

# THE DOANE STUART SCHOOL GREEN ROOF

## GROWING ROOTS AND GREENING ROOFS

In May of 2014, Doane Stuart began construction on a 22,000 square-foot vegetative roof.

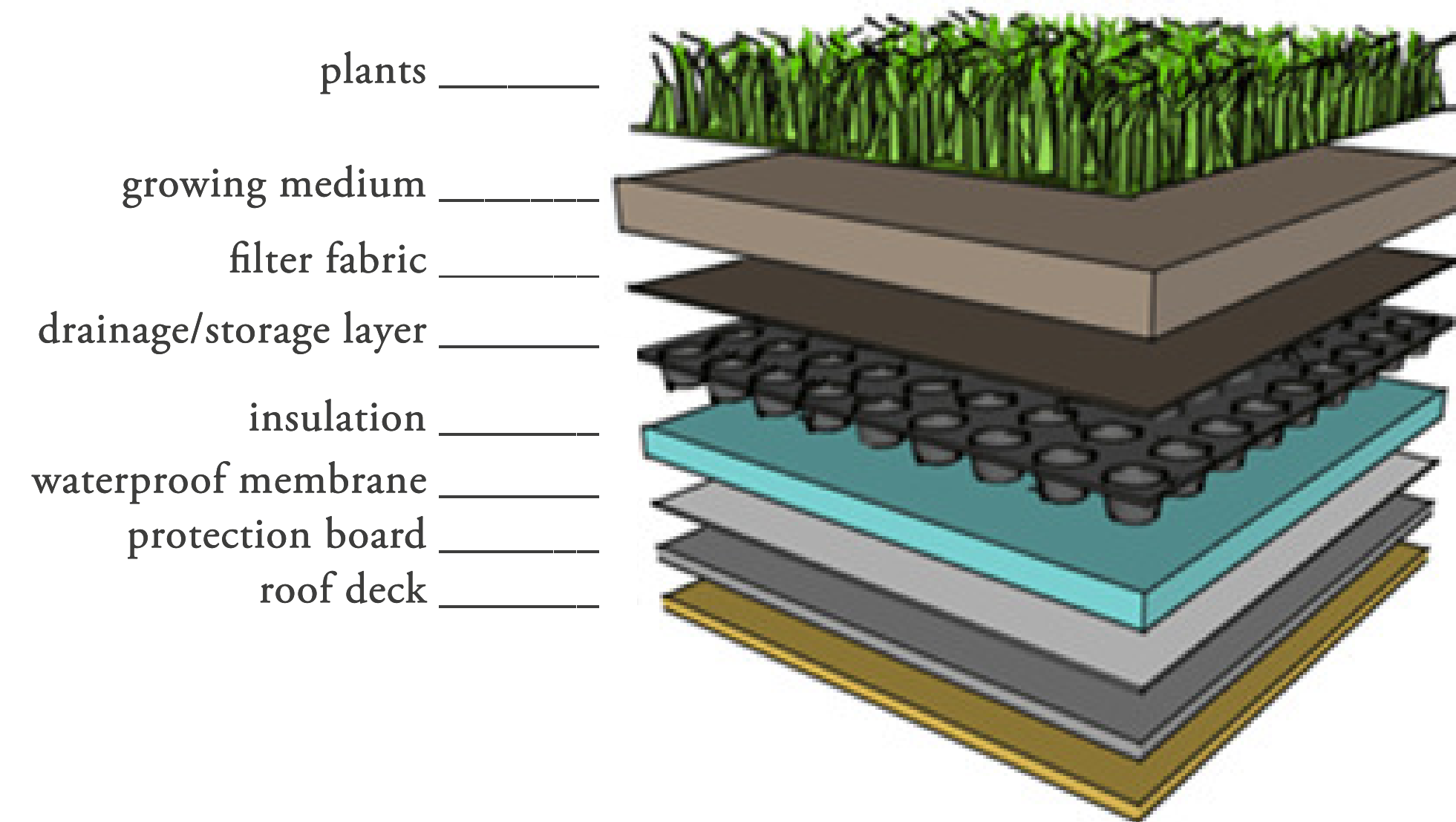
FOR A TOUR OF OUR GREEN ROOF CALL (518) 465-5222 OR EMAIL [GREENROOF@DOANESTUART.ORG](mailto:GREENROOF@DOANESTUART.ORG)

### Living Science

Our Green Roof serves as a living science lab.

During the planning stages of our roof, students in our Upper School Green Roof Class participated in discussions of the landscape design, which includes a patio, central garden, outdoor science lab, and accessible green space. Students also studied weather patterns, seed dispersal, and biodiversity to determine the types of plants and animals that could thrive on the roof.

Students in the Lower and Middle School will also benefit from the roof. Students will study plants, animals, the environment, and weather patterns. They can measure the environmental impact of the Green Roof by taking temperature readings from the classrooms below. After collecting and analyzing the readings, students can gauge the roof's impact on energy usage. Students of all ages learn to make an hypothesis, collect data, analyze results and present their findings. Doane Stuart values learning by doing, and the Green Roof is the perfect laboratory.



### Environmental Benefits:

- Reduction of storm water runoff
- Improved air and water quality
- Reduction in Urban Heat Island Effect and roof/building temperature
- New habitats for insects and wildlife, promoting biodiversity
- Specialty nectar and pollen for local pollinators
- Reduction in roof replacement waste thanks to extended roof life of 50+ years

### Benefits to Doane Stuart:

- Innovative outdoor spaces devoted to science: classroom and lab area, environmental observation areas, a growing "living lab" for all levels of scientific research and education
- New and updated insulation and roof membrane
- Reduction in long-term roofing costs due to extended roof life of 50+ years
- Newly available event space connecting to the Board Room for students, faculty, and the Doane Stuart community



## OUR ROOF - by the numbers

Our annual storm water runoff can be REDUCED  
**50-90%**

Temperature on our roof can be DECREASED by  
**80°**  
during the summer, reducing cooling costs.

Our roof can CAPTURE  
**1600 lbs.**  
of CO<sub>2</sub> annually, improving air quality.

Heat flow can be REDUCED by  
**10-30%**  
in cold climates, reducing heating costs.

**60,000**  
INDIVIDUAL plants make up our Green Roof.

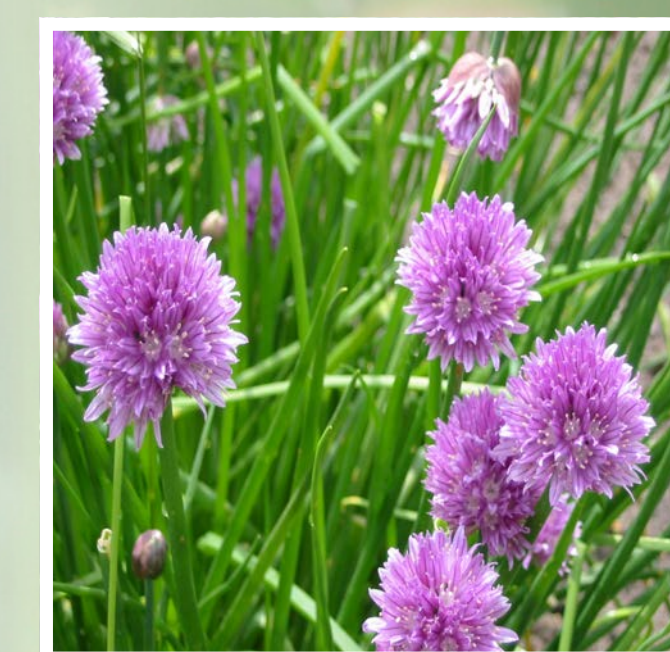
North American Native Plantings



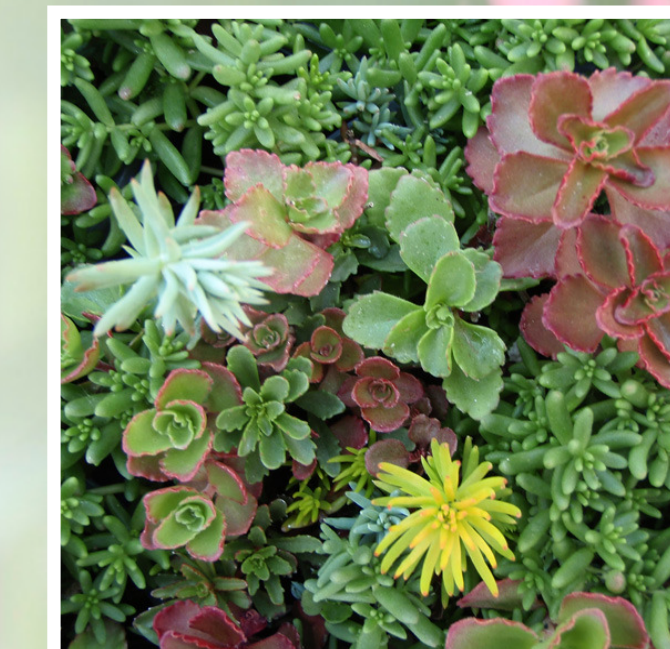
Alvar Plantings



Ornamental Plantings



Sedums



New York Native Plantings



## PLANTING SEEDS

Hardy, drought-tolerant plants are best suited for Green Roof environments because they are more equipped to handle the weather conditions that exist on a roof. These plants are typically native to seashore, alpine, and desert regions and are therefore able to survive in environments often exposed to vast amounts of sun, wind, and rain.

The vegetation on Doane Stuart's Green Roof includes 5 categories of plants, containing over 70 species and 60,000 individual plants.

Due to the artificial topography on our roof, micro-climates are also present, allowing for greater numbers of natural habitats for both flora and fauna. These artificial terrain elements are unique to Doane Stuart's roof and enhance the aesthetic of the space.

Architect: Mesick, Cohen, Wilson, Baker, Architects  
Construction Services: Sano-Rubin Construction, LLC  
Green Roof Professional: Edmund Snodgrass of Emory Knoll Farms  
Green Roof Installation: APEX Green Roofs Inc.



The Doane Stuart Green Roof Project was substantially funded by the New York State Environmental Facilities Corporation's Green Innovation Grant Program.