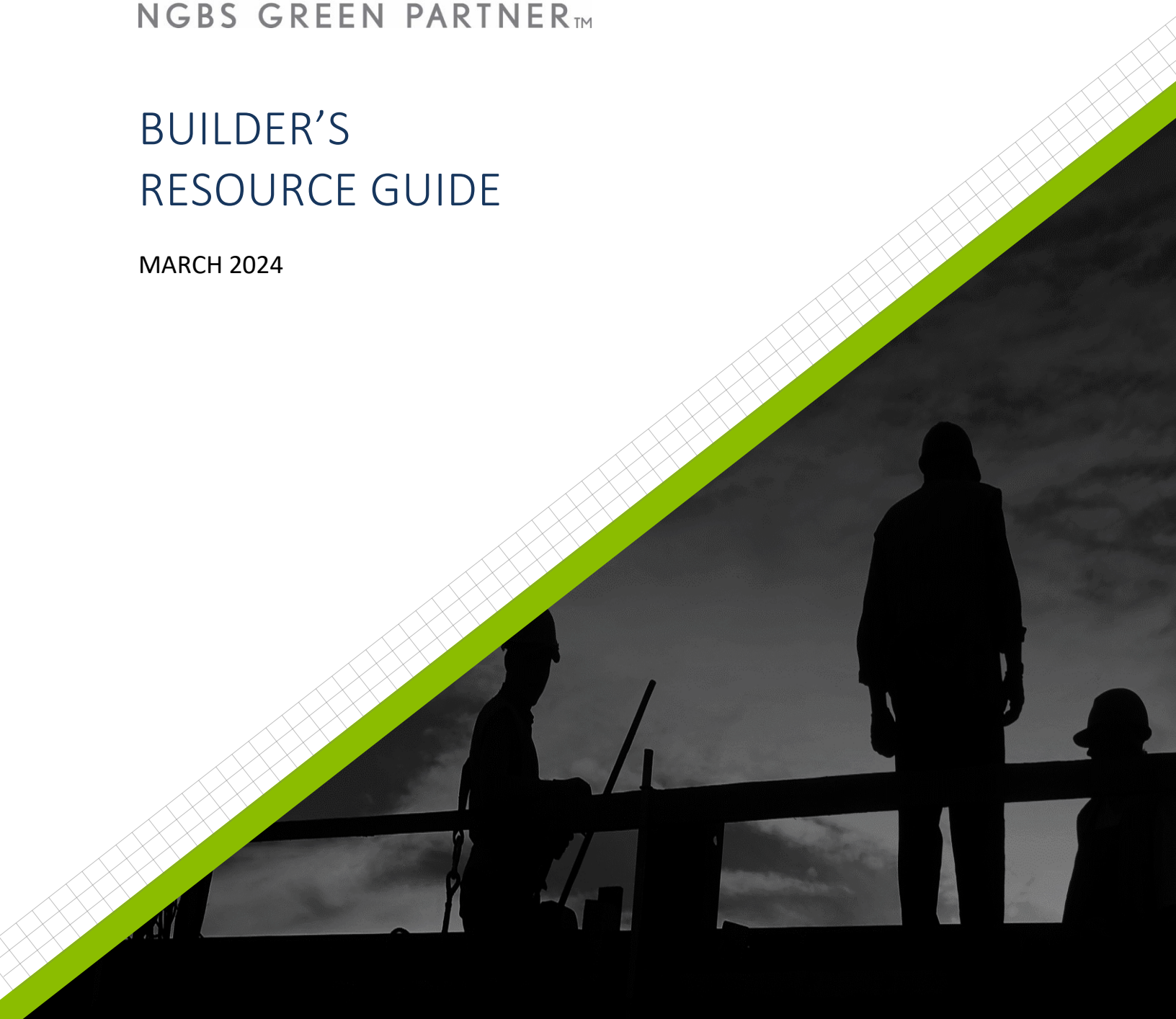
Home Innovation
NGBS GREEN PARTNER™

BUILDER'S RESOURCE GUIDE

MARCH 2024



400 Prince George's Blvd. | Upper Marlboro, MD 20774 | 800.638.8556 | HomeInnovation.com/green

March 2024

Dear NGBS Green Client:

Thank you for considering NGBS Green certification. When we launched NGBS Green in 2009, few thought we could deliver a certification program that was credible ***or*** rigorous ***or*** affordable ***or*** lasting – let alone ***all*** those qualities. I am proud of what we have accomplished.

Over 500,000 homes have earned NGBS Green certification, and over 400,000 homes apartments are seeking certification.

NGBS Green is the preferred green certification for those who build or renovate the buildings we live in.

The 2020 NGBS is the best version of the **National Green Building Standard®** with several notable improvements, including:

- Expanded scope to allow certification for commercial portions of mixed-use buildings, assisted living facilities, dorms, and hotels
- Streamlined compliance path for single-family homes, townhomes, and duplexes
- Water efficiency performance path that calculates a water rating relative to a baseline home
- Existing building provisions that offer a choice of compliance paths.

The 2024 NGBS, the fifth NGBS version, is under development. The 2024 NGBS consensus process is scheduled to be wrapped up by the end of 2024.

Our **NGBS Green Scoring Tools** have new and improved functionality; **NGBS Green PRO** training is available for industry professionals; **NGBS Green+** certification options can be selected that address wellness, net zero energy, and resiliency; and we enhanced our listing of **NGBS Green Certified products**. We also rolled out our water efficiency certification, the **Water Rating Index (WRI),** and are an EPA-approved certification agency for **WaterSense**.

The NGBS Green certification program now runs on the AXIS online platform which streamlines particpation in the program and enhances client benefits. AXIS provides clients with greater access to NGBS Green certified and in-process projects. As more investors look for companies with strong **ESG commitments**, NGBS Green certification continues to provide the industry with a rigorous and independent certification of sustainability and performance. Look for many more ESG enhancements to be rolled out this year.

Every certification offers us an opportunity to improve, to bring more value to clients, and to help you build a better home. Our promise is that when you see the NGBS Green Certified mark, you are confident the building meets the NGBS's rigorous requirements.

We will work with you to bring the most value for the lowest cost. Want us to do something differently? Email (mfoster@homeinnovation.com) me. We look forward to serving your green certification needs.

Best,

Michelle Foster
Vice President, Sustainability
Home Innovation Research Labs

TABLE OF CONTENTS

Quick Start Guide

The **Builders Resource Guide** (BRG) has the information you need to earn NGBS Green certification.

Use The Quick Start Guide if you're in a hurry.

NEW TO GREEN? We're Here to Help!

If you want an in-person overview, contact us to schedule a FREE 30-minute consultation with a member of our green team to get started.

Home Innovation Research Labs

Home Innovation Research Labs (Home Innovation) was founded in 1964 as a small product testing laboratory. Over our 60-year history we have grown to become a full-service market research, consulting, product testing, and accredited third-party certification agency dedicated to the building industry. Our Maryland headquarters is a 25-acre research campus which includes a state-of-the-art product testing and market research facility.

Home Innovation is an accredited standards development organization and has ushered many standards through the American National Standards Institute (ANSI) consensus process. During this process, we ensure that participation is open to interested stakeholders, interests are balanced, public input is sought, and appeals are heard. The ANSI process requires ongoing maintenance for ANSI-approved standards to ensure the content reflects the most current information on technology and other industry elements. Home Innovation oversees the development and maintenance of the ***ICC 700 National Green Building Standard®*** (NGBS) to ensure ANSI's rules are followed.

Home Innovation serves as NGBS Certification Agency and provides certification services nationwide through the NGBS Green program. Our core competency as an independent, third-party product testing and certification lab makes us uniquely suited to oversee a green certification program.

ICC 700 National Green Building Standard®

Overview

The NGBS is the ***only*** green building rating system designed solely for residentially occupied buildings, approved by ANSI as an American National Standard, and recognized by the International Code Council among their comprehensive set of building codes.

The NGBS assigns points to green practices. A building can attain one of five performance levels — Certified, Bronze, Silver, Gold, or Emerald. For a building to attain any certification level, applicable mandatory provisions must be implemented. In addition, the building must include sufficient green building practices to meet the point requirements for the desired certification level.

The NGBS provides the industry and consumers with a credible definition of green building. It's flexible, expansive point-based system for certification offers an affordable process to build green homes.

The NGBS applies to all residential buildings, including:

- single-family homes
- townhouses
- duplexes
- triplexes
- quads
- assisted living facilities and seniors housing
- rescue squad housing; homeless shelters
- mixed-use and multifamily buildings (no height limitation)
- hotels and motels
- student housing and dorms

Under the 2020 NGBS, commercial space of mixed-use buildings can earn the 'Certified' recognition. The residential portion must be greater than 50% of the building's conditioned square footage. There are two certification options — 'Core and Shell' and 'Fully Fitted Out.' Core & Shell addresses only the building envelope and fenestration. Fully Fitted Out is achieved once the non-residential space is completed.

The NGBS covers new construction and existing buildings. For existing buildings, the original or current building's use is irrelevant; if the building is renovated to accommodate residents, the building can earn NGBS Green certification.

The NGBS also applies to land development of any size. It can be used to certify a residential subdivision of a few lots, a 20,000-acre new community, or anything in between.

NGBS Compliance Requirements

The six categories of green practices in the NGBS are:

- Lot & Site Development
- Resource Efficiency
- Energy Efficiency
- Water Efficiency
- Indoor Environmental Quality
- Homeowner Education

To be certified, new buildings must meet the minimum point threshold level in each of the six green building practice categories shown above. This requirement ensures the building will reduce its environmental impact in all areas. The NGBS is not simply a design standard; it includes green building practices for design, construction, verification, and operation which helps ensure that buildings ***designed*** to be sustainable and high performing are actually ***built and occupied*** in a sustainable method.

For new construction, higher certification levels require a new building to earn more points ***in every category*** of green building practices.

Alternatively, single-family homes or duplexes can earn the Certified level by following the 2020 NGBS Chapter 12 certification path as long as the homes incorporate ***all*** applicable 2020 NGBS Chapter 12 practices.

Certification of the commercial spaces within mixed-use buildings is optional, but all applicable practices must be met for a commercial space to earn Certified. This applies to both the 'Core and Shell' and 'Fully Fitted Out' phases.

Score the Project

The NGBS Green Scoring Tool, available for free at www.HomeInnovation.com/GreenScoring, is an easy-to-use tool for architects, builders, and developers. The Tool is an Excel-based spreadsheet that includes all NGBS practices and points. A builder or architect can score a project using the Scoring Tool by claiming certification points based on the practices and products to be incorporated into the building seeking certification.

Scoring Tools are updated frequently. Please download a new scoring spreadsheet for each project. The NGBS Green Verifier will use the Scoring Tool as a verification checklist to confirm the building's NGBS compliance.

The NGBS Scoring Tools are copyrighted and available only for certification purposes. An inappropriate use of the Tools includes submittal to a local jurisdiction or housing agency to demonstrate compliance with their requirements when the building is not pursuing NGBS Green Certification.

Simplifying Certification with the Bronze Cookbooks

The NGBS has many compliance options. How do you decide what NGBS practices are the most cost-effective? To help new green builders, Home Innovation created the **NGBS Bronze Cookbooks**.

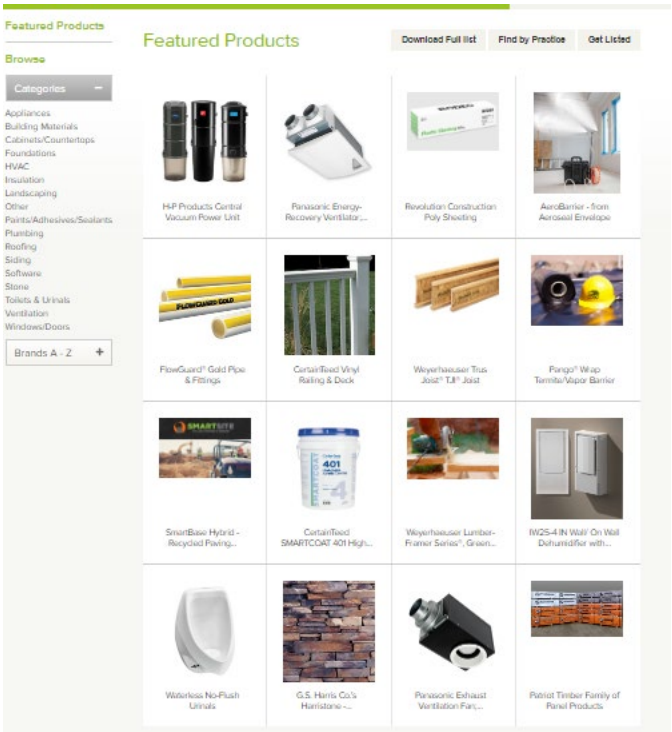
The "cookbook" shows which practices are most frequently incorporated to achieve NGBS Green certification. Home Innovation pre-populated an NGBS Green Scoring Tool with the most used practices used to achieve Bronze-level certification. Given the widespread use of these practices nationally, you can presume they represent the most cost-effective green practices for residential construction. Where appropriate, notes are included regarding NGBS Green Certified Product options which can further simplify the certification process.

The Bronze Cookbook can streamline what can otherwise be a complex and extensive decision-making process. Download the NGBS Bronze Cookbook: www.HomeInnovation.com/BronzeCookbook.

Identify Point-Worthy Green Certified Products

Home Innovation Research Labs' NGBS Green Certified Product program bridges the gap between manufacturers who produce NGBS-certified products and the builders/designers who want to use them in homes, multifamily buildings, and commercial retail spaces.

NGBS Green Certified Products earn a certificate that identifies the specific NGBS section(s) where points for the product are available. This information facilitates designers' selection of products to be used and the approval of those points by Home Innovation-accredited green building verifiers.



Green certified products are listed at www.HomeInnovation.com/GreenProducts, and it's easy to search by brand name, category, and NGBS practice. A full list of certified products can also be downloaded as an Excel workbook to serve as an easy reference for design teams.

Earn Your NGBS Green PRO Designation (Optional)

Industry professionals can earn the NGBS Green PRO designation to: (1) gain advanced knowledge of the National Green Building Standard and the NGBS Green certification program; and (2) validate their expertise in green design, construction, and building certification. Earning the NGBS Green PRO designation is a great step for new and veteran NGBS Green Partners alike to help ensure that their certification projects run smoothly. When assembling a project team, we encourage Partners to refer to the NGBS Green PRO directory to identify architect and design partners who hold the credential. The directory also includes recent college graduates and young professionals who may have completed the NGBS Green PRO course to grow their understanding of green residential buildings. Consider connecting with these individuals when hiring for roles within your company.

Learn more at www.HomeInnovation.com/NGBSGreenPRO. View the directory here.

How to Select an Accredited Verifier

Rigorous verification is a hallmark of NGBS Green certification.

As of this writing, our national network includes 340+ accredited NGBS Green Verifiers. Home Innovation qualifies, trains, and tests prospective verifier candidates. Verifiers must have previous experience in residential construction and green building before starting the verifier training program. Verifiers are trained to inspect residential projects for NGBS compliance. Verifiers must pass a stringent test to assess their NGBS expertise, the certification process, and building science. Before bestowing our accreditation, Home Innovation confirms the Verifier is adequately insured. Verifier accreditation is renewed annually, and re-training is required for each NGBS version currently in use.

Verifiers serve as independent, third-party inspectors and, as such, set their own competitive verification prices and negotiate their own contracts. Verifiers may also provide other services in conjunction with NGBS Green verification, such as energy modeling or code compliance inspections, which may impact the fees charged.

An experienced Verifier can help your project team get the most value from verification. Don't endure verification; embrace it! Verifiers can help you deliver a high-quality, high-performing real estate asset.

NGBS Green Verifiers are Independent, Third-Party Inspectors

Verifiers must render judgments and services "independent," "objective," and "impartial." Home Innovation has a strict prohibition against conflict of interest as it would impair objective judgment. We also strictly prohibit *the appearance* of a conflict of interest. Understanding our Verifiers work with various programs, we want to ensure compliance with our requirements, which, like our certification program, are more stringent than other programs.

An NGBS Green Verifier is ineligible to provide verification services for a specific project if s/he:

- Engages in the physical construction and/or has a financial interest in the project being verified/certified;
- Supplies materials and/or installed products or systems in the project being verified/certified;
- Is employed as a sales agent for the project being verified/certified; or
- Is an immediate family member of anyone materially, financially, or otherwise substantively tied to the project being verified/certified.

Verifiers may make some minor construction fixes, such as minimal air sealing or insulation installation corrections, while providing verification services.

The list above is not exhaustive; it represents what we believe to be the most likely potential conflicts of interest that may arise. If a builder or Verifier has any doubt as to whether a relationship with or connection to a key member of the client team will violate the spirit of these rules, or cause the appearance of a conflict, s/he should contact Home Innovation. Verifiers found in violation of any of these stated conflicts of interest, or the spirit of these rules, may jeopardize the project's ability to earn NGBS Green Certified and may also lose his/her accreditation.

What to Expect from Verifier Inspections

Each building seeking NGBS Green certification needs to be inspected by the Verifier at least twice — once before the drywall is installed (Rough Inspection); once when the building is complete (Final Inspection). For multifamily buildings, the Verifier will need to inspect **every unit** as well as the common space. As a result, larger multifamily buildings are likely to require the Verifier to visit the site several times to inspect each unit and confirm the NGBS practices. If testing and other credits are pursued that require scheduling and complex timing coordination with your team, provide the Verifier access to your construction schedule and anticipated timing of trades.

Q: Does the same Verifier have to perform the Rough and the Final inspection?
A: No. Different Verifiers can perform the inspections and submit the inspection reports. The only requirement is that the inspections are performed by currently Accredited Verifiers. We ask that the client shares the scoring spreadsheet and any verification reports to each Verifier directly.

Verifiers will need access to the entire building and project site. They are expected to follow construction site safety rules and use common sense during their inspection.

Schedule the Verification

Builders or construction site superintendents should work with the verifier to schedule the inspections in a timely fashion. If drywall is installed before the rough inspection, resulting in the verifier being unable to verify practices behind the wall, the project **will not** be able to attain certification.

Five tips to Maximize the Value of NGBS Green Verification

1. Select a Verifier Early
Accredited NGBS Verifiers are listed here: www.HomeInnovation.com/FindNGBSVerifier.

Interview Verifiers as early as possible. Accredited NGBS Green Verifiers are trained to verify any project type, but many have specific expertise, so speak with a few before making a final selection.

Single-family builders will want to select an accredited Verifier located nearby to minimize travel costs. Multifamily and land development clients should interview Verifiers with relevant expertise, as it may be more advantageous to hire a Verifier expert in multifamily construction or land development practices, rather than someone simply close to the site. Verification costs for larger projects are a small percentage of total construction costs and, as a result, can more easily absorb travel costs. Further, Verifiers with multifamily experience may be more cost-effective in their verification services pricing because of experience.

Inform prospective Verifiers if you intend to seek certification for more than one project, as the Verifier may offer more competitive pricing when establishing a long-term relationship.

2. Meet & Consult with Your Verifier…
Before construction starts, review the NGBS Green checklist. Note the mandatory practices required for certification. Work with the Verifier to inform the project team which practices are verified at the rough inspection, and which are checked at the final inspection. Understand what documentation the Verifier needs. Verifiers can help suggest the most cost-effective and easy-to-implement practices. Confirm the project point total and points required by category to see what certification level (Bronze, Silver, Gold, or Emerald) you can attain. Earn extra points in each category just in case your Verifier doesn't approve all the points you need for a certain certification level.

3. Build a Documentation Library
Experienced builders have a set of green practices and products they rely on repeatedly. Create Master Documentation Folders, electronic or physical, organized by NGBS practice for reference for future projects. Identify commonly specified products that hold the NGBS Green Certified mark or otherwise meet specifications noted within the NGBS.

4. Get the Whole Team on Board
Attaining NGBS Green certification for your projects is a team effort. Get everyone on board early. Communicate your goal to have the project certified. Tell your staff, subs, trade partners, and contractors what is necessary from them in clear, specific terms. For example, if you need your contractors to use low-VOC adhesives and sealants, tell them the specific VOC limits they must meet. Your suppliers should understand that last-minute substitutions can jeopardize certification. Provide training, if necessary, on specific issues such as keeping HVAC supply registers covered during the construction process. Make sure everyone understands that the project will be inspected by a Verifier who will occasionally be on site.

Include your marketing and sales team in the effort! Too often the construction teams fail to coordinate with the marketing team, so buyers and renters never learn about the property's great green benefits.

5. Review, Improve, Repeat
After you receive your first green certification, debrief with your team and Verifier to figure out what worked well, what could be improved the next time, and how to streamline the process. Many NGBS Green clients have found that going through the certification process not only helps them construct better homes, but also helps them improve their business processes.

The Verification Inspection

The verification report includes the NGBS Green practices for which the project is claiming certification points. The report details what practices are confirmed at the rough inspection and what is confirmed at the final inspection. During the inspection, the verifier will walk through building and project site to visually inspect each green practice. At the rough inspection, the verifier will ask for any necessary documentation. As a best practice, send your verifier review pertinent submittals, drawings, and other documents before construction begins.

Verifiers have specific instructions as to how to complete an NGBS Green inspection. Verifiers can only award points toward certification if they are confident the practice is met. Verifiers typically verify the practice visually during the inspection. Verifiers cannot award points for an incomplete practice, even with assurance that the practice will be completed in the future. A few NGBS practices are verified using documentation, and the verifier can inform you in advance as to what documentation is necessary.

The verifier must take at least one photo of the building seeking certification that shows a portion of the surrounding lot; however, the verifier may take as many photos as s/he deems necessary as part of the verification process. The verifier will note the date and time of the inspection in the report.

After the inspection is complete, the verifier will upload the verification report to AXIS, our online portal.

Home Innovation will review verification reports within days of receipt. If Home Innovation has questions, we will contact the verifier immediately. If the verification report is for a rough inspection and there are no issues, or if the issues are resolved satisfactorily, construction should proceed normally until the final inspection. If the final verification report is accurate and complete, and we have a complete Client Application, including a current certificate of insurance (COI) and certification fee, Home Innovation will issue the NGBS Green certificate within one week.

The AXIS NGBS Green Portal

Home Innovation uses AXIS, hosted by Pivotal Energy Solutions, as the online portal for NGBS Green certification. On AXIS, Verifiers register projects; submit verification reports and compliance documentation; Clients sign and complete program agreements; access certification fee invoices; and monitor project status in real-time 24/7/365.

Clients must **register for an AXIS account**. The account registration video can get you started. After, the NGBS Green Portal START HERE page is a good orientation for those new to the portal. "Getting Started" videos are also good for the unexperienced, but you must have an account to access these videos.

AXIS will send email notifications for key stages of the NGBS Green certification process. Clients can see program notifications in the AXIS platform on their unique dashboard. Customize what notifications you want to receive via email from the AXIS portal.

Project Registration

Registration is mandatory and free. Verifiers register projects in AXIS as soon as they sign a contract to provide verification services for the project.

At registration, each building or land development is assigned a unique Project ID. Use this Project ID for correspondence with Home Innovation.

Clients seeking a HUD Green MIP reduction can send the registration confirmation to HUD as proof the building(s) is/are seeking NGBS Green certification.

NGBS Green Client Agreement

Clients must complete a Client Agreement (CA). Completing the agreement in a timely fashion streamlines the process. Without a complete agreement, the Verifier cannot upload verification reports for the building to AXIS.

A sample Client Agreement is in Appendix E for review purposes.

After registration, new clients will receive notification to complete a Client Application. The client will complete and sign the agreement using DocuSign. Clients can upload the required proof of insurance to AXIS. Once the COI is uploaded and the client signs the agreement, Home Innovation will countersign using DocuSign and the client can access the final agreement in AXIS. Only one application is needed, regardless of how many projects seek certification, provided the business structure of the signatory continues to take responsibility, financial and otherwise, for projects seeking certification. Agreements are good for four years.

A complete application and current proof of insurance that meets the requirements below is required for any project seeking certification. **No exceptions**.

Clients with active projects will receive an AXIS notification when the agreement or COI is about to expire and after it has expired

NGBS Green Certification Fees

Projects incur two separate fees: the certification fee and the verification service fee.

Projects must pay a certification fee to Home Innovation. Certification fees are listed here.

As mentioned earlier, Accredited Verifiers set their own fees. Verifier fees vary; clients are encouraged to get multiple bids for verification services. Clients contract directly with a Verifier and pay the verification fees to the Verifier's company.

Anyone can pay the certification fee, but the invoice ***must*** have the same name as the company that signed the CA. Certification fees are non-refundable and must be paid before the NGBS Green certificate is issued.

Where to Get Help:
Home Innovation typically interacts directly with the Verifier, not the client, however, anyone can contact Home Innovation (www.HomeInnovation.com/NGBSGreenContact) with questions about the NGBS, certification process, technical questions, or issues with any accredited Verifiers.

Invoices

An invoice for the certification fee is automatically generated in AXIS after the Verifier submits the rough verification report and a notification to both Verifier and Client is created. AXIS notifcations can be customized by the user, some individuals will get an email notification and others may only get an in-system notification. You can choose the notifications you prefer.

If a Rough is not needed, as in the case of a moderate rehab of an exisiting building, the Client or Verifier should generate the invoice before the Final report is submitted to ensure certification is not delayed.

AXIS generates an invoice for ***each*** building seeking certification. Either the Client or the Verifier can go into AXIS to generate and download an invoice at any time ***before the Rough verification*** report is submitted **IF** the Client Agreement (CA) is completed (because Home Innovation needs the information in the Client Agreement to complete the invoice). Clients and Verifiers can also customize the invoice to include multiple buildings as desired.

Who is the "Client" in the NGBS Green Certification Process?

The client is the entity that takes responsibility – financial, compliance, and otherwise – for projects seeking certification. The client's name is typically listed on the NGBS Green certificate.

For single-family homes, the builder is typically the client and completes the CA and submits their proof of insurance.

For multifamily projects, the client may be the architect, the owner, the developer, or the general contractor. The Verifier will specify the client at registration. Home Innovation needs (1) a Client Agreement to be completed and (2) proof of insurance. The Agreement may be signed by a different entity than the insurance holder (see below).

Only one agreement is needed, regardless of the number of projects submitted for certification. If a client is operating as a separate limited liability partnership or limited liability company for each construction project; clients in those types of situations may choose to sign a new agreement for each discrete business entity AND submit a separate COI for each project.

Insurance Requirements

Home Innovation requires clients to have insurance that meets the following requirements:

1. General liability of at least $1 million.
2. "Home Innovation Research Labs" must be listed as an additional insured.
3. "Home Innovation Research Labs" must be listed as a certificate holder.

Home Innovation Needs to be Additional Insured

An "Additional Insured" is a party listed on an insurance policy that has some type of liability interest in the property. The "Additional Insured" has no right or authority to make policy changes or to cancel the policy. An "Additional Insured" is ONLY afforded liability protection under the liability portion of the policy and there is no coverage for physical losses resulting from vandalism, theft, fire, wind, hail, and so on. In some cases, there is confusion between what we ask, to be an "additional insured", and an "additional named insured" (which we don't ask).

For example, if a property is seller-financed, the seller holds the mortgage note and they are listed as an "Additional Insured" on the policy instead of as a mortgagee, then in the event of a physical loss (the home burned to the ground), the seller has no legal right under the policy to receive claim funds to pay off the mortgage debt and/or there is no control of managing claim funds to ensure repairs.

If there is litigation involving the property or its use and the "Additional Insured" is named in the suit for any reason, the policy provides liability protection for legal and defense costs for the "Additional Insured" and the insurance company issuing the coverage would have a 'duty to defend' any and all "Additional Insured parties" listed in the policy. The most common example of this involves commercial policies, such as general liability. Home Innovation, for instance, may be listed as an "Additional Insured" on a builder or a developer's insurance so that in the event of a liability claim caused by the builder/developer (such as faulty work, property damage, or bodily injury) where Home Innovation is also listed in the claim, Home Innovation would receive coverage for legal and defense costs from the builder's policy.

Insurance companies routinely provide this coverage. Also, if your General Liability policy provides additional insured status when it is required in a written contract or agreement, such as the agreement you sign with Home Innovation, then a COI with said provision displayed would satisfy the requirements and should be submitted.

If you or your insurance company has an questions, please contact us.

To meet 'Additional Insured' mandatory requirements, please be sure to insert the following phrase into the "Description of Operations / Locations / Vehicles" box at the bottom of the Certificate: "Home Innovation Research Labs and its officers, directors, agents, and employees are included as additional insured where required by written contract in accordance with the policy provisions of the General Liability policy."

Blanket Additional Insured Endorsement

Some insurance policies have a *blanket additional insured endorsement* which adds any entity, with whom the insured has signed a contract, with an additional insured requirement. Therefore, if the client has insurance with such an endorsement, ***and*** they have signed the Home Innovation CA, they should upload into AXIS the COI ***and*** that endorsement statement to demonstrate compliance.

It will say something like:

> [CLIENT NAME] at [address]: Any Persons or Organizations that the Named Insured is obligated pursuant to written contract or agreement between the Named Insured and such person or organization by this policy is an Additional Insured under General Liability, but they are insured only if to the minimum extent that such contract or agreement requires the person or organization to be afforded status as an insured.

If we receive a COI and the blanket endorsement above from the policy, the client is compliant.

Developer Signs Client Agreement, General Contractor Holds Insurance

Home Innovation can accommodate when the developer signs the CA and the General Contractor (GC), who holds the liability insurance, names Home Innovation as an additional insured ***if*** the Verifier has correctly identified the two companies (developer and GC) in the AXIS registration.

Note the following exception: We ***cannot accept*** the General Contractor's COI if it specifies that Home Innovation is listed as an additional insured ***as required by a written contract*** because in the situation described above, the GC has **NOT** signed a contract with Home Innovation (the developer entity signed the CA), and thus this clause means Home Innovation still is not covered by the insurance.

In this case, there are THREE options:

(1) The insurance company removes the clause "***required by a written contract***" and a new COI is uploaded to AXIS,
(2) The GC signs the CA instead of the developer organization, *OR*
(3) If the non-signing entity (GC) adds the CA signing entity (developer) as a ***Named Insured*** to their policy ***AND*** Home Innovation as an ***additional insured***, we can accept the "*as required by written contract*" language because that provides the CA signing entity with the same rights as the entity carrying the insurance.

An Insurance Primer

The Certificate of Insurance (COI)

A COI stipulates the most pertinent details of an insurance policy, including types and limits of coverage, provider, policy number, named insured(s), and its effective periods.

The COI ***does not*** amend coverage details; it is a summary of the insurance policies, limits, etc. For a more in-depth account of COIs, read the guide: "Everything You Need to Know About Certificates of Insurance."

To explain the differences between policyholders, certificate holders, and additional insureds, we've included an example of a construction project below.

Policyholders

The **policyholder** is the person or entity who purchased a policy from an insurance provider. This party is usually one of the named insureds on the policy. Upon request, a subcontractor or vendor in a construction project will provide their client with a certificate of insurance to prove they are policyholders, and therefore have coverage in the event of bodily injury, property damage, advertising, or personal injury. Policy coverage may also extend beyond the completion of a project.

Certificate Holders

In this scenario, the client gains the title of **certificate holder**, but becoming such does not incur any policy-given rights. Again, the certificate is simply a snapshot of their insurance.

In our construction project example, the subcontractor holding a certificate is not insured against claims for damage, personal injury, or so on. Only the *policyholder* is.

Additional Insureds

Adding parties to an insurance policy as additional insureds can cause confusion. There is tension between insurers, who aim to limit the scope of coverage under their issued policies, and the policyholders, who want to ensure coverage for all potential business risk factors. Policyholders also wish to extend that coverage to all parties working on a project.

An **additional insured** endorsement is a provision made to a commercial general liability policy to extend the coverage to the client (general contractor, Home Innovation, etc.), and other relevant parties (lender, joint-venture partner, etc.) if they are listed as an ***additional insured*** on the endorsement and sometimes the COI (see more below about specific vs. blanket additional insured).

For example, if a personal injury is sustained at a subcontractor's job site, the subcontractor and any client parties could be sued. Without an additional insured endorsement, the general contractor, development firm, and property owner could all be held liable for damages.

Specific vs. Blanket Additional Insured

There are two types of provisions within additional insureds: specific and blanket endorsements.

Specific additional insured endorsements are limited within the policy to ***named entities***, meaning only parties specifically identified in the endorsement are covered.

With blanket additional insured endorsements, the insurance provider does ***not*** have a list of named additional insureds. Instead, policyholders provide the insurer with groups or classes of people who should be protected by the policy. Blanket additional insureds can create gray areas and coverage lapses if not managed appropriately.

For example, a blanket additional insured endorsement referencing "where required by written contract" is being used, then Home Innovation needs a signed Client Agreement with that party.

Insurance providers don't provide cancellation notice to affected parties with blanket additional insured endorsements—making additional insureds on the policy more susceptible to lapses in coverage, and failed loss transfer.

Home Innovation is NOT a Contractor to the Client

For the purposes of NGBS Green Certification, Home Innovation is serving as a certification agency that confirms a project's conformance with the **ICC 700 National Green Building Standard** (NGBS).

The main difference between a **certification agency** and a **contractor** is that a certification agency is a third-party organization that evaluates and verifies the qualifications of a product, service, or person, while a contractor is a business or individual that is hired to perform a specific task or service.

Certification agencies typically have a set of standards that must be met for the product (or building) to be certified. Once a product has been certified, it can be used or sold with the assurance that it meets the required standards. As certification agency, Home Innovation cannot be directed by any contract to require how we do our job or to require a specific outcome. We do not guarantee certification of any building. Certification fees are expected to be paid regardless of the conformance decision. Our client agreement lays out the certification process and the expectations of Home Innovation, the client, and the Verifier so that the process is clear and transparent.

Contractors, on the other hand, are hired to perform a specific task or service. The scope of work for a contractor is typically defined in a contract, which outlines the responsibilities of both the contractor and the client. In this case the client can direct the contractor as to how to perform the work and the client has an expectation that the work will be completed in a certain manner for a specific result.

Reconciling Differences: Local Code vs. NGBS Requirements

NGBS Green is a voluntary, above-code green building certification, and is not intended to abridge safety, health, or environmental requirements contained in other applicable laws, codes, or ordinances – see NGBS 101.3 Intent. Occasionally, local code officials may determine that one of the mandatory NGBS practices is prohibited by local code. In such a circumstance, the building may attain certification, but the NGBS Green Verifier must document in the verification report which specific practice is not permitted by local code and the reason for the conflict with the NGBS practice.

In these cases, Home Innovation will not offer alternative compliance methods, either for the code or for the NGBS practice. If the project team (architect, builder, Verifier) would like Home Innovation to consider an alternative compliance path for the specific practice, we will offer our opinion as to whether the proposed method would meet NGBS requirements. Any Home Innovation opinion provided should not be construed as guidance on whether the alternative compliance would be acceptable to the local code official or local building department. We encourage clients and Verifiers to first check with the code official regarding alternative compliance before seeking Home Innovation's opinion. A building may attain certification if a required practice is prohibited by local code if the verification report notes and explains the conflict.

Appeals Process

This program has an Appeal Process for when clients and or Verifiers want to challenge a Home Innovation interpretation, certification decision, or require a waiver of the normal procedures. Please see the Appeals Policy in the separate NGBS Green Certification Program Policies handbook.

Defining a Building

Each separate building should earn its own NGBS Green certificate. For projects with multiple buildings, each building must be verified to be NGBS compliant, have a separate rough and final verification report unless batched, and Home Innovation will issue one certificate for each building.

A project's building count should be based on the project ***when complete***. If multiple existing buildings are renovated to become one building that meets our definition, the building should be registered, verified, and certified as one building.

Local zoning definitions or building permit decisions are mostly irrelevant. We have tried to align with the ICC building codes, but there are a few ways in which our definition departs from ICC definitions. ***If in doubt,*** contact us. Do not chance having the final verification report and photo rejected because the number of buildings is unclear.

Townhomes

Townhomes or rowhomes are a row of vertically attached houses. Townhomes are typically certified as ***single-family homes***.

Townhomes for rent can be certified as **Build-to-Rent (BTR)**. BTR homes are assessed a lower certification fee.

Attached Building Definition

A structure that visually appears to be multiple buildings can be certified as a single building if the buildings are connected by programmable space, other than parking or circulation, and/or have a shared physical connection greater than 50%.

Walkway Connections/ Shared Basements

Being connected by a basement or a covered walkway is not dispositive that a structure is one building.

Multiple Entrances / Multiple Addresses

Multiple main entrances may indicate multiple buildings, but it is not dispositive. For example, a structure may be multiple attached buildings, with each building having one external entrance for a subset of apartments. These buildings may not have any notable common space(s), but instead residents would access the apartments via an internal or external hall and/or stairway. Many larger multifamily buildings also have multiple entrances/exits for egress safety, so this is not conclusive of one structure being multiple buildings.

Different street addresses (i.e., 123 Main Street, 124 Main Street, 125 Main Street) can be an indication of different buildings, but not always.

Existing buildings can be tricky. Garden style projects, typically buildings of two to four stories, which have multiple firewalls and entrances, can be certified as one building if ***the shared physical connection between the buildings is greater than 50%.***

NGBS Green + Certifications

NGBS Green + is designed to offer special recognition for NGBS Green homes that "go above and beyond" in certain areas of green practices. With NGBS Green +, a builder does not need to seek additional/outside certifications to highlight special features of their home. NGBS Green + certifications offer a streamlined path for supplementary recognition for NGBS Green homes based on the specific features within the home/building.

Available NGBS Green + Certifications

- Net Zero Energy
- Resilience
- Smart Home
- Universal Design
- Wellness
- Zero Water

Eligibility

NGBS Green + certification(s) must be pursued ***concurrently*** with NGBS Green Certification.

Except for the NGBS Green + ZERO WATER certification, which is available for new construction only, the NGBS Green+ certifications are available for both new and existing buildings pursuing green certification concurrently.

Green + certifications are ***not available*** for homes pursuing NGBS Green Certification via the Single-Family Certified path (Chapter 12).

Compliance Criteria

Compliance is outlined within the separate NGBS Green + Certifications Compliance Handbook.

Verification & Documentation

The practices included as part of the NGBS Green + certification criteria must be verified by an accredited NGBS Green Verifier.

The 2020 NGBS Green Scoring Tools include sections that address design and verification of the NGBS Green + certification by pulling selected practices and inputs from the main Design and Verification tabs. Download the Scoring Tools at www.HomeInnovation.com/GreenScoring.

Process & Fees

Additional fees are assessed per certification. These fees are invoiced at the same time as certification fees. Fees are assessed at the building (not unit) level, and are available here.

Upon request, custom pricing will be considered. All buildings within a project/development would need to seek NGBS Green + recognition. Contact us to request volume pricing.

Benefits

Clients earning NGBS Green + certification unlock specialized marketing resources to distinguish buildings from less high-performing homes.

- *Logos* – Builders that have earned an NGBS Green + certification receive a customized logo that they can use in marketing of that home's unique features or performance.
- *Certificates* – When a home achieves an NGBS Green +certification, a customized NGBS Green certificate is generated that features the certification achievement.

WaterSense Certification

Buildings can earn WaterSense certification, EPA's mark of superior water efficiency.

Home Innovation serves as a Home Certifying Organization (HCO) and certifies buildings in compliance with its WaterSense Approved Certification Method (WACM), a methodology developed by Home Innovation to demonstrate that a home meets the WaterSense efficiency requirement.

Eligibility

WaterSense certification is available for all newly-constructed buildings. The buildings are not required to seek NGBS Green certification.

Compliance Criteria

Compliance criteria are based on selected 2020 NGBS practices, and there are two pathways available.

1. Prescriptive Path: implement selected practices from Chapter 8 or 11, including installing efficient kitchen faucet, appliances, and hot water and irrigation systems
2. Performance Path: demonstrate overall water performance by earning a Water Rating Index (WRI) value of 64 or less

Verification & Documentation

WaterSense compliance must be verified by an NGBS Green WRI Verifier.

The NGBS Green Scoring Tools include sections that address design and verification of WaterSense by pulling selected practices and inputs from the main Design and Verification tabs. Download the Scoring Tools at www.HomeInnovation.com/GreenScoring.

For WaterSense certification to be issued, the submitted final verification report should reflect full compliance with WaterSense.

Process & Fees

Interest in WaterSense can be indicated at registration or rough inspection notification.

Home Innovation issues WaterSense certification at no additional charge when the building is also seeking NGBS Green Certification. A small review/certification fee is assessed when the building is pursuing WaterSense certification on its own. The NGBS Green WRI Verifier may request additional fees for verification for both NGBS Green and WaterSense compliance.

Benefits

By seeking WaterSense certification, builders can draw attention to their homes' water efficiency features by levering one of the most recognizable consumers labels for water efficiency. Builders and developers earning WaterSense certification can access a specialized home certificate, logos, and other marketing resources.

NGBS Green Marketing Resources

Home Innovation has a series of free, off-the-shelf marketing materials you can use to market your project(s) as NGBS Green Certified or seeking NGBS Green certification (e.g., NGBS Green Registered).

Marketing materials are available at HomeInnovation.com/MarketGreenCertified. Materials are available to download directly from the website, however, certification marks are available to clients on Builder Central which is on AXIS: (https://homeinnovation.pivotalenergy.net/app/ngbs/builder/central)

FTC Green Guidelines Information

Clients marketing their homes as green need to not to run afoul of the Federal Trade Commission (FTC). The FTC protects consumers by stopping unfair, deceptive, or fraudulent practices in the marketplace, and over the past decade has looked askance at the proliferation of green marketing claims, or "greenwashing," by product manufacturers.

The FTC's Green Guides (Federal Trade Commission, 16 CFR Part 260 Guides for the Use of Environmental Marketing Claims; Final Rule) provide guidance to help marketers avoid making misleading environmental claims. The 2012 Green Guides include the latest guidance on use of product certifications and seals of approval.

The Green Guides state that certifications constitute endorsements covered by the FTC's Endorsement Guides and that that certifications must be FTC compliant. Further, the FTC states that it is "deceptive to misrepresent, directly or by implication, that a product, package or service has been endorsed or certified by an independent third-party." The FTC makes explicit distinctions between first-, second-, and third-party certifications. First-party certifications are self-certifications; for example, when a builder asserts that their homes are "green." Builders must disclose self-certifications. Second-party certifications are those conferred by a trade association or membership organization. If a certification is issued by a membership organization, such as a builder's association, the builder must disclose the connection with the association (i.e., that he is a dues-paying member). If the marketer does not, the FTC ruled that is deceptive. Independent, third-party certifications do not require disclosure.

Home Innovation is an independent, third-party according to the FTC definition, and its NGBS Green certification provides a marketing safe harbor for builders, developers, and remodelers who want to convey the green, sustainable features of the homes they construct or remodel without being deceptive to consumers regarding the green certification.

The NGBS Green certification mark was designed to help builders stay FTC-compliant. The mark incorporates the "Home Innovation" name as the certification agent and "NGBS" to specify the ANSI-approved standard to which the home was certified. We recommend that our clients prominently accompany the certification mark with the following statement: "NGBS Green Certified homes/residences/communities [*user selects what is relevant*] comply with the ICC 700 National Green Building Standard® and are designed to be more comfortable, use less water and energy, and reduce environmental impacts, during construction and occupancy." Builders can customize the precise language, but we recommend they be specific in their claims to be FTC-compliant.

We recommend that builders reference our website and can use the following sentence: "For details on which attributes were evaluated, visit www.NGBS.com."

Incentives & Mandates

Incentives are available at the federal, state, and local level to encourage high performance buildings and retrofits. Incentives come in myriad forms and include, but are not limited to, tax credits, rebates, density bonuses, and expedited permitting. Some jurisdictions mandate green building requirements.

Home Innovation has a list of the incentives and mandates that recognize the NGBS – HomeInnovation.com/NGBSIncentives. The list is updated regularly but may not include all incentives available. Contact us if we are missing any incentives/mandates, or if we can help you advocate for an incentive in your jurisdiction.

Information on the Inflation Reduction Act of 2022 is available here.

Multifamily buildings seeking NGBS Green certification are eligible for preferred financing from Fannie Mae, Freddie Mac, and HUD FHA. Click here for more information.

Get a Qualified Appraiser

Many appraisers are unfamiliar with above-code green practices, products, and technologies and, therefore, do not appropriately value them. Further, even if the appraiser appreciates the additional value of above-code green practices or systems, s/he may not be able to confirm many of those practices, products, and technologies because they are hidden inside the wall by the time the appraiser is called.

There are two solutions to ensure you earn the proper green valuation.

1. **Ensure the appraiser has experience and/or training in valuing high-performance green buildings.**

Work with your lender partners to ensure that appraisers are qualified to value green, high performing buildings. Alternatively, builders can add a clause to their sales contracts to require an experienced appraiser. One client provided the following example:

> *This Home is being built/renovated/updated to nationally recognized standards above prevailing code. It is designed and constructed with unique features and materials and with highly efficient equipment and in accordance with high efficiency standards. The Lender shall choose an Appraiser educated and knowledgeable in this type of valuation of these specialized Homes, preferably an appraiser who holds a professional appraisal designation that requires advanced education on such issues as the valuation of sustainable buildings (e.g. MAI or SRA designations from the Appraisal Institute). The appraiser shall provide verification of green valuation education of 14 hours or more from a qualified educational provider and knowledge to be permitted to conduct the appraisal for this project.*

2. **Help your experienced appraiser appropriately value the building by completing the AI Green Addendum.**

Green, high-performance buildings are “atypical” properties because of their green features. The Appraisal Institute developed the Green and Energy Efficient Addendum for residential buildings and commercial (multifamily) buildings to signal that a building is not typical and help appraisers appropriately value green, high-performance homes. The Addendum inventories the green practices, products, and technologies in the building and even recognizes NGBS Green certification specifically for the valuation process.

One benefit of using the Addendum and a trained appraiser is that it will allow the appraiser to go further afield for comparable homes. An NGBS Green Certified building is not “comparable” to the code-minimum home down the street, why should that home be used as a comparable in the valuation process? Instead, the Green Appraisal Addendum can help identify the home as unique and look for homes that are more similar. Builders can go even one step further and maintain a list of any nearby comparable green homes and looking for any NGBS Green Certified homes in your region is on NGBS.com.

APPENDIX A:
Home Innovation Staff

The NGBS Green Team is here to assist you. Use the Contact Us form so we can get you a timely response.

Michelle Foster, Green Team Lead, mfoster@homeinnovation.com, 240.997.8027

Kevin Kauffman, Green Quality Manager, Certification oversight, QA/QC

Lynda Mosteller, Green Certifications Administrator, lmarchman@homeinnovation.com
Verifier accreditation, certification administration (includes client agreements, certificate issuance), database management

Joanne McAlpin, NGBS Green Programs Associate, jmcalpin@homeinnovation.com
NGBS Green PRO accreditation, certification administration, database management, AIA and ICC continuing education coordinator

Cindy Wasser, Senior Green Programs Manager, cwasser@homeinnovation.com, 202.590.2577
Customer Care, Green Certified Products oversight, WRI / WaterSense Certification oversight, verification oversight, program advocacy, technical assistance, program liaison

Katie Dorn, Green Buildings Programs Associate, kdorn@homeinnovation.com
Verification oversight, program advocacy, technical assistance, program liaison, ESG expert

Pam Barksdale, Senior Verification Report Reviewer and Special Projects Coordinator, training narrator

Pranav Phatak, Sustainable Building Engineer, Verification Report Reviewer, Energy and Water Efficiency expert

Elina Thapa, NGBS Green Building Engineer, Verification Report Reviewer, training narrator, Resource Efficiency, Resilience expert

Bob Hill, QA Consultant and Report Reviewer

Dave Mallay, Research Engineer, energy efficiency expert

Sarah Armand, Director of Communications
Marketing materials, logos, news releases, media coordination, NGBS.com, events calendar manager

Kelly Jerald, Green Billing Administration and Support, Payment notices, billing issues

Bill Watkins, Green IT Manager
Database administration, scoring spreadsheet assistance, Verifier administration support (registration, inspection notification), automation, program software engineering

NGBS Green Appeals Board:
Michael Luzier (President & CEO), Bill Ingley (CFO), and Kevin Kauffman

Bob Burns, Pivotal Energy Solutions, President, and Chief Executive Officer, AXIS NGBS Green Portal

APPENDIX B:
NGBS Green Certification Resources

The NGBS Green website has lots of Resources for those who design, build, remodel, develop, verify, and advocate for NGBS Green certification of single-family homes, multifamily buildings, and land developments.

There are also resources for consumers interested in living in an NGBS Green Certified home.

Contact us if you have any questions about NGBS Green Certification.

Resource categories:

- Design & Build a Green Home
- NGBS Green Interpretations & Compliance Assistance
- Get Your Green Home NGBS Certified
- Market & Sell NGBS Green
- Live NGBS Green
- NGBS Green Program Info
- Stand Up for NGBS as a Choice in Your Market

APPENDIX C:
2020 NGBS Mandatory Practices

2020 NGBS MANDATORY ITEMS

This document is not intended to serve as a substitute for the 2020 NGBS, but rather as a quick guide to the mandatory items required for compliance.

M=Mandatory

GREEN BUILDING PRACTICES	POINTS
SECTION 4: SITE DESIGN AND DEVELOPMENT	
402 PROJECT TEAM, MISSION STATEMENT, AND GOALS	
402.3 Project checklist. A checklist of green development practices to be used on the project is created, followed, and completed by the project team regarding the site.	**M 4**
403 SITE DESIGN	
403.1 Natural resources. Natural resources are conserved by one or more of the following:	
(1) A natural resources inventory is used to create the site plan.	**M 5**
(2) A plan to protect and maintain priority natural resources/areas during construction is created. (Also see § 404 for guidance in forming the plan.)	**M 5**
SECTION 6: RESOURCE EFFICIENCY	
601 QUALITY OF CONSTRUCTION MATERIALS AND WASTE	
601.1 Conditioned floor area. Finished floor area of a dwelling unit or sleeping unit is limited. Finished floor area is calculated in accordance with ANSI Z765 for single family and ANSI/BOMA Z65.4 for multifamily buildings. Only the finished floor area for stories above grade plane is included in the calculation. *[For every 100 sq. ft. (9.29 m^2) over 4,000 sq. ft. (372 m^2), 1 point is to be added to rating level points shown in Table 303, Category 7 for each rating level.]*	
(6) greater than 4,000 sq. ft. (372 m^2).....	**M**
602 ENHANCED DURABILITY AND REDUCED MAINTENANCE	
602.1.1.1 A capillary break and vapor retarder are installed at concrete slabs in accordance with IRC Sections R506.2.2 and R506.2.3 or IBC Sections 1907 and 1805.4.1.	**M**
602.1.3.1 Where required by the IRC or IBC for habitable and usable spaces below grade, exterior drain tile is installed.....	**M**
602.1.4.1 Vapor retarder in unconditioned vented crawlspace is in accordance with the following, as applicable. Joints of vapor retarder overlap a minimum of 6 in. (152 mm) and are taped.	
(2) Walls. Dampproof walls are provided below finished grade.	**M**
602.1.4.2 Crawlspace that is built as a conditioned area is sealed to prevent outside air infiltration and provided with conditioned air at a rate not less than 0.02 cfm (.009 L/s) per sq. ft. of horizontal area and one of the following is implemented:	
(2) 6-mil polyethylene sheeting, or other Class I vapor retarder installed in accordance with IRC Section 408.3 or Section 506.	**M**
602.1.7.1 Moisture control measures are in accordance with the following:	

M=Mandatory

GREEN BUILDING PRACTICES	POINTS
(2) Insulation in cavities is dry in accordance with manufacturer's instructions when enclosed (e.g., with drywall).	M 2
602.1.8 Water-resistive barrier. Where required by the IRC or IBC, a water-resistive barrier and/or drainage plane system is installed behind exterior veneer and/or siding.	M
602.1.9 Flashing. Flashing is provided as follows to minimize water entry into wall and roof assemblies and to direct water to exterior surfaces or exterior water-resistive barriers for drainage. Flashing details are provided in the construction documents and are in accordance with the fenestration manufacturer's instructions, the flashing manufacturer's instructions, or as detailed by a registered design professional.	
(1) Flashing is installed at all the following locations, as applicable:	M
(a) around exterior fenestrations, skylights, and doors; (b) at roof valleys; (c) at all building-to-deck, -balcony, -porch, and -stair intersections; (d) at roof-to-wall intersections, at roof-to-chimney intersections, at wall-to-chimney intersections, and at parapets; (e) at ends of and under masonry, wood, or metal copings and sills; (f) above projecting wood trim; (g) at built-in roof gutters; and (h) drip edge is installed at eave and rake edges.	
602.1.11 Tile backing materials. Tile backing materials installed under tiled surfaces in wet areas are in accordance with ASTM C1178, C1278, C1288, or C1325.	M
602.1.13 Ice barrier. In areas where there has been a history of ice forming along the eaves causing a backup of water, an ice barrier is installed in accordance with the IRC or IBC at roof eaves of pitched roofs and extends a minimum of 24 in. (610 mm) inside the exterior wall line of the building.	M
602.1.14 Architectural features. Architectural features that increase the potential for water intrusion are avoided:	
(1) All horizontal ledgers are sloped away to provide gravity drainage as appropriate for the application.....	M 1
602.4.1 Finished grade at all sides of a building is sloped to provide a minimum of 6 in. (152 mm) of fall within 10 ft. (3048 mm) of the edge of the building. Where lot lines, walls, slopes, or other physical barriers prohibit 6 in. (152 mm) of fall within 10 ft. (3048 mm), the final grade is sloped away from the edge of the building at a minimum slope of 2%.....	M
605 RECYCLED CONSTRUCTION WASTE	
605.1 Hazardous waste. The construction and waste management plan shall include information on the proper handling and disposal of hazardous waste. Hazardous waste is properly handled and disposed.	M

SECTION 7: ENERGY EFFICIENCY

701 MINIMUM ENERGY EFFICIENCY REQUIREMENTS	
701.1 Mandatory requirements. The building shall comply with § 702 (Performance Path), § 703 (Prescriptive Path), or § 704 (ERI Target Path). Items listed as "mandatory" in § 701.4 apply to all Paths. Unless otherwise noted, buildings in the Tropical Climate Zone shall comply with Climate Zone 1 requirements.	

M=Mandatory

GREEN BUILDING PRACTICES	POINTS

701.1.1 Minimum Performance Path requirements. A building complying with § 702 shall include a minimum of two practices from § 705, or a minimum of one practice from § 705 and a minimum of one practice from § 706.

701.1.3 ERI Target Path requirements. A building complying with § 704 shall obtain a minimum of 30 points from § 704 and shall include a minimum of two practices from § 705, or a minimum of one practice from § 705 and a minimum of one practice from § 706.

701.1.4 Alternative Bronze and Silver level compliance. As an alternative, any building that qualifies as an ENERGY STAR Version 3.0 Certified Home or ENERGY STAR Multifamily High Rise Version 1.0 Rev. 03 building or demonstrates compliance with the ICC IECC or IRC Chapter 11 achieves the Bronze level for Chapter 7. As an alternative, any building that qualifies as an ENERGY STAR Version 3.1 Certified Home or ENERGY STAR Multifamily High Rise Version 1.0 Rev. 03 (with the baseline at ASHRAE 90.1-2010) building achieves the Silver level for Chapter 7. As an alternative in the Tropical Climate Zone, any building that meets all the requirements in ICC IECC Section R401.2.1 (Tropical Zone) achieves the Silver level for Chapter 7. The buildings achieving compliance under § 701.1.4 are not eligible for achieving a rating level above Silver.

701.1.5 Alternative Gold level compliance. As an alternative, any building within the scope of the NGBS that complies with Chapter 7 of the ICC IgCC achieves the Gold level for Chapter 7. Additionally, acceptable air tightness of individual residential units shall be demonstrated by a blower door test. The testing and sampling procedure shall be in accordance with the ENERGY STAR Multifamily High Rise Program Testing and Verification Protocols, Version 1.0, Revision 03 - 2015, with an allowable maximum leakage of 0.3 cfm/sf of enclosure bounding the apartment at an induced pressure difference of 50 pascals.

701.1.6 Alternative Gold level compliance for tropical zones. One- or two-family dwelling in the tropical zone at an elevation less than 2,400 ft. (731.5 m) above sea level that complies with the following shall achieve the Gold level for Chapter 7:

(1) The residence complies with ICC IECC R401.2.1 Tropical zone.
(2) The residence includes a minimum of 2 kW of PV and a minimum of 6 kWh of battery storage.
(3) Any air conditioning has a minimum of 18 SEER.
(4) Solar, wind or other renewable energy source supplies not less than 90% of the energy for service water heating.
(5) Glazing in conditioned spaces has a solar heat gain coefficient of less than or equal to 0.25, or has an overhang with a projection factor equal to or greater than 0.30.
(6) The exterior roof/ceiling complies with at least two of the following:
    (a) Minimum roof reflectance and emittance in ICC IECC Table C402.3.
    (b) Roof or ceiling has insulation with an R-value of R-15 or greater.
    (c) Includes a radiant barrier.
(7) Walls comply with at least one of the following:
    (a) Walls have an overhang with a projection factor equal to or greater than 0.30.
    (b) Walls have insulation with an R-value of R-13 or greater.
    (c) Walls have a solar reflectance of 0.64.
(8) A ceiling fan is provided for bedrooms and the largest space that is not used as a bedroom; alternately a whole house fan is provided.
(9) Wiring sufficient for a Level 2 (208/240V 40-80 amp) electric vehicle charging station is installed on the building site.

701.2 Emerald level points. The Performance Path (§ 702) or the ERI Target Path (§ 704) shall be used to achieve the Emerald level.

M=Mandatory

GREEN BUILDING PRACTICES	POINTS
701.3 Adopting entity review. A review by the Adopting Entity or designated third party shall be conducted to verify design and compliance with Chapter 7.	
701.4 Mandatory practices	
701.4.1.1 HVAC system sizing. Space heating and cooling system is sized according to heating and cooling loads calculated using ACCA Manual J or equivalent. Equipment is selected using ACCA Manual S or equivalent.	**M**
701.4.1.2 Radiant and hydronic space heating. Where installed as a primary heat source in the building, radiant or hydronic space heating system is designed, installed, and documented, using industry-approved guidelines and standards (e.g., ACCA Manual J, AHRI I=B=R, ACCA 5 QI, or an accredited design professional's and manufacturer's recommendation).....	**M**
701.4.2.1 Duct air sealing. Ducts are air sealed. All duct sealing materials are in conformance with UL 181A or UL 181B specifications and are installed in accordance with manufacturer's instructions.	**M**
701.4.2.2 Ducts and Plenums. Building framing cavities are not used as ducts or plenums.	**M**
701.4.2.3 Duct system sizing. Duct system is sized and designed in accordance with ACCA Manual D or equivalent.....	**M**
701.4.3.1 Building thermal envelope air sealing. The building thermal envelope is durably sealed to limit infiltration. The sealing methods between dissimilar materials allow for differential expansion and contraction. The following are caulked, gasketed, weather-stripped or otherwise sealed with an air barrier material, suitable film, or solid material:	**M**
(a) All joints, seams and penetrations. (b) Site-built windows, doors, and skylights. (c) Openings between window and door assemblies and their respective jambs and framing. (d) Utility penetrations. (e) Dropped ceilings or chases adjacent to the thermal envelope. (f) Knee walls. (g) Walls, ceilings, and floors separating conditioned spaces from unconditioned spaces. (h) Behind tubs and showers on exterior walls. (i) Common walls between dwelling units or sleeping units. (j) Attic access openings. (k) Joints of framing members at rim joists. (l) Top and bottom plates. (m) Other sources of infiltration.	
701.4.3.2 Air barrier, air sealing, building envelope testing, and insulation. Building envelope air barrier, air sealing envelope tightness, and insulation installation is verified to be in accordance with this Section and § 701.4.3.2.1. Insulation installation other than Grade 1 is not permitted.....	**M**
(1) **Testing.** Building envelope tightness is tested. Testing is conducted in accordance with ASTM E779 using a blower door at a test pressure of 1.04 psf (50 Pa). Testing is conducted after rough-in and after installation of penetrations of the building envelope, including penetrations for utilities, plumbing, electrical, ventilation, and combustion appliances. Testing is conducted under the following conditions: (a) Exterior windows and doors, fireplace and stove doors are closed, but not sealed; (b) Dampers are closed, but not sealed, including exhaust, intake, make-up air, backdraft and flue dampers; (c) Interior doors are open;	

GREEN BUILDING PRACTICES	POINTS
(d) Exterior openings for continuous ventilation systems and heat recovery ventilators are closed and sealed; (e) Heating and cooling systems are turned off; (f) HVAC duct terminations are not sealed; and (g) Supply and return registers are not sealed.	
Multifamily Building Note: *Testing by dwelling units, groups of dwelling units, or the building as a whole is acceptable.*	
(2) **Visual inspection.** The air barrier and insulation items listed in Table 701.4.3.2(2) are field verified by visual inspection.	
701.4.3.2.1 Grade I insulation installations. Field-installed insulation products to ceilings, walls, floors, band joists, rim joists, conditioned attics, basements, and crawlspaces, except as specifically noted, are verified by a third-party as Grade I in accordance with the following:	**M**
(1) Inspection is conducted before insulation is covered. (2) Air-permeable insulation is enclosed on all six sides and is in substantial contact with the sheathing material on one or more sides (interior or exterior) of the cavity. Air permeable insulation in ceilings is not required to be enclosed when the insulation is installed in substantial contact with the surfaces it is intended to insulate. (3) Cavity insulation uniformly fills each cavity side-to-side and top-to-bottom, without substantial gaps or voids around obstructions (such as blocking or bridging). (4) Cavity insulation compression or incomplete fill amounts to 2% or less, presuming the compressed or incomplete areas are a minimum of 70% of the intended fill thickness; occasional small gaps are acceptable. (5) Exterior rigid insulation has substantial contact with the structural framing members or sheathing materials and is tightly fitted at joints. (6) Cavity insulation is split, installed, and/or fitted tightly around wiring and other services. (7) Exterior sheathing is not visible from the interior through gaps in the cavity insulation. (8) Faced batt insulation is permitted to have side-stapled tabs, provided the tabs are stapled neatly with no buckling, and provided the batt is compressed only at the edges of each cavity, to the depth of the tab itself. (9) Where properly installed, ICFs, SIPs, and other wall systems that provide integral insulation are deemed in compliance with this section.	
701.4.3.4 Fenestration air leakage. Windows, skylights and sliding glass doors have an air infiltration rate of no more than 0.3 cfm per sq. ft. (1.5 L/s/m^2), and swinging doors no more than 0.5 cfm per sq. ft. (2.6 L/s/m^2), when tested in accordance with NFRC 400 or AAMA/WDMA/CSA 101/I.S.2/A440 by an accredited, independent laboratory and listed and labeled. For site-built fenestration, a test report by an accredited, independent laboratory verifying compliance with the applicable infiltration rate shall be submitted to demonstrate compliance with this practice. This practice does not apply to field-fabricated fenestration products.	**M**
Exception: For Tropical Zones Only, Jalousie windows are permitted to be used as a conditioned space boundary and shall have an air infiltration rate of not more than 1.3 cfm per sq. ft.	
701.4.3.5 Lighting in building thermal envelope. Luminaires installed in the building thermal envelope which penetrate the air barrier are sealed to limit air leakage between conditioned and unconditioned spaces. All luminaires installed in the building thermal envelope which penetrate the air barrier are IC-rated and labeled as meeting ASTM E283 when tested at 1.57 psf (75 Pa) pressure differential with no more than 2.0 cfm (0.944 L/s) of air movement from the conditioned space to the ceiling cavity. All	**M**

M=Mandatory

GREEN BUILDING PRACTICES	POINTS
luminaires installed in the building thermal envelope which penetrate the air barrier are sealed with a gasket or caulk between the housing and the interior of the wall or ceiling covering.....	
701.4.4 High-efficacy lighting. Lighting efficacy in dwelling units or sleeping units is in accordance with one of the following:	**M**
(1) A minimum of 75% of the total hard-wired lighting fixtures or the bulbs in those fixtures qualify as high efficacy or equivalent (2) Lighting power density, measured in watts/sq. ft., is 1.1 or less.	
701.4.5 Boiler piping. Boiler piping in unconditioned space supplying and returning heated water or steam is insulated.....	**M**
702 PERFORMANCE PATH	
702.1 Point allocation. Points from § 702 (Performance Path) shall not be combined with points from § 703 (Prescriptive Path) or § 704 (ERI Target Path).	**M for § 702**
702.2 Energy performance levels	
702.2.1 ICC IECC analysis. Energy efficiency features are implemented to achieve energy cost or source energy performance that meets the ICC IECC. A documented analysis using software in accordance with ICC IECC Section R405, or ICC IECC Section C407.2 through C407.5, applied as defined in the ICC IECC, is required.	**M for § 702**
703 PRESCRIPTIVE PATH	
703.1 Mandatory practices	**30**
703.1.1 Building thermal envelope compliance. The building thermal envelope is in compliance with § 703.1.1.1 or § 703.1.1.2.	**M for § 703**
Exception: Section 703.1.1 is not required for Tropical Climate Zone.	
703.1.1.1 Maximum UA and SHGC. For ICC IECC residential buildings, the total building UA is less than or equal to the total maximum UA as computed by ICC IECC Section R402.1.5. The SHGC requirements for fenestration in Table R402.1.2 are also met. For ICC IECC commercial buildings, the total UA is less than or equal to the sum of the UA for ICC IECC Tables C402.1.4 and C402.4, including the U-factor times the area and C-factor or F-factor times the perimeter. The SHGC requirements for fenestration in Table C402.4 are also met. The total UA proposed and baseline calculations are documented. REScheck or COMcheck is deemed to provide UA calculation documentation.	
703.1.1.2 Prescriptive R-values and fenestration requirements. The building thermal envelope is in accordance with the insulation and fenestration requirements of ICC IECC Table R402.1.2 or Table C402.1.3. The fenestration U-factors and SHGC's are in accordance with Table 703.2.5.1 or ICC IECC Table C402.4.	
703.1.2 Building envelope leakage. The building thermal envelope is in accordance with ICC IECC R402.4.1.2 or C402.5 as applicable.	**M for § 703**
Exception: Section 703.1.2 is not required for Tropical Climate Zone.	
703.1.3 Duct testing. The duct system is in accordance with ICC IECC R403.3.2 through R403.3.5 as applicable.	
703.2 Building envelope	
703.2.1 UA improvement.	**Mandatory per NGBS table 703.2.1(a)**

M=Mandatory

GREEN BUILDING PRACTICES	POINTS
703.2.5 Fenestration	
703.2.5.1 NFRC-certified (or equivalent) U-factor and SHGC of windows, exterior doors, skylights, and tubular daylighting devices (TDDs) on an area-weighted average basis do not exceed the values in Table 703.2.5.1. Area weighted averages are calculated separately for the categories of 1) windows and exterior doors and 2) skylights and tubular daylighting devices (TDDs). Decorative fenestration elements with a combined total maximum area of 15 sq. ft. (1.39 m^2) or 10% of the total glazing area, whichever is less, are not required to comply with this practice.....	**M for § 703**
704 ERI TARGET PATH	
704.1 ERI target compliance. Compliance with the energy chapter shall be permitted to be based on the EPA National ERI Target Procedure for ENERGY STAR Certified Homes. Points from § 704 (ERI Target) shall not be combined with points from § 702 (Performance Path) or § 703 (Prescriptive Path). Dwelling ratings shall be submitted to a Rating Certification Body approved by the Adopting Entity for calculating points under this section.	
SECTION 8: WATER EFFICIENCY	
801 INDOOR AND OUTDOOR WATER USE	
801.1 Mandatory requirements. The building shall comply with § 802 (Prescriptive Path) and § 803 (Innovative Practices) or § 804 (Performance Path). Points from § 804 (Performance Path) shall not be combined with points from § 802 (Prescriptive Path) or § 803 (Innovative Practices). The mandatory provisions of § 802 (Prescriptive Path) are required when using the Water Rating Index of § 804 (Performance Path) for Chapter 8 Water Efficiency compliance.	
802 PRESCRIPTIVE PATH	
802.5.4 Water closets and urinals are in accordance with the following:	
(1) Gold and Emerald levels: All water closets and urinals are in accordance with § 802.5.4.	**M**
802.6.1 Where an irrigation system is installed, an irrigation plan and implementation are executed by a qualified professional or equivalent.....	**M**
802.10.1 Pools and Spas with water surface area greater than 36 sq. ft. and connected to a water supply shall have a dedicated meter to measure the amount of water supplied to the pool or spa.	

SECTION 9: INDOOR ENVIRONMENTAL QUALITY

901 POLLUTANT SOURCE CONTROL

901.1.4 Gas-fired fireplaces and direct heating equipment is listed and is installed in accordance with the NFPA 54, ICC IFGC, or the applicable local gas appliance installation code. Gas-fired fireplaces within dwelling units or sleeping units and direct heating equipment are vented to the outdoors. Alcohol burning devices and kerosene heaters are vented to the outdoors. ..... **M**

901.2.1 Solid fuel-burning fireplaces, inserts, stoves and heaters are code compliant and are in accordance with the following requirements: ..... **M**

(1) Site-built masonry wood-burning fireplaces use outside combustion air and include a means of sealing the flue and the combustion air outlets to minimize interior air (heat) loss when not in operation. **4**

(2) Factory-built, wood-burning fireplaces are in accordance with the certification requirements of UL 127 and are an EPA Phase 2 Emission Level Qualified Model. **6**

(3) Wood stove and fireplace inserts, as defined in UL 1482 Section 3.8, are in accordance with the certification requirements of UL 1482 and are in accordance with the emission requirements of the EPA Certification and the State of Washington WAC 173-433-100(3). **6**

(4) Pellet (biomass) stoves and furnaces are in accordance with ASTM E1509 or are EPA certified. **6**

(5) Masonry heaters are in accordance with the definitions in ASTM E1602 and IBC Section 2112.1. ..... **6**

901.3 Garages. Garages are in accordance with the following:

(1) Attached garage

(a) Doors installed in the common wall between the attached garage and conditioned space are tightly sealed and gasketed. ..... **M 2**

(b) A continuous air barrier is provided separating the garage space from the conditioned living spaces. **M 2**

901.4 Wood materials. A minimum of 85% of material within a product group (i.e., wood structural panels, countertops, composite trim/doors, custom woodwork, and/or component closet shelving) is manufactured in accordance with the following:

(1) Structural plywood used for floor, wall, and/or roof sheathing is compliant with DOC PS 1 and/or DOC PS 2. OSB used for floor, wall, and/or roof sheathing is compliant with DOC PS 2. The panels are made with moisture-resistant adhesives. The trademark indicates these adhesives as follows: Exposure 1 or Exterior for plywood, and Exposure 1 for OSB. ..... **M**

901.6 Carpets. Wall-to-wall carpeting is not installed adjacent to water closets and bathing fixtures. ..... **M**

901.13 Carbon monoxide (CO) alarms. A carbon monoxide (CO) alarm is provided in accordance with the IRC Section R315. ..... **M**

902 POLLUTANT CONTROL

902.1.1 Spot ventilation is in accordance with the following:

(1) Bathrooms are vented to the outdoors. The minimum ventilation rate is 50 cfm (23.6 L/s) for intermittent operation or 20 cfm (9.4 L/s) for continuous operation in bathrooms.
[1 point awarded only if a window complying with IRC Section R303.3 is provided in addition to mechanical ventilation.] ..... **M [1 max]**

(2) Clothes dryers (except listed and labeled condensing ductless dryers) are vented to the outdoors. ... **M**

902.2.1 One of the following whole building ventilation systems is implemented and is in accordance with the specifications of ASHRAE Standard 62.2-2010 Section 4 and an explanation of the operation and importance of the ventilation system is included in either § 1001.1 or § 1002.2. *[* Mandatory where the maximum air infiltration rate is less than 5.0 ACH50]*	**M ***
(1) Exhaust or supply fan(s) ready for continuous operation and with appropriately labeled controls	**3**
(2) Balanced exhaust and supply fans with supply intakes located in accordance with the manufacturer's guidelines so as to not introduce polluted air back into the building	**6**
(3) Heat-recovery ventilator	**7**
(4) Energy-recovery ventilator	**8**
(5) Ventilation air is preconditioned by a system not specified above	**10**
902.3 Radon reduction measures. Radon reduction measures are in accordance with IRC Appendix F or § 902.3.1. Radon Zones as identified by the AHJ or, if the zone is not identified by the AHJ, as defined in Figure 9(1).	
(1) Buildings located in Zone 1	
(a) a passive radon system is installed	**M**
902.3.2 Radon testing. Radon testing is **mandatory** for Zone 1.	
Exceptions: 1) Testing is not mandatory where the authority having jurisdiction has defined the radon zone as Zone 2 or 3; and 2) testing is not mandatory where the occupied space is located above an unenclosed open space.	
(1) Testing specifications. Testing is performance as specified in (a) through (j). Testing of a representative sample shall be permitted for multifamily buildings only	**8**
(a) Testing is performed after the residence passes its airtightness test.	
(b) Testing is performed after the radon control system installation is complete. If the system has an active fan, the residence shall be tested with the fan operating.	
(c) Testing is performed at the lowest level within a dwelling unit which will be occupied, even if the space is not finished.	
(d) Testing is not performed in a closet, hallway, stairway, laundry room, furnace room, kitchen or bathroom.	
(e) Testing is performed with a commercially available test kit or with a continuous radon monitor that can be calibrated. Testing shall be in accordance with the testing device manufacturer's instructions.	
(f) Testing shall be performed by the builder, a registered design professional, or an approved third party.	
(g) Testing shall extend at least 48 hours or to the minimum specified by the manufacturer, whichever is longer.	
(h) Written radon test results shall be provided by the test lab or testing party. Written test results shall be included with construction documents.	
(i) An additional pre-paid test kit shall be provided for the homeowner to use when they choose. The test kit shall include mailing or emailing the results from the testing lab to the homeowner.	
(j) Where the radon test result is 4 pCi/L or greater, the fan for the radon vent pipe shall be installed.	
(2) Testing results. A radon test done in accordance with 902.3.2(1) and completed before occupancy receives a results of 2 pCi/L or less.	**6**
902.6 Living space contaminants. The living space is sealed in accordance with § 701.4.3.1 to prevent unwanted contaminants.	**M**

904 INDOOR AIR QUALITY

904.3 Microbial growth & moisture inspection and remediation. A visual inspection is performed to confirm the following:

(1) Verify that no visible signs of discoloration and microbial growth on ceilings, walls or floors, or other building assemblies; or if minor microbial growth is observed (less than within a total area of 25 sq. ft.) in homes or multifamily buildings, reference EPA Document 402-K-02-003 (A Brief Guide to Mold, Moisture, and Your Home) for guidance on how to properly remediate the issue. If microbial growth is observed, on a larger scale in homes or multifamily buildings (greater than 25 sq. ft.), reference EPA Document 402-K-01-001 (Mold Remediation in Schools and Commercial Buildings) for guidance on how to properly remediate the issue..... **M**

(2) Verify that there are no visible signs of water damage or pooling. If signs of water damage or pooling are observed, verify that the source of the leak has been repaired, and that damaged materials are either properly dried or replaced as needed. ..... **M**

SECTION 10: OPERATION, MAINTENANCE, AND BUILDING OWNER EDUCATION

1001 HOMEOWNER'S MANUAL AND TRAINING GUIDELINES FOR ONE- AND TWO-FAMILY DWELLINGS

1001.1 Homeowner's manual. A homeowner's manual is provided and stored in a permanent location in the dwelling that includes the following, as available and applicable.
[1 point awarded per two items. Points awarded for non-mandatory items.] ..... **1 [8 max]**

(1) A National Green Building Standard certificate with a web link and completion document. ..... **M**

(2) List of green building features (can include the National Green Building Standard checklist)..... **M**

(3) Product manufacturer's manuals or product data sheet for installed major equipment, fixtures, and appliances. If product data sheet is in the building owners' manual, manufacturer's manual may be attached to the appliance in lieu of inclusion in the building owners' manual. ..... **M**

1001.2 Training of initial homeowners. Initial homeowners are familiarized with the role of occupants in achieving green goals. Training is provided to the responsible party(ies) regarding equipment operation and maintenance, control systems, and occupant actions that will improve the environmental performance of the building. These include: ..... **M 8**

(1) HVAC filters.
(2) Thermostat operation and programming.
(3) Lighting controls.
(4) Appliances operation.
(5) Water heater settings and hot water use.
(6) Fan controls.
(7) Recycling and composting practices.
(8) Whole-dwelling mechanical ventilation systems.

1002 CONSTRUCTION, OPERATION, AND MAINTENANCE MANUALS AND TRAINING FOR MULTIFAMILY BUILDINGS

1002.1 Building construction manual. A building construction manual, including five or more of the following, is compiled and distributed in accordance with § 1002.0.
[Points awarded for non-mandatory items.] ..... **1 per 2 items**

(1) A narrative detailing the importance of constructing a green building, including a list of green building attributes included in the building. This narrative is included in all responsible parties' manuals. ..... **M**

(2) A local green building program certificate as well as a copy of the *National Green Building Standard™*, as adopted by the Adopting Entity, and the individual measures achieved by the building.....	**M**
(3) Warranty, operation, and maintenance instructions for all equipment, fixtures, appliances, and finishes.	**M**
1002.2 Operations manual. Operations manuals are created and distributed to the responsible parties in accordance with § 1002.0. Between all of the operation manuals, five or more of the following options are included. *[Points awarded for non-mandatory items.]*.....	**1 per 2 items**
(1) A narrative detailing the importance of operating and living in a green building. This narrative is included in all responsible parties' manuals.....	**M**
(2) A list of practices to conserve water and energy (e.g., turning off lights when not in use, switching the rotation of ceiling fans in changing seasons, purchasing ENERGY STAR appliances and electronics).....	**M**
1002.3 Maintenance manual. Maintenance manuals are created and distributed to the responsible parties in accordance with § 1002.0. Between all of the maintenance manuals, five or more of the following options are included. *[Points awarded for non-mandatory items.]*.....	**1 per 2 items**
(1) A narrative detailing the importance of maintaining a green building. This narrative is included in all responsible parties' manuals.	**M**
1002.4 Training of building owners. Building owners are familiarized with the role of occupants in achieving green goals. On-site training is provided to the responsible party(ies) regarding equipment operation and maintenance, control systems, and occupant actions that will improve the environmental performance of the building. These include:	**M 8**
(1) HVAC filters (2) thermostat operation and programming (3) lighting controls (4) appliances operation (5) water heater settings and hot water use (6) fan controls (7) recycling and composting practices (8) Whole-dwelling mechanical ventilation systems	
1002.5 Multifamily occupant manual. An occupant manual is compiled and distributed in accordance with § 1002.0. *[Points awarded for non-mandatory items.]*.....	**1 per 2 items**
(1) NGBS certificate	**M**
(2) List of green building features	**M**
(3) Operations manuals for all appliances and occupant operated equipment including lighting and ventilation controls, thermostats, etc.....	**M**

SECTION 11: REMODELING

11.601 QUALITY OF CONSTRUCTION MATERIALS AND WASTE

11.601.1 Conditioned floor area. Finished floor area of a dwelling unit or sleeping unit after the remodeling is limited. Finished floor area is calculated in accordance with ANSI Z765 for single family and ANSI/BOMA Z65.4 for multifamily buildings. Only the finished floor area for stories above grade plane is included in the calculation. *[For every 100 sq. ft. (9.29 m^2) over 4,000 sq. ft. (372 m^2), 1 point is to be added the threshold points shown in Table 305.3.7 for each rating level.]*

(6) greater than 4,000 sq. ft. (372 m^2) ..... **M**

11.602 ENHANCED DURABILITY AND REDUCED MAINTENANCE

11.602.1.1.1 A capillary break and vapor retarder are installed at concrete slabs in accordance with IRC Sections R506.2.2 and R506.2.3 or IBC Sections 1910 and 1805.4.1.
*[*This practice is not mandatory for existing slabs without apparent moisture problem.]* ..... **M***

11.602.1.3.1 Where required by the IRC or IBC for habitable and usable spaces below grade, exterior drain tile is installed.
*[*This practice is not mandatory for existing space without apparent moisture problem.]* ..... **M***

11.602.1.4.1 Vapor retarder for all new unconditioned vented crawlspace foundations and not less than 25% of the total area after the remodel is in accordance with the following, as applicable. Joints of vapor retarder overlap a minimum of 6 in. (152 mm) and are taped.

(2) Walls. Dampproof walls are provided below finished grade.
*[*This practice is not mandatory for existing walls without apparent moisture problem.]* ..... **M***

11.602.1.4.2 For all new foundations and not less than 25% of the total area of the crawlspace after the remodel, crawlspace that is built as a conditioned area is sealed to prevent outside air infiltration and provided with conditioned air at a rate not less than 0.02 cfm (.009 L/s) per sq. ft. of horizontal area and one of the following is implemented:

(2) 6 mil polyethylene sheeting or other Class I vapor retarder installed in accordance with IRC Section 408.3 or Section 506.
*[*This practice is not mandatory for existing foundations without apparent moisture problem.]* ..... **M***

11.602.1.7.1 Moisture control measures are in accordance with the following:

(2) Insulation in cavities is dry in accordance with manufacturer's instructions when enclosed (e.g., with drywall). ..... **M 2**

11.602.1.8 Water-resistive barrier. Where required by the IRC or IBC, a water-resistive barrier and/or drainage plane system is installed behind newly installed exterior veneer and/or siding and where there is evidence of a moisture problem. ..... **M**

11.602.1.9 Flashing. Flashing is provided as follows to minimize water entry into wall and roof assemblies and to direct water to exterior surfaces or exterior water-resistive barriers for drainage. Flashing details are provided in the construction documents and are in accordance with the fenestration manufacturer's instructions, the flashing manufacturer's instructions, or as detailed by a registered design professional.

[Points awarded only when practices (2)-(7) are implemented in all newly installed construction and not less than 25% of the applicable building elements for the entire building after the remodel.]

(1) Flashing is installed at all the following locations, as applicable:
*[*These practices are not mandatory for existing building elements without apparent moisture problem.]* ..... **M***

(a) around exterior fenestrations, skylights and doors;
(b) at roof valleys;
(c) at all building-to-deck, -balcony, -porch, and -stair intersections;
(d) at roof-to-wall intersections, at roof-to-chimney intersections, at wall-to-chimney intersections, and at parapets;
(e) at ends of and under masonry, wood, or metal copings and sills;
(f) above projecting wood trim;
(g) at built-in roof gutters; and
(h) drip edge is installed at eave and rake edges.

11.602.1.11 Tile backing materials. Tile backing materials installed under tiled surfaces in wet areas are in accordance with ASTM C1178, C1278, C1288, or C1325.
*[*This practice is not mandatory for existing tile surfaces without apparent moisture problem.]* ..... **M***

11.602.1.13 Ice barrier. In areas where there has been a history of ice forming along the eaves causing a backup of water, an ice barrier is installed in accordance with the IRC or IBC at roof eaves of pitched roofs and extends a minimum of 24 in. (610 mm) inside the exterior wall line of the building. ..... **M**

11.602.1.14 Architectural features. Architectural features that increase the potential for the water intrusion are avoided:

(1) All horizontal ledgers are sloped away to provide gravity drainage as appropriate for the application. ... **M 1**

11.602.4.1 Finished grade at all sides of a building is sloped to provide a minimum of 6 in. (152 mm) of fall within 10 ft. (3048 mm) of the edge of the building. Where lot lines, walls, slopes, or other physical barriers prohibit 6 in. (152 mm) of fall within 10 ft. (3048 mm), the final grade is sloped away from the edge of the building at a minimum slope of 2%..... **M**

11.605 RECYCLED CONSTRUCTION WASTE

11.605.1 Hazardous waste. The construction waste management plan shall include information on the proper handling and disposal of hazardous waste. Hazardous waste is properly handled and disposed..... **M**

11.701 MINIMUM ENERGY EFFICIENCY REQUIREMENTS

305.2.5 Energy efficiency. The building shall comply with § 305.2.5.1 or § 305.2.5.2.

11.701.4 Mandatory practices

11.701.4.0 Minimum energy efficiency requirements. Additions, alterations, or renovations to an existing building, building system or portion thereof shall comply with the provisions of the ICC IECC as they relate to new construction without requiring the unaltered portion(s) of the existing building or building system to comply with the ICC IECC. An addition complies with the ICC IECC if the addition complies or if the existing building and addition comply with the ICC IECC as a single building. ..... **M**

11.701.4.1.1 HVAC system sizing. Newly installed or modified space heating and cooling system is sized according to heating and cooling loads calculated using ACCA Manual J, or equivalent. New equipment is selected using ACCA Manual S or equivalent. ..... **M**

11.701.4.1.2 Radiant and hydronic space heating. Where installed as a primary heat source in the building, new radiant or hydronic space heating system is designed, installed, and documented, using industry-approved guidelines and standards (e.g., ACCA Manual J, AHRI I=B=R, ANSI/ACCA 5 QI, or an accredited design professional's and manufacturer's recommendation). ..... **M**

11.701.4.2.1 Duct air sealing. Ducts that are newly installed, modified, or are exposed during the remodel are air sealed. All duct sealing materials are in conformance with UL 181A or UL 181B specifications and are installed in accordance with manufacturer's instructions. ..... **M**

11.701.4.2.2 Ducts and plenums. Building framing cavities are not used as ducts or plenums. Existing building cavities currently used as supply ducts exposed during the remodel are lined. ..... **M**

11.701.4.2.3 Duct system sizing. New or modified duct system is sized and designed in accordance with ACCA Manual D or equivalent. ..... **M**

11.701.4.3.1 Building thermal envelope air sealing. The building thermal envelope exposed or created during the remodel is durably sealed to limit infiltration. The sealing methods between dissimilar materials allow for differential expansion and contraction. The following are caulked, gasketed, weather-stripped or otherwise sealed with an air barrier material, suitable film or solid material: ..... **M**

(a) All joints, seams and penetrations.
(b) Site-built windows, doors and skylights.
(c) Openings between window and door assemblies and their respective jambs and framing.
(d) Utility penetrations.
(e) Dropped ceilings or chases adjacent to the thermal envelope.
(f) Knee walls.
(g) Walls, ceilings, and floors separating conditioned spaces from unconditioned spaces.
(h) Behind tubs and showers on exterior walls.
(i) Common walls between dwelling units or sleeping units.
(j) Attic access openings.
(k) Joints of framing members at rim joists.
(l) Top and bottom plates.
(m) Other sources of infiltration.

11.701.4.3.2 Air barrier, air sealing, building envelope testing and insulation. For portions of the building envelope that are exposed or created during the remodel, building envelope air tightness and insulation installation is verified to be in accordance with this Section and § 11.701.4.3.2.1. Insulation installation other than Grade 1 is not permitted. ..... **M**

(1) **Testing.** Building envelope tightness is tested. Testing is conducted in accordance with ASTM E 779 using a blower door at a test pressure of 1.04 psf (50 Pa). Testing is conducted after rough-in and after installation of penetrations of the building envelope, including penetrations for utilities, plumbing, electrical, ventilation and combustion appliances. Testing is conducted under the following conditions:

(a) Exterior windows and doors, fireplace and stove doors are closed, but not sealed;
(b) Dampers are closed, but not sealed, including exhaust, intake, make-up air, backdraft, and flue dampers;
(c) Interior doors are open;
(d) Exterior openings for continuous ventilation systems and heat recovery ventilators are closed and sealed;
(e) Heating and cooling system(s) is turned off;
(f) HVAC duct terminations are not sealed; and
(g) Supply and return registers are not sealed.

Multifamily Building Note: *Testing by dwelling units, groups of dwelling units, or the building as a whole is acceptable.*

(2) **Visual inspection.** The air barrier and insulation items listed in Table 11.701.4.3.2(2) are field verified by visual inspection.

11.701.4.3.2.1 Grade I insulation installation. Field-installed insulation products to ceilings, walls, floors, band joists, rim joists, conditioned attics, basements, and crawlspaces, except as specifically noted, are verified by a third-party as Grade I in accordance with the following: ..... **M**

(1) Inspection is conducted before insulation is covered.
(2) Air-permeable insulation is enclosed on all six sides and is in substantial contact with the sheathing material on one or more sides (interior or exterior) of the cavity. Air permeable insulation in ceilings is not required to be enclosed when the insulation is installed in substantial contact with the surfaces it is intended to insulate.
(3) Cavity insulation uniformly fills each cavity side-to-side and top-to-bottom, without substantial gaps or voids around obstructions (such as blocking or bridging).
(4) Cavity insulation compression or incomplete fill amounts to 2% or less, presuming the compressed or incomplete areas are a minimum of 70% of the intended fill thickness; occasional small gaps are acceptable.
(5) Exterior rigid insulation has substantial contact with the structural framing members or sheathing materials and is tightly fitted at joints.
(6) Cavity insulation is split, installed, and/or fitted tightly around wiring and other services.
(7) Exterior sheathing is not visible from the interior through gaps in the cavity insulation.
(8) Faced batt insulation is permitted to have side-stapled tabs, provided the tabs are stapled neatly with no buckling, and provided the batt is compressed only at the edges of each cavity, to the depth of the tab itself.
(9) Where properly installed, ICFs, SIPs, and other wall systems that provide integral insulation are deemed in compliance with this section.

11.701.4.3.3 Multifamily air leakage alternative. Multifamily buildings four or more stories in height and in compliance with ICC IECC section C402.5 (Air leakage-thermal envelope) are deemed to comply with § 701.4.3.1 and § 701.4.3.2.

11.701.4.3.4 Fenestration air leakage. Newly installed Windows, skylights and sliding glass doors have an air infiltration rate of no more than 0.3 cfm per sq. ft. (1.5 L/s/m^2), and swinging doors no more than 0.5 cfm per sq. ft. (2.6 L/s/m^2), when tested in accordance with NFRC 400 or AAMA/WDMA/CSA 101/I.S.2/A440 by an accredited, independent laboratory and listed and labeled. For site-built fenestration, a test report by an accredited, independent laboratory verifying compliance with the applicable infiltration rate shall be submitted to demonstrate compliance with this practice. This practice does not apply to field-fabricated fenestration products..... **M**

Exception: For Tropical Zones only, jalousie windows are permitted to be used as a conditioned space boundary and shall have an air infiltration rate of not more than 1.3 cfm per sq. ft.

11.701.4.3.5 Lighting and building thermal envelope. Newly installed luminaires installed in the building thermal envelope which penetrate the air barrier are sealed to limit air leakage between conditioned and unconditioned spaces. All luminaires are IC-rated and labeled as meeting ASTM E283 when tested at 1.57 psf (75 Pa) pressure differential with no more than 2.0 cfm (0.944 L/s) of air movement from the conditioned space to the ceiling cavity. All luminaires installed in the building thermal envelope which penetrate the air barrier are sealed with a gasket or caulk between the housing and the interior of the wall or ceiling covering. ..... **M**

11.701.4.4 High-efficacy lighting. A minimum of 90% of newly installed hard-wired lighting fixtures or the bulbs in those fixtures shall be high efficacy ..... **M**

11.701.4.5 Boiler piping. Boiler piping in unconditioned space supplying and returning heated water or steam that is accessible during the remodel is insulated. Exception: where condensing boilers are installed, insulation is not required for return piping ..... **M**

11.701.4.6 Fenestration specifications. The NFRC-certified U-factor and SHGC of newly installed windows, exterior doors, skylights, and tubular daylighting devices (TDDs) do not exceed the values in Table 703.2.5.1. ..... **M**

11.701.4.7 Replacement fenestration. Where some or all of an existing fenestration unit is replaced with a new fenestration product, including sash and glazing, the NFRC-certified U-factor and SHGC of the replacement fenestration unit do not exceed the values in Table 703.2.5.1. ..... **M**

305.2.5.1 Energy consumption reduction path. The energy efficiency rating level shall be based on the reduction in energy consumption resulting from the remodel in accordance with Table 305.2.5.1.

The reduction in energy consumption resulting from the remodel shall be based on the estimated annual energy cost savings or source energy savings as determined by a third-party energy audit and analysis or utility consumption data. The reduction shall be the percentage difference between the consumption per square foot before and after the remodel calculated as follows:

$$[(\text{consumption per square foot before remodel} - \text{consumption per square foot after remodel}) / \text{consumption per square foot before remodel}] * 100$$

The occupancy and lifestyle assumed and the method of making the energy consumption estimates shall be the same for estimates before and after the remodel. The building configuration for the after-remodel estimate shall include any additions to the building or other changes to the configuration of the conditioned space. For multifamily buildings, the energy consumption shall be based on the entire building including all dwelling units/sleeping units and common areas.

If a building can demonstrate through documentation approved by the Adopting Entity that the remodel activities started prior to project registration, the energy baseline (consumption per square foot before remodel) can be calculated based on data and building systems that was existing in the building up to 3 years prior project registration.

11.703 PRESCRIPTIVE PATH

11.703.1 Mandatory practices **30**

11.703.1.1 Building thermal envelope compliance. The building thermal envelope is in compliance with § 11.703.1.1.1 or § 11.703.1.1.2. ..... **M for § 11.703**

Exception: Section 11.703.1.1 is not required for Tropical Climate Zone.

11.703.1.1.1 Maximum UA. For ICC IECC residential, the total building UA is less than or equal to the total maximum UA as computed by ICC IECC Section R402.1.5. For ICC IECC commercial, the total UA is less than or equal to the sum of the UA for ICC IECC Tables C402.1.4 and C402.4, including the U-factor times the area and C-factor or F-factor times the perimeter. The total UA proposed and baseline calculations are documented. REScheck or COMcheck is deemed to provide UA calculation documentation.

11.703.1.1.2 Prescriptive R-value and fenestration requirements. The building thermal envelope is in accordance with the insulation and fenestration requirements of ICC IECC R502.1.1.1. The SHGC is in accordance with the ICC IECC requirements.

11.703.1.2 Building envelope leakage. The building thermal envelope is in accordance with ICC IECC R502.1.1.1 or R503.1.1 as applicable.

Exception: Section 11.703.1.2 is not required for Tropical Climate Zone.

11.703.1.3 Duct testing. The duct system is in accordance with ICC IECC R403.3.2 through R403.3.5 as applicable.

11.703.2.5 Fenestration

11.703.2.5.1 NFRC-certified (or equivalent) U-factor and SHGC of windows, exterior doors, skylights, and tubular daylighting devices (TDDs) on an area-weighted average basis do not exceed the values in Table 11.703.2.5.1. Area weighted averages are calculated separately for the categories of 1) windows and exterior doors and 2) skylights and tubular daylighting devices (TDDs). Decorative fenestration elements with a combined total maximum area of 15 sq. ft. (1.39 m^2) or 10% of the total glazing area, whichever is less, are not required to comply with this practice..... **M for § 11.703**

11.703.2.5.1.1 Dynamic glazing. Dynamic glazing is permitted to satisfy the SHGC requirements of Table 11.703.2.5.1 provided the ratio of the higher to lower labeled SHGC is greater than or equal to 2.4 and the dynamic glazing is automatically controlled to modulate the amount of solar gain into the space in multiple steps. Fenestration with dynamic glazing is considered separately from other fenestration and area-weighted averaging with fenestration that does not use dynamic glazing is not permitted. Dynamic glazing is not required to be automatically controlled or comply with minimum SHGC ratio when both the lower and higher labeled SHGC already comply with the requirements of Table 11.703.2.5.1.

11.801 INDOOR AND OUTDOOR WATER USE

11.801.1 Mandatory requirements. The building shall comply with § 11.802 (Prescriptive Path) and § 11.803 (Innovative Practices). Points from § 11.804 (Performance Path) shall not be combined with points from § 11.802 (Prescriptive Path) or § 11.803 (Innovative Practices).

11.804 (Performance Path)

The section below describes the water efficiency performance path.

305.2.6.1 Water consumption reduction path. The water efficiency rating level shall be based on the reduction in water consumption resulting from the remodel in accordance with Table 305.2.6.1.

Water consumption shall be based on the estimated annual use as determined by a third-party audit and analysis or use of utility consumption data. The reduction shall be the percentage difference between the consumption before and after the remodel calculated as follows:

$$[(\text{consumption before remodel} - \text{consumption after remodel})/\text{consumption before remodel}] * 100\%$$

The occupancy and lifestyle assumed and the method of making the water consumption estimates shall be the same for estimates before and after the remodel. The building configuration for the after-remodel estimate shall include any changes to the configuration of the building such as additions or new points of water use. For multifamily buildings, the water consumption shall be based on the entire building including all dwelling units and common areas.

Where a building can demonstrate through documentation approved by the Adopting Entity that the remodel activities started prior to project registration, the water baseline (consumption before remodel) shall be calculated based on data and building systems that existed in the building up to 3 years prior project registration.

11.802 PRESCRIPTIVE PATH

11.802.5.4 Water closets and urinals are in accordance with the following:

(1) Gold and Emerald levels: All water closets and urinals are in accordance with § 11.801.5. ..... **M**

11.802.6.1 Where an irrigation system is installed, an irrigation plan and implementation are executed by a qualified professional or equivalent. ..... **M**

11.901 POLLUTANT SOURCE CONTROL

11.901.1.4 Newly installed gas-fired fireplaces and direct heating equipment is listed and is installed in accordance with the NFPA 54, ICC IFGC, or the applicable local gas appliance installation code. Gas-fired fireplaces within dwelling units or sleeping units and direct heating equipment are vented to the outdoors. Alcohol burning devices and kerosene heaters are vented to the outdoors. ..... **M**

11.901.2.1 Newly installed solid fuel-burning fireplaces, inserts, stoves and heaters are code compliant and are in accordance with the following requirements: ..... **M**

(1) Site-built masonry wood-burning fireplaces are equipped with outside combustion air and a means of sealing the flue and the combustion air outlets to minimize interior air (heat) loss when not in operation.
(2) Factory-built, wood-burning fireplaces are in accordance with the certification requirements of UL 127 and are an EPA Phase 2 Emission Level Qualified Model.
(3) Wood stove and fireplace inserts, as defined in UL 1482 Section 3.8, are in accordance with the certification requirements of UL 1482 and are in accordance with the emission requirements of the EPA Certification and the State of Washington WAC 173-433-100(3).
(4) Pellet (biomass) stoves and furnaces are in accordance with the requirements of ASTM E1509 or are EPA certified.
(5) Masonry heaters are in accordance with the definitions in ASTM E1602 and IBC Section 2112.1.
(6) Removal of or rendering unusable an existing fireplace or fuel burning appliance that is not in accordance with § 11.901.2.1 or replacement of each fireplace or appliance that is not in accordance with § 11.901.2.1 with a compliant appliance.

11.901.3 Garages. Garages are in accordance with the following:

(1) Attached garage

(a) Where installed in the common wall between the attached garage and conditioned space, the door is tightly sealed and gasketed. ..... **M 2**

(b) A continuous air barrier is provided between walls and ceilings separating the garage space from the conditioned living spaces. ..... **M 2**

11.901.4 Wood materials. A minimum of 85% of newly installed material within a product group (i.e., wood structural panels, countertops, composite trim/doors, custom woodwork, and/or component closet shelving) is manufactured in accordance with the following: ..... **10 max**

(1) Structural plywood used for floor, wall, and/or roof sheathing is compliant with DOC PS 1 and/or DOC PS 2. OSB used for floor, wall, and/or roof sheathing is compliant with DOC PS 2. The panels are made with moisture-resistant adhesives. The trademark indicates these adhesives as follows: Exposure 1 or Exterior for plywood, and Exposure 1 for OSB. **M**

11.901.6 Carpets. Carpets are in accordance with the following:

(1) Wall-to-wall carpeting is not installed adjacent to water closets and bathing fixtures..... **M**

11.901.9.4 When the building is occupied during the remodel, a minimum of 85% of the newly applied interior architectural coatings are in accordance with either § 11.901.9.1 or § 11.901.9.3..... **M**

11.901.13 Carbon monoxide (CO) alarms. A carbon monoxide (CO) alarm is provided in accordance with the IRC Section R315. ..... **M**

11.901.16 Lead-safe work practices. For buildings constructed before 1978, lead-safe work practices are used during the remodeling. ..... **M**

11.902 POLLUTANT CONTROL

11.902.1.1 Spot ventilation is in accordance with the following:

(1) Bathrooms are vented to the outdoors. The minimum ventilation rate is 50 cfm (23.6 L/s) for intermittent operation or 20 cfm (9.4 L/s) for continuous operation in bathrooms.
[1 point awarded only if a window complying with IRC Section R303.3 is provided in addition to mechanical ventilation.]..... **M [1 max]**

(2) Clothes dryers (except listed and labeled condensing ductless dryers) are vented to the outdoors. ... **M**

11.902.1.2 Bathroom and/or laundry exhaust fan is provided with an automatic timer and/or humidistat:	**11 max**
(1) for first device	**5**
(2) for each additional device	**2**
11.902.2.1 One of the following whole building ventilation systems is implemented and is in accordance with the specifications of ASHRAE Standard 62.2-2010 Section 4 and an explanation of the operation and importance of the ventilation system is included in either § 11.1001.1 or § 11.1002.2. *[*Mandatory where the maximum air infiltration rate is less than 5.0 ACH50]*	**M***
(1) exhaust or supply fan(s) ready for continuous operation and with appropriately labeled controls	**3**
(2) balanced exhaust and supply fans with supply intakes located in accordance with the manufacturer's guidelines so as to not introduce polluted air back into the building	**6**
(3) heat-recovery ventilator	**7**
(4) energy-recovery ventilator	**8**
(5) Ventilation air is preconditioned by a system not specified above	**10**
11.902.3 Radon reduction measures. Radon reduction measures are in accordance with IRC Appendix F or § 11.902.3.1. Radon Zones as identified by the AHJ or, if the zone is not identified by the AHJ, as defined in Figure 9(1). This practice is not mandatory if the existing building has been tested for radon and is accordance with federal and local acceptable limits.	
(1) Buildings located in Zone 1 (a) a passive radon system is installed	**M**
11.902.6 Living space contaminants. The living space is sealed in accordance with § 11.701.4.3.1 to prevent unwanted contaminants.	**M**
11.904 INDOOR AIR QUALITY	
11.904.3 Microbial growth & moisture inspection and remediation. A visual inspection is performed to confirm the following:	
(1) Verify that no visible signs of discoloration and microbial growth on ceilings, walls or floors, or other building assemblies; or if minor microbial growth is observed (less than within a total area of 25 sq. ft.) in homes or multifamily buildings, reference EPA Document 402-K-02-003 (A Brief Guide to Mold, Moisture, and Your Home) for guidance on how to properly remediate the issue. If microbial growth is observed, on a larger scale in homes or multifamily buildings (greater than 25 sq. ft.), reference EPA Document 402-K-01-001 (Mold Remediation in Schools and Commercial Buildings) for guidance on how to properly remediate the issue.	**M**
(2) Verify that there are no visible signs of water damage or pooling. If signs of water damage or pooling are observed, verify that the source of the leak has been repaired, and that damaged materials are either properly dried or replaced as needed.	**M**
11.1001 HOMEOWNER'S MANUAL AND TRAINING GUIDELINES FOR ONE- AND TWO-FAMILY DWELLINGS	
11.1001.1 Homeowner's manual. A homeowner's manual is provided and stored in a permanent location in the dwelling that includes the following, as available and applicable. *[1 point awarded per two items. Points awarded for non-mandatory items.]*	**1 [8 max]**
(1) A National Green Building Standard certificate with web link and completion document.	**M**
(2) List of green building features (can include the national green building checklist).	**M**

(3) Product manufacturer's manuals or product data sheet for newly installed major equipment, fixtures, and appliances including product model numbers and serial numbers. If product data sheet is in the building owners' manual, manufacturer's manual may be attached to the appliance in lieu of inclusion in the building owners' manual. ..... **M**

11.1001.2 Training of initial building owners. Initial building owners are familiarized with the role of occupants in achieving green goals. Training is provided to the responsible party(ies) regarding newly installed equipment operation and maintenance, control systems, and occupant actions that will improve the environmental performance of the building. These include: ..... **M 8**

(1) HVAC filters
(2) thermostat operation and programming
(3) lighting controls
(4) appliances operation
(5) water heater settings and hot water use
(6) fan controls
(7) Recycling and composting practices
(8) Whole-dwelling mechanical ventilation systems

11.1002 CONSTRUCTION, OPERATION, AND MAINTENANCE MANUALS AND TRAINING FOR MULTIFAMILY BUILDINGS	
11.1002.1 Building construction manual. A building construction manual, including five or more of the following, is compiled and distributed in accordance with § 11.1002.0. *[Points awarded per two items. Points awarded for non-mandatory items.]*	**1**
(1) A narrative detailing the importance of constructing a green building, including a list of green building attributes included in the building. This narrative is included in all responsible parties' manuals.	**M**
(2) A local green building program certificate as well as a copy of the *National Green Building Standard*™, as adopted by the Adopting Entity, and the individual measures achieved by the building.	**M**
(3) Warranty, operation, and maintenance instructions for all equipment, fixtures, appliances, and finishes.	**M**
11.1002.2 Operations manual. Operations manuals are created and distributed to the responsible parties in accordance with § 11.1002.0. Among all of the operation manuals, five or more of the following options are included. *[Points awarded per two items. Points awarded for non-mandatory items.]*	**1**
(1) A narrative detailing the importance of operating and living in a green building. This narrative is included in all responsible parties' manuals.	**M**
(2) A list of practices to conserve water and energy (e.g., turning off lights when not in use, switching the rotation of ceiling fans in changing seasons, purchasing ENERGY STAR appliances and electronics).	**M**
11.1002.3 Maintenance manual. Maintenance manuals are created and distributed to the responsible parties in accordance with § 11.1002.0. Between all of the maintenance manuals, five or more of the following options are included. *[Points awarded for non-mandatory items.]*	**1 per 2 items**
(1) A narrative detailing the importance of maintaining a green building. This narrative is included in all responsible parties' manuals.	**M**
11.1002.4 Training of building owners. Building owners are familiarized with the role of occupants in achieving green goals. On-site training is provided to the responsible party(ies) regarding newly installed equipment operation and maintenance, control systems, and occupant actions that will improve the environmental performance of the building.	**M 8**
These include: (1) HVAC filters (2) thermostat operation and programming (3) lighting controls (4) appliances operation (5) water heater settings and hot water use (6) fan controls (7) recycling and composting practices (8) Whole-dwelling mechanical ventilation system	
11.1002.5 Multifamily occupant manual. An occupant manual is compiled and distributed in accordance with § 1002.0. *[Points awarded for non-mandatory items.]*	**1 per 2 items**
(1) NGBS certificate	**M**
(2) List of green building features	**M**
(3) Operations manuals for all appliances and occupant operated equipment including lighting and ventilation controls, thermostats, etc.	**M**

APPENDIX D:
NGBS Green / WRI / WaterSense Certification Client Agreement

Home Innovation
RESEARCH LABS™

NGBS GREEN / WRI / WaterSense CERTIFICATION
CLIENT AGREEMENT

This Agreement ("Agreement") is made and entered into by and between Home Innovation Research Labs, Inc. ("the Company"), a Maryland corporation with an office at 400 Prince George's Boulevard, Upper Marlboro, MD 20774, and

_____

("Client") having its principal place of business at:

_____

_____

_____

regarding Client's participation in the NGBS Green Certification Program ("NGBS Green"), WRI Certification, or WaterSense.

WHEREAS, the Company is authorized to certify compliance with the *National Green Building Standard*® ("NGBS") and WaterSense Labeled Homes.

NOW THEREFORE, the parties agree:

1. Client's Project(s) will be certified as meeting the applicable criteria of NGBS Green, the NGBS Water Rating Index (WRI), or WaterSense, available at www.HomeInnovation.com/green, in the sole discretion of the Company, in accordance with the terms of this Agreement. "Project" can be a single-family home, a multifamily building, a mixed-use building, or a land development. Client acknowledges and agrees that certification applies to Projects and not to Client's business or employees.

2. Client will use NGBS Green and WaterSense scoring tools available at www.HomeInnovation.com/GreenScoring to specify the NGBS Green features and/or water conserving features Client plans to incorporate into each Project seeking certification.

3. Projects seeking certification will be constructed in compliance with the relevant conformance criteria for the specific certification Project is seeking.

4. The Company will issue a certificate for each Project certified as meeting the relevant program criteria. The form and content of the certificate may be modified at the Company's discretion. The Company agrees that the name of the Project Owner on the certificate can be changed for an administrative fee.

5. Client will hire an NGBS Green Verifier ("Verifier") or Accredited WRI Verifier depending on the certification Project is seeking. Verifiers are accredited by the Company to inspect each Project seeking certification and to verify the Project has incorporated the relevant practices claimed toward certification. Verifier must be accredited with the appropriate credentials to the correct certification version by the Company at the time of each inspection. Accredited Verifiers are listed at www.HomeInnovation.com/FindNGBSVerifier. Client agrees that fees for verification services are not paid to or by the Company and are not set by the Company or NGBS Green but rather are determined between Client and Verifier. Client warrants that payment or amount of the fee is not dependent on the results of Verifier's inspection.

6. Client will schedule with Verifier the necessary inspections for each Project seeking certification. Client agrees to provide Verifier with access to each Project, the relevant scoring information, and the necessary documentation that supports the certification.

7. Client will maintain records and supporting documentation for a period of three (3) years.

8. Verifier will inspect the Project and review relevant documents according to the relevant certification protocol. Verifier will prepare a verification report in the provided format.

9. Client will pay certification fees to the Company (independent of verification fees paid to Verifier) per the certification fee schedule that is current at the time of the Project's registration.

10. Client's Project will not achieve certification until and unless the Company reviews the verification report and makes a final certification determination.

11. The Company will promptly issue a certificate upon receipt and review of the verification report documenting compliance with conformance criteria and upon the Company's determination, in its sole discretion, that the conformance requirements have been met; provided Client is in compliance with this Agreement, and the appropriate fees have been paid.

12. Client's participation in NGBS Green, WRI, or WaterSense and the location of certified Projects will be made public. The Company shall list the Project on the Company's website(s) and may make public basic Project information including, but not limited to, the address and certification level.

13. The Company may request timely access to the Project(s) and supporting documentation for quality control over the compliance process. Quality control

activities involve periodic spot checks of the verification inspection and documentation review process to ensure accuracy and consistency.

14. Should any Project be found not to have originally (as built) met the criteria for certification, the certification will be revoked or revised, as appropriate, and the new certification status will be communicated to Client by the Company.

15. The Company, in its sole discretion, shall make the final determination regarding any dispute over the level of certification pursuant to NGBS Green or the WRI score attained.

16. Client shall not misrepresent the certification status of Projects.

17. The Company shall incur no liability with respect to nonperformance or delay in performing any act required of it under this Agreement, if such nonperformance or delay is caused by act of God or the public enemy, strikes, the requirements of any law or governmental regulations or orders, or any other circumstances beyond the control of the Company.

18. Client shall indemnify, hold harmless, and defend (and pay any and all other expenses and attorney's fees in connection therewith) the Company and its officers, directors, agents, affiliates, and employees from and against any and all actions, liability, loss, claims and demands whatsoever arising out of any actual or alleged acts or omissions of Client in connection with Project certification, except to the extent that any such injury or damage is found to be due to the gross negligence or willful misconduct of the Company. The obligations of Client under this paragraph shall survive any suspension, revocation, termination, or cancellation of this Agreement.

19. The Agreement shall commence on the date of execution, and unless modified by mutual agreement of the parties or terminated earlier pursuant to the terms of the Agreement, and shall continue for four (4) years. The Agreement may be extended or renewed by mutual agreement.

20. Except as otherwise provided herein, this Agreement may be terminated with cause by either party upon sixty (60) days prior written notice to the other. Notice shall be sent to the signatory at the address in this Agreement, or to such other person and address as the party may designate in writing.

21. This Agreement may be suspended and/or terminated by the Company upon written notice for failure by Client to comply with any term of this Agreement.

22. Marketing guidance for the Certification programs is available on the Company's website (www.HomeInnovation.com/MarketGreenCertified), but logos and certification marks associated with NGBS Green and/or WRI certification are accessible only via a link provided directly to the Client and/or Client's designated marketing representative. Client shall display logos or marks of the Company or the certification program(s) only as expressly permitted by this Agreement, unless the Company grants a written exception.

(a) Client acknowledges and agrees that the Company has the sole and exclusive right and authority to license others to use the "Home Innovation NGBS Green Certified" mark ("NGBS Green Certified Mark"), the "Home Innovation NGBS Green Registered" mark ("NGBS Green Registered Mark"), the "Home Innovation NGBS Green Partner" mark ("NGBS Green Partner Mark"), the Certified WRI mark, and the "NGBS Green Home Innovation Research Labs" mark ("NGBS Green Program Mark"), each of which is set forth below (collectively "the Marks") in their stacked formats; horizontal formats also exist and can be used interchangeably with those included below depending on Client's space considerations in marketing materials. Client further acknowledges and agrees that the Company may change the design, format, or text of the Marks at any time in its sole discretion.

(b) The Company grants to Client seeking NGBS Green certification, while Client complies with Client's obligations under this Agreement, the non-exclusive right to use the NGBS Green Partner Mark. The NGBS Green Certified Mark may only be used in connection with specific Projects that are NGBS Green Certified pursuant to this Agreement. The NGBS Green Registered Mark may only be used in connection with specific Projects for which Client is actively seeking certification pursuant to this Agreement. Client shall comply with all other terms of use in any style manual or other guidelines concerning use of all the Marks. The NGBS Green Partner mark is not available to clients solely seeking WaterSense or WRI certification, independent of NGBS Green certification.

(c) Notwithstanding any other provision in this Agreement, Client shall be solely responsible for ensuring its use of the Marks complies with all applicable governmental laws, rules, regulations, and guides, including but not limited to any applicable "Guides for the Use of Environmental Marketing Claims" of the Federal Trade Commission.

(d) All use of the Marks by Client shall inure to the sole and exclusive benefit of the Company. Client shall not contest the Company's rights in the Marks. This obligation shall survive any termination of this Agreement.

(e) Client shall not use the Marks in any way that is misleading or otherwise misrepresents the certification status of any Project pursuant to this Agreement. The NGBS Green Certified Mark represents only that the Project is in substantial conformance with the applicable level (Emerald, Gold, Silver, Bronze, or Certified for buildings; One Star, Two Stars, Three Stars, or Four Stars for land development) of the NGBS, and Client agrees not to use the NGBS Green Certified Mark to represent any broader claim. Client will not state or suggest, directly or indirectly, that the Company is guaranteeing, endorsing, recommending, warranting, or certifying code compliance of the Project that may be certified pursuant to this Agreement. None of the Marks is a representation, warranty, or guarantee of Project performance or certification of code compliance.

(f) No other right or license is granted by the Company to Client, either express or implied, with respect to any other trademark, trade name, service mark, or other intellectual property right owned, possessed, or licensed by or to the Company.

(g) Upon the expiration of this Agreement or any earlier termination thereof: (i) all rights granted to Client hereunder shall automatically revert to the Company; and (ii) Client shall discontinue use of any advertising, marketing, promotional, or other material bearing the NGBS Green Partner and/or NGBS Green Registered Marks (the NGBS Green Certified Mark, WaterSense label, and Certified WRI Score may continue to be used in perpetuity to market any/all Projects that were certified prior to expiration or termination of this Agreement; certifications never expire).

23. This Agreement has been finally executed in the State of Maryland. This Agreement shall be governed by and construed in accordance with the substantive law of the State of Maryland, without regard to the conflicts of law rules thereof.

24. In the event any one or more of the provisions contained in this Agreement shall for any reason be held invalid, illegal or unenforceable in any respect, such invalidity, illegality, or unenforceability shall not affect any of the other provisions of this Agreement.

25. This Agreement may not be modified orally or in any manner other than by an agreement in writing and signed by the parties.

26. This Agreement supersedes all proposals, oral or written, and all other communications or previous agreements between the parties relating to the subject matter of this Agreement.

27. This Agreement confers rights and obligations only on the parties hereto and is not intended, and shall not be construed, to confer any rights on any person or organization not a party hereto.

28. Client shall carry and maintain, at its expense, a standard commercial general liability insurance policy affording protection with respect to bodily injury, death, property damage, advertising injury, and personal injury of not less than one million dollars ($1,000,000) per occurrence. The insurance company providing such insurance, as well as the form of such insurance, shall be subject to the approval of the Company; such approval will not be unreasonably denied or delayed. The insurance policy shall add Home Innovation Research Labs and its officers, directors, agents, affiliates, and employees, as additional insureds for liability with respect to or arising out of the work of Client. Such insurance shall be primary and non-contributory and shall contain a provision by which the insurer agrees that such policy shall not be cancelled, materially changed, or not renewed without at least thirty (30) days notice to the Company. Each such policy, or a certificate thereof, shall be given to the Company promptly upon execution of this Agreement.

29. Each party waives all rights and claims against the other party, and its respective agents, affiliates, and employees, and against any of their subcontractors and their agents and employees, for all damages, losses, fines, expenses, costs, and fees, but only to the extent of the party's actual recovery of insurance proceeds therefor.

30. Before any party may commence an action or amend a complaint to add a claim arising out of or in connection with this Agreement, the claim must be submitted to mediation, unless mediation is waived in writing by each party to this Agreement. The complaining party shall send a written demand for mediation to the other party. If the parties fail to agree on a mediator within fifteen (15) days of the demand, the complaining party may petition the American Arbitration Association or other recognized mediation service for the appointment of a mediator. The mediator shall commence the mediation within thirty (30) days after being selected. The mediation shall be completed no later than fifteen (15) days after being commenced. The costs of the mediation shall be shared equally between the parties. The costs of the mediation are recoverable by the party that prevails in any subsequent litigation of the claim.

31. BY THE EXECUTION AND ACCEPTANCE OF THIS AGREEMENT, EACH PARTY KNOWINGLY, VOLUNTARILY, AND INTENTIONALLY WAIVES ANY RIGHT EACH PARTY MAY HAVE TO A TRIAL BY JURY IN RESPECT OF ANY LITIGATION ARISING OUT OF OR IN CONNECTION WITH THIS AGREEMENT OR ANY CONDUCT, OMISSION, OR STATEMENTS (WHETHER VERBAL OR WRITTEN) OF ANY PARTY WITH RESPECT THERETO. THIS PROVISION HAS BEEN NEGOTIATED BY THE PARTIES AND IS A MATERIAL INDUCEMENT TO THE PARTIES TO ACCEPT THIS

AGREEMENT. THIS WAIVER IS KNOWINGLY, WILLINGLY, AND VOLUNTARILY MADE BY EACH PARTY, AND EACH PARTY REPRESENTS THAT NO REPRESENTATIONS OF FACT OR OPINION HAVE BEEN MADE BY ANY INDIVIDUAL TO INDUCE THIS WAIVER OF TRIAL BY JURY OR IN ANY WAY TO MODIFY OR NULLIFY ITS EFFECT. EACH PARTY FURTHER REPRESENTS THAT IT HAS BEEN REPRESENTED IN THE SIGNING OF THIS AGREEMENT AND IN THE MAKING OF THIS WAIVER BY INDEPENDENT LEGAL COUNSEL, SELECTED OF ITS OWN FREE WILL, AND THAT IT HAS HAD THE OPPORTUNITY TO DISCUSS THIS WAIVER WITH COUNSEL.

The person signing this agreement hereby warrants that he/she has the legal authority to execute this agreement on behalf of the respective party, and that such binding authority has been granted by proper order, resolution, or other authorization of the entity. The other party is fully entitled to rely on this warranty and representation in entering into this Agreement.

HOME INNOVATION RESEARCH LABS, INC.

_____
Signature

Date _____

Name William M. Ingley
(Printed or Typed)

Title Vice President and CFO
(Printed or Typed)

CLIENT

_____
Signature

Date _____

Name _____
(Printed or Typed)

Title _____
(Printed or Typed)

Home Innovation
RESEARCH LABS™