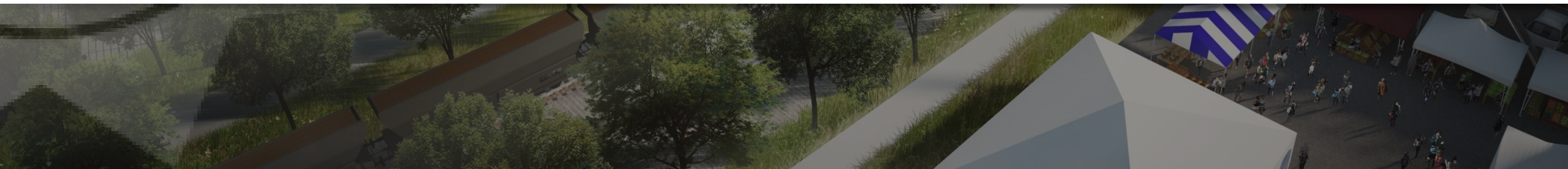




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23 March 2017

Executive Oversight Committee

Delgany Interceptor & S Platte River Open Space Study



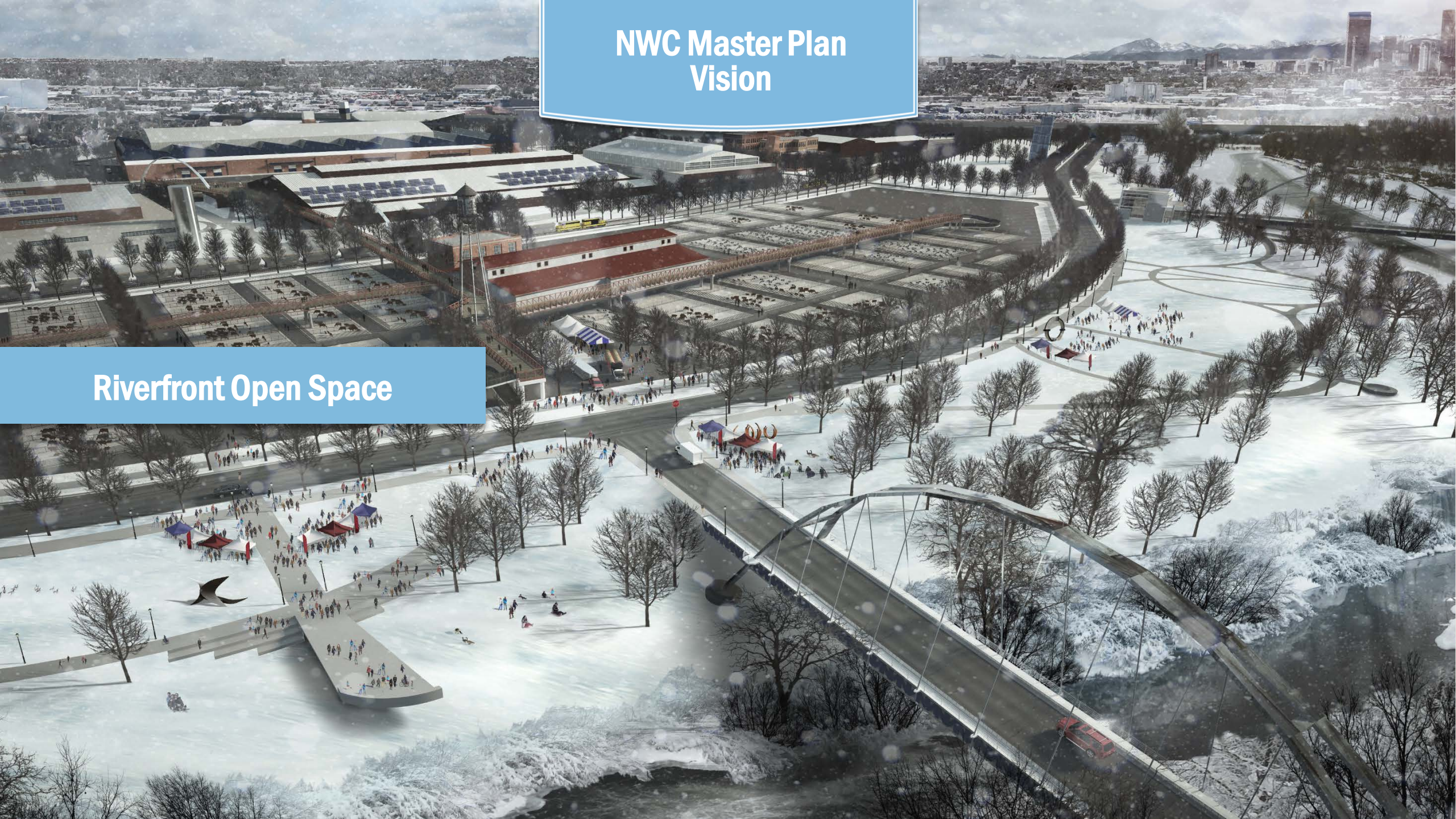
“Engage the River and Nature”



- Create campus-wide connections to the river and natural areas
- On site stormwater treatment / green infrastructure
- Improve habitat along the river
- Link to Heron Pond Natural Area
- Net zero: energy, waste and water
- Watershed / water resources education and research

NWC Master Plan Vision

Riverfront Open Space







Master Plan Treatment of the Pipes

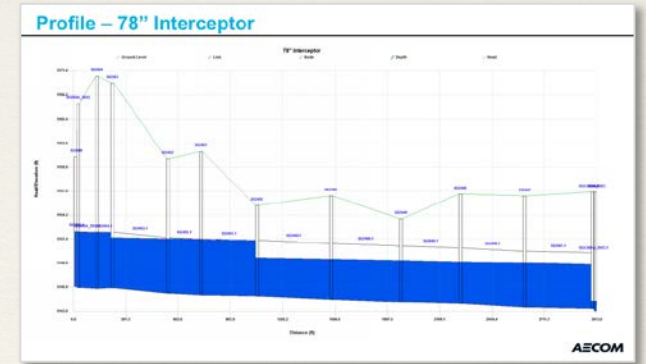


- Per the Master Plan, the pipes remain in place
- No budget to relocate
- Net zero goals for energy, waste and water are aspirational
- Project budget contemplates traditional building systems

Study Goals

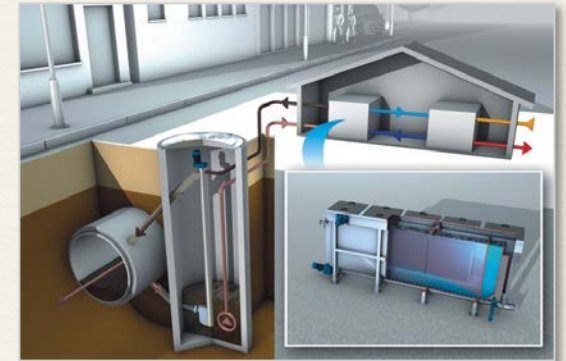
1. Delgany Engineering Feasibility Study

Analyze whether the pipes can move elsewhere on the campus.



2. Sewer Heat Recovery Screening Analysis

Is SHR feasible at this location to serve the heating needs of the campus?



3. South Platte Riverfront Study

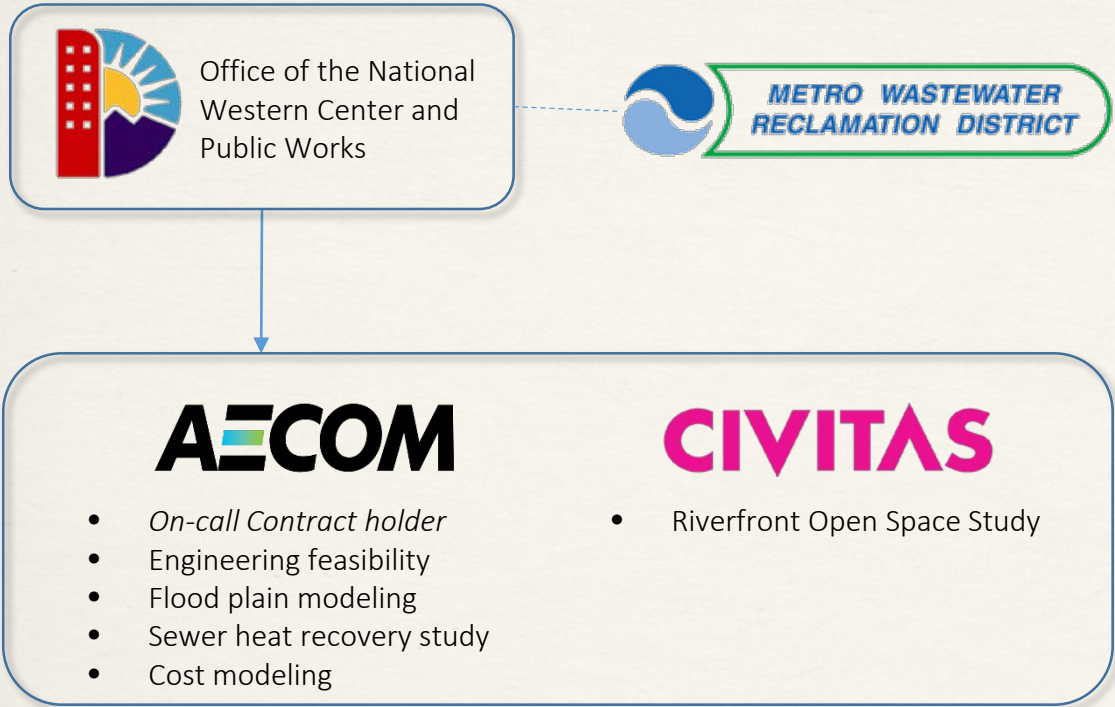
What are the impacts on the riverfront of various alignments of the pipes?



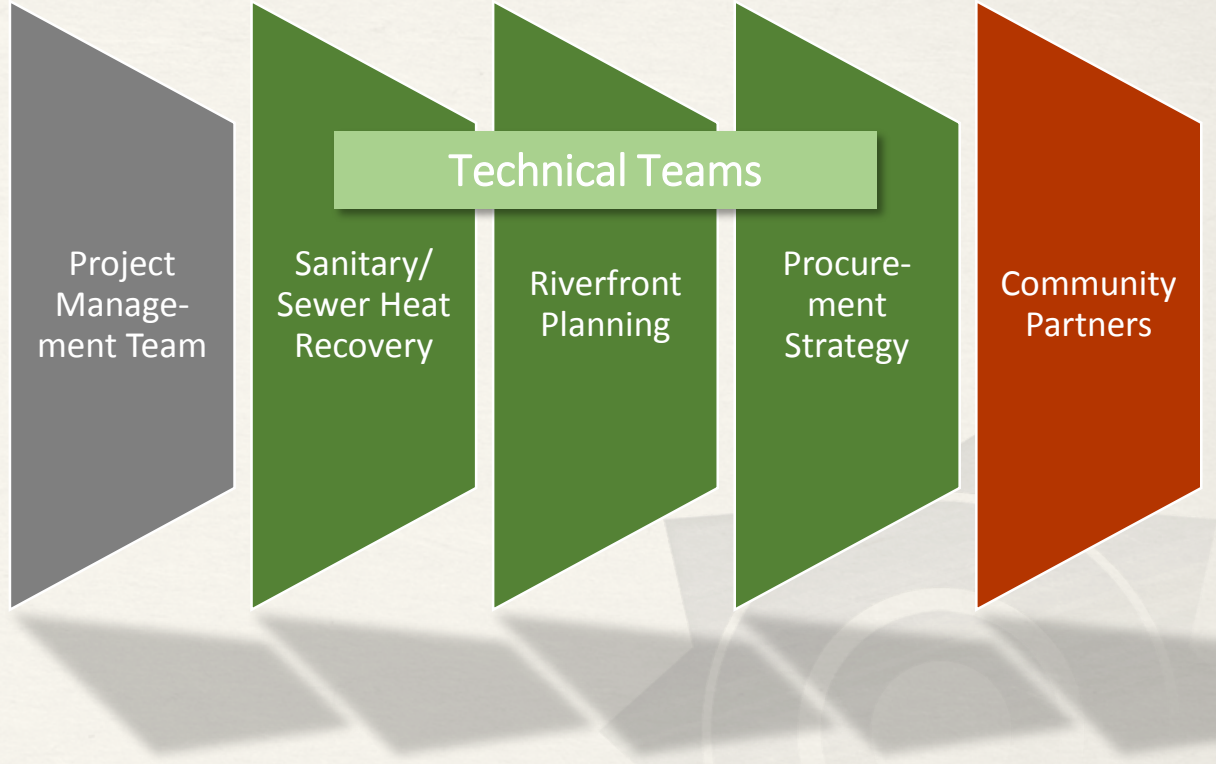
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Project Team

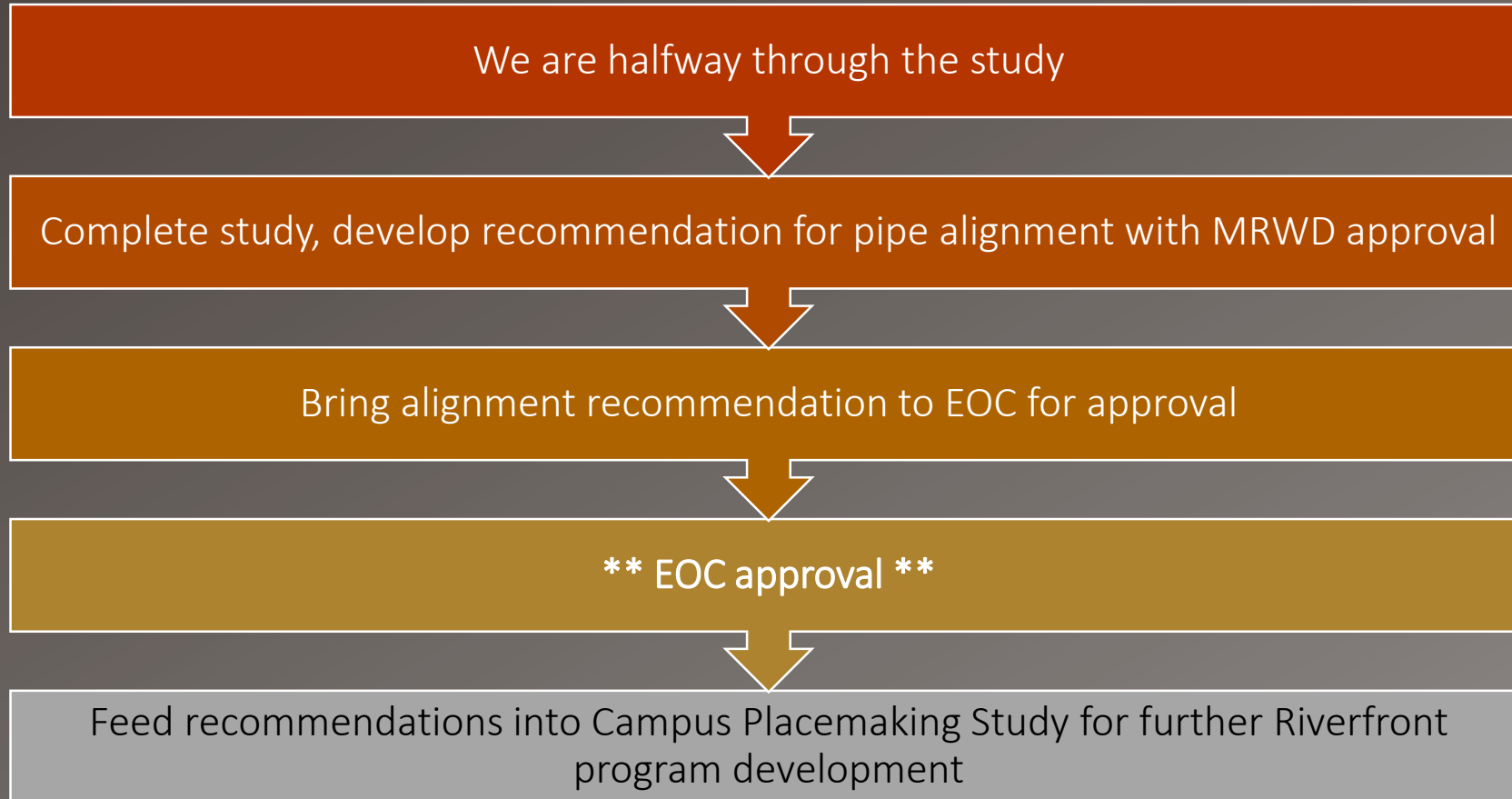


Stakeholder Teams





Decision Making Process



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Delgany Interceptor Engineering Feasibility



Delgany Pipeline Engineering Feasibility

Constraints

- “No Rise” Requirement for 100-yr floodplain elevation
- MWRD
 - Interceptor Maintenance Access
 - Design Requirements
- Existing Delgany Features
 - Flow Control Manhole
 - South Platter River Siphon
- NWC Master Plan
 - Surface Features
 - Buried Utilities



Delgany Interceptor –Engineering Feasibility

Analyses	Status	Findings
Delgany Hydraulic Analysis <ul style="list-style-type: none">ExistingNew alignments	<ul style="list-style-type: none">CompletedInitial calculation completed	<ul style="list-style-type: none">Capacity confirmedNo reasonable limit
Delgany Structural Integrity Evaluations	In Progress	
South Platte River Hydraulic Modeling	In Progress	

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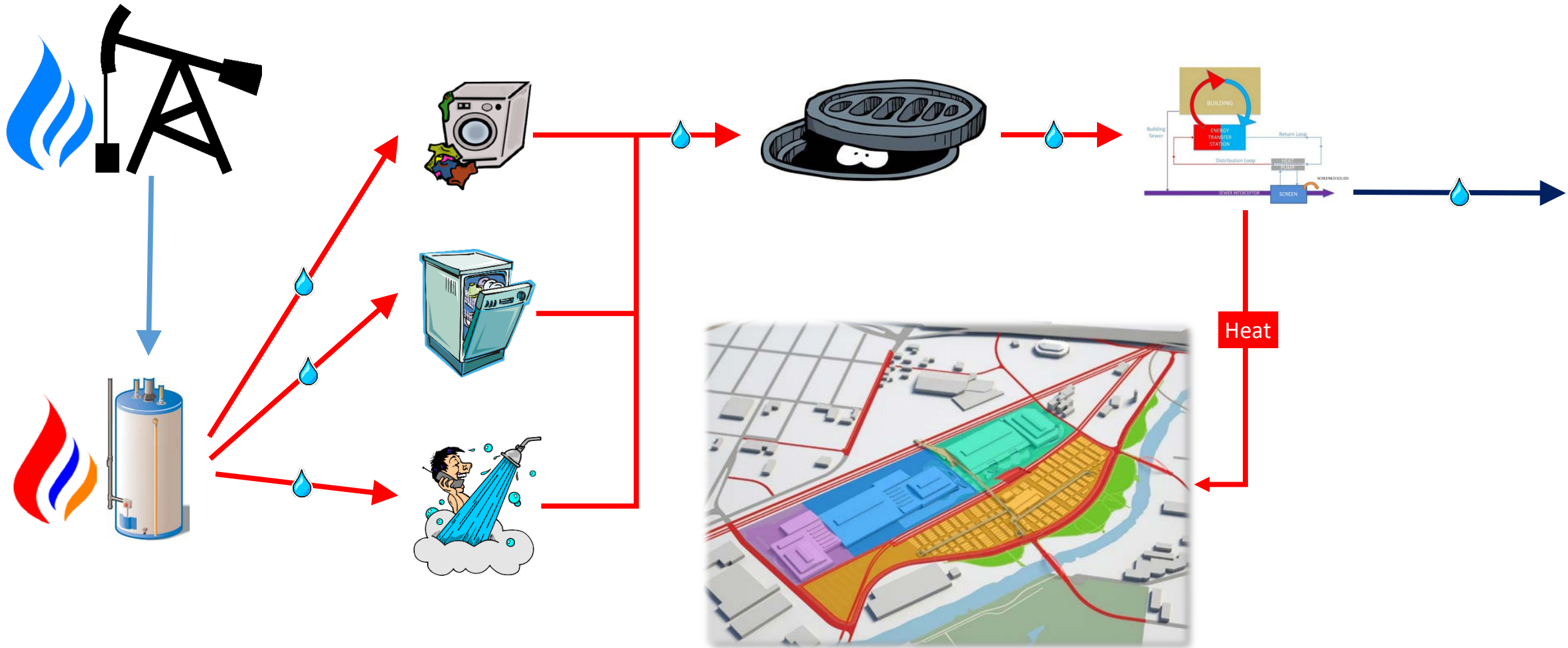
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Sewer Heat Recovery





Sewer Heat Recovery 101



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Delgany Interceptor – Sewer Heat Recovery

Opportunities/Challenges

- **Opportunity** – Helps MWRD with thermal pollution discharges
- **Opportunity** – Proximity of Delgany Interceptor to NWC
- **Opportunity** – Supply Capacity is sufficient to heat the entire NWC campus
- **Opportunity** – May be used for both heating and cooling
- **Opportunity** – Planning NWC Infrastructure Development
- **Challenge** – Minimize Sewer Heat Recovery Footprint and Impacts
- **Challenge** - Early Coordination and Integration with HVAC System Designs is Needed
- **Challenge** - Financing of Initial Capital Costs



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Delgany Interceptor – Sewer Heat Recovery



Next Steps

- Sewer Heat Recovery looks extremely promising for this site, based on supply and characteristics
- Complete the thermal supply and demand analysis to refine alternatives for SHR recovery
- Analyze costs, both capital and life cycle
- Develop financial pro forma to understand net present value and return potential of a system
- Complete the high level screening analysis of SHR options

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Riverfront



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Our Goal – Riverfront Concept

To understand the impact of the Delgany relocation and in situ alternatives on our ability to create open space along the river within the NWC campus.



Interceptor Alignments & Riverfront Alternatives

Interceptor Alignment	Riverfront Alternative
A. <i>In Situ</i> – remains in its current location	1. Pipe remains exposed, and is bridged over
	2. Partially buried on the east side
	3. Fully buried; “bermed” over
B. Pipes moved to the east, but still within the open space	4. Fully buried within the eastern portion of the open space
C. Under National Western Drive	5. Pipes out of the open space
D. Under the Stock Yards	
E. Under or adjacent to the consolidated rail corridor	



Interceptor Alignments & Riverfront Alternatives

similar Riverfront opportunities

Interceptor Alignment A
Riverfront Alt. 1 2 3

In-Situ Pipes : Bridge Over, Partially Bury, or Berm



Interceptor Alignment B
Riverfront Alt. 4

Move Pipes to Open Space



Interceptor Alignment C
Riverfront Alt. 5

Move Pipes under National Western Drive



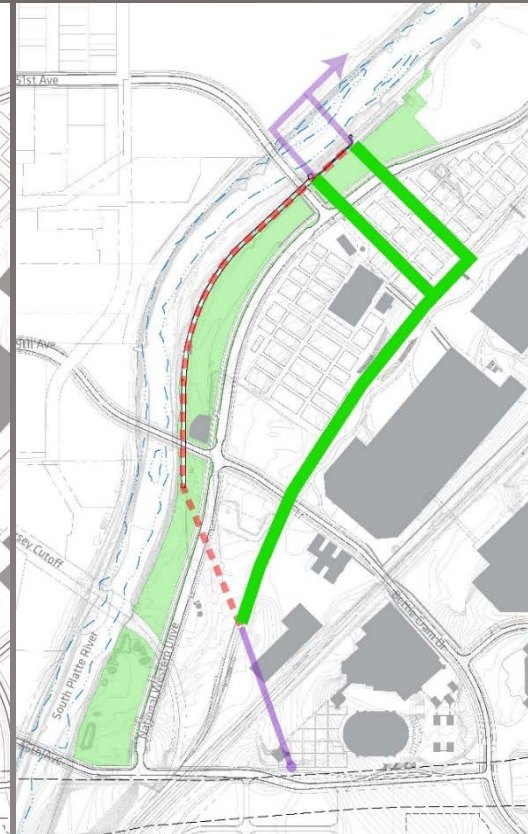
Interceptor Alignment D
Riverfront Alt. 5

Move Pipes to Stockyard



Interceptor Alignment E
Riverfront Alt. 5

Move Pipes to Railroad



Evaluation Criteria – Riverfront Alternatives

Fatal Flaw Analysis

- Floodplain Impacts
- MWRD Maintenance Access
- Cost
- General Feasibility

Visitor Experience

- River Access
- Safety & Accessibility
- Habitat Restoration
- Odor Control

Conformance with the NWC Master Plan

- Master Plan Program
- Water Quality Needs
- Landscape Impacts
- Program Area Opportunities



Interceptor Alignments & Riverfront Alternatives

Fatal Flaws

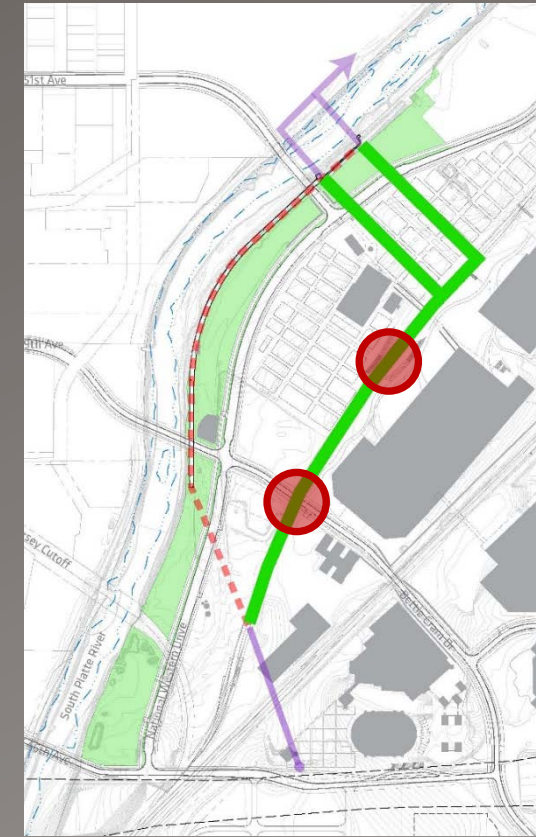
Interceptor Alignment A
Riverfront Alt.3

In-Situ Pipes : Berm Over



Interceptor Alignment E
Riverfront Alt. 5

Move Pipes to Railroad



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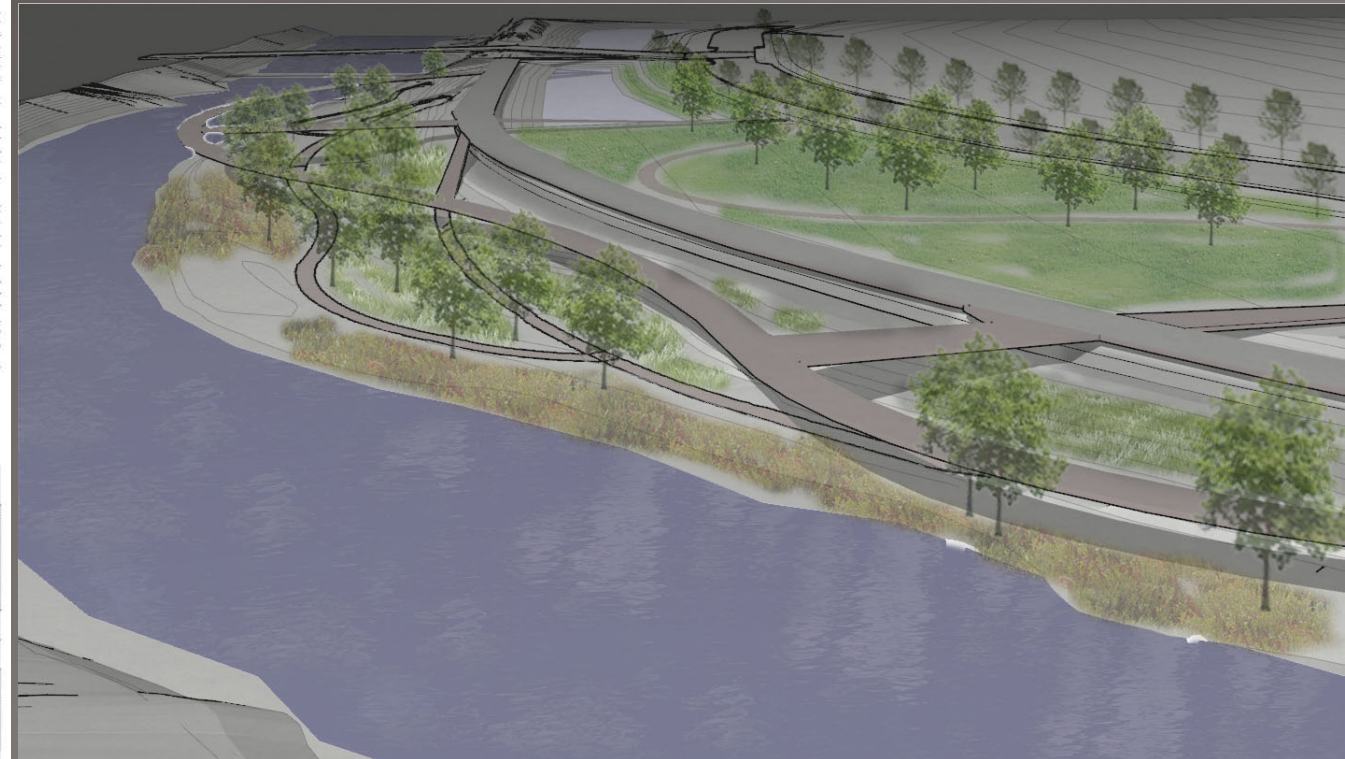
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Riverfront Alternative 1 *In-Situ, Bridge over pipes*



trail paths ~ 85,000 sq.ft.
ramps / stairs
boardwalk path

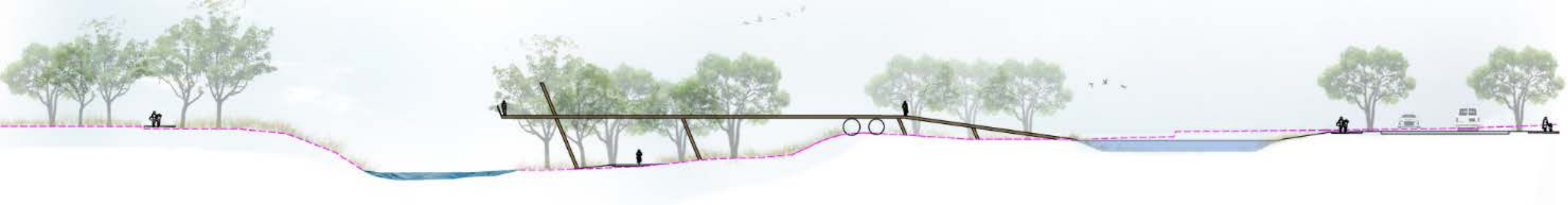
skywalk path
open space ~ 60,000 sq.ft.
water quality



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Riverfront Alternative 1 *In-Situ, Bridge over pipes*



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Riverfront Alternative 2 *In-Situ, Pipes buried on the east side only, with Walking Surface above*



trail paths ~ 85,000 sq.ft.

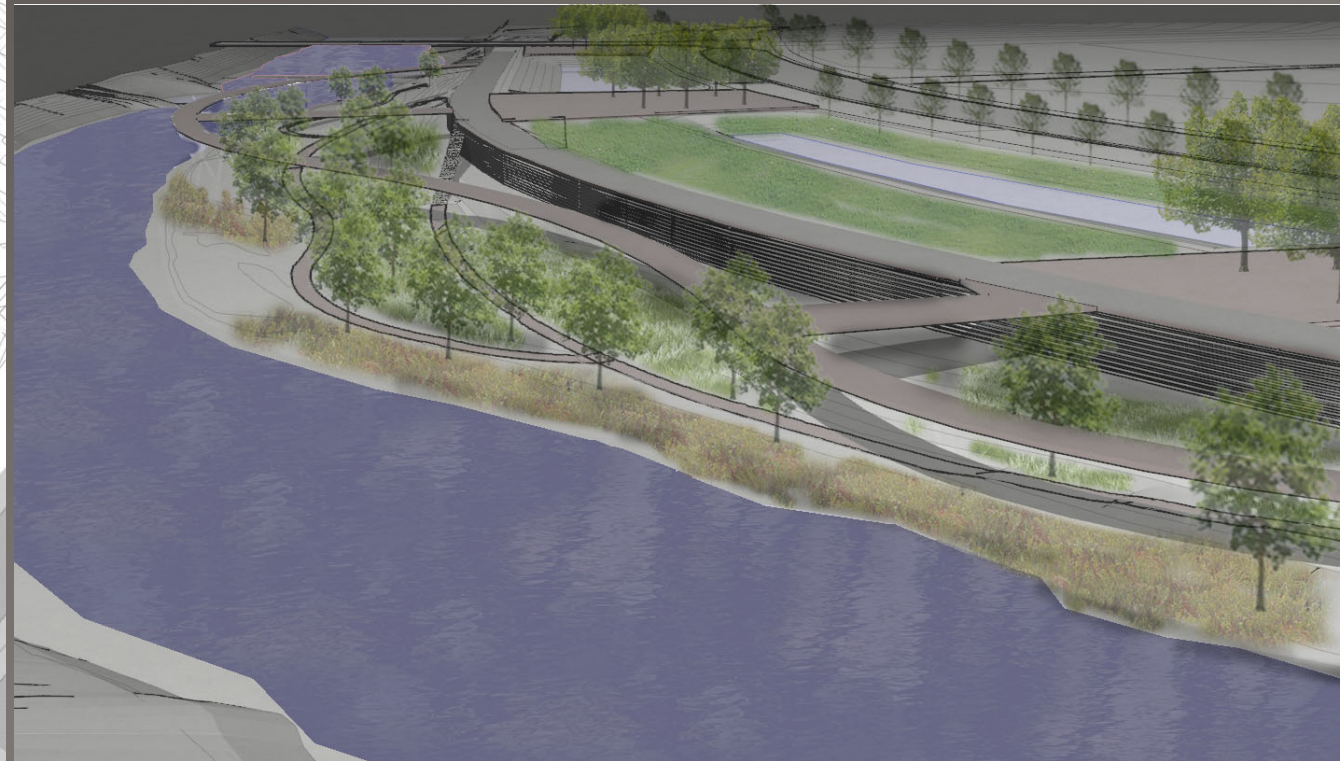
open space ~ 60,000 sq.ft.

boardwalk path

plaza ~ 10,000 sq.ft.

skywalk path

water quality



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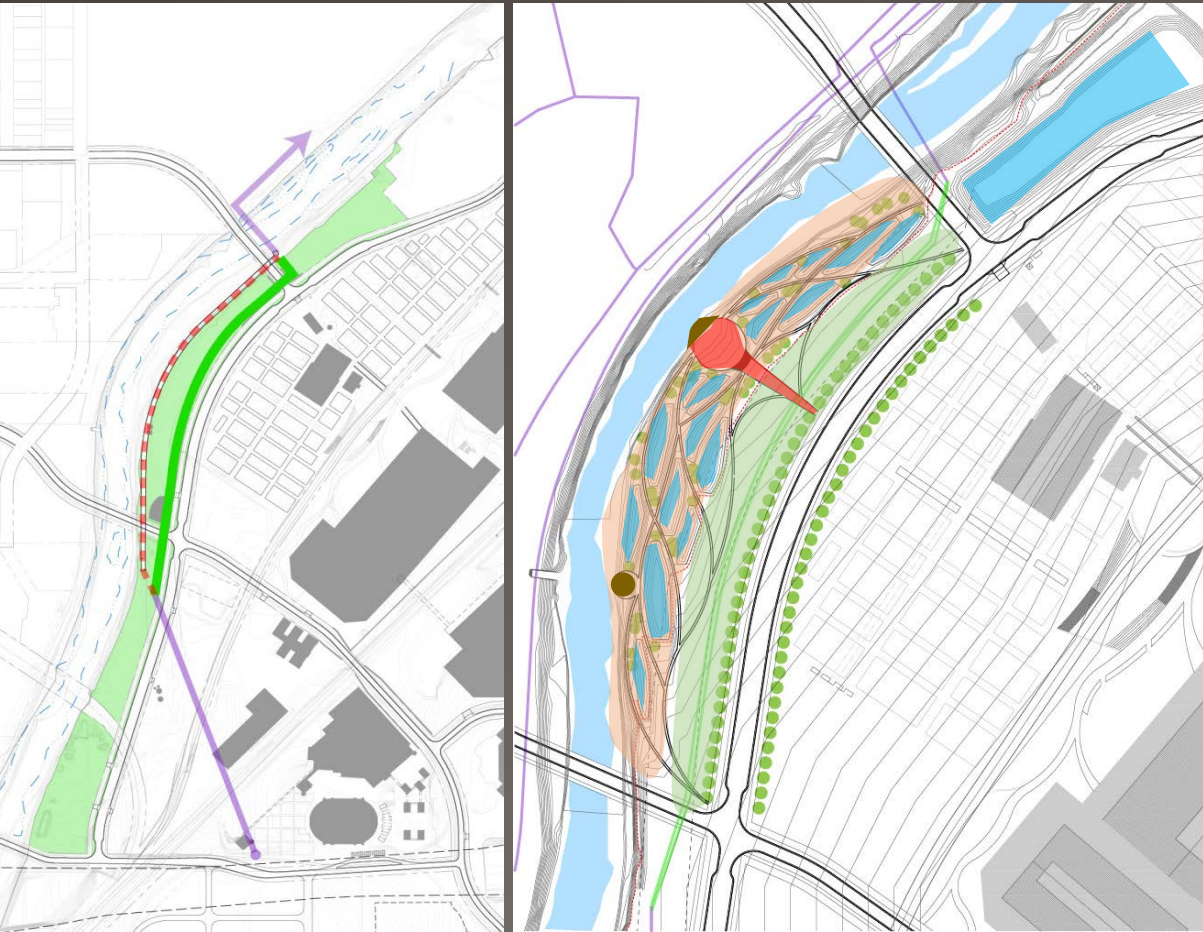
Riverfront Alternative 2 *In-Situ, Pipes buried on the east side only, with Walking Surface above*



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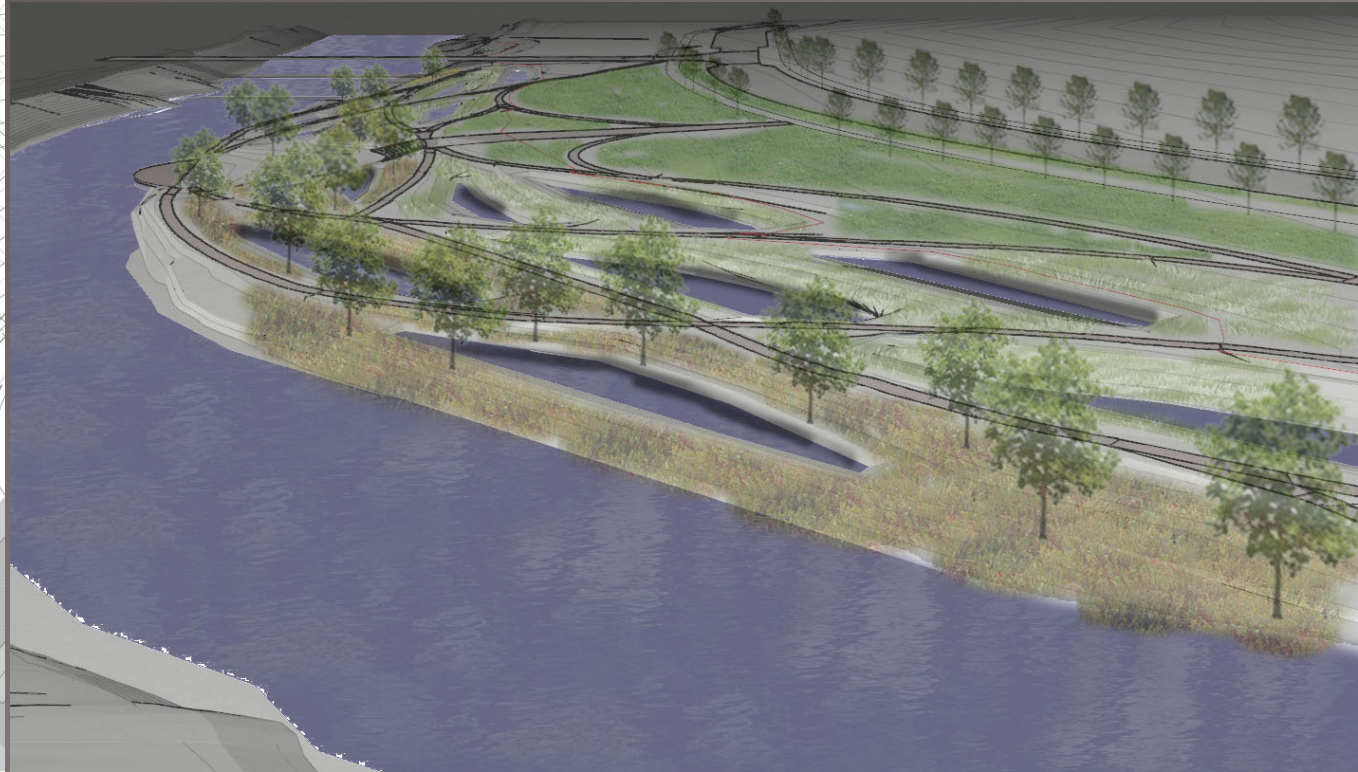
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Riverfront Alternative 4 *Pipes moved into Open Space*



trail paths ~ 75,000 sq.ft.
boardwalk
plaza ~ 15,000 sq.ft.

open space ~ 80,000 sq.ft.
water quality



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Riverfront Alternative 4 *Pipes moved into Open Space*



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Riverfront Alternative 5 *Move Pipes under National Western, under Stockyards, or within Rail Corridor*



trail paths ~ 85,000sq.ft.
program space ~ 10,000sq. ft
plaza ~ 15,000sq.ft.

building space – 7,000 sq. ft
open space ~ 80,000sq.ft.
water quality



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Riverfront Alternative 5 *Move Pipes under National Western, under Stockyards, or within Rail Corridor*



Interceptor Alignments & Riverfront Alternatives

Next Steps

- Complete alternatives analysis, including floodplain modeling
- Run evaluation process using criteria listed previously
- Finalize draft recommendations



Thank you

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National Western Center Campus

The Reality is within Reach!

NWC Campus Program Development Plan 2017
The Mayor's Office of the National Western Center

NWCO's 90 Day Plan

Building a Disciplined Decision Making Structure



NWCO'S 90 Day Plan

Integrating Ch2M and the City's Teams

- **Soft Start- January and February Progress and Early Wins!**

- ✓ January and February Soft Start allowed the early on-boarding and integration of the CH2M team into The Mayor Office of the National Western existing staff
- ✓ Establish Basic Framework for Program Governance, Program Management and Program Baseline
- ✓ Immediate Adjacent Project Integration (Brighton BLVD., NDCC Lead Projects, Delgany Interceptor Study)
- ✓ Campus Placemaking Study procurement package completion for release at end of February 2017
 - First step of schedule acceleration
- ✓ Begin setup of Program Chartering and Pre-Chartering Interviews

- **Progress Forward- What to expect in the next 90 Days**

- Building a foundation for fulfilling our promises on budget, time, content and connection with the community.
- Establishing the National Western Center Program Initial Baseline to include scope, schedule and budget.
 - Roadmap to delivery
- Building a team with our partners and a connection with various stakeholders



NWCO'S 90 Day Plan

Setting up the Program's Foundation

- **Bringing Together “The Team”**

- Establish a common understanding of what will happen, who can make which decisions and how the team will be accountable to each other

- **Establishing Program Operational Framework**

- **Program Governance Handbook**- Establishes all the necessary meetings, processes, roles and responsibilities, authority delegations and.....for the program to function at a top level
 - How we will interact and who makes decisions
- **Program Management Plan**- Operations manual for delivery
 - How we will work
- **Program Tools**- Setup of document control systems (SharePoint), and program control systems (CIS and Primavera)
 - How we will be measured
- **Assurance Functions (Safety, Quality, Security and Environment)**- Establishes the overall Program Plans that will flow down to all contractors and employees working on the Program
 - How we will comply
- **Risk Register**- Identifies program risks early and assigns an owner to assure accountability
 - What we will watch for every day and longer term



NWCO'S 90 Day Plan

Program Baselineing

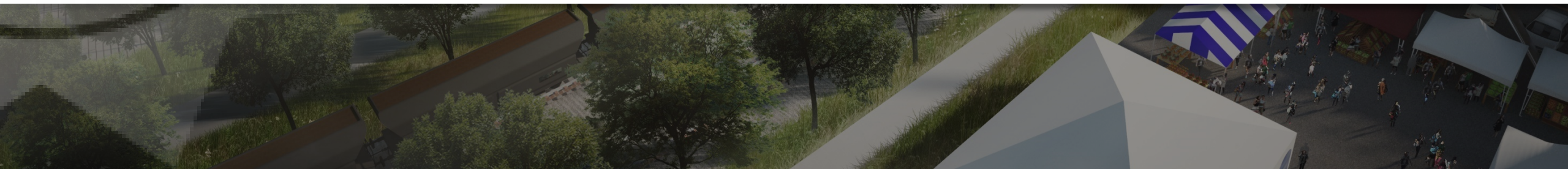
- **Initial 90 Day- Key Workstreams**
 - **Program Baseline V1.0**
 - The Initial Program Scope, Schedule and Budget Baseline will be established through a collaborative effort with the Chartered Program Team
 - **Procurement Strategy- Initial Strategy and Options**
 - The initial procurement strategy will be established for the various program components to construct the initial program schedule and capitalize on efficiencies
 - **Program Key Performance Indicators**
 - Mutually agreed upon and transparent metrics that will measure aspirations like sustainability, safety, cost and schedule performance, workforce development, hiring
 - **Remaining First Year Workplan**
 - Establish the plan of execution for the balance of the first year once the initial baseline is produced in order to move forward as effectively as possible.
- **Moving Forward!**
 - **Community and Workforce Engagement**
 - **Stakeholder Mapping**
 - **Industry Forums**
 - **Schedule Commitments and Expectations**





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March 23, 2017

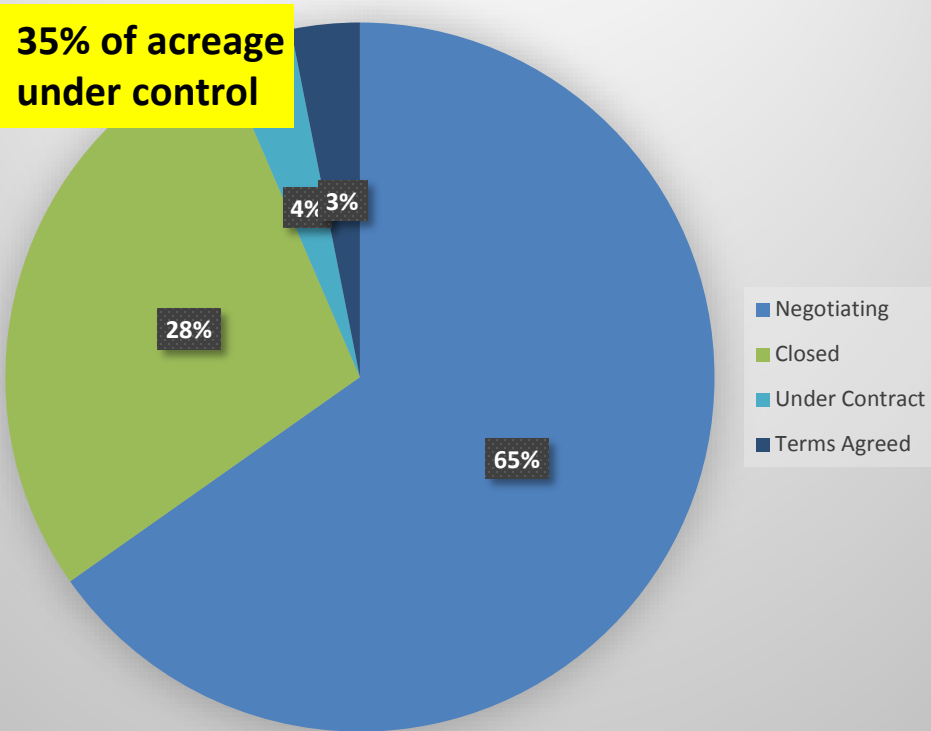
Executive Director's Report

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Land Acquisition Status – Third Party Parcels

Third Party Parcels Under Control as % of Land Area (excludes CDOT land)



Date	Number of Private Parcels (38 total) Under Control
Dec 2015	3
Mar 2016	8
Jun 2016	12
Sep 2016	15
Dec 2016	17
Mar 2017	23

61% of number of parcels under control

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■ CLOSED (12 parcels)

- 5135 Race Ct
- 5130 Franklin
- 5131 Race Ct
- 4699 Marion
- 4741 Brighton
- 4712 Baldwin Ct
- 5185 Packing House Rd
- 4747 Packing House Rd
- 4680 & 4700 Packing House Rd
- 4667 Baldwin Ct
- 5115 Race Ct

■ UNDER CONTRACT (5 parcels)

- State Dept of Agriculture
- 7-Eleven
- G & K Services Land
- 4656 Baldwin Ct
- 5001 Packing House Rd

■ TERMS AGREED (6 parcels)

- 4800 Brighton
- 5000 Packing House Rd
- 4701-4727 Brighton (4 parcels)





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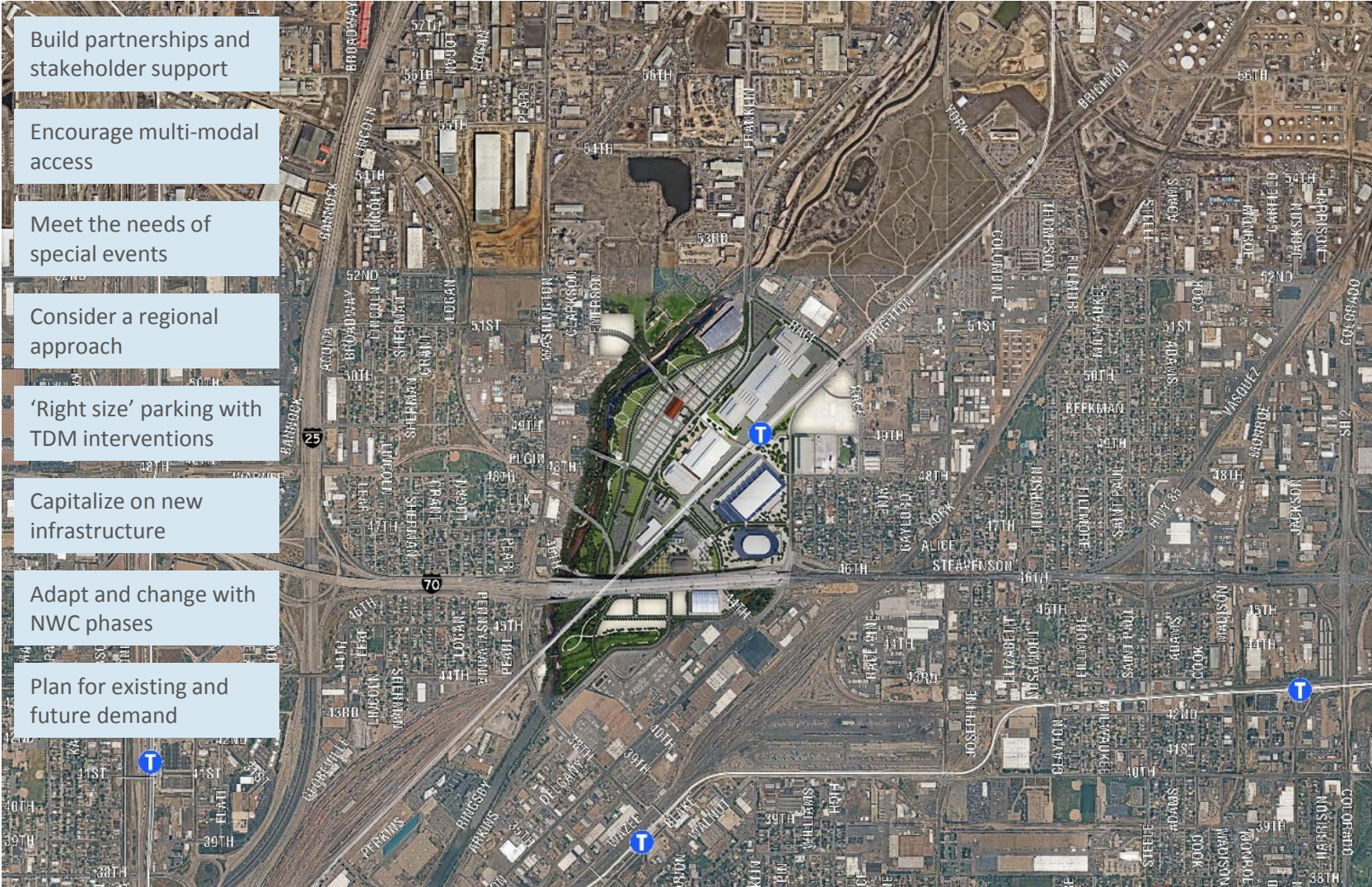
National Western Center

Parking and Transportation Demand Management Study

EXECUTIVE OVERSIGHT COMMITTEE

March 23, 2017

National Western Center Parking and TDM Study Overview



Project Scope

No.	Scope Tasks
01	Project Management
02	Define Plan Vision, Goals, and Objectives
03	Public Involvement
04	Document Existing Conditions
05	Identify Parking User Group Requirements
06	Evaluate Parking Need and Identify Transportation Demand Management (TDM) Strategies
07	Identify Parking Infrastructure Needs and Opportunities
08	Develop Access and Circulation Plans
09	Public-Private Opportunities / Parking Pricing and Management
10	Parking Management Plan Report





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