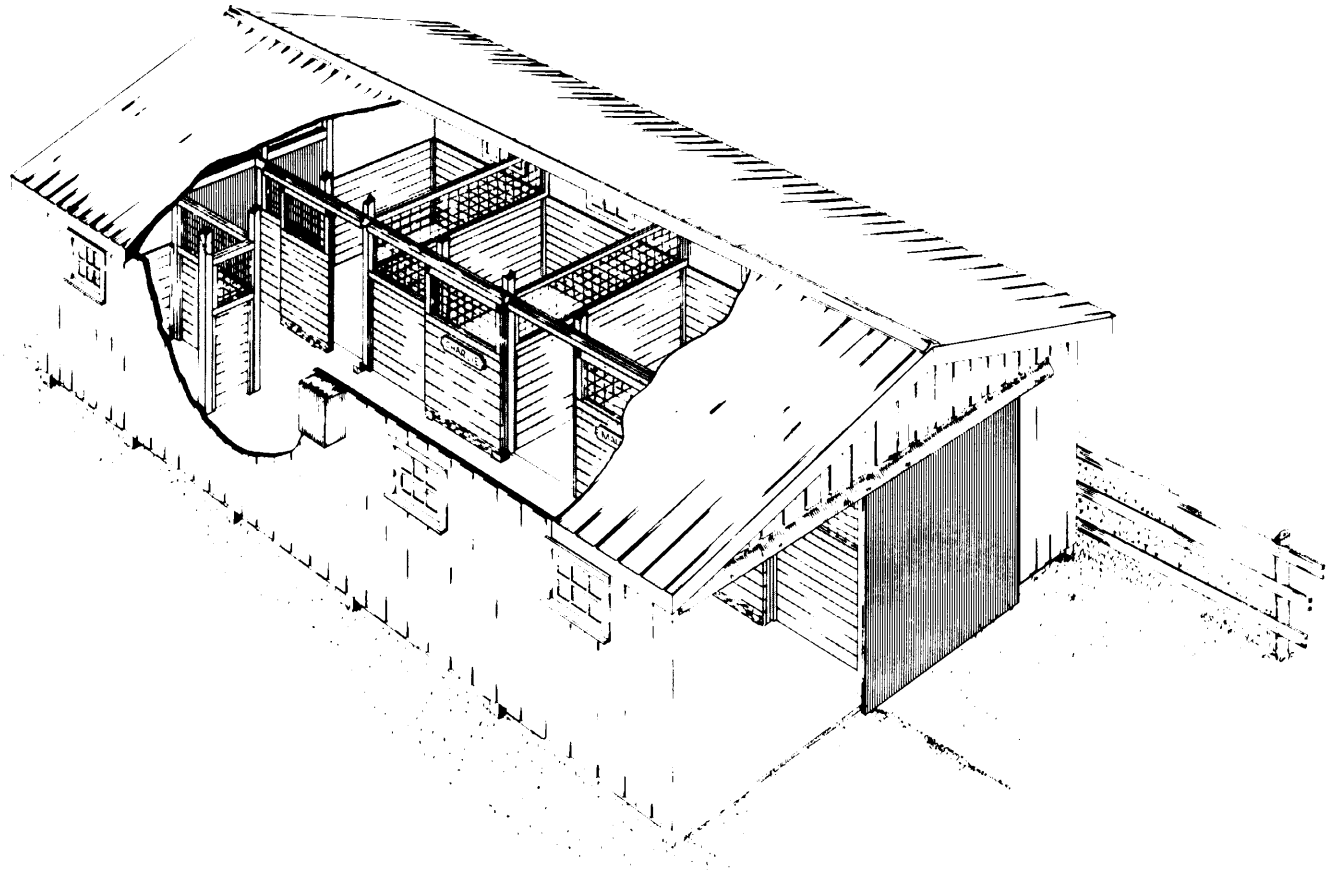
PLAN
8201

BARN FOR RIDING HORSES



CANADA
PLAN SERVICE

The Canada Plan Service prepares detailed plans showing how to construct modern farm buildings, livestock housing systems, storages and equipment for Canadian Agriculture.

This leaflet gives the details for a farm building component or piece of farmstead equipment. To obtain another copy of this leaflet, contact your local provincial agricultural engineer or extension advisor.

PLAN 8201

BARN FOR RIDING HORSES

This plan is for a small attractive barn for light horses. The barn includes a small tack room, feed room, three box stalls, and a wide work alley. If desired, one of the box stalls can be replaced by two tie stalls each S ft. wide.

The exterior walls are insulated post-frame construction using spaced 6 x 6-inch pressure-treated wood posts on concrete footings. The roof i s supported from the walls by 24-ft. clear span trusses; this permits changes of interior arrangement without disturbing the roof structure.

Box Stalls

The 10 x 12-ft. box stalls feature earth floors and plank partitions with wire mesh at the top for good ventilation. Partition supports are 6 x 6-in. wood posts, secured at the floor and ceiling. Slide doors from each box stall open to the work alley.

Tack Room

The 6 x 8-ft. tack room in one corner of the barn provides important storage space for supplies and equipment. If it is to be used as an office, it should be insulated and electrically heated.

Feed and Bedding Storage Room

The 10 x 12-ft. feed room provides space for about two months supply of grain, baled hay and bedding. The feed room is built with plank walls similar to the box stalls but has a concrete floor.

Ventilation

For mild and warm weather, ventilation can be supplied by opening doors or windows. In cold weather however, an exhaust fan with thermostat provides automatic control of temperature. A variable-speed agricultural exhaust fan is best for this purpose since it can be adjusted to low speed for almost continuous ventilation in cold weather.

The plan shows two adjustable inlets to bring fresh air through the ceiling from the ventilated attic above. During cold weather, reduce the size of the inlet slots so that fresh air sweeps along the ceiling. When the fan is adjusted for increased ventilation in milder weather, increase the size of the inlets to admit more air. In summer, close the inlets completely to exclude the hot attic air.

Manure Handling and Storage

No special provisions are made on this plan for handling and storing manure, but proper manure management is an important part of overall horse management. The physical and social aspects of collecting, storing, handling, transporting, and disposing of manure can be a major problem to horse owners.

Check local regulations for storage and disposal of manure. If regulations do not exist, consider the following recommendations:

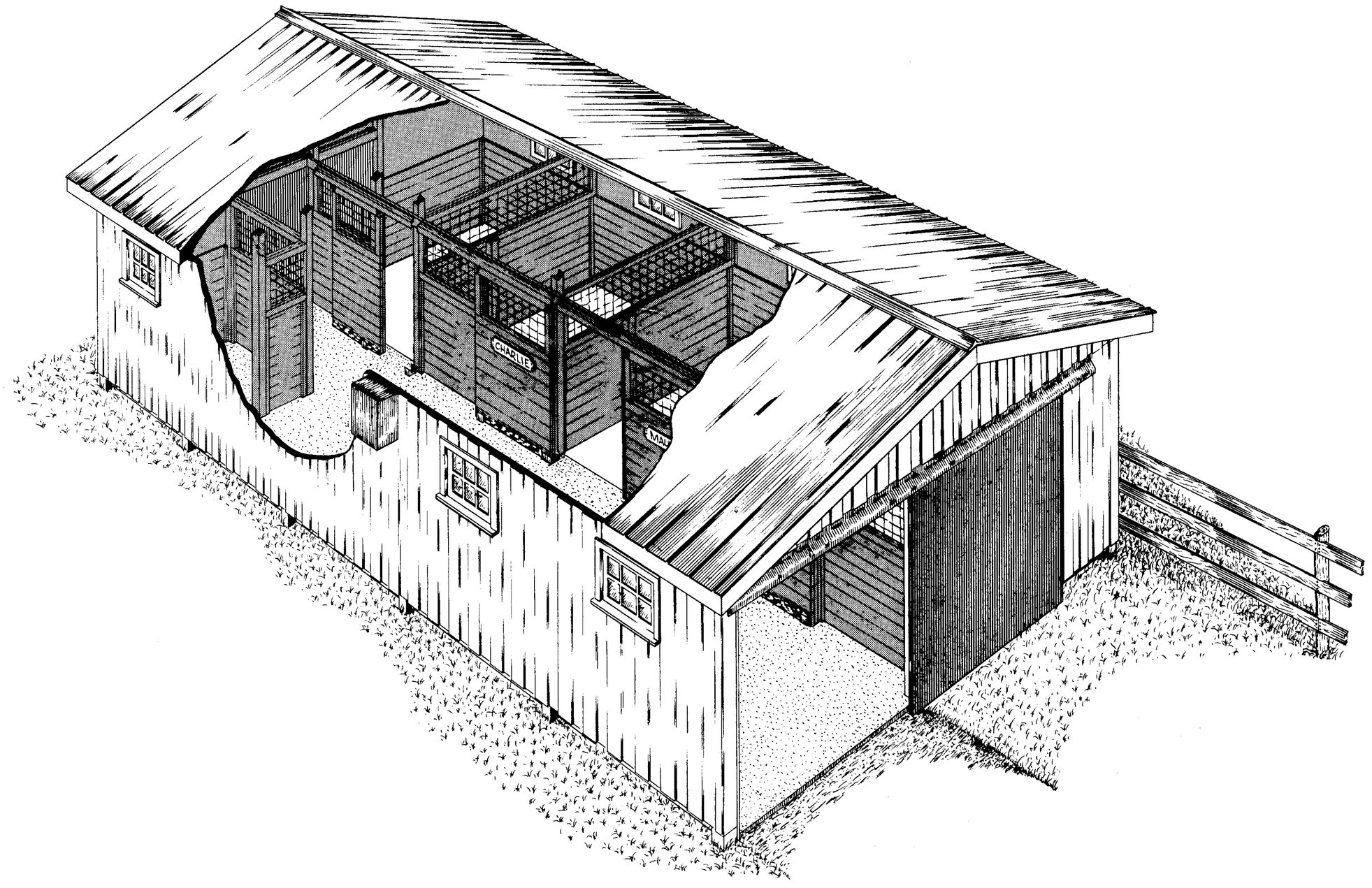
Dispose of manure daily when possible.

Provide temporary storage for manure that cannot be disposed of daily; this requires at least two cubic feet of storage per horse per day.

Locate the storage in an approved or safe area for convenient removal, away from any water source and out of natural drainage channels.

Empty the storage at least weekly during fly breeding season (spring temperatures above 65°F until the first killing frost in the fall).

Keep all runoff that may be polluted with animal waste from reaching usable or public waters.



SPECIFICATIONS

Unless otherwise specified, all cast-in-place concrete is to be at least 3000 psi @ 28 days, 6% air entrained.

All reinforcing steel to be at least 40,000 psi deformed bars; provide 2" concrete cover over reinforcing steel.

All exposed steel to be galvanized or painted to resist corrosion from moisture and manure gases.

All untreated framing lumber is No. 2 (or better), S-P-F species group, unless otherwise specified.

All wood indicated 'pressure-treated' is CCA pressure-treated to a net retention of 0.4 lb/ft^3 (ground contact specification, CSA-080 Wood Preservation).

All nails exposed to treated wood, humid atmosphere or weather to be hot-dip galvanized.

This plan is designed to meet the requirements of the Canadian Farm Building Code.

▶Notes thus marked indicate where this plan gives structural choices to be selected to meet local climatic loads (wind, snow), soil bearing capacity and other local conditions. The plan user must ensure that these requirements are met. Consult an engineer if you are not familiar with the details required.

ONE SET OF DRAWINGS AND LEAFLETS SHOULD INCLUDE:

CPS sheet no.	no.	Title
8201	-1-	Barn for riding horses (3 box stalls)
8201	-2-	Floor plan and section
8201	-3-	Wall sections
8201	-4-	Door detail, ventilation and electrical plan
		▶Truss design and spacing to suit local snow + dead load

AND LEAFLETS

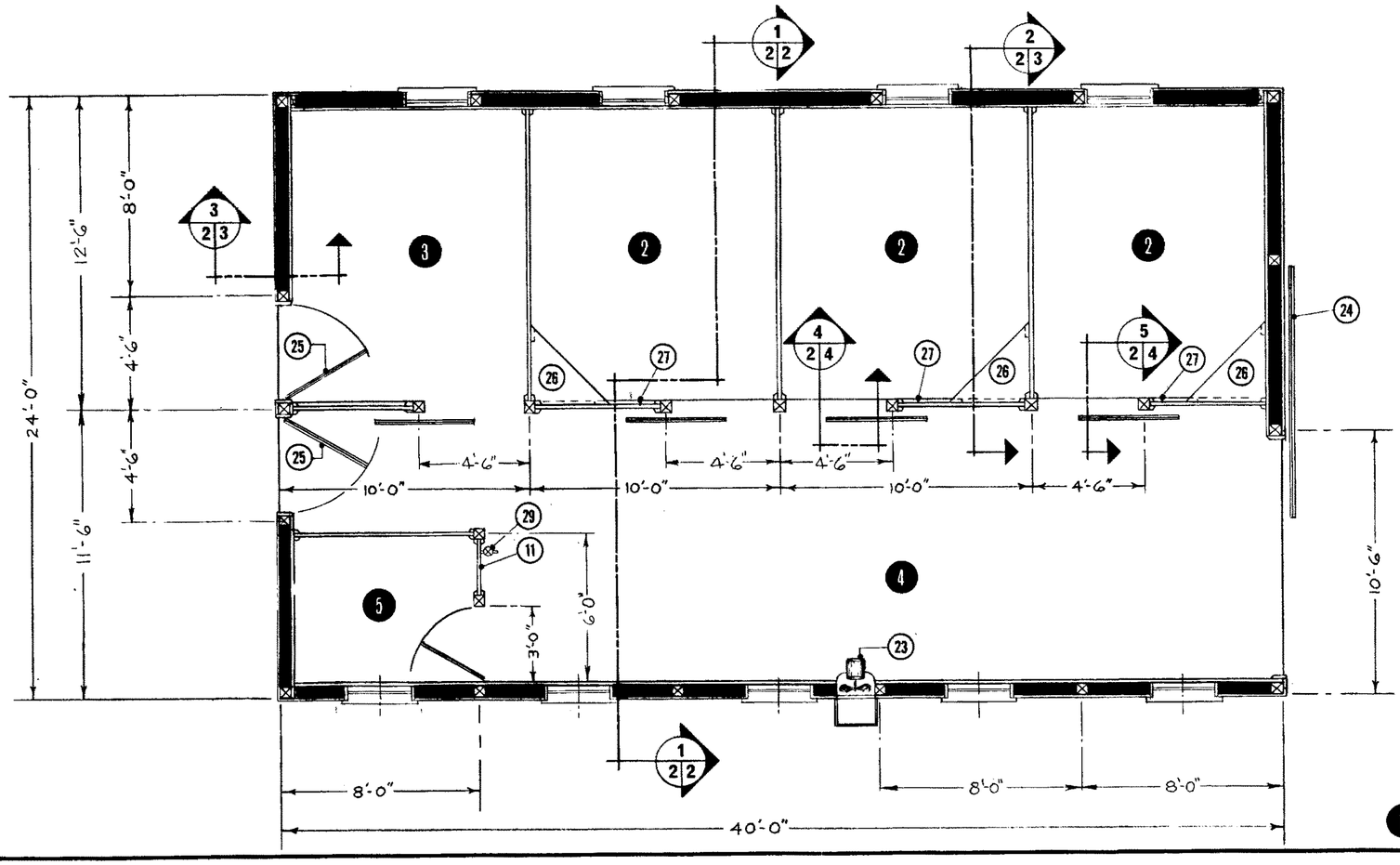
8201	Barn for riding horses (3 box stalls)
9102	Truss erection and bracing
9301	Roof purlins
9451	Rodent and bird control in farm buildings

SYM	REVISIONS	CHECKED	DATE	APPROVED
	REVISED & RE-ISSUED	HAJ	87-09	JET

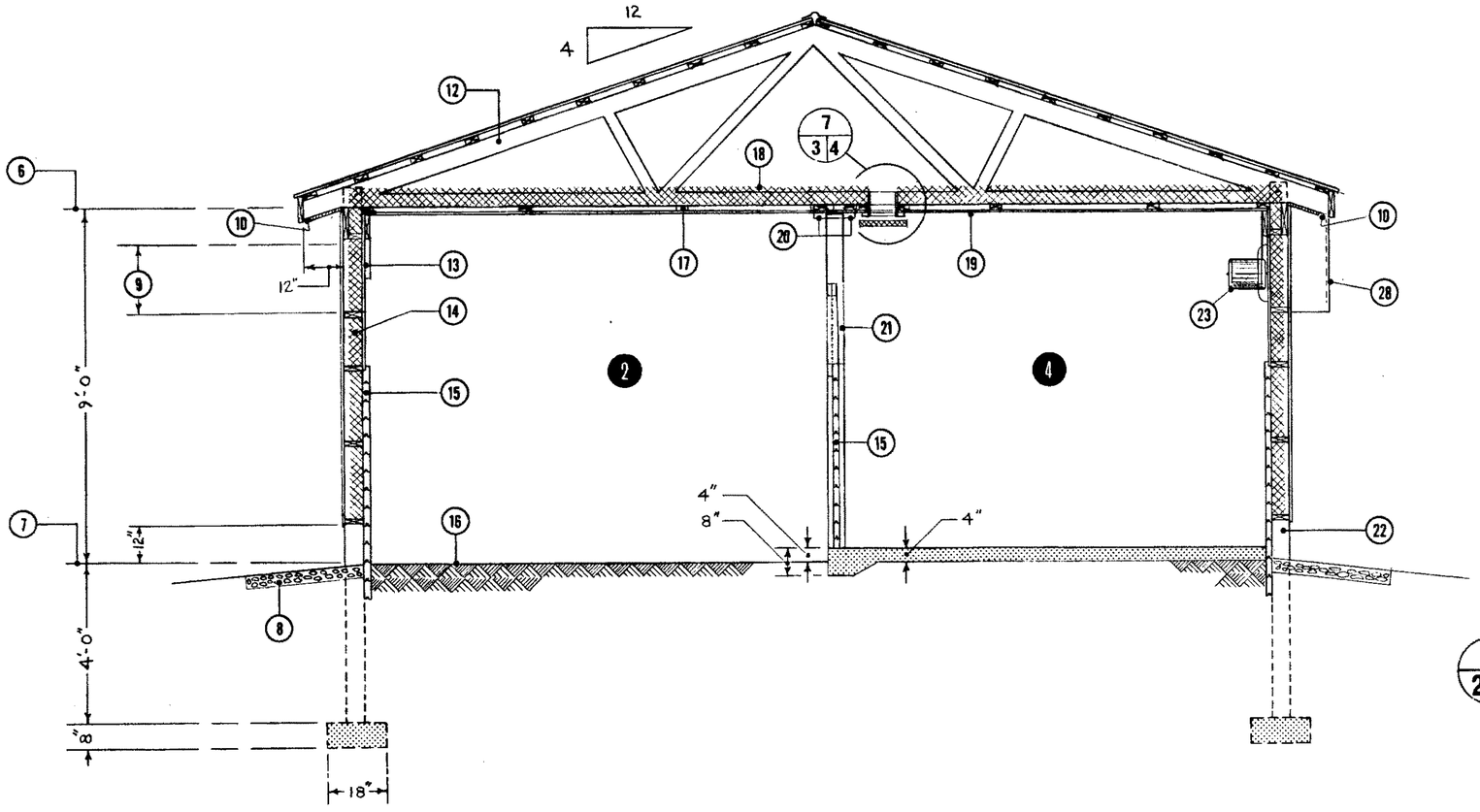
CANADA FARM BUILDING PLAN SERVICE

BARN FOR RIDING HORSES
(3 BOX STALLS)

DESIGNED H.A.J.	DATE APR-72	PLAN 8201
DRAWN LEO BLAIS	REVISED 87 09	
TRACED	SCALE N/A	
CHECKED J.E.T.		SHEET 1 OF



1 1/4"=1'-0"



1 2 2 3/8"=1'-0"

A Detail No.
B Sheet No. On Which Detail Originates
C Sheet No. On Which Detail is Shown

1	plan view of 3 stall horse barn
2	box stall, clay floor
3	feed & bedding storage, concrete floor
4	work alley, concrete floor
5	tack room
6	top of plate
7	datum line, clay floor level
8	3'-0" x 4" deep coarse gravel splashpad all around building (slope with grade)
9	window location - 21" or to suit prefit window
10	2" wide screened vent, continuous
11	substitute stud wall,sheathed floor to ceiling if tack room is to be heated
12	24'-0" trusses @ 4'-0" O.C. Select truss and spacing to suit local snow load.
13	3/8" plywood, 48" high. Face grain vertical
14	4" insulation
15	2" x 6" T & G planking.
16	clay floor
17	2" x 4" nailing girts @ 4'-0" o.c.,
18	6" insulation
19	3/8" plywood
20	2" x 4" blocks, 4 sides of post
21	6" x 6" x 8'-6" posts, butts dipped in preservative
22	6" x 6" x 14'-0" pressure treated posts @ 8'-0" o.c.
23	exhaust fan
24	10'x8'-4" insulated slide door, secure with 2 turnbuckle hooks recessed into each side jamb
25	4'-0" x 8'-0" insulated door
26	hay manger
27	screw eye for feed or water bucket
28	fan exhaust hood. Open at bottom only.
29	hose bib. use frost proof hydrant if there is risk of freezing

SYM	REVISIONS	CHECKED	DATE	APPROVED

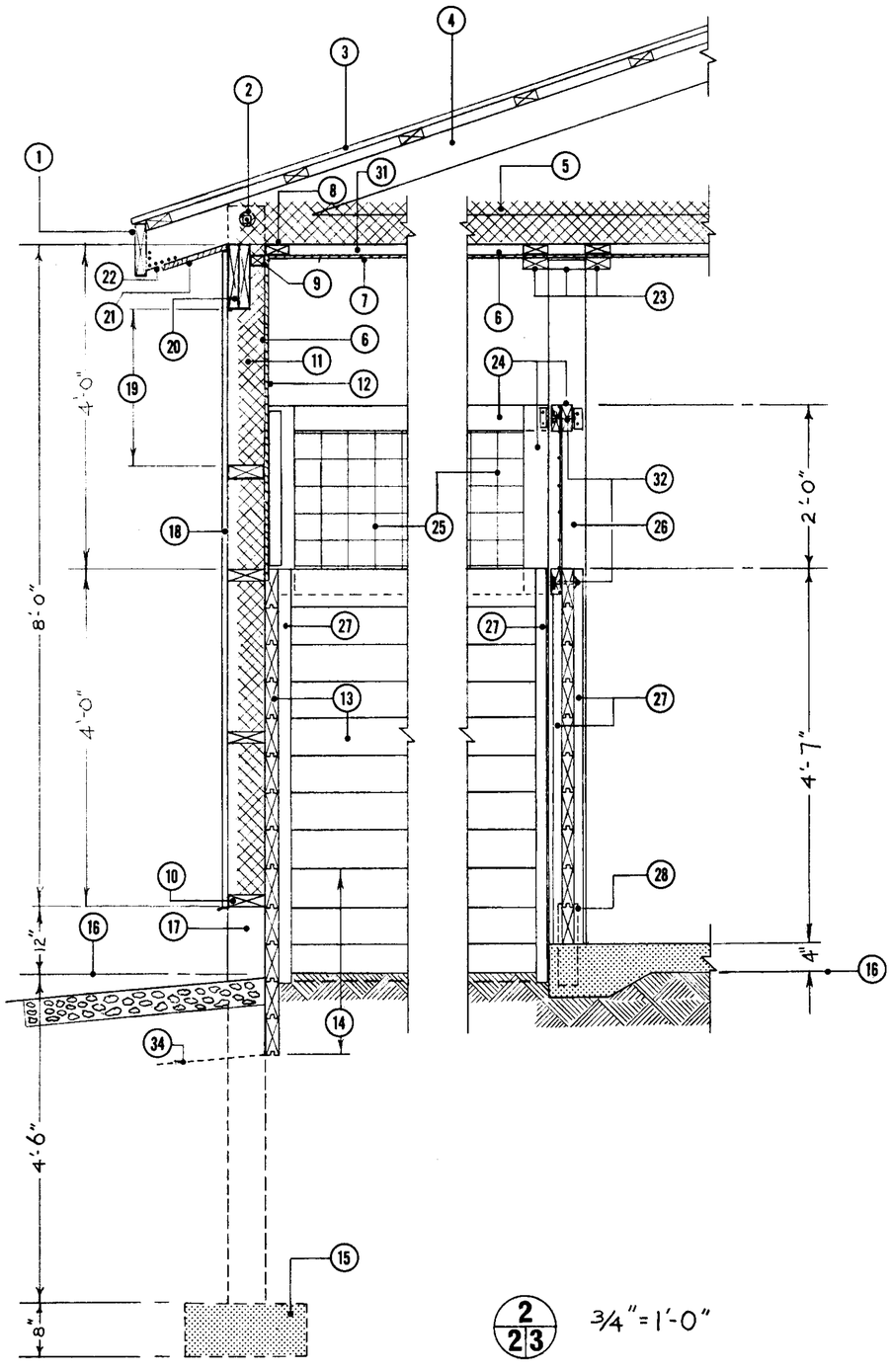
CANADA FARM BUILDING PLAN SERVICE

FLOOR PLAN AND SECTION

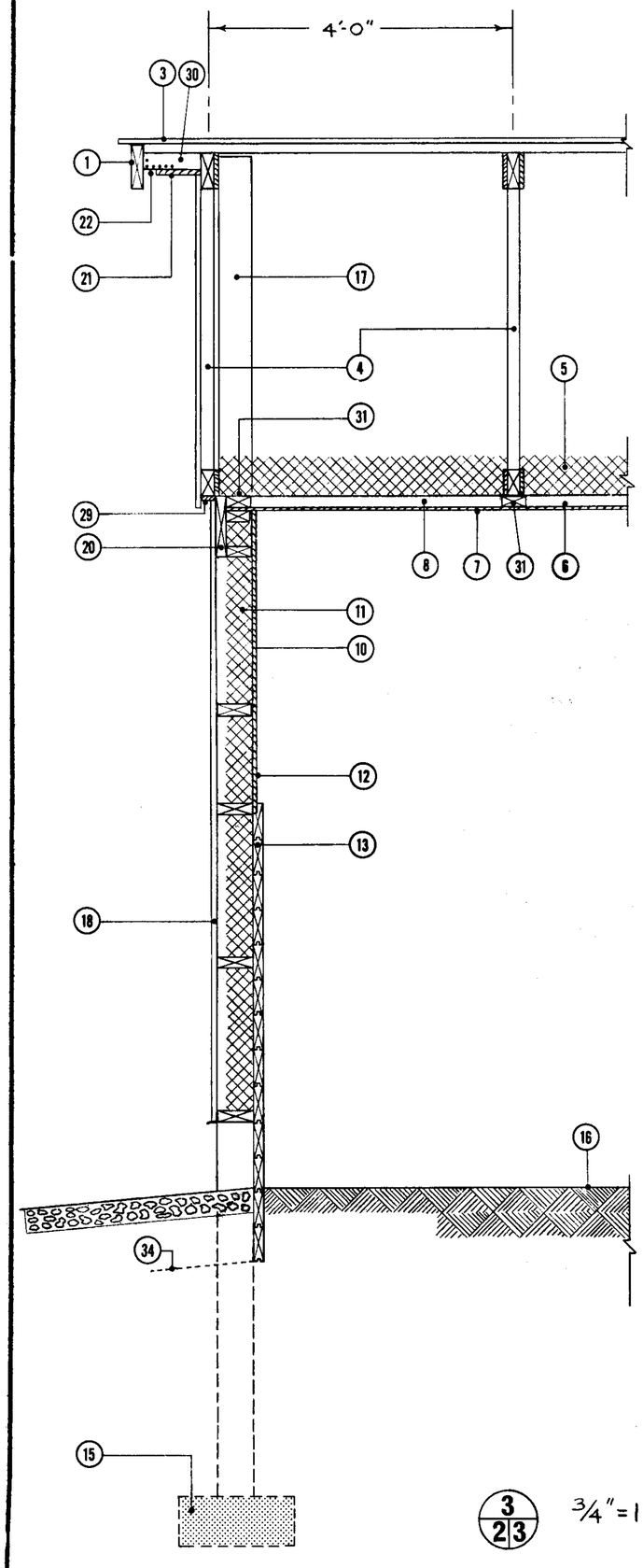
DESIGNED H.A.J.	DATE APR./72	PLAN 8201
DRAWN J.C.	REVISED	
TRACED	SCALE AS SHOWN	
CHECKED J.E.T.		SHEET 2 OF

Table (20) Plate beam safe uniform total roof loads, kPa

Plate beam	No.2 S-P-F Truss spacing, inches on center 48	32	24	No.2 D. Fir 48	32	24
2 - 2 x 8	2.41	2.03	1.93	2.04	1.72	1.64
2 - 2 x 10	3.60	2.92	2.63	3.05	2.57	2.45



2/23 3/4"=1'-0"



3/23 3/4"=1'-0"

A Detail No.
B Sheet No. On Which Detail Originates
C Sheet No. On Which Detail is Shown

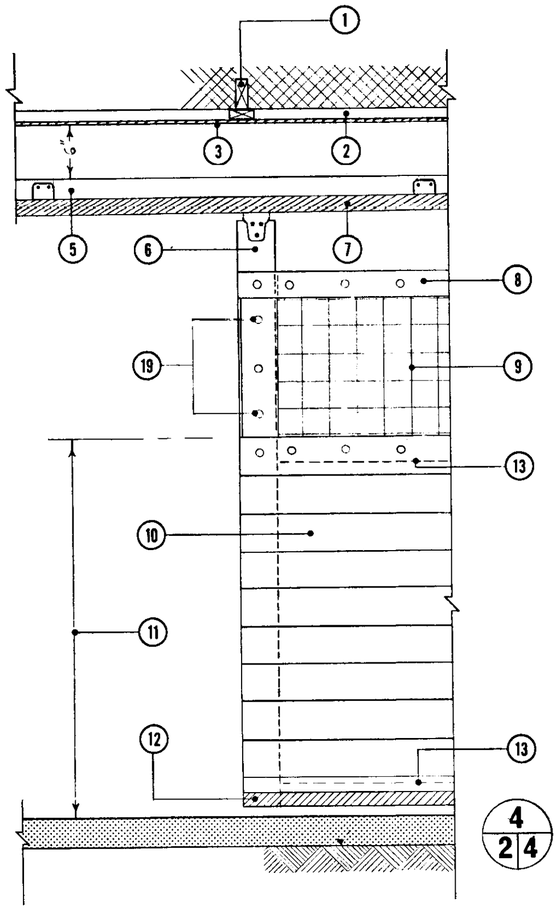
1	2" x 8" face board
2	½" Ø bolt truss to post and 4" x 4" blocking at intermediate trusses
3	metal roofing on 2" x 4" purlins or 210-lb. asphalt shingles over 3/8" plywood
4	24'-0" trusses @ 4'-0" o.c. Select truss and spacing to suit local snow load End wall trusses to have gussets on inside face only
5	6" friction fit insulation batts laid perpendicular to trusses
6	4 mil polyethylene vapour barrier
7	3/8" plywood ceiling
8	2" x 4" ceiling girts @ 4'-0" o.c.
9	2" blocking
10	2" x 6" horizontal girts, bottom girt pressure treated
11	4" friction fit insulation batts
12	3/8" plywood interior sheathing, face grain vertical
13	2" x 6" x 16'-0" T&G splash planking. Stagger joints at 8'-0" on posts. Rabbet top plank 3/8" x 1½" for plywood and nail through into girt.
14	2" x 6" T & G planking. Bottom 5 planks in outside wall to be pressure treated.
15	18" dia x 8" min. concrete footing @ 8'-0" o.c.
16	datum line
17	6" x 6" pressure treated posts
18	vertical wood or metal siding over 15 lb. asphalt felt wind stop
19	window location. 21" or to suit prefit windows
20	double 16' plate beam (3 in end spans), joints staggered 8' at poles, see Table (20)
21	3/4" plywood or lumber soffit
22	2" continuous air vent with ½" x ½" galv. hardware cloth bird screen
23	2" x 4" blocks, 4 sides of post , block above ceiling
24	2" x 4" framing, attach to posts with steel ang angle and lag bolts
25	4" x 4" 6/6 welded wire mesh
26	6" x 6" x 8'-6" posts, butts dipped in preservative
27	2" x 2" verticals both sides at posts and walls
28	¼" x 3" x 24" U-strap in concrete, ½" bolt thru post
29	3/4" filler
30	2" x 3" blocking @ 36" O.C.
31	2"x4" blocking at each truss, between girts (8)
32	bolts as in (6/4)
33	2" x 6" x 12" scab at post
34	1/2" x 1/2" x 18" galv. hardware cloth fitted and stapled to pole & planking

SYM	REVISIONS	CHECKED	DATE	APPROVED
	REVISED & RE-ISSUED	HAJ	87-09	JET

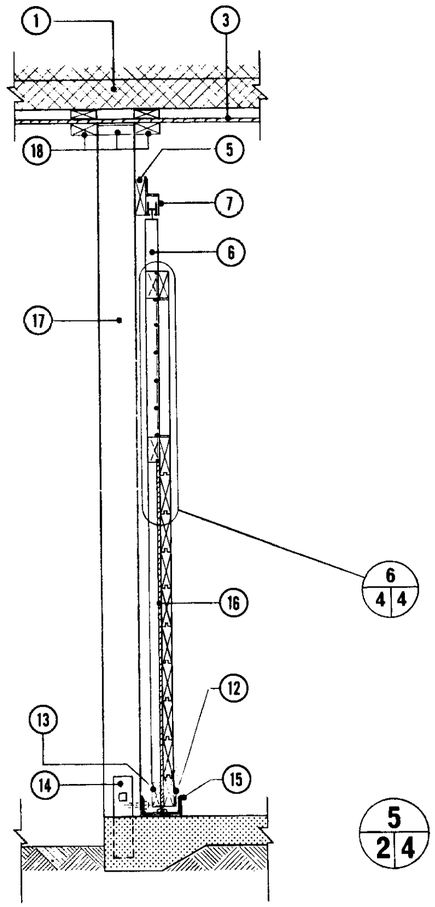
CANADA FARM BUILDING PLAN SERVICE

WALL SECTIONS

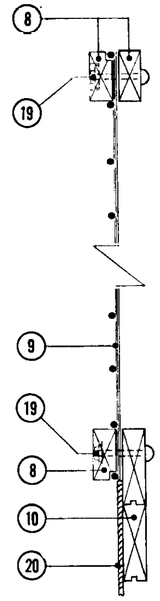
DESIGNED H.A.J.	DATE APR./72	PLAN 8201
DRAWN J.C.	REVISED 87-09	
TRACED	SCALE 3/4"=1'-0"	SHEET 3 OF
CHECKED J.E.T.		



4/24 3/4"=1'-0"

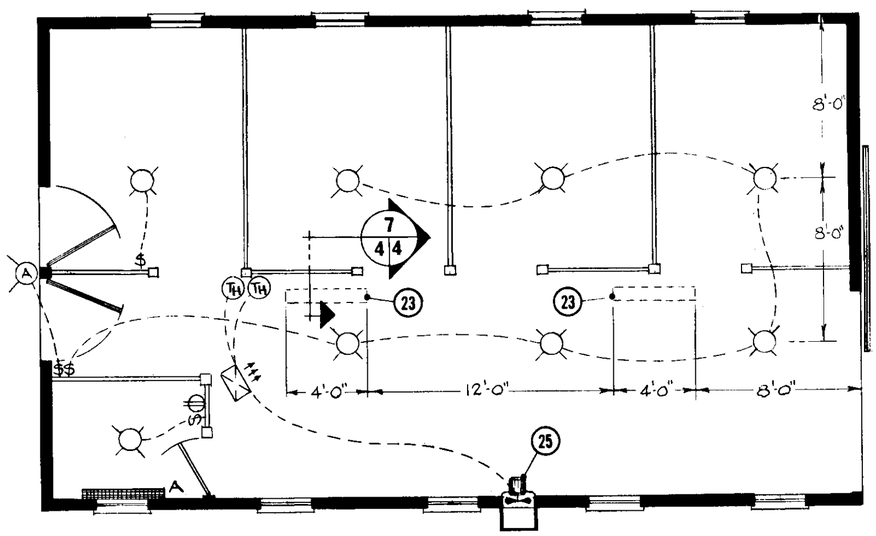


5/24 3/4"=1'-0"

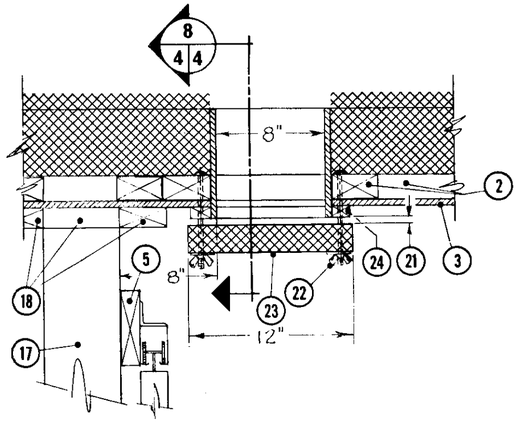


6/44 1½"=1'-0"

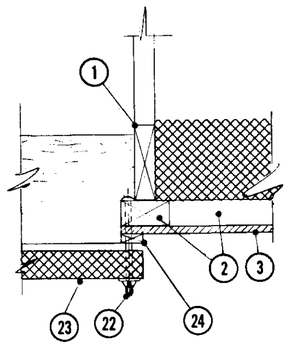
1	24'-0" trusses @ 4'-0" o.c., select truss and spacing to suit local snow load
2	2" x 4" nailing girts @ 4'-0" o.c.
3	3/8" plywood ceiling
4	ventilation and electrical plan
5	2" x 6" track board
6	2" x 6" uprights
7	commercial door track, slope to close door
8	2" x 4" framing
9	4" x 4" 6/6 welded wire mesh
10	2" x 6" T&G planking
11	make this height match stall dividers
12	2" wide galvanized metal strap
13	2" x 4" framing behind
14	¼" x 3" x 24" U-strap in concrete, ½" bolt thru post
15	door guide, two angle irons welded together
16	¼" plywood
17	6" x 6" x 8'-6" post
18	2" x 4" blocks 4 sides of post, block above ceiling
19	3/8" carriage bolts @12" o.c., nuts recessed
20	¼" plywood used at doors only and not at stall dividers
21	adjust inlet slot 1/8" for cold winter weather, 3/8" for mild weather, closed for hot summer weather (open doors)
22	¼" plated carriage bolts, washer & wing nuts for inlet adjustments, 6 per inlet
23	2" extruded polystyrene baffle over
24	1" x 2" trim, 4 sides of opening
25	variable speed exhaust fan 150 to 500 CPM



4 3/16"=1'-0"



3, 7/44 1½"=1'-0"



8/44 1½"=1'-0"

- $ lighting switch
- (A) 150 watt par 30 floodlight
- 100 watt incandescent pigtail light fixture
- 115 volts, duplex convenience outlet
- (TH) ventilation thermostat
- A — 1 KW base board unit heater (with thermostat) if tack room has insulated walls floor to ceiling
- fan forced unit heater, bracket hung

A/BC
- A Detail No.
- B Sheet No. On Which Detail Originates
- C Sheet No. On Which Detail is Shown

SYM	REVISIONS	CHECKED	DATE	APPROVED

CANADA FARM BUILDING PLAN SERVICE

DOOR DETAIL
VENTILATION AND ELECTRICAL PLAN

DESIGNED H.A.J.	DATE APR.-72	PLAN 8201
DRAWN J.C. & L.B.	REVISED	
TRACED	SCALE AS SHOWN	
CHECKED J.E.T.		SHEET 4 OF