

LIVESTOCK WINTER FEEDING STATION
 WITH ROLL CURB IN FEEDING AREA
 LANDOWNER –
 COUNTY, ILLINOIS
 USDA–NATURAL RESOURCES CONSERVATION SERVICE

Date _____
 6/09
 Designed _____
 Drawn M. QUINONES
 Checked _____
 Approved _____

LIVESTOCK WINTER FEEDING STATION
 WITH ROLL CURB FEEDING AREA
 COVER SHEET 30 ANIMALS



File No.
 IL-ENG-220A

Drawing No.

Sheet 1 of 10

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SHEET	DESCRIPTION
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2.	Estimated Quantities
3.	Floor Plan
4.	Roof And Truss Details Of Covered Feeding Area
5.	Roof And Truss Details Of Covered Stacking Area
6.	Post, Heavy Use Area, Entrance Footer & Floor Details
7.	Floor, Wall & Joint Details
8.	Bracing And Purlin Details
9.	Optional Side Entrance Details
10.	Curb Details

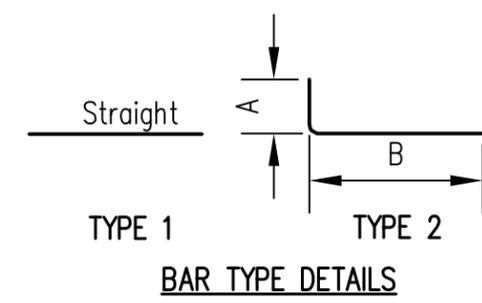
Note:
 Underground utilities present
 (including drainage tile) are
 the responsibility of the
 landowner and the contractor.

JOB CLASS _____

Description		Without Side Entrance	With 2 Side Entrances
Dimensions	Stacking Area Floor Length, Ft.	12	12
	Feeding Area Floor Length, Ft.	42	42
Posts	Stacking Area Columns 6"x 6"x 15'-0"	6	6
	Feeding Area Columns 6"x 6" 15'-0"	10	8
	Side Entrance Columns 6"x 6" 14'-0"	--	4
Concrete (4,000 PSI)	Stacking Area Walls & Footing, Cu.Yd.	13.7	13.7
	Stacking Area Slab, Cu.Yd.	1.8	1.8
	Feeding Area Roll Curbs, Cu.Yd.	10.9	10.9
	Feeding Area Slab & Entrance Footer, Cu.Yd.	17.6	17.6
	Total Concrete Cu.Yd. (Excludes Concrete Around Posts)	44.0	44.0
Welded Wire Fabric	6"x 6"x 8/8 Gauge Sq.Ft. (Does Not Include Overlap)	1292	1292
Trusses	Truss	15	15
	Truss Bracing 2"x 4" Lin.Ft.	282	282
	Knee Brace 2"x 6"x 6'	16	14
	Truss Support 2"x 6"x 42"	16	14
	Angle Iron Brace 2"x 2"x 3/8" Galvanized Steel Lin.Ft.	--	6
Girders	Girder 2"x 12" Lin.Ft.	224	247
	Girder Support 2"x 6"x 12"	32	28
	Support Bracing 2"x 6"x 24"	--	8
	Girder Brace 2"x 6"x 51"	--	8
	Spacer Block 1"x 6"x 11 1/2 "	--	4
Roofing Material	Roofing (29 Ga. Galv.) Sq.Ft. (Does Not Include Overlap)	2128	2128
	Roof Cap Lin.Ft.	56	56
	Gable End Sheathing Sq.Ft.	217	217
	Purlins 2"x4" Lin.Ft.	1232	1232
Gutters	Gutter 6" Lin.Ft.	112	112
	Downspout 3"x 4"	2	2
	Pressure Treated Plate 2"x 6" Lin.Ft.	112	112
Heavy Use Area	Base Course Material Tons	38	38
	Surface Aggregate Tons	13	13
	Geotextile Sq.Ft. (Does Not Include Overlap)	1361	1361
Slab And Footing	Base Course Material Tons	24	24

REINFORCING STEEL SCHEDULE (60,000 PSI)									
Location	Mark	Size	Qty	Length	Type	A	B	Tot. Ft.	
Entrance Footer	1	#4	18	1'-9"	2	0'-6"	1'-3"	31'-6"	
Entrance Footer	2	#4	6	25'-9"	1			154'-6"	
Roll Curb	3	#4	18	41'-8"	1			750'-0"	
Roll Curb	4	#4	68	1'-0"	1			68'-0"	
Roll Curb	5	#4	68	2'-7"	1			175'-8"	
Roll Curb	6	#4	68	3'-2"	2	0'-7"	2'-7"	215'-4"	
Roll Curb	7	#4	68	1'-10'	2	0'-7"	1'-3"	124'-8"	
Stacking Area Corner Walls	8	#4	8	8'-6"	2	4'-3"	4'-3"	68'-0"	
Stacking Area Side Walls	9	#4	8	9'-1"	1			72'-8"	
Stacking Area Side Walls-Footing	10	#5	14	7'-7"	1			106'-2"	
Stacking Area Side & End Walls	11	#4	55	3'-10"	1			210'-10"	
Stacking Area End Wall	12	#4	4	25'-3"	1			101'-0"	
Stacking Area End Wall-Footing	13	#5	7	22'-3"	1			155'-9"	
Stacking Area Walls-Footing	14	#5	55	8'-3"	2	2'-1"	6'-2"	453'-9"	

Type	Total Linear Feet	Weight Lb.
#4 Bars	1972	1317
#5 Bars	716	747
Total Weight		2064



Date: 6/09

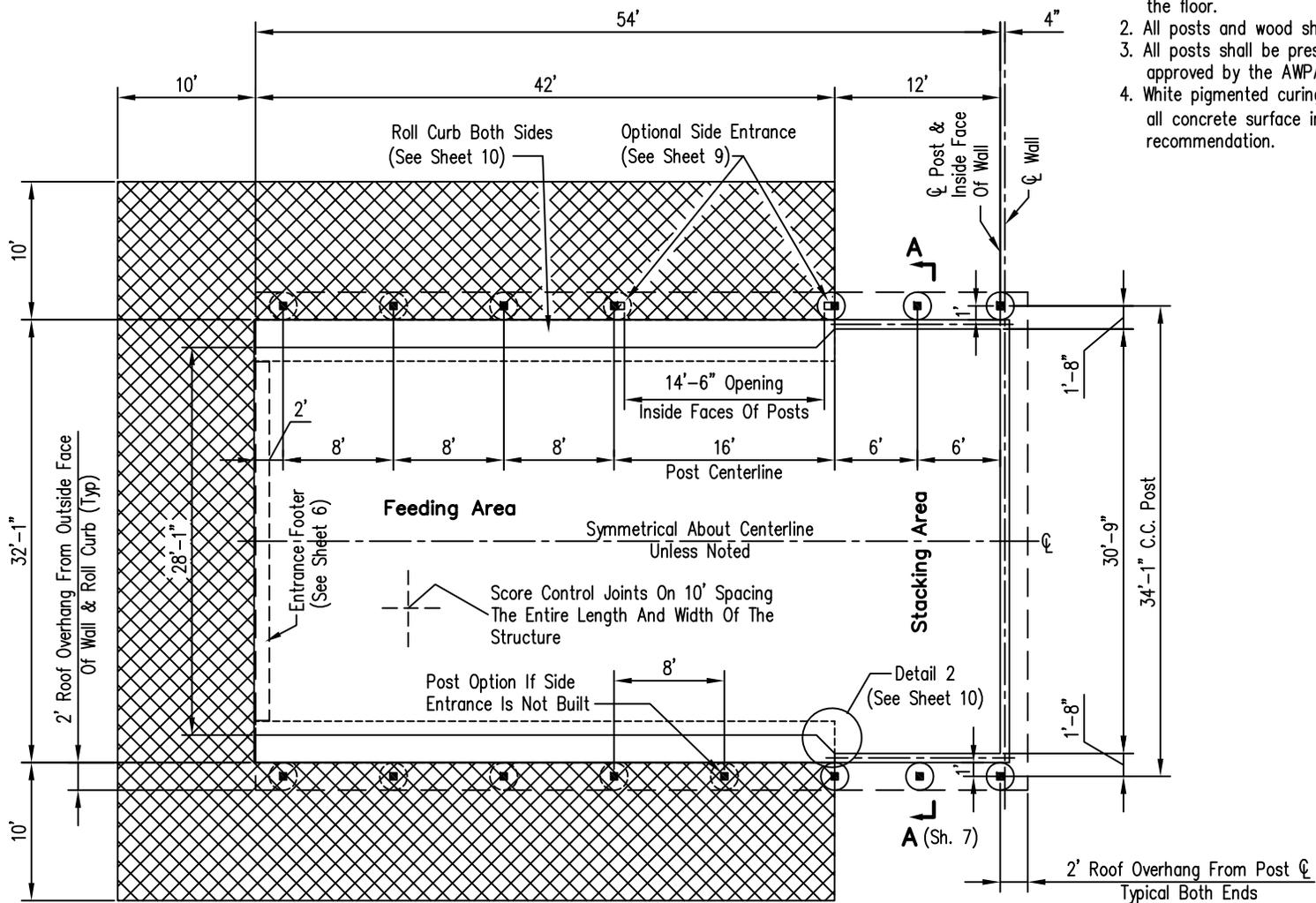
Designed: M. QUINONES
Drawn: M. QUINONES
Checked: M. QUINONES
Approved: M. QUINONES

**LIVESTOCK WINTER FEEDING STATION
WITH ROLL CURB FEEDING AREA
ESTIMATED QUANTITIES 30 ANIMALS**

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Natural Resources Conservation Service
United States Department of Agriculture

File No. IL-ENG-220B
Drawing No.

Sheet 2 of 10



- NOTES:**
1. The entire structure is to be constructed level including the floor.
 2. All posts and wood shall be number 2 southern pine.
 3. All posts shall be pressure treated with a preservative approved by the AWPA for ground contact.
 4. White pigmented curing compound shall be applied to all concrete surface in accordance with manufacturer's recommendation.

- LEGEND**
- 6"x6"x14' Pressure Treated Entrance Post
 - 6"x6"x15' Pressure Treated Building Post
 - ▨ Heavy Use Area (See Sheet 6)

Date	6/09
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**LIVESTOCK WINTER FEEDING STATION
WITH ROLL CURB FEEDING AREA
FLOOR PLAN 30 ANIMALS**

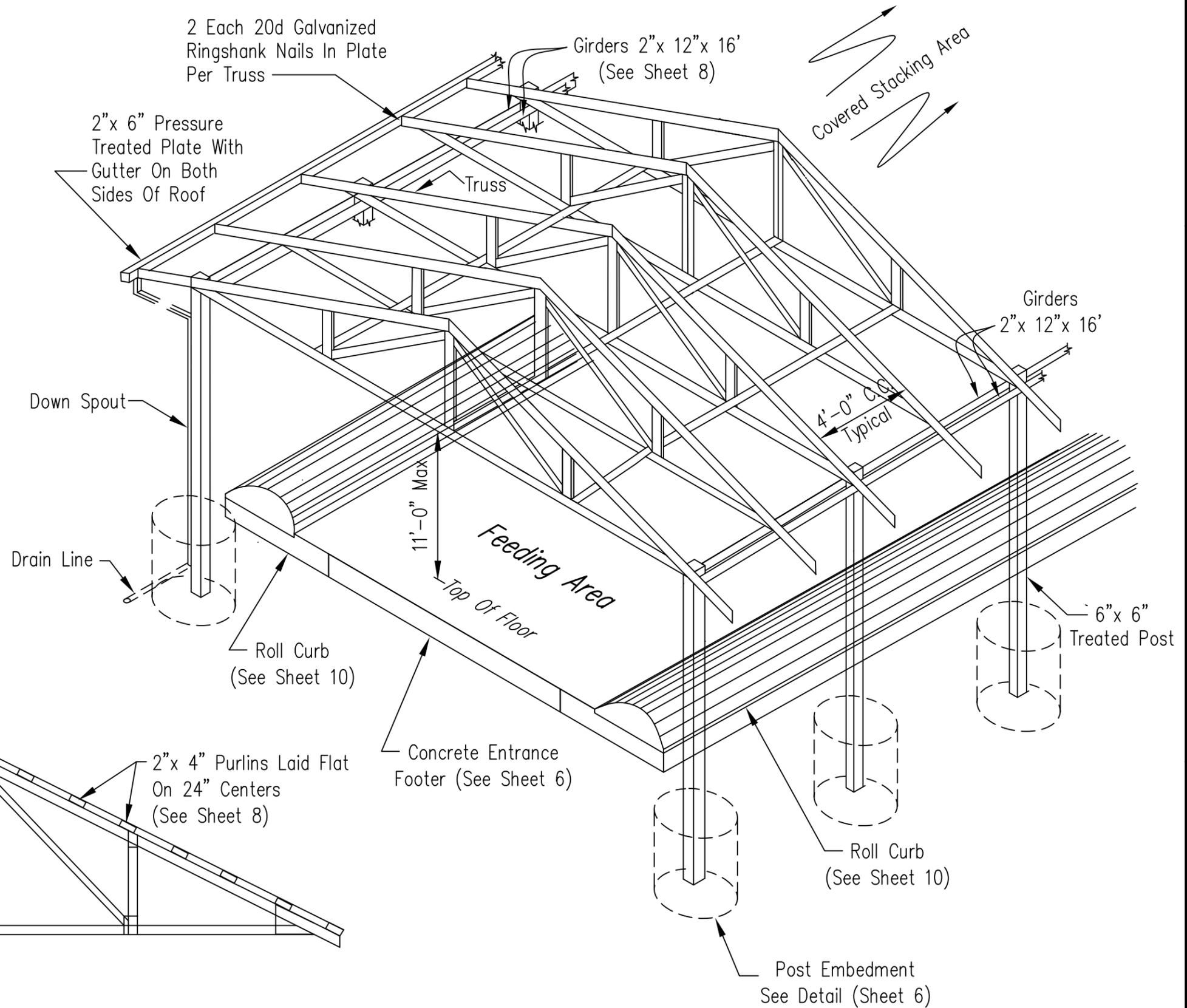
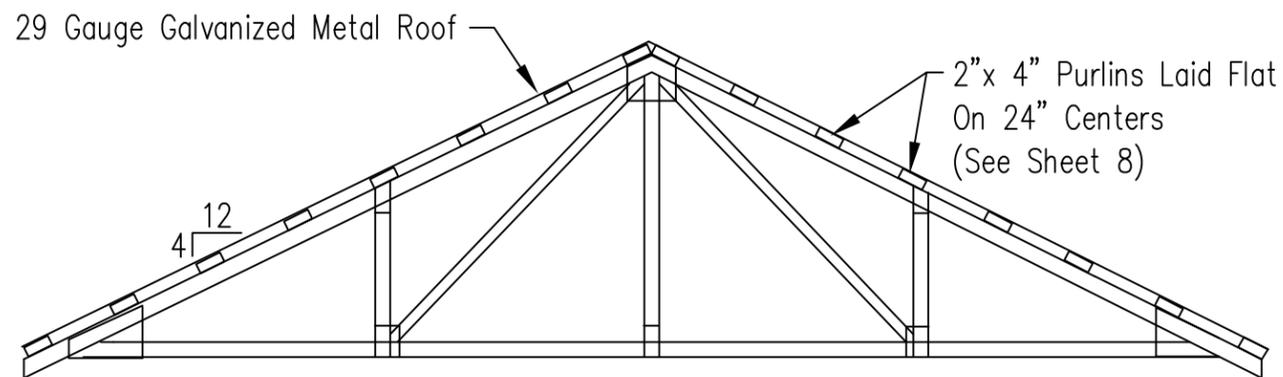


File No.
IL-ENG-220C

When Drawings Are Plotted
(22"x34") Scale: 1/4"=1'-0"
(11"x17") Scale: 1/8"=1'-0"

NOTES:

1. Gutters shall be installed according to Roof Runoff Structure Standard, (Code 558). They shall be standard 6 inch gutters with 3 inch x 4 inch down spouts every 85 feet of the building's length on both sides of the building.
2. A 12"x 12" concrete entrance footer is to be installed at the entrance. (See Sheet 6)
3. Gable ends of roof structure shall be sheathed with pressure treated plywood or other suitable material.
4. If feeders are to be added along the edges of the covered feeding area, the feeding area shall be fenced so livestock can not eat from outside of the structure.
5. All areas disturbed during construction shall be seeded and mulched according to Critical Area Planting standard (code 342).
6. See additional truss bracing on sheet 8.



See Truss Manufacturer's Certification Sheet. Trusses shall be designed and manufactured by a certified truss manufacturer. Trusses are designed for 30 pounds per square foot total load.

Sixty Six (66) nails or screws per 100 square feet shall be used to secure the roofing.

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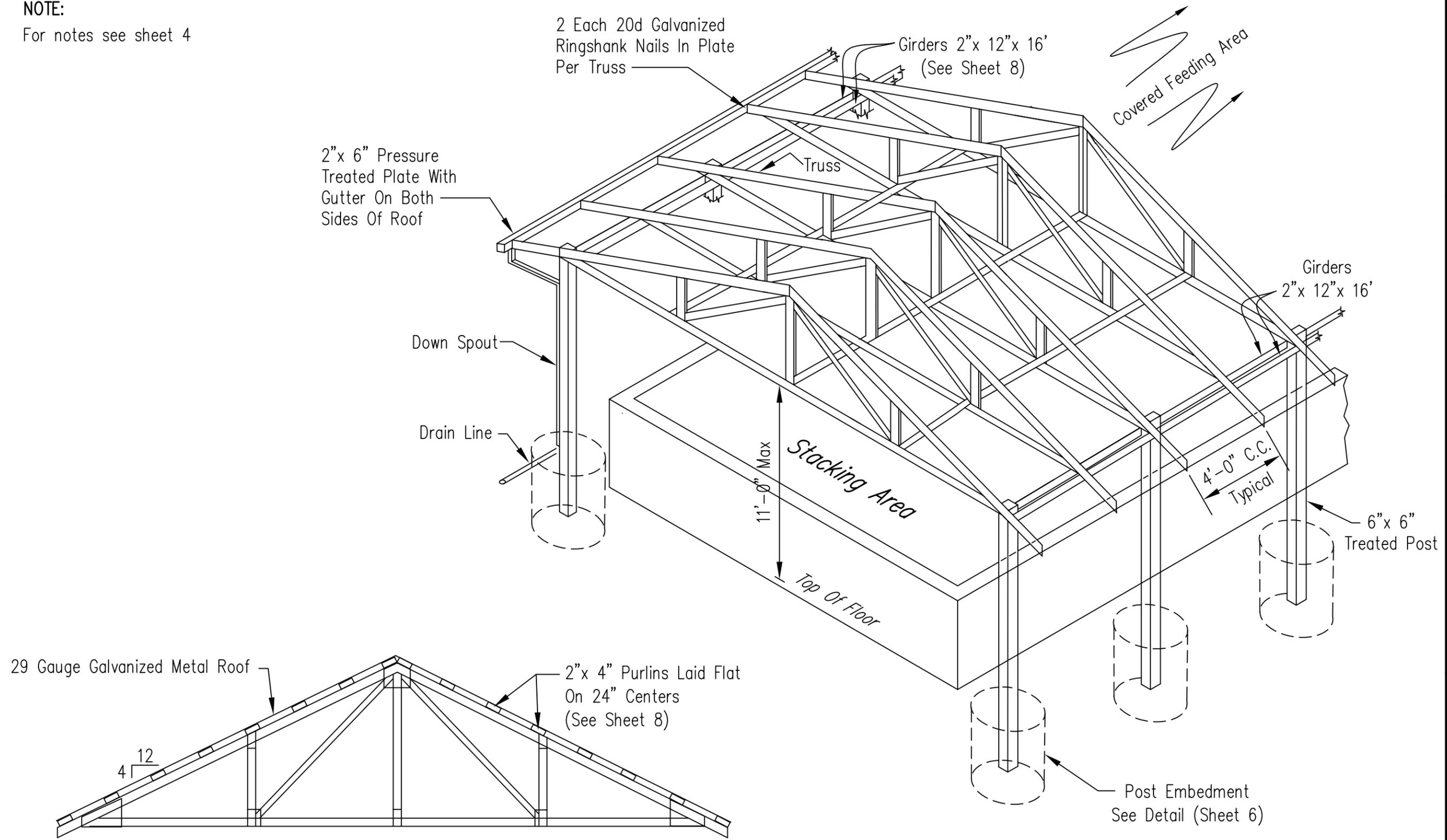
LIVESTOCK WINTER FEEDING STATION
ROOF AND TRUSS DETAILS
OF COVERED FEEDING AREA



File No. IL-ENG-220D
Drawing No.

Not To Scale

NOTE:
For notes see sheet 4



See Truss Manufacturer's Certification Sheet.
Trusses shall be designed and manufactured by a certified truss manufacturer.
Trusses are designed for 30 pounds per square foot total load.

Sixty Six (66) nails or screws per 100 square feet shall be used to secure the roofing.

Not To Scale

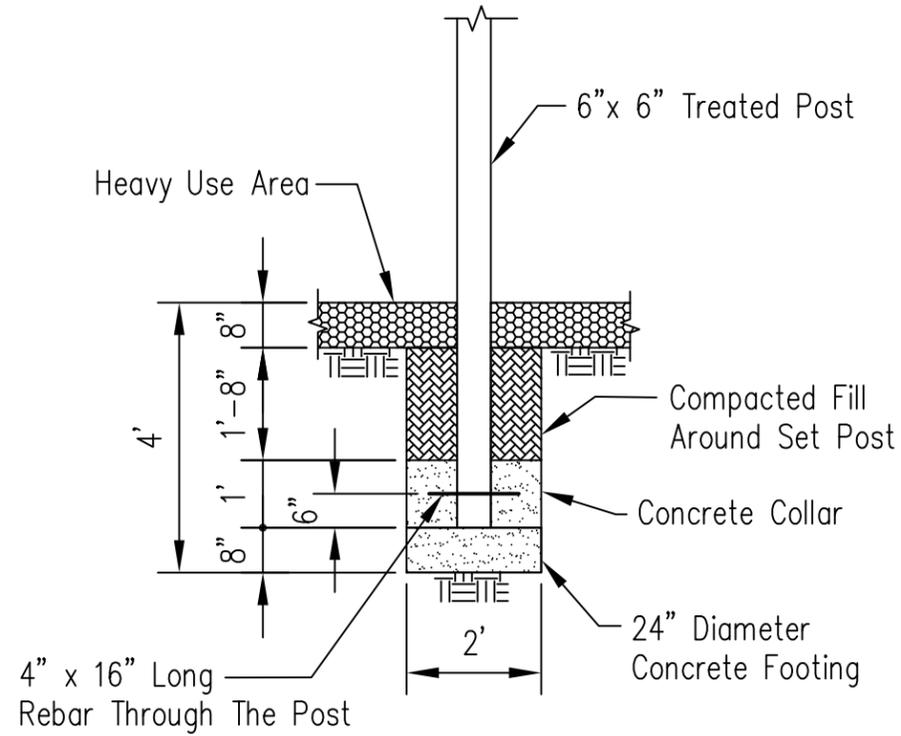
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**LIVESTOCK WINTER FEEDING STATION
ROOF AND TRUSS DETAILS
OF COVERED STACKING AREA**

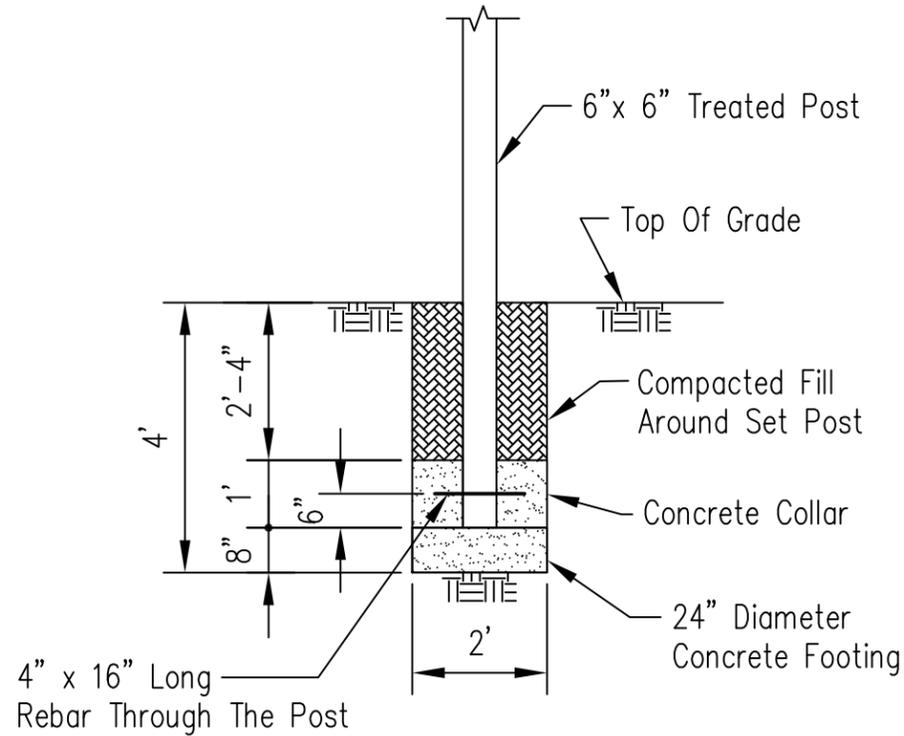
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Drawing No.

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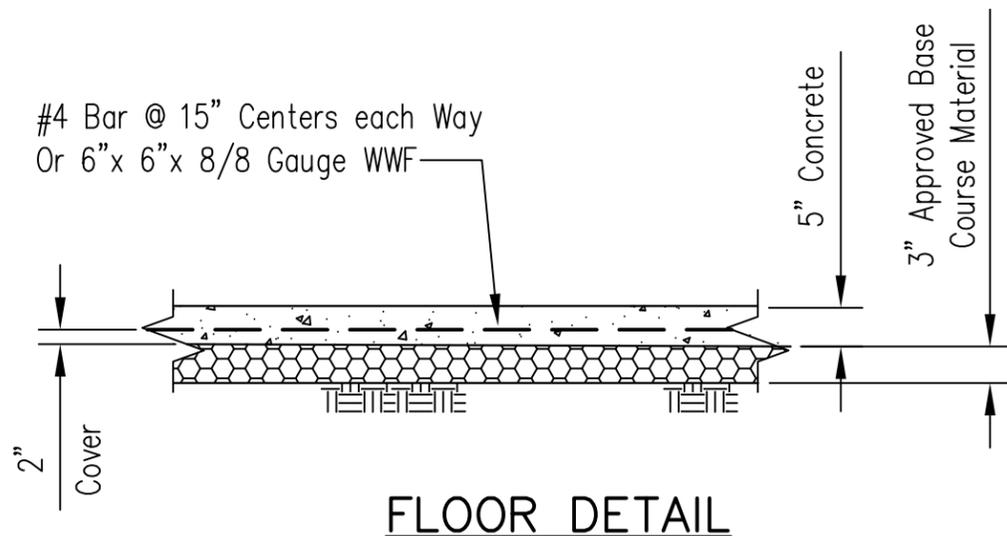


**POST EMBEDMENT DETAIL
BELOW HEAVY USE AREA**

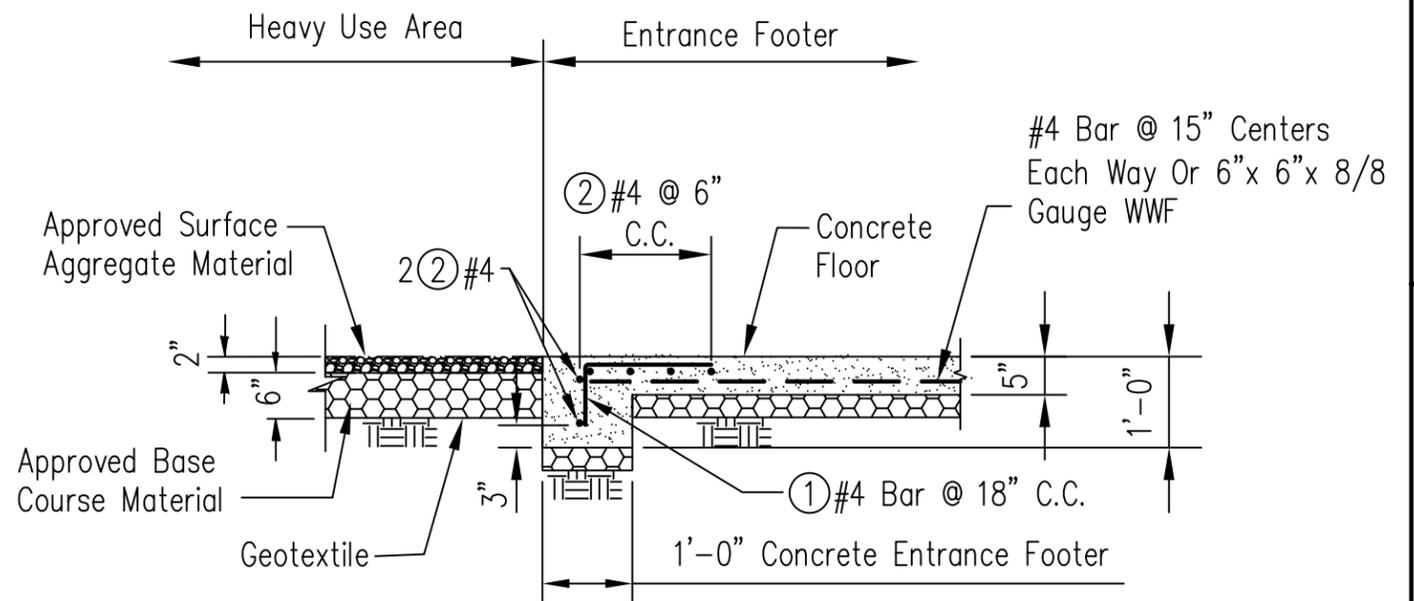


POST EMBEDMENT DETAIL

- Notes:
 1. Install entrance footer as shown on plan see sheet 3.
 2. For concrete see Note 1 on sheet 10.
 3. For geotextile see Note 8 on sheet 10.



FLOOR DETAIL



**SECTION VIEW OF ENTRANCE FOOTER
AND HEAVY USE AREA**

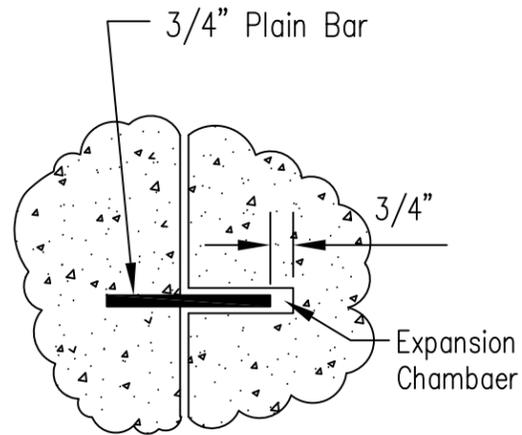
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LIVESTOCK WINTER FEEDING STATION
 POST, HEAVY USE AREA, ENTRANCE
 FOOTER AND FLOOR DETAILS

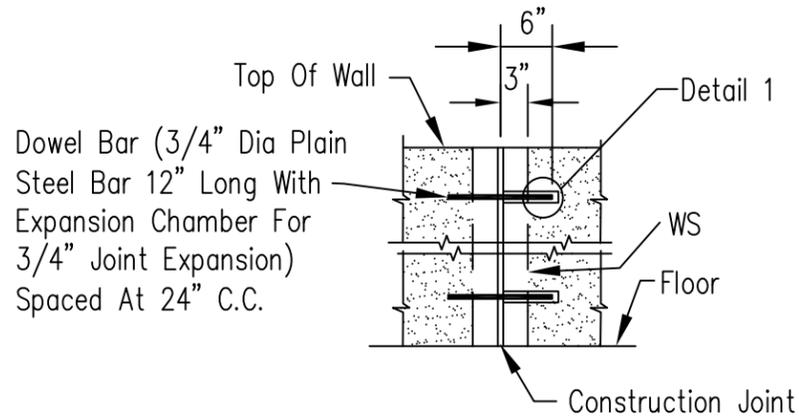


File No.
 IL-ENG-220F
 Drawing No.

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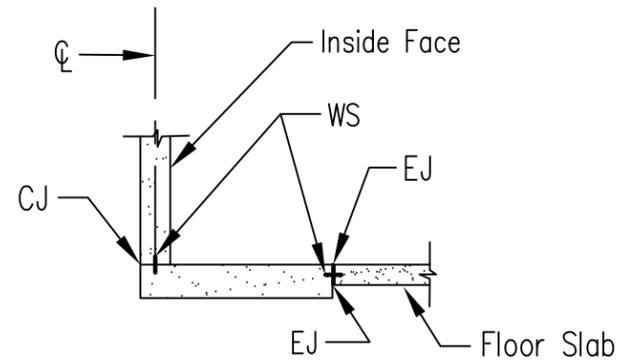


DETAIL 1

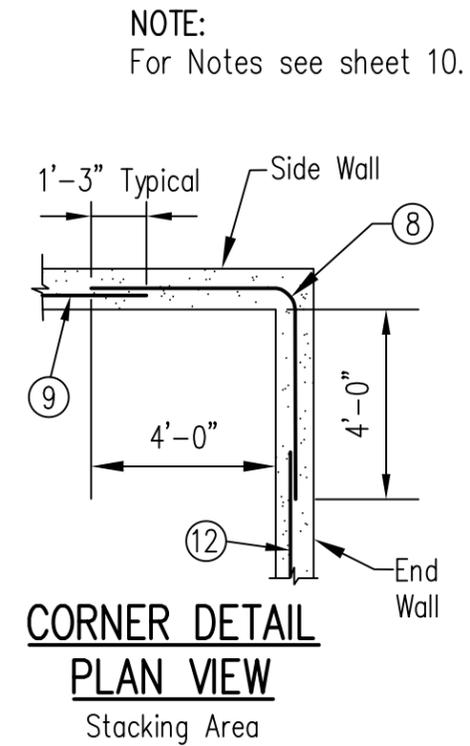


**EXPANSION JOINT
DETAIL-WALL**

Spacing Not Greater Than 30' C.C.



**EXPANSION JOINT
DETAIL-FLOOR & WALL**



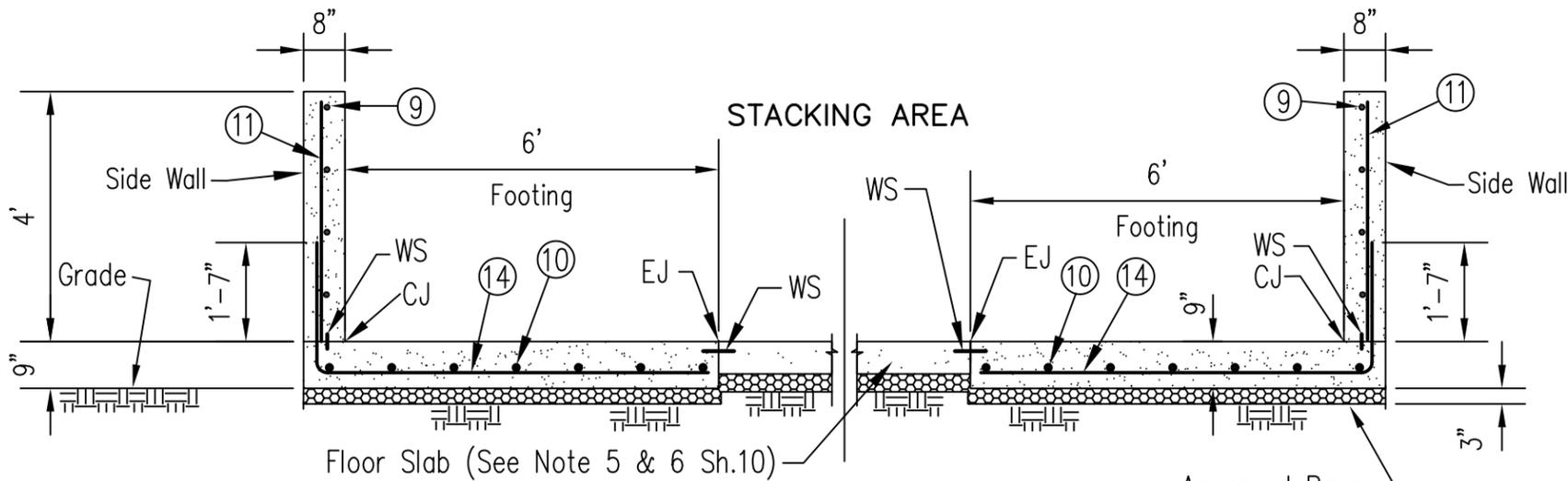
**CORNER DETAIL
PLAN VIEW**

Stacking Area

NOTE:
For Notes see sheet 10.

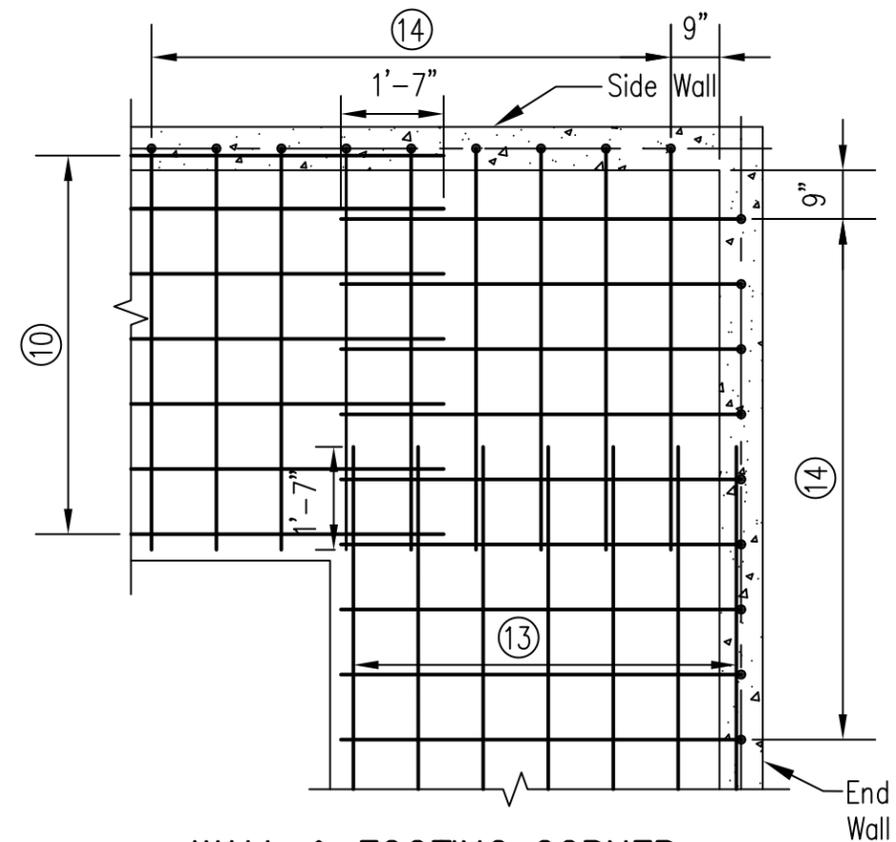
LEGEND

- WS = 6" Nonmetallic Water Stop
- CJ = Construction Joint
- EJ = Expansion Joint



SECTION A-A

Scale: 3/8" = 1'-0"



**WALL & FOOTING CORNER
REINFORCING DETAIL-PLAN VIEW**

Stacking Area

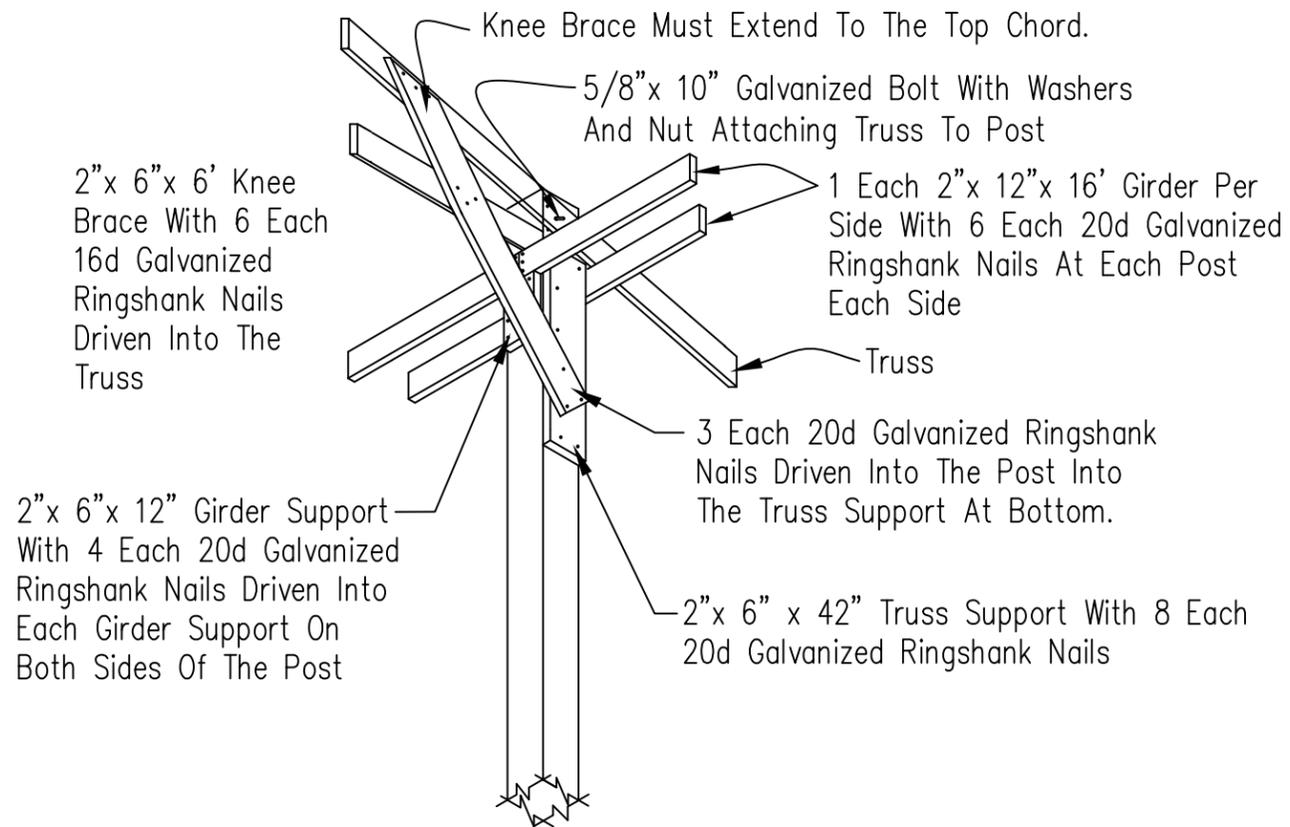
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**LIVESTOCK WINTER FEEDING STATION
FLOOR, WALL & JOINT DETAILS**

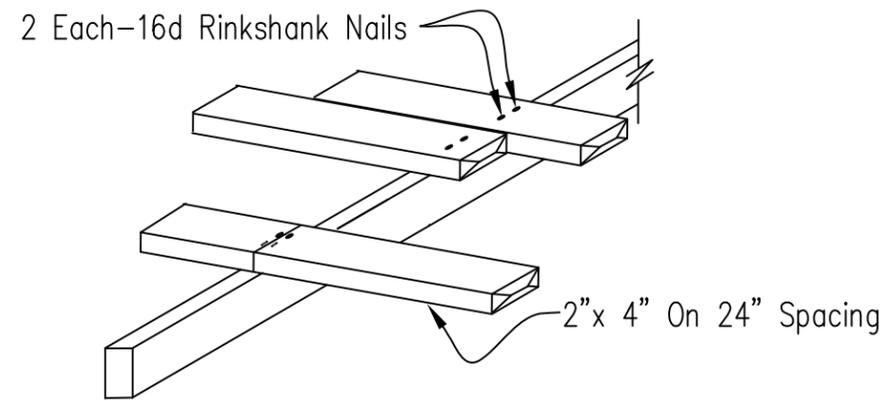


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Drawing No.

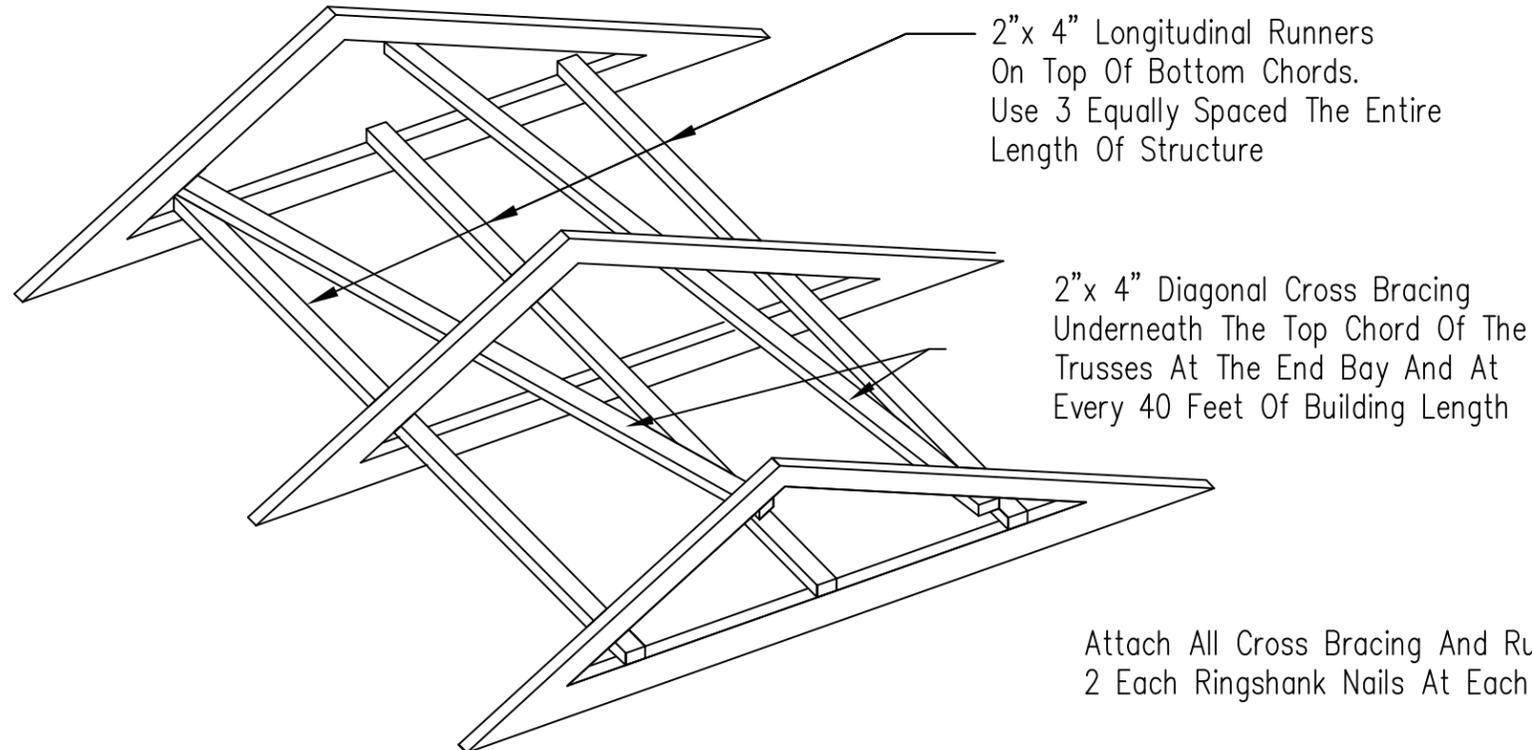
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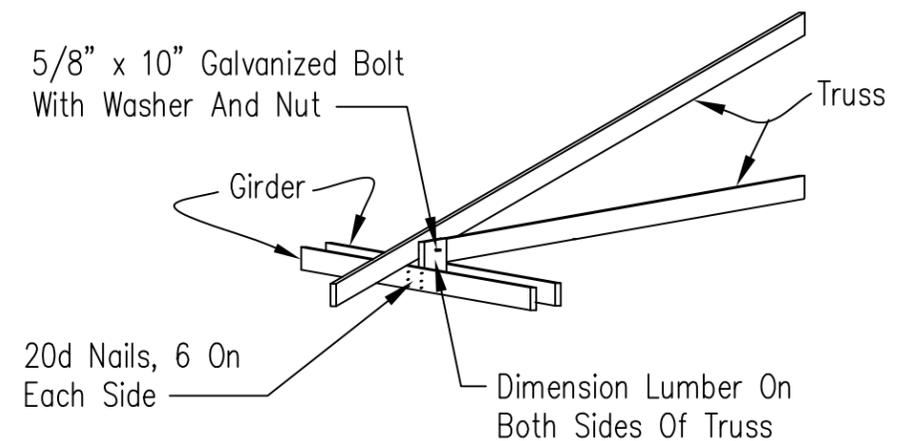
POST TRUSS DETAIL



PURLINS SPACED @ 24" CENTERS



TRUSS BRACING DETAILS



TRUSS TO GIRDER ANCHORAGE

Note:
The truss support, girder support and knee brace shall be pressure treated. See Note 3 sheet 3 of 10.

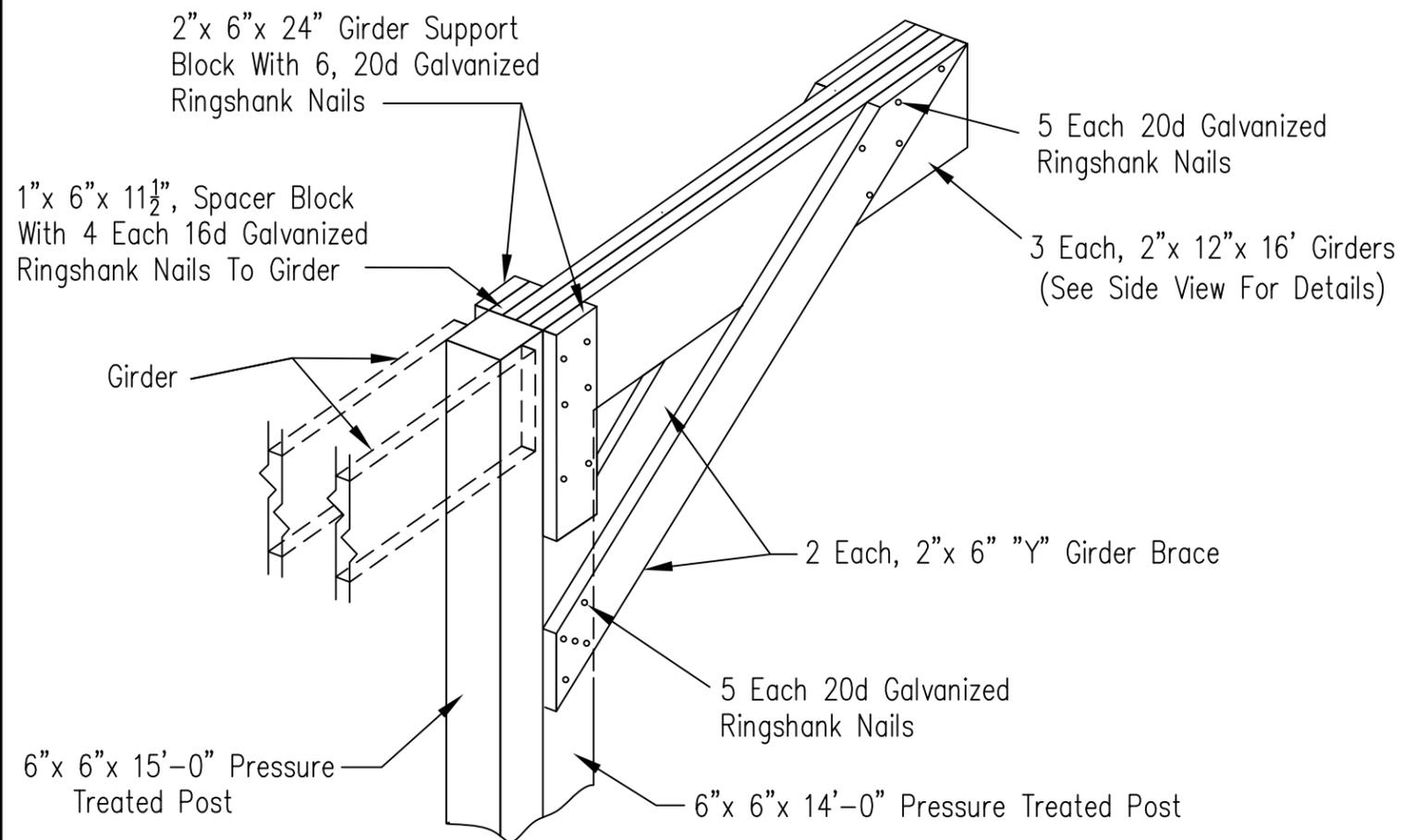
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LIVESTOCK WINTER FEEDING STATION
BRACING AND PURLIN
DETAILS

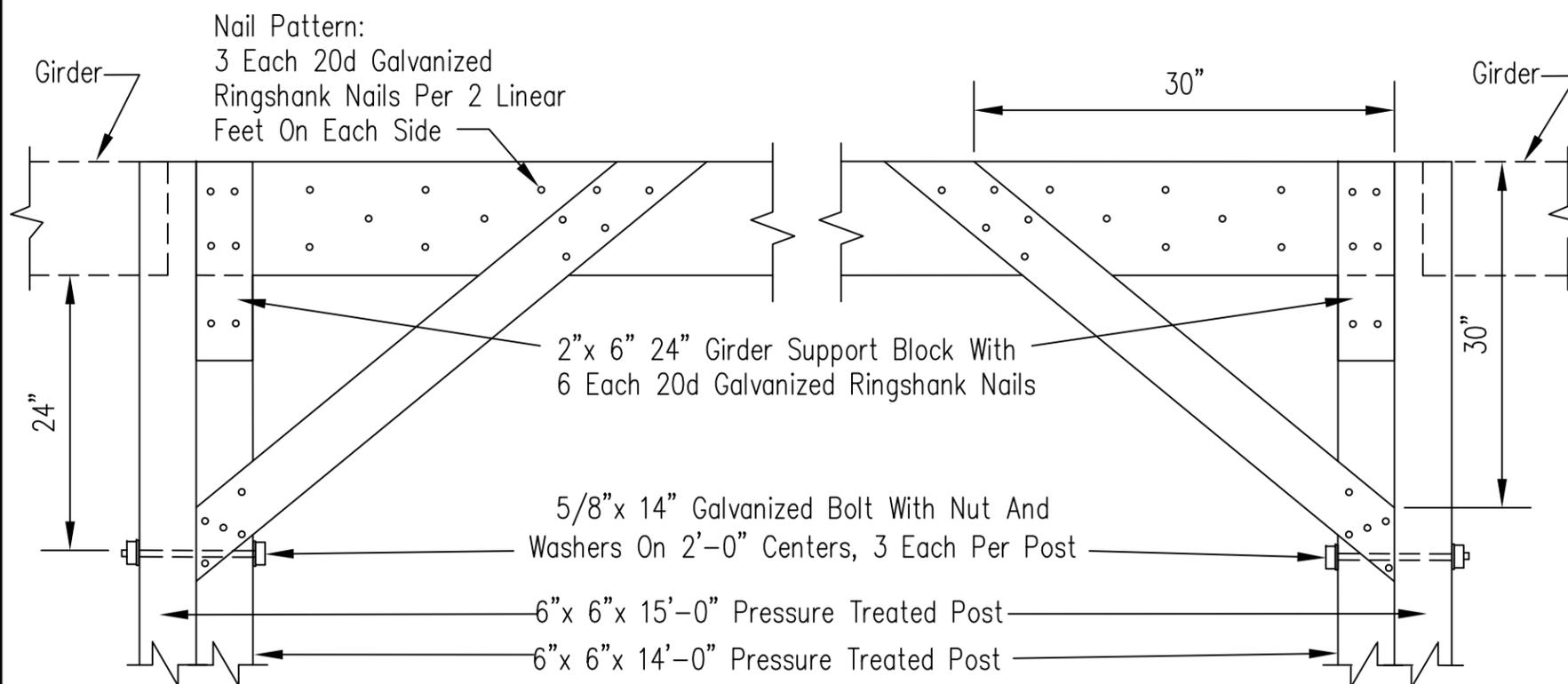


File No.
IL-ENG-220H
Drawing No.

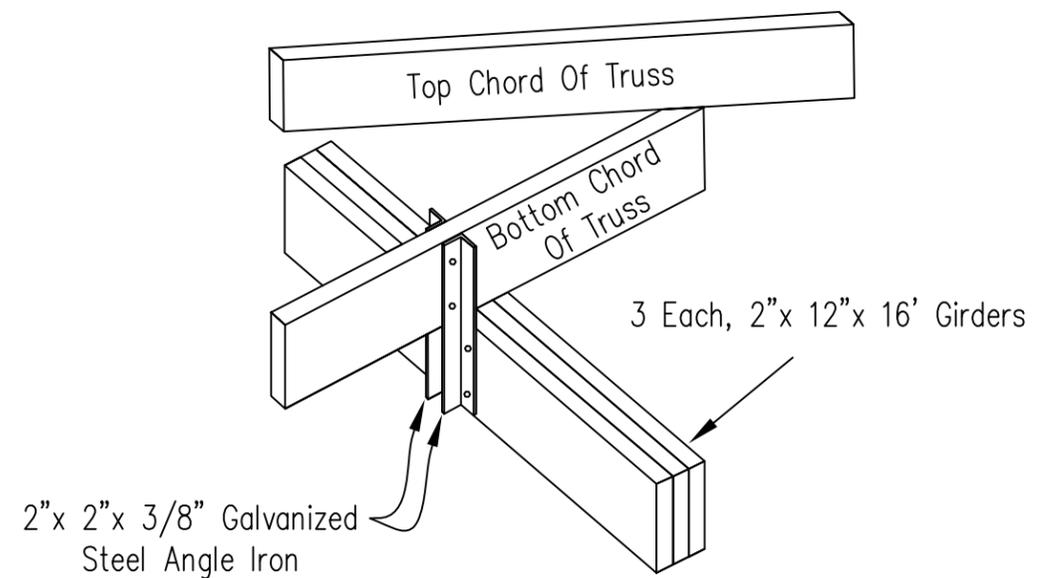
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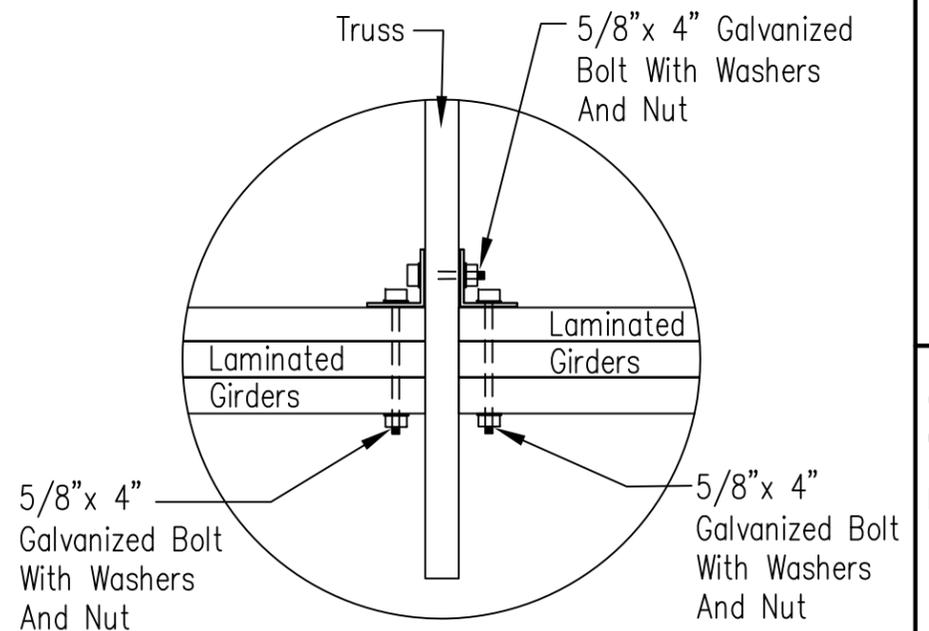
ISOMETRIC VIEW



SIDE VIEW



TRUSS TO LAMINATED GIRDER ATTACHMENT



TOP VIEW OF TRUSS TO LAMINATED GIRDER ATTACHMENT

Not To Scale

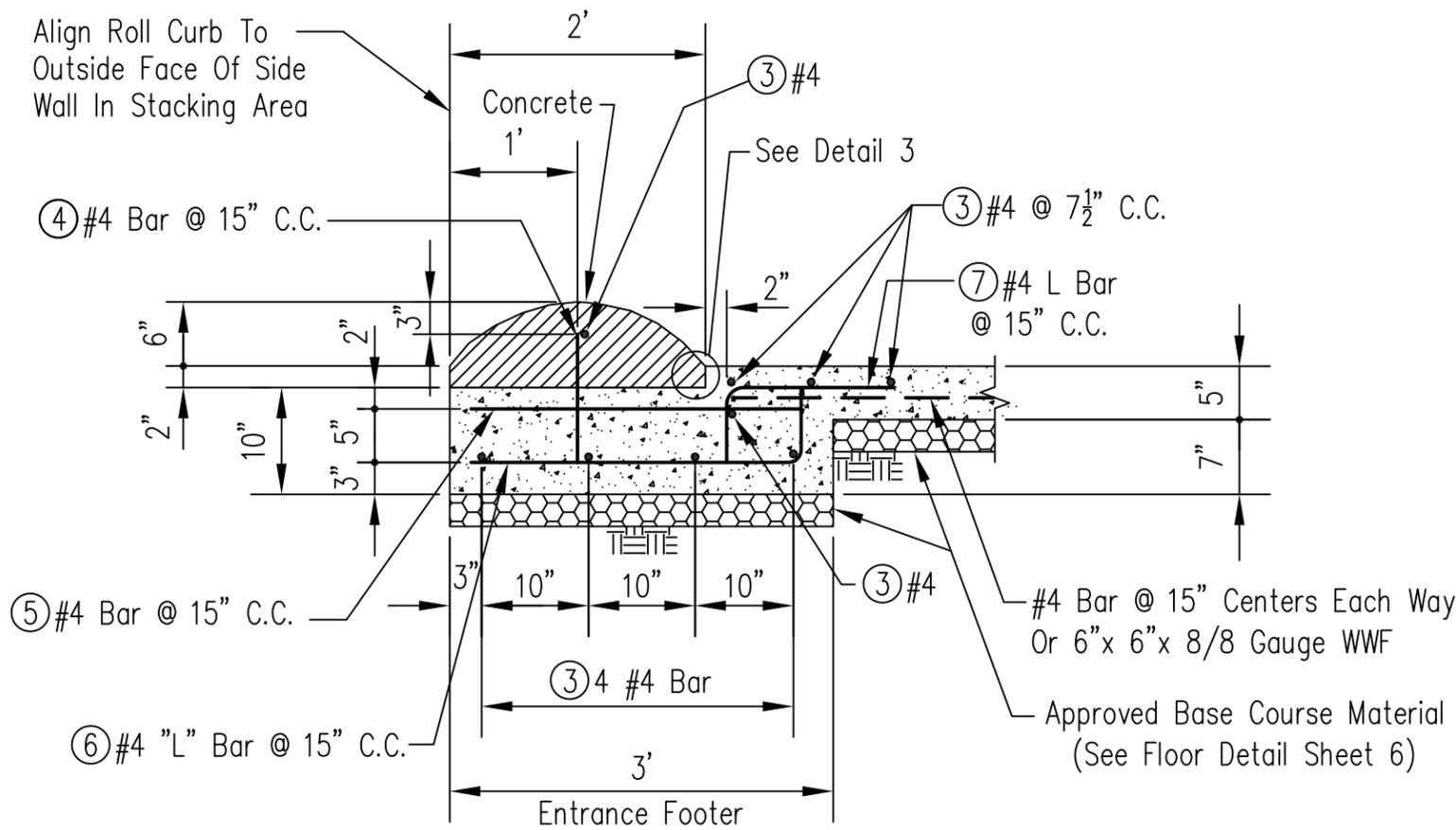
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LIVESTOCK WINTER FEEDING STATION
OPTIONAL SIDE ENTRANCE
DETAILS

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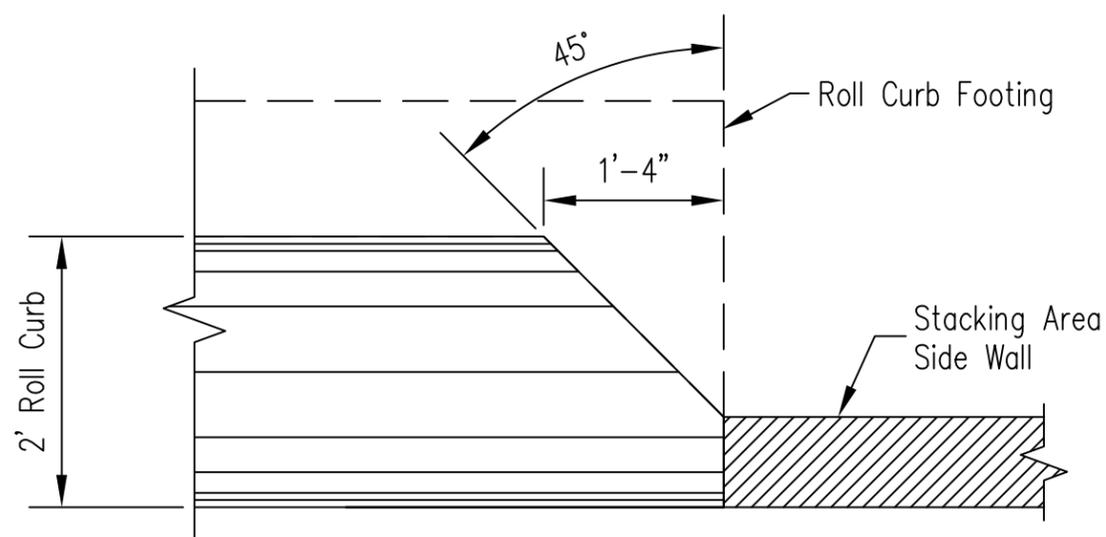
File No. IL-ENG-220J
Drawing No.

Sheet 9 of 10



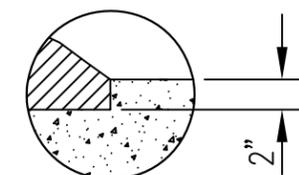
SECTION VIEW OF ROLL CURB

Scale: 3/4" = 1'-0"



DETAIL 2 (PLAN VIEW)

Scale: 3/4" = 1'-0"



DETAIL 3

NOTES:

GENERAL

1. Concrete mix should be design to yield 28 day compressive strength of 4000 PSI.

STEEL

2. The 8" sidewall and 9" floor shall have one row of steel placed at 12 inch centers in both direction.
3. All steel placed in the 8" sidewall and 9" floor shall have a minimum concrete cover over reinforcement of two inches, except when the concrete is placed on or against the earth, then the minimum concrete cover shall be three inches.
4. Length of reinforcing bar splice lap shall be at least 15 inches for #4 bar and and 19 inches for #5 bar.

WALL

5. The wall will be built with expansion joints (see Expansion Joint Detail-Floor & Wall). No section of wall will be over 30' long between expansion joints.

FLOOR SLAB

6. The 5" floor shall be constructed by the following method:
Place concrete on top of 3 inch layer of approved base course material. Use number 4 bars @ 15" spacing each way or 6"x6"x 8/8 gauge WWF. Concrete cover for steel placed in floor slab shall be 2" minimum.
7. Where ever the floor slab exceeds 30' in length or width, water tight control joints (see Expansion Joint Detail-Floor & Wall) will be installed.
8. Geotextile (non-woven) minimum criteria:

Weight of Geotextile (oz/sq.yd.)	6
Tensile strength (lb) ASTM D 4632	180
Elongation at failure (%) ASTM D 4632	≥50
Puncture (lb) ASTM D 4833	80
Ultraviolet light ASTM D 4355	70
Apparent opening size (AOS) ASTM D 4751	max 40 sieve
Permittivity sec ⁻¹ ASTM D 4491	0.70

Date		Designed		Checked	
	6/09	Drawn	M. QUINONES	Approved	

LIVESTOCK WINTER FEEDING STATION CURB DETAILS



File No. IL-ENG-220K
Drawing No.

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