



# Sustainable Design Guidelines Reference Manual

For WTC Redevelopment Projects  
LMDC, PANYNJ and NYSERDA

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Cover Photo: ©2002 Christopher Small, Lamont Doherty Earth Observatory, Columbia University.  
<<http://www.ldeo.columbia.edu/~small/NYC/NYCIR.html>>

Cover Photo: Heat Island Mapping

*This infrared satellite view of Manhattan and its surrounding areas indicates zones of heat build-up, which affects human comfort, air quality and building energy loads. The darker shades of red and purple indicate higher temperatures, which are most evident in midtown and lower Manhattan. These areas stand in sharp contrast to the cooler, vegetated areas around the dense urban core of the region. The build-up of heat increases air conditioning loads, levels of pollutants and environmental stress. In contrast, parks, gardens and grasslands have lower thermal mass; thus areas of a city with more open green space have cooler microclimates.*