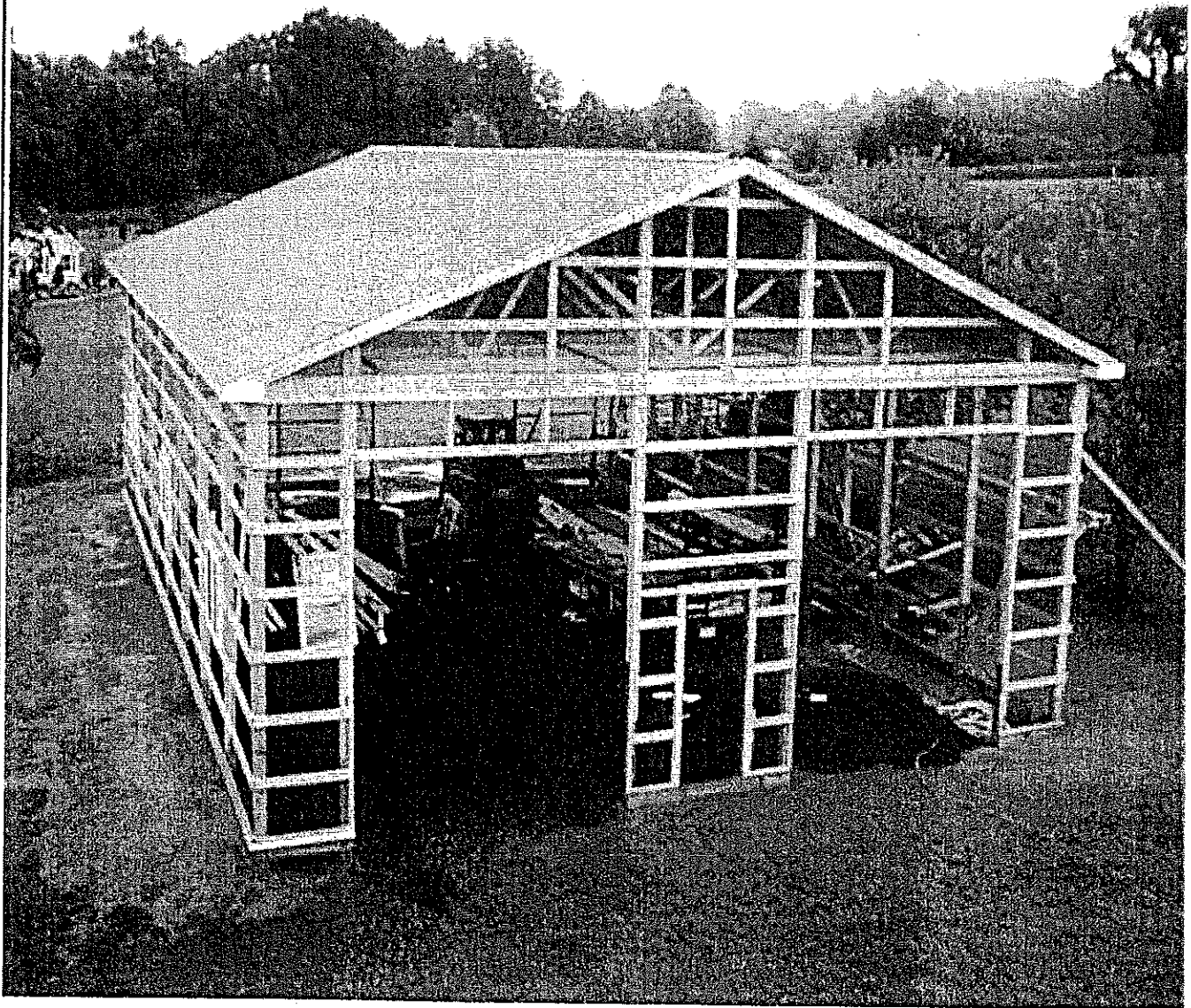


FRENCHTOWN CHARTER TOWNSHIP
Monroe, Michigan 48162
734-242-5900



Post Frame / Pole Barn Construction Guide

Introduction.

Throughout U.S. history, post frame construction concepts and design have been used as the model for constructing rural buildings, which is also known as pole barns. Since the turn of the century, the simplicity and durability of post frame design have made it ideal for demanding applications such as dairy barns, riding arenas, animal housing and other rural buildings.

Post frame buildings are known for their reliable performance and ability to withstand severe weather conditions. Engineers have capitalized on these advantages by using modern technology to update the designs, which has extended the use of post frame construction to commercial and residential buildings. Another good use of post frame construction continues to be agricultural building designs, which include hog and chicken housing, dairy barns and equestrian facilities. Because posts can be spaced more than four (4) feet apart, the wide openings allow for the easy creation of stalls, wash racks or holding areas.

The design concept of post frame construction are simple and offer flexibility, which makes it popular among architects, engineers and building designers. Post frame construction is also economical, easy to construct, code compliant and they offer excellent high wind and seismic loading conditions

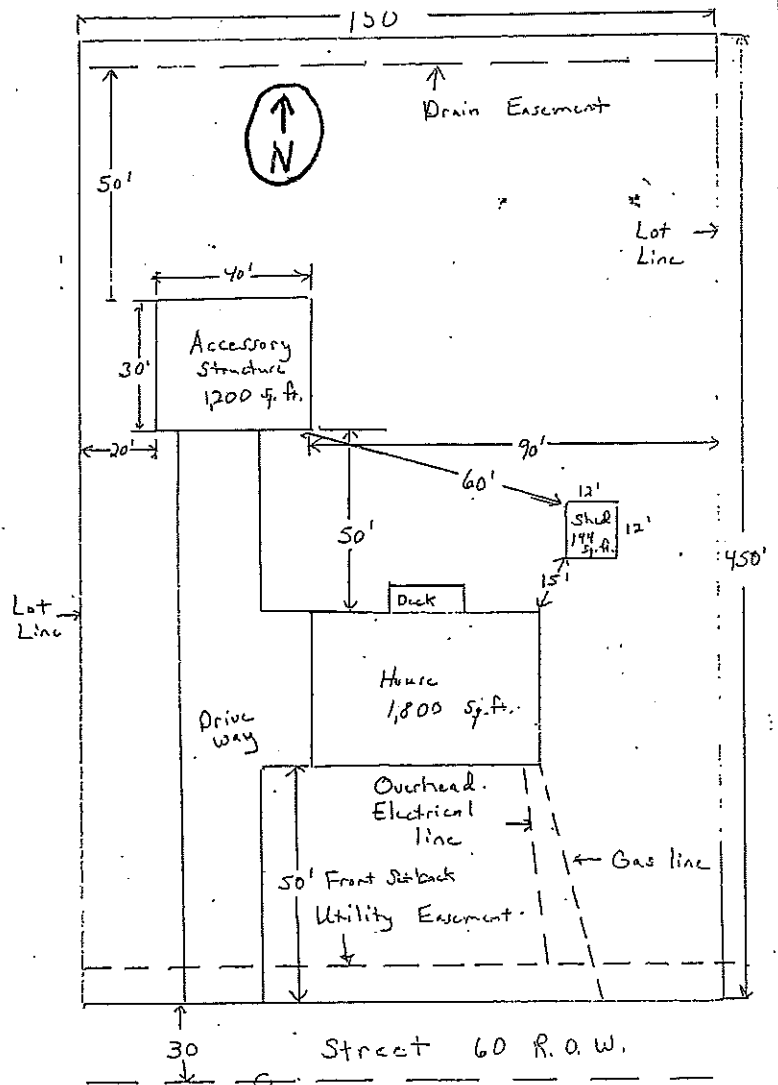
How to use this Construction Guide.

To help applicants, our department has developed this Construction Guide to make frame construction (a.k.a., pole barn) easy and understandable. We ask that you simply fill in the blanks on all pages and indicate which construction detail will be utilized. Once completed, please attach all pages to your application for a Building Permit.

Site Plan Required:

Site plans shall identify:

- Lot lines with dimensions
- Driveway
- Street with name
- All structures (Fences, Decks, Sheds, Patios, Garages, Etc.)
- Dimensions of existing and proposed structures to all lot lines and other structures
- Location of septic tank and drain field
- Location of all shorelines, wetlands, streams, creeks and ditches
- All overhead or underground utilities (Call Miss Dig 811)
- Right of way line (distance from center line of road, see Article 4, section beginning 4.33.1)



Incomplete or inaccurate information will cause a delay in issuing your permit.

EXAMPLES OF RESIDENTIAL BUILDING METHODS AND BASIC CONSTRUCTION CODES

These examples are a general outline for residential construction. Refer to your 2015 Michigan Residential Code Book and other resources for actual methods and code specifications, as they apply to your specific project.

2017 Pole Buildings (engineering revised)

Pole Barns with roof spans 0' to 24' and sidewall heights 0'-10'

Concrete support pad excavation depth minimum 48" from top of grade
Concrete support pad size: min. 16" dia. X 8" thick concrete pad required
(Support pads must be approved wet mix concrete or precast concrete 8"x 16", 5000psi rated pads.
Wall support post size: treated 4" x 6" posts, 8' o.c. (4" width facing out) with 2 x 6 uplift anchors at the post base.
Truss carrier/beam size: min. 2 -2"x12" spf, with vertical 2 x 6 blocks 24" o.c. between the 2 x 12 carriers.
Surface mounted carrier/beam, fasteners min. 4- 5/16"x 4" ACQ screws per post connection.
Manufactured roof trusses installed with lateral bracing, per manufactures specifications.
Roof trusses fastened to carriers with metal brackets or vertical wood carrier blocks
Roof purlins properly spacing for roof sheeting. Roofing installed as per manufactures specifications
Wall girts as per drawings with diagonal wall bracing in all corners from truss carriers to floor
Base wall girt/rim board, min. 2"x 8" treaded board (ground contact rated)
Exterior sheathing/siding, doors and windows installed as per manufactures specifications.

Pole Barns with roof spans 25' to 32' and sidewall heights 10' to 12'

Concrete support pad excavation depth minimum 48" from top of grade
Concrete support pad size: min. 24" dia. X 10" thick wet mix concrete pad, from an approved supplier. (redi-mix truck)
Wall support post: treated 6" x 4" posts, 8' o.c., walls, 6"x6" posts for walls 13' to 16' tall, 2 x 6 uplift anchors post base.
Truss carrier/beam size: min. 2 -2"x12" spf, with vertical 2 x 6 blocks 24" o.c. between the 2 x 12 carriers.
Surface mounted carrier/beam, fasteners min. 4- 5/16"x 4" ACQ screws per post connection.
Y- Bracing required from support posts to truss carriers on load bearing walls. Y-Bracing 2-2 x 6 x 40" long on 45 deg.
Manufactured roof trusses installed with lateral bracing, per manufactures specifications.
Roof trusses fastened to carriers with metal brackets or vertical wood carrier blocks
Roof purlins properly spacing for roof sheeting. Roofing installed as per manufactures specifications
Wall girts as per drawings with diagonal wall bracing in all corners from truss carriers to floor
Base wall girt/rim board, min. 2"x 8" treaded board (ground contact rated)
Exterior sheathing/siding, doors and windows installed as per manufactures specifications.

Pole Barns with roof spans 33' to 48' and sidewall heights 11' to 16'

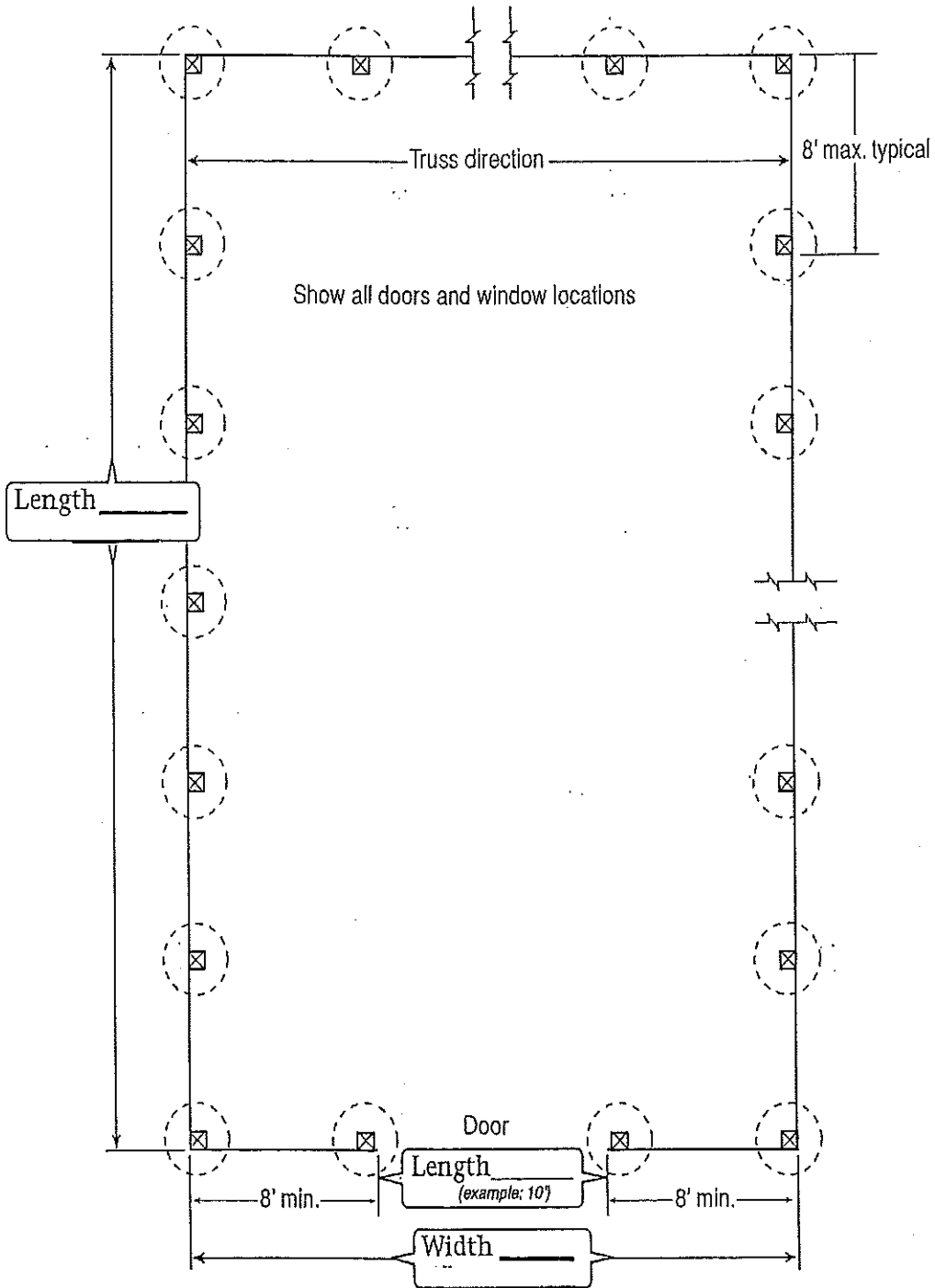
Concrete support pad excavation depth minimum 48" from top of grade
Concrete support pad size: min. 30" dia. X 12" thick wet mix concrete pad, from an approved supplier. (redi-mix truck)
Note: 1/2" x 16" rebar hairpin anchors thru the post into the concrete floor may also be required on large structures.
Wall support post size: treated 6" x 6" posts, 8' o.c. with 2 x 6 uplift anchors post base.
Truss carrier/beam size: min. 3 -2"x12" spf, with vertical 2 x 6 blocks 24" o.c. between the 2 x 12 carriers.
Surface mounted carrier/beam, fasteners min. 4- 5/16"x 4" ACQ screws per post connection.
Y- Bracing required from support posts to truss carriers on load bearing walls. Y-Bracing 2-2 x 6 x 40" long on 45 deg.
Manufactured roof trusses installed with lateral bracing, per manufactures specifications.
Roof trusses fastened to carriers with metal brackets or vertical wood carrier blocks
Roof purlins properly spacing for roof sheeting. Roofing installed as per manufactures specifications
Wall girts as per drawings with diagonal wall bracing in all corners from truss carriers to floor
Note: Knee bracing from support posts to trusses maybe required in buildings exposed to sustained high winds.
Base wall girt/rim board, min. 2"x 8" treaded board (ground contact rated)
Exterior sheathing/siding, doors and windows installed as per manufactures specifications.

Note: Buildings with roof spans great than 48' in width and walls taller than 16' in height and/or buildings having 2nd story storage areas, require approval of engineered drawings with details

Engineering Review provided by Nordlund & Associates of Ludington, Michigan

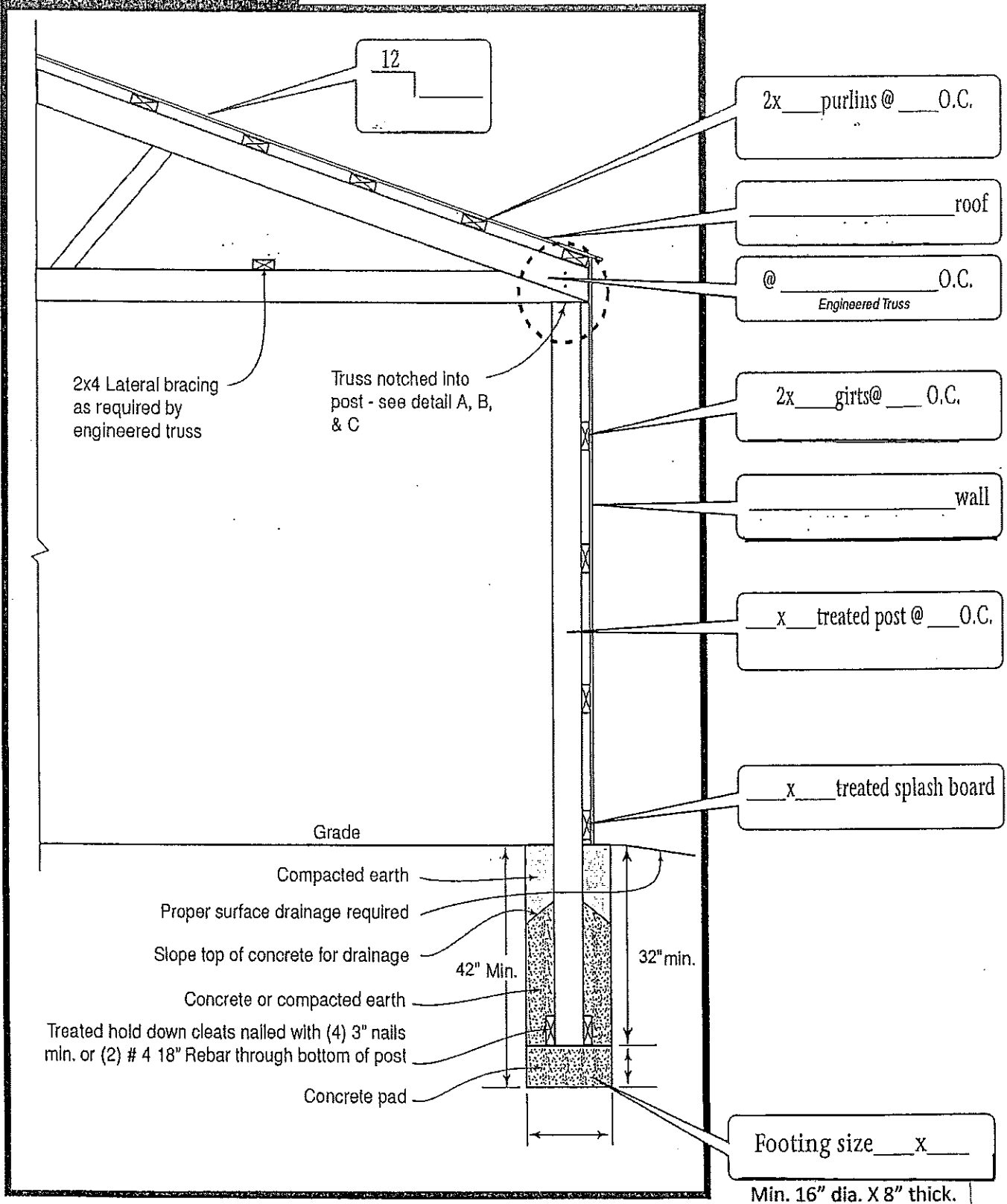
Pole Barn Construction

Floor plan



Pole Barn Construction

End Elevation



Pole Barn Construction

Side Elevation

