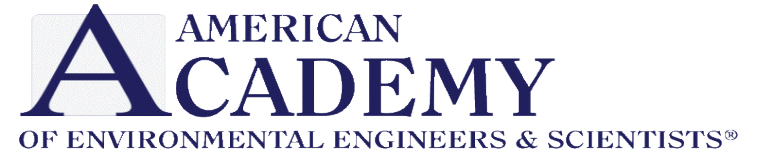


Thank you to our Patrons

We will begin our presentation in a few minutes...



Leadership and Excellence in Environmental Engineering and Science

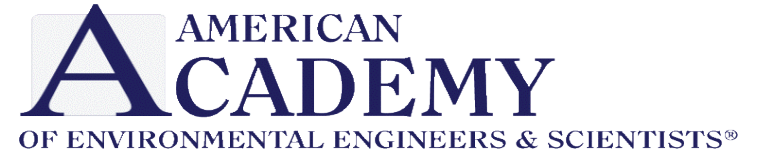
JUNETEENTH

Freedom Day

June 19th



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Need a PDH Certificate?

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Questions?

Email Marisa Waterman at mwaterman@aaees.org with any questions you may have.



Leadership and Excellence in Environmental Engineering and Science

Omaha Riverfront Revitalization Project



Overview

In November of 2016 the Riverfront Revitalization Committee was created to oversee the creation of a plan to transform three adjacent park areas in Omaha – Gene Leahy Mall, Heartland of America Park, and Lewis & Clark Landing) as well as significant stretches of the Council Bluffs riverfront into a vibrant multi-faceted and iconic asset for our community.

The Committee is comprised of local private sector leaders from Omaha and Council Bluffs along with the Mayors of Omaha and Council Bluffs.



Guiding Principles

1

CONNECT TO THE RIVERFRONT.

- Building on the unique value of the river.
- Create an iconic riverfront.

2

CREATE A VARIETY OF ACTIVE SPACES

- Explore creative solutions
- Create a flexible plan for the future.
- Invest in quality design.

3

CREATE AN IMPLEMENTABLE, SUSTAINABLE, AND MAINTAINABLE PLAN

4

BE A CATALYST FOR GROWTH

5

BECOME A REGIONAL DESTINATION

Who is the project team?

The Downtown Riverfront Trust – Funding and planning lead.

City of Omaha – Owner, funding assistance, permitting.

MECA – Oversees design and construction. Operations, maintenance, and programming.

Design Team – HDR (Lead firm, site civil, structural, permitting)

OJB (Lead planning firm, landscape architecture)

Alvine, Gensler, Fluidity, Studio Ludo, Safdie Rabines, Atelier Ten,

Terracon, LRA, Applied Ecological Services, RSM Design, Pine &

Swallow, Waterscape

Construction Manager - Kiewit Infrastructure Group

Engineering Challenges

- **Built urban environment**
- **Traffic considerations during and after construction**
- **Historic buildings on the site**
- **Brownfield sites – Lewis and Clark Landing/Heartland of America Park**
- **Union Pacific Railroad and BNSF Railroad**
- **US Army Corps of Engineers permitting**
- **Wetlands**

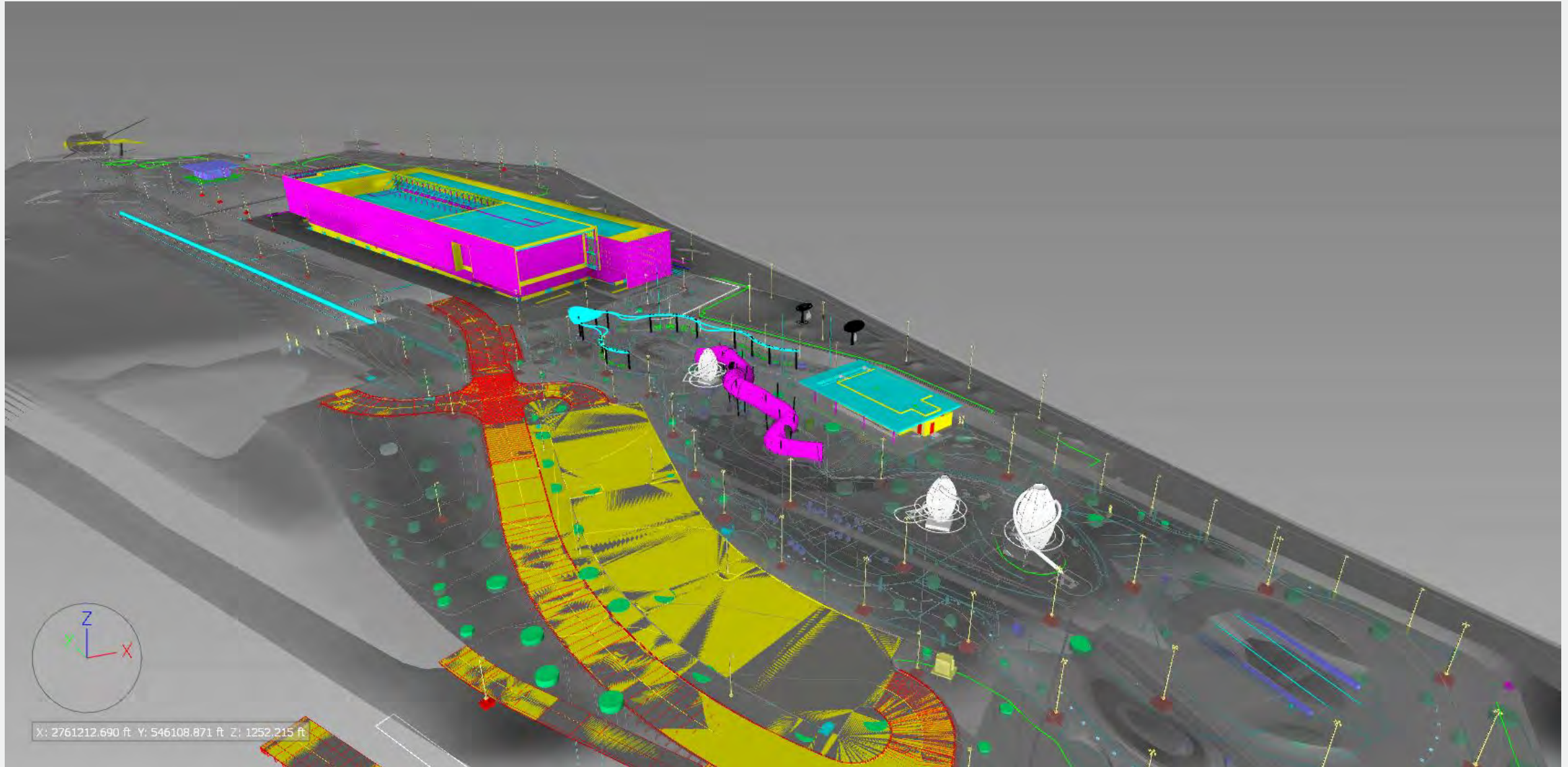
Engineering Challenges - continued

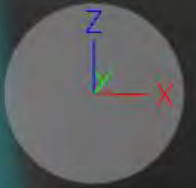
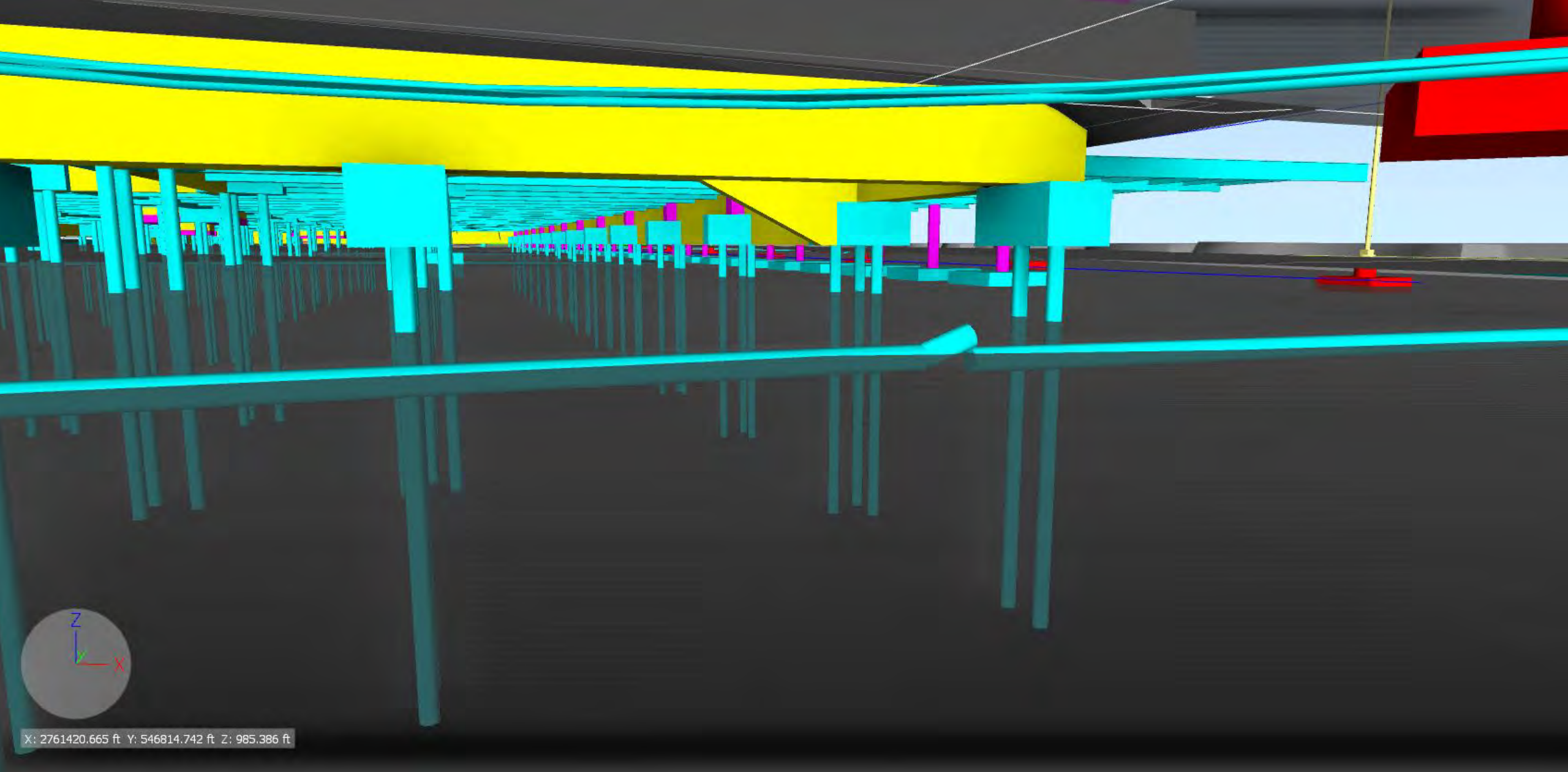
- **Floodway**
- **Compressive/soft soils – potential impacts to buried OPPD 161 KV line**
- **Interstate considerations – NDOT coordination**
- **Coordination with City of Omaha Combined Sewer Overflow project**
- **Coordination with adjacent developments**
- **Coordination with City projects**
- **Late project additions**

Not Typical Engineering Challenges

- **Lots and lots of new trees and vegetation**
- **3 FT thick soil section - 10 soil sections**
- **Walkable and ADA compliant**
- **Colored pavement – did not allow for cold weather placement**
- **Coordinating street and parking closures**
- **Wildlife management including removing turtles in GLM**
- **Public scrutiny – continual social media posts**
- **COVID: Residents, meetings, supply issues, etc.**
- **Miles of electrical and telecom lines: 76 miles in GLM**
- **Irrigation, subdrains, etc.**

Clash Detection or 3D Model Overview





X: 2761420.665 ft Y: 546814.742 ft Z: 985.386 ft

Sustainability

- **Primary goal of the overall Project**
- **Sustainability requirements written into engineering agreement**
- **Design, construction, and operations**
- **Goals:**
 - **Maximize use of existing park features**
 - **Minimize construction waste**
 - **Locally sourced construction materials**
 - **Resiliency**
 - **Lower operation costs: native grasses, intelligent irrigation system, plants native to area, LED lights, etc.**

Envision Platinum Rating

- **Envision is similar to LEED but for infrastructure projects**
- **Joint effort of APWA, ASCE, and ACEC**
- **Focused on long-term viability**
- **Addresses environmental and societal aspects and impacts**
- **Addresses stakeholder collaboration**
- **Omaha Riverfront Project:**
 - **First Envision Project submitted for the State of Nebraska**
 - **Achieved Platinum Rating**
 - **Plenty of credits extra**



Public Involvement

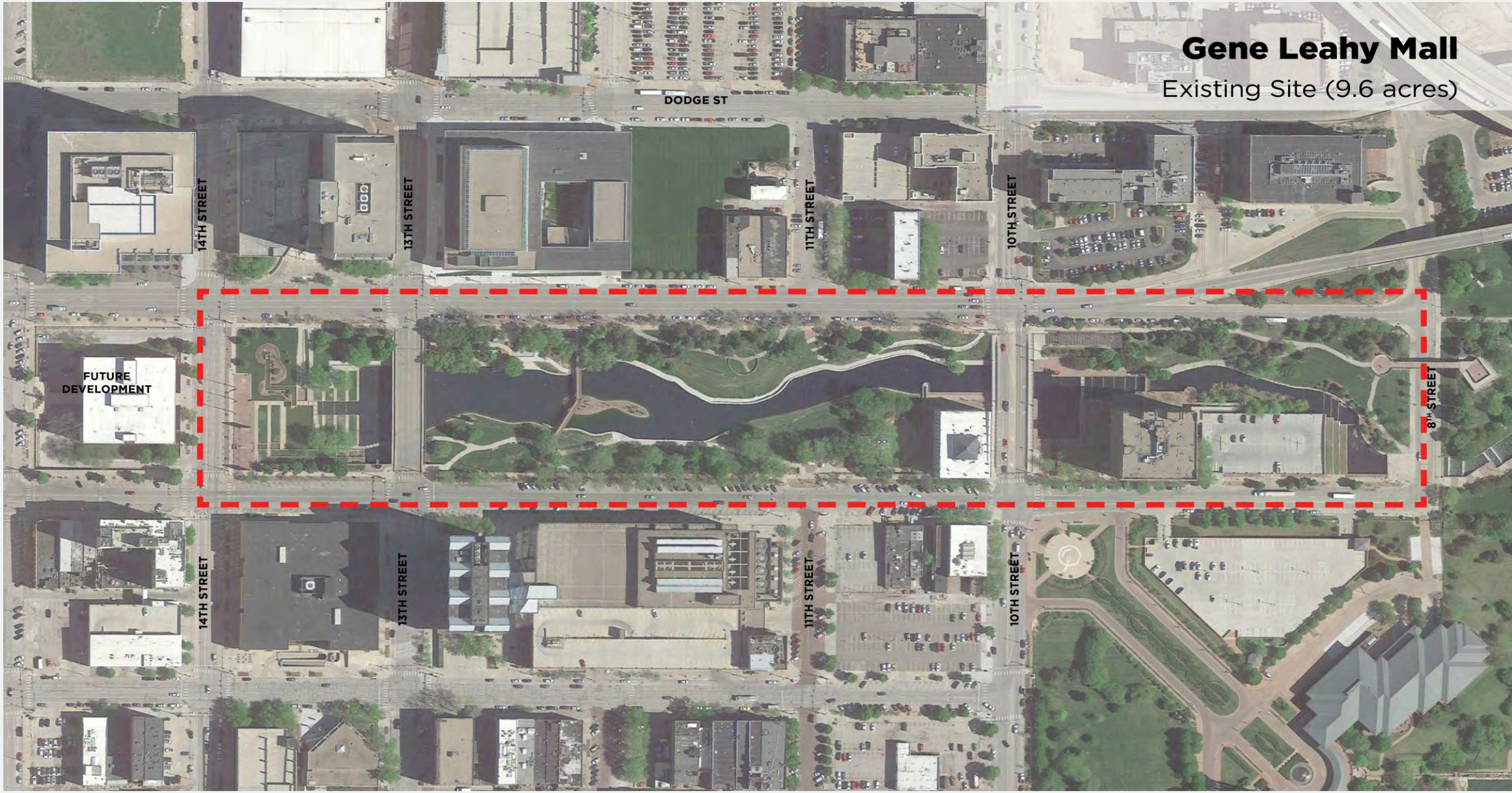
- Multiple public outreach meetings during planning phase
- Invited feedback and input including voting on proposed features
- Ideas and feedback incorporated into design and presented at next public meetings
- Website on-line during design and construction
- Social media outreach with contact information for questions
- Results?
 - No calls to the Mayors Hotline
 - No complaints when streets were closed, parking removed, incredible amount of construction traffic
 - Public embraced the Park as their own from opening day

Open House during Planning Phase

- **Over 600 attendees**
- **150 comment cards**
- **Built excitement for the Parks**
- **Mayor Stothert is in the center in the red dress**



Gene Leahy Mall Layout



Gene Leahy Mall
Existing Site (9.6 acres)



Gene Leahy Mall

- **Sunken lagoon – perceived as dangerous, 11th Street cut off**
- **Only could walk through – no activation opportunities**
- **Improvements:**
 - **Fill lagoon and create an event lawn**
 - **Performance pavilion**
 - **Replace 13th Street Bridge with at grade street**
 - **Reconnect 11th Street as a pedestrian promenade**
 - **Water cascades play feature**
 - **Sculpture garden with bioswales to address water quality/quantity**
 - **Clad 10th Street bridge and add light panels**
 - **Light show that uses the buildings and pavilion**

Gene Leahy Mall Site Plan



- | | | | |
|---------------------|-------------------------|----------------|----------------|
| ① SCULPTURE GARDEN | ⑥ PERFORMANCE PAVILION | ⑪ BOAT COVE | ⑫ THE GROVE |
| ② ART PLAZA | ⑦ 11TH STREET PROMENADE | ⑫ AMPHITHEATER | ⑬ 8TH ST GREEN |
| ③ THE CANOPIES | ⑧ THE SLIDES | ⑬ DOG PARK | |
| ④ DOWNTOWN GREEN | ⑨ CASCADE FOUNTAIN | ⑭ OVERLOOK | |
| ⑤ ARCHES PLAYGROUND | ⑩ THE POND | ⑮ RESTROOM | |



Omaha
World-Herald

WoodmenLife

Omaha

Omaha













Burlington
CAPITAL

Heartland of America Park Layout



Heartland of America Park

Existing Site (42 acres)





Heartland of America Park

- **Difficult to access – most people did know it was there**
- **Only could walk through – no activation opportunities**
- **Buried hazardous waste that was not mitigated or clearly documented**
- **Improvements:**
 - **Fill one third of lake and demolish old overlook**
 - **Extend Douglas Street through park with at grade RR crossing**
 - **Large event lawn that allows for placement of mobile stages at multiple locations – large concert events**
 - **Farnam promenade and overlook**
 - **Skate ribbon that allows for ice skating and roller blading**
 - **Horseshoe pits, bocce ball, racing slides**

Heartland of America

Site Program

- 1 8TH STREET PLAZA
- 2 SKATE KIOSK & RESTROOMS
- 3 SKATE RIBBON
- 4 FARNAM PROMENADE
- 5 FARNAM PIER
- 6 RIVERFRONT GREEN
- 7 PICNIC TERRACE
- 8 BLUFF
- 9 PEDESTRIAN BRIDGE
- 10 RIVERFRONT PROMENADE
- 11 LAKE OVERLOOK
- 12 LAKESIDE AMPHITHEATER
- 13 LAKEFRONT GREEN
- 14 BOAT LAUNCH
- 15 LAKE PLAYGROUND
- 16 LAKESIDE TERRACE
- 17 EXISTING FOUNTAIN
- 18 RIPARIAN RESTORATION





Farnam Pier

- LED lights on the ribs are color changing and can match the Bob Kerry Ped Bridge
- Pier delivered in 3 sections from Texas and assembled on site
- 44 semis to deliver the parts for the crane that set the pier





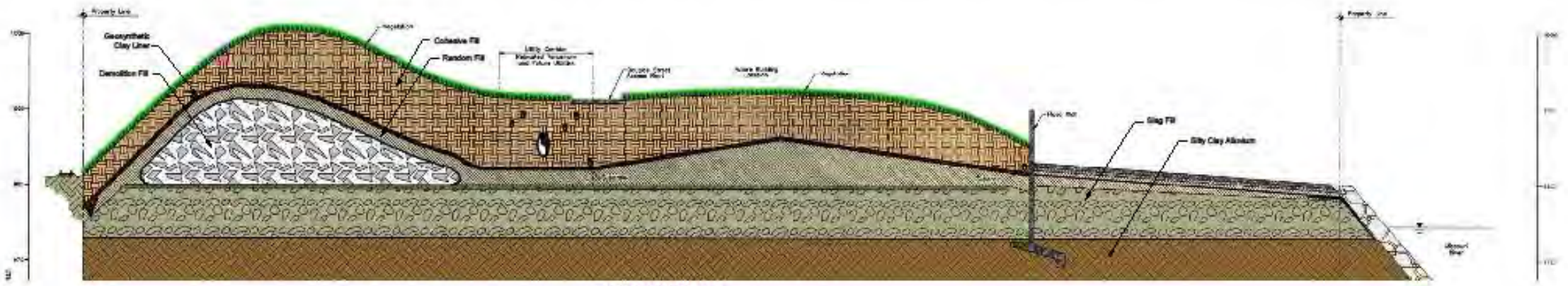




Lewis and Clark Landing 1989



- LEGEND:
- DEMOLITION FILL (BURRTO)
 - GEOSYNTHETIC CLAY LINER (GCL)
 - HYDROMETRICS SOIL AND GROUNDWATER CHARACTERIZATION REPORT (1998)
 - APPROXIMATE ASARCO BUILDING LOCATIONS FROM USACE FLOOD WALL PLANS (1948)
 - EXISTING FLOODWALL
 - PROJECT LIMITS



CROSS-SECTION A-A

Lewis and Clark Landing Layout



Lewis and Clark Landing
Existing Site (36 acres)



Lewis and Clark Landing

- **Difficult to access, barren area with no shade and no attractions**
- **Mitigated lead smelting plant site with significant restrictions**
- **Bisected by flood wall and access required for flood fights**
- **Improvements:**
 - **Realigned Riverfront Drive and added trail**
 - **Destination playground**
 - **Kiewit Luminarium – STEM focused facility**
 - **Urban beach**
 - **Volleyball courts – lighted and can be used for regulation play**
 - **Pickleball courts**
 - **Permanent flood fighting improvements**
 - **Native American statues**

Lewis & Clark Landing Site Plan



- | | | |
|------------------------|--------------------------|------------------------|
| ① DISCOVERY PLAYGROUND | ⑥ RIVERFRONT PLAZA | ⑪ MAINTENANCE FACILITY |
| ② RESTROOMS | ⑦ LAWN | ⑫ PRAIRIE GARDENS |
| ③ PARKING | ⑧ SAND VOLLEYBALL COURTS | ⑬ PEDESTRIAN BRIDGE |
| ④ URBAN BEACH | ⑨ RIVERFRONT PROMENADE | ⑭ MLK BRIDGE |
| ⑤ ARRIVAL PLAZA | ⑩ MARINA | ⑮ KIEWIT LUMINARIUM |

Storm Sewer Installation

- GCL cut and pulled back
- Storm sewer constructed over GCL
- Unknown structures, utilities, throughout the site
- Note clean material above GCL
- Excavated material stored on side and tested.







Kiewit Luminarium

- **STEM focused learning**
- **Teenagers but open to everyone**
- **Rotating exhibits**
- **Challenges kids and adults**
- **Programs throughout the year**
- **Strong desire to locate in Lewis and Clark Landing**
- **Challenges:**
 - **Soft soils**
 - **Extensive amount of buried infrastructure**
 - **Required to preserve same level of protection**

Kiewit Luminarium Micropile Installation

- Full hazardous protection required
- All material and water containerized and tested
- Equipment washed off after each use



PM 2:32 JAN/13/20





Project Timeline



Questions?

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