

# MWPS-72441

## 34' Confined Beef Shed

slotted floor, open-front, fenceline bunk.

### **CAUTION!**

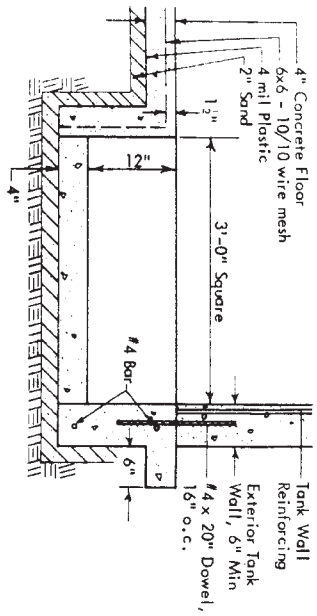
Additional professional services will be required to tailor this plan to your situation, including but not limited to: assurance of compliance with codes and regulations; review of specifications for materials and equipment; supervision of site selection, bid letting and construction; and provision for utilities, waste management, roads or other access. **Furthermore, any deviation from the given specifications may result in structural failure, property damage, and personal injury including loss of life.**

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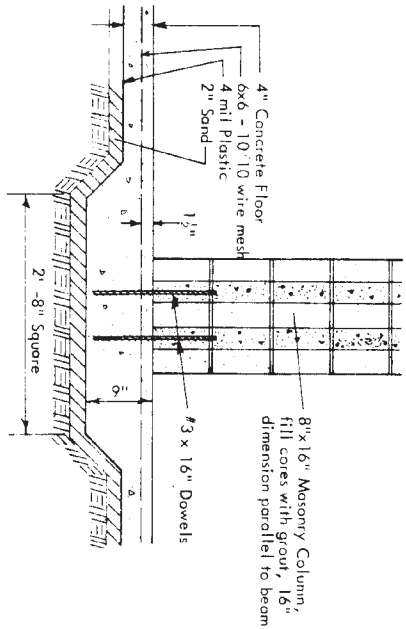
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| <b>MIDWEST PLAN SERVICE</b>   |
| Cooperative Extension Work in<br>Agriculture and Home Economics<br>and Agricultural Experiment Stations<br>of North Central Region - USDA Cooperating |
| 34' confined Beef Shed  |
| Title Page  |
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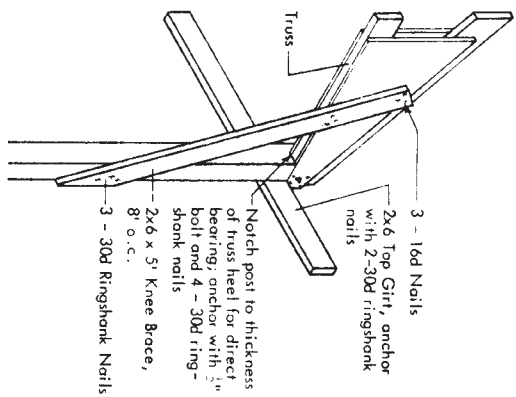




SUMP DETAIL-1/2



MASONRY COLUMN FOOTING DETAIL-2/2



KNEE BRACE DETAIL-4/2

Table 1. Manure Tank Wall Reinforcing.

| Soil Pressure                  | Grade 36 (36,000 psi) Reinforcing Bars (bar size, spacing) |                 | *Grade 60 (60,000 psi) Welded Wire Fabric (area of steel/ft of wall) |                 |
|--------------------------------|--|-----------------|--|-----------------|
|                                | VERTICAL STEEL   | SUMP DETAIL-1/2 | VERTICAL STEEL   | SUMP DETAIL-1/2 |
| 30 psf moderately drained soil | #3, 9'-4"  | #3, 9'-4"       | 0.0864   | 0.1756          |
| 60 psf poorly drained soil     | #3, 9'-2"  | #3, 9'-2"       | 0.1152   | 0.1184          |
| HORIZONTAL STEEL               |  |                 |  |                 |
| 30 psf moderately drained soil | #4, 10'-0"   | #4, 10'-0"      | 0.1440   | 0.1920          |
| 60 psf poorly drained soil     | #4, 10'-0"   | #4, 10'-0"      | 0.1920   | 0.1920          |

\*NOTE: Flat sheets of welded wire fabric should be used, not rolls. Two layers may be used to provide required steel area. Reinforcing bars (Grade 60, #3, #4, or #5's may be attached to welded fabric to increase steel area.)

\*\*NOTE: For 8" wall, beams may be supported in 3"x8"x10" notch in tank wall.

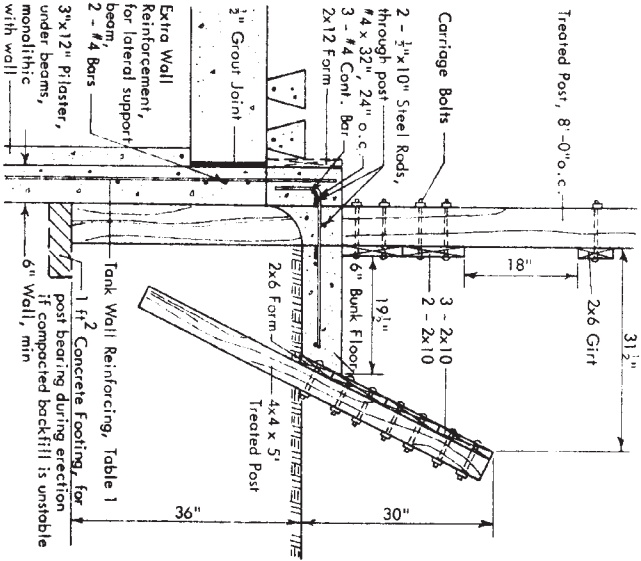
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34' CONFINED BEEF SHED  
slotted floor, open-front, fence-line bunk

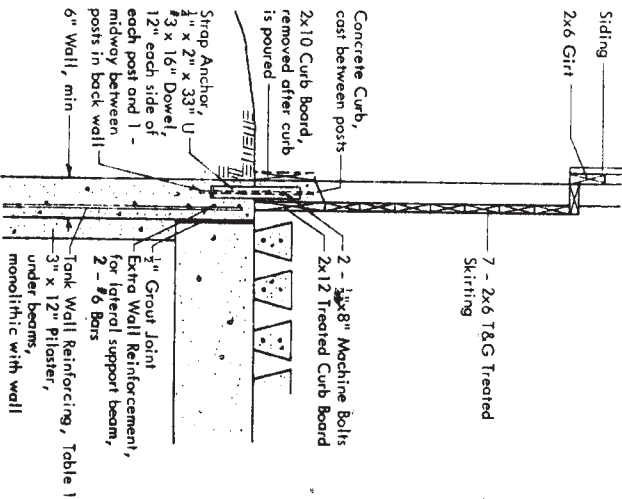
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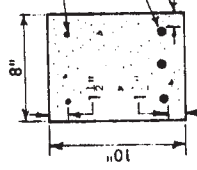


FEED BUNK DETAIL-3/2

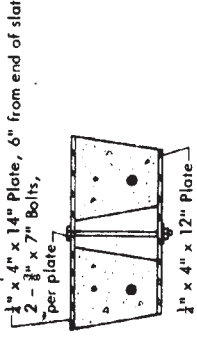
Use 3/8" x 5" Carriage Bolts to fasten 2x10's to pipe. After erection post bearing transferred to concrete bunk floor by 1/2" steel rods and 2x10 liner.



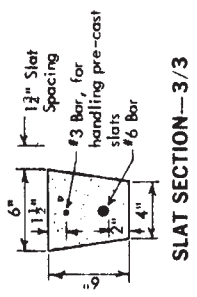
BACK WALL DETAIL-5/2



**BEAM SECTION—1/3**



**REMOVABLE SLAT DETAIL—2/3**



**SLAT SECTION—3/3**

Roofing and Siding  
28 ga. steel, 100 nails/100 sq ft,  
0.024" aluminum, 120 nails/100 sq ft

2x4 Purlins On Edge, staggered joints,  
16' & 18' lengths, see Page 1. Ancho  
with 1 - 60d ringshank nail per truss.  
Max Spacing: Snow Zone 1, 32" o.c.  
Snow Zone 2, 24" o.c.  
Snow Zone 3, 20" o.c.

34" Span Trusses, 8'-0" o.c.  
See Truss Page for details

5" Gutter, anchor to fascia  
with spikes and ferrules  
2x6 Top Girt

4x6 x 12' Treated Post, 8'-0" o.c.,  
notched for direct truss bearing,  
3/2" bolt plus 4 - 30d ringshank  
nails for uplift

Anchor girts and splashboards with  
2 - 30d ringshank nails each post

7 - 2x6 T&G Treated Splashboards  
Back Wall Detail, 5/2

Slope fill away from building,  
top with gravel to prevent erosion

Tank Wall Reinforcing, Table 1  
3" x 12" Plaster, 8'-0" o.c., mono-  
lithic with wall

2x6 x 5'-0"  
Knee Brace,  
8'-0" o.c., 4/2  
2x6 x 5'-0"  
Knee Brace

6x6 x 14' Treated  
Post, 8'-0" o.c.  
After erection post  
bearing transferred to  
concrete bunk floor,  
See Feed Bunk  
Detail, 3/2

Step

Steel Pipe, Tubing, or Plank Fence, approx 5' high

3" Steel Posts

8" x 16" Masonry  
Column, cores filled  
with grout

6" x 6" x 7'-11" Slats,  
1 1/2" apart

6" Wall, min

33'-4" (out-to-out of tank walls)

8'-1"

8'-11"

8'-7"

8'-7"

8'-7"

8'-7"

8'-7"

33'-9" (out-to-out of posts)

8'-11"

8'-11"

8'-7"

8'-7"

8'-7"

8'-7"

8'-7"

4x6 x 12' Treated Post, 8'-0" o.c.,  
notched for direct truss bearing,  
3/2" bolt plus 4 - 30d ringshank  
nails for uplift

Anchor girts and splashboards with  
2 - 30d ringshank nails each post

7 - 2x6 T&G Treated Splashboards  
Back Wall Detail, 5/2

Slope fill away from building,  
top with gravel to prevent erosion

Tank Wall Reinforcing, Table 1  
3" x 12" Plaster, 8'-0" o.c., mono-  
lithic with wall

Backfill tank walls with free-  
draining material, not clay

Sump Detail, 1/2

In building sites with high water  
table install tile drain at base of  
manure tank wall

1 ft<sup>2</sup> Concrete Footing, for  
post bearing during erection  
if compacted backfill is unstable \*\*

6" Wall, min

4 x 20" Dowel,  
16" o.c.

3" x 12" Pilaster,  
8'-0" o.c.,  
monolithic with  
wall

4" Concrete Floor  
8'-0" x 10" Beam,  
8'-0" long

4 mil Plastic  
mesh  
4" Sand

Masonry Column and  
Footing Detail, 7/2

Tank Wall Reinforcing, Table 1  
3" x 12" Plaster, 8'-0" o.c., mono-  
lithic with wall

33'-4" (out-to-out of tank walls)

8'-1"

8'-11"

8'-7"

8'-7"

8'-7"

8'-7"

8'-7"

5" Gutter, 20 sq in Downspout,  
80' o.c.

Winter Air Inlet, 1/1

2x6 Top Girt  
4' x 8' Pivoting Vent Door, 1/7

2x6 Girt  
Metal Siding  
Waterer

2x6 x 10'  
Crossbracing,  
installed during  
truss erection

2x4 Continuous Ties

8" - 10" Open Ridge, continuous  
Metal Truss Cover

2x4 Purlins On Edge, staggered joints,  
16' & 18' lengths, see Page 1. Ancho  
with 1 - 60d ringshank nail per truss.  
Max Spacing: Snow Zone 1, 32" o.c.  
Snow Zone 2, 24" o.c.  
Snow Zone 3, 20" o.c.

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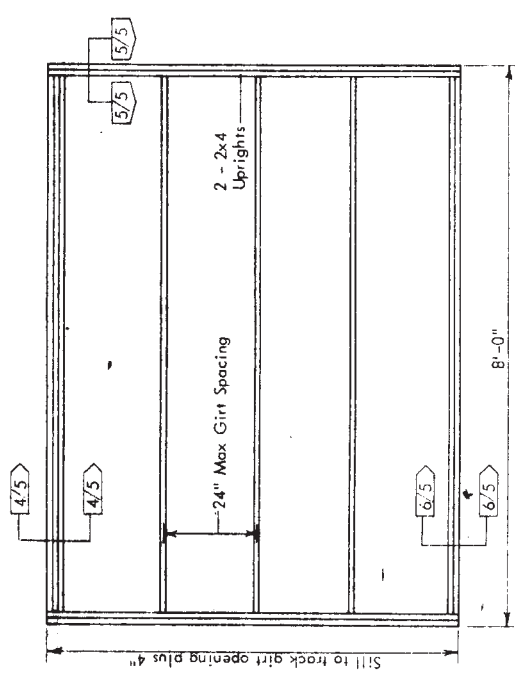
**34" CONFINED BEEF SHED**  
slatted floor, open-front, fence-line bunk

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**BUILDING CROSS SECTION—4/3**

\*if 8" wall thickness is used, shorten beam length 1 inch or adjust this dimension and total tank width accordingly.  
\*\*Install beams and slats; backfill; dig holes for front wall posts; compact backfill in bottom of hole or place 1 ft<sup>2</sup> concrete footing, erect posts.





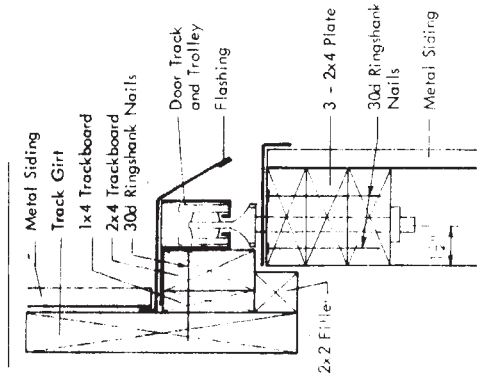
**SINGLE SLIDING DOOR FRAME—1/5**

**Alternate Lumber Specifications, Spacing and Sizes**

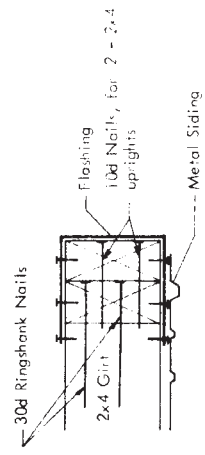
**2x4 Roof Purlins (Construction Grade Hem-Fir)**  
 Max Spacing  
 Snow Zone 1: 28" o.c.  
 Snow Zone 2: 24" o.c.  
 Snow Zone 3: 18" o.c.

**2x6 Wall Girts (No. 2 Hem-Fir)**  
 Max Spacing: 20" o.c.  
 See Truss Page

**Posts (Round vs. Sawn)**  
 6x6 = ASA or ASAE Class 7, 4.8" Top Diameter  
 4x4 = ASA or ASAE Class 7, 4.8" Top Diameter  
 4x4 = ASA or ASAE Class 10, 3.8" Top Diameter

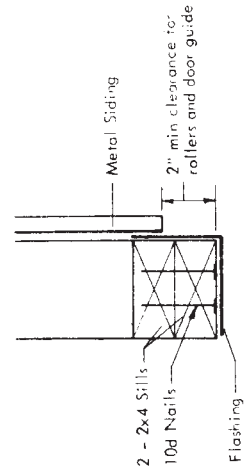


**DOOR TRACK ASSEMBLY—4/5**

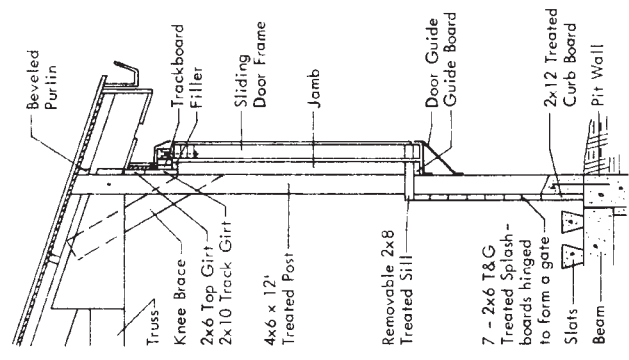


**UPRIGHT SECTION—5/5**

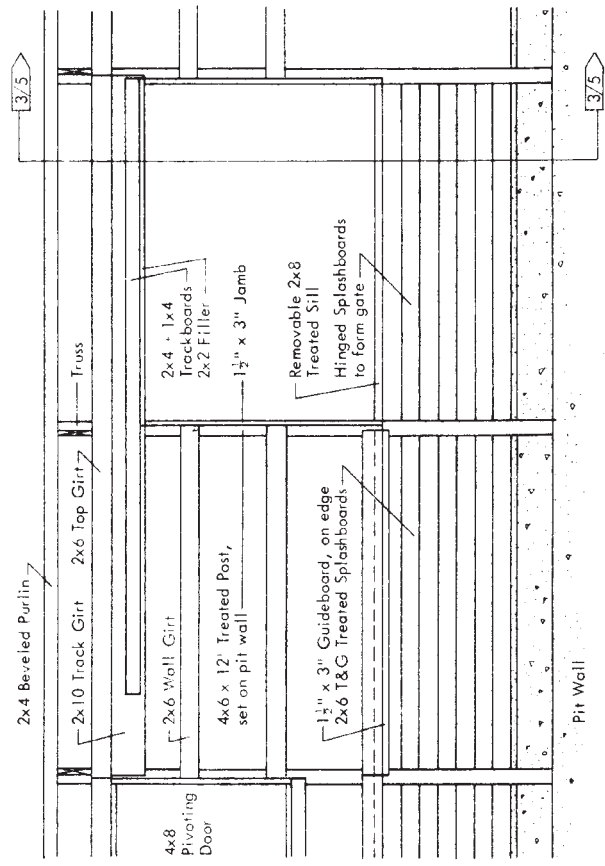
Extend flashing around uprights and nail to girts and uprights.



**SILL SECTION—6/5**



**SECTION—3/5**



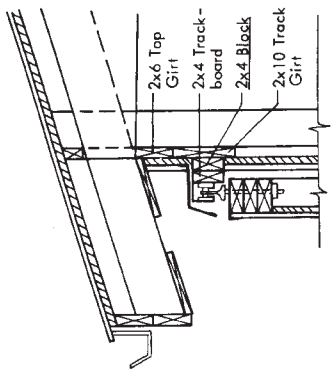
**BACK WALL FRAMING—2/5**

Sliding door for pit access with manure pump.

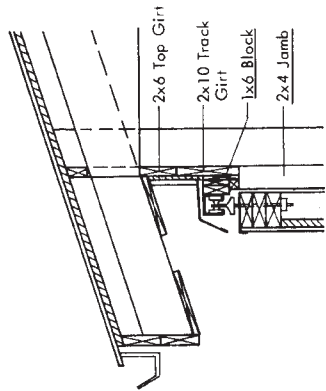
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**34' CONFINED BEEF SHED**  
 started floor, open-front, fence-line bunk

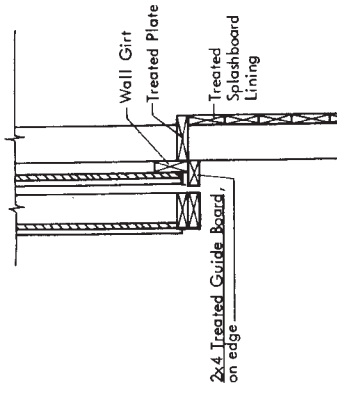
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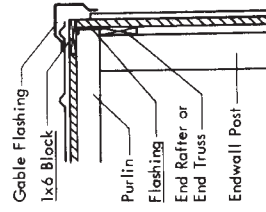
**TRACK GIRT SECTION—2/6**



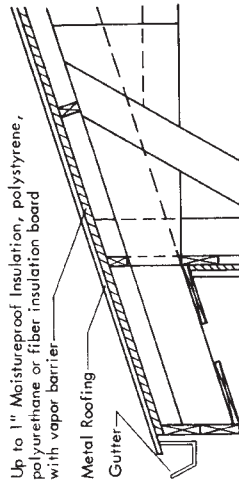
**TRACK GIRT SECTION—2/6**



**BACK WALL SECTION—4/6**



**TYPICAL GABLE END SECTION—5/6**

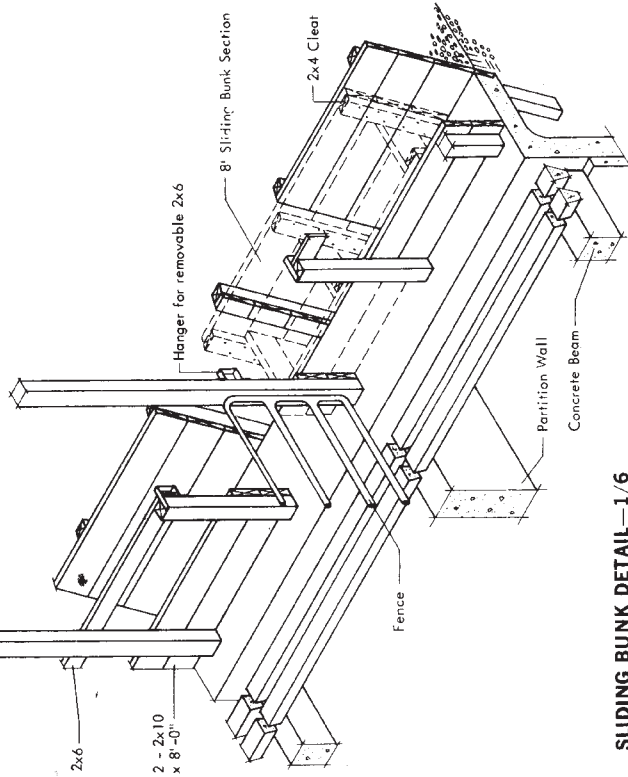
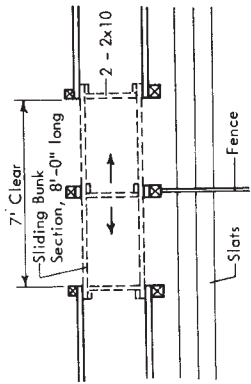


Lengthen all roofing and siding nails the thickness of the insulation.

Treated Posts, set in the thickness of the insulation.

Metal Siding on end-walls lengthened the thickness of the insulation.

**WALL SECTION—3/6**



**SLIDING BUNK DETAIL—1/6**

Build sliding sections after main bunk is in place, adapt dimensions as needed.

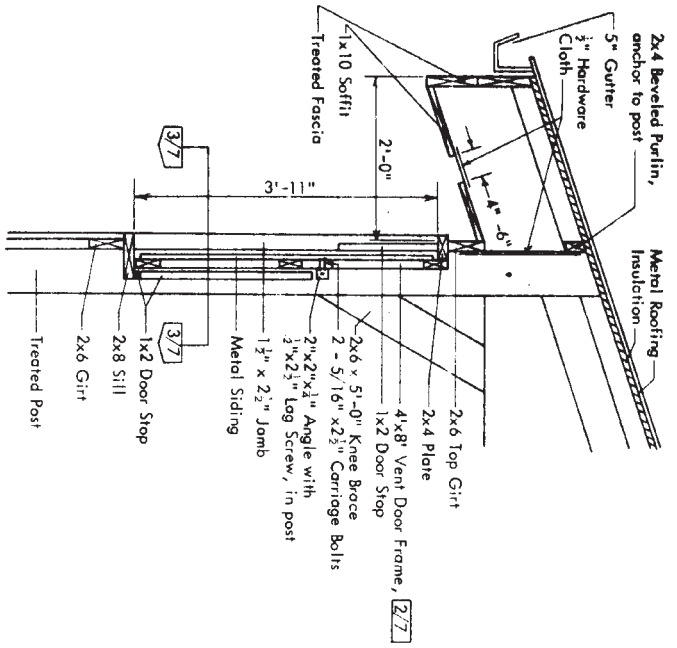
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**CONFINED BEEF, 34' SHED ROOF**

Slatted Floor, Open-Prant.  
 Pencil-line Bunk.  
 Rev. 10/78  
 Plan No. 72442  
 mads-72442  
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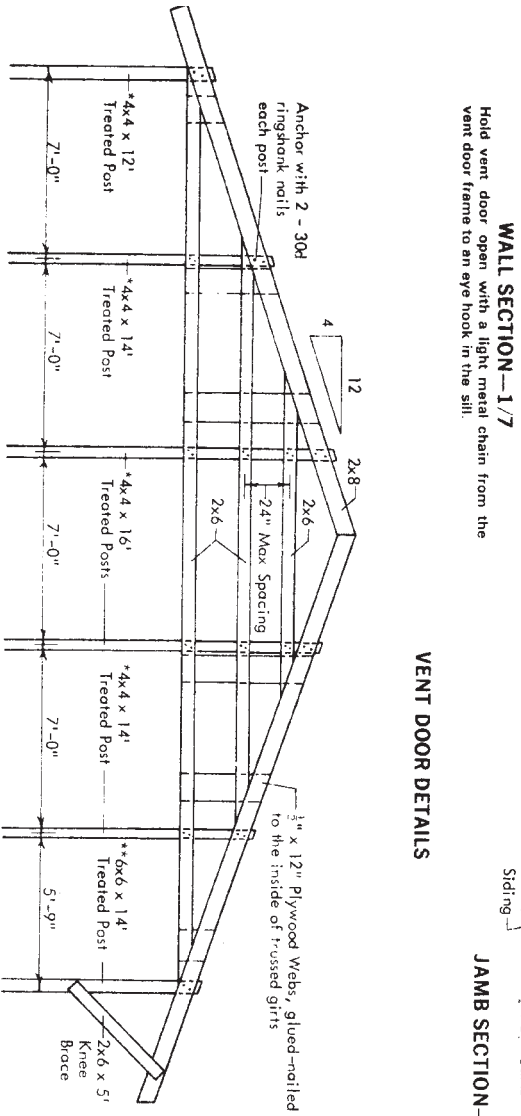
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**INSULATION DETAILS**

Underlines show materials that change when insulation is added.



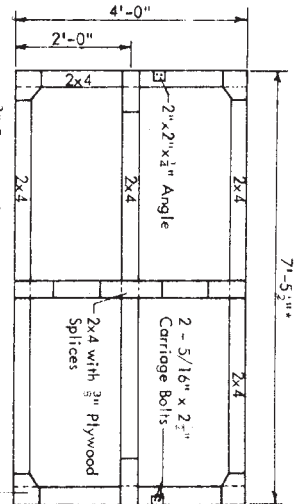
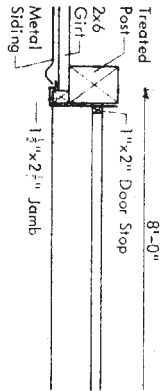
**WALL SECTION-1/7**  
Hold vent door open with a light metal chain from the vent door frame to an eye hook in the sill.



**34' ENDWALL FRAMING-4/7**  
\*These posts set on pit wall.  
\*\*These posts set in ground.

**VENT DOOR DETAILS**

**JAMB SECTION-3/7**

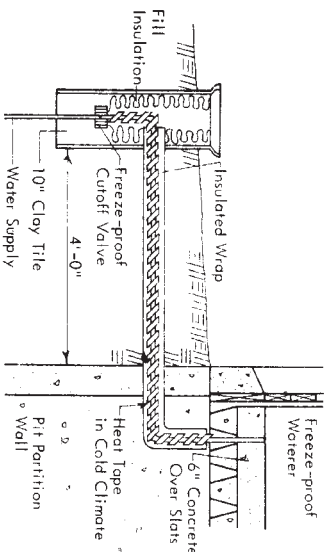


\*Alter this dimension for other than 8' o.c. posts or other than 8' o.c.

**4' x 8' VENT DOOR FRAME-2/7**

**ESTIMATING LIST**

| Manure Tank                     |      |
|---------------------------------|------|
| Floor                           | 68   |
| Concrete, cubic yards           | 1200 |
| Welded wire fabric, lbs         | 95   |
| Walls (6 in., 30 lb so ft load) | 6600 |
| Concrete, cubic yards           | 432  |
| Steel, Grade 36, lbs            | 36   |
| Columns                         | 1000 |
| Masonry block, 8" x 16"         | 19   |
| Beams, 8" x 10", 8', 0"         | 2    |
| Slats, 6" x 6" x 7', 11"        | 310  |
| Building                        | 260  |
| Trusses                         | 150  |
| 3/4" Trusses                    | 4650 |
| Endwall trusses                 | 1400 |
| Posts (pressure-treated)        | 1850 |
| 4x6, feet                       | 7800 |
| 4x4, feet                       | 8    |
| Purlins (Zone 3) and Truss Ties | 4    |
| 2x4 S, feet                     | 152  |
| Wall Girts, Braces, Guard Rails | 100  |
| 2x6 S, feet                     |      |
| Slats/boards (pressure-treated) |      |
| 2x6 S, feet                     |      |
| Roofing and Siding, sq ft       |      |
| Pivoting Vent Doors (4' x 8')   |      |
| Sliding Doors (7' x 8')         |      |
| Feed Bunk, feet                 |      |
| Fencing, feet                   |      |



Bring water line into building next to pit partition wall.

**WATERER DETAIL-5/7**

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