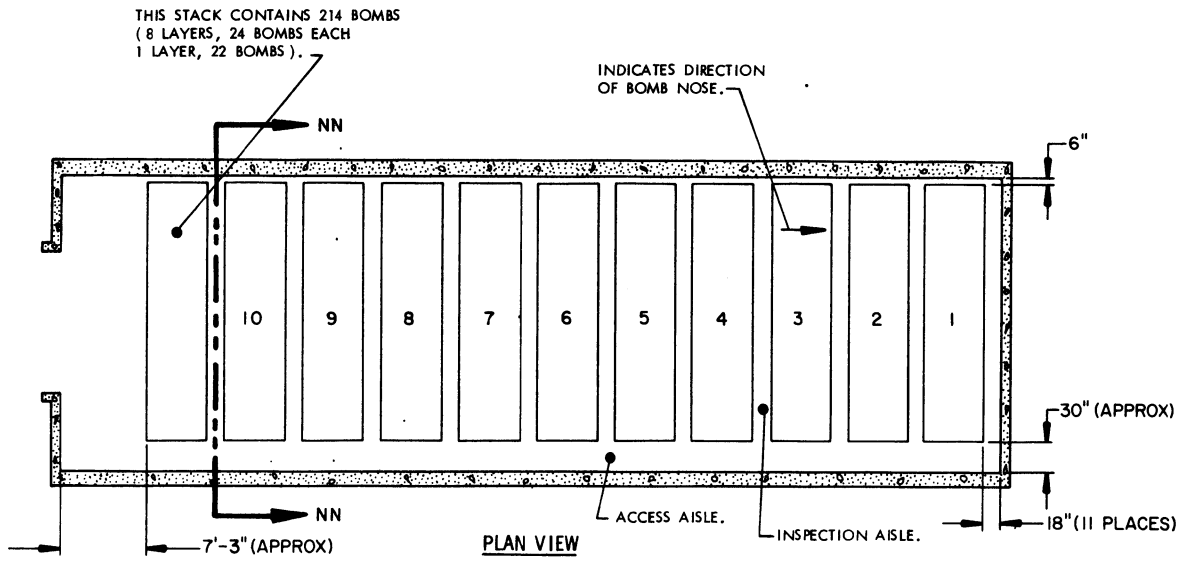
FLOOR AND/OR INTERMEDIATE DUNNAGE ASSEMBLIES BY LENGTH TO SUIT (REQD BETWEEN EACH LAYER). SEE 'DUNNAGE ASSEMBLY A' DETAIL ON PAGE 65 AND 'DETAIL B' ON PAGE 64 FOR PLACEMENT.

BILL OF MATERIAL PER STACK		
LUMBER	LINEAR FEET	BOARD FEET
1" X 4"	168	56
2" X 4"	602	402
NAILS	NO. REQD	POUNDS
6d (2")	136	1
10d (3")	120	2
12d (3-1/4")	272	4-1/2
STEEL STRAPPING, 1-1/4" X .035"	476' REQD	68 LBS
SEALS FOR 1-1/4" STRAPPING	68 REQD	3 LBS
WEDGE, 9'-0"		2 REQD
WEDGE, 6'-0"		2 REQD

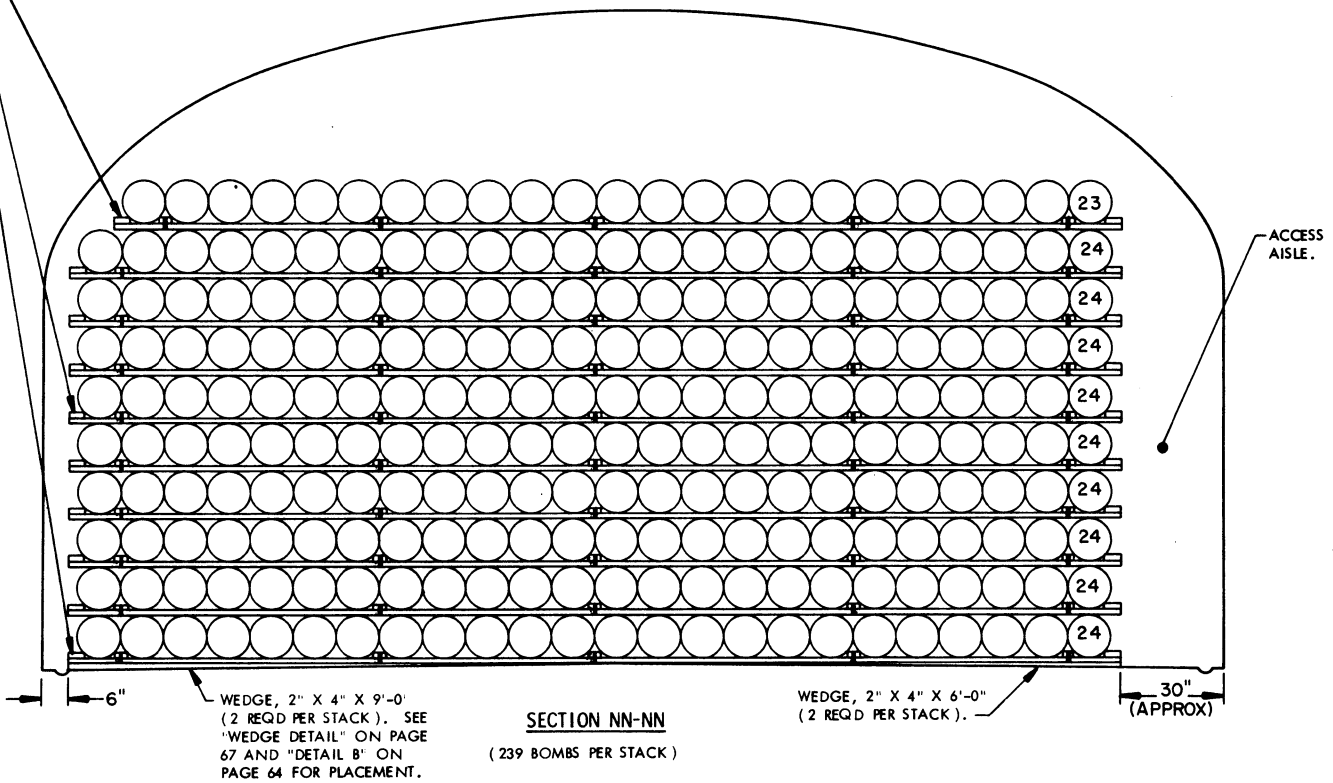


WEDGE, 2" X 4" X 9'-0" (4 REQD PER STACK, 2 PER HALF-STACK). SEE 'WEDGE DETAIL' ON PAGE 67 AND 'DETAIL B' ON PAGE 6 FOR PLACEMENT.

HALF-SECTION MM-MM
(93 BOMBS PER HALF-STACK)



FLOOR AND/OR INTERMEDIATE DUNNAGE ASSEMBLIES
BY LENGTH TO SUIT (REQD BETWEEN EACH LAYER).
SEE THE "DUNNAGE ASSEMBLY A" DETAIL ON PAGE 65
AND "DETAIL B" ON PAGE 64 FOR PLACEMENT.



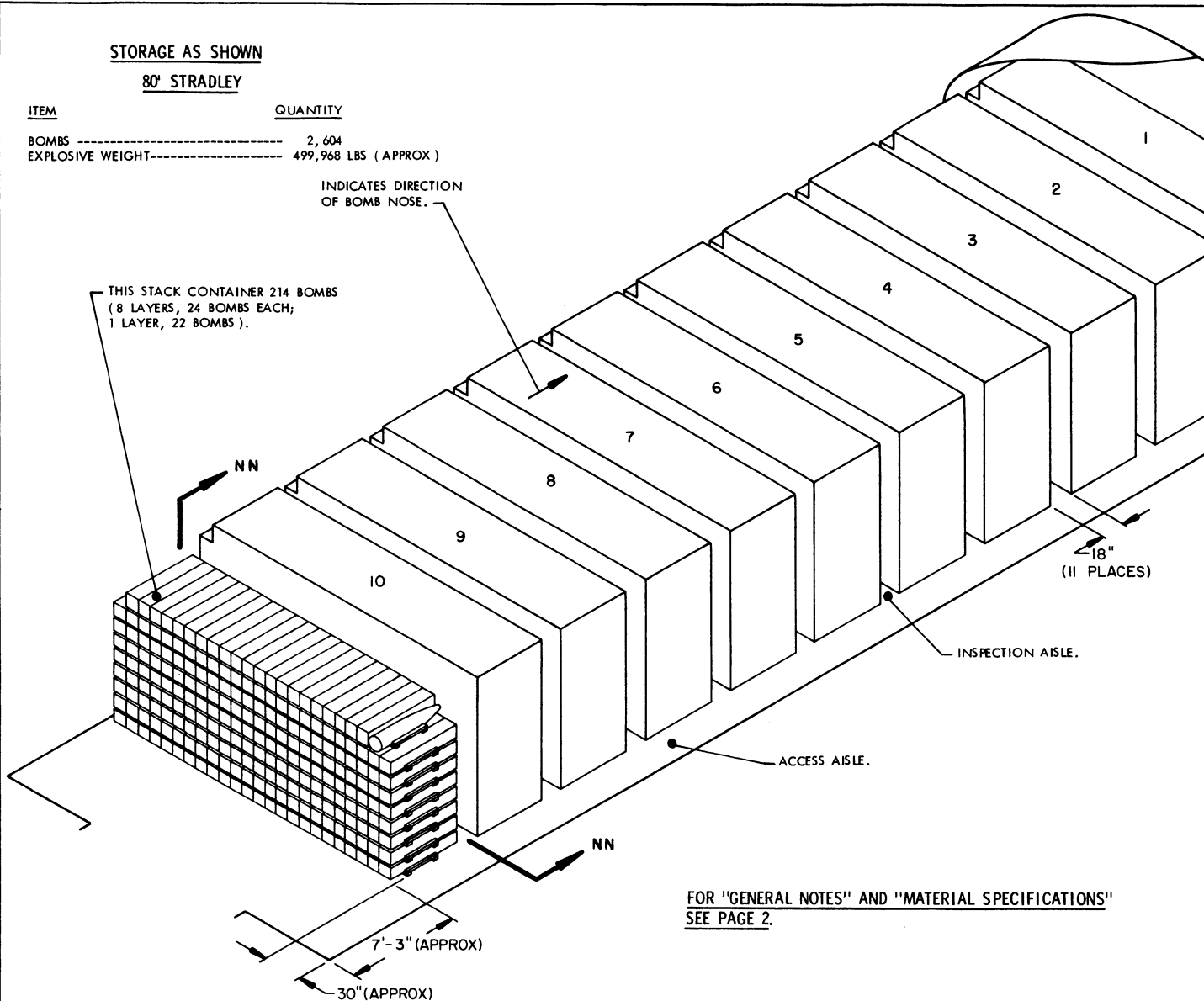
STORAGE AS SHOWN

80' STRADLEY

ITEM	QUANTITY
BOMBS -----	2,604
EXPLOSIVE WEIGHT-----	499,968 LBS (APPROX)

INDICATES DIRECTION OF BOMB NOSE.

THIS STACK CONTAINER 214 BOMBS
(8 LAYERS, 24 BOMBS EACH;
1 LAYER, 22 BOMBS).



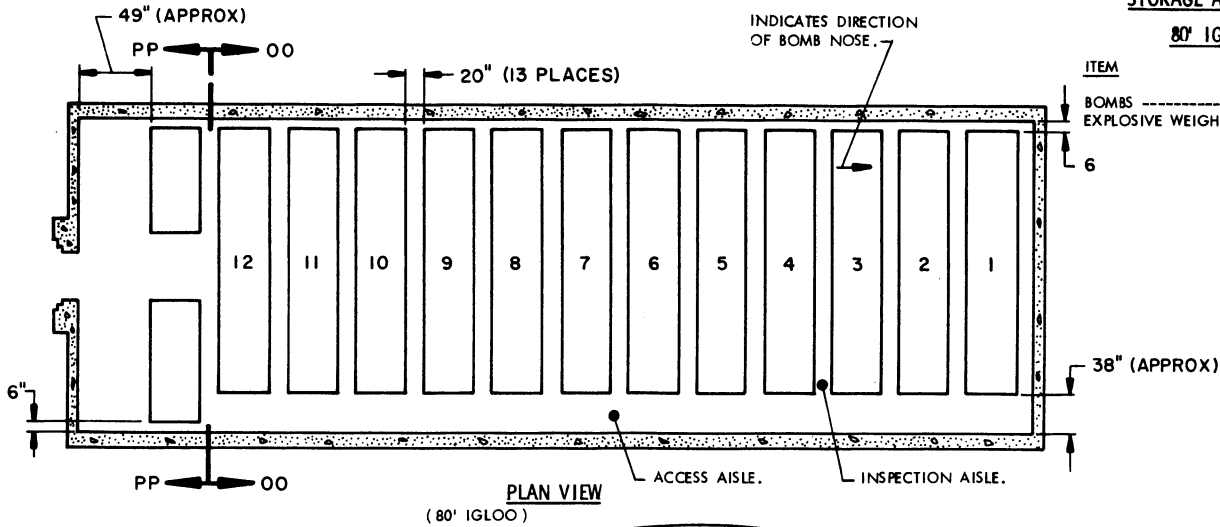
ISOMETRIC VIEW

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

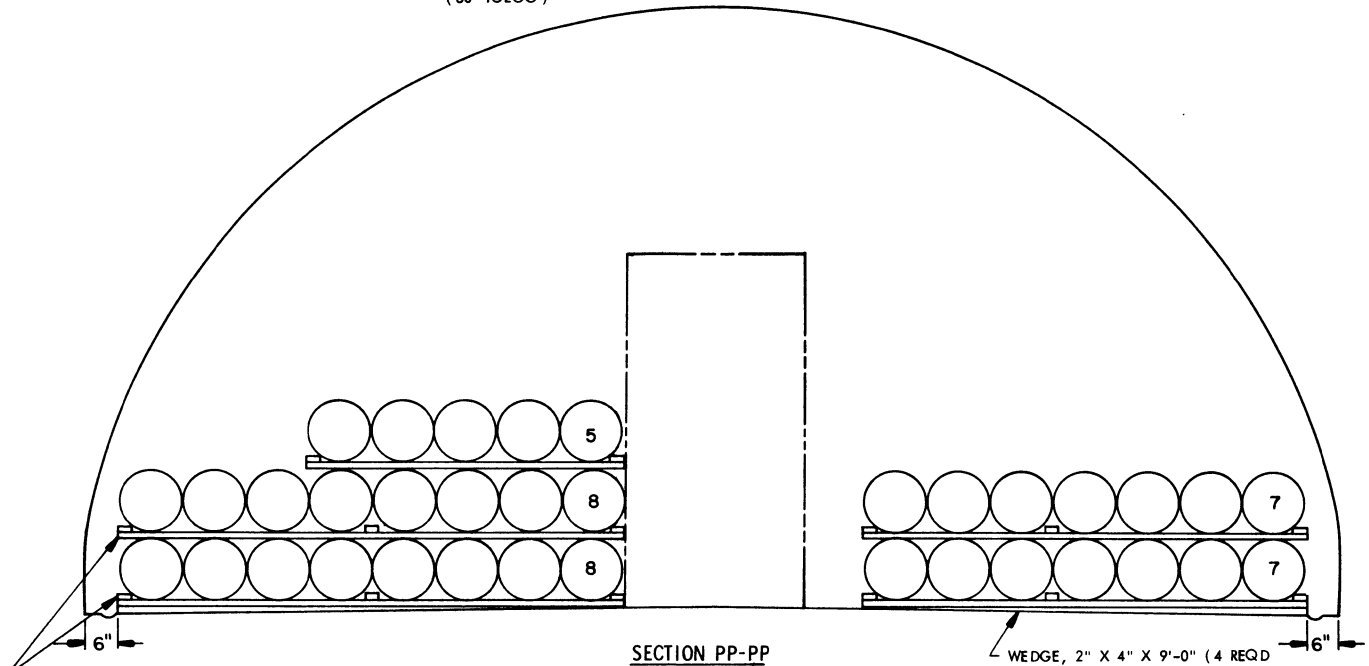
BILL OF MATERIAL PER STACK		
LUMBER	LINEAR FEET	BOARD FEET
1" X 4"	175	59
2" X 4"	644	430
NAILS	NO. REQD	POUNDS
6d (2")	140	1
10d (3")	120	2
12d (3-1/4")	280	4-3/4
STEEL STRAPPING, 1-1/4" X .035" -----	490' REQD -----	70 LBS
SEAL FOR 1-1/4" STRAPPING-----	70 REQD -----	4 LBS
WEDGE, 9'-0" -----		2 REQD
WEDGE, 6'-0" -----		2 REQD

STORAGE AS SHOWN

80' IGLOO

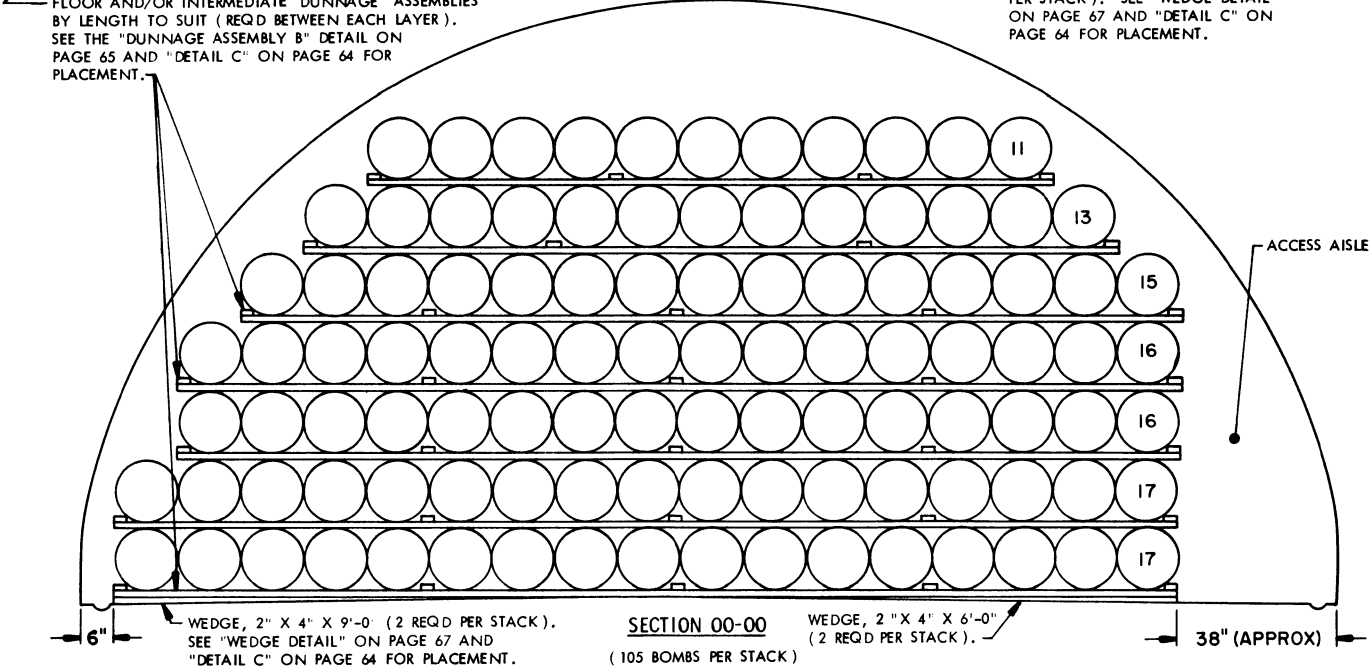


ITEM	QUANTITY
BOMBS	1,295
EXPLOSIVE WEIGHT	499,870 LBS (APPROX)



FLOOR AND/OR INTERMEDIATE DUNNAGE ASSEMBLIES BY LENGTH TO SUIT (REQD BETWEEN EACH LAYER). SEE THE "DUNNAGE ASSEMBLY B" DETAIL ON PAGE 65 AND "DETAIL C" ON PAGE 64 FOR PLACEMENT.

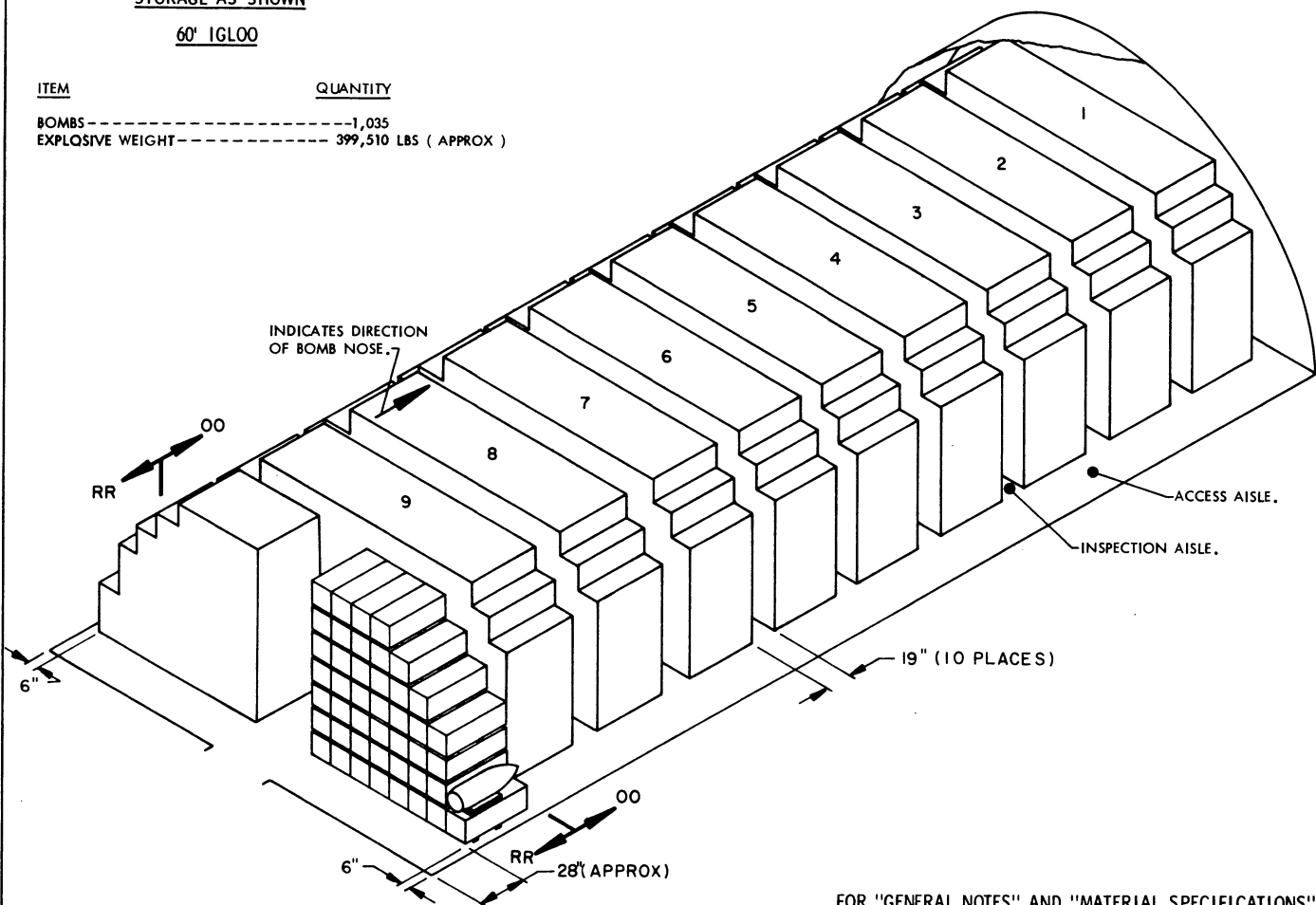
WEDGE, 2" X 4" X 9'-0" (4 REQD PER STACK). SEE "WEDGE DETAIL" ON PAGE 67 AND "DETAIL C" ON PAGE 64 FOR PLACEMENT.



STORAGE AS SHOWN

60' IGLOO

ITEM	QUANTITY
BOMBS-----	1,035
EXPLOSIVE WEIGHT-----	399,510 LBS (APPROX)



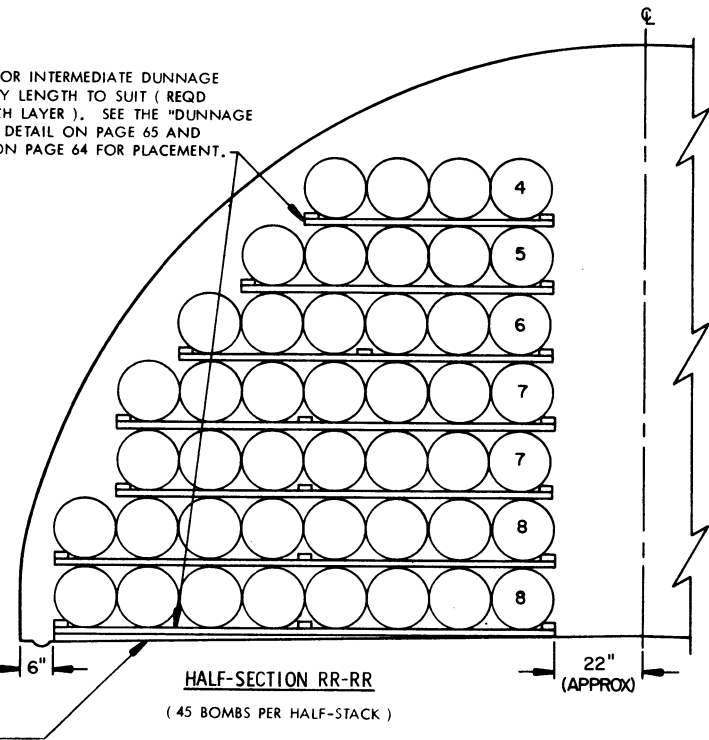
ISOMETRIC VIEW

(60' IGLOO)

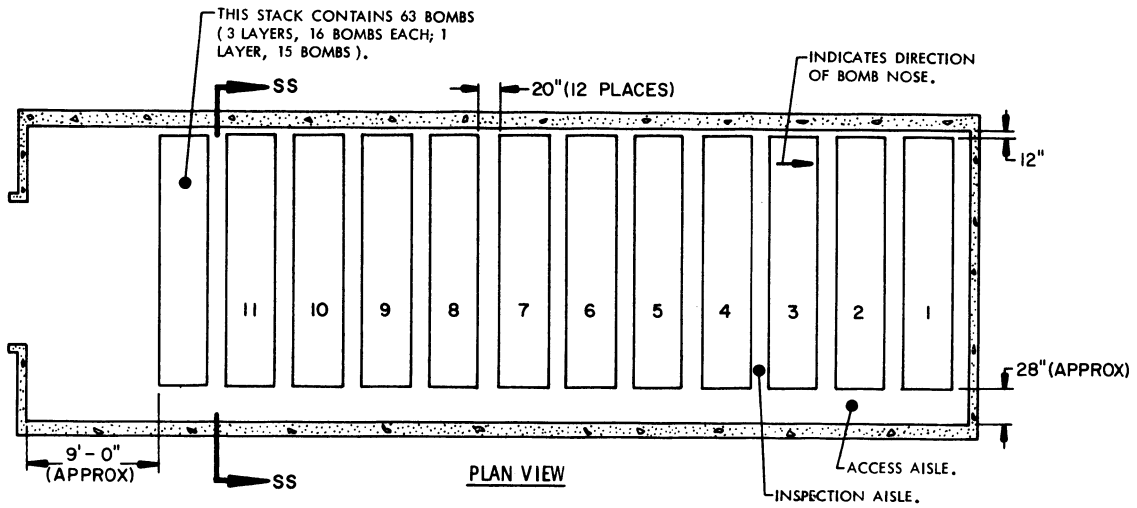
FOR "GENERAL NOTES" AND "MATERIAL SPECIFICATIONS"
SEE PAGE 2.

FLOOR AND/OR INTERMEDIATE DUNNAGE ASSEMBLIES BY LENGTH TO SUIT (REQD BETWEEN EACH LAYER). SEE THE "DUNNAGE ASSEMBLY B" DETAIL ON PAGE 65 AND "DETAIL C" ON PAGE 64 FOR PLACEMENT.

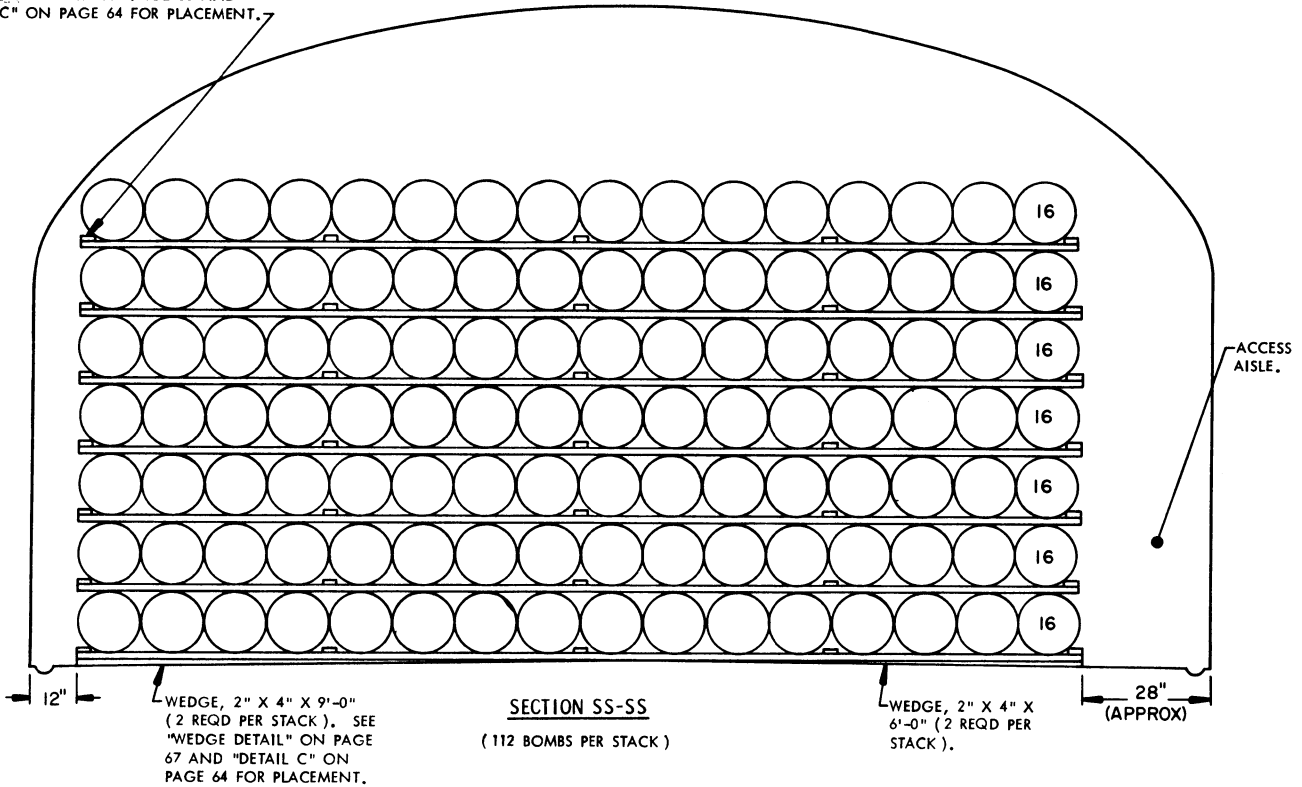
BILL OF MATERIAL PER STACK		
LUMBER	LINEAR FEET	BOARD FEET
2" X 4"	388	259
NAILS	NO. REQD	POUNDS
10d (3")	282	4-1/2
WEDGE, 9'-0"	-----	2 REQD
WEDGE, 6'-0"	-----	2 REQD



WEDGE, 2" X 4" X 9'-0"
(4 REQD PER STACK, 2 PER HALF-STACK). SEE THE "WEDGE DETAIL" ON PAGE 67 AND "DETAIL C" ON PAGE 64 FOR PLACEMENT.



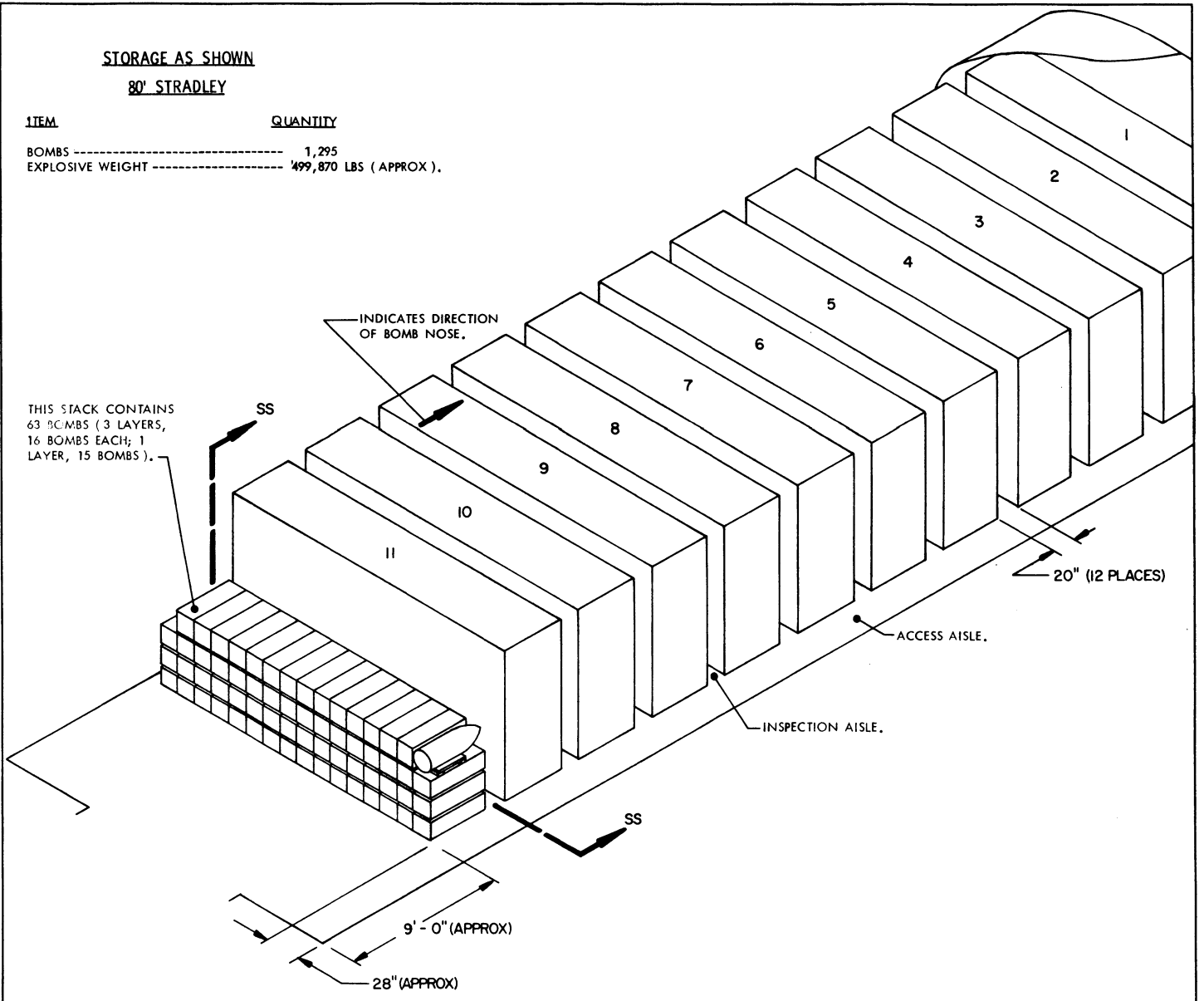
FLOOR AND/OR INTERMEDIATE DUNNAGE
ASSEMBLIES BY LENGTH TO SUIT (REQD
BETWEEN EACH LAYER). SEE THE "DUNNAGE
ASSEMBLY B" DETAIL ON PAGE 65 AND
"DETAIL C" ON PAGE 64 FOR PLACEMENT.



STORAGE AS SHOWN

80' STRADLEY

ITEM	QUANTITY
BOMBS -----	1,295
EXPLOSIVE WEIGHT -----	499,870 LBS (APPROX).



ISOMETRIC VIEW

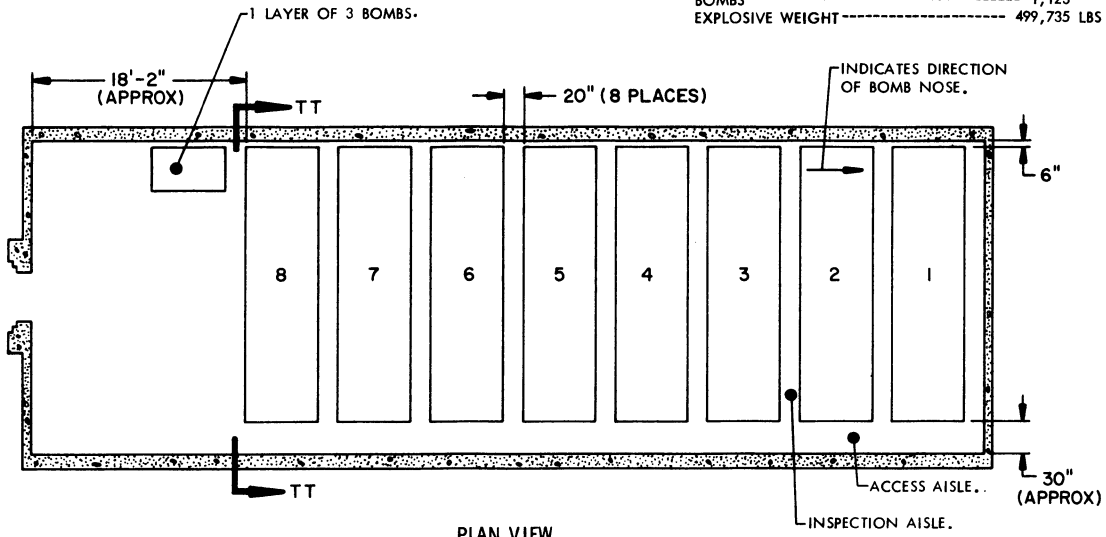
FOR "GENERAL NOTES" AND "MATERIAL SPECIFICATIONS" SEE PAGE 2.

BILL OF MATERIAL PER STACK		
LUMBER	LINEAR FEET	BOARD FEET
2" X 4"	406	271
NAILS	NO. REQD	POUNDS
10d (3")	294	4-1/2
WEDGE, 9'-0"	-----	2 REQD
WEDGE, 6'-0"	-----	2 REQD

STORAGE AS SHOWN

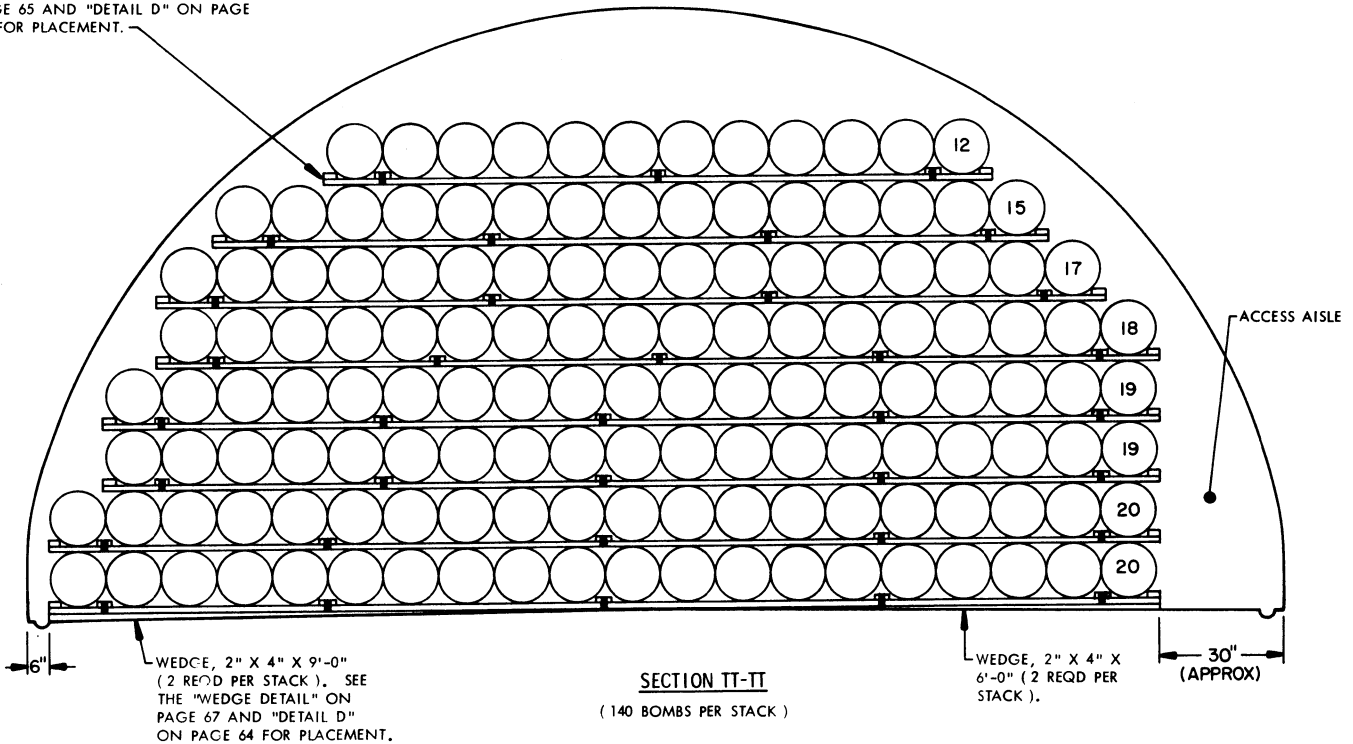
80' IGLOO

<u>ITEM</u>	<u>QUANTITY</u>
BOMBS	1,123
EXPLOSIVE WEIGHT	499,735 LBS (APPROX)



PLAN VIEW
(80' IGLOO)

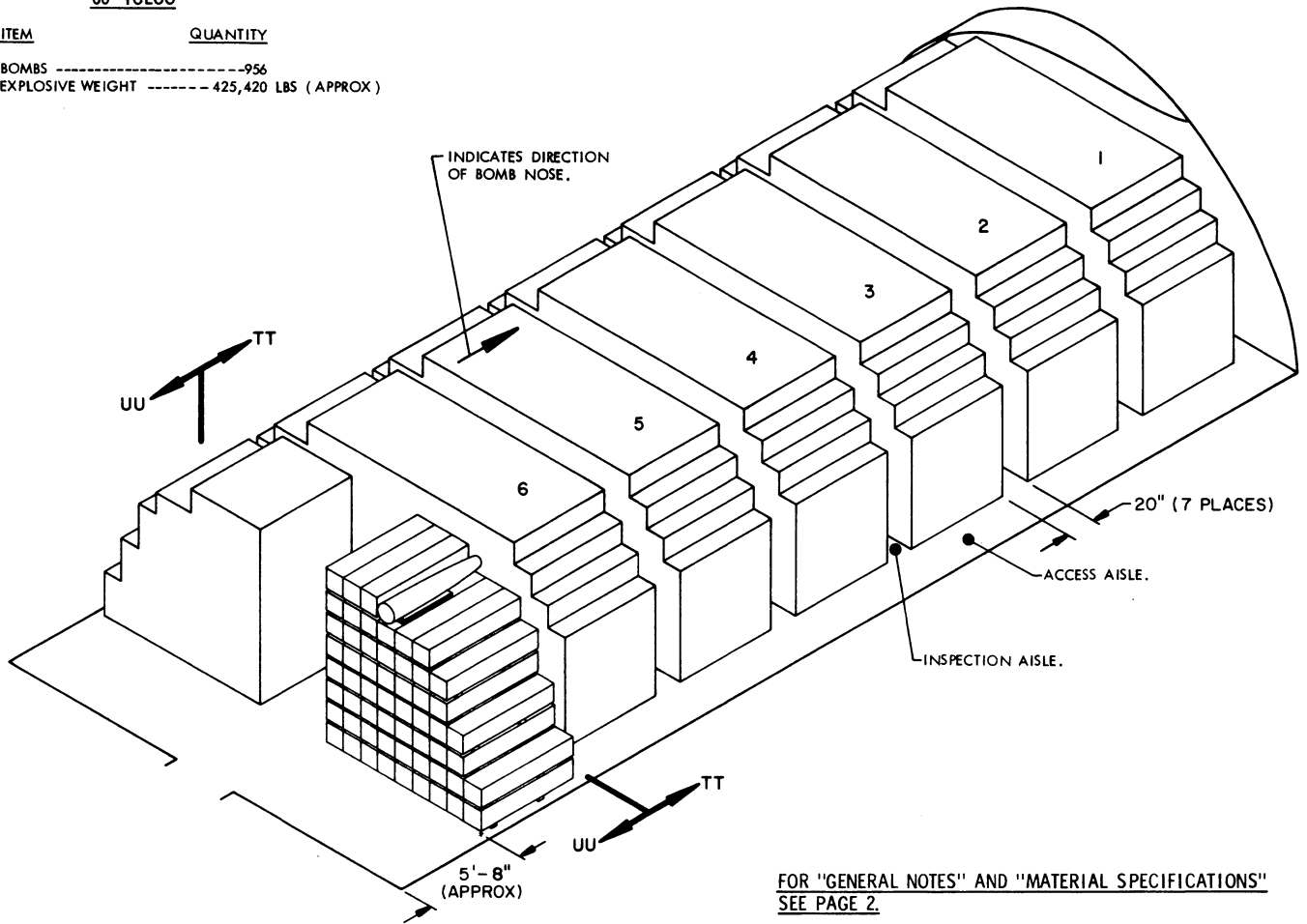
FLOOR AND/OR INTERMEDIATE DUNNAGE ASSEMBLIES BY LENGTH TO SUIT (REQD BETWEEN EACH LAYER). SEE THE "DUNNAGE ASSEMBLY A" DETAIL ON PAGE 65 AND "DETAIL D" ON PAGE 64 FOR PLACEMENT.



SECTION TT-TT
(140 BOMBS PER STACK)

STORAGE AS SHOWN
60' IGLOO

ITEM	QUANTITY
BOMBS -----	956
EXPLOSIVE WEIGHT -----	425,420 LBS (APPROX)



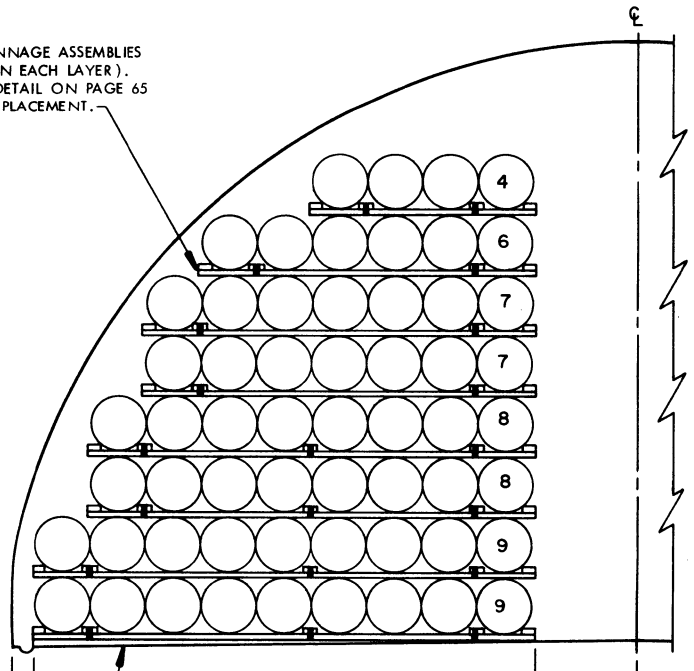
ISOMETRIC VIEW

(60' IGLOO)

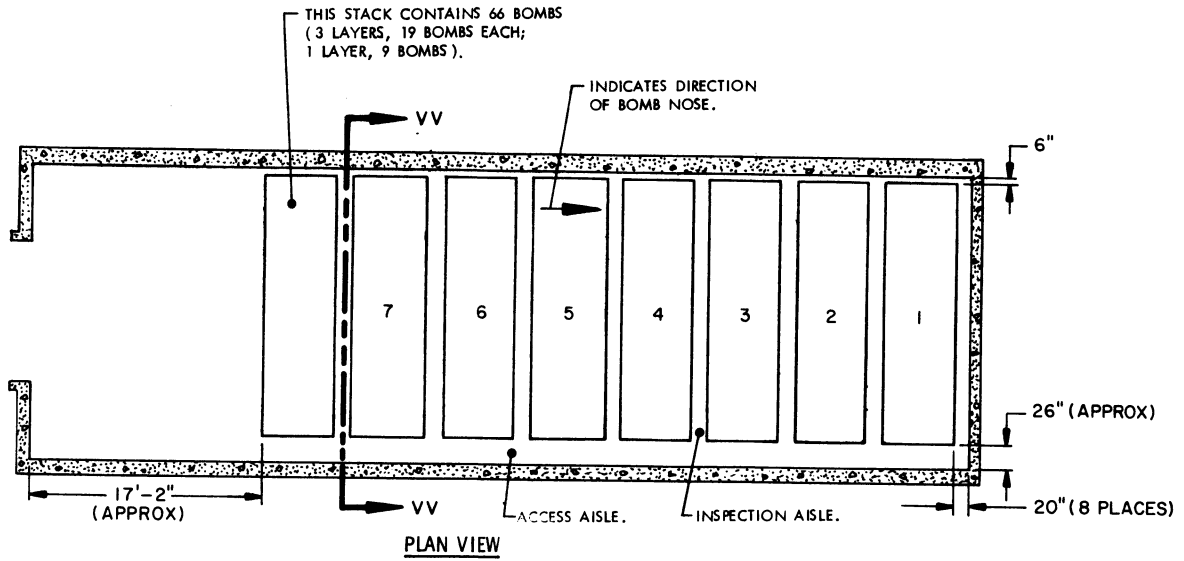
FOR "GENERAL NOTES" AND "MATERIAL SPECIFICATIONS" SEE PAGE 2.

FLOOR AND/OR INTERMEDIATE DUNNAGE ASSEMBLIES BY LENGTH TO SUIT (REQD BETWEEN EACH LAYER). SEE THE "DUNNAGE ASSEMBLY A" DETAIL ON PAGE 65 AND "DETAIL D" ON PAGE 64 FOR PLACEMENT.

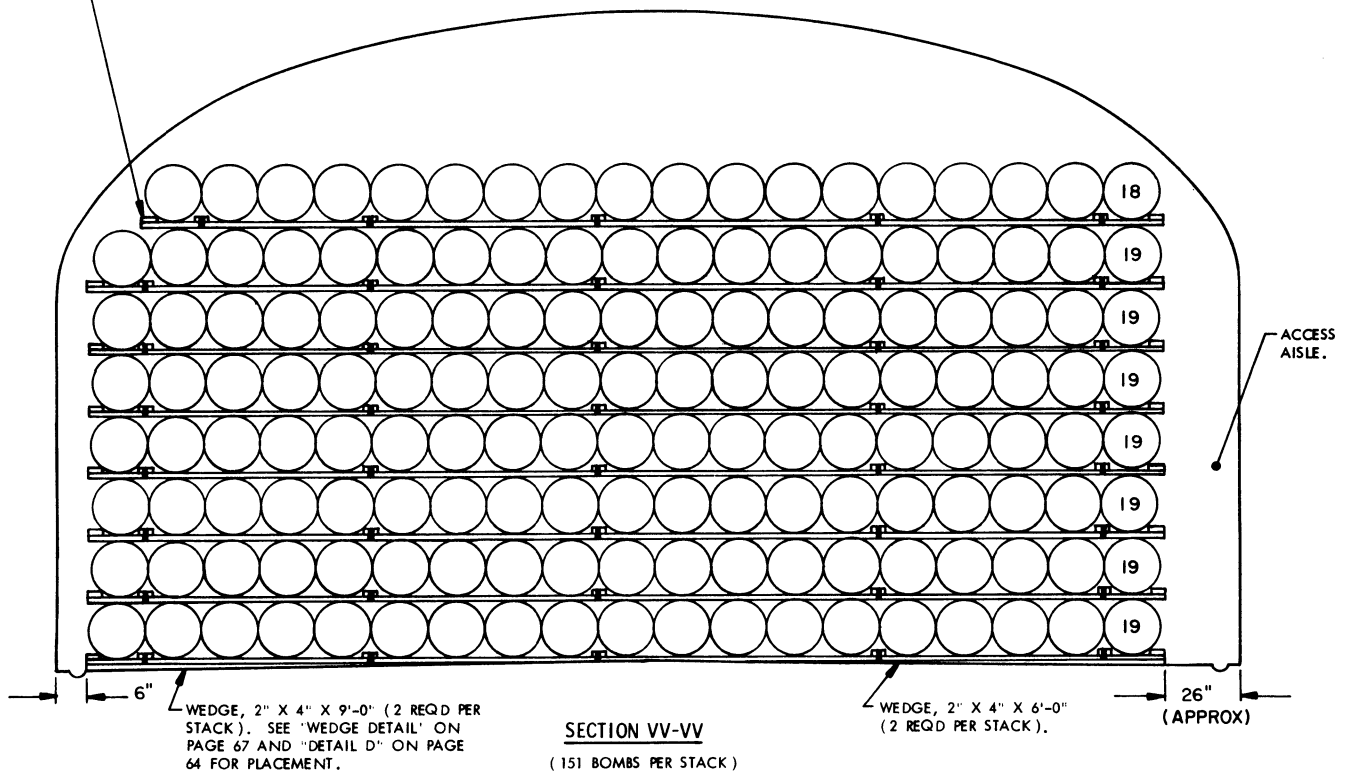
BILL OF MATERIAL PER STACK		
LUMBER	LINEAR FEET	BOARD FEET
1" X 4"	165	55
2" X 4"	520	347
NAILS	NO. REQD	POUNDS
6d (2")	104	3/4
10d (3")	96	1-1/2
12d (3-1/4")	208	3-1/2
STEEL STRAPPING, 1-1/4" X .035"	416' REQD	60 LBS
SEAL FOR 1-1/4" STRAPPING	52 REQD	3 LBS
WEDGE, 9'-0"	2 REQD	
WEDGE, 6'-0"	2 REQD	



WEDGE, 2' X 4' X 9'-0" (4 REQD PER STACK, 2 PER HALF-STACK). SEE THE 'WEDGE DETAIL' ON PAGE 67 AND 'DETAIL D' ON PAGE 64 FOR PLACEMENT.



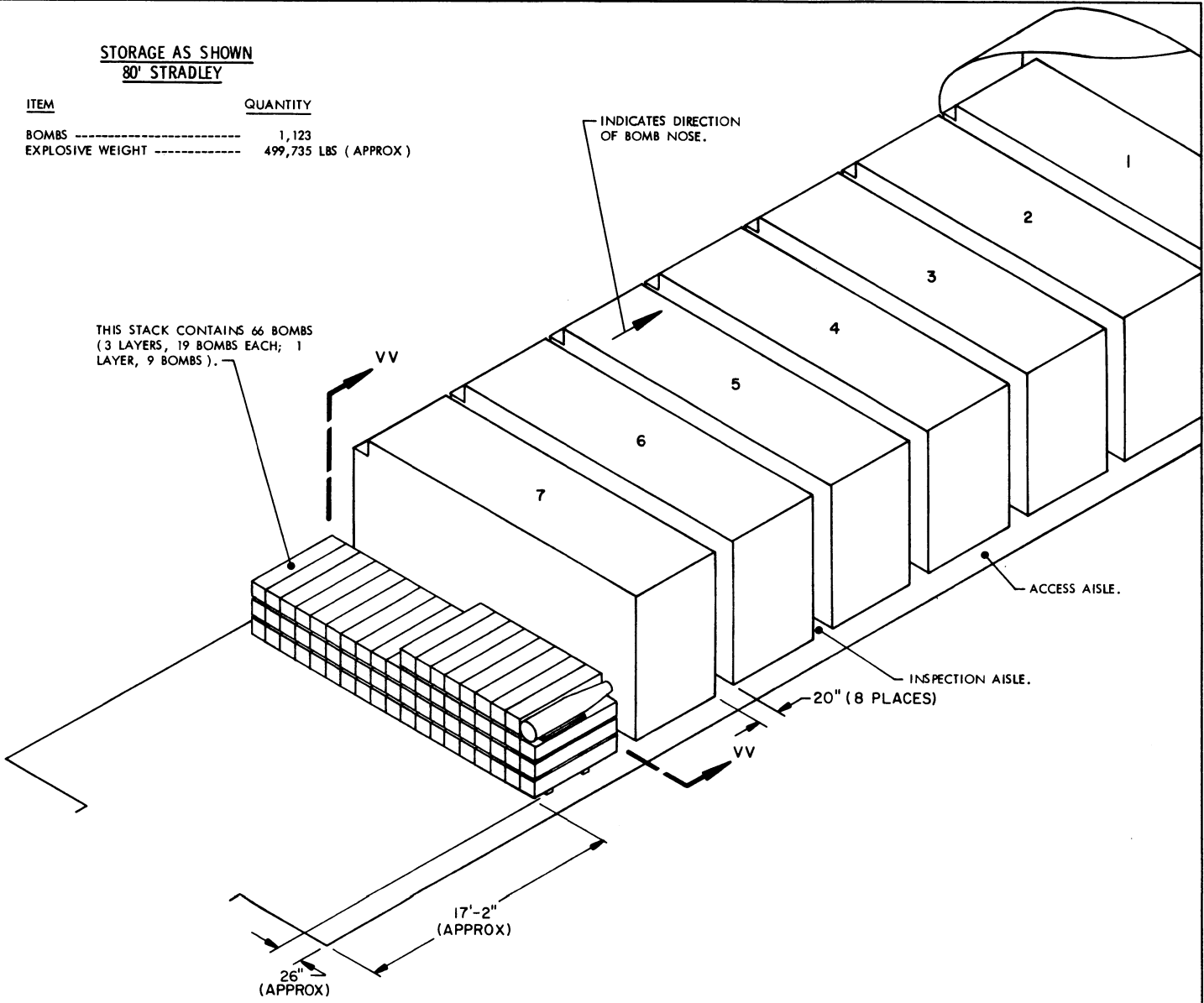
FLOOR AND/OR INTERMEDIATE DUNNAGE ASSEMBLIES BY LENGTH TO SUIT (REQD BETWEEN EACH LAYER). SEE THE 'DUNNAGE ASSEMBLY A' DETAIL ON PAGE 65 AND 'DETAIL D' ON PAGE 64 FOR PLACEMENT.



STORAGE AS SHOWN
80' STRADLEY

ITEM	QUANTITY
BOMBS -----	1,123
EXPLOSIVE WEIGHT -----	499,735 LBS (APPROX)

THIS STACK CONTAINS 66 BOMBS
(3 LAYERS, 19 BOMBS EACH; 1
LAYER, 9 BOMBS).



ISOMETRIC VIEW

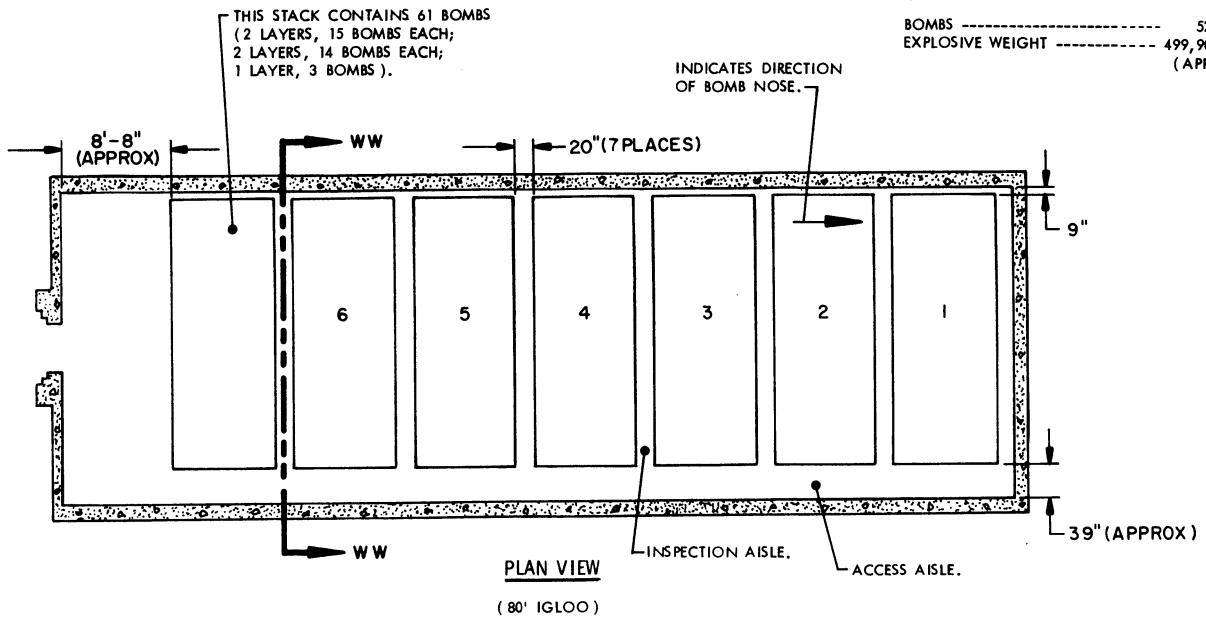
FOR "GENERAL NOTES" AND "MATERIAL SPECIFICATIONS"
SEE PAGE 2.

BILL OF MATERIAL PER STACK		
LUMBER	LINEAR FEET	BOARD FEET
1" X 4"	178	60
2" X 4"	552	368
NAILS	NO. REQD	POUNDS
6d (2")	112	3/4
10d (3")	96	1-1/2
12d (3-1/4")	224	3-3/4
STEEL STRAPPING, 1-1/4" X .035" ----- 448' REQD ----- 64 LBS		
SEAL FOR 1-1/4" STRAPPING ----- 56 REQD ----- 3 LBS		
WEDGE, 9'-0" ----- 2 REQD		
WEDGE, 6'-0" ----- 2 REQD		

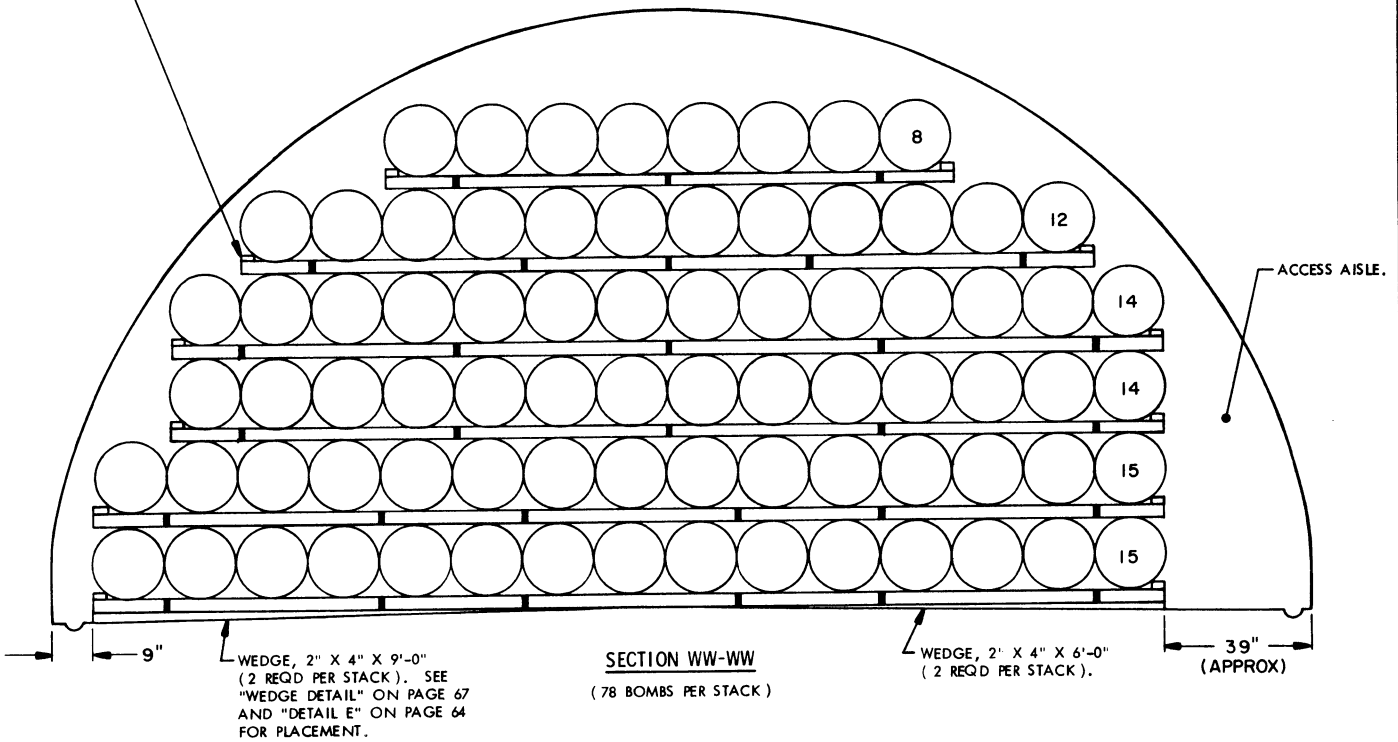
STORAGE AS SHOWN

80' IGLOO

ITEM	QUANTITY
BOMBS -----	529
EXPLOSIVE WEIGHT -----	499,905 LBS (APPROX)



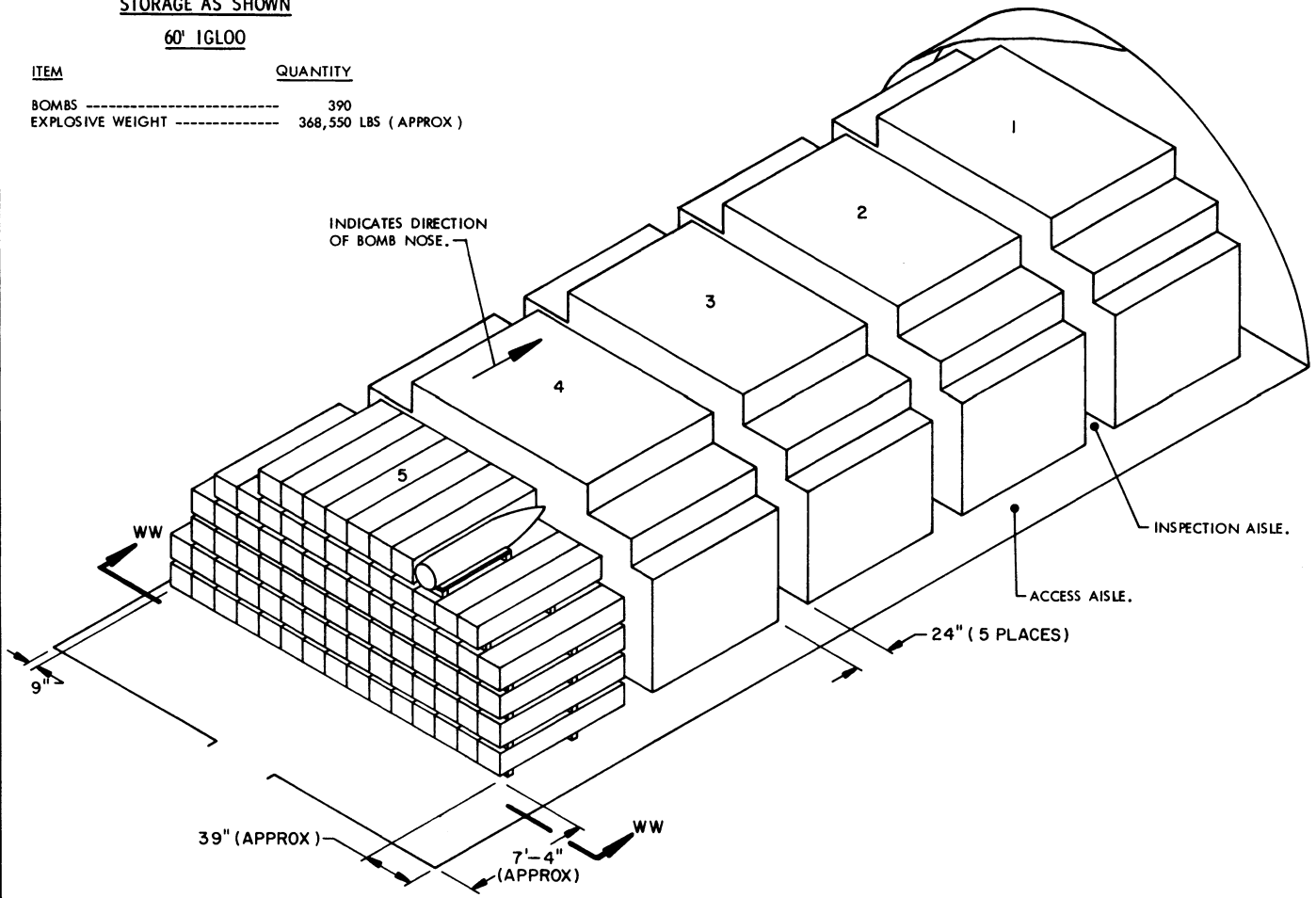
FLOOR AND/OR INTERMEDIATE DUNNAGE ASSEMBLIES BY LENGTH TO SUIT (REQD BETWEEN EACH LAYER). SEE THE "DUNNAGE ASSEMBLY C" DETAIL ON PAGE 66 AND "DETAIL E" ON PAGE 64 FOR PLACEMENT.



STORAGE AS SHOWN

60' IGLOO

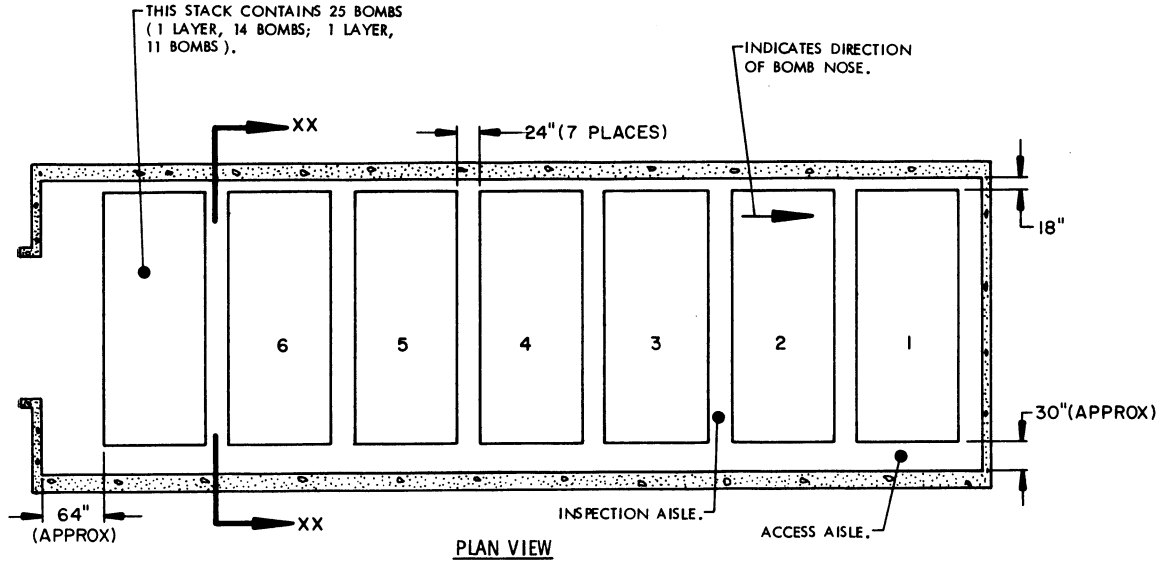
ITEM	QUANTITY
BOMBS -----	390
EXPLOSIVE WEIGHT -----	368,550 LBS (APPROX)



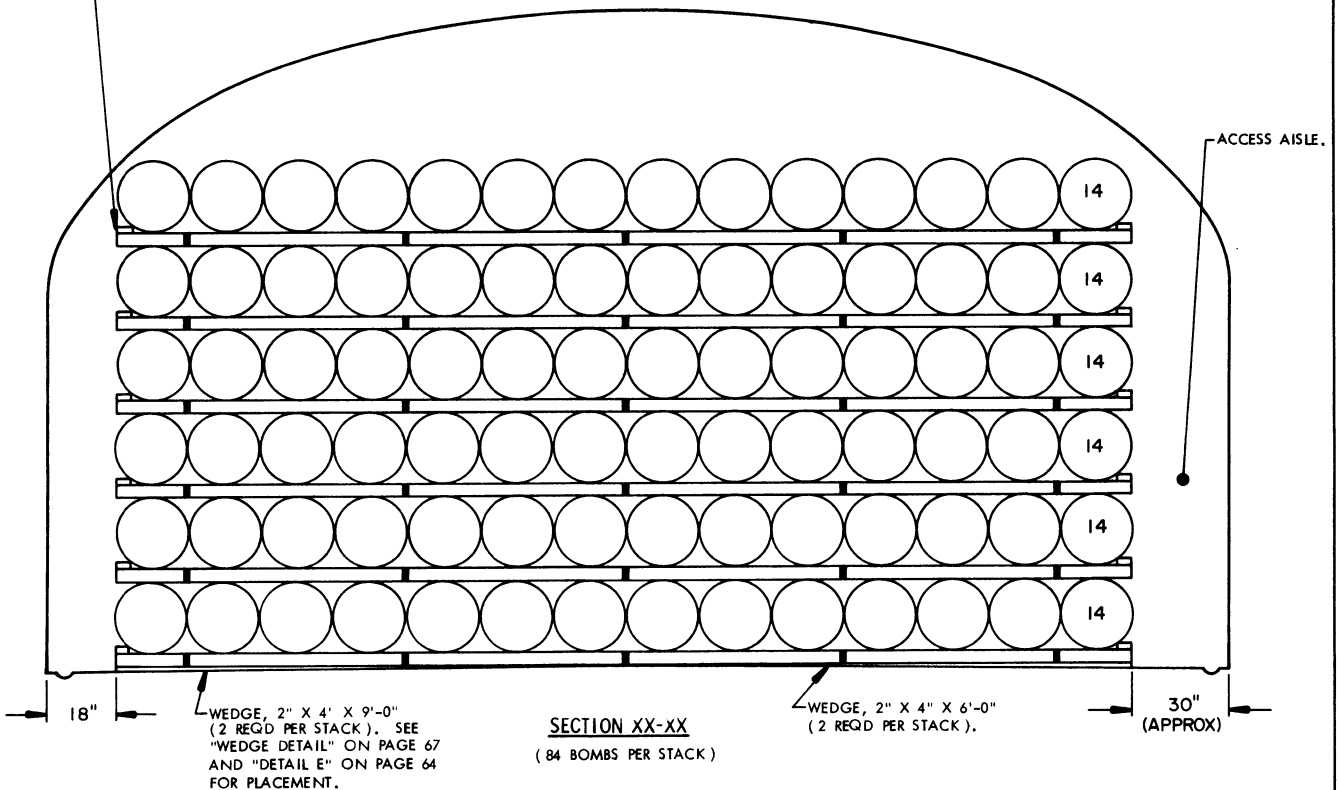
ISOMETRIC VIEW
(60' IGLOO)

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

BILL OF MATERIAL PER STACK		
LUMBER	LINEAR FEET	BOARD FEET
2" X 4"	84	56
4" X 4"	364	486
NAILS	NO. REQD	POUNDS
10d (3")	72	1-1/4
12d (3-1/4")	96	1-3/4
16d (3-1/2")	120	2-3/4
STEEL STRAPPING, 1-1/4" X .035" ----- 360' REQD ----- 52 LBS		
SEAL FOR 1-1/4" STRAPPING ----- 30 REQD --- 1-1/2 LBS		
WEDGE, 9'-0" ----- 2 REQD		
WEDGE, 6'-0" ----- 2 REQD		



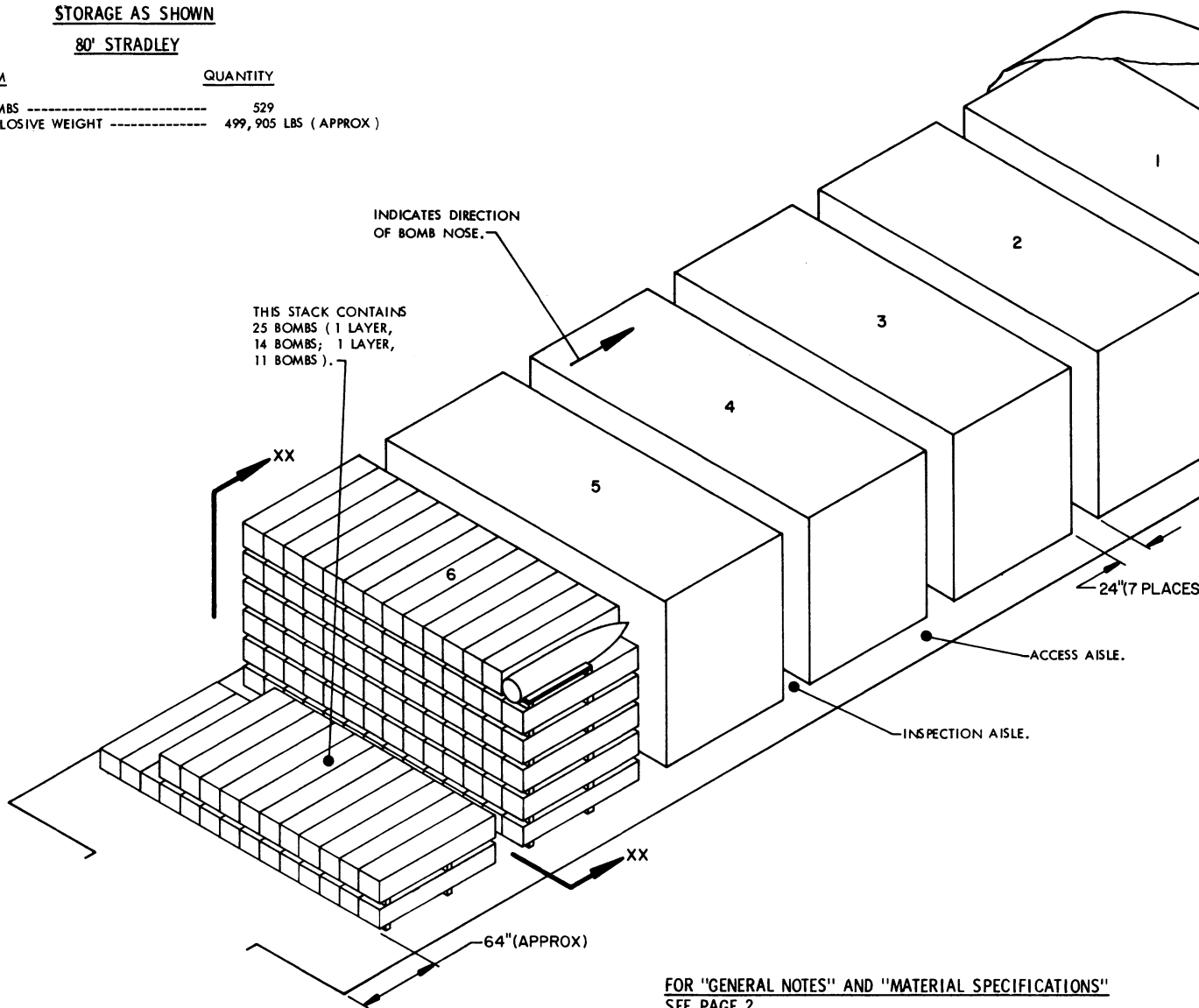
FLOOR AND/OR INTERMEDIATE DUNNAGE ASSEMBLIES BY LENGTH TO SUIT (REQD BETWEEN EACH LAYER). SEE THE "DUNNAGE ASSEMBLY C" DETAIL ON PAGE 66 AND "DETAIL E" ON PAGE 64 FOR PLACEMENT.



STORAGE AS SHOWN

80' STRADLEY

ITEM	QUANTITY
BOMBS -----	529
EXPLOSIVE WEIGHT -----	499,905 LBS (APPROX)



ISOMETRIC VIEW

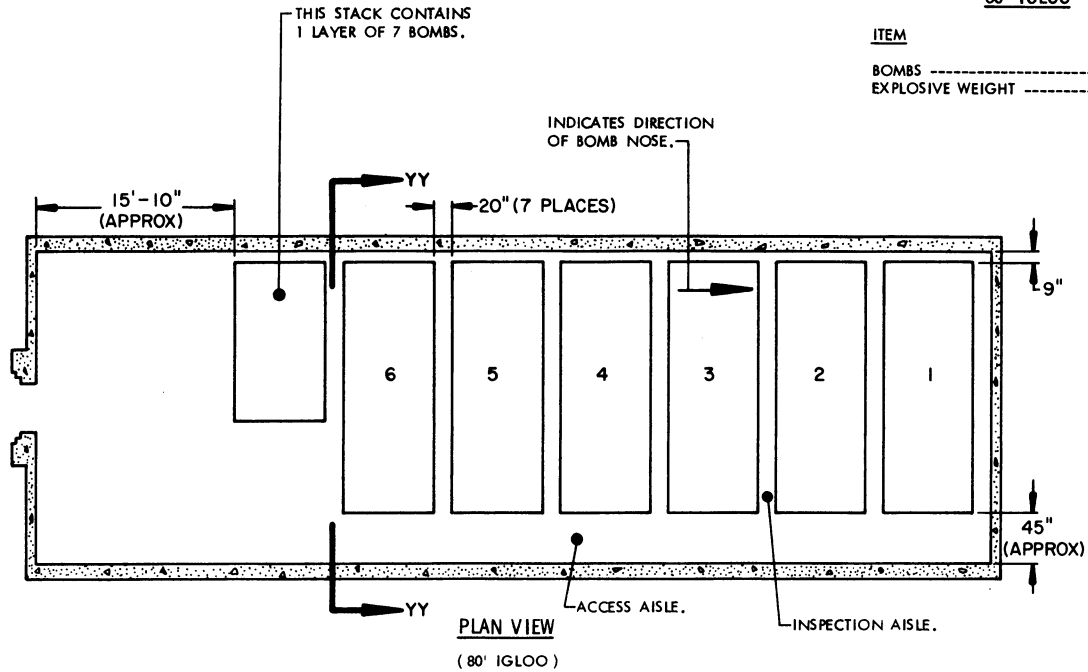
FOR "GENERAL NOTES" AND "MATERIAL SPECIFICATIONS" SEE PAGE 2.

BILL OF MATERIAL PER STACK		
LUMBER	LINEAR FEET	BOARD FEET
2" X 4"	84	56
4" X 4"	386	515
NAILS	NO. REQD	POUNDS
10d (3")	72	1-1/4
12d (3-1/4")	96	1-3/4
16d (3-1/2")	120	2-3/4
STEEL STRAPPING, 1-1/4" X .035" ----- 360' REQD ----- 52 LBS		
SEAL FOR 1/4" STRAPPING ----- 30 REQD ----- 1-1/2 LBS		
WEDGE, 9'-0" ----- 2 REQD		
WEDGE, 6'-0" ----- 2 REQD		

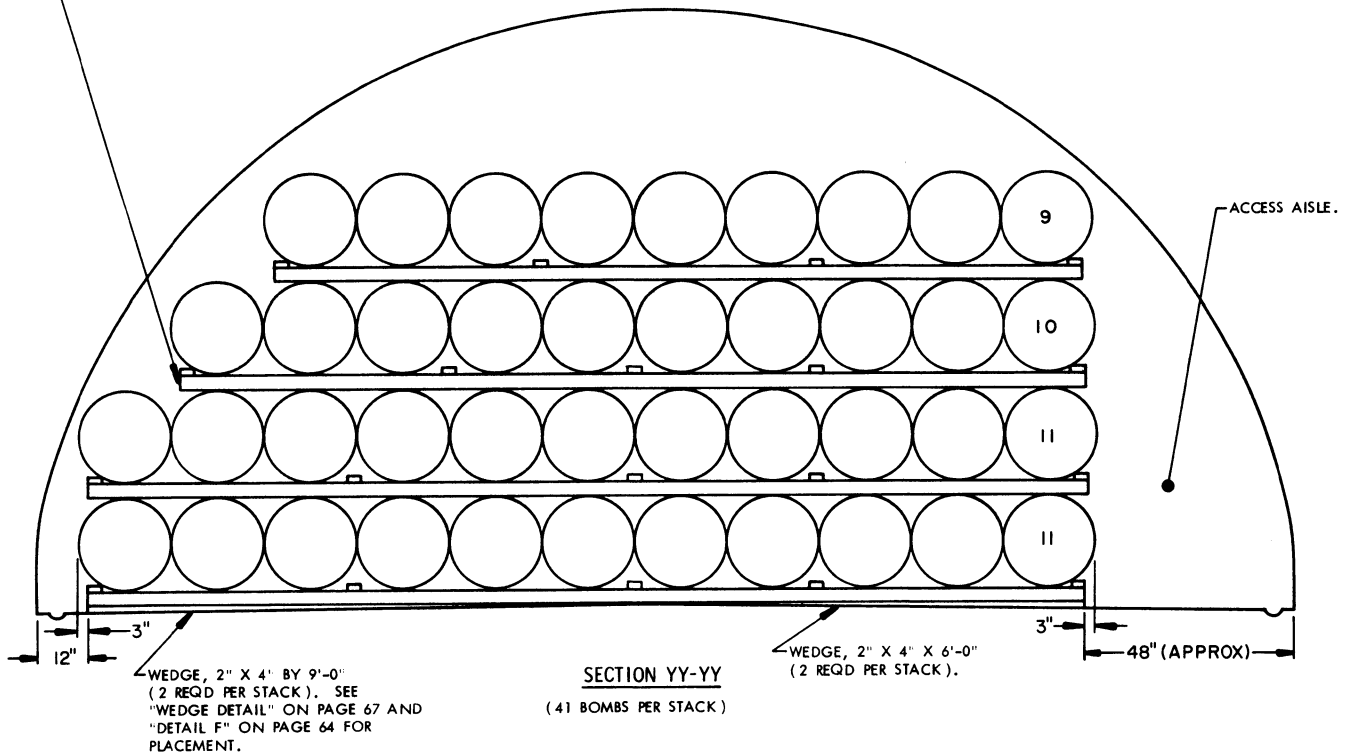
STORAGE AS SHOWN

80' IGLOO

ITEM	QUANTITY
BOMBS	253
EXPLOSIVE WEIGHT	499,675 LBS (APPROX)



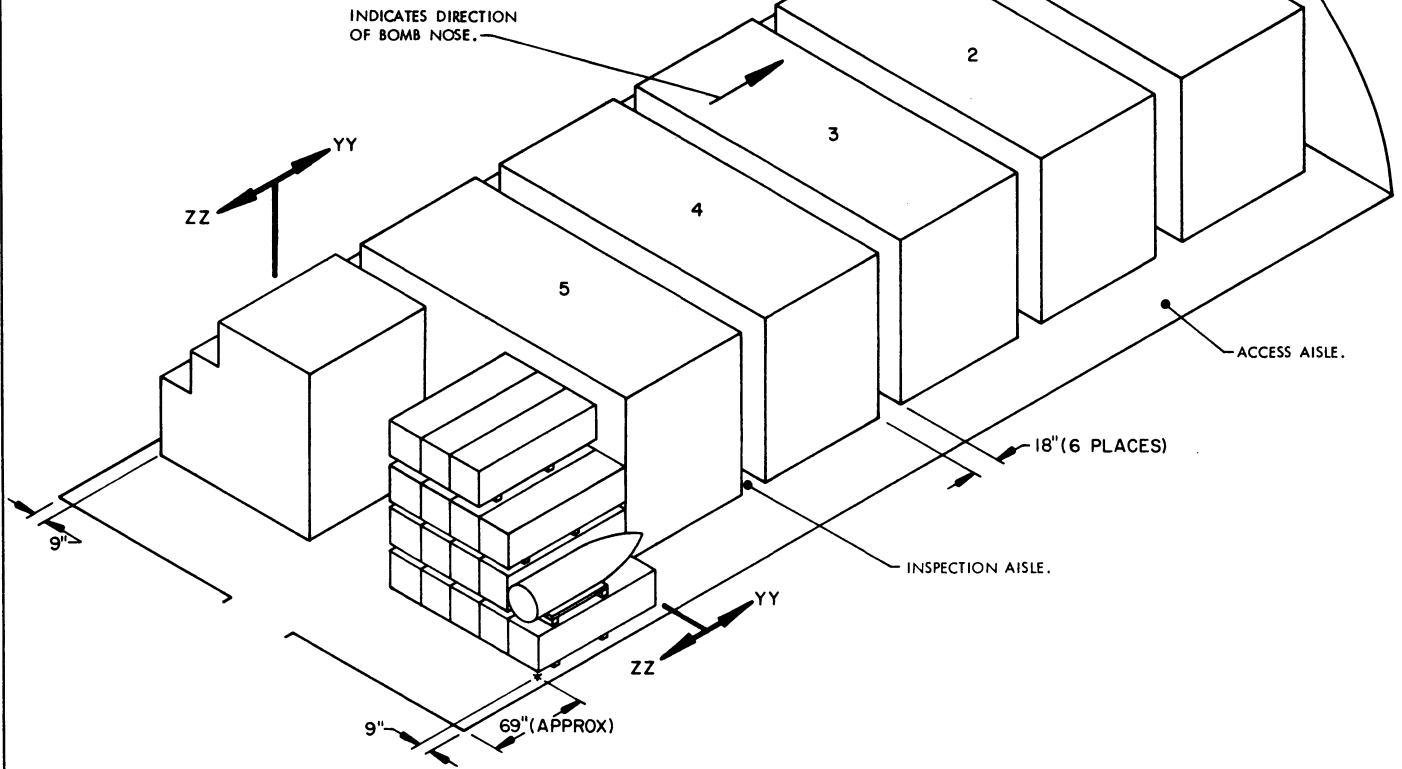
FLOOR AND/OR INTERMEDIATE DUNNAGE ASSEMBLIES BY LENGTH TO SUIT (REQD BETWEEN EACH LAYER). SEE THE "DUNNAGE ASSEMBLY D" DETAIL ON PAGE 66 AND "DETAIL F" ON PAGE 64 FOR PLACEMENT.



STORAGE AS SHOWN

60' IGLOO

ITEM	QUANTITY
BOMBS -----	239
EXPLOSIVE WEIGHT -----	472,025 LBS (APPROX)

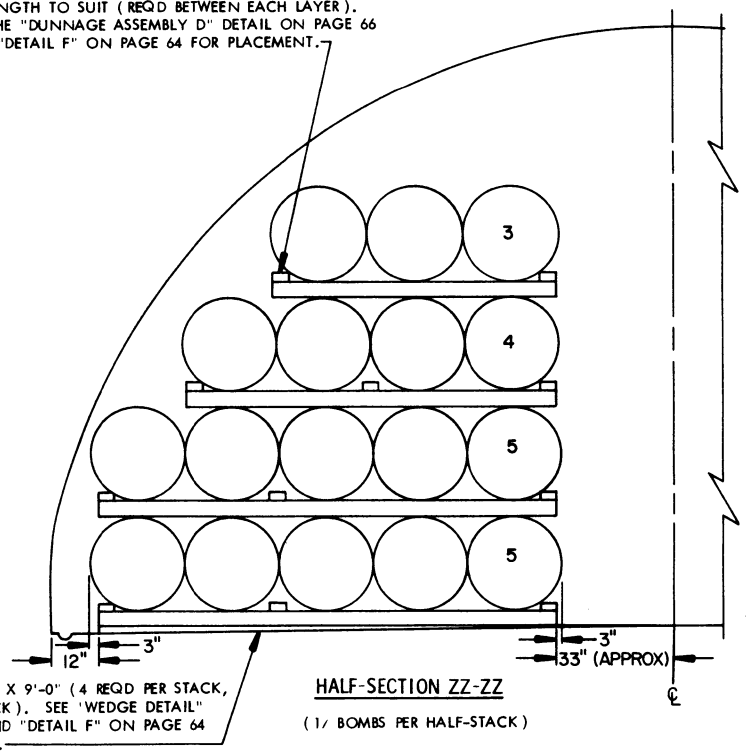


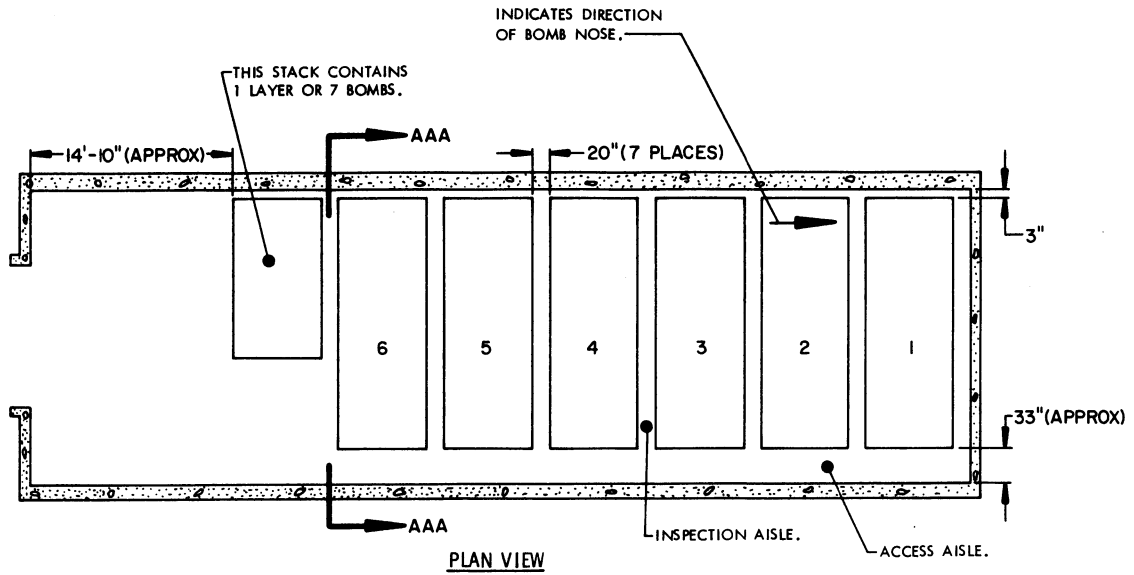
ISOMETRIC VIEW
(60' IGLOO)

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

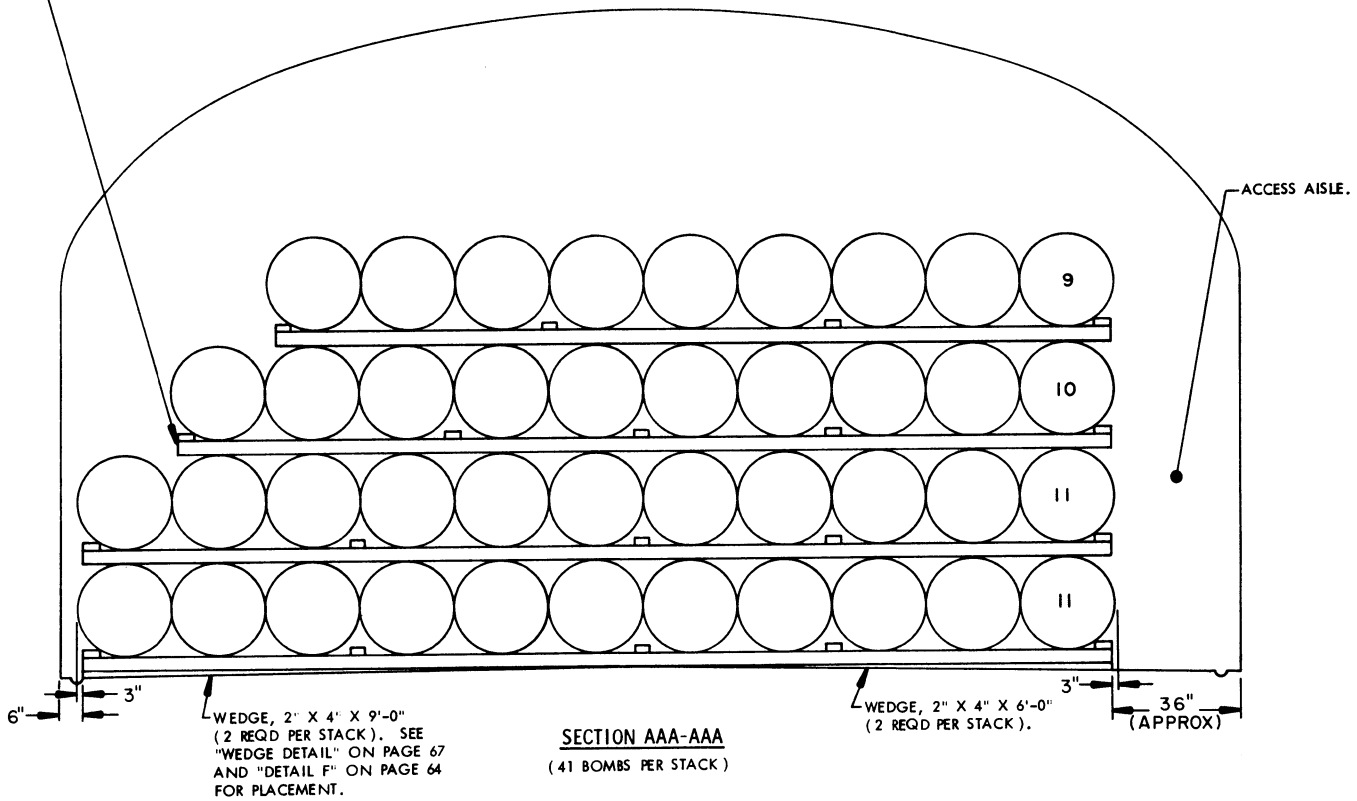
FLOOR AND/OR INTERMEDIATE DUNNAGE ASSEMBLIES BY LENGTH TO SUIT (REQD BETWEEN EACH LAYER). SEE THE "DUNNAGE ASSEMBLY D" DETAIL ON PAGE 66 AND "DETAIL F" ON PAGE 64 FOR PLACEMENT.

BILL OF MATERIAL PER STACK		
LUMBER	LINEAR FEET	BOARD FEET
2' X 4"	83	56
4" X 4"	164	219
NAILS		POUNDS
10d (3")	114	1-3/4
12d (3-1/4")	64	1-1/4
WEDGE, 9'-0" -----		2 REQD
WEDGE, 6'-0" -----		2 REQD





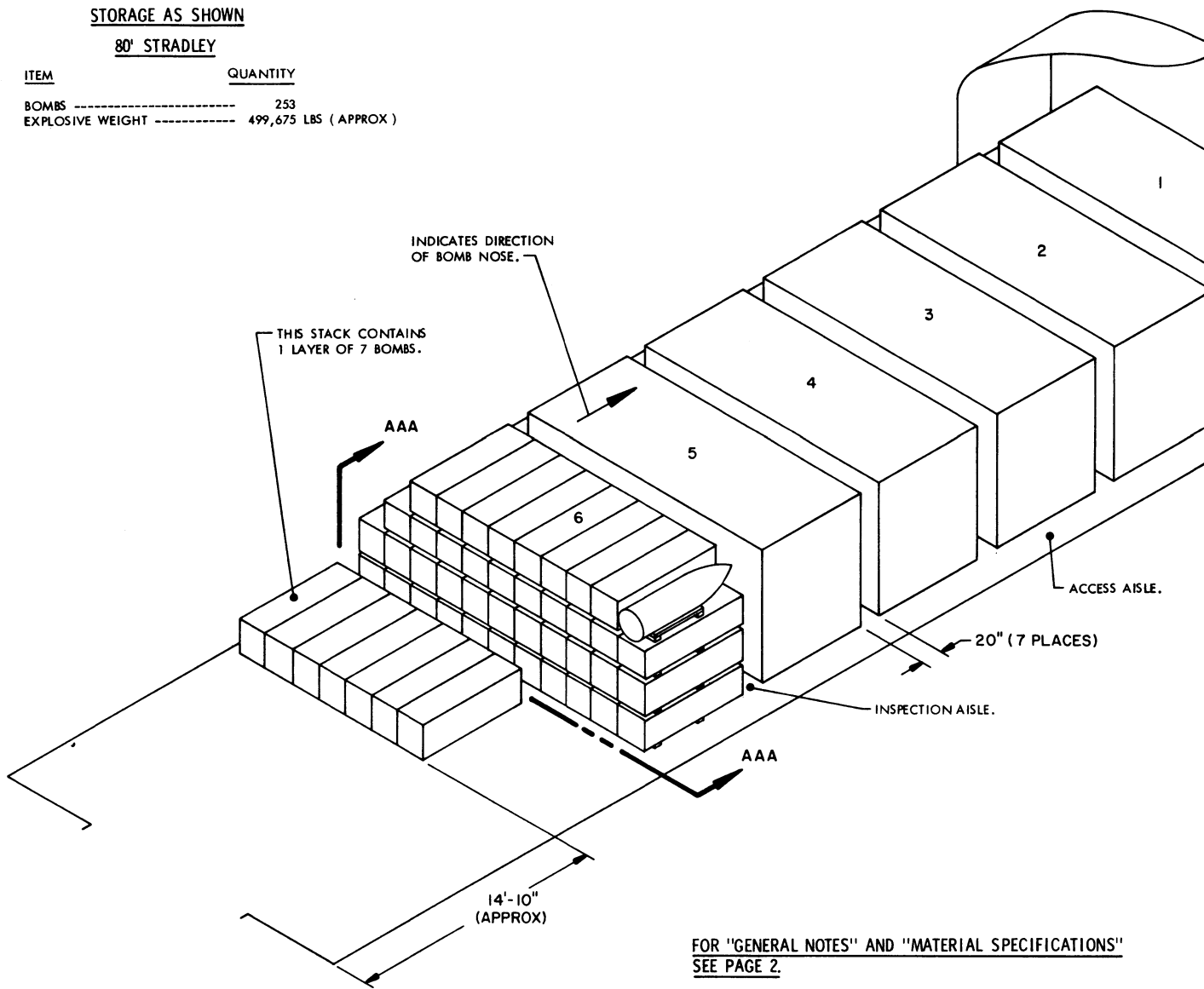
FLOOR AND/OR INTERMEDIATE DUNNAGE ASSEMBLIES BY LENGTH TO SUIT (REQD BETWEEN EACH LAYER). SEE THE "DUNNAGE ASSEMBLY D" DETAIL ON PAGE 66 AND "DETAIL F" ON PAGE 64 FOR PLACEMENT.



STORAGE AS SHOWN

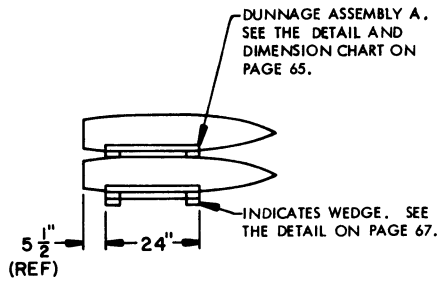
80' STRADLEY

ITEM	QUANTITY
BOMBS -----	253
EXPLOSIVE WEIGHT -----	499,675 LBS (APPROX)

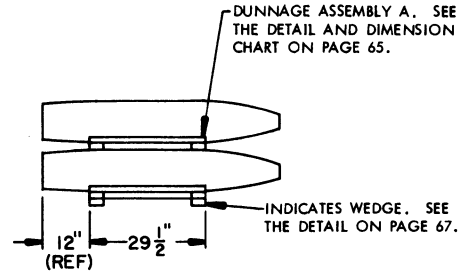


ISOMETRIC VIEW

BILL OF MATERIAL PER STACK		
LUMBER	LINEAR FEET	BOARD FEET
2" X 4"	83	56
4" X 4"	164	219
NAILS	NO. REQD	POUNDS
10d (3")	114	1-3/4
12d (3-1/4")	64	1-1/4
WEDGE, 9'-0" -----		2 REQD
WEDGE, 6'-0" -----		2 REQD

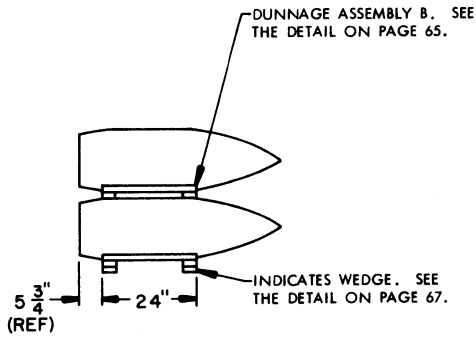


DETAIL A
250-POUND BOMB
MK81 SERIES

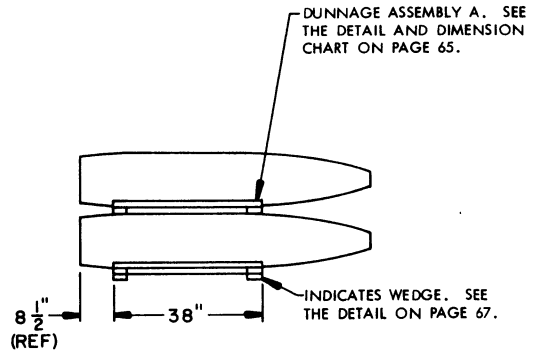


DETAIL B
500-POUND BOMB
MK82 SERIES

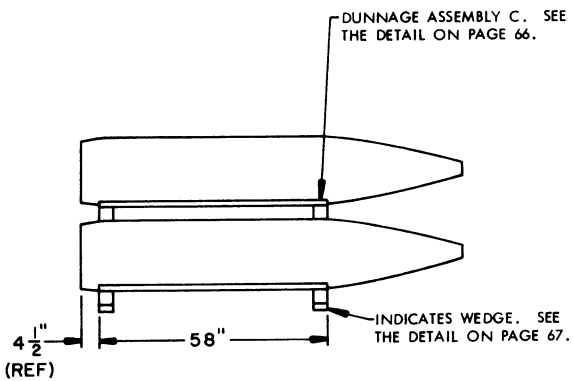
NOTE:
TO PROVIDE STACK STABILITY, THE REFERENCE DIMENSION SHOWN FROM THE BASE OF THE BOMB TO THE DUNNAGE ASSEMBLY SHOULD BE VERIFIED WHEN PLACING THE FIRST LAYER OF BOMBS AND SHOULD BE ADJUSTED, IF NECESSARY, TO ASSURE LEVEL LAYERS AND AS NEAR VERTICAL ALIGNMENT AS POSSIBLE OF THE NOSES AND BASES OF THE BOMBS IN THE UPPER LAYERS. SEE GENERAL NOTES "A" AND "B" ON PAGE 2.



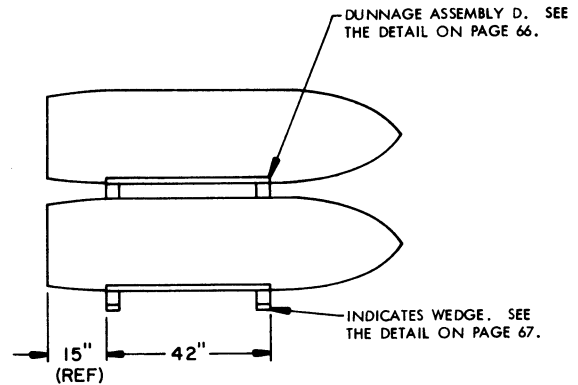
DETAIL C
750-POUND BOMB
M117 SERIES



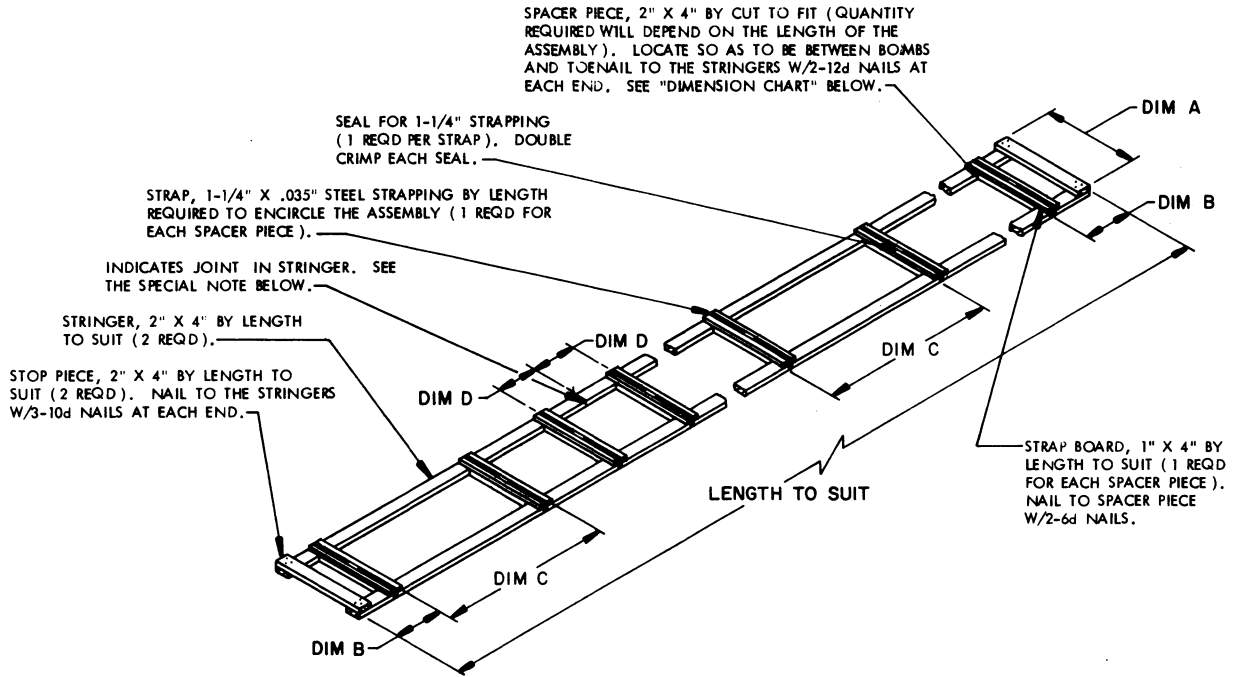
DETAIL D
1,000-POUND BOMB
MK83 SERIES



DETAIL E
2,000-POUND BOMB
MK84 SERIES



DETAIL F
3,000-POUND BOMB
M118 SERIES

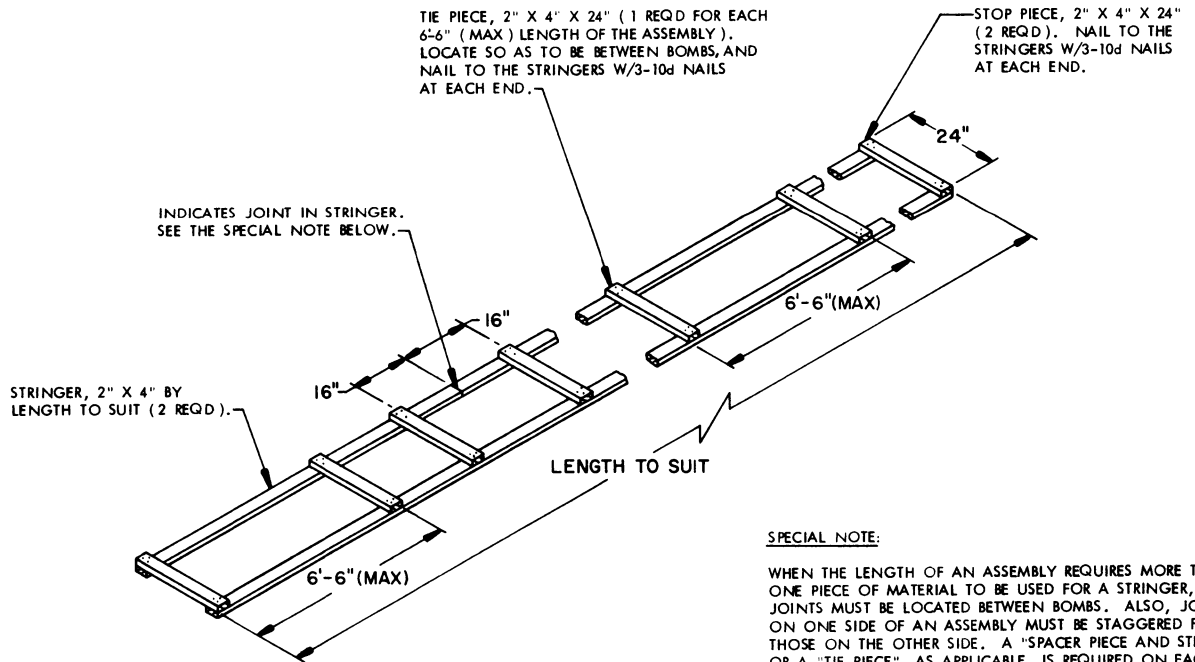


DUNNAGE ASSEMBLY A

FOR FOLLOWING BOMBS:

- 250-POUND BOMB, MK81 SERIES
- 500-POUND BOMB, MK82 SERIES
- 1,000-POUND BOMB, MK83 SERIES

DIMENSION CHART				
ITEM	DIM A	DIM B	DIM C	DIM D
250-LB BOMB	24"	13-1/4"	72" (MAX)	9"
500-LB BOMB	29-1/2"	15"	66" (MAX)	10-3/4"
1,000-LB BOMB	38"	17"	72" (MAX)	14"

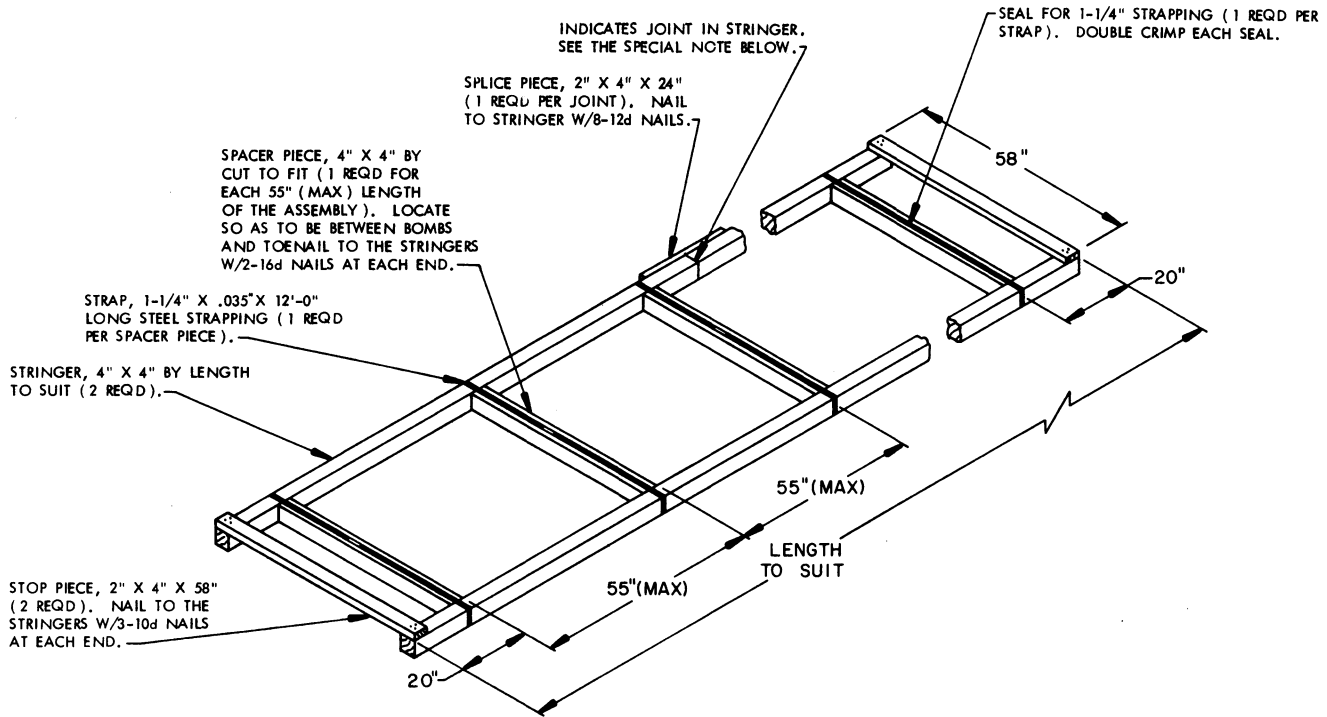


DUNNAGE ASSEMBLY B

FOR 750-POUND BOMB, M117 SERIES

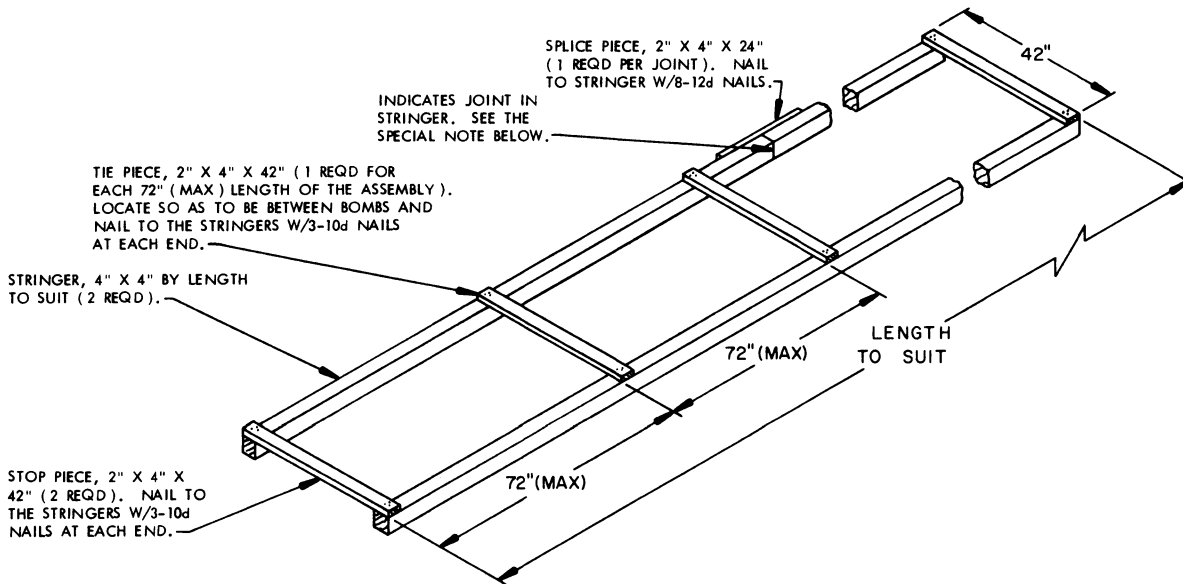
SPECIAL NOTE:

WHEN THE LENGTH OF AN ASSEMBLY REQUIRES MORE THAN ONE PIECE OF MATERIAL TO BE USED FOR A STRINGER, JOINTS MUST BE LOCATED BETWEEN BOMBS. ALSO, JOINTS ON ONE SIDE OF AN ASSEMBLY MUST BE STAGGERED FROM THOSE ON THE OTHER SIDE. A "SPACER PIECE AND STRAP" OR A "TIE PIECE", AS APPLICABLE, IS REQUIRED ON EACH SIDE OF EACH JOINT AS SHOWN. ADDITIONALLY, JOINTS IN THE ASSEMBLY FOR ONE LAYER OF BOMBS MUST BE STAGGERED FROM JOINTS IN THE ASSEMBLY FOR AN ADJACENT LAYER AS IS SHOWN IN THE "TYPICAL DUNNAGE APPLICATION" VIEW ON PAGE 67.



DUNNAGE ASSEMBLY C

FOR 2,000-POUND BOMB, MK84 SERIES

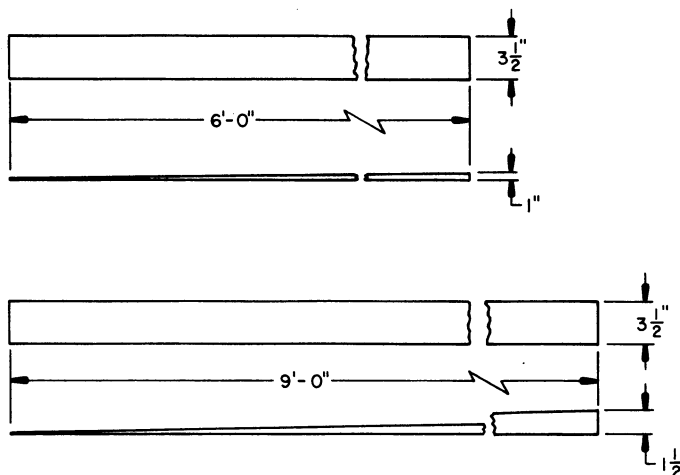


DUNNAGE ASSEMBLY D

FOR 3,000-POUND BOMB, M118 SERIES

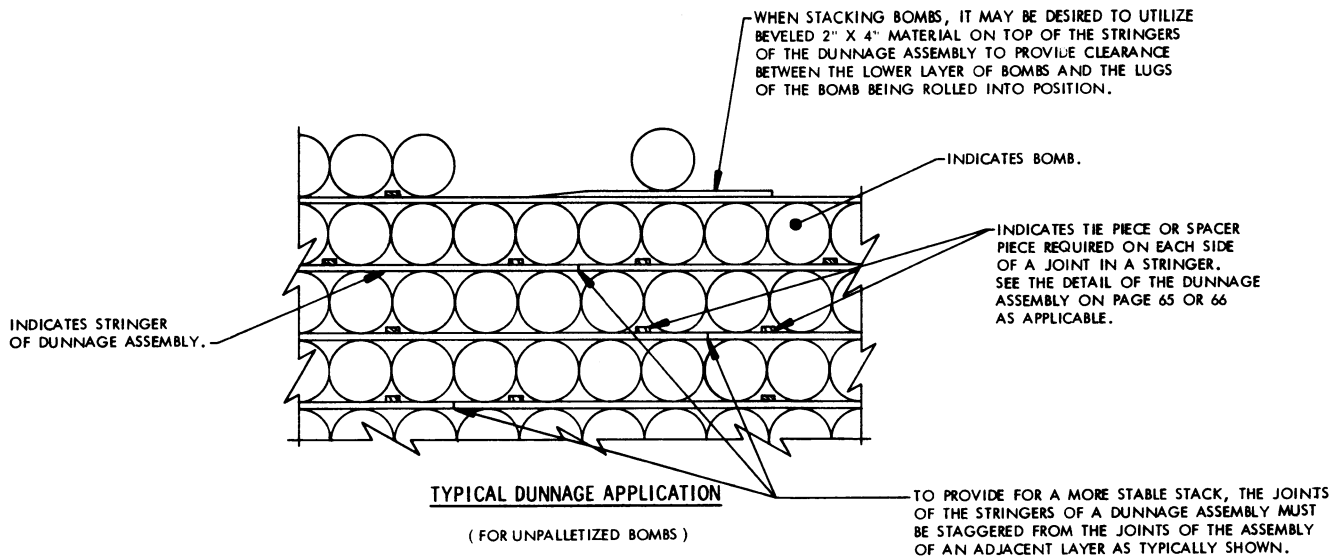
SPECIAL NOTE:

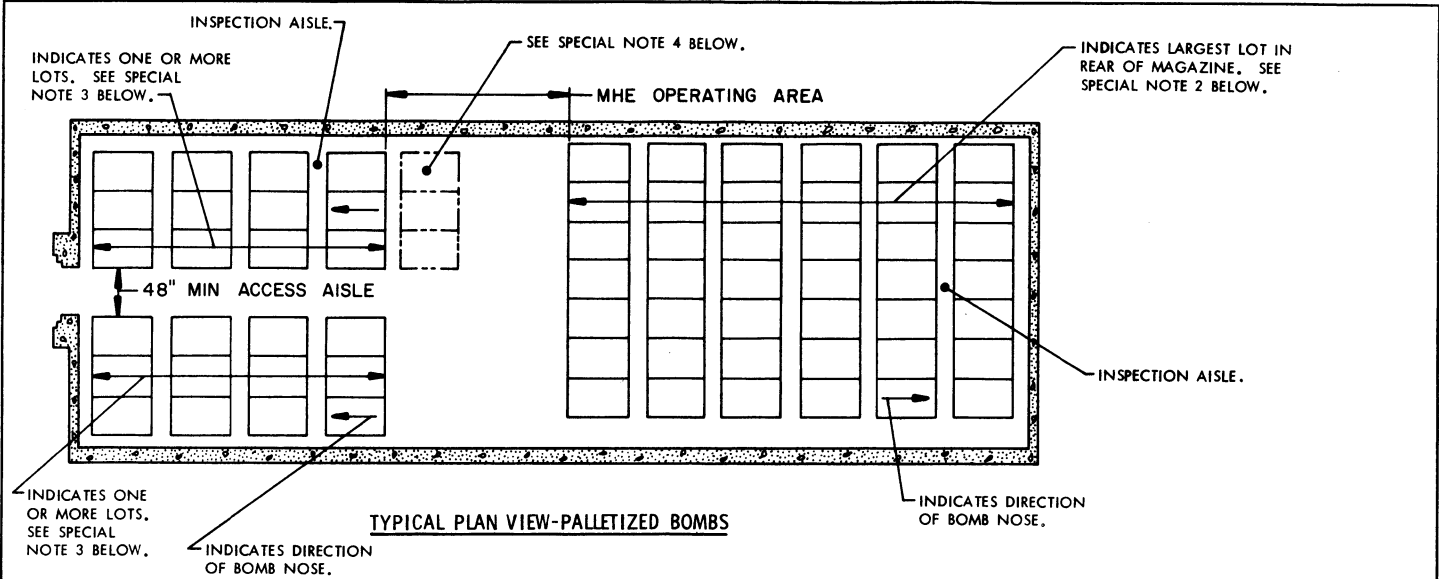
WHEN THE LENGTH OF AN ASSEMBLY REQUIRES MORE THAN ONE PIECE OF MATERIAL TO BE USED FOR A STRINGER, JOINTS MUST BE LOCATED BETWEEN BOMBS. ALSO, JOINTS ON ONE SIDE OF AN ASSEMBLY MUST BE STAGGERED FROM THOSE ON THE OTHER SIDE. A "SPLICE PIECE" IS REQUIRED FOR EACH JOINT AS SHOWN. ADDITIONALLY, JOINTS IN THE ASSEMBLY FOR ONE LAYER OF BOMBS MUST BE STAGGERED FROM JOINTS IN THE ASSEMBLY FOR AN ADJACENT LAYER AS IS SHOWN IN THE "TYPICAL DUNNAGE APPLICATION" VIEW ON PAGE 67.



WEDGE DETAIL

(2" X 4" MATERIAL)





TYPICAL PLAN VIEW-PALLETIZED BOMBS

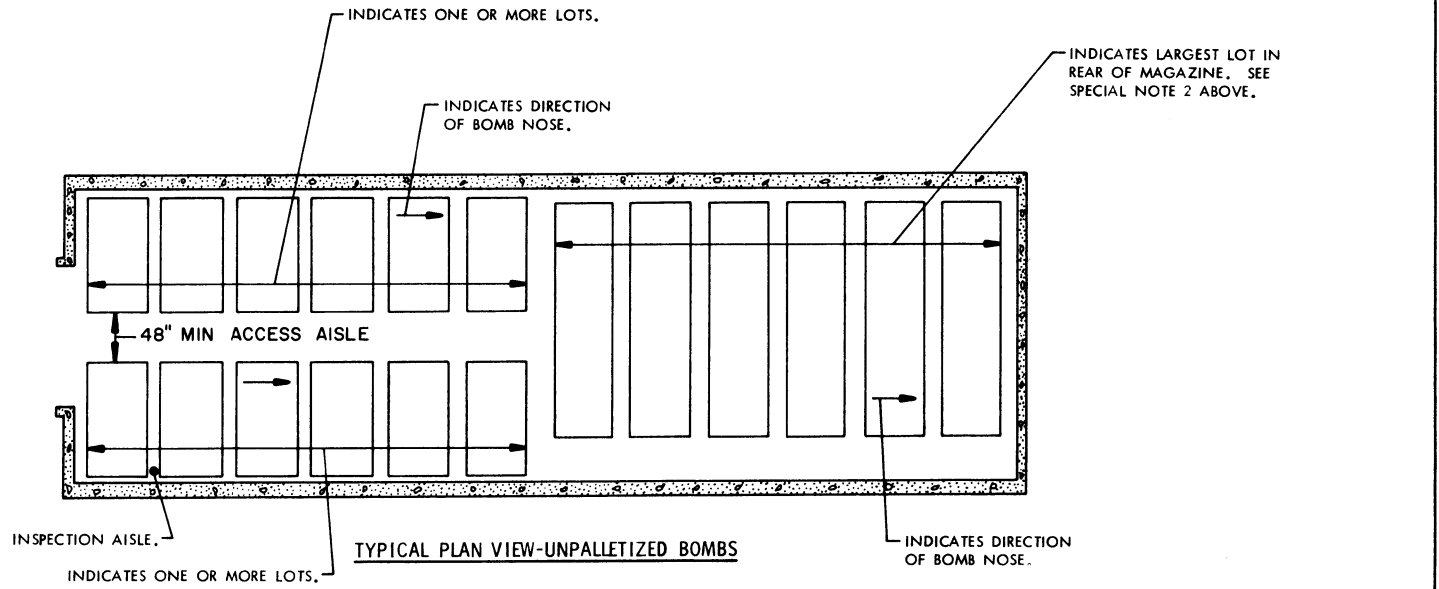
SPECIAL NOTES:

1. THE TYPICAL PLAN VIEWS ON THIS PAGE DEPICT STORAGE OF MORE THAN ONE ITEM LOT PER MAGAZINE WHEN IT IS DESIRED OR REQUIRED TO HAVE ACCESS TO EACH LOT FOR REMOVAL. THE STORAGE PLANS ARE TYPICAL ONLY AND MAY BE ADJUSTED AS NECESSARY TO SUIT EXISTING REQUIREMENTS.
2. THE LARGEST LOT WILL BE STORED IN STACKS ACROSS THE REAR OF THE MAGAZINE. REFER TO THE BASIC STORAGE VIEW FOR STACKING PATTERNS AND AISLE DIMENSIONS APPLICABLE FOR THE BOMBS (PALLETIZED OR UNPALLETIZED) BEING STORED. IF THE LOT WILL OCCUPY LESS THAN ONE-FOURTH OF THE MAGAZINE, STORAGE IN THE REAR PORTION OF THE MAGAZINE MAY BE OF MORE THAN ONE LOT, ERECTED IN BLOCKS OR ROWS SIMILAR TO THAT SHOWN IN THE FRONTAL AREA. THE 48" MIN. ACCESS AISLE SHOWN AT THE FRONT FOR MHE USE IS NOT REQUIRED AT THE REAR, HOWEVER, AN 18" OR WIDER AISLE MUST BE PROVIDED BETWEEN LATERALLY ADJACENT LOTS TO PERMIT ACCESS FOR INSPECTION.

(SPECIAL NOTES CONTINUED)

3. WHEN STORING PALLETIZED BOMB UNITS, STORAGE IN THE FRONTAL AREA OF A MAGAZINE AS SHOWN CAN BE FOR ONE LOT STORED ON BOTH SIDES OF THE ACCESS AISLE, OR FOR ONE OR MORE LOTS ON EACH SIDE OF THE AISLE. IF MORE THAN ONE SMALL LOT IS TO BE STORED ON ONE SIDE OF AN AISLE, AND ALSO IF SEVERAL SMALL LOTS ARE TO BE STORED AT THE REAR OF A MAGAZINE, LOTS MUST BE SPACED LATERALLY WITH A ONE INCH (1") MINIMUM SEPARATION. IF A LOT CONSISTS OF ONLY ONE LONGITUDINAL ROW, SUFFICIENT SPACE MUST BE ALLOWED ON EACH SIDE OF THE ROW TO PROVIDE AN ACCESS AISLE OF ADEQUATE WIDTH TO PERMIT FORKLIFT OPERATIONS.
4. ADDITIONAL PALLET UNITS MAY BE STORED WITHIN ONE SIDE OF THE MHE OPERATING AREA IF STORAGE ON THAT SIDE OF THE MAGAZINE CONSISTS OF ONLY ONE LOT, AND PROVIDING THE PALLET UNIT BEING STORED HAS 4-WAY PICK-UP CAPABILITIES.

(CONTINUED AT RIGHT)

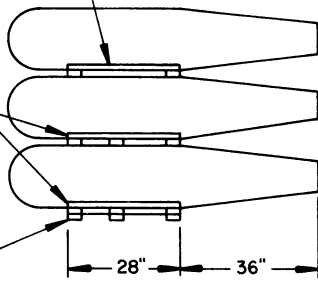


TYPICAL PLAN VIEW-UNPALLETIZED BOMBS

DUNNAGE ASSEMBLY F.
SEE THE DETAIL BELOW.

DUNNAGE ASSEMBLY E.
SEE THE DETAIL BELOW.

INDICATES WEDGE.
SEE THE DETAIL ON PAGE 67.



DETAIL G

SUU 30 BOMB
(PLACEMENT OF BOMBS ON DUNNAGE)

SPECIAL NOTE:

WHEN THE LENGTH OF AN ASSEMBLY REQUIRES MORE THAN ONE PIECE OF MATERIAL TO BE USED FOR A STRINGER, JOINTS MUST BE LOCATED BETWEEN BOMBS. ALSO, JOINTS ON ONE SIDE OF "DUNNAGE ASSEMBLY F" MUST BE STAGGERED FROM THOSE ON THE OTHER SIDE. FOR "DUNNAGE ASSEMBLY E", JOINTS IN TWO STRINGERS MAY BE BETWEEN THE SAME TWO BOMBS BUT THE THIRD JOINT MUST BE STAGGERED FROM THE OTHERS. "SPACER PIECE OR PIECES," AS APPLICABLE, AND STRAP BOARDS ARE REQUIRED ON EACH SIDE OF EACH JOINT AS SHOWN. ADDITIONALLY, JOINTS IN AN ASSEMBLY FOR ONE LAYER OF BOMBS MUST BE STAGGERED FROM THE JOINTS IN THE ASSEMBLY FOR AN ADJACENT LAYER AS IS SHOWN IN THE "TYPICAL DUNNAGE APPLICATION" VIEW ON PAGE 67.

STRAP, 1-1/4" X .035" X 72" LONG STEEL STRAPPING (1 REQD FOR EACH SET OF SPACER PIECES).

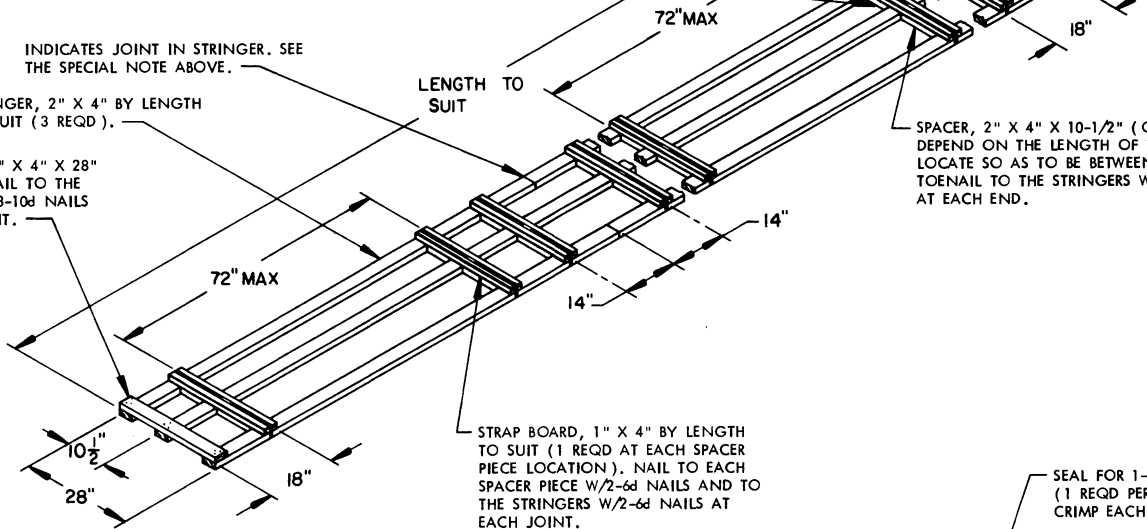
SEAL FOR 1-1/4" STRAPPING (1 REQD PER STRAP). DOUBLE CRIMP EACH SEAL.

SPACER, 2" X 4" X 7" (QUANTITY REQUIRED WILL DEPEND ON THE LENGTH OF THE ASSEMBLY). LOCATE SO AS TO BE BETWEEN BOMBS.

INDICATES JOINT IN STRINGER. SEE THE SPECIAL NOTE ABOVE.

STRINGER, 2" X 4" BY LENGTH TO SUIT (3 REQD).

STOP PIECE, 2" X 4" X 28" (2 REQD). NAIL TO THE STRINGERS W/3-10d NAILS AT EACH JOINT.



SPACER, 2" X 4" X 10-1/2" (QUANTITY WILL DEPEND ON THE LENGTH OF THE ASSEMBLY). LOCATE SO AS TO BE BETWEEN BOMBS AND TOENAIL TO THE STRINGERS W/2-12d NAILS AT EACH END.

STRAP BOARD, 1" X 4" BY LENGTH TO SUIT (1 REQD AT EACH SPACER PIECE LOCATION). NAIL TO EACH SPACER PIECE W/2-6d NAILS AND TO THE STRINGERS W/2-6d NAILS AT EACH JOINT.

DUNNAGE ASSEMBLY E

FOR SUU 30 BOMB
FOR USE UNDER THE BOTTOM 2 LAYERS ONLY. SEE "DETAIL G" ABOVE FOR PLACEMENT GUIDANCE.

STRAP, 1-1/4" X .035" X 72" LONG STEEL STRAPPING (1 REQD FOR EACH SPACER PIECE).

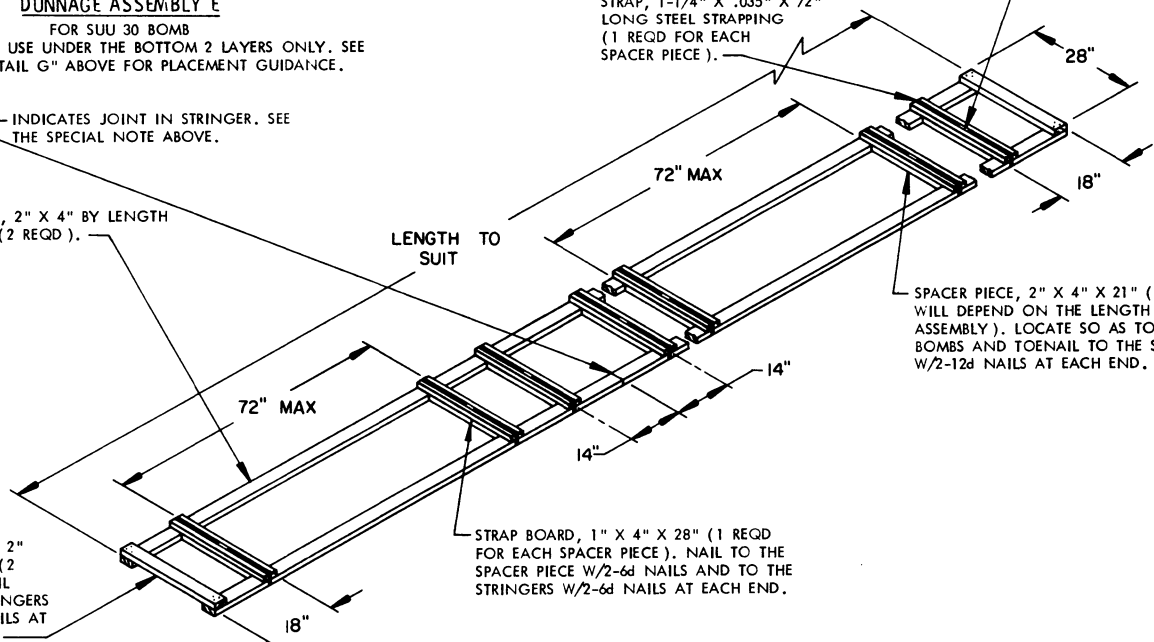
SEAL FOR 1-1/4" STRAPPING (1 REQD PER STRAP). DOUBLE CRIMP EACH SEAL.

INDICATES JOINT IN STRINGER. SEE THE SPECIAL NOTE ABOVE.

STRINGER, 2" X 4" BY LENGTH TO SUIT (2 REQD).

LENGTH TO SUIT

STOP PIECE, 2" X 4" X 28" (2 REQD). NAIL TO THE STRINGERS W/3-10d NAILS AT EACH END.

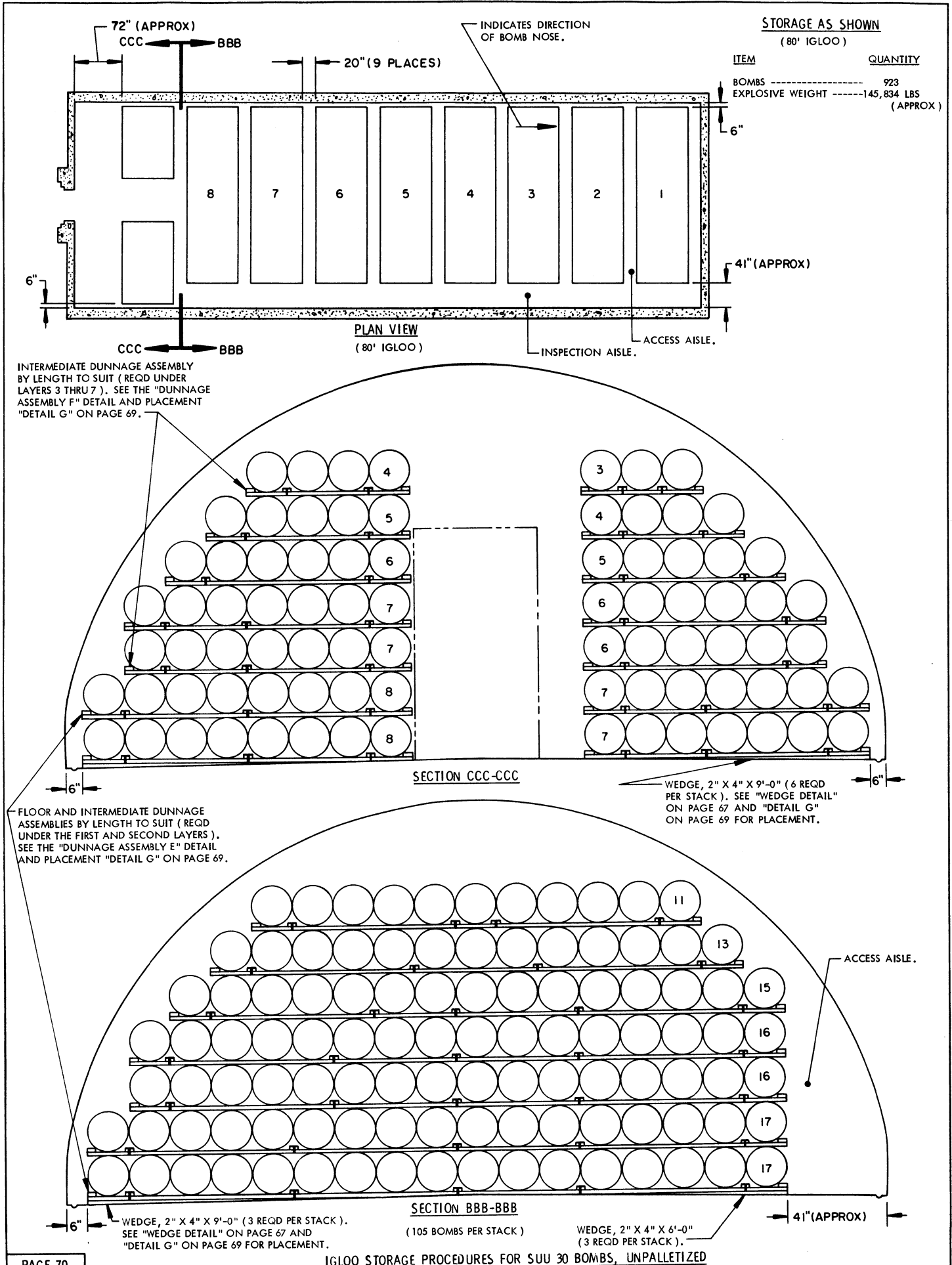


SPACER PIECE, 2" X 4" X 21" (QUANTITY WILL DEPEND ON THE LENGTH OF THE ASSEMBLY). LOCATE SO AS TO BE BETWEEN BOMBS AND TOENAIL TO THE STRINGERS W/2-12d NAILS AT EACH END.

STRAP BOARD, 1" X 4" X 28" (1 REQD FOR EACH SPACER PIECE). NAIL TO THE SPACER PIECE W/2-6d NAILS AND TO THE STRINGERS W/2-6d NAILS AT EACH END.

DUNNAGE ASSEMBLY F

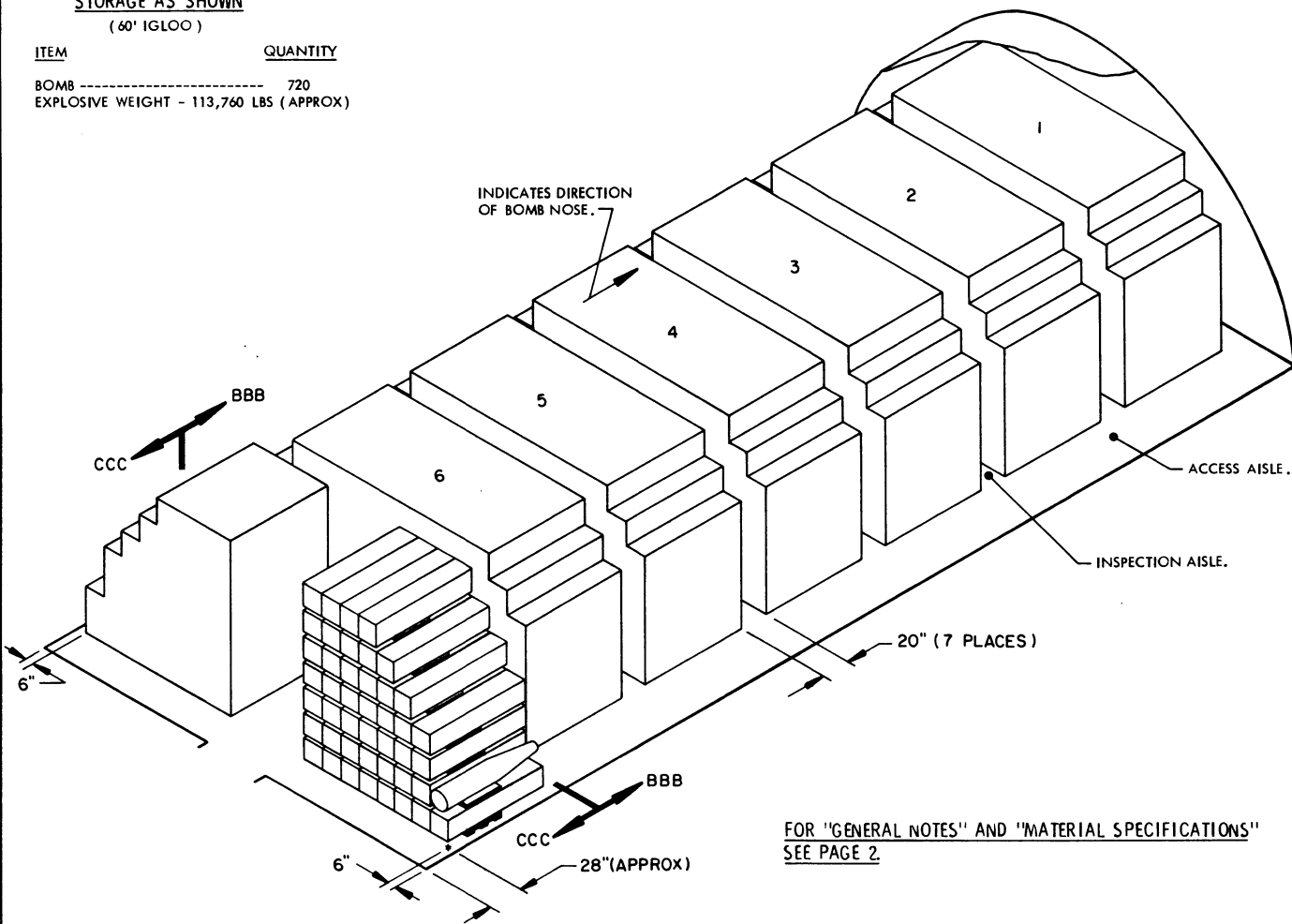
FOR SUU 30 BOMB
FOR USE UNDER LAYERS 3, 4, 5, 6 AND 7



STORAGE AS SHOWN

(60' IGLOO)

ITEM	QUANTITY
BOMB -----	720
EXPLOSIVE WEIGHT - 113,760 LBS (APPROX)	



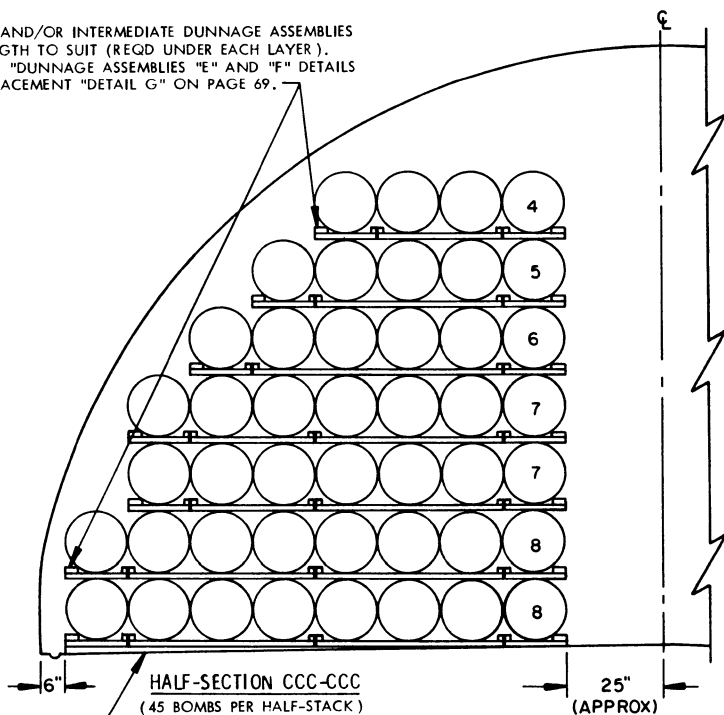
ISOMETRIC VIEW

(60' IGLOO)

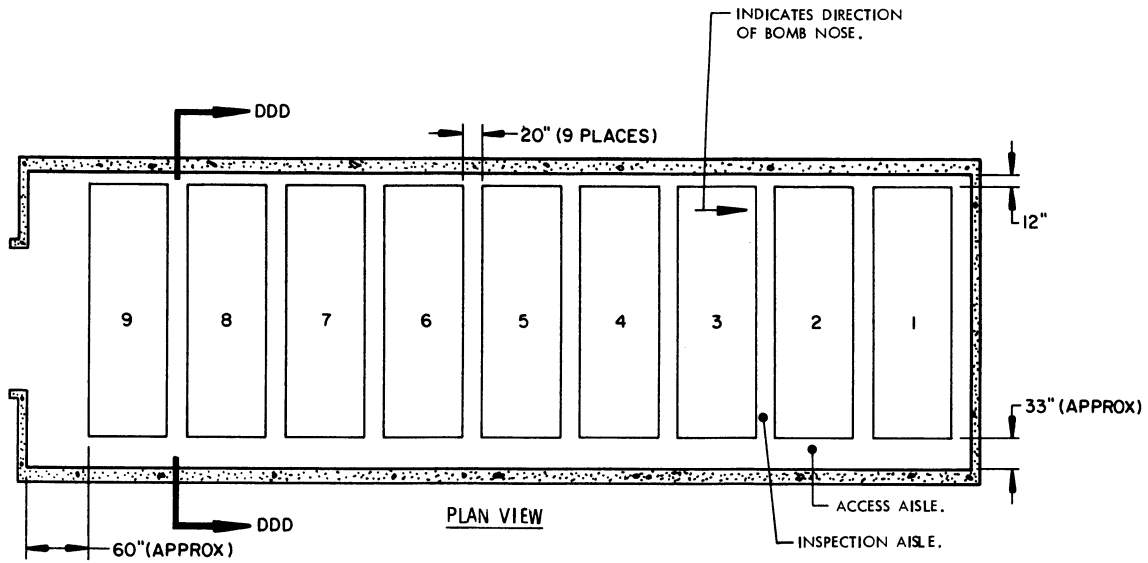
FOR "GENERAL NOTES" AND "MATERIAL SPECIFICATIONS" SEE PAGE 2.

FLOOR AND/OR INTERMEDIATE DUNNAGE ASSEMBLIES BY LENGTH TO SUIT (REQD UNDER EACH LAYER). SEE THE "DUNNAGE ASSEMBLIES "E" AND "F" DETAILS AND PLACEMENT "DETAIL G" ON PAGE 69.

BILL OF MATERIAL PER STACK		
LUMBER	LINEAR FEET	BOARD FEET
1" X 4"	110	37
2" X 4"	439	293
NAILS	NO. REQD	POUNDS
6d (2")	350	2-1/4
10d (3")	96	1-1/2
12d (3-1/4")	196	3-1/2
STEEL STRAPPING, 1-1/4" X .035" -----	270' REQD -----	39 LBS
SEAL FOR 1-1/4" STRAPPING -----	47 REQD -----	2- 1/4 LBS
WEDGE, 9'-0" -----		3 REQD
WEDGE, 6'-0" -----		3 REQD

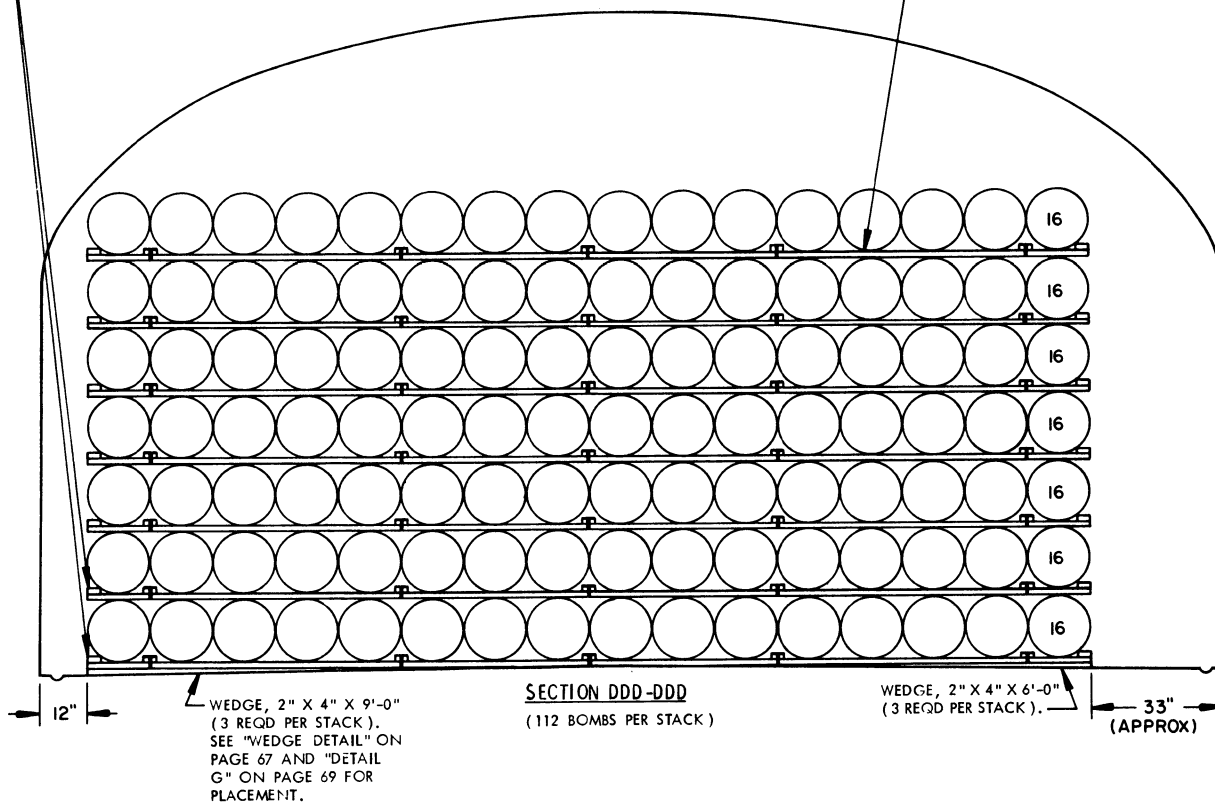


WEDGE, 2" X 4" X 9'-0" (6 REQD PER STACK, 3 REQD PER HALF-STACK). SEE THE "WEDGE DETAIL" ON PAGE 67 AND "DETAIL G" ON PAGE 69 FOR PLACEMENT.



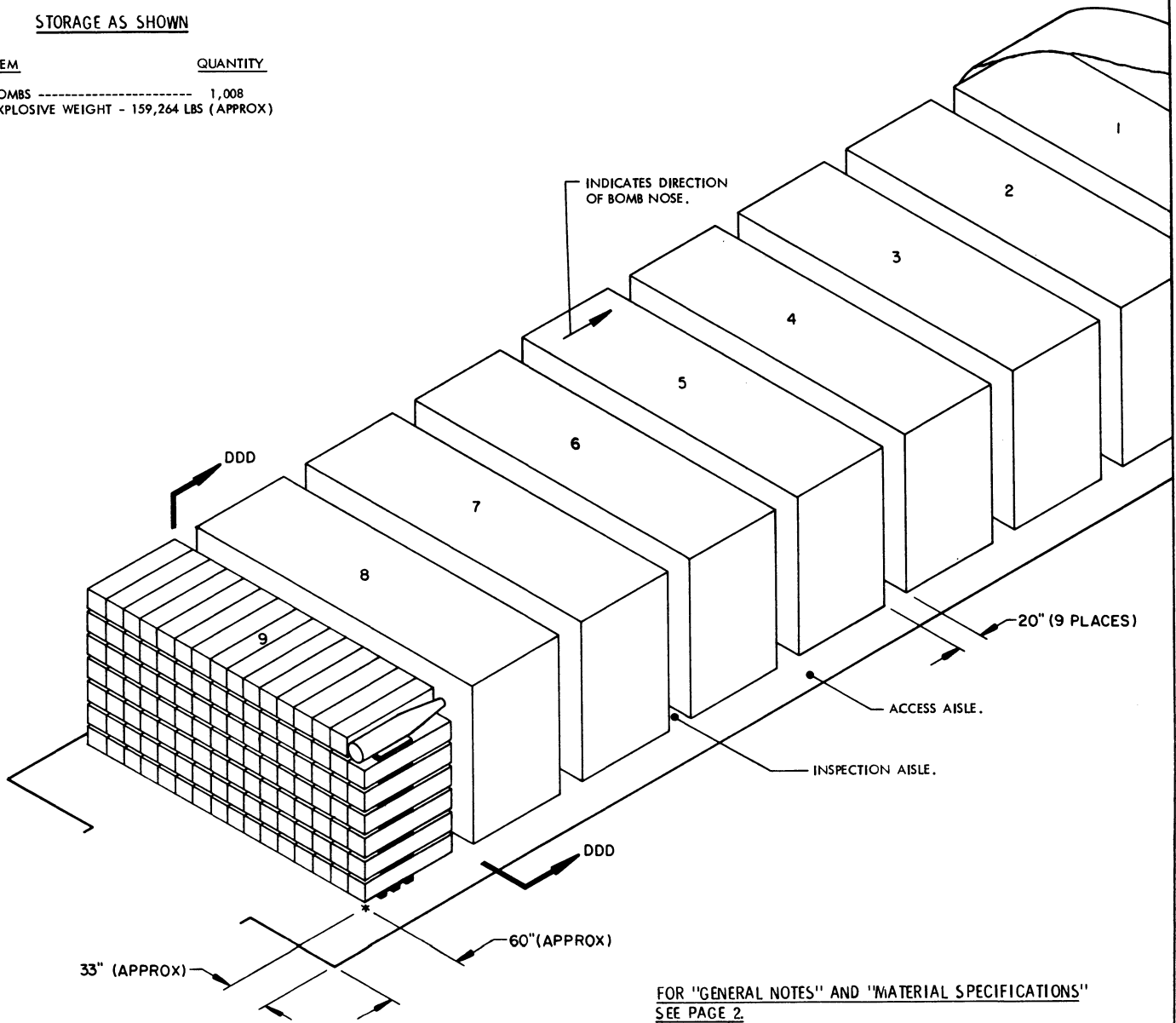
FLOOR AND/OR INTERMEDIATE DUNNAGE ASSEMBLIES BY LENGTH TO SUIT (REQUIRED UNDER THE FIRST AND SECOND LAYERS). SEE THE "DUNNAGE ASSEMBLY E" DETAIL AND PLACEMENT "DETAIL G" ON PAGE 69.

INTERMEDIATE DUNNAGE ASSEMBLY BY LENGTH TO SUIT (REQD UNDER LAYERS 3 THRU 7). SEE THE "DUNNAGE ASSEMBLY F" DETAIL AND PLACEMENT "DETAIL G" ON PAGE 69.



STORAGE AS SHOWN

ITEM	QUANTITY
BOMBS -----	1,008
EXPLOSIVE WEIGHT -	159,264 LBS (APPROX)



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

ISOMETRIC VIEW

BILL OF MATERIAL PER STACK		
LUMBER	LINEAR FEET	BOARD FEET
1" X 4"	115	39
2" X 4"	455	304
NAILS	NO. REQD	POUNDS
6d (2")	350	2-1/4
10d (3")	96	1-1/2
12d (3-1/4")	196	3-1/4
STEEL STRAPPING, 1-1/4" X .035" ----- 294' REQD ----- 42 LBS		
SEAL FOR 1-1/4" STRAPPING ----- 49' REQD -- 2-1/4 LBS		
WEDGE, 9'-0" ----- 3 REQD		
WEDGE, 6'-0" ----- 3 REQD		

