(1) WALL FOOTING SIZES & REINFORCING

STUD WALL HEIGHT ft.	SOIL BEARING PRESSURE psf	FOOTING WIDTH (10) in.	REBAR SPACING in. VERT	REBAR SPACING in. HOR	ANCHOR BOLT SPACING in.
10	2,000	36	16	16	48
	3,000	24			
	4,000	24			
12	2,000	48	16	16	48
	3,000	36			
	4,000	24			
14	2,000	56	8	12	32
	3,000	48			
	4,000	40			

(2) * WOOD STUD SIZES

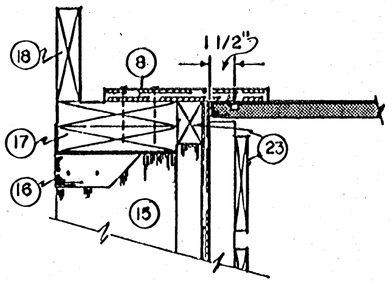
STUD SIZE — M / SPS * P / ANFS

STUD WALL HEIGHT ft.	SILL FORCE (lb/stud)	PLATE FORCE (lb/stud)	MAX. MOMENT (lb-in./stud)	AXIAL FORCE AT POINT OF MAX. MOMENT (lb/stud)	STUD SPACING in.	No. 1 SPRUCE	No. 2 SPRUCE	No. 1 DOUGLAS FIR	No. 2 DOUGLAS FIR
10	592	215	12008	3174	24		2 x 6 / 0.91	2 x 6 / 0.89	
10	395	144	8035	2061	16	2 x 6 / 0.84	2 x 6 / 1.04		
12	910	350	22780	3272	24	2 x 10 / 0.78	2 x 10 / 0.97	2 x 6 / 0.87	
12	605	233	15187	2180	16	2 x 8 / 0.82	2 x 8 / 1.01		
14	1299	518	38408	975	24	2 x 12 / 0.85	2 x 12 / 1.06	2 x 10 / 0.86	2 x 10 / 1.07
14	866	345	25606	650	16	2 x 10 / 0.83	2 x 10 / 1.01		
16	1752	720	59953	1128	24			2 x 12 / 0.91	
16	1168	480	39810	751	16	2 x 12 / 0.87	2 x 12 / 1.07	2 x 10 / 0.89	2 x 12 / 0.75
16	874	359	29932	563	12	2 x 10 / 0.96			2 x 10 / 0.83
18	1516	637	58806	870	16			2 x 12 / 0.89	
18	1137	477	44148	662	12	2 x 12 / 0.96			3 x 12 / 0.92

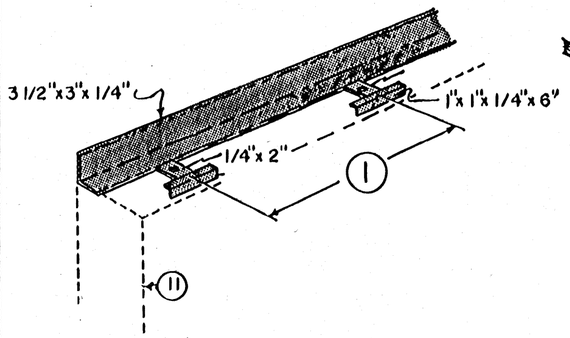
*Based on pile depth 2'-0" less than wall height and for farm situations remote from railways.

(3) NAILING TABLE

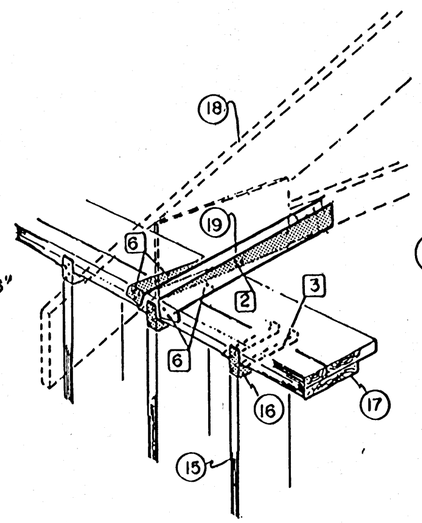
STUD WALL HEIGHT ft.	STUD SPACING in.	No. OF 1¾" GALV. ROOFING NAILS @ STUD TO PLATE CONNECTION	No. OF 1¾" GALV. ROOFING NAILS @ TRUSS TO PLATE CONNECTION
10	24	3	8
10	16	2	
12	24	3	9
12	16	2	
14	24	5	9
14	16	3	
16	24	6	12
16	16	4	
16	12	3	
18	16	6	16
18	12	4	



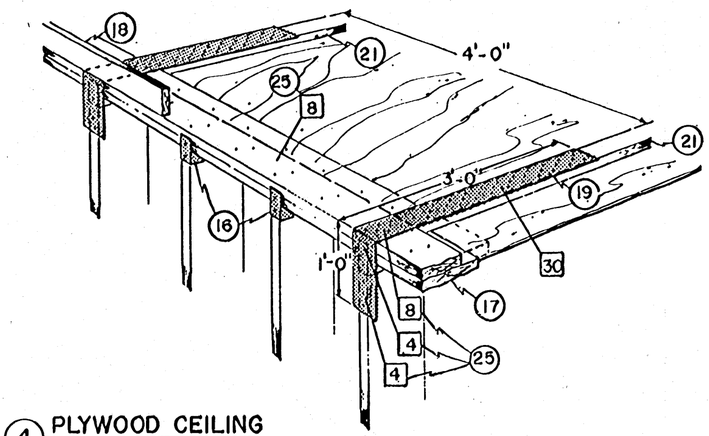
ALTERNATIVE STEEL CEILING AT ENDWALL



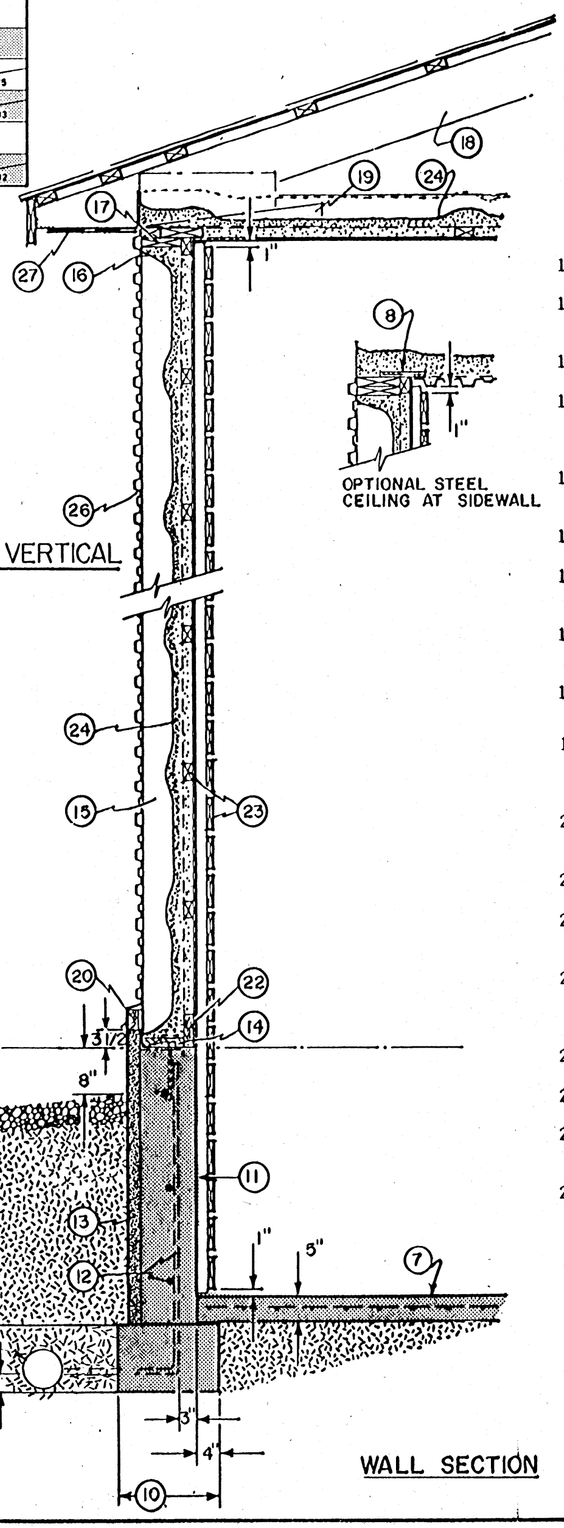
(9) PLATE ANCHOR EMBEDDED INTO TOP OF FOUNDATION



TRUSS - TO - SIDEWALL CONNECTION



(4) PLYWOOD CEILING AT ENDWALL



(5) ALTERNATIVE VERTICAL METAL SIDING

WALL SECTION

OPTIONAL STEEL CEILING AT SIDEWALL

1. Table of footing sizes and reinforcing
2. Table of wood stud sizes assumes no vibration such as near railroad tracks that would induce additional settling as vegetables dry. Closer spacing of studs may be required for such situations.
3. Nailing table, stud to plate and truss to plate
4. Plywood ceiling at endwall
5. Alternative vertical exterior metal siding on 2 x 4 x 4 strapping @4'-0" O.C.max.
6. 36" x 4" deep coarse gravel splash pad
7. Concrete floor, on compacted gravel or sand fill, 6/6 wire mesh
8. 3/4" plywood blocking between trusses, 3 1/2" spiral nails to (17) @ same spacing as adjacent ceiling screws
9. Welded steel anchor continuous, painted with rustproof primer; for 1/2" x 1'-0" anchor bolt spacing, see (1). Note: Commercial heavy duty galvanized fasteners are a better alternative. They are available at less cost and would require less labor
10. Footing width, see table (1)
11. Concrete foundation wall, width = stud size + 2"; vertical control joints @ 50'-0" o.c.
12. No.5 rebars, see (1) for spacing
13. 2" rigid , water-resistant, insulation (i.e. polystyrene) with a V.B. resistance toward the outside and an abrasion resistant outside protective sheet of material.
14. 2 x stud width, CCA pressure-treated sill anchor and concrete foundation with 5/8" bolts spaced as shown on (1)
15. studs, see (2) for size and spacing
16. heavy duty joist hanger at each stud to plate connection, nail as per (3)
17. Bottom plate same size as studs, top plate 4" wider , joints staggered 8'-0" o.c.
18. roof trusses @ 4'-0" or less, increase lower chord for 'Plate Force' in (2)
19. 20 ga. x 4" galv. pre-bent steel strap, number of 1 1/2" galv. large-head roofing nails to framing indicated as □. Note: Commercial connectors may be used.
20. 2 x 4 pressure-treated nailer for (13) plywood spacers @ stud
21. 16'-0" long girts @ endwall
22. 2 x 6 CCA-pressure-treated base-strapping, 2-3 1/2" galv. spiral nails to each stud and sill (14)
23. 2 x 3 horizontal stapping @ 2'-0" o.c. ; 5/16" plywood sheathing, face grain vertical; 2 x 2 vertical strapping at each stud; 1 x 6 slatting (1" spaces)
24. R-28 insulation with a vapor barrier on the outside.
25. □ denotes number of sprial nails for plate and strap nailing.
26. horizontal exterior metal siding screwed to studs, over asphalt felt windproofing
27. 1" soffit, 2" screened vent slot

COOPERATIVE EXTENSION SERVICE
AGRICULTURE AND HOME ECONOMICS

AND
UNITED STATES DEPARTMENT OF AGRICULTURE COOPERATING

REFRIGERATED BULK VEGETABLE STORAGE WALL

CAN. '87	6388	SHEET 1 OF 1

DRAWINGS NOT TO SCALE

ADAPTED FROM PLAN 6111 CANADA '82