

## 10 TON FEED BIN

The two compartment bulk feed bin in this plan will permit a farmer to take advantage of bulk feed deliveries. The economies of bulk service coupled with gravity discharge give the dollar saving and convenience needed in modern agriculture.

Filling and feeding from alternate compartments will permit changing of ration and provide a means of thoroughly cleaning the bin without completely depleting the feed supply. Research has shown that new feed dumped on top of a partially filled bin may actually funnel down and discharge before the older feed has been drawn off.

The ten ton capacity of this bin is based on filling to the plate level with feed weighing about 30 lbs. per cu. ft. The shape of the roof should permit added capacity by mounding the feed. Feed delivery truck capacities suggested the 5 ton single compartment size. Heavier feeds will, of course, result in a greater tonnage capacity. The bin is designed to safely hold heavier materials - including the loads of wheat.

Automatic feeders and feed conveyors should fit easily under the bin. The 3' clearance will also permit drawing feed into a wheelbarrow or feed cart. Additional clearance may be provided by lengthening the 4 x 4 legs. If the 4 x 4's extend more than 10' below the bin, they should be braced to prevent buckling. Most delivery trucks can easily reach the 17' high door, however, raising the bin for added clearance may result in delivery problems.

Plywood's insulating ability will help prevent condensation and the resulting feed spoilage. At the same time, the even temperature maintained by the plywood bin will prevent vaporization of valuable feed additives.

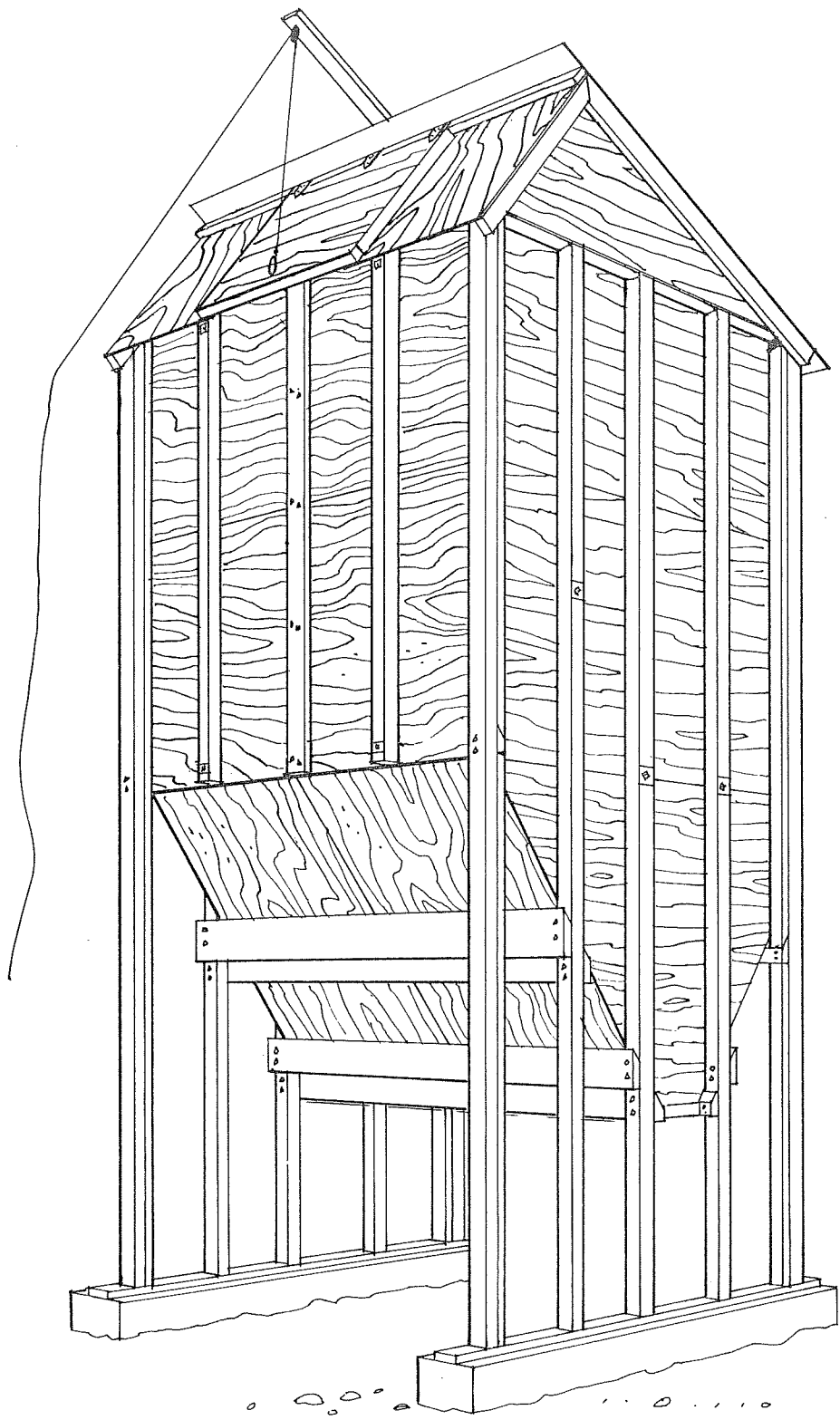
Careful attention to caulking of the horizontal plywood joints will prevent rain leakage. An alternate method of providing weather protection is to apply plywood siding to the outside of the 4 x 4 uprights.

The foundation of the bulk feed bin must carry the load of the feed and the bin. Local conditions will determine the bearing area required. Nearly all soils can safely carry one ton per square foot of area.

### ERECTION PROCEDURE:

The normal sequence of construction would be:

1. Set up all 4 x 4 uprights and position with temporary braces.
2. Install floor and roof joist at proper position, taking care that they are in alignment.
3. Install 4 x 4 supports for divider; bolt to joists.
4. Nail the plywood lining on end walls.
5. Cut and fit sloping plywood floor.
6. Put divider plywood in place.
7. Fit and nail the plywood side lining.
8. Complete roof and filling door.
9. Construct the draw-off slides
10. Install tie rods at locations shown.
11. Check nailing and bolting to make sure all fasteners are in place.



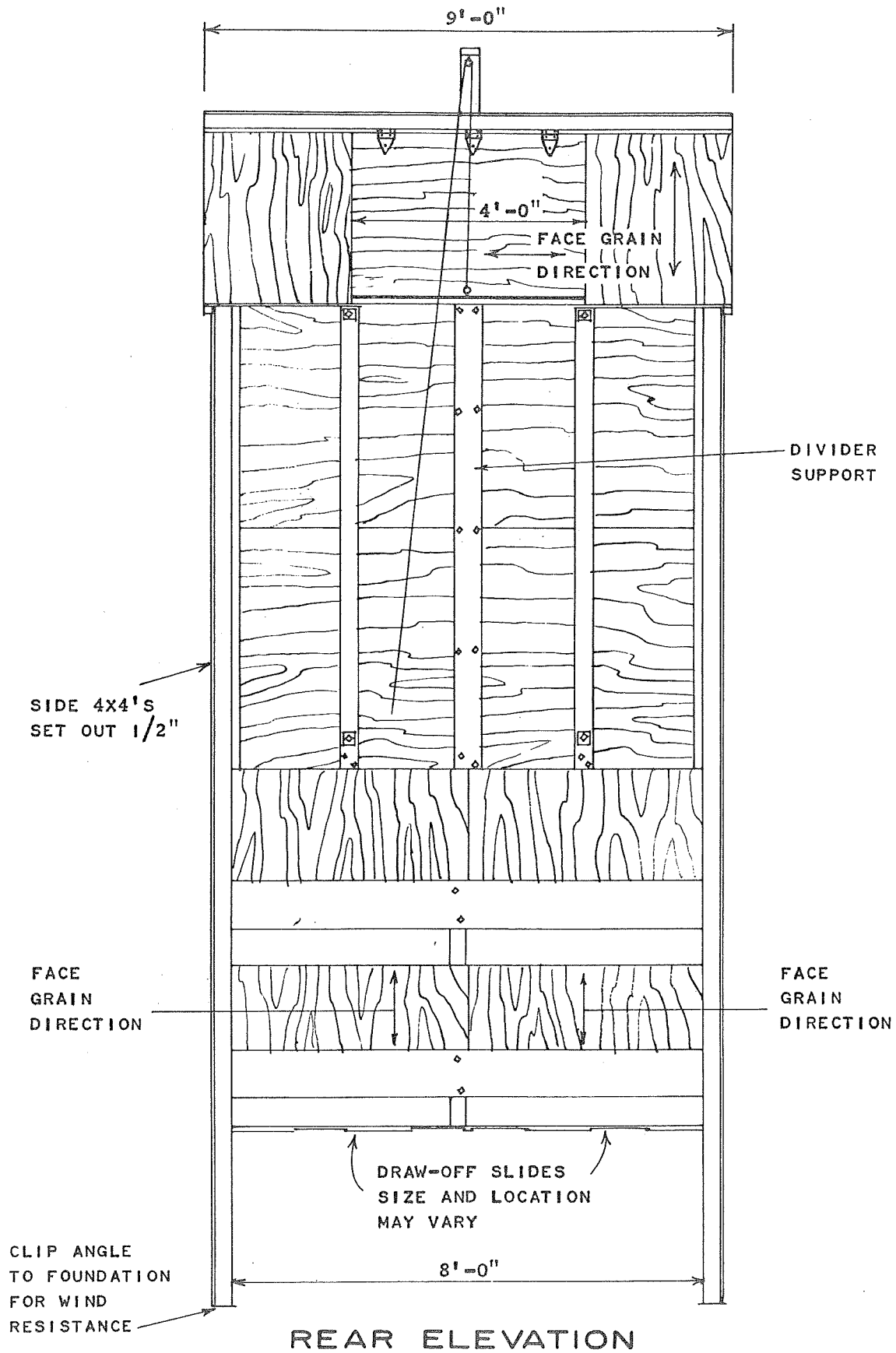
8  
8  
64  
8  
51:24/3

PERSPECTIVE VIEW

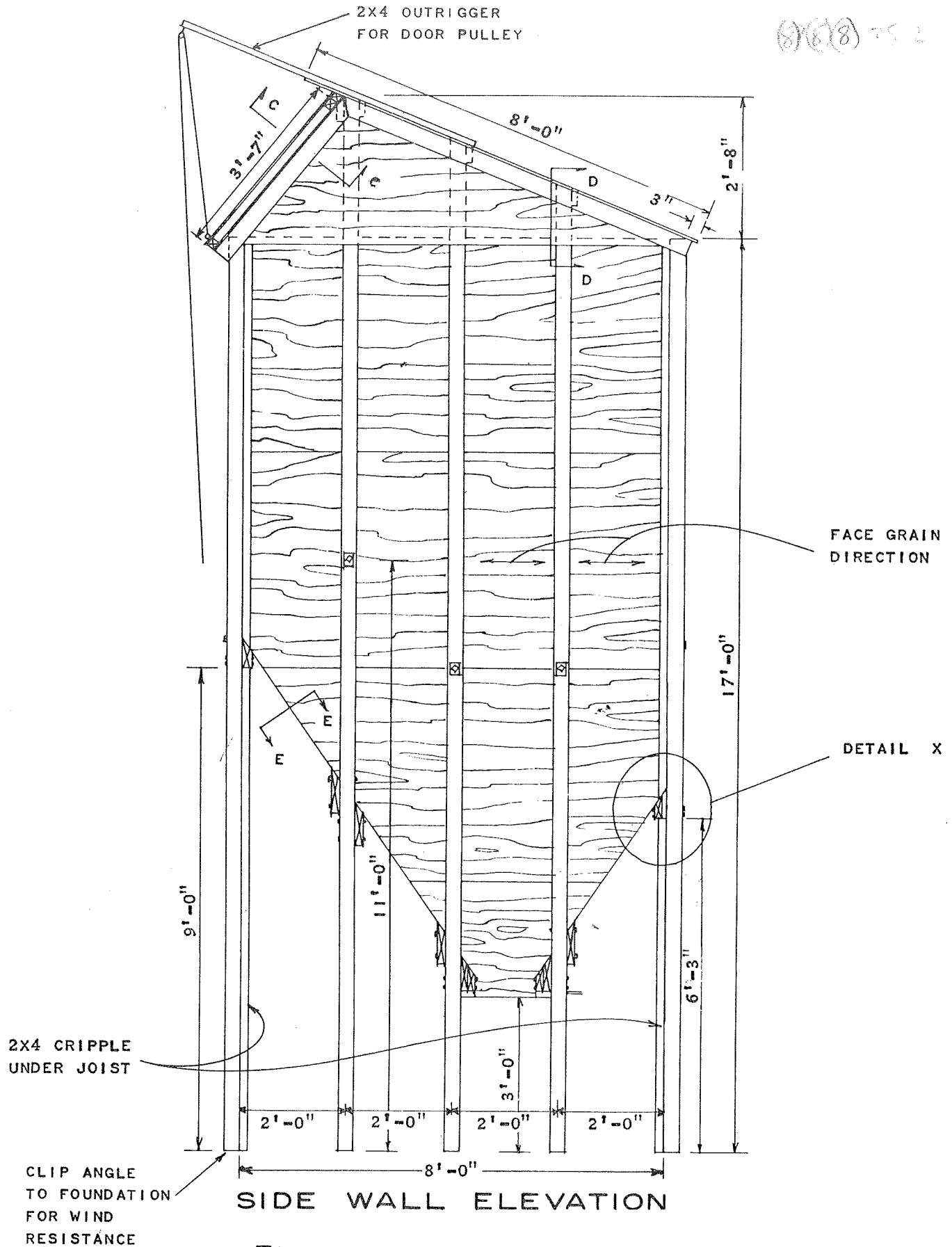


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888 75 2



SIDE WALL ELEVATION

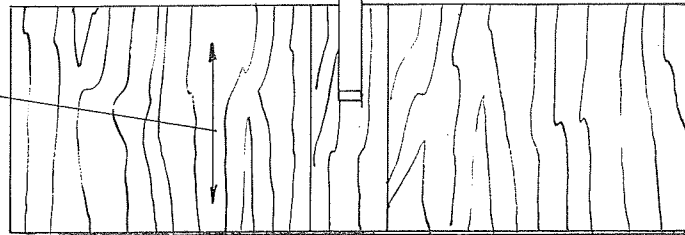


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FACE GRAIN DIRECTION

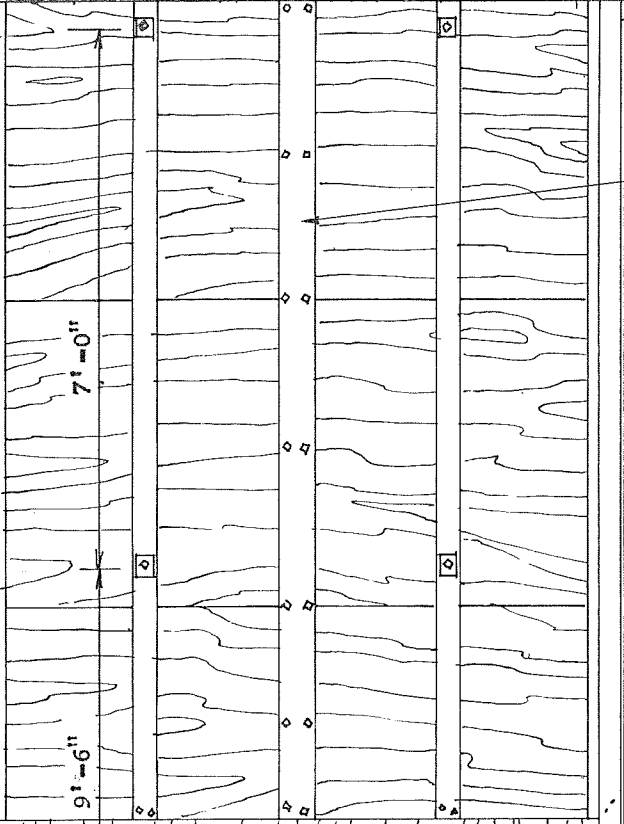
A



DIVIDER SUPPORT

B

B



FACE GRAIN DIRECTION ON SLOPE

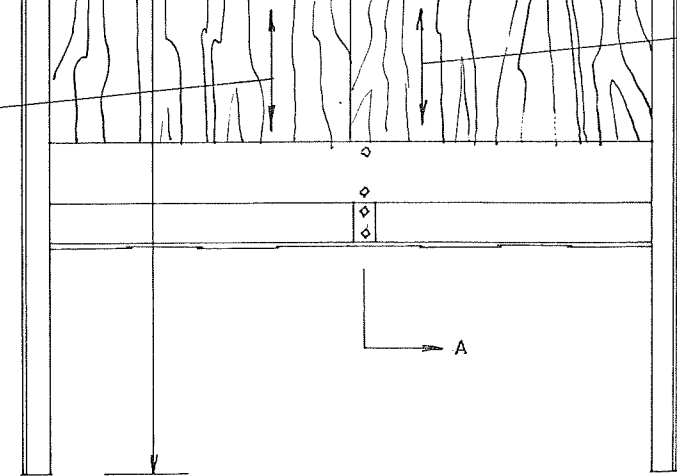
FACE GRAIN DIRECTION ON SLOPE

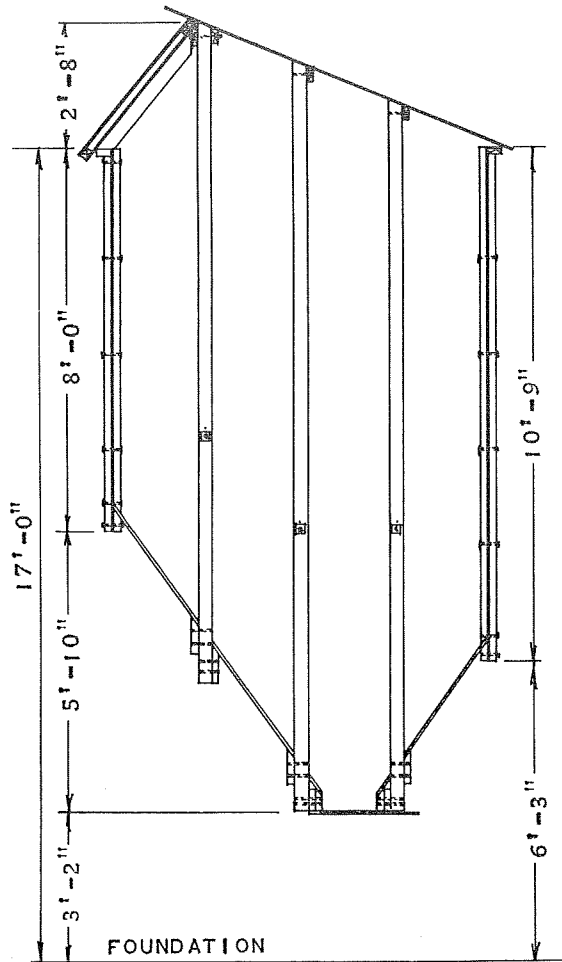
SIDE 4x4'S SET OUT 1/2"

A

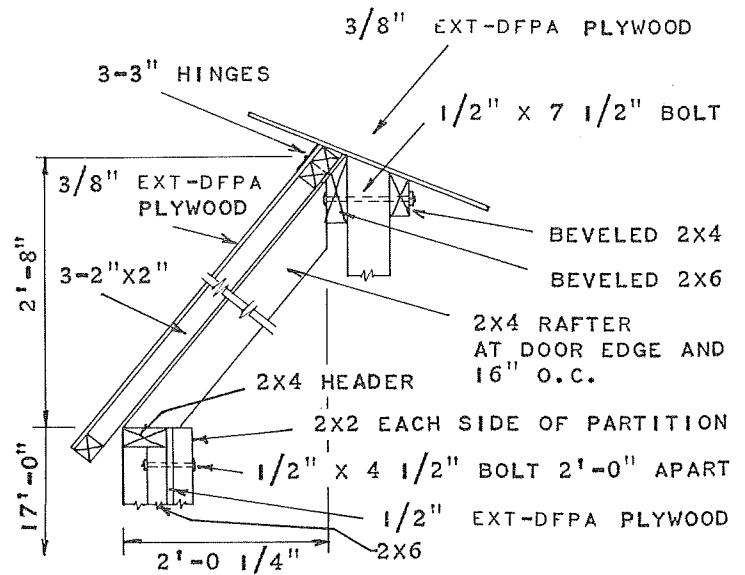
CLIP ANGLE TO FOUNDATION FOR WIND RESISTANCE

# FRONT ELEVATION

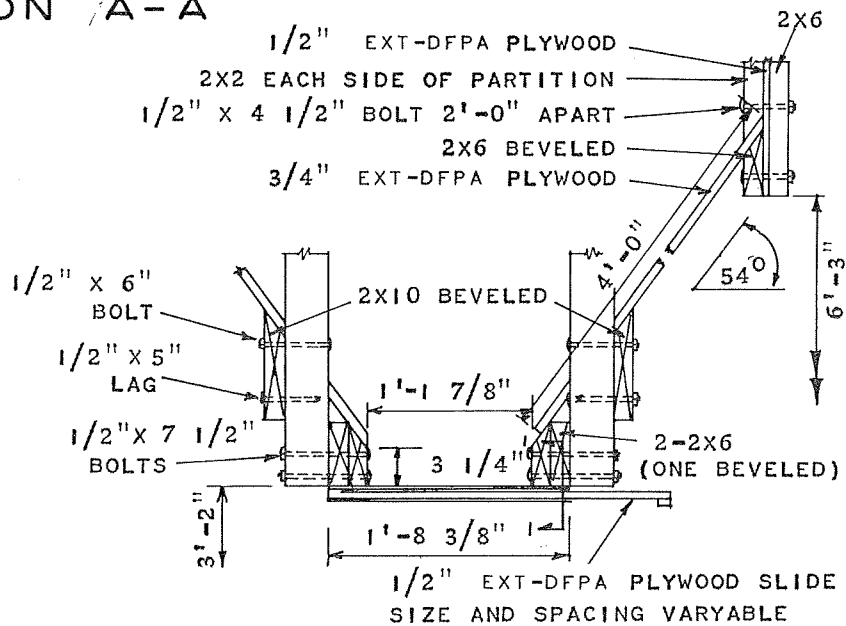




SECTION A-A



FILLING DOOR DETAIL

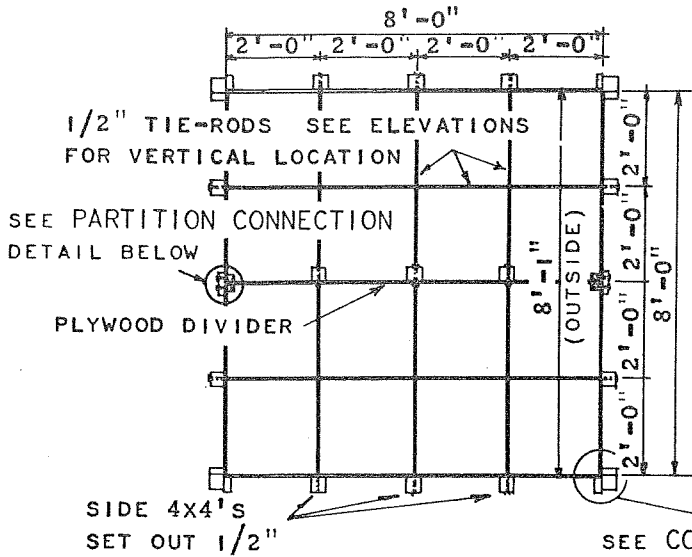


DRAW-OFF DETAIL

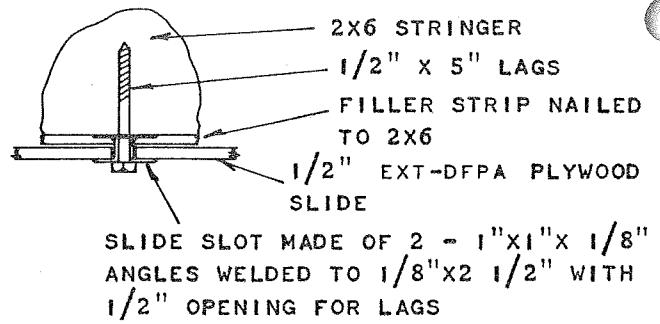


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**SECTION B-B**



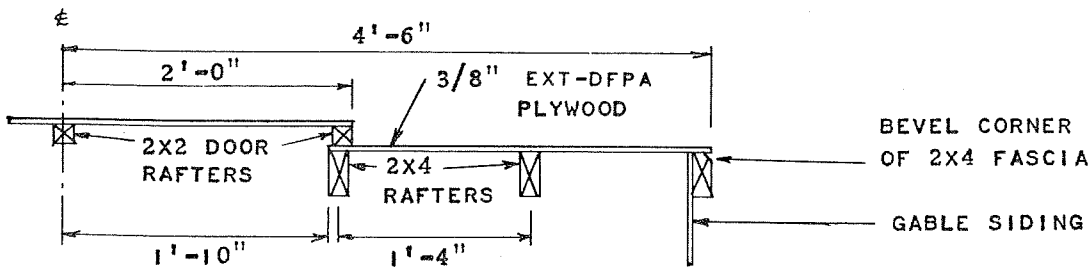
**SECTION 1-1**

SEE CORNER FRAMING DETAIL

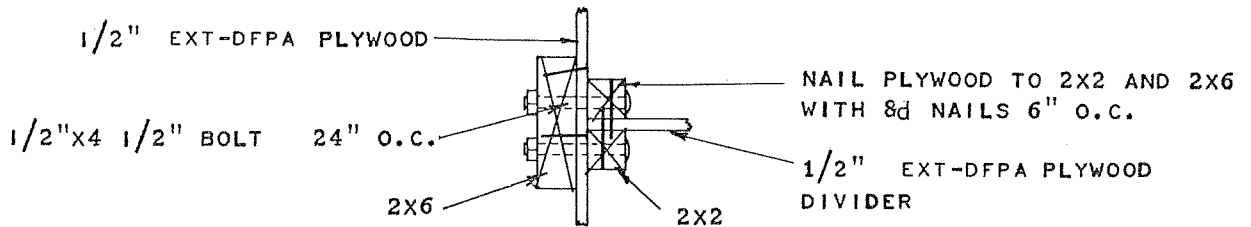
NAIL PLYWOOD TO 2X4 WITH 8d GALV. NAILS 6" O.C.

NAIL 2X4 TO 4X4 WITH 16d GALV. NAILS 6" O.C.

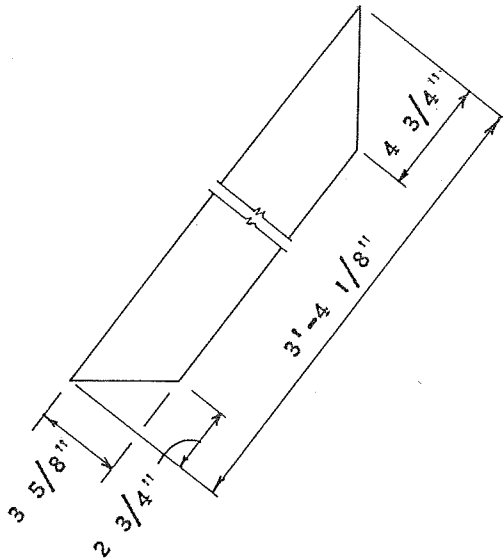
**CORNER FRAMING DETAIL**



**SECTION C-C**

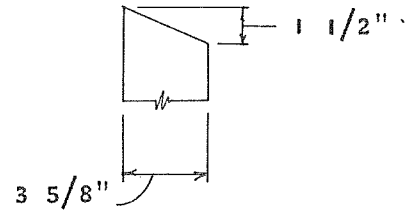


**PARTITION CONNECTION DETAIL**

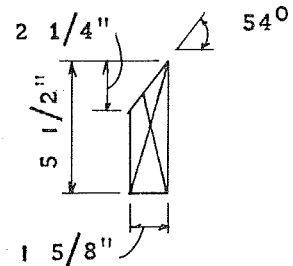


**2 x 4 RAFTER**

4 REQ'D

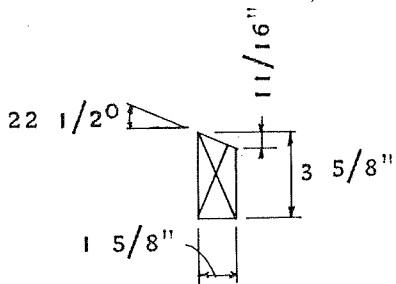


**UPRIGHTS-  
TOP CUT**



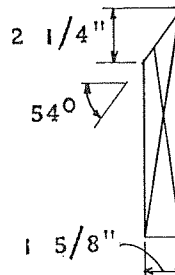
**RIDGE JOIST**

1 REQ'D  
8'-8 1/4" LONG



**2 x 4 ROOF JOIST**

3 REQ'D  
8'-8 1/4" LONG



**FLOOR JOIST**

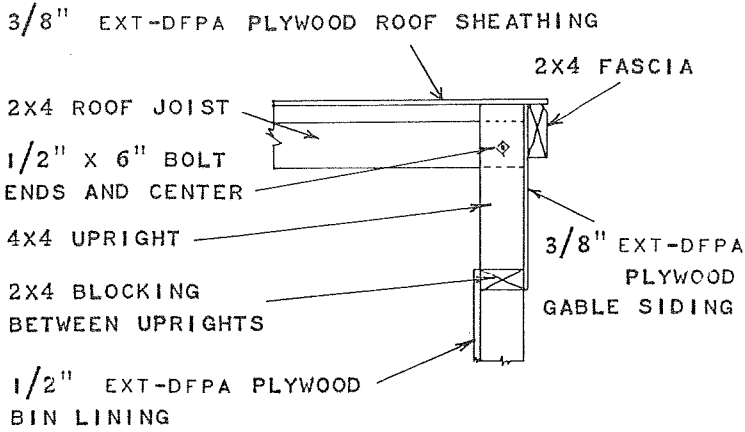
8'-8 1/4" LONG  
4- 2X10 REQ'D  
4- 2X6 REQ'D



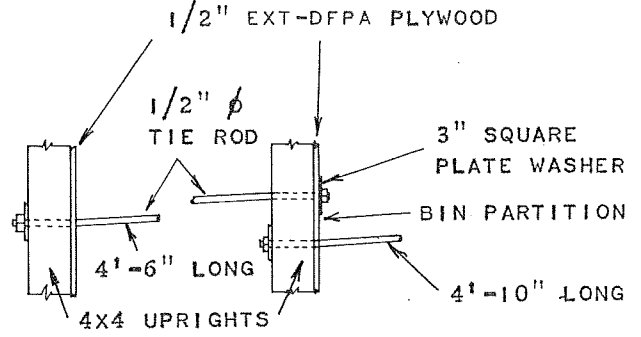
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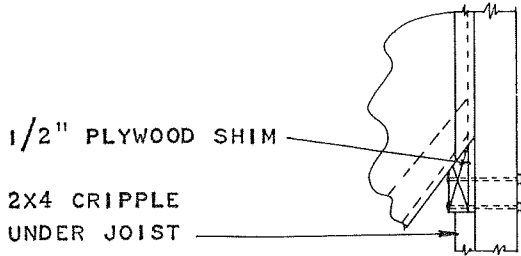


SECTION D-D

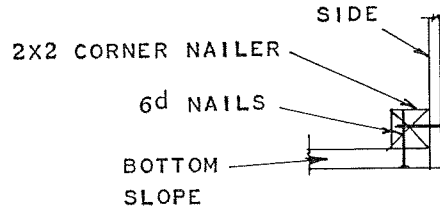


TIE ROD GOING THE OTHER DIRECTION ARE 8'-10" LONG, THREAD 2" OF EACH END

TIE ROD DETAIL



DETAIL X



SECTION E-E

BILL OF MATERIALS 10 TON FEED BIN

PLYWOOD:

<u>Pcs.</u>	<u>Size</u>	<u>Description</u>	<u>Use</u>
3	4' x 8'	3/4" AC or BC EXT - DFPA Douglas fir	Bottom slope
14	4' x 8'	1/2" CC, BC or AC EXT-DFPA Douglas fir	Sides, Divider
5	4' x 8'	3/8" CC, BC or AC EXT-DFPA Douglas fir	Roof, Gable Sides

LUMBER:

<u>Pcs.</u>	<u>Size</u>	<u>Length</u>	<u>Description</u>	<u>Use</u>
4	4x4	20'	Construction grade Douglas fir	Side posts
6	4x4	18'	" " " "	" "
2	4x4	16'	" " " "	Divider post
1	4x4	14'	" " " "	" " " "
2	4x4	12'	" " " "	Front & Rear posts
2	4x4	8'	" " " "	" " " "
4	2x10	9'	" " " "	beveled top Bottom joists
4	2x6	9'	" " " "	" " " "
1	2x6	9'	" " " "	" " " "
3	2x4	9'	" " " "	" " Roof joist
2	2x6	9'	" " " "	" " Roof joist
2	2x4	9'	" " " "	Bottom joist
2	2x4	9'	" " " "	Plate
1	2x6	12'	" " " "	Divider Support
1	2x6	8'	" " " "	Divider Support
3	2x4	8'	" " " "	Fascia
2	2x4	8'	" " " "	Blocking
2	2x4	8'	" " " "	Rafters
3	2x2	8'	" " " "	Door framing
2	2x2	8'	" " " "	Divider Support
2	2x2	12'	" " " "	Divider Support
1	2x4	6'	" " " "	Open Door Support
2	2x4	16'	" " " "	Cripple Supports
4	2x4	12'	" " " "	Corner Nailers
4	2x4	8'	" " " "	Corner Nailers
3	2x2	8'	" " " "	Bottom Edge Nailers
3	2x2	4'	" " " "	Bottom Edge Nailers

HARDWARE:

<u>Pcs.</u>	<u>Size</u>	<u>Description</u>	<u>Use</u>
3	1/2"x4'-6"	Steel Rod thread both ends	Tie Rods
3	1/2"x4'-10"	" " " " "	" "
4	1/2"x8'-10"	" " " " "	" "
20	3"x3"	Plate Washer, 1/2" Hole	Tie Rod Ends
26	1/2"x4 1/2"	Carriage Bolt with Washer	Divider Support
3	1/2"x7 1/2"	Carriage Bolt with Washer	Ridge Joist
6	1/2"x6"	Carriage Bolt with Washer	Roof Joist
15	1/2"x6"	Carriage Bolt with Washer	Floor Joist
12	1/2"x7 1/2"	Carriage Bolt with Washer	Floor Joist
16	1/2"x6 1/2"	Carriage Bolt with Washer	Floor Joist
9	1/2"x5"	Lag Screw with Washer	Floor Joist
28	1/2"x5"	" " " "	Slide Support
7	See Dwg.	Metal Slide	
3	3"	Tee Hinges	Filler Door
1	1/4"	Pulley	Door Rope
24 ft.	1/4"	Rope	Open Door
15 #	16d	Galvanized nails	Framing
10 #	8d	Galvanized nails	3/4", 1/2" Plywood
5 #	6d	Galvanized nails	3/8" Plywood
1 sq.		Roofing	



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