

Greenspace Design for Michael Zone Recreation Center



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McKnight & Associates
LANDSCAPE ARCHITECTURE



m a n k a
design studio

Project Partners

Advisory Committee:

Michael Cox- Division of Recreation
Maribeth Feke- Greater Cleveland Regional Transit Authority
Andres Gonzalez- El Barrio
John Goodworth- Greater Cleveland Regional Transit Authority
Eileen Kelly- St. Colman's
Melanie Kitner- Green Building Coalition
Matt Lokay- Div. of Research, Planning & Development
Sister Maureen Doyle- Urban Community School
Linda Mayer Mack- Northeast Ohio Regional Sewer District
Mandy Metcalf- Detroit Shoreway Community Dev. Org. / EcoCity
Tom Minotas- Zone Recreation Center
Thomas Nagel- Division of Property Management
Greg Peckham- Cleveland Public Art
Natalie Ronayne- City of Cleveland Dept. of Parks, Recreation and Properties
Richard Silva- Division of Park Maintenance
Matt Wiederhold- Detroit Shoreway Community Development Organization
Rachid Zoghaib- Division of Water Pollution Control
Matthew Zone- Cleveland City Councilman, Ward 17



Project Goals

- Provide a national model for ecological greenspace design.
- Incorporate community design session comments.
- Improve quality and diversity of community active recreational needs and integrate with ecological design.
- Create low-impact stormwater management practices by filtering and detaining on-site runoff.
- Establish areas of natural habitats with diverse vegetative communities
- Demonstrate principles of permaculture, sustainability, and natural habitat restoration.
- Improve connections for the neighborhood residents and businesses including EcoVillage, RTA Station, Barbara Booker Elementary School, and the new Urban Community School



Site Photos



Site Photos

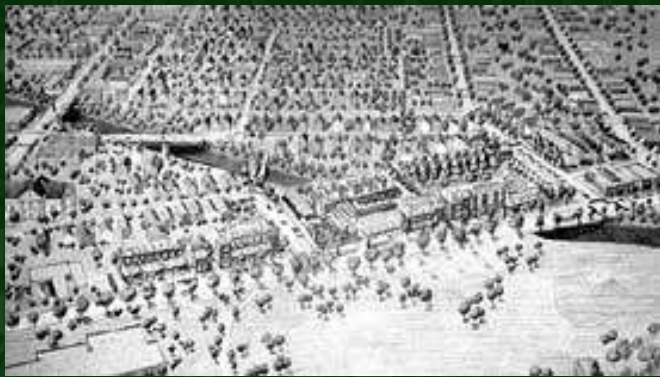


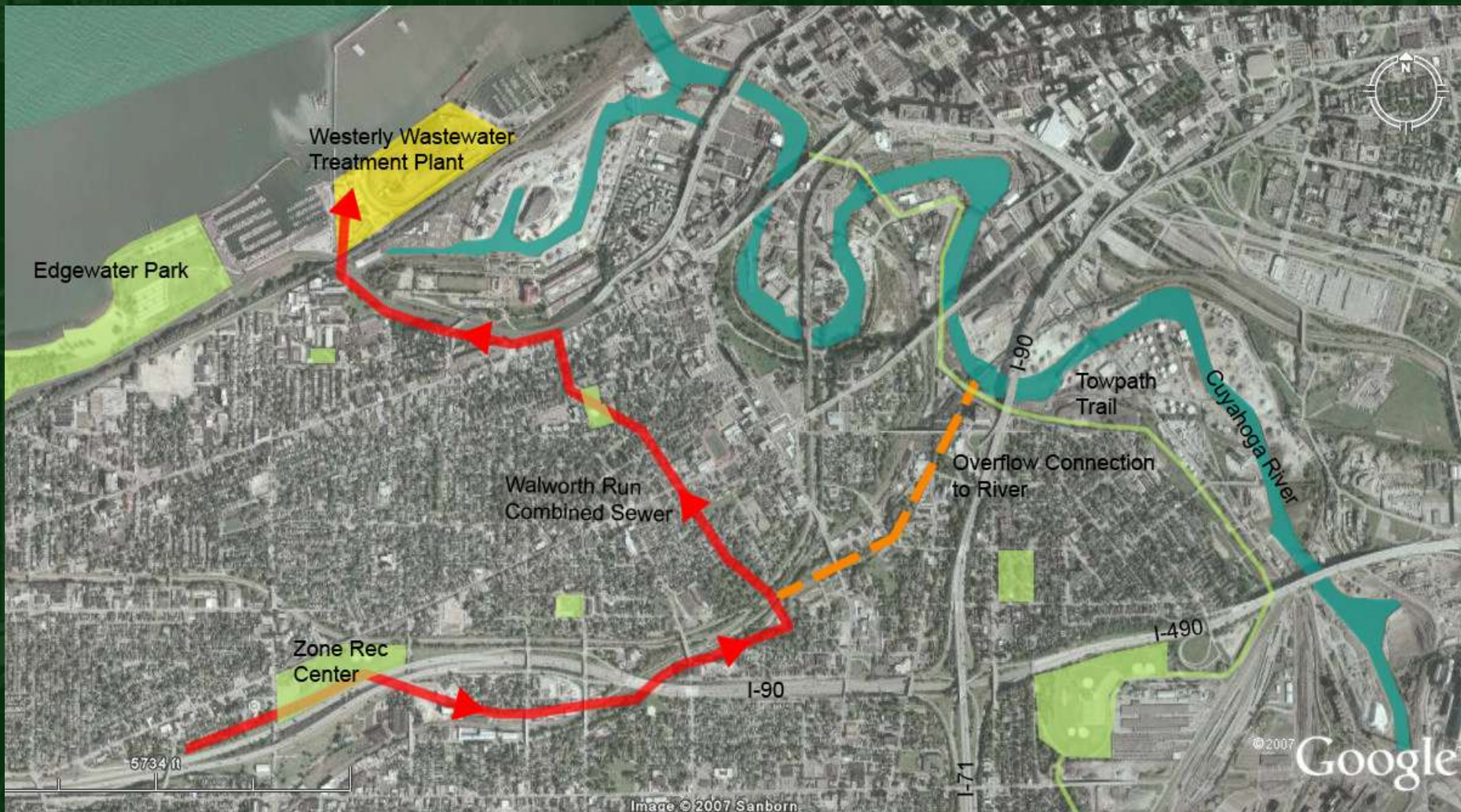
Site Photos



Neighborhood Context







District Sewer Plan

Storm sewers in the Lorain/West 65th Street neighborhood are combined with sanitary waste. The sewers in the streets, including the 48" and 60" sewer to the south boundary of the Zone Rec Center site all lead to the historic Walworth Run drainage. These sewers lead to Westerly Treatment Plant east of Edgewater Park on Lake Erie. High volume storm events force the combined sewer to overflow into the Cuyahoga River.







Program Elements



Active Play

- Rollerblading & Biking
- Jogging & Fitness, Fitness Stations
- Group Sports:
 - Baseball, Softball, Soccer, Basketball, Tennis
- Children's Play Areas:
 - Climbing Wall, Platform Structures, Swingsets, Totlot, Castle w/ Moat
- Water Elements: Spray Park, Waterslide, Wading Pool
- Skate Park



Adults / Seniors

- Adult Swings, Seating
- Gathering Space
- Parent Gathering Space near Playgrounds

Environmental Opportunities

- Nature Education Center- Strawbale
- Creative Stormwater Retention techniques
- Created Wetland / Ponds
- Educational / Ongoing Projects / Discovery Areas
- Interpretive Signage
- Daylight Stream / Water Spiral
- Wind Energy Demonstration
- Increase Wildlife
- Reduce Parking



Gardening

- Green Roof Greenhouse
- Irrigation System (minimal)
- Community Garden Plots
- Edible Gardening / Butterfly Garden

Landscape Opportunities

- Earthmounding
- Public Art
- Natural Sound Barrier along Highway
- Low Retaining Walls

Lighting

- Pedestrian Scale along Pathways
- Increased Parking Lot Lighting
- Solar



Pathways & Connections

- Loop Paths
- Connections to RTA, Neighborhood- north and south, Parking Lots, On-site Features
- Safe Crossing @ Lorain
- Resting / Gathering Spaces along Path
- Promenade along Eastern edge
- Streetcalming along W. 65th & Lorain

Services

- Concessions Stand
- Restroom
- Drinking Fountains
- Improved Security
- Improve Rec. Center Appearance
- Improved Maintenance



Site Furnishings

- Benches
- Bike racks
- Picnic Tables
- Bleachers at Fields
- Grills
- Ornamental Water Fountain
- Park Sign
- Trash Receptacles
- Pavilions / Improve Gazebo
- Wayfinding



Vegetation

- New Plantings to screen Highway
- Plantings to beautify site
- Plantings for shade
- Native Plants
- More Plants & Flowers



Historical Inventory

- Sanborn Map 1896
- Sanborn Map 1951
- ODOT I-90 Drainage Plan 1974
- I-90 Construction 1984





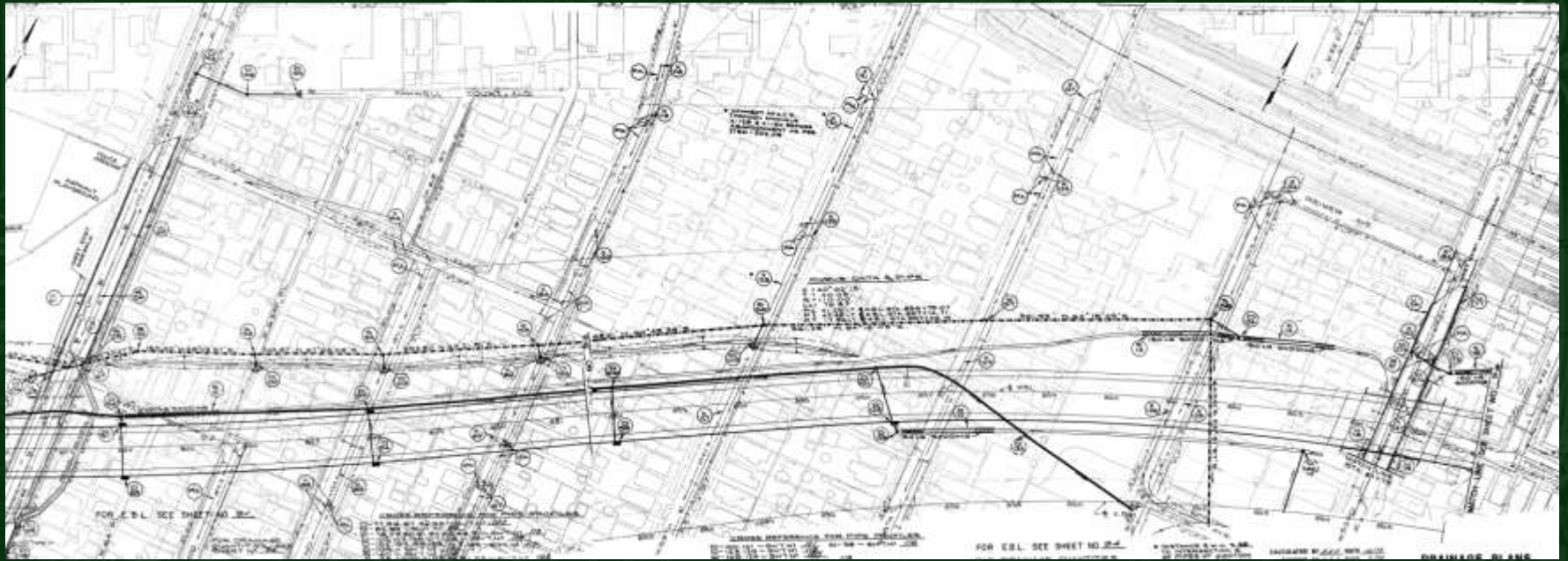
Sanborn Map 1896

The historic Sanborn Fire Insurance Company map details structures and some landscape features. Even at this point in time the density of the neighborhood was starting to grow. Streets with such names as; Schott, Grape, Alum, Purdy and Guernsey run through the site. An un-named extension of the Walworth Run stream corridor can be seen in the southwestern portion of the site. The neighborhood has carpenters, blacksmiths and other small shops intermixed with the housing.



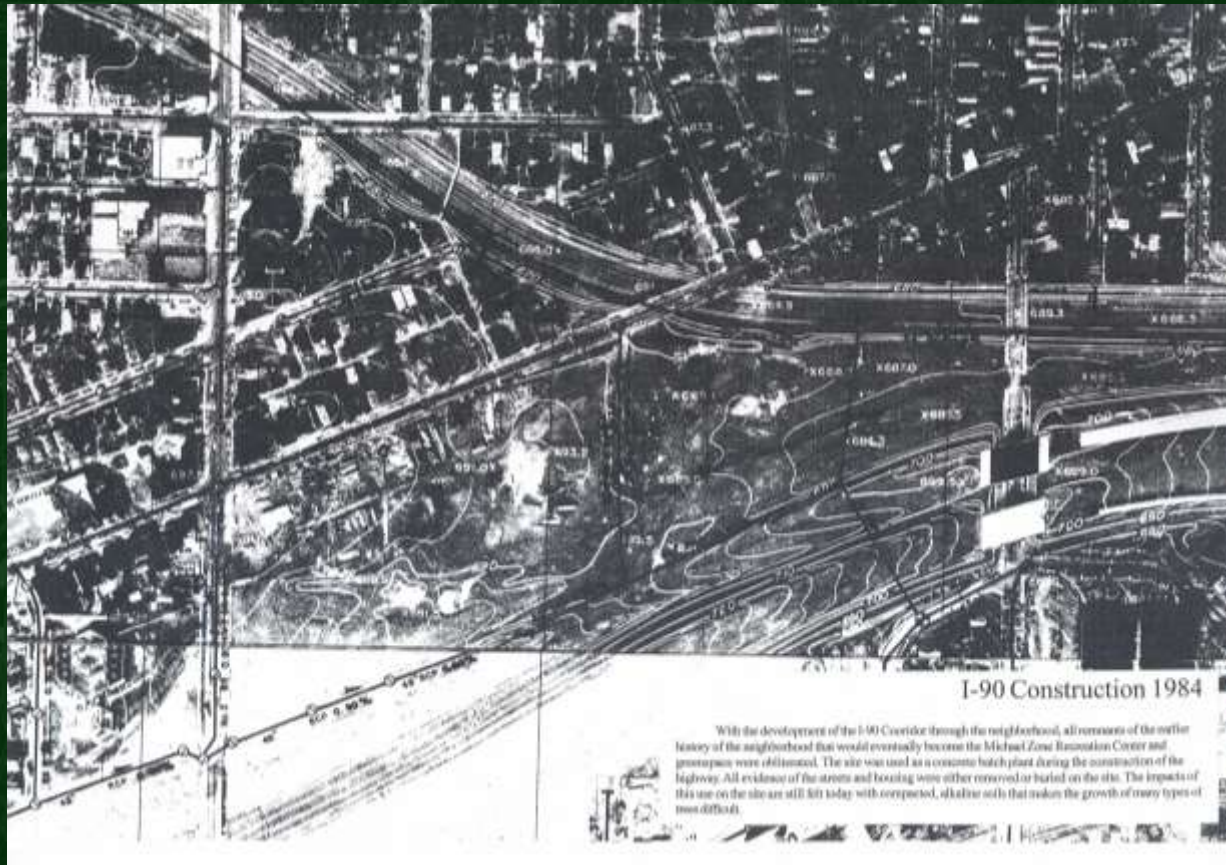
Sanborn Map 1951

The housing density of the neighborhood increased dramatically by the 1950's. The stream corridor was filled in with new housing constructed above. Any legacy of the stream are gone. Auto dealerships are located along the Lorain frontage. The streets lost their colorful historic names and became numbered.



ODOT I-90 Drainage Plan 1974

This plan shows the overlay of what will be the I-90 corridor over the final buildout for the neighborhood. The way in which the corridor would divide the neighborhood into two portions, north and south, can be clearly seen on this plan. The plan details the installation of the large sewer line running between the highway and the site as well as connections between the sewer lines running between Lorain Avenue and the site.



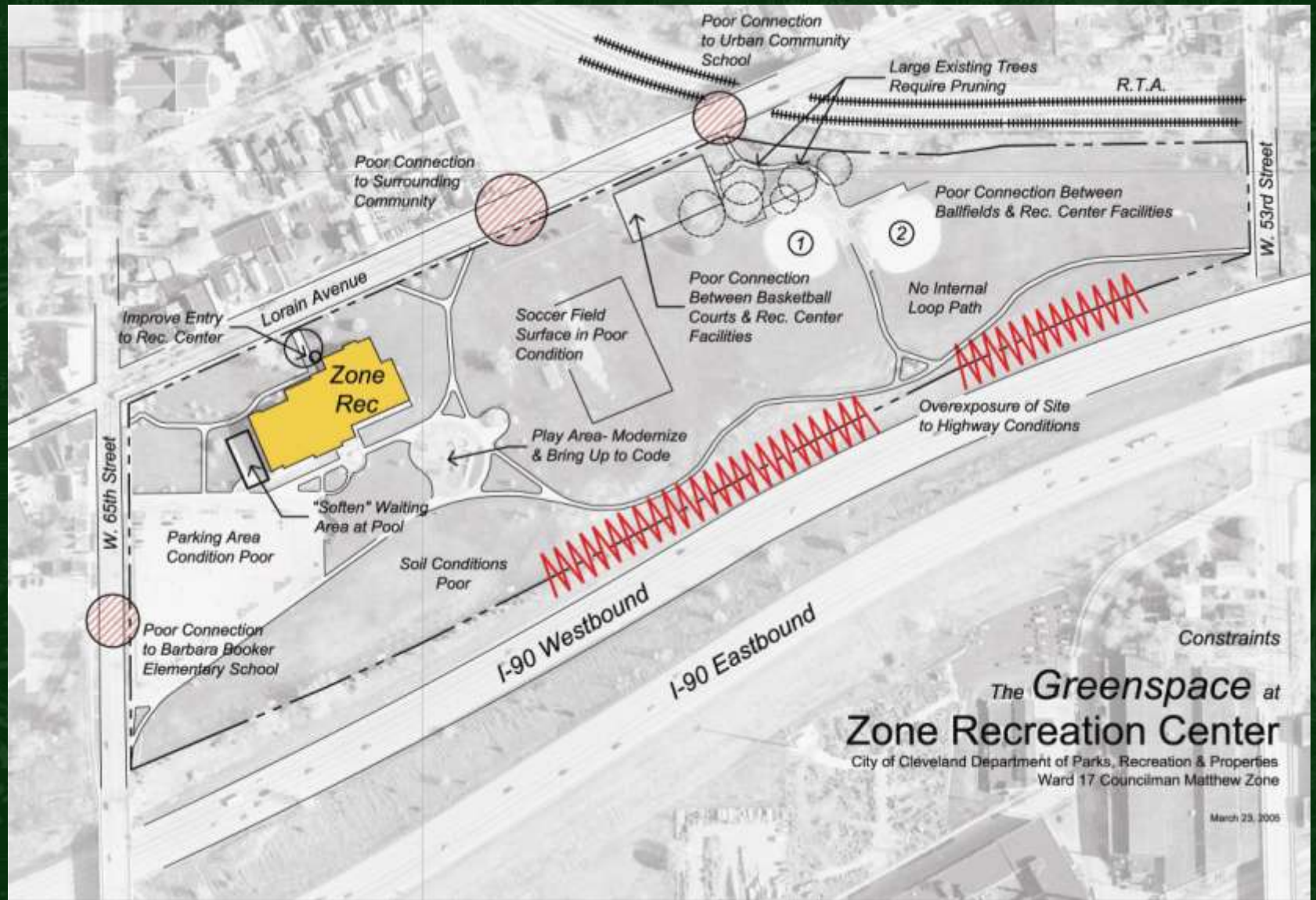
I-90 Construction 1984

With the development of the I-90 corridor through the neighborhood, all remnants of the earlier history of the neighborhood that would eventually become the Michael Zone Recreation Center and greenspace were obliterated. The site was used as a concrete batch plant during the construction of the highway. All evidence of the streets and housing were either removed or buried on the site. The impacts of this use on the site are still felt today with compacted, alkaline soils that makes the growth of many types of trees difficult.

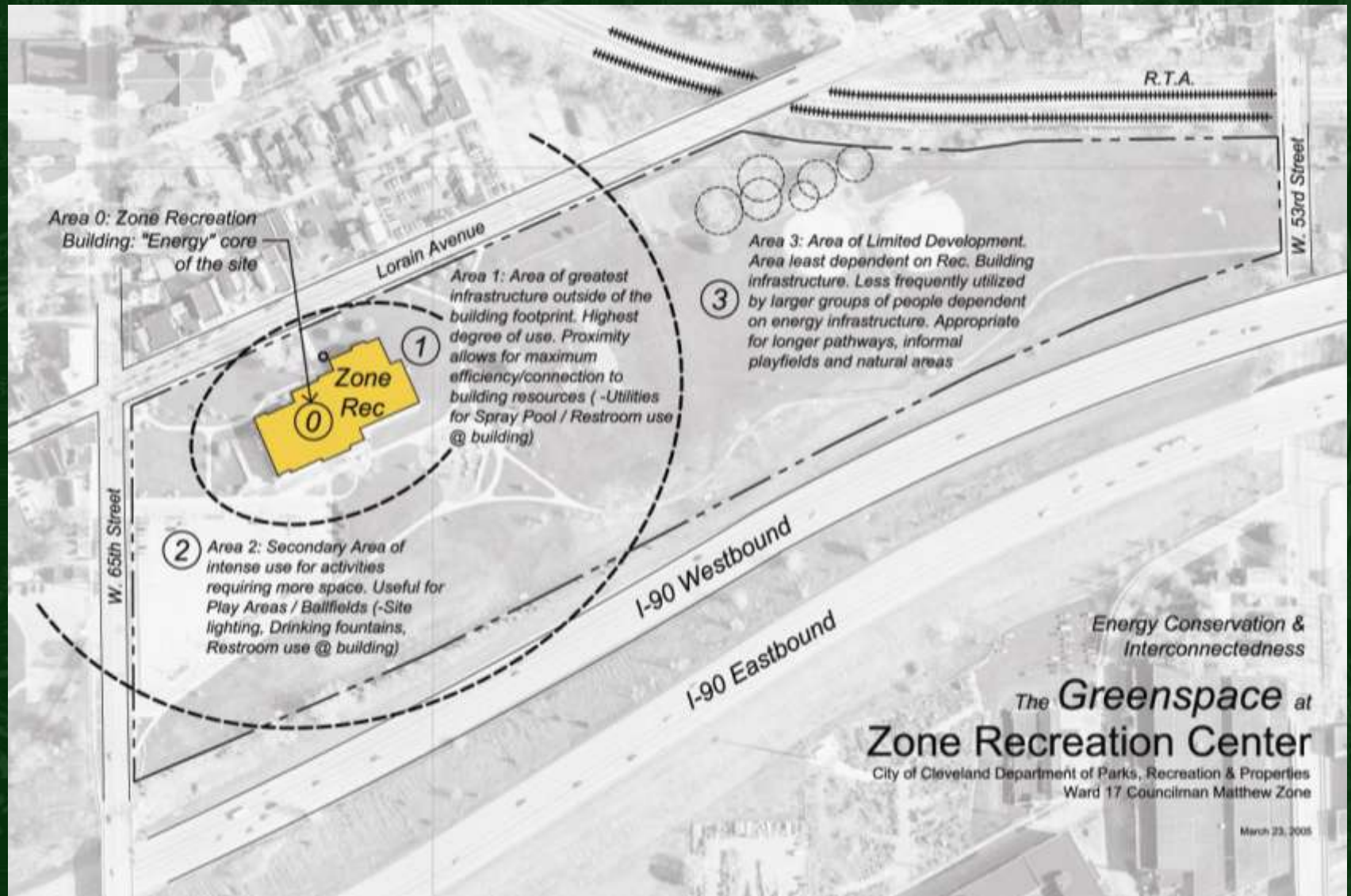
Opportunities and Constraints

- Constraints
- Energy Conservation and Interconnectedness
- Opportunities





Constraints



Energy Conservation and Interconnectedness



Opportunities
**The Greenspace at
 Zone Recreation Center**

City of Cleveland Department of Parks, Recreation & Properties
 Ward 17 Councilman Matthew Zone

March 23, 2005

Opportunities

Preliminary Master Plan





Preliminary Master Plan



Transit Waiting Environment

Enhanced Crossing

Berry Bushes

Edible Landscape

Garden Plots

Fruit Trees

Skate Park

Alum Court

Rain Garden

Picnic Tables

Rock Climbing

seating walls

Concessions/ Restroom

Play Area

Pavilion

Benches

Swings

Tot-Lot

arden



Stone Foundations Exposed / Rebuilt
in Footprints of Old Neighborhood

Garden Plots

Shade Trees

Alum Court

Tot Lot Play Area

Section
through Alum Court

LORAIN AVENUE

RTA RED LINE / TRAIN TRACKS



Woodland Plant Communities

Natural Vegetative Communities

Stargazers Pavilion

Loop path

Wind Turbines

Mounding

Bio-Swales

Varsity Baseball Diamond
(300' foul lines)

Berry Bushes

Edible Landscape



WEST 65th STREET

Parking (47 spaces)

Drop-off

Rain Garden

Play wing

Existing Building

Splash Park

Basketball Courts

Drop-off

Drop-off

Parking (62 spaces)

Recreation Staging

Benchers

Soccer/Football Field

Filtered Parking

Tennis Courts

Practice Wall

Boardwalk

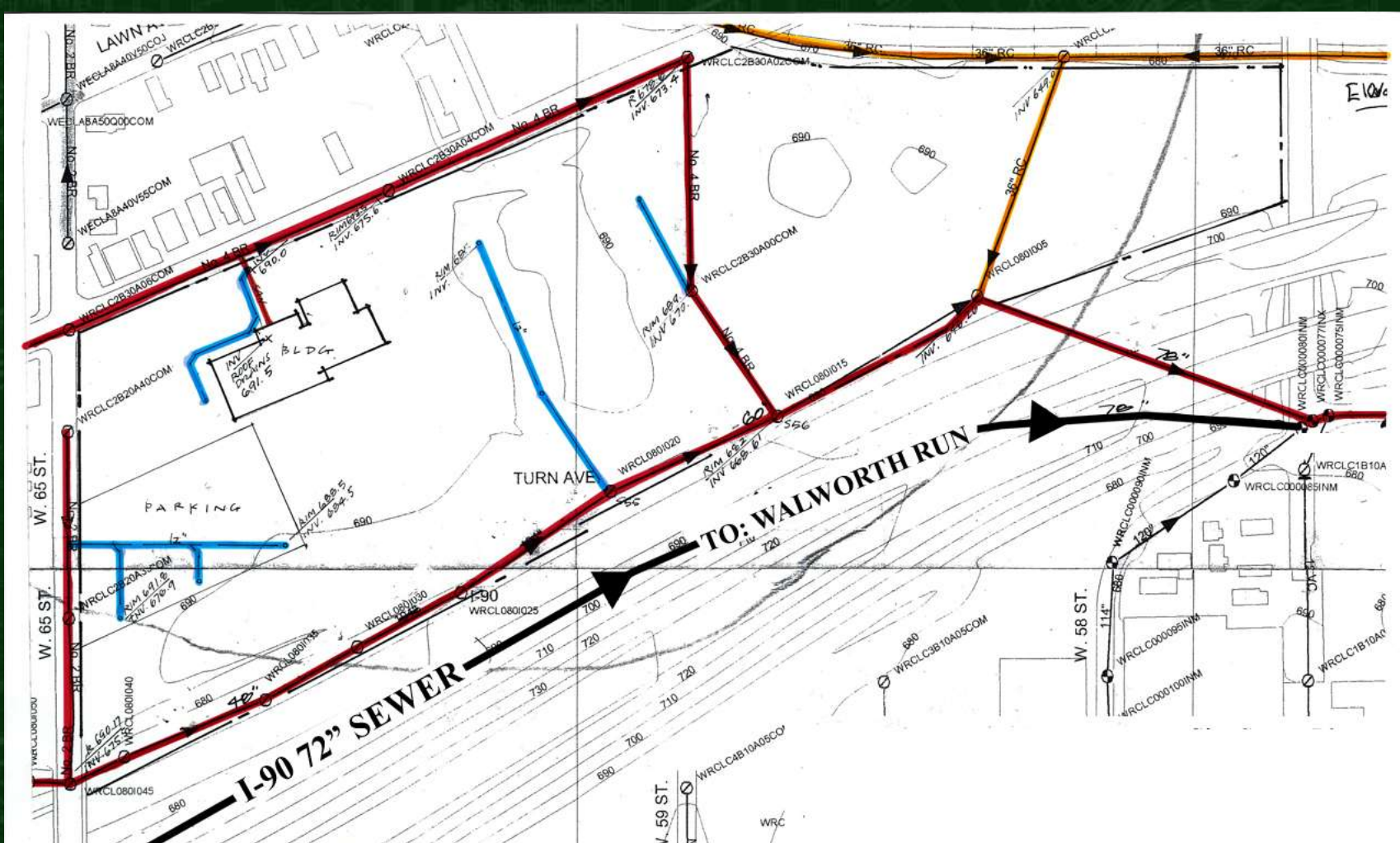
Existing Building



Section
through parking and soccer field

On-Site Stormwater Management Plan





Site Sewer Plan

The storm sewer runoff from the Zone Rec Center site is currently captured in three ways; roof drains, parking area drains, and lawn area drains. The roof drains combine with a sanitary sewer at the Lorain Avenue frontage and are tied into the combined sewer in the street. The parking area drains toward West 65th and is connected to the street sewer. The drain basins in the lawn areas are tied into the southern sewer along I-90. It will be possible to daylight these storm water collectors and create a surface drainage system leading to raingardens, bioswales, and bioretention basins that promote infiltration into the subsoil of the site. This will reduce the overall drainage discharge of the site significantly.

Storage Area Volumes

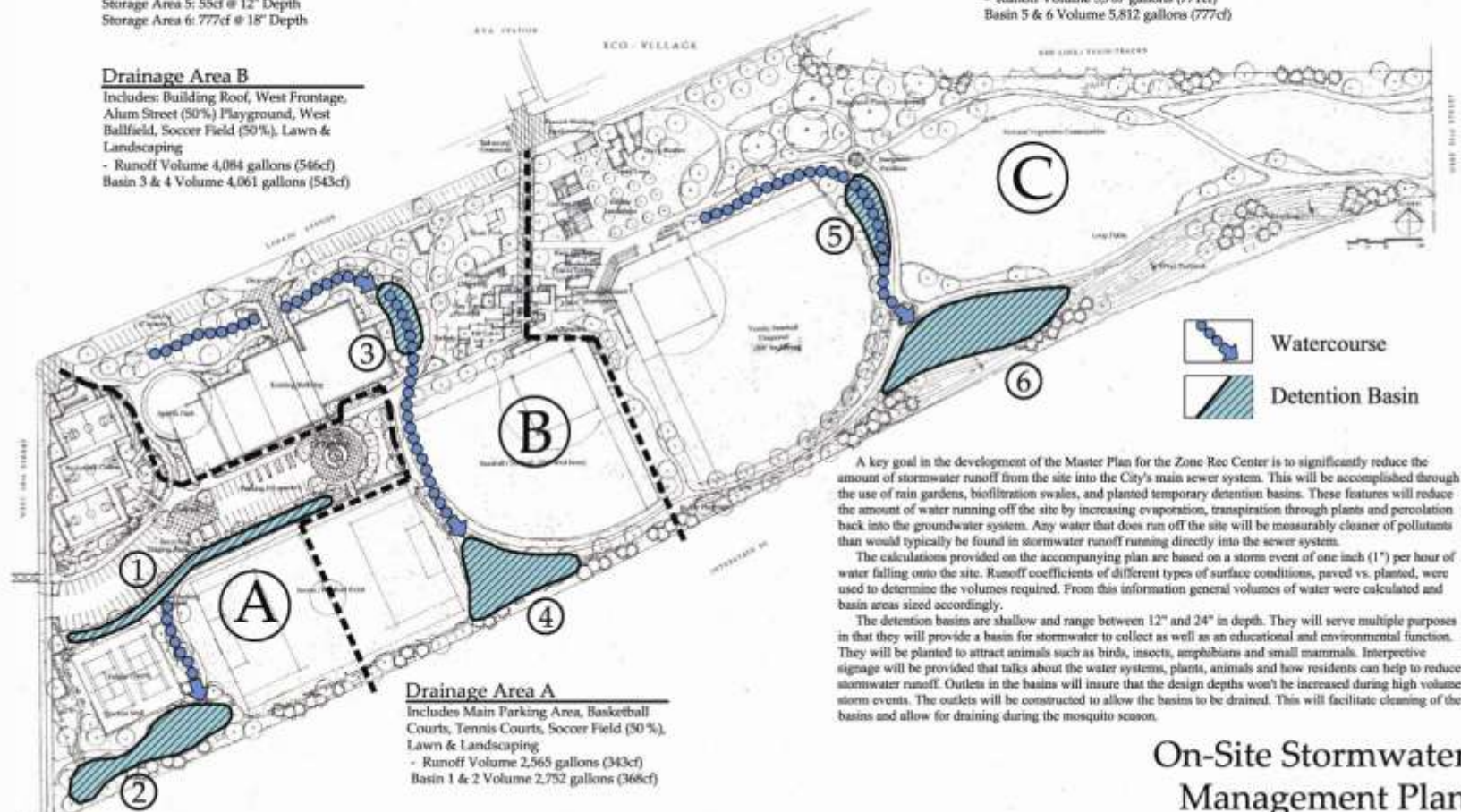
Storage Area 1: 146cf @ 12" Depth
Storage Area 2: 222cf @ 12" Depth
Storage Area 3: 50cf @ 12" Depth
Storage Area 4: 493cf @ 24" Depth
Storage Area 5: 55cf @ 12" Depth
Storage Area 6: 777cf @ 18" Depth

Drainage Area B

Includes: Building Roof, West Frontage, Alum Street (50%), Playground, West Ballfield, Soccer Field (50%), Lawn & Landscaping
- Runoff Volume 4,084 gallons (546cf)
Basin 3 & 4 Volume 4,061 gallons (543cf)

Drainage Area C

Includes: Basketball Courts, East Ballfield Alum Street (50%), Community Area, Natural Area, Lawn & Landscaping
- Runoff Volume 5,767 gallons (771cf)
Basin 5 & 6 Volume 5,812 gallons (777cf)



Drainage Area A

Includes Main Parking Area, Basketball Courts, Tennis Courts, Soccer Field (50%), Lawn & Landscaping
- Runoff Volume 2,565 gallons (343cf)
Basin 1 & 2 Volume 2,752 gallons (368cf)

A key goal in the development of the Master Plan for the Zone Rec Center is to significantly reduce the amount of stormwater runoff from the site into the City's main sewer system. This will be accomplished through the use of rain gardens, biofiltration swales, and planted temporary detention basins. These features will reduce the amount of water running off the site by increasing evaporation, transpiration through plants and percolation back into the groundwater system. Any water that does run off the site will be measurably cleaner of pollutants than would typically be found in stormwater runoff running directly into the sewer system.

The calculations provided on the accompanying plan are based on a storm event of one inch (1") per hour of water falling onto the site. Runoff coefficients of different types of surface conditions, paved vs. planted, were used to determine the volumes required. From this information general volumes of water were calculated and basin areas sized accordingly.

The detention basins are shallow and range between 12" and 24" in depth. They will serve multiple purposes in that they will provide a basin for stormwater to collect as well as an educational and environmental function. They will be planted to attract animals such as birds, insects, amphibians and small mammals. Interpretive signage will be provided that talks about the water systems, plants, animals and how residents can help to reduce stormwater runoff. Outlets in the basins will insure that the design depths won't be increased during high volume storm events. The outlets will be constructed to allow the basins to be drained. This will facilitate cleaning of the basins and allow for draining during the mosquito season.

On-Site Stormwater Management Plan



Permeable Pavers



Bioretention Areas



Demonstration Rain Gardens



Wet Meadow



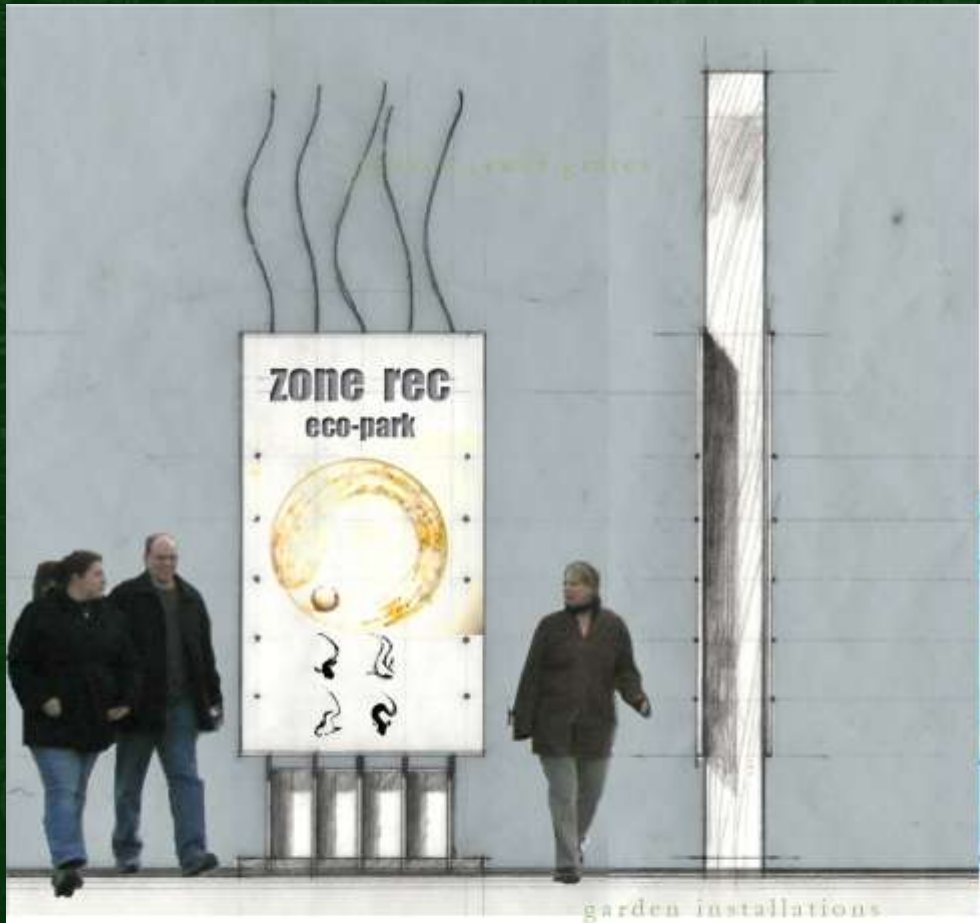
Scrub-Shrub Wet Meadow



Lowland Woods w/ Vernal Pool

Public Art Concepts





garden installations

environmental graphics

replace sewer grates



public art
urban design

MankaDesignStudio.com



Various other artist work



Splash Garden

Ice Sculptures

Illuminations

Great fun



public art
urban design

MankaDesignStudio.com

SNAG installation for birds



An array of SNAGS would attract woodpeckers and other birds anxious to get at the insects. Arranged in playful way, this installation would grace the landscape. Imagine an industrial x-mas tree stand with a steel collar that bolts down the snag. It is shown to the left with seating.



public art
urban design

MankaDesignStudio.com

A Field of Concrete Pipe Planters

- maze like
- planters
- lanterns
- bio-exhibit



public art
urban design
MankaDesignStudio.com



another planter variation

LARGE SCALE environmental sculpture

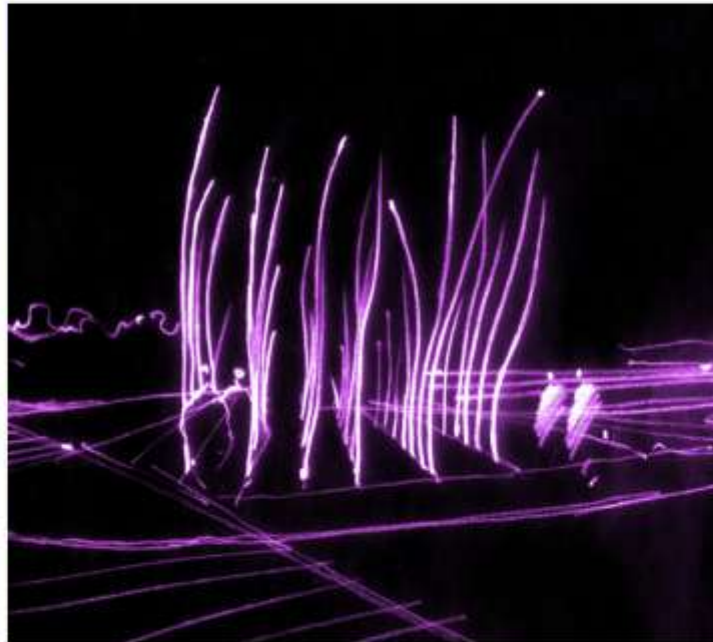


public art
urban design

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armature for solar panels



illuminated grasses



wind turbines



A Stargazers Pavillion with an intricate dome

A series of flowering pavilions can serve the passive uses of the park. Located at station points for observing activity or for a pausing along a trail to be draped in flowers.

In the case of the Stargazers Pavilion users will be treated to an interpretive dome which draws the eye to the sky and the evening stars.



Sculptural dome created by Gaurini



Flowers everywhere



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