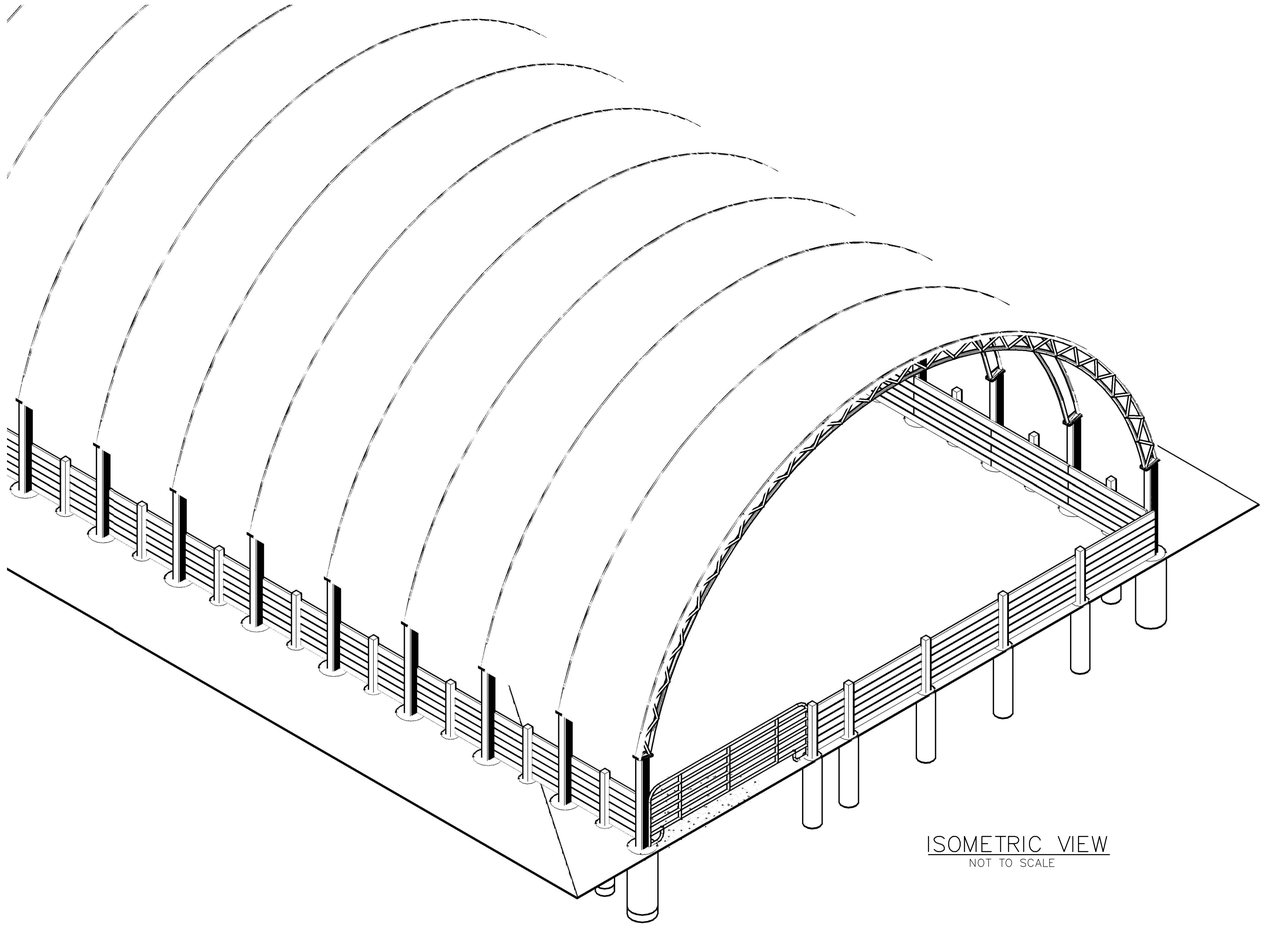


ISOMETRIC VIEW
NOT TO SCALE

Design Forces @ Top of 8' Post

		Horizontal (kips)	Vertical (kips)	Moment (in-kips)
Windward Side	Dead	0.2	-0.46	-8.4
	Collateral	0.02	-0.05	-0.72
	Roof Live Load	1.09	-2.47	-46.84
	Balanced Snow Load	1.75	-3.12	-72.6
	Unbalanced Snow	1.07	-1.1	-24.72
	Wind Perp +CP +IP(3)	-1.97	2.1	72.82
	Wind Perp -CP +IP(3)	-1.97	2.1	72.82
	Wind Perp +CP -IP(3)	-2.13	1	84.58
	Wind Perp -CP -IP(3)	-2.13	1	84.58
	Wind Par +IP(3)	0.31	2.71	-29.86
	Wind Par -IP(3)	0.14	1.62	-14.94
	End Wall Wind Post			
Leeward Side	Dead	-0.2	-0.46	8.4
	Collateral	-0.02	-0.05	0.72
	Roof Live Load	-1.09	-2.47	46.84
	Balanced Snow Load	-1.75	-3.11	72.6
	Unbalanced Snow	-1.14	-3.17	70.84
	Wind Perp +CP +IP(3)	-0.31	2.28	9.16
	Wind Perp -CP +IP(3)	-0.14	2.28	-7.16
	Wind Perp +CP -IP(3)	-0.14	1.2	-6.56
	Wind Perp -CP -IP(3)	-0.14	1.2	-6.56
	Wind Par +IP(3)	-0.14	2.71	13.54
	Wind Par -IP(3)	-0.14	1.62	14.94
	End Wall Wind Post			

DESIGN ASSUMPTIONS

GROUND SNOW LOAD:	40 PSF
IMPORTANCE FACTOR:	0.8
EXPOSURE CATEGORY:	0.9 FULLY EXPOSED
BASIC WIND SPEED:	90 MPH
BUILDING TYPE:	ENCLOSED
IMPORTANCE FACTOR:	0.87
EXPOSURE CATEGORY:	"C" (OPEN TERRAIN W/ SCATTERED OBSTRUCTIONS)
BEDDED PACK MANURE:	60 PCF EFP (MAX. 48" HIGH)
MIN. REQUIRED SOIL BEARING:	2000 PSF (CLAY SOILS)
MIN. LATERAL SOIL PRESSURE	130 PSF (CLAY SOILS)

CONSTRUCTION NOTES

1. VERIFY ALL DIMENSIONS WITH HOOP STRUCTURE SUPPLIER. HOOP STRUCTURE AND ATTACHMENT TO THE POST SHALL BE THE RESPONSIBILITY OF THE HOOP STRUCTURE SUPPLIER.
2. GLULAM POSTS SHALL HAVE EITHER AN AITC OR APA CERTIFICATION STAMP AND SHALL HAVE AN AWPA PRESSURE TREATMENT CERTIFICATION STAMP.
3. POST FOUNDATIONS SHALL EITHER BE CAST AGAINST ORIGINAL GROUND OR SHALL BE BACKFILLED WITH CLEAN STONE, >5 %, OR CLSM (FLOWABLE FILL. SEE SHEET 2 AND 3.
4. MAIN POSTS SHALL BE PRESSURE TREATED TO THE TOP OF THE BEDDED PACK PLANKS AS A MINIMUM.
5. ALL CONCRETE FORMWORK & REINFORCEMENT SHALL BE INSPECTED BY A REPRESENTATIVE OF THE NRCS PRIOR TO THE PLACEMENT OF CONCRETE. A MINIMUM OF 1 DAYS NOTICE IS REQUIRED.
6. ALL CONCRETE & REINFORCING SHALL BE INSTALLED ACCORDING TO NRCS CONSTRUCTION SPECIFICATION #31, "CONCRETE & STEEL REINFORCEMENT". CONCRETE SHALL BE DELIVERED BY READY MIX METHODS, MEETING ASTM C94.
7. ALL REINFORCING STEEL SHALL BE GRADE 60.
8. ALL REINFORCING SHALL BE IN PLACE PRIOR TO CONCRETE PLACEMENT. (NO PLUNKING)
9. ALL REINFORCING SHALL HAVE THE MINIMUM CLEAR COVER AS SHOWN ON THE DRAWINGS.
10. ALL CONCRETE SHALL BE AN NRCS APPROVED MIX, WITH 5 TO 7 PERCENT AIR CONTENT AND PLACED AT A SLUMP BETWEEN 3 TO 5 INCHES. CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE 28 DAY STRENGTH OF 3000 PSI. CONCRETE MIX DESIGN SHALL BE THE RESPONSIBILITY OF THE SUPPLIER IN ACCORDANCE WITH ASTM C94 SECTION 6.5 OPTION C.
11. CONCRETE SHALL BE DISCHARGED WITHIN 90 MINUTES OF THE CEMENT BEING ADDED TO THE MIX. OTHERWISE A SET RETARDING ADMIXTURE SHALL BE USED. DRY MIXING WILL NOT BE ALLOWED.
12. ALL BACKFILLING SHALL BE IN ACCORDANCE WITH VT NRCS CONSTRUCTION SPECIFICATION #11, "EARTHWORK".
13. ASSEMBLY OF THE HOOP STRUCTURE TO THE THE POSTS SHALL NOT COMMENCE UNTIL 3 DAYS AFTER LAST POST CONCRETE FOUNDATION PLACEMENT.
14. BEDDED PACK PLANKS MUST SPAN TWO POSTS OR TWICE THE CLEAR SPAN LISTED IN THE TABLE BELOW.

WOOD TREATMENT SPECIFICATION

1. ALL PRESSURE TREATED POSTS SHALL BE TREATED WITH A MIN. OF 0.60 PCF OF CCA OR 0.13 PCF OF CuN (COPPER NAPHTHENATE) MEETING AWPA U1 STANDARD FOR USE CATEGORY UC4C. OTHER PRESERVATIVES MEETING AWPA STANDARD U1, USE CATEGORY UC4C ARE ACCEPTABLE.
2. ALL PRESSURE TREATED LUMBER, NOT IN DIRECT GROUND CONTACT, SHALL BE TREATED WITH A MIN. OF 0.40 PCF OF CCA OR 0.06 PCF OF CuN (COPPER NAPHTHENATE) MEETING AWPA U1 STANDARD FOR USE CATEGORY UC4A. OTHER PRESERVATIVES MEETING AWPA STANDARD U1, USE CATEGORY UC4A ARE ACCEPTABLE.

MEMBER LIST

DESCRIPTION	TREATMENT	MEMBER	LENGTH	TOTAL QTY	LENGTH	SPECIES AND GRADE
MAIN ROOF POST	PARTIAL PT	6¾" x 8¼"	14'	26	364'	GLULAM 26F-V4 SP/SP, 6 PLY
BEDDED PACK POST	PT	6x6	10'	32	320'	SOUTHERN YELLOW PINE (SYP) #2 OR BETTER
BEDDED PACK PLANK	SEE TABLE	SEE TABLE	–	–	1584'	SEE TABLE BELOW
STEEL GATE	–	–	16'	2	32'	–

BEDDED PACK PLANKS

CLEAR SPAN	DIMENSION	SPECIES	GRADE
4'	2x8FS	EASTERN HEMLOCK	CLEAR
4'	3x8	SOUTHERN PINE	#2 OR BETTER
8'	3.5x8FS	EASTERN HEMLOCK	CLEAR
8'	4x8	SOUTHERN PINE	#2 OR BETTER

**NOTE – PLANKS MUST SPAN AT LEAST TWO POSTS (TWICE CLEAR SPAN LISTED ABOVE)

OPTIONAL GLULAM MAIN POST SIZES

ACTUAL DIMENSION	SPECIES	COMMERCIAL GRADE
6¾" X 9⅝"	SOUTHERN PINE	50 N1D14, 7 PLY
6¾" X 9⅞"	SOUTHERN PINE	24F-V5 SP/SP, 7 PLY

CONSTRUCTION INSPECTION ITEMS FOR THIS DESIGN ARE CONTAINED IN "GUIDE FOR DESIGN AND CONSTRUCTION OF CONSERVATION PRACTICES"

THE USDA, NATURAL RESOURCES CONSERVATION SERVICE MAKES NO REPRESENTATION AS TO THE LOCATION OR EXISTENCE OF PUBLIC OR PRIVATE UTILITIES IN THE VICINITY OF INVESTIGATIONS OR CONSTRUCTION OPERATION CONDUCTED THROUGH ITS PROGRAMS.

THE USDA, NATURAL RESOURCES CONSERVATION SERVICE WILL NOT BE HELD RESPONSIBLE FOR DAMAGE TO UTILITIES AND ACCIDENTS INVOLVING UTILITIES THAT OCCUR DURING THE INVESTIGATION OR CONSTRUCTION OPERATIONS.

IF YOU KNOW OF THE EXISTENCE OF UNDERGROUND UTILITIES IN THE VICINITY OF THE PROPOSED WORK AREA PLEASE INFORM USDA, NATURAL RESOURCES CONSERVATION SERVICE SO THAT APPROPRIATE ACTION CAN BE IMPLEMENTED.

Dig Safe System, Inc.
331 Montvale Avenue
Woburn, MA 01801
Phone: (781) 721-1191
1-888-DIG-SAFE
(888-344-7233)
digsafe.com

FASTENERS

FASTENERS	– BOLTS, LAGS	f_{yb}=45,000 PSI MIN. (ANSI/ASME B18.2.1) ASTM A307 GRADE A OR SAE J429 GRADE 1
	– RING SHANK NAILS	f_{yb}=115,000 PSI MIN. ASTM F1667-05 FOR ENGINEERED CONSTRUCTION
	–COMMON NAILS	f_{yb}=90,000 PSI MIN. ASTM F1667-05 FOR ENGINEERED CONSTRUCTION

ALL NAILS SHALL BE HOT DIP GALVANIZED – MEETING ASTM A153-09 CLASS D
ALL BOLTS, LAGS, NUTS & WASHERS – MEETING ASTM A153-09 CLASS C (OR ASTM F2329-05)

ESTIMATED FASTENER QUANTITIES

DESCRIPTION	LENGTH	TREATMENT	TOTAL QTY
1) 0.177"ø (7 ga.) RING SHANK NAIL OR STRUCTURAL SCREW	4" MIN.	HOT DIP GALV.	1400

ESTIMATED CONCRETE QUANTITIES

DESCRIPTION	CONCRETE QTY PER POST	NUMBER	TOTAL QUANTITY
CONCRETE–MAIN POST	0.75 CY	26	20 CY
CONCRETE–BEDDED PACK	0.3 CY	32	10 CY

NO.	DATE	DESCRIPTION	BY
1	8–7–15	INITIAL DESIGN VT080720151AM	TKJ
2	8–10–15	MODIFIED TO 40 PSF CSL	TKJ
3	8–11–15	FRONT PLANKS AND POSTS	TKJ
4	8–11–15	CORRECTED REBAR SCHEDULE	TKJ
5	8–11–15	CORRECTED MAIN POST QTY	TKJ
6	8–13–15	CORRECTED REBAR LABELS	TKJ

Date 8–3–15 8–3–15 8–12–15 8–12–15
Designed TATE JEFFREY
Drawn TATE JEFFREY
Checked ROB ALLEN
Approved by

United States Department of Agriculture
Natural Resources Conservation Service

HAZARD CLASS LOW

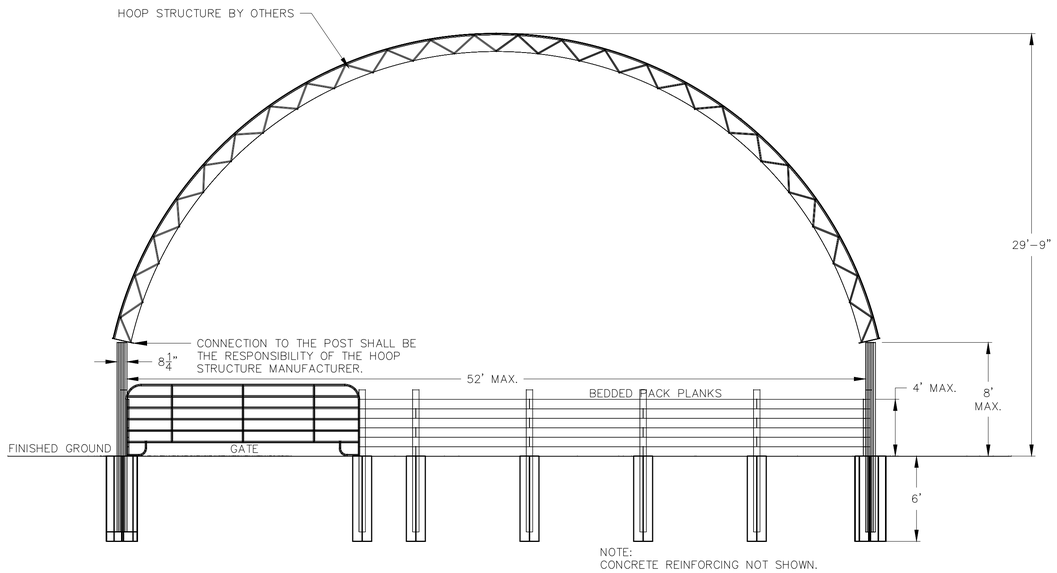
JOB CLASS VI

VERMONT STANDARD DRAWING
52' HOOP ROOF STRUCTURE FOUNDATION
COVER SHEET
VERMONT

File Name

Drawing Name
VT085240B–C HOOP

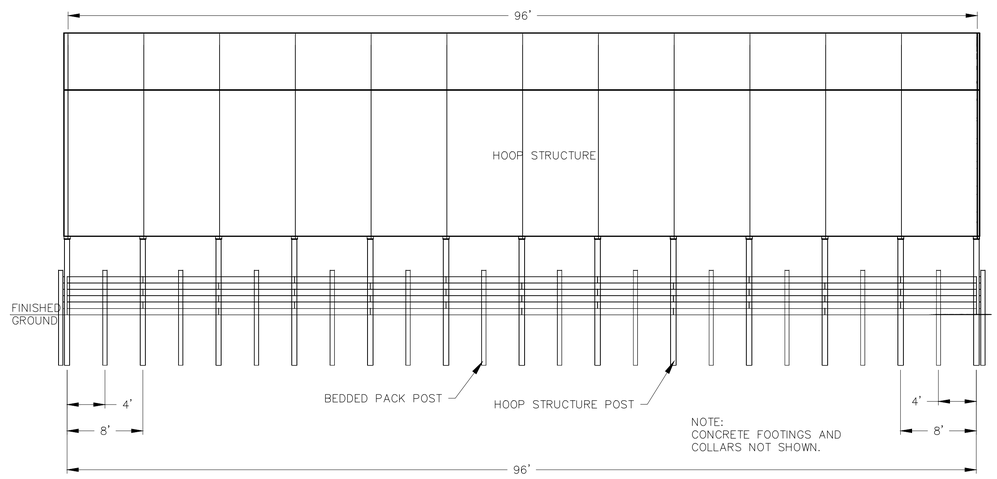
Sheet 1 of 3



BUILDING SECTION

SCALE 3/16" = 1'-0"

ROOF TRUSSES
DESIGNED BY OTHERS

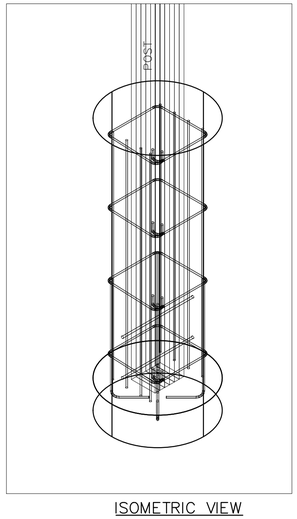


POST LAYOUT DETAILS

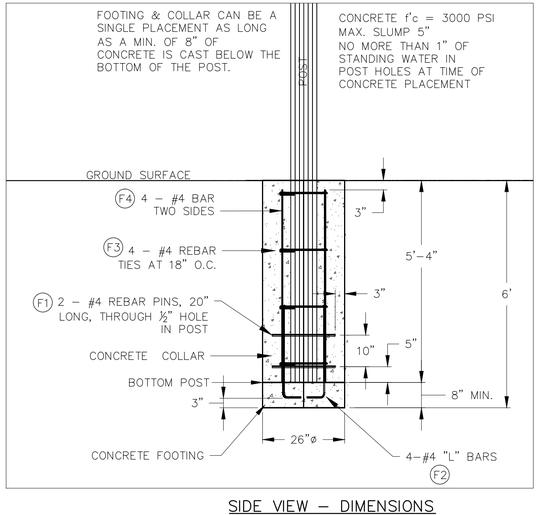
SCALE 1/8" = 1'-0"

FOUNDATION CONSTRUCTION NOTES

1. POST FOUNDATIONS CAN BE AUGERED OR EXCAVATED. OVER EXCAVATED AREA SHALL BE BACKFILLED SOLELY WITH CLEAN STONE, < 5% FINES, MAX. AGGREGATE 1½" OR CLSM
2. THERE SHALL BE NO MORE THAN 1" OF STANDING WATER IN THE AREA EXCAVATED FOR POSTS AT THE TIME OF CONCRETE PLACEMENT.
3. CONCRETE SHALL BE SUPPLIED BY A READY MIX SUPPLIER. DRY CONCRETE MIX (SELF HYDRATING) SHALL NOT BE USED.
4. CONCRETE FOOTING AND COLLAR SHALL CURE A MIN. OF 24 HRS BEFORE BACKFILLING BEGINS OR REMOVAL OF TEMPORARY BRACING.
5. CONSTRUCTION OF THE HOOP STRUCTURE TO THE POST SHALL NOT COMMENCE UNTIL A MIN. OF THREE DAYS SINCE LAST POST FOUNDATION CONCRETE PLACEMENT.
6. CLEAN STONE BACKFILL AROUND POSTS SHALL BE CAPPED WITH A MIN. OF 4" OF TOPSOIL.



ISOMETRIC VIEW
NTS



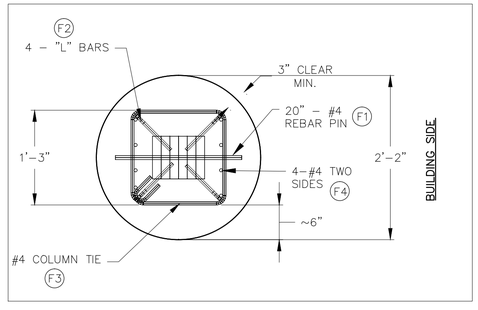
SIDE VIEW – DIMENSIONS

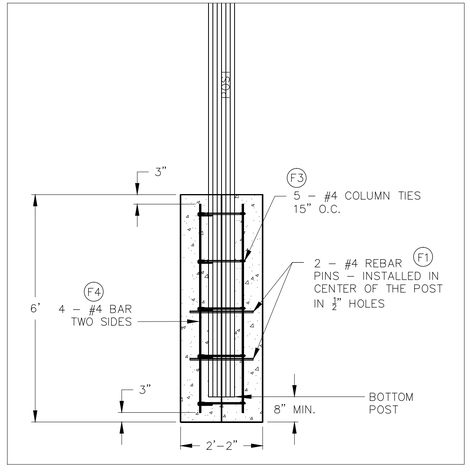
SCALE ½" = 1'-0"

POST FOUNDATION DETAILS

TOP VIEW

SCALE 1" = 1'-0"





SIDE VIEW – OPTIONAL SINGLE CONCRETE PLACEMENT

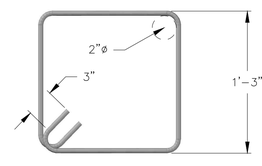
SCALE ½" = 1'-0"

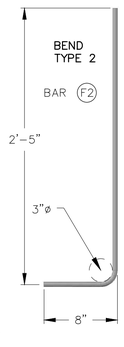
REBAR SCHEDULE–SEPARATE FOOTING

LOCATION	BAR SIZE	SPACING	LENGTH FT–IN	QUANTITY	TOTAL LENGTH FT–IN	TYPE
F1	#4	–	20"	52	87'	STR.
F2	#4	–	3'	104	312'	2
F3	#4	18"	6'–7"	106	685'	T1
F4	#4	~4"	5'	208	1040'	STR.
F5	#4	–	5'	68	350'	STR.

REBAR SCHEDULE–SINGLE CONCRETE PLACEMENT

LOCATION	BAR SIZE	SPACING	LENGTH FT–IN	QUANTITY	TOTAL LENGTH FT–IN	TYPE
F1	#4	–	20"	52	87'	STR.
F3	#4	18"	6'–7"	130	856'	T1
F4	#4	~4"	5'–6"	208	1144'	STR.
F5	#4	–	5'	68	350'	STR.





BAR BEND DETAILS

SCALE ¾" = 1'-0"

Date 8-3-15 8-3-15 8-12-15 8-12-15
Designed TATE JEFFREY
Drawn TATE JEFFREY
Checked ROB ALLEN
Approved by

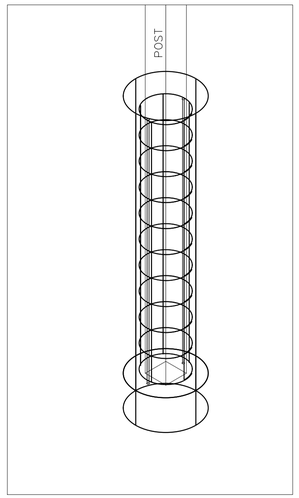
United States Department of Agriculture
Natural Resources Conservation Service

HAZARD CLASS LOW
JOB CLASS VI

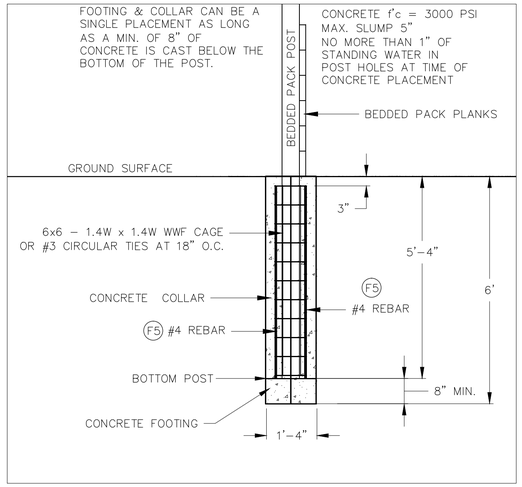
VERMONT STANDARD DRAWING
52' HOOP ROOF STRUCTURE FOUNDATION
FOUNDATION
VERMONT

File Name

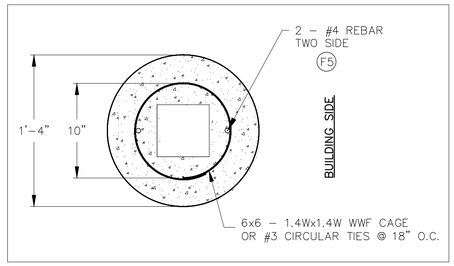
Drawing Name
VT085240B-C HOOP



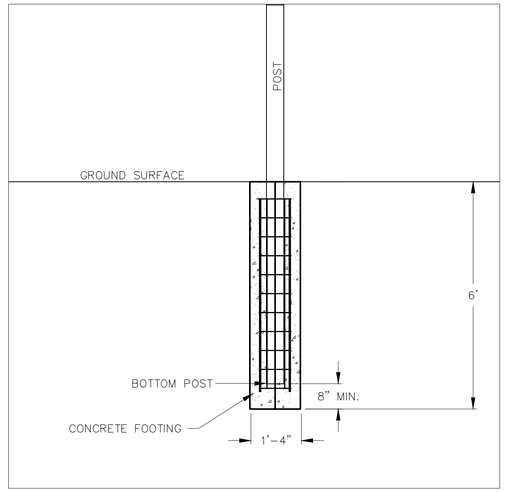
ISOMETRIC VIEW
NTS



SIDE VIEW – DIMENSIONS
SCALE 1/2" = 1'–0"

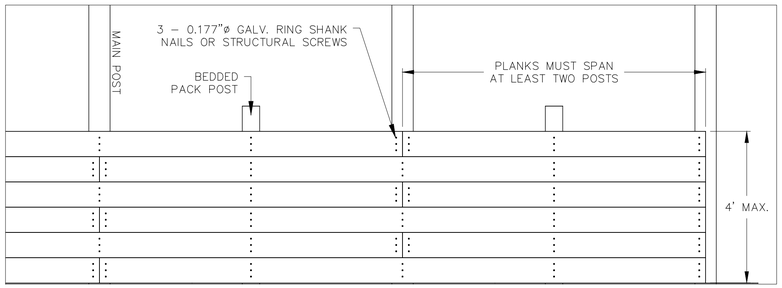


TOP VIEW
SCALE 1" = 1'–0"

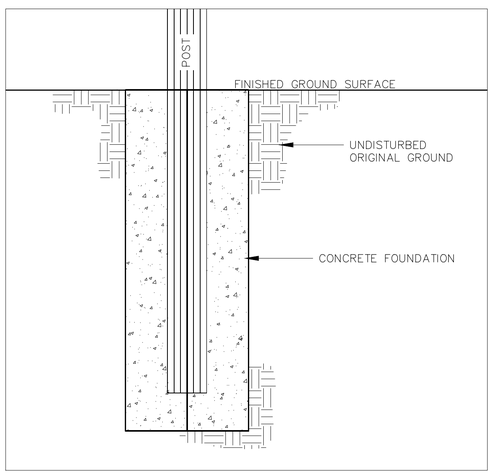


SIDE VIEW – OPTIONAL SINGLE CONCRETE PLACEMENT
SCALE 1/2" = 1'–0"

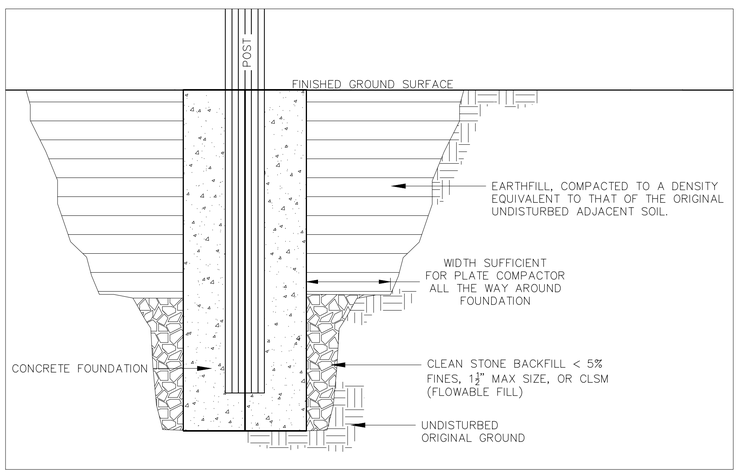
BEDDED PACK POST FOUNDATION DETAILS



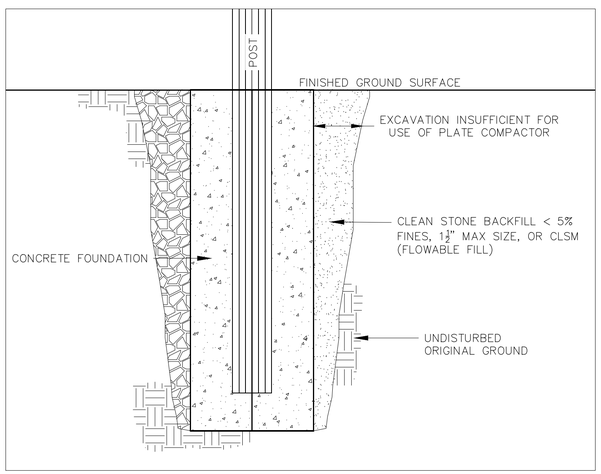
SIDE VIEW – BEDDED PACK PLANKS
SCALE 1/2" = 1'–0"



AUGERED HOLE
SIDE VIEW – NTS



EXCAVATED HOLE
SIDE VIEW – NTS



EXCAVATED HOLE
SIDE VIEW – NTS

EARTHFILL

SIEVE SIZE	% PASSING
2"	90–100
#4	45–75
#100	0–12
#200	0–5

STONE BACKFILL

SIEVE SIZE	% PASSING
1 1/2"	100
#60 (0.01 IN)	< 30
#200 (.003 IN)	< 5

POST BACKFILL OPTIONS – ALL POSTS

NO REINFORCING SHOWN FOR CLARITY

Date	8–3–15	8–3–15	8–12–15	8–12–15
	Designed TATE JEFFREY	Drawn TATE JEFFREY	Checked ROB ALLEN	Approved by

United States Department of Agriculture
Natural Resources Conservation Service

HAZARD CLASS LOW

JOB CLASS VI

VERMONT STANDARD DRAWING
52' HOOP ROOF STRUCTURE FOUNDATION
FOUNDATION (2)

VERMONT

File Name

Drawing Name
VT085240B–C HOOP

Sheet 3 of 3