

MWPS-72683

Farrowing House

4 10 sow rooms end to end. This plan is for a 24' x 128' or 134' stud-frame building divided into 4 rooms, each housing 40 sows in farrowing stalls. Year-round forced ventilation and liquid manure storage or flushing are provided.

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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MIDWEST PLAN SERVICE
Cooperative Extension Work in Agriculture and Home Economics and Agricultural Experiment Stations of North Central Region - USDA Cooperating
Farrowing House 4, 10 Sow Rooms End to End
Title Page
MIDWEST PLAN NO. 72683

Plan MWPS-72683

Farrowing House—4, 10 Sow Rooms End to End

This plan is for a 24' x 128' or 134' stud-frame building divided into 4 rooms each housing 40 sows in farrowing stalls. Year-round forced ventilation and liquid manure storage or flushing are provided.

Plan A shows 7 stalls over storage pits. Plan B is for flushing manure from under the slotted floor. It requires 6 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 Btu/ft²) with a thermostat set at 69°F.

- If heat is supplied with heated mats on the slats, provide about 150 watts (500 Btu) per stall floor heat, plus about 250 watts (900 Btu) 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, whom to phone for additional advice, etc.
- Prepare walk-doors and perhaps summer ventilation panels to be propped open part way or fully.
- Consider a stand-by generator to augment hand-operated doors, operate pit fans and, in hot weather, circulating fans.
- Consider automatic telephone that dials selected numbers when power fails.

Slat designs

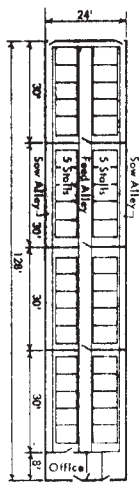
Dimensions in these plans assume concrete slats as listed below and may need to be adjusted for other designs or materials. About 1" is allowed at each end of a slat for construction variation and grouting.

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

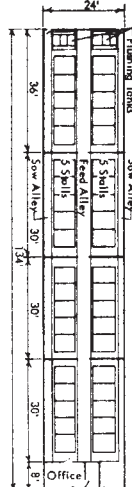
Pit depth based on 0.54 cu ft/day manure per stall, 6" in pit after pumping, 12" freeboard, and 12" additional clearance to improve under-floor ventilation.

Slat span	Pig nursery	Finishing	Farrowing, sow-pig nursery, or gestation
4	4"x4", #3	4"x4", #3	4"x4", #3
6	4"x4", #3	4"x4 1/2", #4	4"x4 1/2", #4
8	5"x4", #4	5"x5", #4	5"x5", #4
10	4"x5", #4	5"x5 1/2", #5	6"x6 1/2", #5

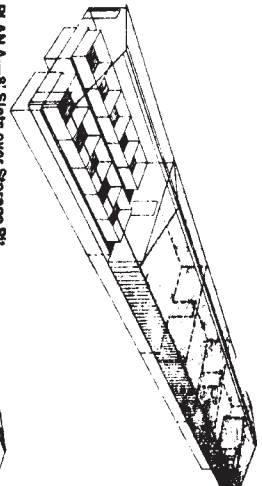
Design Loads	Per foot of slat	100 pif	150 pif
Beams, Per sq ft floor area	50 pif	50 pif	65 pif
Columns	35 pif		



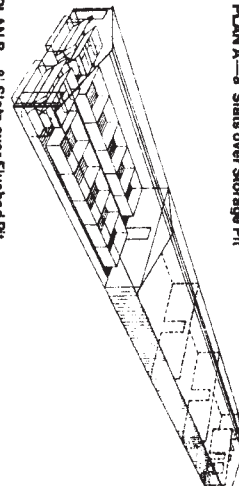
FLOOR PLAN A



FLOOR PLAN B



PLAN A—8' Slats over Storage Pit



PLAN B—8' Slats over Flushed Pit

Building space and production cycles.

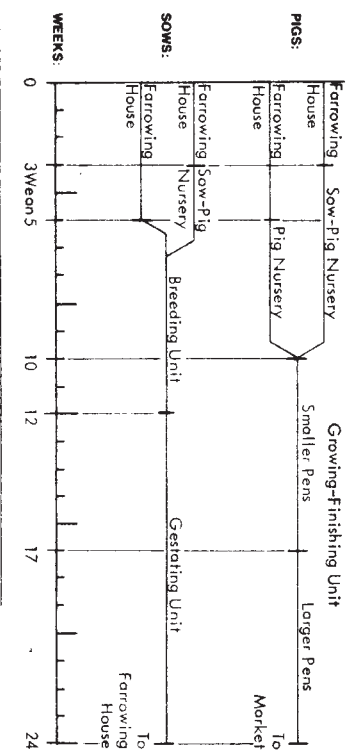
Although many variations are successful, the following are typical meat hog production systems. Plan building capacity for some extra animals to allow for larger litter size, or slow growth rate. Farrow during 3 weeks. Some stalls can be used twice.

- Either:
 - a) 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.
 - Wean pigs at 3-6 weeks, putting 3-4 litters together.
 - Return sows to breeding and gestation facilities.

Or

- b) Wean pigs at 4-6 weeks (20-25 lb).
- Move pigs to nursery.
- Return sows to breeding and gestating 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, reduce number of pigs per pen at about 17 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

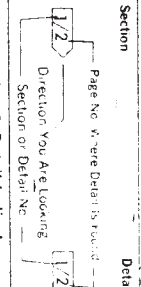


LUMBER SPECIFICATIONS

Roof Purlins and Studs
Construction Grade (Doug Fir, Southern Pine or Hem Fir)
Trusses
See Truss Page
Plywood
Floor Sheathing—3/4" C-C-Ext. Identical Southern Yellow Pine
Siding and Milling—3/4" C-C-Ext. with Medium Density Overlay
FPP Plywood is a composite material using chipboard panels with a layer of plastic. It is moisture resistant and more durable and easier to clean than plywood.

Sills and Facia
Pressure-Treated Yellow Pine or Redwood
Yellow Pine or Redwood Composite—8 pcf. Panels—0.40 pcf. ACC—0.25 pcf. ACA or CCA Type A or B—0.23 pcf.

P. T. means lumber pressure treated against insect and fungus attack.

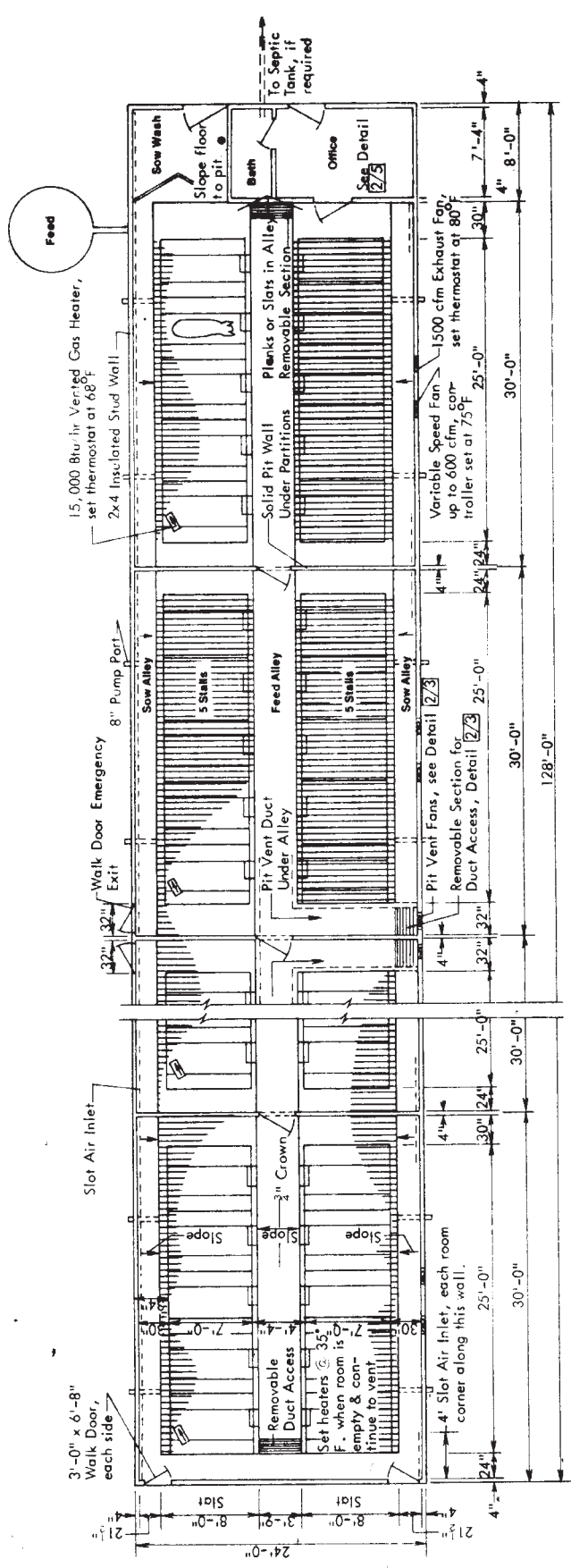


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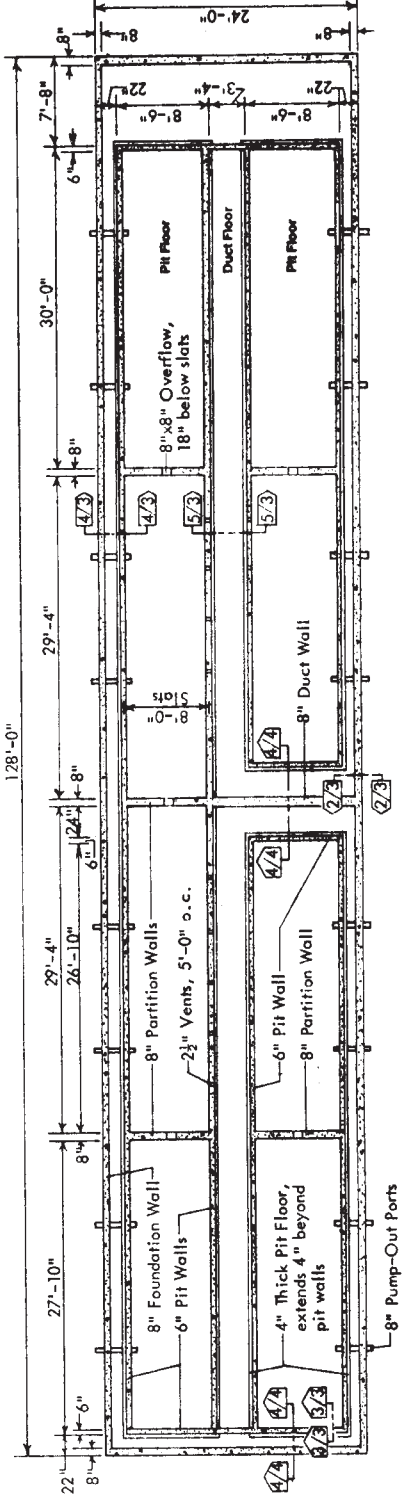
FARROWING HOUSE
4, 10 Sow Rooms End to End

7 Pages plus Plan No. 24 Truss Sheet MWPS 72683 Page 1 of 10

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FLOOR PLAN A-1/2
8' Slats over Storage Pit



FOUNDATION PLAN A-2/2

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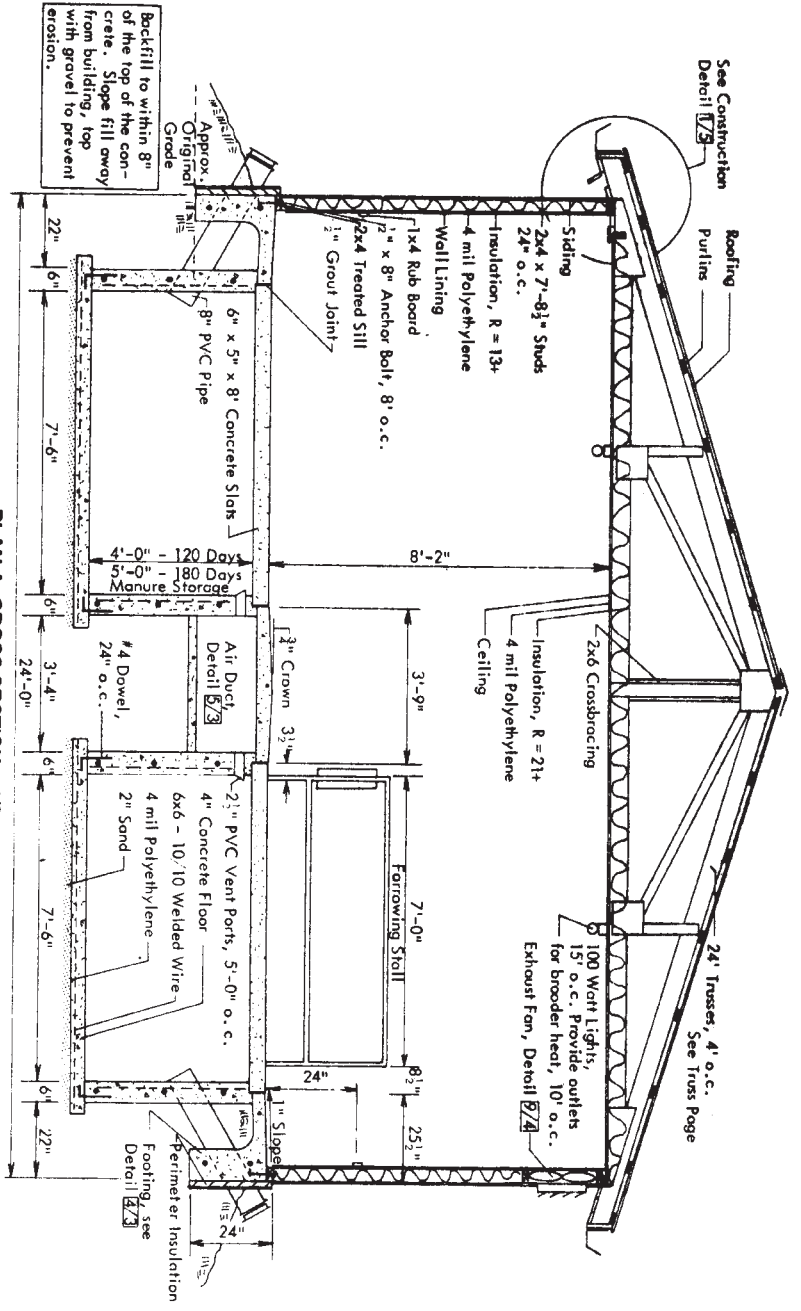
FARROWING HOUSE
4, 40-Sow Pignons End to End

24" Truss Spacing
24" Truss Spacing
24" Truss Spacing

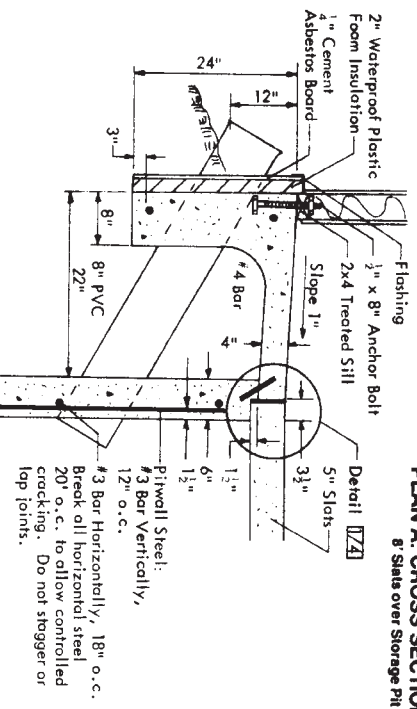
Page 16
Page 16
Page 16

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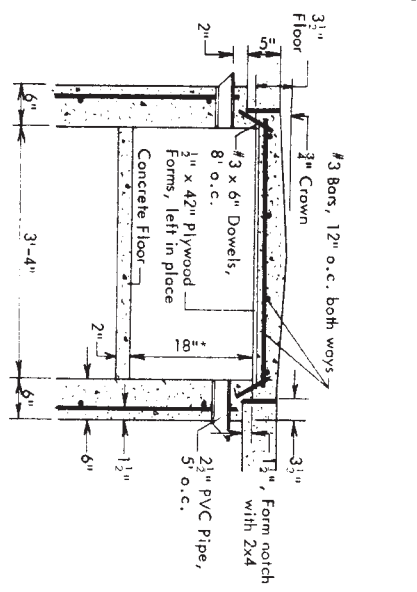
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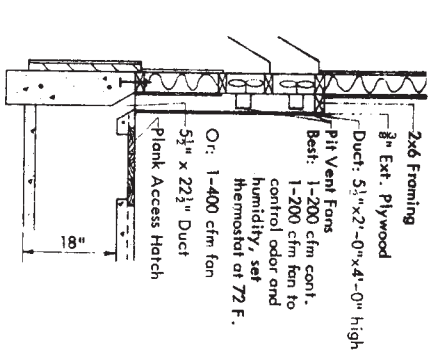
Backfill to within 8" of the top of the concrete. Slope fill away from building, top with gravel to prevent erosion.



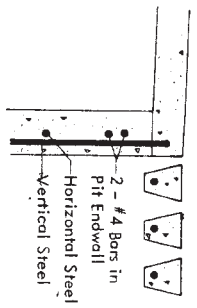
Note: Carefully set 1 pumpout pipe per pit at correct elevation to serve as overflow.



*Slope to 20" at Fan End

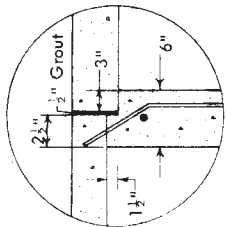


Form plenum to receive 2 pit vent ducts. Cast 5 1/2" x 22" duct into foundation and alley floor.

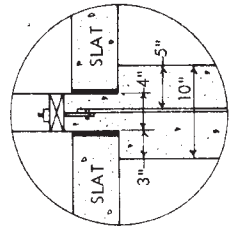


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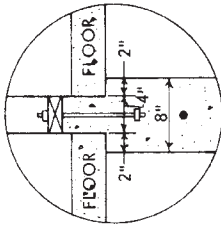
FARROWING HOUSE		
4, 10 Sow Rooms End to End		
7 Pages plus	Plan No.	Page
24 Truss Sheet	mmps-72683	3 of 10



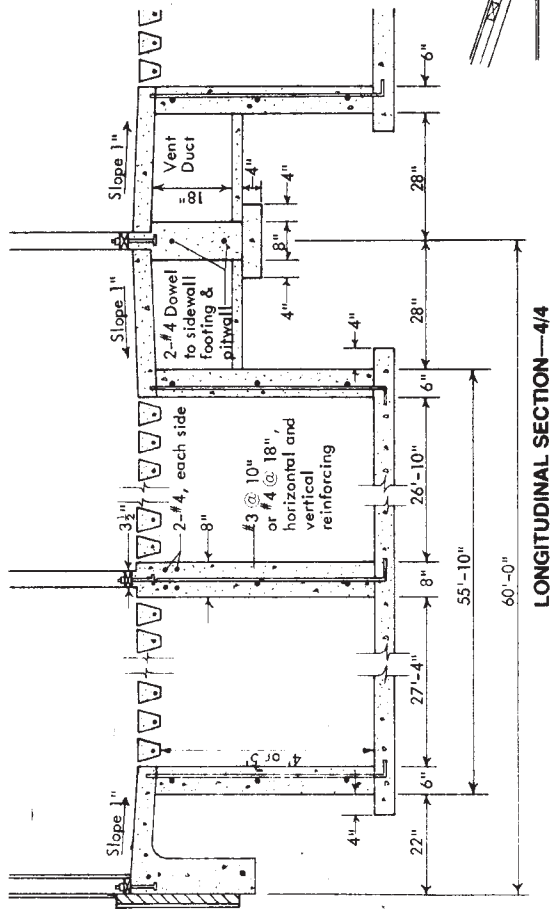
DETAIL—1/4



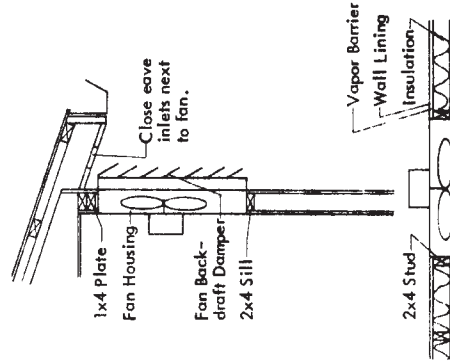
DETAIL—2/4



DETAIL—3/4

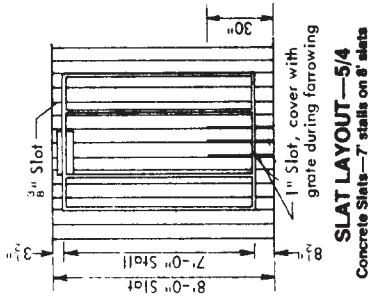


LONGITUDINAL SECTION—4/4



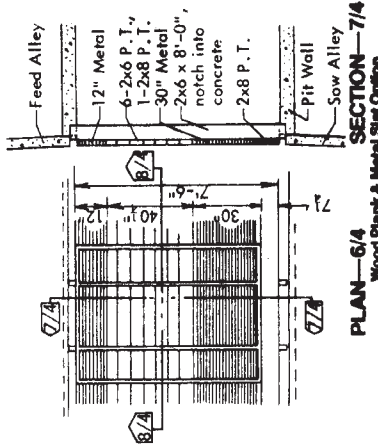
FAN HOUSING—9/4

Position fan to admit air hood or louvers.



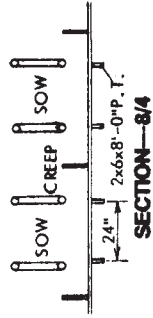
SLAT LAYOUT—5/4

Concrete Slats—7" stalls on 8" slats



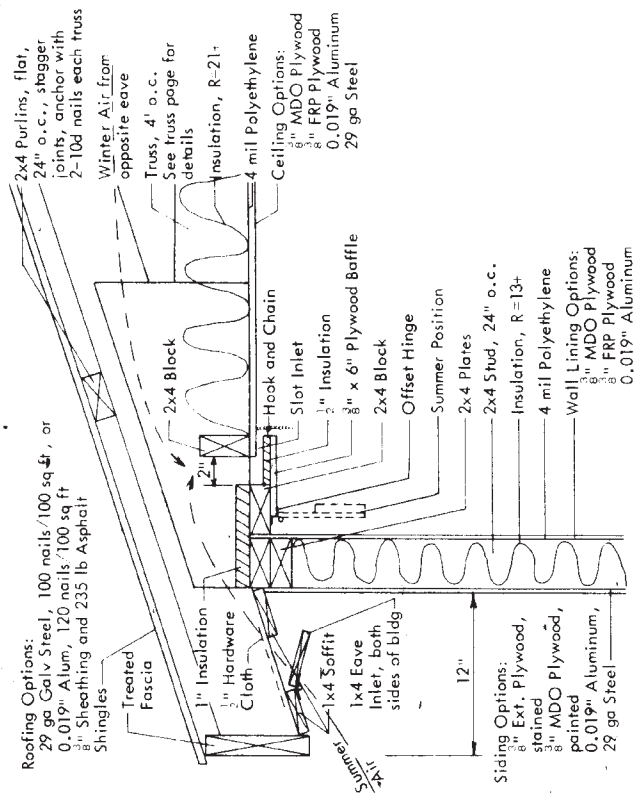
PLAN—6/4 SECTION—7/4

Wood Plank & Metal Slat Option



SECTION—8/4

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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.

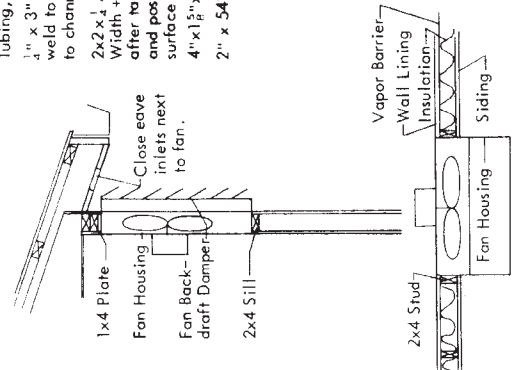
Summer: Open eave inlet next to slot inlet to draw air directly into building. Close eave inlet along far wall. Drop slot inlet baffle.

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: 3/4"

Other ventilation systems are shown in MWPS-8, Swine Housing and Equipment Handbook.



FAN HOUSING 3/8

Position fan to allow for hood or louvers.

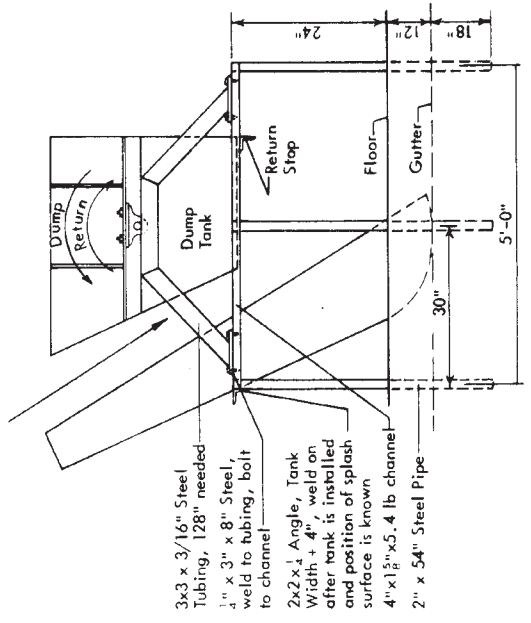
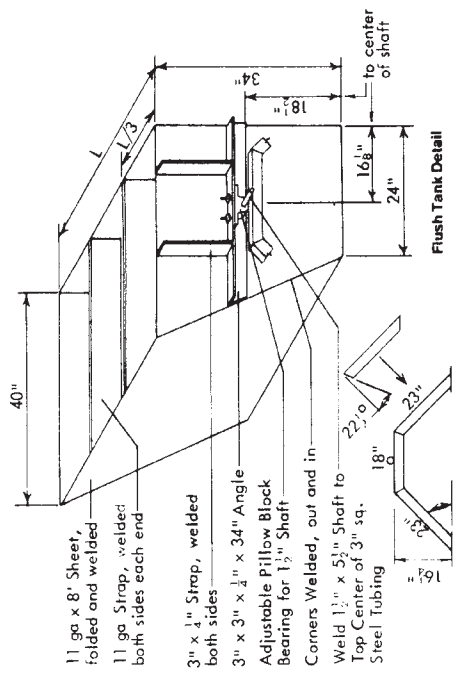
Variable Dimensions

Gutter width	2 1/2	4	6	8 and wider
Tank length L	23	41	65	89
Back splash width, W	29	47	71	95
Flush volume gal	100	190	300	400

Flush Frequency—minimum flushes per day

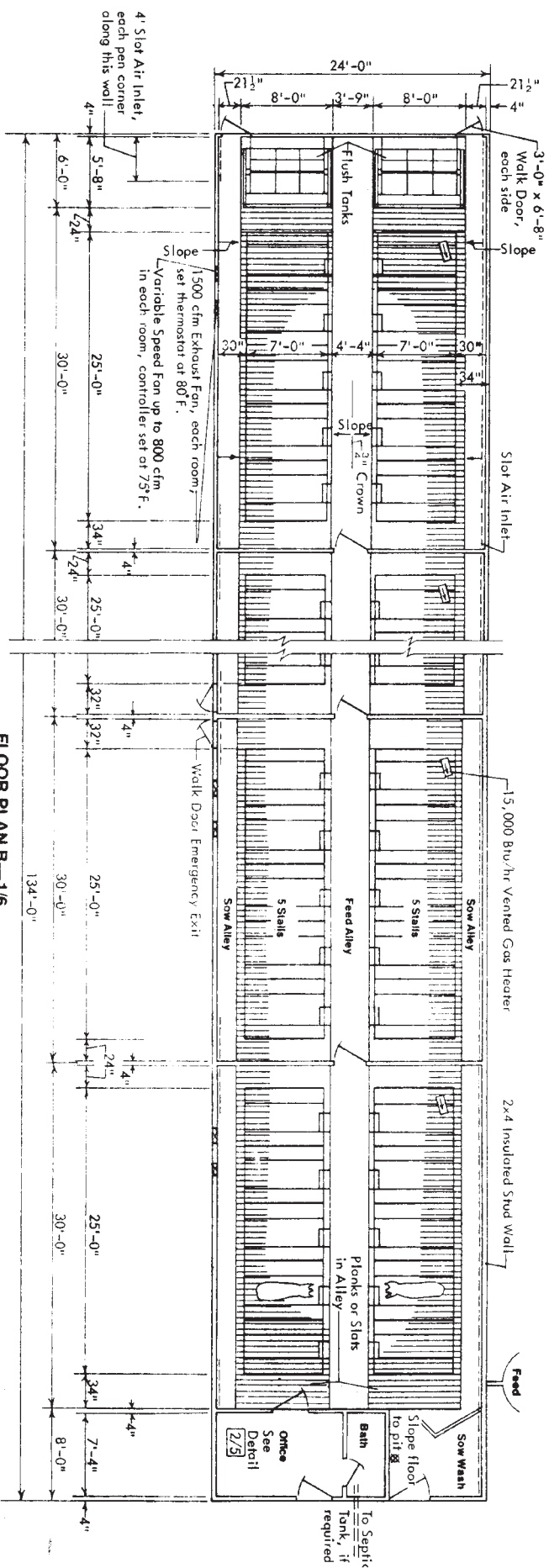
Under slats	Open gutter
2	2
4	4
6	6
12	12
4	4
6	6

More flushes per day tend to decrease odors.

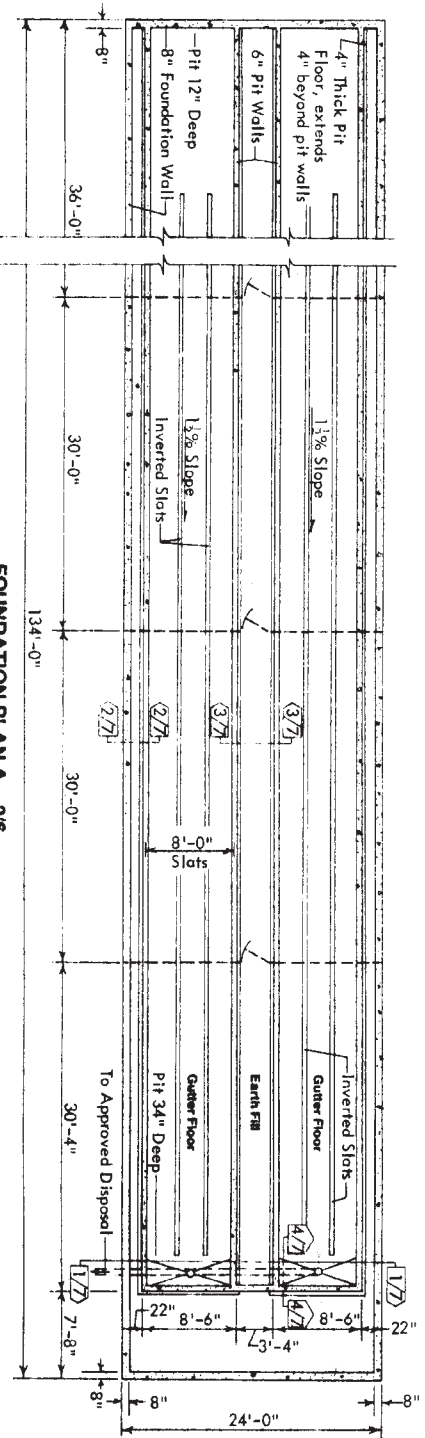


FLUSH TANK, Self Dumping—2/8

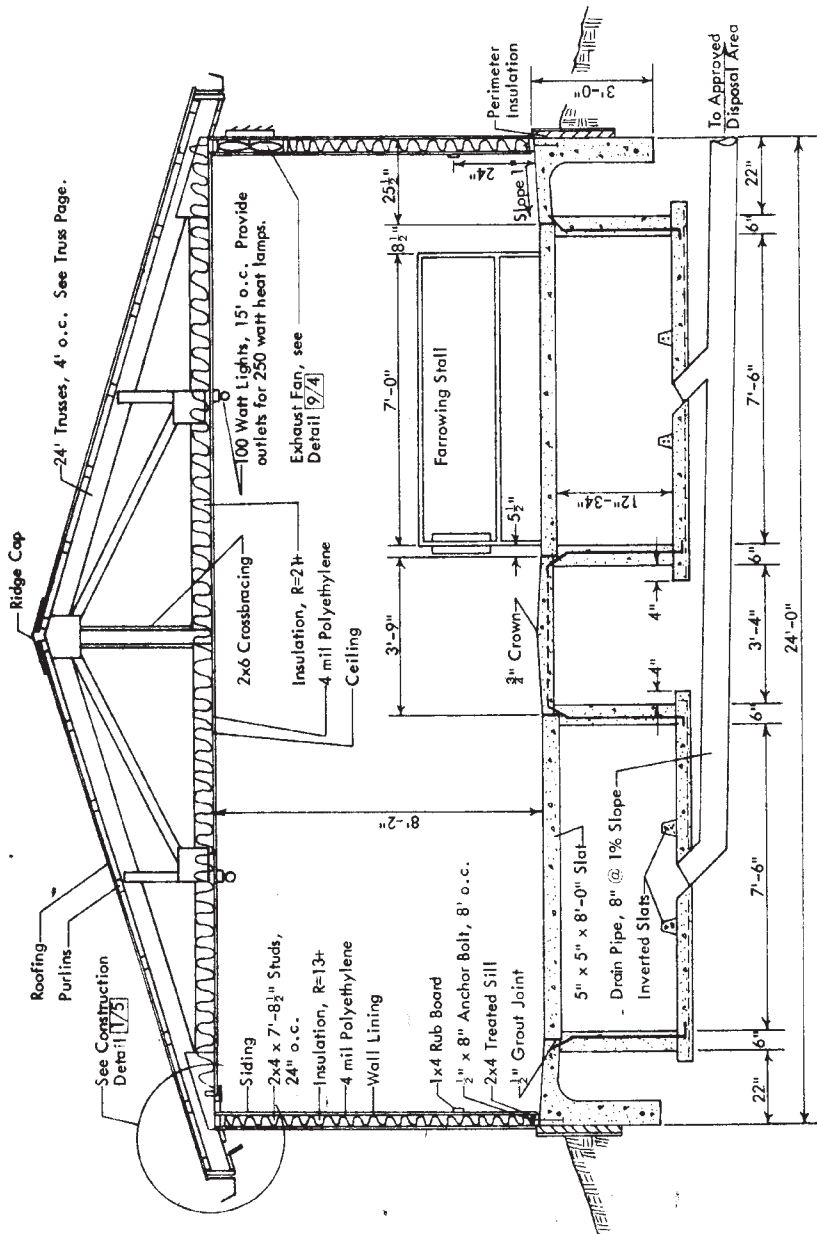
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FARROWING HOUSE		4, 10 Sow Rooms Side by Side	
8 Pages plus	Plan No.	Page	
34 Truss Sheet	mmps-72682	8 of 10	
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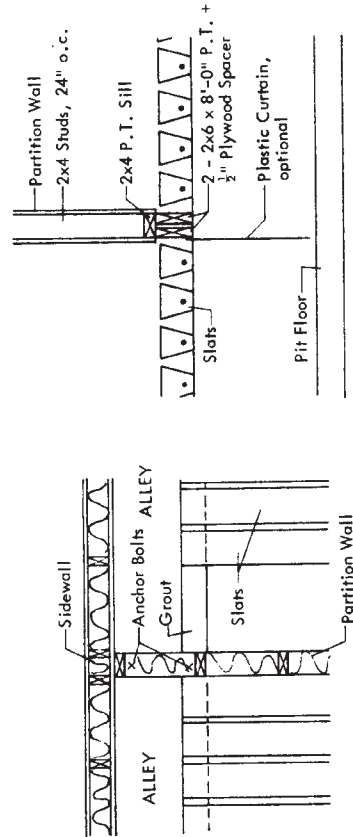
FLOOR PLAN B—1/6
8 Slats over Flushed Pit



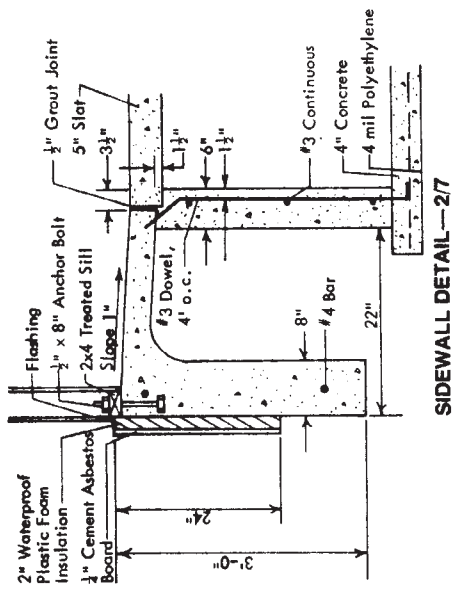
FOUNDATION PLAN A—2/6



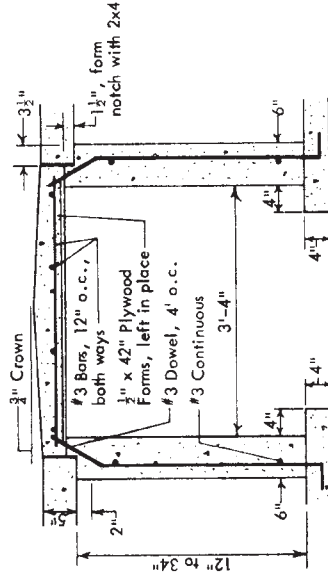
PLAN B. CROSS SECTION—17
8' Slats over Flushed Pit



Section
PARTITION WALL DETAIL—4/7



SIDEWALL DETAIL—27



ALLEY FLOOR DETAIL—37