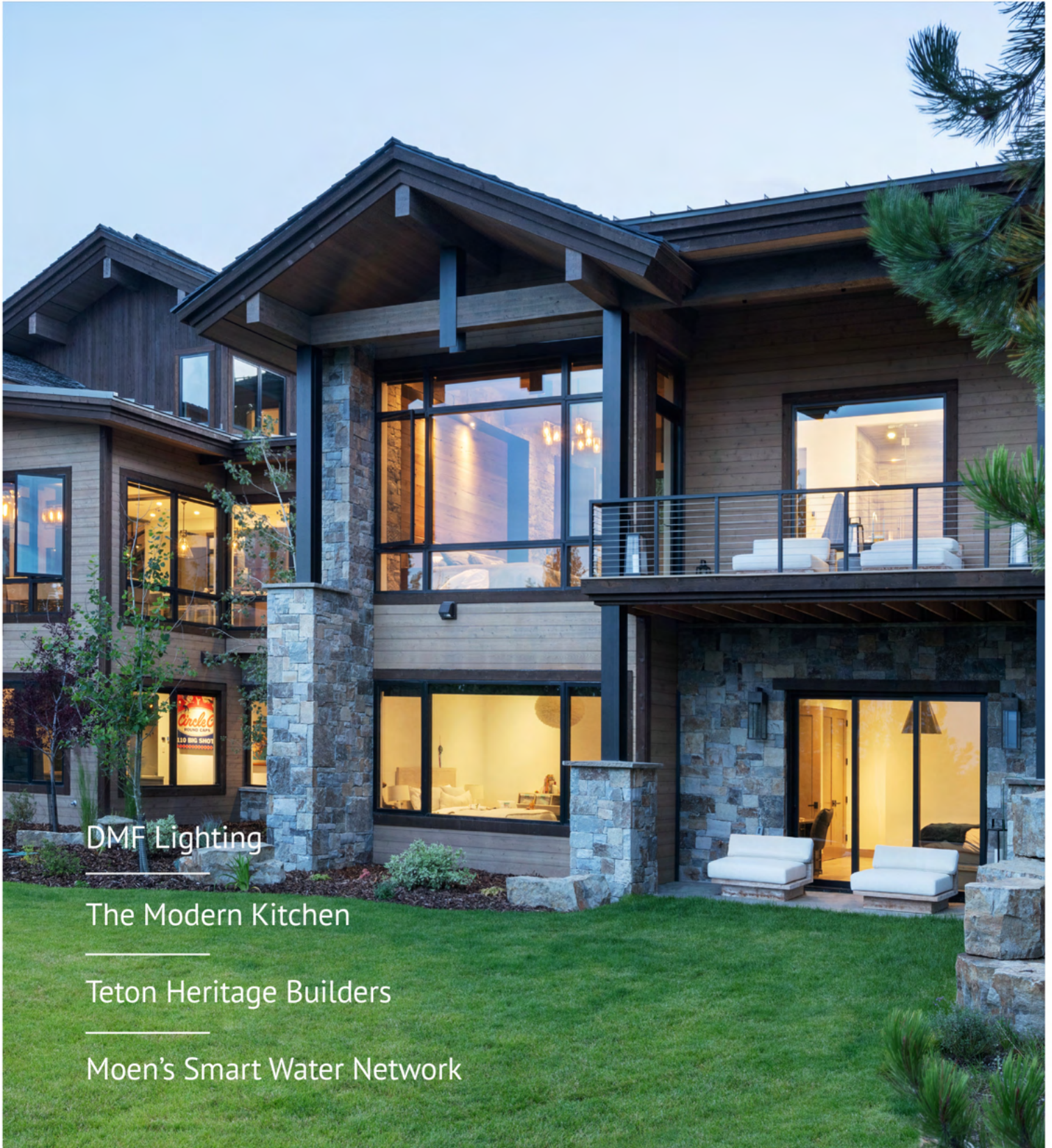


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# BUILDING BIG IN BIG SKY

BY SEAN VINCENT O'KEEFE



**IN CUSTOM RESIDENTIAL ARCHITECTURE** where choices are limited only by the client's budget, the designer's imagination, and the builder's versatility, seemingly the sky is the limit. However, just because it's possible doesn't mean it's prudent. For Omar Fuentes of Teton Heritage Builders (THB) constructing wisely is about guiding clients through the myriad of decisions to settle on smart choices that will not only meet expectations but stand the test of time.

"At THB, the homes we build are truly bespoke," says Fuentes who is the Lead Project Manager for a custom homebuilder serving clients across the Rocky Mountain West. Ranging from epic mountain estates in heavy timber and stone to western contemporary homes with pitched roofs to the virtually slopeless profiles of mountain modern architecture, THB's portfolio exudes a strong sense of craftsmanship in every solution. "Custom home clients enjoy the thrill of forming a partnership with their architects, selecting a site, and

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As technologies and building materials change, there will always be new innovations or products people can put in their homes. As building professionals, it is our responsibility to make sure we are vetting these systems, so we aren't getting ahead of ourselves and spending the client's money on something that is going to be obsolete and difficult to replace.”



**OMAR FUENTES**

**LEAD PROJECT MANAGER**

**TETON HERITAGE BUILDERS (THB)**

choosing the right builders. They can consider unusual building materials, exotic finishes from faraway places, and all the latest technologies and conveniences to create a home that is truly a work of art.”

Established in 1996 by President and Founder, Peter Lee, THB operates from dual offices located in Jackson, Wyoming, and Big Sky, Montana. Employing 28 professionals full-time, THB carries another 10 trim crew teammates when there is demand while completing between four and eight custom houses a year. Helping each homeowner understand that just because it's available doesn't always mean it's a good idea is a central theme of what Fuentes sees as his obligation to good project management.

“We try to spend our client's money as if it were our own,” shares Fuentes in simplifying his counsel to clients. He reports that while many custom homes being delivered in the Big Sky region are being built for as much as \$2,000 a square foot, THB is still building elite luxury living for around \$1,500 a square foot. “We advise clients on where to get the best bang for their buck in the investment by suggesting value engineering ideas that don't compromise the architecture or expected quality. We are typically between three and five percent of the goal between the schematic design and the construction estimate. Just because clients are building a legacy and spending a lot of money doesn't mean they want to overpay.”

As a true general contractor, beyond their internal carpentry crew, THB subcontracts almost all the trades required. Fuentes reveals this allows THB to move with the market rather

than being tied to one building system or another.

“We competitively bid all the trades on every project. This helps us stay true to price commitments to clients,” shares Fuentes. “Though we don't have any in-house design resources, we tend to look at MEP, A/V, low-voltage, and other smart home systems as design-build opportunities. Using the sub's experience, we're able to integrate systems that meet the homeowner's expectations without blowing up the budget by overdesigning these cost-intensive components.”

Throughout the Rocky Mountain West, in Big Sky, Jackson, and many of the other places where the THB team builds dream homes, the biggest threat to project success is often the site itself. Shaped by plate tectonics applied over eons, construction in these areas regularly confronts geological gradients of many sorts. From soft, squishy layers of clay that slide when wet to fragile shale layers that crumble under pressure to places where bedrock is just below the surface, it's difficult to say what a build will encounter until the site is cleared and excavation is complete. Consequently, there is almost always a tremendous amount of engineering that goes into setting the home on the site. THB adamantly advises clients to perform a geotechnical investigation on every project, which gives an idea of the geology of the site prior to beginning work.

“The geology here is a big deal and can have a huge impact on constructability,” shares Fuentes. “We have areas where there is a lot of groundwater that causes us to use helical piers to stabilize the foundation. There are times when we build the house on something called a raft slab that allows

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the entire house to move as a unit in areas with risks of landslides. In sites covered in shale, we must remove all of that and build up a base layer of compacted gravel. In other cases, we use a lightweight geofoam block instead of gravel, so we don't cause a landslide by overloading the slope."

Fuentes cautions that there have been cases of people buying a lot that is cost-prohibitive to develop. Potential buyers should either ask for or invest in a geotechnical analysis before buying mountain home sites, especially any being sold individually. Once the foundation is out of the ground, as far as constructability and long-term use are concerned, the roof line is next.

"Obviously, it's very cold here, and there's a lot of snow, which means heavy snow load," continues Fuentes. "The standard for roof designs in this environment must integrate a double cold roof design. This involves a single-layer roof that is waterproofed and another roof on top of that with ventilation in between to prevent ice damming. This works best in a gabled form, where the roof pitch sheds snow naturally. We are now developing ways to achieve this airflow between layers on the virtually flat roofs of mountain modern designs."

As builders like Fuentes will tell you, the difference between a production quality home you can buy in any American suburban market from a national developer and the homes THB builds comes down to the details. In designing and building a one-of-a-kind mountain retreat, the homeowners THB works with have the choice of anything and almost everything. When it comes to some home technologies, unlimited choices can open Pandora's box.

"Technology is always changing. Many custom home clients and designers want to push the envelope on smart home automation and the latest technology," cautions Fuentes. "You can spend a ton of money on technology that is going to be irrelevant or will be surpassed in just a few years. So, the return on investment isn't there."

In addition to becoming quickly dated, depending on the forethought of the designers and builders, some systems can be hard to access for upgrades or replacement. Fuentes suggests that as home technologies tend to involve a little trial and error, it's wise to consider a more practical, start-and-add approach.

“My advice to looking at technology as a whole is to find a middle ground between innovation and pricing,” says Fuentes. As technologies evolve, more brands and product variations saturate the market, decreasing costs. It’s far easier to add useful features to a home once it’s lived in than to replace inaccessible technologies interwoven through the walls, floors and ceilings of a house.

One trend Fuentes is starting to see in the homes he builds is an in-house oxygenation system.

“Big Sky, Montana is close to 8,000 feet above sea level,” says Fuentes of the elevated basecamp backdrop for many of the homes he builds. “Many custom homeowners who build here are living at sea level on one of the coasts and aren’t used to the thin air, which is highly fatiguing and can lead to altitude sickness. We are currently working on a 13,000 SF house in the Yellowstone Club that features a full-room oxygen system. This involves creating a vacuum-sealed room where oxygen levels can be precisely controlled.”

Doing so involved filling window, door and wall cavities and sealing the chimney chase with closed-cell foam insulation. Once the system is set, it delivers a compensatory volume of oxygen into the room to balance the local air density for a comfortable night’s sleep. Originally, the homeowner explored doing the entire house that way, but logic



prevailed. That would have involved building the entire home to vacuum-sealed condition and the moment someone opened a door to go outside, it would take hours for the levels to be reset.

“As technologies and building materials change, there will always be new innovations or products people can put in their homes,” finishes Fuentes. “As building professionals, it is our responsibility to make sure we are vetting these systems, so we aren’t getting ahead of ourselves and spending the client’s money on something that is going to be obsolete and difficult to replace.”

