



Old Refinery Park

Redevelopment Master Plan

November 2013



MISSION GREEN
BUILDINGS

Westhoff Engineering Resources, Inc.
Land & Water Resources Management Consultants



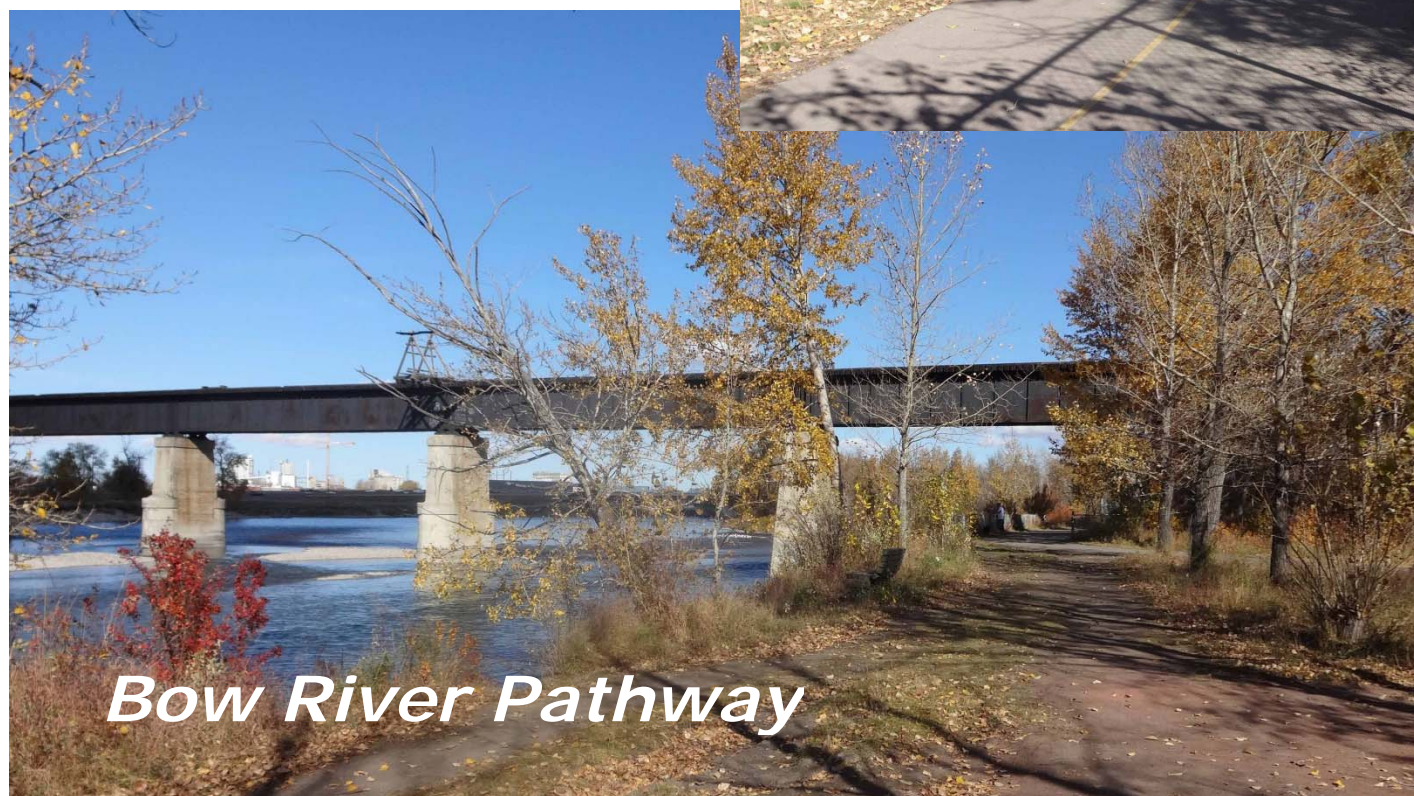
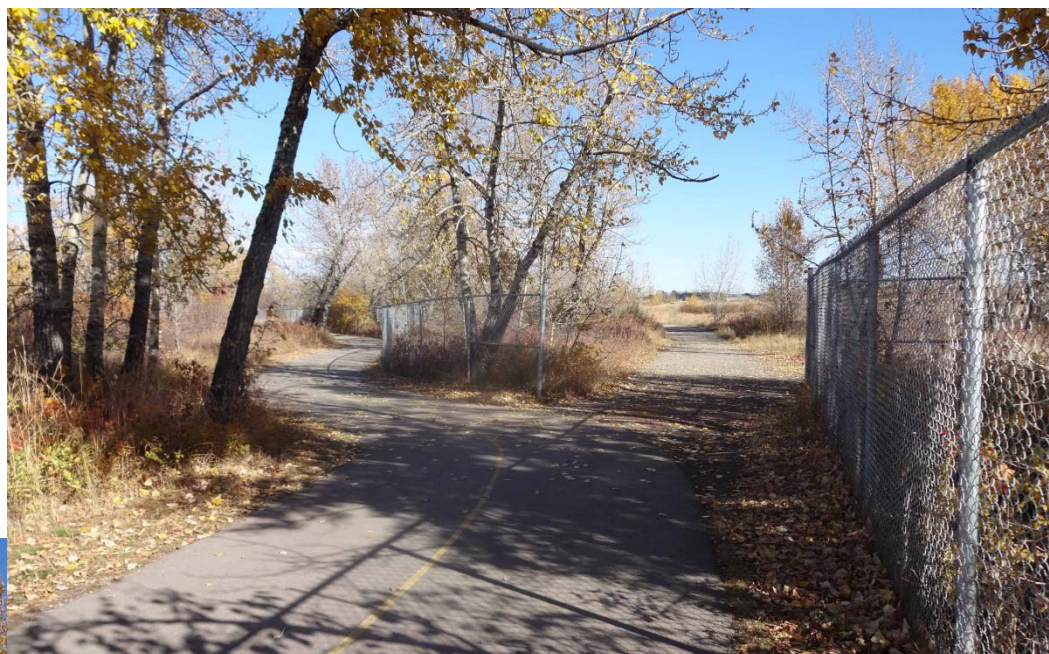




Imperial Oil Refinery - 1960

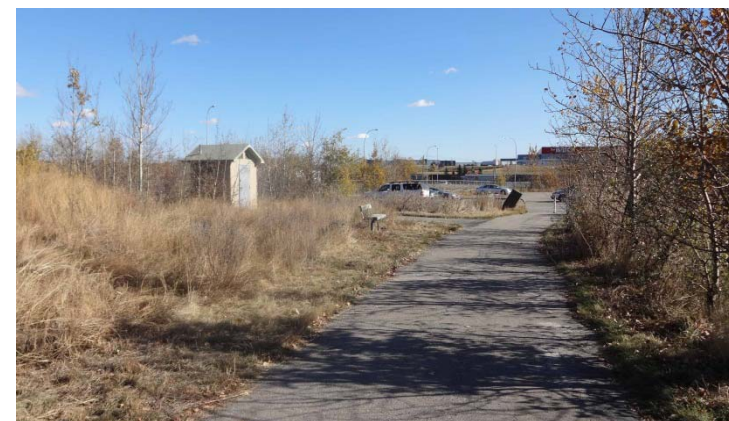


Old Refinery Park – Existing Site



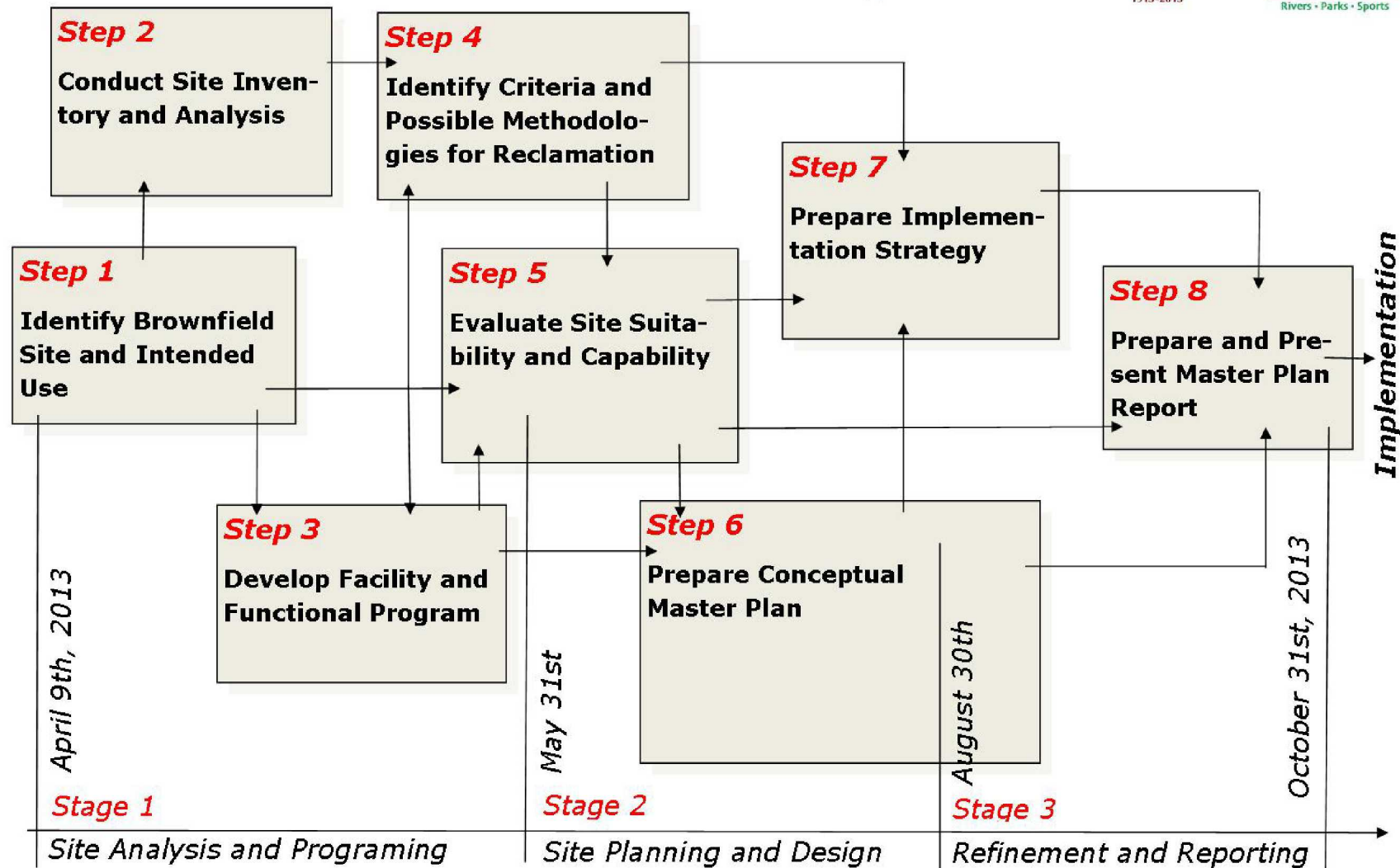
Bow River Pathway





Internal Site





Old Refinery Park

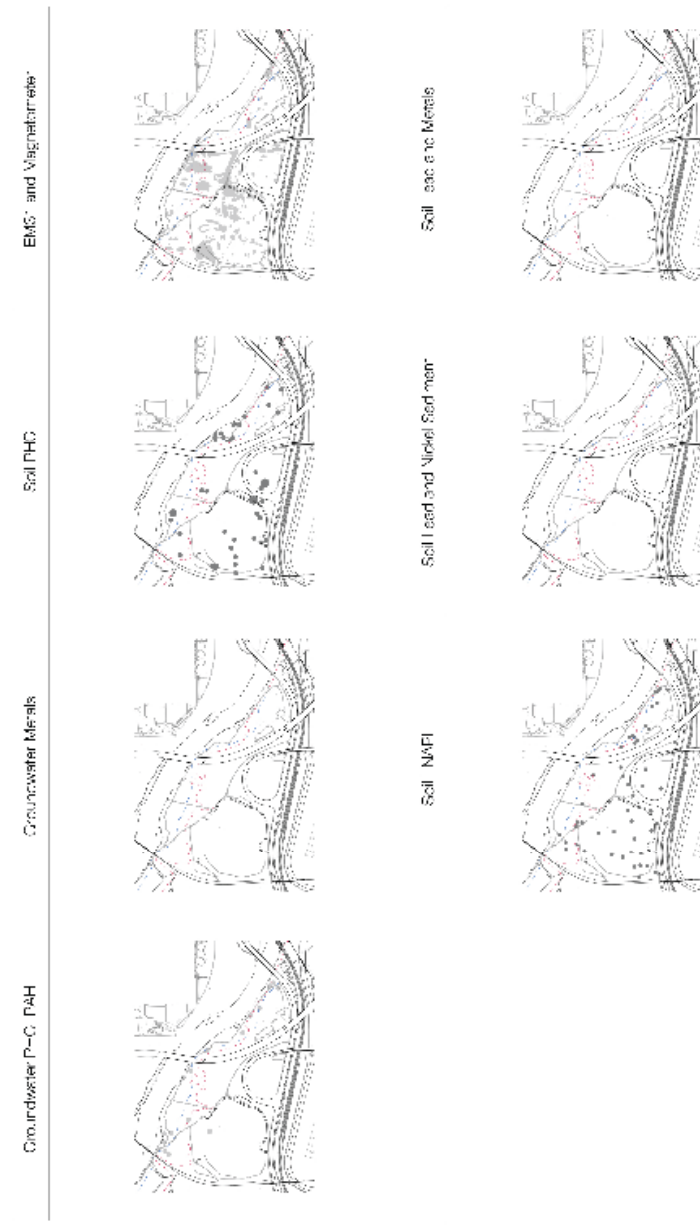
Proposed Brownfield Site Planning Process and Schedule



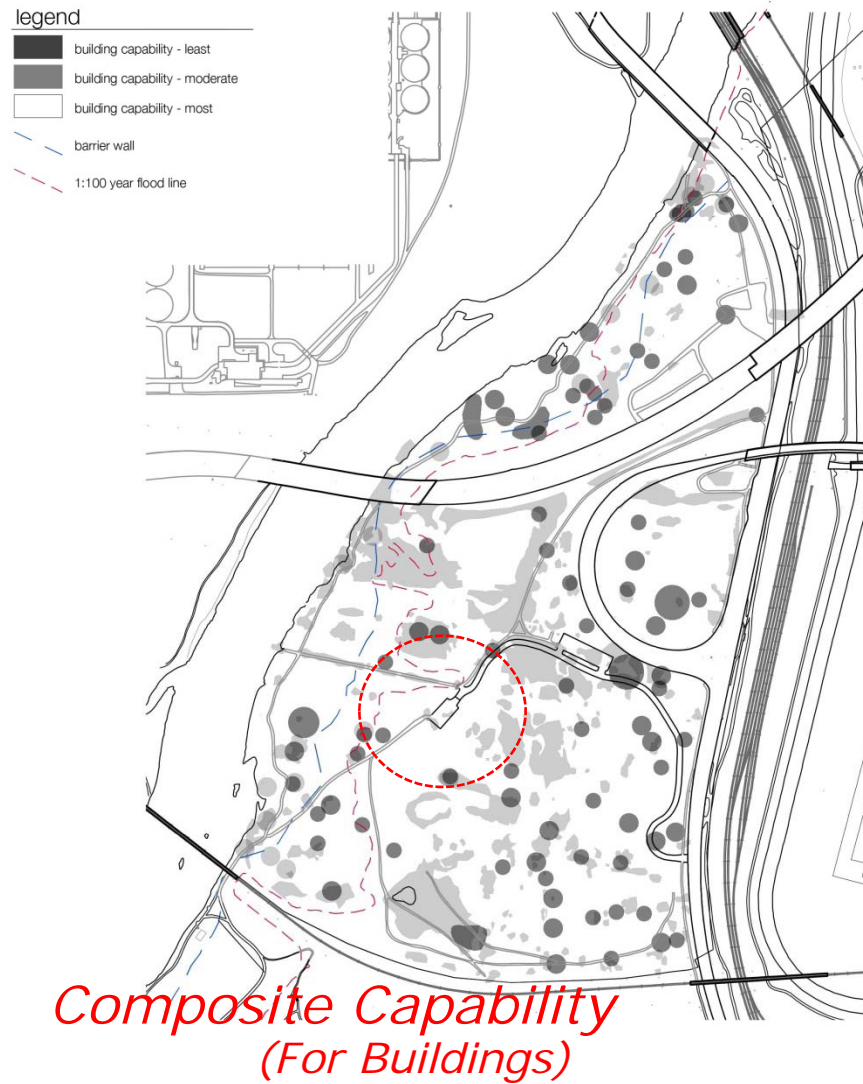
Site Capability



Seven Data Levels



Core Facility Location

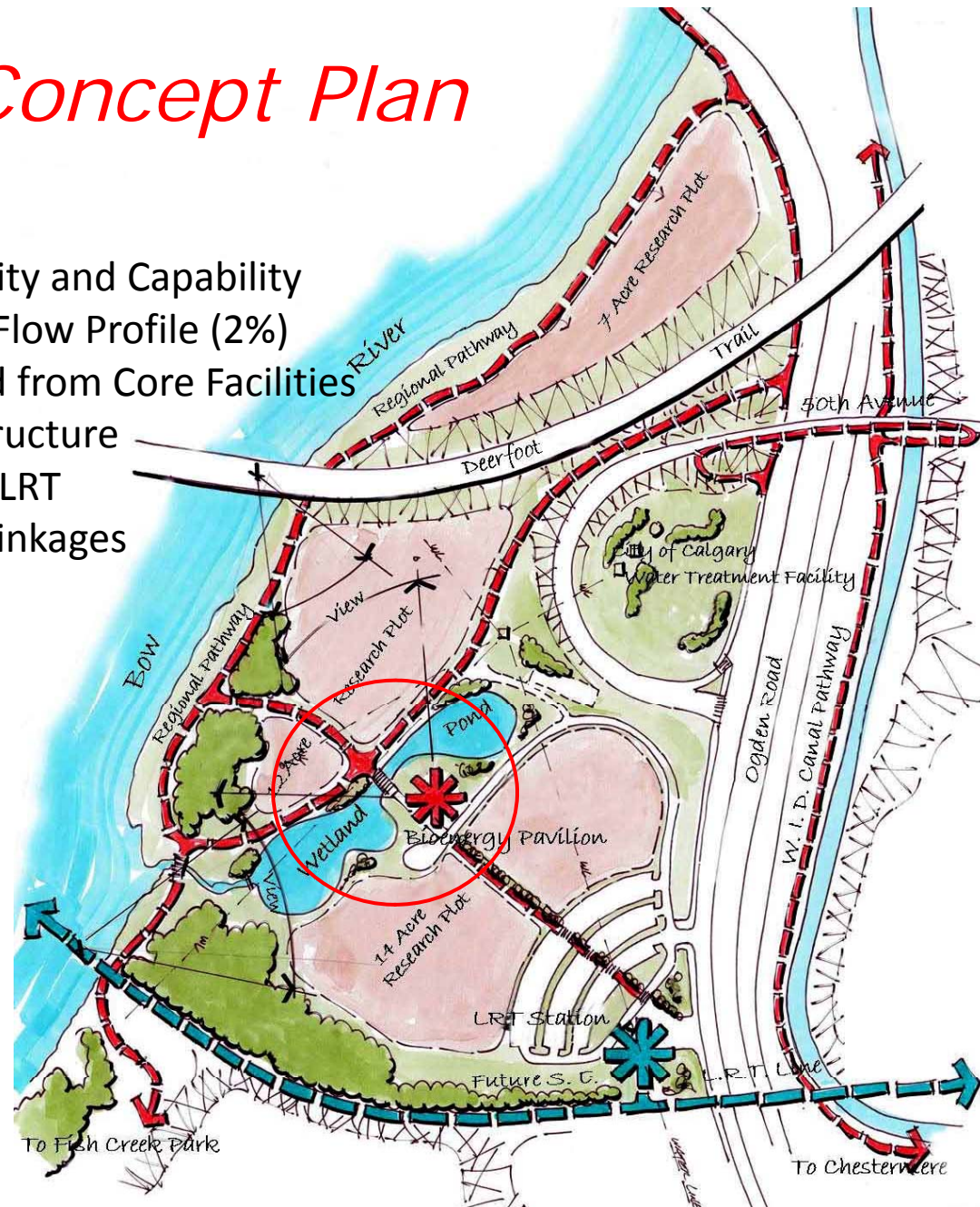


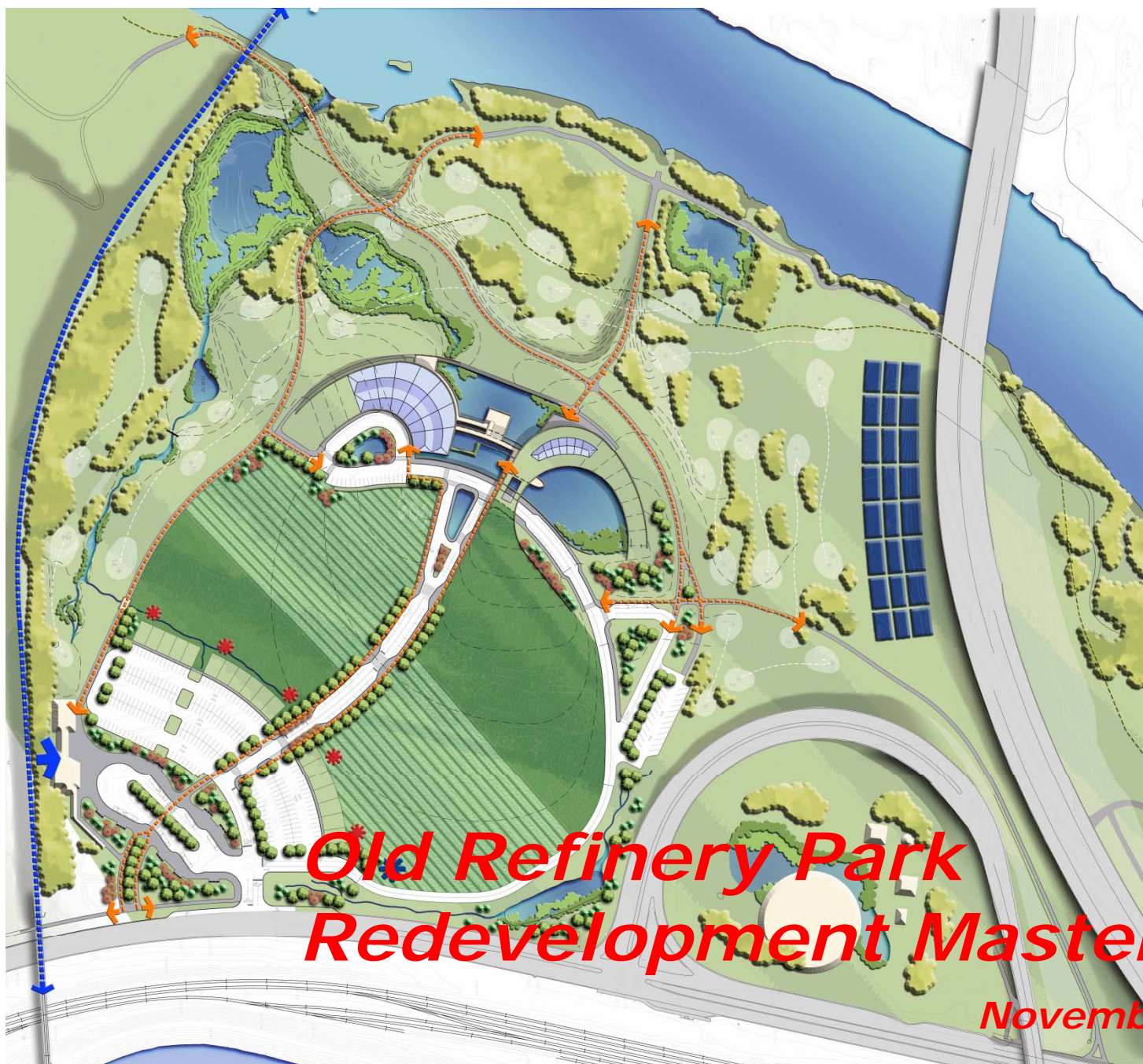


Preliminary Concept Plan

Site Planning Rational

- Maximizing Site Suitability and Capability
- Utilizing Surface Water Flow Profile (2%)
- Optimizing Views to and from Core Facilities
- Utilizing Existing Infrastructure
- Integration with Future LRT
- Optimizing Pedestrian Linkages





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Within a program of Environmental Research and Education, ORP will offer *four distinct yet integrated story lines...*



1. Water Management

2. Green Energy

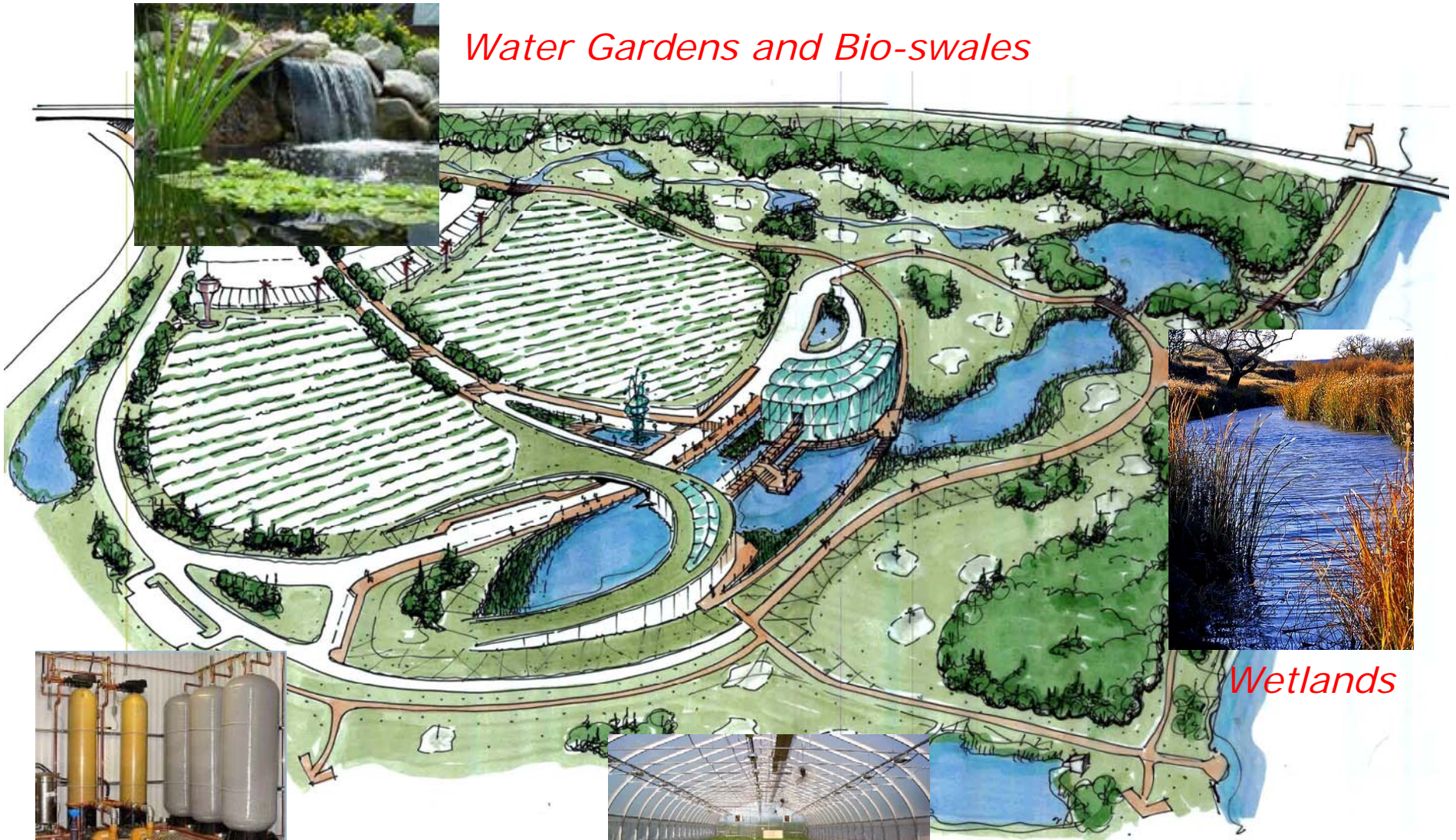


3. Urban Agriculture

4. Brownfield Restoration



Water Gardens and Bio-swales

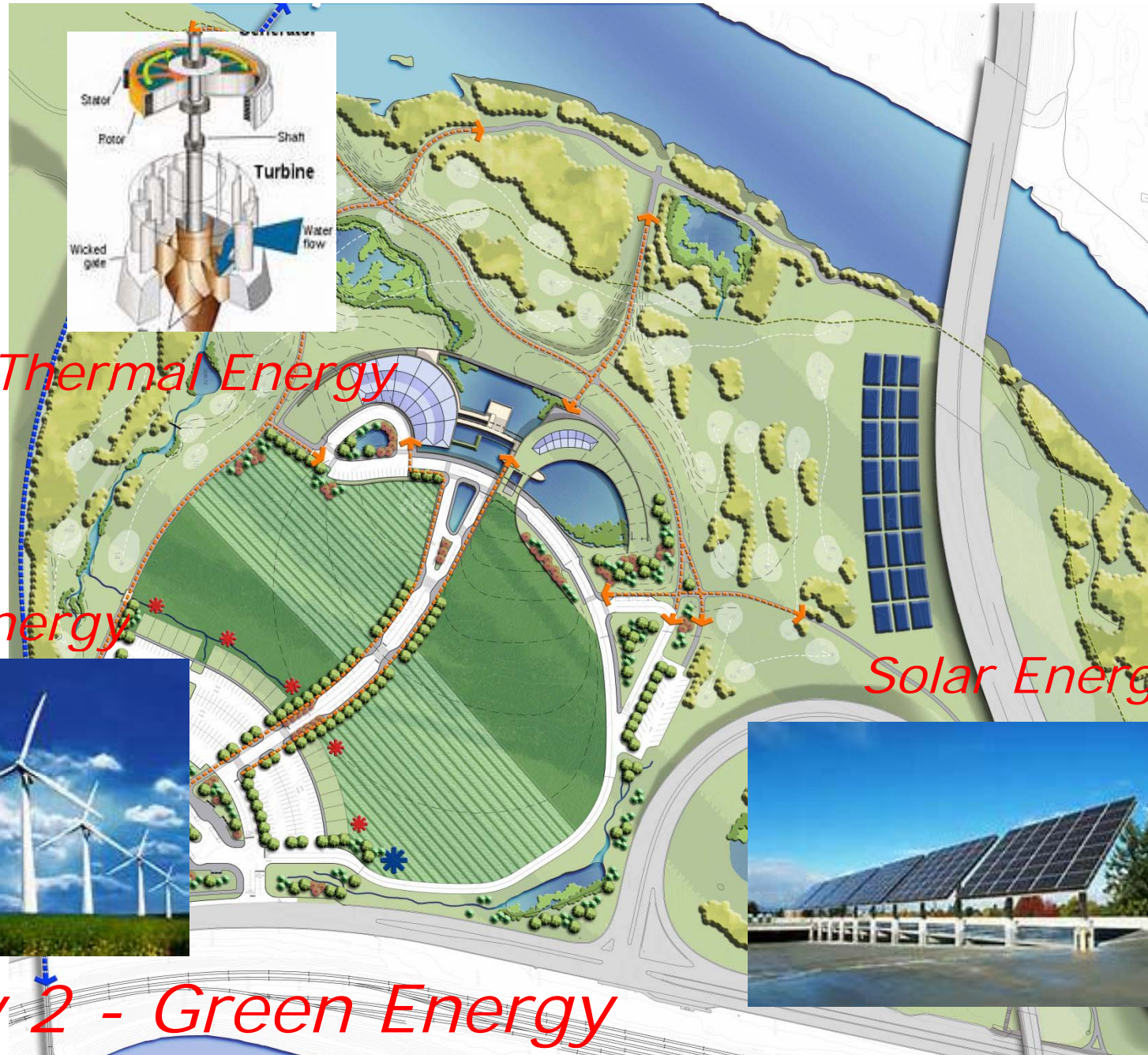


Wetlands

Mechanical Treatment

Greenhouses

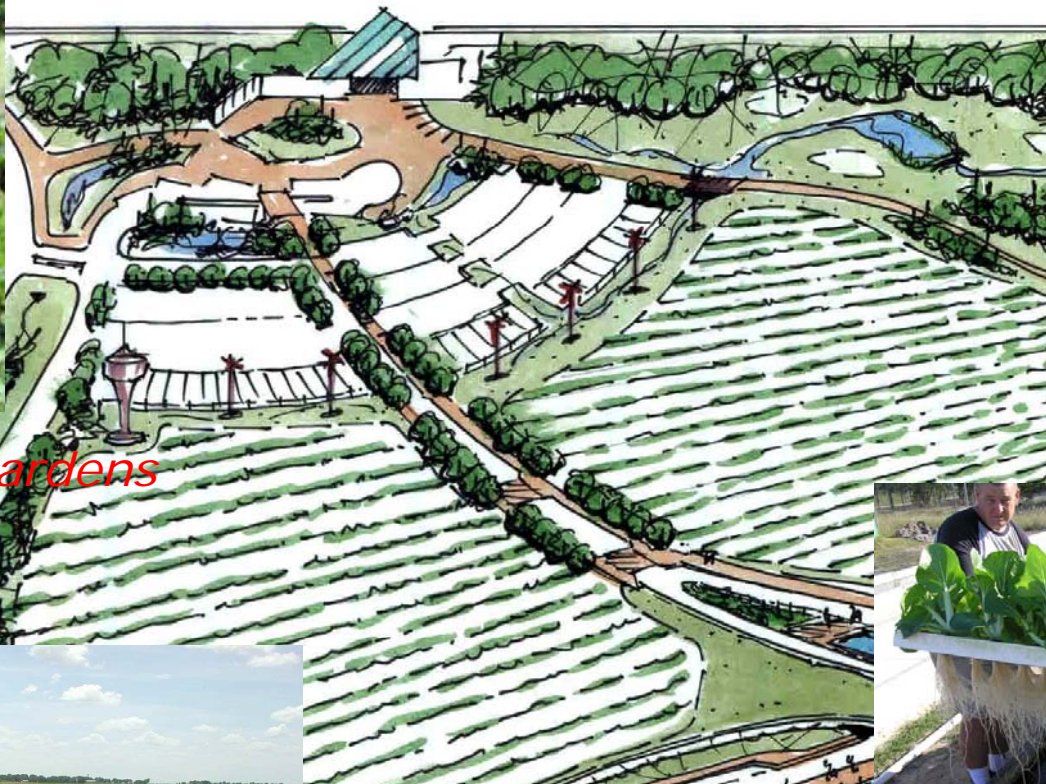
Story 1 - Fresh Water Management



Story 3 - Urban Agriculture



Community Gardens



Soil Building



Field Crops



Aquaponics



Greenhouse Gardening



Story 4 - Brownfield Restoration





Apollo 13

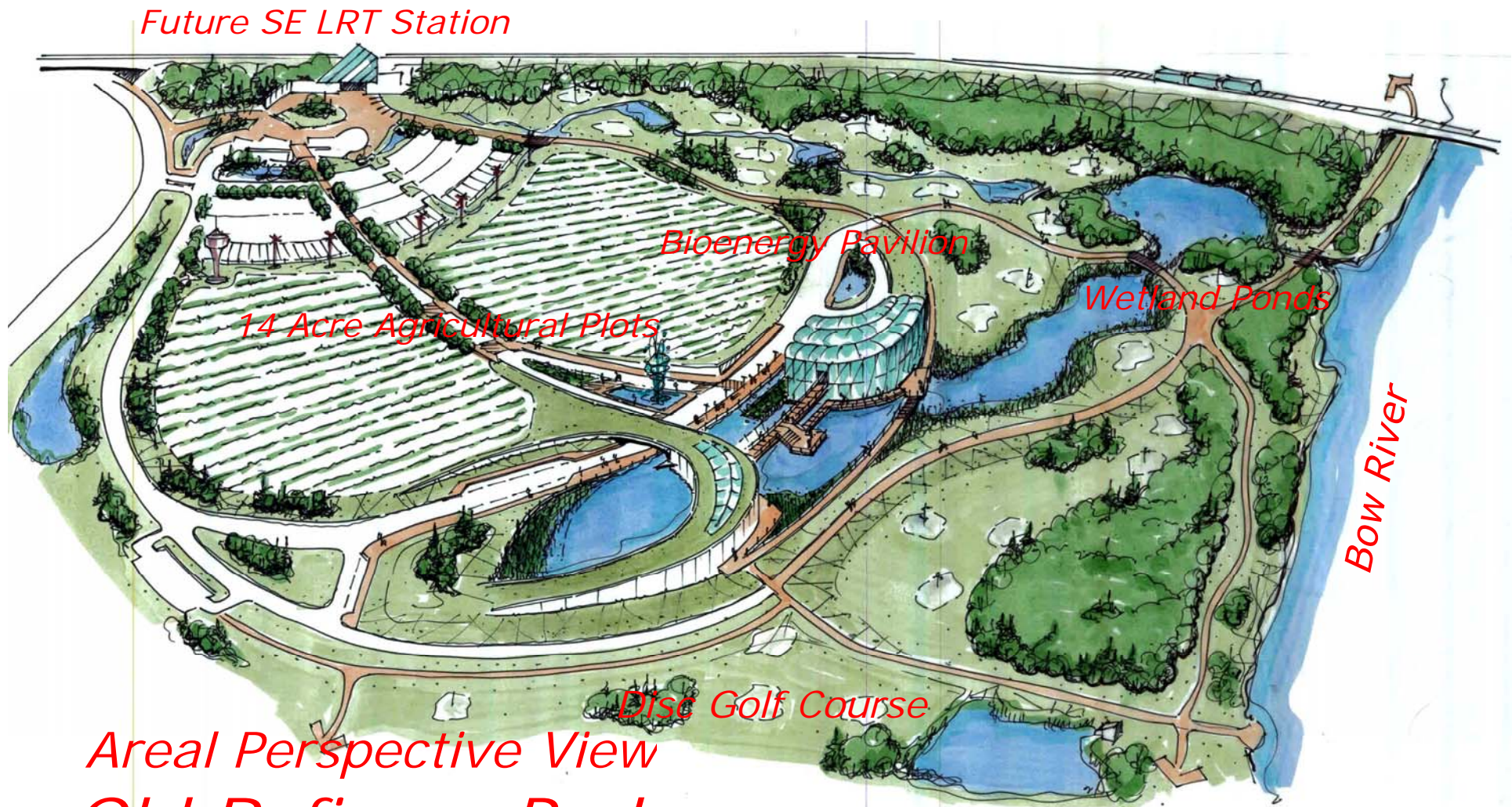


Net zero energy?

Net zero water?



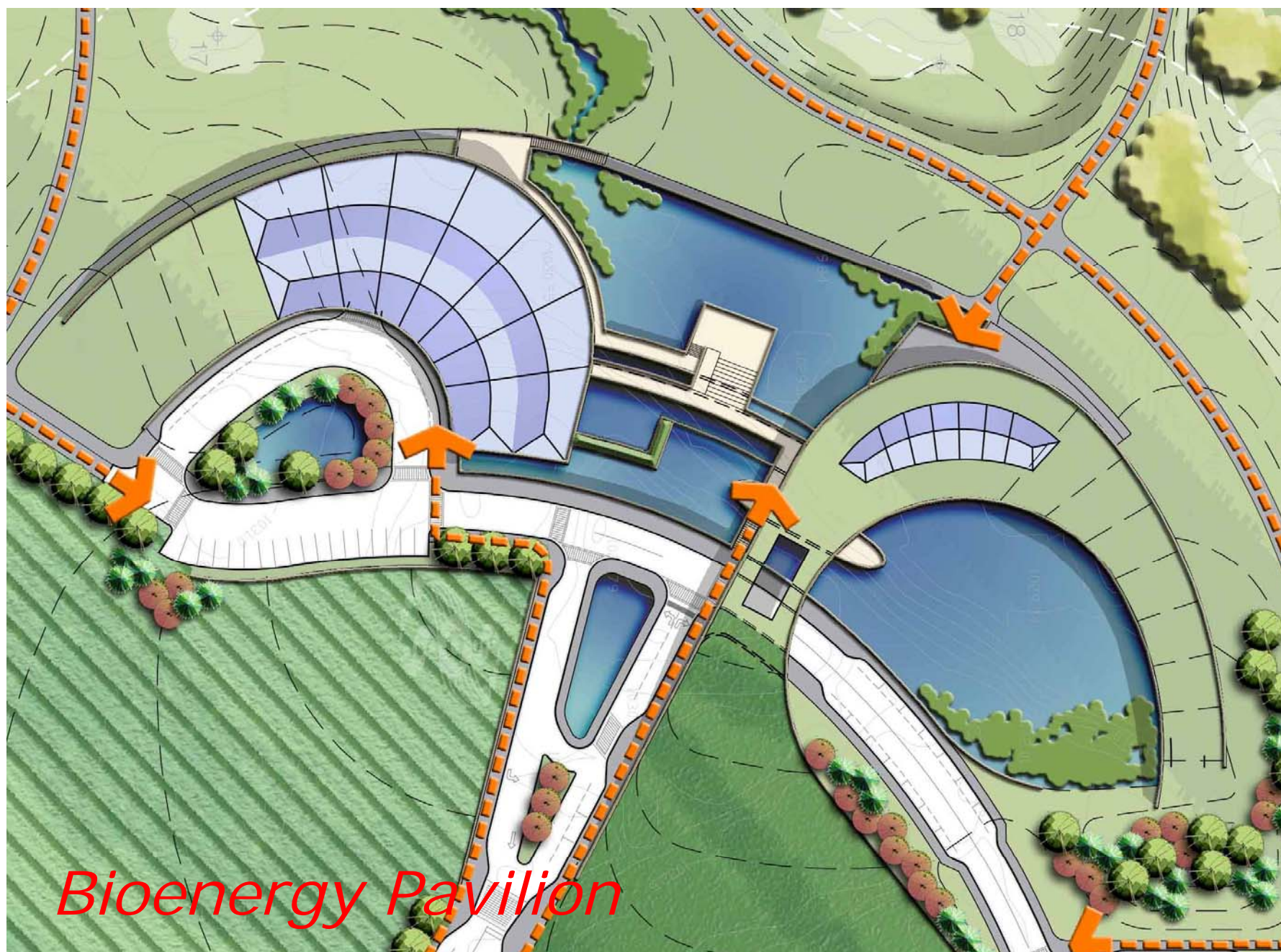
*A "Living Building Challenge"
Working with what you have...*

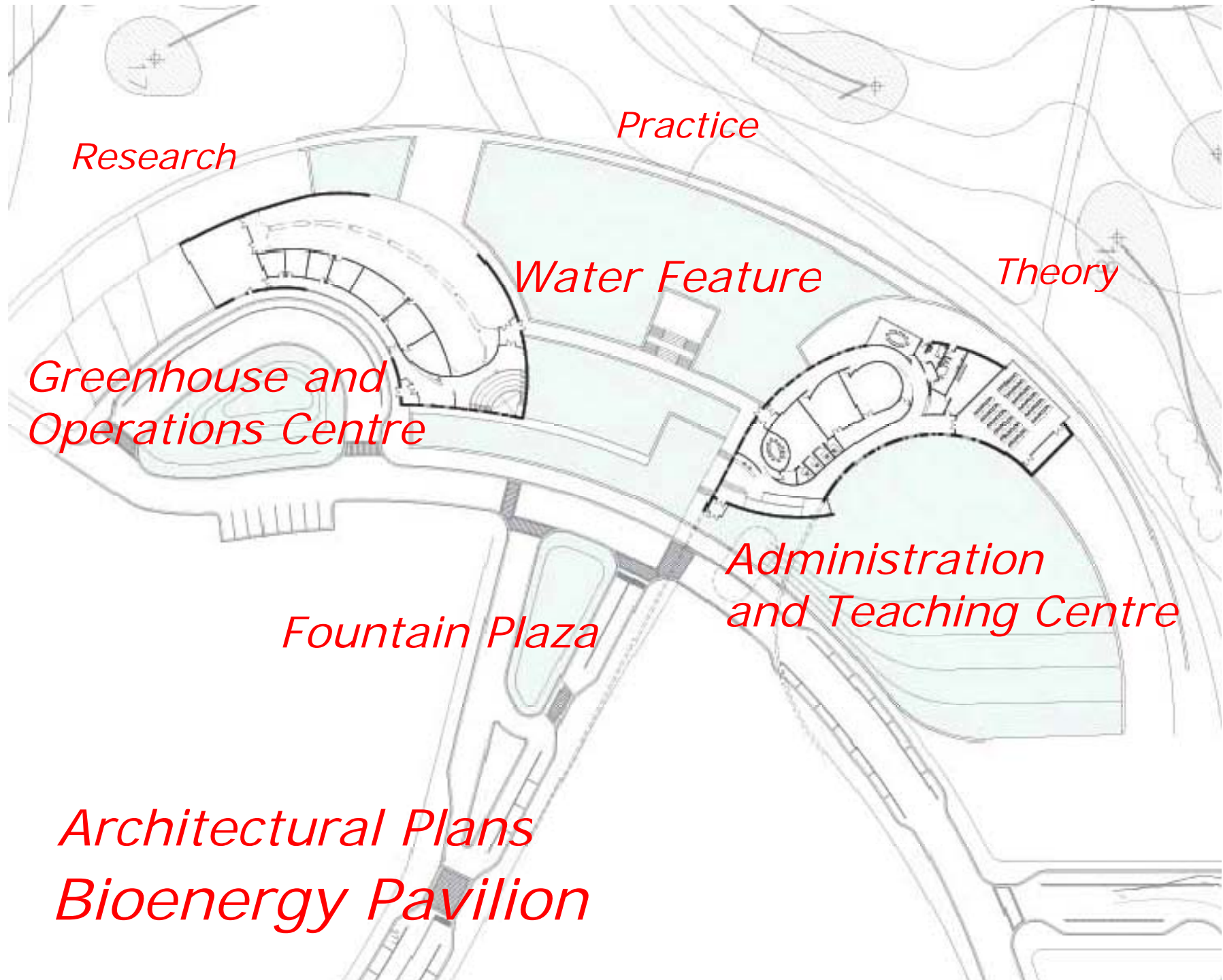


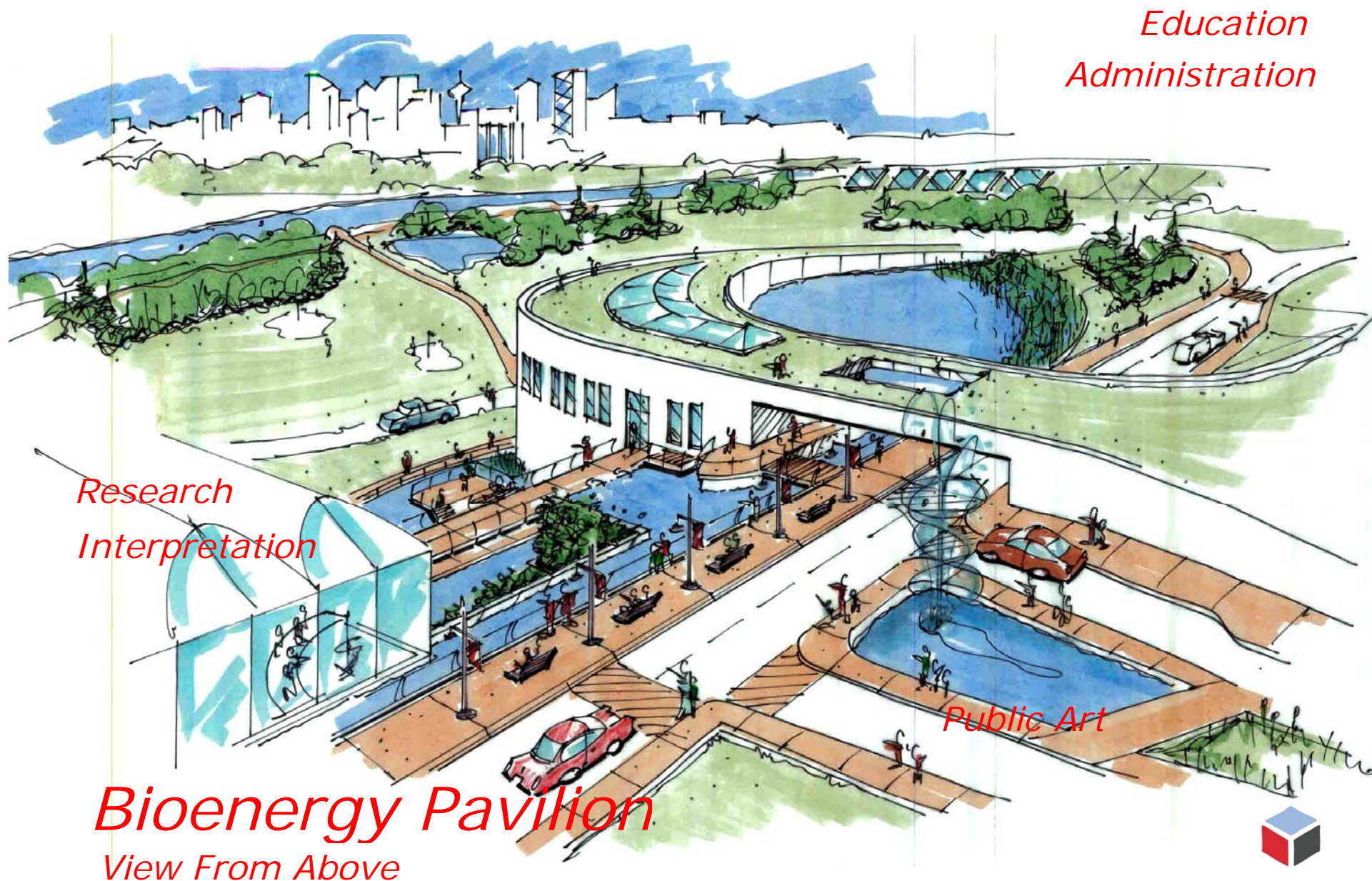
Areal Perspective View
Old Refinery Park
Redevelopment Master Plan

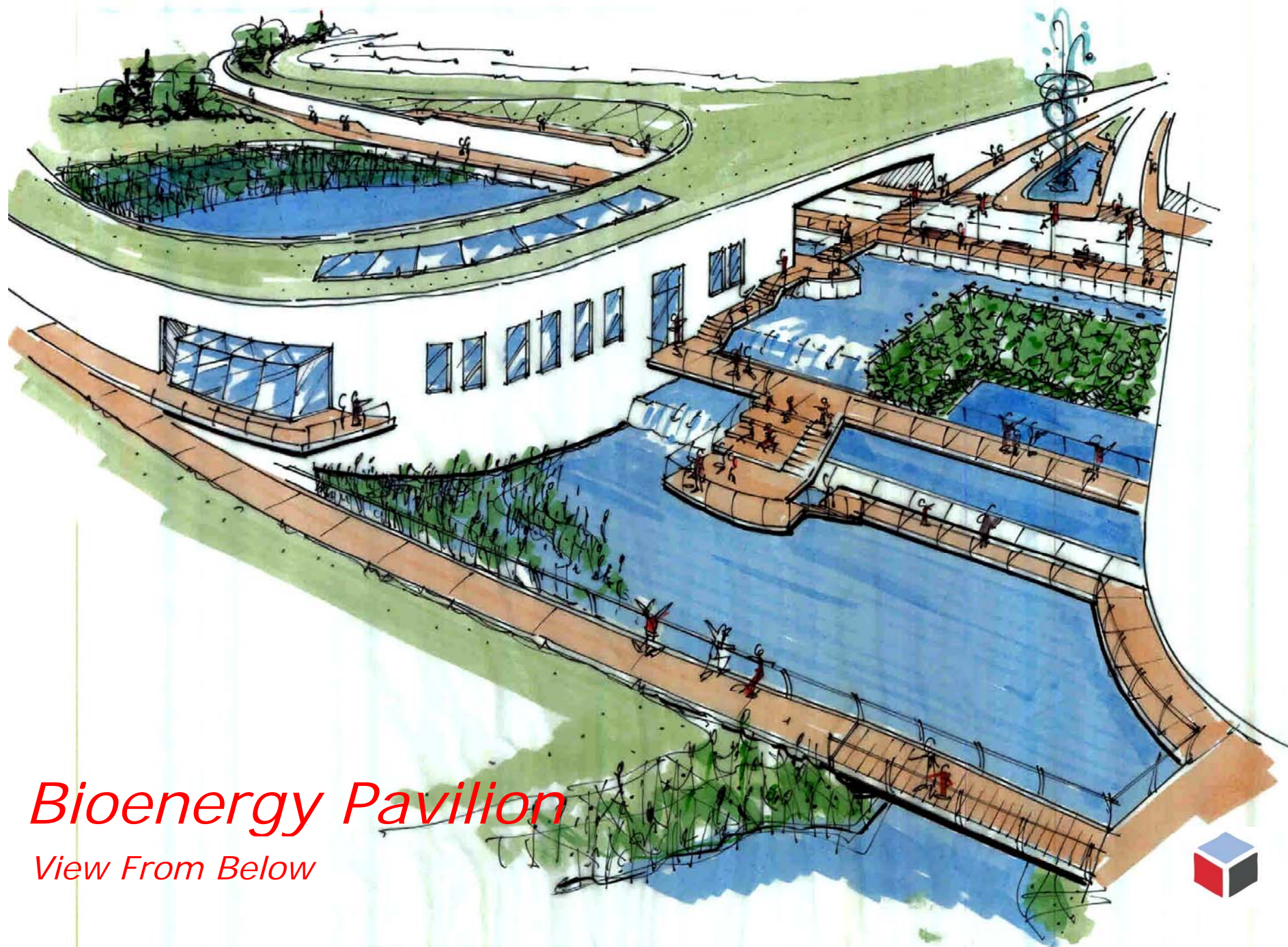
November, 2013







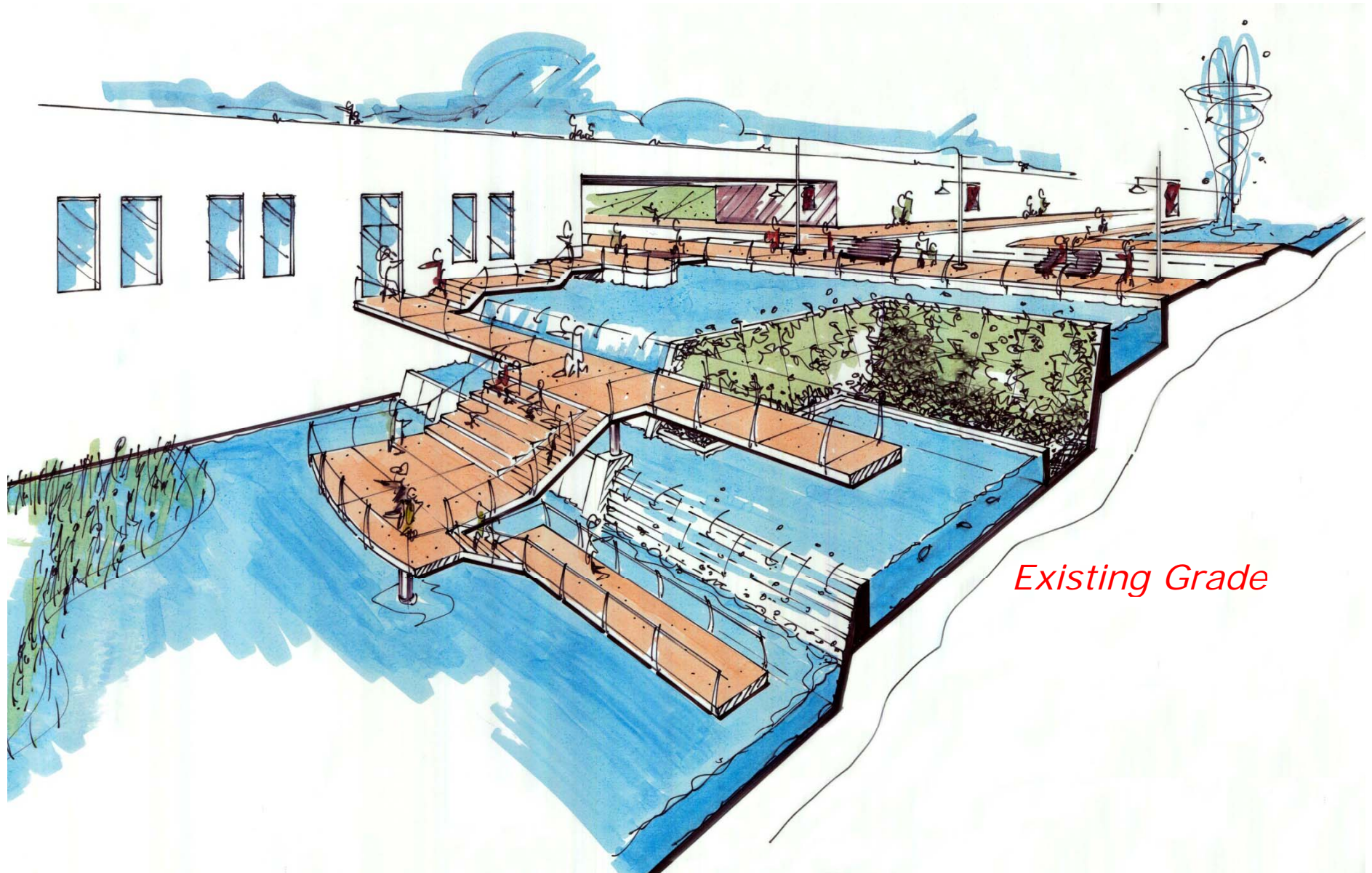




Bioenergy Pavilion

View From Below

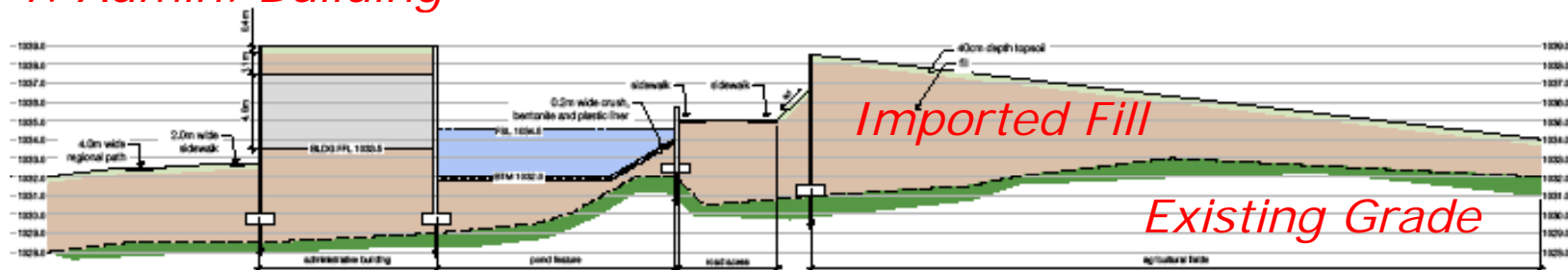




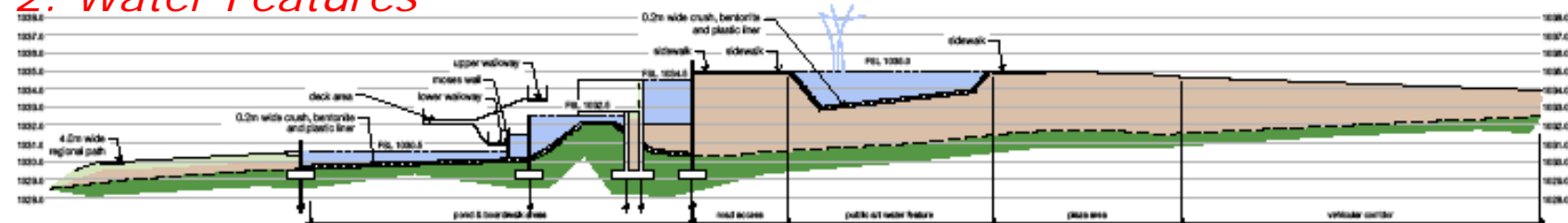
Existing Grade

Cut Away Section Through Ponds

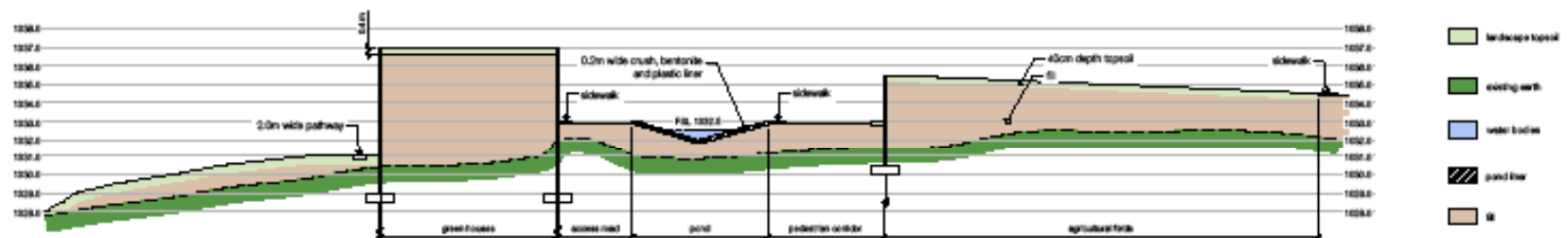
1. Admin. Building



2. Water Features



3. Greenhouse



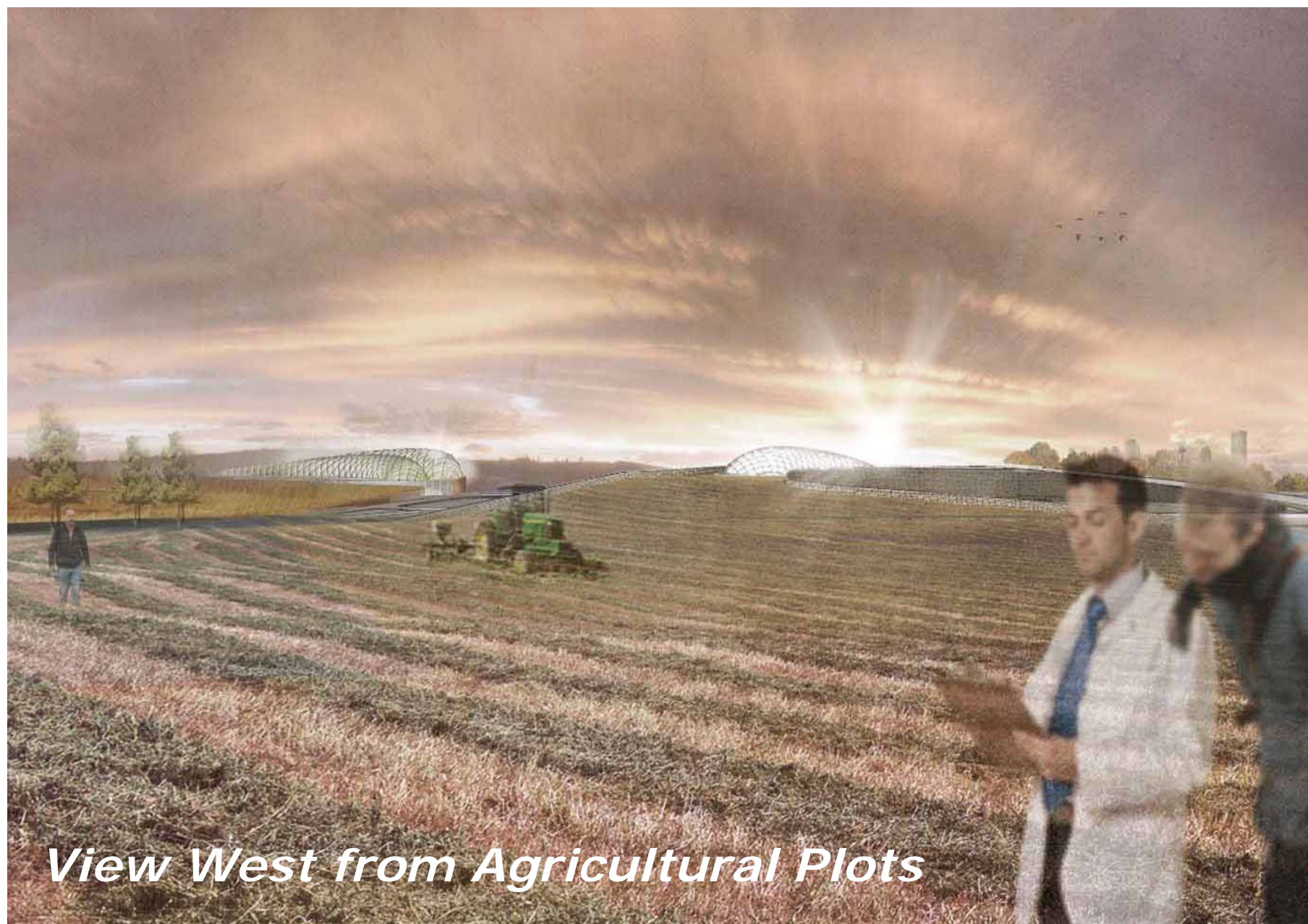
Site Sections Through Bioenergy Pavilion

Note: Vertical Dimension Exaggerated 2:1





View East form Wetlands





Phase 1
City of Calgary
Risk Management Plan

Phase 2
Old Refinery Park

Phase 3
Bioenergy
Infrastructure

Phase 4
SELRT Line and Station

Old Refinery Park

Implementation Strategy





Capital Cost Estimate – Phase 1

City of Calgary – Risk Management Plan	\$30,000,000
ORP Site Work and U/G Utilities (PFC)	\$ 2,500,000

Total Phase 1 Construction Cost **\$32,500,000**

Capital Cost Estimate – Phase 2

Contract 1 - Earthworks	\$ 280,000
Contract 2 – Roads, Parking & Utilities	\$ 3,000,000
Contract 3 - Architectural	\$ 19,500,000
Contract 4 – Site Structures	\$ 13,200,000
Contract 5 – Hard Landscape	\$ 4,225,000
Contract 6 – Site Restoration	\$ 3,500,000
Contract 7 – Public Art & Interpretation	\$ 1,150,000

Total Phase 2 Construction Cost **\$44,855,000**

Plus 15% Contingency - \$6,728,250

Plus 15% Soft Costs - \$7,737,488

Total Phase 2 Budget Required **\$59,320,738**

Capital Cost Estimate – Phase 3

Solar Farm (ENMAX)

\$?

Wind Farm (PFC)

\$ 605,000

Total Phase 3 Construction Cost

\$?

Total Cost to Parks Foundation Calgary

Phase 1

\$ 2,500,000

Phase 2

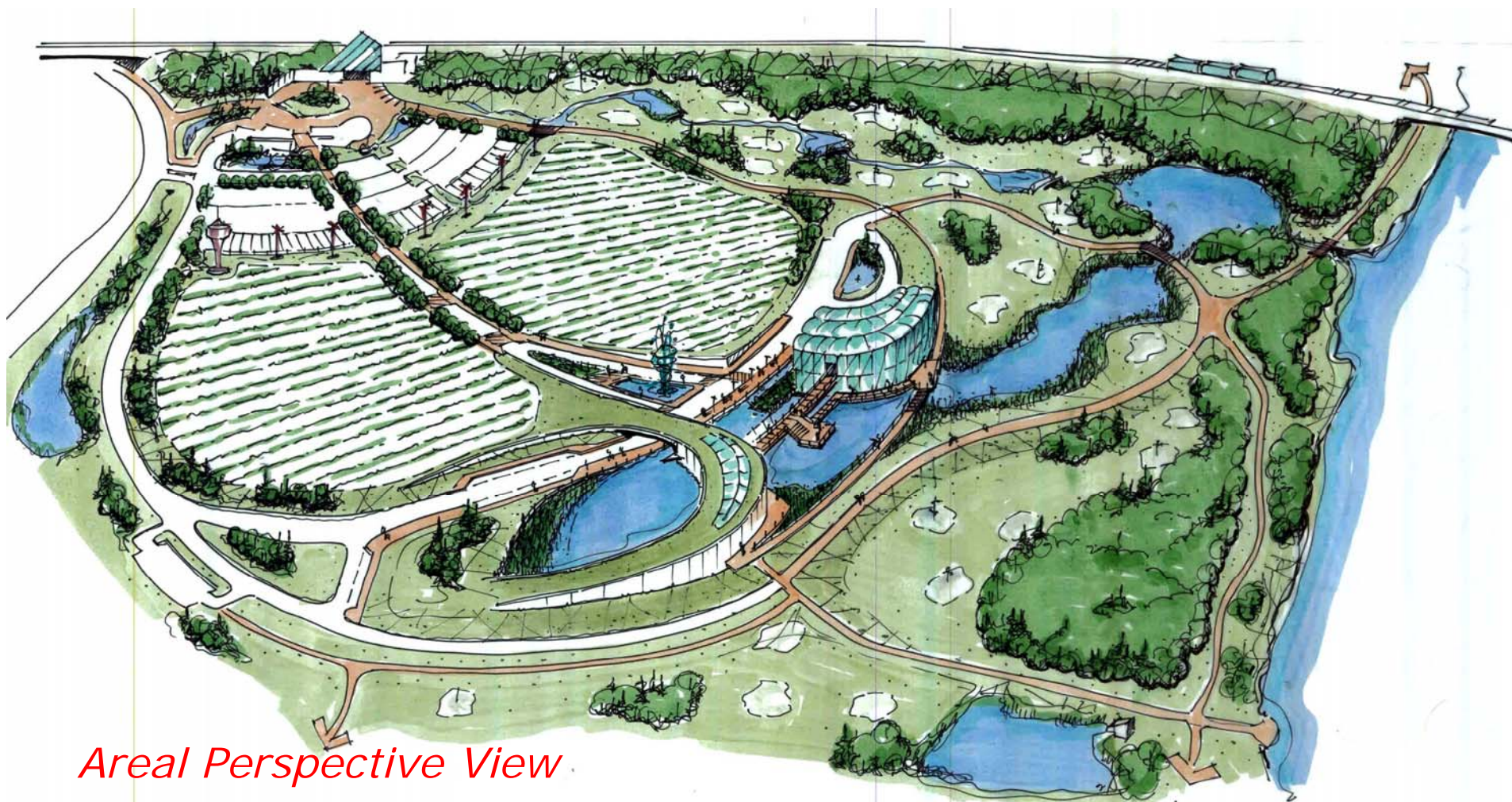
\$59,320,000

Phase 3

\$ 605,000

Total PFC Budget Required

\$62,425,000



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