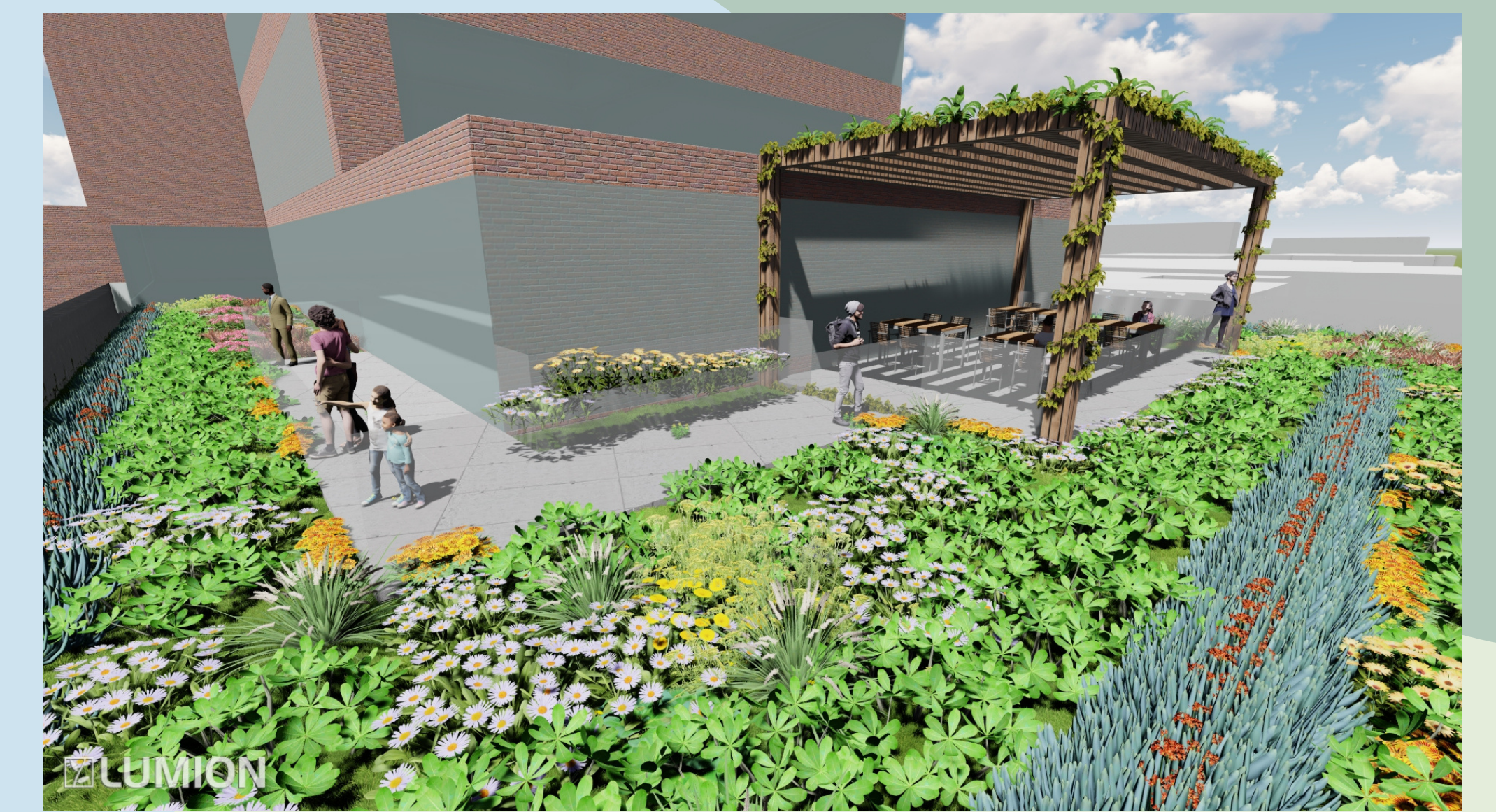




Greening the Hill: Analyzing Illuminance and Temperature on the FedEx Global Education Center's Green Roofs

Part 1 Research: 2023 Sustainable Triangle Field Site Team
Brenda Palacios Rodriguez, Brooke Kongmany, Claudia Sandoval, Sarah Dean

Future Applications

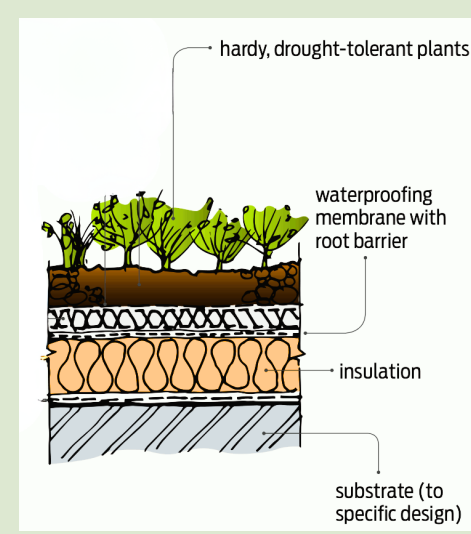


Extensive Green Roof Rendering
PortHole Alley Project

Background

We researched the FedEx extensive green roof system to evaluate the **benefits of green-space solutions** for climate & natural hazard mitigation. Our focus was on extensive green roofs known for their:

- affordability in comparison to intensive green roofs
- reduction in energy-building consumption
- stormwater retention
- urban habitat for local biodiversity



Research Focus & Methodology

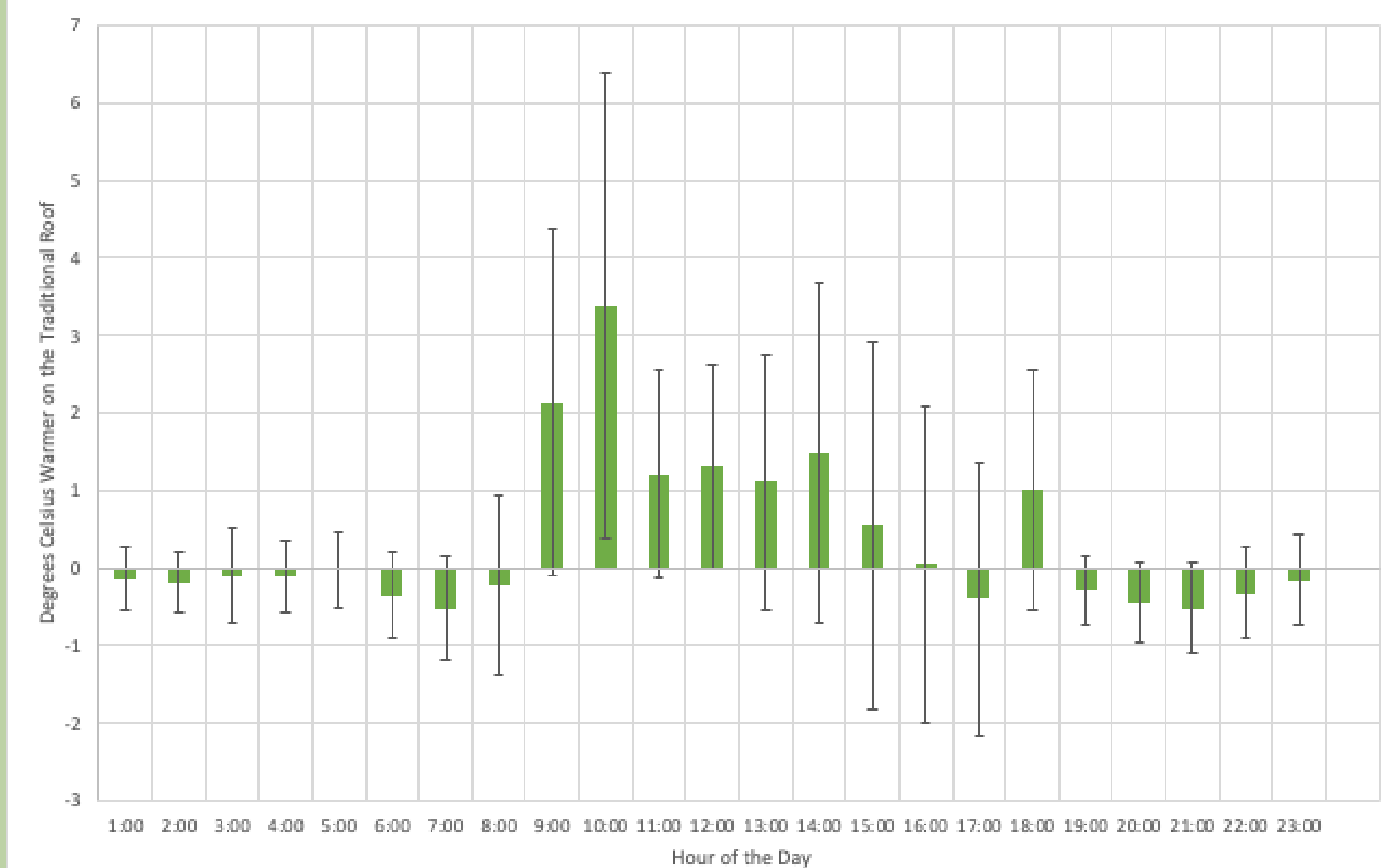
Focus: Analyze heat, illuminance, and plantlife on-site to determine extensive green roof benefits in comparison to non-green roof application

Steps:

1. Place soil and moisture HOB0 sensors on green roofs
2. Collect Data Weekly and observed details
3. Produce infographics and apply lessons from the site to the future Porthole Alley Project

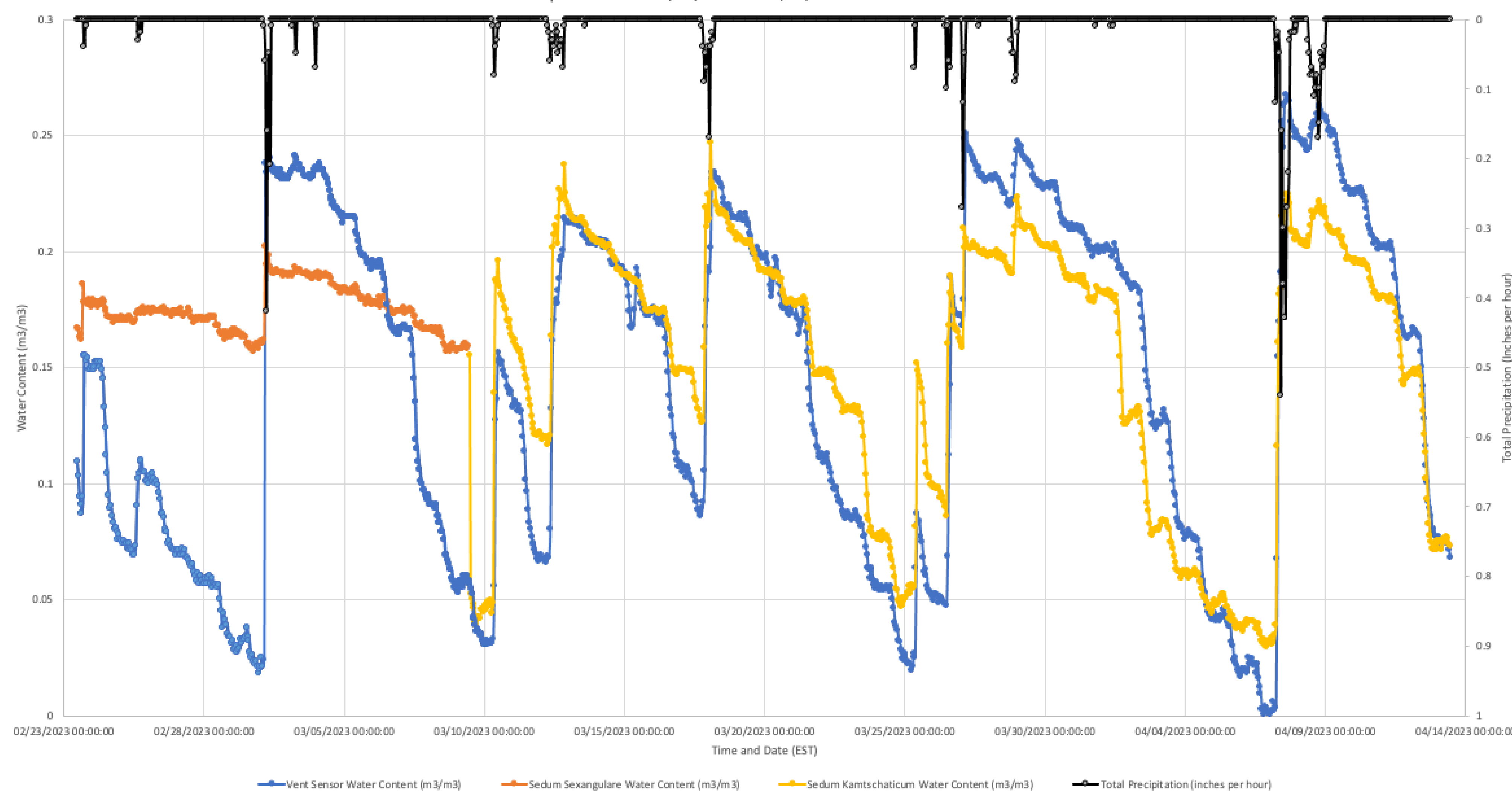
Green Roof Heat

Average Degrees Celsius Warmer on the Traditional Roof of the FedEx Global Education Center in Comparison to an Average of Green Roof Temperatures From 02/23 to 03/30



Water Absorption and Sedum Comparison

Water Content and Total Precipitation from 02/23/2023 to 04/14/2023 on FedEx Global Education Center's Green Roof



Green Roof Lux

Average Lux Difference of the Traditional Roof of the FedEx Global Education Center in Comparison to an Average of Green Roof Luxes From 02/23 to 03/16

