

MWPS-72356

76' Dairy Barn

100 Free Stalls

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.**

WARRANTY DISCLAIMER

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Cooperative Extension Work in Agriculture and Home Economics and Agricultural Experiment Stations of North Central Region - USDA Cooperating
76' Dairy Barn-100 Free Stalls
Title Page
MIDWEST PLAN NO. 72356

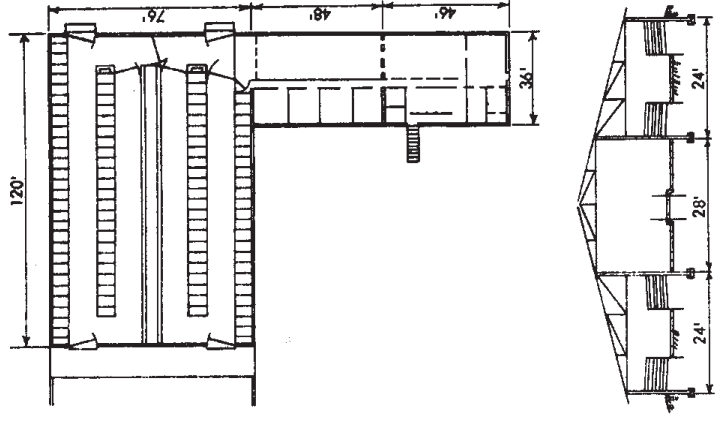


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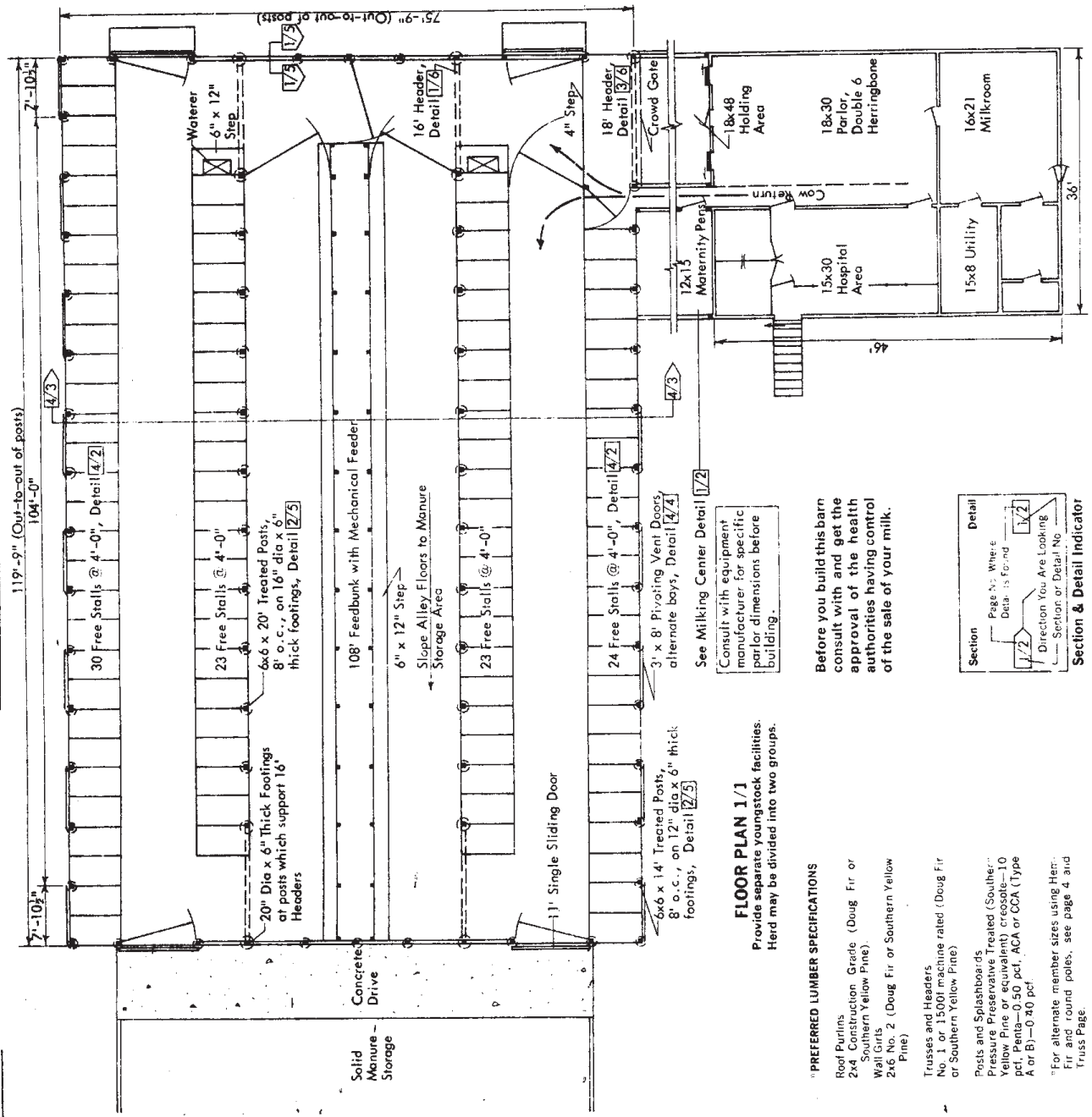
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76' DAIRY BARN
 100 Free Stalls

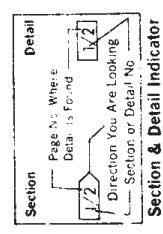
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Consult with equipment manufacturer for specific parlor dimensions before building.

Before you build this barn consult with and get the approval of the health authorities having control of the sale of your milk.



FLOOR PLAN 1/1
 Provide separate youngstock facilities.
 Herd may be divided into two groups.

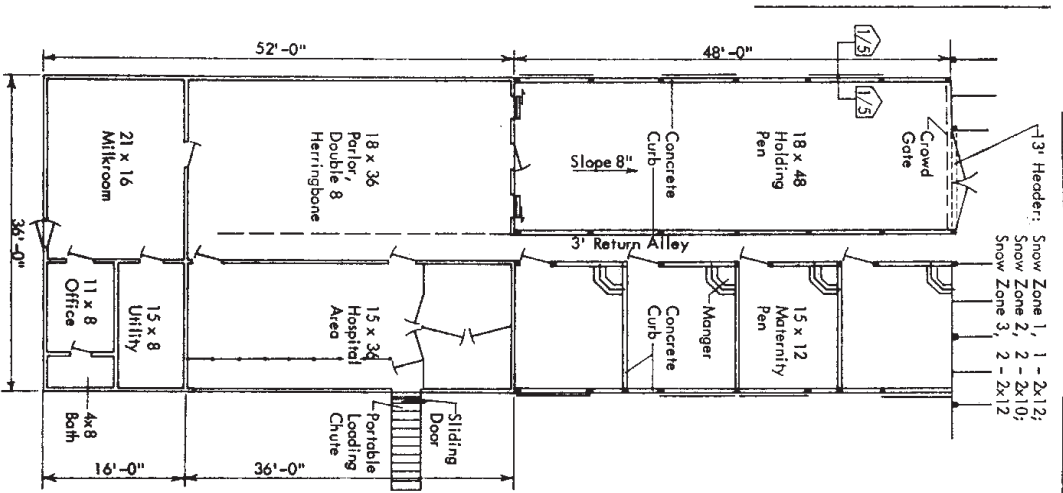
PREFERRED LUMBER SPECIFICATIONS

- Roof Purlins
- 2x4 Construction Grade (Doug Fir or Southern Yellow Pine)
- Wall Girts
- 2x6 No. 2 (Doug Fir or Southern Yellow Pine)

- Trusses and Headers
- No. 1 or 1500 machines rated (Doug Fir or Southern Yellow Pine)

- Posts and Sillboards
- Pressure Preservative Treated (Southern Yellow Pine or equivalent) creosole-10 pcf, Penta-0.50 pcf, ACA or CCA (Type A or B)-0.40 pcf.

*For alternate member sizes using Hem-Fir and round poles, see page 4 and Truss Page.



MILKING CENTER DETAIL 1/2

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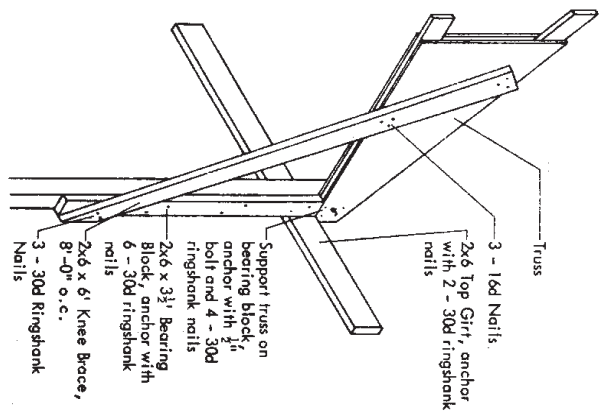
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86 DAIRY BARN
205 Free Stalls

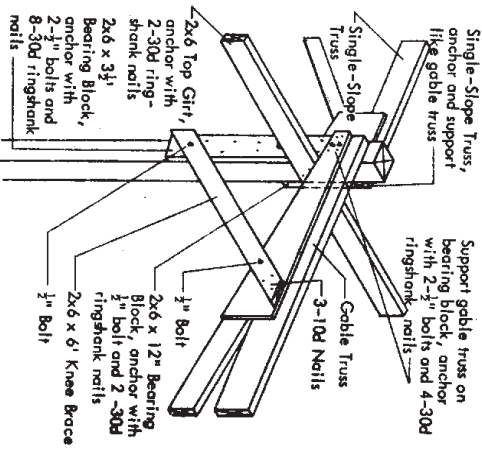
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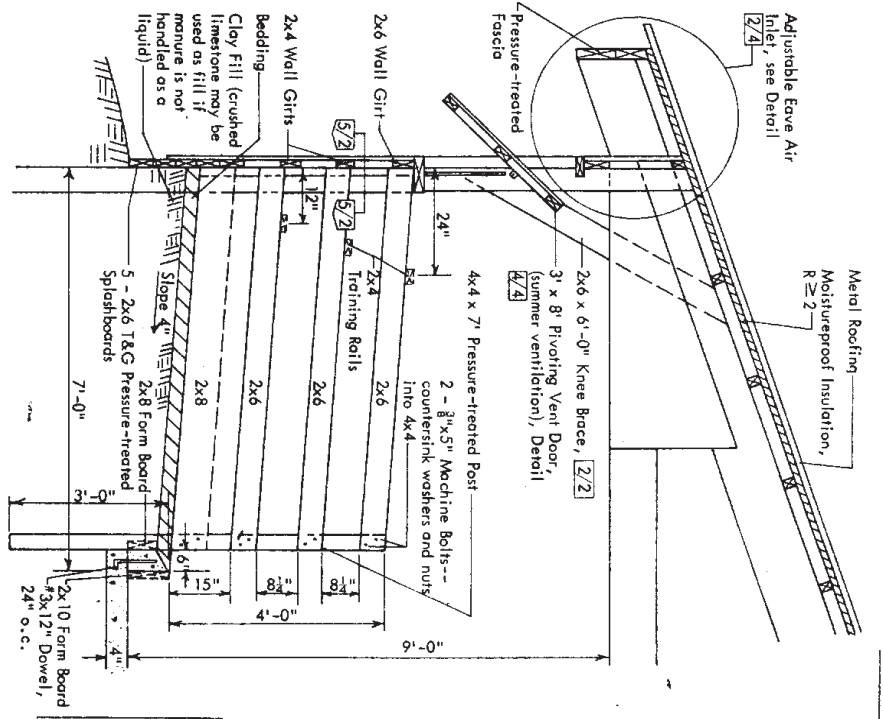
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KNEE BRACE DETAIL 2/2



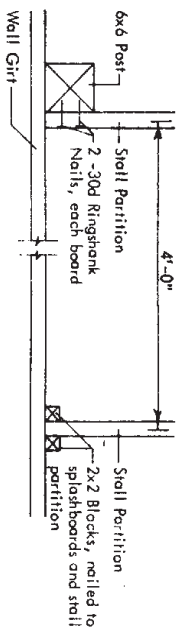
KNEE BRACE DETAIL 1/2



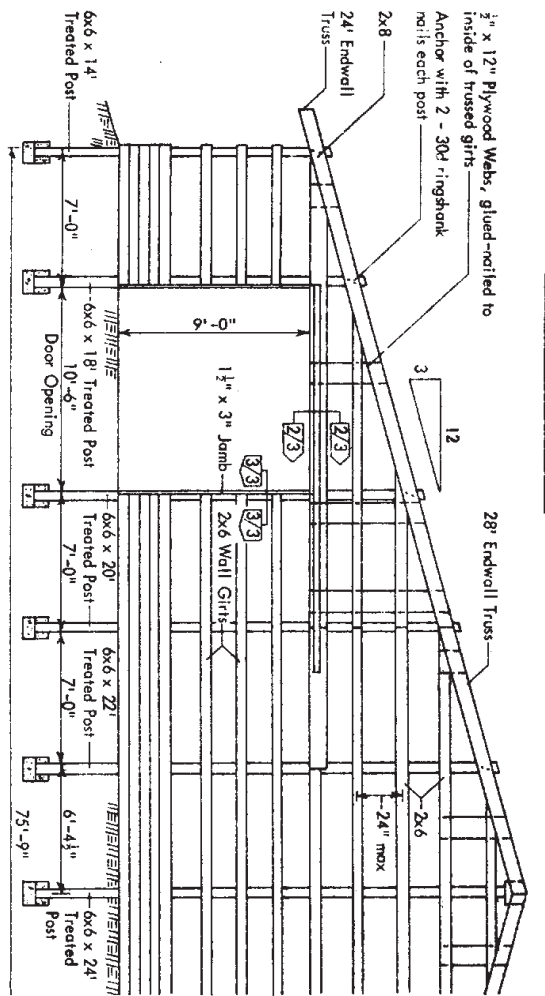
FREE STALL DETAIL 4/2

Install 2x4 training rails if cows turn around in stalls or deposit manure at back of stall—3 rails will force the cow to move back as it gets up so its shoulders can't get caught under the top rail. Install 2x8 bottom stall partition board if cows move fill and bedding from stall to stall causing deep holes in stalls.

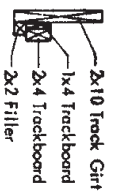
If cows have access to outside of building, use wood siding treated plywood or splashboards on bottom 4 feet of wall.



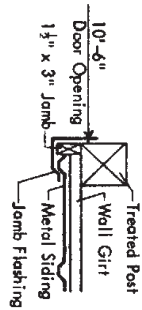
WALL CONNECTION 5/2



ENDWALL FRAMING 1/3



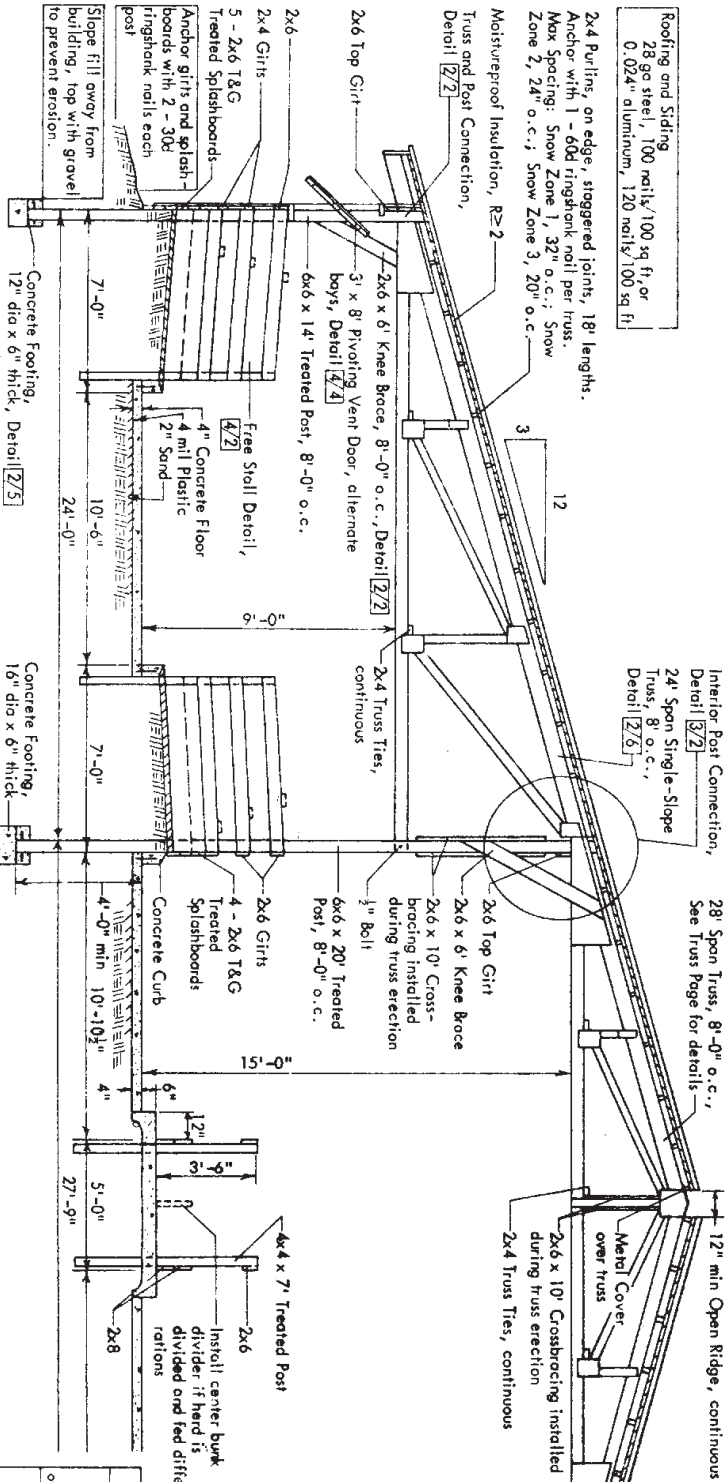
TRACK GIRT SECTION 2/3



JAMB SECTION 3/3

ESTIMATING LIST

Free Stall Barn	
Concrete	95
Alleys and Curls, cubic yards	
Trusses	14
2x4 Gable	26
2x4 Single Slope	2
28' Gable Endwall	4
2x4 Single Slope Endwall	
Headers (Zone 3)	325
2x12's, feet	
Posts (Pressure-treated)	
6x6's, feet	1350
2x4's, feet	6550
Purlins (Zone 3) and Truss Ties	
2x4's, feet	2300
Girts and Braces	500
2x6's, feet	
2x4's, feet	2500
Roofing and Insulation, sq ft	9500
2x6's, feet	4500
Siding, sq ft	13
Pivoting Vent Doors (3' x 8')	14
Sliding Doors	108
Feed Bunk, ft	100
Free Stalls (4 x 7')	



BUILDING CROSS-SECTION 4/3

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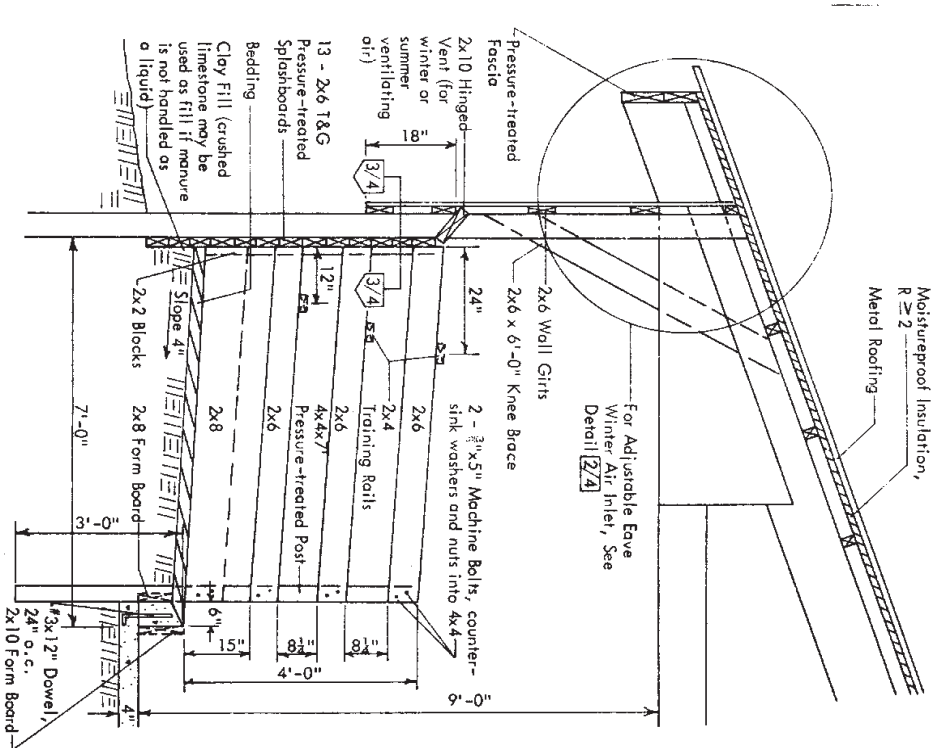
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76' DAIRY BARN
100 Free Stalls

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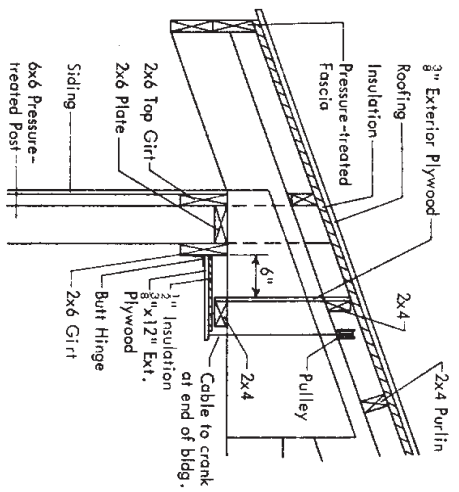


ALTERNATE FREE STALL DETAIL 1/4

Install 2x4 training rails if cows turn around in stalls or deposit manure at back of stall—3 rails will force the cow to move back as it gets up so its shoulders can't get caught under the top rails. Install 2x8 bottom stall partition board if cows move fill and bedding from stall to stall causing deep holes in stalls.

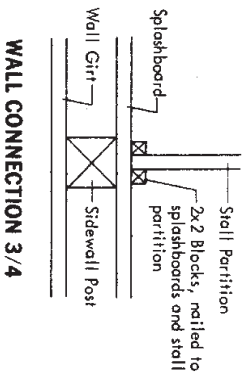
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DAIRY BARN - 62 FREE STALLS
Mechanical Waste Scraper
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ADJUSTABLE EAVE WINTER AIR INLET 2/4

To be used in combination with pivoting vent doors or 2x10 hinged vent doors for summer air inlets.



WALL CONNECTION 3/4

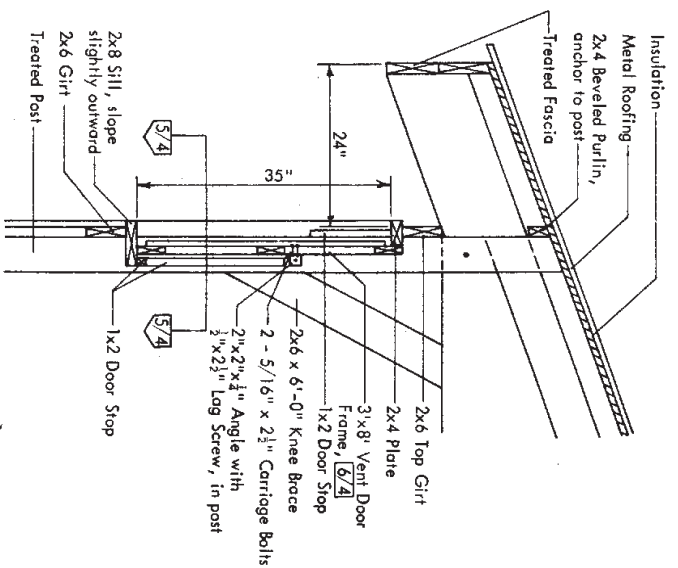
Alternate Lumber Specifications, Spacing and Sizes.

2x4 Purlins (Construction Grade Hem-Fir) Max Spacing 20'

Snow Zone 1: 28' o.c.
Snow Zone 2: 24' o.c.
Snow Zone 3: 18' o.c.

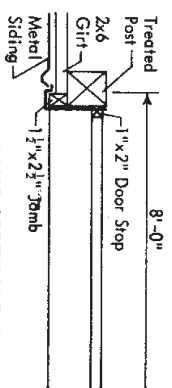
2x6 Girts (No. 2 Hem-Fir) Max Spacing: 20' o.c.

Posts (Round vs Sawn)
6x6 = ASA or ASAE Class 7, 4.8" Top Diameter
Trusses (No. 1 Hem-Fir)
See Truss Page

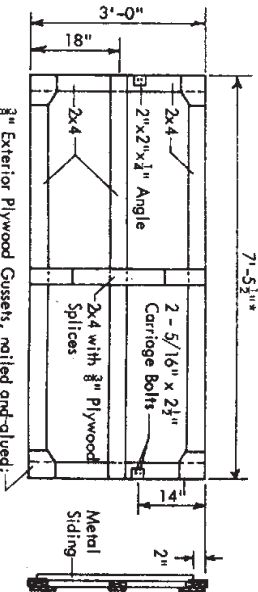


VENT DOOR SECTION 4/4

Hold vent door open with a light metal chain from the vent door frame to an eye hook in the sill.



JAMB SECTION 5/4

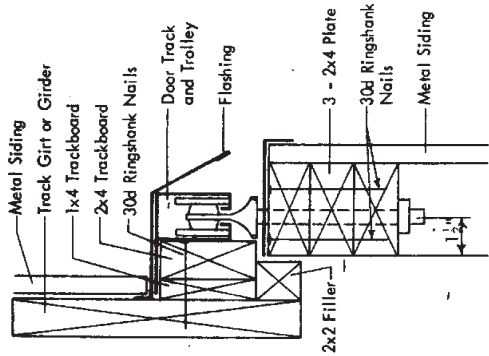


3' x 8' VENT DOOR FRAME 6/4

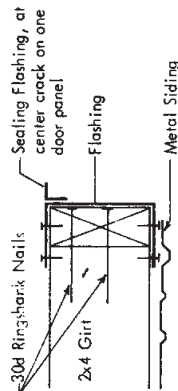
3\"/>

*Alter this dimension for other than 6\"/>

posts or other than 8\"/>

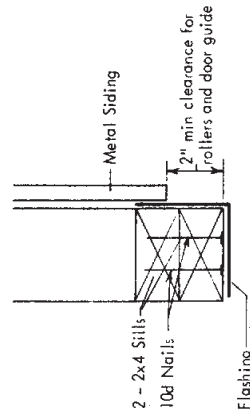


DOOR TRACK ASSEMBLY 1/5

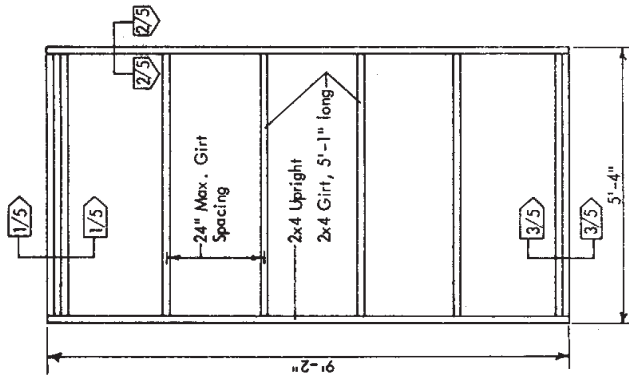


UPRIGHT SECTION 2/5

Extend flashing around uprights and nail to girts and uprights.

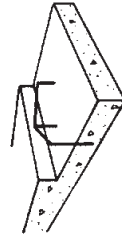


SILL SECTION 3/5



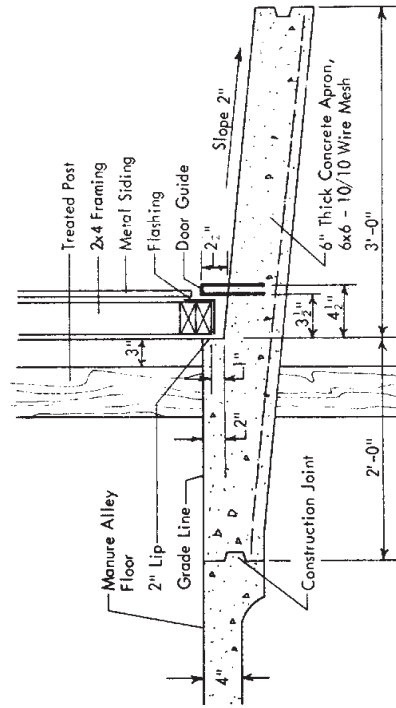
DOUBLE SLIDING DOOR 4/5

2x4 Framing



"U"-Shaped Door Guide

Locate $\frac{1}{2}$ " dia x 20" "U"-shaped door guide at center of door opening. Break at center to force closing door against apron lip. Taper from $4\frac{1}{2}$ " end to $3\frac{1}{2}$ " center clearance.



SLIDING DOOR APRON 5/5

Set adjustable roller guides in the concrete apron at door jamb. Use door stops as required.

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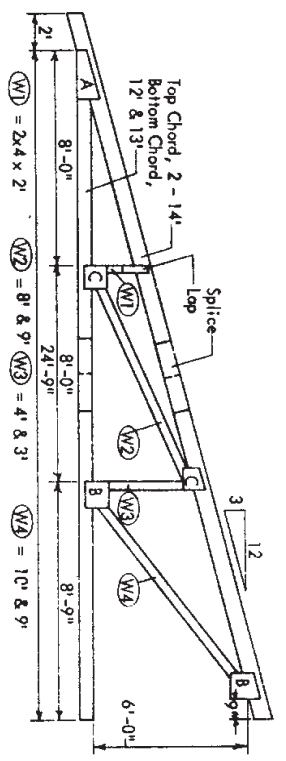
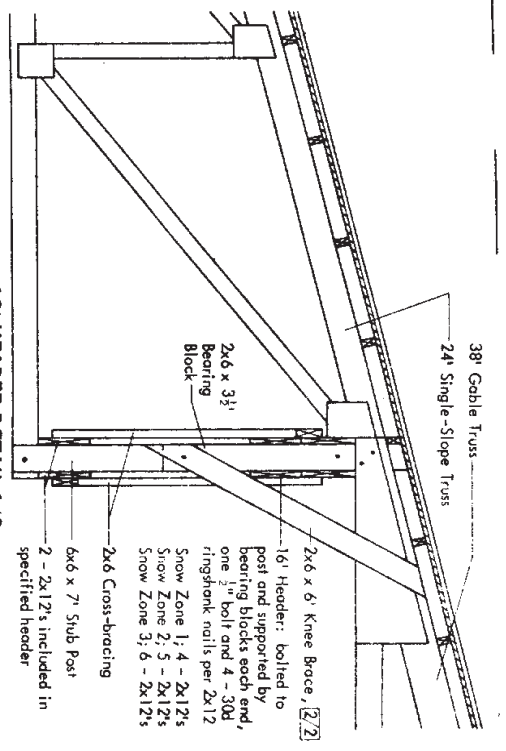
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DAIRY BARN - 62 FREE STALLS
Mechanical Waste Scraper

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Truss Specification, Snow Zones	Lumber Type	Top Chord	Bottom Chord	Gusset Sizes, In.					
				A T, H, H'	B H, H'	C H, H'	H2	W3	W4
I	Doug Hem	2x6	2x4	3/8x6x16	10x10	8x8	2x4	2x4	2x6
II	Doug Hem	2x8	2x6	3/8x6x20	"	"	"	"	"
III	Doug Hem	2x8	"	3/8x6x26	"	8x10	"	"	"
I	Doug Hem	2x8	2x6	3/8x6x28	10x10	8x10	2-2x4	2x4	2-2x4
II	Doug Hem	2x8	2x6	1/2x6x22	10x12	10x10	"	"	2-2x4
III	Doug Hem	2x10	2x8	1/2x6x26	12x12	10x12	"	"	"
		2x12	2x8				2x6+2x4	"	"

SINGLE-SLOPE TRUSS 2/6

GUSSETS B & C are 3/8" plywood. Low Dead Load.
SEE TRUSS PAGE for additional information.

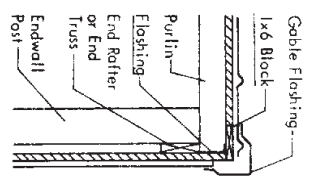
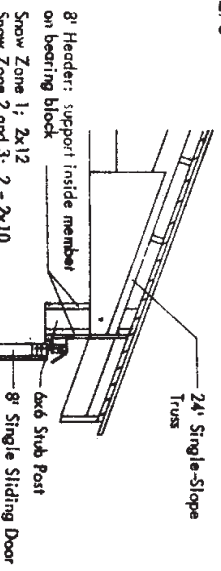
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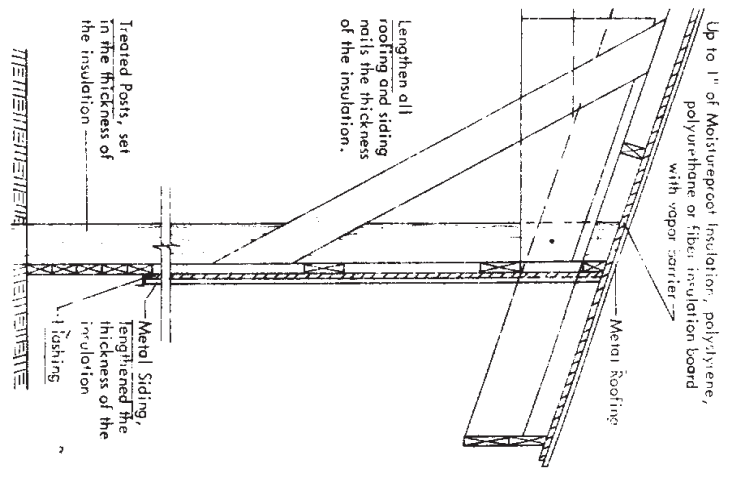
**86' DAIRY BARN
206 Free Stalls**

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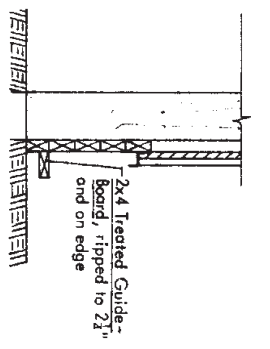
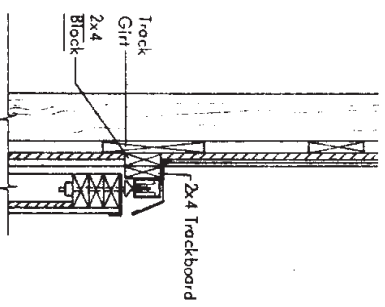
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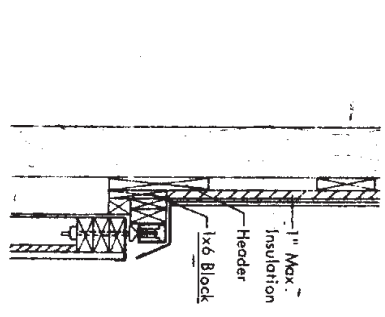
TYPICAL GABLE END SECTION 4/6



TYPICAL WALL SECTION 6/6



ENDWALL SECTION 5/6 With Sliding Door



ENDWALL HEADER SECTION 7/6

INSULATION DETAILS

Underlines show materials that change when insulation is added.