



Roofing and Building Preservation



Alternative Energy



Remote Energy Management



HVAC

Sustainable Solutions, Built for Life



The Living Laboratory - Pittsburgh, Pennsylvania



Research projects are a part of college academic life, but imagine having a project come to life allowing researchers to record living data and witness the results first-hand.

That's exactly what students at Carnegie Mellon University in

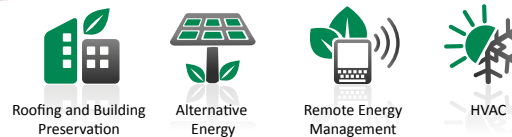
Pittsburgh, Pennsylvania have experienced since 2005 when the university installed its first living roof on the south wing of Hamerschlag Hall, an historic building on campus.

Carnegie Mellon, through the leadership of its Green Practices Committee (www.greenpractices.org) working in collaboration with the Design and Construction group, committed to implementing a living roof as part of the university's green initiatives. The plan included outfitting both a vegetated green roof and nearby control roof with integrated monitoring equipment to allow comprehensive evaluation of green roof performance with respect to stormwater flow and quality, energy use within the building, and the urban heat island effect.



When Carnegie Mellon was ready to move forward, there was no other choice for a partner than the leader in roofing technology, Viridian Systems and its team of industry experts led by Tony Nista and Tim Clement, to manage the process from roof tear-off to providing the materials and installing the green roof according to a custom design.

Viridian collaborated with Carnegie Mellon in the design of the green roof, including participation of students from the schools of architecture, art and engineering, and then provided material, quality assurance, management, and supervision necessary to complete all phases to ensure quality, safety and sustainability for future generations. They contracted with Tuscano Maher Roofing on construction and installation, and Green Roof Services who provided the growing medium and plants, down to the specific colors of flowers selected by the collaborative design team.



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The project began by dismantling and removal of steel framing for solar collectors, followed by the tear of the existing roof and a ballasted EPDM system installed over a coal tar pitch membrane. Everything that was torn-off was recycled – from several one-ton beams that went to a local farmer to reinforce his barn, to the solar panels that went to a non-profit outfitter, nothing went to waste.

The green roof was constructed on a flat section of roof on the south wing of seven-story Hamerschlag Hall, on top of the existing concrete decking. Viridian Systems primed the concrete deck, installed a vapor retarder, insulation and roofing system, and then added the filter fabric, moisture retention medium and vegetation.

The new 4,000 square foot green roof and an existing roof on an adjacent building were fitted with instruments during

construction, the planning of which was an important part of the design effort, and data have been collected for the last two years. Initial results show the roof is enhancing the insulating performance of the roofing system, and also serving to reduce the volume and rate of stormwater runoff from the roof. Data will continue to be collected and analyzed for years to come, and will serve as the basis for student projects and professional publications pertaining to green roof performance.

Viridian worked closely with Carnegie Mellon University to meet its needs and surpass its expectations in designing a roofing system using environmentally friendly green roofing technologies. Carnegie Mellon University's living laboratory not only supports the university's research efforts but has become a national showcase for its programs.

Viridian Systems is a leading provider of quality roofing and building preservation, alternative energy, HVAC, and remote energy management solutions designed for sustainability, maximum life cycles and operational effectiveness. Backed by decades of experience, Viridian applies a unique performance-oriented approach to identify problems and provide the best solution to meet clients' needs. Many Viridian products are environmentally preferable and carry Energy Star® ratings, Cool Roof Rating Council ratings and can contribute to achieving LEED® certification. Viridian Systems is the industry benchmark for service excellence, delivering world-class **Sustainable Solutions Built for Life.**

Features

- Durable, long-lasting metal systems
- Premium waterproofing
- Energy efficient surfacing membranes
- Various roof designs for both intensive and extensive roof planting
- 20-year NDL warranty on new room system
- Sound foundation supports a variety of soil and vegetation in green roof above

Benefits

- Extends the life of the roof
- Protects roof's waterproofing elements from UV rays
- Reduces cooling and heating energy consumption
- Lowers stormwater run off
- Environmentally friendly green roofing materials
- Construction waste management

Winner of the 2006 NRCA Excellence in Design Award



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