

Post-Tier Rail and TYPAR or Metal Covered Tobacco Field Curing Structures

Field curing structures are being adopted quite rapidly by producers with several variations in construction materials and methods to strive for the lowest cost or to achieve less maintenance and longer life.

Two types of wooden construction observed in the past year seem to have potential for other producers. These are the TYPAR and metal roof covered two-rail wide two-post construction.

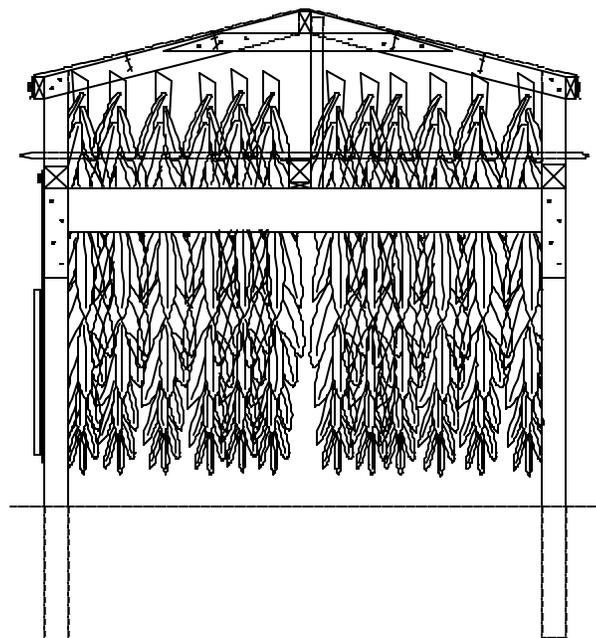
The more permanent TYPAR and metal roof construction appeals to a lot of producers who dislike the tedious tasks of covering and holding plastic on the tobacco during the curing season. The designs shown in the following drawings have a width that allows the 9 foot wide TYPAR material to cover from eave-to-eave AND allow easy changes to permit metal roof to be added to the same structure initially or at any time in the future. Some of the side-wall wood is exposed to the weather, thus, the life may be shortened unless weather-resistant species or preservative treated wood is used.

Two roof options are shown: a gable roof and a single slope roof.

Drawings show the use of full dimension 4x4 tier rails or optional 2x6s on edge. The 2x6s give a stronger structure if heavy tobacco is to be packed tightly and are more suitable for using commercial dimensioned preservative treated lumber which is about 1/3 less strength than the full dimension sizes due to the smaller dimension of the members.

Some other special characteristics of these two methods of hanging and curing the tobacco are:

- a. Sticks of wilted tobacco are supported at each end just like on



conventional tier rails. Two workers stand at ground level and receive the tobacco from an adjacent wagon or transport trailer, pass the tobacco under a six-foot high tier rail and then hang the sticks up on the tier rails. Short workers have to reach high with heavy tobacco!

- b. The tobacco tip leaves may be very close to the sod and vegetation, thus higher moisture and potential damage during the cure.
- c. A weed-eater or push lawnmower will be needed to trim any year-old vegetation from the area before hanging as a tractor mower cannot get between the posts.
- d. Side protection of the tobacco may be provided by a five foot wide strip of 6-mil plastic stretched and attached to the tier rail and posts with nailing strips or plastic cap nails. An extra nailing board (1x4, 2x4 or other

size) along the lower edge could help secure the plastic against strong winds. Optional means might be a wire, baler twine, small rope or similar support. At least 12 inches of opening should be left at the bottom for ventilation under the tobacco tips.

The guidelines for hanging the tobacco and managing the cure in these structures is much the same as described for the Low Cost Post-Row Tobacco Curing Structure in publication ID-116 from the Ky. Coop. Ext. Service. Specific guidelines for spacing the tobacco, covering, etc. are given in this publication and should be obtained and reviewed if you are not familiar with these outside curing procedures. The main guidelines are: "early in, early out" for the field curing structures to capitalize on good curing weather and avoid the late fall and early winter inclement weather, 2) spread the plants evenly on the sticks and space the tobacco sticks about 4 inches apart on the rail for good curing, and 3) cover the tobacco within a week after hanging AND before the first rain of more than 1/4 inch. A prevalent opinion that is often expressed around the county-side is "*just push the wilted tobacco as tight as you can and it will cure fine!*" This way may get you by in some situations but the wisdom of many seasons of curing evaluations indicates this is pushing good luck a little too far!

A more reasonable spacing of around 3.5 to 4.5 inches per stick seems to give better ventilation and curing year after year. Only very small, dry-weather tobacco might be successfully cured in warm, low humidity weather conditions at the '*push as tight as possible*' spacing.

The capacity of a curing structure for various stick spacings is shown in the following tables.

Table 1. Sticks per 14-foot of length*, two rails wide, based on stick spacing

Stick Spacing	No. of Sticks
5.0 inch	68
4.5 inch	74
4.0 inch	84
3.5 inch	96

*The 5.0 inch spacing should be used for large barely-wilted tobacco with potential yields over 3,000 lbs per acre. The 4.0 inch spacing is typical for most medium size tobacco. The 3.5 inch and any closer spacings should be used *only* for smaller well-wilted tobacco that may yield less than 2,500 lbs per acre. Weather conditions and management of the plastic covering during the cure greatly affect the quality of the cure with any spacing.

Table 2. Capacity of a 96-foot Framework*

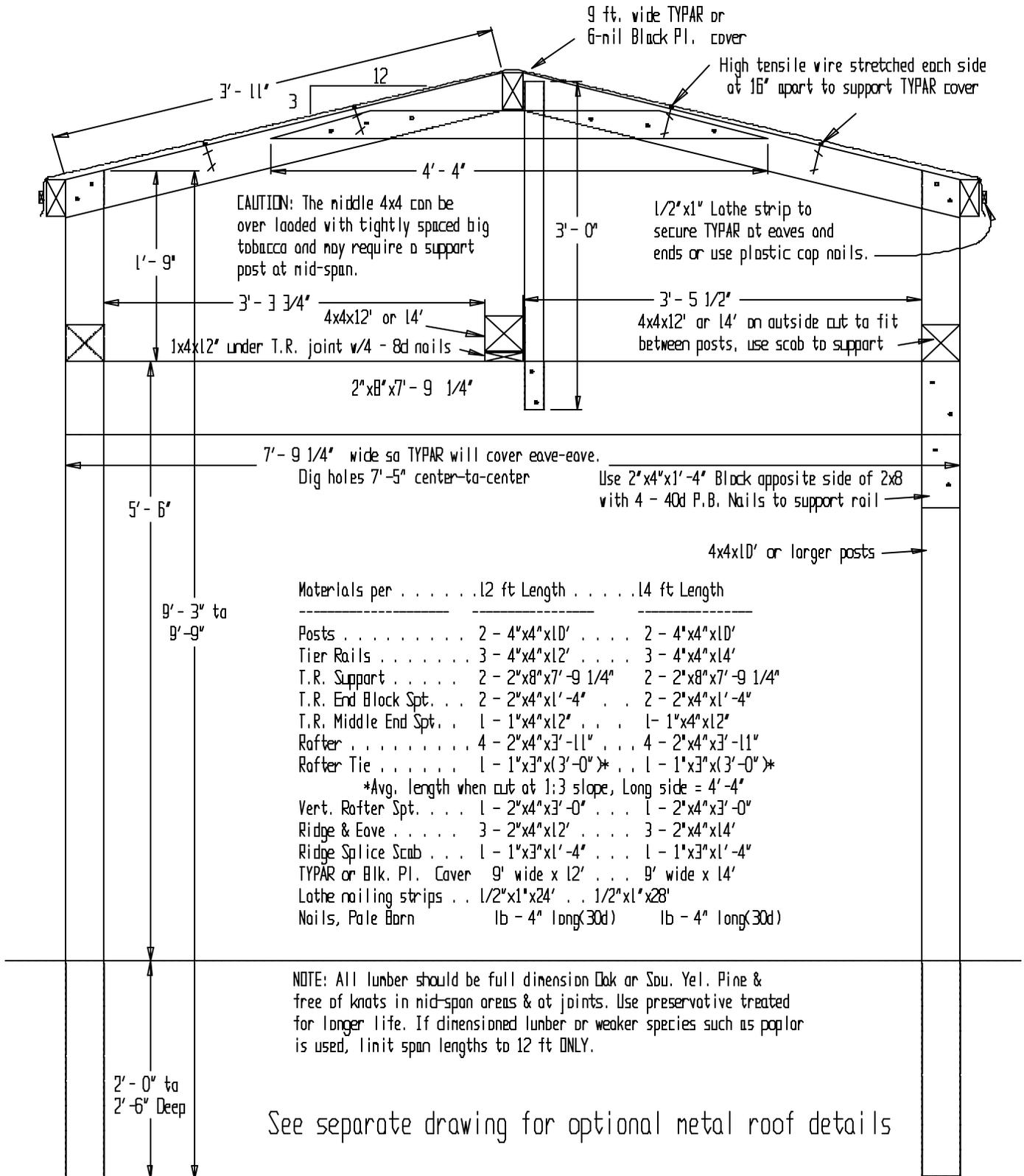
Stick Spacing	Capacity	
	Sticks	(Ac)
5.0 inch	230	.32
4.5 inch	256	.36
4.0 inch	288	.41
3.5 inch	329	.46

*The 96-ft length is a convenient length that permits a 100-foot roll of plastic to cover the framework. For longer frameworks, attach the ends of plastic at a rafter or allow about 8-10 feet of overlap and tie securely.

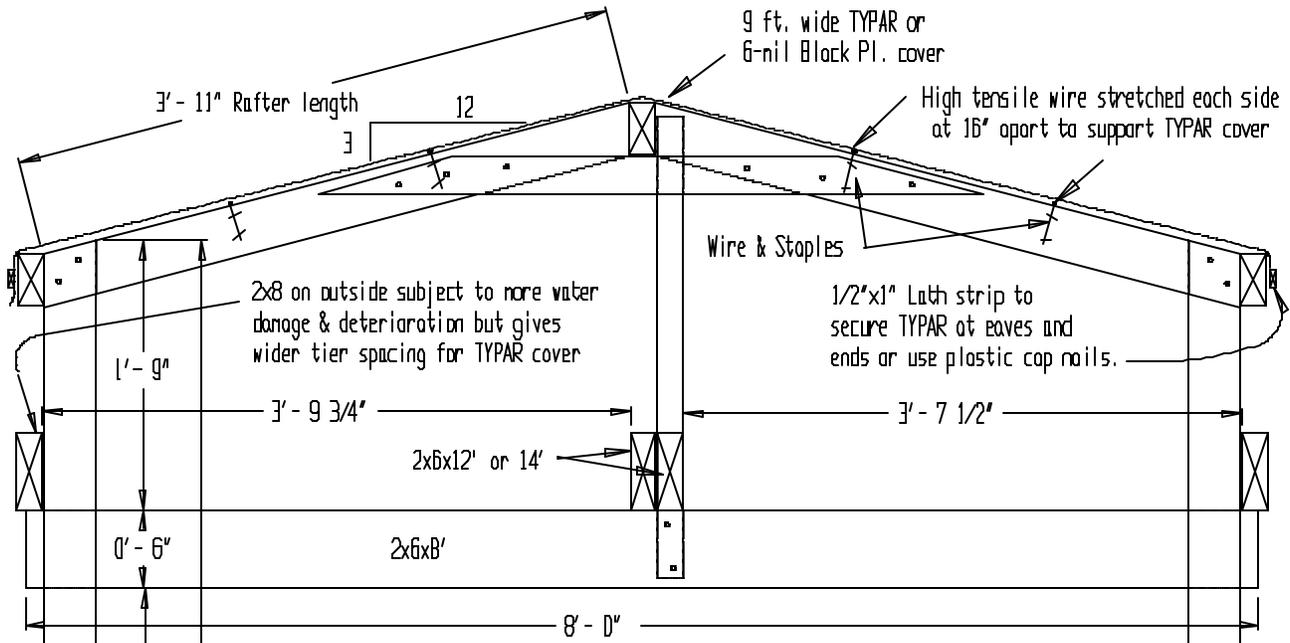
Acreage capacity is based on about 7,100 plants per acre (40" x 22" with 97% stand) and 6 plants per stick.

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4x4 Tier Rails and TYPAR Cover Construction



4x4 Tier Rails and TYPAR Cover Construction



7'-9 1/4" wide so TYPAR will cover eave-eave.
Dig holes 7'-5" center-to-center

4x4x10' or larger posts

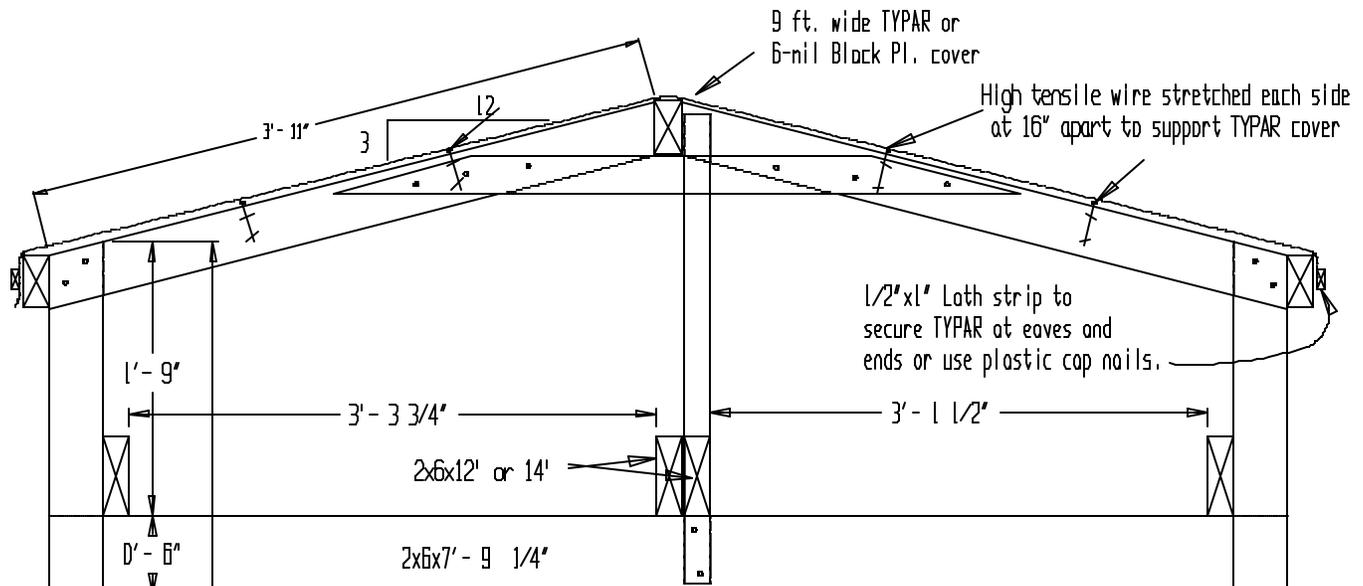
Materials per 12 ft Length 14 ft Length

Posts	2 - 4"x4"x10'	. . . . .	2 - 4"x4"x10'
Tier Rails	4 - 2"x6"x12'	. . . . .	4 - 2"x6"x14'
T.R. Support	2 - 2"x6"x8'-0"	. . . . .	2 - 2"x6"x8'-0"
Rafter	4 - 2"x4"x3'-11"	. . . . .	4 - 2"x4"x3'-11"
Rafter Tie	1 - 1"x3"x(3'-0")*	. . . . .	1 - 1"x3"x(3'-0")*
	*Avg. length when cut at 1:3 slope Long side = 4'-3"		
Vert. Rafter Spt.	1 - 2"x4"x3'-0"	. . . . .	1 - 2"x4"x3'-0"
Ridge & Eave	3 - 2"x4"x12'	. . . . .	3 - 2"x4"x14'
Ridge Splice Scab	1 - 1"x3"x1'-4"	. . . . .	1 - 1"x3"x1'-4"
TYPAR or Blk. Pl. Cover	9' wide x 12'	. . . . .	9' wide x 14'
Lathe nailing strips	1/2"x1"x24'	. . . . .	1/2"x1"x28'
Nails, Pole Barn	1b - 4" long(30d)	. . . . .	1b - 4" long(30d)
	1b - 5" long(40d)	. . . . .	1b - 5" long(40d)

No

NOTE: All lumber should be full dimension Oak or Sou. Yel. Pine & free of knots in mid-span areas & at joints. Use preservative treated for longer life. If dimensioned lumber or weaker species such as poplar is used, limit span lengths to 12 ft ONLY.

2'-0" to
2'-6" Deep



7'-9 1/4" wide so TYPAR will cover eave-eave.
Dig holes 7'-5" center-to-center

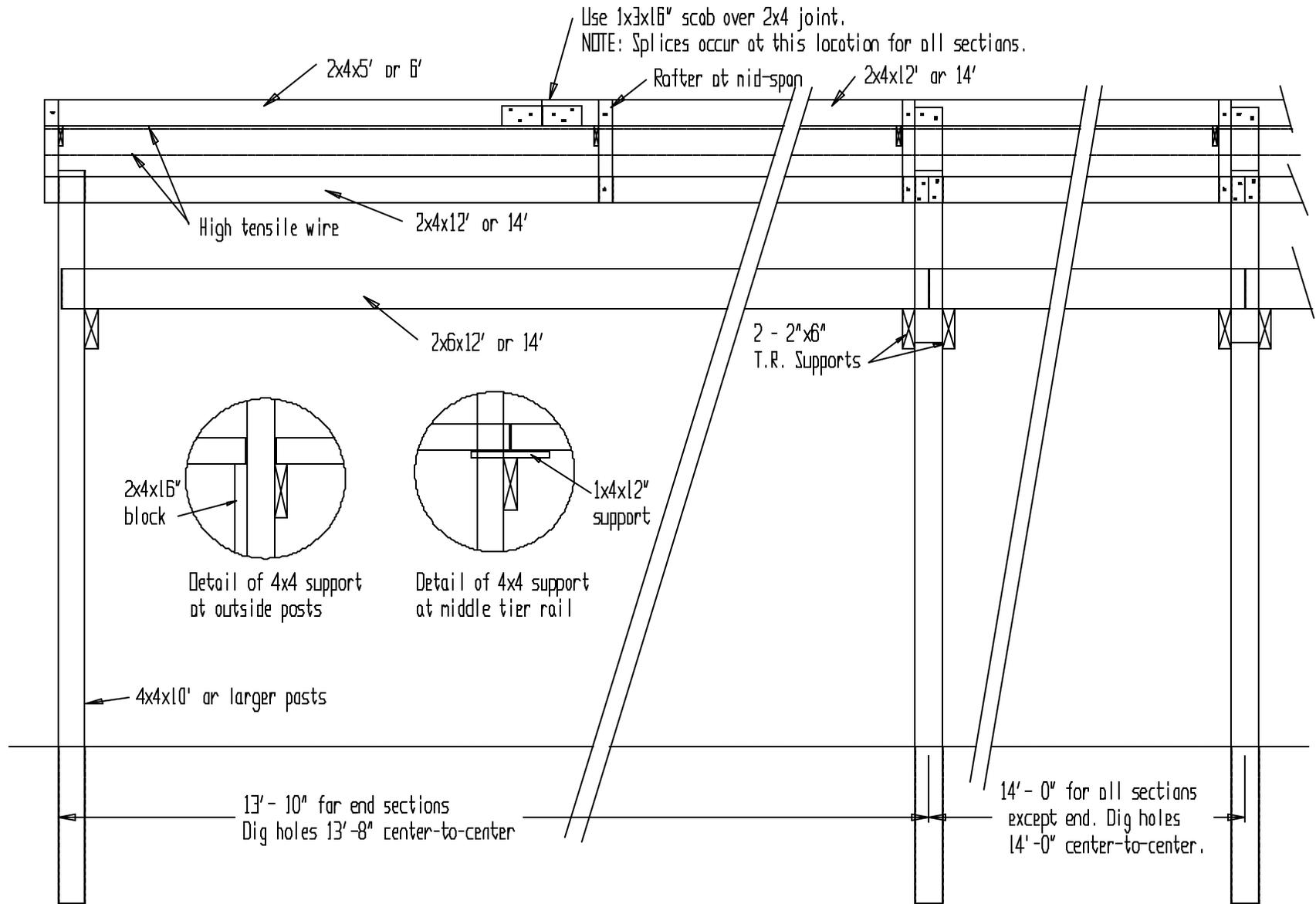
4x4x10' or larger posts

Materials per 12 ft Length 14 ft Length

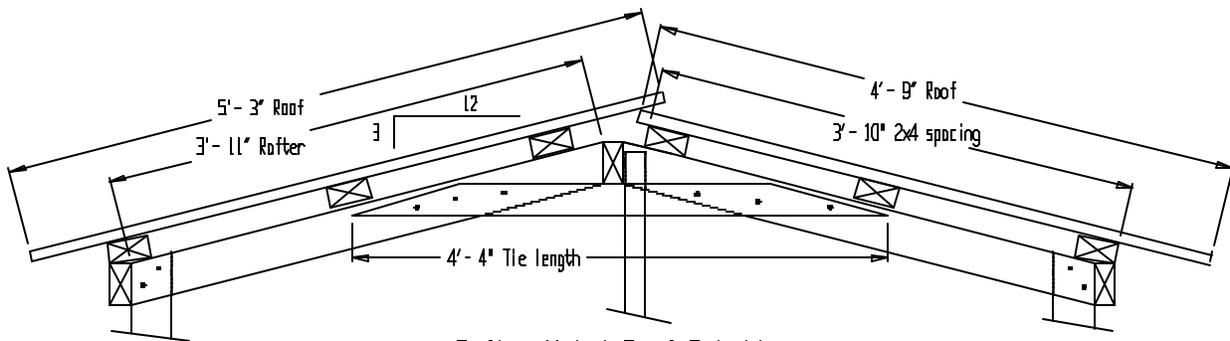
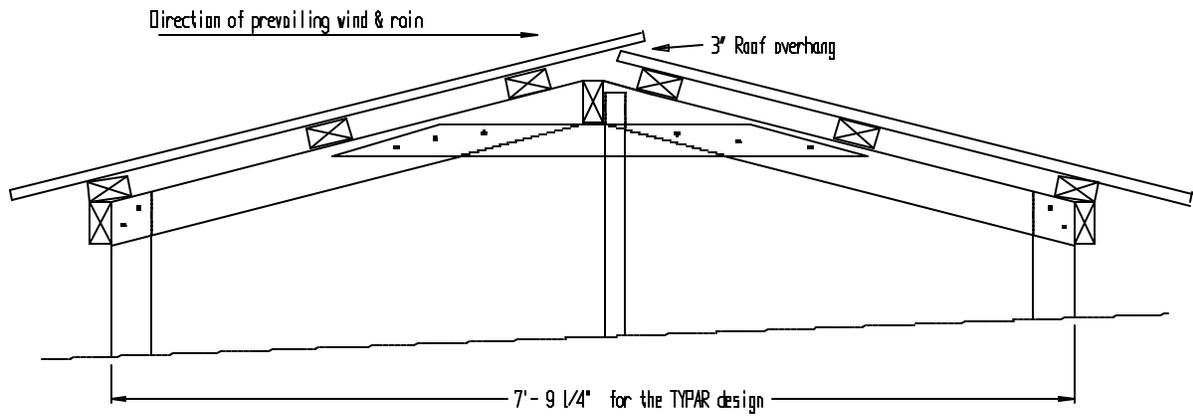
	12 ft Length	14 ft Length
Posts	2 - 4"x4"x10'	2 - 4"x4"x10'
Tier Rails	3 - 4"x4"x12'	3 - 4"x4"x14'
T.R. Support	2 - 2"x6"x7'-9 1/4"	2 - 2"x6"x7'-9 1/4"
Rafter	4 - 2"x4"x3'-11"	4 - 2"x4"x3'-11"
Rafter Tie	1 - 1"x3"x(3'-0")*	1 - 1"x3"x(3'-0")*
	*Avg. length when cut at 1:3 slope Long side = 4'-3"	
Vert. Rafter Spt.	1 - 2"x4"x3'-0"	1 - 2"x4"x3'-0"
Ridge & Eave	3 - 2"x4"x12'	3 - 2"x4"x14'
Ridge Splice Scab	1 - 1"x3"x1'-4"	1 - 1"x3"x1'-4"
TYPAR or Blk. Pl. Cover	9' wide x 12'	9' wide x 14'
Lath nailing strips	1/2"x1"x24'	1/2"x1"x28' plus extra for ends
Nails, Pole Barn	1b - 4" long(30d)	1b - 4" long(30d)
	1b - 5" long(40d)	1b - 5" long(40d)

NOTE: All lumber should be full dimension Oak or Sou. Yel. Pine & free of knots in mid-span areas & at joints. Use preservative treated for long life. If dimensioned lumber or weaker species such as poplar is used, limit span lengths to 12 ft ONLY.

2' - 0" to 2' - 6" Deep



Side Elevation View (Uncovered)



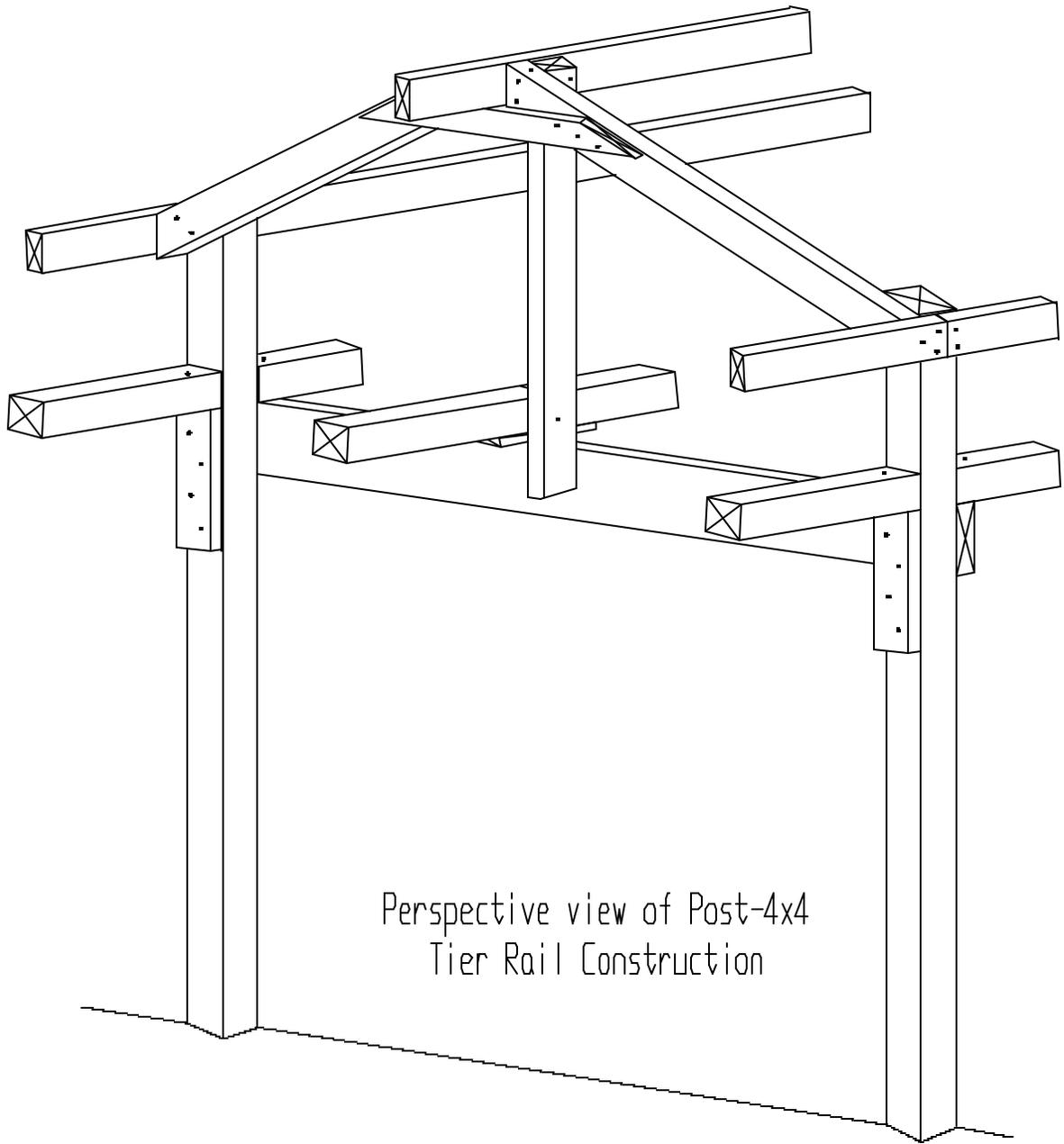
Rafter-Metal Roof Details

Materials per 12 ft Length 14 ft Length

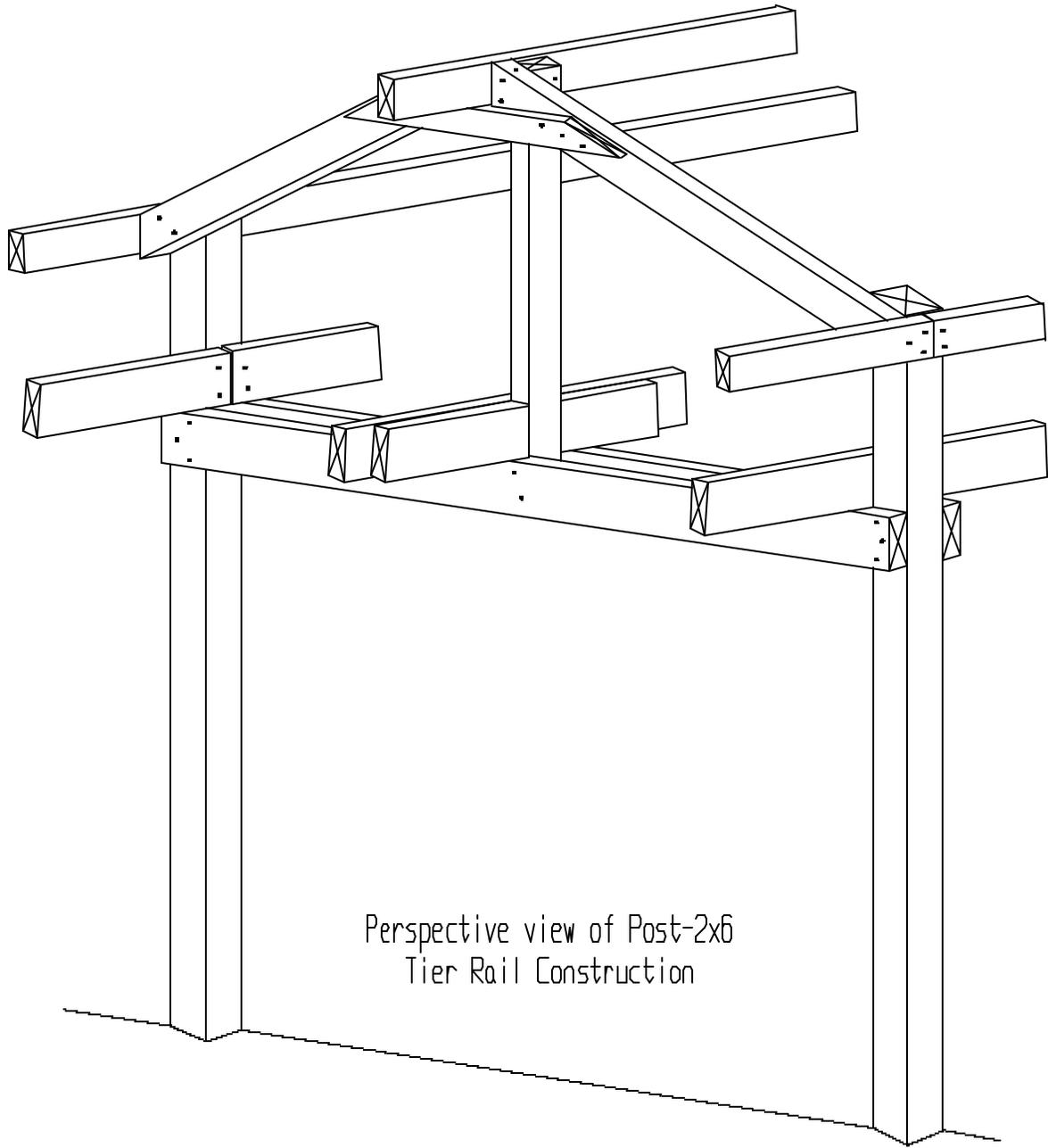
Orbit TYFAR and Lath Strips (or plastic cap nails)

ADD:

Purlins	6 - 2"x6"x12'	. . . . .	6 - 2"x6"x14'
Metal Roof, Galv.	120 sq. ft.	. . . . .	140 sq. ft.
Nails, Pole Barn	1b 4" (30d)	. . . . .	1b 4" (30d)
Nails, Roofing	1.4 lb	. . . . .	1.5 lb



Perspective view of Post-4x4
Tier Rail Construction



Perspective view of Post-2x6
Tier Rail Construction

