A STUDY IN SUCCESS

TERREAL
NORTH AMERICA

PRINCETON TURNS TO TERREAL NORTH AMERICA FOR UNIQUE, SUSTAINABLE GRADUATE HOUSING

In 2005, Princeton University set out to develop a 10-year plan to revitalize student housing on their campus. The Lakeside project also had a goal to improve the condition and sustainability of their buildings while limiting the impact on the surrounding woodlands.

Completed in 2015, Princeton University's newest graduate student community, Lakeside Apartments and Townhomes, provides housing for over 715 graduate students and their families in a collection of townhomes and mid-rise apartments on 14 acres located on the main campus. The community is highlighted by an extensive student common area featuring a multi-purpose event space, staff offices, community living room, full kitchen, outdoor deck and barbecue, computer facilities, exercise room, and wrapped 550 car parking structure. Winding through the complex are pathways and vistas carefully located to connect Princeton's campus to adjacent Lake Carnegie.

PROJECT
Lakeside Graduate Student Housing — Princeton University

PRODUCTS
LudoSlate and NeXclad 16" LudoSlate

COLORS
Custom Impressionist SL2/SL3/018-09M SM with Custom 130-11M SM accent tiles

AREA
250,000 sq. ft. of roof & wall tile covering 50% of wall area and 100% of roof area

ARCHITECT
Studio MA, Princeton, NJ and Phoenix, AZ

ROOFING/WALL CONTRACTOR
Baker Roofing, Raleigh, NC

AWARDS/CERTIFICATIONS
- LEED Silver Certification
- USGBCNJ LEED Project of the Year - Residential

A STUDY IN SUCCESS: PRINCETON GRADUATE STUDENT HOUSING

CHALLENGES

This large-scale project on such a prestigious campus faced a number of challenges throughout the design and construction phases. The design team conducted thorough testing of two existing 1960's era concrete structures on the site and found that building new structures, with better orientation and an improved thermal envelope, would reduce carbon greenhouse gas emissions by 42% over a 10-year period, all while adding an additional 300 beds.

Once the direction was set to replace the existing structures, the design team was tasked with creating a complex that would look and feel like a community, all while maintaining the richness and scale of the existing university buildings. As part of Princeton's sustainability efforts, the complex would also need to blend with the surrounding woodlands and meet LEED Silver Certification.

Original concepts featured fiber cement panels and synthetic slate for the walls and the roofs. A mock-up was created for the project with these materials, but did not yield the aesthetic results the team wanted. And to meet LEED standards, the synthetic products would need to be Class A fire rated, which made them cost-prohibitive for the project.

Another challenge facing the project was the sheer scale of the development. Qualified contractors would be needed to meet the deadlines and budgets to make this project a reality. Princeton needed a single, qualified installer to complete the entire project.

APPROACH

Ludowici, Terreal North America's parent company, was contacted by the project architect in January 2011 after a web searched turned up LudoSlate, Ludowici's terra cotta lightweight slate alternative roof. Upon review, the team found that LudoSlate met the LEED criteria and was the more affordable and attractive solution for the community. With Ludowici terra cotta roof tiles chosen, the design team was introduced to, Terreal North America and NeXclad. NeXclad utilizes terra cotta tiles to create a unique and economical wall cladding solution. Skeptical about using terra cotta tiles on a vertical surface, the team soon realized that the NeXclad wall cladding tiles in the LudoSlate profile provided a superior aesthetic to the cement panels first specified for the project. The 75-year material warranty on both products, including color, as well as Ludowici's history as a U.S.-based company in continuous operation since 1888, solidified the decision.

The next hurdle facing the project was finding a contractor who could handle the entire installation. Terreal North America recommended Baker Roofing (Raleigh, North Carolina), who was ultimately chosen for the job due to several factors – the ability to man multiple buildings at once and have a large installation team on site; the ability to design, fabricate and install zinc metal flashing details which were integral to the wall system application; knowledge and experience and their ability to meet the budget.

Ludowici's and Terreal North America's technical departments worked hard with local code officials on the testing and approval for the roof and cladding portions of the project. Ludowici was able to show conformance with the New Jersey 100 mph wind resistance requirement for this project. Farabaugh Engineering and Testing completed ASTM E330 testing on the NeXclad wall tiles in November of 2011 for use over plywood and a nailable cement board, Armoroc.

Once the installation and code hurdles were cleared, Ludowici worked with the architect and team on the final details. After an extensive color development and selection process that included many rounds of review with Ludowici's expert ceramics team and creation of on-site blend mock-ups, the result was a beautiful, subtle, custom color blend for the project.

RESULTS

The resulting complex is a gorgeous addition to the Princeton University campus. The team achieved their goal of minimizing the impact on the surrounding old-growth forest and creating a sustainable, vibrant and active graduate community for their students while honoring the heritage of the University. Terreal North America is proud to have been a part of the team that brought this 384,000 square foot project to life.

FOR MORE INFORMATION:

NEXCLAD: http://www.terrealna.com/products/nexclad/ | LUDOSLATE: http://www.ludowici.com/products/roof-tile/slate-tile/ludoslate/