Project Background

Initiated by HUD grant related to April 2013 flood event

Project location
Challenge

Objectives

Reduce basement flooding risk by activating city-owned, vacant lots

Create beautiful public spaces that can be maintained by local stewards

Design and construct in 2017
Approach

Choose sites with best opportunity to reduce basement flooding

Green Infrastructure

Underground Storage

Bring water from the ROW into sites
Resilient Corridors

3 corridors
10 project areas
23 parcels
## Chicago Avenue

27th Ward

<table>
<thead>
<tr>
<th>Site #</th>
<th>Community Group</th>
<th>Complimentary Projects</th>
<th>Brief Description</th>
<th>Stormwater Approach</th>
</tr>
</thead>
<tbody>
<tr>
<td>1a</td>
<td>Kelly YMCA &amp; Franciscan Brothers</td>
<td>New youth and senior programming</td>
<td>Multi-use permeable hardscape</td>
<td>Alley capture and detention with slow release to sewer system</td>
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<tr>
<td>1b</td>
<td>Kelly YMCA &amp; Franciscan Brothers</td>
<td>New youth and senior programming</td>
<td>Multi-use permeable hardscape and vegetable garden</td>
<td>Zero discharge site</td>
</tr>
<tr>
<td>02</td>
<td>West Humboldt Development Council</td>
<td>Future CPD skatepark</td>
<td>Gateway to future skatepark</td>
<td>Zero discharge site</td>
</tr>
</tbody>
</table>
STORMWATER APPROACH
Alley capture and detention with slow release to sewer system

Permeable Pavement
Substitute impermeable pavement with permeable pavers or asphalt to allow water to soak into stone below the surface. Then water in the stone can either infiltrate into the ground or slowly release water to city sewers.

Trees & Plantings
Install trees, shrubs and naturalized plants to increase evaporative surface area, stabilize soils and promote infiltration.

Raised Beds
Build raised beds with stone below the surface. Water that lands on the raised beds will drain through the soil into the stone layer and then infiltrate into the ground.

LEGEND
- BMP Area- Permeable Surface with Storage Below
- Street or Alley Capture
- Underground Drainage Flow (Pipes)
- Overland Flow

01 CHICAGO AND HAMLIN
Basement Flooding
Basement Flooding
Chicago Avenue & S Hamlin Avenue
STORMWATER APPROACH

Zero discharge site (no water taken in from the street)

Permeable Pavement

Substitute impermeable pavement with permeable pavers or asphalt to allow water to soak into stone below the surface. Then water in the stone can either infiltrate into the ground or slowly release water to city sewers.

Trees & Plantings

Install trees, shrubs and naturalized plants to increase evaporative surface area, stabilize soils and promote infiltration.

Rain Garden

Depress an area of the site and plant natives to allow water to store on the surface and soak into the stone below the surface. Then water in the stone can either infiltrate into the ground or slowly release water to the city sewers.

LEGEND

- BMP Area- Permeable Surface with Storage Below
- Street or Alley Capture
- Underground Drainage Flow (Pipes)
- Overland Flow

02 CHICAGO MID BLOCK
<table>
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<tr>
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<tr>
<td>03</td>
<td>Gardeneers</td>
<td>Youth training and education about edible trees and shrubs</td>
<td>Landscape and edge treatment</td>
<td>Stormwater capture, storage and slow release to sewer system</td>
</tr>
<tr>
<td>04-06</td>
<td>MLK Bloom Gardens</td>
<td>Youth training and education about edible trees and shrubs</td>
<td>Streetscape passive garden and adventure play</td>
<td>Downspout disconnection and passive alley runoff capture</td>
</tr>
<tr>
<td>07</td>
<td>Delkar Pharmacy non-profit</td>
<td>New restaurant and hair salon</td>
<td>Community gathering flex space</td>
<td>Stormwater storage for onsite runoff with restricted discharge</td>
</tr>
</tbody>
</table>
STORMWATER APPROACH

Stormwater street capture, storage, and slow release into the sewer system

Rain water is absorbed in gently sloping areas of naturalized plantings where it collects in a decorative channel during heavy rain events. These runnels lead to underground stone aggregate storage where water can either infiltrate into the ground or slowly release water to city sewers.

Install trees, shrubs and naturalized plants to increase evaporative surface area, stabilize soils and promote infiltration.

LEGEND

- BMP Area- Permeable Surface with Storage Below
- Street or Alley Capture
- Underground Drainage Flow (Pipes)
- Overland Flow

03 16TH AND HAMLIN
16th Street & Springfield Avenue
STORMWATER APPROACH

Downspout disconnection and passive alley runoff capture

Rain water is absorbed in gently sloping areas of naturalized plantings where it collects in a decorative channel during heavy rain events. These runnels lead to underground stone aggregate storage where water can either infiltrate into the ground or slowly release water to city sewers.

Trees & Plantings

Install trees, shrubs and naturalized plants to increase evaporative surface area, stabilize soils and promote infiltration.

LEGEND

- BMP Area- Permeable Surface with Storage Below
- Street or Alley Capture
- Underground Drainage Flow (Pipes)
- Overland Flow

04-06 16TH AND HAMLIN
STORMWATER APPROACH
Stormwater storage for on-site runoff with slow release to sewer system.

Permeable Pavement
Substitute impermeable pavement with permeable pavers or asphalt to allow water to soak into stone below the surface. Then water in the stone can either infiltrate into the ground or slowly release water to city sewers.

Trees & Plantings
Install trees, shrubs and naturalized plants to increase evaporative surface area, stabilize soils and promote infiltration.

Rain Garden
Depress an area of the site and plant natives to allow water to store on the surface and soak into the stone below the surface. Then water in the stone can either infiltrate into the ground or slowly release water to the city sewers.

LEGEND
- BMP Area: Permeable Surface with Storage Below
- Street or Alley Capture
- Underground Drainage Flow (Pipes)
- Overland Flow

07 16TH AND LAWNDALE
16th Street & South Lawndale
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</thead>
<tbody>
<tr>
<td>08</td>
<td>Lawndale Christian Health Center</td>
<td>Two basketball courts with bleachers to be used for tournament and league play</td>
<td>Leisure garden adjacent to future basketball venue</td>
<td>Stormwater capture, storage, and slow release into sewer system</td>
</tr>
<tr>
<td>09</td>
<td>Lawndale Christian Health Center</td>
<td>New production garden for graduates of training garden</td>
<td>Production garden for incubator training garden</td>
<td>Stormwater capture, storage, and slow release into sewer system</td>
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<tr>
<td>10</td>
<td>Chicago Botanic Garden</td>
<td>New production garden for graduates of training garden</td>
<td>Production garden for incubator training garden</td>
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STORMWATER APPROACH
Stormwater street capture and slow release into the city sewer system.

Trees & Plantings
Install trees, shrubs and naturalized plants to increase evapotranspirative surface area, stabilize soils and promote infiltration.

Rain Garden
Depress an area of the site and plant natives to allow water to store on the surface and soak into the stone below the surface. Then water in the stone can either infiltrate into the ground or slowly release water to the city sewers.

LEGEND
- BMP Area- Permeable Surface with Storage Below
- Street or Alley Capture
- Underground Drainage Flow (Pipes)
- Overland Flow

08 OGDEN AND N. MILLARD
STORMWATER APPROACH

Stormwater capture, storage, and slow release into sewer system.

Permeable Pavement

Substitute impermeable pavement with permeable pavers or asphalt to allow water to soak into stone below the surface. Then water in the stone can either infiltrate into the ground or slowly release water to city sewers.

Trees & Plantings

Install trees, shrubs and naturalized plants to increase evaporative surface area, stabilize soils and promote infiltration.

Storm Chambers

Substitute impermeable pavement with permeable pavers to allow water to soak into stone and in open chambers below the surface. Then water in the large storage volumes can either infiltrate into the ground or slowly release water to city sewers.

LEGEND

BMP Area - Permeable Surface with Storage Below
Street or Alley Capture
Underground Drainage Flow (Pipes)
Overland Flow

09 OGDEN AND S. MILLARD
Ogden Avenue & South Millard
STORMWATER APPROACH

Street capture, storage, and slow release into sewer system

Trees & Plantings
Install trees, shrubs, and naturalized plants to increase evaporative surface area, stabilize soils, and promote infiltration.

Raised Beds
Build raised beds with stone below the surface. Water that lands on the raised beds will drain through the soil into the stone layer and then infiltrate into the ground.

LEGEND

BMP Area - Permeable Surface with Storage Below
Street or Alley Capture
Underground Drainage Flow (Pipes)
Overland Flow

10 OGDEN AND TRUMBBULL
Design Conclusions

Construction cost for building 10 project areas: $4.8 million

Community engagement

New stormwater strategies
Construction
Construction
Construction
Construction
Construction
Construction
Construction
Construction