Welcome

Netsch Lecture
Summer 2022 Series Re:design

Netsch Lecture: CDF Park Designs Showcase

Hosted by: Friends of the Parks

Presenters:

Ron Henderson, Amanda Soto, and Daniel Garczyk from the Illinois Institute of Technology

July 20, 2022

Welcome!

- Tonight's Agenda
  - Welcome and Introductions
  - Presentation and Design Scenarios
  - Open and Lively Discussion

Housekeeping:

- Please message Julie Malnak for any technology needs
- We will be recording the session. If you object to use sharing the dialogue portion please message Julie during the event or email - rachelbr@fotp.org

Questions and Discussions

Announcements

- Recording and materials can be found at https://www.fotp.org/2022-netsch-lectures.html
- Netsch Lecture: “DEPAVE CHICAGO”: a design approach and program to renature paved ground in communities
  - August 9, 12:00 pm to 1:30 pm - https://tinyurl.com/NetschlectureDepave
- Wellness Fair at Schafer Park
  - August 6 - In person
- DuSable Park Commemoration and Anniversary Event
  - August 20 at 10:30 am- 2:00 pm - In-person and online
- Netsch Lecture: Rivers Edge
  - September 1, 12:00 pm to 1:30 pm - Virtual - https://tinyurl.com/NetschRiversedge
- Netsch Lecture: Foster Beach Rock Drawings
  - September 24 - In person

FOTP Survey

- The Chicago Park District set a goal to reach 2020 acres of natural areas by 2020 (at 1890 as 2019) and to equitably invest in communities of color. Friends of the Parks is surveying the community to increase community engagement and to learn about park usage and investment priorities for parks in Chicago's SouthEast side.
- We would love to hear your input and opinions about how you use parks!
- Scan the QR code with your phone camera (hover the camera over the QR code until the link pops up and then tap the link)
- Or click the link in the chat

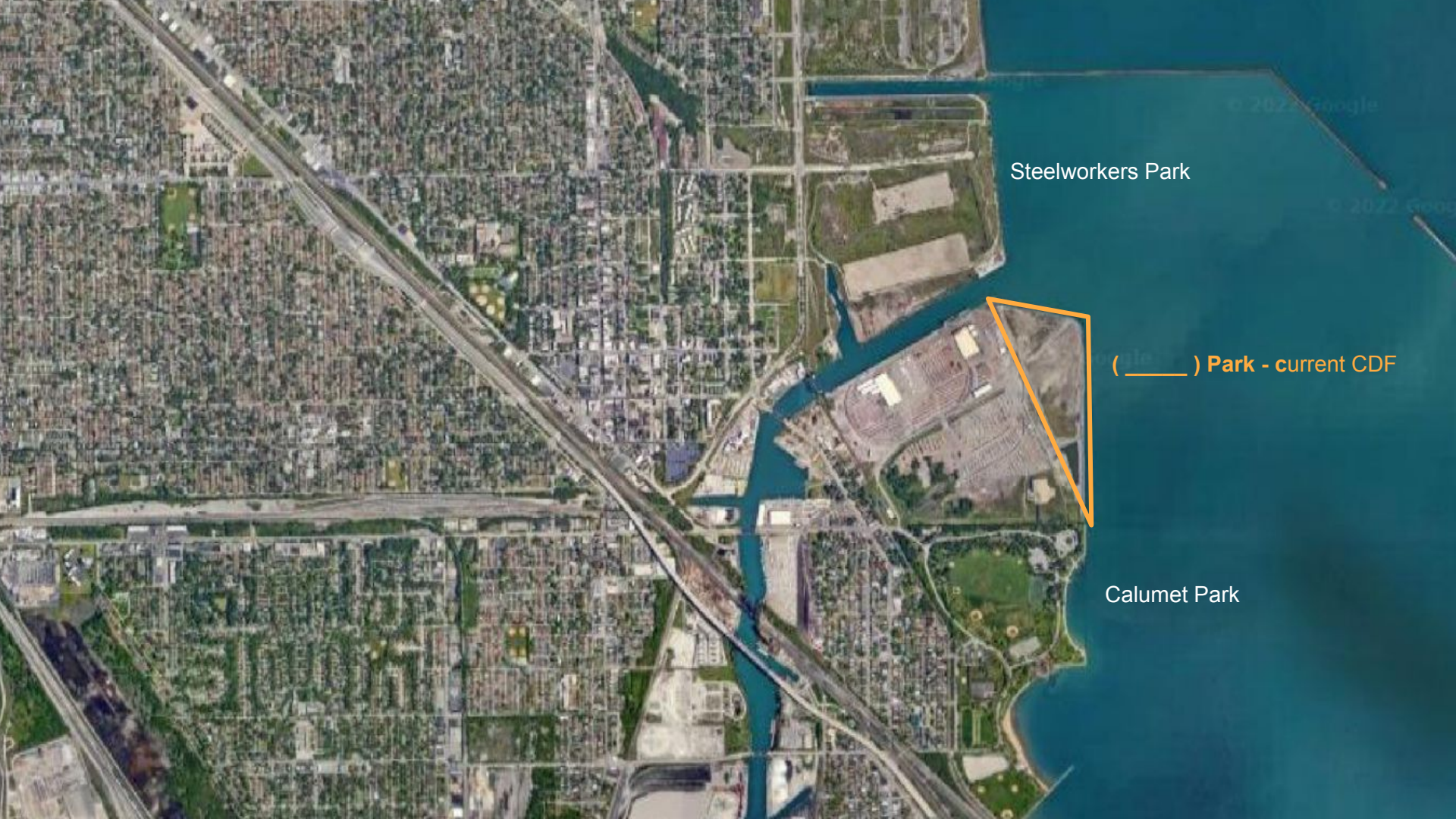
If you'd like to continue the conversation or talk more with our policy team, please contact us!

- Rachel Birkhahn-Rommelfanger (Director of Policy and Advocacy) :
  - Email: rachelbr@fotp.org
- Julie Malnak (Policy and Communications Associate):
  - Email: malnakj@fotp.org
- FOTP Website :https://www.fotp.org/

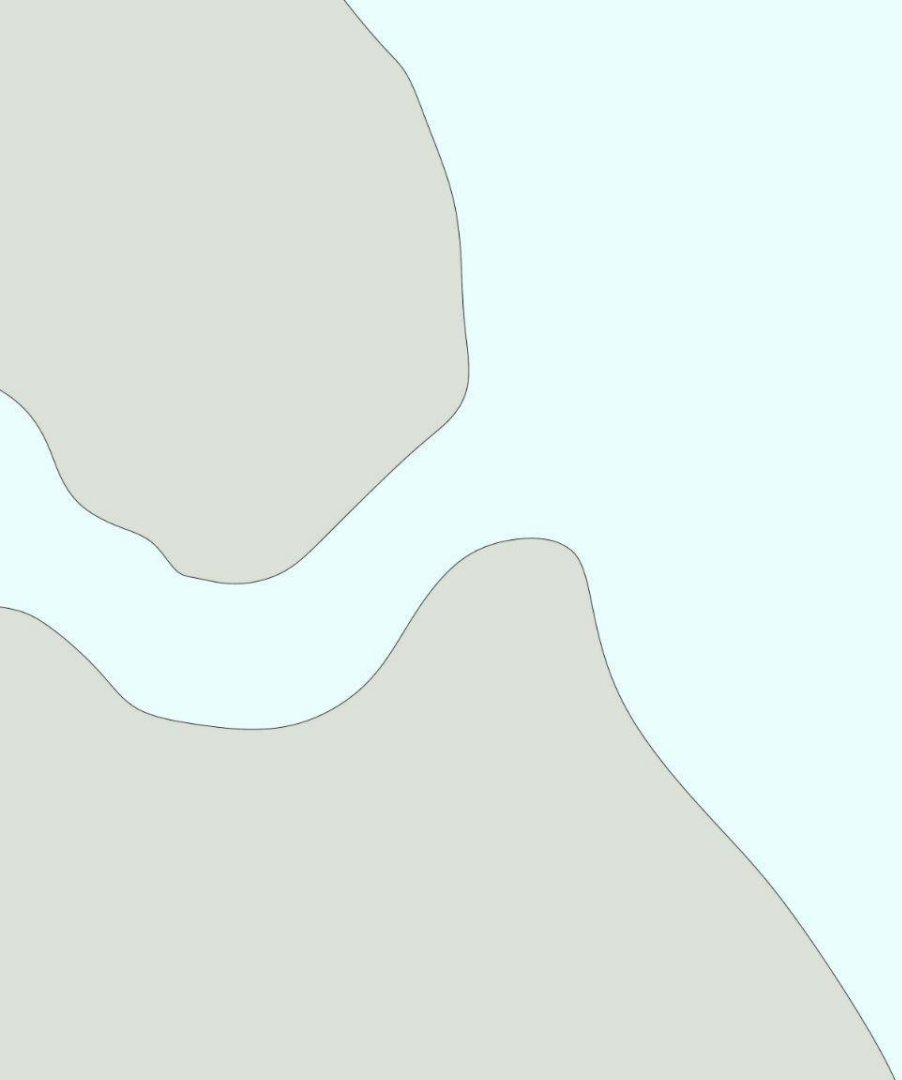
(_____) PARK

Landscape Architecture + Urbanism Program
Illinois Institute of Technology

Amanda Soto and Daniel Garczek
Professor Ron Henderson


Steelworkers Park
(____) Park - current CDF
Calumet Park

FIRST, THE LAND



Pre-Industrial

The mouth of the Calumet River at Lake Michigan was a changeable shoreline of shifting sediments at the confluence of a slow river and a dynamic lake.

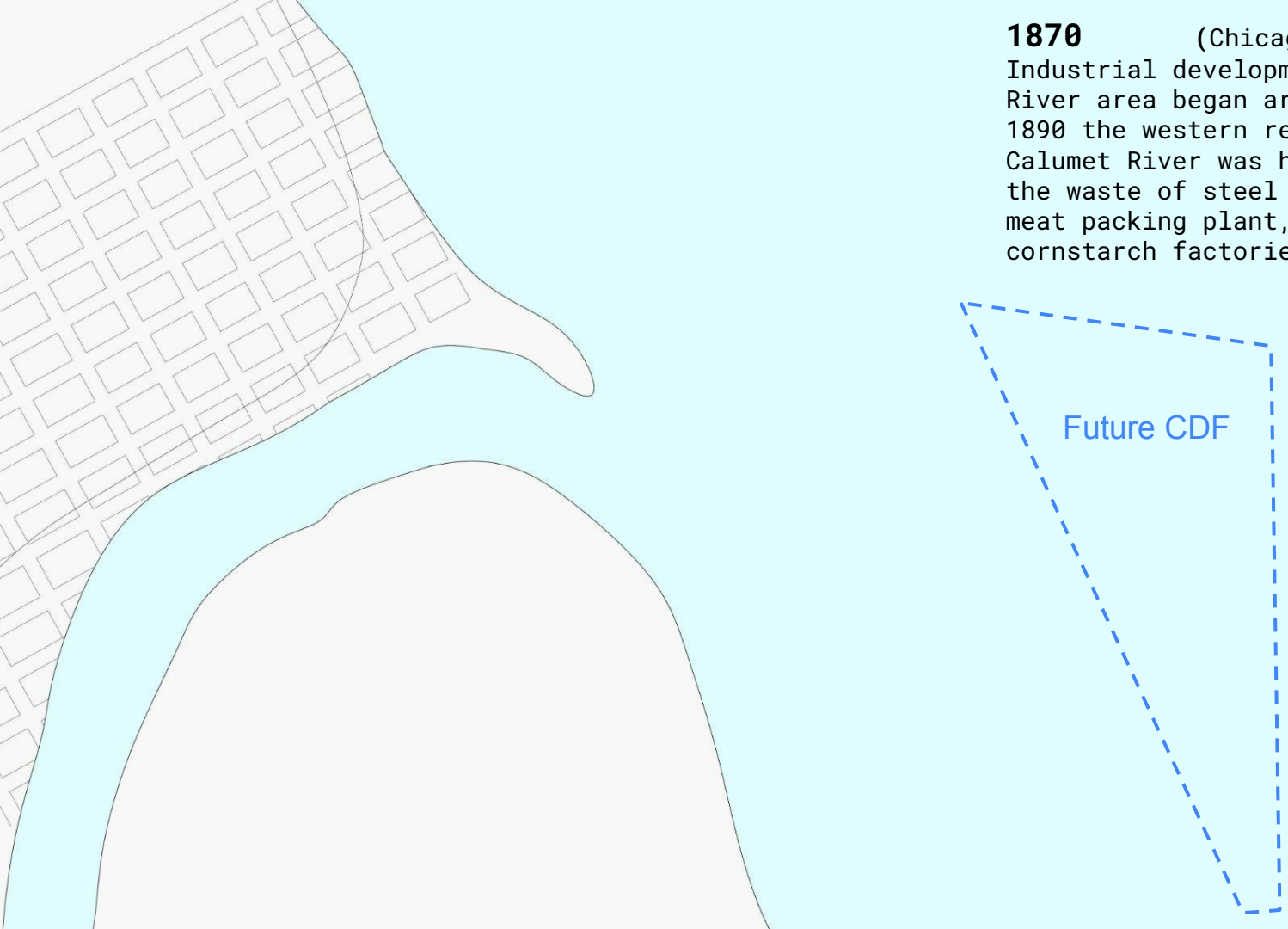
ILLINOIS BEACH STATE PARK
where the Dead River slowly flows into Lake Michigan most closely resembles the pre-Industrial Calumet River


Wet Prairies

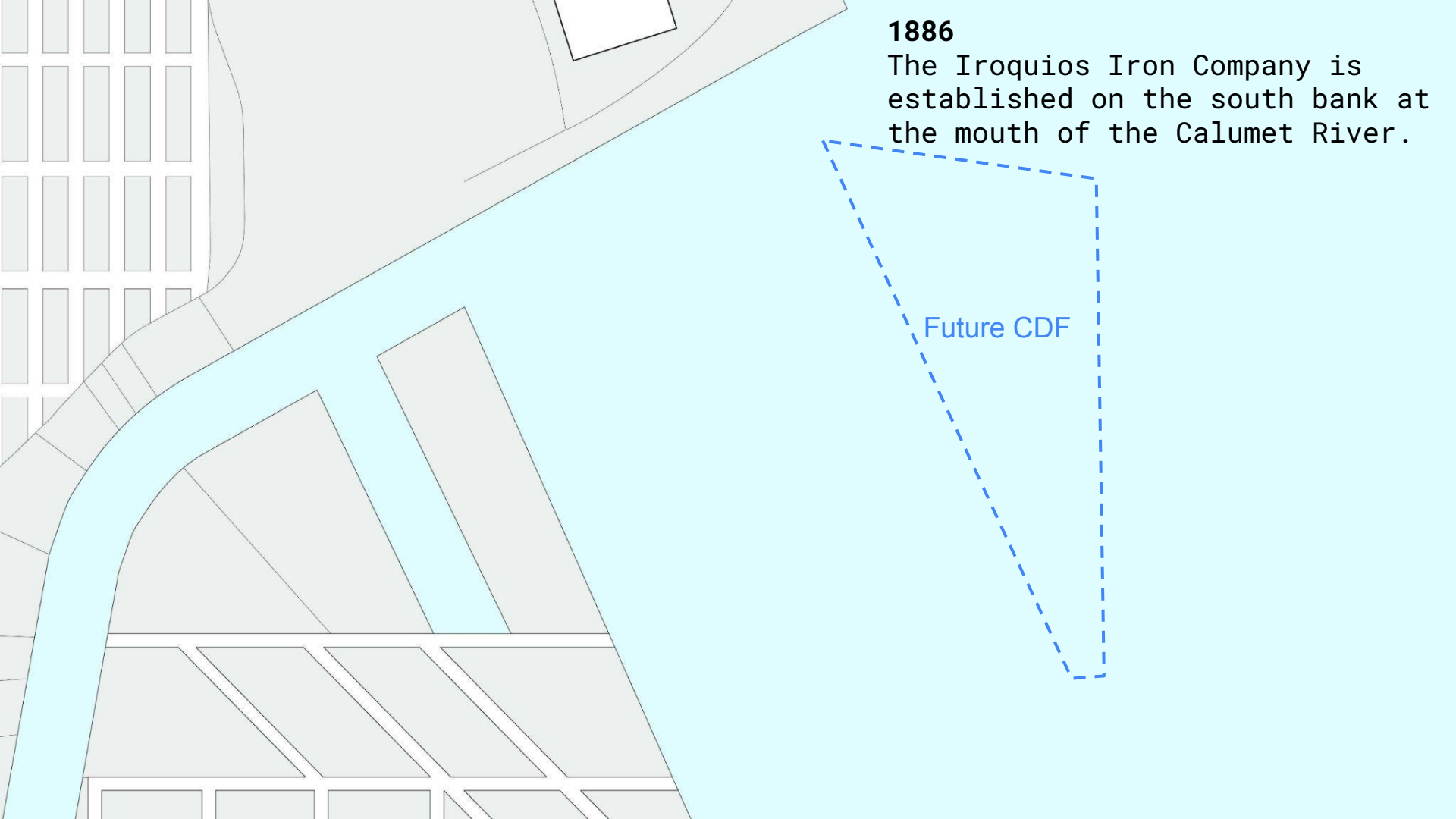

Wetlands
Bog
Panne
Fens
Marsh


Dunes

1870 (Chicago Fire was 1871)
Industrial development in the Calumet River area began around the 1870s, and by 1890 the western reach of the Grand Calumet River was heavily polluted with the waste of steel mills, foundries, a meat packing plant, and glue and cornstarch factories.

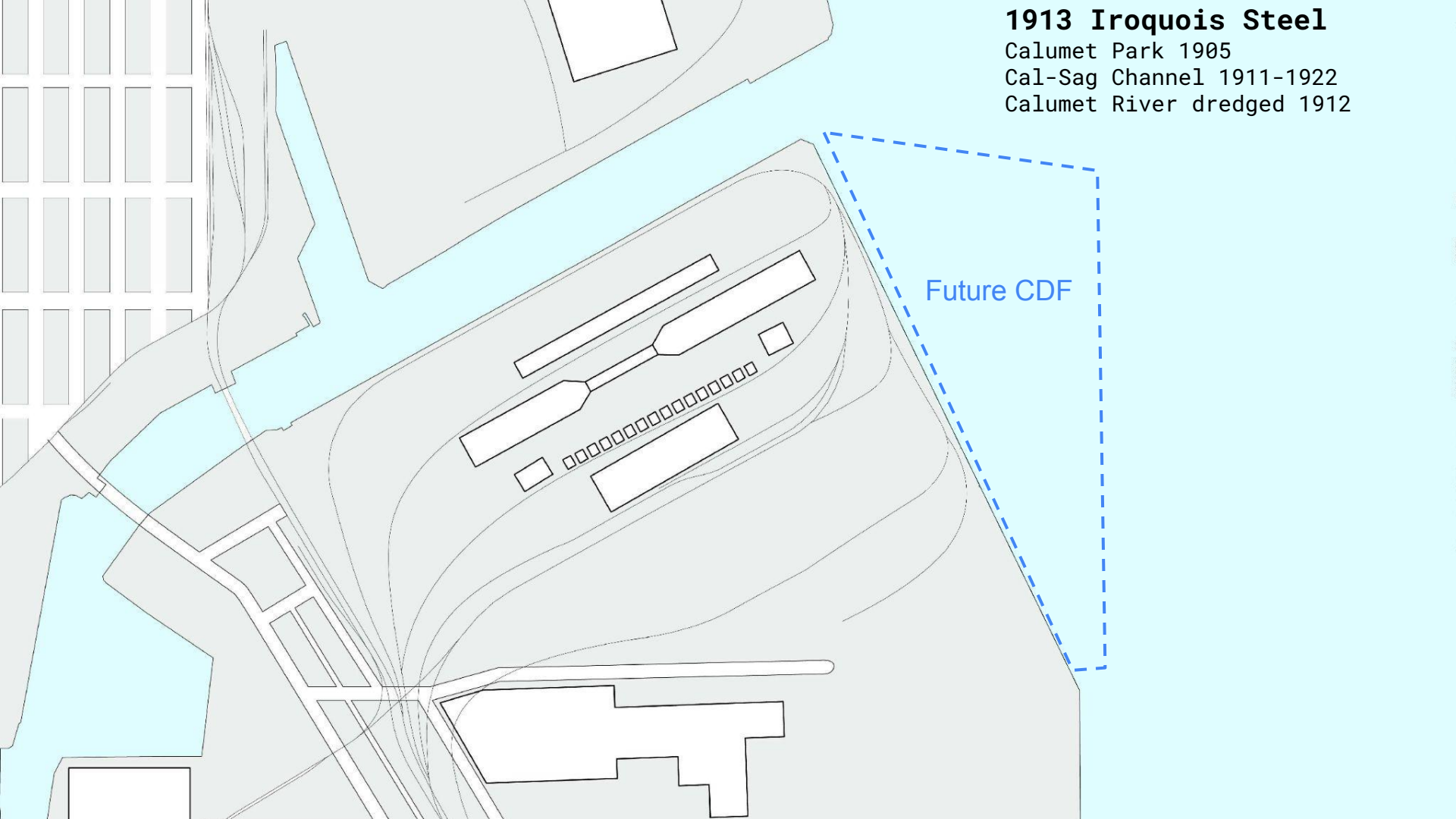


Calumet River, 1870s



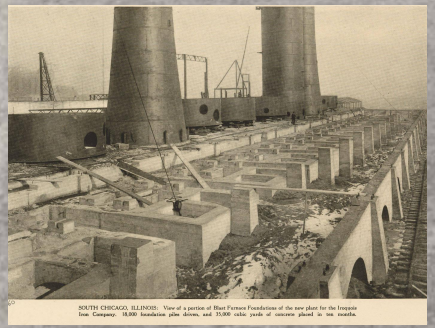
1886
The Iroquios Iron Company is established on the south bank at the mouth of the Calumet River.

Industrial Growth


1913 Iroquois Steel
Calumet Park 1905
Cal-Sag Channel 1911-1922
Calumet River dredged 1912
Future CDF

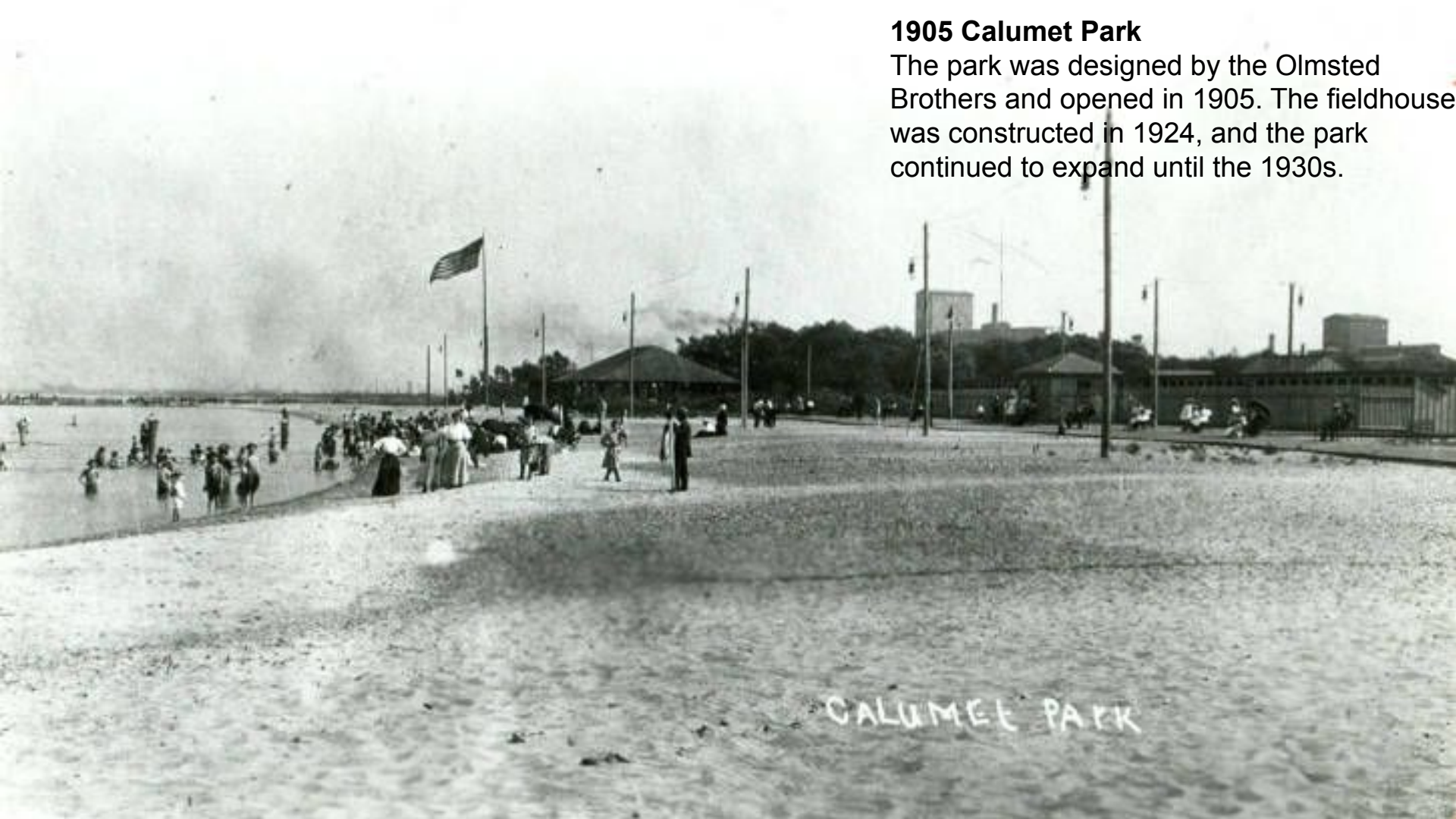
1912 Calumet River Dredged

https://www.pullman-museum.org/pshs/sechsBySubject.php?subject=Iroquois_Iron_and_Steel_Company
https://www.csu.edu/cerc/researchreports/documents/ChicagoSESideIndustrialHistory.pdf



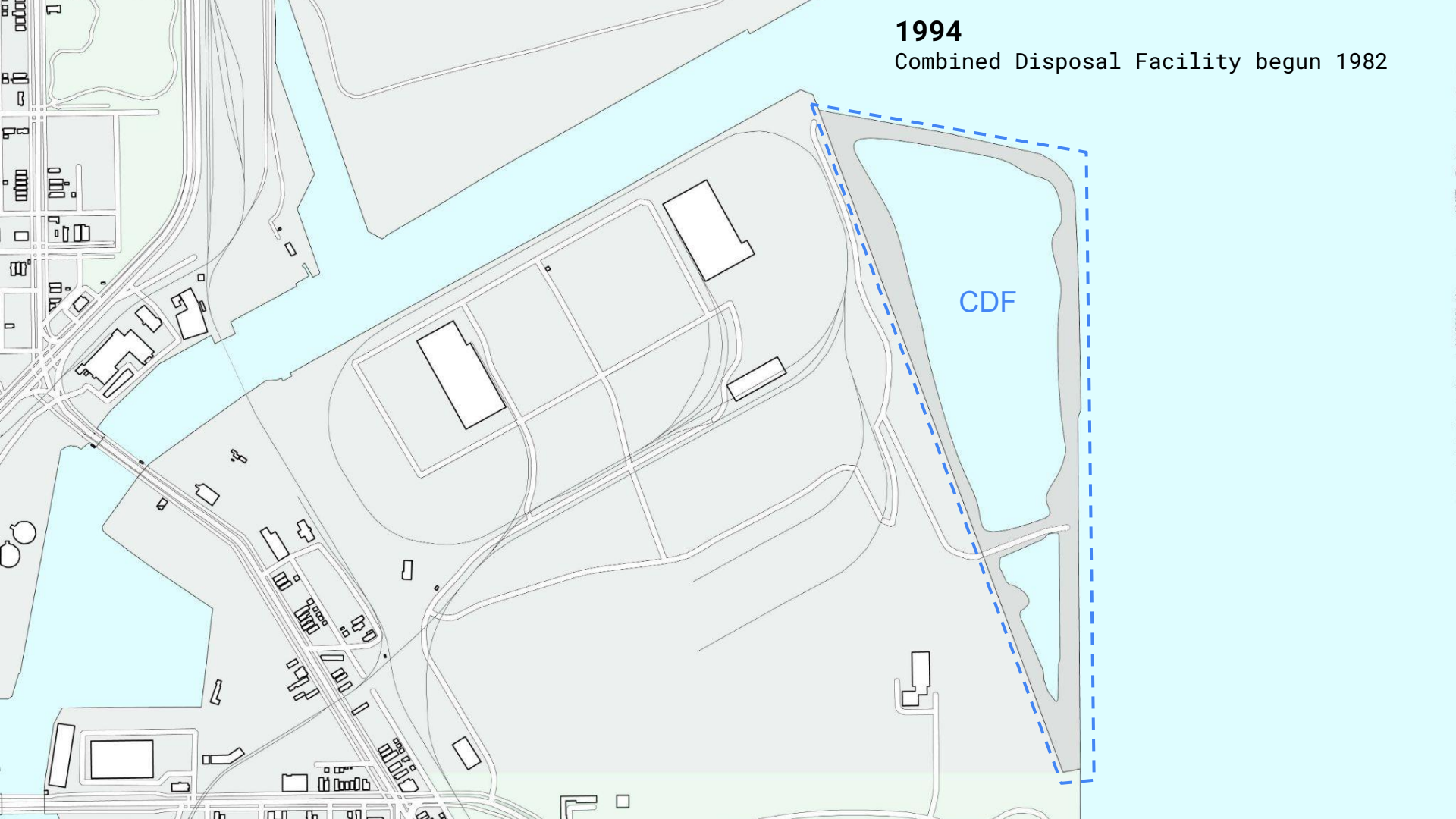
SOUTH CHICAGO, ILLINOIS. View of a portion of Blast Furnace Foundations of the new plant for the Iroquois Iron Company. 18,000 foundation piles driven, and 75,000 cubic yards of concrete placed in ten months.

Iroquois Steel was constructed in 1913 after the dredging of the Calumet River. While being constructed, they landfilled out into the lake to create the site for the factory. Once it was opened, the factory specialized in making pig iron, a material used in making steel. By 1950, Iroquois Steel had 3 blast furnaces and 70 coke ovens. The factory was dissolved when Iroquois Steel merged with LTV Steel in the 1970s.



1905 Calumet Park

The park was designed by the Olmsted Brothers and opened in 1905. The fieldhouse was constructed in 1924, and the park continued to expand until the 1930s.


1994
Combined Disposal Facility begun 1982
CDF

Active Confined Disposal Facilities on the Great Lakes

US Army Corps of Engineers


1940s


1983


CDF
1994


NASCO 1984
North American Stevedoring Company's (NASCO) facility was constructed in 1984 at the Iroquois Iron shipping port.
Lake Michigan
Calumet Park
CDF
NASCO
Calumet River
to Steelworkers Park

NASCO handles bulk solid materials such as salt, steel, lumber, blast furnace iron, and ferromanganese.

The facility had been contacted by the Chicago Department of Health for releasing toxic levels of ferromanganese alloy dust into the air.

It wasn't until EPA investigated the facility in 2014 that they improved their output and ventilation within the buildings.

https://www.chicago.gov/content/dam/city/depts/cdph/environmental_health_and_food/PetCoke_Public_Comments/PubComNRDCSETFComonNAStevedoringVarReq922014.pdf
https://www.chicago.gov/content/dam/city/depts/cdph/InspectionsandPermitting/CDPHResp_NASCOReq_Reconsideration_7182018.pdf
https://www.chicago.gov/content/dam/city/depts/cdph/environmental_health_and_food/VarReqfrmNorthAmericanStevedoring9301SKreiterAve.pdf
https://www.epa.gov/il/north-american-stevedoring-company


4/1998
North America Stevedoring Co...
ILLINOIS
Image U.S. Geological Survey
3/2002
North America Stevedoring Co...
ILLINOIS
Image U.S. Geological Survey
11/2004
North America Stevedoring Co...
ILLINOIS
Image © 2022 Maxar Technologies
5/2008
North America Stevedoring Co...
ILLINOIS
Image U.S. Geological Survey
4/2015
North America Stevedoring Co...
ILLINOIS
5/2021
North America Stevedoring Co...
ILLINOIS
Evidence of significant expansion of shipping container storage since 2015 that encroaches into the former woodland.

We will vision, dream, and create plans for this promised park!

Next to Calumet Park sits a Confined Disposal Facility (CDF) that stores the toxic sediment dredged from the Calumet River. This dump, at the point where river and lake meet, has been promised to be transformed into a park.

Scan the QR code to register for the online lecture!

Evidence of significant expansion of shipping container storage since 2015 that encroaches into the former woodland.

The potential area for the park is greatly diminished from the LAST FOUR MILES CONCEPT PLAN from July 4, 2009.


CDF
EXTENT OF PARK
Calumet River
S Kreiter Ave
E 94th St
North America Stevedoring Co...
USACE Melvin C. McLaurin...
Sims Metal - Chicago, IL
Gornick's Auto Rebuilders
Illinois International Port
Chicago Police/ Cook County...
Skyway Doghouse
North America Stevedoring Co...
ILLINOIS
INDIANA

Drying dredge pad (beneficial use)

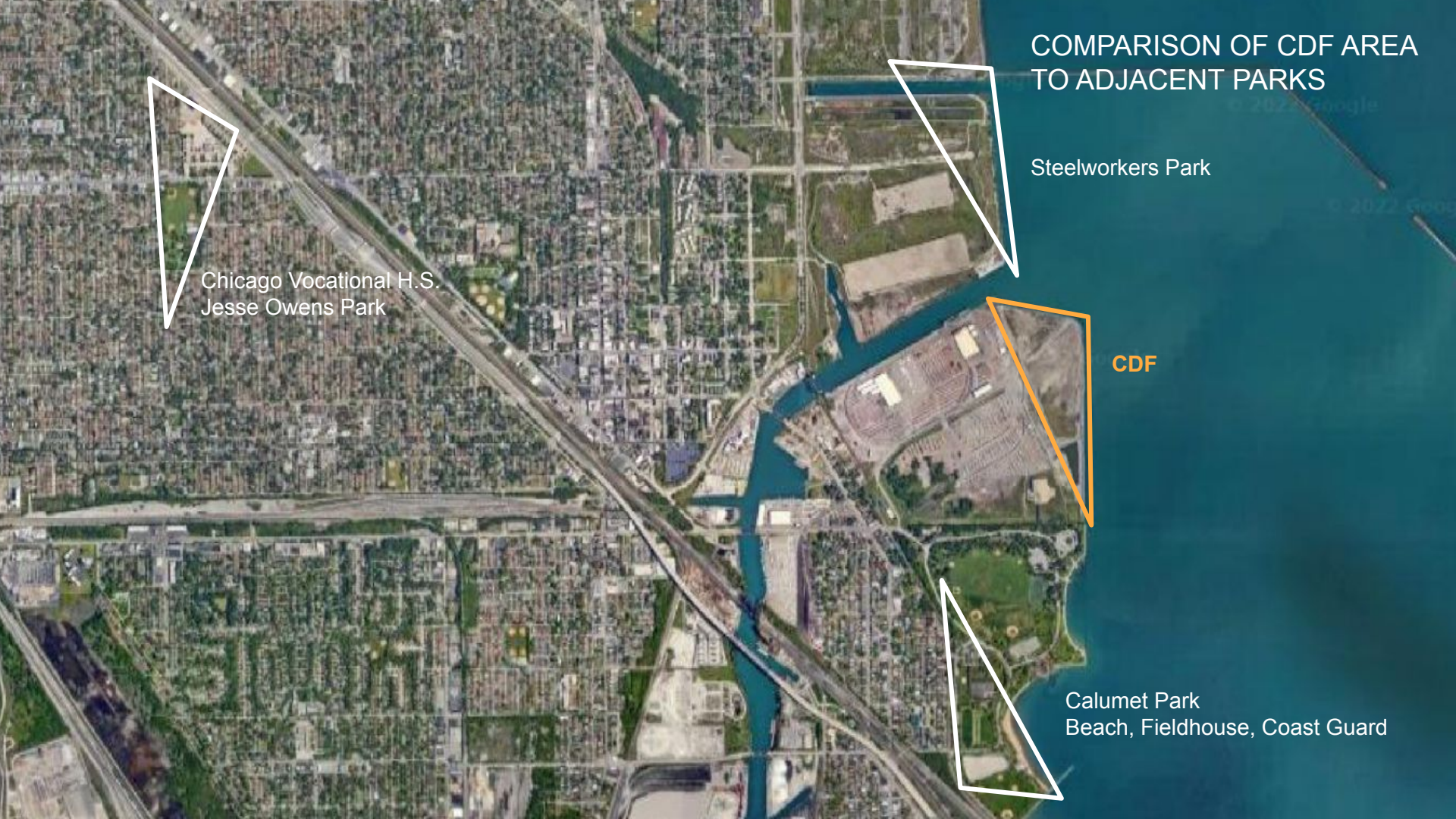
Drying dredge pad (confined disposal)

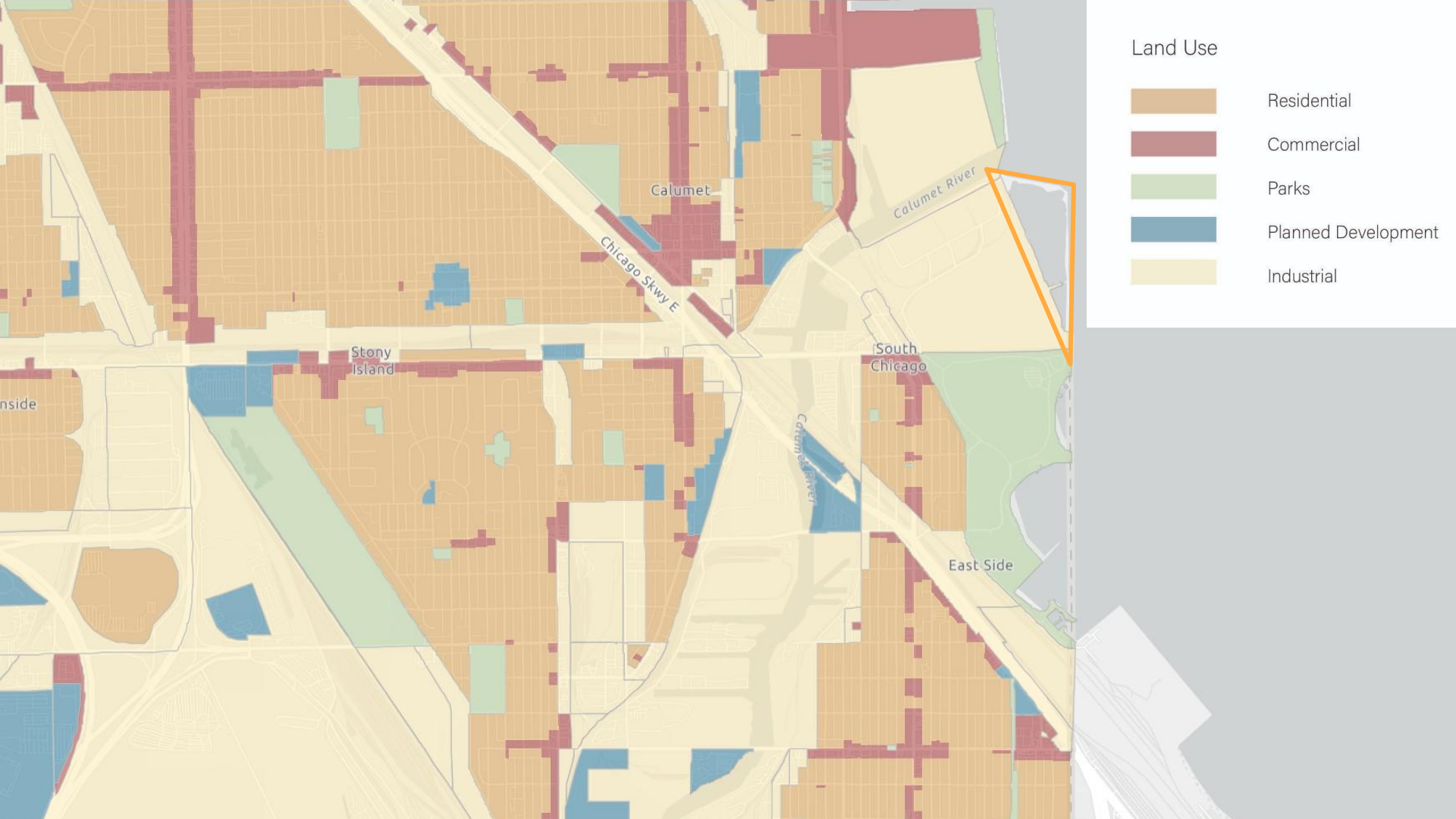
Illinois-Indiana state boundary

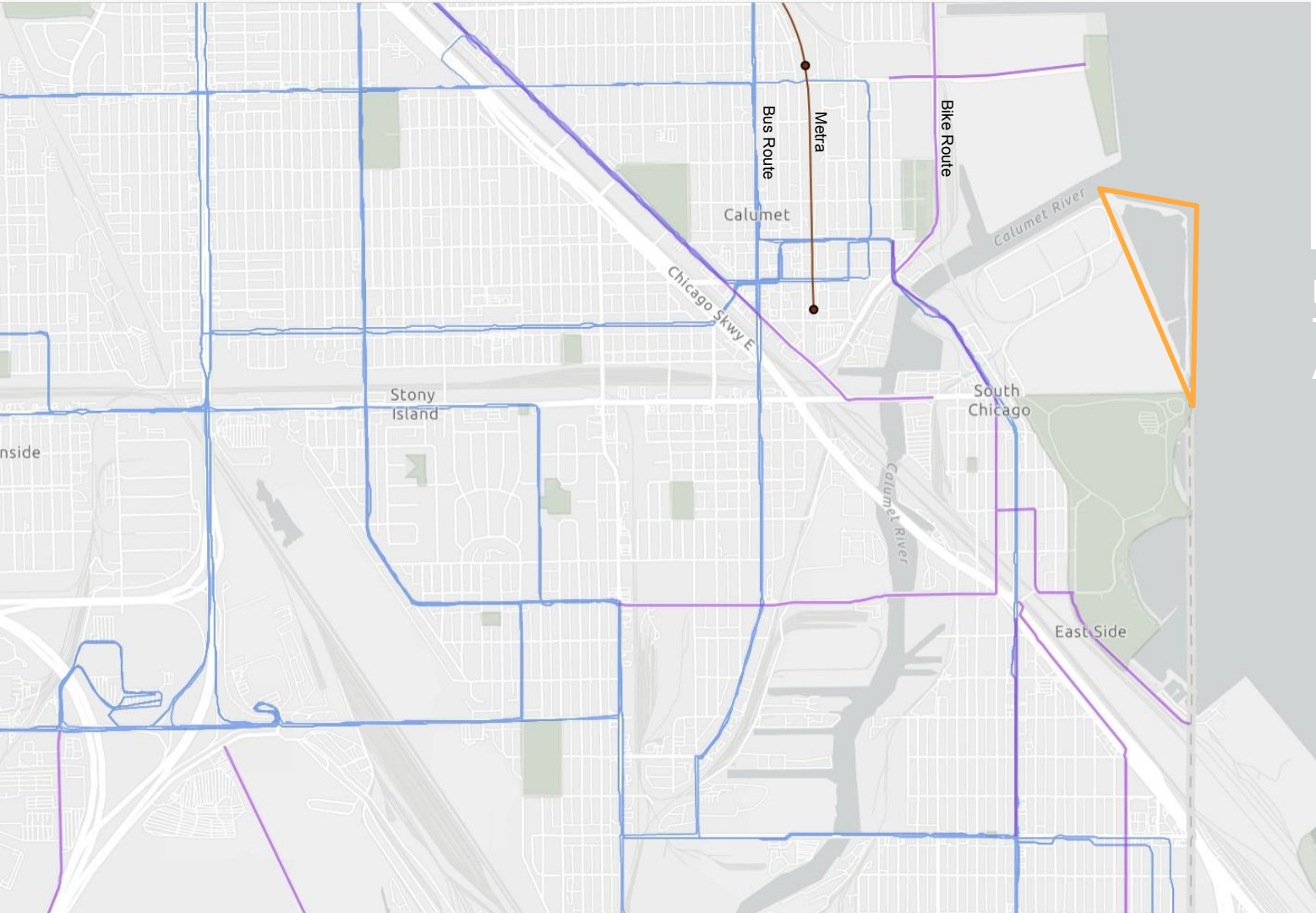
Dewatering pond

Very narrow connection to Calumet Park


CALUMET RIVER SHORELINE
APPROXIMATELY 1,200 FEET
LAKE MICHIGAN SHORELINE
APPROXIMATELY 2,800 FEET
ABOUT 1/2 MILE
ABOUT A 10-15 MINUTE WALK ONE WAY
INDIANA
ILLINOIS
Calumet River
S Kreiter Ave
E 94th St
North America Stevedoring Co...
USACE Melvin C. McLaurin...
Sims Metal - Chicago, IL
Gornick's Auto Rebuilders
Illinois International Port
Chicago Police/ Cook County...
Skyway Doghouse
North America Stevedoring Co...


COMPARISON OF CDF AREA
TO ADJACENT PARKS
Steelworkers Park
Chicago Vocational H.S.
Jesse Owens Park
CDF
Calumet Park
Beach, Fieldhouse, Coast Guard


Land Use
Residential
Commercial
Parks
Planned Development
Industrial
Calumet
Chicago Skwy E
Calumet River
Stony Island
South Chicago
East Side

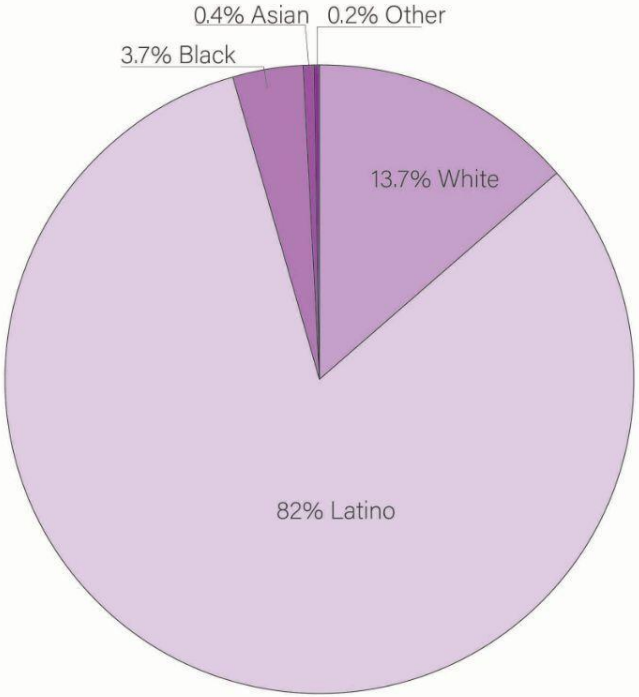


Public Transportation

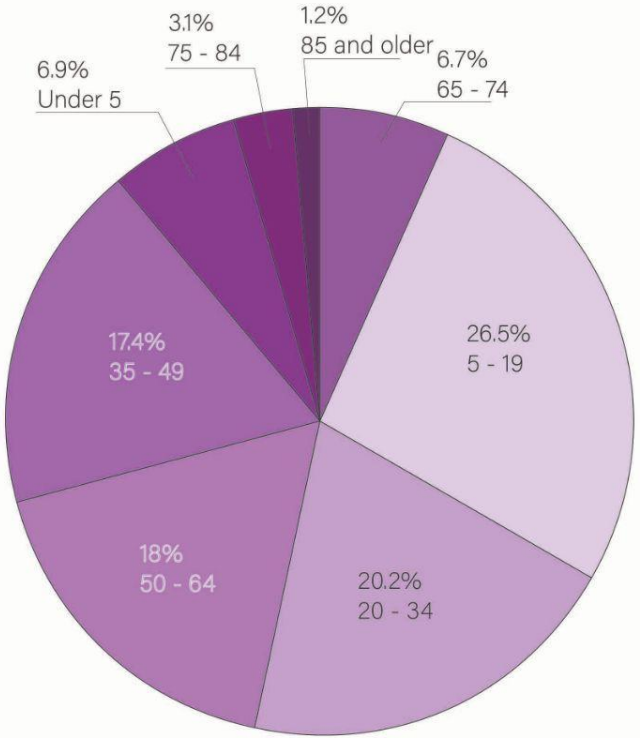
- Metra
- Bus Routes
- Bike Routes

POOR PUBLIC TRANSPORTATION ACCESS

Race and Ethnicity



Ages



MATERIALS


Site Visit
Granitic pebbles and sand
Quagga and Zebra mussels
Industrial Slag
A mix of indigenous rocks,
invasive lake species,
and industrial waste.

Steel Slag

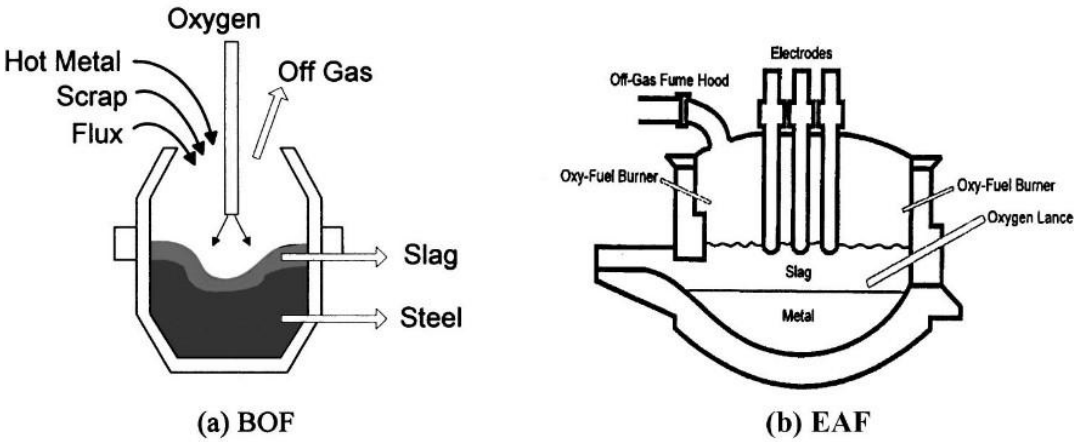


Fig. 1. Schematic illustration of basic oxygen furnace and electric arc furnace

Slag is the by product of converting iron to steel. In basic oxygen furnaces (BOF) use hot metal from blast furnaces and blasts a high pressure of oxygen to collect and remove impurities such as slag. Electric arc furnaces reheat only scrap material and is the more hazardous of the two. The chemical composition of slag depends on which furnace it was made in. Chromium and Vanadium are the two most toxic metals found in slag (if found in large quantities). Studies have shown that Vanadium is harder to remove.

PRECEDENTS

4 NATIVE ECOSYSTEM MODELS
4 NATURE-INTENSIVE PARKS
4 HUMAN-INTENSIVE PARKS
AND
PROMONTORY POINT PARK

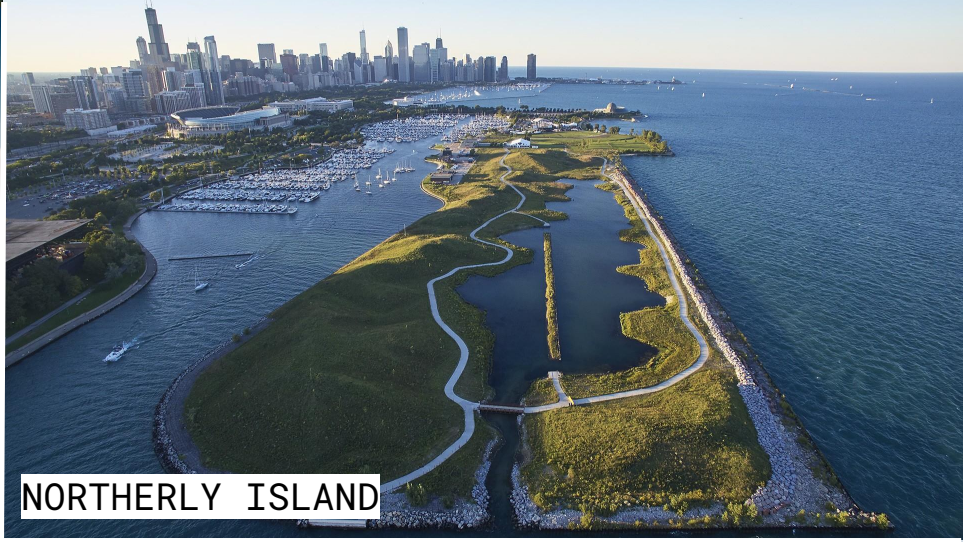

PINHOOK BOG


ORLAND GRASSLAND


ILLINOIS BEACH STATE PARK


GREAT MARSH

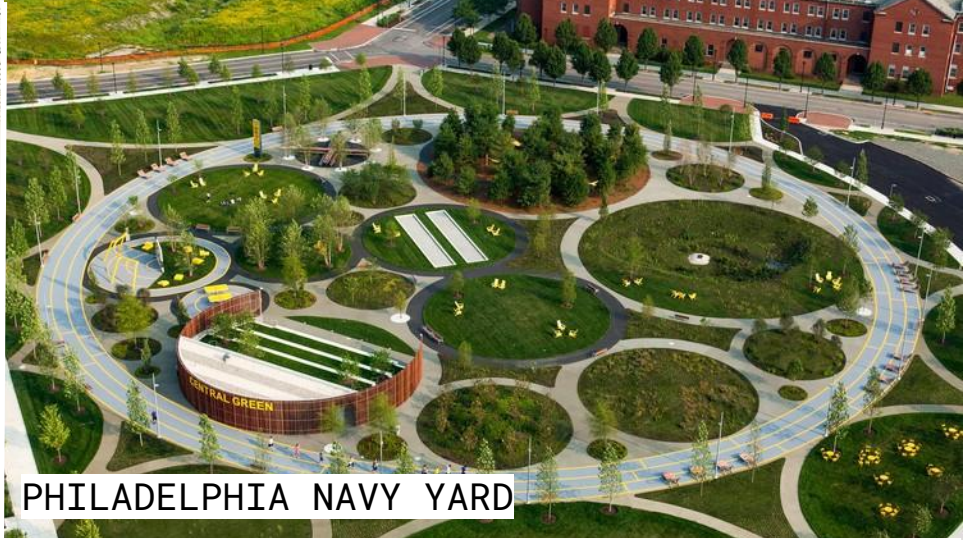

OLYMPIA FIELDS PARK


NORTHERLY ISLAND


STEELWORKERS PARK


WEST 8 SCHELDT


MILTON LEE OLIVE PARK



PHILADELPHIA NAVY YARD

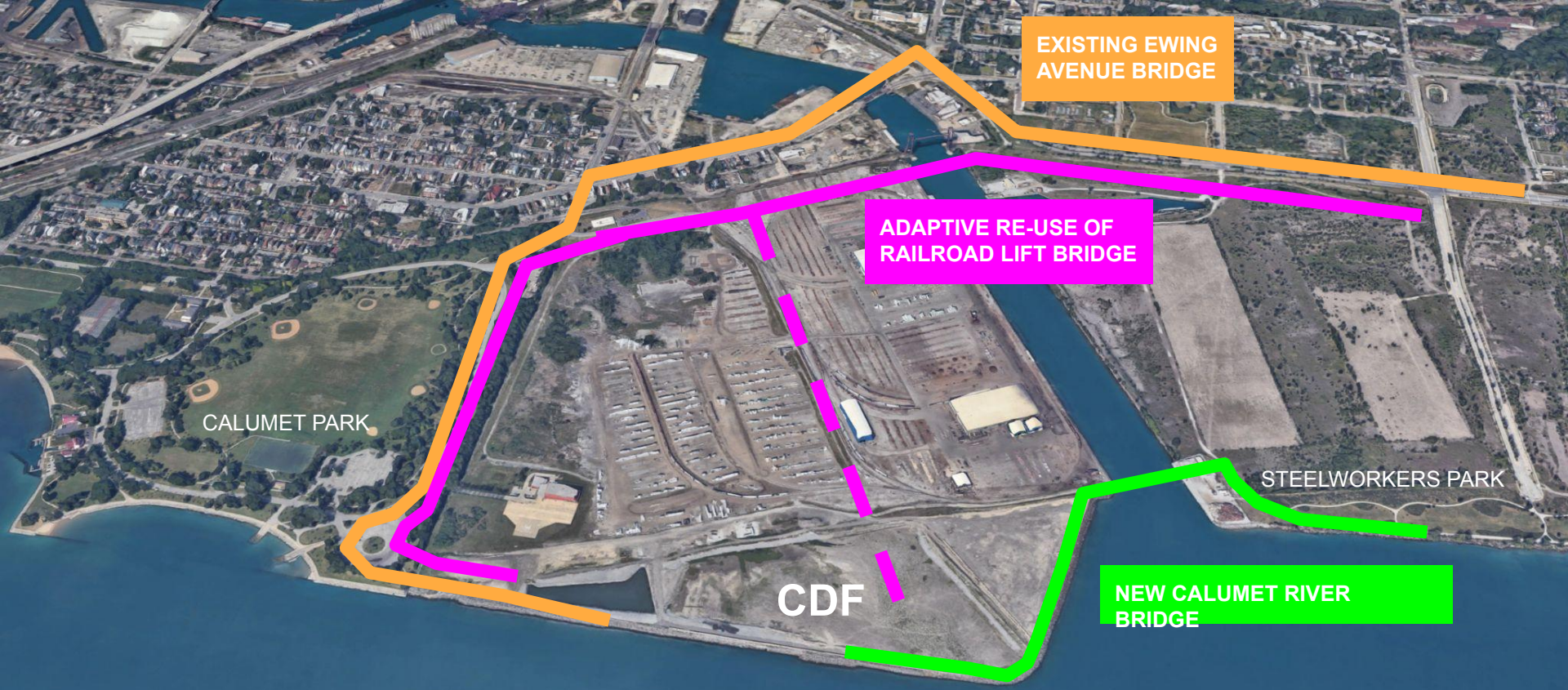

LINCOLN PARK NATURE CENTER


PALMISANO PARK

PROMONTORY POINT PARK

cul-de-sac, 12 acres vs. CDF 42 acres

ASSUMPTIONS

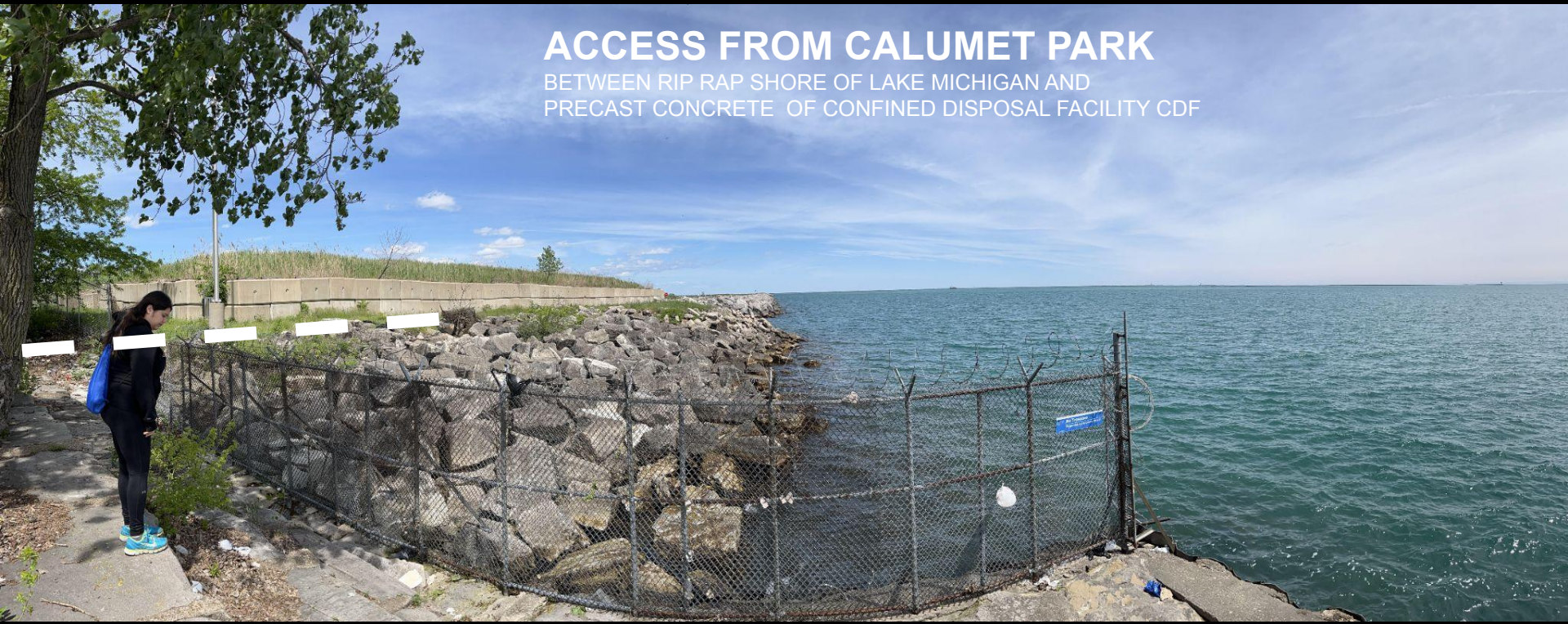


ASSUME NO NEW BRIDGE CONNECTION TO STEELWORKERS PARK

EXISTING ACCESS VIA EWING AVENUE BRIDGE

ADAPTIVE REUSE ACROSS RAILROAD LIFT BRIDGE (KREITER AVENUE ACCESS THROUGH PORT)

NEW CALUMET RIVER PEDESTRIAN AND CYCLIST BRIDGE



PRIMARY CONNECTION WILL BE FROM CALUMET PARK

SHOWN HERE LOOKING NORTH FROM CALUMET PARK

ASSUMPTIONS

1. NO NEW BRIDGE CONNECTION TO STEELWORKERS PARK
2. PRIMARY CONNECTION WILL BE TO CALUMET PARK

ASSUMPTIONS

1. NO NEW BRIDGE CONNECTION TO STEELWORKERS PARK
2. PRIMARY CONNECTION WILL BE TO CALUMET PARK
3. NO STRUCTURE TO BE BUILT ON THE SITE

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1. NO NEW BRIDGE CONNECTION TO STEELWORKERS PARK
2. PRIMARY CONNECTION WILL BE TO CALUMET PARK
3. NO STRUCTURE TO BE BUILT ON THE SITE
4. NO HIGH INTENSITY PROGRAMMING OR USES (E.G. CONCERTS)

ASSUMPTIONS

1. NO NEW BRIDGE CONNECTION TO STEELWORKERS PARK
2. PRIMARY CONNECTION WILL BE TO CALUMET PARK
3. NO STRUCTURE TO BE BUILT ON THE SITE
4. NO HIGH INTENSITY PROGRAMMING OR USES (E.G. CONCERTS)
5. SITE WILL BE CAPPED AT CURRENT DREDGE CAPACITY. NEW CLEAN FILL AND SOIL WILL BE ADDED TO SHAPE THE TOPOGRAPHY ONLY.

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6. THE SITE IS LIMITED TO THE CURRENT CDF BOUNDARY.


CDF
EXTENT OF PARK
Calumet River
S Kreiter Ave
E 94th St
INDIANA
ILLINOIS
Sims Metal - Chicago, IL
Gornick's Auto Rebuilders
USACE Melvin C. McLaurin...
North America Stevedoring Co...
Illinois International Port
Chicago Police/ Cook County...
Skyway Doghouse
North America Stevedoring Co...
Prospect Missionary Church
Park
urning Basin Number 1
ht Yard

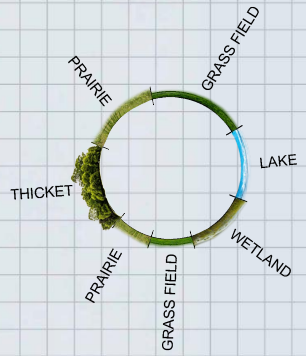
THREE SCENARIOS

Daniel Garczek

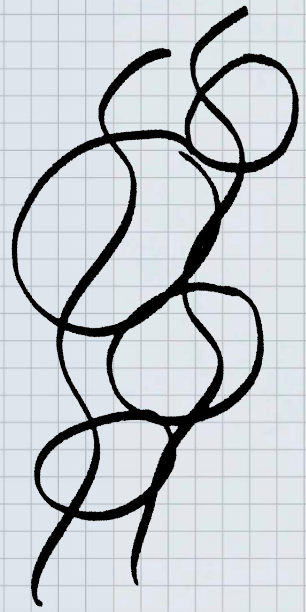
Eco-Loops Park

Landscape Plan

Eco-Loops Park creates the most diverse ecosystem. The four loops create pedestrian paths totalling 1.5 miles on which visitors experience changing environments through the thicket, prairie, grass field and shallow marsh wetland.



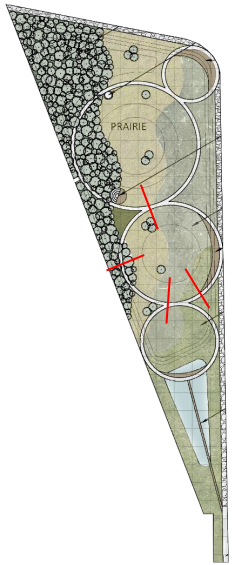
Diagram



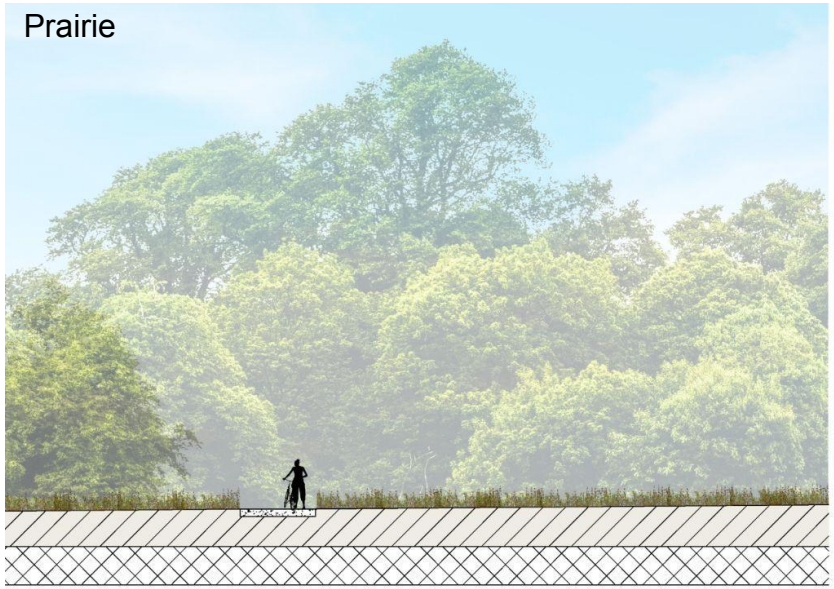
Concept Sketch

Eco-Loops Park

Sections

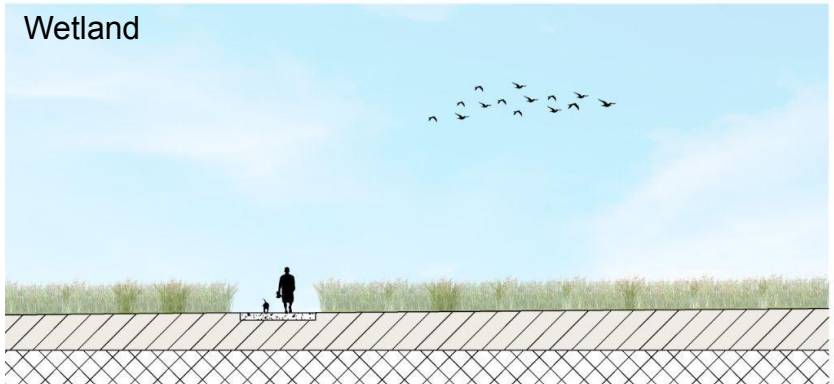


Prairie

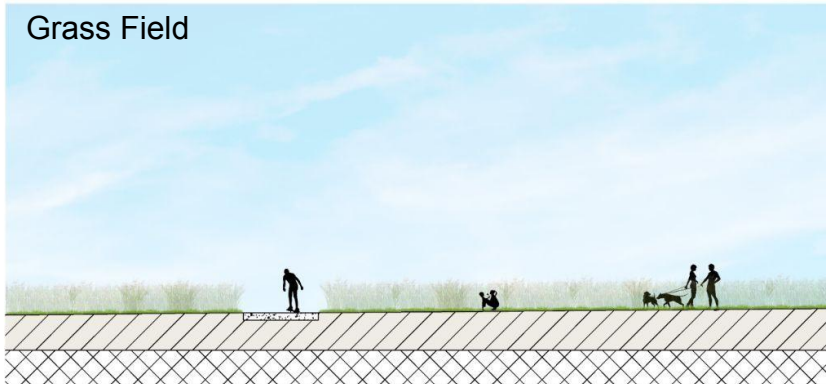


Thicket

Wetland



Grass Field



Eco-Loops Park

Aerial View

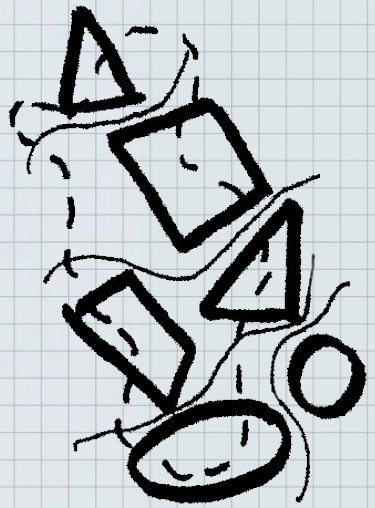
Eco-Loops Park

Perspective

Grasslands Park

Landscape Plan

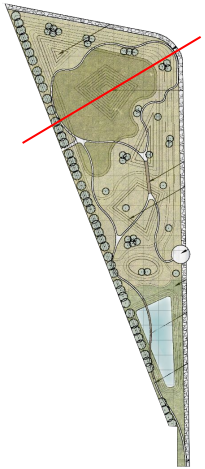
Grassland Park constructs an experientially-rich ADA accessible trail that meanders and gently slopes over hills and valleys leading to a lookout summit, sledding and kite hill, trail bridge and a gathering space overlooking the lake's edge.

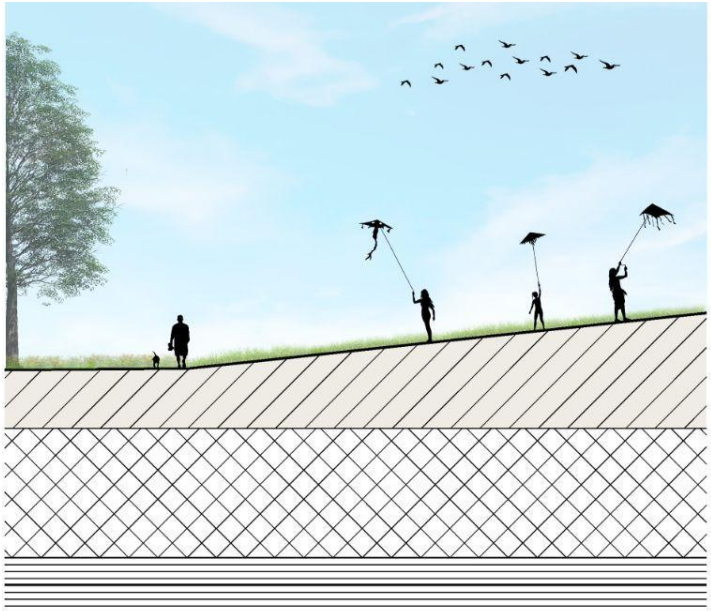


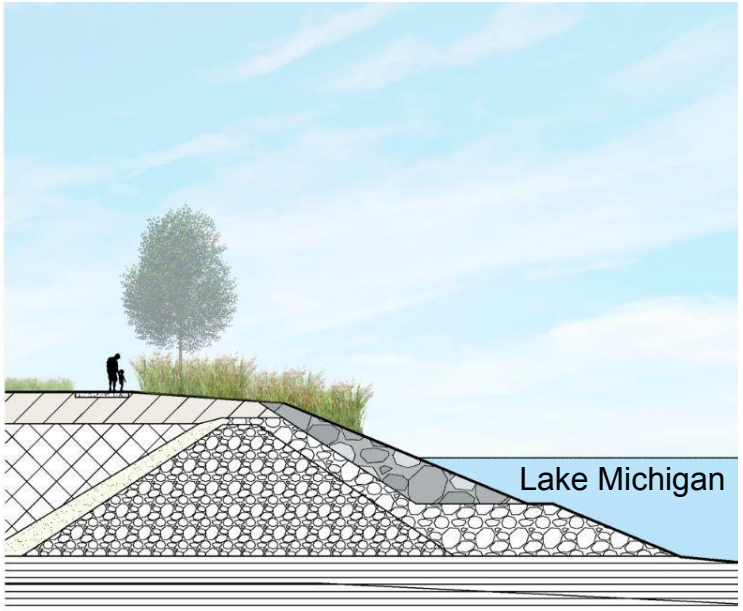
Concept Sketch

Grasslands Park

E-W Section







Grasslands Park

Aerial View

Grasslands Park

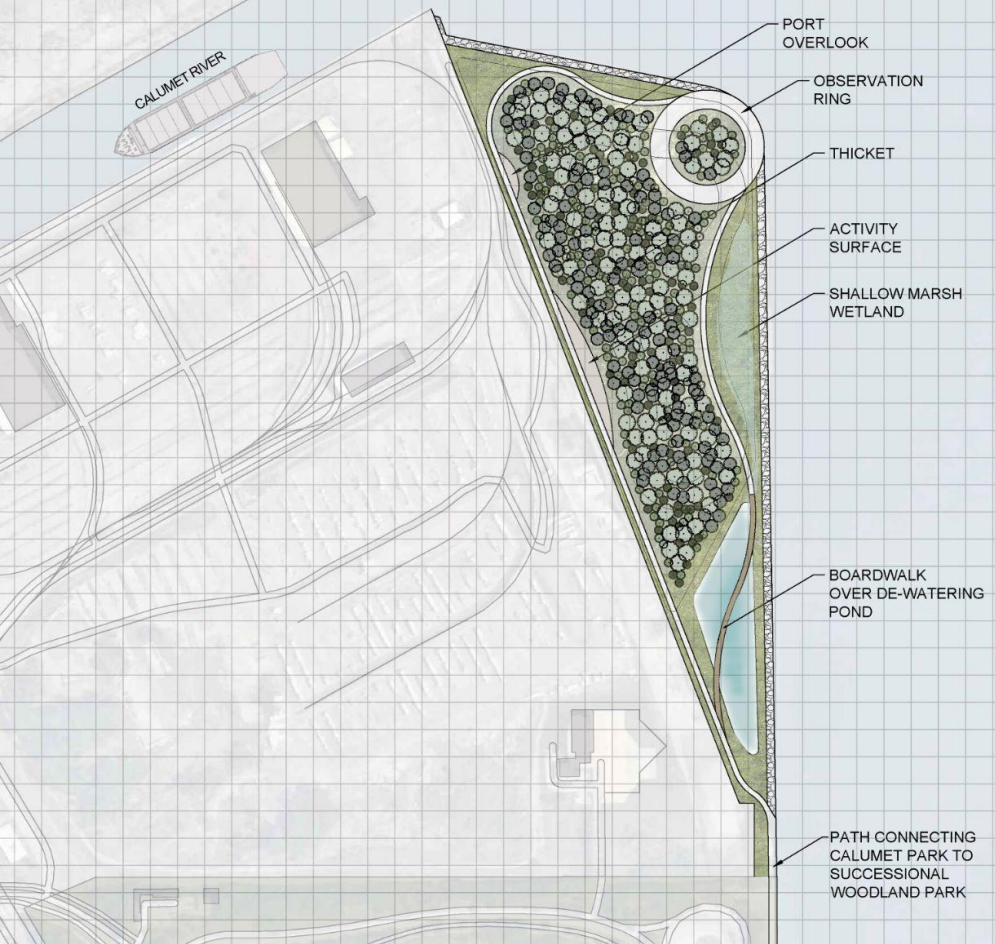
Winter Perspective of Sled Hill

Grasslands Park

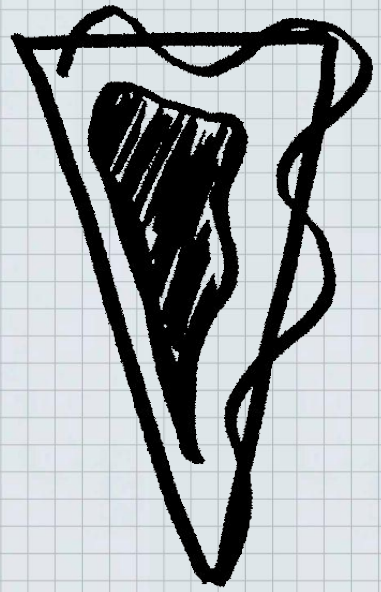
Summer Perspective of Kite Hill

Successional Woodland Park

Landscape Plan



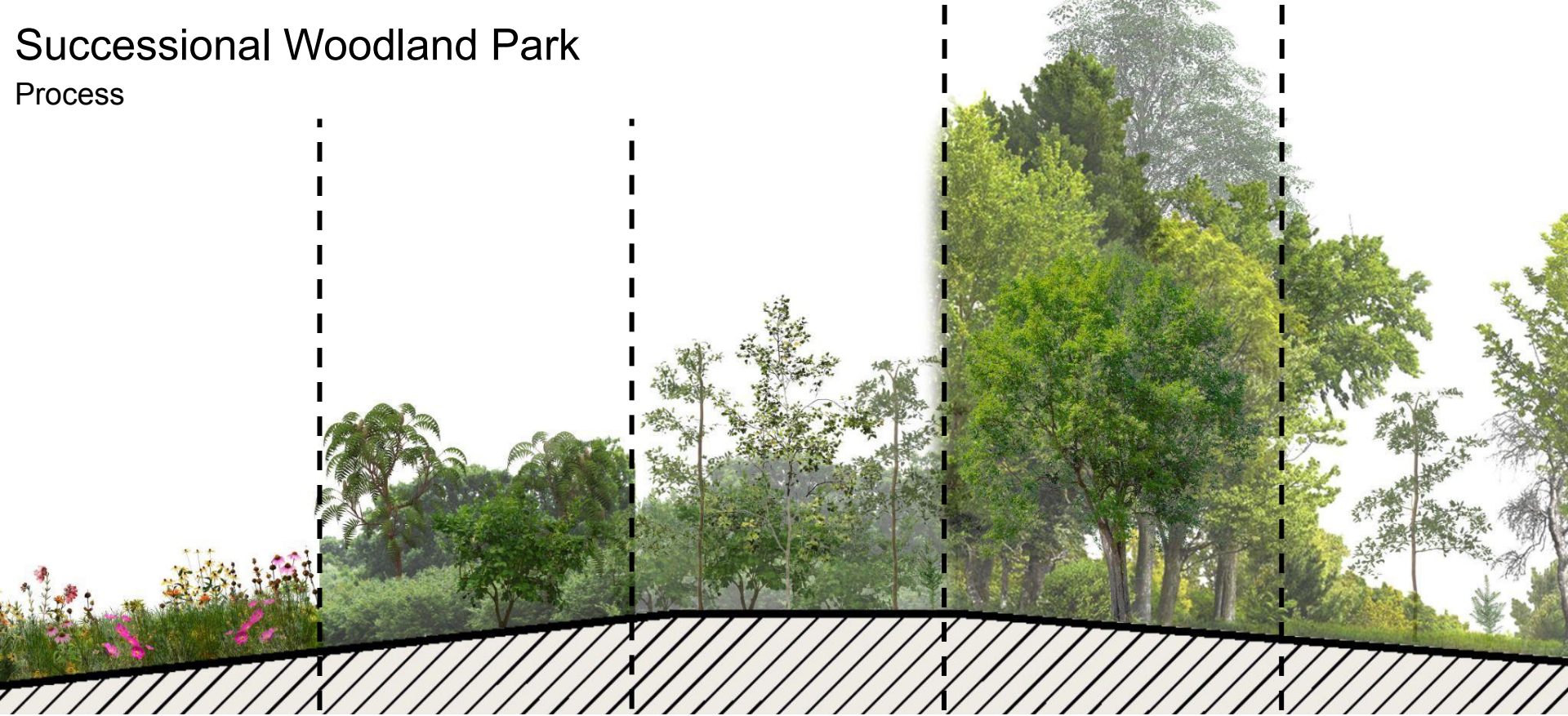
Successional Woodland Park will gather the efforts of the community through the planting of diverse species of trees that will grow into a biodiverse thicket over time.



Concept Sketch

Successional Woodland Park

Process



Stage 1:
Perennial grasses and wildflowers
0-12 years

Stage 2:
Shrub & seeding brush
10-18 years

Stage 3:
Sapling & Pole

15-25 years

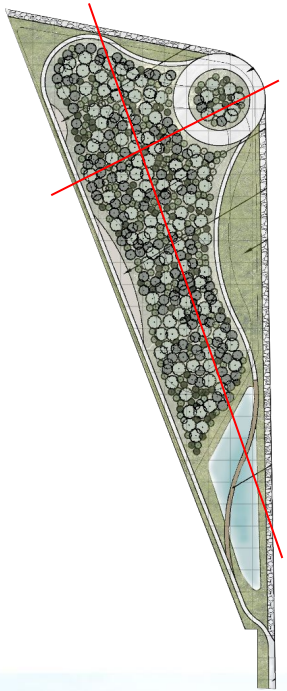
Stage 4:
Mature Woodland

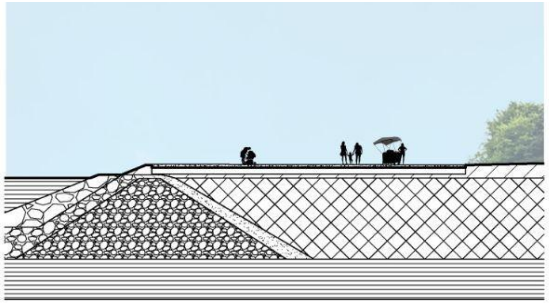
25-50 years

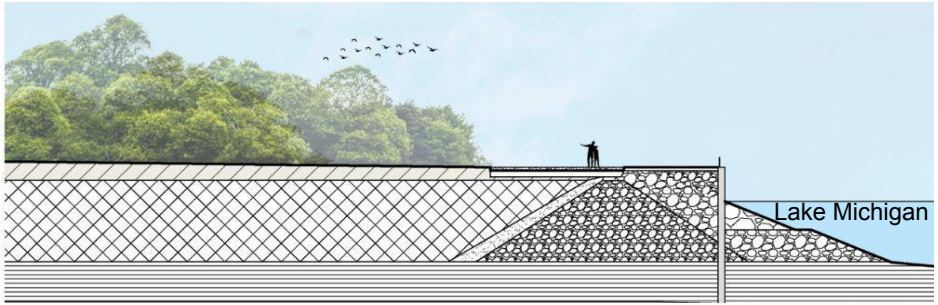
Stage 5:
Dynamic disturbance
50+ years

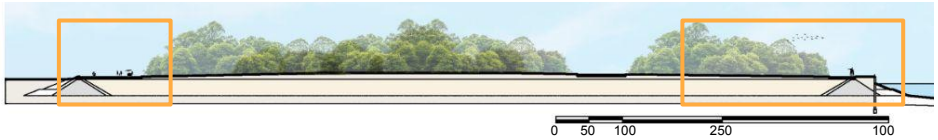
Successional Woodland Park

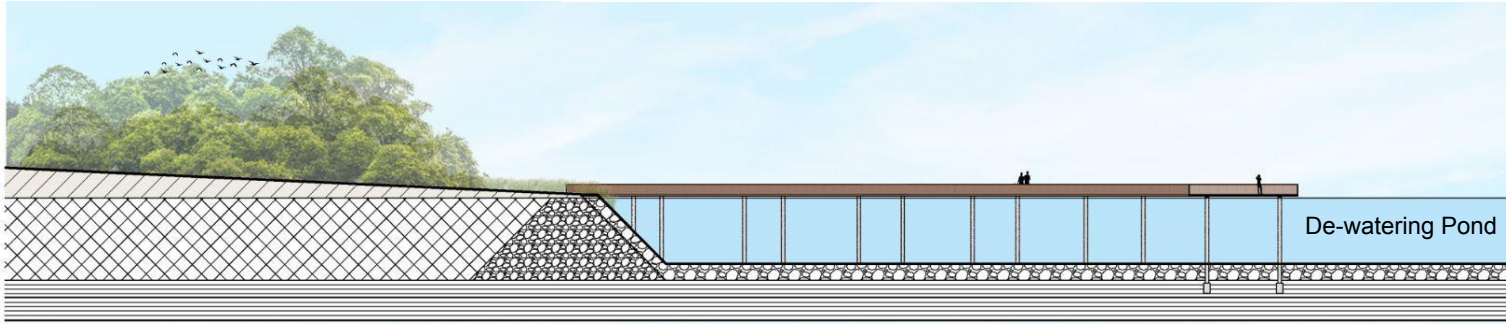
NS & EW Sections











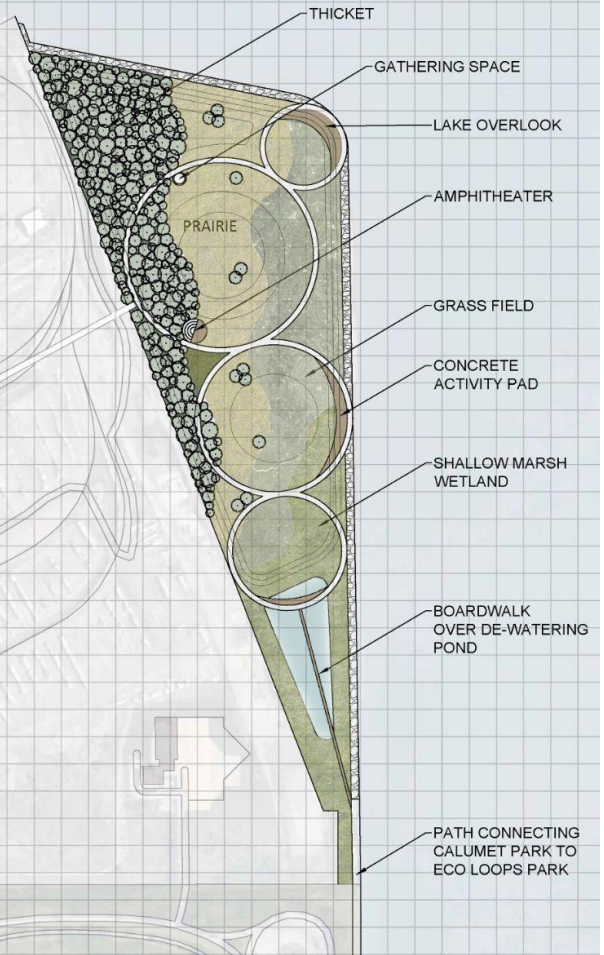
Successional Woodland Park

Aerial View

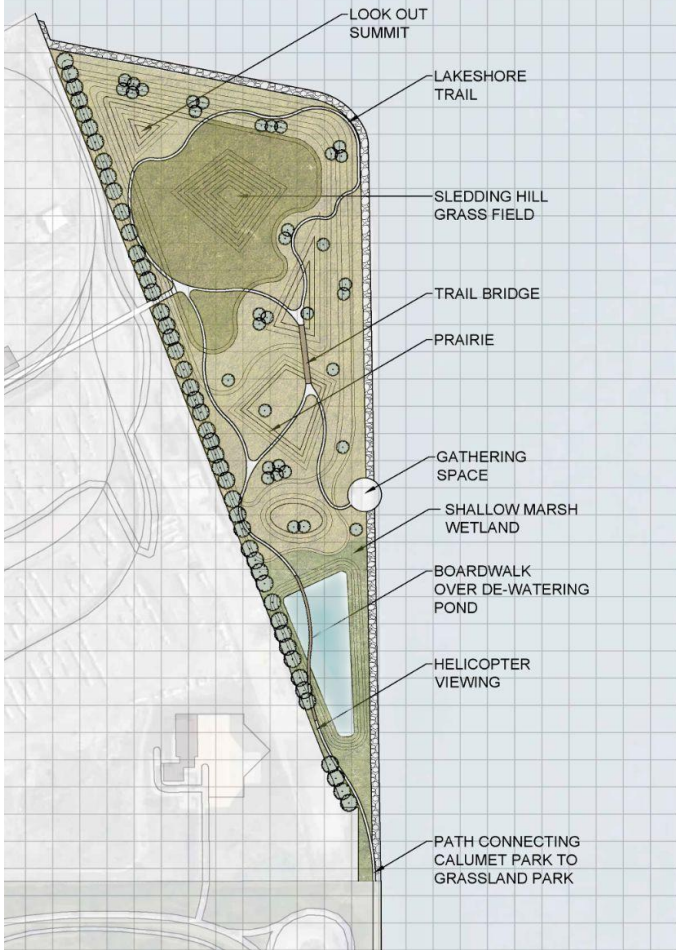
Successional Woodland Park

Perspective of Boardwalk looking East to Lake Michigan

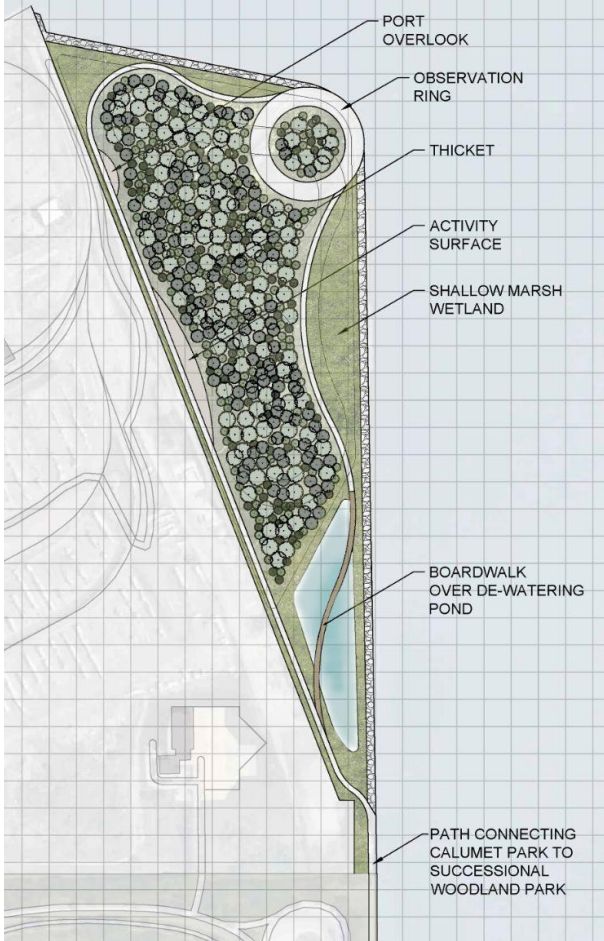
Eco-Loops Park



Grasslands Park



Successional Woodland Park



THREE SCENARIOS

Amanda Soto

Eco-Lab

Eco-Lab is a conservation landscape that constructs habitat for threatened bird species and native pollinators.

Eco-Lab

Landscape Plan + Diagrams

Calumet River

Shorebird Swamp

Sculpture Garden

Channels

Pollinator Prairie

Exploration Area

Picnic Seating

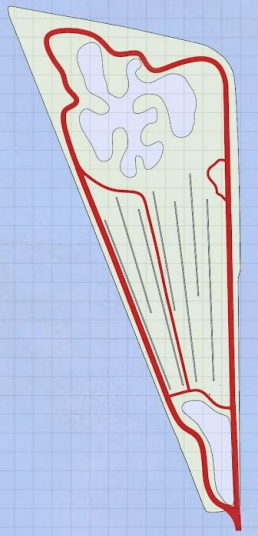
50' 200'

Seed Distribution

The Pollination Prairie has shallow channels that stay damp.
Seed distributor stations located along the West side of the site let seeds dispurse in the wind across the site.

Circulation Diagram

Bike path loops around the perimeter of the park.
More intimate walking paths meander through the center of the park.
Program heavy boardwalk on along the East side boarder.



50' 200'
100' 400'

Eco-Lab

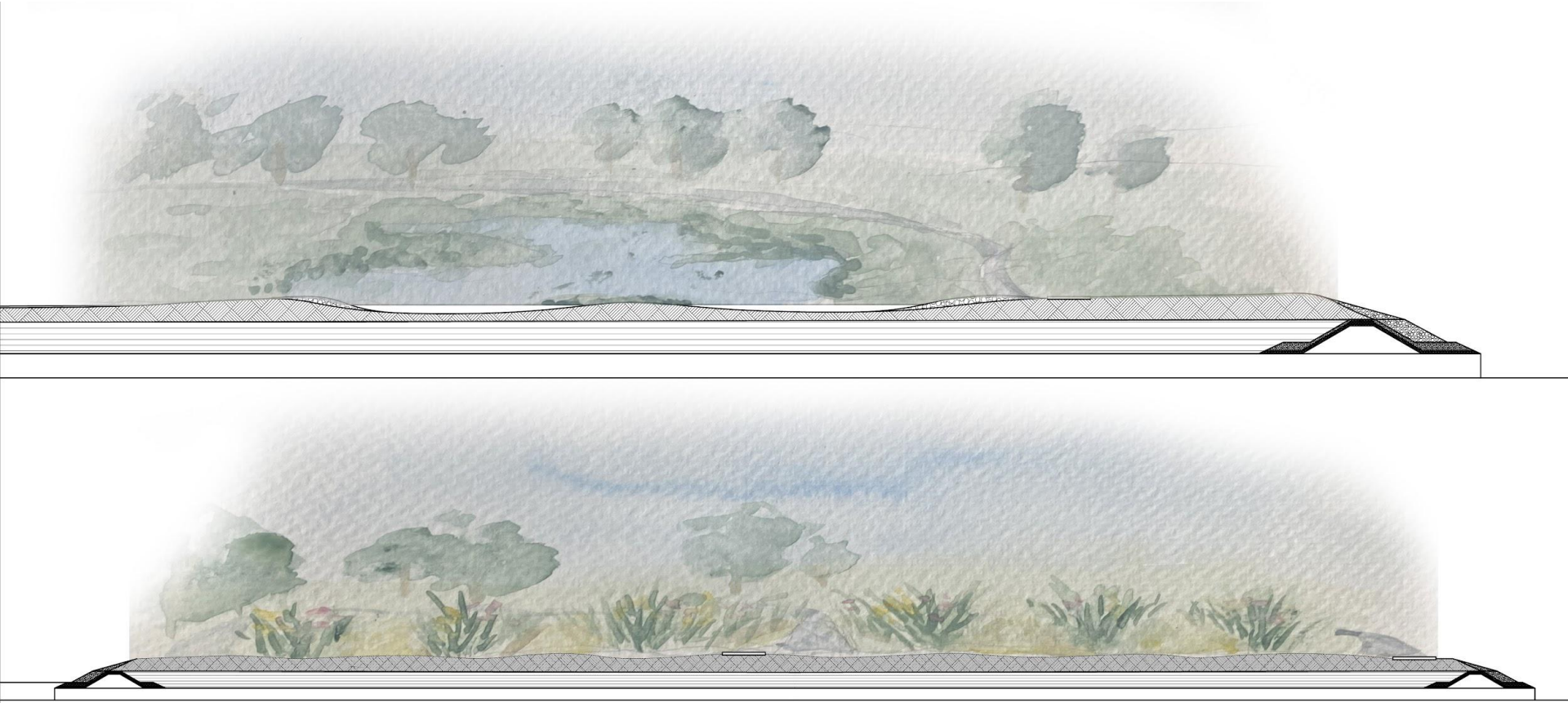
Aerial

Eco-Lab

Perspective inside the grassland furrows

Eco-Lab

Sections



Eco-Lab

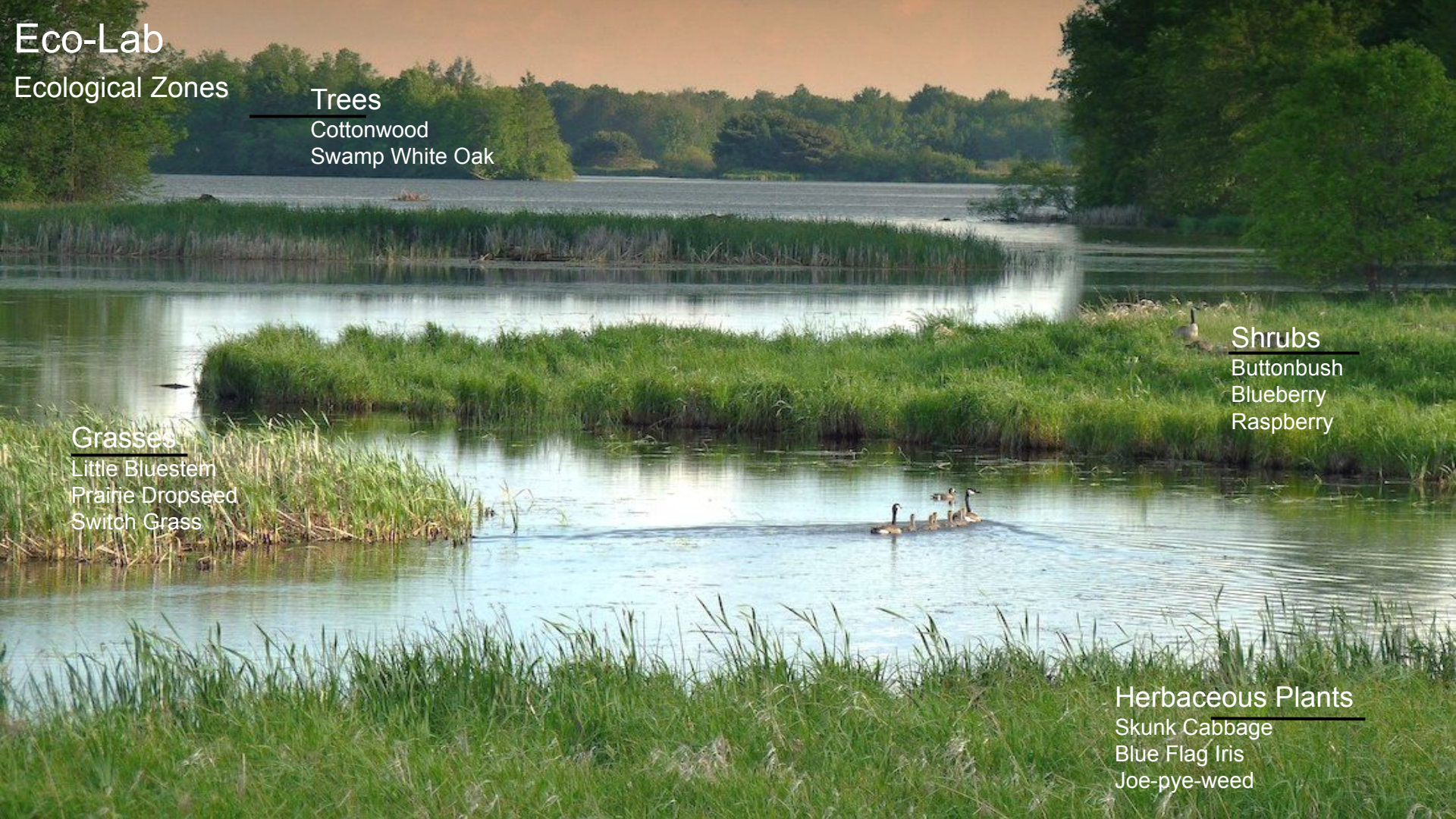
Ecological Zones

Trees
Cottonwood
Swamp White Oak

Shrubs
Buttonbush
Blueberry
Raspberry

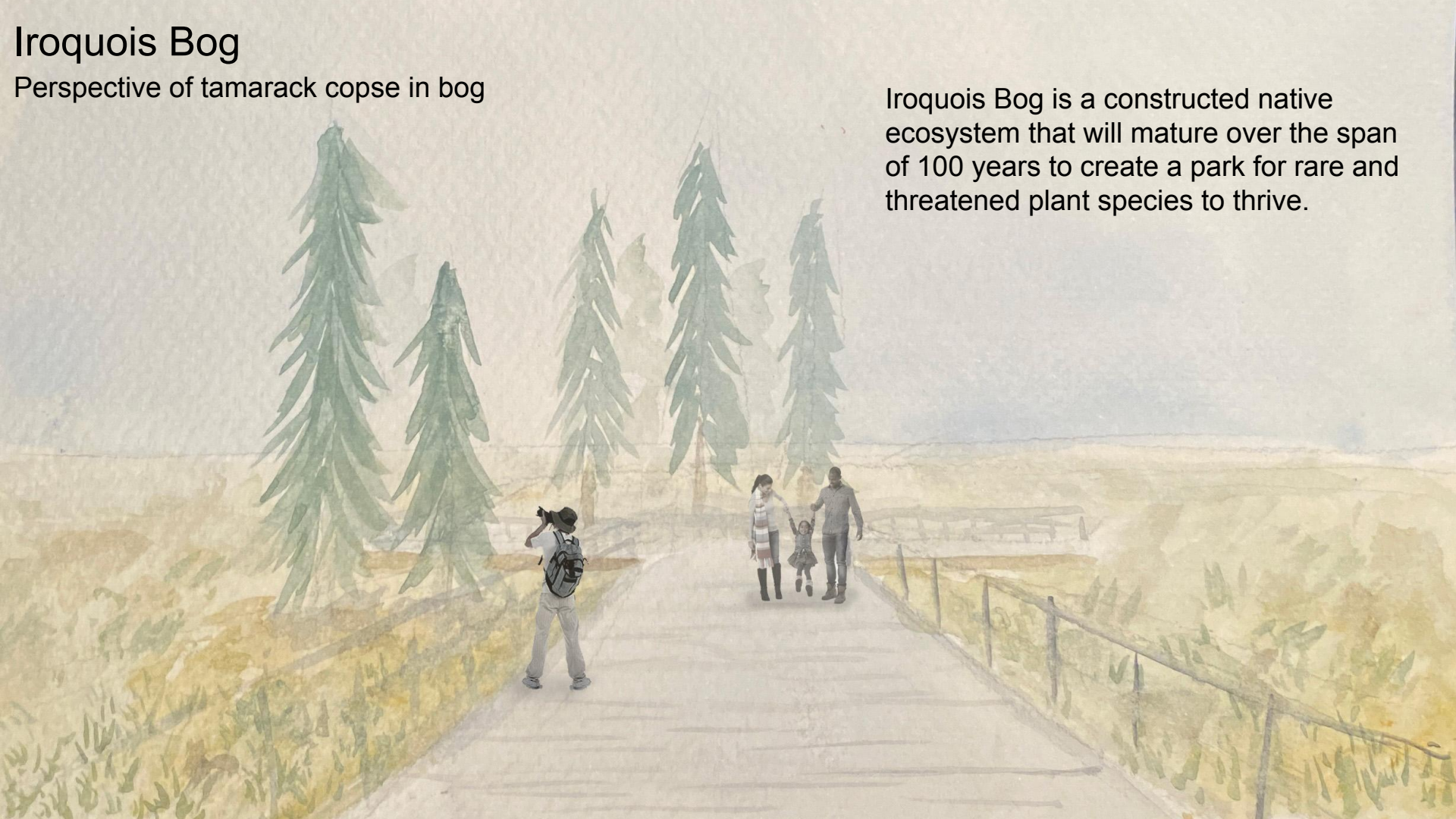
Grasses
Little Bluestem
Prairie Dropseed
Switch Grass

Herbaceous Plants
Skunk Cabbage
Blue Flag Iris
Joe-pye-weed



Iroquois Bog

Perspective of tamarack copse in bog



Iroquois Bog is a constructed native ecosystem that will mature over the span of 100 years to create a park for rare and threatened plant species to thrive.

Iroquois Bog

Landscape Plan + Diagrams When Planted

Iroquois Bog

Landscape Plan + Diagrams
20 Years

Calumet River

Stagnant Lake

Bog

Overlook

Bridge Connection

50' 100' 200' 400'

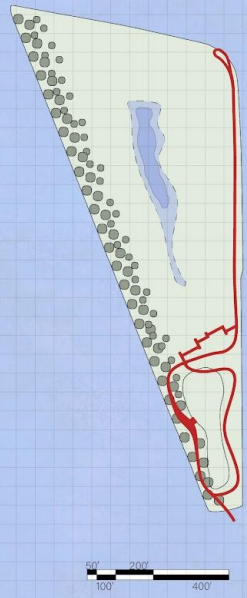
N

Acidity Level Diagram

Slag found in the Chicago / Gary area neutralizes acidity.
By placing slag around the perimeter of the bog, more common plants can inhabit this area while the center of the bog remains acidic.

Circulation Diagram

Walking path extended to the corner of the park and hugs the perimeter tightly to avoid disturbing the bog.



Iroquois Bog

Landscape Plan + Diagrams
100 Years

Calumet River

Stagnant Lake

Bog

Overlook

Acidity Level Diagram

High acidity levels continue to spread within the center of the bog creating the habitat for rare and endangered plants.

Circulation Diagram

As the bog starts to settle, a new boardwalk is added to allow access within the bog.

50' 200'
100' 400'

50' 200'
100' 400'

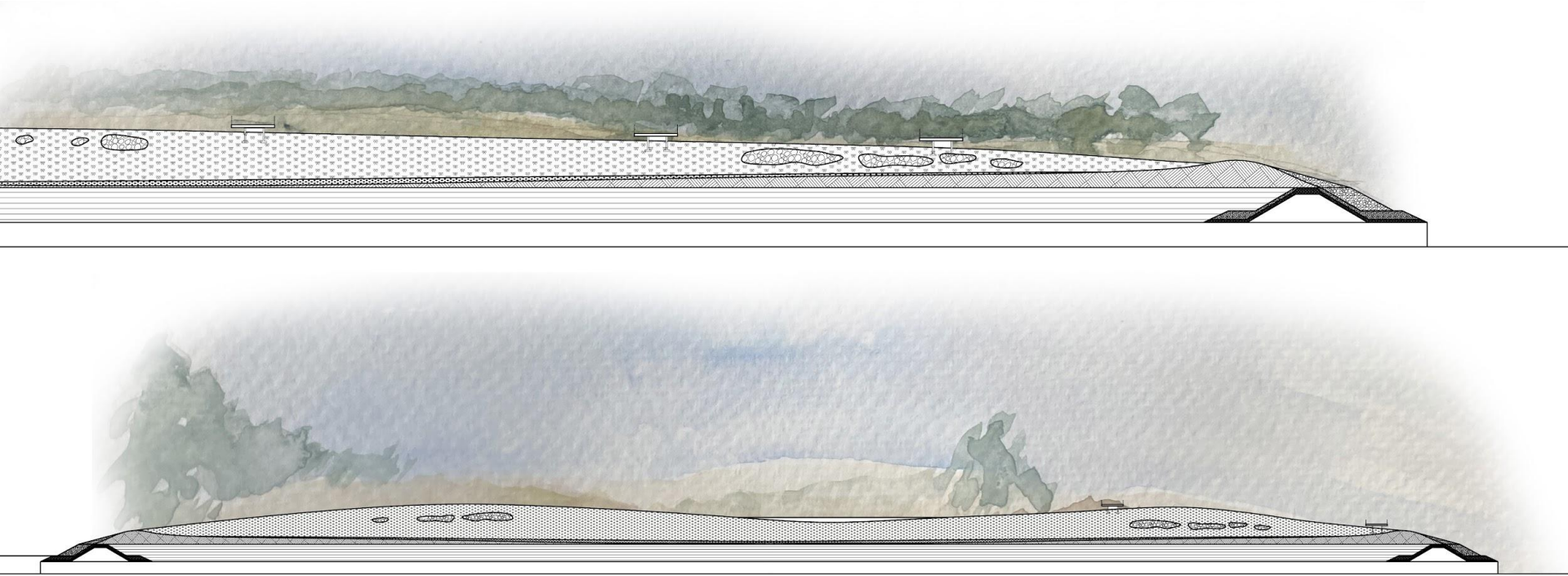
N

Iroquois Bog

Aerial

Iroquois Bog

Sections




Iroquois Bog
Ecology
Trees
Tamarack
Aspen
Acidity 5.5 - rare
Slipper Orchids
Sedges
Acidity 6
Blueberries
Ferns
Iris
Acidity 5 - most rare
Sundews
Sphagnum Moss
Pitcher Plants

Iroquois Bog

Perspective at 100 years with bog overlook

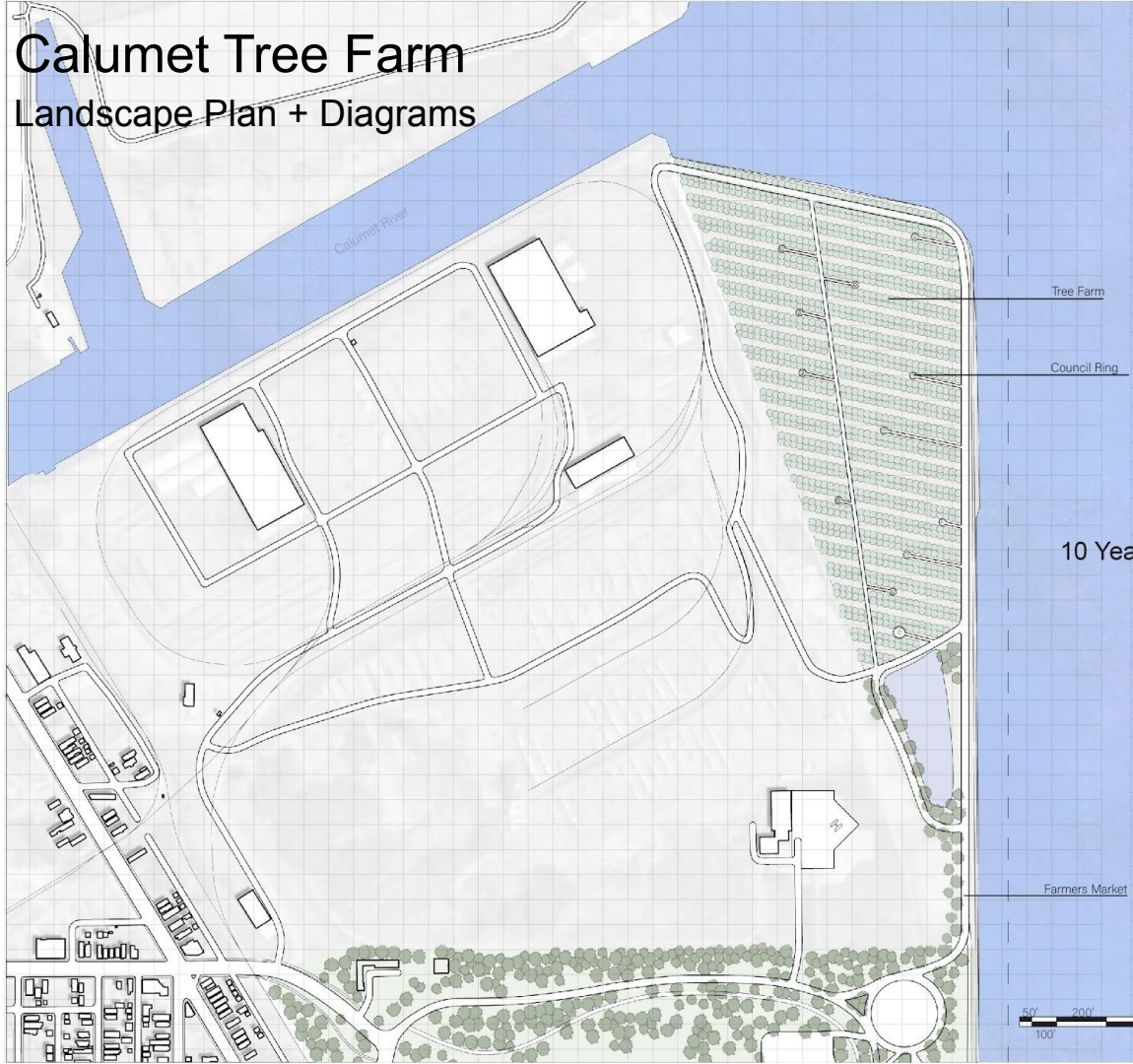
Calumet Tree Farm

Perspectives

Calumet Tree Farm is a green industry park that grows trees for reforesting existing parks and parkways within the community and create a managed forest for people to explore.

Calumet Tree Farm

Landscape Plan + Diagrams



10 Year Old Trees = 99 tons of CO_2 collected OR 675,000 Barbeques

Circulation Diagram

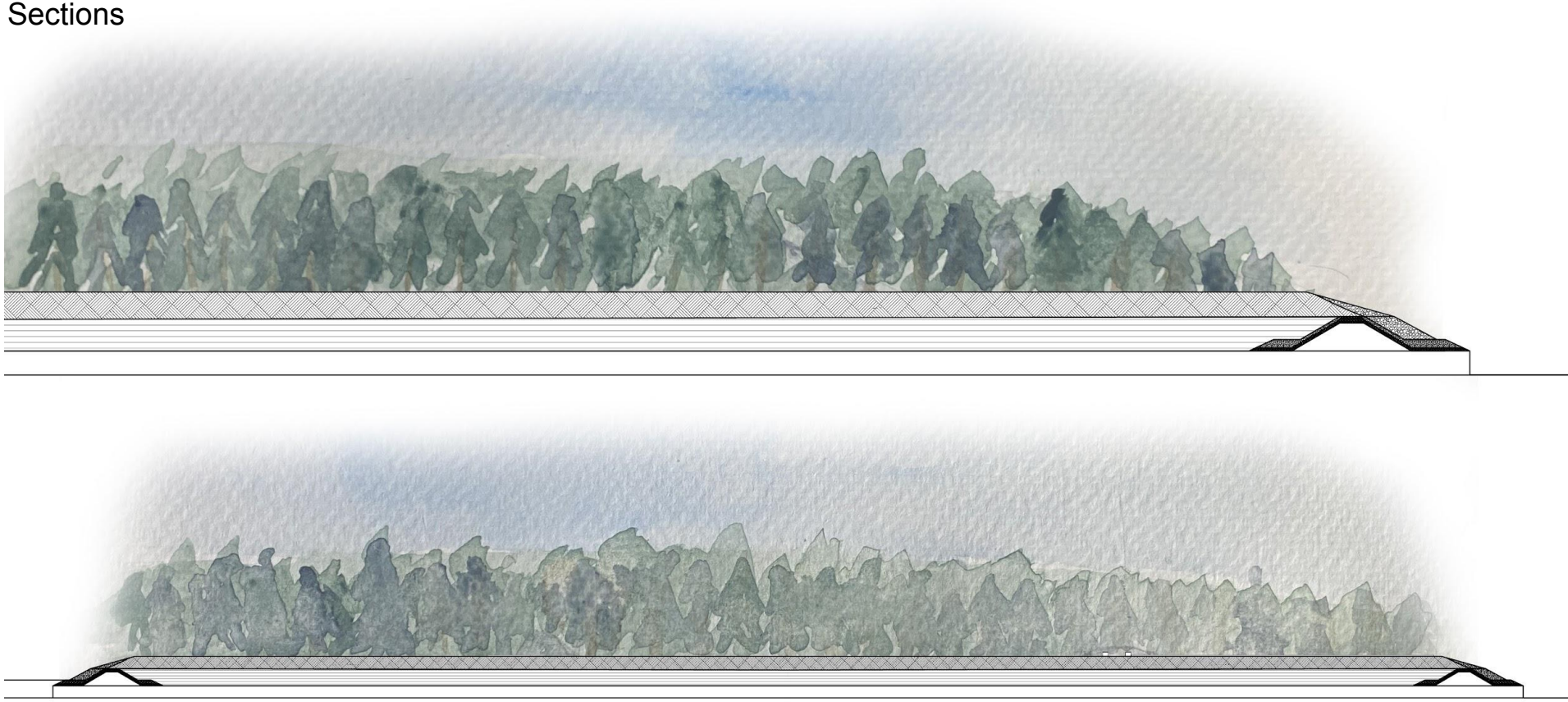
Main walking paths at the perimeter that branch out to multiple council rings within the forest.

Calumet Tree Farm

Aerial

Calumet Tree Farm

Sections



Calumet Tree Farm

Ecology

Calumet Tree Farm

Perspective along Lake Michigan shoreline access from Calumet Park

Eco-Lab

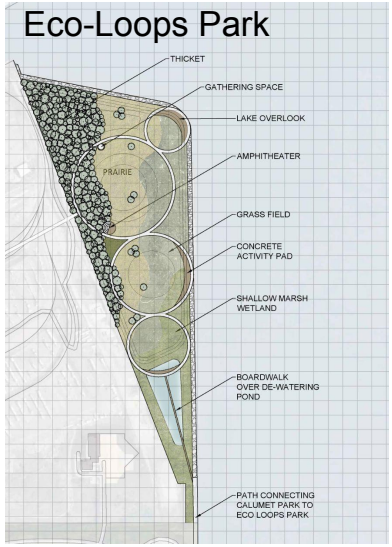
Iroquois Bog

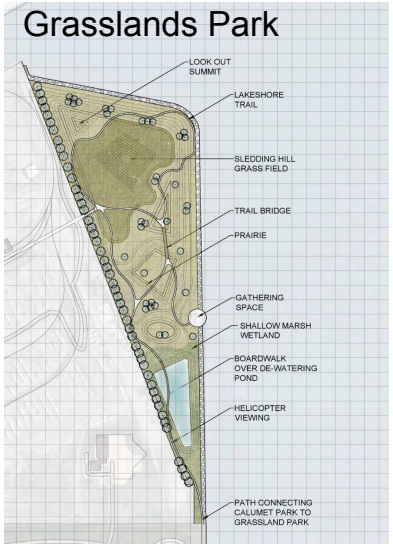
Calumet Tree Farm

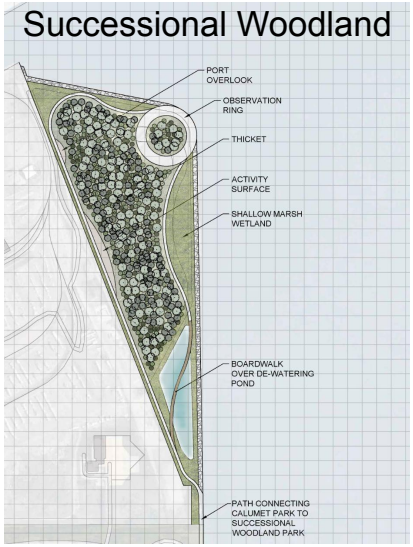
THANK YOU FOR INVITING IIT AND THE MASTER OF LANDSCAPE ARCHITECTURE + URBANISM PROGRAM TO JOIN YOUR COMMUNITY

ALL 6 SCENARIOS

Daniel







Amanda