

A STEP-BY-STEP GUIDE
**HOME DESIGN
FOR EXTERIOR
CONSTRUCTION**

DESIGN

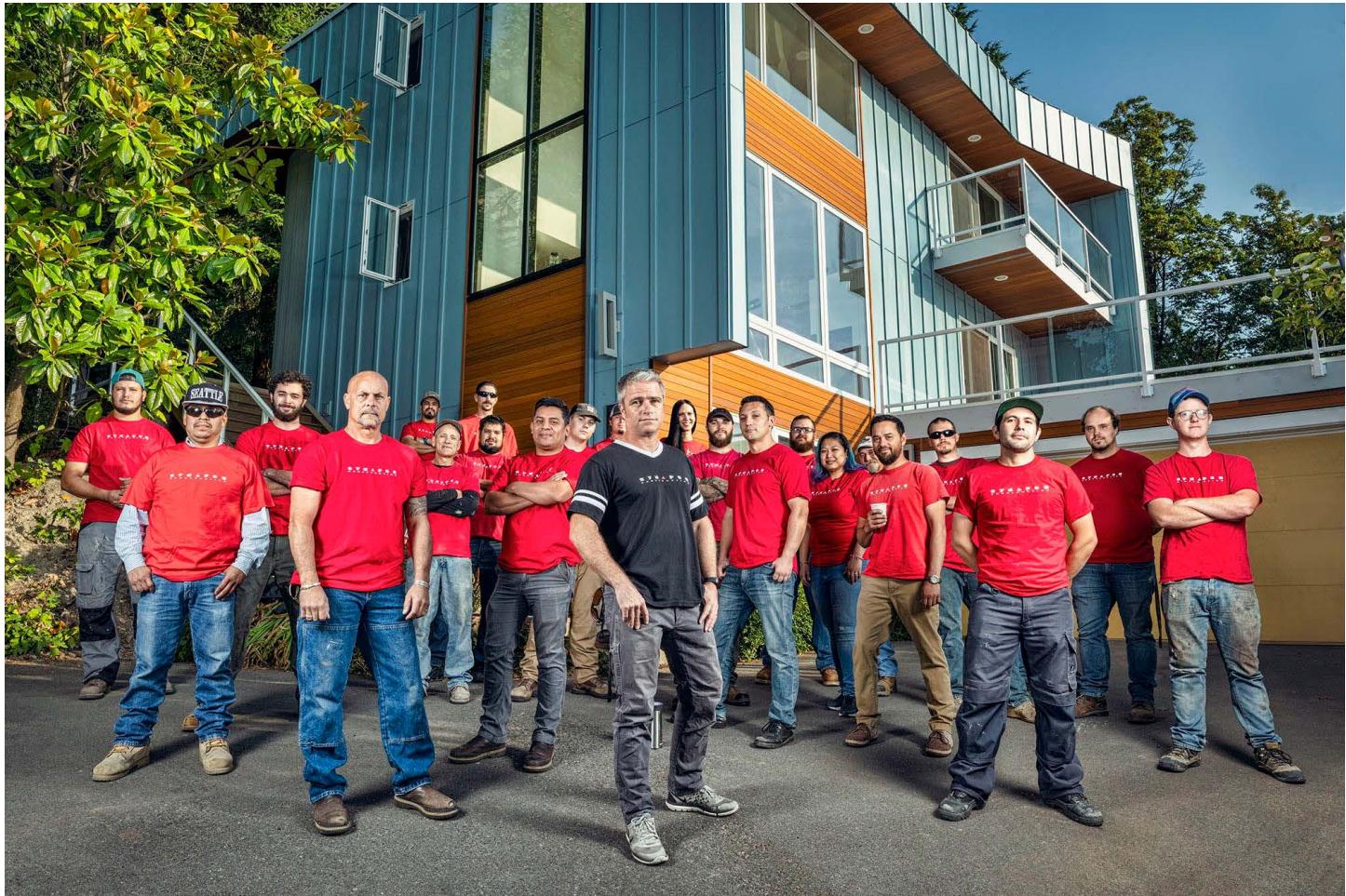
What to Know About
Design

CONSTRUCTION

What to Know About
Construction

MAINTENANCE

How to Keep Up With Your
Exterior Home Maintenance



What to Know About Home Design and Construction

There's no way around it — redesigning a home exterior can feel overwhelming. But with the right information, you'd be surprised at what you can pull off. Our step-by-step guide will prepare you to update or completely remodel your home's exterior **like a pro**.



HERE'S A LITTLE ROADMAP OF WHERE WE'LL BE TAKING YOU:

■ What to Know About Design → 04

- Identify Your Project Goals
- Determine Your Design Style and Preferences
- What to Consider in the Design Phase
- Organizing Your Documents for Construction

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What to Know About Home Design

- Identify Your Project Goals
- Determine Your Design Style and Preferences
- What to Consider in the Design Phase
- Organizing Your Documents for Construction

Consider the following questions:

- What motivations are driving you to seek out professional design services for your home?
- Are you fed up with maintenance and want a design with durability in mind?
- Does your house look dated, and is the ugly duckling on the block?
- Is your house mostly fine, but there's just something missing or not quite right that keeps it from reflecting your personality?

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Identify Your Project Goals

→ Answering these questions can help focus your efforts on what's important. And while sorting out what your goals are, it's always a good idea to take note of other home designs that inspire you. In doing so, you can start to identify what it is about those designs that you want to achieve. This will help communicate your vision, especially if you use a professional designer.

With that said, you'll want to think about what kind of professional designer you want.

Do you want someone that focuses on their inner aesthetic (an artist) or someone that will run with your ideas (a guide)? Do you want traditional architectural drawings or 3D? These are crucial questions to ask early on to ensure the process aligns with your preferences.

For example, most people find 3D to be a more accessible way to visualize new things. 2D drawings and detailing have their place, but if you feel challenged when trying to read construction plans, you may want to make 3D renderings a prerequisite for choosing who you work with.



Determine Your Design Style and Preferences

Springboarding off of the previous step, you'll want to really pinpoint the look and feel you're going for. This is the fun part. Start exploring everywhere for inspiration — your favorite homes, landscapes you love, paintings that captivate you, patterns in nature that you're obsessed with. Take pictures and jot down notes on why those designs, materials, patterns or colors make you feel good or inspired?

Digital scrapbooking is another great way to start the discovery process and find materials that satisfy the feelings that are pushing you towards a new design. These broad strokes help develop the big picture. At this point, don't worry about being all over the place. Don't worry about the cost either. There may be substitute materials or creative ways to use expensive materials to mitigate the overall cost.

The more you explore, the more you will learn and ultimately gain confidence in your choices. Also, don't overlook the acute frustrations that need to be considered and communicated as well. You know, those little annoyances that only come up from time to time, but when they do, you can't believe you're dealing with that situation again! Maybe it's a dark spot in your yard that you only notice at the end of daylight savings time. Whatever it is, bring it up!

"Start exploring everywhere for inspiration — your favorite homes, landscapes you love, paintings that captivate you, patterns in nature that you're obsessed with. "

Write those things down because you don't want to miss an opportunity to correct those problems. Although a basic exterior light, for example, may not be high design, it's something that can make a difference to the enjoyment of your house and should not be overlooked.

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What to Consider in the Design Phase

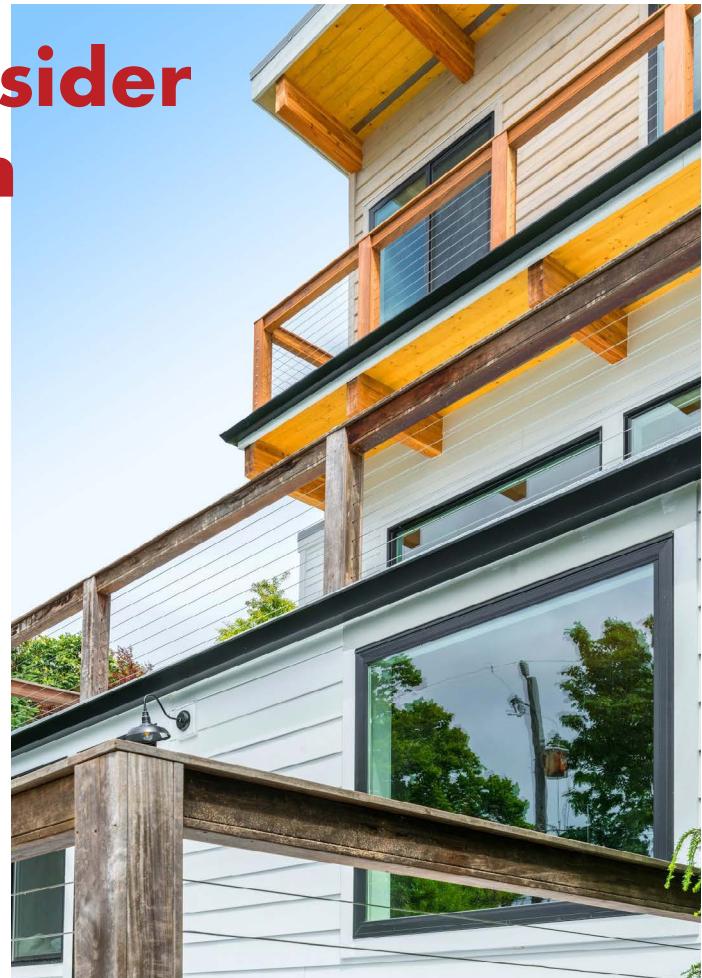
In the pre-design phase, you should have some clarity around your design goals. But it's very possible to have analysis paralysis after seeing too many things you like and not knowing how to choose.

That's okay, bring all of your ideas to the table. The first thing a good designer is going to do for you is to help cut through all the choices and options to find out how best to achieve your design goals.

After you iron out the design direction, you'll want to start identifying your budget.

If you're working with a design/build designer, they should have good cost data to help guide the design within your budget. If you are working with an independent designer, you'll want to get a building professional involved to start getting some pricing feedback before going all-in on a design that you may or may not be able to afford.

The designer's initial goal is to understand your



motivations and what gets you excited about the designs you have collected as samples. After you both agree on the direction, the next step is to translate your vision into a realistic design. This results in a pallet of materials, textures and colors that can be used in any number of ways.

At this point, it is a matter of finding a balance of materials and their placement on the home that gives you the most visceral satisfaction. Typically at this stage, the design is fairly close, and it's a matter of a few tweaks to bring it home.

Organizing Your Documents for Construction

With the creative work wrapped up, you'll need to do some work to ensure the design you want is the design you get. You can do this by putting together detailed drawings and labeling everything clearly so the contractor can carry out the design.

For more complex designs, there may be more specificity needed than can be clearly or efficiently communicated on the actual drawings. So a separate specification document may be necessary.



The drawings should consist of:

- Views necessary to communicate the design's intent
- Adequately describe the materials and finishes
- Designs that allow anyone to understand what is going where

The drawings should have arrows pointing to the "thing" and describing the "thing." They should also communicate what is not changing to avoid any costly mistakes. These drawings and documents are crucial to get what you want and allow you to get accurate pricing from your contractor. They also help avoid problems, extra costs and delays when construction begins.

Think of it as a recipe! Your contractor or builder reads the plans (recipe) to get the right materials (ingredients) that will be assembled in a specific way to achieve the look you have decided on (meal).



What to Know About Construction

□ The Ins and Outs of Exterior Construction

The Ins and Outs of Exterior Construction



You may have heard about exterior construction, but what does it really include?

Well, exterior construction consists of siding, windows, decks, exterior trim and roofing. Sometimes referred to as "exterior envelope construction," this type of construction is critical to a building's performance and longevity. It protects from the various elements like earthquakes, wind, rain, etc.

Although choosing a good contractor for any project is essential, it's absolutely crucial for exterior envelope work.

Here are a few things to consider when choosing a contractor:

- Years in business
- Happy customer references
- Project experience and similarity with your vision
- Demonstrates clear communication from introduction to proposal to contract
- Has an established process to start, progress and complete your project
- Will be able to handle the unexpected, i.e., rotted structure

With an experienced contractor in place, you shouldn't have to worry about the process. Rather, you can focus on your options and the best ways to communicate with your contractor.

Take a look at our best practices for exterior construction:

Removal of Existing Siding, Roofing or Trim | Removing existing cladding offers an opportunity to identify problems lurking under the surface and address them in most instances. For older homes, removal is the perfect chance to update electrical wiring, plumbing, and insulation, as well as complete any seismic upgrades. Replacement rather than overlay will also provide a better fit and finish.

WRB (Weather Resistant Barrier) | A WRB is the “paper” that goes on to the plywood sheathing on the outside of the framed walls. This keeps water out of the wall assembly as well as manages water vapor. Many new WRB products also act as an air barrier, making a big difference when it comes to energy efficiency.

The main thing to remember is that all WRBs need to be properly lapped to function as intended. The first layer goes on the bottom, and the second layer goes above and laps over the first. This process repeats until you get to the top of the wall or the peak of the roof.

As intuitive as this may sound, it’s a crucial detail that inexperienced contractors often overlook. Other options for WRBs are liquid-applied WRBs, where the membranes are essentially painted on.

Metal Flashings | Metal flashings are pieces of sheet metal bent into profiles to be used in conjunction with the WRB to manage water at the building exterior. The purpose sheet metal flashings are to direct water away from the wall assembly if and when water gets behind the cladding.

There are a variety of standard profiles available at hardware stores. There is also a multitude of sheet metal fabricators that can create custom profiles for more custom conditions. Some customization can also be accomplished on-site with hand tools.

Drain Plain | This is a space between the cladding (siding or roofing) to manage water or condensation that gets behind the cladding. In the past, cladding was installed directly over the WRB. But more recent best practices, especially for wet climates, have shown that having a drain plain is essential to the exterior envelope's performance.

There are three main types of drain plains:

- **An enhanced drainage** WRB is a weather-resistive barrier that has bumps or ridges that hold the cladding away from the WRB a minimal distance — about $1/8"$. Simulations with this enhanced drainage show that it does exactly what it says it does and enhances the ability of water that gets behind the cladding to drain down and away from the wall assembly.
- **Drain mats** range from $1/8"$ to $1"$ in depth. They are especially useful for vertically oriented cladding. Their range of thicknesses can be useful for aligning different materials of varying thicknesses. Anything under $1/4"$ will perform like an enhanced drainage WRB and thicknesses greater than $1/4"$ start to perform like a traditional rainscreen.
- **Rainscreens:** The most robust drain plain is a rainscreen. Rainscreens are typically wood battens installed vertically and are at least $1/2"$ thick.

All of the drain plan options are set up to allow for the vertical draining of water. In other words, horizontal battens would not be accepted unless they were spaced off the wall. With the additional space behind the cladding, you not only get the enhanced drainage behind the cladding but also ventilation, which allows for rapid drying and some other wall assembly advantages beyond this article's scope.

Which drain plain will work best for your project is a function of the cladding you are using, your climate and your budget.

Siding Choices | There are quite a few siding options that come with pros and cons. Fiber cement is a popular material that comes in many different profiles and can be used to create many designs but comes with some safety precautions.

So if you're a DIYer please be sure to read up on silica dust safety. Pre-finishing is another great option for your siding, especially when inclement weather can make on-site finishing dicey.

Another advantage to pre-finishing for natural wood sidings like cedar is all four sides get a coat of primer, stain, or whatever it is you are pre-finishing with. This adds to the stability of the wood and helps prevent cupping, warping, and curling.

We believe the best and most durable finish comes from a pre-finish followed by an on-site coat of the finish. Many other sidings come from the manufacturer pre-finished and include some fiber cement products, metal siding and many other composite siding materials.

Exterior trim can range from the minimal and simple to the ornate and complicated. This is something that will be developed in the design phase of your project, but typically modern homes have minimal trim while craftsman homes and alike are more dressed up with trim elements.

Some common trim elements are:

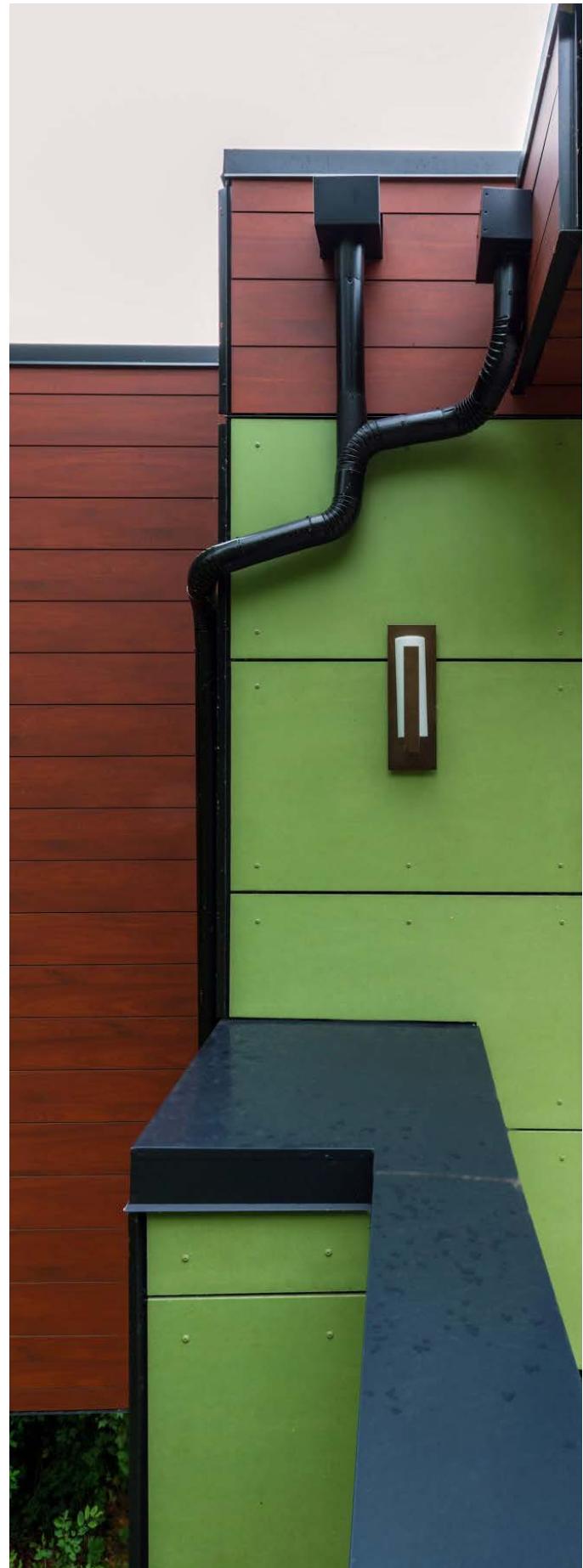
- Window/door trim
- Belly bands & water tables
- Freeze boards
- Corbels
- Shadowboxes



Signs of Quality Siding Installation |

As mentioned above, the materials behind the siding are critical to protecting the wall assembly and your asset and must be installed correctly. Assuming that is the case, here are some hallmarks of well-done siding installation:

- Lines are plumb or level and consistent
- Reveals or purposeful gaps are consistent
- Window head flashing has end dams
- The siding is held away from the flashing at least 1/4" and not caulked
- Any exposed fasteners are aligned and consistent
- Outside and inside corner transitions are consistent
- There is 6" from the bottom of the siding to the grade
- There is a gap of at least 2" between roofing and the bottom of the siding over a roof
- Caulking is smooth, consistent and not overdone to hide mistakes





Exterior Painting | If you don't go with pre-finished material, you'll likely need to do some on-site painting or finishing. And with exterior finishes and coatings, it is all about preparation.

Prep work is responsible for 80% or more of the process necessary to achieve an excellent finish. Prep work includes scraping, sanding, caulking, puttying and masking, to name a few. Also note that for houses built before 1978, you will need to rule out lead-based paint before beginning your work. If lead-based paint is present, you must follow some legal rules and procedures to limit exposure. However, the lead-based paint rules are not within the scope of this article.

So, the first thing for someone to notice when observing on-site finishing is that if the crew shows up and immediately starts applying the finish coat with no prep, you are likely not getting a good job. Exterior finishes include latex paint, oil paint, stains (solid body to clear) and UV inhibitors.

The most popular ways to apply finishes are with a spray rig or brushing and rolling. There are multiple types of sprayers, rollers and brushes, and they all have advantages and disadvantages when it comes to the material being applied, the desired outcome and the physical or space limitations.



Exterior home maintenance starts with inspections. Having someone that has intimate knowledge of exterior envelopes is best and will lead to the most exhaustive inspection and report. However, if that's not possible, any visual inspection is better than no inspection when it comes to protecting your investment.

How to Keep Up With Your Exterior Home Maintenance

- **What to Know When Inspecting Siding, Windows, Trim and Paint**
- **Why You Should Schedule Regular Cleanings**

What to Know When Inspecting Siding, Windows, Trim and Paint

Over time, your house and the materials on it move, expand and contract.

Your inspector will be paying close attention to:

- Caulk joints that may have failed
- Spots where paint may be prematurely wearing away
- Splices in materials that may have separated
- Areas where water is collecting or splashing and causing damage
- Areas where it may be possible for insects to enter the assembly

Once these problems have been identified, properly touching them up or adding a piece of diverter flashing or closing a gap will extend the life and limit future maintenance of your exterior.

Blown glass in windows is condensation between the panes. If you are not sure if the glass is blown, hold an ice cube against the glass. If you see condensation within a few minutes, the seal between the panes is broken, and the glass should be replaced.

Operable windows have rubber gaskets that compress and lockout water when shut. Inspecting for failed gaskets and repairing or replacing them can circumvent a future water intrusion problem. Windows also have weep holes that allow water that gets blown behind the gaskets to exit the window frame. Sometimes these can become clogged with debris. So cleaning them out will allow the window to function as it was designed.

Why You Should Schedule Regular Cleanings



Just like your car, your clothes, or your bicycle, regular cleanings help extend your home's life. Soft washing with gentle chemicals once a year for your home's exterior surfaces will keep them looking spiffy all year round.

How many times a year should you schedule cleanings? Well, it depends on where you live.

- **Gutters:** Gutter cleaning is essential to keep current and allow the proper drainage of the water your roof collects. Full gutters can back up, and when water starts going uphill, bad things can happen.
- **Windows:** Having your windows cleaned a couple of times a year can make a significant difference and make your home look and feel brighter.
- **Power Washing:** Do not forget power washing! Power wash your walkways, driveways, concrete planters and [some] decking products. Washing away the green growers in the spring and returning slippery surfaces back to their original grippy splendor not only looks good but adds to the safety of those that walk on your property.

If you're thinking, "Okay, cleaning the outside of my home? I already do enough to clean inside!" consider a service. Synapse Construction offers subscription services for exterior home maintenance so you can stress less about your exterior mess. [Contact us today to learn more!](#)



Be the Envy of Your Neighborhood

The fact that you have read this document (or at least skimmed it) means you have an appreciation for thoughtful design, well-planned construction, and the desire to maintain and protect your investment.

Congratulations! You have taken the path of least resistance to getting what you — want the way you want — and keeping it that way. You will be the envy of your neighborhood, family and friends. With your new knowledge, you can create a unique and meaningful space, and those that visit will notice.