



# GO GREEN WITH CHATFIELD

## Benefits of Green Roofing for LL97 Compliance

### Energy Efficiency Improvements

- **Insulation:** Green roofs provide additional insulation, reducing heating needs in winter and cooling needs in summer. This leads to lower energy consumption and reduced emissions.
- **Extended Roof Lifespan:** Protects roofing membrane, reducing replacement frequency and associated carbon footprint
- **Potential for Renewable Energy Integration:** Green roofs can be combined with solar panels, further reducing reliance on grid electricity.

### Mitigating Urban Heat Island Effect/ Temperature Regulation

- **Cooling Urban Areas:** Urban areas often experience higher temperatures due to heat absorption by buildings and pavement. Green roofs help mitigate the urban heat island effect by cooling the surrounding air, which can lower the overall temperature of the area and reduce the demand for air conditioning.
- **Lowered Energy Demand:** As the surrounding area cools, the demand for cooling in adjacent buildings decreases, further reducing energy consumption and emissions. By reducing ambient temperatures, green roofs decrease the energy needed for cooling in the summer months.

### Stormwater Management

- **Rainwater Absorption:** Green roofs retain rainwater, reducing runoff and the burden/load on the city's stormwater system and associated energy use for water treatment

### Direct Carbon Emission Reductions

- **Natural Carbon Sequestration:** Sedum capture and store carbon dioxide. Vegetation on green roofs can absorb CO<sub>2</sub> from the atmosphere, directly reducing a building's carbon footprint.
- **Reduced HVAC Load:** Lower energy consumption leads to decreased carbon emissions
- **Peak Demand Reduction:** Lessens strain on the power grid during high-usage periods

### Improved Air Quality

- **Pollution Filtration:** Vegetation can help filter pollutants from the air, including particulate matter and CO<sub>2</sub>, improving the air quality in urban settings. Better air quality contributes to the overall health of residents, reducing respiratory illnesses and other health issues linked to pollution

### Quantifiable Benefits for LL97

- Can reduce cooling costs by 25-75% for spaces directly beneath the green roof
- Typical energy savings of 15-45% on annual energy consumption
- Potential reduction of up to 5.5 pounds of CO<sub>2</sub> per square foot of green roof annually