How to use this guide-

1– Complete this building guide By filling out all pages and indicating which construction details will be used.

2– Provide site plan showing the dimensions of your project or addition and its relationship to existing buildings or structures on the property and the distance to recorded property lines drawn to scale.

3– Complete a Building Permit Application. In most cases applications are processed without delay. The use of this document and other submitted documents will allow our staff to verify compliance with Building Safety Codes, Zoning Ordinances and any other applicable codes or rules.
Plan Requirements
Provide ALL of the items listed below on your plans. Complete sets of plans along with a site plan shall be submitted at the time of application.

Floor Plan
Provide a plan view (overhead) of all support pole location, spacing and the dimensions of the building.

Framing Plan
The framing plan shall show the direction, size and spacing of the roof system, purlins, girts, beams and header sizes.

Indicate location of ALL window and door openings.

Indicate location of all support poles or post and provide spacing dimension between poles.

The maximum size of Pole Barns not using engineered drawings is 32’ maximum in width and 40’ maximum in length. Maximum allowable wall height is 12 feet. Building must maintain a 5:3 length to width ratio.

*Buildings with any dimension exceeding those listed above will require the seal of a North Carolina Licensed Design professional.

Section Elevation
1. Front, rear, and both side views to scale—identify scale.
2. Finish grade line at building
3. Label depths of holes for support poles from grade to base of pole. NOTE: Pier holes for support poles must be a minimum of 48 inches in depth, or the plan must be designed by a NC Licensed design professional.
4. Pole sizes must be labeled. Wood poles buried in earth must be of preservative treated wood labeled for ground contact.
5. Label the sidewall girt size, type of material and spacing. Note: Bottom Girt must be of treated wood if it is located within 6 inches of grade.
6. Label Beam size and type of material above support poles. Detail the method of fastening the Beam(s) to Pole(s).
7. Label the rafter size. If engineered trusses are to be used indicate this. Engineered Truss drawings are required to be on-site for inspection.
8. Label the rafter tie or ceiling joist whichever is applicable—Not applicable for engineered truss construction.
9. Label roof purlin size and spacing if applicable.
10. Label exterior wall finish material— if applicable.
11. Label roof covering material.
Inspections Required:

NOTE—Plans are required to be on site at time of all inspections.

1. Footing Inspection: hole inspection—Setback and hole inspection is conducted. Holes are dug and hold down cleats are attached to post. This inspection is required to be conducted prior to any concrete being poured.

2. Concrete Inspection—After pads are poured—to verify concrete thickness.

3. Framing Inspection: Requested after building is erected and before any insulation or interior covering is installed. Rough Inspection may also serve as Final Inspection if no further work is being performed.

4. Final Inspection: Requested after all work is completed.

Where allowed by the Jurisdiction, this Pole Barn guide may be used without the need for additional engineering, where all of the following comply:

- Barn is no larger than 40' L x 32' W x 12' wall Height.
- Rectangular barns must maintain a 5:3 ratio.
Pole Barn Construction

End Elevation

Note: Purlins must be on edge with roll blocking if trusses are more than 4' o.c.

2x_purlins @ O.C.
min: 2 x 6 @ 24" O.C.
with (3) 16d or (2) 20d nails

roof
min: 29 Ga. Steel

@ O.C.
Engineered Truss

2x_girts@ O.C.
min: 2 x 6 @ 24" O.C. with (4) 20d nails

c_{o}l
min: 29 Ga. Steel (example)

x_treated post @ O.C.
min: 6" x 6" or (3) 2" x 6" @ 8" O.C.
treated below ground

x_treated splash board
min: 2" x 6"

Grade

Compacted earth

Proper surface drainage required

Slope top of concrete for drainage

Concrete or compacted earth

Hold down cleats (Treated for below ground use)
nailed with (4) 3" nails min. or (2) # 4 18" Rebar
through bottom of post

Concrete pad

Min. 24"

48" Min.

38" min.

Min.

Footing size_x
min: 10" x 24"
Pole Barn Construction

Floor plan

Truss direction
8' max. typical

Show all doors and window locations

Length
max 40'

Building length to width ratio: 5:3
40' max. x 32' max., 24' min.

Please see page 3 for footing size

Must have 8' wall between corners
and doors for bracing
See bracing detail, page 5

Door

Length
(example: 10)

Width
32' max. at 40' length.

8' min.
Pole Barn Construction

Side Elevation

See detail C

See detail A

Diagonal bracing at all corners and every 25° after

2x6 girts

Girts __________ apart
(max: 24")

Posts __________ apart
(8" max.)

Treated splash board

Grade

Detail A

Engineered Truss

(2) ½" carriage bolts

1 ½" notch

Post is cut off to angle of roof

Post

Detail B

Engineered Truss

(2) ½" carriage bolts

(3) 2" x 6"

Detail C

N.T.S

4' o.c. Truss

(3) ½" carriage bolts at center span

(2) 2" x 12"

Truss fastener

(4) ½" carriage bolts per splice

Notch post for

(1) 2" x 12"

Built up beam to be nailed with 16d common or 16d box nails at 16" o.c. each edge face nail