Assignment 3

LEED Project Checklist:

LEED v4 for BD+C: New Construction and Major Renovation
Project Checklist

Project Name: 14975 NW 133RD TER
Date: 2/2/2024

Y	?	N			
			Credit	Integrative Process	1

2	0	0	**Location and Transportation**		16
		0	Credit	Sensitive Land Protection	1
		0	Credit	High Priority Site	2
		0	Credit	Surrounding Density and Diverse Uses	5
		0	Credit	Access to Quality Transit	5
1			Credit	Bicycle Facilities	1
1			Credit	Reduced Parking Footprint	1
		0	Credit	Green Vehicles	1

5	0	0	**Sustainable Sites**		10
Y			Prereq	Construction Activity Pollution Prevention	Required
1			Credit	Site Assessment	1
		0	Credit	Site Development - Protect or Restore Habitat	2
		0	Credit	Open Space	1
2			Credit	Rainwater Management	3
2			Credit	Heat Island Reduction	2
		0	Credit	Light Pollution Reduction	1

9	0	0	**Water Efficiency**		11
Y			Prereq	Outdoor Water Use Reduction	Required
Y			Prereq	Indoor Water Use Reduction	Required
Y			Prereq	Building-Level Water Metering	Required
2			Credit	Outdoor Water Use Reduction	2
6			Credit	Indoor Water Use Reduction	6
		0	Credit	Cooling Tower Water Use	2
1			Credit	Water Metering	1

16	0	0	**Energy and Atmosphere**		33
Y			Prereq	Fundamental Commissioning and Verification	Required
Y			Prereq	Minimum Energy Performance	Required
Y			Prereq	Building-Level Energy Metering	Required
Y			Prereq	Fundamental Refrigerant Management	Required
3			Credit	Enhanced Commissioning	6
12			Credit	Optimize Energy Performance	18
1			Credit	Advanced Energy Metering	1
		0	Credit	Demand Response	2
		0	Credit	Renewable Energy Production	3
		0	Credit	Enhanced Refrigerant Management	1
		0	Credit	Green Power and Carbon Offsets	2

2	0	0	**Materials and Resources**		13
Y			Prereq	Storage and Collection of Recyclables	Required
Y			Prereq	Construction and Demolition Waste Management Planning	Required
		0	Credit	Building Life-Cycle Impact Reduction	5
		0	Credit	Building Product Disclosure and Optimization - Environmental Product Declarations	2
		0	Credit	Building Product Disclosure and Optimization - Sourcing of Raw Materials	2
		0	Credit	Building Product Disclosure and Optimization - Material Ingredients	2
2			Credit	Construction and Demolition Waste Management	2

7	0	0	**Indoor Environmental Quality**		16
Y			Prereq	Minimum Indoor Air Quality Performance	Required
Y			Prereq	Environmental Tobacco Smoke Control	Required
		0	Credit	Enhanced Indoor Air Quality Strategies	2
3			Credit	Low-Emitting Materials	3
1			Credit	Construction Indoor Air Quality Management Plan	1
1			Credit	Indoor Air Quality Assessment	2
1			Credit	Thermal Comfort	1
1			Credit	Interior Lighting	2
		0	Credit	Daylight	3
		0	Credit	Quality Views	1
		0	Credit	Acoustic Performance	1

0	0	0	**Innovation**		6
		0	Credit	Innovation	5
		0	Credit	LEED Accredited Professional	1

0	0	0	**Regional Priority**		4
		0	Credit	Regional Priority: Specific Credit	1
		0	Credit	Regional Priority: Specific Credit	1
		0	Credit	Regional Priority: Specific Credit	1
		0	Credit	Regional Priority: Specific Credit	1

41	0	0	**TOTALS**	Possible Points: 110

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

LEED Narrative:

Location and Transportation:

(Credit, 1 point) Bicycle Facilities- To obtain this credit, we plan on installing a four bike rack outside of the main entrance as well as a two slip hanging rack inside our main office. The single stall bathroom also comes equipped with a shower.

(Credit, 1 point) Reduced Parking Footprint- This credit will come inherent to designing a storage unit, due to the low parking requirements. However, we will not be exceeding the minimum parking for our project.

Sustainable Sites **:**

(Prereq) Construction Activity Pollution Prevention- To prevent the spread of pollution during construction we plan on implementing erosion control measures such as silt fences and sediment basins to prevent soil erosion during construction.

(Credit, 1 point) Site Assessment- Before mobilization occurs, we will conduct a Phase 1 Environmental Site Assessment to identify any potential environmental contaminants on the site.

(Credit, 2 points) Rainwater Management- To reach the 95th percentile, we plan on designing the contour of our site to reduce runoff as well as installing a rainwater harvesting system to collect and store rainwater for non-potable uses such as irrigation and toilet flushing.

(Credit, 2 points) Heat Island Reduction- The reduction of the heat island effect will be achieved by planting shade trees to provide cooling effects as well as using paving materials that have a three-year aged solar reflectance value of at least 0.28.

Water Efficiency**:**

(Prereq) Outdoor Water Use Reduction- The irrigation system will be reduced by at least 30% when we install the proposed rainwater collection system, however, it is capable of 100% reduction with the minimal landscaping on this project.

(Prereq) Indoor Water Use Reduction- Our architects have designed the plumbing for the single bathroom to run on low-flow fixtures that will reduce the gpf by at least 20%.

(Prereq) Building-Level Water Metering- We have worked with our plumbing subcontractor to make sure we will have a permanent water meter installed when it comes time.

(Credit, 2 points) Outdoor Water Use Reduction- We have designed our irrigation system to run off a rainwater collection system. Water will be collected from the roof and diverted down gutters to the one thousand gallon water tank we will have buried off of the north side of the building.

(Credit, 6 points) Indoor Water Use Reduction- A combination of low flow fixtures and alternative water sources will allow our project to have over a 50% reduction in indoor water use. All non-potable water is designed to come from our rainwater collection system.

(Credit, 1 point) Water Metering- Our architect has designed the building to have permanent water meters on both our rainwater collection system (Reclaimed water) and our plumbing fixtures and fittings.

Energy and Atmosphere:

(Prereq) Fundamental Commissioning and Verification- We have hired a 3rd party LEED qualified commissioning agent to complete all the requirements as well as developing a "facilities requirements and operations and maintenance plan."

(Prereq) Minimum Energy Performance- The lead electrician on our project has agreed to run a whole building energy simulation, and guaranteed me that he will achieve a 5% reduction in the building performance rating.

(Prereq) Building-Level Energy Metering- Building-level energy meters have been ordered and will be installed as soon as possible. We have made it clear to the owner that he must agree to share this data with USGBC and will be tracked on at least one month intervals.

(Prereq) Fundamental Refrigerant Management- It has been made extremely clear to both the architect and HVAC subcontractor that there is a zero tolerance policy for chlorofluorocarbon-based refrigerants in our mechanical systems.

(Credit, 3 points) Enhanced Commissioning- A qualified commissioning authority has been hired and notified that we will be doing the "Enhanced Commissioning" option to achieve the credit.

(Credit, 12 points) Optimize Energy Performance- By using a combination of both mechanical and electrical strategies, we intend on improving our energy performance by at least 29%. Our entire facility will be run off of motion detected lights that are set on a 15 minute timer to eliminate electrical waste.

(Credit, 1 point) Advanced Energy Metering- Our electrician has been notified that we will require capable energy meters on both our whole building energy source as well as anything that will consume over 10% of the total annual energy consumption.

Materials and Resources:

(Prereq) Storage and Collection of Recyclables- We have pre ordered additional recycle dumpsters and require subcontractors to recycle mixed paper, corrugated cardboard, glass, plastics, and metals.

(Prereq) Construction and Demolition Waste Management Planning- The lead superintendent on the project has begun working on a waste management plan that meets all of the requirements. We will ensure that all subcontractors stick to this plan with a zero-tolerance policy.

(Credit, 2 points) Construction and Demolition Waste Management- As part of our waste management plan we have calculated that at 2.5 lbs/sq ft we have 98,750lbs of possible waste allowed on this project. We have allocated a set weight of waste for each subcontractor, taking into account their scopes of work. Our management will be keeping a close eye and weekly documentation of waste per contractor will be recorded.

Indoor Environmental Quality:

(Prereq) Minimum Indoor Air Quality Performance- Our HVAC contractor has calculated the minimum outdoor air required and has met the requirements of ASHRAE Standard 62.1–2010, Sections 4–7.

(Prereq) Environmental Tobacco Smoke Control- The owner has agreed to a zero-tolerance policy of smoking inside the building. During construction, we will have a single designated smoking area away from all flammables and combustibles.

(Credit, 3 points) Low-Emitting Materials- We have made it clear to the subcontractors that all building materials and finishes shall be made with low VOC emissions. The project will comply with at least five of the categories, and therefore qualify for 3 points.

(Credit, 1 point) Construction Indoor Air Quality Management Plan- The superintendent has developed an indoor air quality management plan to protect indoor air quality during construction. We will also implement dust control measures such as dust barriers, negative air pressure, and HEPA filtration to minimize airborne particulates.

(Credit, 1 point) Indoor Air Quality Assessment- To achieve this credit, we intend on performing the “Flush-Out” before occupancy. The project manager for our HVAC subcontractor has been notified.

(Credit, 1 point) Thermal Comfort- Our HVAC system has been designed to comply with ASHRAE Standard 55-2010 to ensure that we have proper thermal comfort conditions.

(Credit, 1 point) Interior Lighting- Every light in our building is attached to a motion detector with each circuit also having a 3 mode dimming switch for once the lights are triggered.

LEED Responsibility Matrix:

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Responsibility Matrix

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		Responsible Party			Additional Resources Required
	Y	O	A	C	(Time, Labor, Equipment, Materials)
Location and Transportation					
Credit Bicycle Facilities	1		X		Design a 4 spot bike rack within 100' of the main entry (Cost of rack, matierials)
Credit Reduced Parking Footprint	1		X		Labor for the architect to design the parking lot to the minimum code requirnments (Time)
Sustainable Sites					
Prereq Construction Activity Pollution Pre	Y			X	Contrctor to develop an erosion and sedimentation control plan (Time, Possible Cost)
Credit Site Assessment	1			X	Hire survey company to conduct a site survey (Cost, Labor)
Credit Rainwater Management	2		X		Design the site to manage runoff to the 95th percentile of local rainfall events, collect rainfall from gutters for irrigation (Cost for system, Materials)
Credit Heat Island Reduction	2		X		Plan landscape to provide shade to parking spaces, and use roofing matierials that comply to the SRI requirnments (Cost for landscape)
Water Efficiency					
Prereq Outdoor Water Use Reduction	Y		X		Reduce irrigation by using a rainwater collection system (Cost for system, Materials)
Prereq Indoor Water Use Reduction	Y		X		Design for low gpf fixtures and fittings to be installed (Increased cost for fixtures, Materials)
Prereq Building-Level Water Metering	Y			X	Install permanent water meter (Materials)
Credit Outdoor Water Use Reduction	2		X		Reduce irrigation by using a rainwater collection system (Cost for system, Materials)
Credit Indoor Water Use Reduction	6		X		Design for low gpf fixtures and fittings to be installed (Cost,Time)
Credit Water Metering	1			X	Install permanent water meter (Cost, Materials)
Energy and Atmosphere					
Prereq Fundamental Commissioning and	Y			X	Hire a commissioning authority to perform all requirnments (Cost, Labor)
Prereq Minimum Energy Performance	Y			X	Contract a party to perform a whole building energy simulation to show a minimum 5% reduction in energy (Cost)
Prereq Building-Level Energy Metering	Y			X	Install new building-level enery meters for total building energy consumption (Cost, Labor)
Prereq Fundamental Refrigerant Manage	Y		X		Design the building to not use chlorofluorocarbon based refrigerant (Cost)
Credit Enhanced Commissioning	3			X	Hire a commissioning authority to perform all requirnments (Cost)
Credit Optimize Energy Performance	12		X		Perform an energy use simulation and reduce total energy by 30% by implementing motion activated lighting and the use of LED's (Time, Labor)
Credit Advanced Energy Metering	1			X	Install advanced enery metering (Cost, Materials)
Materials and Resources					
Prereq Storage and Collection of Recycl	Y			X	Provide recycle bins for construction matierials and review with each contractor what matierials they use that can be recycled. (Cost, Materials)
Prereq Construction and Demolition Was	Y			X	Develop a waste management plan (Time)
Credit Construction and Demolition Was	2			X	Keep track of total waste and ensure that it is less than 2.5 lbs/sqft (Time, Labor)
Indoor Environmental Quality					
Prereq Minimum Indoor Air Quality Perfo	Y			X	HVAC contractor will determine the minimum requirnments for outdoor air. (No Impact)
Prereq Environmental Tobacco Smoke C	Y	X			The owner will implement a no-smoking policy (No Impact)
Credit Low-Emitting Materials	3			X	The GC will ensure that all subcontractors are using matierials that do not contain VOC's (Potential Cost Increase)
Credit Construction Indoor Air Quality M	1			X	Develop and enforce an indoor air quality management plan for use during construction (Labor)
Credit Indoor Air Quality Assessment	1			X	HVAC contractor will perform a baseline IAQ test to confirm that we are below all the thresholds (Time, Cost)
Credit Thermal Comfort	1			X	HVAC contractor will design the HVAC systems to meet the requirnments of ASHRAE Standard 55-2010 (No Impact)
Credit Interior Lighting	1		X		Entire internal facility will be on motion activated lighting set on a 15 minute timer. 3 mode switches will also be installed. (Cost)

TOTALS Possible Points: #REF!