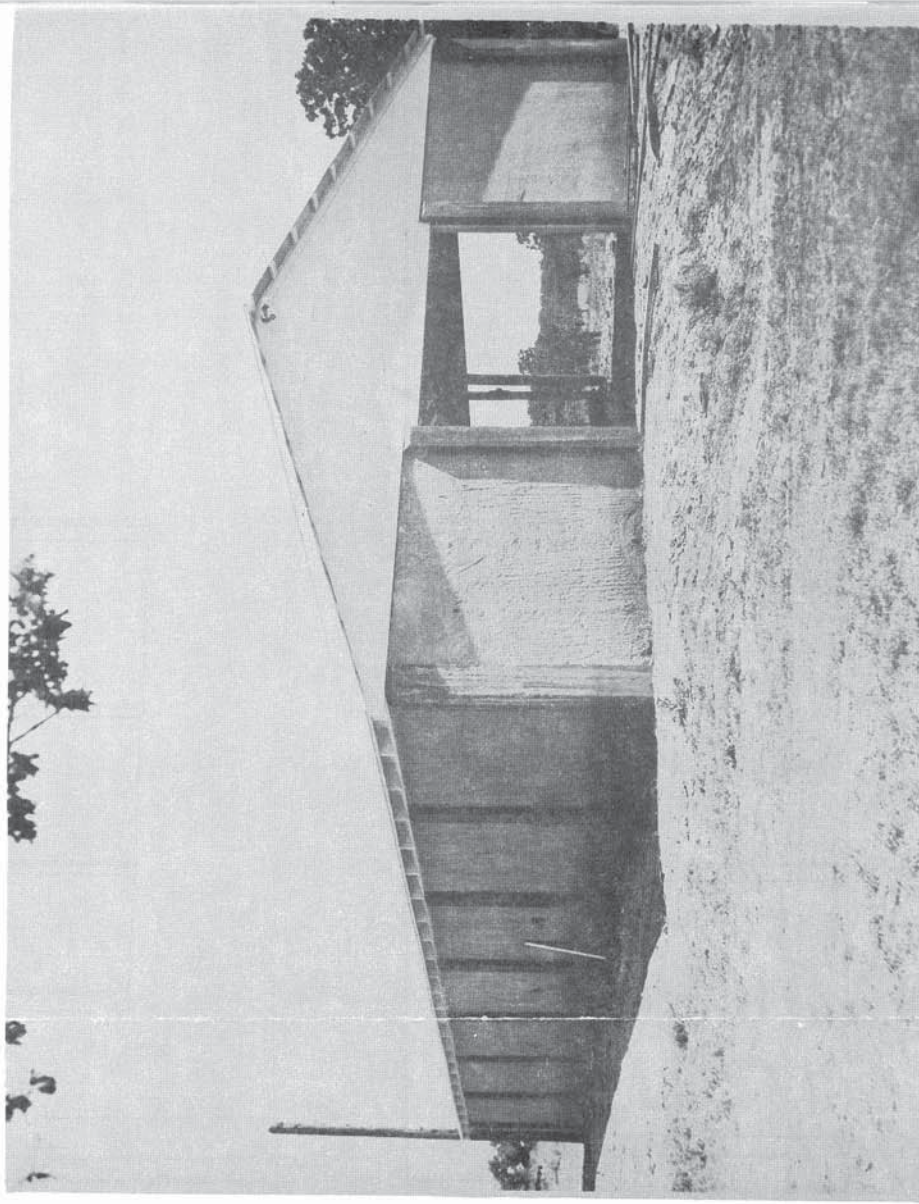


TILT-UP CONCRETE

Implement, Hay, or Cattle Shelter



MATERIAL ESTIMATE

for

40' x 48'

Concrete

11 piers 3.6 cubic yard
 9 pole embedments .28 cubic yard
 11 columns 2.84 cubic yard
 8 panels 12.6 cubic yard
 19.32 cubic yard

Reinforcing bars (all are 1/2" diameter)

Total: 73 - 20 ft. lengths 1460 lin. ft.

Cut to:

piers: 33 pieces - 5'-0"
 columns: 33 pieces - 9'-0"
 panels: 40 pieces - 9'-6" - vertical pieces
 10 pieces - 11'-5"
 10 pieces - 11'-6" - horizontal pieces
 10 pieces - 11'-7"
 10 pieces - 11'-9"

Note: (To require above, long waste lengths must be spliced or welded to short waste lengths.)

Lumber

plates: 128 lin. ft. 2" x 4" 86 bf
 purlins: 192 lin. ft. 2" x 10" 320 bf
 96 lin. ft. 2" x 12" 192 bf
 rafters: 30 - 2" x 6" - 10' - 0" 300 bf
 30 - 2" x 6" - 14' - 0" 420 bf
 nailers: 1176 lin. ft. 2" x 4" 784 bf
 gables: 236 lin. ft. 2" x 4" 158 bf
 braces: 6 - 2" x 6" - 12' - 0" 72 bf
 3 - 2" x 6" - 16' - 0" 48 bf
 scabs & cleats: 48 lin. ft. 2" x 6" 48 bf
 33 lin. ft. 1" x 8" 22 bf

gussets: 4 1/2 sheets exterior grade 1/2" plywood

Roofing

92 - 12 ft. sheets corrugated iron

Hardware

16 - 1/2" x 20" anchor bolts -- form ties -- column ties --
 nails -- plastic bond breaker -- misc. hardware as desired

CONCRETE TILT-UP STORAGE BUILDING

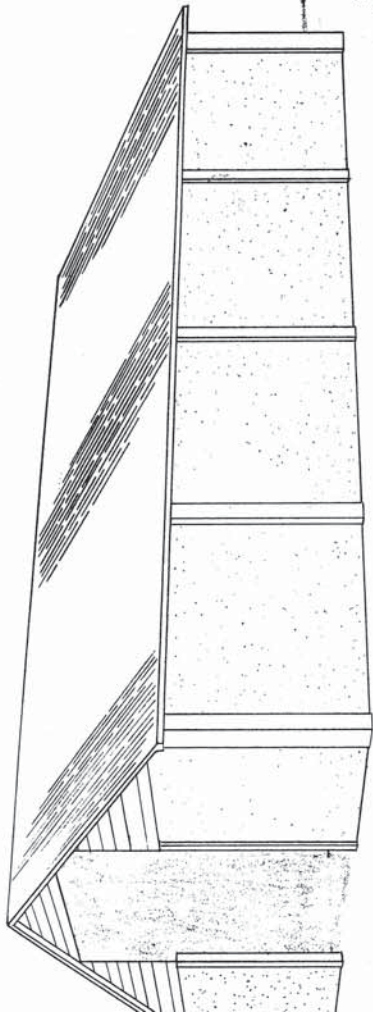
PLAN NO. 616008

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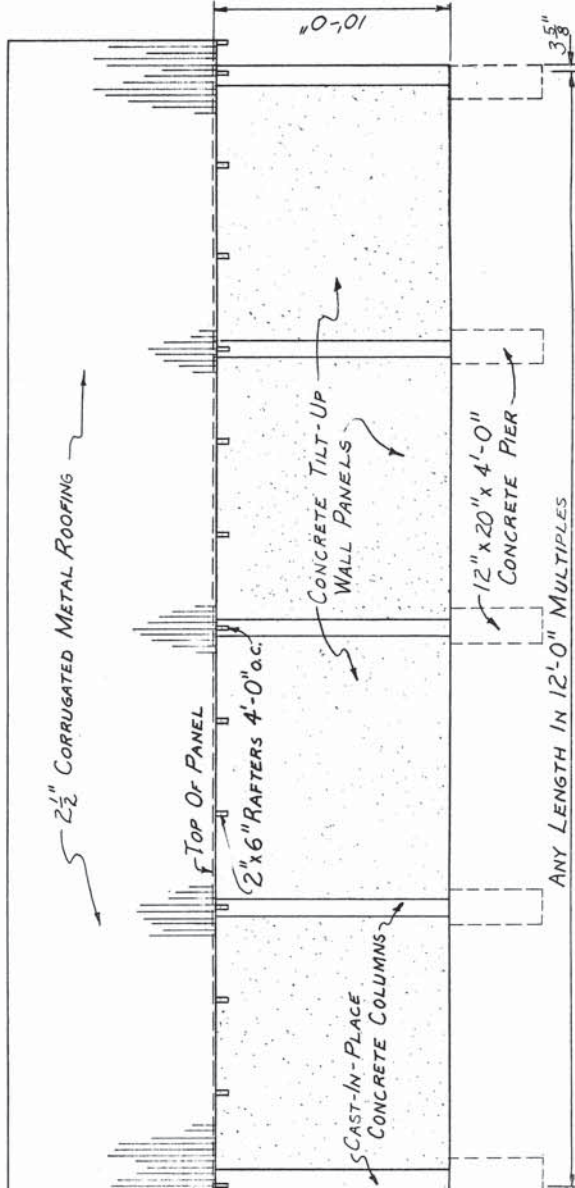
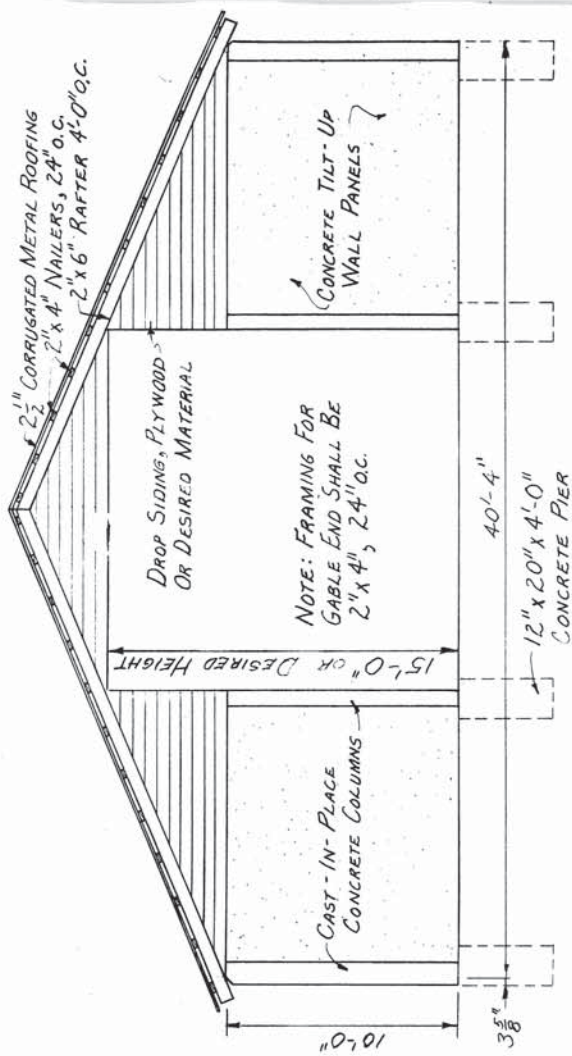
SHEET 1 OF 6

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PERSPECTIVE



CONCRETE TILT-UP STORAGE BUILDING

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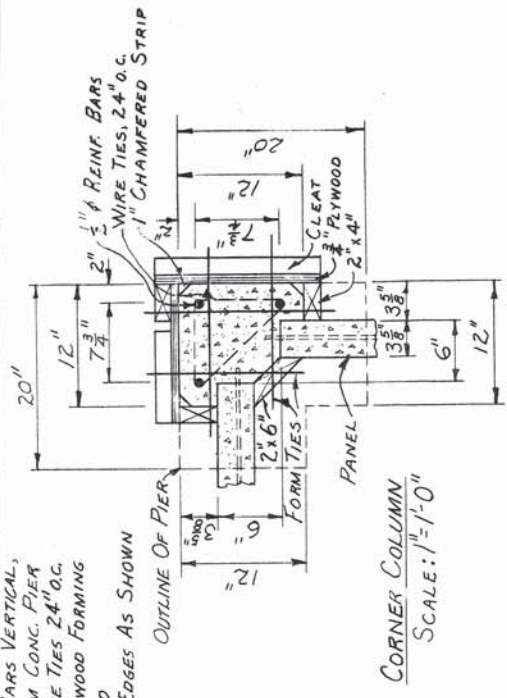
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SHEET 2 OF 6

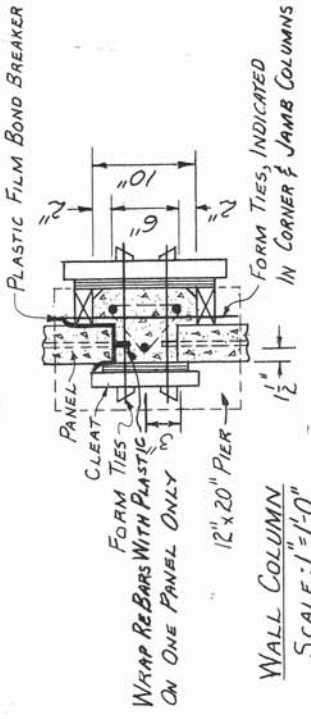
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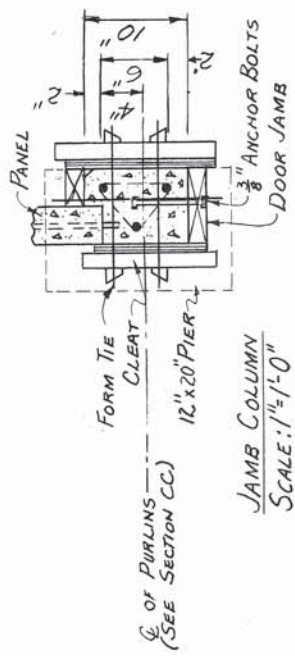
1. USE 1" REIN. BARS VERTICAL, EXTENDING FROM CONC. PIER
2. FORM TIES & WIRE TIES 2 1/2" O.C.
3. 2" x 4" & 3/4" PLYWOOD FORMING UNLESS NOTED
4. 1" CHAMFER ON EDGES AS SHOWN



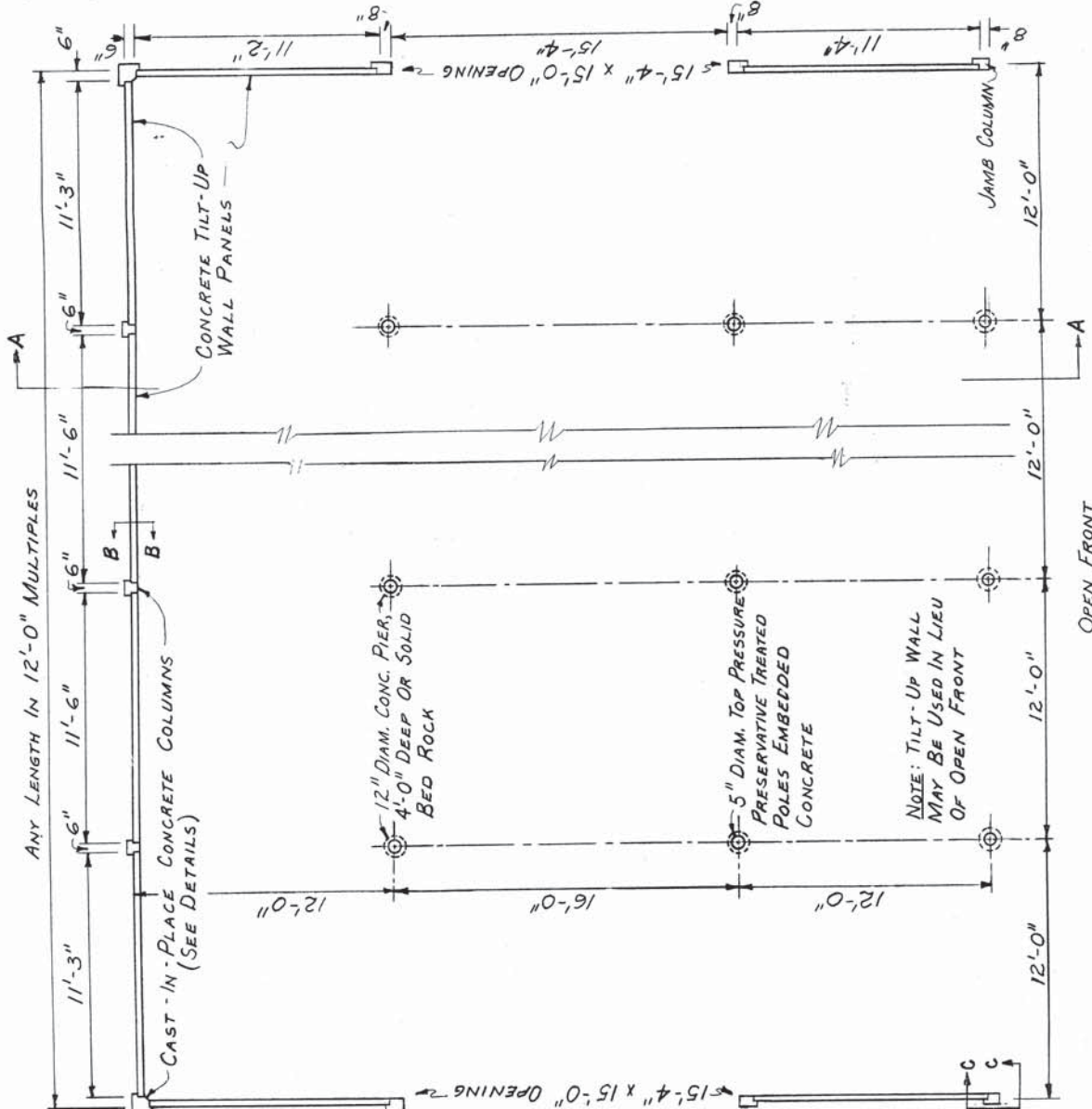
CORNER COLUMN
SCALE: 1/4" = 1'-0"



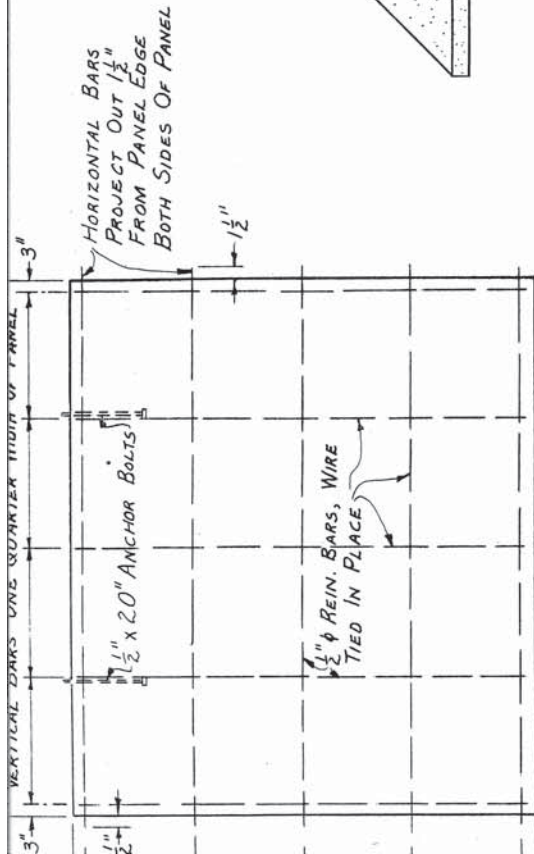
WALL COLUMN
SCALE: 1/4" = 1'-0"



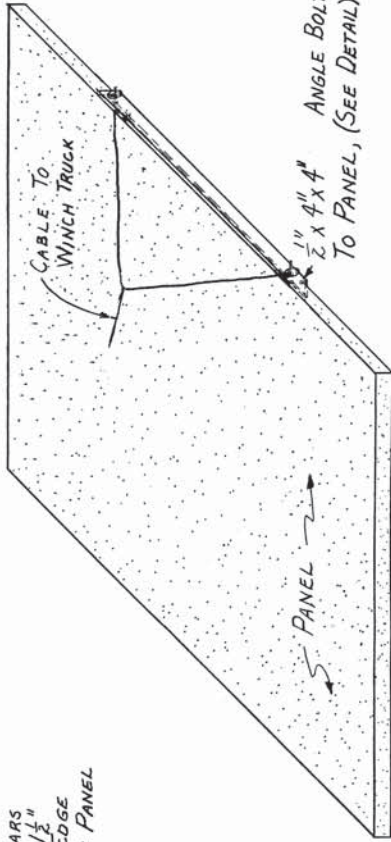
JAMB COLUMN
SCALE: 1/2" = 1'-0"



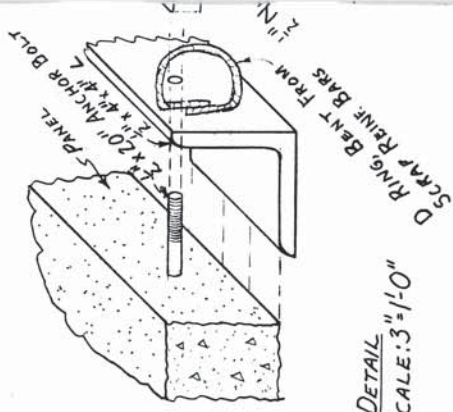
FLOOR PLAN
SCALE: 3/16" = 1'-0"



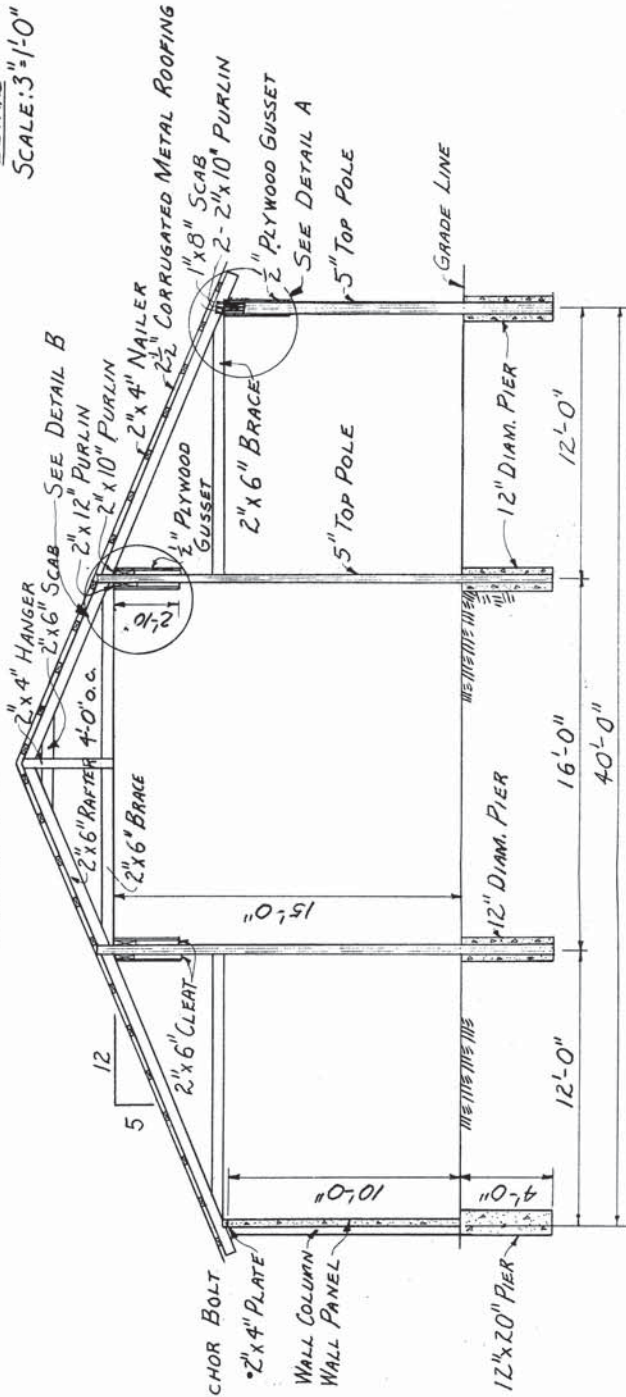
TYPICAL PANEL DETAILS
SCALE: $\frac{3}{8}'' = 1'-0''$



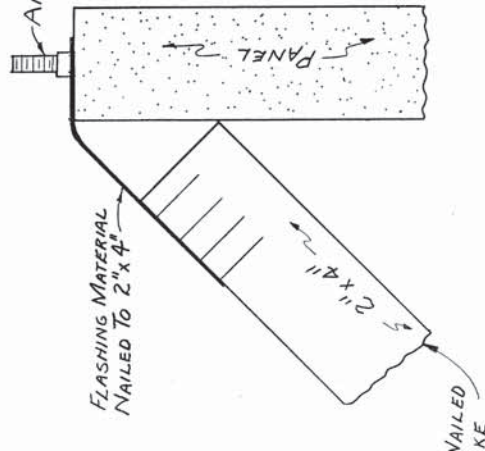
PANEL PICKUP DETAIL
SCALE: $\frac{3}{8}'' = 1'-0''$



DETAIL
SCALE: $3'' = 1'-0''$



SECTION AA
SCALE: $\frac{3}{16}'' = 1'-0''$



TEMPORARY BRACING FOR PANEL
UNTIL COLUMNS ARE CAST
SCALE: $3'' = 1'-0''$

CONCRETE TILT-UP STORAGE BUILDING

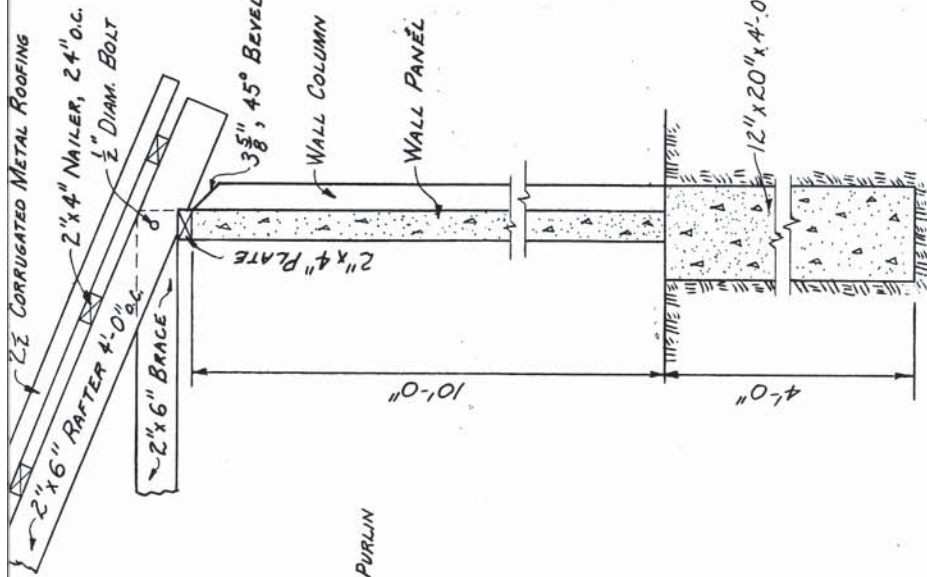
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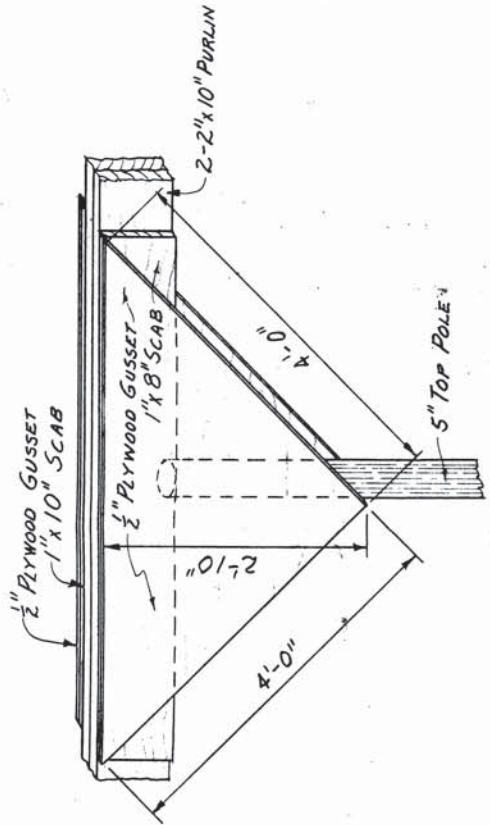
SHEET 4 OF 6

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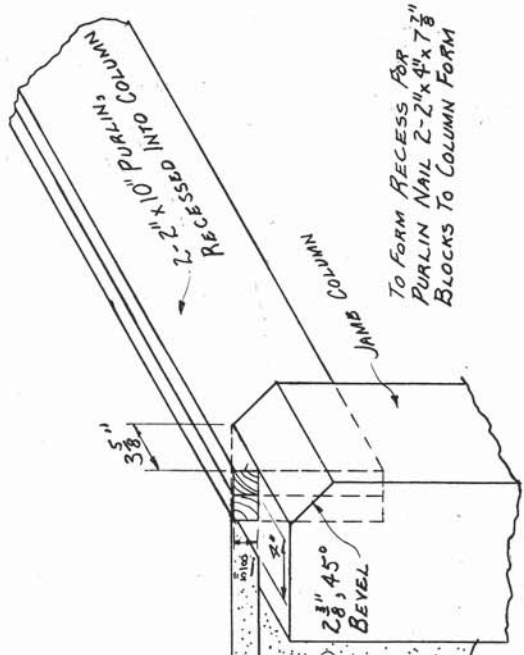
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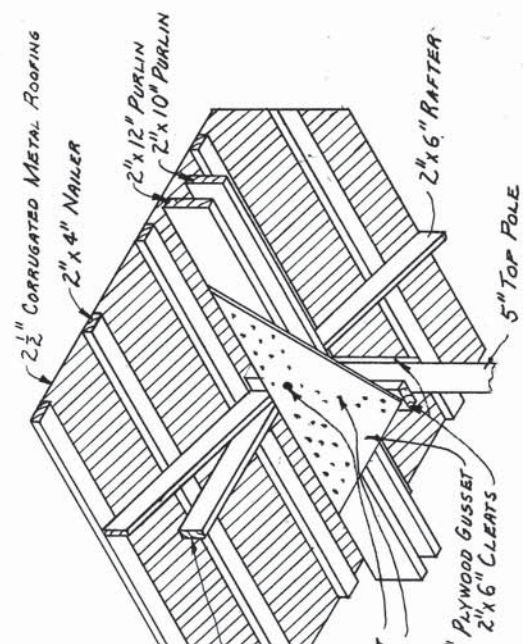
SECTION BB
SCALE: $\frac{3}{4}$ " = 1'-0"



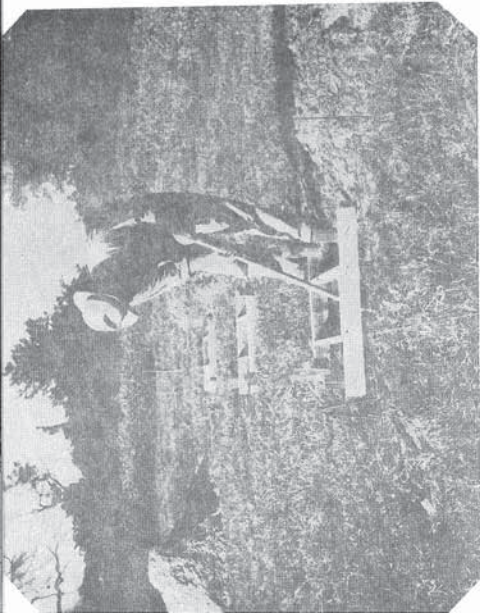
DETAIL A
SCALE: $\frac{3}{4}$ " = 1'-0"



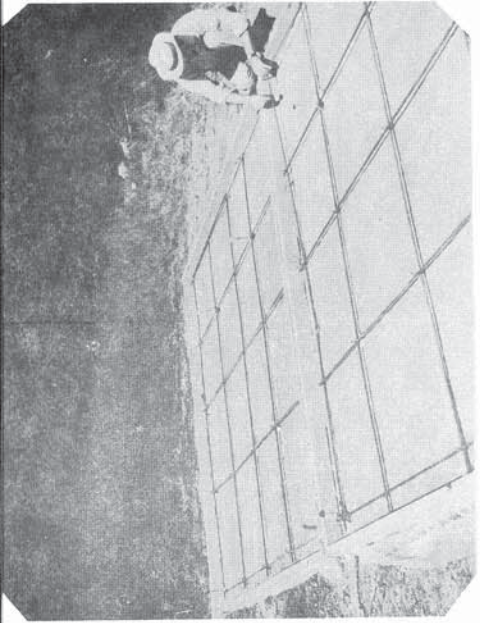
SECTION CC
SCALE: $\frac{3}{8}$ " = 1'-0"



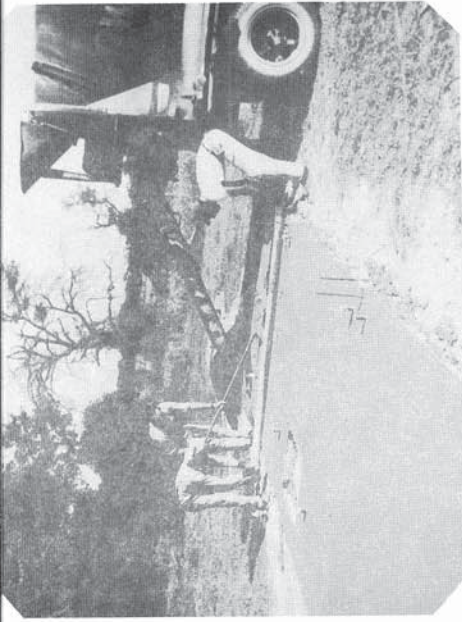
DETAIL B
SCALE: $\frac{3}{8}$ " = 1'-0"



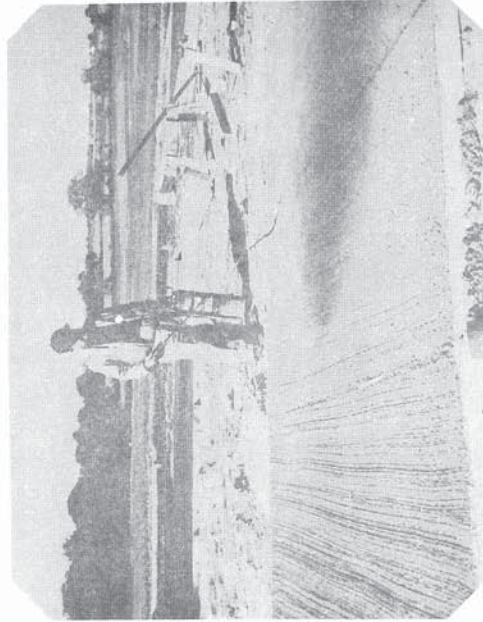
1. After laying out building, piers are dug and placed. The 2" x 4" forms help in leveling and maintaining the size of the piers. Pier tops must be on the same level. The 3 bars shown in the column detail on the plan are embedded in the piers and tied.



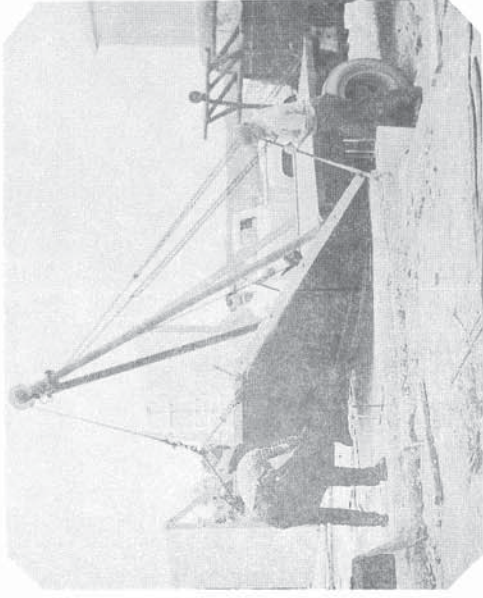
2. Reinforcing bars are cut and tied as shown in the detail. Blocks of 2" lumber can be used to hold the steel mat up in position. These must be removed as the concrete is placed. Forms are leveled and staked. Spacers are placed between 2" x 4"s of adjoining panels. Caution: Do not step into casting bed. Footprints will show up on panels. Horizontal bars extend through holes drilled in the forms. Forms may be reused in the roof framing.



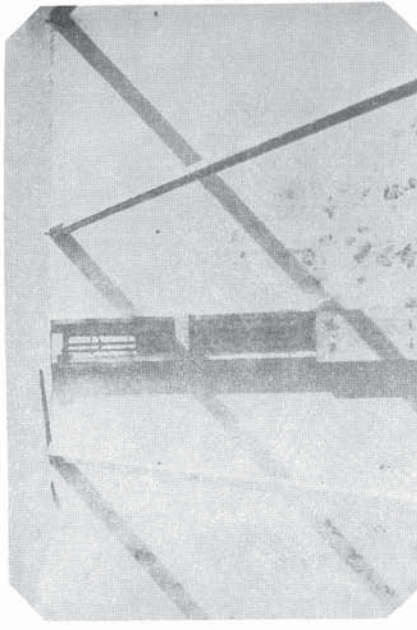
3. Polyethylene plastic is spread on a sand bed, forms set and concrete placed on panels. Concrete for the panels must be a fluid consistency, contain not more than 6 gallons of water for each sack of cement and not less than 6 sacks of cement per cubic yard. This is commonly called 4000 p.s.i. mix. If a floor is placed in the building, use it as a casting bed with plastic as a bond breaker. Any needed openings in the panels should be formed with 2" x 4"s as shown.



4. The panels are finished with a broom or wood float and cured with compound, wet burlap, straw or plastic for at least three (3) days prior to tilting.



5. Panels are tilted with a winch truck. Connect lifting attachment to the panel as shown by the pickup detail. Strip form and use steady uniform power for tilting. Avoid jerking. Final placement and leveling on the piers is done with crowbars.



6. After panels are tilted and leveled temporary braces as shown in details will hold panels until columns are cast. This view shows a cutaway of a column form on the outside. The building should be planned so that forms can be used for more than one column.

CONCRETE TILT-UP STORAGE BUILDING

PLAN NO. 616008

Agricultural Extension Service

SHEET

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