

*High performance homes are energy efficient, healthy and safe, durable, comfortable, environmentally friendly and are designed and built as a system.*

### I. Introduction

**Environmental Building Solutions** (EBS) is an energy consulting and home performance contracting company. As an applied building science company, we specialize in helping home builders become High Performance Builders utilizing new technologies and emerging programs such as *ENERGY STAR* and *North Carolina HealthyBuilt Homes*.

Progressive builders recognize that their customers are demanding more comfort, energy efficiency and performance from their homes and seek ways to build better homes. This however, requires a great deal of effort to evaluate an overwhelming number of new products and processes *and* incorporate them using current building science principles! EBS serves our builders by helping them understand the home as an integrated system. We help builders determine the most effective and cost efficient methods to build homes that are more energy efficient, comfortable, healthy, safe and durable.

*ENERGY STAR for Homes* provides you an excellent opportunity to gain community recognition as a quality builder. You can enhance your customer satisfaction and increase revenue due to increased home value - an *ENERGY STAR* home for example, can be 30% or more energy efficient than a home built to standard code! EBS is a certified Home Energy Rater and third party verifier for these and other programs using *state-of-the-art diagnostic testing and inspections* assuring your customers excellent home performance.

EBS also serves builders by offering performance contracting services, such as Building Envelope Air Sealing and Sealed Healthy Crawl Spaces. Invite **Environmental Building Solutions** to be on your team of specialists to ensure your success as a High Performance Builder!

### II. Energy Star Home Certification



The *ENERGY STAR for Homes* program is gaining momentum in the Carolinas! Bolstered by Duke Power's launch of their new local 5% utility rate discount for *ENERGY STAR* homes, the recently passed Federal Builder Tax Credit for energy upgrades, and consumer familiarity, *ENERGY STAR* is here to stay! Builders looking for a way to differentiate and market themselves are finding *ENERGY STAR* to be an excellent choice.

*ENERGY STAR* is a market based voluntary partnership between the U.S. Environmental Protection Agency and organizations including 2500 of the nation's home builders promoting energy efficiency. Homes receiving the *ENERGY STAR* certification are significantly more energy efficient and healthier.

Environmental Building Solutions is your Charlotte regional home energy rating and inspection provider required for program compliance. Our mission is not simply to provide you with a label, but to work with your design and construction teams to help you build better homes and a better business! By using diagnostic equipment such as a Blower Door (to measure air infiltration) and Duct Blaster (to measure HVAC duct leakage), we can measure how your home will perform. This helps us work directly with your framing, HVAC and insulation subcontractors to improve their field performance!

*ENERGY STAR* is good for builders, homeowners and our environment, especially with support from **Environmental Building Solutions** to ensure your success!

### III. Technical Consulting and Training

High performance building, most importantly, is about improving *the construction process*, not purchasing expensive products. EBS will focus its effort on helping you identify areas needing improvement; we will implement a training program for your construction managers and key subcontractors. We offer solutions, not products!

Construction management training may be conducted in your office or in the field and will be customized to your needs. Typical training sessions include *ENERGY STAR* program requirements and process, quality control inspections of critical framing, insulation and HVAC systems, HVAC system design and sizing, fresh air ventilation and filtering strategies, bonus room comfort construction and closed crawl space systems. Subcontractor consultation and training sessions include HVAC duct sealing, ventilation strategies and proper fiberglass batt installation.

### IV. Building Envelope Air Sealing

Building envelope air leakage or infiltration through windows, doors, walls, rim bands, floors and ceilings has been shown to *increase heating and cooling costs 35-40%*. Unsealed chases and cavities by way of attics and crawl spaces bring *unconditioned and unfiltered* air into living areas. As energy costs and poor occupant health continue to rise as a result of leaky homes, it is important that you offer your customers affordable utility bills and healthy homes.

Our experienced Home Performance Auditors inspect your homes, digitally photograph and report their findings and oversee the work of our air sealing technicians to ensure tight homes required by the Energy Star program. EBS uses only building code approved and environmentally friendly air sealing products.



## V. Sealed Healthy Crawl Space

Typical vented dirt crawl spaces in our Carolina mixed-humid climate are *destined to fail!* Outside air with high relative humidity enters crawl spaces through foundation vents. It cools and then condenses within crawl spaces leading to *mold, wood rot, pests, poor indoor air quality and increased builder liability!* Scientific research and applied building science in the field however, demonstrate that a properly installed closed crawl space system provides much *better moisture control and energy efficiency.*

EBS brings a professional, scientifically-backed and “construction team” approach to our closed crawl space system design and installation. We work closely with your subcontractors to ensure proper code compliance, bulk water management, combustion safety, monitoring and introduction of conditioned air. Our well-trained technicians encapsulate, insulate, drain and air seal your foundations ensuring healthy and comfortable crawl spaces.

## VI. Additional Builder Services

- ❖ NC HealthyBuilt Homes Certification
- ❖ Energy Star Marketing Strategies
- ❖ Field Construction Drawing Details
- ❖ Manual J & D HVAC System Design and Sizing
- ❖ Attic Access Tent Insulation
- ❖ Mold Remediation
- ❖ Solar Water Heater
- ❖ Solar Light Tube
- ❖ Solar Window Screen
- ❖ Waste Management Strategies
- ❖ Energy Efficient Mortgage
- ❖ Site Planning for Passive Solar Energy
- ❖ Green Building Material Recommendations

## VII. Next Steps to High Performance Building

Contact EBS to schedule a free consultation to assess your current construction methods and specifications. We will also explore the building science behind our new and more efficient closed crawl space system and discuss *ENERGY STAR* marketing strategies.

Following the initial consultation, EBS will prepare a computer-modeled energy rating of one of your popular home plans to further identify specific, cost effective improvements if needed. If you choose to become an *ENERGY STAR* Builder, simply schedule EBS for inspections and home performance contracting services for one of your homes currently under construction.