

An aerial photograph of Chicago, showing the city's grid pattern and the coastline of Lake Michigan. The image is used as a background for the text.

Green Infrastructure Maintenance Conference

UIUC Porous Pavement Maintenance

City of Chicago

Richard M. Daley
Mayor

David Leopold, Project Manager
Streetscape and Sustainable Design Program

Green Alley Program



- Six pilot locations, and over 150 locations citywide
- Program includes use of permeable pavements, recycled materials, high-albedo pavements, and dark-sky lighting.
- Improves stormwater management and energy use through infrastructure improvements

Wider Implementation



Ward Yard



Sidewalk Parkways



Pocket Parks



Residential Parking Lanes

Wider Implementation



Pedestrian Way



Market Plaza



Diagonal Parking



Parking/Bike Lanes

Lessons Learned

#1: Permeable pavement requires maintenance

#2: Maintenance occurs during design as well as post-construction

Lessons Learned: Design

- Ratio of permeable to impermeable



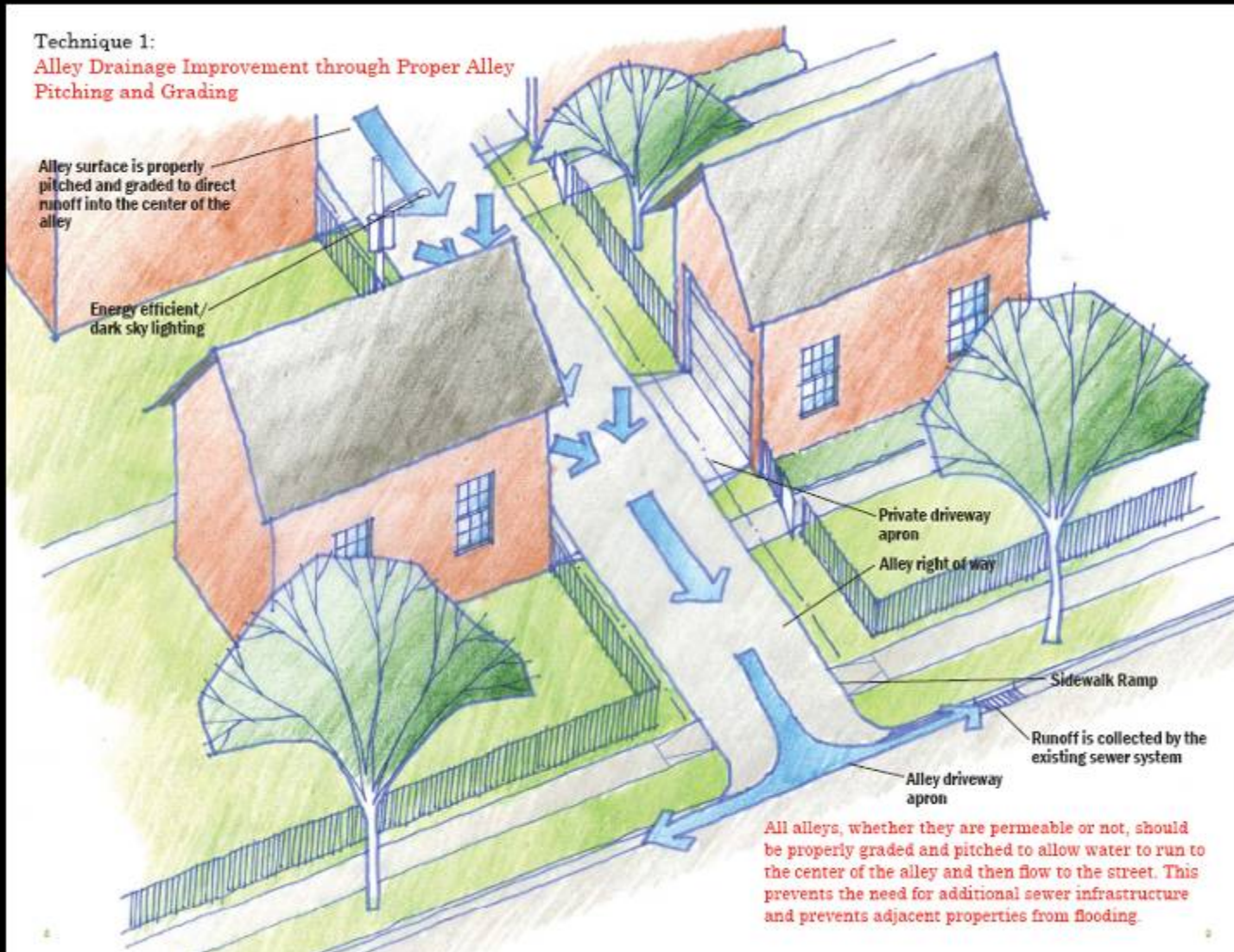
Center Trench
Design



Full Width Design

Lessons Learned: Design

- Ensure overflow for surface runoff



Lessons Learned: Post-Construction Green Alleys



Eagle



Power
Washing



Tymco



Pelican



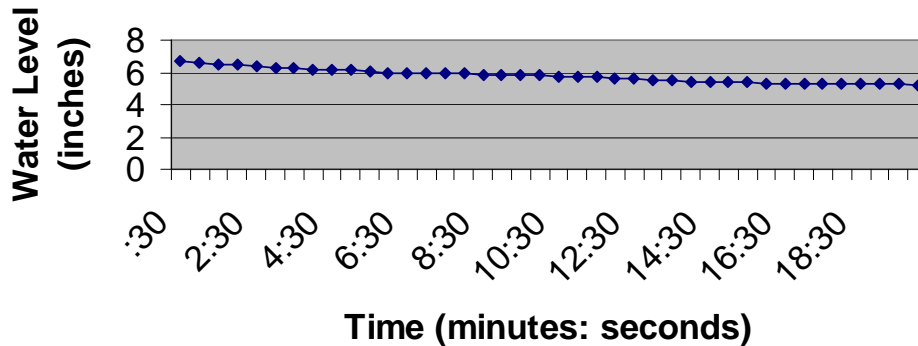
Johnston



Little
Wonder

Green Alley Maintenance Monitoring

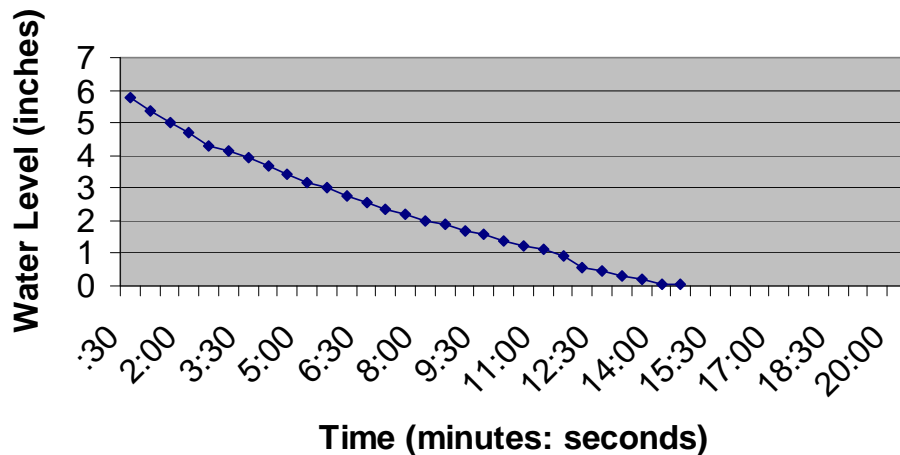
**Before Cleaning:
Glenwood North Leg**



**23%
Improvement**



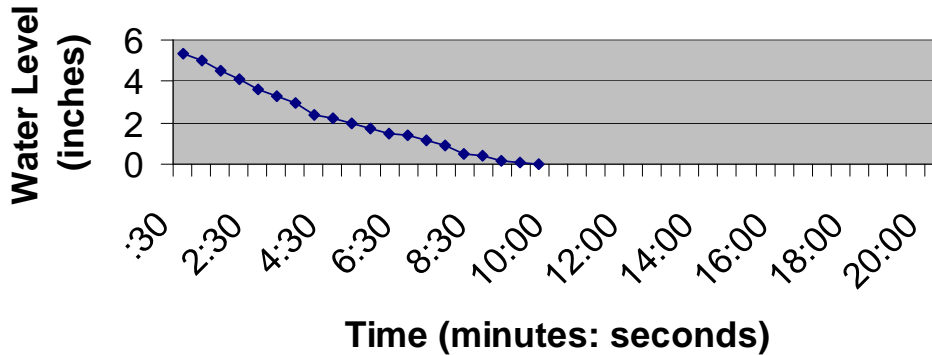
**After Cleaning:
Glenwood North Leg**



- Pavement Cores
- Infiltration Testing of Pavement and Subbase

Green Alley Maintenance Monitoring

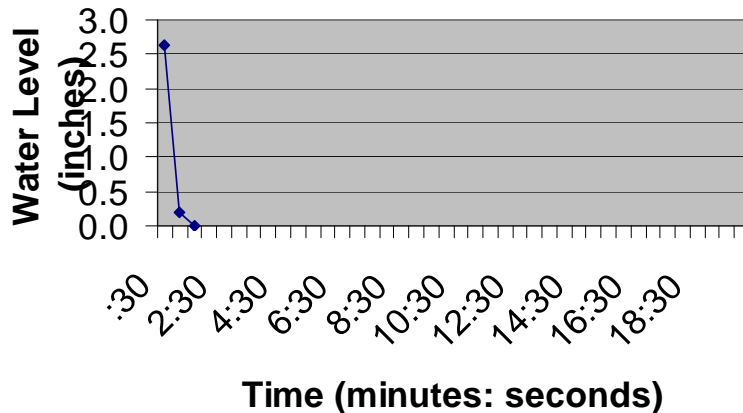
**Before Cleaning:
Catalpa "New" Section**



**89%
Improvement**



**After Cleaning:
Catalpa "New" Section**



- Pavement Cores
- Infiltration Testing of Pavement and Subbase

Green Alley Maintenance Protocol

Chicago Green Alley Sweeping Procedures



1- Identify Alley by Green Alley Stamp in Apron



2- No Spray



3- Low Speed



4- Double Pass with Brushes Positioned over Permeable Pavement

Chicago Green Alley Design Types



Permeable Concrete Center Trench in Concrete or Asphalt Alley



Full Width Permeable Concrete, Asphalt, or Brick Paver Alley



Permeable Pavement Maintenance Summary

Design

- Ensure overflow for surface runoff
- Ratio of permeable to impermeable

Post Construction

- Ensure maintenance frequency
- Be aware of runoff within the catchment area or from adjacent properties