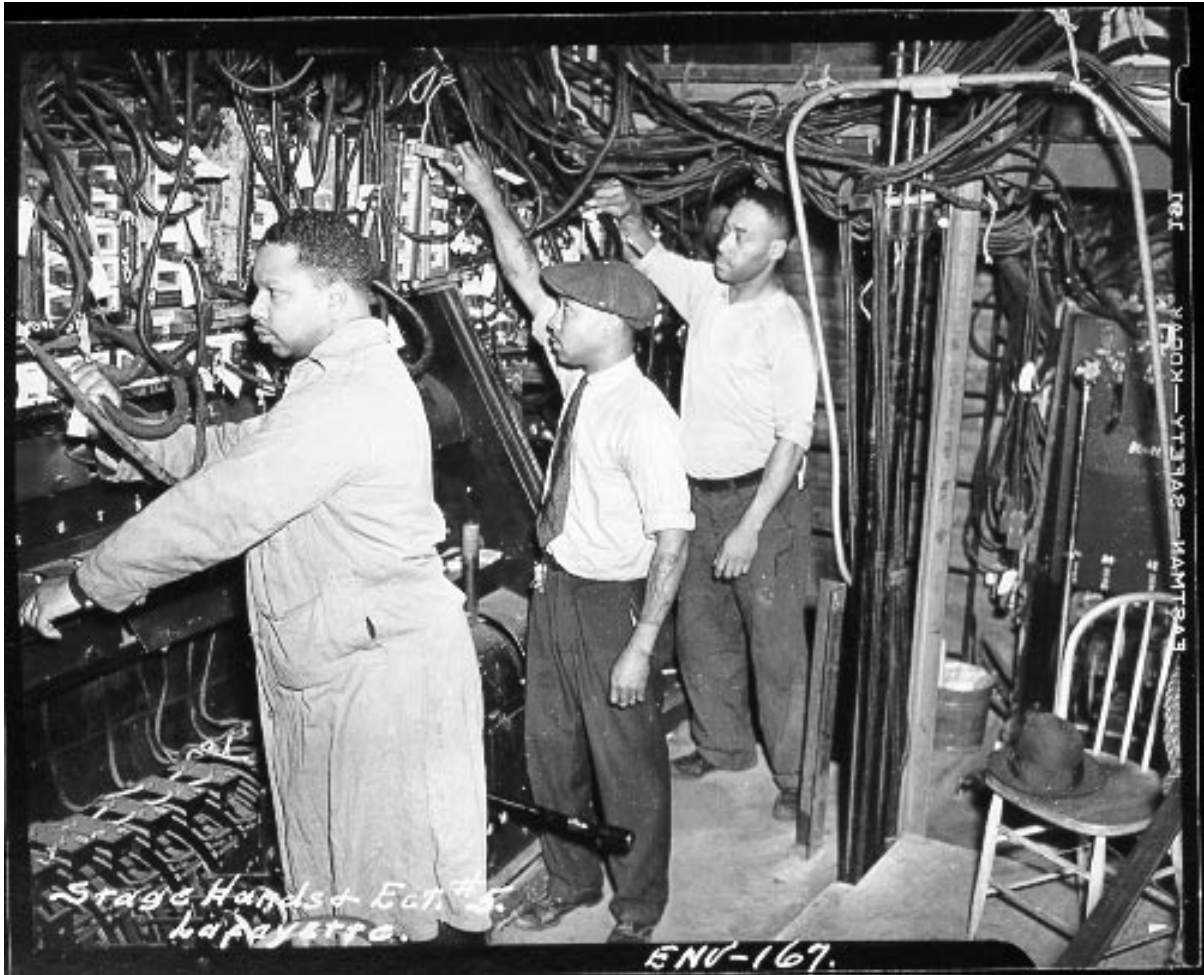


UIL APPROVED UNIT SET

# THE UNIT SET

## Construction and Materials



WPA Stagehands, Lafayette Theatre, New York City

Drawings by Shane K. Smith

## Approved Unit Set Construction and Materials

Every competing play company is allowed the use of one, and only one, complete Approved Unit Set, which must be constructed to conform to the basic structures drawn in the HANDBOOK. All unit set elements must be painted a medium gray inside and out. No other color is permissible. Substitutions of similar materials and alternative construction techniques are permissible so long as no additional weight factor or diminished strength is involved, and elements basically appear as other unit set elements might appear at other contest sites.

### UNIT SET ELEMENTS:

- 4 – Three-fold flat units, 8'-0" high
- 4 – Two-fold flat units, 8'-0" high
- 2 – 4'-0" wide step units (6" risers and 12" treads)
- 2 – 2'-0" wide step units (6" risers and 12" treads)
- 2 – 4'-0" high pylon units (1'-0" square)
- 2 – 6'-0" high pylon units (1'-0" square)
- 2 – 8'-0" high pylon units (1'-0" square)
- 2 – 4' x 4' ramps (rises to 1'-0")
- 2 – 4' x 4' platforms, 1'-0" high
- 2 – 4' x 8' platforms, 1'-0" high
- 4 – 1' x 1' platforms, 1'-0" high

### MATERIALS:

#### Lumber:

1. 1x1, 1x2, 1x3, 1x4, 1x6 and 2x4 nominal lumber is required,
2. the 1x1, 1x2 and 1x3 can be ripped down from 1x6 or 1x12,
3. in these drawings, the following actual dimensions are assumed:
  - a. 1x1: 3/4" x 3/4"
  - b. 1x2: 3/4" x 1-1/2"
  - c. 1x3: 3/4" x 2 -1/2"
  - d. 1x4: 3/4" x 3 -1/2"
  - e. 1x6: 3/4" x 5 -1/2"
4. Any clear, straight grained lumber of the Spruce, Pine or Fir species shall be acceptable,
5. lumber grades can include the following (in no particular order):
  - a. Top Choice Spruce Pine Fir
  - b. C and Better Southern Yellow Pine
  - c. Top Choice #2 Whitewood Board
  - d. SPF Std & Btr
  - e. #1 Yellow Pine
  - f. No. 2 Whitewood/Pine
  - g. Southern Yellow Pine
  - h. Select White Pine
  - i. Douglas Fir
6. Lumber with excessive knots, bowing or twists shall not be acceptable. Knots shall not occur more frequently than every two feet of the board's length and no knot shall be more than 25% of the face width of the board.
7. 1/4" AC or BC sanded pine interior grade plywood
8. 3/4" (or 23/32") AC, BC or BC-X pine interior or exterior grade plywood

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Covering Material and Glue:

1. 12 oz. Ducking Canvas (heavy weight)
2. general purpose white glue (attaching canvas to lumber)
3. yellow carpenter's wood glue (attaching lumber to lumber)

Fastening Hardware:

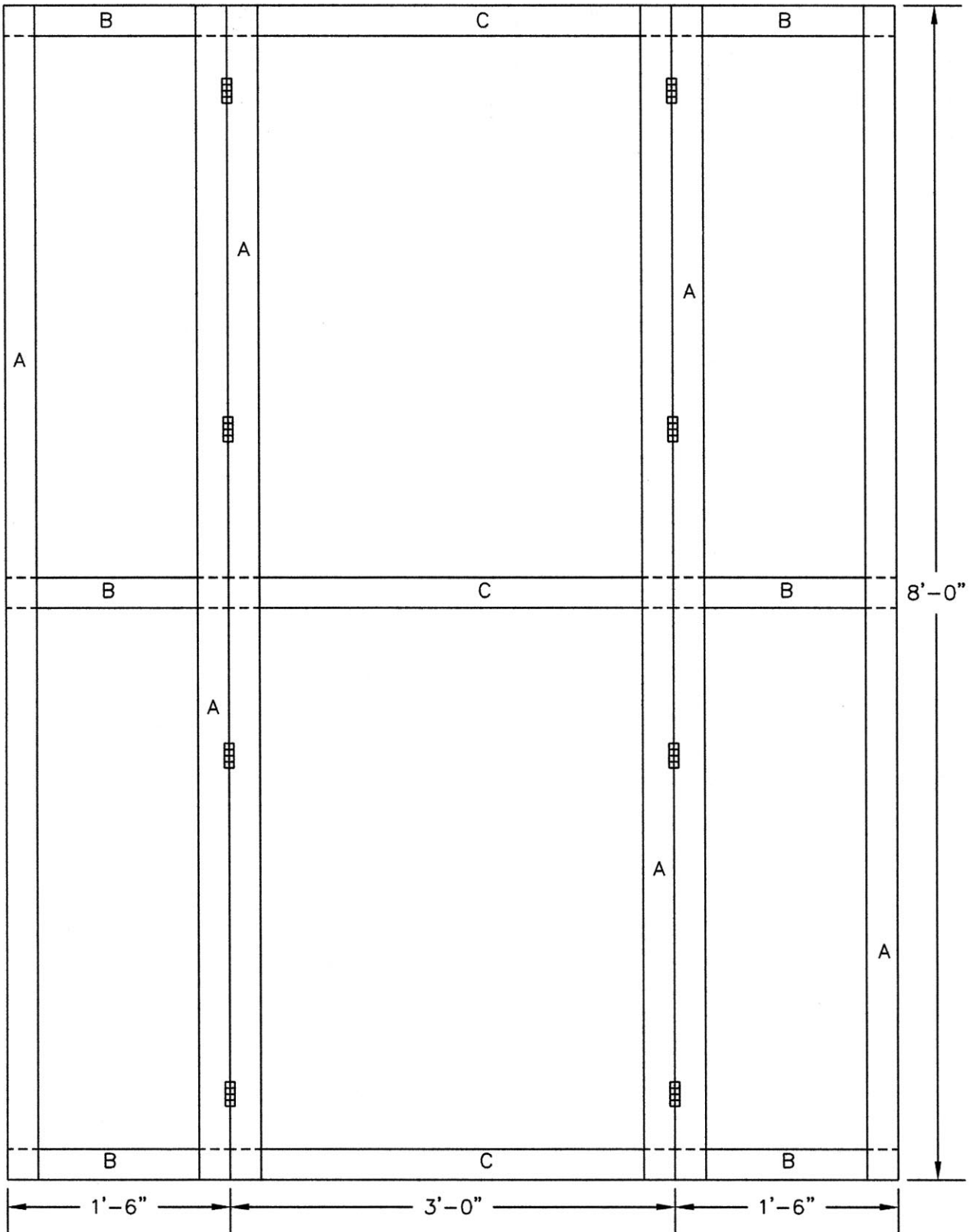
1. 1/4" crown pneumatic staples of various lengths for framing
2. 3/8" crown hand staples (used with stapler like an Arrow T-50), 1/4" or 3/8" in length for securing canvas while glue dries then removed once glue is dry
3. 1-5/8" and 3" coarse thread drywall screws for various uses
4. 3d, 4d, 6d and 12d box nails for various uses
5. #8 woodscrews: 3/4" in length for hinges
6. 10-24 flathead bolts of various lengths with nuts for hinges where possible to through-bolt
7. 3/8" x 3-1/2" carriage bolts with 3/8" washers and nuts for bolting legs to platforms
8. 3/4" x 1-3/4" double action hinges – Stanley type CDF 875 US 4 brass for hinging two-fold and three-fold flats
9. 1-1/2" box hinges for jacks
10. 3" butt hinges for doors

Notes:

1. Platforms may be constructed in rigid frame or parallel methods. The 2x4 lower railing of a rigid platform may be attached to legs 1" above the floor level and parallel platforms may be constructed with 1" feet.
2. All drawings are executed at a scale of 1" = 1'-0" unless otherwise noted.
3. All materials will be dependent on construction methods selected.
4. Light weight ducking canvas or unbleached muslin (heavy weight) may be used for covering material but the life expectancy of each element is in direct relationship to the quality of construction and materials used. Platforms, steps and ramps should be covered with canvas to reduce sound.
5. Unit set elements must be supported by other unit set elements and may be clamped together for stability by standard C clamps, furniture clamps or "quick" clamps (spring pressure) so long as these devices do not damage an element. Clamp impressions, paint scraping or canvas tearing shall be considered "damage" and a set violation. Wedges, shims, braces or other devices manufactured locally and especially devised for unit set elements to be elevated, held at extreme angles or odd angles shall be considered a violation of the set rule. Standard stage weights and/or sandbags may be placed inside pylons to hold them in a stable, vertical position.
6. The 3/4" x 1-3/4" double action hinges – Stanley type CDF 875 US 4 brass are available on-line from the following sources:
  - a. [www.hardwaresource.com](http://www.hardwaresource.com) (Folding Screen Hinges, Double Acting) 1-877-944-6437
  - b. [www.rockler.com](http://www.rockler.com) (Double Action Hinges) 1-800-279-4441
  - c. [www.woodworkerssupply.com](http://www.woodworkerssupply.com) (Double Action Hinges) 1-800-645-9292

UIL APPROVED UNIT SET

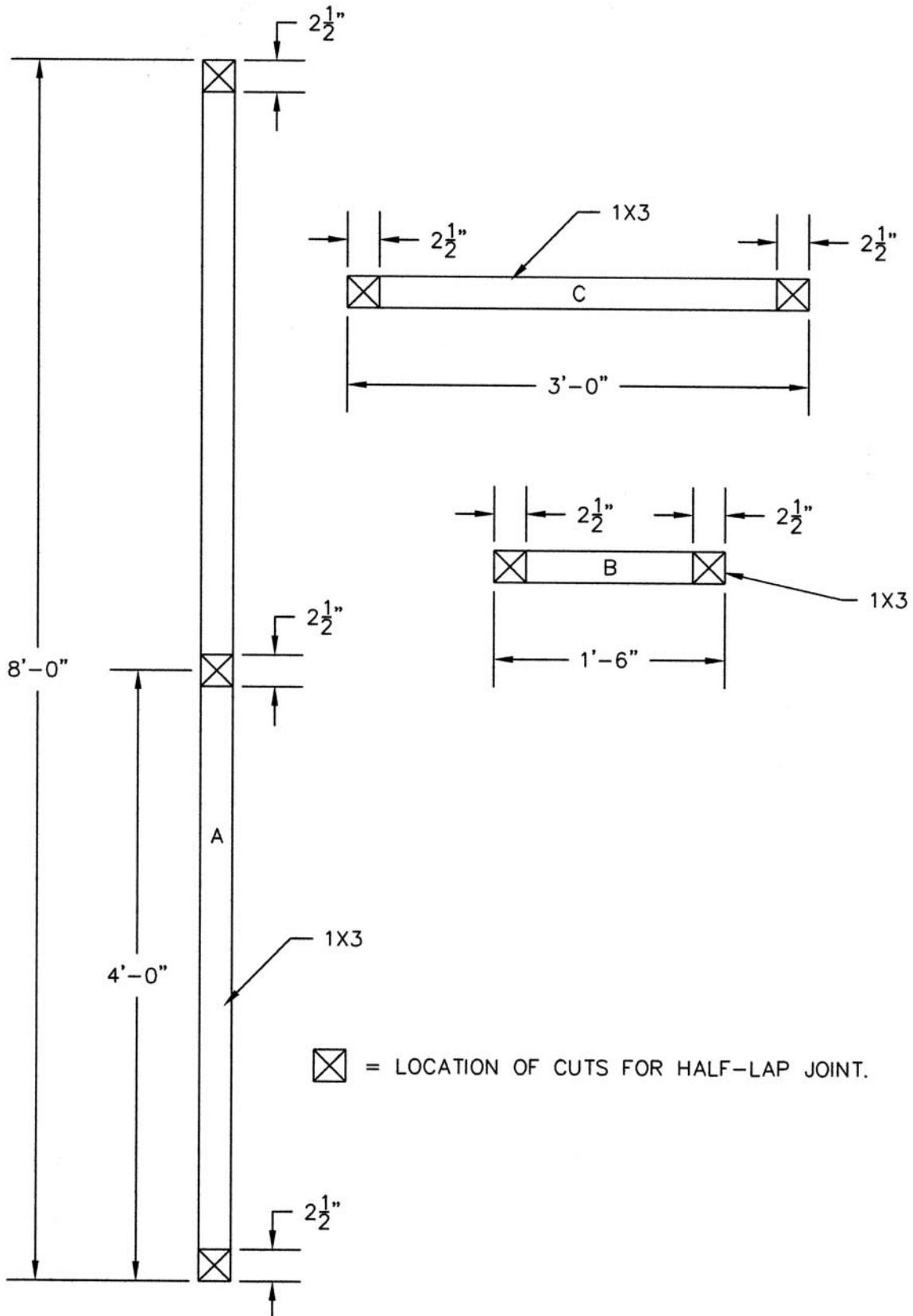
THREE FOLD FLAT



☐☐☐ = LOCATION OF DOUBLE ACTION HINGE.

UIL APPROVED UNIT SET

THREE FOLD FLAT



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## THREE FOLD FLAT

CUT LIST (PER FLAT):1X3

6 @ 8'-0" (PART "A")  
6 @ 1'-6" (PART "B")  
3 @ 3'-0" (PART "C")

12 oz CANVAS

APPROX. 5.5 YARDS AT 72" WIDE

HARDWARE REQUIRED

8 DOUBLE ACTION HINGES WITH 3/4" WOOD SCREWS  
(FRAME TO FRAME)

1/4" CROWN, 3/4" LONG PNEUMATIC STAPLES (FRAME JOINTS)

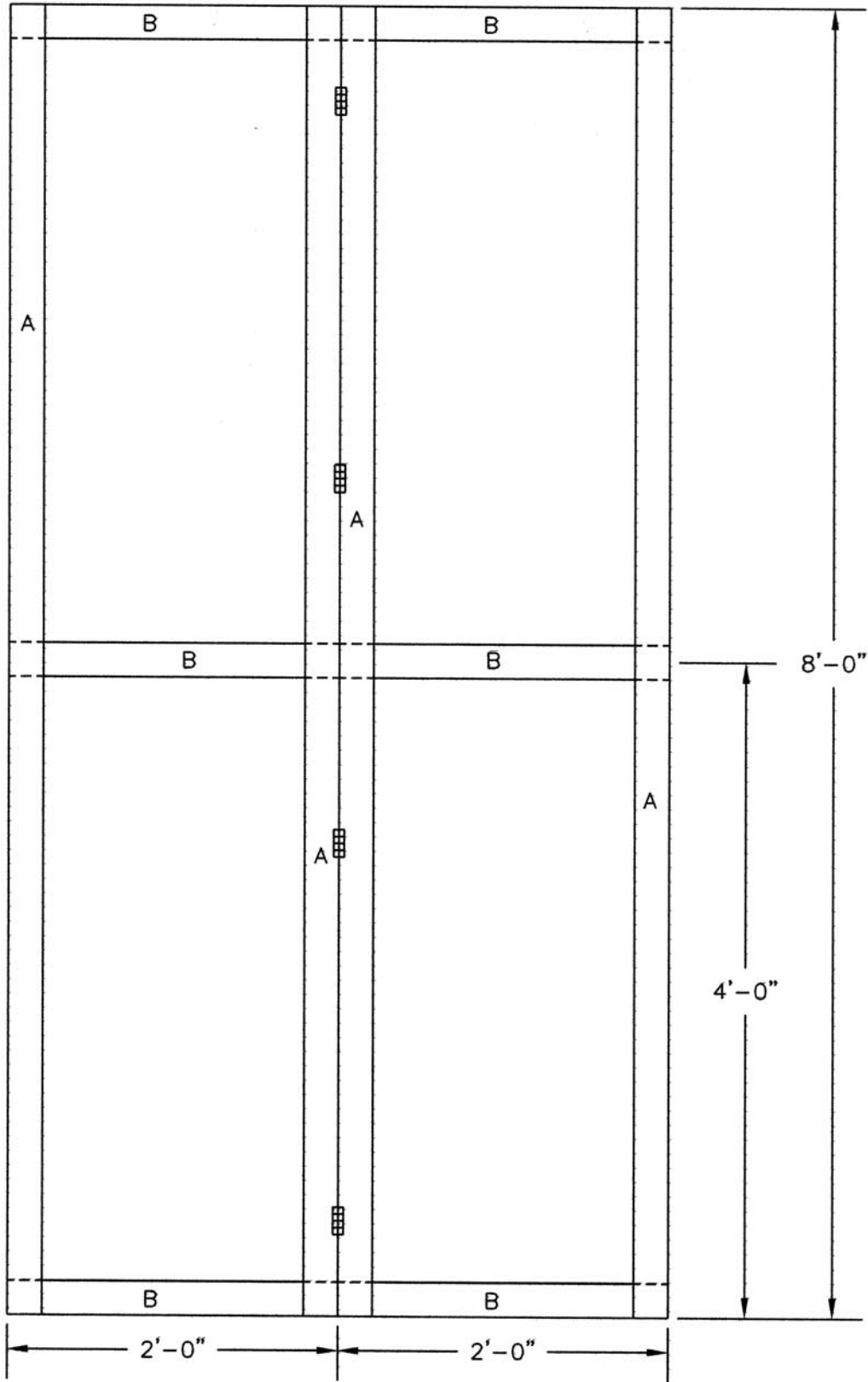
YELLOW GLUE (FRAME JOINTS)

WHITE GLUE (CANVAS TO FRAME)

3/8" CROWN STAPLES (CANVAS TO FRAME WHILE GLUE DRIES)

UIL APPROVED UNIT SET

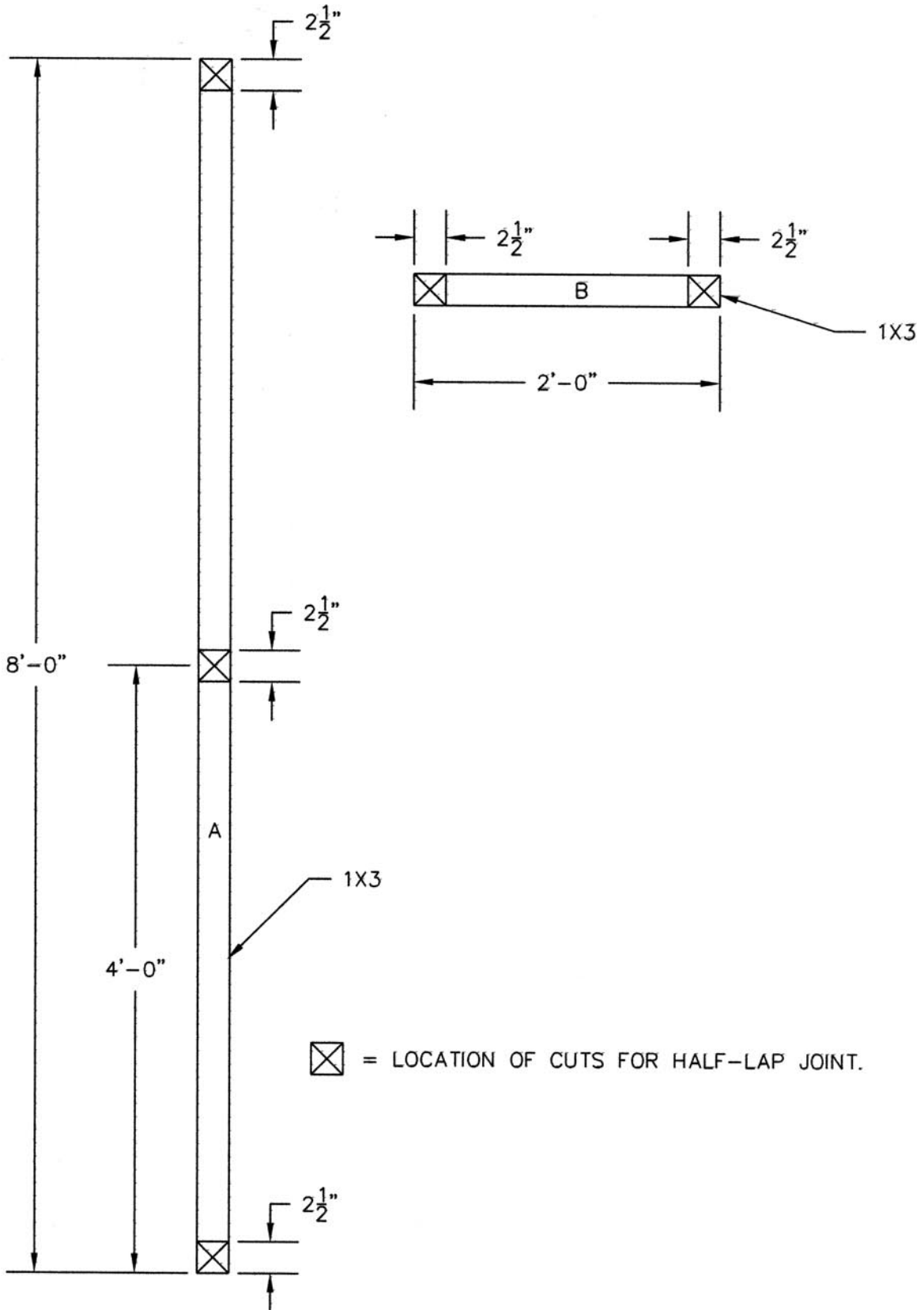
TWO FOLD FLAT



▣ = LOCATION OF DOUBLE ACTION HINGE.

UIL APPROVED UNIT SET

TWO FOLD FLAT





*UIL APPROVED UNIT SET*

## TWO FOLD FLAT

CUT LIST (PER FLAT):1X3

4 @ 8'-0" (PART "A")  
6 @ 2'-0" (PART "B")

12 oz CANVAS

APPROX. 5.5 YARDS AT 54" WIDE

HARDWARE REQUIRED

4 DOUBLE ACTION HINGES WITH 3/4" WOOD SCREWS  
(FRAME TO FRAME)

1/4" CROWN, 3/4" LONG PNEUMATIC STAPLES (FRAME JOINTS)

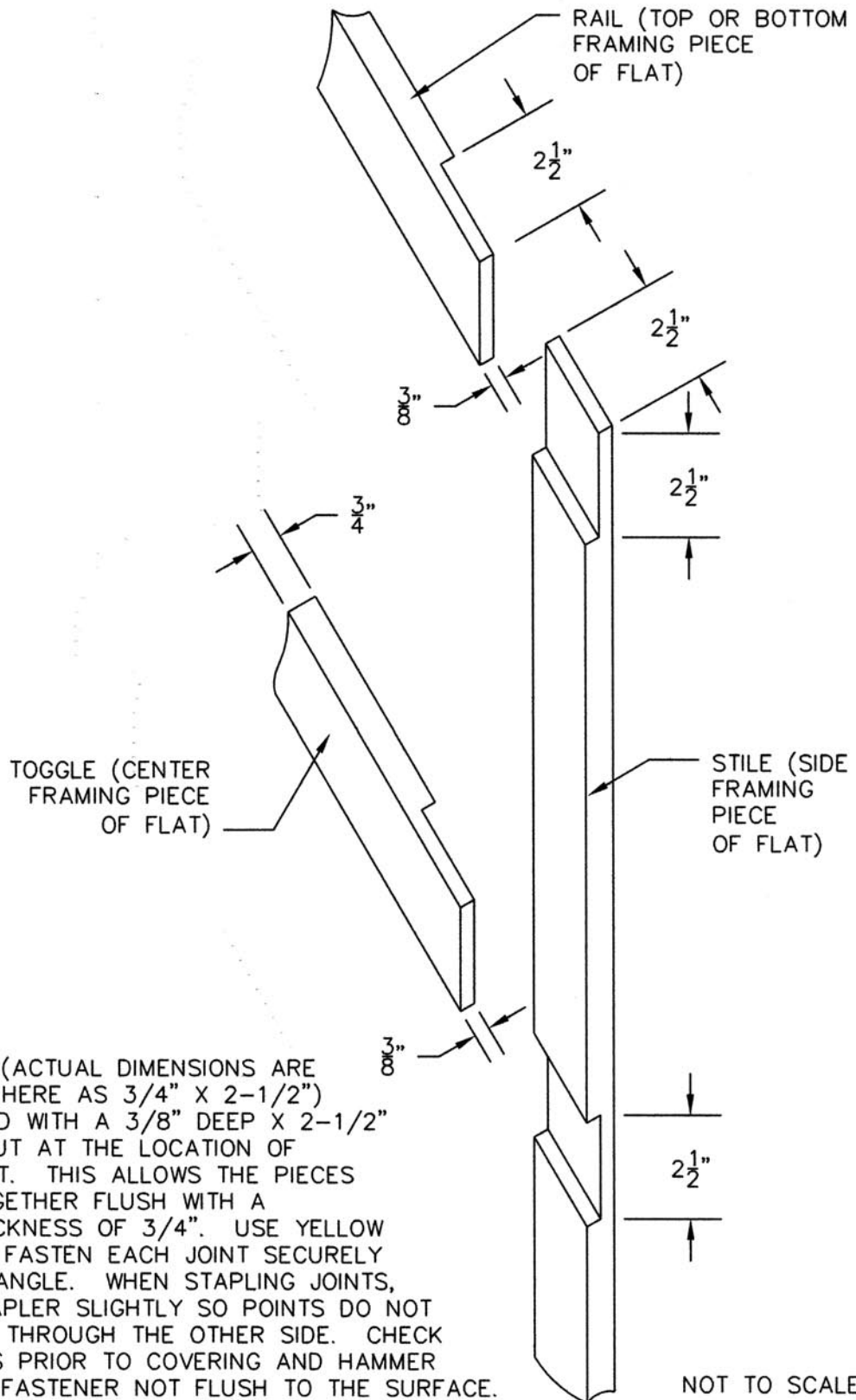
YELLOW GLUE (FRAME JOINTS)

WHITE GLUE (CANVAS TO FRAME)

3/8" CROWN STAPLES (CANVAS TO FRAME WHILE GLUE DRIES)

UIL APPROVED UNIT SET

1X3 LAP-JOINT DETAIL



EACH 1X3 (ACTUAL DIMENSIONS ARE INDICATED HERE AS 3/4" X 2-1/2") IS NOTCHED WITH A 3/8" DEEP X 2-1/2" SQUARE CUT AT THE LOCATION OF EACH JOINT. THIS ALLOWS THE PIECES TO FIT TOGETHER FLUSH WITH A TOTAL THICKNESS OF 3/4". USE YELLOW GLUE AND FASTEN EACH JOINT SECURELY AT A 90° ANGLE. WHEN STAPLING JOINTS, ANGLE STAPLER SLIGHTLY SO POINTS DO NOT PROTRUDE THROUGH THE OTHER SIDE. CHECK ALL JOINTS PRIOR TO COVERING AND HAMMER FLAT ANY FASTENER NOT FLUSH TO THE SURFACE.

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## Covering A Flat Frame With Canvas

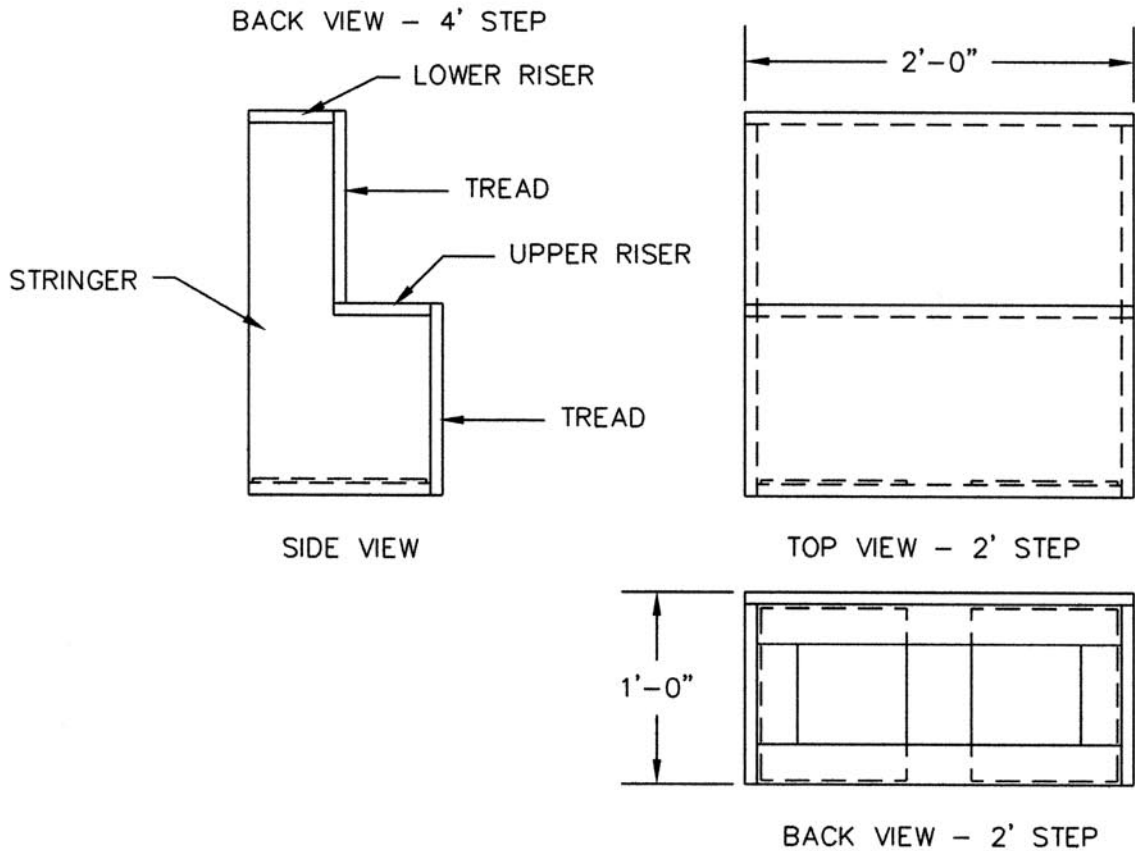
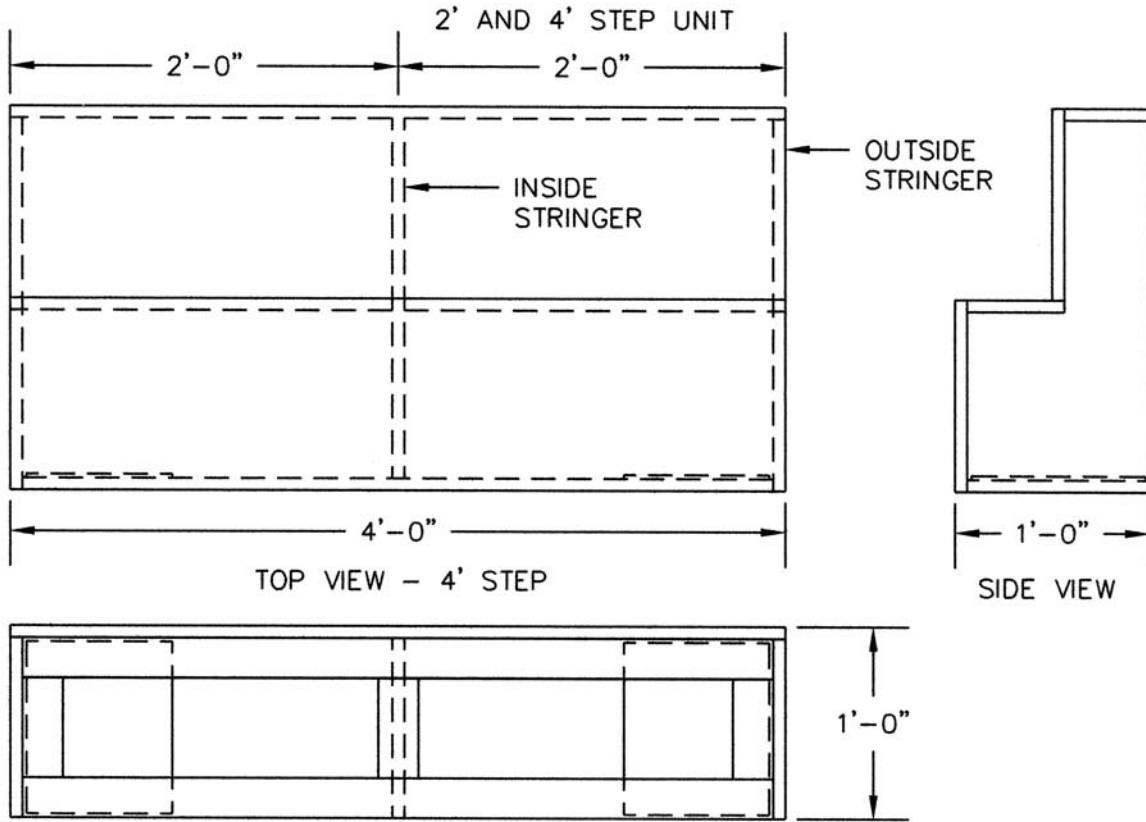
1. Prepare work area:
  - a. Make sure both sides of flat frame are smooth and clean.
  - b. Use a solid table or saw horses to support flat with easy access to all four sides.
  - c. Cut canvas just slightly larger than flat frame. Use one solid piece - NO seams or tears.
  - d. Prepare the white glue by thinning it slightly with one part water to three parts glue, this increases working time before the glue dries. Put glue in a small cup or pail and have small (1 1/2" wide) paintbrushes for application. Store brushes in clean water when not in use to prevent glue from hardening bristles.
  - e. Do not paint flat frame prior to covering with canvas.
2. Lay out flat frame on work surface and lay canvas on top with even amounts of over-hang on opposite sides.
3. Using a 3/8" crown stapler, such as an Arrow T-50, with 1/4" or 3/8" staples, work along one long side of the frame, placing staples along the inside edge of the 1X3. Place the staples about 12" apart at a slight angle to make them easier to remove after the glue is dry.
4. When the first long side is complete, move to the middle of the other long side. Pull the canvas smooth but not too tight. It will shrink up tight later. As the fabric is smoothed out, place a staple about every 12" along the inside of the 1X3. Work the fabric from the middle to one end then go back to the middle and work to the other end. It is important to get rid of any wrinkles or puckers in the fabric even if some staples must be removed and redone.
5. Once the long sides are securely stapled, repeat the process with each short side remembering to smooth the fabric (not too tight) and angle the staples for ease of removal later.
6. Staple only around the inside of the perimeter. Do not attach the fabric to any interior frame pieces with staples or glue. With the stapling complete, fold back the canvas toward the center of the flat, exposing the 1X3 frame. Quickly brush on a good coat of glue all the way around the frame. Then, lay the canvas back on the frame and smooth out any wrinkles working from the inside edge of the frame (where the staples are) to the outside. This is the messy part - glue will be all over the place by now but be very careful to not get glue on the canvas or flat anywhere except where the two meet around the outside frame of the flat. (Glue anywhere else on the canvas will affect the way the canvas shrinks when it gets painted later.) A clean, damp paint brush will help to smooth out the canvas on the frame as a little glue may be soaking through the fabric.
7. Set this flat aside to dry and repeat the process with another one. Do not cover the other side of the flat until the first side is dry, trimmed and staples have been removed.
8. If possible, let the flats sit over-night to be certain they are completely dry before removing the staples. Depending on the humidity, allow at least two hours.
9. When the glue is dry, lay out one flat and remove all of the staples that were put in to hold the canvas in place. Be very careful not to tear the canvas. If a rip or tear should occur, it will be necessary to pull off the entire piece of canvas and attach a new one.
10. With all the staples removed, it is time to trim the edges. Using a utility knife with a sharp

*UIL APPROVED UNIT SET*

blade, work along the outer perimeter, cutting away the excess fabric. Start at one corner and draw the knife along, about 1/4" from the edge, cutting through the canvas and slightly into the wood. Continue all the way around then discard the scrap pieces. If the canvas is frayed or loose anywhere around the edges, simply dab a bit of glue on it and smooth it out to secure it to the frame.

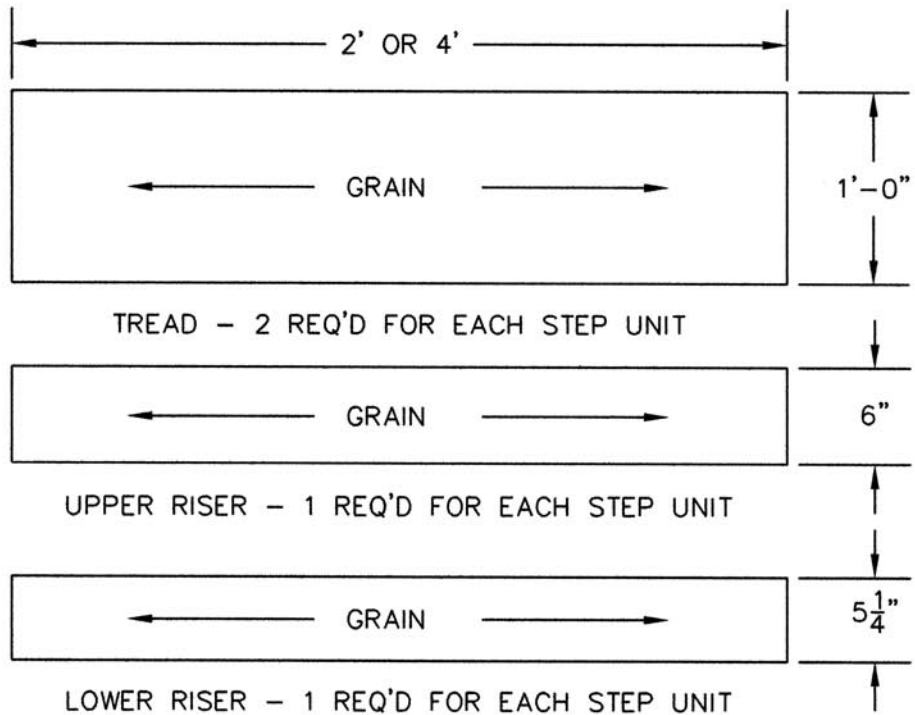
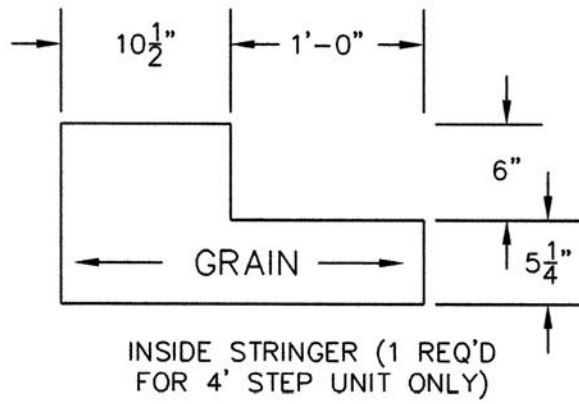
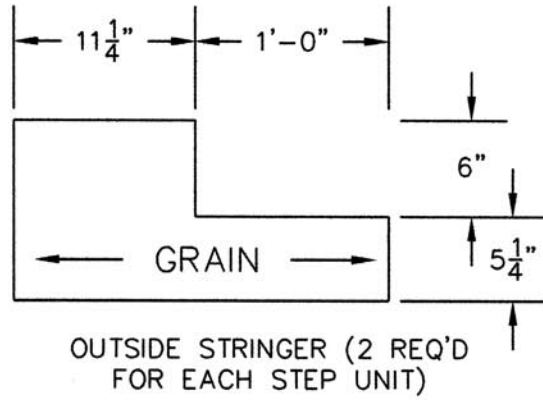
11. The flat is now ready to be covered on the other side or, if both sides are covered, it is ready to be painted. The paint is not just to make the flat a desired color. The water in the latex paint will evaporate to an extent causing the canvas to shrink (not as much as muslin but it will shrink). The evaporation also dries the paint and the latex binder holds the canvas from stretching back out. The flat can be painted on a flat surface or leaning up against a vertical surface. It is best to apply the first coat with a large brush, working quickly to get the entire surface of one side covered before the paint begins to dry. Do not apply the paint in only one direction – use a criss-cross motion (imagine painting the letter “X” all over the flat) to avoid visible brush strokes when the paint is dry. Do not apply a first coat of paint that is too thick - allow it to dry then give the flat additional coats as necessary. After the first side is dry, paint the other side and all of the edges.
12. When the paint dries, the flats are ready to be hinged together and put to use. This technique can also be used for covering the sides of platforms, and other open frames, with canvas.

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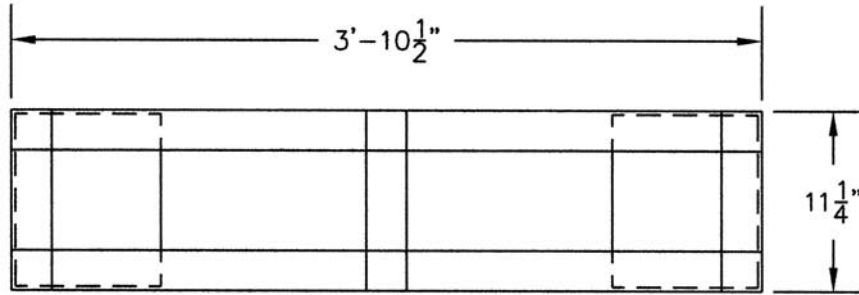
UIL APPROVED UNIT SET

2' AND 4' STEP UNIT

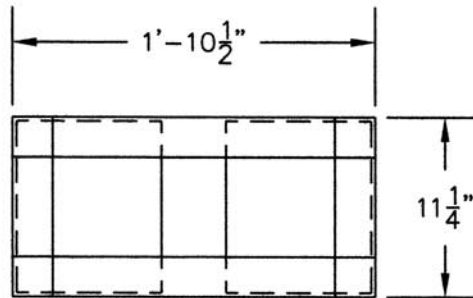


UIL APPROVED UNIT SET

2' AND 4' STEP UNIT

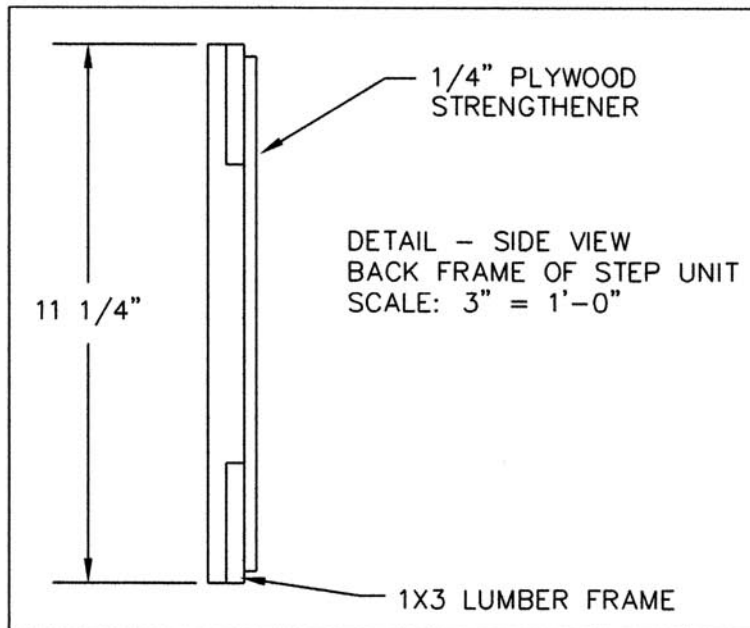


BACK FRAME OF 4' STEP UNIT



BACK FRAME OF 2' STEP UNIT

BUILD ONE BACK FRAME FOR EACH STEP UNIT.  
 USE 1X3 WITH HALF-LAP JOINTS  
 AND 1/4" PLYWOOD STRENGTHENER.



## UIL APPROVED UNIT SET

## 2' AND 4' STEP UNIT

CUT LIST (PER STEP UNIT):1X3

- 2 @ 3'-10-1/2" (BACK FRAME OF 4' UNIT)
- 2 @ 1'-10-1/2" (BACK FRAME OF 2' UNIT)
- 3 @ 11-1/4" (BACK FRAME OF 4' UNIT)
- 2 @ 11-1/4" (BACK FRAME OF 2' UNIT)

1/4" PLYWOOD

- 2 @ 9" X 10-3/4" (STRENGTHENER)

3/4" PLYWOOD

- 2 @ 1'-0" X 4'-0" (TREADS FOR 4' UNIT)
- 2 @ 1'-0" X 2'-0" (TREADS FOR 2' UNIT)
- 1 @ 6" X 4'-0" (UPPER RISER FOR 4' UNIT)
- 1 @ 6" X 2'-0" (UPPER RISER FOR 2' UNIT)
- 1 @ 5-1/4" X 4'-0" (LOWER RISER FOR 4' UNIT)
- 1 @ 5-1/4" X 2'-0" (LOWER RISER FOR 2' UNIT)
- 5 @ 1'-0" X 2'-0", CUT AS INDICATED (STRINGERS)

OR

- 3 @ 2'-0" X 2'-0" (STRINGERS - CUT CAREFULLY, 2 STRINGERS CAN BE CUT FROM EACH PIECE OF PLYWOOD)

12 oz CANVAS

APPROX. 3 YARDS AT 72" WIDE

HARDWARE REQUIRED

1-5/8" COARSE THREAD DRYWALL SCREWS OR 1/4" CROWN, 1-1/2" PNEUMATIC STAPLES (TOP AND BACK FRAME TO STRINGERS)

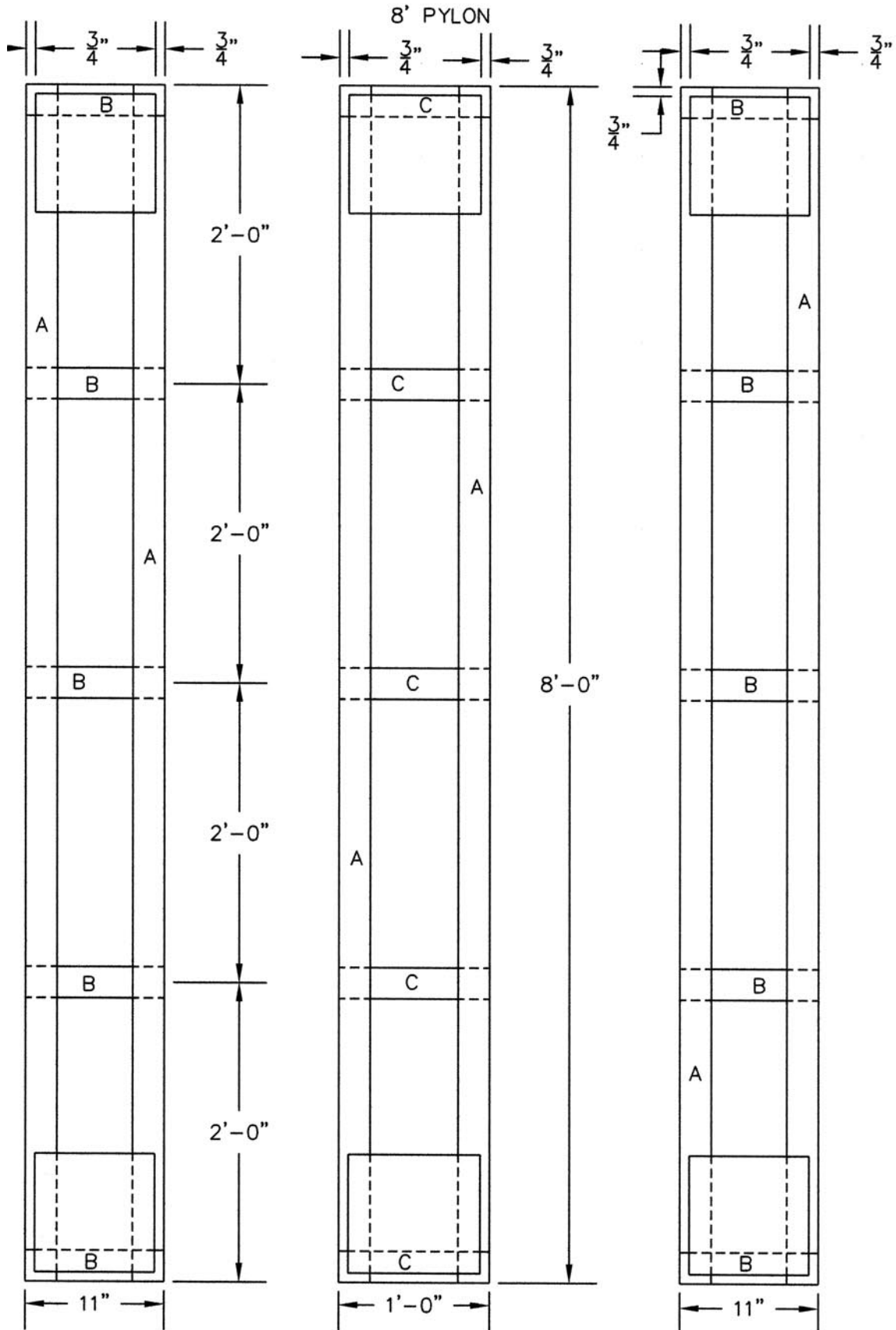
1/4" CROWN, 3/4" LONG PNEUMATIC STAPLES (BACK FRAME)

YELLOW GLUE (BACK FRAME, TREADS AND RISERS TO STRINGERS)

WHITE GLUE (CANVAS TO STEP)

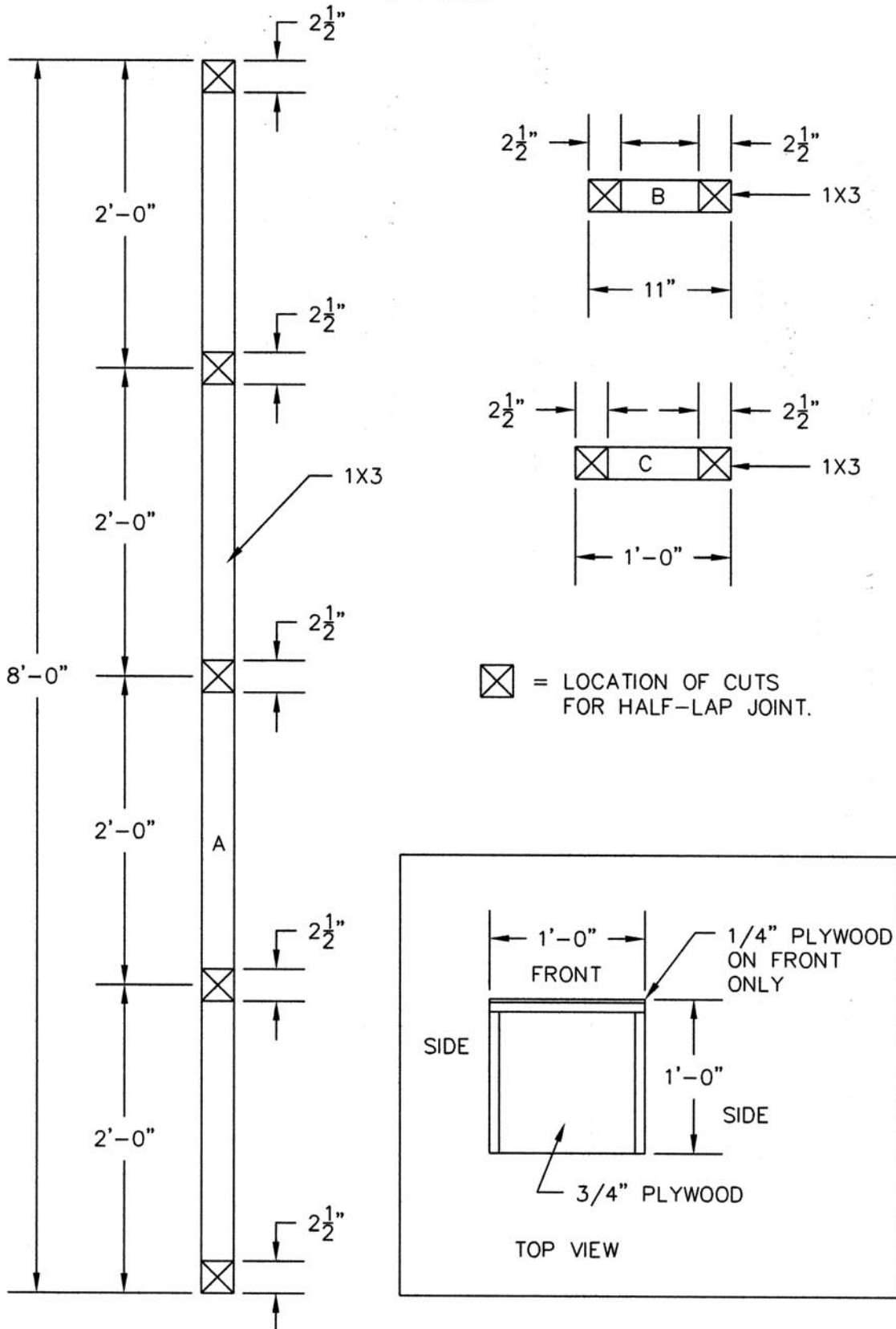


UIL APPROVED UNIT SET



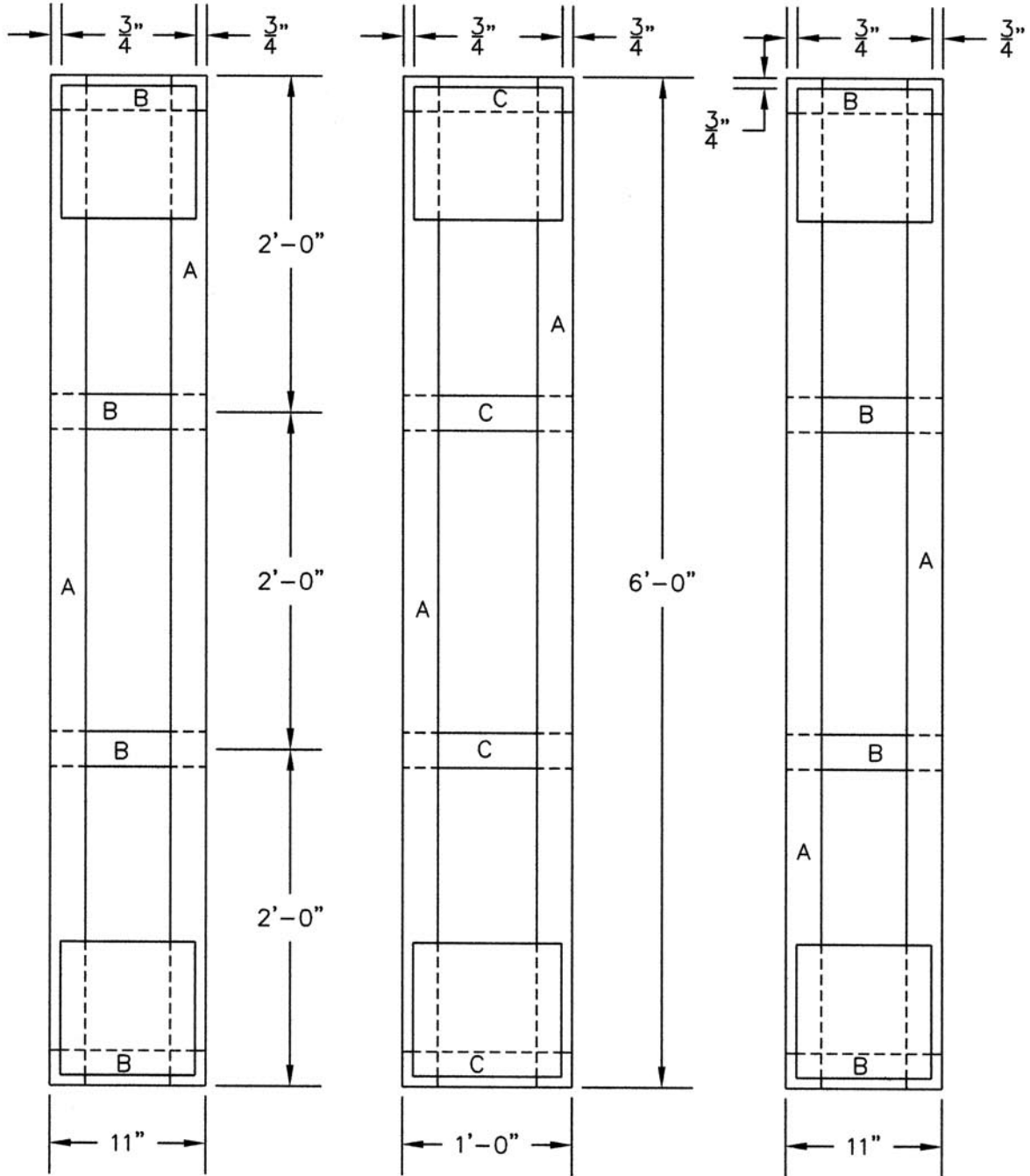
UIL APPROVED UNIT SET

8' PYLON



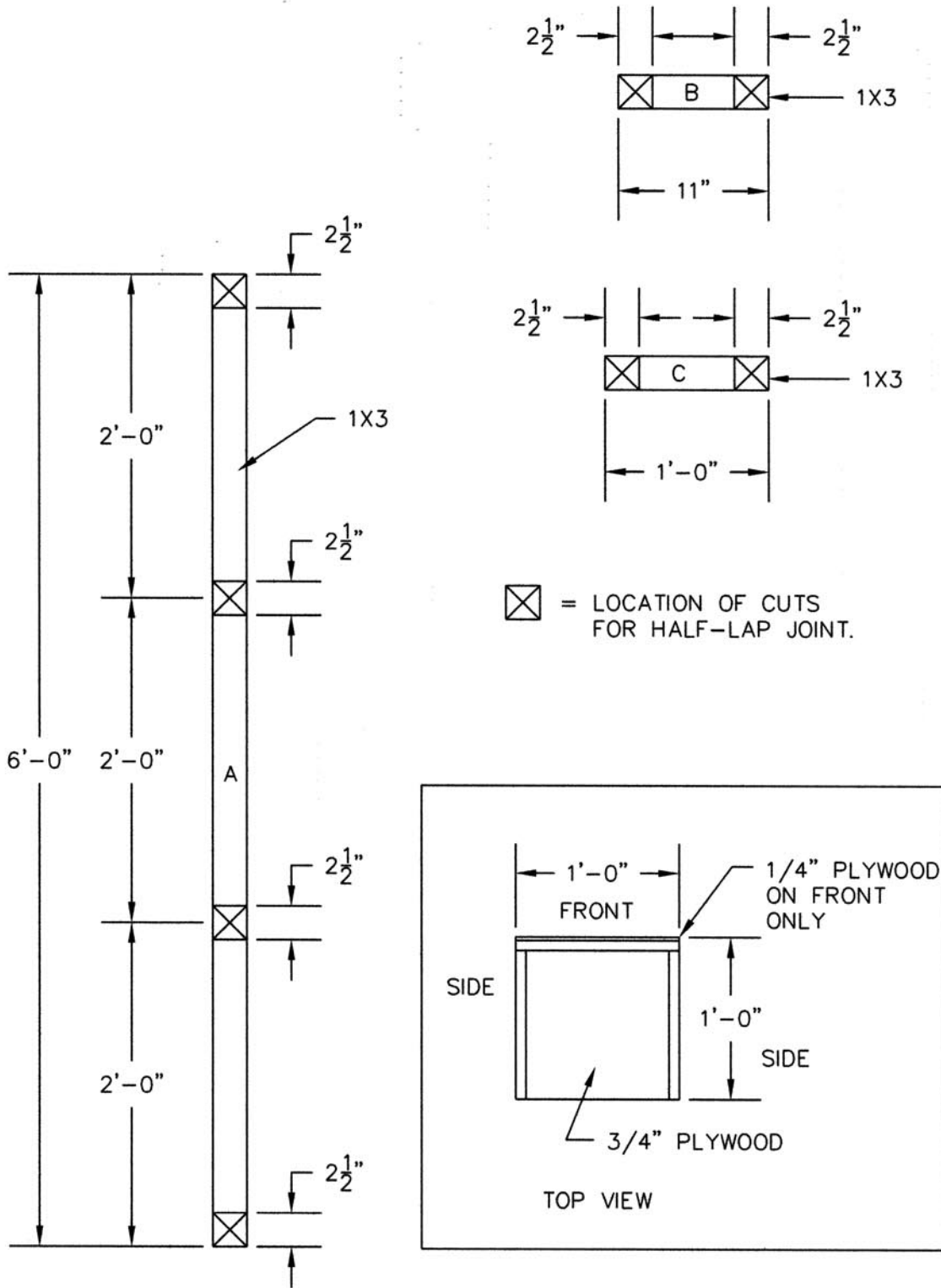
UIL APPROVED UNIT SET

6' PYLON



UIL APPROVED UNIT SET

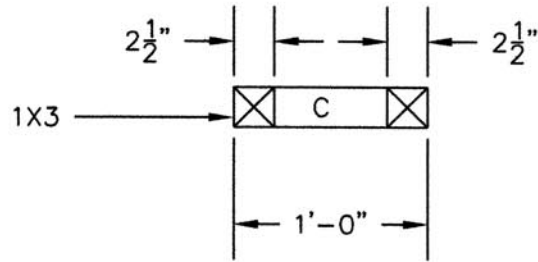
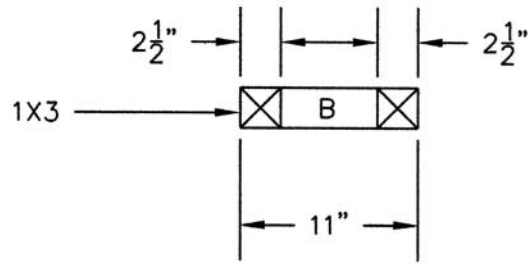
6' PYLON



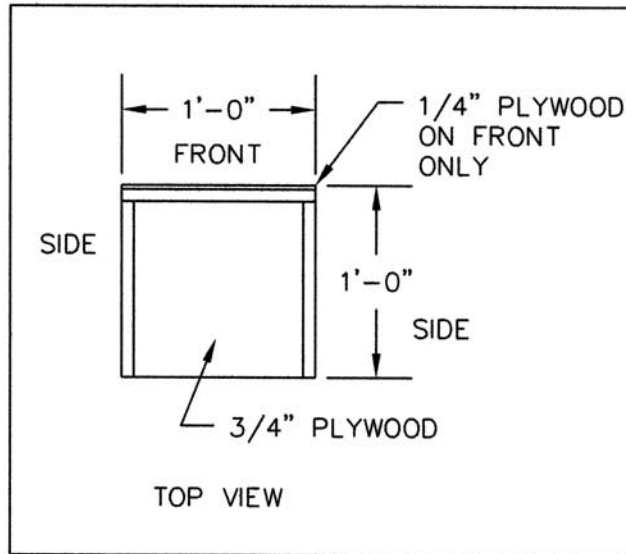
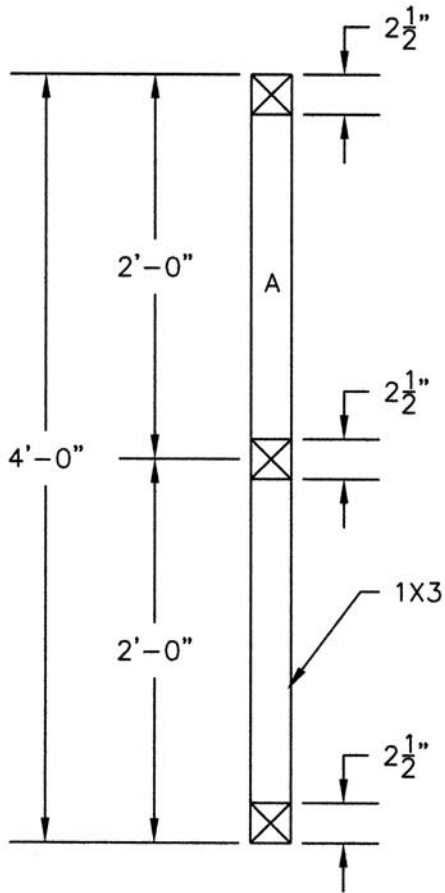


UIL APPROVED UNIT SET

4' PYLON



☒ = LOCATION OF CUTS FOR HALF-LAP JOINT.



## UIL APPROVED UNIT SET

## 4', 6' AND 8' PYLON

CUT LIST (PER PYLON):1X3

6 @ 8'-0" (PART "A" FOR 8' PYLON)  
 6 @ 6'-0" (PART "A" FOR 6' PYLON)  
 6 @ 4'-0" (PART "A" FOR 4' PYLON)  
 10 @ 11" (PART "B" FOR 8' PYLON)  
 8 @ 11" (PART "B" FOR 6' PYLON)  
 6 @ 11" (PART "B" FOR 4' PYLON)  
 10 @ 1'-0" (PART "C" FOR 8' PYLON)  
 8 @ 1'-0" (PART "C" FOR 6' PYLON)  
 6 @ 1'-0" (PART "C" FOR 4' PYLON)

1/4" PLYWOOD

4 @ 9-1/2" X 9-1/2" (SIDE STRENGTHENER)  
 2 @ 9-1/2" X 10-1/2" (FRONT STRENGTHENER)  
 1 @ 1'-0" X 8'-0" (FRONT OF 8' PYLON)  
 1 @ 1'-0" X 6'-0" (FRONT OF 6' PYLON)  
 1 @ 1'-0" X 4'-0" (FRONT OF 4' PYLON)

3/4" PLYWOOD

5 @ 11" X 10-1/2" (ENDS AND INTERIOR SUPPORTS FOR 8' PYLON)  
 4 @ 11" X 10-1/2" (ENDS AND INTERIOR SUPPORTS FOR 6' PYLON)  
 3 @ 11" X 10-1/2" (ENDS AND INTERIOR SUPPORTS FOR 4' PYLON)

12 oz CANVAS

APPROX. 8 YARDS AT 54" WIDE

HARDWARE REQUIRED

1-5/8" COARSE THREAD DRYWALL SCREWS  
 (SIDES, FRONT, ENDS AND INTERIOR SUPPORTS)

1/4" CROWN, 3/4" LONG PNEUMATIC STAPLES (FRONT AND SIDE FRAMES)

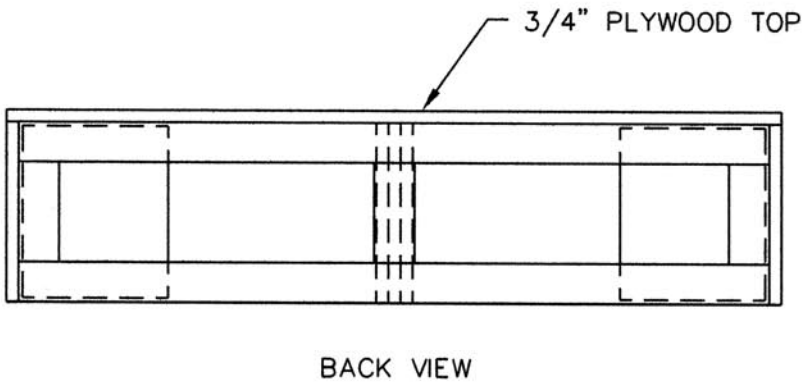
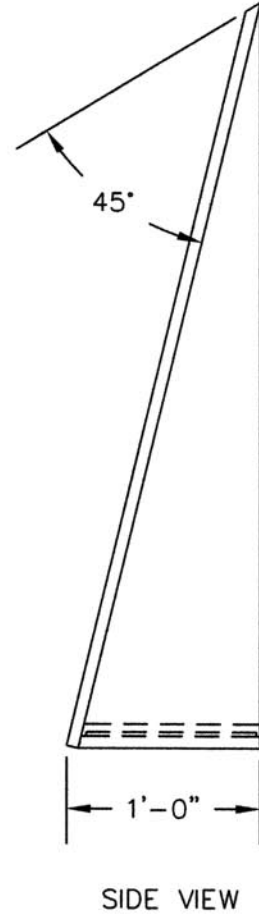
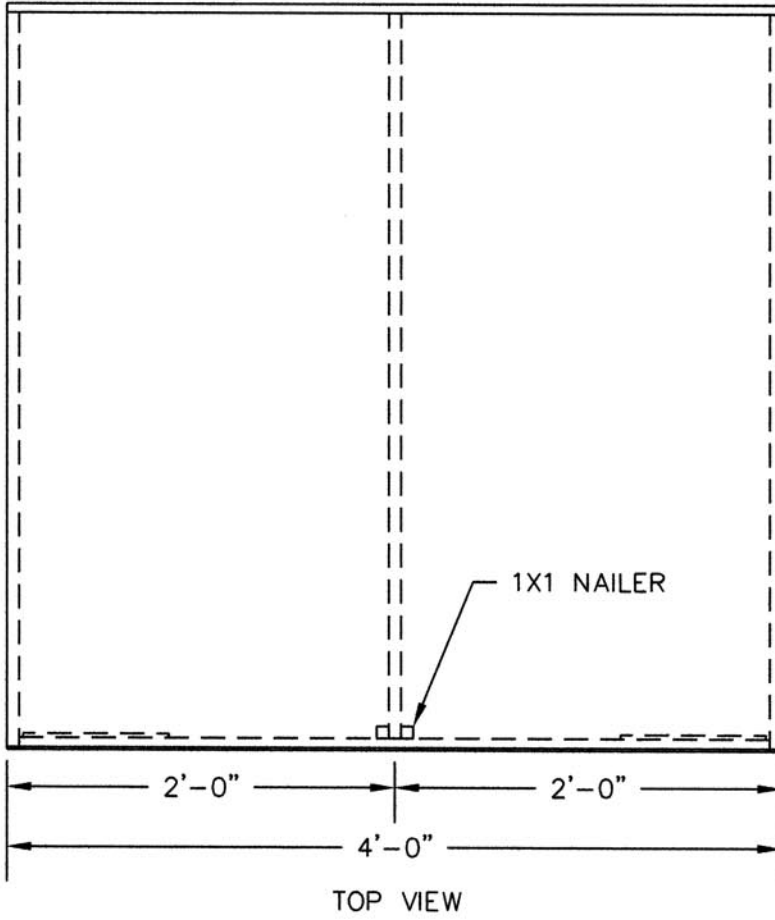
YELLOW GLUE (ALL JOINTS)

WHITE GLUE (CANVAS TO PYLON)

3/8" CROWN STAPLES (CANVAS TO PYLON WHILE GLUE DRIES)

UIL APPROVED UNIT SET

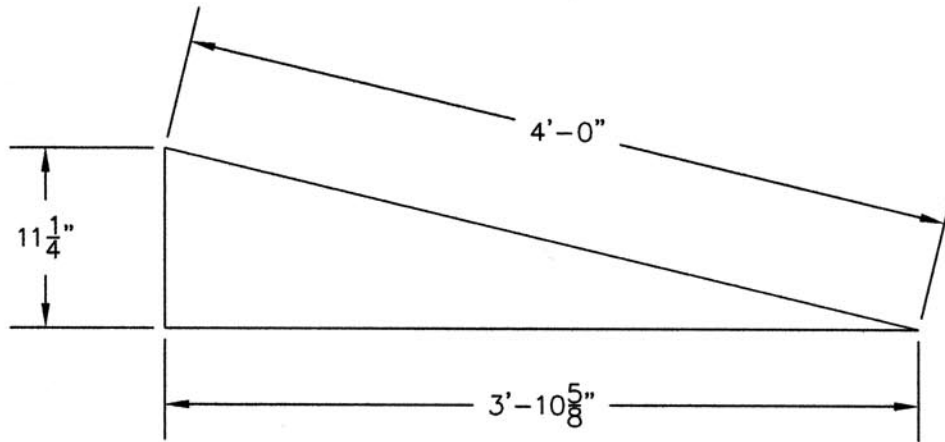
4' X 4' RAMP



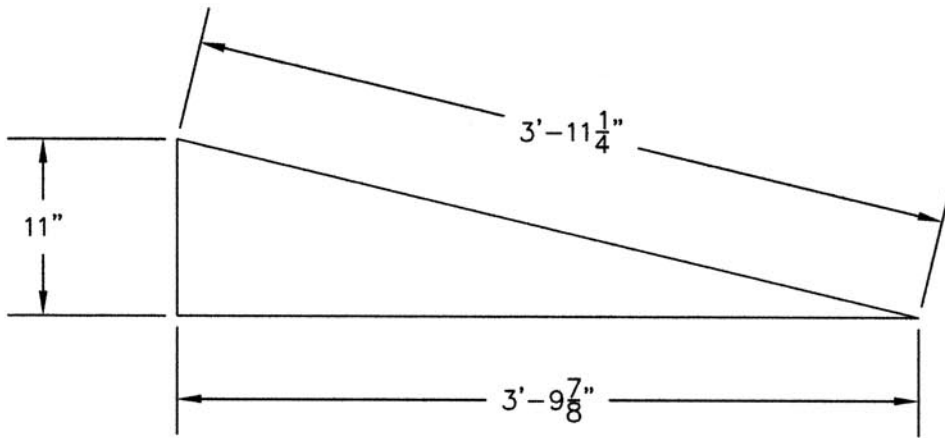


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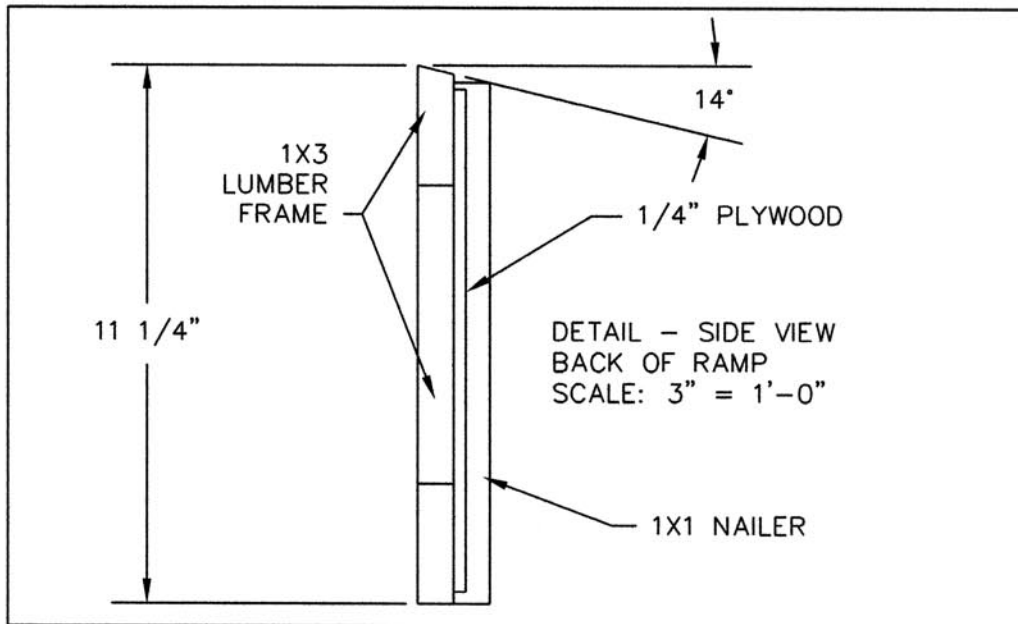
4' X 4' RAMP



OUTSIDE STRINGER (2 REQUIRED)

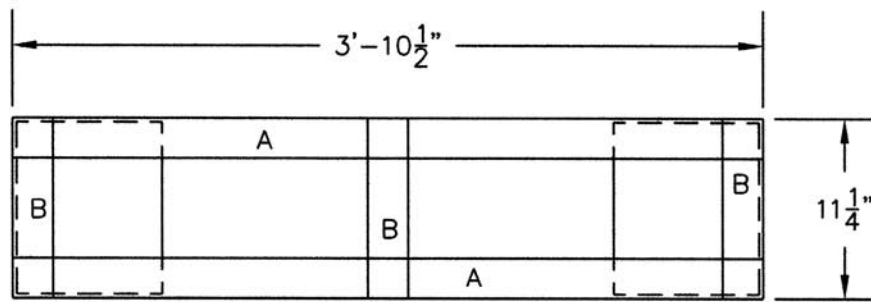


INSIDE STRINGER (1 REQUIRED)

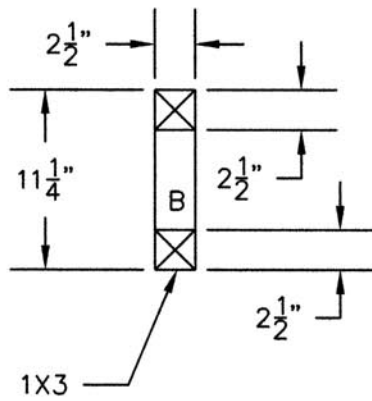
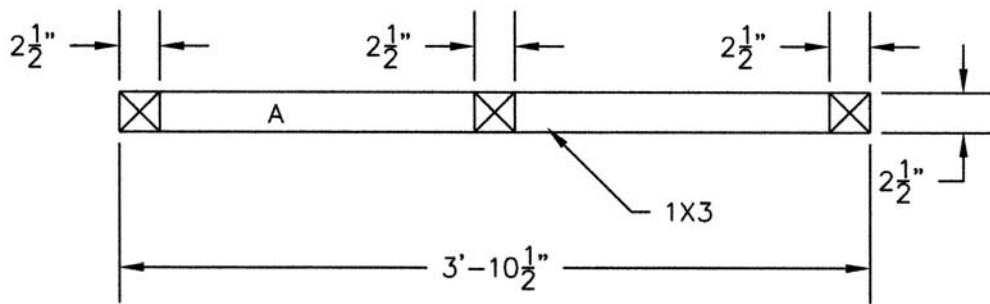


UIL APPROVED UNIT SET

4' X 4' RAMP



BACK FRAME  
 BUILD ONE FOR EACH RAMP.  
 USE 1X3 WITH HALF-LAP JOINTS  
 AND 1/4\" PLYWOOD STRENGTHENER.



☒ = LOCATION OF CUTS  
 FOR HALF-LAP JOINT.

## UIL APPROVED UNIT SET

## 4' X 4' RAMP

CUT LIST (PER RAMP):1X1

2 @ 10-3/4" (NAILERS)

1X3

2 @ 3'-10-1/2" (PART "A" FOR BACK FRAME)

3 @ 11-1/4" (PART "B" FOR BACK FRAME)

1/4" PLYWOOD

2 @ 9" X 10-3/4" (STRENGTHENER)

3/4" PLYWOOD

1 @ 4'-0" X 4'-0", 45° BEVEL ON ONE EDGE (TOP)

3 @ 1'-0" X 4'-0", CUT AS INDICATED (STRINGERS)  
(CUT CAREFULLY, 1 PIECE WILL MAKE 2 STRINGERS.)12 oz CANVAS

APPROX. 1.5 YARDS AT 72" WIDE

HARDWARE REQUIRED1-5/8" COARSE THREAD DRYWALL SCREWS OR 1/4" CROWN, 1-1/2"  
PNEUMATIC STAPLES (TOP AND BACK FRAME TO STRINGERS  
AND NAILING BLOCKS)

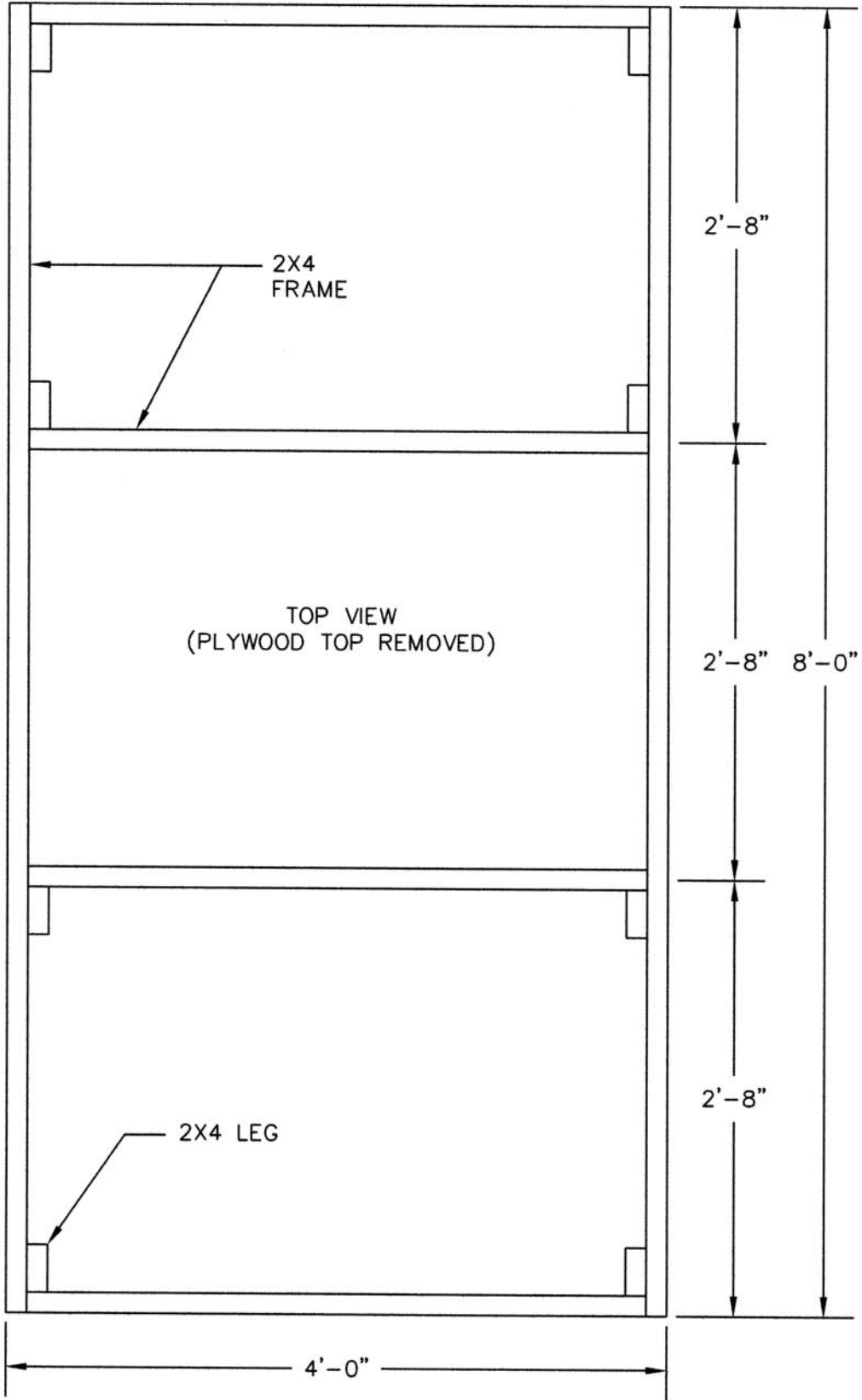
1/4" CROWN, 3/4" LONG PNEUMATIC STAPLES (BACK FRAME)

YELLOW GLUE (BACK FRAME, TOP TO STRINGERS AND BACK FRAME)

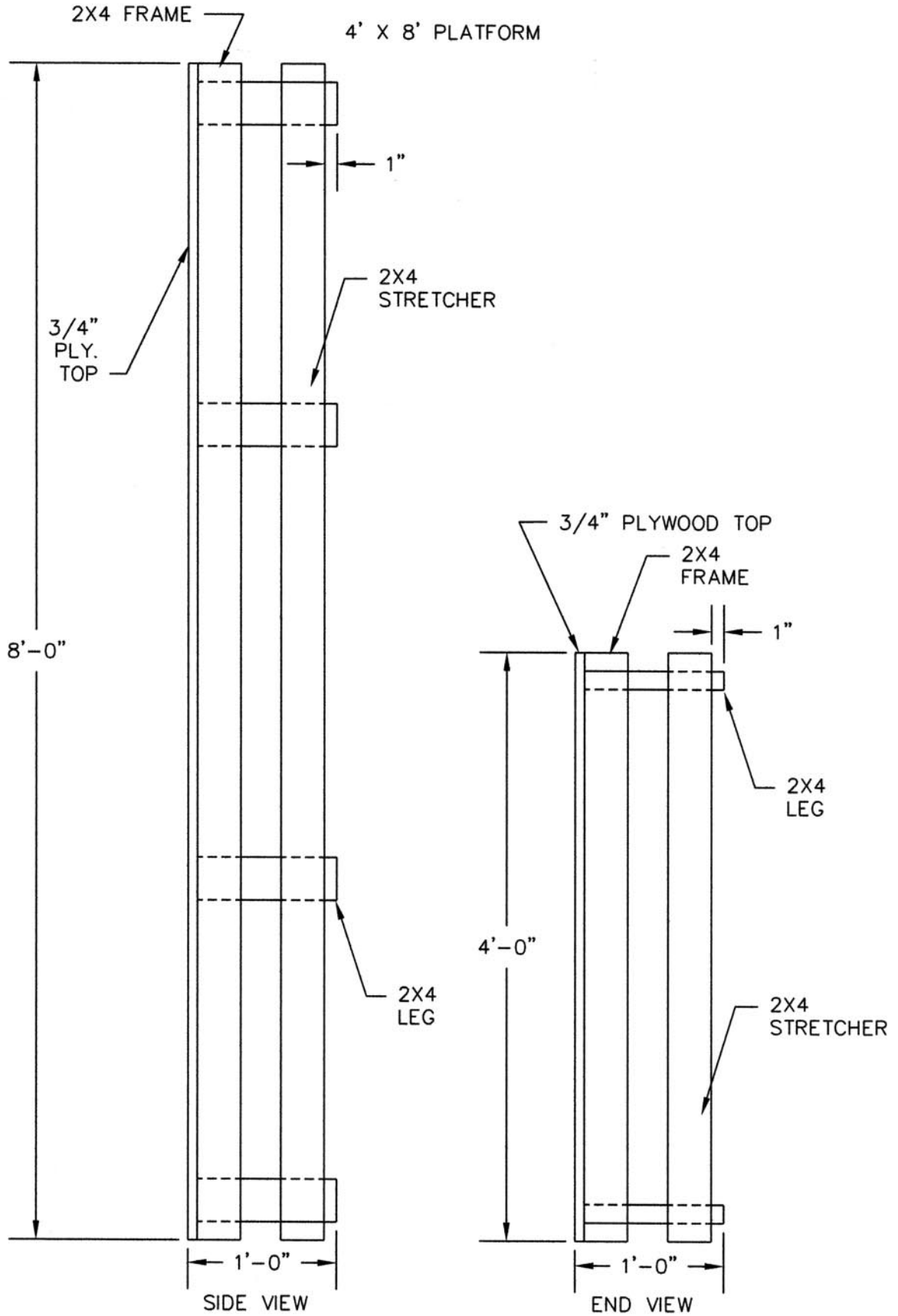
WHITE GLUE (CANVAS TO RAMP)

UIL APPROVED UNIT SET

4' X 8' PLATFORM



UIL APPROVED UNIT SET



## UIL APPROVED UNIT SET

## 4' X 8' PLATFORM

CUT LIST (PER PLATFORM):2X4

2 @ 8'-0" (SIDE FRAME)  
4 @ 3'-9" (END AND INTERNAL FRAME)  
2 @ 7'-9" (SIDE STRETCHER)  
2 @ 4'-0" (END STRETCHER)  
8 @ 11-1/4" (LEGS)

3/4" PLYWOOD

1 @ 4'-0" X 8'-0" (TOP)

12 oz CANVAS

APPROX. 3.5 YARDS AT 84" WIDE

HARDWARE REQUIRED

1-5/8" COARSE THREAD DRYWALL SCREWS (TOP TO FRAME)

3" COARSE THREAD DRYWALL SCREWS  
(FRAME TO FRAME AND STRETCHERS TO LEGS)

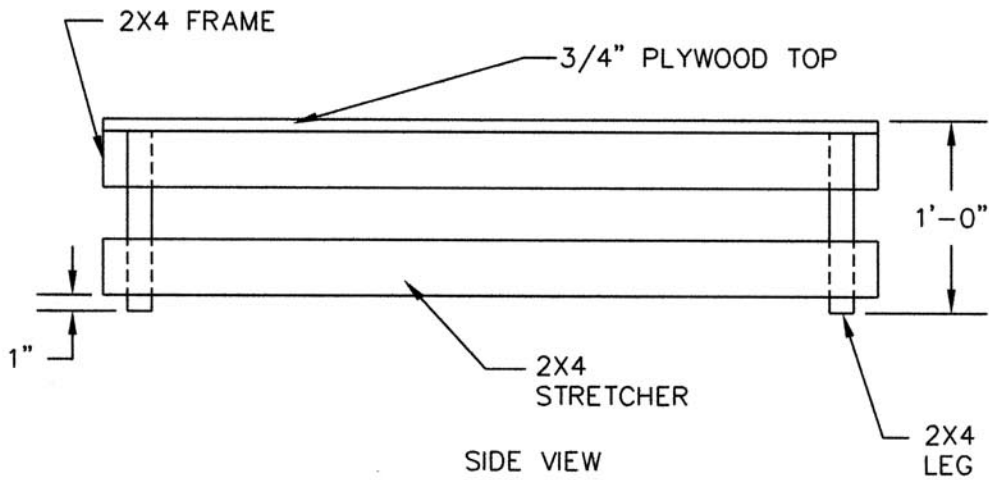
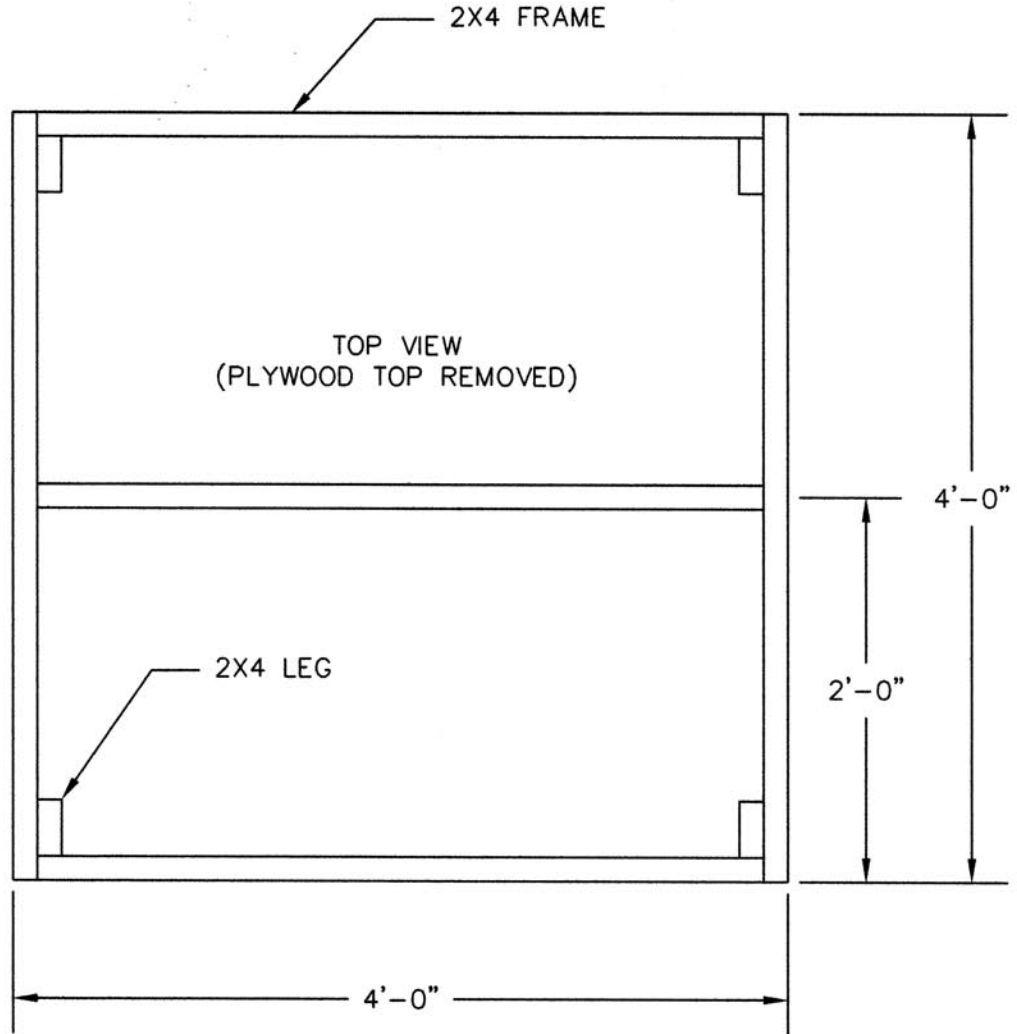
3/8" X 3-1/2" CARRIAGE BOLTS WITH HEX NUTS AND FLAT WASHERS  
(LEGS TO FRAME)

IF NAILS ARE USED: 6d AND 16d COATED BOX NAILS

WHITE GLUE (CANVAS TO PLATFORM)

UIL APPROVED UNIT SET

4' X 4' PLATFORM



## UIL APPROVED UNIT SET

## 4' X 4' PLATFORM

CUT LIST (PER PLATFORM):2X4

- 2 @ 4'-0" (SIDE FRAME)
- 3 @ 3'-9" (END AND INTERNAL FRAME)
- 2 @ 3'-9" (SIDE STRETCHER)
- 2 @ 4'-0" (END STRETCHER)
- 4 @ 11-1/4" (LEGS)

3/4" PLYWOOD

- 1 @ 4'-0" X 4'-0" (TOP)

12 oz CANVAS

APPROX. 2 YARDS AT 84" WIDE

HARDWARE REQUIRED

1-5/8" COARSE THREAD DRYWALL SCREWS (TOP TO FRAME)

3" COARSE THREAD DRYWALL SCREWS  
(FRAME TO FRAME AND STRETCHERS TO LEGS)

3/8" X 3-1/2" CARRIAGE BOLTS WITH HEX NUTS AND FLAT WASHERS  
(LEGS TO FRAME)

IF NAILS ARE USED: 6d AND 16d COATED BOX NAILS

WHITE GLUE (CANVAS TO PLATFORM)

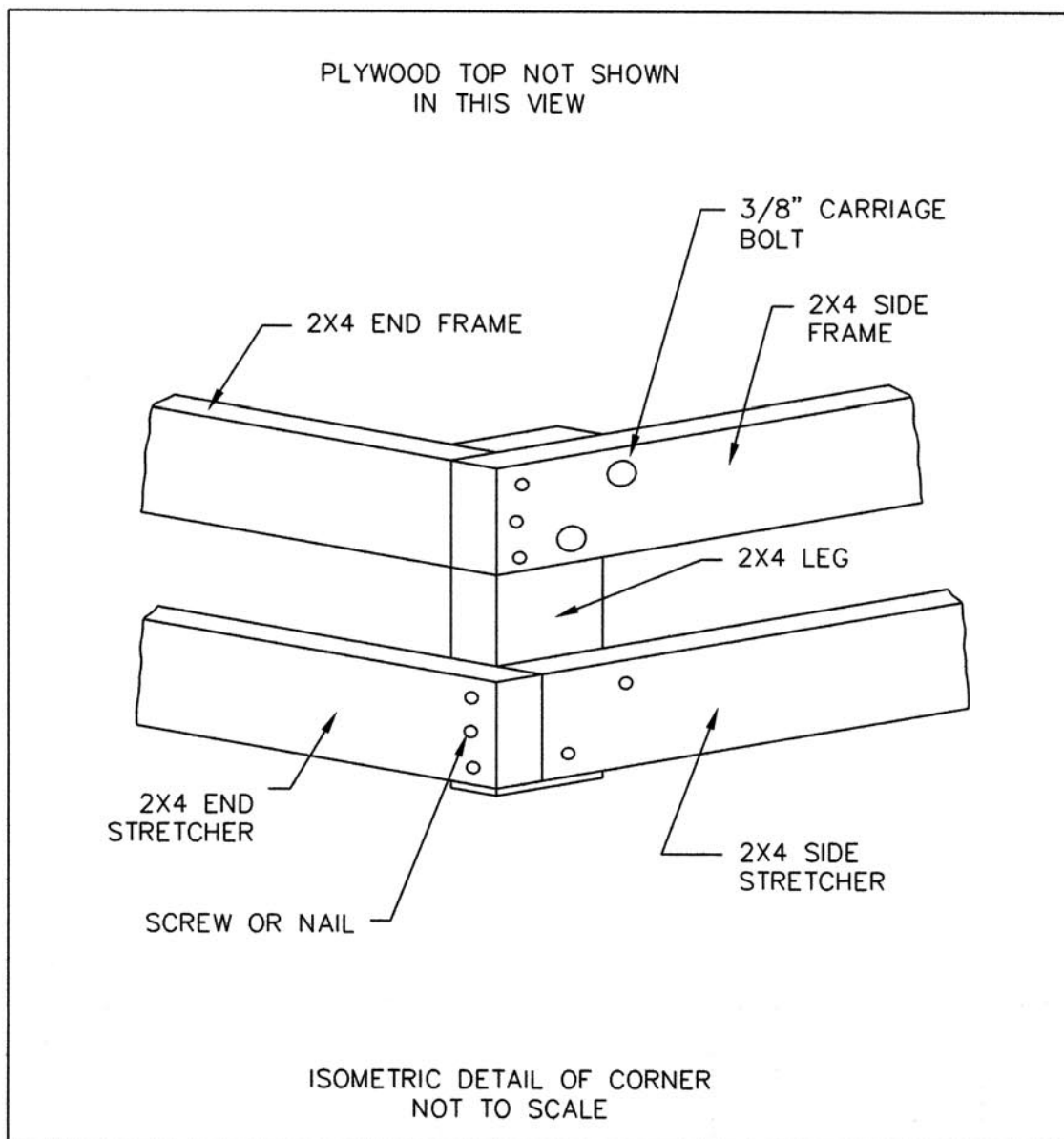


UIL APPROVED UNIT SET

4' X 4' AND 4' X 8' PLATFORM

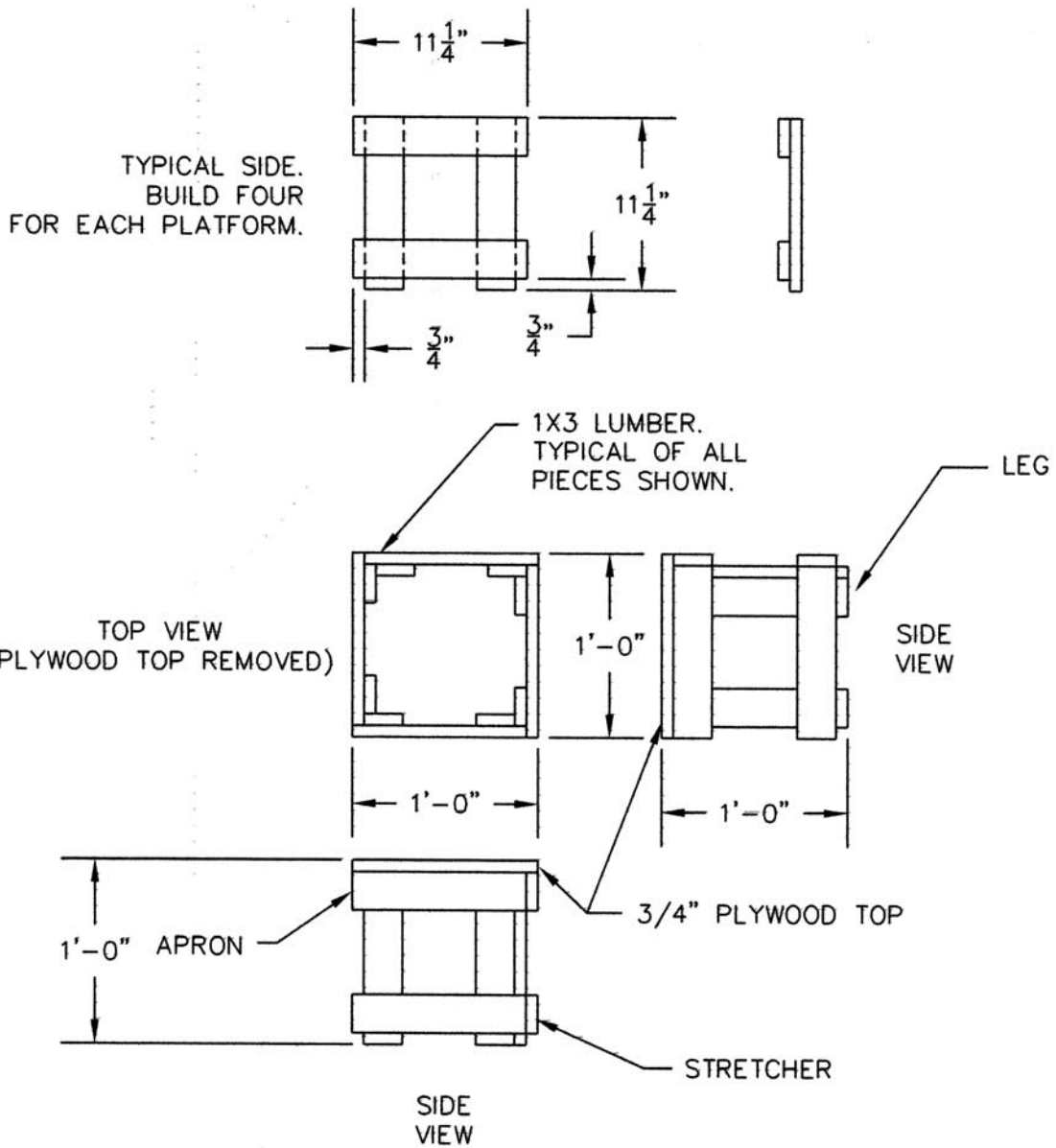
NOTES:

- 2X4 FRAME IS NAILED (16d) OR SCREWED (3") TOGETHER.
- 3/4" PLYWOOD TOP IS NAILED OR SCREWED TO FRAME EVERY 12".
- LEGS ARE BOLTED ON TO FRAME WITH 3/8" X 3-1/2" CARRIAGE BOLTS, WASHERS AND NUTS - COUNTERSINK BOLT HEADS FLUSH TO FRAME.
- STRETCHER IS NAILED OR SCREWED TOGETHER AND TO LEGS, 1" UP FROM BOTTOM OF LEGS
- COVER PLATFORM WITH 12 oz CANVAS USING WHITE GLUE.



UIL APPROVED UNIT SET

1' X 1' PLATFORM



- 1X3 LUMBER APRONS, LEGS AND STRETCHERS
- GLUE AND STAPLE APRONS AND STRETCHERS TO LEGS.
- GLUE AND SCREW SIDES TOGETHER AT APRON, STRETCHER AND LEGS.
- 3/4" PLYWOOD LID, GLUE AND SCREW TO FRAME
- STRETCHER IS ATTACHED 3/4" UP FROM BOTTOM OF LEG.
- COVER WITH 12 oz CANVAS

*UIL APPROVED UNIT SET*

## 1' X 1' PLATFORM

CUT LIST (PER PLATFORM):1X3

16 @ 11-1/4" (FRAME)

3/4" PLYWOOD

1 @ 1'-0" X 1'-0" (TOP)

12 oz CANVAS

APPROX. 1 YARD AT 54" WIDE

HARDWARE REQUIRED

1/4" CROWN, 1-1/4" LONG PNEUMATIC STAPLES OR 1-1/4" COARSE  
THREAD DRYWALL SCREWS (LUMBER PIECES IN EACH SIDE FRAME)  
(DRILL PILOT HOLES FOR SCREWS)

1/4" CROWN, 1-1/2" LONG PNEUMATIC STAPLES OR 1-5/8" COARSE  
THREAD DRYWALL SCREWS (TOP AND FRAME TO FRAME)  
(DRILL PILOT HOLES FOR SCREWS IN FRAME)

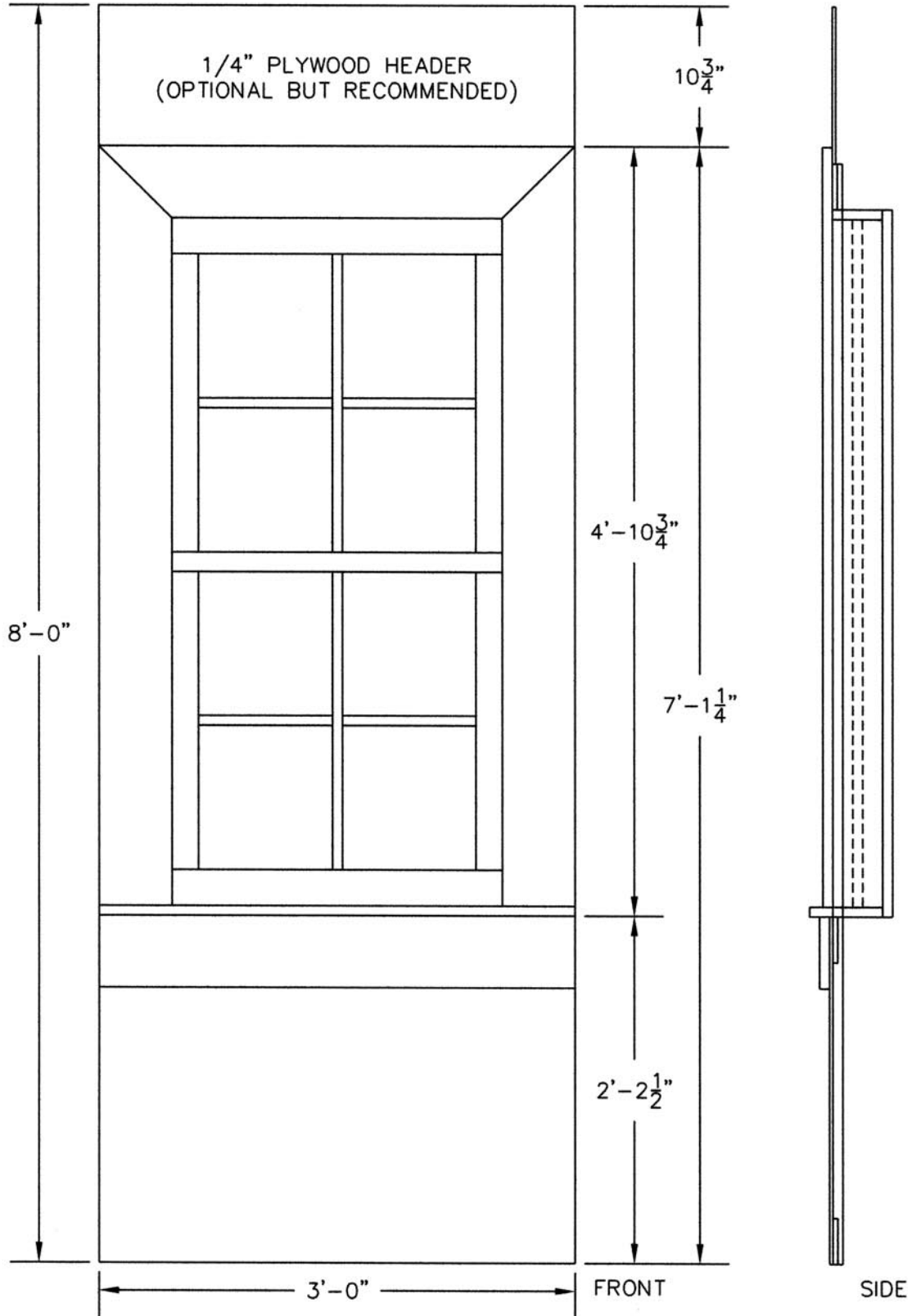
IF NAILS ARE USED: 3d AND 6d COATED BOX NAILS

YELLOW GLUE (TOP AND FRAME TO FRAME)

WHITE GLUE (CANVAS TO PLATFORM)

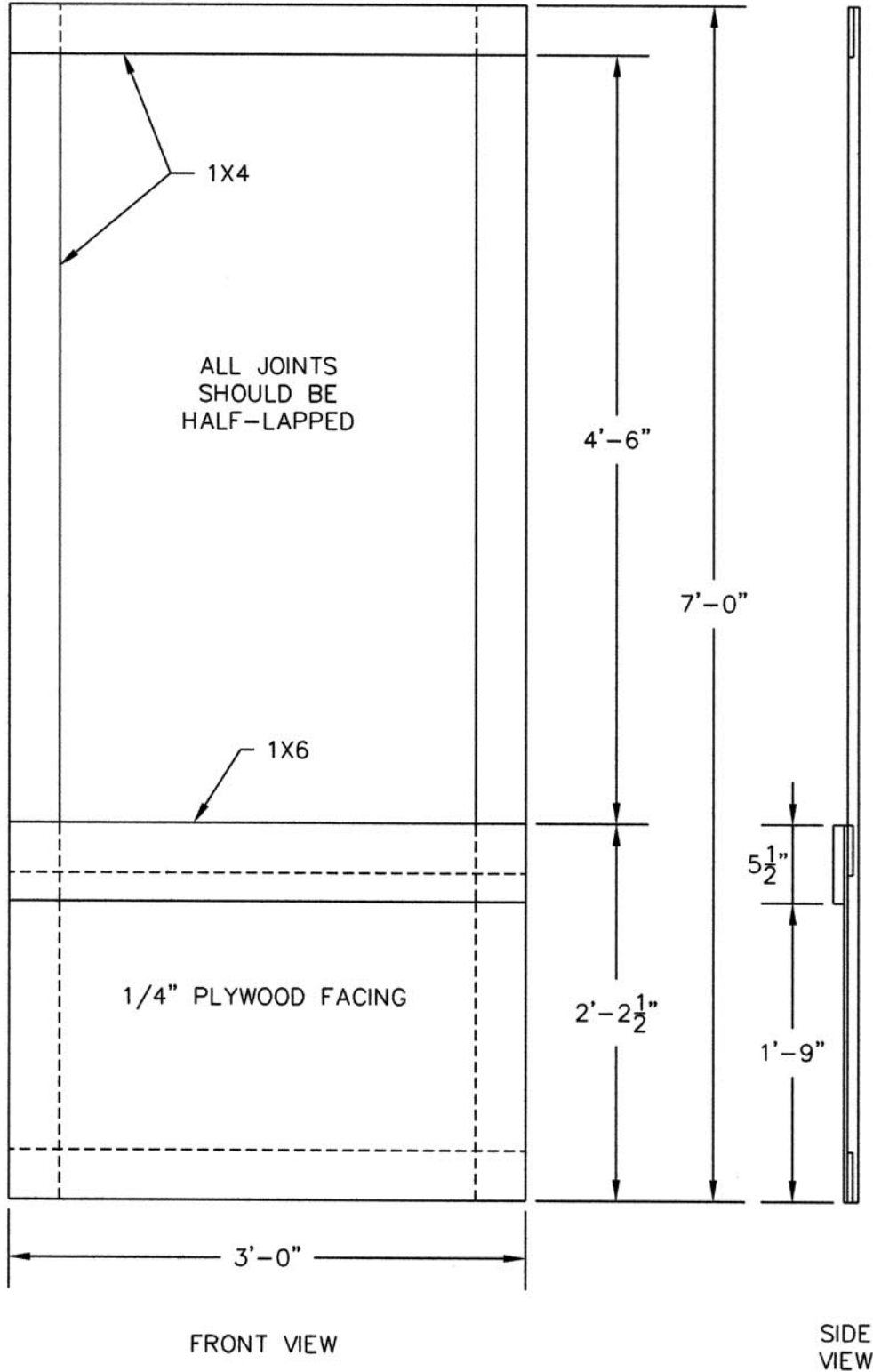
UIL APPROVED UNIT SET

STANDARD WINDOW UNIT



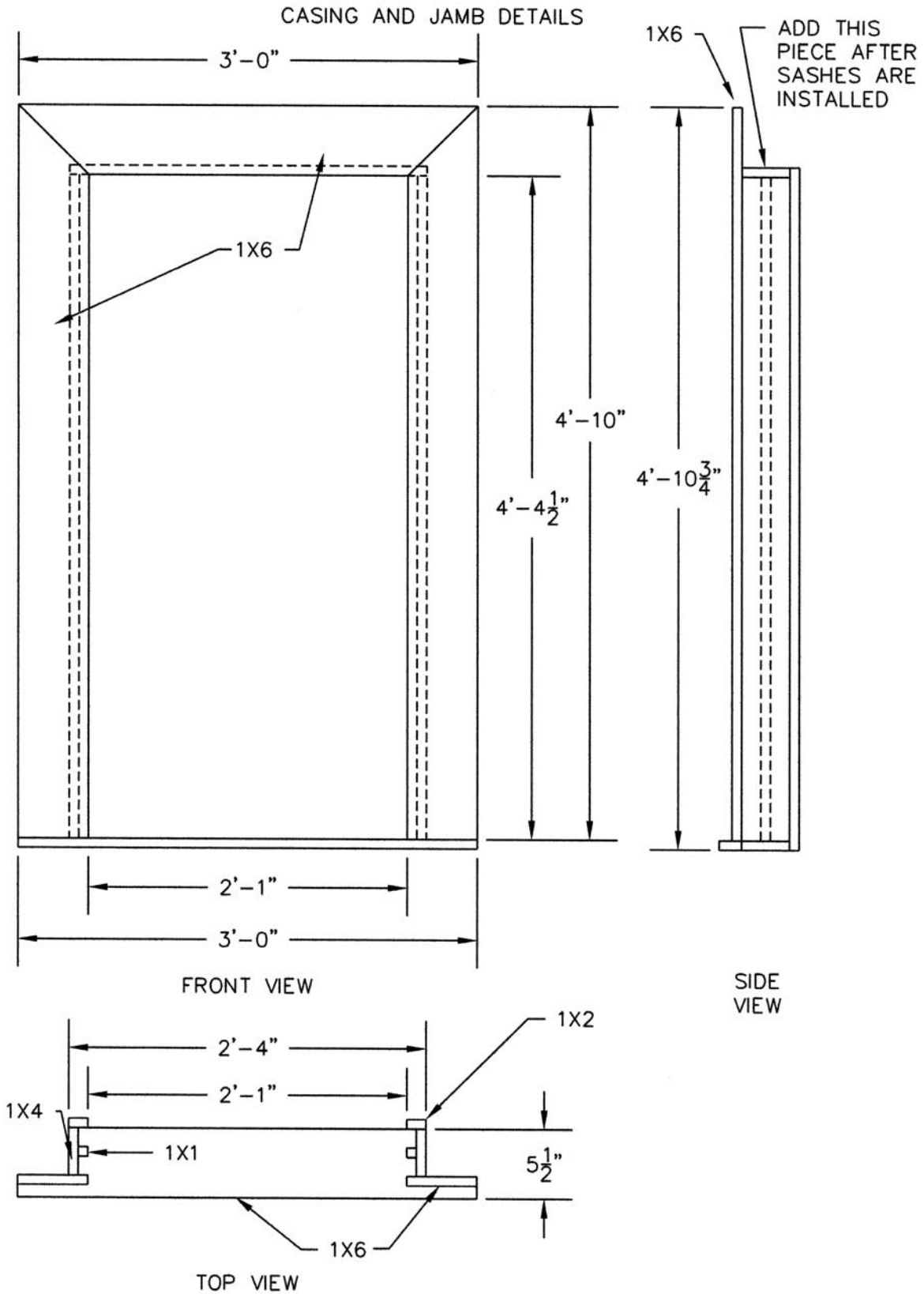
UIL APPROVED UNIT SET  
STANDARD WINDOW UNIT

FLAT DETAILS



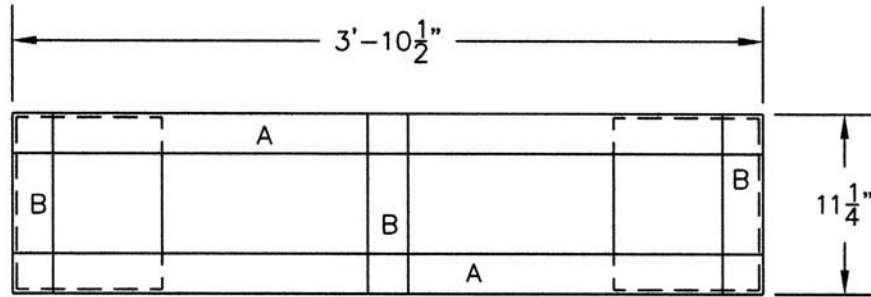
UIL APPROVED UNIT SET

STANDARD WINDOW UNIT

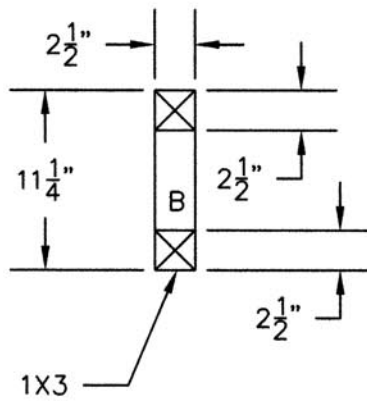
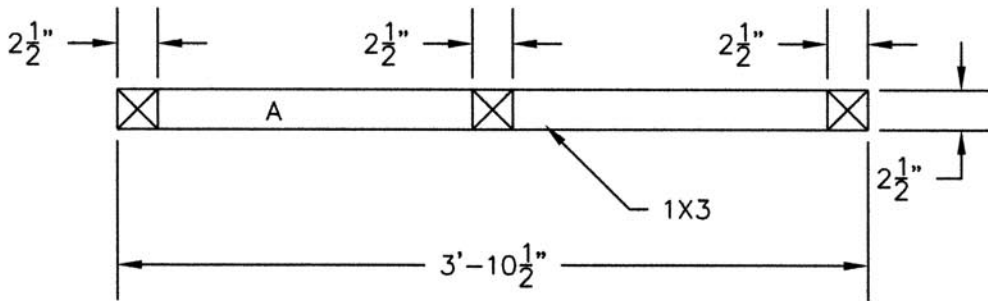


UIL APPROVED UNIT SET

4' X 4' RAMP



BACK FRAME  
 BUILD ONE FOR EACH RAMP.  
 USE 1X3 WITH HALF-LAP JOINTS  
 AND 1/4\" PLYWOOD STRENGTHENER.



☒ = LOCATION OF CUTS  
 FOR HALF-LAP JOINT.

## UIL APPROVED UNIT SET

## STANDARD WINDOW UNIT

CUT LIST (PER WINDOW UNIT):1X1

- 2 @ 2'-3" (SASH MULLIONS)
- 2 @ 2'-2 1/2" (SASH MULLIONS)
- 2 @ 4'-4 1/2" (SIDES OF JAMB)

1X2

- 2 @ 4'-6" (BACK OF JAMB)
- 4 @ 2'-2 1/2" (SASH FRAME)

1X3

- 4 @ 2'-2 1/2" (SASH FRAME)
- 8 @ 2'-3" (SASH FRAME)

1X4

- 2 @ 7'-0" (SIDE FRAME OF FLAT)
- 3 @ 3'-0" (RAILS AND TOGGLE OF FLAT)
- 2 @ 4'-4 1/2" (SIDE OF JAMB)
- 1 @ 2'-4" (TOP OF JAMB)

1X6

- 2 @ 4'-10" (SIDES OF CASING, 45° ANGLE AT ONE END)
- 1 @ 3'-0" (TOP OF CASING, 45° ANGLE AT EACH END)
- 1 @ 3'-0" (BOTTOM OF CASING, NOTCHED AT EACH END)
- 1 @ 3'-0" (FRONT OF FLAT, UNDER BOTTOM OF CASING)

1/4" PLYWOOD

- 1 @ 3'-0" X 2'-2 1/2" (FACING)
- 1 @ 3'-0" X 1'-3 1/2" (HEADER)

NYLON SCREEN

- 2 PIECES, 2'-2 1/2" X 2'-3" EACH

HARDWARE REQUIRED

1/4" CROWN PNEUMATIC STAPLES OF VARIOUS LENGTHS (GENERAL CONST.)

1-5/8" COARSE THREAD DRYWALL SCREWS (GENERAL CONSTRUCTION)

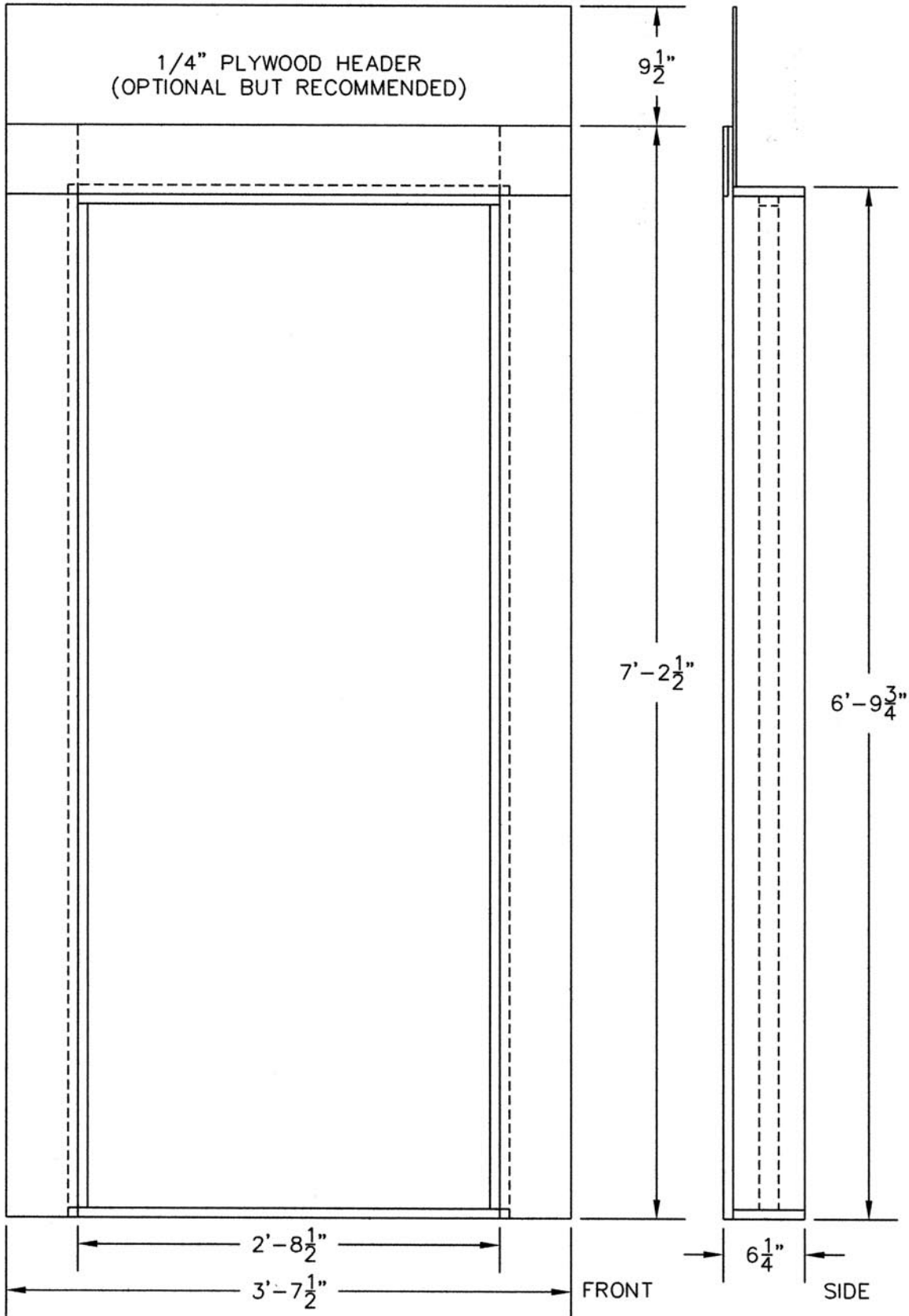
BARREL BOLTS (HOLD LOWER SASH IN "OPEN" POSITION)

YELLOW GLUE (GENERAL CONSTRUCTION)



UIL APPROVED UNIT SET

STANDARD DOOR UNIT



## UIL APPROVED UNIT SET

## STANDARD DOOR UNIT

CUT LIST (PER DOOR UNIT):1X2

- 2 @ 6'-7 1/2" (DOOR STOP SIDES)  
 1 @ 2'-8 1/2" (DOOR STOP TOP)

1X6

- 2 @ 7'-2 1/2" (SIDES OF FRONT FACING)  
 2 @ 3'-7 1/2" (TOP OF FRONT FACING AND BOTTOM SILL)  
 2 @ 6'-8 1/4" (SIDES OF JAMB)  
 2 @ 2'-10" (TOP OF JAMB AND BOTTOM SILL)

1/4" PLYWOOD

- 1 @ 1'-2 1/4" x 3'-7 1/2" (FACING)

HARDWARE REQUIRED

3/4" SCREWS AND HINGES

1/4" CROWN PNEUMATIC STAPLES OF VARIOUS LENGTHS (GENERAL CONST.)

1-5/8" COARSE THREAD DRYWALL SCREWS (GENERAL CONSTRUCTION)

DOOR KNOB AND STRIKE PLATE

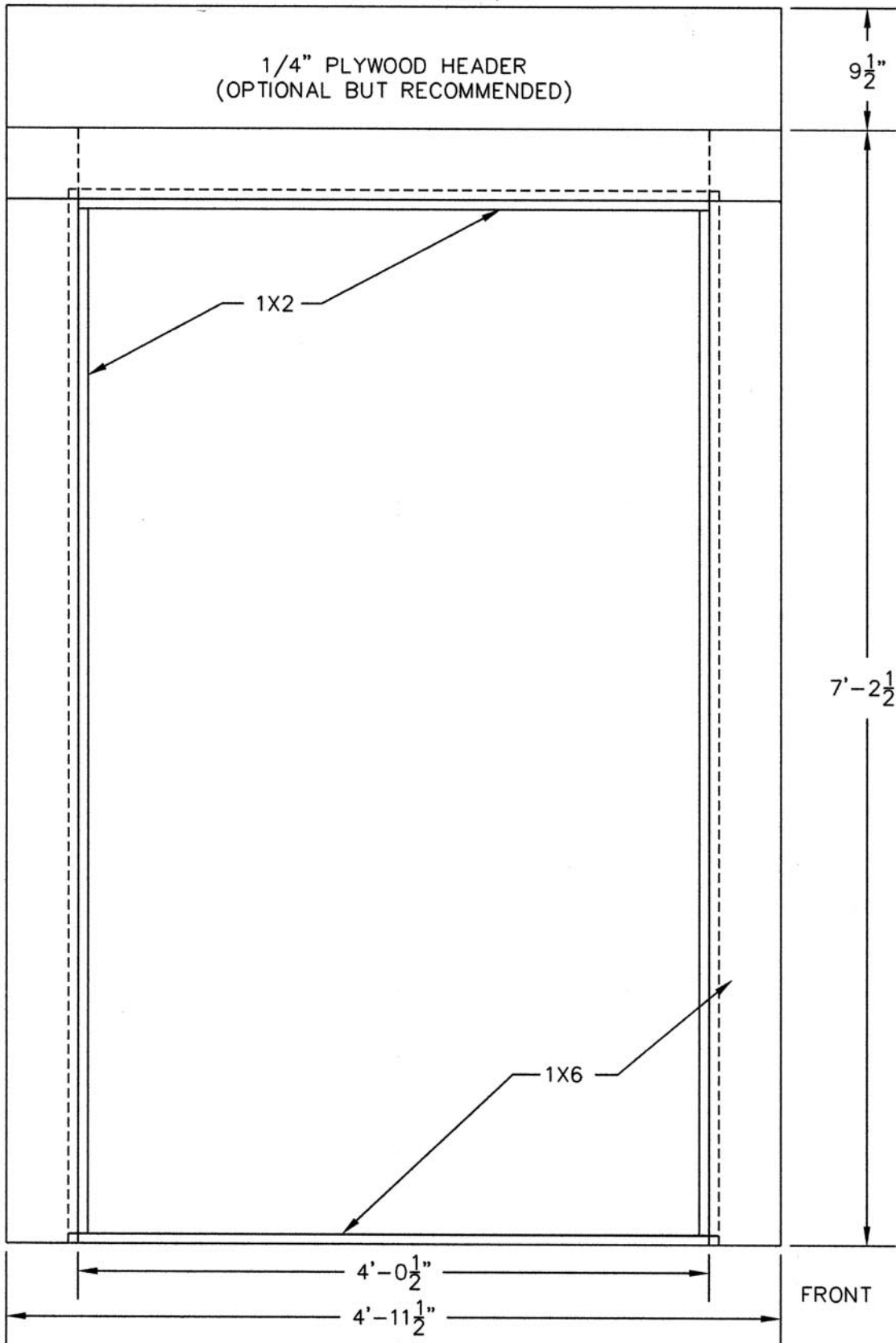
YELLOW GLUE (GENERAL CONSTRUCTION)

NOTES:

1. FRONT FACING JOINTS (AT TOP) SHOULD BE HALF-LAPPED WITH BUTT JOINTS FOR THE JAMB FRAME.
2. EACH STAGE JACK IS ATTACHED TO DOOR UNIT WITH TWO 1-1/2" HINGES.
3. DOOR UNIT SHOULD OPEN OFFSTAGE AND MAY BE HINGED ON EITHER SIDE. IF MORE THAN ONE DOOR UNIT IS BUILT, HINGE TO OPEN IN OPPOSITE DIRECTIONS.
4. USE FACTORY MADE, HOLLOW CORE DOOR - ALREADY DRILLED FOR KNOB AND MORTISED FOR HINGES. ACTUAL DIMENSIONS ARE 6'-8" X 2'-8" X 1-3/4". DIMENSIONS INDICATED FOR JAMB AND FRONT FRAME INCLUDE EXTRA SPACE FOR EASE OF OPERATION.

UIL APPROVED UNIT SET

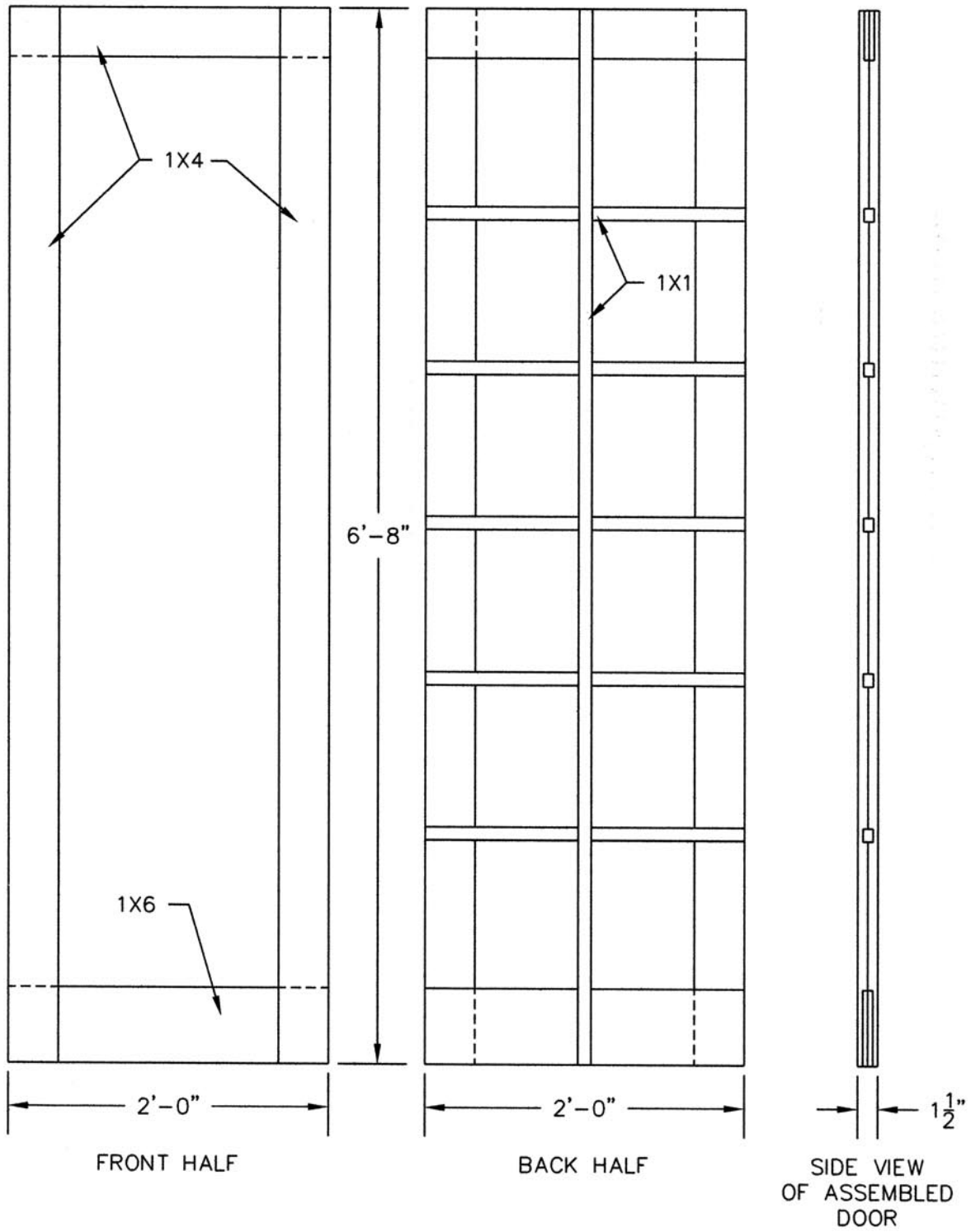
FRENCH WINDOW/DOOR UNIT



UIL APPROVED UNIT SET

FRENCH WINDOW/DOOR UNIT

SHUTTER CONSTRUCTION DETAILS



## UIL APPROVED UNIT SET

## FRENCH WINDOW/DOOR UNIT

CUT LIST (PER UNIT):1X1

2 @ 6'-8" (SHUTTER)  
10 @ 2'-0" (SHUTTER)

1X2

2 @ 6'-7 1/2" (DOOR STOP SIDES)  
1 @ 4'-0 1/2" (DOOR STOP TOP)

1X4

4 @ 6'-8" (SHUTTER)  
2 @ 2'-0" (SHUTTER)

1X6

2 @ 7'-2 1/2" (SIDES OF FRONT FACING)  
1 @ 4'-11 1/2" (TOP OF FRONT FACING)  
2 @ 6'-8 1/4" (SIDES OF JAMB)  
2 @ 4'-3" (TOP OF JAMB AND BOTTOM SILL)  
2 @ 2'-0" (SHUTTER)

1/4" PLYWOOD

1 @ 4'-11 1/2" X 1'-2 1/4" (FACING)

HARDWARE REQUIRED

3/4" SCREWS AND HINGES

1/4" CROWN PNEUMATIC STAPLES OF VARIOUS LENGTHS (GENERAL CONST.)

1-5/8" COARSE THREAD DRYWALL SCREWS (GENERAL CONSTRUCTION)

DOOR KNOBS AND BULLET CATCHES

YELLOW GLUE (GENERAL CONSTRUCTION)

NOTES:

1. FRONT FACING JOINTS (AT TOP) SHOULD BE HALF-LAPPED WITH BUTT JOINTS FOR THE JAMB FRAME.
2. EACH STAGE JACK IS ATTACHED TO DOOR UNIT WITH TWO 1-1/2" HINGES.
3. DOOR UNIT SHOULD BE HINGED TO OPEN OFFSTAGE.
4. FRONT AND BACK HALVES OF SHUTTER SHOULD EACH BE HALF-LAPPED AND FASTENED TO ONE ANOTHER WITH A TOTAL THICKNESS OF 1-1/2".
5. DIMENSIONS INDICATED FOR JAMB AND FRONT FRAME INCLUDE EXTRA SPACE FOR EASE OF OPERATION.

## UIL APPROVED UNIT SET

## STANDARD STAGE JACK FOR WINDOW AND DOOR UNITS

CUT LIST (PER JACK):1X3 OR 1X4

- 1 @ 5'-8 1/2" OR 5'-9 1/2"  
(VERTICAL)  
1 @ 2'-0" (HORIZONTAL)  
1 @ 5'-3" (DIAGONAL WITH  
ANGLE CUTS AS SHOWN)

1/4" PLYWOOD

- 3 @ 1'-0" X 1'-0" (CUT AS REQUIRED)

HARDWARE REQUIRED

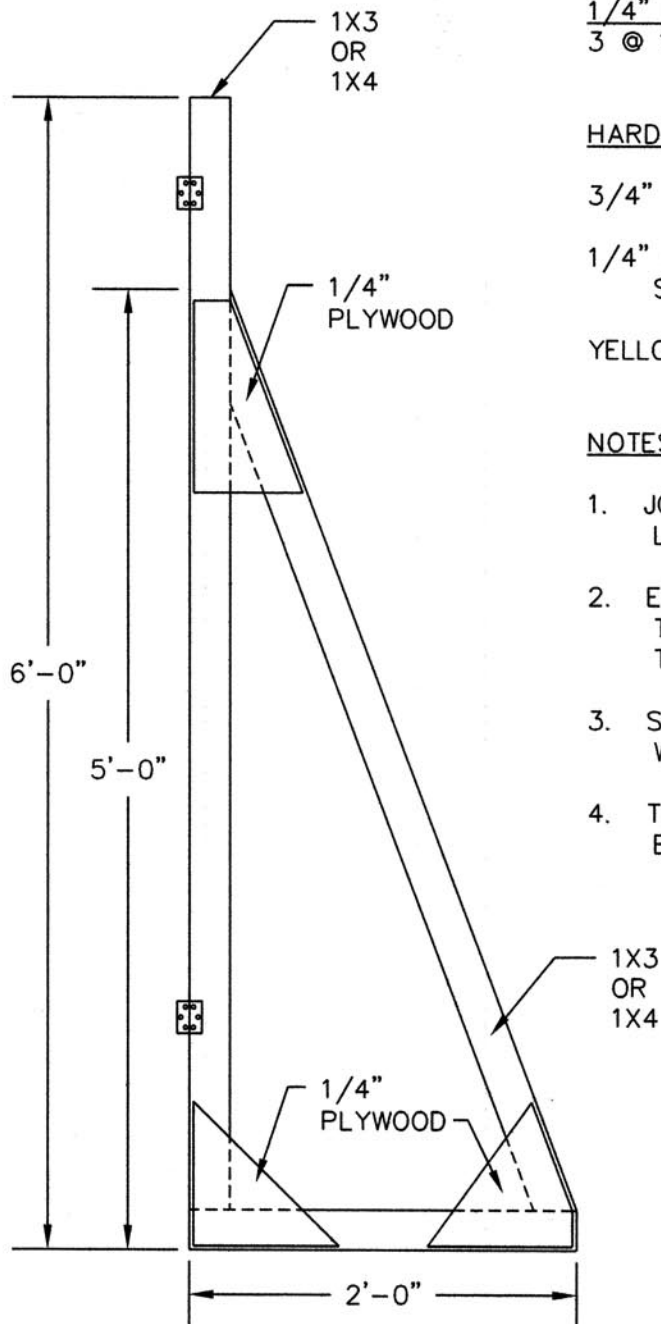
3/4" SCREWS AND HINGES

1/4" CROWN, 3/4" LONG PNEUMATIC  
STAPLES (PLYWOOD TO FRAME)

YELLOW GLUE (PLYWOOD TO FRAME)

NOTES:

1. JOINTS CAN BE BUTTED AND LAPPED WITH 1/4" PLYWOOD.
2. EACH STAGE JACK IS ATTACHED TO WINDOW FLAT FRAME WITH TWO 1-1/2" HINGES.
3. STAGE JACK MAY BE CONSTRUCTED WITH EITHER 1X3 OR 1X4.
4. TWO JACKS ARE REQUIRED FOR EACH WINDOW OR DOOR UNIT.



 = LOCATION OF HINGE.