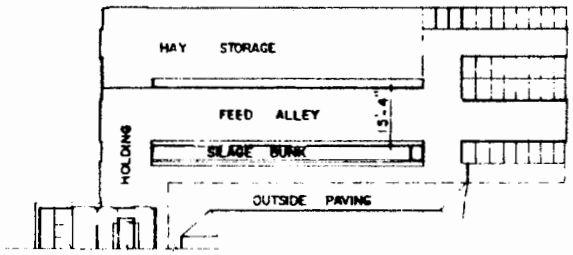
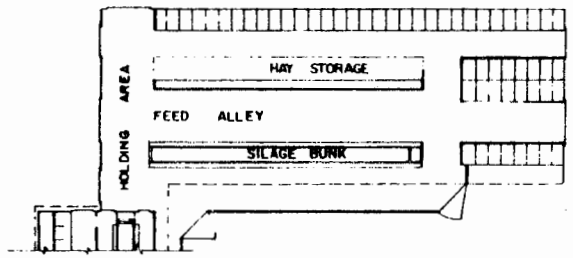
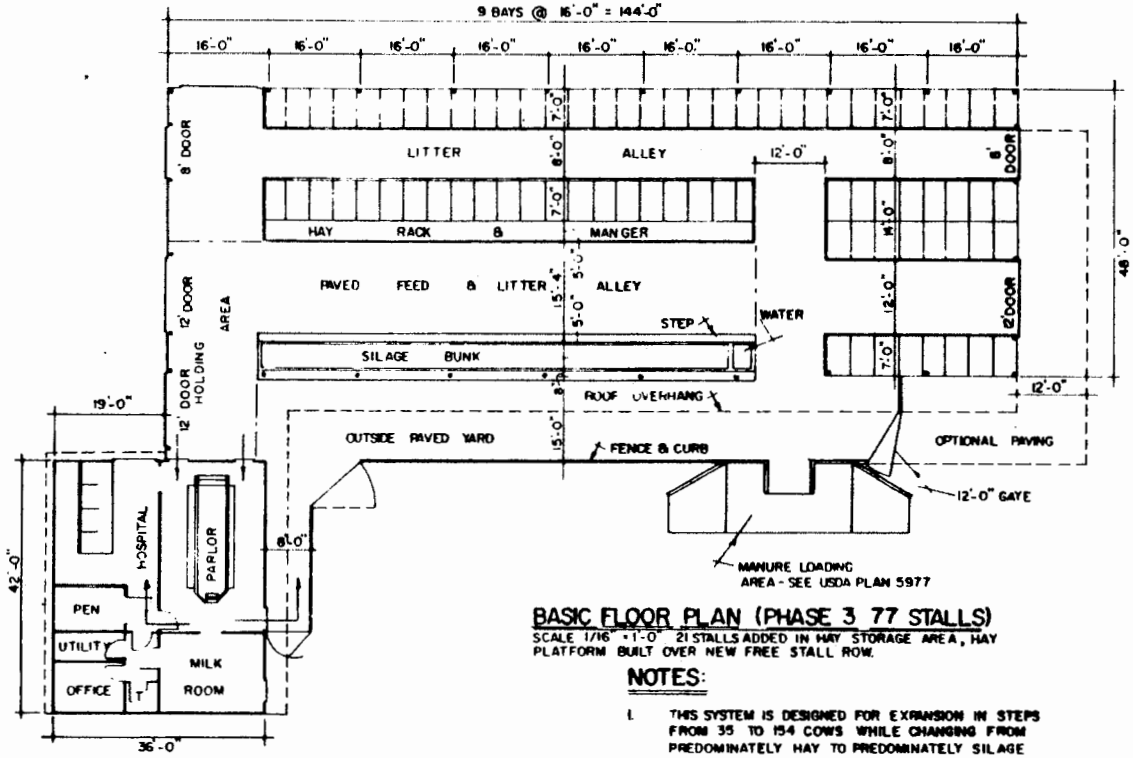
DEVELOPMENT STAGES



PHASE 1 - 35 STALLS
SCALE 1" = 30'-0"
PRIMARY HAY FEEDING.



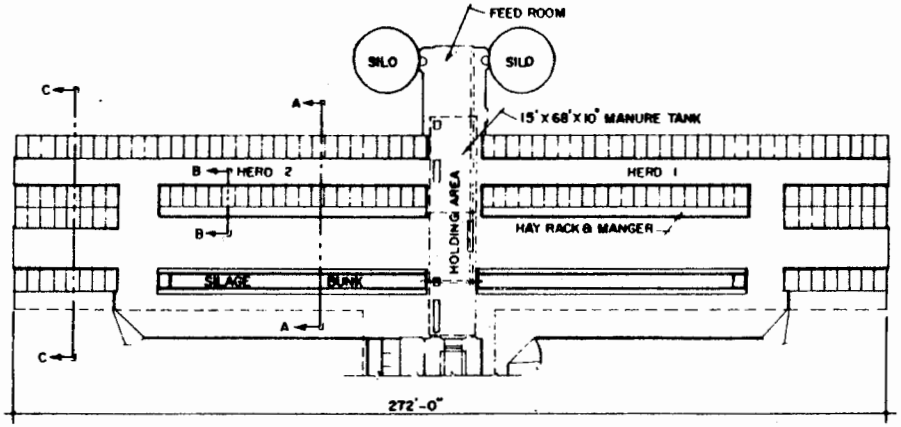
PHASE 2 - 56 STALLS
SCALE 1" = 30'-0"
21 STALLS AND ALLEY ADDED IN HAY STORAGE AREA



BASIC FLOOR PLAN (PHASE 3 77 STALLS)
SCALE 1/16" = 1'-0" 21 STALLS ADDED IN HAY STORAGE AREA, HAY PLATFORM BUILT OVER NEW FREE STALL ROW.

NOTES:

1. THIS SYSTEM IS DESIGNED FOR EXPANSION IN STEPS FROM 35 TO 154 COWS WHILE CHANGING FROM PREDOMINATELY HAY TO PREDOMINATELY SILAGE FORMS OF FEED
2. FEED ALLEY WIDTH ADEQUATE TO ALLOW FEEDING WITH SELF-UNLOADING WAGONS AND HAY TRUCKS.
3. BUILDING SHOULD BE ORIENTED TO SOUTH.
4. CONTINUOUS RIDGE VENTILATOR RECOMMENDED.
5. ALL CONCRETE SHOULD BE AIR-ENTRAINED, 4-6% AIR BY VOLUME.



PHASE 4 154 STALLS
SCALE 1" = 30'-0"
SYSTEM CAN BE DOUBLED IN SIZE AT ANY PHASE, DOUBLING ALLOWS HERD DIVISION. FEED ROOM & SILOS ADDED.

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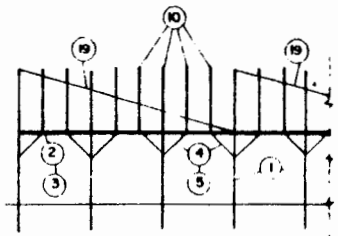
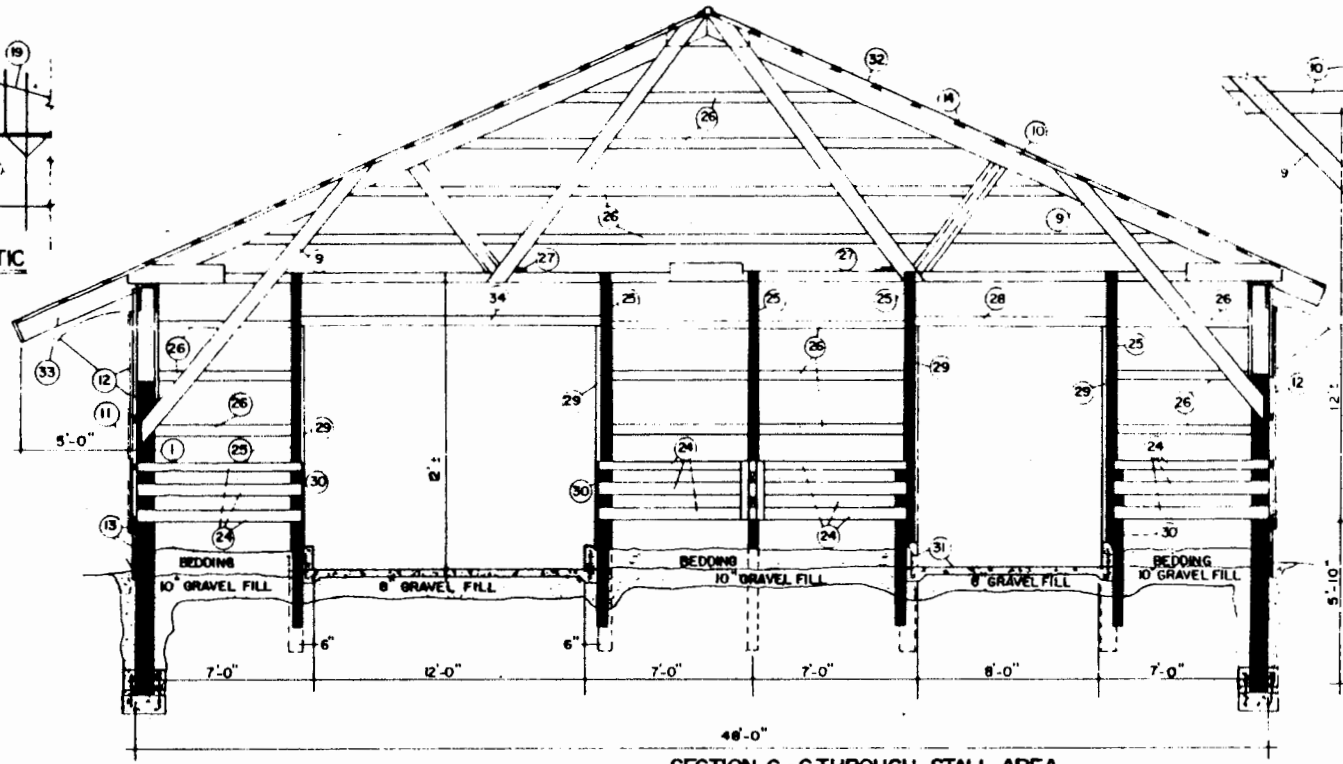
PARTIALLY OPEN FREE STALL HOUSING SYSTEM-35 TO 154 COWS

MASS. '67 | EX. 6023 | SHEET 1 OF 4

BASED ON UNIV. OF MASS. PL. MC 4606

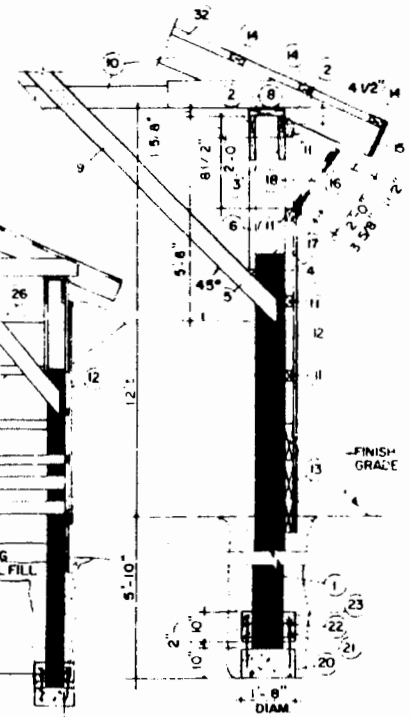


WINDBRACE SCHEMATIC



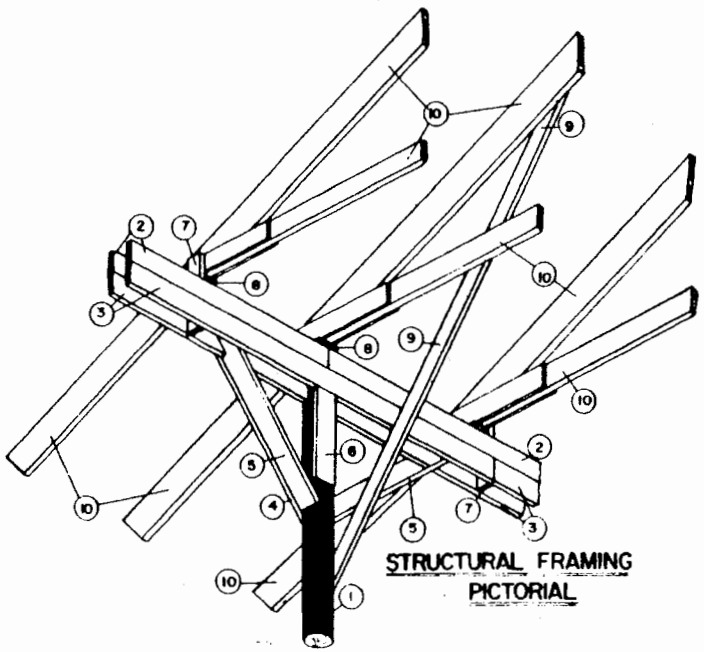
SECTION C - C THROUGH STALL AREA

SCALE 1/4" = 1'-0"



TYPICAL SIDE WALL SECTION

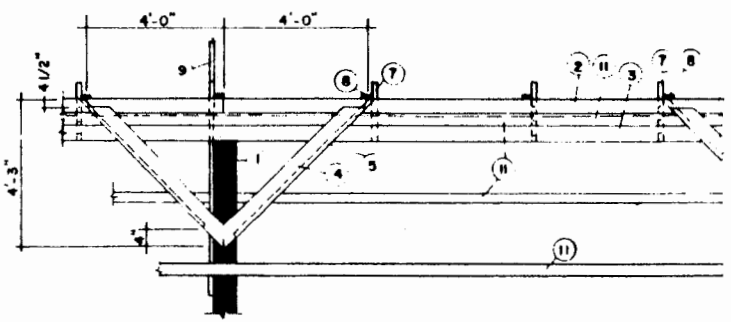
SCALE 3/8" = 1'-0"



STRUCTURAL FRAMING PICTORIAL

NOTES: & SPECIFICATIONS

1. 7" TOP DIAMETER X 17' PRESSURE TREATED POLE, 16'-0" O.C.
2. 2"X6"X16' PLATE (LET OUTSIDE PLATES
3. 2"X10"X16' PLATE INTO POLE FACE)
4. 2"X6"X5'-7" KNEE BRACE MEMBER
5. 2"X8"X5'-5" KNEE BRACE MEMBER. NOTCHED INTO POLE & CUT TO FIT BETWEEN PLATES.
6. 2"X6"X3'-0" SCAB
7. 2"X6"X1'-9" TRUSS TIE DOWN, 4' O.C.
8. 2"X4"X9" TRUSS SEAT, 4' O.C.
9. 2"X6"X15'-6" WIND BRACE 16' O.C.
10. 48' TRUSS SEE DETAIL, SHEET 4
11. 2"X4" GIRTS, 2'-0" O.C.
12. PLYWOOD (EXTERIOR TYPE) OR VERTICAL BOARD SIDING
13. 2"X12"X 16' PRESSURE TREATED PLANK.
14. 2"X4" X 12' PURLIN 2'-0" O.C.
15. 1"X12" FASCIA
16. 1"X4" DROP-DOWN WINDOW FRAMING
17. STRAP HINGE
18. 2' WIDE FIBERGLASS PANEL WINDOW
19. WINDBRACE, 2"X6" NAILED TO UNDER-SIDE OF TRUSS UPPER CHORDS.
20. 20" DIAM. X 10" THICK CONCRETE FOOTING AT EACH STRUCTURAL POLE.
21. #3 (3/8") REINFORCING ROD, 1'-3" LONG.
22. 60d NAILS (8 PER POLE) STAGGERED & DRIVEN 2 1/2" INTO POLE
23. CONCRETE TO BE POURED AFTER POLE IS SET.
24. FREE STALL PARTITION PLANK
25. 4' TOP DIAM. X 16' PRESSURE TREATED END WALL POLE
26. 2"X4" END WALL GIRT 2'-0" O.C.
27. 2"X6" WINDBRACE.
28. 2-2"X6" X 9'-0" DOOR HEADER
29. 2"X6" DOOR FRAME
30. 4" TOP DIAM. X 7' PRESSURE TREATED STALL POST
31. CONCRETE CURB & ALLEY FLOOR
32. METAL ROOFING 2 1/2" CORR.
33. 5' OVERHANG - SCAB 2"X10" ONTO TRUSS UPPER CHORD.
34. 2-2"X6"X13'-0" DOOR HEADER



TYPICAL SIDE WALL FRAMING DETAILS

SCALE 3/8" = 1'-0"

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PARTIALLY OPEN FREE STALL HOUSING SYSTEM-35 TO 154 COWS

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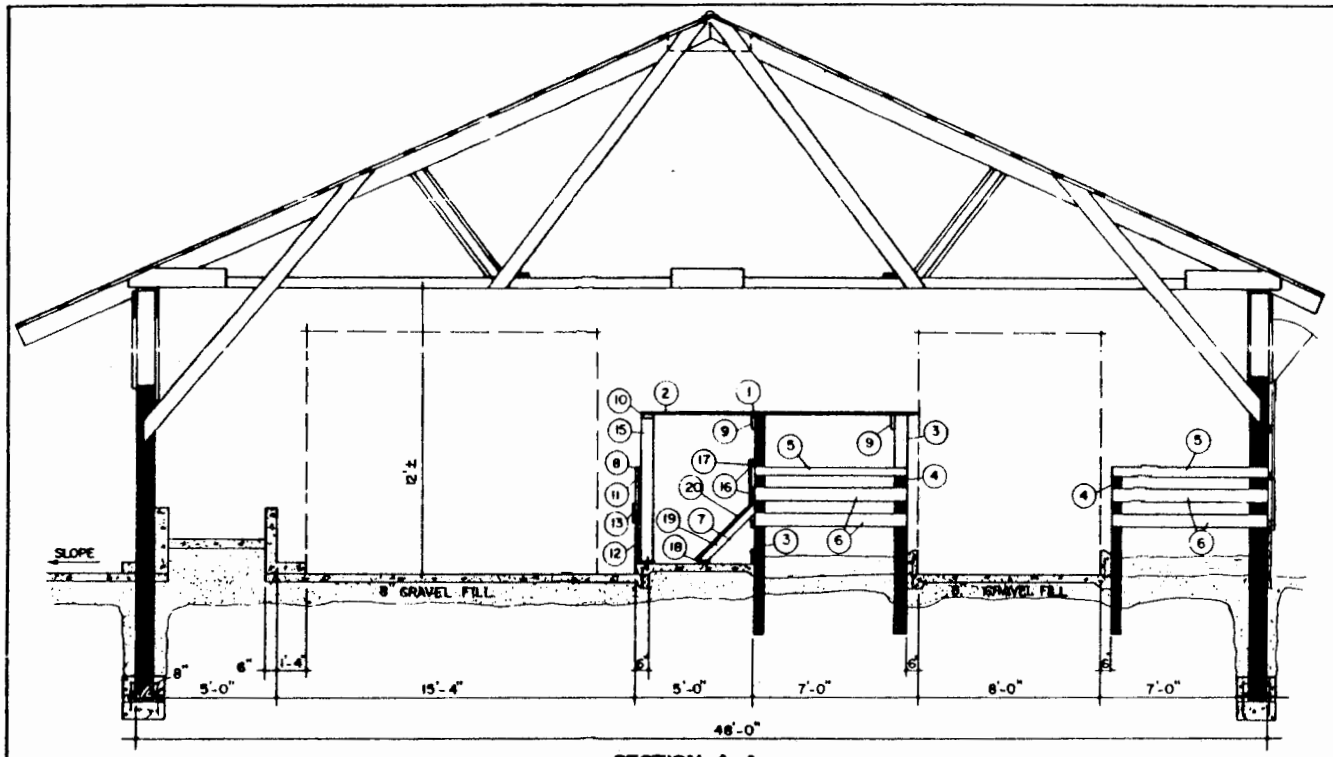
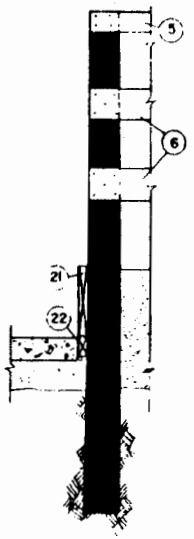
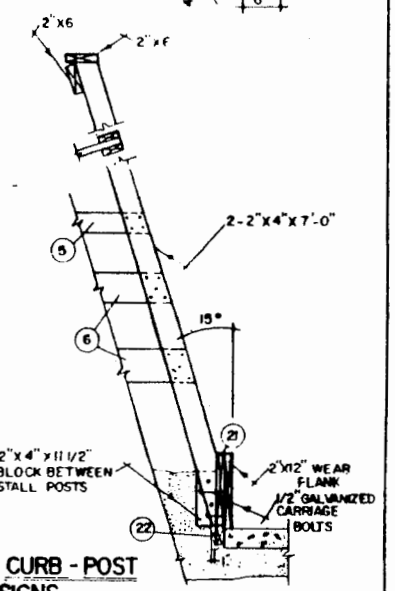
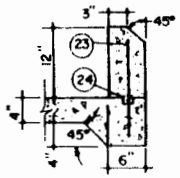


SECTION A-A
SCALE 1/4" = 1'-0"



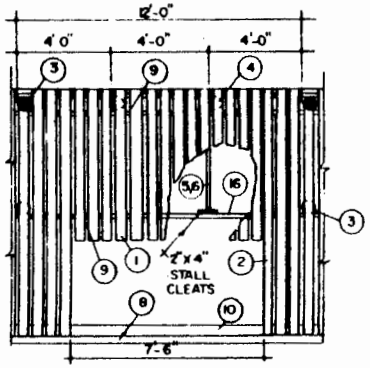


ALTERNATE CURB-POST DESIGNS
SCALE 3/4" = 1'-0"



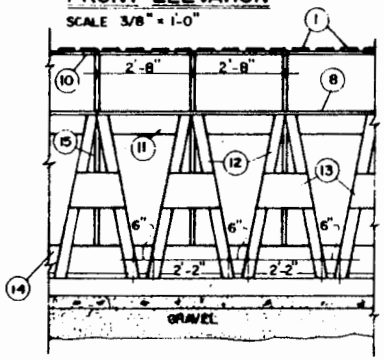
CONCRETE CURB DETAIL
SCALE 3/4" = 1'-0"

HAY RACK & BALE PLATFORM DETAILS

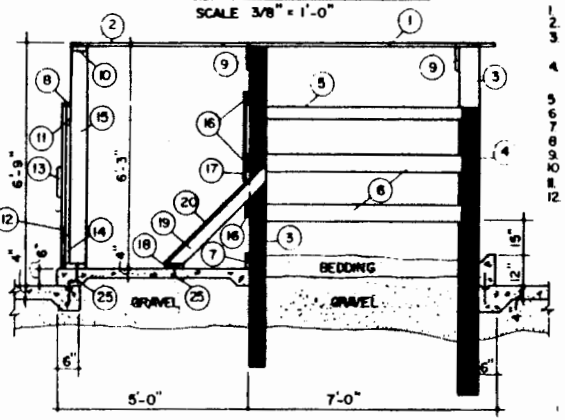


PARTIAL PLAN
SCALE 1/4" = 1'-0"

FRONT ELEVATION
SCALE 3/8" = 1'-0"

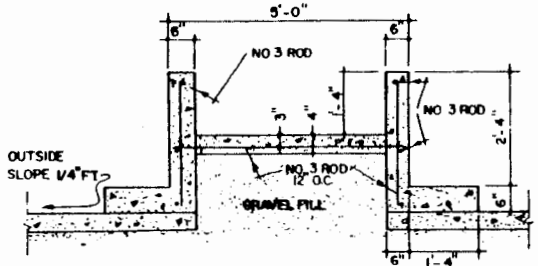


CROSS SECTION B-B
SCALE 3/8" = 1'-0"

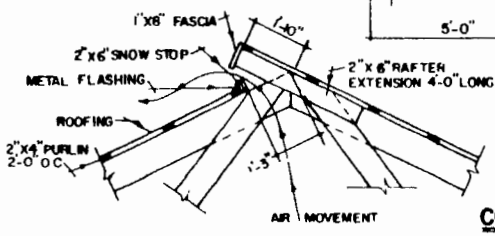


NOTES:

1. 2"X6"X8'-0"
2. 2"X6"X12'-0"
3. 4" TOP DIAMETER X9'-0" TREATED POLE.
4. 4" TOP DIAMETER X7'-0" TREATED POLE.
5. 2"X4"X6'-6"
6. 2"X6"X6'-6"
7. 2"X8"X12'-0"
8. 2"X4"X8'-0"
9. 2"X10"X12'-0"
10. 2"X6"X8'-0"
11. 2"X6"X12'-0"
12. 2"X4"X4'-9"
13. 1"X12"X11'-9"
14. 2"X10"X12'-0"
15. 2"X6"X6'-3", 2'-8" O.C.
16. 2"X4"X12'-0"
17. 1" BOARDS OR 1/2" EXTERIOR PLYWOOD
18. 2"X4"X8'-0"
19. 2"X4"X4'-0"
20. 1" BOARDS OR 1/2" EXTERIOR PLYWOOD
21. 2"X12"X12'-0" PRESSURE TREATED PLANK
22. 2"X4"X8'-0"
23. ⅝"X16" REINFORCING ROD 12'-0" O.C.
24. 1"X2" KEY, FORMED WITH OILED 1"X2"
25. 1/2" ANCHOR BOLT, 4' O.C.



SILAGE BUNK DETAIL
SCALE 1/2" = 1'-0"



CONTINUOUS RIDGE VENTILATOR
SCALE 3/8" = 1'-0" (OPEN TO SOUTH)

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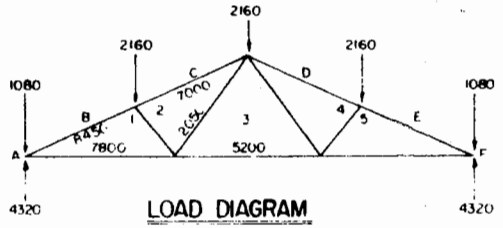
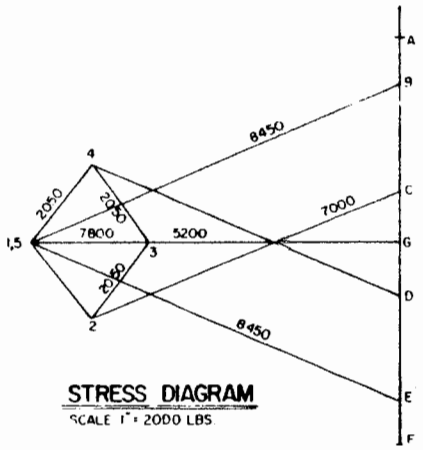
PARTIALLY OPEN FREE STALL HOUSING SYSTEM-35 TO 154 COWS

MASS. '67	EX. 6023	SHEET 3 OF 4



LOAD DIAGRAM



STRESS DIAGRAM

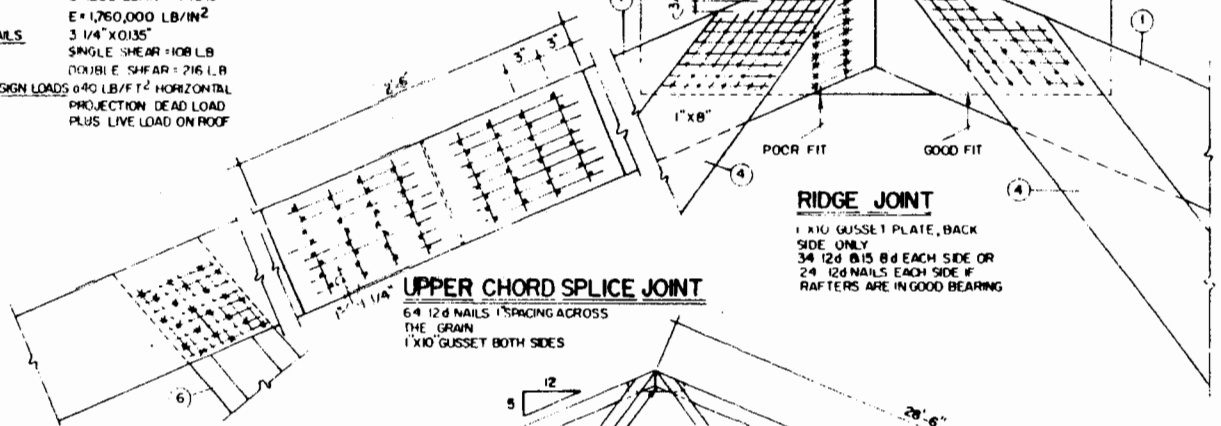
SCALE 1" = 2000 LBS

DESIGN NOTES

1 LUMBER — F = 1500 LB/IN^2 + 15%
C = 1200 LB/IN^2 + 15%
E = 1,760,000 LB/IN^2

2 NAILS — 3 1/4" X 0.135"
SINGLE SHEAR = 108 LB
DOUBLE SHEAR = 216 LB

3 DESIGN LOADS 40 LB/FT^2 HORIZONTAL PROJECTION DEAD LOAD PLUS LIVE LOAD ON ROOF



RIDGE JOINT

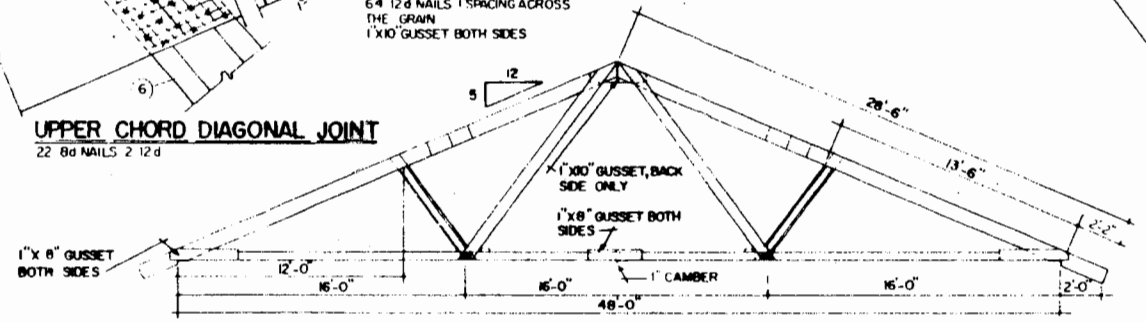
1"X10" GUSSET PLATE, BACK SIDE ONLY
34 12d @ 15 8d EACH SIDE OR
24 12d NAILS EACH SIDE IF RAFTERS ARE IN GOOD BEARING

UPPER CHORD SPLICE JOINT

64 12d NAILS 1" SPACING ACROSS THE GRAIN
1"X10" GUSSET BOTH SIDES

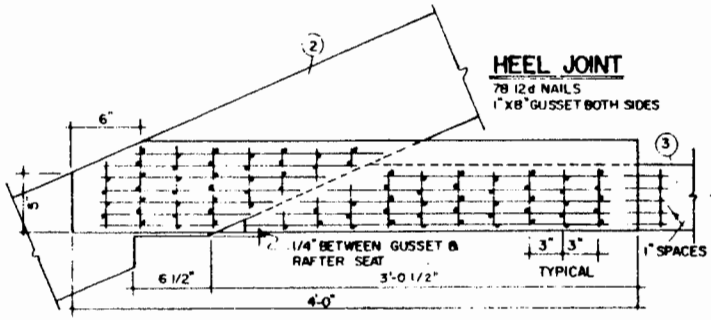
UPPER CHORD DIAGONAL JOINT

22 8d NAILS 2 12d



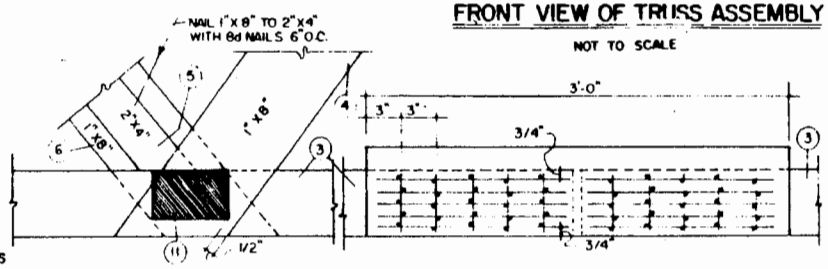
FRONT VIEW OF TRUSS ASSEMBLY

NOT TO SCALE



HEEL JOINT

78 12d NAILS
1"X8" GUSSET BOTH SIDES

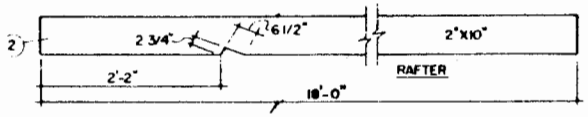


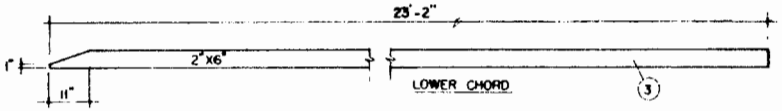
LOWER CHORD-DIAGONAL JOINT

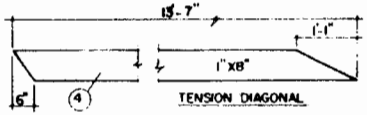
21 12d NAILS 4 METAL GUSSETS

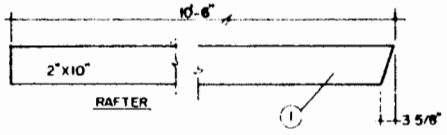
CENTER SPLICE JOINT

50 12d NAILS, 1"X8" GUSSET BOTH SIDES



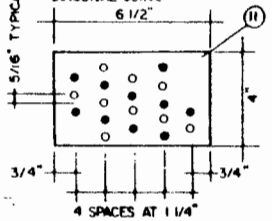


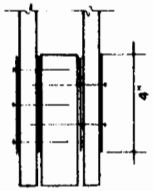




METAL GUSSET PLATE (22 GA.)

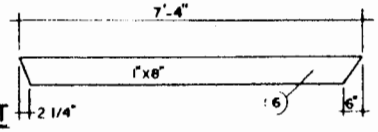
SCALE 3"=1'-0" FOR LOWER CHORD DIAGONAL JOINT



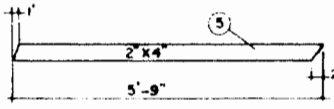


SECTION THRU LOWER CHORD-DIAGONAL JOINT

SCALE 3"=1'-0"



COMPRESSION DIAGONALS



NOTES & SPECIFICATIONS

1. LUMBER: CONSTRUCTION GRADE DOUGLAS FIR OR EQUIVALENT.
2. TRUSSES SPACED 4'-0" ON CENTERS.
3. CAMBER 1" AT CENTER SPLICE.
4. NAILS: USE HARDENED, HELICALLY THREADED NAILS.
5. DRIVE ALL NAILS FROM THE FRONT EXCEPT THOSE SHOWN AS ※
6. MAKE AND USE A NAILING TEMPLATE FOR LOCATING ALL NAILS.
7. MINIMUM END GRAIN NAIL SPACING, ALL MEMBERS 2 1/2"-3.
8. MINIMUM EDGE GRAIN NAIL SPACING, ALL MEMBERS 3/4"-1.

JOINT DETAILS: SCALE 1 1/2"=1'-0"
MEMBER DETAILS: NOT TO SCALE

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PARTIALLY OPEN FREE STALL HOUSING SYSTEM-35 TO 154 COWS

MASS. '67	EX. 6023	SHEET 4 OF 4

Disclaimer

This site makes available conceptual plans that can be helpful in developing building layouts and selecting equipment for various agricultural applications. These plans do not necessarily represent the most current technology or construction codes. They are not construction plans and do not replace the need for competent design assistance in developing safe, legal and well-functioning agricultural building system. The LSU Agriculture Center, the Mid-West Plan Service, the United States Department of Agriculture and none of the cooperating land-grant universities warranty these plans.