Using Green Infrastructure for Economic and Environmental Revitalization
Or... A Tale of Two Cities

- Carbon Cliff, IL
- West Union, IA
Carbon Cliff Permeable Streets
Green Infrastructure for Revitalization

CONSERVATION DESIGN FORUM
Green Infrastructure for Revitalization

CONSERVATION DESIGN FORUM
Josey Heights
Milwaukee, WI
Porous Pavement: Infiltration (Retention) and Detention Capacity

Detention Volume

Retention Volume

Green Infrastructure for Revitalization

CONSERVATION DESIGN FORUM
100-Year Event

POND ELEVATION
572.92
573.31

Permeable Paving Flows
Storm Sewer Flows

21.6 CFS
64.4 CFS

48.5 CFS
103.5 CFS

40.2 CFS
79.3 CFS

13.4 CFS
42.3 CFS

3.1 CFS
9.3 CFS

6th STREET
5th STREET
4th STREET
3rd STREET
2nd STREET
1st STREET
STATE STREET
40’ Right of Way Street
Jay St. & Lily Ave.
48’ & 50’ Right of Way Street
Sinclair, State, Denhardt, 4th, 5th, & 6th
60’ & 66’ Right of Way Street
1st, 2nd 3rd St. & 1st Ave.
Street View Character - 48/50/60/66’ Right-of-Way Streets

Existing Conditions
Street View Character - 48/50/60/66’ Right-of-Way Streets
Proposed Alternate 1
Street View Character - 48/50/60/66’ Right-of-Way Streets
Proposed Alternate 2: perennial edge
Street View Character - 48/50/60/66’ Right-of-Way Streets
Proposed Alternate 2: turf edge
<table>
<thead>
<tr>
<th>Year</th>
<th>Population</th>
<th>Equalized Assessed Valuation</th>
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<tbody>
<tr>
<td>1980</td>
<td>1,578</td>
<td>$5,169,832.00</td>
</tr>
<tr>
<td>1990</td>
<td>1,492</td>
<td>$11,716,490.00</td>
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<td>2000</td>
<td>1,689</td>
<td>$14,706,762.00</td>
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<td>2010</td>
<td>2,134</td>
<td>$24,138,135.00</td>
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TIMELINE

- 12/31/1986 – Adopted Tax Increment Financing # 1
- 1988 – Adopted Tax Increment Financing # 2
- 1997 – Start Discussion Of Downtown Drainage
  - Streets
  - Sidewalks
  - Storm Sewers
  - Improvements To Pond
- 2002 – Adopt Ordinance Establishing Hotel Accommodation Tax (5%)
- 2003 – Pass Referendum Establishing 0.5% Non-Home Rule Sales Tax
  - Topography Survey
  - Preliminary Design
  - Final Design & Plans, Phase 1
  - Bid Letting
  - Construction Services
Statutory Debt Limit
( 8.625% of E.A.V. )

2004 E.A.V. $11,716,490.00
S.D.L. $1,010,547.00
TIMELINE (CONT.)

• 2006 – Pass Home Rule Referendum
  • Background Analysis And Base Map
  • Intended Outcome Meeting
  • Plan Review & Recommended Design Solutions
  • Draft and Final Reports
• 2011 – Adopt Ordinance Instituting Home Rule MFT
  • ( 0.01¢ Per Gallon )
FINANCING

- Illinois Jobs Now! Capital Bill Program
  MFT Emergency Road Repair $400,000.00

- 319 EPA Grant (Permeable Streets, Best Management Practices Have Been Installed To Improve The Water Quality of the Rock River Watershed)
  Grant $732,200.00
  Match $599,920.00
  Total $1,333,120.00

  Non Home Rule Sales Tax $71,000.00
  Hotel Accommodation Tax $40,000.00
  T.I.F. # 1 $160,000.00
  T.I.F. # 2 $377,156.00
  T.I.F. # 2 (319 Grant Match) $599,920.00
Green Infrastructure for Revitalization

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CONSERVATION DESIGN FORUM
area of permeable paving: 57,000 sf
length of infiltration channel: 3,400 ft
West Union – Iowa’s Green Street Pilot Project

Green Pilot Streetscape Project
A Sustainable Vision for West Union

The City of West Union
Main Street West Union
Iowa Department of Economic Development
HISTORIC BRICK PAVERS beneath the street will be salvaged and re-used in key locations like the intersections.

RAIN GARDENS along the street will detain and treat stormwater runoff and will provide colorful plantings with year-round interest.

STREET TREES will be added to frame pedestrian spaces and shade buildings and sidewalks.

PERMEABLE UNIT PAVING in the street and sidewalk will filter stormwater and reduce runoff rates and volumes.

IOWA GREEN STREETS PILOT PROJECT - WEST UNION
Green Infrastructure for Revitalization

Conservation Design Forum

Charles City, Iowa
Green Infrastructure for Revitalization

Oelwein, Iowa
Stormwater Materials

Street Permeable Paver: *Eco-Optilock*

Sidewalk Permeable Paver: *Eco-Prioria*

Bioretention Areas
Street Section

Green Infrastructure for Revitalization

ConsenSation Design Forum
Green Infrastructure for Revitalization

CONSERVATION DESIGN FORUM
## Summary of Results

<table>
<thead>
<tr>
<th>Threshold Event</th>
<th>Pre-Project</th>
<th>Post-Project</th>
<th>% Reduction</th>
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<tbody>
<tr>
<td><strong>Threshold Event</strong></td>
<td>0.05&quot;</td>
<td>1&quot;</td>
<td>-</td>
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<tr>
<td><strong>2-Year Event (2.91&quot; rain)</strong></td>
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<td></td>
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<tr>
<td>Runoff Volume (inches)</td>
<td>2.2</td>
<td>1.38</td>
<td>37%</td>
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<tr>
<td>Peak Flow (cfs)</td>
<td>19.2</td>
<td>3.8</td>
<td>80%</td>
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<tr>
<td><strong>10-Year Event (4.31&quot; rain)</strong></td>
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<td></td>
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<tr>
<td>Runoff Volume (inches)</td>
<td>3.49</td>
<td>2.53</td>
<td>28%</td>
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<tr>
<td>Peak Flow (cfs)</td>
<td>29.8</td>
<td>5.8</td>
<td>81%</td>
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<td><strong>100-Year Event (6.36&quot; rain)</strong></td>
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<tr>
<td>Runoff Volume (inches)</td>
<td>5.44</td>
<td>4.35</td>
<td>20%</td>
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<tr>
<td>Peak Flow (cfs)</td>
<td>45.8</td>
<td>8.3</td>
<td>82%</td>
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