EVALUATING YOUR BUILDING SUPPLIER
NOT ALL POLE BARS ARE EQUAL

Q: Is your building system completely engineered or are only some of the components engineered?

A: Be sure that ALL of your building’s components are engineered to work together and to last. Don’t assume that “a pole barn is a pole barn”. Often, the only engineered component of the building is the truss. The truss relies on the rest of the building for support and bracing. If either of these is inadequate the engineered truss can fail.

Builders may piece together components that are engineered, but not necessarily designed and engineered to work together. Sheathing, purlins, roof trusses, columns, footings, and the connections between them are all “links in the chain” of your building. If a weak link fails, the building fails.

Q: Ask your builder to clarify the meaning of the building design values (foundation design loads, wind loads, snow loads and building live loads) included in your proposal.

A: It is important that you understand the loads quoted in your proposal. Builders may use the same terminology, but it may not have the same meaning from one proposal to the next. For example, your proposal should include snow load. There is ground snow load and roof snow load; these are not equivalent. It is important to clarify which load is included in your proposal. The ground snow load will always be higher than the roof snow load for a given location because the wind removes snow from the roof. A truss designed for a 30psf (pounds per square foot) uniform roof snow load may be stronger than a truss designed based on a 40psf ground snow.

Q: How does your builder decide on specific design loads included in your proposal?

A: If you are building a code building, local codes dictate the design minimums for your specific location. With code-exempt buildings, reputable builders follow ASCE 7 (American Society of Civil Engineers Minimum Design Loads for Buildings) with some modification. If you have questions about the design load for your specific location, it is recommended that you hire a professional engineer.

Q: Are COMPONENTS designed to meet specified wind and snow loads?

A: In a fully designed and engineered building, ALL components (not just the trusses) are manufactured for your specific building site and load requirements. They are designed to work together efficiently and economically to meet the specified wind and snow loads. Buildings that may appear to look the same may be very different structurally. If your building is not completely engineered, it may have a weak link, and it will have a higher risk of collapsing as a result of severe weather.

Q: Are columns and trusses designed and engineered for each specific location in the building?

A: A 6"x6" solid wood post or a 3-ply 2"x6" laminated column is not a one size fits all solution. Your building will be subjected to many different forces/loads and should be designed accordingly. A properly engineered building will combine strength and economics to include properly sized components throughout the building. For example, one critical area that is often neglected is column size and anchorage. Some buildings generate large pull out forces at some column locations due to wind. This frequently happens with buildings that have one open side. Ask your builder to describe any special design conditions that have been incorporated in the building proposal.
AVOID PIECES AND PARTS

Q: Is your builder procuring directly from a building system manufacturer or simply buying a shopping list of building parts?

A: There’s a big difference between buying a building system versus a list of building materials that haven’t been designed or engineered to work together. If the trusses are coming from one company, the siding from another, and the accessories and hardware from yet another, the builder cannot ensure consistent quality or design integrity, much less match colors.

Q: Where are the structural framing (wood), accessories (windows, doors, etc.) and hardware coming from? Where is the manufacturing of the exterior cladding (metal) done?

A: It is important to understand the sourcing of materials. They should be supplied by a single source that ensures consistent quality standards, color matching, and a single contact for warranty questions. A single source manufacturer eliminates finger pointing between suppliers should any performance issues arise.

BIGGER IS NOT NECESSARILY BETTER

Q: What type of lumber is being used in your building and why is it important?

A: Size, species and grade all have a meaningful impact on your building performance. For example, Southern Yellow Pine (SYP) and Douglas Fir (DF) are 25% denser than Spruce Pine Fir (SPF)—which results in 25% greater fastener capacity. Depending on the application, all of these species may be suitable, but understand that they are not equal.

There are visual grades of lumber and there are machine stress rated (MSR) grades of lumber. Each carries different design values. Bigger is not necessarily better. In the example below, clearly the MSR 2x4 is the stronger board.

![Sample Lumber Grade Comparison](image)

**Q: Does your builder use multi-ply columns or solid wood posts?**

A: Testing by numerous manufacturers has proven that laminated multi-ply columns provide higher design strengths than solid wood posts. The chemical treatment (to prevent wood rot) is also of higher quality and consistency because each ply is fully treated, rather than just the perimeter of a solid post. Column consistency and straightness can also be controlled by laminating wood plies together. Higher strength, consistency, and longevity are achieved with laminated wood columns.
Q: Does your builder finger joint columns or end (butt) splice the column plies?

A: To increase the length of a column, individual boards are joined end-to-end. Finger jointing creates one continuous piece of lumber by interlocking the joint using high-strength glue to make a stronger column. An end splice relies on mechanical fastening to connect two smooth ends of the boards. These end splices are equivalent to a lumber defect, forcing the column to rely on the strength of other plies to carry the load around the splice.

Q: Does your builder use screws or nails for wall and roof steel attachment?

A: Screws offer many advantages over nails. Screws are color matched to your steel, they are more resistant to wind loads, and they allow you to fasten in the flats of the steel which creates a stronger building.

Q: What type of structural framing does your builder use?

A: It is important to compare typical structural framing details.

1) Truss to column connection: A symmetrical truss centered on the column eliminates an unexpected load on the column. It minimizes the risk of the column bowing. With a side mounted truss connection a large torque can be produced that could cause the column to bow, reducing the column’s ability to carry its vertical load.

2) Purlin to truss connection: Purlins in steel hangers provide positive truss bracing (the truss cannot prematurely buckle) and eliminates places for birds to nest versus purlins above the truss.

3) Truss to truss bottom chord bracing: Roof trusses must be straight and plumb to support their design loads. Bottom chord bracing maintains truss alignment under high wind loads. Special connection hardware ensures the bottom chord braces are effective in both compression and tension thereby providing positive reliable truss bracing.

Q: Is there any flexibility in designing your project or are you buying a standard building design?

A: Ask about the options for building width, bay spacing, foundation type, and framing choices. Some builders offer little to no flexibility and will not construct a building outside of their standard cookie-cutter methods.

Q: What input do you have in the overall aesthetics?

A: Customization should not be difficult or expensive. Builders should be willing to listen to and accommodate requests. For example, your building width, length height, roof pitch, bay spacing, exterior and interior finishes, color options, layout, dormers and porches should all be able to be designed specifically to fit your needs. This is YOUR building and it should look and function as YOU envision.
COMPARE APPLES TO APPLES

Q: Is your quote a complete proposal or is it an estimate, which is subject to change?

A: An estimate is just an estimate, with a final value to be determined at project completion. A complete proposal is a firm quote subject to change only if the size and scope of the project changes. Review your quote to ensure it includes everything. The quote should clarify in writing what is included and what is excluded. Avoid unpleasant surprises by understanding the true scope of work before you sign a contract.

Q: Are the accessory component options truly equivalent between the competitive quotes?

A: Accessory components can vary greatly in terms of quality. Overhead doors, for example, are available with many different features and options. One is not necessarily equivalent to the other. The specific details between quotes for all the building accessory components should be reviewed carefully. Ask the builder to explain the features and benefits of each major accessory. Understand and be satisfied with what you are purchasing.

AVOID COMMON PITFALLS

Q: What locations on your site are best suited for placing a building?

A: The builder needs to fully understand your site conditions before providing a quote. This helps to avoid common pitfalls. Not visiting the site could result in potential costly change orders. Be familiar with local restrictions and ordinances to ensure the building can be placed in the desired location on your site.

Q: Whose responsibility is excavation and site preparation?

A: This is a common area where unforeseen expenses occur. The building contract must clearly state who is responsible and set clear guidelines for performing each task. Be sure both the hauling (hauling in and hauling out of dirt/gravel material) and the material placement is included.

Additionally, the handling of unforeseen conditions such as a high water table or buried rocks should be clearly defined in the building contract.
DO YOUR HOMEWORK

Q: What does the warranty cover?
A: Warranties should be supplied for treated lumber, paint on the wall and roof steel, and the structure itself. Paint warranties vary by supplier. Ask for a detailed explanation. Treated lumber warranties sometimes run as long as 50 years. A Lifetime Structural Warranty by a national manufacturer is the gold standard. Be wary if a builder is not willing to provide a written warranty covering the building’s long-term performance. Try to assess whether the builder is likely to be in business long enough to honor the warranty being offered.

Q: Does your builder offer a workmanship warranty?
A: Ask your builder if they provide a roof leak warranty and a workmanship warranty. The builder should be willing to put any warranty they offer in writing for you to review prior to making any decision.

Q: Are safe work practices being used? Is the builder fully insured?
A: The greatest potential for injury in constructing a building is the risk of a fall. All employees should be using OSHA approved fall protection equipment and tie-off devices in accordance with safe work practices and law. Verify that your builder intends to comply with OSHA standards. To protect you and your property during construction, a certificate of insurance documenting worker’s compensation, and general liability should be requested. Request a copy of this certificate to verify current coverage. Your builder should discuss and review the importance of builders risk insurance.

Q: What is the builder’s past experience?
A: Your builder should be trustworthy. Request a tour of their other buildings. Ask to talk to the owners about their experience with the builder. Research the industry to see if the builder is a leader and recognized as an expert.

Q: Is your builder a member of the National Frame Building Association (NFBA)?
A: The NFBA is the only national trade association that represents post-frame industry professionals.
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