

ADAPTIVE THINKING

INTEGRATING LEED AND WELL STANDARDS
WITHIN ADAPTIVE REUSE

THE PROBLEM

"LOST ARCHITECTURE" - THE REALM
WHERE DEMOLISHED BUILDINGS GO THAT
ONLY EXIST IN PHOTOS, DRAWINGS, AND
THE STORIES WE TELL OF THEM.





ORIGINAL

OLD PENN STATION

REPLACED WITH
MADISON SQ GARDEN

BEFORE DEMO



AFTER DEMO





ORIGINAL
GARRICK THEATER

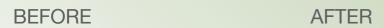


REPLACED WITH GARRICK PARKING FACILITY





AND WHEN WE CAN'T SAVE IT, WHAT'S BUILT IN ITS PLACE MATTERS.













THE SOLUTION

ADAPTIVE REUSE

WHAT IS ADAPTIVE REUSE?

Adaptive reuse is the repurposing of buildings that have outlived their original purpose. Its main goals include preserving architectural and cultural heritage, transforming urban decay, and igniting social change.

NOT TO BE CONFUSED WITH HISTORIC PRESERVATION

Adaptive reuse and historic preservation can save historic buildings, but their approaches are different. Adaptive reuse aims to repurpose an old building or site for a new use or typology. This is often viewed as a compromise between preservation and demolition. In contrast, historic preservation sustains a building's existing form, integrity, and materials.

ADVANTAGES OF ADAPTIVE REUSE?

SUSTAINABILITY

The construction process of a new energy-efficient building can take 10 to 80 years to overcome its environmental impact. In contrast, an adaptive reuse building has most likely overcome its original environmental impact.

Adaptive reuse is often more sustainable than simple historic preservation: When designers are not constrained to using original building materials, they can incorporate recycled materials and efficient systems.

FINANCIAL

Adaptive reuse projects tend to have low acquisition costs and often have access to financing incentives. Well-planned adaptive-reuse projects can revitalize the businesses around them and restore economic confidence in a region. They also save when it comes to reusing existing materials and infrastructure by avoiding demolition and new-construction costs.

SOCIAL

Restoring and repurposing dilapidated buildings revitalizes neighborhoods by providing affordable housing, increasing public safety, and offering new opportunities in mixed-use spaces. Due to the lower costs of repurposing these buildings the spaces tend to have low lease costs and are centrally located, making it ideal for small businesses.

MASTER PLANNING

Adaptive reuse can give master planners more flexibility when looking at the growth and modernization of a community. It can also help planners achieve sustainability goals, such as reducing vehicle use by locating housing near transit lines and jobs.

WHAT IS LEED?

LEED (Leadership in Energy and Environmental Design) is a green building system that seeks to transform how buildings and communities are designed, built, and operated. It's proven that LEED buildings can save money, lower carbon emissions, and improve efficiency.

The goal is to create healthier places for people.

ADAPTING GREEN: A STEP BY STEP METHODOLOGY

FOR INTEGRATING LEED AND WELL

STANDARDS INTO ADAPTIVE

REUSE PROJECTS

- Sensitive Land Protection (1 Point)
 - This requirement will be met by almost all adaptive reuse projects due to the nature of the adaptive reuse.
- High Priority Site (2 Points)
 - Many adaptive reuse buildings may be located within an historic district.
 - Brownfield remediation is very possible when attempting adaptive reuse.
- Surrounding Density and Diverse Uses (Possible 6 Points)
 - This requirement encourages the development of areas with existing infrastructure, making it perfect for adaptive reuse projects.
 - (THIS IS GREAT OPTION IF ATTEMPTING WELL Standard Certification)
- Access to Quality Transit (Up To 5 Points)
 - Adaptive reuse projects may make it easier to obtain this goal due to the existing transit routes possibly on site.
- Bicycle Facilities (1 Point)
 - Universal requirements and considerations
- Reduced Parking Footprint (1 Point)
 - Universal requirements and considerations
- Green Vehicles (1 Point)
 - Universal requirements and considerations

LEED CREDIT CATEGORIES



Location and Transportation



Sustainable Sites



Water Efficiency



Energy and Atmosphere



Materials and Resources



Indoor Environmental Quality



Innovation



Regional Priority

WHAT IS WELL?

WELL is short for the WELL Building Standard. It is a performance based system for measuring and monitoring aspects of the built environment that effect human health and their wellbeing.

WELL BUILDING STANDARDS



PROJECT LOCATION

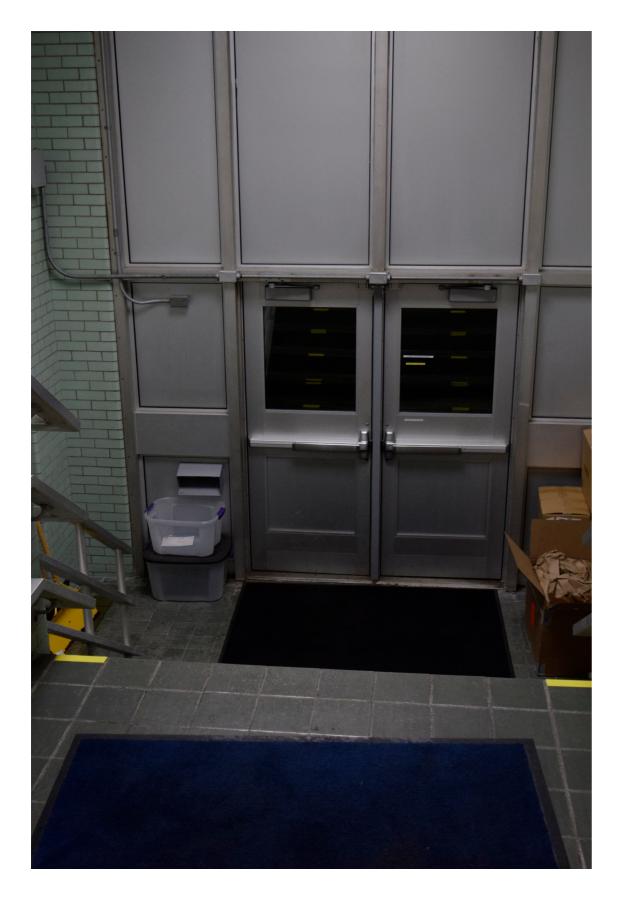
Existing Water Treatment Plant Grand Forks, ND



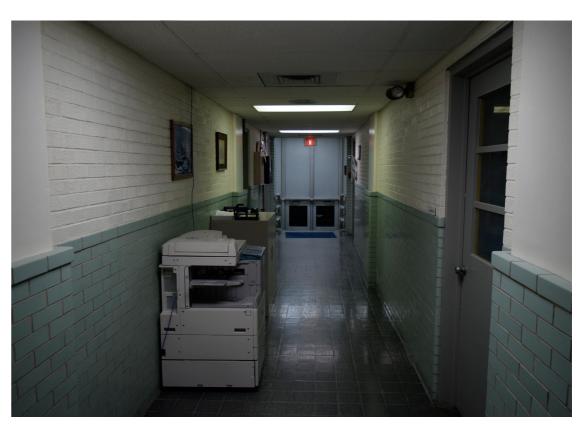


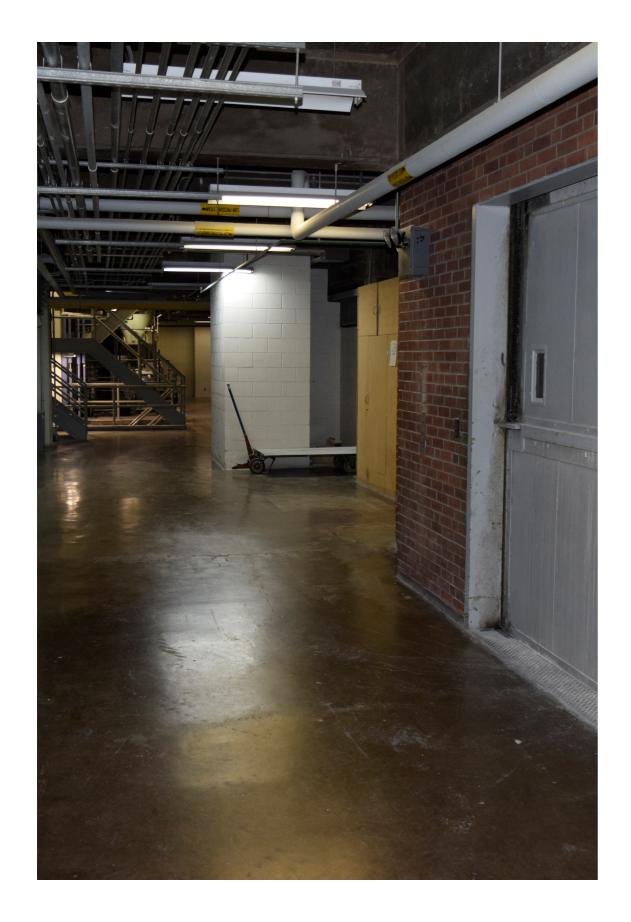
CURRENT STATE OF BUILDING

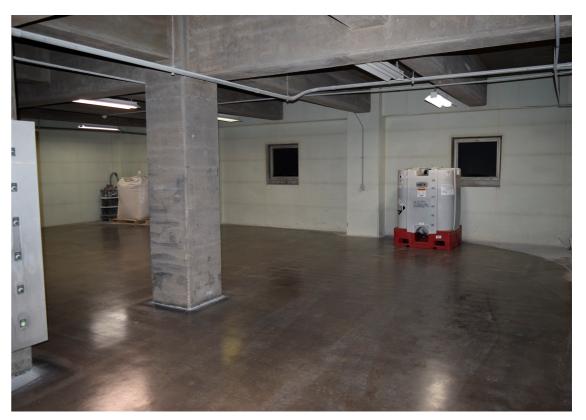
Interior Photos













CURRENT DOWNTOWN ACTION PLAN

Water Treatment Plant Site



WTP SITE CONCEPT

Preferred Scenario



WATER TREATMENT PLANT CONCEPT

- A. Boardwalk
- B. Mixed Use Project
- C. Higher Intensity Housing
- D. Medium Intensity Housing
- E. Lower Intensity Housing
- F. Possible Roundabout

INTENSITY OF USES

- i. Highest Intensity Uses
- ii. Medium Intensity Uses
- iii. Lower Intensity Uses

DEMOLITION COSTS

With commercial demolition costing between \$4 - \$8 per sf, the cost of demolishing both old water treatment plant buildings would range between 2-3 million dollars.

MY PROPOSAL

Water Treatment Plant Site



HYGGE

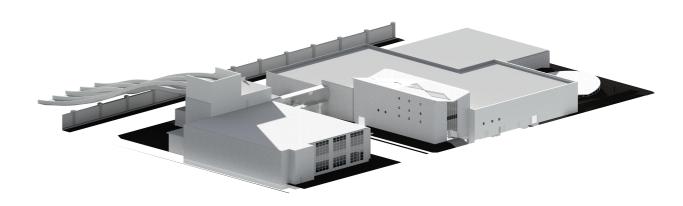
A quality of coziness and friendliness that causes a feeling of contentment or wellbeing.



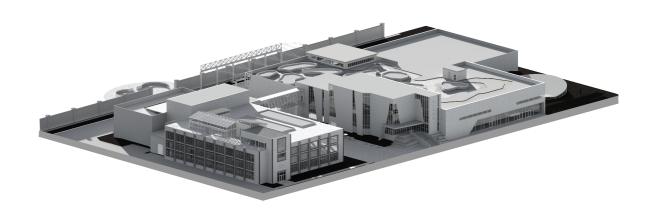
Option 1

PROCESS

Design Options

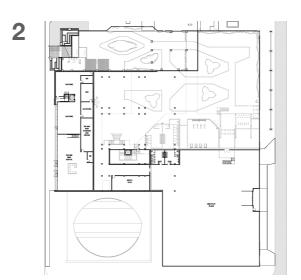


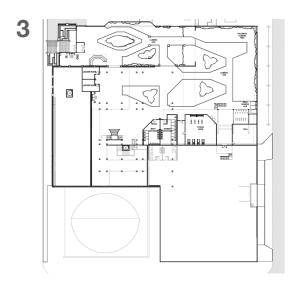
Option 2

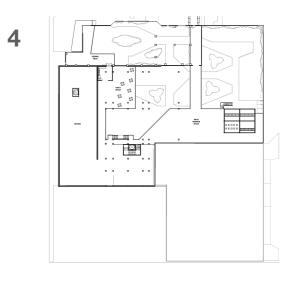


FLOOR PLANS

- 1. Farmers Market and Restaurant Main Floor
- 2. Ground Floor
- 3. Main Floor
- 4. Second Floor



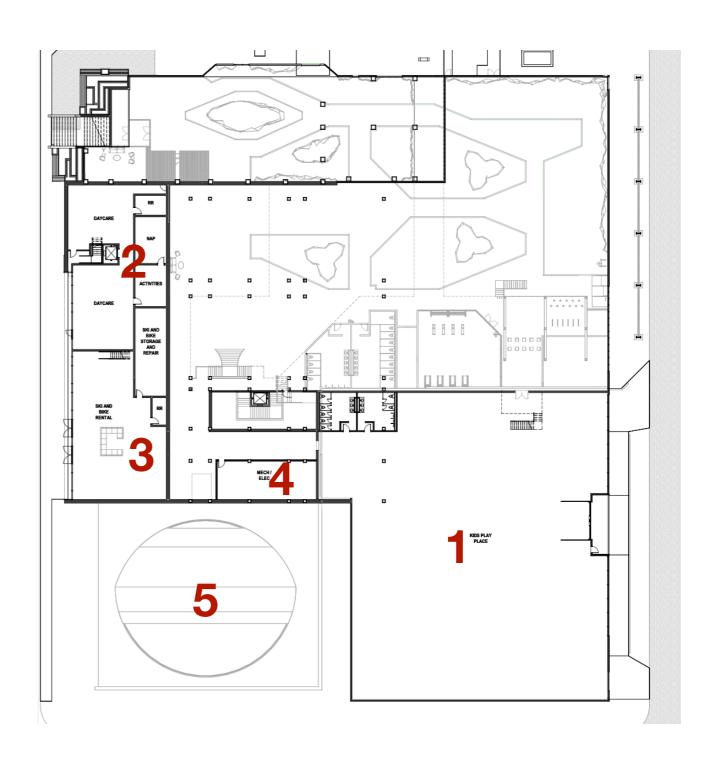




GROUND FLOOR

LEGEND

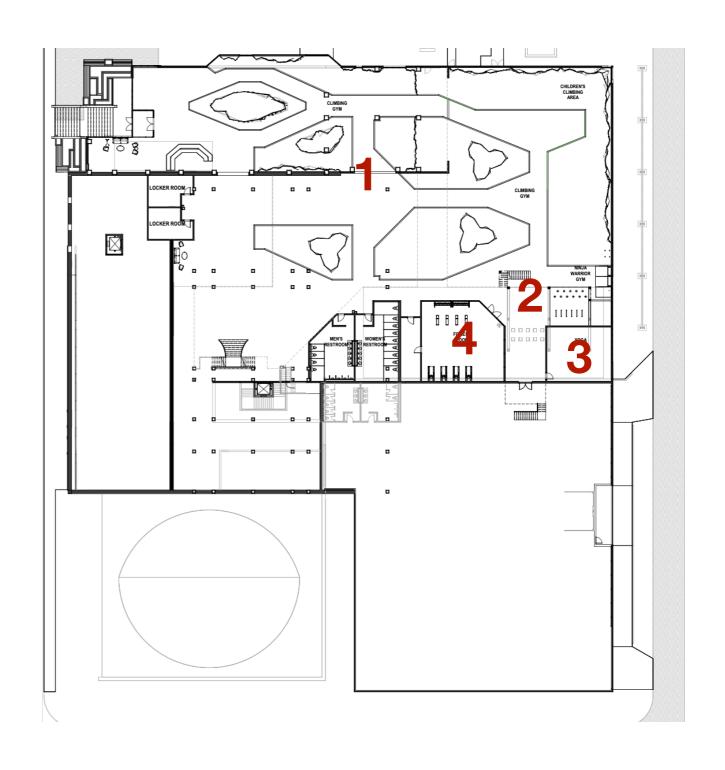
- 1. Kids Play Place
- 2. Daycare
- 3. Cross Country Ski and Bike Shop/Rental
- 4. Mechanical and Electrical
- 5. Underground Skatepark



MAIN FLOOR

LEGEND

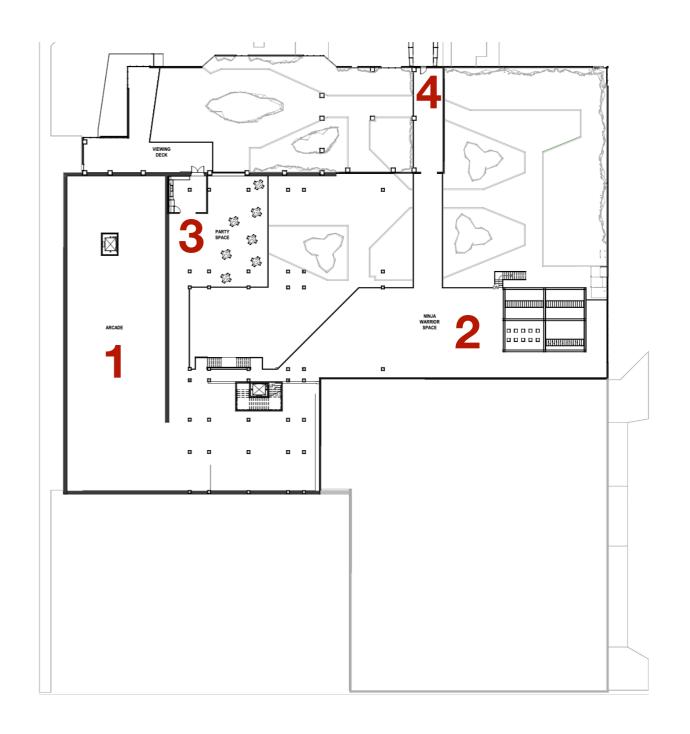
- 1. Climbing Gym
- 2. Ninja Warrior Gym
- 3. Yoga Studio
- 4. Fitness Room



SECOND FLOOR

LEGEND

- 1. Arcade
- 2. Ninja Warrior Gym
- 3. Party Space
- 4. Bridge To Farmers Market, Restaurant, and Parking Ramp



ELEVATIONS

North Elevation



ELEVATIONS

South Elevation



ELEVATIONS

East Elevation



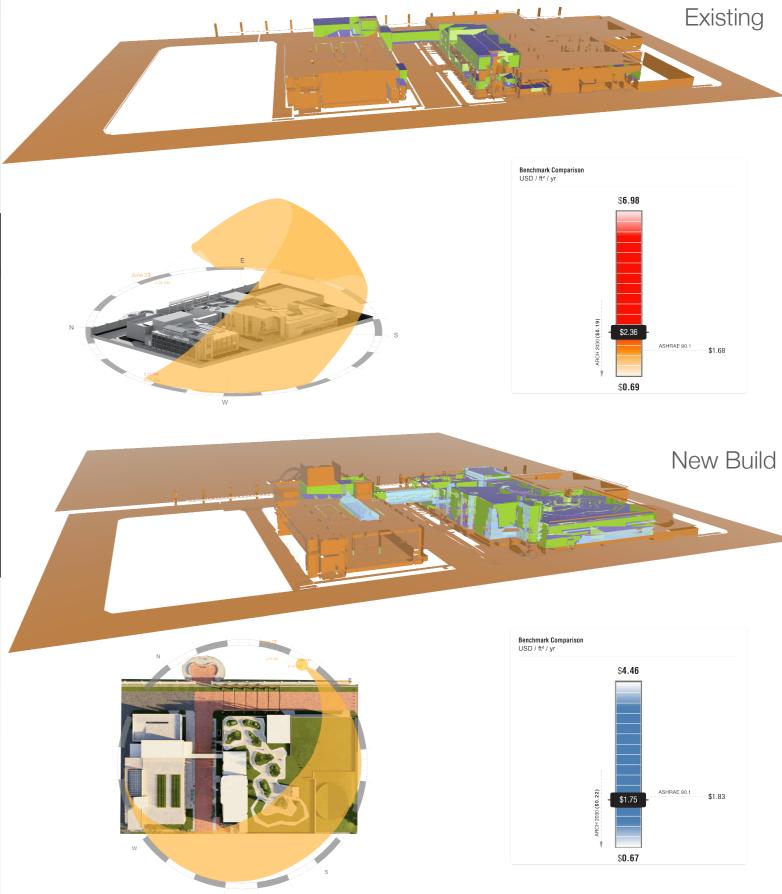
ELEVATIONS

West Elevation

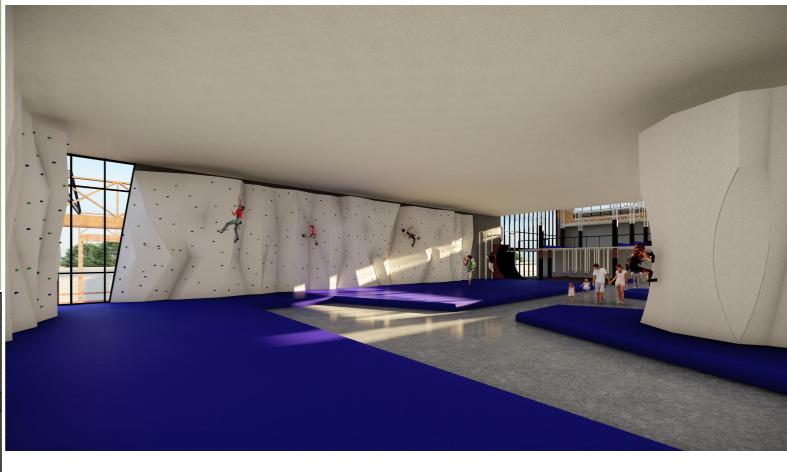


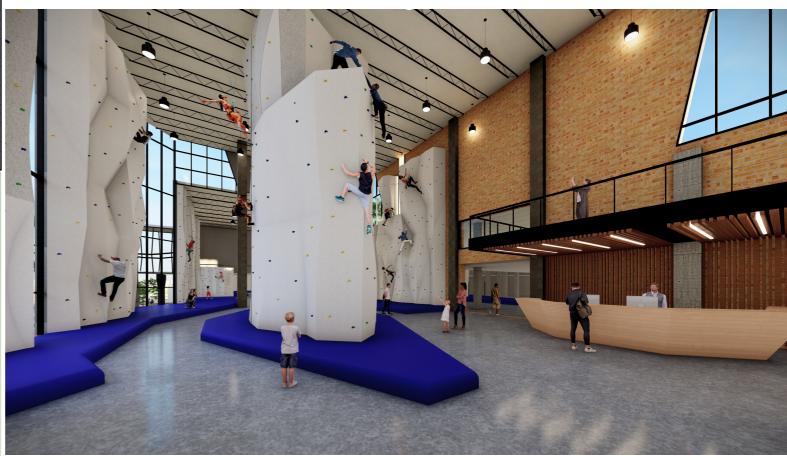
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		8	
LOCATION & TRANSPORTATION			
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Walk Score of 70	Surrounding Density and Diverse Uses	3	
Building is Located on Previously Developed Land	Sensitive Land Protection	1	
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Receiving This Credit Removes All Other Points in This Category and Awards This Category 12 Points for Meeting LEED Gold	LEED for Neighborhood Development Location	4	
		12	
MATERIALS AND RESOURCES			
Maintained 60% of Existing Walls, Floors, and Roofs	Building Life-Cycle Impact Reduction	4	
Used 3 Different Products Sourced and Certified by the FSC	Sourcing of Raw Materials	1	
Option 2. Waste Prevention Through Salvaging and Reusing Brick from Building	Construction and Demolition Waste Management	1	
		6	
REGIONAL PRIORITY			
Earned 3 Regional Priority Credits: Optimize Energy Performance, Rainwater Management, and Sensitive Land Protection	Regional Priority	3	
		3	
SUSTAINABLE SITES			
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Outdoor Space Greater Than or Equal to 30% of Total Site Area	Open Space	1	
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Areas of Nonroof+High-Reflectance Roofs+Vegetated Roofs ≥ the Total Site Paving Area+Total Roof Area	Heat Island Reduction	2	
WATER EFFICIENCY		7	
Install Permanent Water Meters for Indoor Plumbing Fixtures and Domestic Hot Water	Water Metering	1	
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INSIGHT MODEL

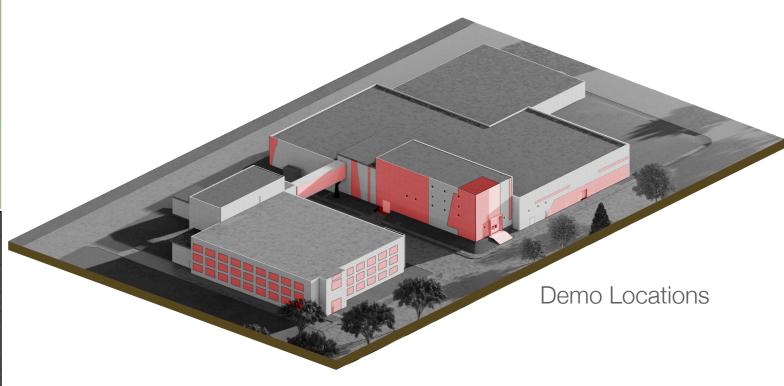


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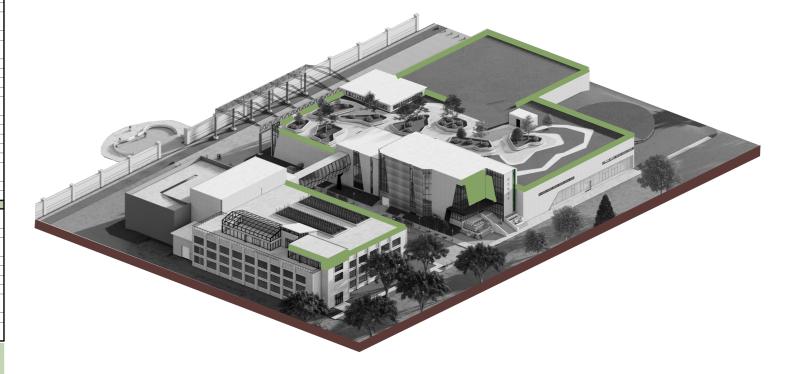


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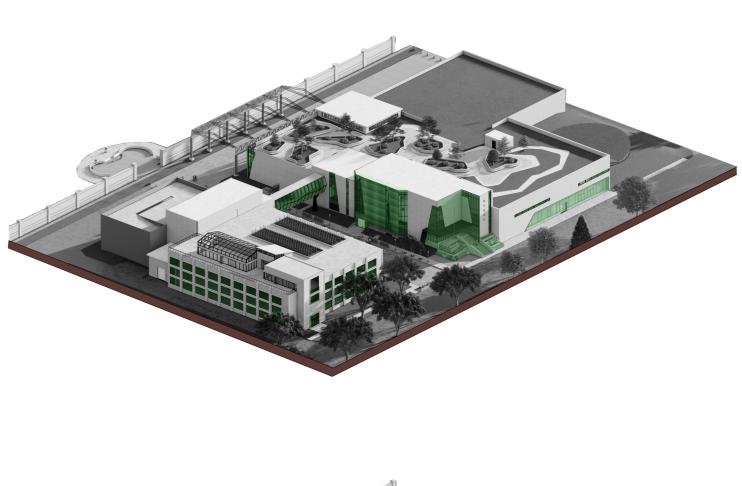
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New Construction Locations

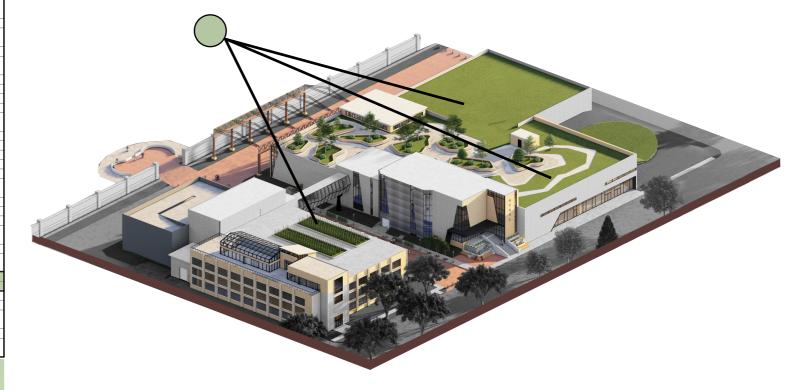
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New Site Considerations in Color





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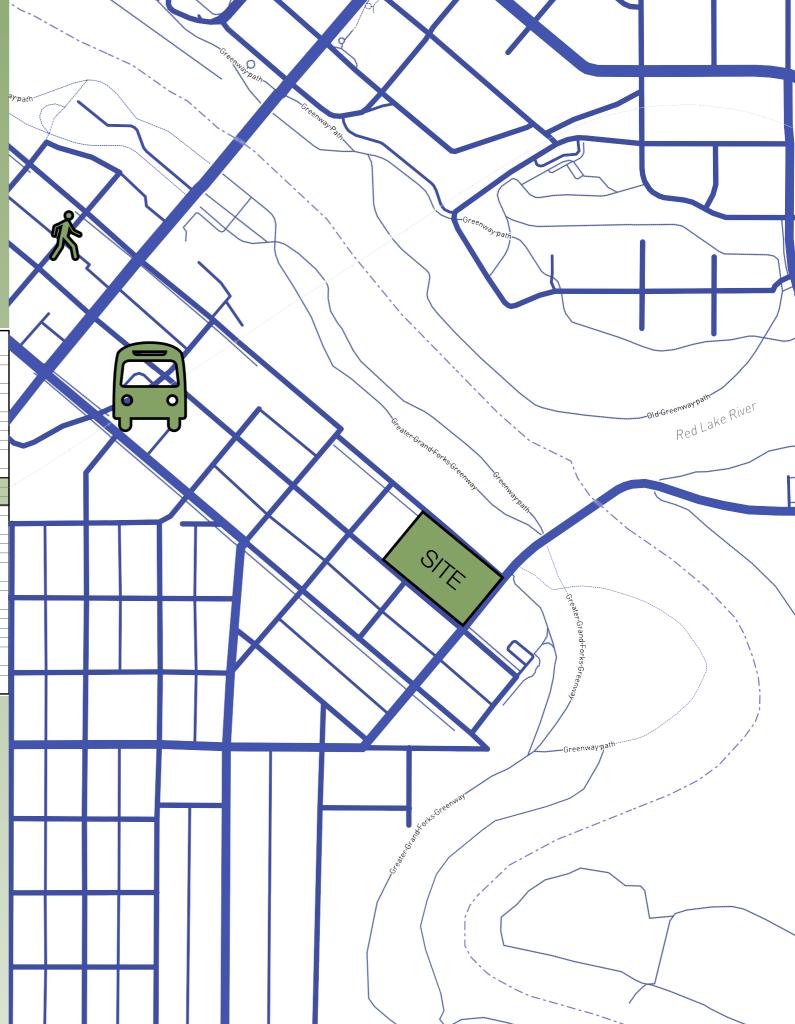
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MATERIALS AND RESOURCES Maintained 60% of Existing Walls, Floors, and Roofs	Building Life-Cycle Impact Reduction	4	
Used 3 Different Products Sourced and Certified by the FSC	Sourcing of Raw Materials	4	
		1	
Option 2. Waste Prevention Through Salvaging and Reusing Brick from Building	Construction and Demolition Waste Management	6	
REGIONAL PRIORITY		0	
Earned 3 Regional Priority Credits: Optimize Energy Performance, Rainwater Management, and Sensitive Land Protection	Regional Priority	3	
<u> </u>	, , ,	3	
SUSTAINABLE SITES			
Green Roof/Roof Drainage/Roof Rain Gardens	Rainwater Management	3	
Outdoor Space Greater Than or Equal to 30% of Total Site Area	Open Space	1	
Backlight-Uplight-Glare Rating Method - Maximum Uplight Rating of U1	Light Pollution Reduction	1	
Areas of Nonroof+High-Reflectance Roofs+Vegetated Roofs ≥ the Total Site Paving Area+Total Roof Area	Heat Island Reduction	2	
WATER PERIODNAL	·	7	
WATER EFFICIENCY			
Install Permanent Water Meters for Indoor Plumbing Fixtures and Domestic Hot Water	Water Metering	1	
		1 52	



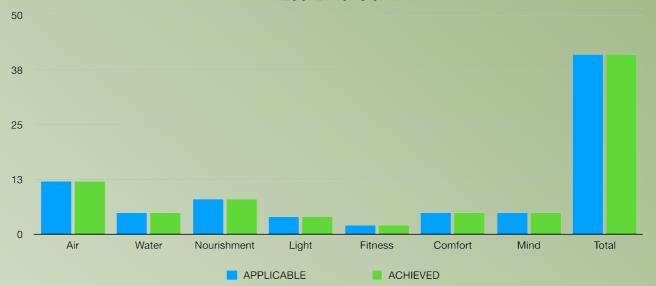


LEED Implementation	Credit Title	Point Earned
ENERGY AND ATMOSPHERE		
mplementation of ASHRAE 90.1 Standards Within This Category	Optimize Energy Performance	15
		15
NDOOR ENVIRONMENTAL QUALITY		
Applied Strategies 1, 3, and 4	Enhanced Indoor Air Quality Strategies	1
Jsed 4 Product Categories of Materials on the Building Interior	Low-Emitting Materials	3
Occupants in the Building Have a View to the Outdoors for 75% of all Regularly Occupied Floor Area	Quality Views	1
10% of Regularly Occupied Floor Area Has an Illuminance Level Between 300 Lux and 3,000 Lux at Both 9 a.m. and 3 p.m.	Daylight	3
		8
OCATION & TRANSPORTATION		
Electric Vehicle Supply Equipment in 5% of All Parking Spaces	Electric Vehicles	1
Valk Score of 70	Surrounding Density and Diverse Uses	3
Building is Located on Previously Developed Land	Sensitive Land Protection	1
Vithin a 1/2-Mile Walking Distance of Bus Stop	Access to Quality Transit	3
Receiving This Credit Removes All Other Points in This Category and Awards This Category 12 Points for Meeting LEED Gold	LEED for Neighborhood Development Location	4
		12
MATERIALS AND RESOURCES		
Anintained 60% of Existing Walls, Floors, and Roofs	Building Life-Cycle Impact Reduction	4
Jsed 3 Different Products Sourced and Certified by the FSC	Sourcing of Raw Materials	1
Option 2. Waste Prevention Through Salvaging and Reusing Brick from Building	Construction and Demolition Waste Management	1
		6
REGIONAL PRIORITY		
Earned 3 Regional Priority Credits: Optimize Energy Performance, Rainwater Management, and Sensitive Land Protection	Regional Priority	3
		3
SUSTAINABLE SITES		
Green Roof/Roof Drainage/Roof Rain Gardens	Rainwater Management	3
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Backlight-Uplight-Glare Rating Method - Maximum Uplight Rating of U1	Light Pollution Reduction	1
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		7
NATER EFFICIENCY		
nstall Permanent Water Meters for Indoor Plumbing Fixtures and Domestic Hot Water	Water Metering	1
		1
		52

LEED Credit Schedule

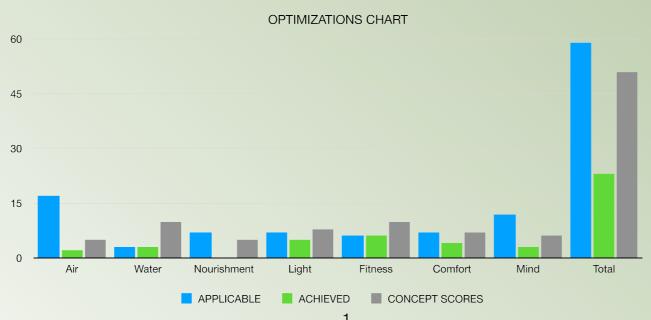






WELL STANDARDS SCORING TABLE

CONCEPT	PRECONDITIONS OPTIMIZATIONS		ZATIONS	CONCEPT	
33.102. 1	APPLICABLE	ACHIEVED	APPLICABLE	ACHIEVED	SCORES
Air	12	12	17	2	5
Water	5	5	3	3	10
Nourishment	8	8	7	0	5
Light	4	4	7	5	8
Fitness	2	2	6	6	10
Comfort	5	5	7	4	7
Mind	5	5	12	3	6
Total	41	41	59	23	51



DESIGN RENDERINGS



Before



After



Before



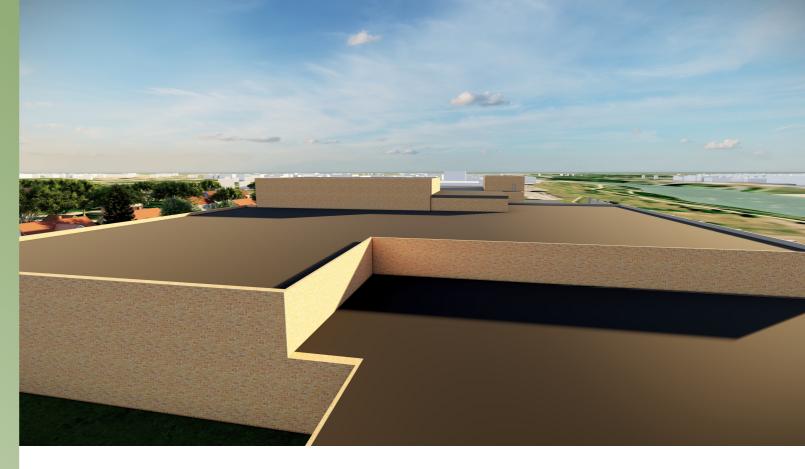
After



Before



After



Before



After



Before



After

THANK YOU

My Wife Shanna My Son and Daughter My Family and Friends My Professors

THANK YOU!

