# Resilient Corridors

January 5, 2018

CHICAGO DEPARTMENT OF
PLANNING & DEVELOPMENT

# 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

**Runnel**

**Rain Garden**

**Plaza**

**Basketball Court**

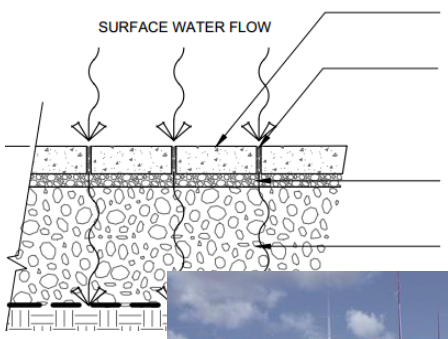
**Urban Farm**

**Choose sites with best opportunity to reduce basement flooding**

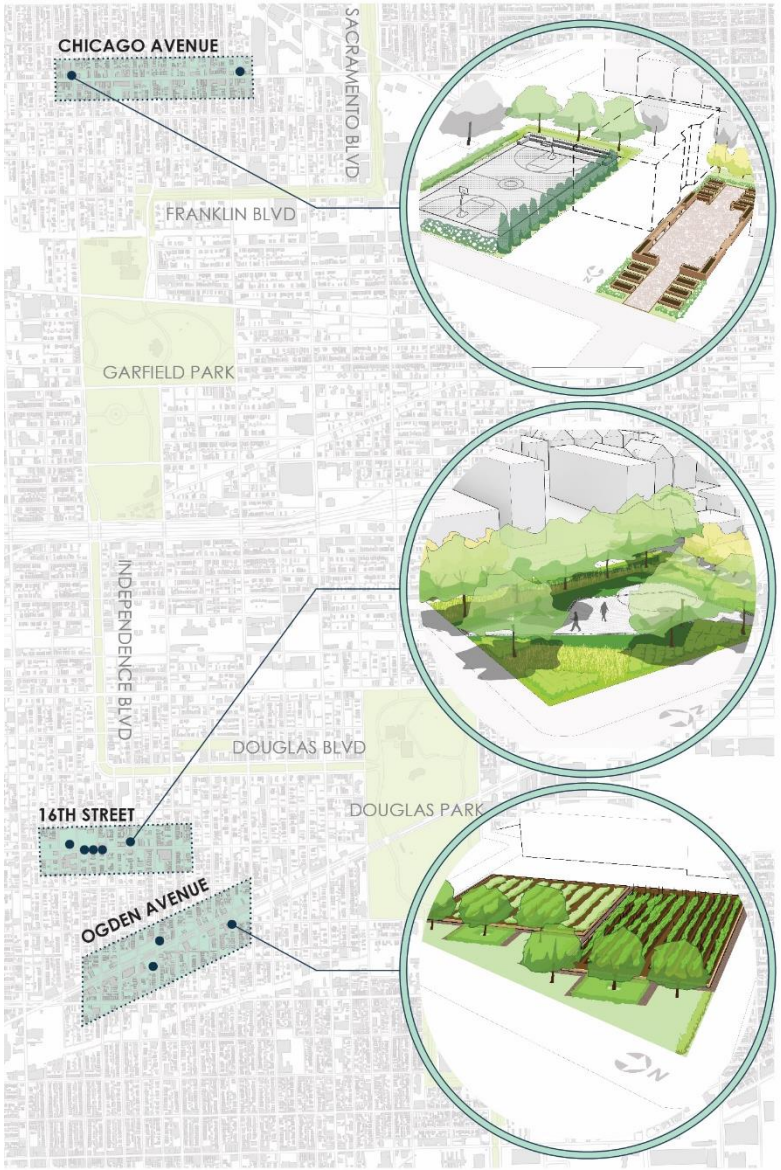
**Green Infrastructure**

**Underground Storage**

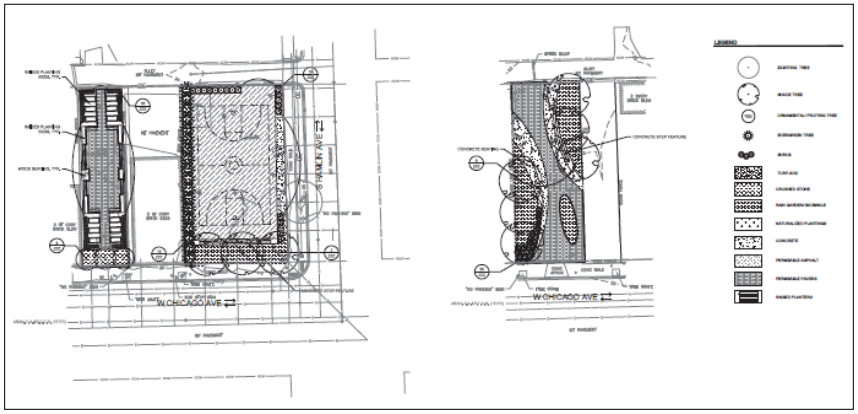
**Bring water from the ROW into sites**




# Resilient Corridors




**3 corridors**
**10 project areas**
**23 parcels**



# Chicago Avenue

27th Ward

| Site # | Community Group | Complimentary Projects | Brief Description | Stormwater Approach |
|---|---|---|---|---|
| 1a | Kelly YMCA & Franciscan Brothers | New youth and senior programming | Multi-use permeable hardscape | Alley capture and detention with slow release to sewer system |
| 1b | Kelly YMCA & Franciscan Brothers | New youth and senior programming | Multi-use permeable hardscape and vegetable garden | Zero discharge site |
| 02 | West Humboldt Development Council | Future CPD skatepark | Gateway to future skatepark | Zero discharge site |

## STORMWATER APPROACH

Alley capture and detention with slow release to sewer system

Permeable Pavement

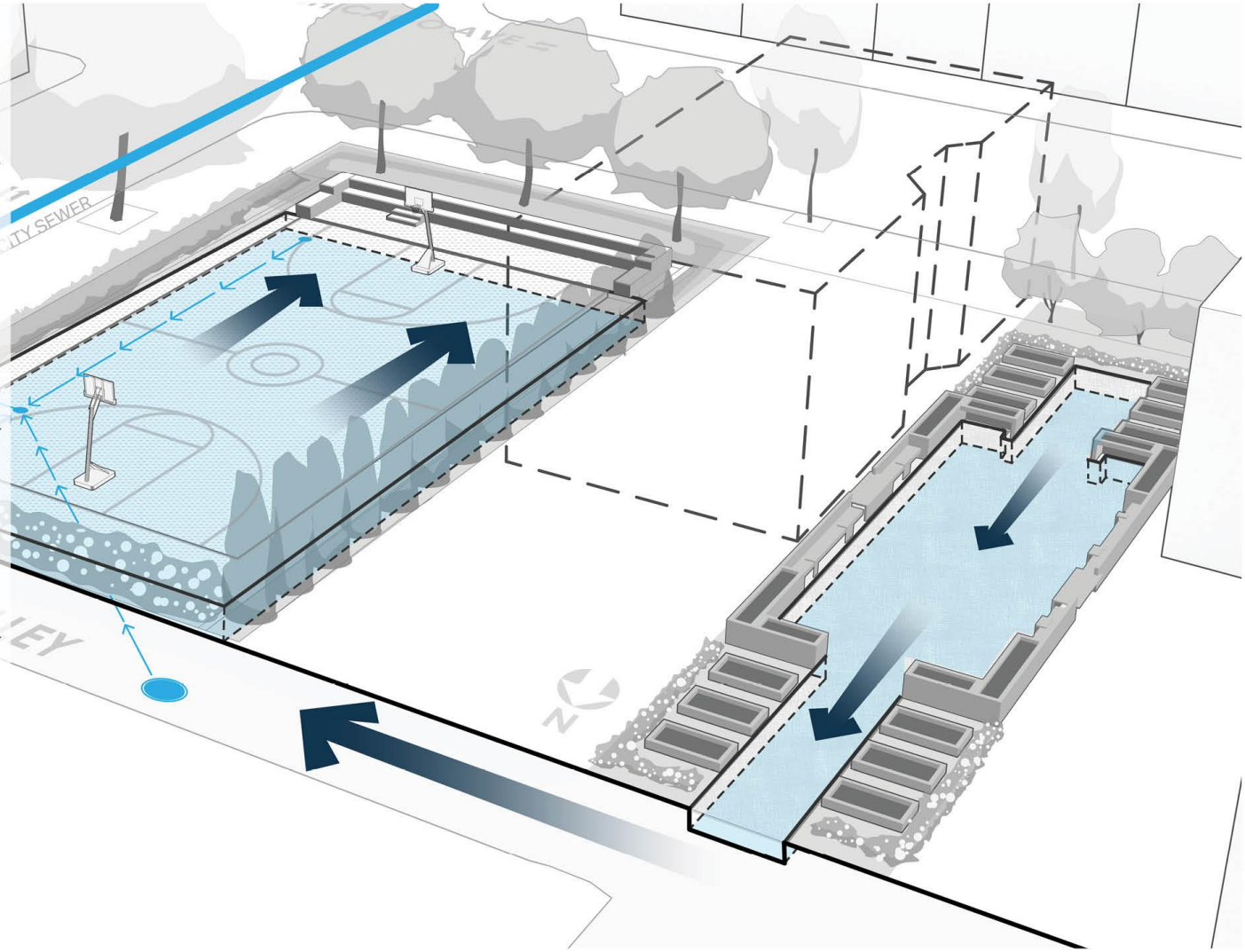
Substitute impermeable pavement with permeable pavers or asphalt to allow water to soak into stone below the surface. Then water in the stone can either infiltrate into the ground or slowly release water to city sewers.

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

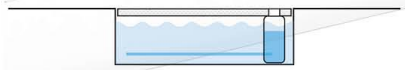
# Basement Flooding

# Chicago Avenue & S Hamlin Avenue


## STORMWATER APPROACH

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

Permeable Pavement



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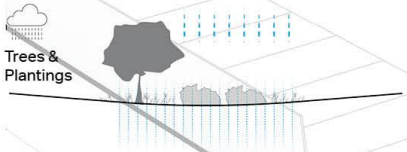
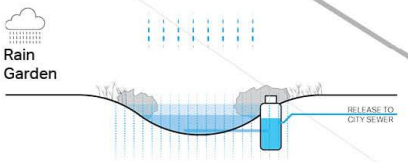
Trees & Plantings



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

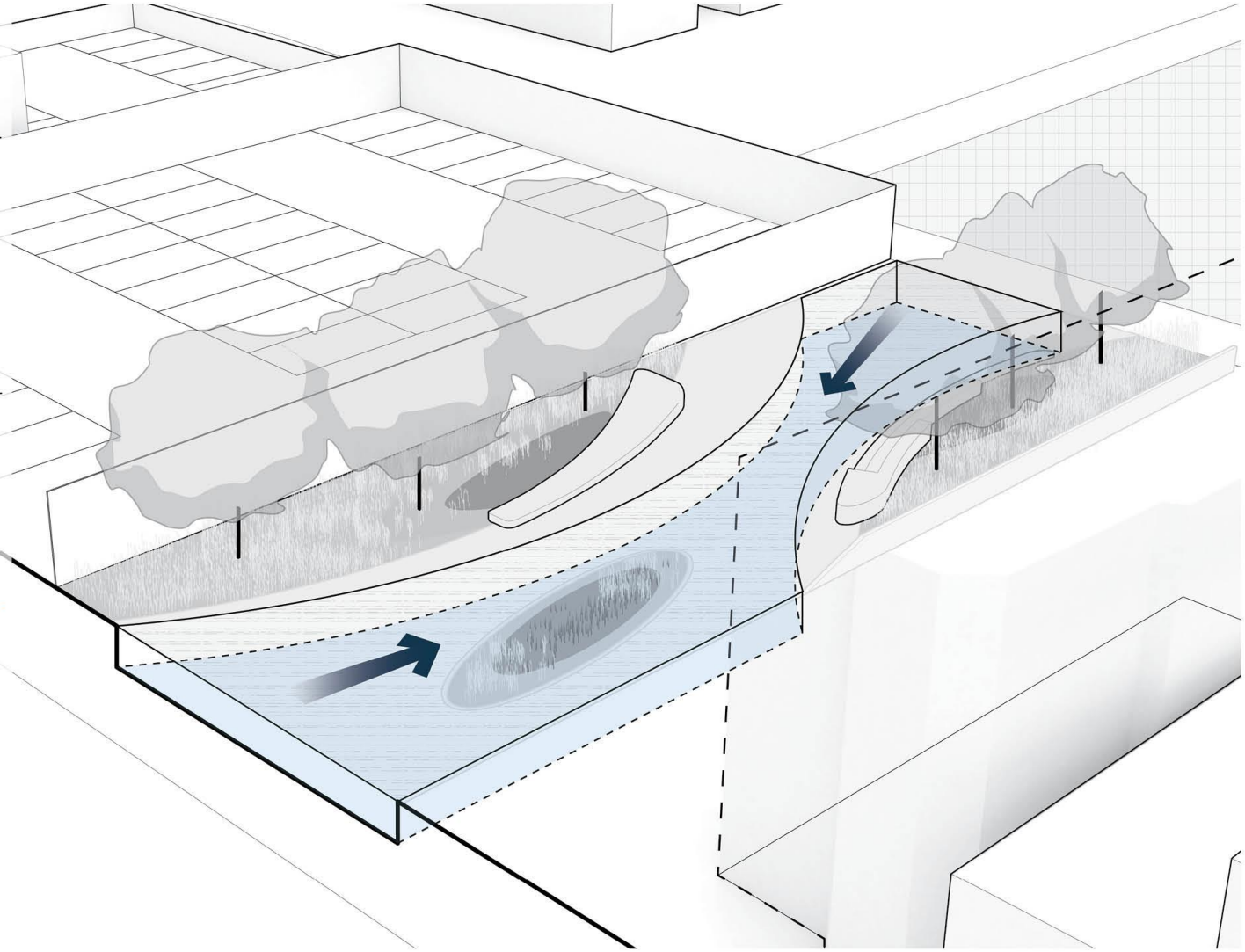
Rain Garden




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

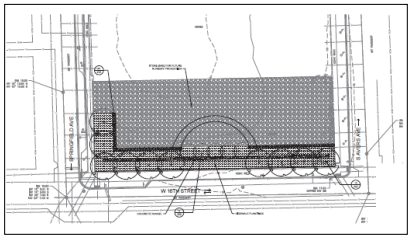


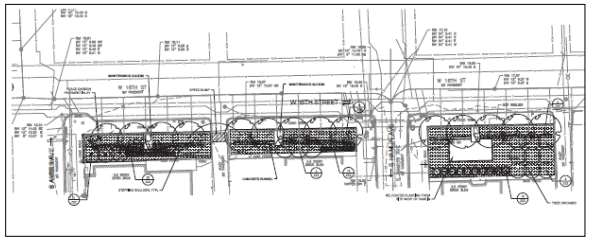
# **02** CHICAGO MID BLOCK

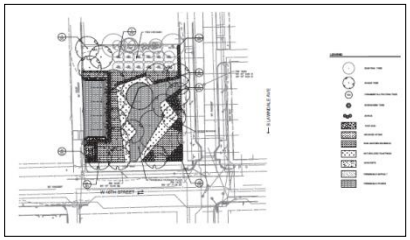
DEL KAR PHARMACY INC.

# 16th Street

24th ward



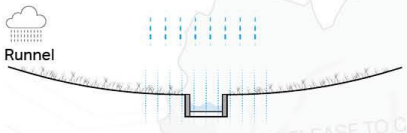




| Site # | Community Group | Complimentary Projects | Brief Description | Stormwater Approach |
|---|---|---|---|---|
| 03 | Gardeneers | Youth training and education about edible trees and shrubs | Landscape and edge treatment | Stormwater capture, storage and slow release to sewer system |
| 04-06 | MLK Bloom Gardens | Youth training and education about edible trees and shrubs | Streetscape passive garden and adventure play | Downspout disconnection and passive alley runoff capture |
| 07 | Delkar Pharmacy non-profit | New restaurant and hair salon | Community gathering flex space | Stormwater storage for onsite runoff with restricted discharge |

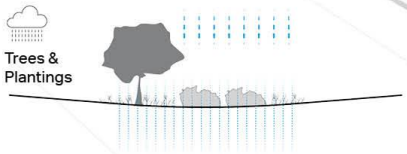
## STORMWATER APPROACH

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



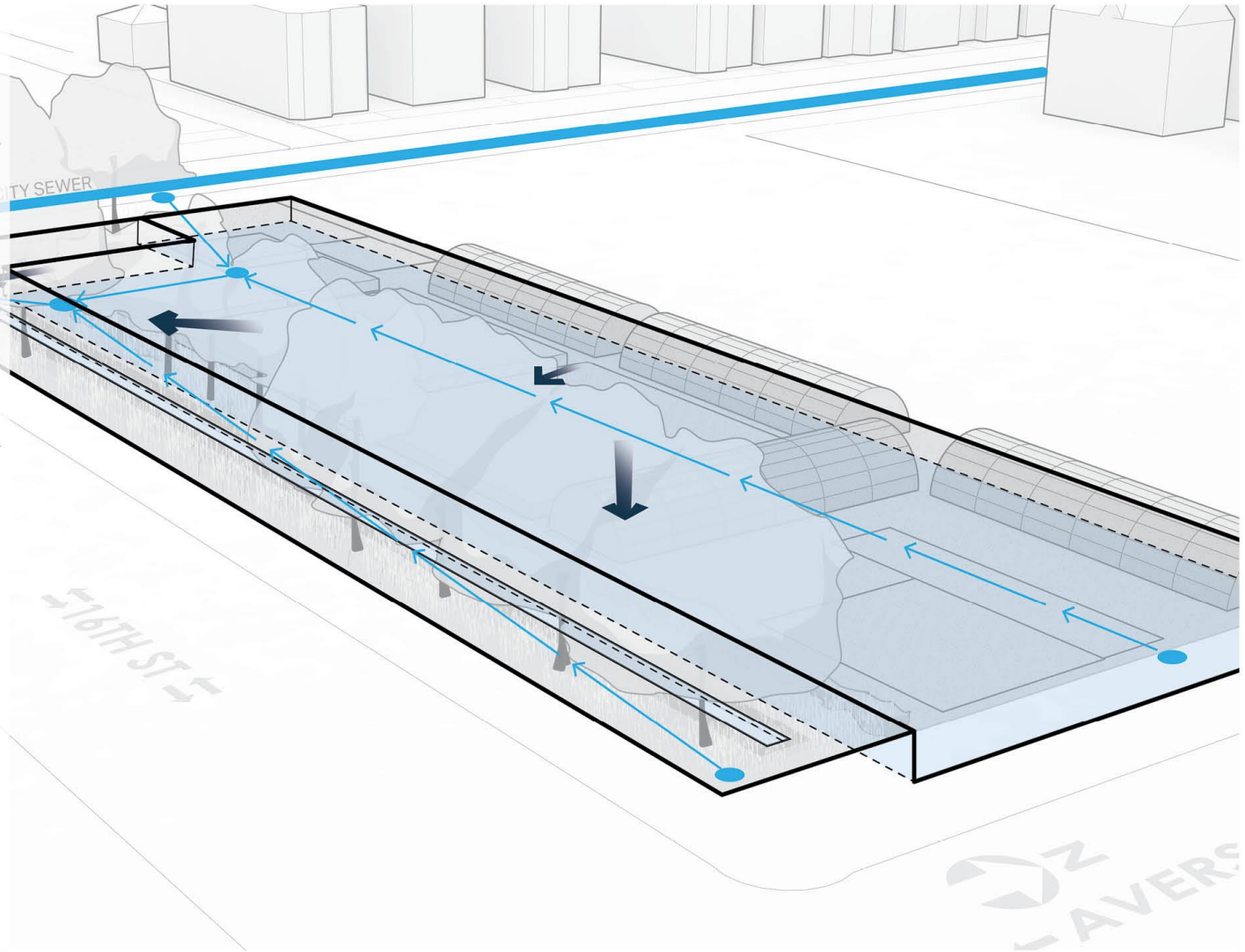
Runnel

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

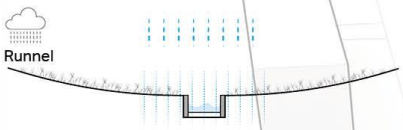
- BMP Area- Permeable Surface with Storage Below
- Street or Alley Capture
- Underground Drainage Flow (Pipes)
- Overland Flow

# 03 16TH AND HAMLIN

# 16th Street & Springfield Avenue


## STORMWATER APPROACH

Downspout disconnection and passive alley runoff capture

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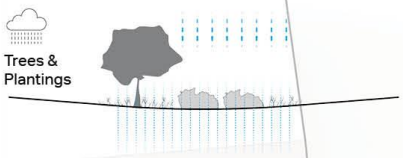
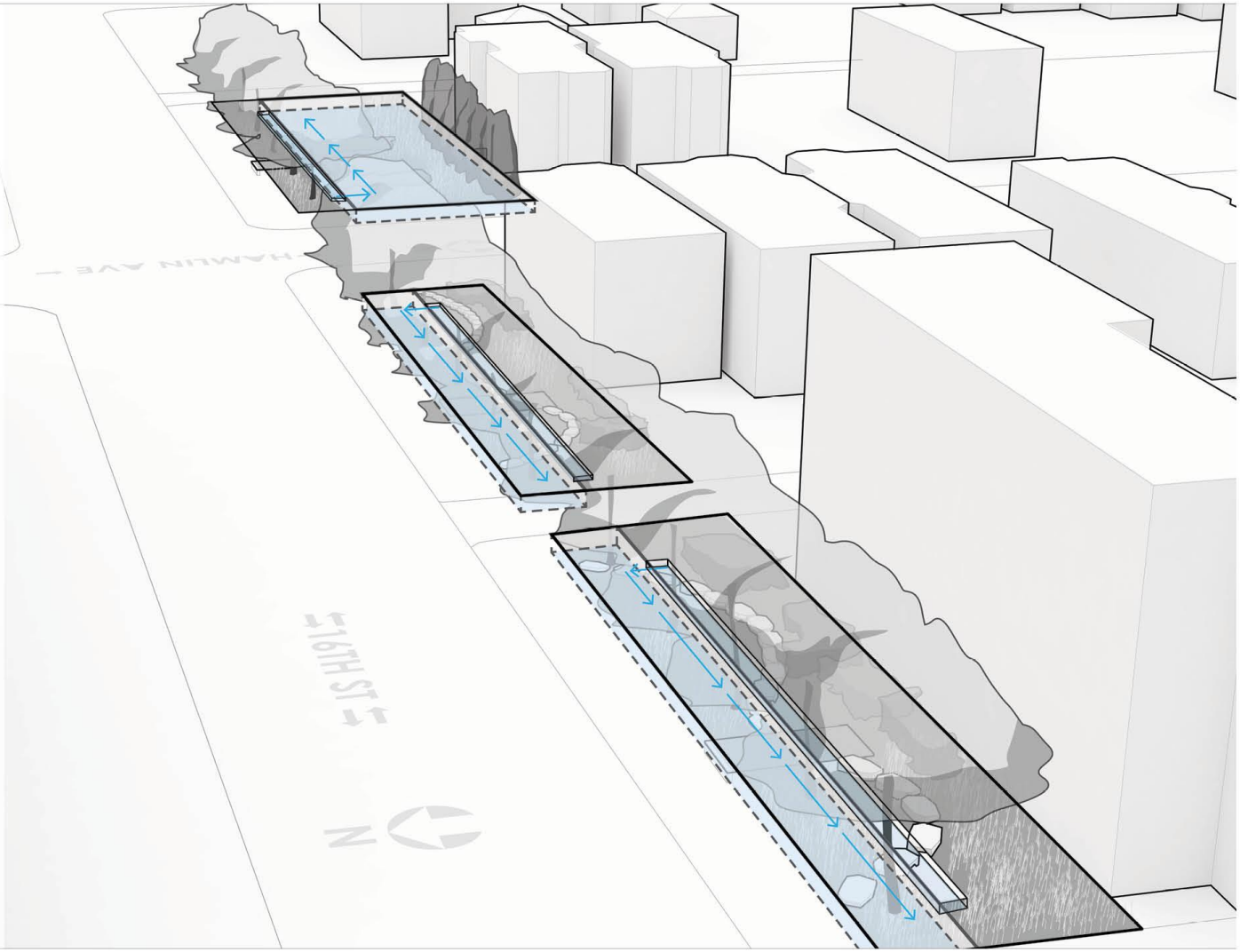



Install trees, shrubs and naturalized plants to increase evaporative surface area, stabilize soils and promote infiltration.




## 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
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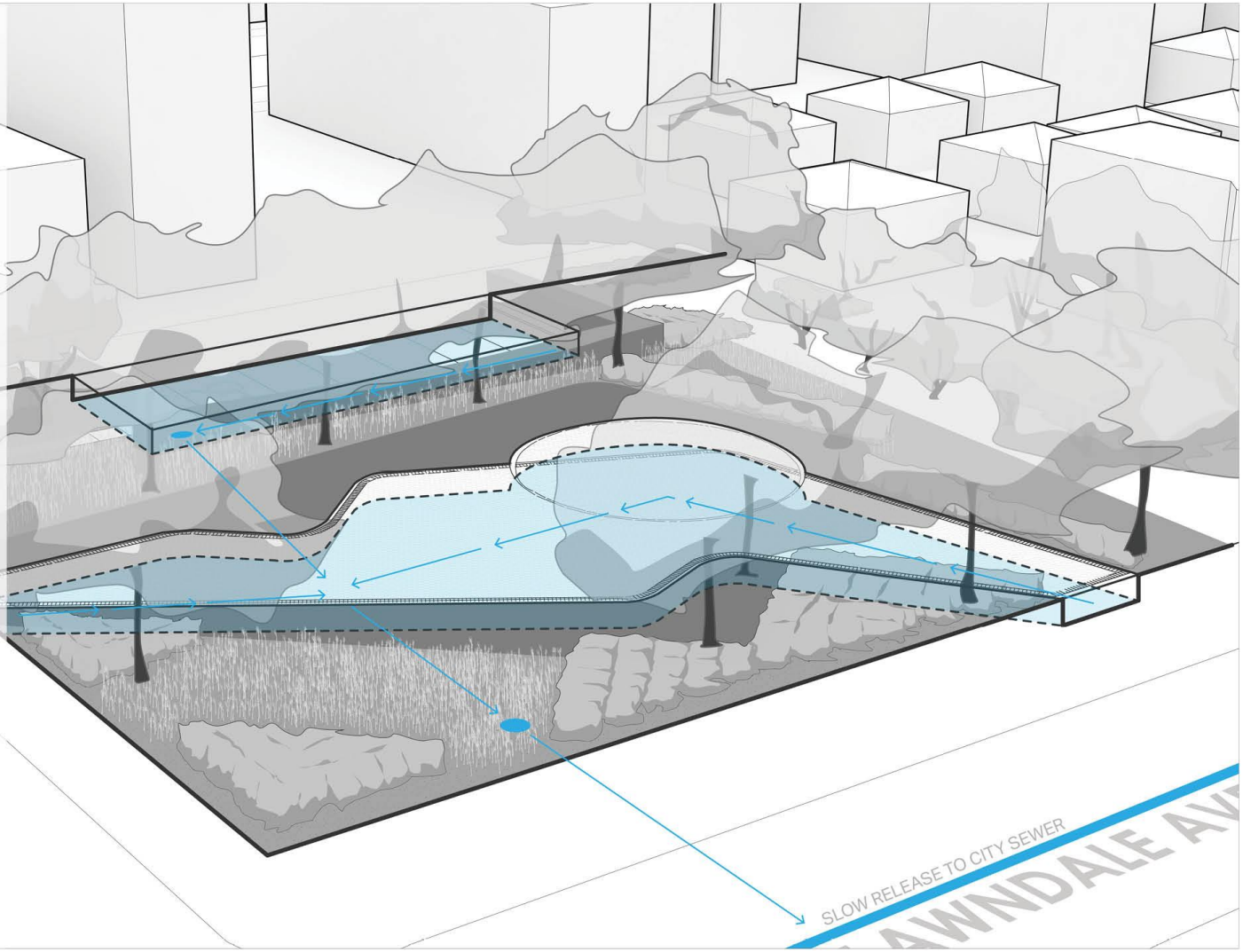
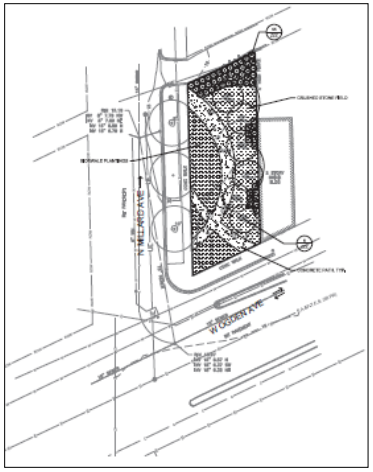


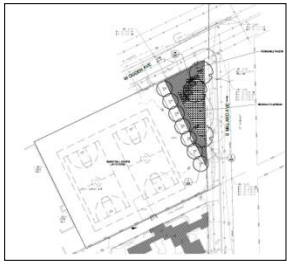

# 07 16TH AND LAWNDALE

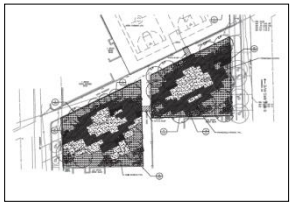
# 16th Street & South Lawndale

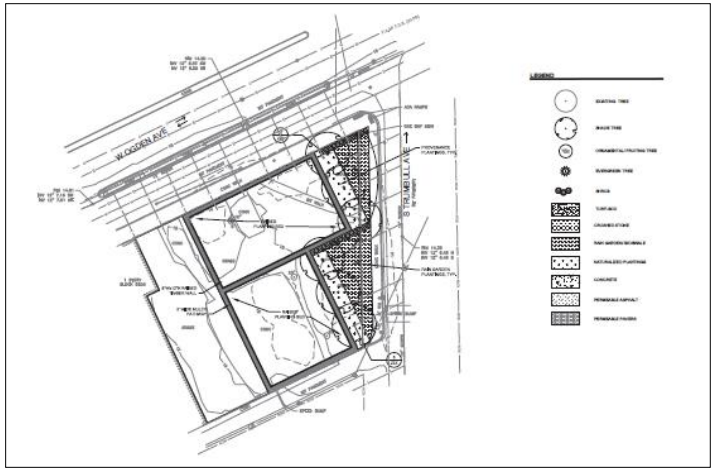

LAWNDALE CHRISTIAN HEALTH CENTER
Loving God. Loving People.

CHICAGO BOTANIC GARDEN









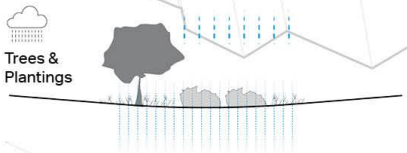

# Ogden Avenue

24th Ward

| Site # | Community Group | Complimentary Projects | Brief Description | Stormwater Approach |
|---|---|---|---|---|
| 08 | Lawndale Christian Health Center | | Passive garden and block gateway | Stormwater landscape feature with stormwater capture |
| 09 | Lawndale Christian Health Center | Two basketball courts with bleachers to be used for tournament and league play | Leisure garden adjacent to future basketball venue | Stormwater capture, storage, and slow release into sewer system |
| 10 | Chicago Botanic Garden | New production garden for graduates of training garden | Production garden for incubator training garden | Stormwater capture, storage, and slow release into sewer system |

## STORMWATER APPROACH

Stormwater street capture and slow release into the city sewer system.



Trees & Plantings

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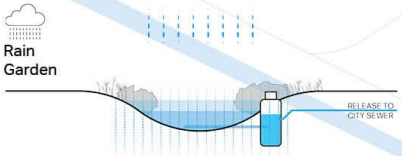


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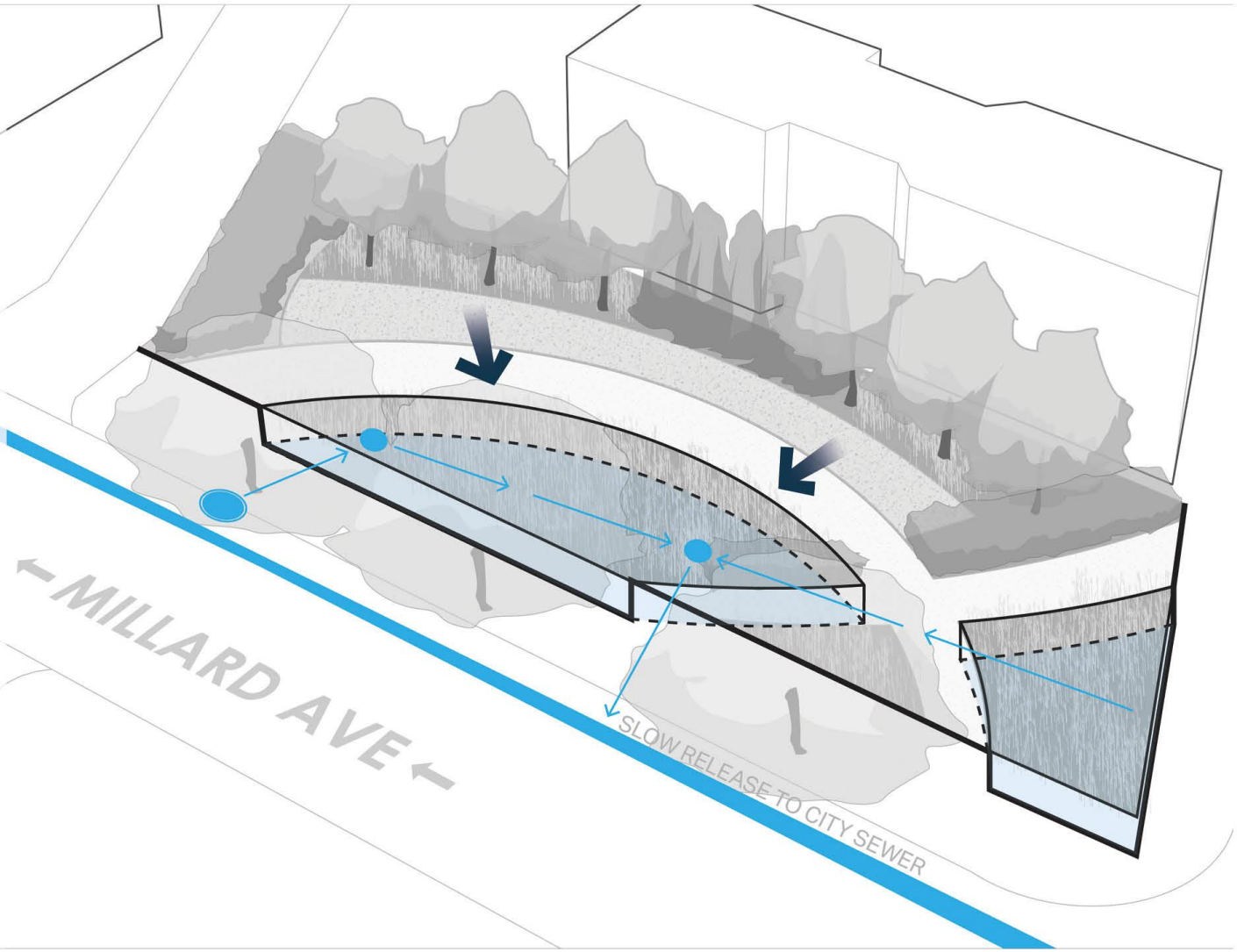



### LEGEND

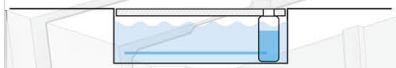
- BMP Area- Permeable Surface with Storage Below
- Street or Alley Capture
- Underground Drainage Flow (Pipes)
- Overland Flow

# 08 OGDEN AND N. MILLARD

## STORMWATER APPROACH

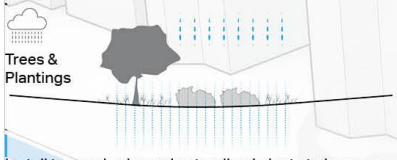
Stormwater capture, storage, and slow release into sewer system.

Permeable Pavement



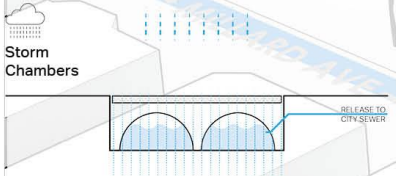
Substitute impermeable pavement with permeable pavers or asphalt to allow water to soak into stone below the surface. Then water in the stone can either infiltrate into the ground or slowly release water to city sewers.

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

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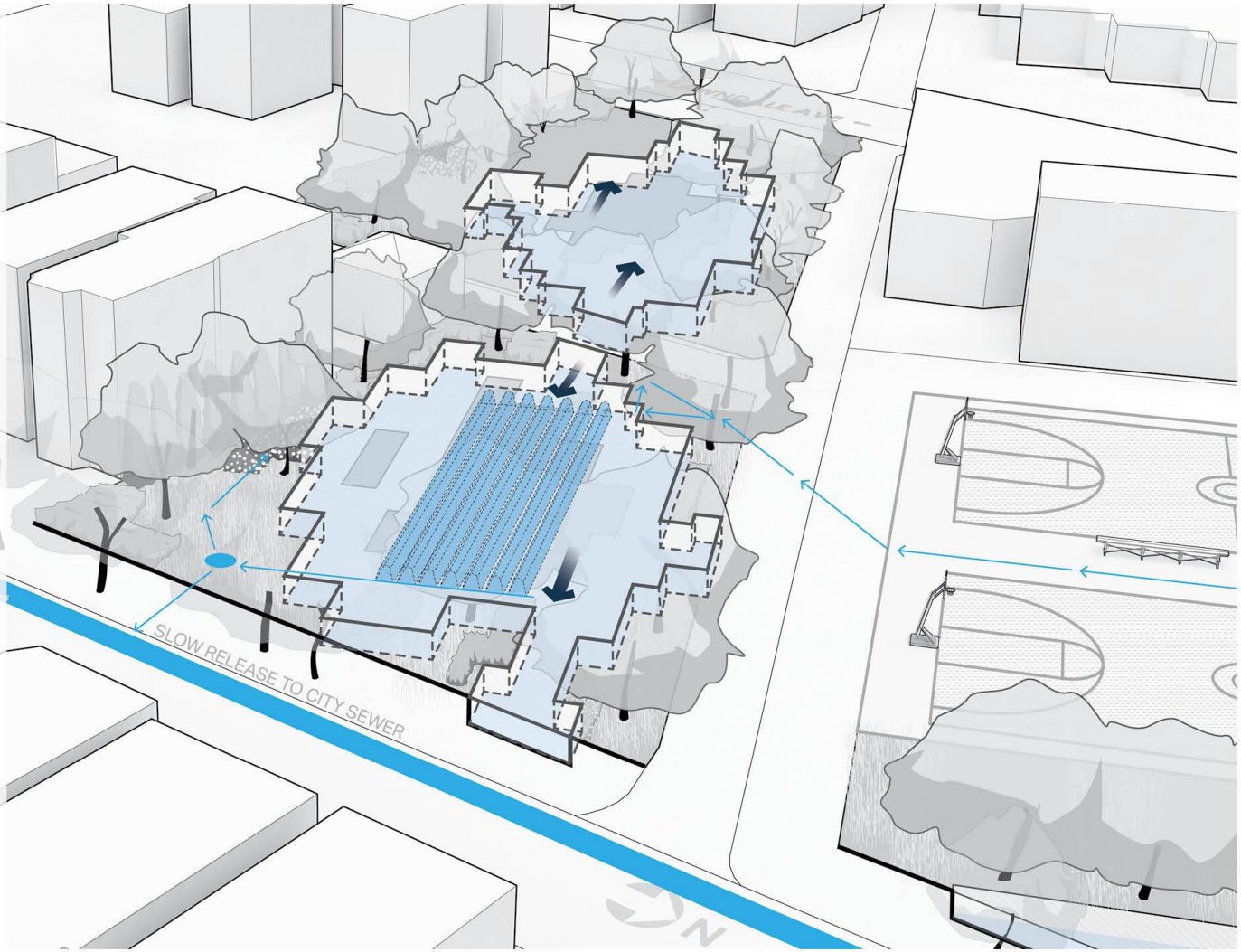
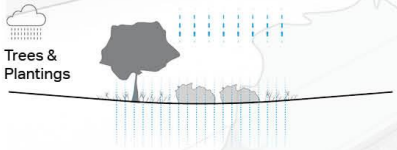



# 09 OGDEN AND S. MILLARD

# Ogden Avenue & South Millard


## STORMWATER APPROACH

Street capture,storage, and slow release into sewer system



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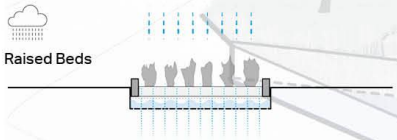

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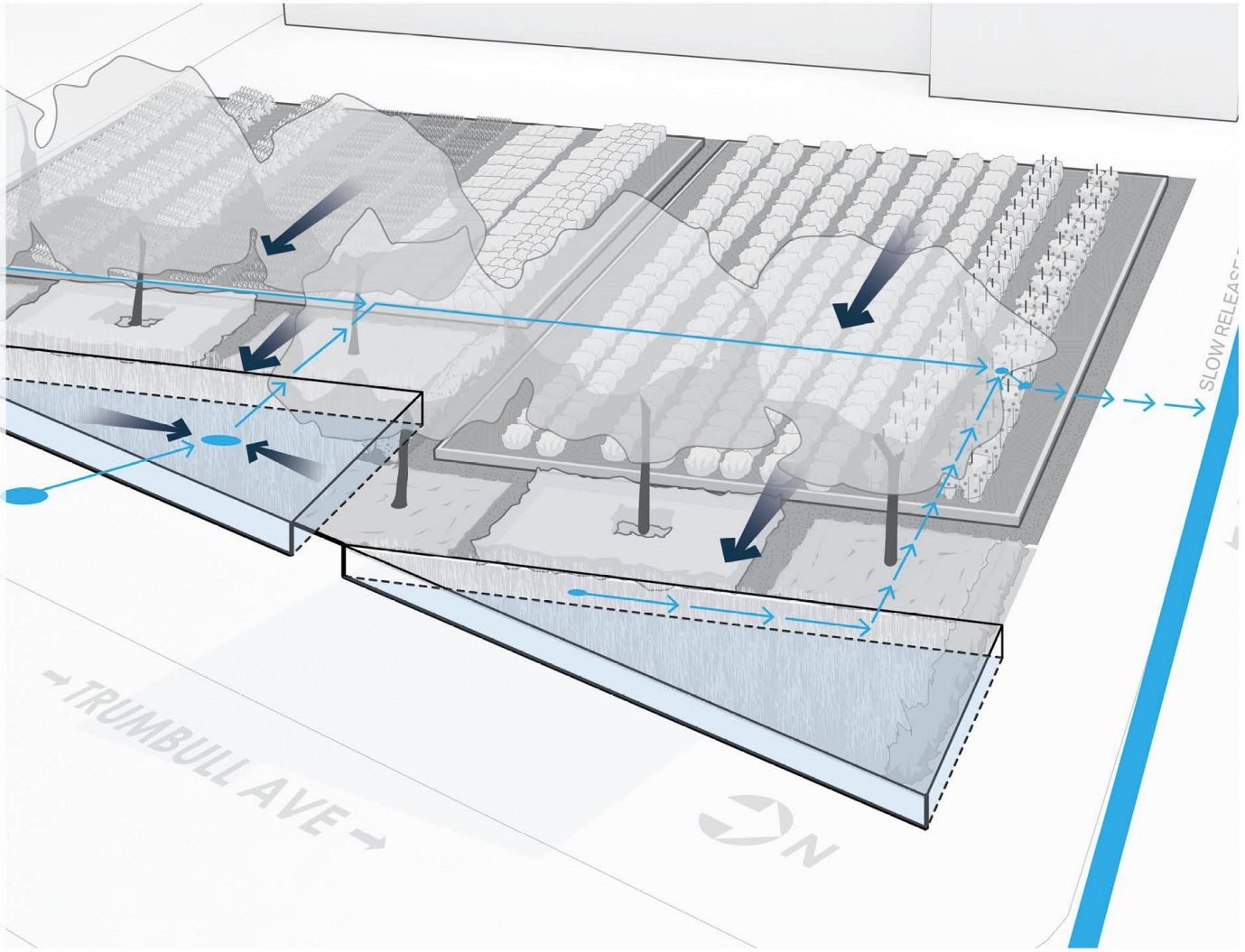


### LEGEND

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# **10** OGDEN AND TRUMBULL

# Design Conclusions

**Construction cost for building 10 project areas: $4.8 million**

**Community engagement**

**New stormwater strategies**

Construction

# Construction

# Construction

# Construction

# Construction

# Construction

# Construction

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