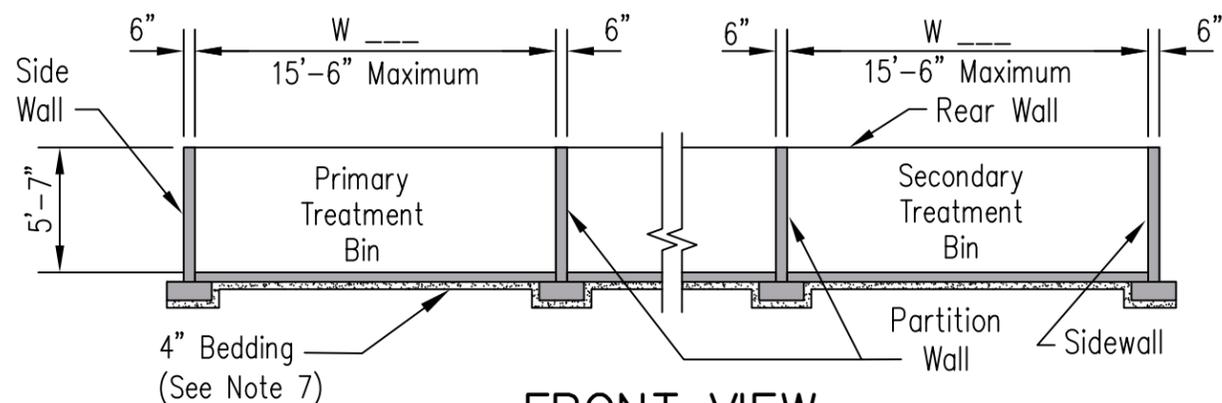
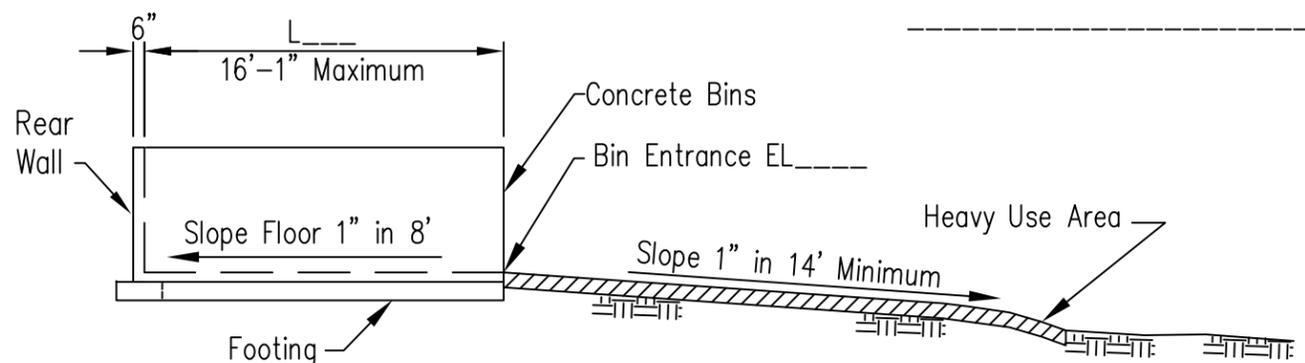


Minimum Bin Configuration - 2 Primary, 2 Secondary
PLAN



FRONT VIEW



SIDE VIEW

Notes:

1. Concrete mix should be designed to yield 28 day compressive strength of 4000 psi.
2. The wall will be built with expansion joints (see Expansion Joint Details page 3). No section of wall will be over 30 foot long between expansion joints.
3. A construction joint must be placed anywhere the concrete placement is not continuous. See Construction Joint Notes on page 6.
4. All steel must have a minimum clear concrete cover over reinforcement of 2 inch except when concrete is on or against earth, then minimum clear cover is 3 inch.
5. All must be grade 60. All rebar must have a minimum splice of 15 inches.
6. No earth backfill will be placed around the outside of these walls.
7. Bin length is 16'-1" maximum and bin width is 16 foot maximum.
8. Bedding under concrete shall be IDOT Grad. No. FA 1, 2, 4, or CA 7, 8, 11, 13, 14, 15, 16.
9. Compact the bedding material with the track or tire of the equipment used for construction to ensure a smooth uniform foundation without depressions or irregularities.
10. Place an expansion joint filler between all wood/concrete interfaces and all concrete slab interfaces. The joint filler must conform to ASTM Specification D 994, D 1751 or D 1752 Type I, Type II or Type III. This includes joint between concrete heavy use area and bins.
11. Extend purlins to full extent of roof overhang on each end of roof.

_____ BIN COMPOSTER

Bench Mark El. _____

Description _____

Date	7/1/16
Designed	M. QUINONES
Drawn	
Checked	
Approved	

CONCRETE COMPOST BIN WITH POLE BARN ROOF - SINGLE ROW



File No. IL-ENG-170

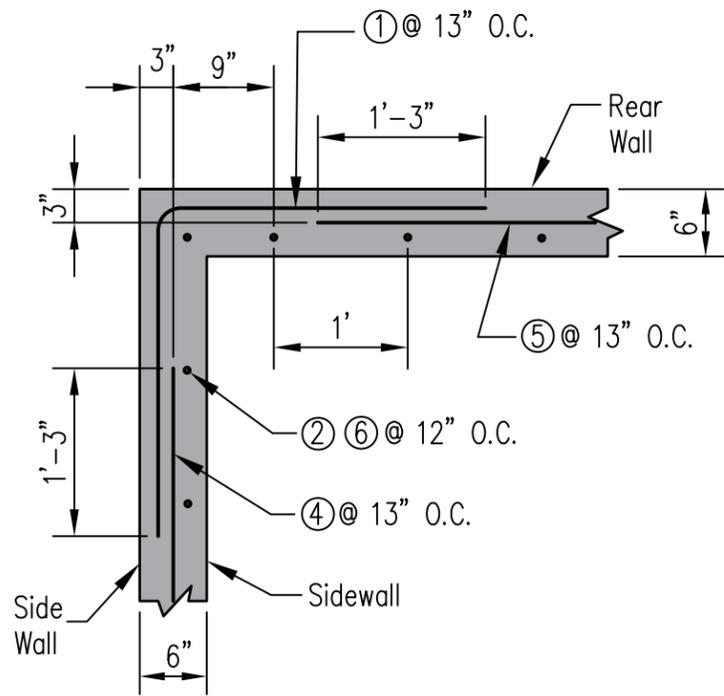
Drawing Set

Page 1 of 6

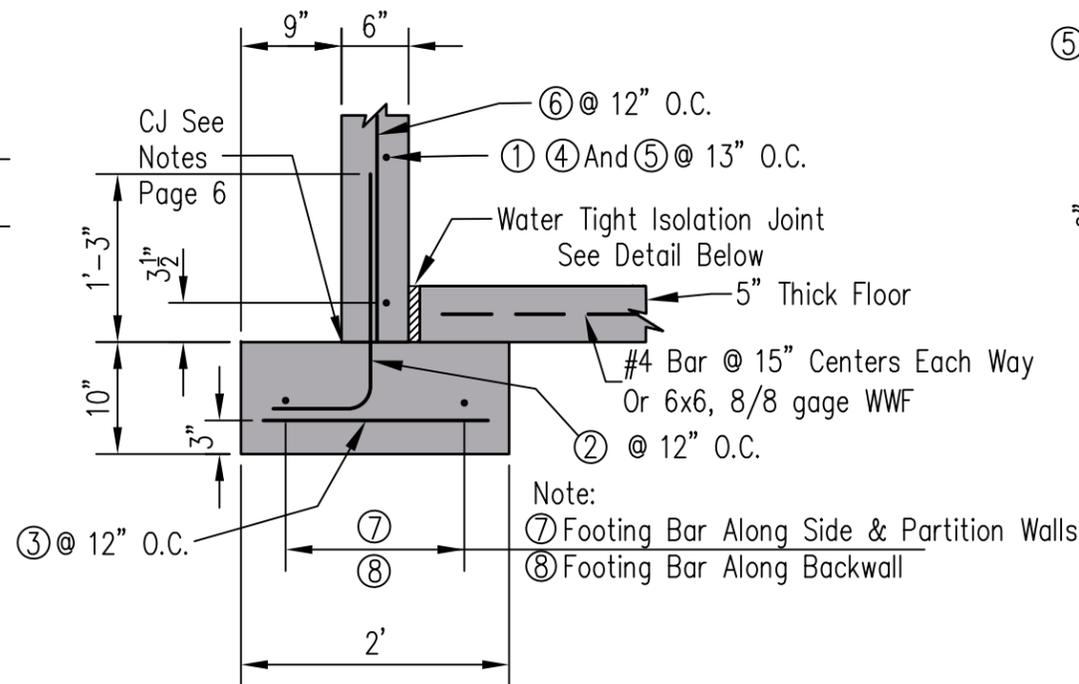
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Landowner		Location	
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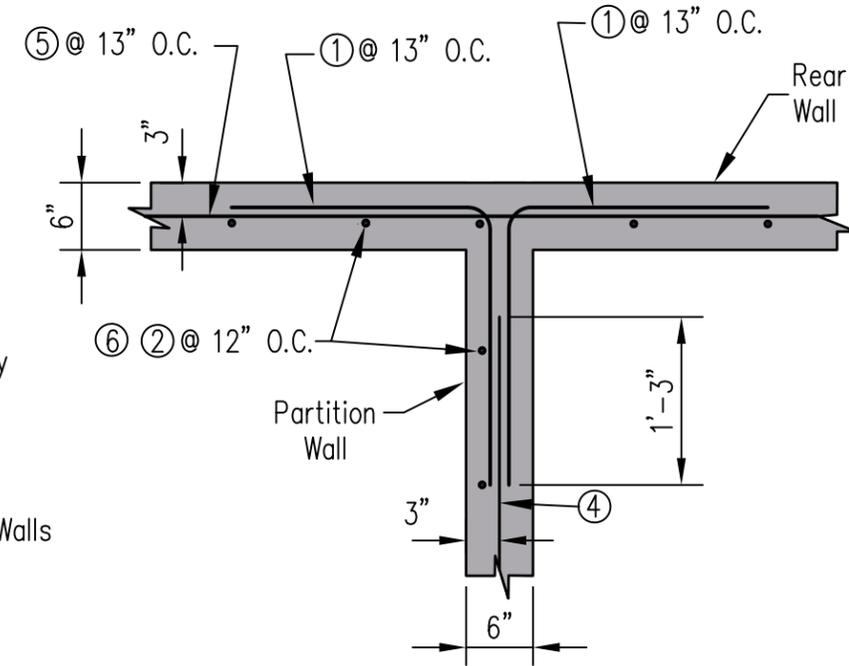
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**CORNER DETAIL
PLAN VIEW**



FOOTING, FLOOR & WALL DETAIL

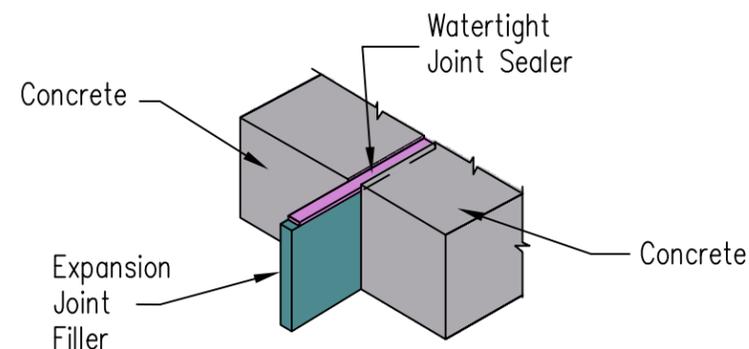


**PARTITION WALL DETAIL
PLAN VIEW**

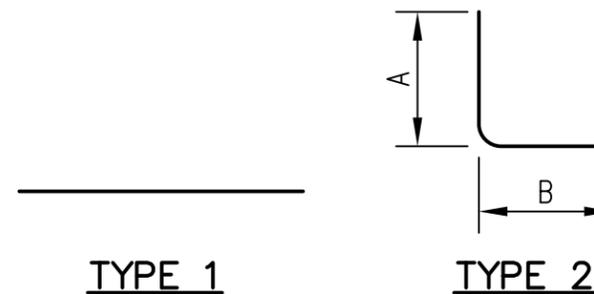
LEGEND
CJ = Construction Joint

Isolation Joint Notes:

1. Expansion Joint Filler (See Page 1 Note 10)
2. Joint Sealer must be watertight, flexible, and capable for use on uncured concrete.



**WATERTIGHT
ISOLATION JOINT**



REINFORCING STEEL SCHEDULE							
Mark	Size	Quantity	Length	Type	A	B	Tot. Ft.
1	#4		4'-8"	2	2'-4"	2'-4"	
2	#4		2'-6"	2	1'-9"	0'-9"	
3	#4		1'-6"	1	-	-	
4	#4			1	-	-	
5	#4	6		1	-	-	
6	#4		5'-10"	1	-	-	
7	#4			1	-	-	
8	#4	2		1	-	-	

Steel _____ Lin Ft _____ pounds

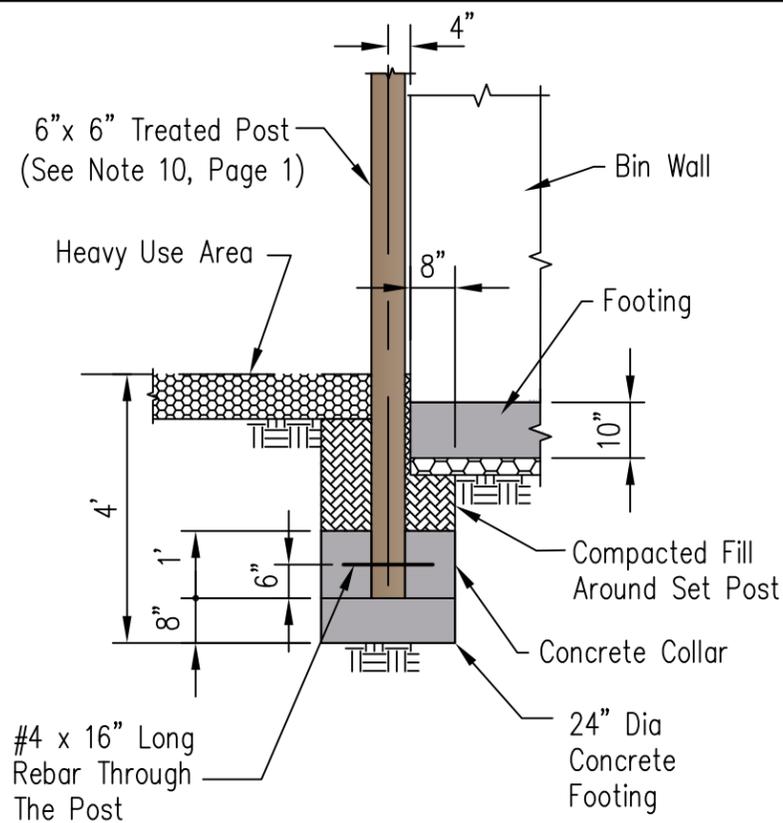
Scale 3/4" = 1'-0"

Date _____
Designed _____
Drawn M. QUINONES 7/1/16
Checked _____
Approved _____

**CONCRETE COMPOST BIN WITH
POLE BARN ROOF - SINGLE ROW**

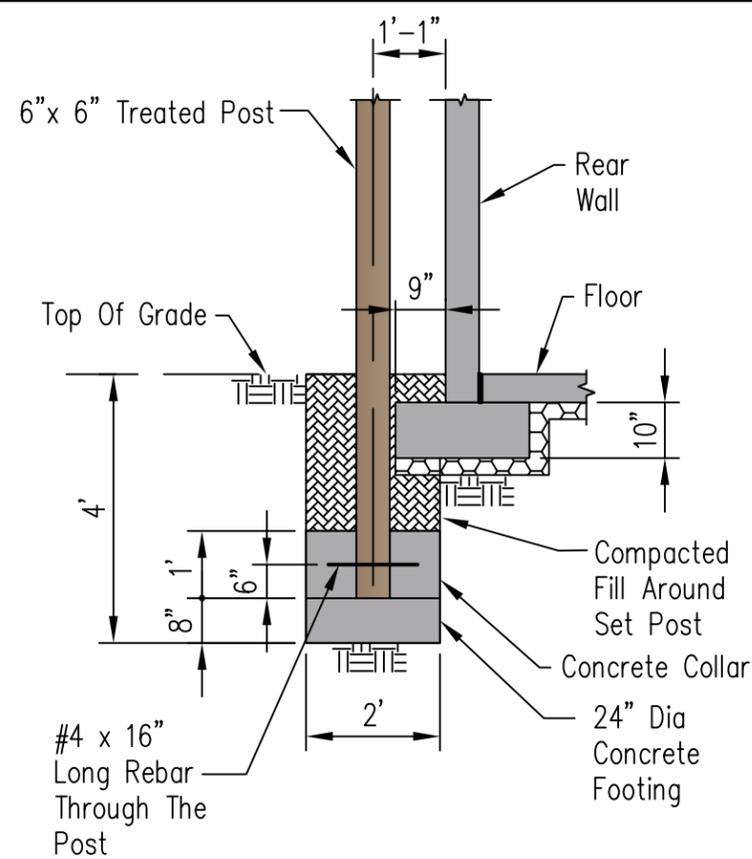
United States
Department of
Agriculture
USDA
Natural Resources
Conservation Service

File No.
IL-ENG-170
Drawing Set
Page 2 of 6
Sheet of



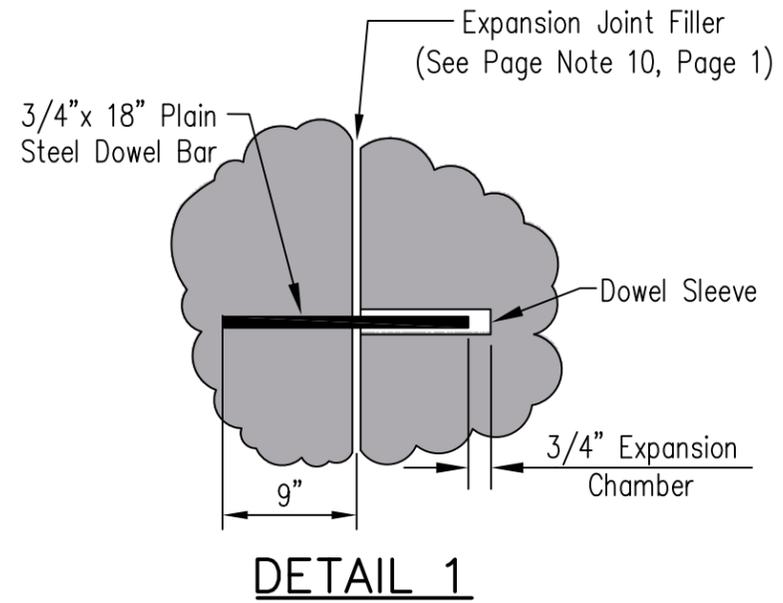
SECTION A-A (Page 1)

Post Embedment Detail
At Front Of Bin

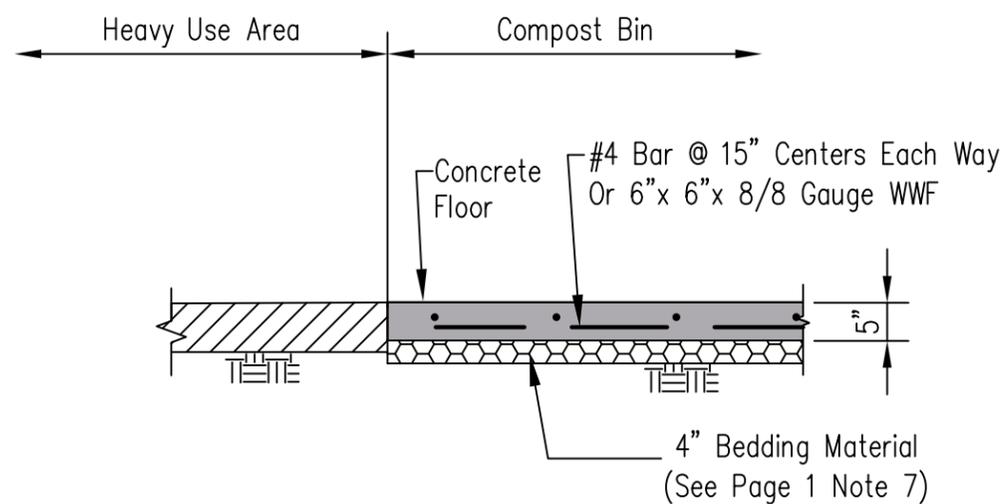


SECTION B-B (Page 1)

Post Embedment Detail
AT Rear Of Bin

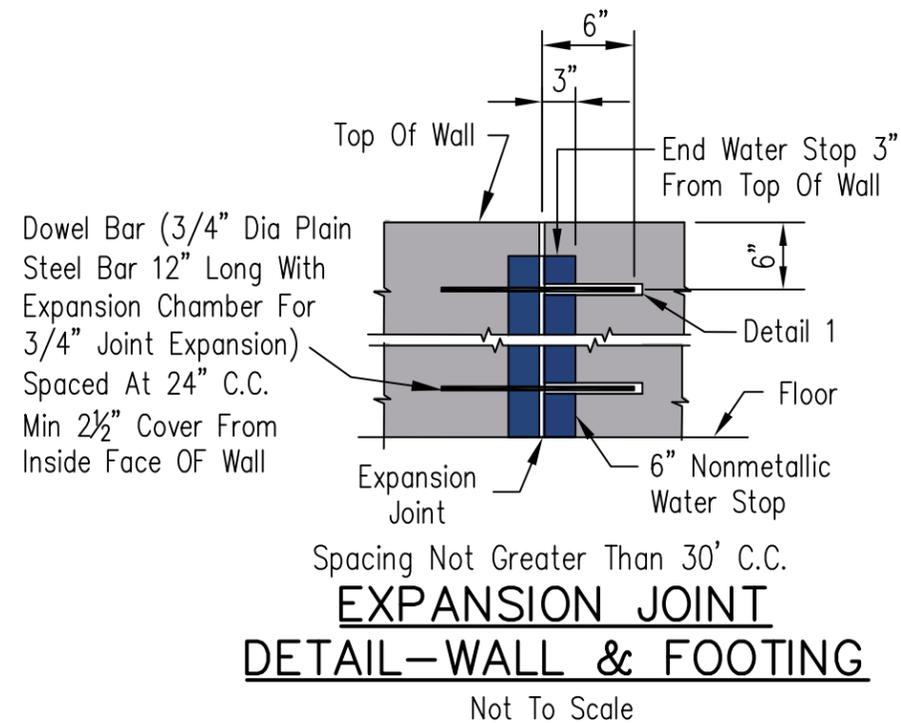


DETAIL 1



SECTION C-C (Pg 1)

Bin Concrete Slab/Heavy Use Area
Not To Scale



**EXPANSION JOINT
DETAIL-WALL & FOOTING**

Not To Scale

Date	7/1/16
Designed	M. QUINONES
Drawn	
Checked	
Approved	

**CONCRETE COMPOST BIN WITH
POLE BARN ROOF-SINGLE ROW**

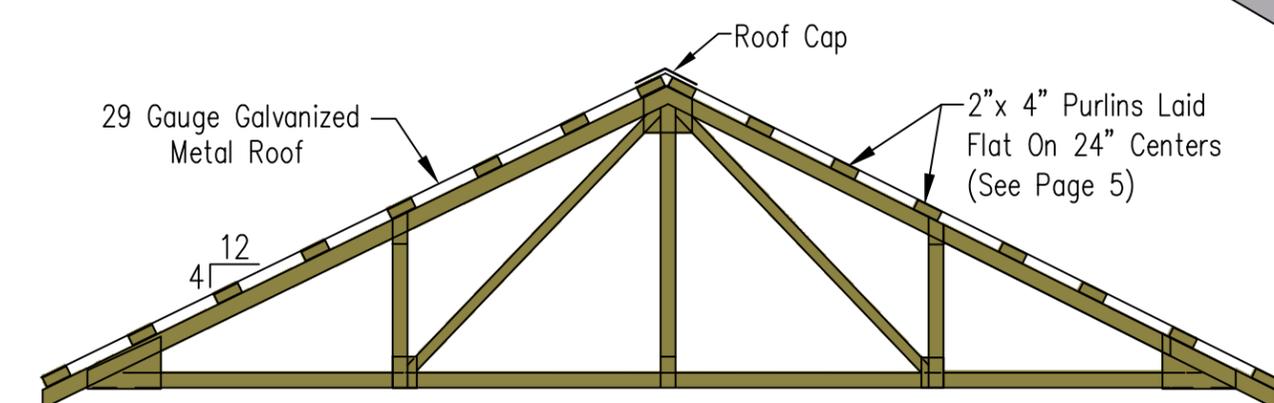
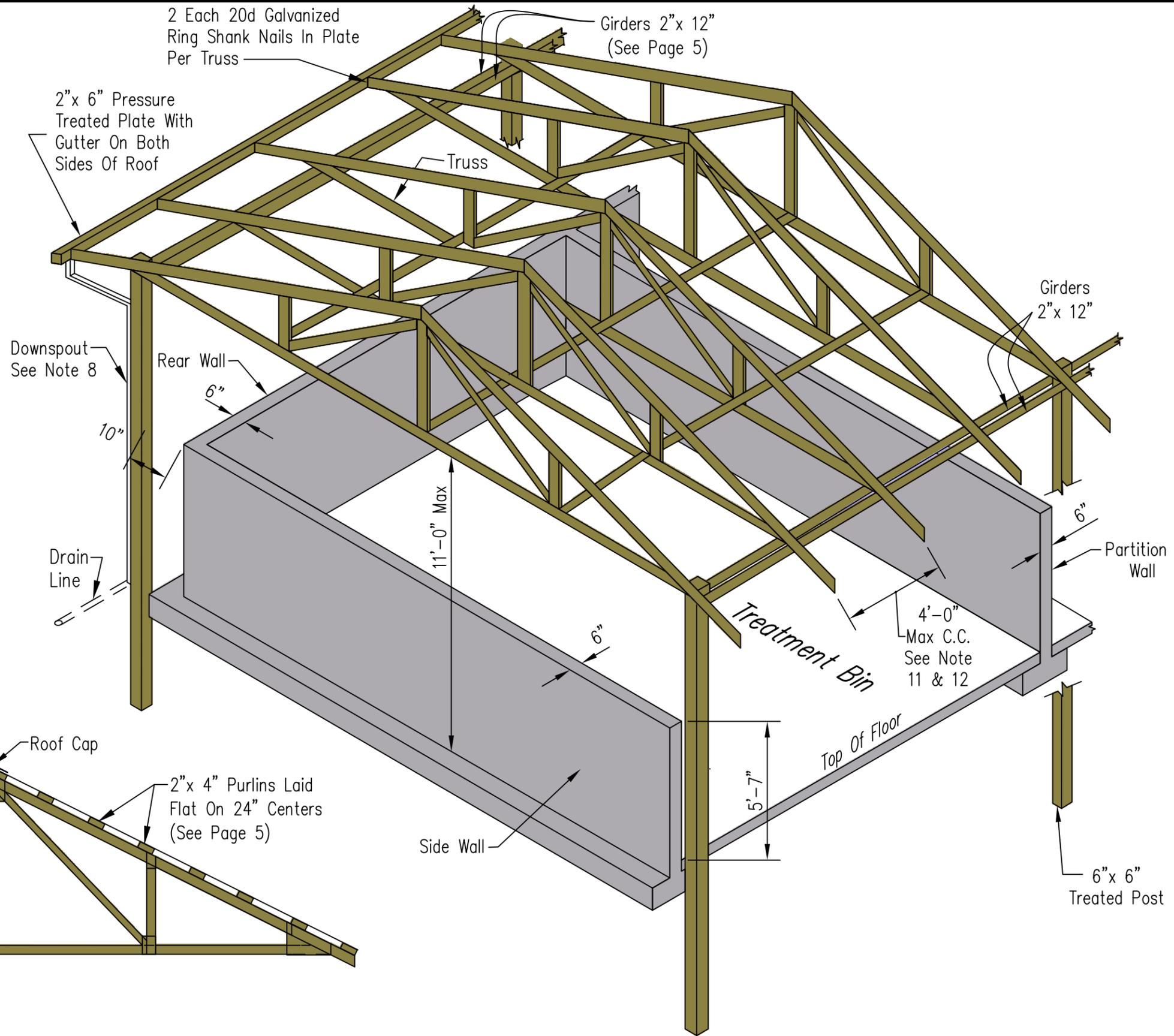
United States
 Department of
 Agriculture
USDA
 Natural Resources
 Conservation Service

File No.
 IL-ENG-170
 Drawing Set
 Page 3 of 6
 Sheet of

Scale 3/8" = 1'-0"
Unless Noted

NOTES:

1. All posts and cross braces shall be pressure treated with a preservative approved by the AWP for ground contact.
2. Attach purlins to rafters with 2 16d nails at each rafter. Purlins shall overlap at trusses. See page 5.
3. Girder splices shall be at posts.
4. All bolts shall be 5/8 inch diameter galvanized, with galvanized washers at both ends.
5. All 16d nails shall be galvanized and ringshank.
6. Nail gusset and knee brace together, use galvanized nails.
7. Nuts must be kept snug throughout the life of the structure or serious damage could result.
8. Gutters shall be installed according to Roof Runoff Structure Standard, (Code 558) and drawing IL-ENG-124. 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. See drawing IL-ENG-124 for details.
9. Gable ends of roof structure shall be sheathed with pressure treated plywood or other suitable material.
10. See additional truss bracing on page 5.
11. Set post spacing so that each post will connect to a truss.
12. Connect truss on each end of compost facility to outside face of posts.



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.

Date	7/1/16
Designed	M. QUINONES
Drawn	
Checked	
Approved	

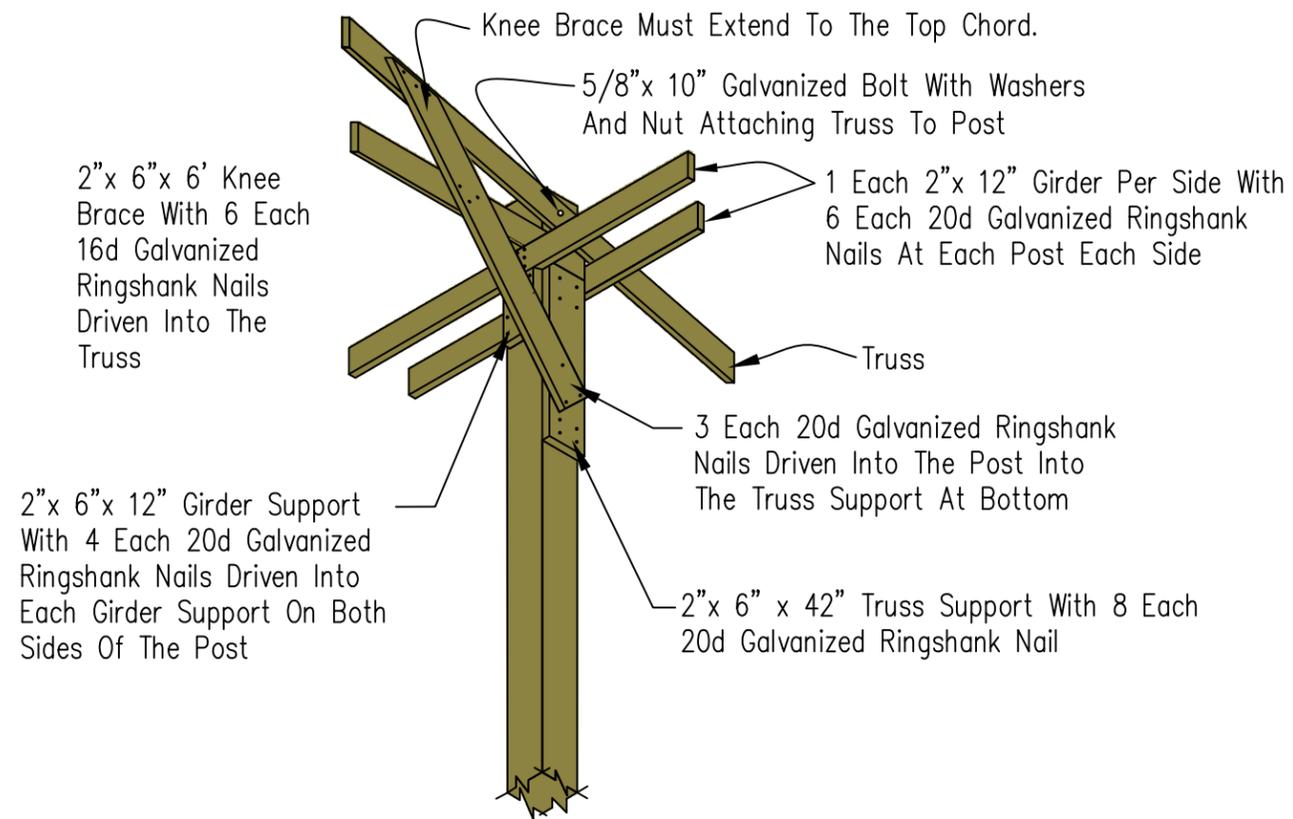
**CONCRETE COMPOST BIN WITH
POLE BARN ROOF—SINGLE ROW**

United States
Department of
Agriculture

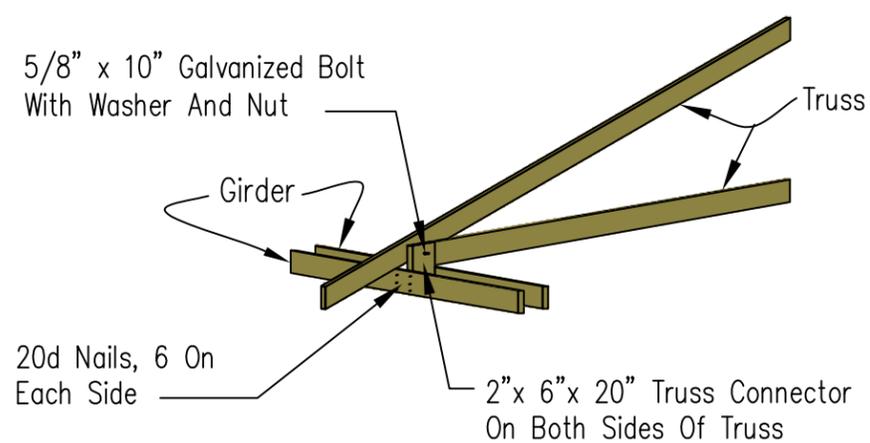
Natural Resources
Conservation Service

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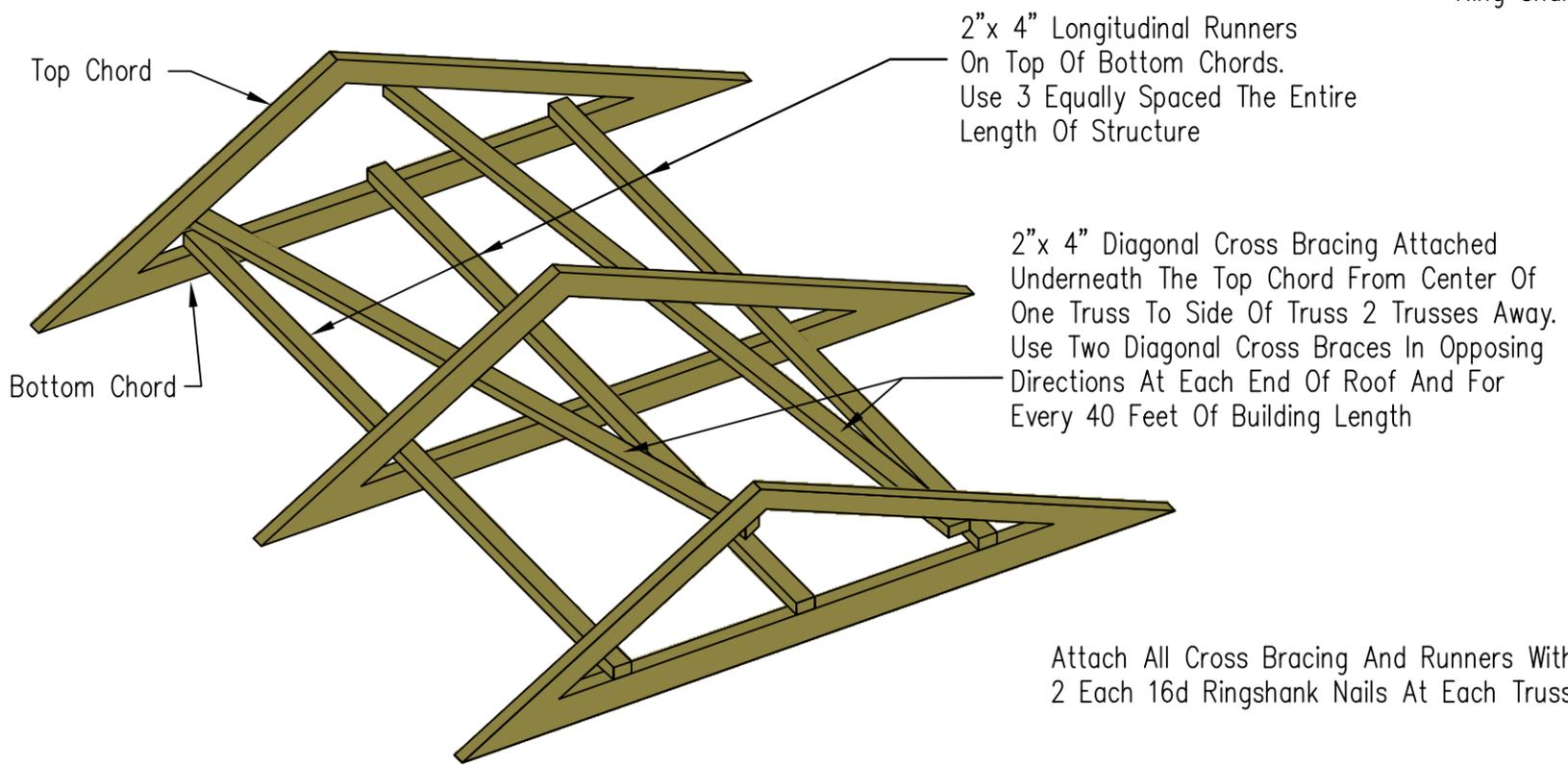
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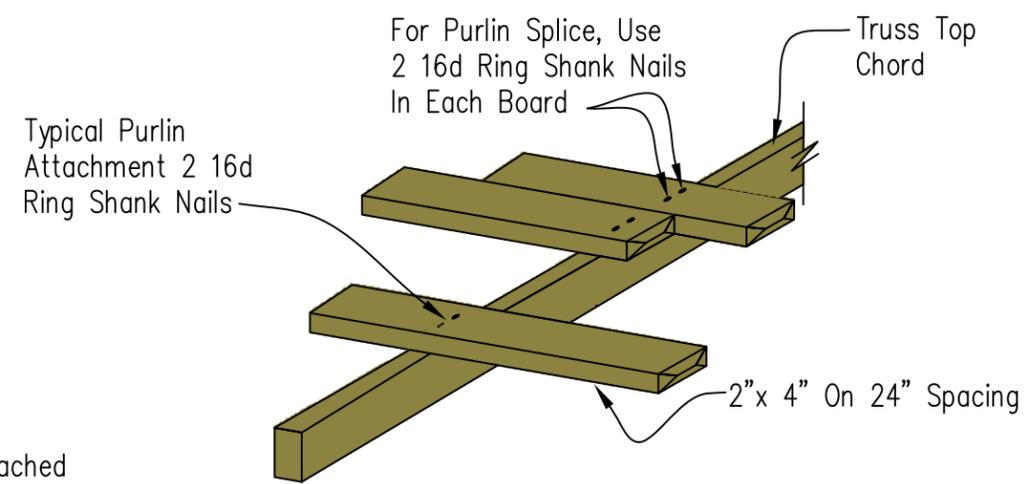
TRUSS TO POST ANCHORAGE



TRUSS TO GIRDER ANCHORAGE



TRUSS BRACING DETAILS



PURLINS SPACED @ 24" CENTERS

Note:
The truss support, girder support and knee brace shall be pressure treated. See Note 1 page 4.

Not To Scale

Date	7/1/16
Designed	M. QUINONES
Drawn	
Checked	
Approved	

CONCRETE COMPOST BIN WITH
POLE BARN ROOF—SINGLE ROW

United States
Department of
Agriculture
USDA
Natural Resources
Conservation Service

File No.	IL-ENG-170
Drawing Set	
Page	5 of 6
Sheet	of

Description		Quantity
Posts	6"x 6"x 15'-0"	
Concrete (4,000 PSI)	Walls & Footing, Cu.Yd.	
	Slab, Cu.Yd.	
	Total Concrete, Cu.Yd. (Excludes Concrete Around Posts)	
Floor Reinforcing Options 1 & 2	1. Welded Wire Fabric 6"x 6"x 8/8 Gauge, Sq.Ft. * Or	
	2. #4 Bar, Lin.Ft.	
Slab And Footing	Bedding, Tons	
Expansion Filler And Isolation Joints	Expansion Board, Lin.Ft.	
Water Stop	Lin.Ft.	
Steel Dowel Bars	3/4" Dia x 12" Long, Each	
Trusses	Truss	
	Truss Bracing 2"x 4", Lin.Ft.	
	Knee Brace 2"x 6"x 6', Each	
	Truss Support 2"x 6"x 42", Each	
	Truss Connector 2"x 6"x 20", Each	
Girders	Girder 2"x 12", Lin.Ft.	
	Girder Support 2"x 6"x 12", Each	
Roofing Material	Roofing (29 Ga. Galv.) Sq.Ft. *	
	Roof Cap, Lin.Ft.	
	Gable End Sheathing, Sq.Ft.	
	Purlins 2"x4", Lin.Ft. *	
Gutters	Gutter 6", Lin.Ft.	
	Downspout 3"x 4", Lin.Ft.	
	Pressure Treated Plate 2"x 6", Lin.Ft.	

*Quantities Do Not Include Extra Material For Overlap

Construction Joint Notes

1. A construction joint must be prepared when the concrete pour is not continuous, typically between the floor and wall.
2. Prepare all surfaces that will be in contact with new concrete as per note 5.
3. Let concrete cure at least 12 hours prior to steel tying and form construction for the next pour.
4. New concrete must not be placed until the hardened concrete has cured at least 12 hours.
5. Construction joints must be prepared using one of the following two methods:

Method 1 – Water–Air or Sandblasting. Clean the joint surface of all unsatisfactory concrete, laitance, coating, stains, and debris by sandblasting or high–pressure air–water cutting, or both. Sandblasting can be used after the concrete has gained sufficient strength to resist excessive cutting, and high–pressure air–water cutting can be used as soon as the concrete has hardened sufficiently to prevent the jet from displacing the coarse aggregates. The surface of the concrete in place must be cut to expose clean, sound aggregate, but not so deep as to undercut the edges of larger particles of the aggregate. Cut the surface to at least 1/4" depth. Thoroughly wash the surface to remove all material after cutting.

Method 2 – Mechanical. Clean the joint surface of all unsatisfactory concrete, laitance, coatings, stains, and debris by washing and scrubbing with a wire brush, wire broom, or other means approved by the engineer to expose coarse aggregate without displacing it. The surface must be roughened to at least 1/4" depth.

6. All construction joints must be wetted and standing water removed immediately before new concrete is placed.
7. New concrete must be sufficiently vibrated to ensure good contact into the prepared joint.
8. Keyways or steel plates cannot be substituted for the construction joint methods above.

Designed	Date
Drawn	7/1/16
Checked	M. QUINONES
Approved	

CONCRETE COMPOST BIN WITH POLE BARN ROOF – SINGLE ROW

