Sustainability

LEED Project Checklist

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

Project Name: Full Draw Fitness
Date: 2/9/2024

Y	?	N			
1			Credit	Integrative Process	1

4	2	10	**Location and Transportation**		16
1			Credit	Sensitive Land Protection	1
	2		Credit	High Priority Site	2
2		3	Credit	Surrounding Density and Diverse Uses	5
		5	Credit	Access to Quality Transit	5
1			Credit	Bicycle Facilities	1
		1	Credit	Reduced Parking Footprint	1
		1	Credit	Green Vehicles	1

2	0	8	**Sustainable Sites**		10
Y			Prereq	Construction Activity Pollution Prevention	Required
1			Credit	Site Assessment	1
		2	Credit	Site Development - Protect or Restore Habitat	2
1			Credit	Open Space	1
		3	Credit	Rainwater Management	3
		2	Credit	Heat Island Reduction	2
		1	Credit	Light Pollution Reduction	1

7	2	2	**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
4	2		Credit	Indoor Water Use Reduction	6
		2	Credit	Cooling Tower Water Use	2
1			Credit	Water Metering	1

16	10	7	**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		3	Credit	Enhanced Commissioning	6

6	0	7	**Materials and Resources**		13
Y			Prereq	Storage and Collection of Recyclables	Required
Y			Prereq	Construction and Demolition Waste Management Planning	Required
3		2	Credit	Building Life-Cycle Impact Reduction	5
1		1	Credit	Building Product Disclosure and Optimization - Environmental Product Declarations	2
		2	Credit	Building Product Disclosure and Optimization - Sourcing of Raw Materials	2
		2	Credit	Building Product Disclosure and Optimization - Material Ingredients	2
2			Credit	Construction and Demolition Waste Management	2

7	1	9	**Indoor Environmental Quality**		16
Y			Prereq	Minimum Indoor Air Quality Performance	Required
Y			Prereq	Environmental Tobacco Smoke Control	Required
1		1	Credit	Enhanced Indoor Air Quality Strategies	2
3			Credit	Low-Emitting Materials	3
		1	Credit	Construction Indoor Air Quality Management Plan	1
1	1		Credit	Indoor Air Quality Assessment	2
		1	Credit	Thermal Comfort	1
1		1	Credit	Interior Lighting	2
1		3	Credit	Daylight	3
		1	Credit	Quality Views	1
		1	Credit	Acoustic Performance	1

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

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

44	15	52	**TOTALS**	Possible Points:	110

LEED Narrative

Integrative Process

Integrative Process

We will collaborate with our design team to ensure that an integrative process is in place day 1 and is followed throughout the construction process. Energy modeling and water budget analysis will be performed giving us a baseline for a plan moving forward that will be monitored to meet LEED requirements. (1 point)

Location and Transportation

Sensitive land protection

The site is not prime farmland, is not in floodplains, and is not habitat for endangered, possibly extinct, or imperiled species. The site is not within 100 feet of a water body and is not within 50 feet of a wetland. (1 point)

Surrounding Density and Diverse Uses

The average density of the surrounding sites in the same Commercial Intensive zoning category requires a FAR of 0.75. This is slightly less than 0.8 Table 1a. calls out on the LEED requirement supplement, so we will earn 2 points in this regard. (2 points)

Bicycle Facilities

We will meet the LEED qualification for bicycle facilities in that we will have 15 bicycle spaces for short- and long-term use, and we will have showers inside for members, including those who travel via bicycle. (1 point)

Sustainable Sites

Construction Activity Pollution Prevention

A LEED boundary will be established and all measures regarding this boundary will be taken to prevent erosion and sedimentation, among other pollution preventatives.

Site Assessment

The site will be officially surveyed in the categories of topography, hydrology, climate, vegetation, soils, human use, and human health effects. This will ensure an environmentally safe site. (1 point)

Open Space

Our combined footprint of the parking area and building footprint is 70%, leaving 30% open, which qualifies us for open space. This open space will be a social and recreational area, allowing members of the gym to hangout and socialize, while also offering some space to get creative and do some outdoor physical activity. (1 point)

Water Efficiency

Outdoor Water Use Reduction

Our landscape will not require an irrigation system beyond a maximum two-year establishment period. Our landscape will consist mainly of mulching as well as plants or shrubs that can survive in our climate without the need for irrigation. Our design team will have to figure out the best fit for this. (2 points)

Indoor Water Use Reduction

Our team will select the appropriate water fixtures and fittings to meet our goal of reducing indoor water use by 40%. We will utilize gravity operated urinals for Men and water closets with different flush

setting to reduce water usage when flushing. Sinks will also be automatic, aiding in the reduction of water use. (4 points)

Building Level Water Metering

We will install permanent water meters whose readings will be taken monthly to ensure the most efficient means of potable water is utilized. The operators of the building will have access to this information to maximize water savings. (1 point)

Energy and Atmosphere

Fundamental Commissioning and Verification

We will hire a commissioning authority to design and implement a commissioning plan that will be incorporated into the construction drawings, reviewed throughout the process, with feedback relayed to the owner. A final process report will be made available once enough testing has been completed and the process has become streamlined. (Required)

Minimum Energy Performance

We will ensure that we meet minimum energy performance requirements including ANSI/ASHRAE/IESNA standards. (Required)

Enhanced Commissioning

For all MEP and renewable energy systems and assemblies we will conduct a commissioning process that reviews and verifies these system's requirements, manuals, and seasonal testing until substantial completion and 10 months after. (3 points)

Demand Response

To meet this requirement, we will participate in an established Demand Response program for a minimum of 1 year with the intention of multiyear renewal. We will collaborate with the design team to formulate a plan to meet the demand response event standards. (2 points)

Renewable Energy Production

We will work with our design team to install the correct number of solar panels on our roof structure to produce at least 1% renewable energy annually. (1 point)

Optimize Energy Performance

Going beyond the basic LEED requirement minimum energy performance, we plan on optimizing energy performance at this fitness center. The building does not require the same amount of HVAC load, lighting load, and overall energy load as many buildings of the same footprint. Most days, the garage doors, which are human powered (roll up), will be opened for the main fitness floor, allowing air conditioning to not be utilized. With all of this in mind, it is very feasible to set our goal of energy performance optimization to 40%. (8 points)

Advanced Energy Metering

On top of building level energy metering, permanent energy meters will be installed in locations to be decided by the design team. These meters will record both consumption and demand and be able to report annual use, all the way to hourly use. (1 point)

Enhanced Refrigeration Management

To go beyond the basic LEED requirement of fundamental refrigerant management, we will instruct our design team to choose a synthetic or naturally occurring refrigerant that has an ODP of 0 and a GWP of less than 50. This will contribute to our efforts towards minimizing our ecological footprint. (1 point)

Materials and Resources

Storage and Collection of Recyclables

We will make sure that there are appropriate recycling containers strategically placed throughout the building and the property to ensure the environmentally friendly utilization of such materials. (Required)

Building Life-Cycle Impact Reduction

A life-cycle assessment of this fitness center's structure and enclosure will be conducted that demonstrated a 10% or more reduction, compared to a baseline building, in global warming potential, acidification of land and water sources, and depletion of non-renewable energy sources. Greenhouse gases can be reduced through high-efficiency HVAC systems, and acidification can be reduced through selecting the right landscaping and hardscaping materials that do not contain acid producing properties. Reduction in non-renewable energy resource depletion can be attained through utilization of electric equipment during the construction process and for any maintenance on the building. (3 points)

Building Product Disclosure and Optimization

We will work with the design team to ensure that we use at least 20 permanently installed products sourced from 5 or more manufacturers with product-specific declaration conforming to ISO 14044 standards. (1 Point)

Construction and Demolition Waste Management

On top of the LEED requirement of planning construction demolition and waste management, we will enforce strict quality control and quality assessment throughout the construction process to ensure that we will not produce more than 2.5 pounds of waste per square foot. Some examples of these measures include third party inspecting before work is put in place to ensure no rework must be done. (2 points)

Indoor Environmental Quality

Minimum Indoor Air Quality Performance

We will ensure that all mechanically ventilated spaces meet ASHRAE standards and are provided outdoor air monitors. (Required)

Environmental Tobacco Smoke Control

Our entire property will be a smoke and tobacco-free property. (Required)

Enhanced Indoor Air Quality Strategies

To enhance indoor air quality, we will ensure that our air filters that filter both outdoor and recirculated air are of an efficiency higher than 13 on the MERV scale. During times when the HVAC system can be turned off in the main gym floor area (nice weather days, early morning, nice night) the garage doors will be opened, allowing for engineered natural ventilation to take place. (1 point)

Low Emitting Materials

During the design phase, our designers will choose low-emitting materials in the following categories: paints, flooring, and insulation. The paints will be interior paints, the flooring will be a rubber-type exercise flooring, and the insulation will be foam filled insulation in the exterior walls. All materials listed will meet the VOC emissions evaluation. (3 points)

Indoor Air Quality Assessment

We will meet this standard by performing a flush out before occupancy consisting of 14,000 cubic feet of air per square foot of our building while it is between 60 degrees Fahrenheit and 80 degrees Fahrenheit all while remaining under 60% relative humidity. We will perform IAQ testing that test for harmful levels of carbon monoxide and ozone, among others. (1 point)

Interior Lighting

We will meet the requirements of interior lighting by making sure our design team controls glare inside the building. They will achieve this by designing a lighting system that results in a UGR of less than 19. (1 point)

Daylight

As a fitness center daylight is important to us because it provides nutrients and energy the body needs to maximize fitness potential and overall health. The design of this building will contain roll up doors along the perimeter of the main exercise floor, as well as windows above them, allowing us to achieve the goal of at least 55% of daylight reaching regularly occupied floor area. Our design team will conduct illuminance simulation calculations to meet this goal. (1 point)

Innovation

LEED Accredited Professional

We will ensure that at the very least, one member of our team and the design team is LEED certified to ensure smooth integration into meeting LEED requirements and standards. (1 point)