



IAAI/USFA Abandoned Building Project

USFA National Arson Prevention Initiative Board Up Procedures



Materials List and Specifications

Security Measures

1. All openings in the basement, first floor doors and windows, and any point of entry accessible from a porch, fire escape or other potential climbing point shall be barricaded with plywood, 2x4 braces, carriage bolt sets, and nails. Particle board, wafer board, Masonite, or other similar material shall not be used for purposes of boarding-up a building.
2. Openings that are at least 10' from ground level which are not accessible from a porch, fire escape, roof, or other climbing point can be secured with nails in each brace, and every 12" around the perimeter. For all openings, the plywood should be fitted so that it rests snugly against the exterior frame, butting up to the siding on wood frame buildings and up to the brick molding edge on brick buildings. It may be necessary to remove the staff bead so this fit can be flush and tight.
3. The structure shall be posted with a NO TRESPASSING sign at the completion of the board-up.

Materials

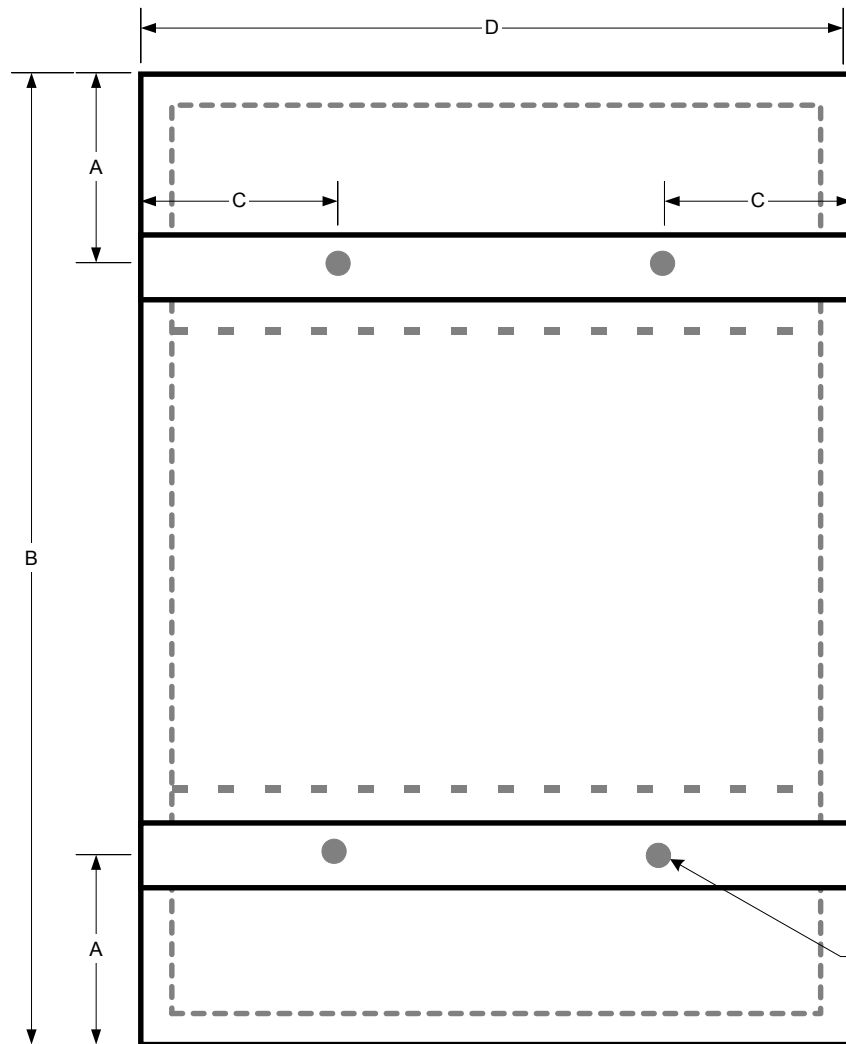
1. Plywood, 1/2" (4 ply) exterior grade CDX
2. Braces - 2" by 4" by 8' construction grade lumber
3. 3/8" (coarse thread) by 12" carriage bolts (rounded head on weather side)
4. 3/8" (coarse thread) construction grade nuts
5. 1/2" (USS Standard) Flat washers with an inside diameter large enough to bypass the wrench neck inside the carriage bolt head so no lift edge is available beneath an installed carriage bolt head.
6. 3/8" (USS Standard) diameter flat washers for installation beneath the nut inside the building
7. 1-5/8" (6d) galvanized or stainless steel ring-shank nails or comparable deck nails.

Barrier Assembly

1. Applying barriers is accomplished with a inside and outside carpenter with appropriate tools and supplies. The inside carpenter will need a light. Exit is made over a ladder when the last window is boarded.
2. Plywood shall be cut to fit over the window and door openings, flush with outside of the molding/trimmer stud. Application of barriers shall be completed so that all lift or pry points are avoided.
3. The 2x4 braces shall be cut to fit the horizontal dimension of the plywood. Two exterior and two interior 2x4 braces shall be provided for each window and three sets for each door.
4. Window Assembly – Braces are located horizontally approximately 1/3 of the distance from the top and the bottom of the window. Bolt holes are located 1/3 of the length of the brace from the outside edge of the window jams. Prior to installation, the assembly should be pre-assembled and 3/8” holes drilled through all of the components.
5. Door Assembly – Door braces will be placed horizontally; one in the center of the doorway and one 1/2 the distance from the center to the top and one 1/2 distance from the center to the bottom of the doorway. Bolt holes are located 1/3 of the length of the brace from the outside edge of the door frame. Prior to installation, the assembly should be pre-assembled and 3/8” holes drilled through all of the components.
6. Plywood used to cover exterior openings shall be nailed every 12” along the perimeter to the window or door frame.
7. The 2x4 braces on the interior and exterior of the assemblies shall be secured using 3/8” by 12” carriage bolt assemblies. Bolts shall be inserted through the pre-drilled holes from the exterior with a 1/2” washer place against the exterior brace, a 3/8” washer is placed against the interior brace. The bolt is tightened from the inside so that it slightly compresses the interior brace.
8. The exterior surfaces of barriers shall be painted or stained the same color as the structure to minimize the appearance.

Should the through-bolt compression method be impossible due to the size or condition of the opening, the opening shall be covered with plywood and secured with a minimum of 3-inch-long deck or wood screws installed on 4-inch centers around the circumference of the opening.

For buildings that require access by authorized personnel, a single door that is visible from the street may be secured using a solid core wood or steel door. There shall be no windows or other openings in this door. The door shall be securely locked using a padlock and hasp assembly that is bolted through the door. The lock loop portion of the hasp is attached to the door frame using a minimum of 3-inch-long wood screws.



WINDOW - OUTSIDE VIEW

NOTES:

1. FOR DOUBLE HUNG WINDOWS, SLIDE SASH TO CENTER OF UNIT AND PASS BOLTS THROUGH OPENINGS AT TOP AND BOTTOM.
2. STORM WINDOWS SHOULD BE REMOVED AND STORED INSIDE STRUCTURE.
3. OUTSIDE TRIM MAY HAVE TO BE REMOVED TO ACCOMMODATE A FLUSH AND TIGHT FIT.
4. TIGHTEN NUTS FROM INSIDE ENOUGH TO SLIGHTLY COMPRESS 2X4 BRACE.
5. BRACE LOCATIONS: $A = 1/3 B$ (SEE DIMENSION LOCATIONS ON DRAWING)
6. LOCATION OF BOLT HOLES: $C = 1/3D$ (SEE DIMENSION LOCATIONS ON DRAWING)

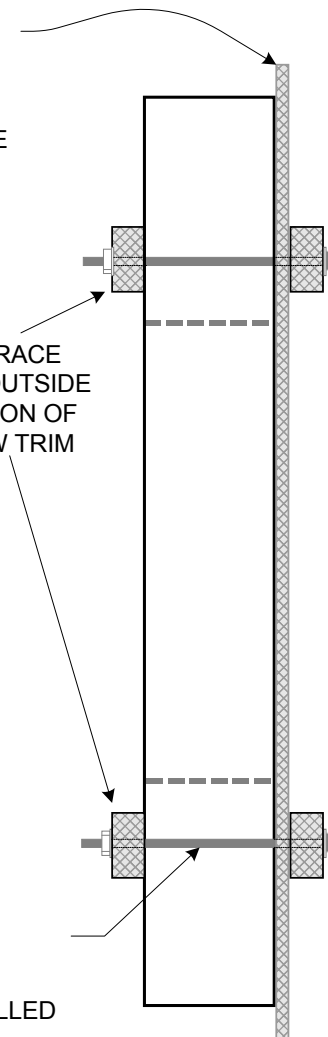
1/2" CDX PLYWOOD
CUT TO TO COVER
WINDOW OPENING

SECURE TO STRUCTURE
WITH 1-5/8" (6D)
GALVANIZED NAILS

2 X 4 BRACE
CUT TO SIZE OF
PLYWOOD

3/8" CARRIAGE BOLT
12" LONG/COURSE THREAD
NUT TO MATCH, WASHERS INSTALLED
ON BOTH SIDES
ROUNDED HEAD OF BOLT ON OUTSIDE

2 X 4 BRACE
CUT TO OUTSIDE
DIMENSION OF
WINDOW TRIM

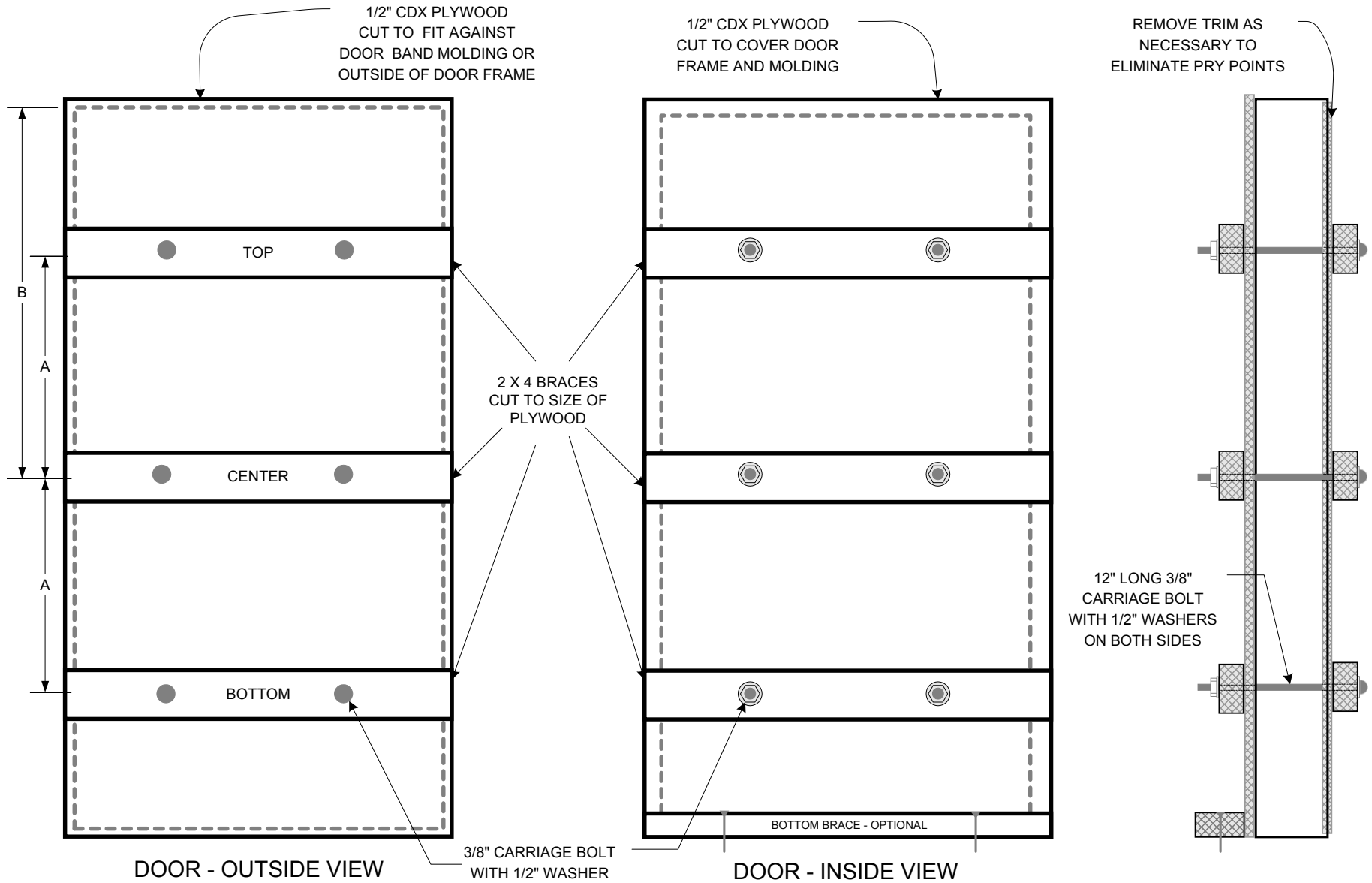


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Window Detail

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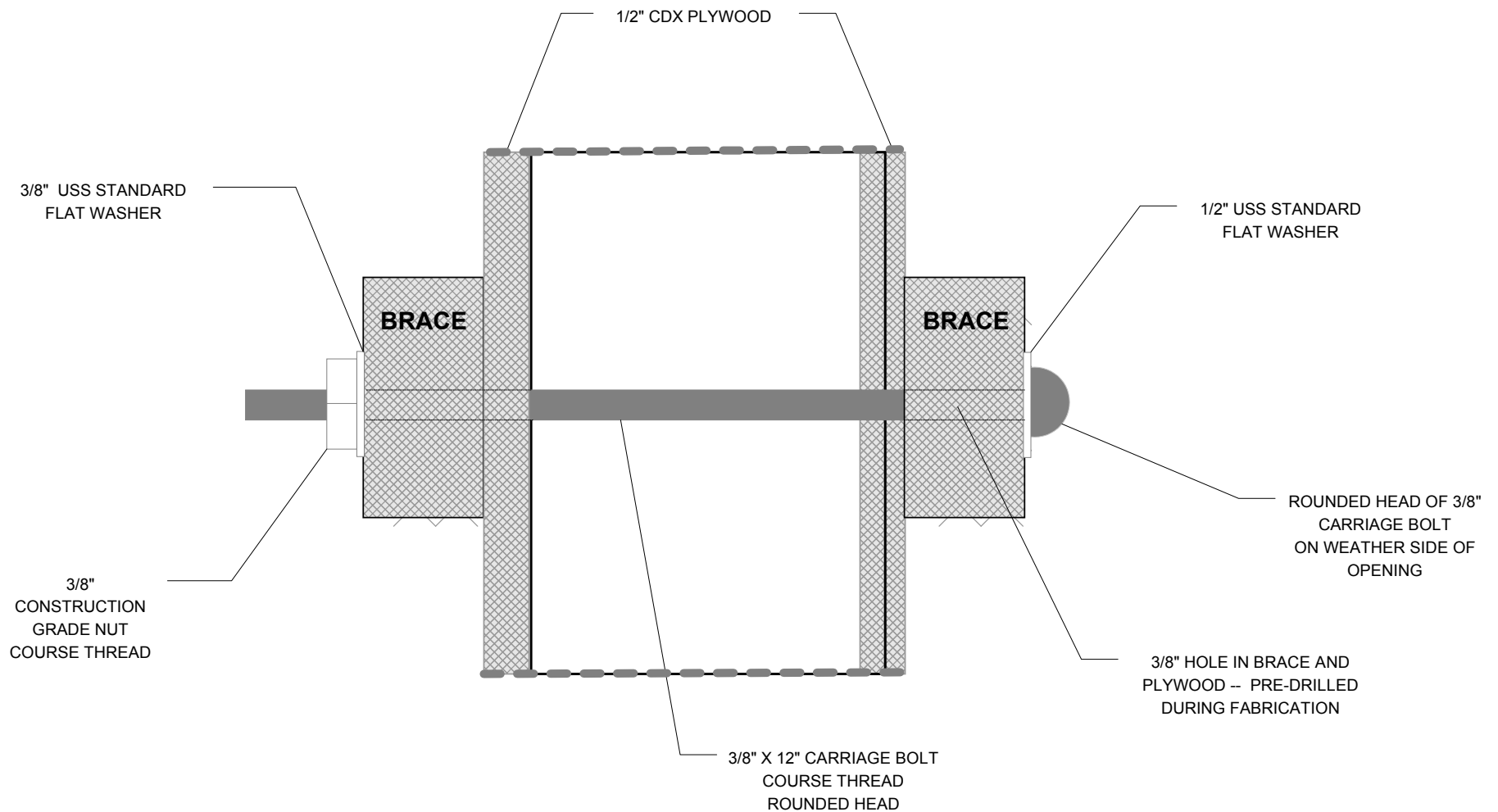
NOTES:

1. DOOR IS REMOVED AND STORED INSIDE BUILDING.
2. USE 3/8" X 12" CARRIAGE BOLTS - ROUNDED HEAD ON OUTSIDE OF BUILDING
3. TIGHTEN NUTS FROM INSIDE ENOUGH TO SLIGHTLY COMPRESS 2X4 BRACE.
4. IF PLYWOOD CAN NOT BE BUTTED AGAINST BAND MOLDING, CUT TO COVER OUTSIDE EDGE OF DOOR FRAME.
5. BOLT HOLES ARE LOCATED AS THEY ARE FOR WINDOWS (SEE WINDOW DETAIL)
6. CENTER BRACE LOCATED IN CENTER OF DOORWAY OPENING. TOP AND BOTTOM BRACES ARE POSITIONED WHERE $A = 1/2B$ (SEE DIMENSION LOCATIONS ON DRAWING)

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Door Detail
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NOTES:

1. USE 3/8" X 12" CARRIAGE BOLTS - ROUNDED HEAD ON OUTSIDE OF BUILDING
2. TIGHTEN NUTS FROM INSIDE ENOUGH TO SLIGHTLY COMPRESS WASHER INTO 2X4 BRACE.
3. USE 1/2" WASHER ON WEATHER SIDE TO ACCOMMODATE THE THE WRENCH NECK OF BOLT AND ELIMINATE PRY POINTS.

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Bolt Assembly Detail

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WINDOW ASSEMBLY

MATERIALS REQUIRED PER WINDOW

- 1 1/2" CDX PLYWOOD SHEET - CUT TO DIMENSIONS OF WINDOW FRAME (WEATHER SIDE)
- 4 2X4 BRACES - CUT TO WIDTH OF PLYWOOD
- 4 CARRIAGE BOLT ASSEMBLIES

DOOR ASSEMBLIES

MATERIALS REQUIRED PER DOOR

- 1 1/2" CDX PLYWOOD SHEET - CUT TO DIMENSIONS OF DOOR FRAME (WEATHER SIDE)
- 1 1/2" CDX PLYWOOD SHEET - CUT TO OUTSIDE DIMENSIONS OF DOOR FRAME TRIM (INSIDE)
- 6 2X4 BRACES - 3 CUT TO WIDTH OF OUTSIDE PLYWOOD, 3 CUT TO WIDTH OF INSIDE PLYWOOD
- 1 2X4 BOTTOM BRACE - CUT TO WIDTH OF DOOR TRIM (OPTIONAL)
- 6 CARRIAGE BOLT ASSEMBLIES

CARRIAGE BOLT ASSEMBLY

- 1 12' X 3/8" CARRIAGE BOLT - COURSE THREAD
- 1 1/2" USS STANDARD FLAT WASHER (WEATHER SIDE)
- 1 3/8" USS STANDARD FLAT WASHER (INSIDE)
- 1 3/8" CONSTRUCTION GRADE NUT - COURSE THREAD

NUMBER OF WINDOWS TO BE SECURED (N_w): _____

NUMBER OF WINDOWS BRACES REQUIRED: ($N_w \times 4$) _____

CARRIGE BOLT ASSEMBLIES REQUIRED (B_w): ($N_w \times 4$) _____

NUMBER OF DOORS TO BE SECURED (N_d): _____

NUMBER OF DOOR BRACES REQUIRED: ($N_d \times 6$) _____

NUMBER OF BOTTOM BRACES REQUIRED: (N_d) _____

CARRIGE BOLT ASSEMBLIES REQUIRED(B_d): ($N_d \times 6$) _____

TOTAL CARRIGE BOLT ASSEMBLIES REQUIRED:($B_w + B_d$) _____

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MATERIALS LIST
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