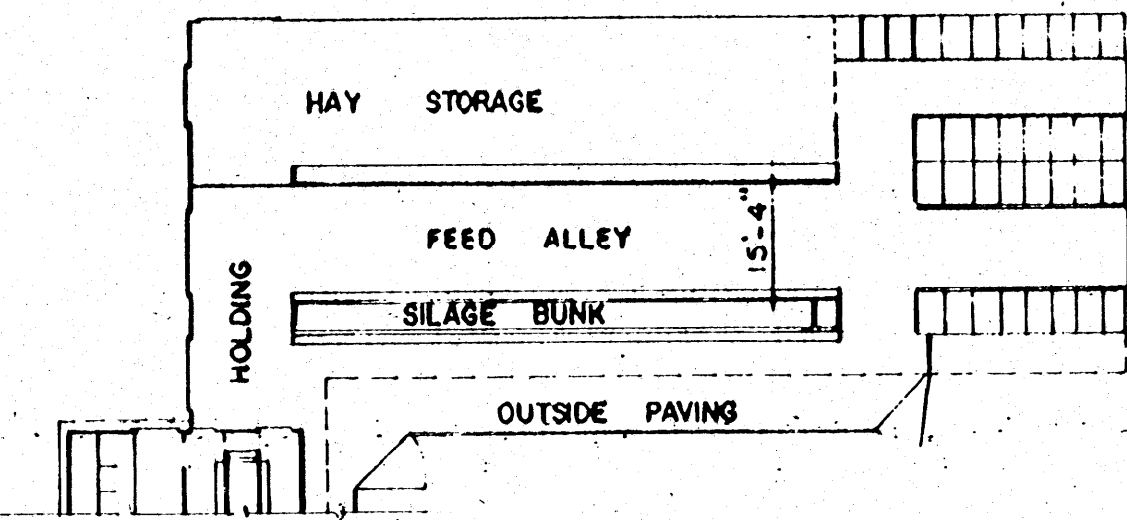
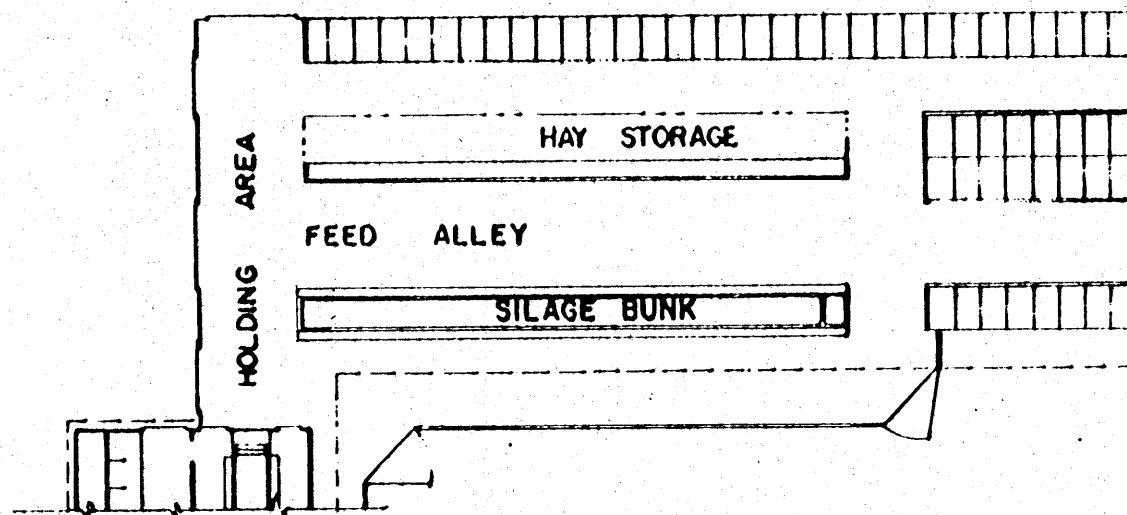


DEVELOPMENT STAGES



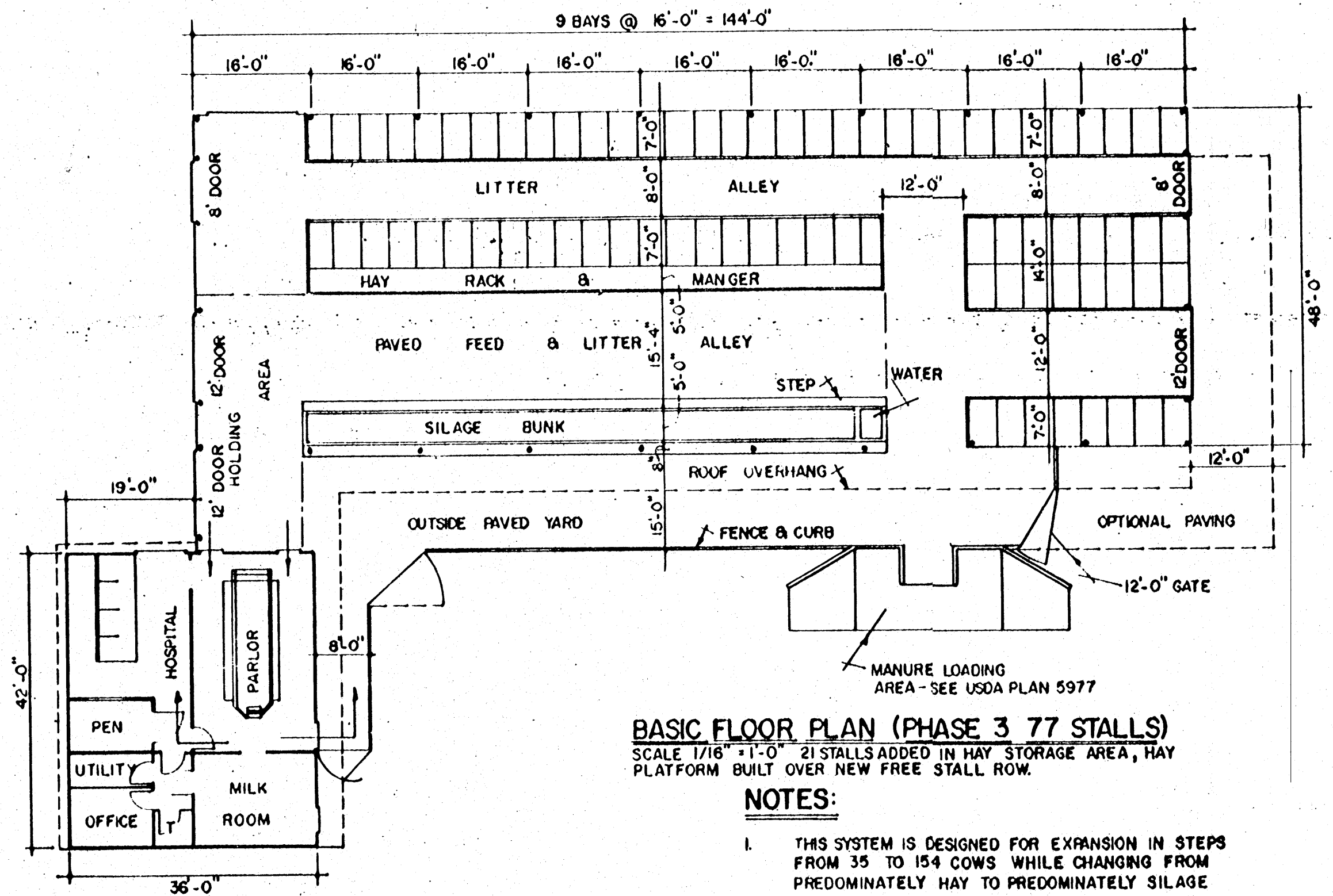
PHASE 1 - 35 STALLS

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



PHASE 2 - 56 STALLS

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

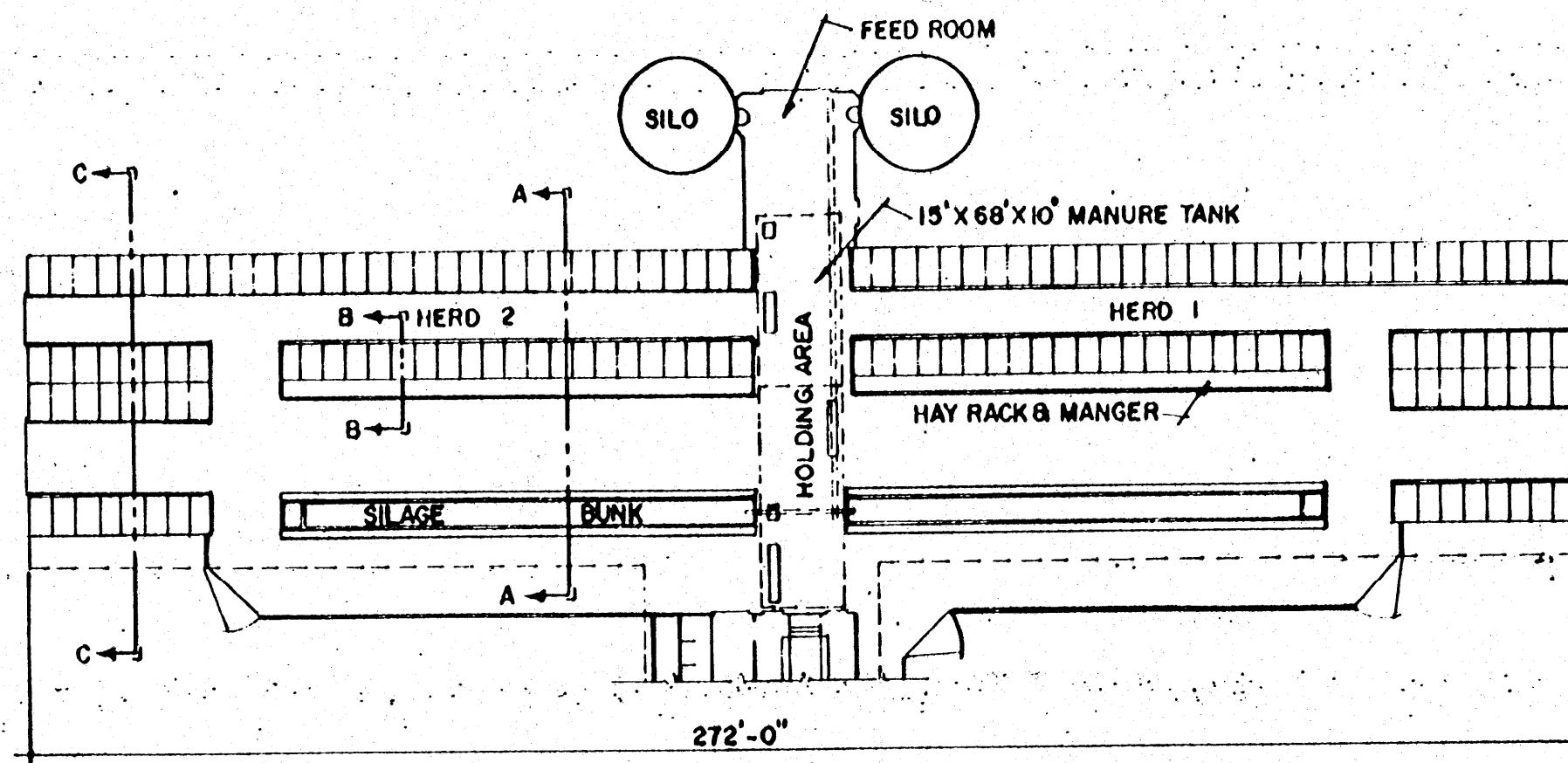


BASIC FLOOR PLAN (PHASE 3 77 STALLS)

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.

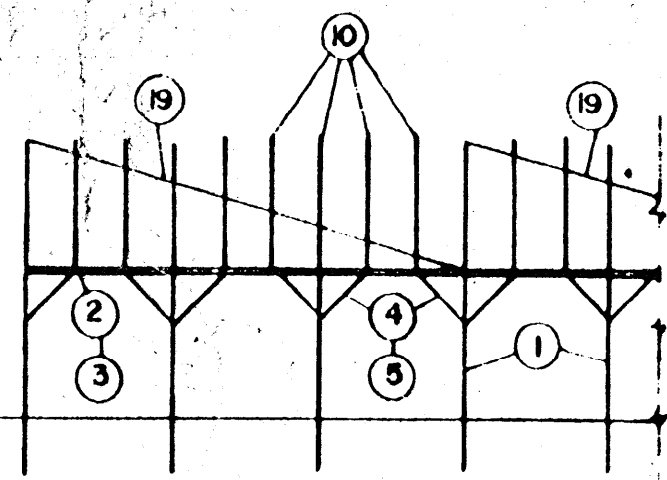


PHASE 4 154 STALLS

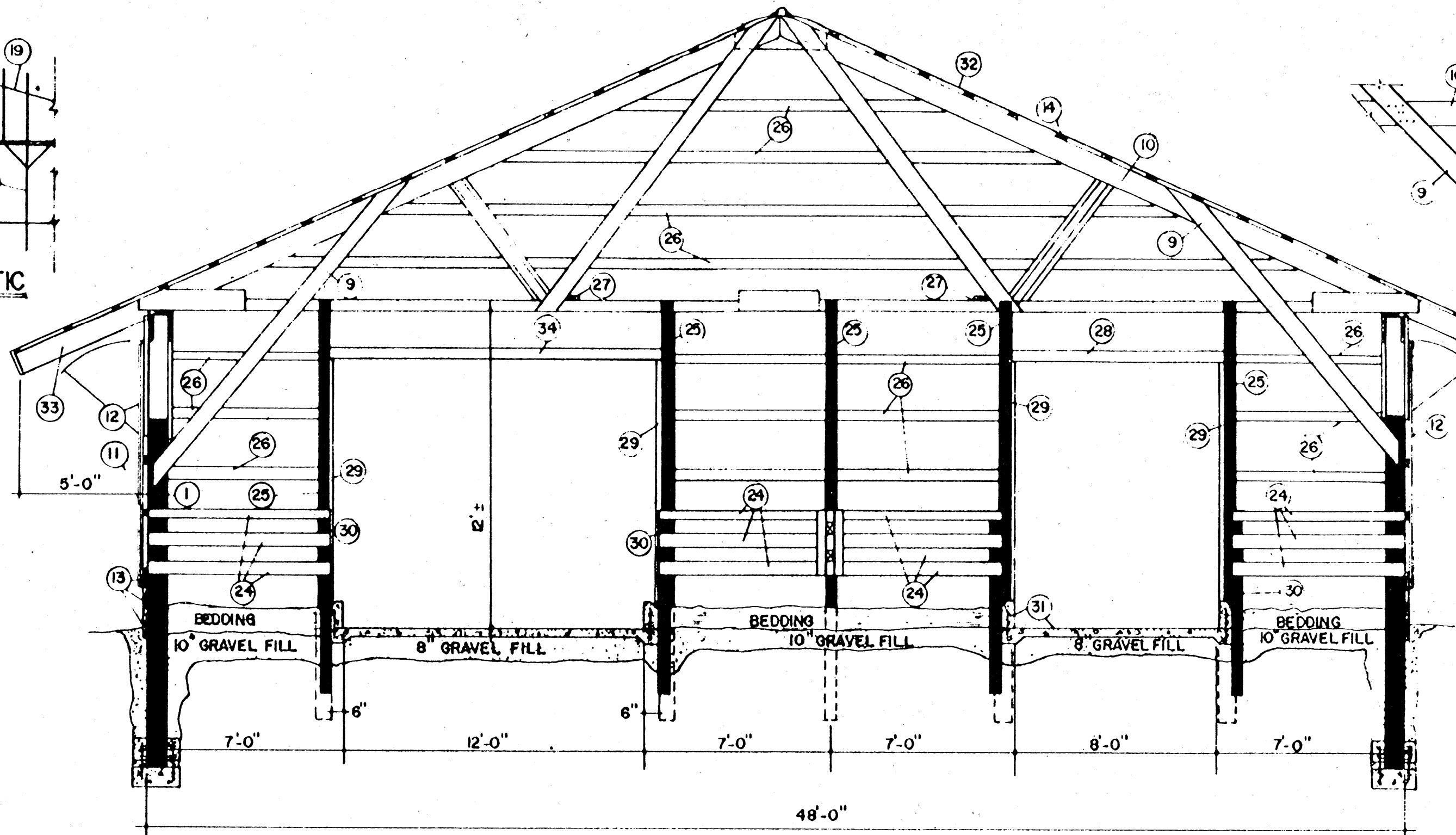
SCALE 1" = 30'-0"
SYSTEM CAN BE DOUBLED IN SIZE AT ANY PHASE, DOUBLING ALLOWS HERD DIVISION. FEED ROOM & SILOS ADDED.

COOPERATIVE EXTENSION WORK IN
AGRICULTURE AND HOME ECONOMICS
STATE OF MISSISSIPPI
MISSISSIPPI STATE UNIVERSITY
AND
UNITED STATES DEPARTMENT OF AGRICULTURE COOPERATIVE
**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

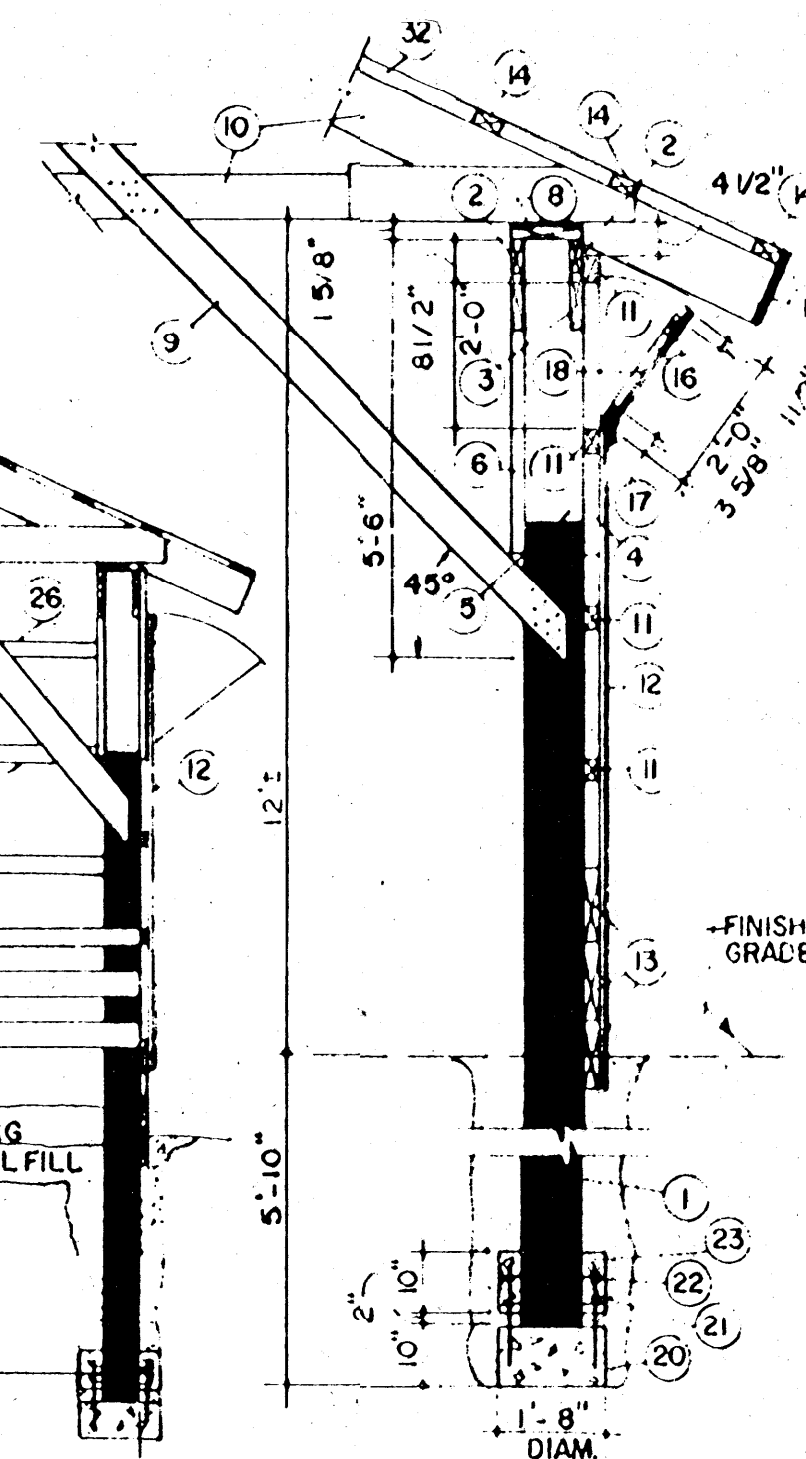


WINDBRACE SCHEMATIC



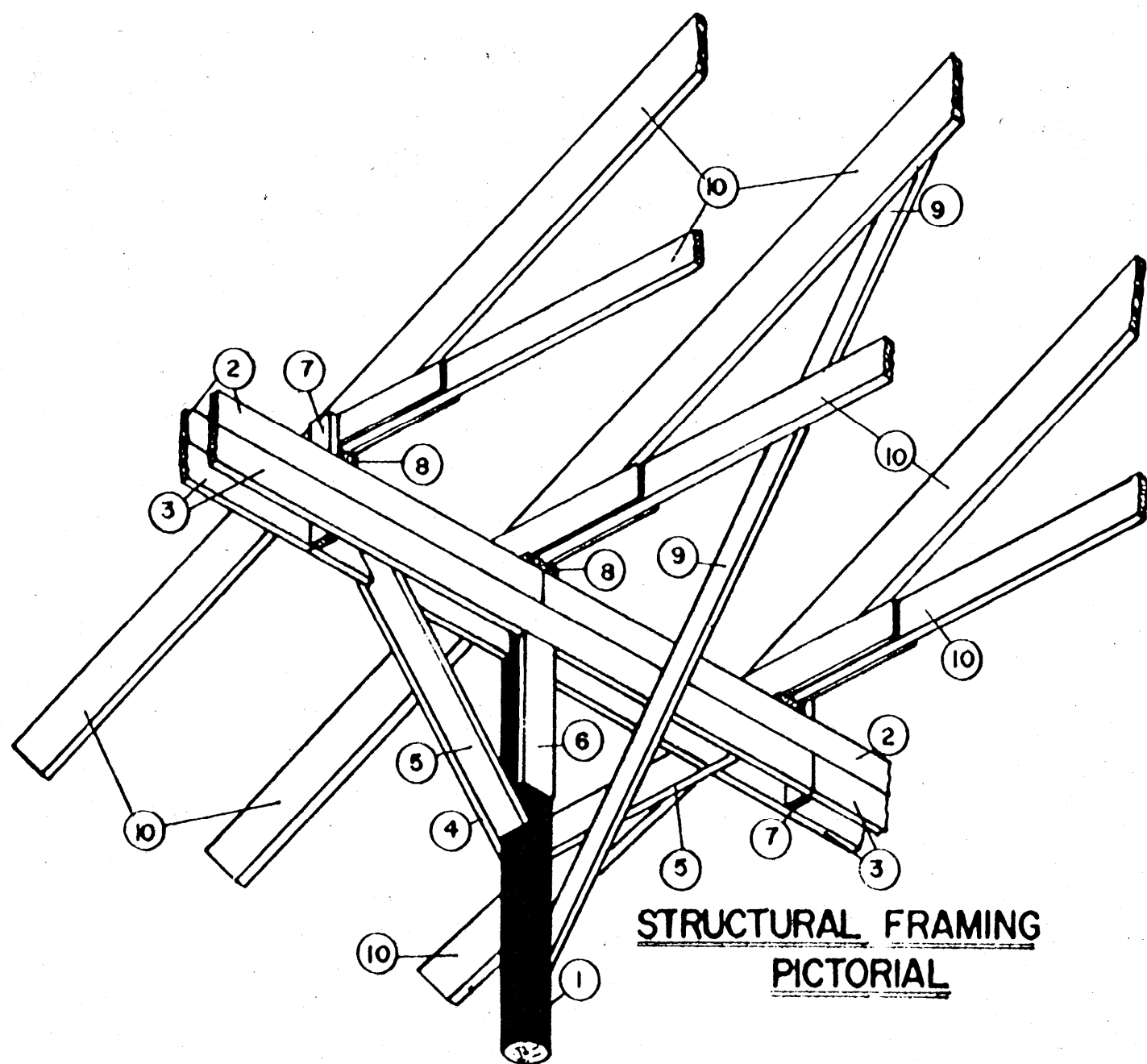
SECTION C - C THROUGH STALL AREA

SCALE 1/4" = 1'-0"



TYPICAL SIDE WALL SECTION

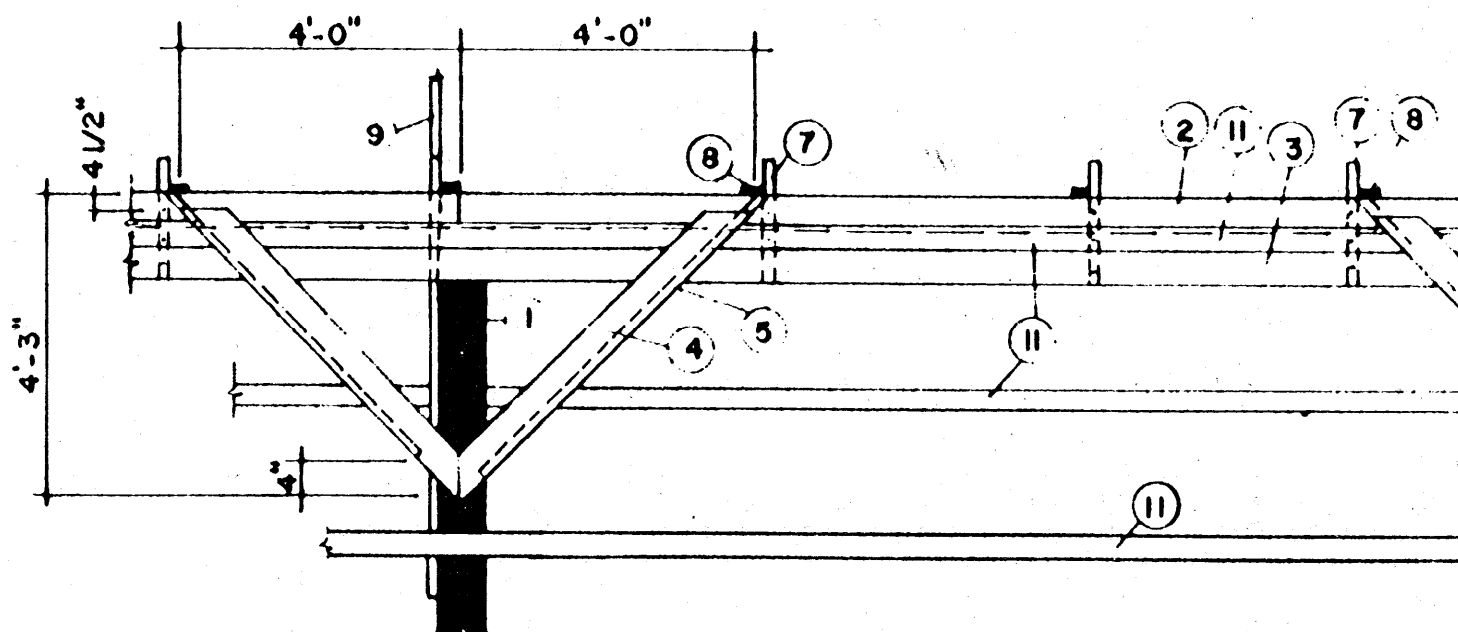
SCALE 3/8" = 1'-0"



STRUCTURAL FRAMING PICTORIAL

NOTES: & SPECIFICATIONS

- 1. 7" TOP DIAMETER X 17' PRESSURE TREATED POLE 16'-0" O.C.
- 2. 2" X 6" X 16" PLATE (LET OUTSIDE PLATES INTO POLE FACE)
- 3. 2" X 10" X 16" PRESSURE TREATED PLANK
- 4. 2" X 6" X 5'-7" KNEE BRACE MEMBER
- 5. 2" X 8" X 5'-5" KNEE BRACE MEMBER. NOTCHED INTO POLE & CUT TO FIT BETWEEN PLATES.
- 6. 2" X 6" X 3'-0" SCAB
- 7. 2" X 6" X 1'-9" TRUSS TIE DOWN, 4' O.C.
- 8. 2" X 4" X 9" TRUSS SEAT, 4' O.C.
- 9. 2" X 6" X 15'-6" WIND BRACE 16' O.C.
- 10. 48' TRUSS SEE DETAIL, SHEET 4
- 11. 2" X 4" GIRTS, 2'-0" O.C.
- 12. PLYWOOD (EXTERIOR TYPE) OR VERTICAL BOARD SIDING.
- 13. 2" X 12" X 16" PRESSURE TREATED PLANK.
- 14. 2" X 4" X 12" PURLIN 2'-0" O.C.
- 15. 1" X 12" FASCIA
- 16. 1" X 4" DROP-DOWN WINDOW FRAMING.
- 17. STRAP HINGE.
- 18. 2" WIDE FIBERGLASS PANEL WINDOW
- 19. WINDBRACE, 2" X 6" 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" X 4" END WALL GIRT 2'-0" O.C.
- 27. 2" X 6" WINDBRACE.
- 28. 2-2" X 6" X 9'-0" DOOR HEADER
- 29. 2" X 6" 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" X 10" ONTO TRUSS UPPER CHORD.
- 34. 2-2" X 6" X 13'-0" DOOR HEADER



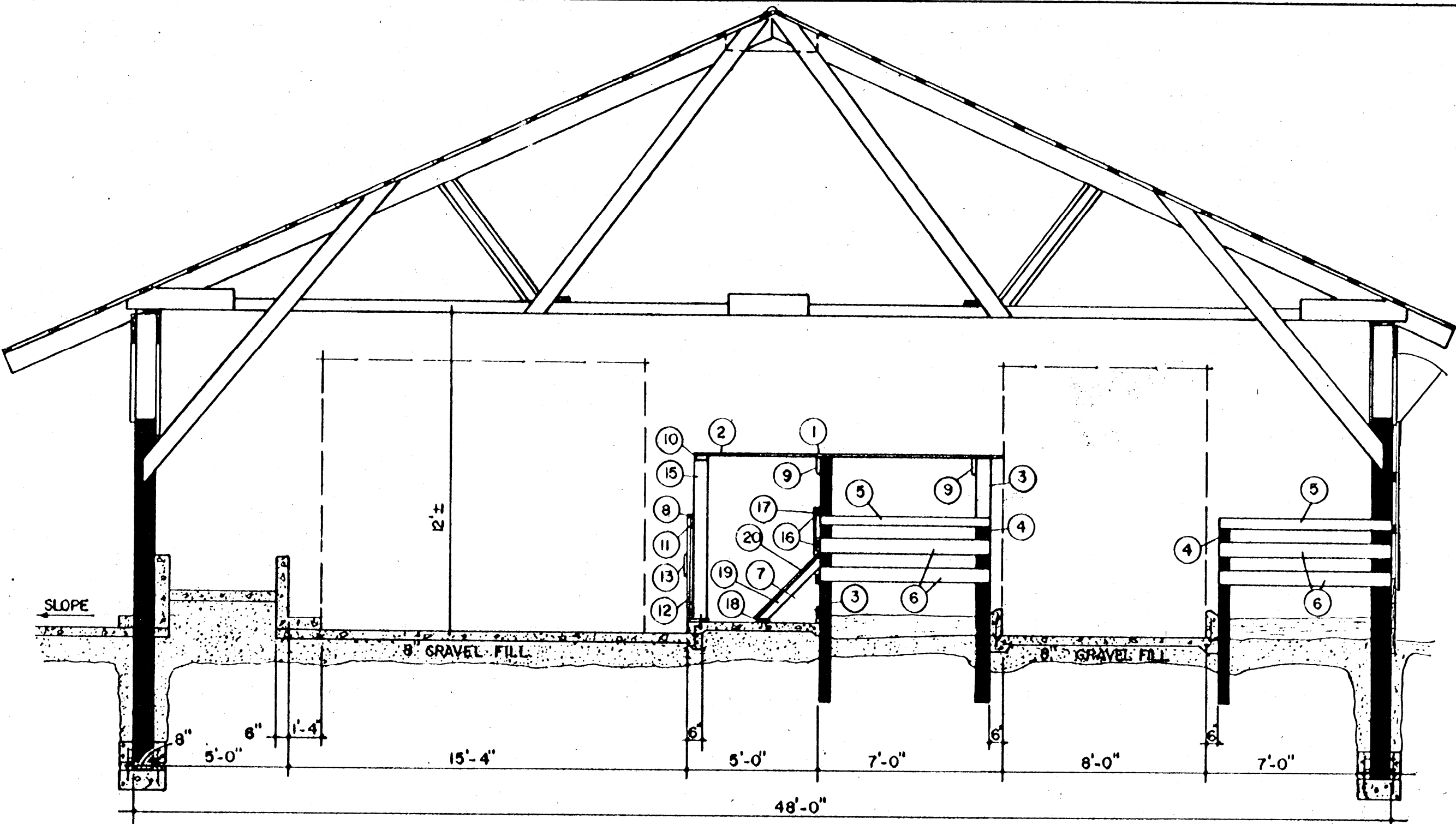
TYPICAL SIDE WALL FRAMING DETAILS

SCALE 3/8" = 1'-0"

COOPERATIVE EXTENSION WORK IN AGRICULTURE AND HOME ECONOMICS STATE OF MISSISSIPPI MISSISSIPPI STATE UNIVERSITY AND UNITED STATES DEPARTMENT OF AGRICULTURE COOPERATING

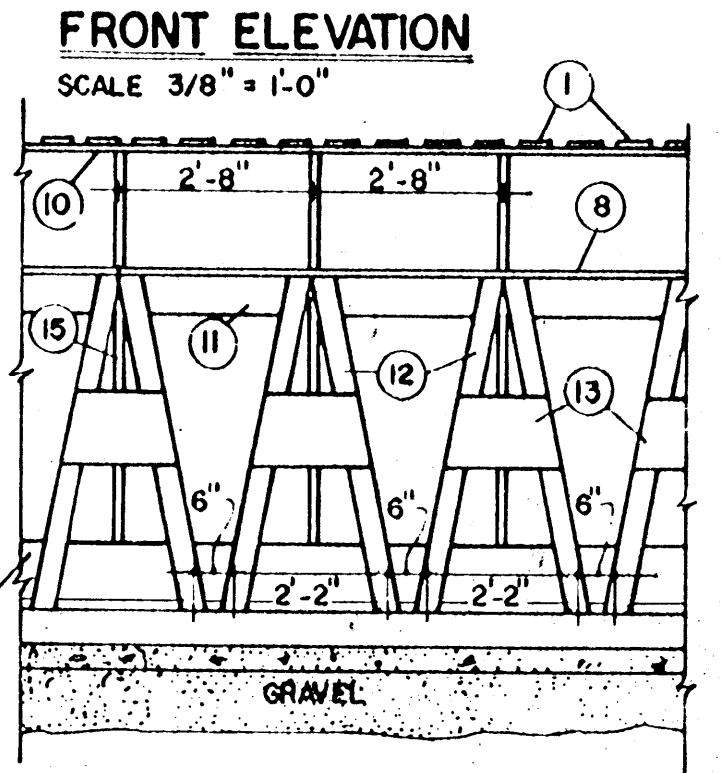
PARTIALLY OPEN FREE STALL HOUSING SYSTEM-35 TO 154 COWS

MASS. '67 EX. 6023 SHEET 2 OF 4

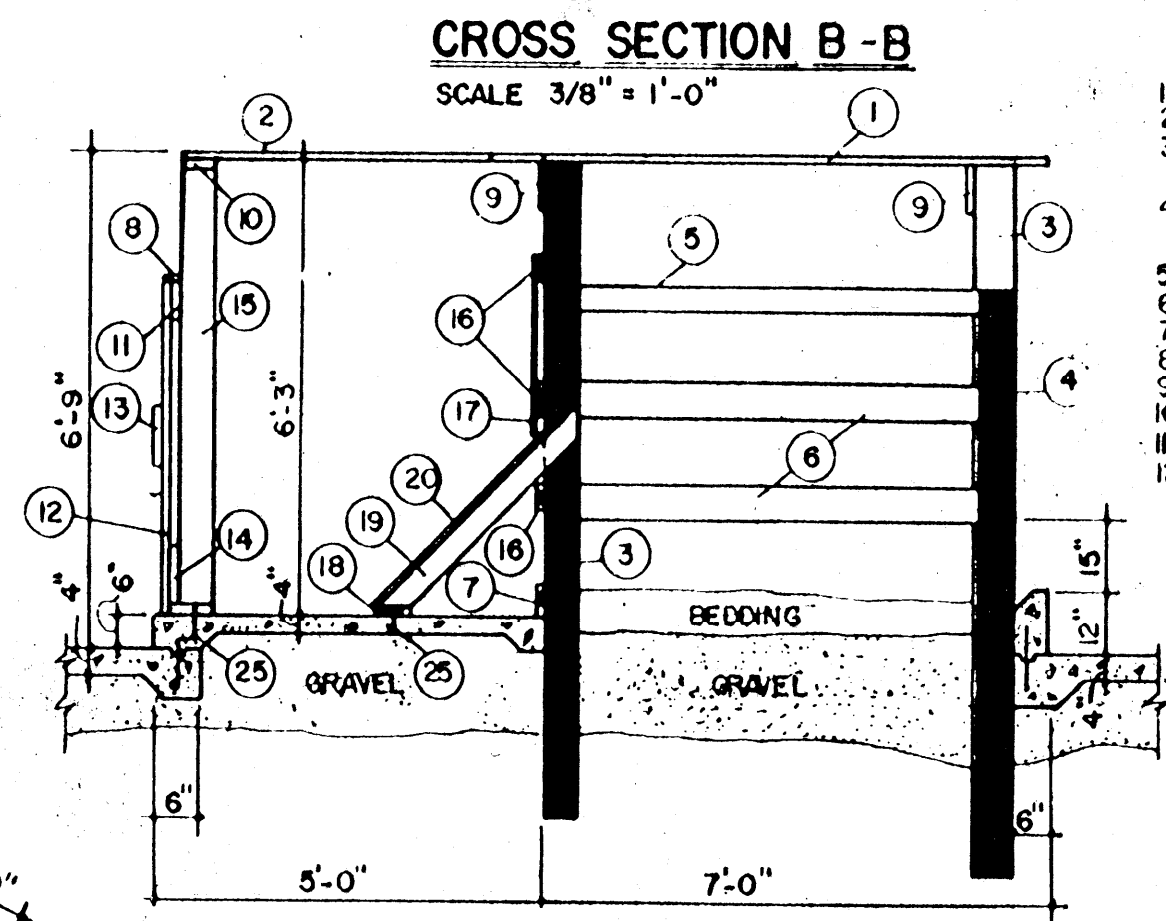


SECTION A-A
SCALE 1/4" = 1'-0"

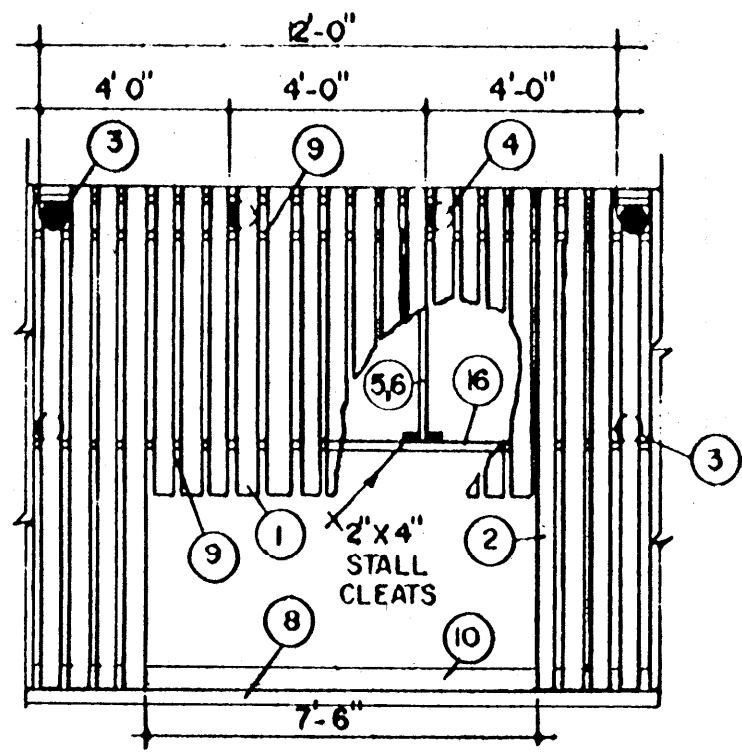
HAY RACK & BALE PLATFORM DETAILS



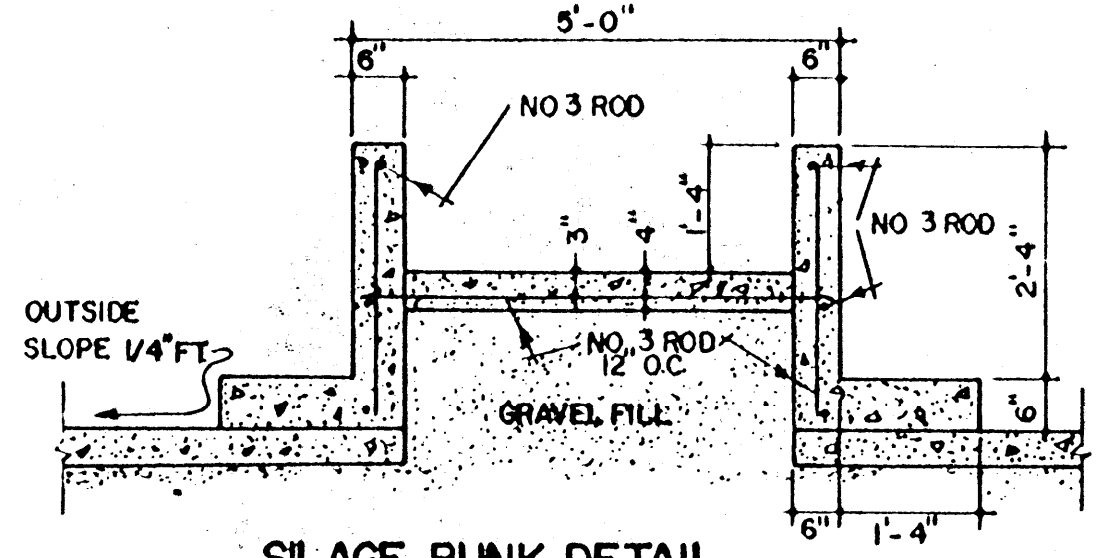
FRONT ELEVATION
SCALE 3/8" = 1'-0"



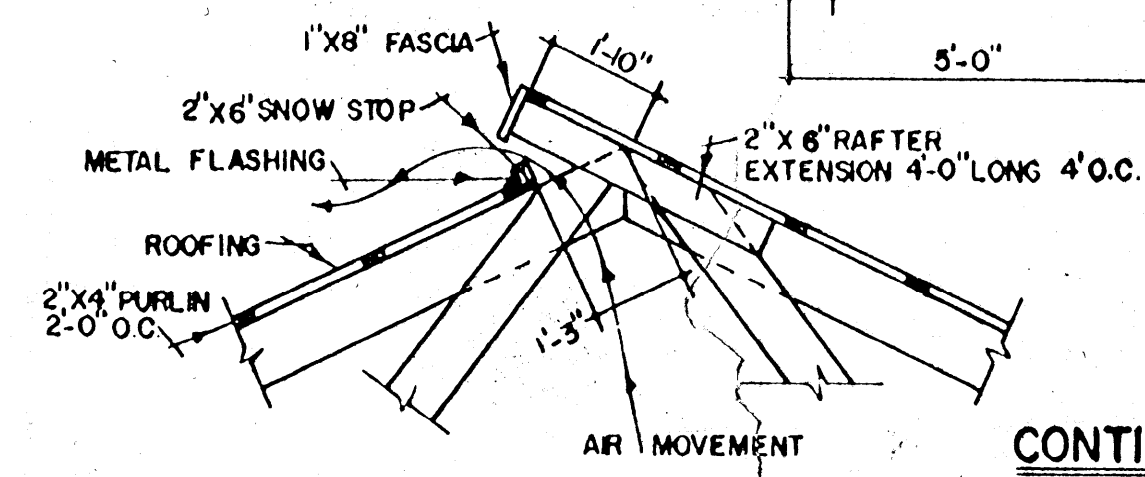
CROSS SECTION B-B
SCALE 3/8" = 1'-0"



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

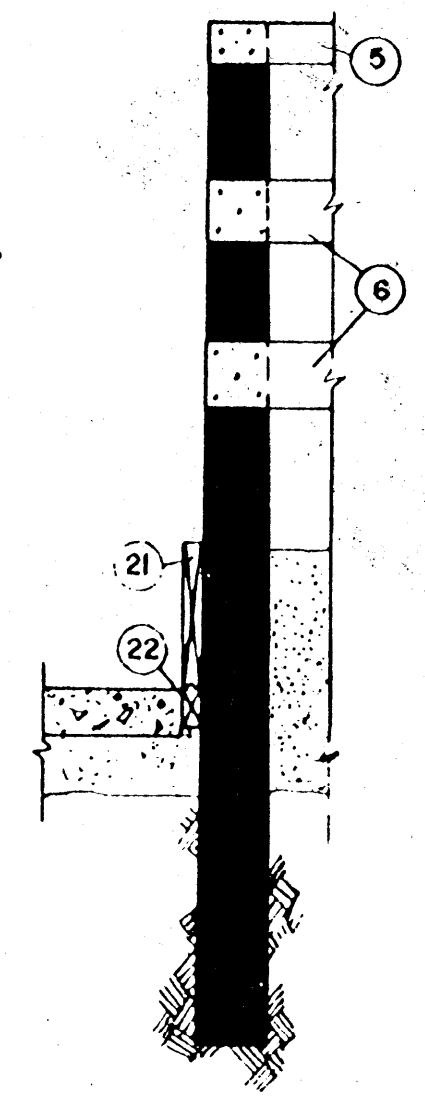
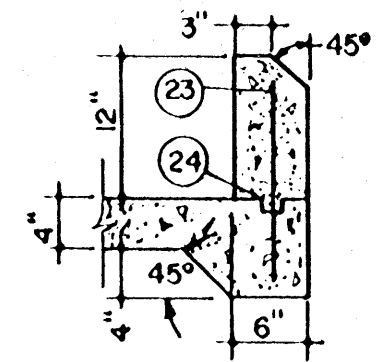


SILAGE BUNK DETAIL
SCALE 1/2" = 1'-0"

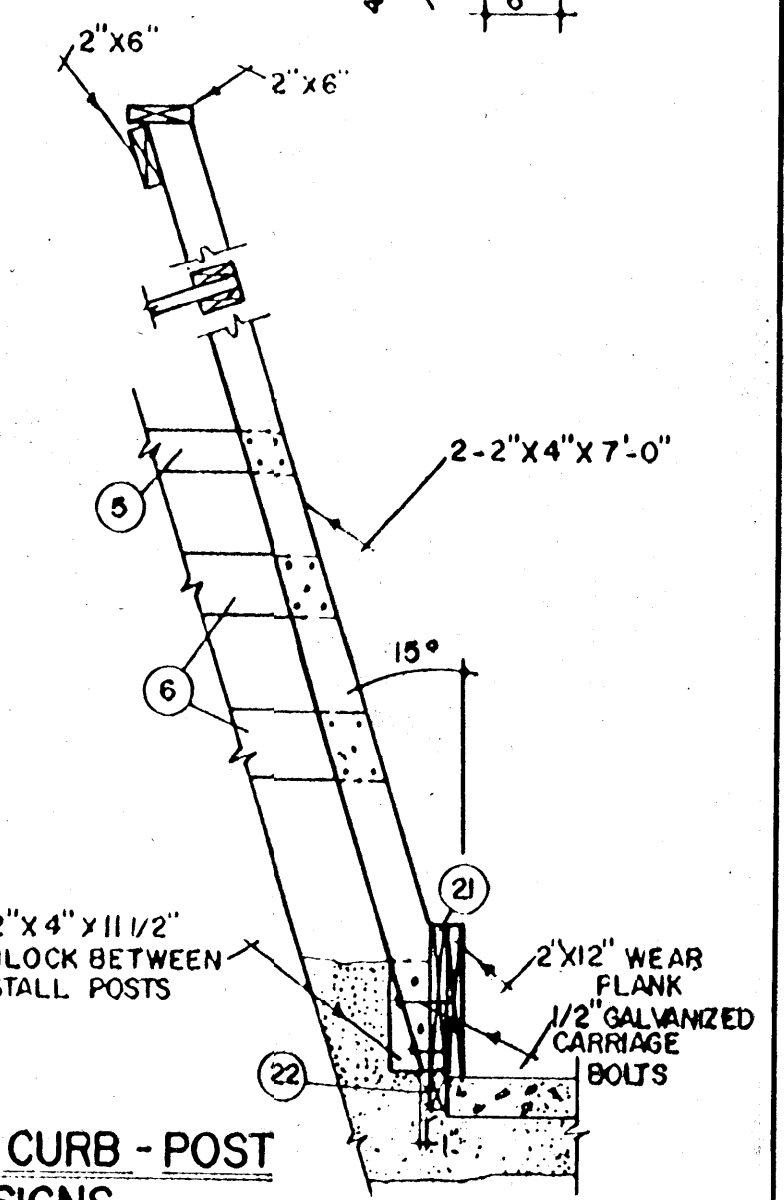


CONTINUOUS RIDGE VENTILATOR
SCALE 3/8" = 1'-0" (OPEN TO SOUTH)

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

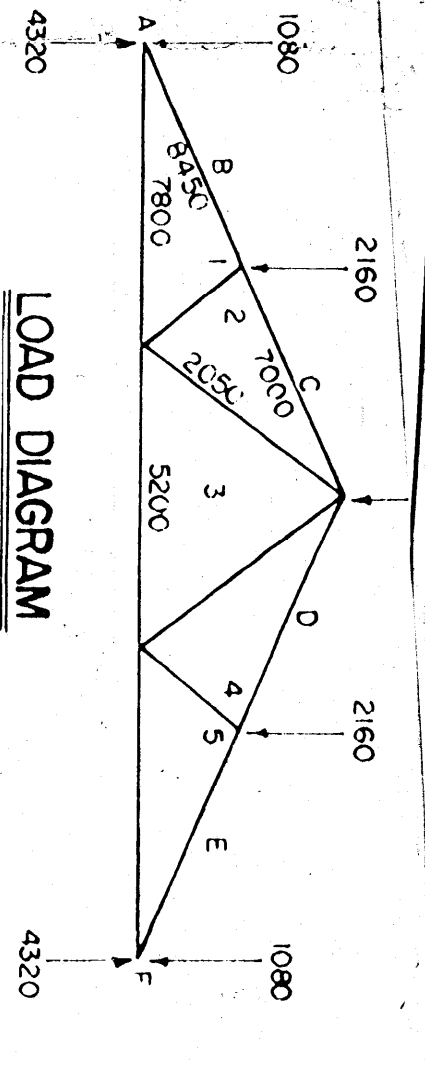


ALTERNATE CURB - POST DESIGNS
SCALE 3/4" = 1'-0"

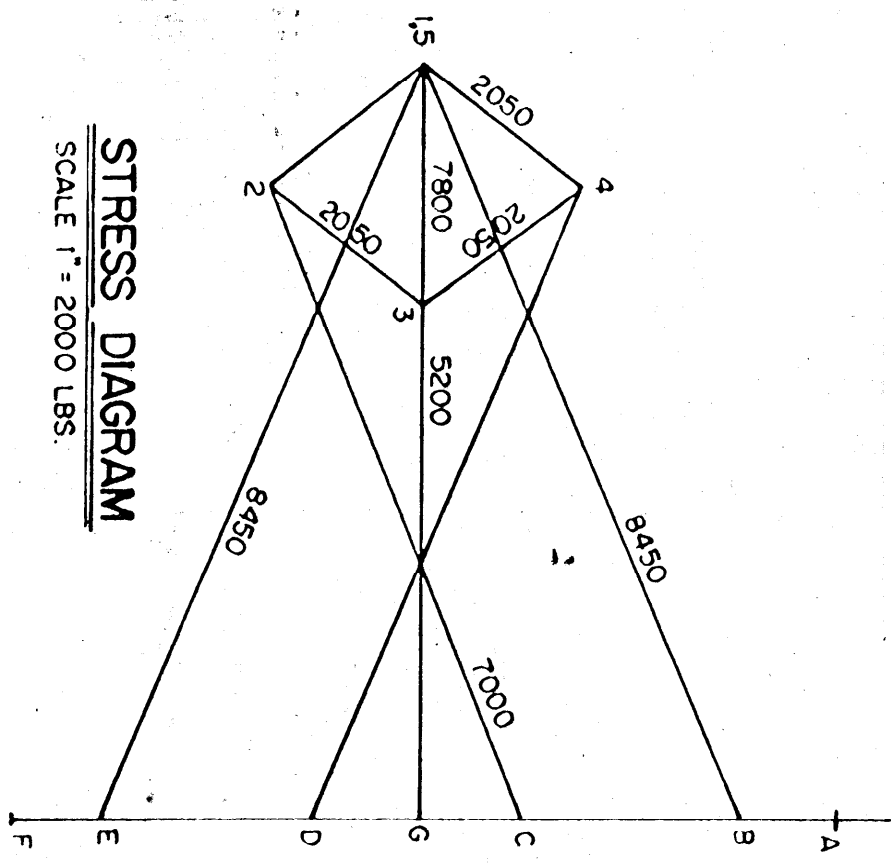


NOTES:

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



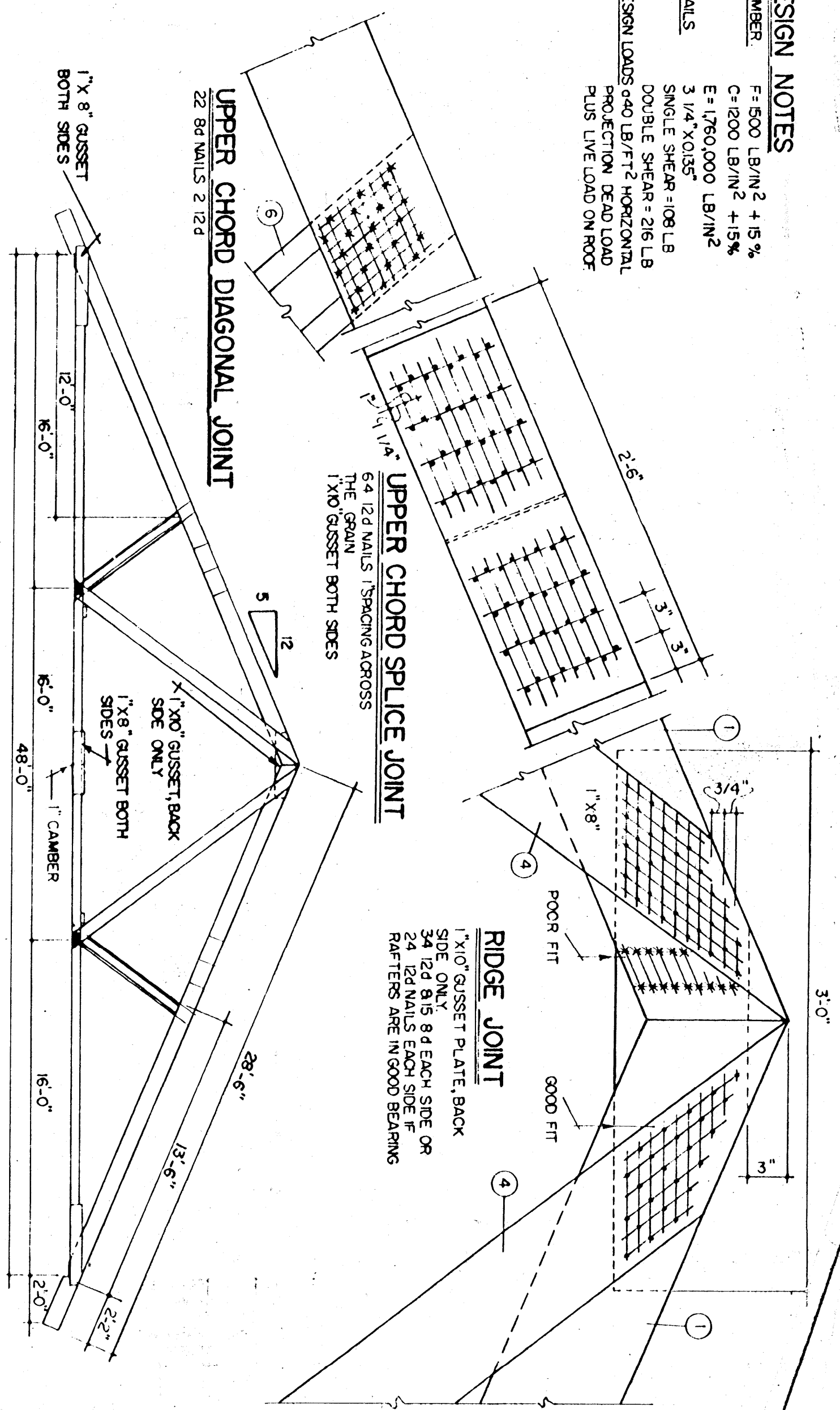
LOAD DIAGRAM



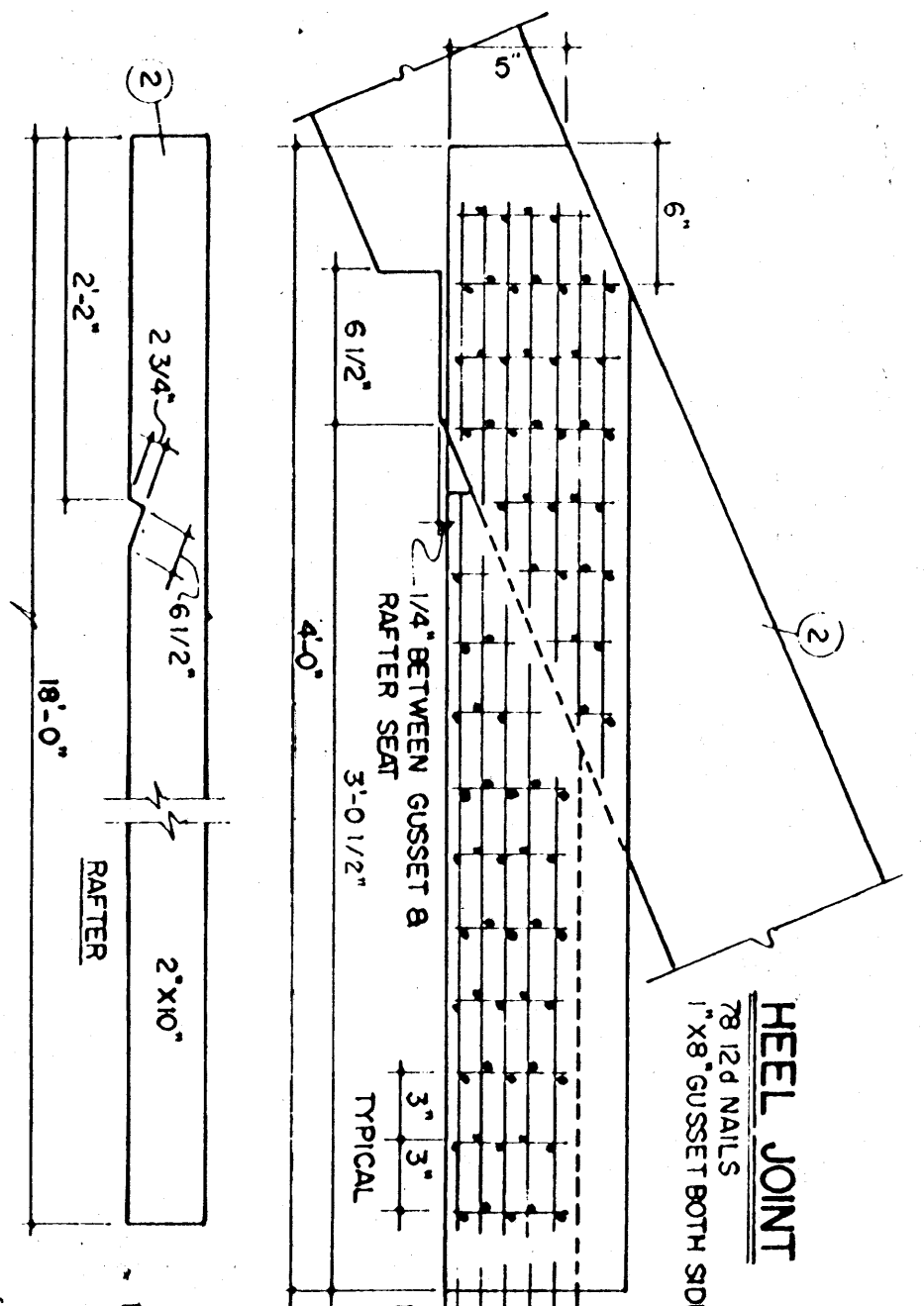
STRESS DIAGRAM
SCALE 1" = 2000 LBS.

DESIGN NOTES

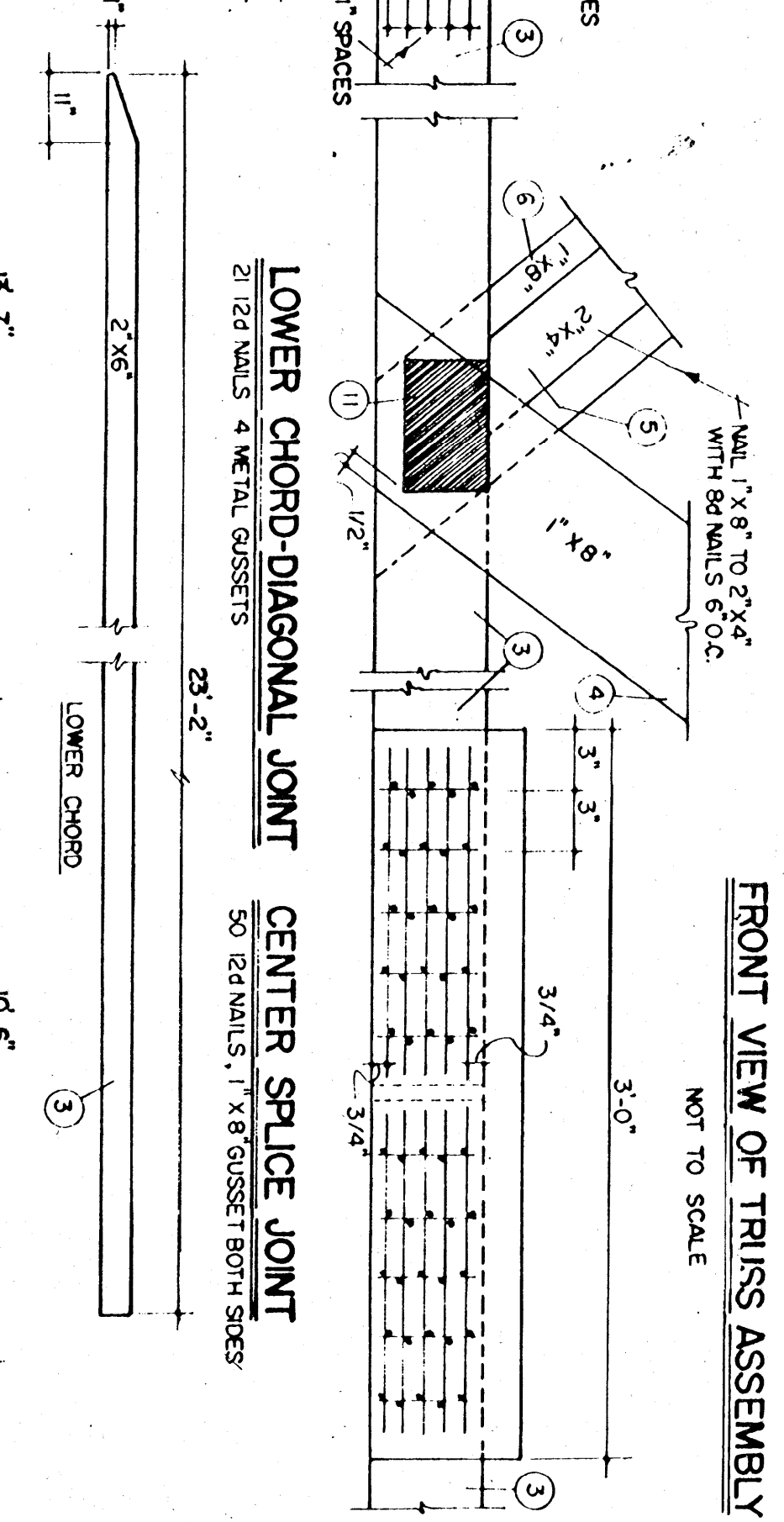
- 1 LUMBER: F = 500 LB/IN² + 15%
C = 1200 LB/IN² + 15%
E = 1750,000 LB/IN²
- 2 NAILS: 3 1/4" X 0.135"
DOUBLE SHEAR = 108 LB
SINGLE SHEAR = 216 LB
- 3 DESIGN LOADS: 0.40 LB/FT² HORIZONTAL PROJECTION DEAD LOAD PLUS LIVE LOAD ON ROOF



FRONT VIEW OF TRUSS ASSEMBLY
NOT TO SCALE

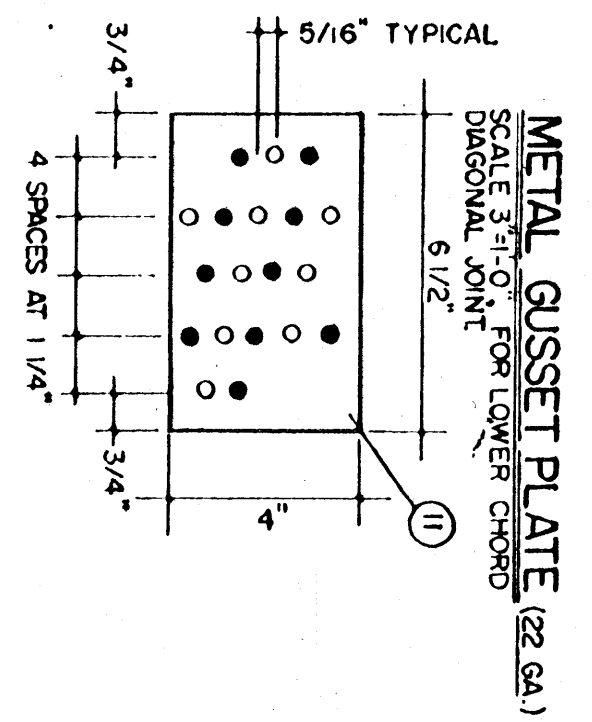


HEEL JOINT
78 12D NAILS
1" X 8" GUSSET BOTH SIDES

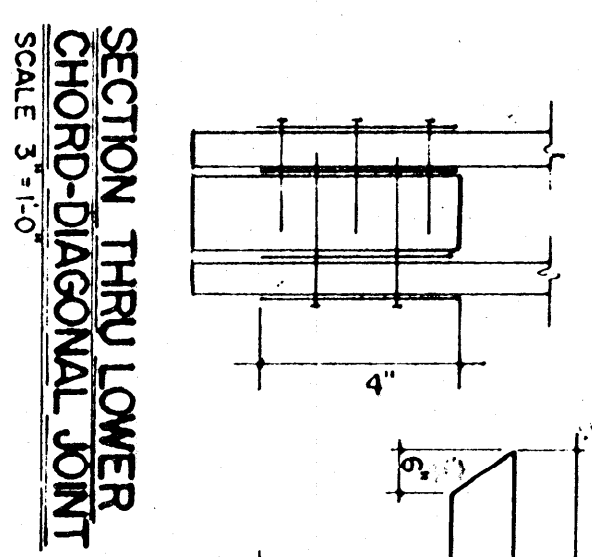


LOWER CHORD-DIAGONAL JOINT
21 12D NAILS 4 METAL GUSSETS

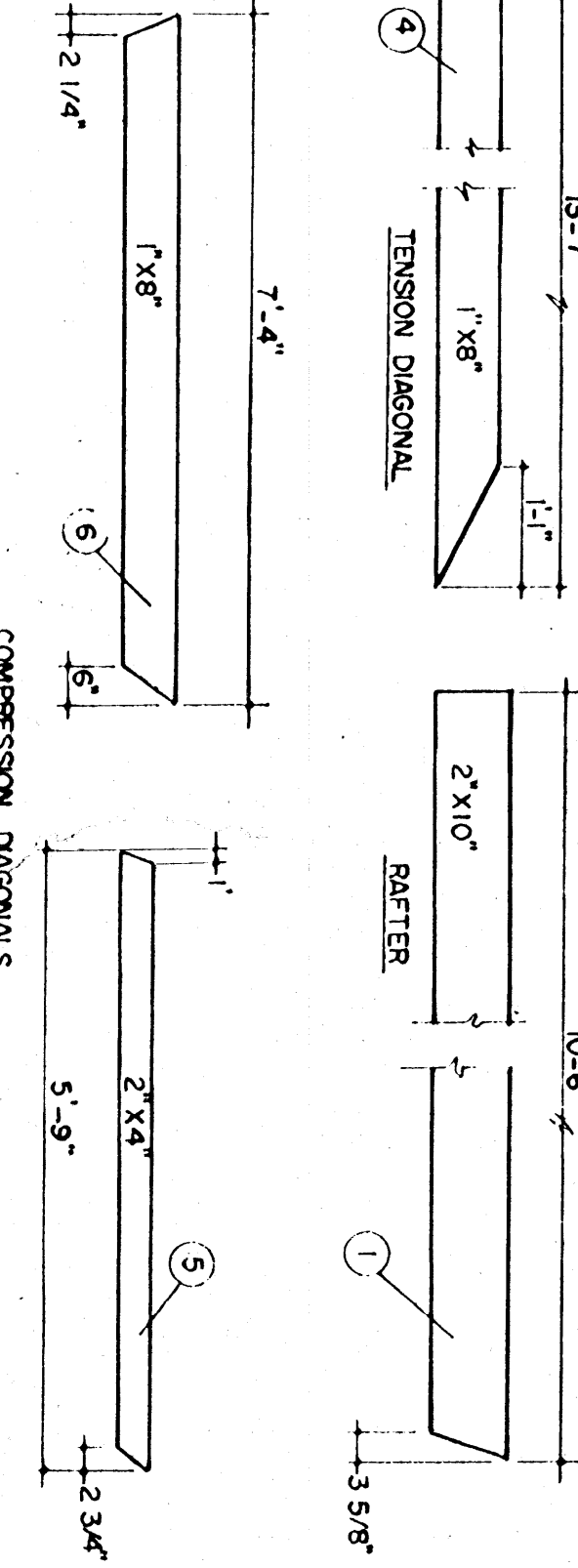
CENTER SPLICE JOINT
50 12D NAILS, 1" X 8" GUSSET BOTH SIDES



METAL GUSSET PLATE (22 GA.)
SCALE 3/8" = 1'-0" FOR LOWER CHORD-DIAGONAL JOINT



SECTION THRU LOWER CHORD-DIAGONAL JOINT
SCALE 3/8" = 1'-0"



COMPRESSION DIAGONALS

- NOTES & SPECIFICATIONS**
- 1 LUMBER: CONSTRUCTION GRADE DOCKETS FR OR EQUIVALENT. TRUSSES SPACED 4'-0" ON CENTERS.
 - 2 CAMBER 1" AT CENTER SPLICE.
 - 3 NAILS: USE HARDENED, HEAT TREATED NAILS.
 - 4 DRIVE ALL NAILS FROM THE FRONT EXCEPT THOSE SHOWN AS X FOR LOCATING ALL NAILS.
 - 5 MINIMUM END GRAIN NAIL SPACING, ALL MEMBERS: 2 1/2"-3".
 - 6 MINIMUM EDGE GRAIN NAIL SPACING, ALL MEMBERS: 3/4"-1".

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