

Albany Historic District: Vinyl Siding Approval

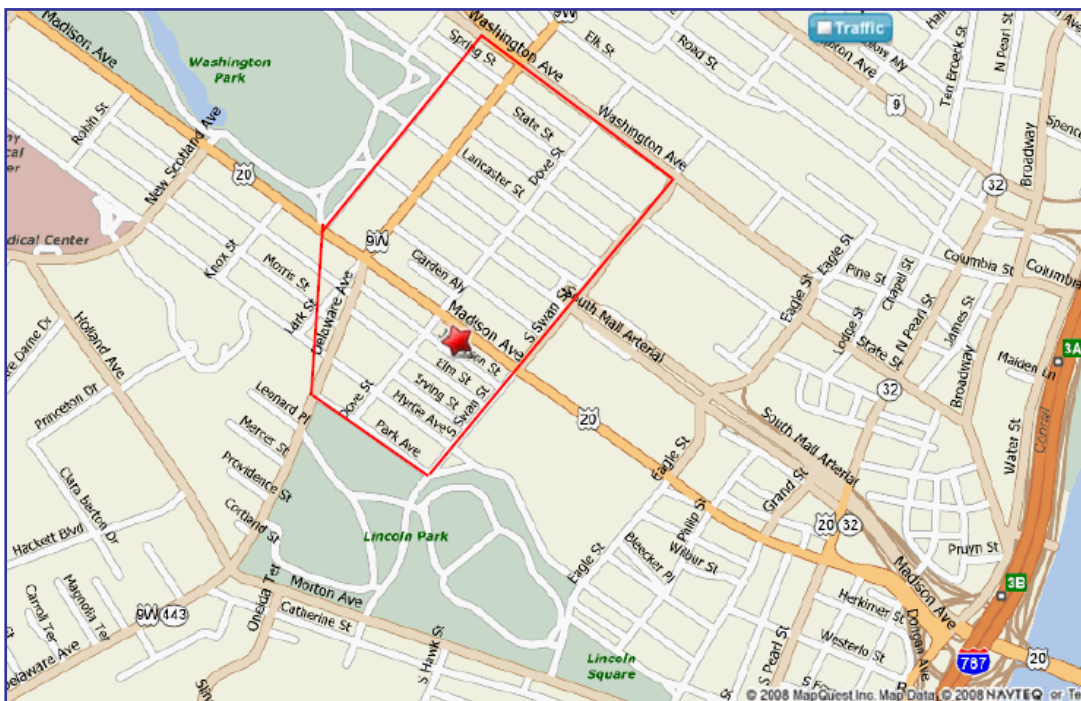


Capital Buildings in Albany, NY

Background

Homes in Albany’s Center Square – Hudson Park Historic District (shown below) are required to meet certain criteria to ensure that both new and remodeled homes retain the architectural character of the area. The many different architectural styles and building types of the nineteenth and early twentieth century represented in the district give it a special ambience and graphically document the area's evolution, growth, and continuous use. One of the more prevalent styles is the Federal Style, particularly on Jefferson Street.

This district of attached or closely spaced buildings is structurally dense. Most buildings do not have front yards; instead their facades abut the sidewalks creating a consistent building line. Even when the distances of the buildings from the curb vary, the range of this variation is usually limited, allowing for defined street corridors. There are a few vacant lots within the district.



The historic district requires that “material selection for new buildings should reflect consideration of the historic district and adjacent historical buildings.” This document details the successful variance approval for insulated vinyl siding within the Center Square – Hudson Park Historic District.

Newport Ventures (Newport) is the project manager for the High Performance Home Challenge program funded by the New York State Energy Research and Development Authority (NYSERDA). The program's main objective is to educate home builders on constructing cost effective high performance homes. Newport is charged with conducting energy modeling and providing guidance and technical support to builders through design, product selection and construction.



Picture of Jefferson Street

A project under consideration for the NYSERDA project is within the historic district at 145 Jefferson Street, approximately one block from the Albany State Capital. Since the house was planned for a vacant lot, it must meet the historic district criteria described above.

Energy Recommendations

Based on our research and experience, Newport recommended adding exterior insulation to the home as a practical and cost effective measure to improve the home's energy performance, while satisfying the stringent aesthetic requirements of the historic commission. After considering several wall options, a 2x6 framed wall with insulated vinyl siding was recommended to provide an excellent combination of aesthetics, thermal performance, and affordability.

Key points that shaped the recommendation included the following:

Creating an Energy Efficient Thermal Envelope

- Reduce thermal bridging: The insulated vinyl siding provides a thermal break to the direct route that heat typically travels through the wood sheathing-wood stud-drywall pathway. The siding is expected to provide a rating between R-2 and R-4 for continuous insulation.
- Maximize cavity insulation with affordable materials: Use R-21 wall cavity insulation.
- Air seal to reduce heat loss: It is recommended that rim and band joists be sealed with spray foam to reduce air infiltration. Elsewhere, an air barrier is created by following Energy Star's Thermal Bypass Checklist.

Continuous Exterior Insulation

- Insulation is 'continuous' because wall studs will not break or interrupt the insulation.
- The designed 2x6 wall with R-3.5 continuous exterior insulation and R-21 cavity insulation has a 25% U-value improvement over a standard 2x6 wall.

- Breaking the direct path of heat transfer from the inside to the outside of the home offers significant energy savings.
- In cold climates, exterior insulation can be cost-effective. Without the option of continuous insulation, a builder might need to increase the wall stud thickness from 2x6 to 2x8 to achieve similar performance, at considerable cost.

Illustration of thermal bridging: energy's direct path to the inside of the home through sheathing material and studs.



Many vinyl siding manufacturers offer vinyl siding with a foam backer fused to the siding for an integrated siding and insulation system. Therefore, insulated vinyl siding was selected to be on a high performance NYSERDA home in Historic Albany.

Variance Request and Approval

Albany's historic district building code deems vinyl siding as an "[i]nappropriate contemporary material." This restriction required Newport to pursue a variance to use vinyl siding on this energy efficient home.

An initial meeting with the Historic Resources Commission¹ was held on August 6, 2008. A quorum was not present at this meeting, but it still offered us an opportunity to present information and to discuss the project. Copies of the Vinyl Siding Institute's *Designing Style* design guide were distributed to all of the Commissioners (4) in attendance, and reviewed with special attention given to the Federal Style which we felt was most appropriate for Jefferson Street. Newport presented the request and answered the Commissioner's questions on the use of insulated vinyl siding. It was a useful discussion, despite the Historic Resources Commissioners asking us to return on August 20, 2008 when a quorum would be present.

Vinyl Siding with Integrated Insulation



At the August 20, 2008 meeting Newport brought a specially constructed 4' x 6' wall section that was sided with CertainTeed's insulated vinyl siding and trimmed out with a trim package reminiscent of the Federal Style prevalent in

¹ The Commission was created in 1988 and replaced the Historic Sites Commission and Capitol Hill Architectural Review Commission. It reviews and makes recommendations regarding new construction, alterations and demolitions in areas within or adjacent to historic districts. The City of Albany has fifteen National Register Historic Districts that contain over 4,000 structures. The Commission consists of nine members, including two archaeologists. The Mayor, with the advice and consent of the Common Council, appoints members to three-year terms.

the historic district to display to the Commissioners. The Commissioners repeatedly noted that they were “surprised” that the product was so attractive. One Commissioner stated that it was very different from his preconceived image, and the Commissioners were on the whole very complimentary about the look of the product.

At the meeting, Newport discussed the energy performance goals for the home and how exterior insulation can help the home reach these performance goals. The Commissioners asked for additional detail on other approaches to reaching the energy goals. This provided the opportunity to discuss other, more expensive strategies, and emphasize both the aesthetic and cost-effectiveness of insulated vinyl siding.

Key facts presented included:

- Fiber cement is much heavier and therefore more difficult to install over continuous foam sheathing;
- An ICF (insulated concrete form) system was considered, but was much more expensive;
- The vinyl siding selected is lighter than most other siding choices and is integrated with the insulation; and,
- The proposed vinyl siding is also certified for quality and color retention.

Because this home was to be located in an historic district, a siding needed to be selected that fit with the feel of the neighborhood. Vinyl siding offered the project a siding that blended into the community’s historic character and supported continuous insulation. Other wall configurations were much more expensive for a comparable energy performance. The demonstration project would not be a practical and repeatable building strategy, if siding accounted for a substantial portion of the construction budget.

After the discussion, the Commissioners voted on the variance to allow vinyl siding in the historic district. By a vote of 8-to-1 the Commissioners approved the variance, with the caveat that it would be a certified product. One of the Commissioners made a motion to approve vinyl siding for three sides of the home and use another siding for the front façade. Newport questioned this strategy and asked for a rationale that allows a siding material for three sides, but not the front. The motion was denied.

In the end, the Historic Resources Commissioners recognized that improving the energy performance of today’s homes can be achieved without altering the feel and aesthetics of the historic district. The Commissioners felt the siding as shown met the requirement for *“Compatible materials and colors which are either similar to or visually quiet in relation to traditional ones used in the area...”*²

² § 42-91 Criteria in consideration of appropriateness. Albany, New York Code.

Lessons Learned

Many misconceptions about vinyl siding still remain. Educating the Commissioners led to the successful waiver.

- The *Designing Style* guides were effective in showing the range of styles and colors.
- Product and color retention certification was very important in assuring decision-makers that the product will stand the test of time.
- The mock up wall section really focused the Commissioners on the attractiveness of the product.

The Commissioners, although involved in architectural issues on a daily basis, still viewed vinyl siding through a 1980's prism. A visual display of today's vinyl siding was very helpful in converting the Commissioners and achieving approval for use of certified insulated vinyl siding.