POAH: UTILIZING BASIS OF DESIGN TO ENSURE CONSISTENT USE OF ENERGY EFFICIENT MATERIALS

SOLUTION OVERVIEW
Preservation of Affordable Housing (POAH) is a nonprofit developer, owner, and operator of nearly 9,000 affordable homes in nine states and the District of Columbia. POAH’s primary mission is to preserve, create, and sustain affordable, healthy homes that support economic security and access to opportunity for all its residents. POAH is committed to preserving at-risk affordable housing as an asset for today’s residents and for future generations by incorporating long-term environmental and financial sustainability into its building and renovation practices.

As its portfolio continued to grow and projects were being built or rehabilitated, POAH recognized the need to create a basis of design for both development and operations. POAH staff found that product selection was not uniform when a property underwent a rehabilitation. This lack of standardization made it difficult to train managers and maintenance staff to maintain and replace these materials effectively. For instance, maintenance staff were often unable to find the appropriate replacement parts to various systems, which resulted in short-lived maintenance solutions. This is in addition to the fact that maintaining various models of certain products requires staff to be familiar across a range of products instead of expertly understanding a small group.

POAH developed new standards to ensure quality materials and efficient systems are installed during development and maintained or replaced properly by management.

The Basis of Design (BOD) online tool was developed with various modules. Each module consists of a set of standards for all types of building materials, including energy- and water-efficient products. These standards are now required for use in all POAH properties. This ensures standardized materials and products are used consistently for maintenance and replacement as buildings age, in all building rehabilitations, and in new construction.

ORGANIZATION TYPE
Affordable Housing

BARRIER
High maintenance and energy costs due to inconsistent products used in development, rehabilitation, and operation of affordable multifamily housing developments

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SOLUTION
Developed Basis of Design tool, which ensures that all POAH properties use consistent energy efficient materials and products to both lower energy and maintenance costs and promote resident health and safety.

OUTCOME
Lower energy and water costs, improved maintenance procedures, and cost savings in bulk purchasing.

POLICIES
Operating multifamily housing, particularly affordable housing, is a challenge because of financial constraints imposed by affordable rents. While affordable housing is usually subsidized with project- or tenant-based rental assistance, and/or subsidized mortgages, it is incumbent upon owners to operate their properties in a decent, safe, and sanitary condition while limiting operating costs as possible. By using the Basis of Design tool to inform what building components and products may be used in its properties, POAH is able to control energy and maintenance costs by requiring that energy efficient products are used on a consistent basis. These elements ensure that POAH can keep product prices low by entering into bulk purchasing arrangements and the standardization decreases maintenance costs as well. To ensure efficacy over the long-term, POAH updates the information included in the BOD as products change or become obsolete.

PROCESS
POAH staff first created a spreadsheet of specifications for major components of it properties, however, this proved unwieldy to use. POAH staff then began creating PDFs of descriptions of various building products and researching bulk purchasing options. They soon realized that this Basis of Design project could be converted to an online interactive tool that could be easily updated, and began the tool development process.

The text and design for the BOD was created by POAH staff, who used a free web design and hosting service. The only cost incurred was staff time to develop and review the tool over a 12-month period, which included the time spent to author the previous versions that were converted to the web-based content.

Rather than waiting until all the modules were final, POAH released several batches at a time, and continues to update the tool to include additional building components.

OUTREACH
POAH implemented a multi-tiered deployment strategy for the Basis of Design tool. It was previewed by POAH development staff, then presented to the Board of Directors, and finally to managers of several properties. POAH publicized the tool in its online newsletter.

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POAH’s maintenance supervisor reviewed sections of the BOD prior to its distribution. POAH has a formal feedback loop that involves quarterly calls with site staff to discuss issues with any of the recommended products or systems.

During the summer of 2016, the BOD was rolled out on a regional basis to property managers and maintenance staff. It was demonstrated to POAH’s development staff, who have been forwarding the online modules to their design and construction teams. POAH intends to create a flyer for distribution to all design, engineering, and construction consultants to introduce the tool’s most recently developed sections.

POAH staff conduct post-construction presentations for residents as an opportunity to demonstrate how to use any newly installed equipment correctly, so that residents are aware of their role in making the property more energy- and water-efficient.

TOOLS AND RESOURCES
The Basis of Design online tool lives on POAH’s website at www.poahbod.org. There are modules available covering the following products and specifications:

- Air conditioner covers
- Appliances
- Lighting
- Plumbing
- Paint
- Bathroom accessories
- Cabinetry
- Doors
- Flooring
- Building Enclosures
- Windows
- Roofing
- Ventilation

As of the publication of this Implementation Model, POAH is in the process of developing additional modules:

- Benchmarking
- Domestic Hat Water
- Heating
- Cooling
- Security
- Elevators

OUTCOMES
The Basis of Design tool addresses POAH’s requirements for promoting energy efficiency within its housing portfolio by requiring the use of standard energy-saving products. POAH is thus ensuring that its housing portfolio saves on water and energy consumption. In addition, the products chosen

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by POAH promote a healthy environment for the residents.

Another benefit is that POAH’s property management arm has been able to standardize its maintenance and repair of common building components, which saves money on products due to bulk purchasing. Staff can work more efficiently because they know which products they can use for repairs and replacements, and have a store of these items in stock on site.

Staff at all levels of POAH are finding the *Basis of Design* extremely useful:

- POAH Communities’ Chief Operating Officer appreciates the tool because using it has resulted in an increase in efficiency among the maintenance staff.
- POAH Communities maintenance staff like the tool because it instructs them to purchase materials that they can actually find.
- Having the BOD available has resulted in creating a standard look and feel across POAH’s portfolio. POAH’s project managers have subscribed to this aesthetic through use of the tool, as well as to POAH’s commitment to energy and water efficiency.

**MEASURING SUCCESS**

POAH plans to track visits to the website and purchases to ensure compliance. Quarterly calls are scheduled with maintenance staff for feedback on products included in the BOD. Architects and general contractors are required to provide variance forms if they plan to specify materials or products other than what is included in the BOD, and a justification. POAH will measure the success of the tool by tracking its use across sites and by tracking the purchase of specified products for new development and rehabilitation projects.

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