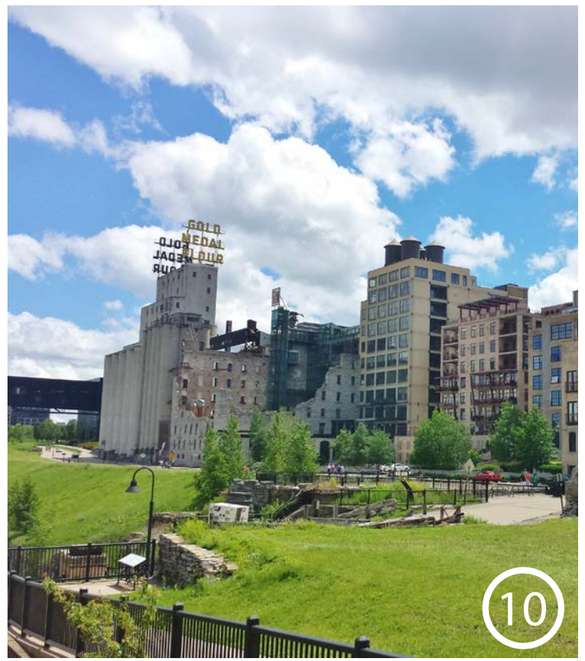
Landmarks

1. Hennepin Island
2. Nicollet Island
3. Pillsbury ‘A’ Mill Lofts
4. St. Anthony Bluffs
5. Hydroelectric Plant
6. St. Anthony Falls
7. Stone Arch Bridge
8. Downtown Mpls
9. Mill Ruins Park
10. Mill City Museum
11. Guthrie Theatre

Landmarks


7


8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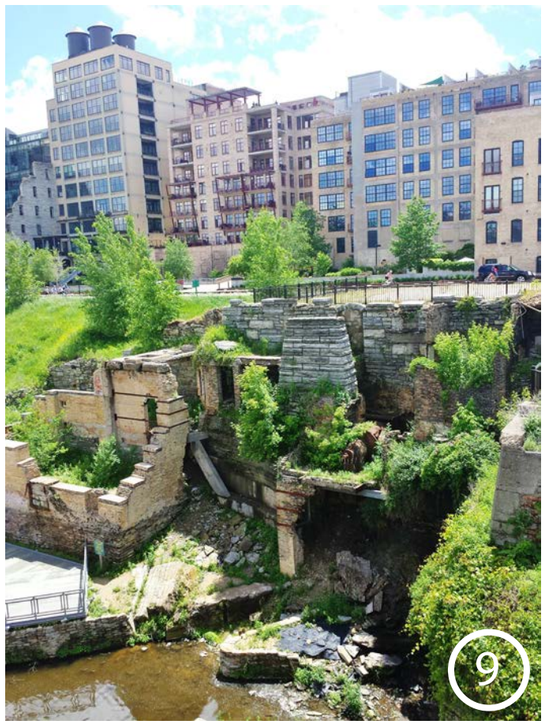
MILL RUINS
PARK
MINNEAPOLIS PARK AND RECREATION BOARD
9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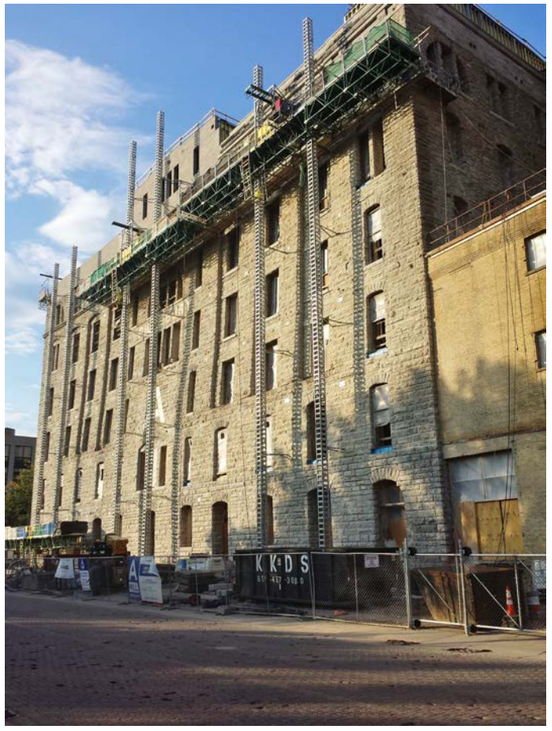
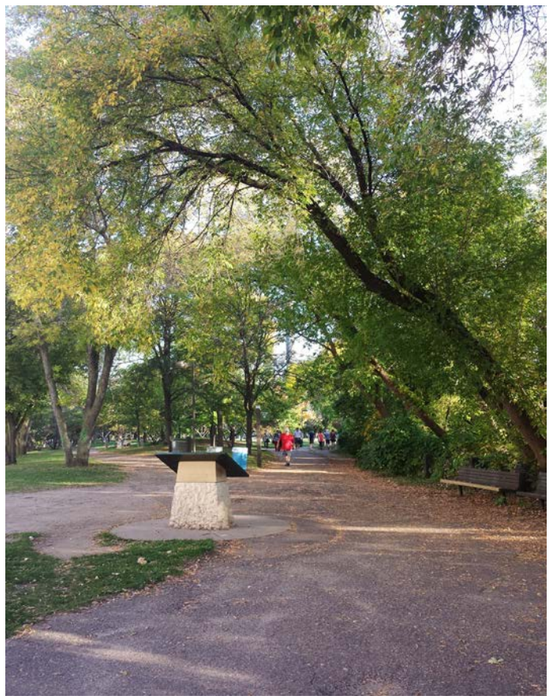
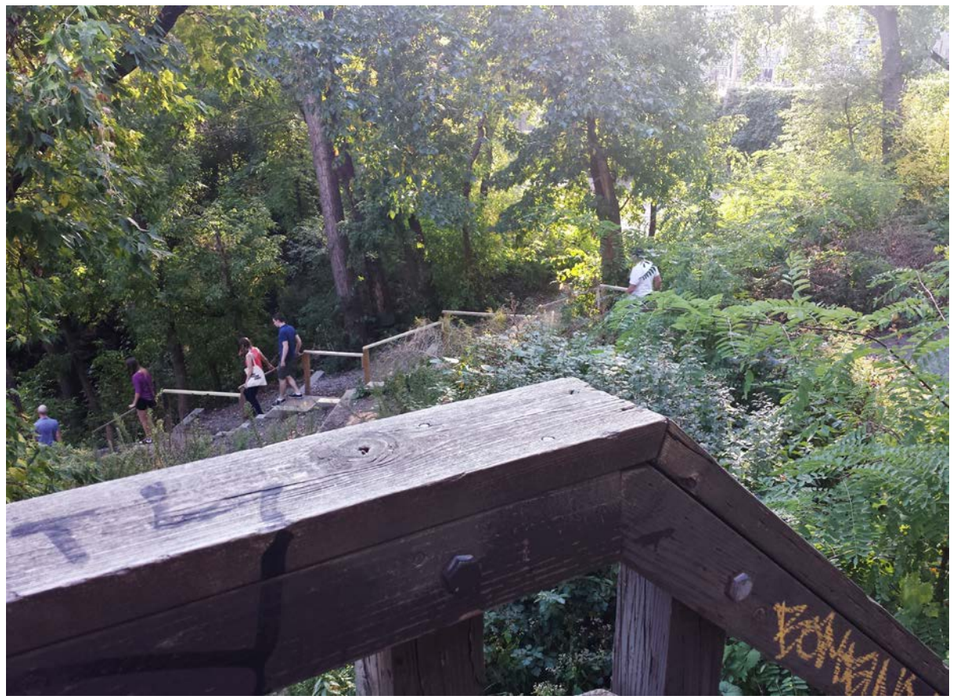
6

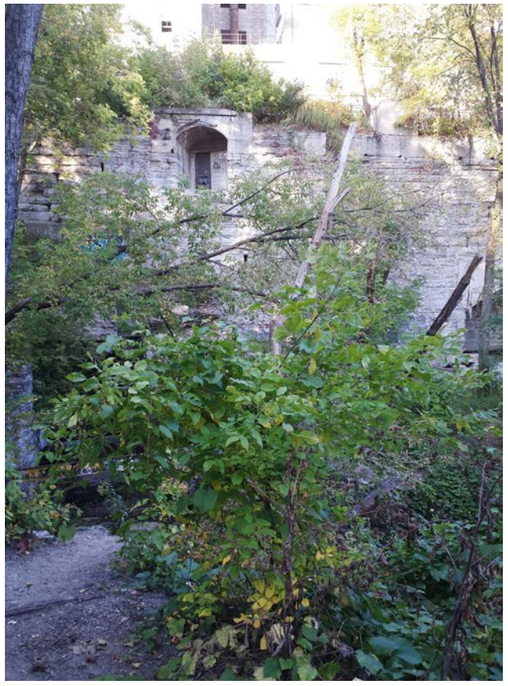
East Bank Development

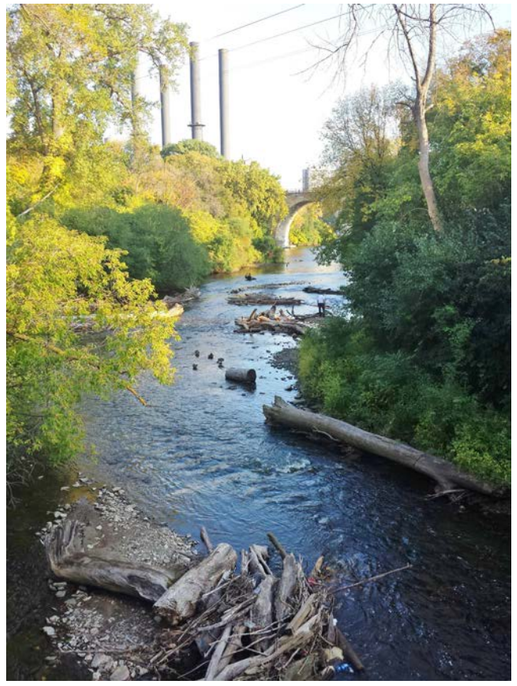


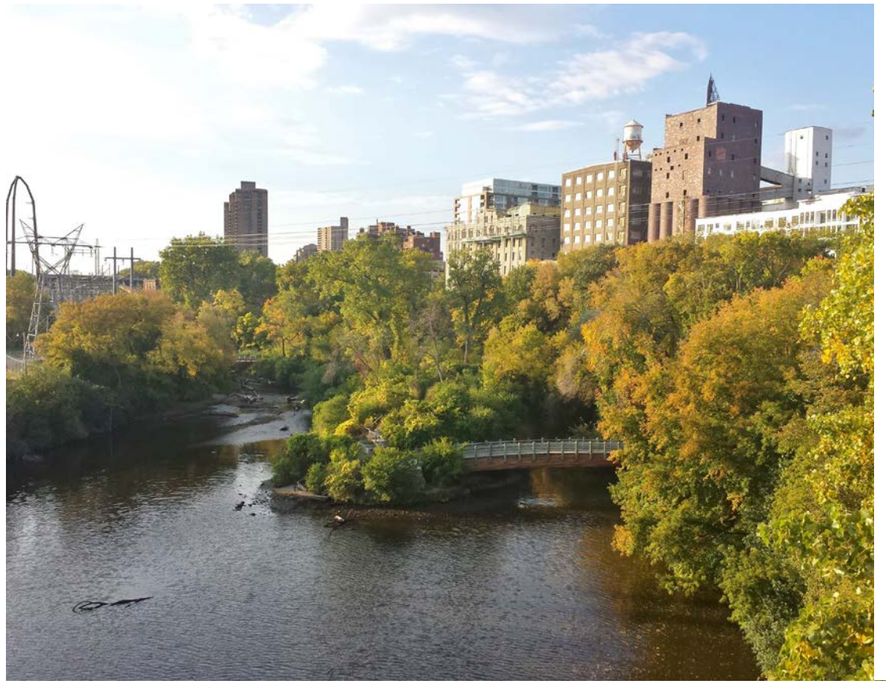
St. Anthony Bluffs

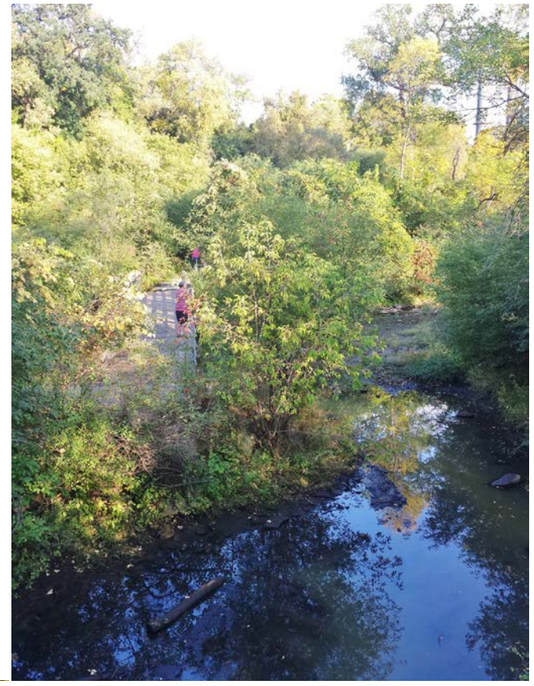










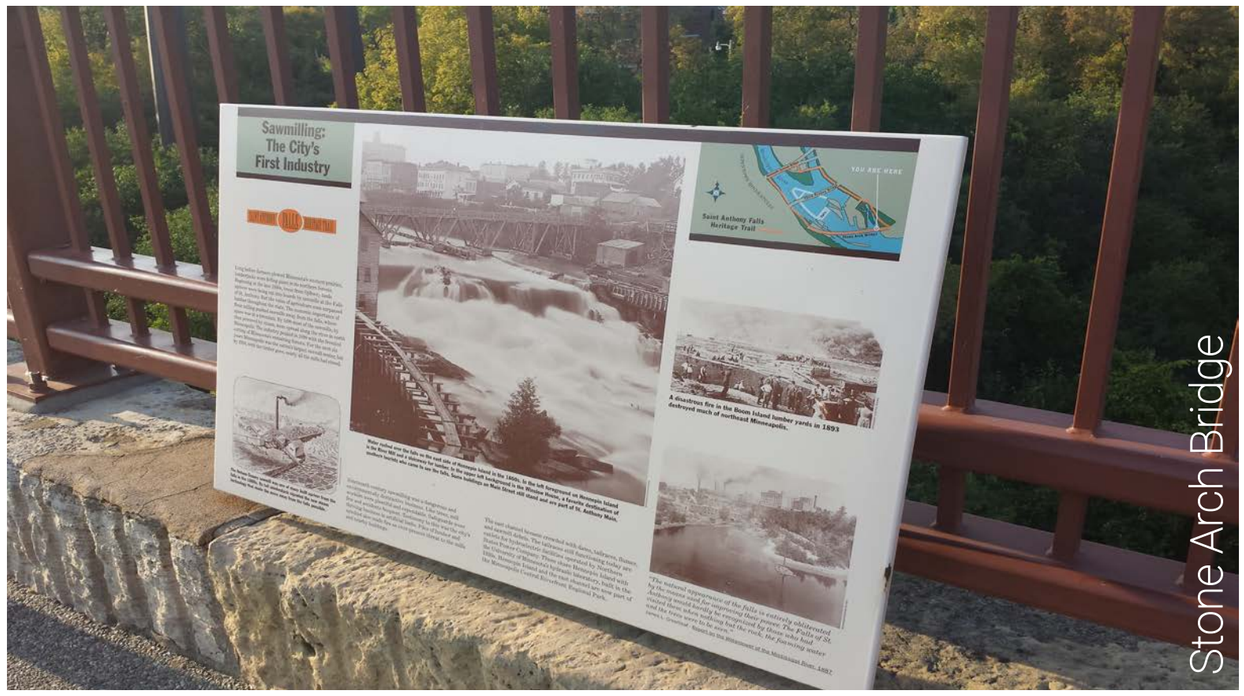


Typical Plaque Example

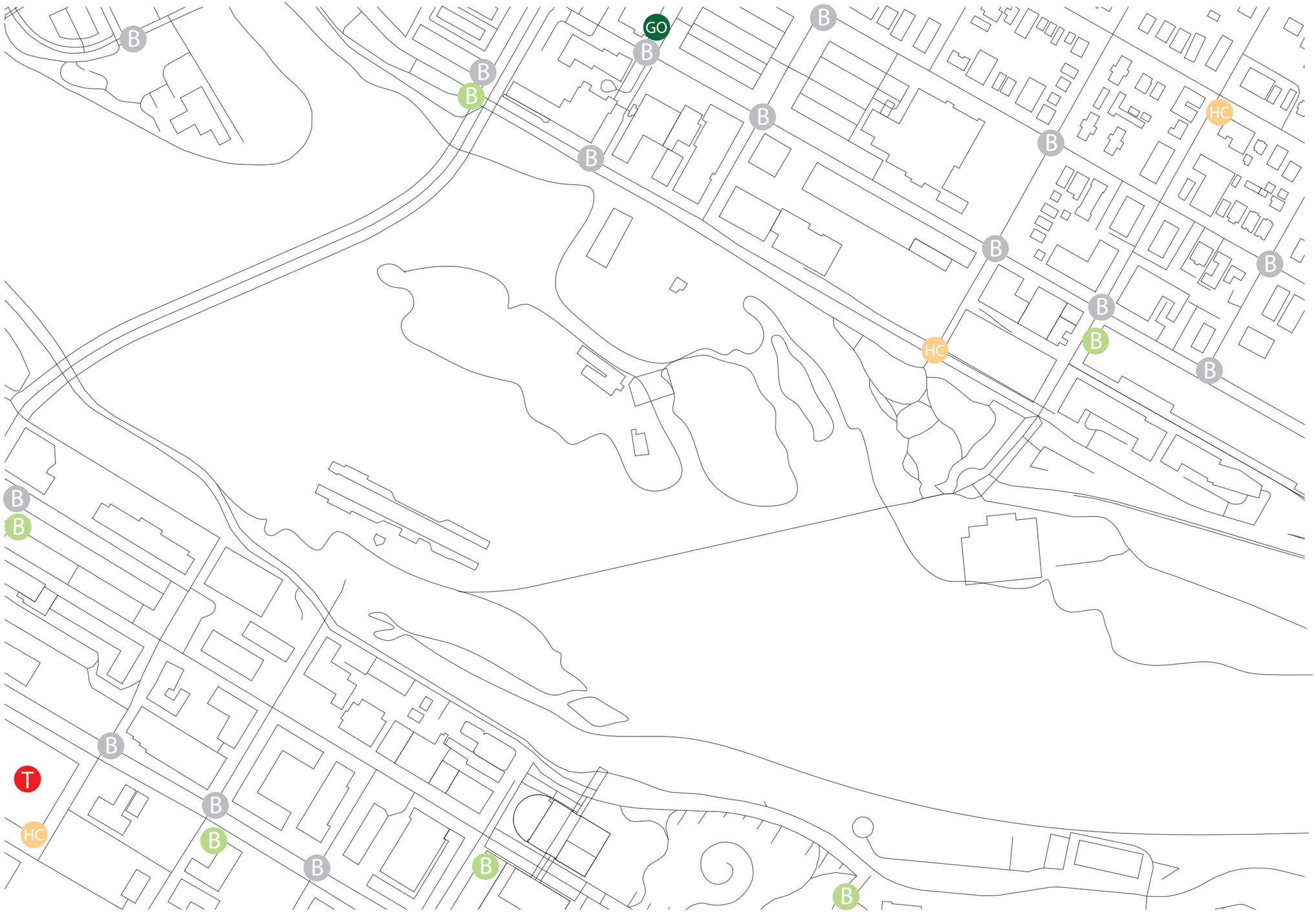
would be located in and around immediate building

Existing Historical Plaques

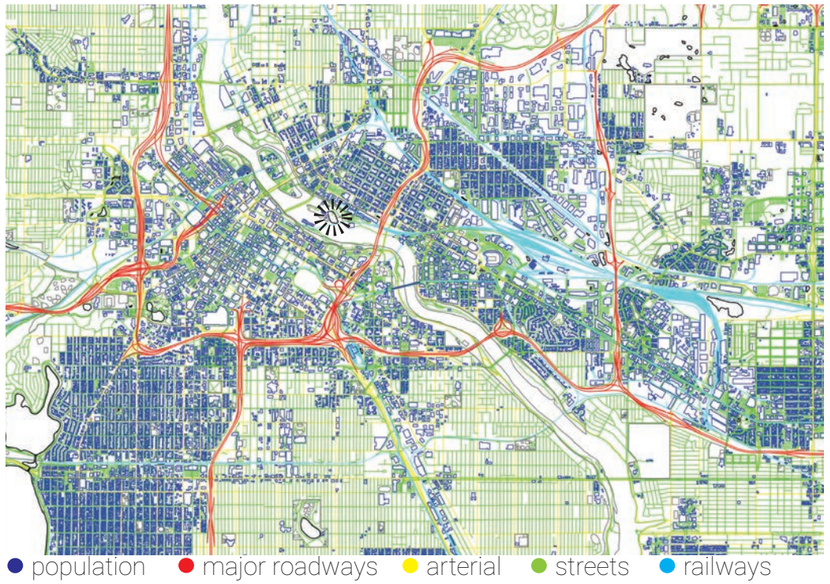
would be continued along path to thesis site



Public Transport

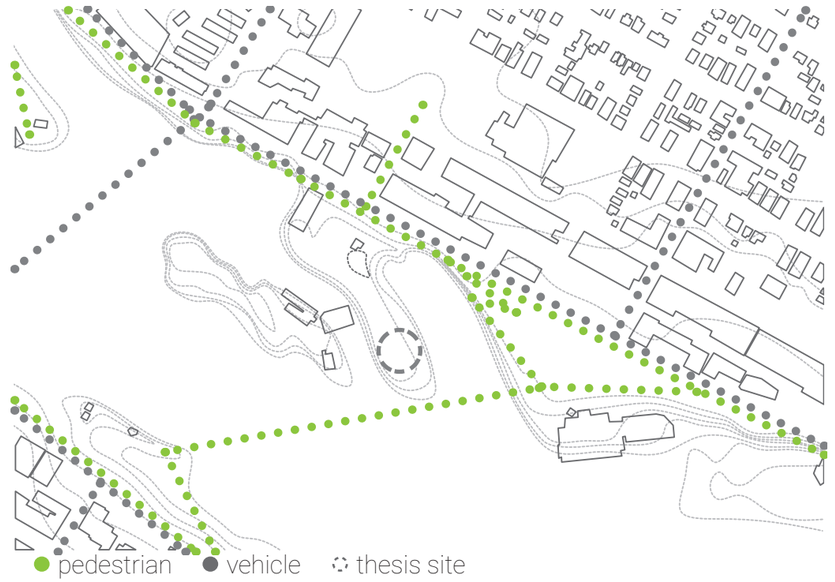


Site Map Studies



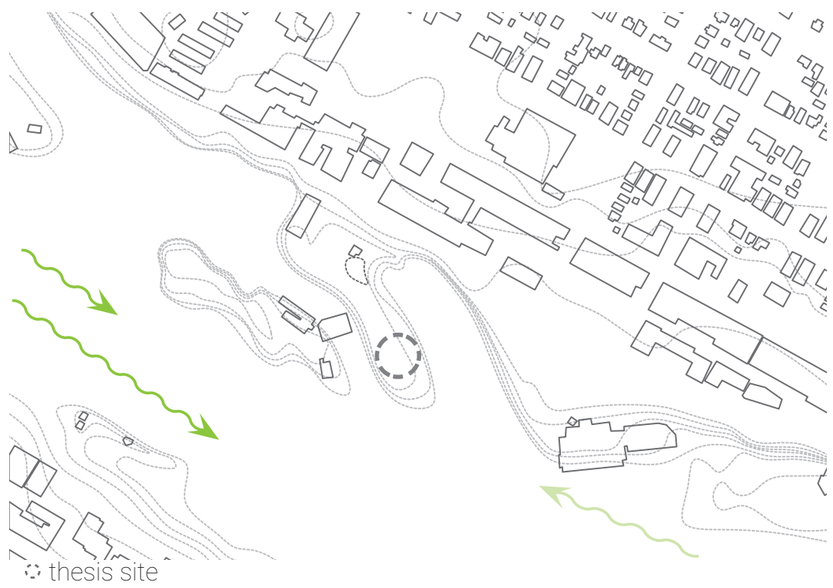
density

building use

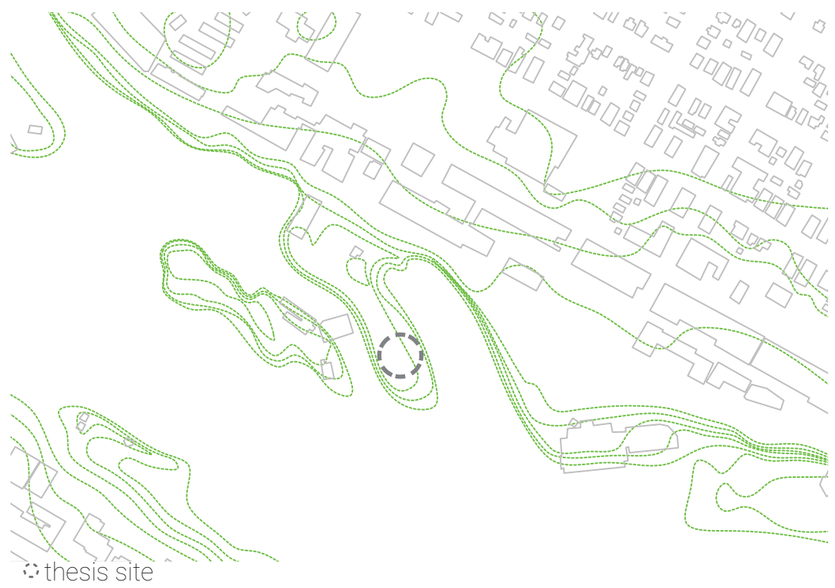


traffic

noise



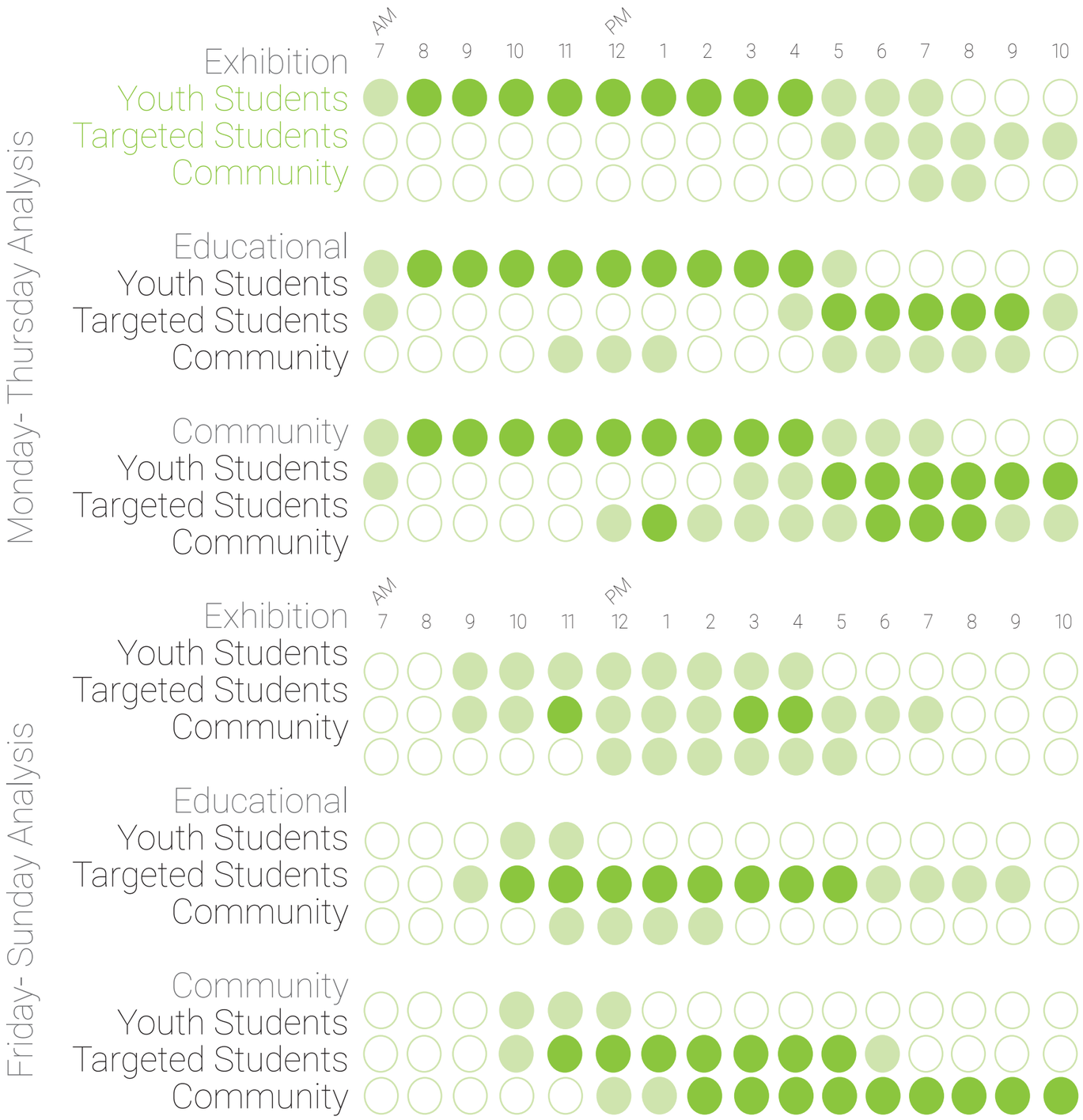
wind



topography

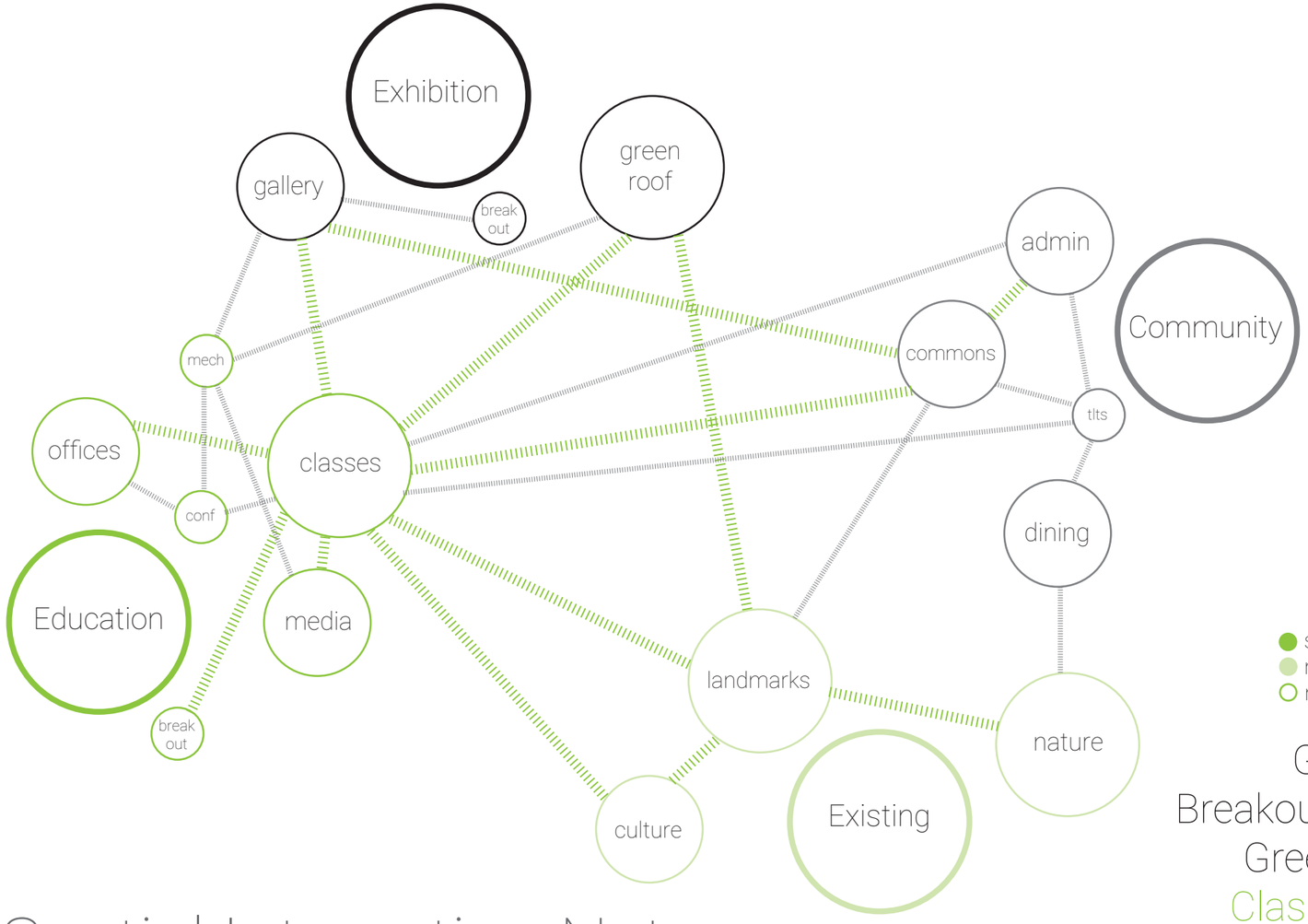
Site Section

User Groups



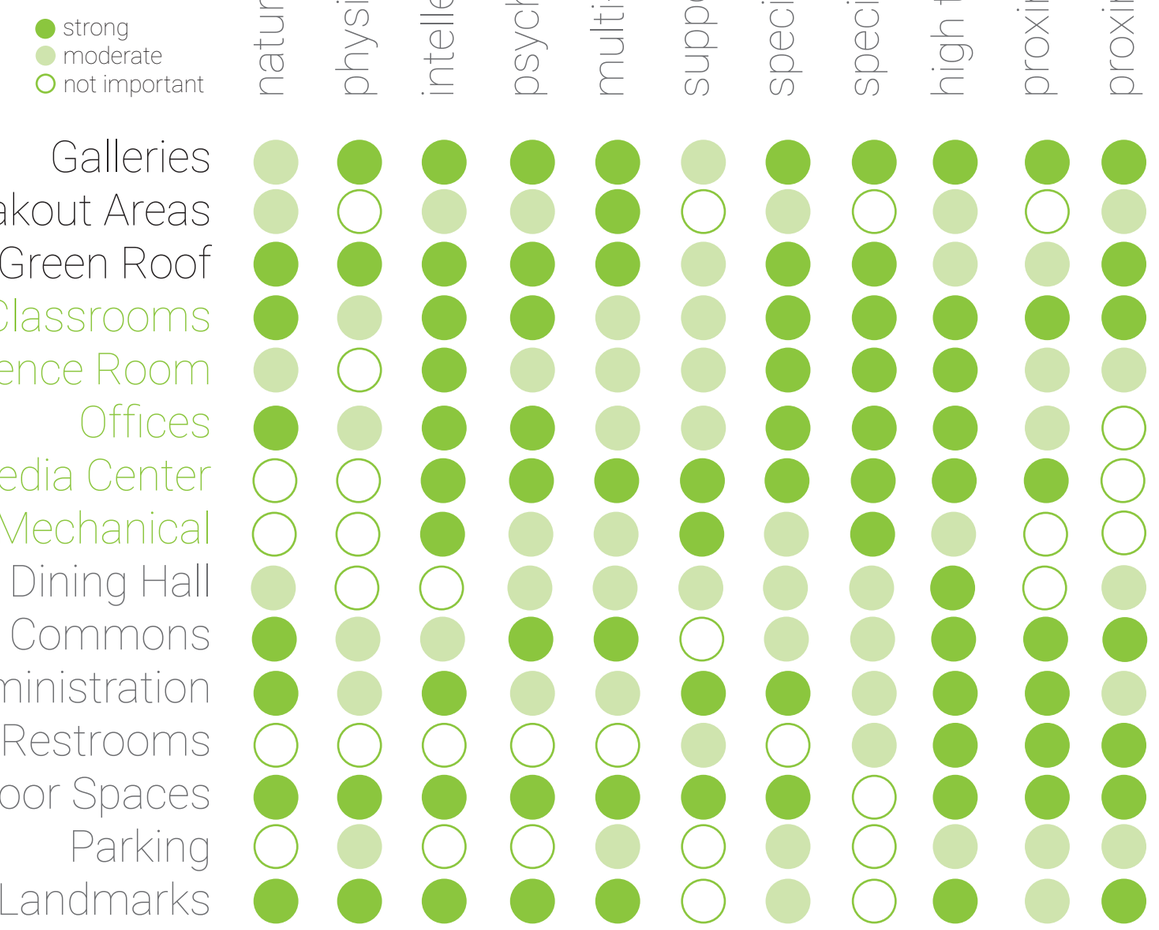
Program Elements

	12.15.2014 estimate	4.27.2015 actual	maximum occupancy
Exhibition			
Galleries	4,000sf	2,000sf	55
Breakout Areas	1,000sf	100sf	4
Green Roof	7,000sf	1,970sf	50
Educational			
Classrooms	4,000sf	1,330sf	80
Breakout Areas	1,000sf	160sf	8
Conference Room	600sf	190sf	12
Offices	1,000sf	590sf	14
Media Center	2,000sf	340sf	9
Mechanical/ Electrical	600sf	100sf	n/a
Community			
Dining Hall	1,200sf	700sf	30
Social Commons	1,200sf	800sf	15
Administration	1,400sf	50sf	2
Restrooms	800sf	600sf	14
Gross Total SF:	24,000sf	9,148sf	
Maximum Building Occupancy:	536	293	



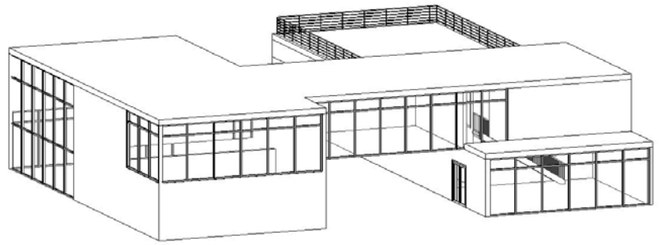
Spatial Interaction Net

Environmental Data

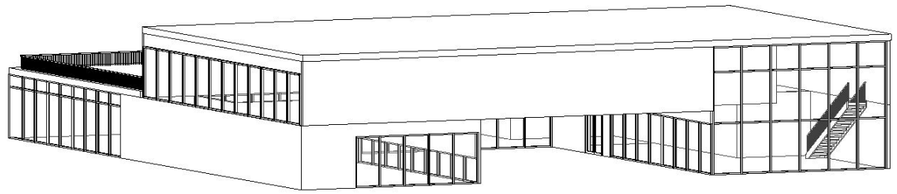


Process Design Models

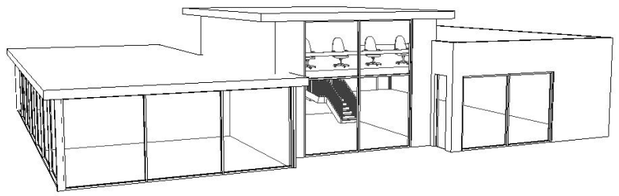
multi- level green roof



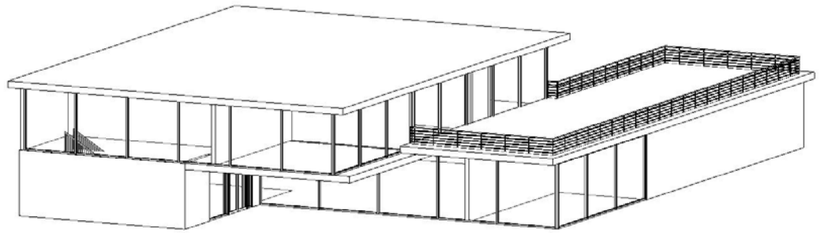
center open courtyard



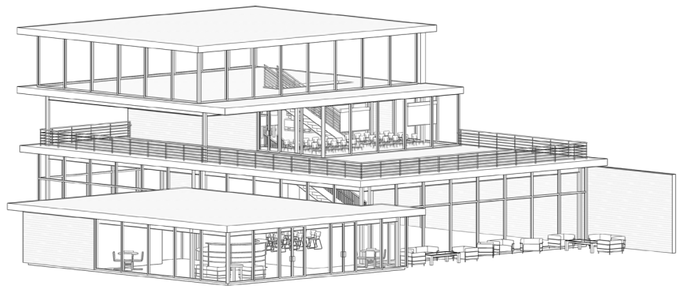
linear, closed courtyard



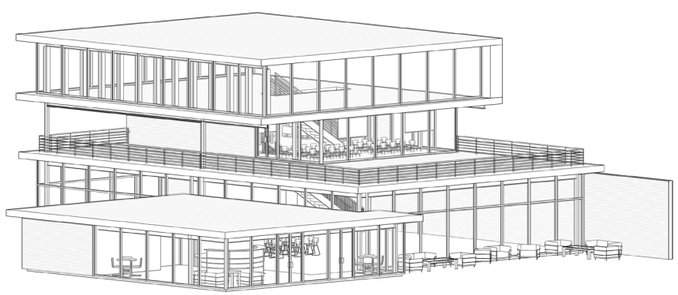
center hierarchy



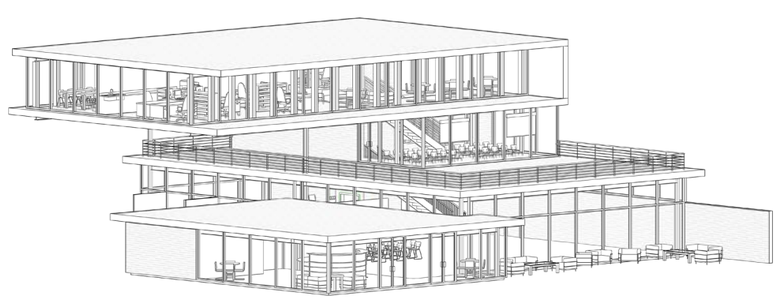
‘floating’ second level



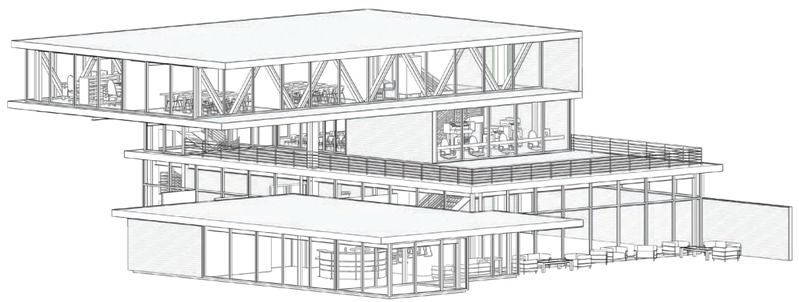
subtractive second floor



cantilever over river

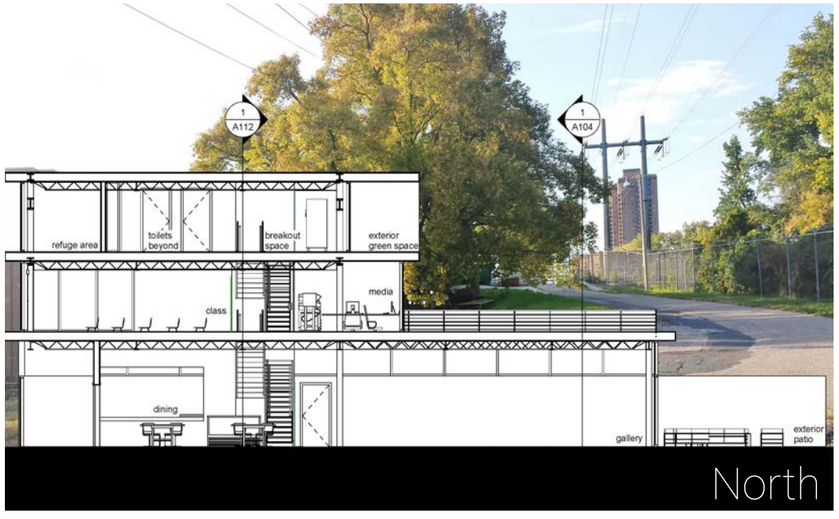


cantilever shades courtyard

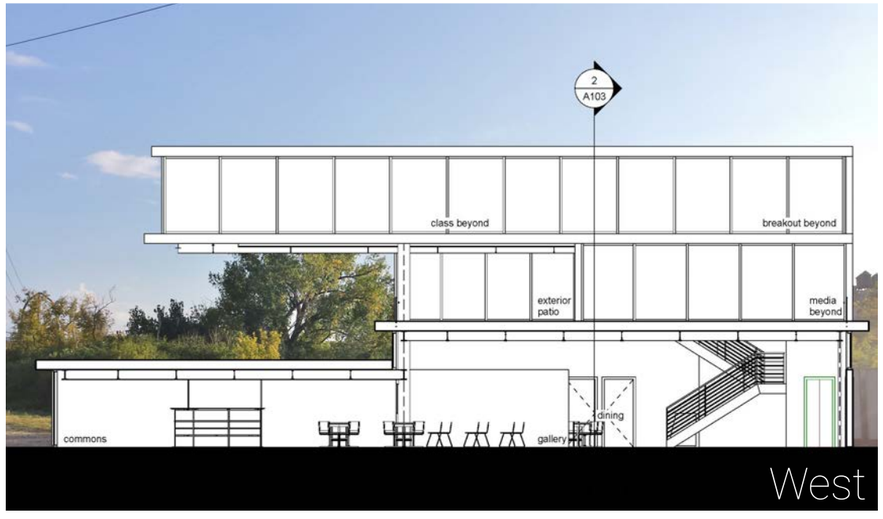


structure model explored

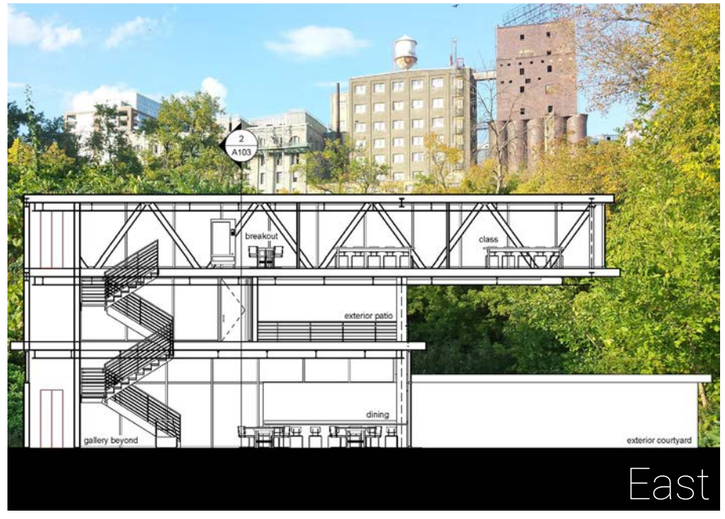
Section Frames



North

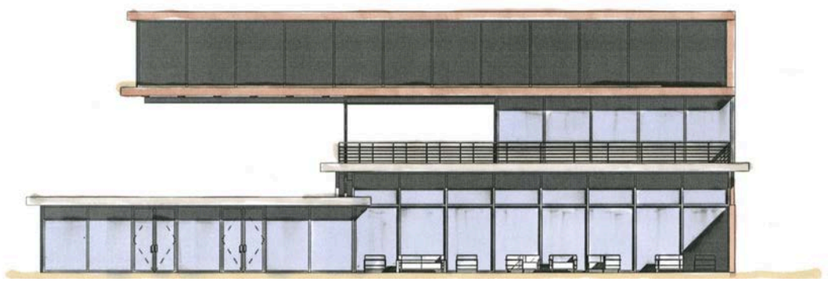


West

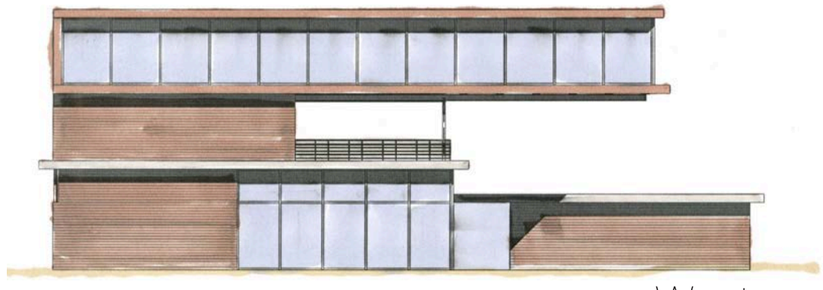


East

Material Elevations



East



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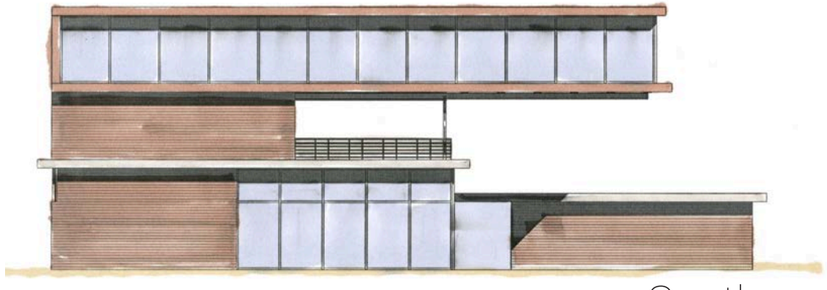
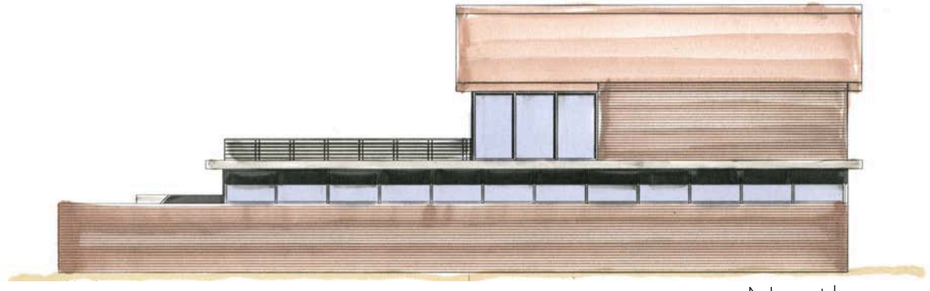


South



North

Section Frame

East Section;
Pillsbury ‘A’ Mill in background

Typical Exhibit Example

The Crystal: Global Sustainability Exhibition

LEED Checklist

LEED 2009 for New Construction and Major Renovations

Project Checklist

Sustainable Sites — Possible Points: 26

Y	?	N			
Y			Prereq 1	Construction Activity Pollution Prevention	
1			Credit 1	Site Selection	1
5			Credit 2	Development Density and Community Connectivity	5
		x	Credit 3	Brownfield Redevelopment	1
6			Credit 4.1	Alternative Transportation—Public Transportation Access	6
1			Credit 4.2	Alternative Transportation—Bicycle Storage and Changing Rooms	1
1			Credit 4.3	Alternative Transportation—Low-Emitting and Fuel-Efficient Vehicles	3
2			Credit 4.4	Alternative Transportation—Parking Capacity	2
1			Credit 5.1	Site Development—Protect or Restore Habitat	1
1			Credit 5.2	Site Development—Maximize Open Space	1
1			Credit 6.1	Stormwater Design—Quantity Control	1
1			Credit 6.2	Stormwater Design—Quality Control	1
1			Credit 7.1	Heat Island Effect—Non-roof	1
1			Credit 7.2	Heat Island Effect—Roof	1
1			Credit 8	Light Pollution Reduction	1

Water Efficiency — Possible Points: 10

Y					
Y			Prereq 1	Water Use Reduction—20% Reduction	
4			Credit 1	Water Efficient Landscaping	2 to 4
2			Credit 2	Innovative Wastewater Technologies	2
4			Credit 3	Water Use Reduction	2 to 4

Energy and Atmosphere — Possible Points: 35

Y					
Y			Prereq 1	Fundamental Commissioning of Building Energy Systems	
Y			Prereq 2	Minimum Energy Performance	
Y			Prereq 3	Fundamental Refrigerant Management	
15			Credit 1	Optimize Energy Performance	1 to 19
6			Credit 2	On-Site Renewable Energy	1 to 7
2			Credit 3	Enhanced Commissioning	2
2			Credit 4	Enhanced Refrigerant Management	2
3			Credit 5	Measurement and Verification	3
2			Credit 6	Green Power	2

Materials and Resources — Possible Points: 14

Y					
Y			Prereq 1	Storage and Collection of Recyclables	
		x	Credit 1.1	Building Reuse—Maintain Existing Walls, Floors, and Roof	1 to 3
		x	Credit 1.2	Building Reuse—Maintain 50% of Interior Non-Structural Elements	1
2			Credit 2	Construction Waste Management	1 to 2
2			Credit 3	Materials Reuse	1 to 2

Materials and Resources, Continued

Y	?	N			
2			Credit 4	Recycled Content	1 to 2
2			Credit 5	Regional Materials	1 to 2
1			Credit 6	Rapidly Renewable Materials	1
1			Credit 7	Certified Wood	1

Indoor Environmental Quality — Possible Points: 15

Y					
Y			Prereq 1	Minimum Indoor Air Quality Performance	
Y			Prereq 2	Environmental Tobacco Smoke (ETS) Control	
1			Credit 1	Outdoor Air Delivery Monitoring	1
1			Credit 2	Increased Ventilation	1
1			Credit 3.1	Construction IAQ Management Plan—During Construction	1
1			Credit 3.2	Construction IAQ Management Plan—Before Occupancy	1
1			Credit 4.1	Low-Emitting Materials—Adhesives and Sealants	1
1			Credit 4.2	Low-Emitting Materials—Paints and Coatings	1
1			Credit 4.3	Low-Emitting Materials—Flooring Systems	1
1			Credit 4.4	Low-Emitting Materials—Composite Wood and Agrifiber Products	1
1			Credit 5	Indoor Chemical and Pollutant Source Control	1
1			Credit 6.1	Controllability of Systems—Lighting	1
1			Credit 6.2	Controllability of Systems—Thermal Comfort	1
1			Credit 7.1	Thermal Comfort—Design	1
1			Credit 7.2	Thermal Comfort—Verification	1
1			Credit 8.1	Daylight and Views—Daylight	1
1			Credit 8.2	Daylight and Views—Views	1

Innovation and Design Process — Possible Points: 6

1			Credit 1.1	Innovation in Design: Specific Title	1
1			Credit 1.2	Innovation in Design: Specific Title	1
1			Credit 1.3	Innovation in Design: Specific Title	1
		x	Credit 1.4	Innovation in Design: Specific Title	1
		x	Credit 1.5	Innovation in Design: Specific Title	1
		x	Credit 2	LEED Accredited Professional	1

Regional Priority Credits — Possible Points: 4

1			Credit 1.1	Regional Priority: Specific Credit	1
1			Credit 1.2	Regional Priority: Specific Credit	1
1			Credit 1.3	Regional Priority: Specific Credit	1
1			Credit 1.4	Regional Priority: Specific Credit	1

Total — Possible Points: 110

Certified 40 to 49 points Silver 50 to 59 points Gold 60 to 79 points Platinum 80 to 110

Score: 95 (Platinum)

Cost Analysis

Life- Cycle Strategies

Natural Daylighting- existing resource
Hydroelectric energy- existing resource
Fiber Soil Parking
Reduced Building Footprint
Living Machine- water recycle and reuse
Energy Use Assessment

Construction Cost

based on average new construction educational and museum typologies in Minneapolis, MN; 2012

Cost per SF: $450
Total construction cost: $4,140,000

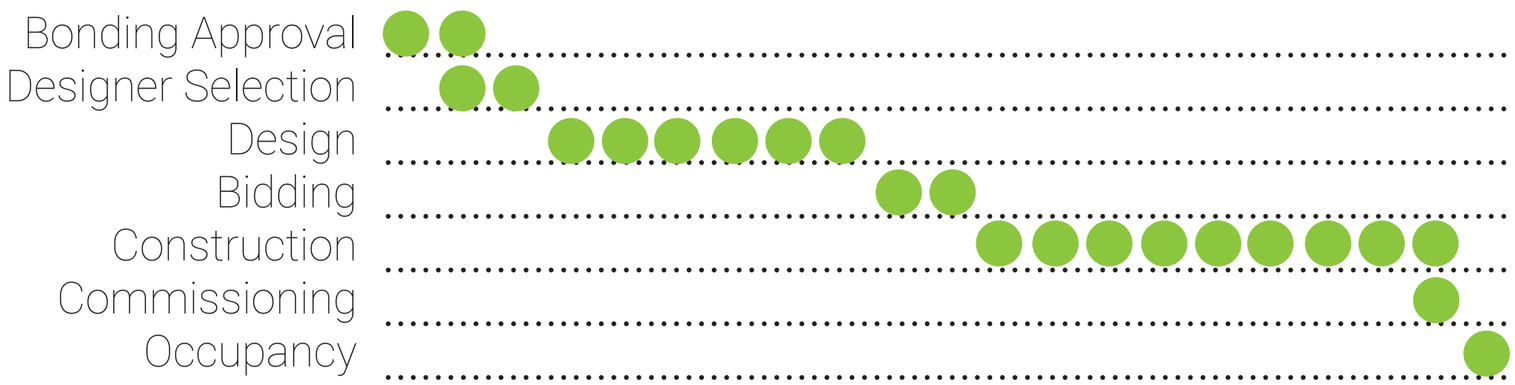
Comparable Projects

Project: Chicago Green Technology Center
Architect: Farr Associates
Area: 32,000sf
Construction Cost: $14,400,000

Project: Kingsmead Primary School
Architect: Bristol White Design
Area: 7,000sf
Construction Cost: $2,400,000

Project: Teton County Children's Learning Center
Architect: Ward + Blake Architects
Area: 12,000sf
Construction Cost: $5,000,000

Implementation Schedule



Total time until occupancy: 21 months