

CASE STUDY

Multi-Family Development Goes Solar



PROJECT OVERVIEW

PROJECT

Soleil Lofts, a 600-Unit Multi-Family Building

BUILDER

The Wasatch Group

CONTRACTOR

AeroBarrier West

LOCATION

Herriman, UT

RESULTS

Pre-Leakage: 10 ACH₅₀ average per unit

Post-Leakage: < 1 ACH₅₀ per unit

Rebates added up to more than the cost of AeroBarrier – a 150% return on investment

600-Unit Multi-Family Development Goes Solar Using AeroBarrier

The Wasatch Group knew Soleil Lofts was an ambitious project during the design phase. A first of its kind development, featuring 600 solar powered, all-electric apartment units certainly sounds ambitious. But a unique issue was driving the Salt Lake City real estate developer.

Winter Air Quality Issues Drive Net Zero Design

The picturesque mountain ranges surrounding the Salt Lake area create a valley and, during the winter months, inversions. Inversions are when warmer air above the valley traps cooler air near the ground. Fine particulate emissions are trapped in the cooler air, creating a smoggy haze, and decreasing air quality. Soleil Lofts had to be a net zero development – addressing this issue without contributing to it.

“We knew we had to reduce energy consumption by 50 percent to support solar,” said Josh Roy, Wasatch Group’s Vice President of Sustainability. “The AeroBarrier technology consistently gave us the results we needed. By making air sealing a dependable process, we were able to make changes in the design phase that were critical to this project’s success.”



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The Wasatch Group

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AeroBarrier Makes Short Work of Party Walls

Shared walls between multifamily homes are an issue for builders and homeowners alike. They are more difficult to air seal effectively, leading to issues when trying to meet code. And research from the University of Toronto shows up to 20 percent of a neighbors' air can transfer into a home through a shared wall. That's why sounds and smells seem to infiltrate multifamily homes so easily.

The issue has been accepted as unavoidable, with no reliable solution, until AeroBarrier. By sealing the various gaps in shared walls, odors from air infiltration are stopped and sounds are also mitigated. These issues aren't always high on the builders or homeowners list of concerns – if at all. But Josh Roy, Wasatch Group's Vice President of Sustainability, has seen AeroBarrier's sound mitigation improve the home-buying experience.

"Going into a fully-furnished unit with AeroBarrier, you notice the difference," said Roy. "It signals you're in a well-built, quality home."

For solar to work, energy storage was also paramount. Wasatch addressed this by creating a "virtual power plant" – a network of battery storage systems managed by the local utility. When it came to energy reduction, Wasatch explored multiple options.

Air Sealing Unlocks Savings During Design Stage

"We looked at other energy efficiency measures, including lighting and appliances, but energy modeling showed us they aren't as cost-effective as air sealing," said Roy.

AeroBarrier was chosen because the project needed a level of consistency and precision not seen in manual air sealing. Wasatch was relying on the air sealing process for more than simply meeting code.

"During the design phase, we realized if air sealing could bring all 600 units could down to a 1 ACH₅₀ we could reach our performance goals with HVAC systems half the size we originally planned," said Roy.

The AeroBarrier technology emits precise levels of safe, non-toxic sealant mist into the pressurized space, automatically drawing the sealant to leaks around windows, drywall, electrical outlets, recessed lighting, and other areas.

"AeroBarrier gave us the confidence to not overcompensate with an oversized HVAC system to hit our performance goals. This cut our HVAC costs in half and reduced the amount of capital invested in mechanicals."

Utility Rebates Deliver a 150% ROI

AeroBarrier air sealing helped Soleil Lofts qualify for several different utility rebates. In fact, the rebates added up to more than the cost of AeroBarrier – a 150% return on investment.

The rebates are just part of the impact air sealing has had on this project. There have been no homeowner issues or callbacks due to comfort. Since they're able to stay comfortable year-round without pushing their mechanicals to the limit, homeowners are seeing utility savings and getting longer life from their HVAC systems. And during the winter months, no pollution is infiltrating their home, while ERVs ensure they have clean and healthy indoor air.

"AeroBarrier makes it possible to cost-effectively create a high-performance home using standard quality materials," said Roy. "It's exceeded our expectations and our architects have added it as a specification for future projects."

And if there were any doubt The Wasatch Group more than achieved the ambitious goals set for this project, the all-electric, solar-powered multifamily community is also one of Utah's largest net zero projects.



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