

# MWPS-72682

## Farrowing House

4 10 sow rooms side by side.

### **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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Cooperative Extension Work in Agriculture and Home Economics and Agricultural Experiment Stations of North Central Region - USDA Cooperating
Farrowing house 4 10 Swo Rooms side by side
Title Page
MIDWEST PLAN NO.

**Plan MWPS-72692**  
**Farrowing House—4, 10-Sow Rooms Side-by-Side**

This plan is for a 34' x 96' or 104' stud-frame building housing 40 sows in farrowing stalls. Year-round forced ventilation is provided. Manure is stored in a pit under the completely slotted floor or is flushed from under the slats.

Plan A is for storing manure under the slotted floor and pumping it out about twice a year. The pits under the three rooms are separated by solid masonry partitions, and are emptied through 8" pumping ports.

Plan B is for flushing manure from under the slotted floor. It requires 8" of additional building length to house the flush tanks.

**Heat:** Desired room air temperature is about 72°F. Provide a 15,000 Btu space heater (1500 Btus/ft) with a thermostat set at 68°F.

- If heat is supplied with heated mats on the slats, provide about 150 watts (500Btu) per stall floor heat, plus about 250 watts (900Btu) per stall with overhead heat lamps or radiant heaters for use during farrowing.
- If no floor heat is used, provide overhead heat of about 600 watts (2000 Btu per stall).

**Protecting swine from fan failure.**

We know of no device that will successfully ventilate a hog house automatically in the case of failure of one or more fans or the whole electric supply system.

- Install a loud automatic warning system to alert anyone at or near the farmstead.
- Have someone baby-sit your animals if you are going to be away for more than a few hours; if there are storm warnings out, or if your herd is in an especially sensitive stage (a number of new-born litters, for example).
- Post instructions on what to do in hot weather, mild weather, cold weather, when to phone for additional advice, etc.
- Prepare walk doors and perhaps summer ventilation panels to be propped open part way or fully.
- Consider stand-by generator, augments hand-operated doors, operate pit fans and in hot weather, circulating fans.
- Consider automatic telephone that dials selected numbers when power fails.

**Slat designs**

Dimensions in these plans assume concrete slats as listed below and may need to be adjusted for other designs or materials. About 1/2" is allowed at each end of a slat for construction variation and grouting.

Space slats 1/2" apart in farrowing stalls, with the slot widened to 1" behind the sows. For other swine buildings, use 1" slots.

Pit depth based on 0.54 cu ft/day manure per stall, 6" in pit after pumping, 12" freshbed, and 12" additional clearance to improve under-floor ventilation.

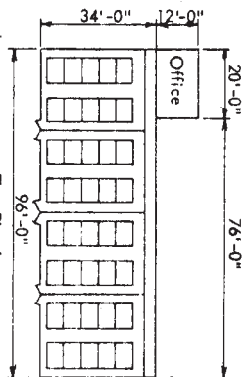
Slat span	Pig nursery	Finishing	Farrowing, sow-pig nursery, or gestation
4' x 4' #3	4' x 4' #3	4' x 4' #3	4' x 4' #3
4' x 4' #3	4' x 4' #3	4' x 4' #3	4' x 4' #3
5' x 5' #4	5' x 5' #4	5' x 5' #4	5' x 5' #4
4' x 5' #4	4' x 5' #4	4' x 5' #4	4' x 5' #4
5' x 5' #5	5' x 5' #5	5' x 5' #5	5' x 5' #5

Design Loads

Slats: Per foot of slat 100 plf

Beams: 30 plf floor area 150 plf

Columns: 35 psf 50 psf 65 psf



**Floor Plan A**

**Building space and production cycles.**

Although many variations are successful, the following are typical meat hog production systems. Plan building capacity for some extra animals to allow for large litter size or slow growth rate. Farrow during 3 weeks. Some stalls can be used twice.

- Either:
- Move sows and litters to sow-pig nursing pens at 1-3 weeks, depending on how soon the farrowing stalls are needed for the next sows.
  - Wear pigs at 3-6 weeks, putting 3-4 litters together.
  - Return sows to breeding and gestation facilities.
- Or:
- Wear pigs at 4-6 weeks (20-25 lb).
  - Move pigs to nursery.
  - Return sows to breeding and gestation facilities.

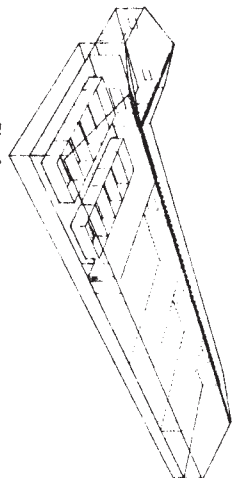
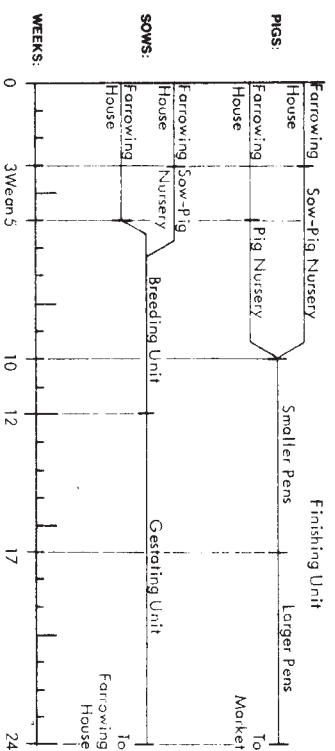
Move pigs to finishing unit at 10 weeks (60 lb). As farrowing intensifies to more than 6 times per year, pigs may be moved at about 8 weeks. Put into smaller pens if you have two pen sizes. Put more pigs per pen if you have only one pen size.

Move pigs to larger pens, or reduce number of pigs per pen at about 11 weeks (125 lb).

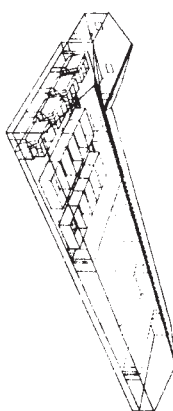
As they approach market weight, and if the finishing unit is crowded, larger hogs can be marketed early.

Sows are often rebred during the first or second heat period after weaning, and farrow about 16 weeks later.

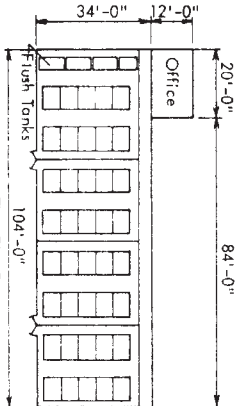
**TYPICAL HOUSING CYCLES**



**Plan A**  
Fully slotted floor over storage pit.



**Plan B**  
Fully slotted floor over flushed pit.



**Floor Plan B**

**LUMBER SPECIFICATIONS**

Roof Purlins and Studs  
 Construction Grade (Doug Fir, Southern Pine or Hem Fir)

Trusses  
 See Truss Page

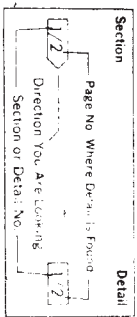
Plywood  
 Roof Sheathing—3/4" C-C-Ext (Identical to Index # 200)

Sliding and Wall Lining and Ceiling—3/4" or 1/2" C-C-Ext with Medium Density Overlay

FRP plywood is a composite material using plywood overlaid with a layer of plastic. It is moisture resistant and more durable and easier to clean than plywood.

Sills and fascia  
 Pressure Preservative Treated (Southern Yellow Pine # 1 or # 2, Spruce—# 8, Fir—# 10, Cedar—# 12, Redwood—# 12, Larch—# 12, Fir—# 12, Spruce—# 12, P. T. means lumber pressure preservative treated against insect and fungus attack.

Pressure Preservative Treated (Southern Yellow Pine # 1 or # 2, Spruce—# 8, Fir—# 10, Cedar—# 12, Redwood—# 12, Larch—# 12, Fir—# 12, Spruce—# 12, P. T. means lumber pressure preservative treated against insect and fungus attack.



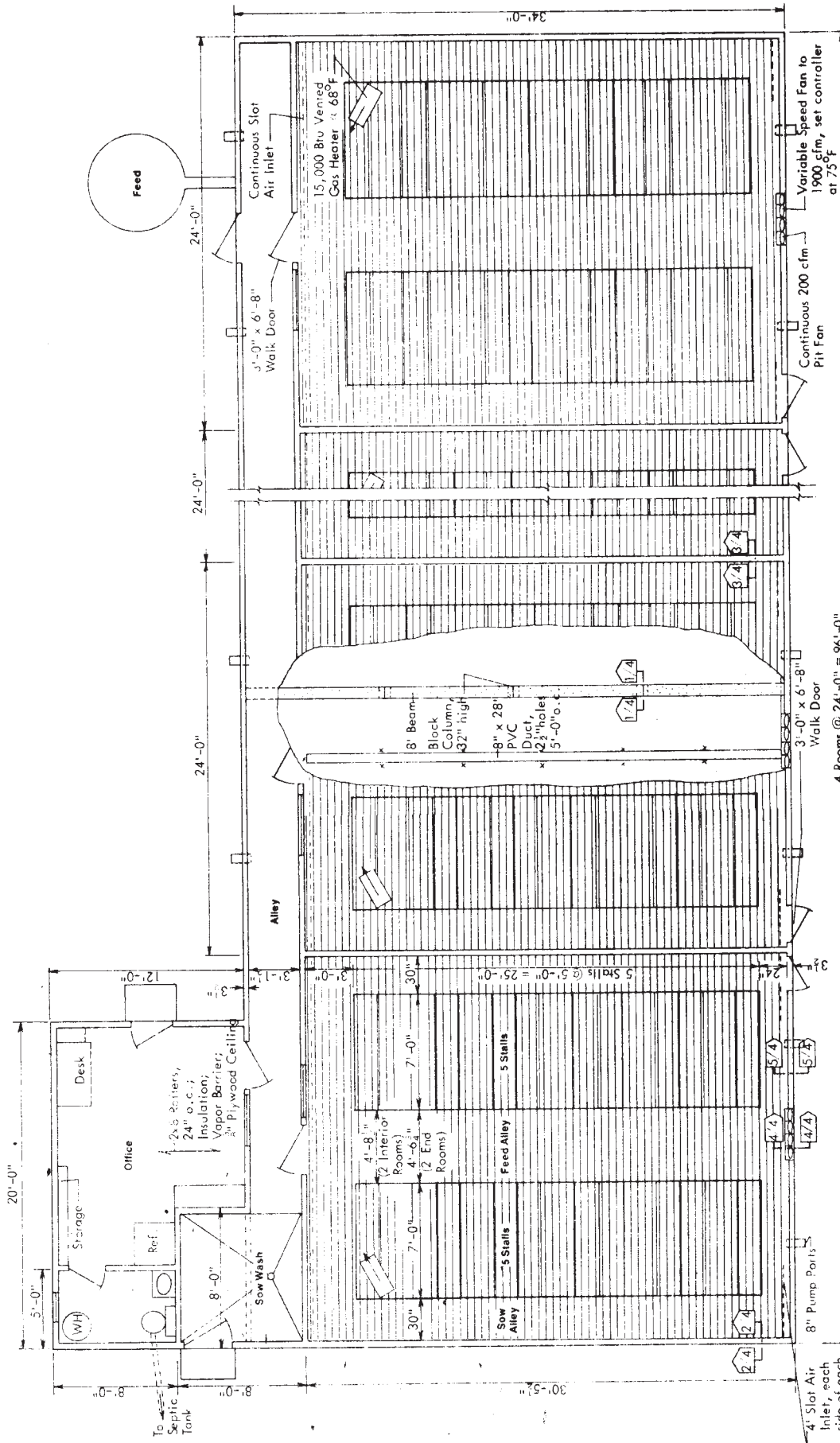
**Section & Detail Indicator**

**PNMPS MIDWEST PLAN SERVICE**

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**FARROWING HOUSE**  
 4 10-Sow Rooms Side by Side

8 Pages plus	Plan No.	Page
34' Truss Sheet	mgs 72692	1 of 10



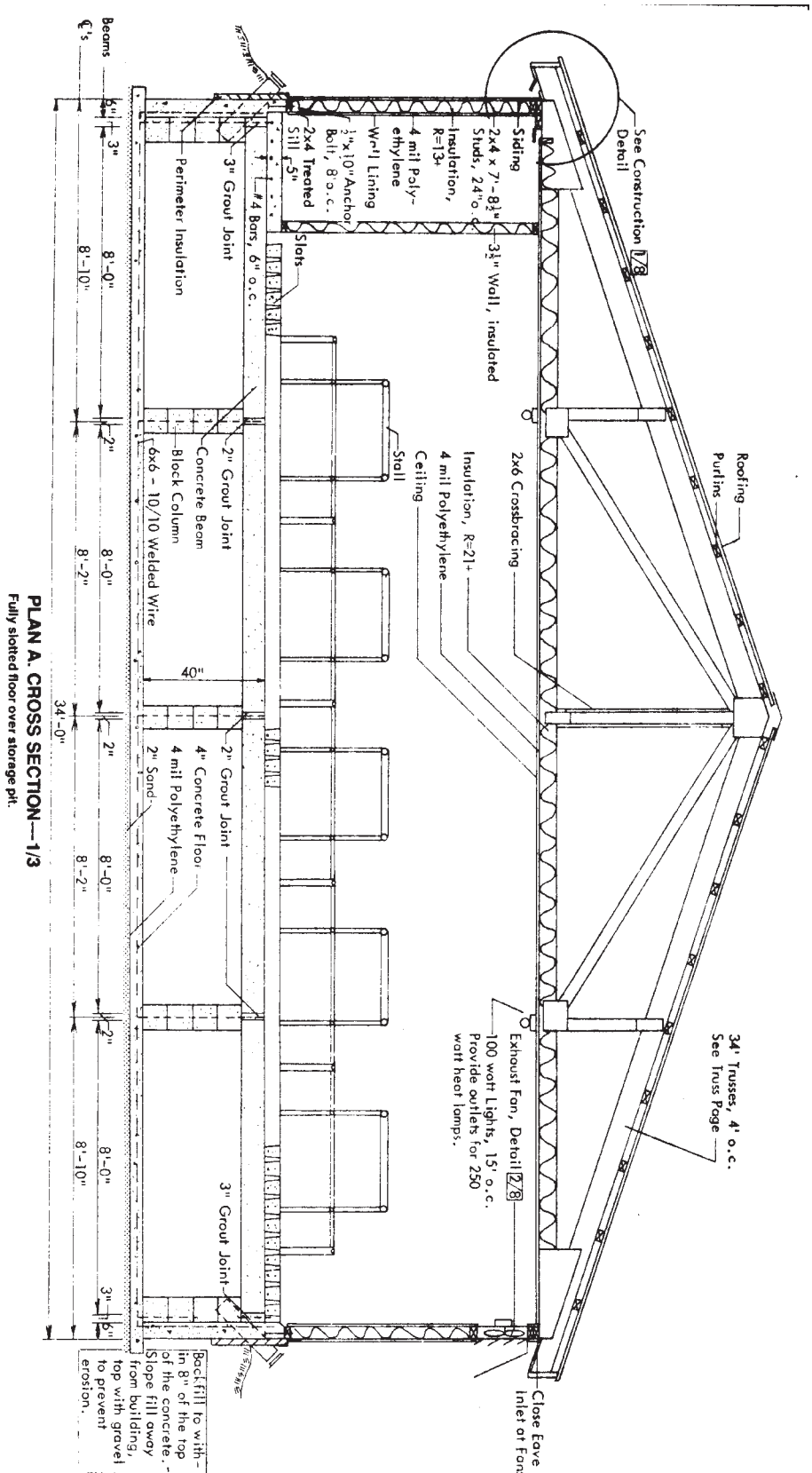
**FLOOR PLAN A—1/2**  
Fully slotted floor over storage pit.

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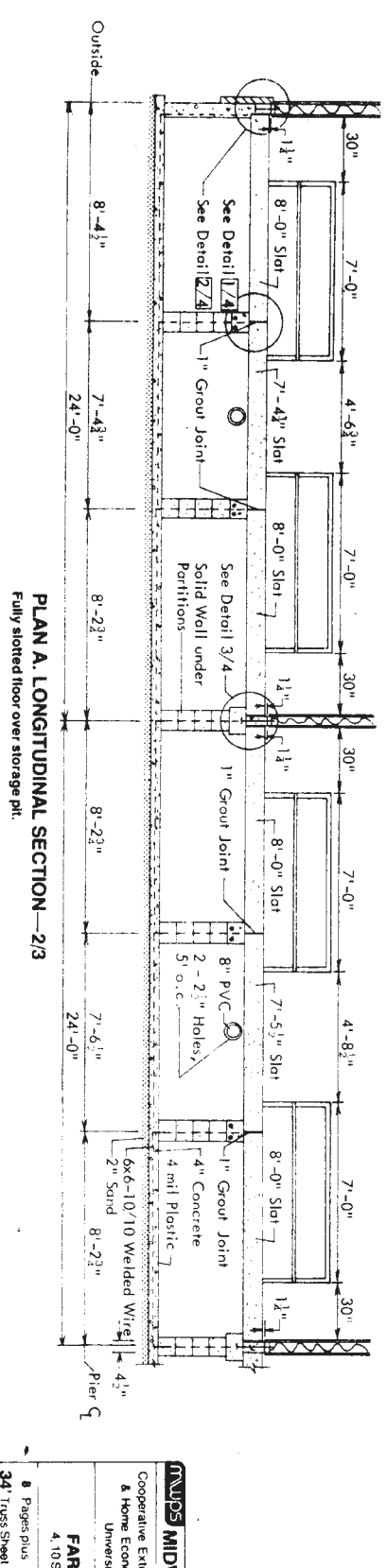
**FARROWING HOUSE**  
4, 10 Sow Rooms Side by Side

Plan No. \_\_\_\_\_ Page \_\_\_\_\_  
Pages plus \_\_\_\_\_ 2 of 16  
34" Truss Sheet mwp: 72062

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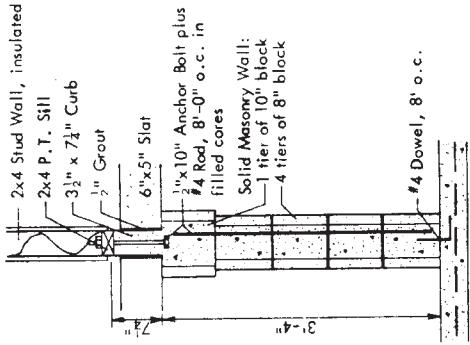


**PLAN A. CROSS SECTION--1/3**  
Fully slotted floor over storage pit.

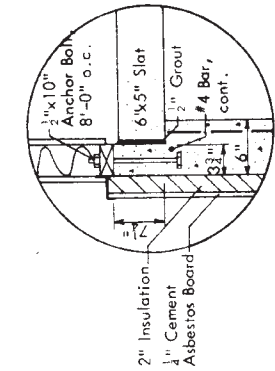


**PLAN A. LONGITUDINAL SECTION--2/3**  
Fully slotted floor over storage pit.

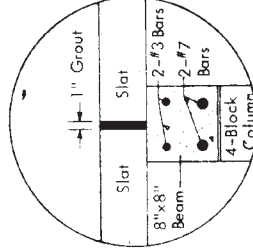
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<b>FARROWING HOUSE</b>			
4, 10 Sow Rooms Side by Side			
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34' Truss Sheet	mmps 72682	3 of 10	
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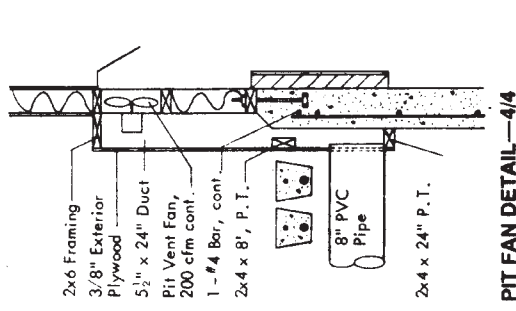
PARTITION DETAIL—3/4



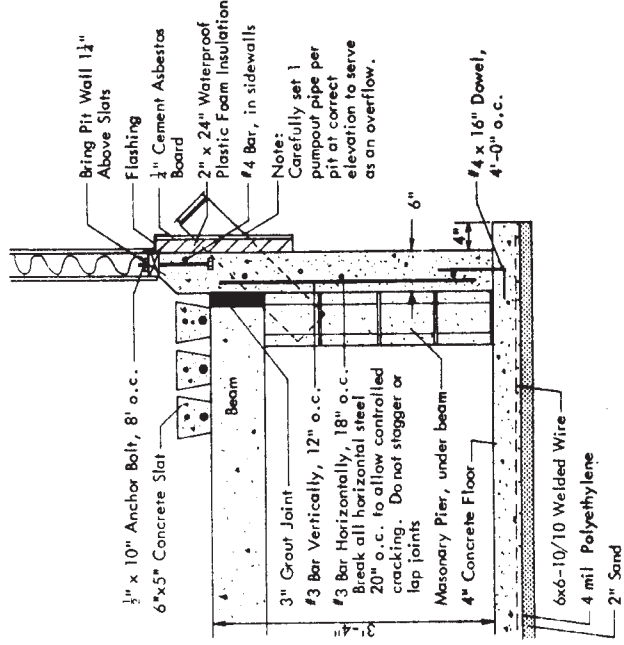
ENDWALL DETAIL—2/4



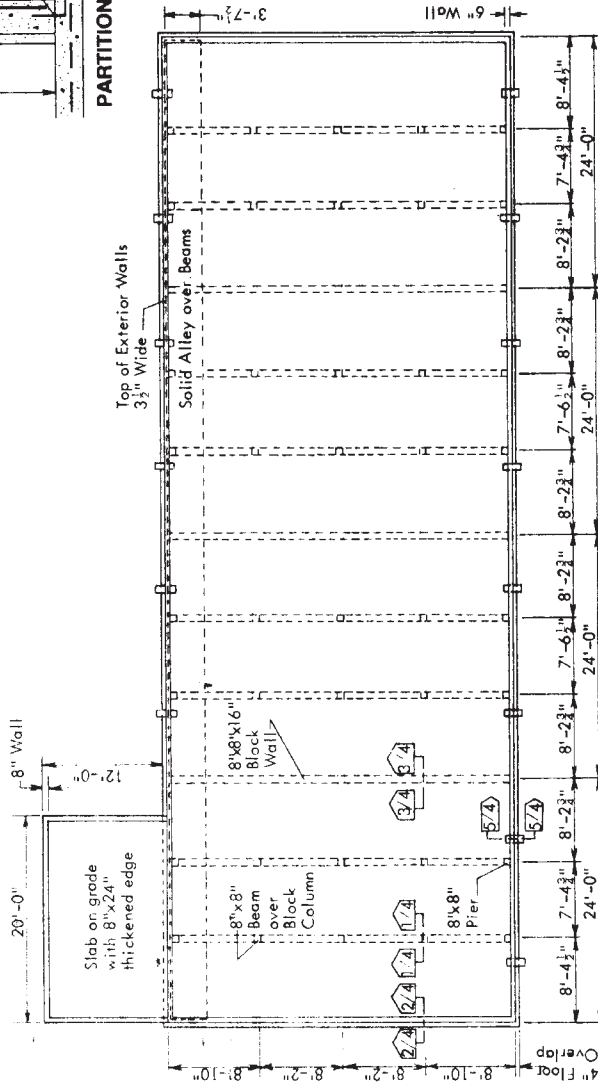
BEAM SUPPORTED ON 4-BLOCK COLUMN—1/4



PIT FAN DETAIL—4/4



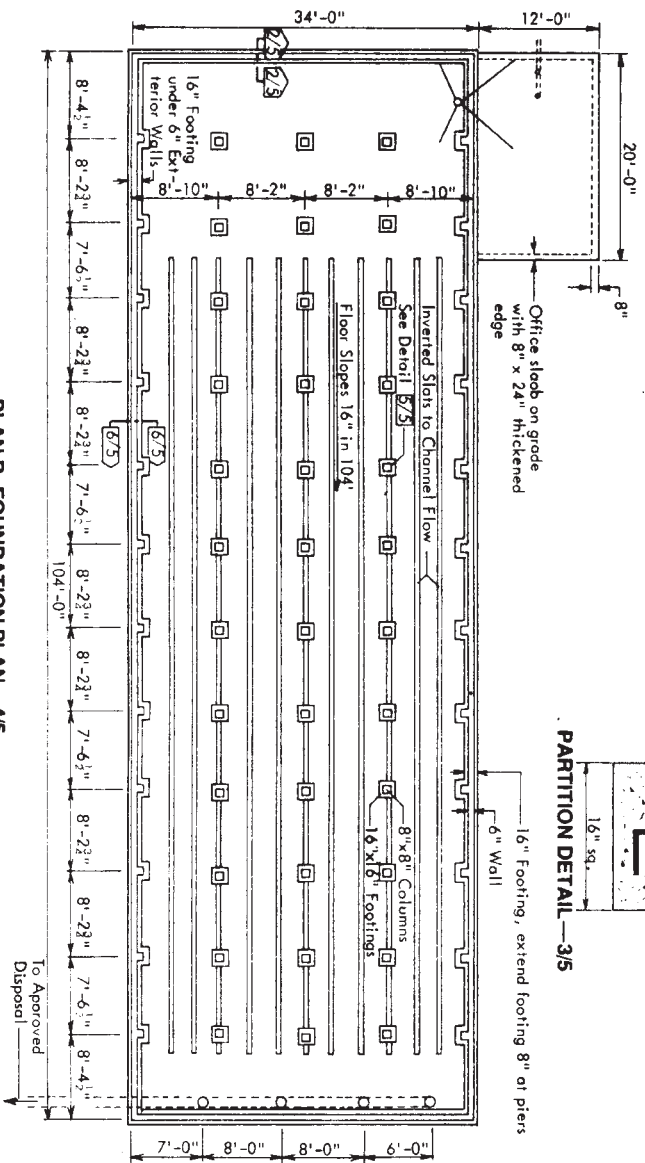
PIT DETAIL—5/4



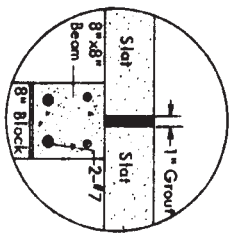
PLAN A. FOUNDATION PLAN—6/4

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<b>FARMING HOUSE</b> 4, 10-Square Foot, Side by Side	
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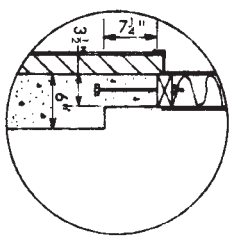
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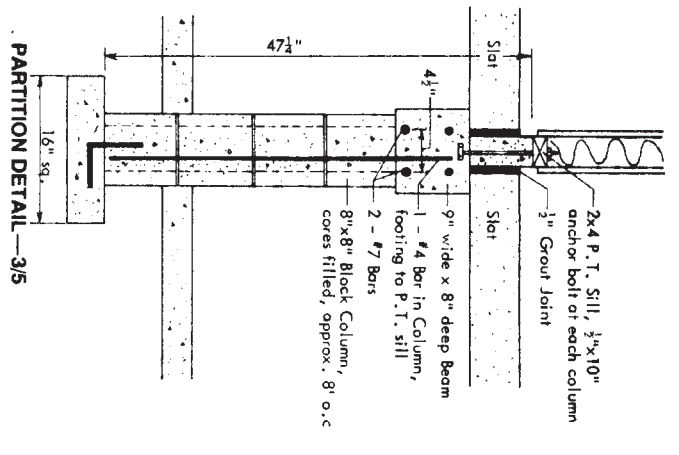
PLAN B. FOUNDATION PLAN—4/5



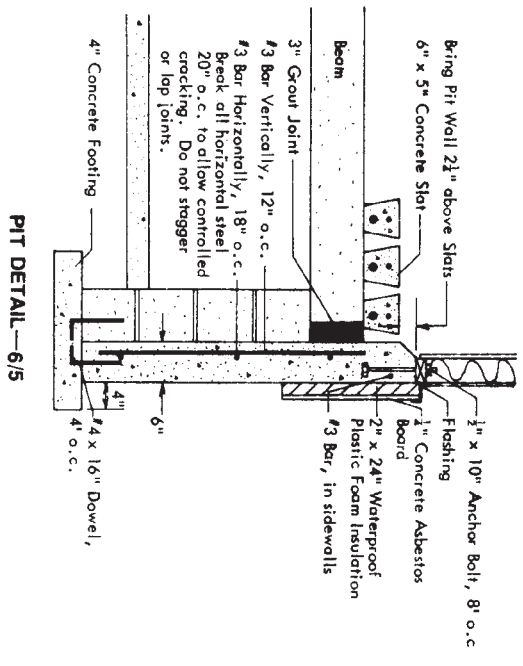
DETAIL—1/5



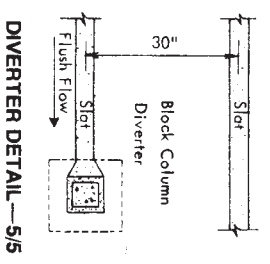
ENDWALL DETAIL—2/5



PARTITION DETAIL—3/5



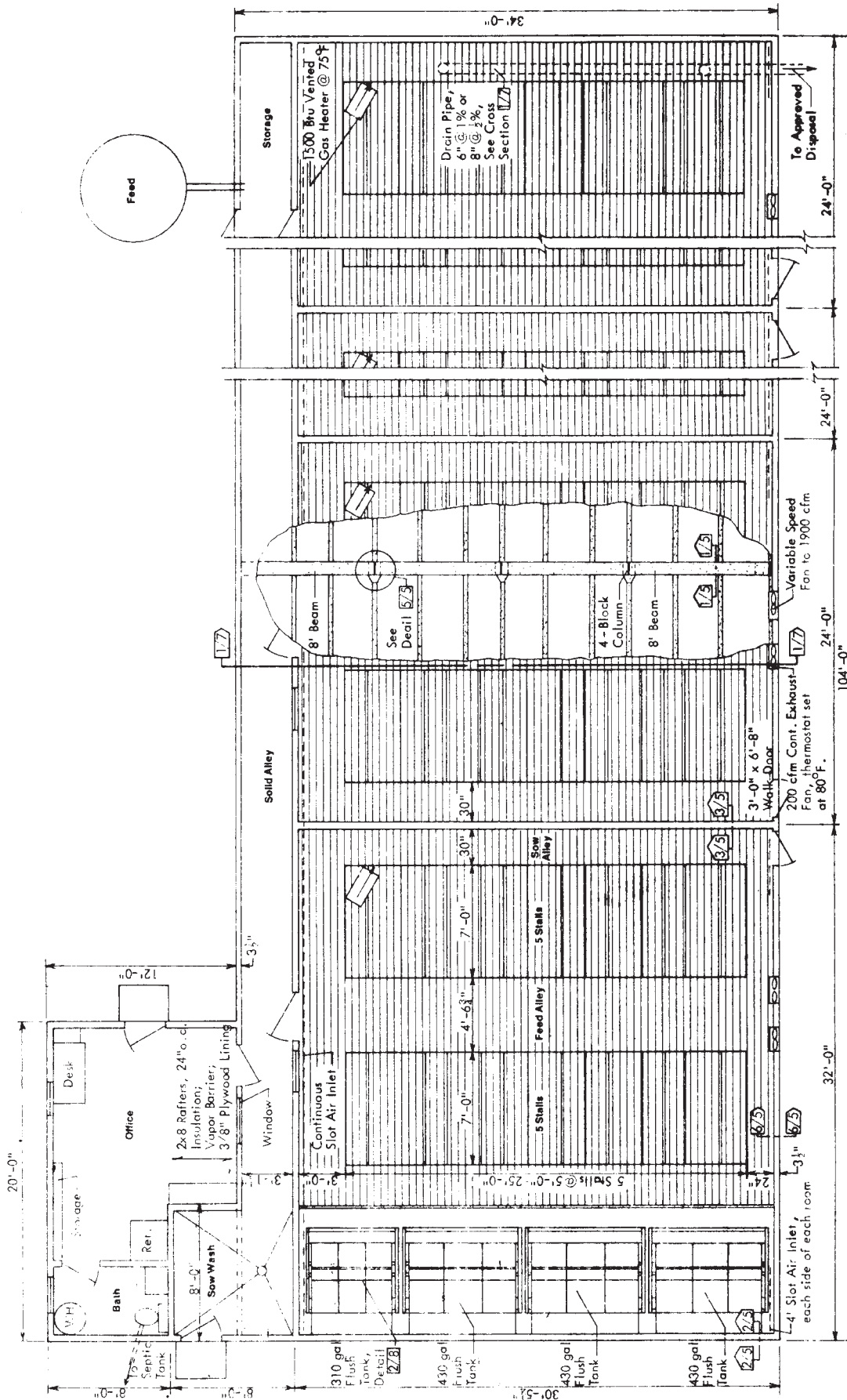
PIT DETAIL—6/5



DIVERTER DETAIL—5/5

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<b>FARROWING HOUSE</b>			
4, 1050m Rooms Slab by Site			
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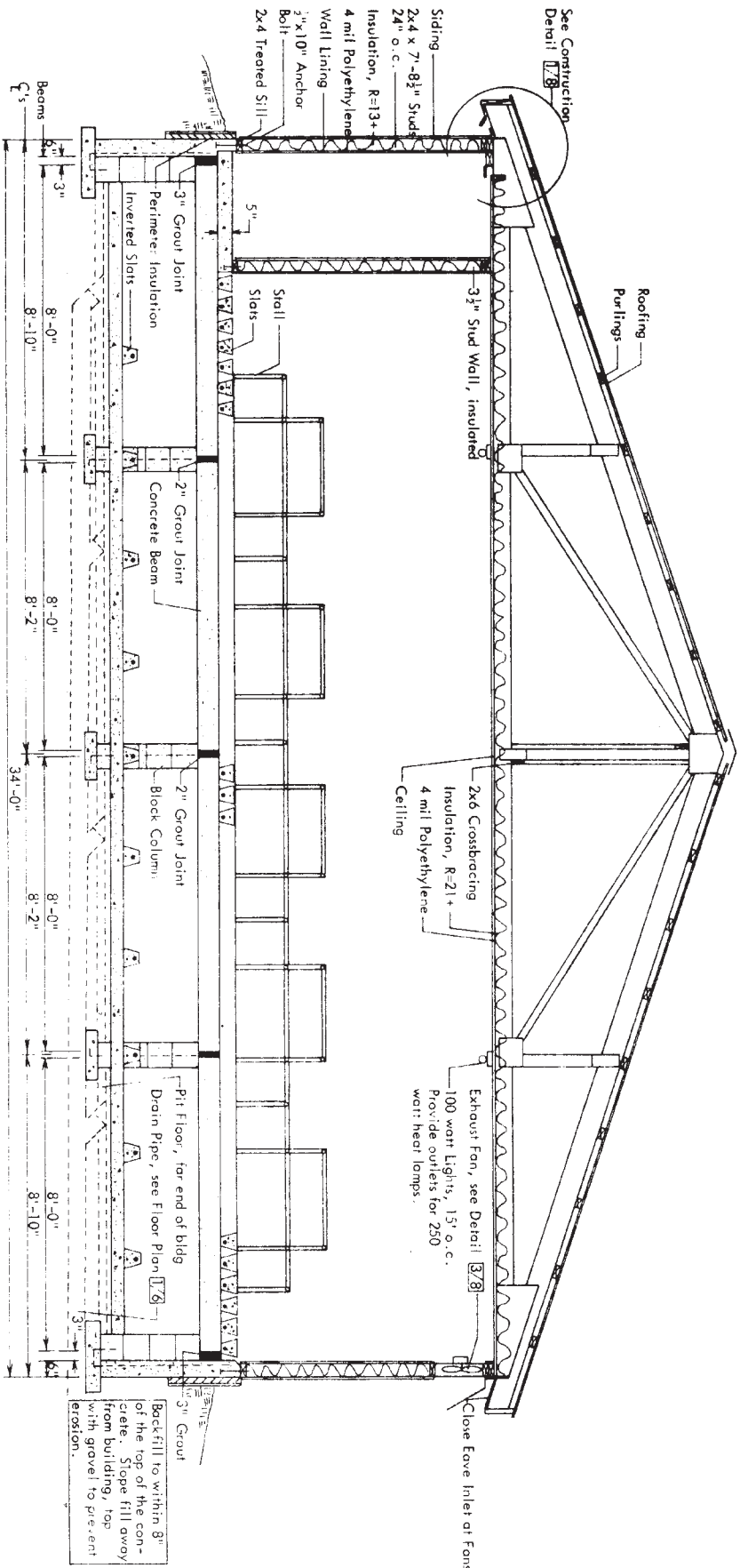
**PLAN B. FLOOR PLAN—1/6**  
Fully slotted floor over flushed pit.

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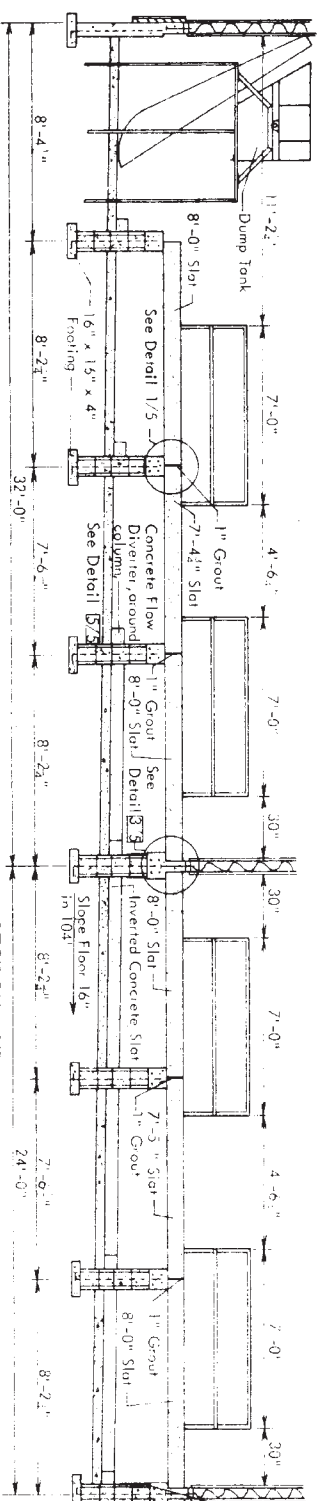
**FARROWING HOUSE**  
4, 10 Sow Rooms Side by Side

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**PLAN B. CROSS SECTION—1/7**  
Fully slotted floor over flushed pit.



**PLAN B. LONGITUDINAL SECTION—2/7**  
Fully slotted floor over flushed pit.

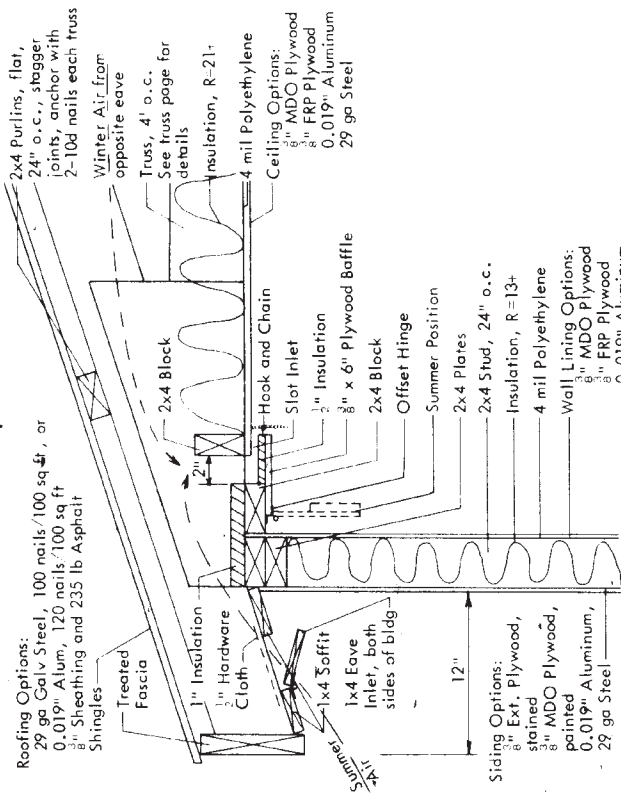
Backfill to within 8" of the top of the concrete. Slope fill away from building, top with gravel to prevent erosion.

Plastic Curbs, under partitions and 3" off the floor to reduce air mixing between rooms.

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**FARROWING HOUSE**  
4 10 Sow Rooms Side by Side





**EAVE INLET**  
**SLOT INLET**

**CONSTRUCTION DETAIL 1/8**  
 Install eave inlet along both long walls. Install slot inlet along the long wall toward the prevailing winter winds. Install fans, and 4" of slot inlet near the corners, along the other long wall.

Summer: Open eave inlet next to slot inlet to draw air directly into building. Close eave inlet along far wall. Drop slot inlet baffle.  
 Winter: Close eave inlet next to slot inlet. Open eave inlet along far wall to draw air across attic and through slot inlet. Fasten slot inlet baffle in "up" position to force cold air across ceiling.  
 Hold vent doors and baffles in position with hooks and eyes.  
 Slot Opening: 7/8"  
 Other ventilation systems are shown in MWPS-8, Swine Housing and Equipment Handbook.

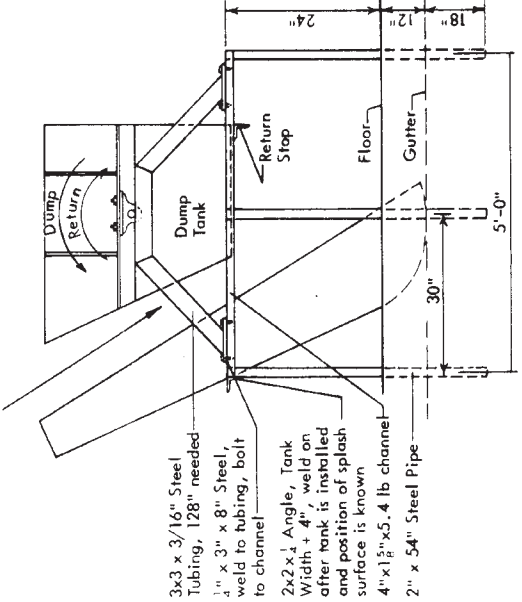
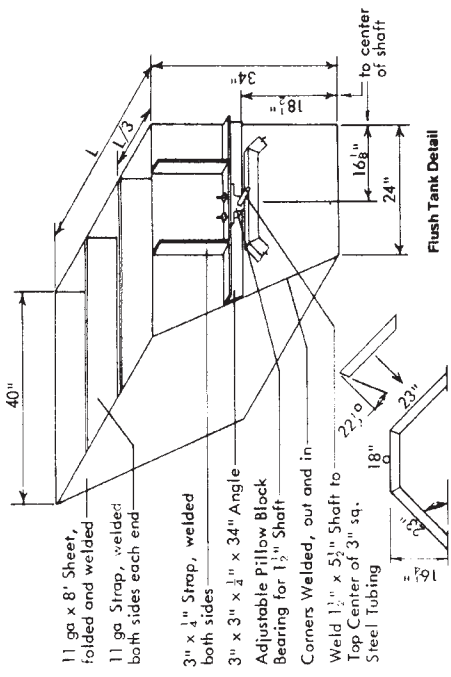
**Variable Dimensions**

Gutter width	2 1/2	4	6	8 and wider
Tank length, L	23	41	65	95
Back splash width, W	23	41	7	95
Flush volume, gal	100	190	300	400

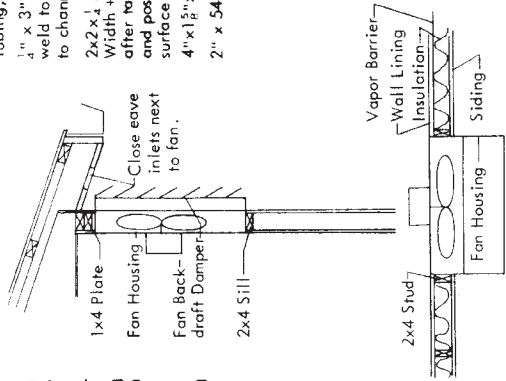
Flush Frequency—minimum flushes per day

Farrow	2	Under slats	Open gutter
Nursery	4		
Finish	6		
Gestation	4		

More flushes per day tend to decrease odors.



Splash Surface



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**FARROWING HOUSE**  
 4, 10 Sow Rooms Side by Side

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