Site Assessment Worksheet

LEED v4 SS Credit Site Assessment

Include the results of the site inventory on this worksheet. For each item listed below, list the results of the inventory, if the information collected influences the project design, and how.

Topography

Contours

Intervals will depend on the scale and topography of the site, but should be small enough to influence site design considerations.

Shown on site plan? (Yes or No)	Yes
Did this information influence the project design? (Yes or No)	Yes

Provide a brief explanation of how the information gathered influenced the project design. If applicable, give reasons for not addressing these topics.

The building design works within the site's existing substantial grade changes, reducing the need for unnecessary cutting, filling, and regrading of the site.

Locations of unique or significant topographic features

(such as rock outcroppings, steep topography, overland flow direction, etc)

Shown on site plan? (Yes or No)	Yes
Did this information influence the project design? (Yes or No)	Yes

Provide a brief explanation of how the information gathered influenced the project design. If applicable, give reasons for not addressing these topics.

The site posed a number of challenges for the design team, including significant grade changes, considerable easements, and the extents of contaminated and unstable soil. As noted above, the building design works within the site's existing substantial grade changes, reducing the need for unnecessary cutting, filling, and regrading of the site. Additionally, the building is located below the first major grade change, which allows the building footprint to avoid the unstable soil and easements in the north-west corner of the site.

Areas of potential slope stability risk

Area of potential slope stability risk (sq ft, acres, sq m, or hectares)	N/A
Shown on site plan? (Yes or No)	No
Did this information influence the project design? (Yes or No)	No

Provide a brief explanation of how the information gathered influenced the project design. If applicable, give reasons for not addressing these topics.

No areas of potential slope stability risk were identified.

Hydrology

Flood hazard areas

Shown on site plan? (Yes or No)	Yes
Did this information influence the project design? (Yes or No)	Yes

Provide a brief explanation of how the information gathered influenced the project design. If applicable, give reasons for not addressing these topics.

Flood Risk Mapping Studies for [redacted] have been reviewed to confirm that [redacted] does not fall within any identified flood risk areas. While the site is not in a flood hazard area, it does slope down to the southeast for approximately 40 meters where it meets the [redacted] River at a very steep slope. To account for this, the building was sited as closely as possible to [redacted] Avenue to avoid getting too close to the [redacted] River and any potential flood plains.

Existing surface water resources and associated buffers

Brief description of existing surface water resources (such as lakes, streams, shorelines, estuaries, delineated wetlands) and associated buffers

A wet area with ponded water is located on the west side of the site. A stream flows out of this area down to the south.

Shown on site plan? (Yes or No)	Yes
Did this information influence the project design? (Yes or No)	No

Provide a brief explanation of how the information gathered influenced the project design. If applicable, give reasons for not addressing these topics.

There are no delineated wetlands on the project site. Existing surface water is minimal and did not influence project design.

Rainwater infrastructure and collection/reuse opportunities

Brief description of rainwater infrastructure and collection/reuse opportunities

Potential rainwater reuse opportunities include domestic use and use for irrigation. In terms of rainwater infrastructure, the site overburden is poorly drained with low permeability.

Shown on site plan? (Yes or No)	No
Did this information influence the project design? (Yes or No)	Yes

Provide a brief explanation of how the information gathered influenced the project design. If applicable, give reasons for not addressing these topics.

Rainwater collection/reuse was not considered for this project because meeting the greywater treatment requirements for [redacted] was not feasible. Additionally, the project does not have a permanent irrigation system, so greywater reuse for irrigation was also not considered. In terms of rainwater infrastructure, the grading of the site is designed to direct the major storm water around building through the driveways and parking lot. Surface flow will be directed to an onsite storm retention pond to the south.

Estimated TR-55 initial water storage

Estimated TR-55 initial water storage capacity of the site (or local equivalent for projects outside the United States) (cu ft or cu m)	N/A
Shown on site plan? (Yes or No)	No
Did this information influence the project design? (Yes or No)	No

Provide a brief explanation of how the information gathered influenced the project design. If applicable, give reasons for not addressing these topics.

As the project is located in Canada, the TR-55 initial water storage was not calculated; however, extensive stormwater evaluations were completed and concluded the following: [redacted] has incorporated a sheet flow system, where very little underground infrastructure will be required for stormwater collection of the proposed site location. The site has been designed where the grading will direct the water to the retention ditch or to areas where it slopes away from the site. There will be a manhole that will collect the roof leaders, foundation drain, and trench drain of the proposed facility and drain into the retention ditch.

Climate

Solar exposure and seasonal sun angles

Solar exposure and seasonal sun angles (North, South, East, West)	Various
Did this information influence the project design? (Yes or No)	Yes

Provide a brief explanation of how the information gathered influenced the project design. If applicable, give reasons for not addressing these topics.

The project was designed with windows in resident rooms and shared spaces to increase daylighting and provide views of the outdoors.

Heat island effect potential

(existing conditions that could result in site heat gain)

Shown on site plan? (Yes or No)	No
Did this information influence the project design? (Yes or No)	No

Provide a brief explanation of how the information gathered influenced the project design. If applicable, give reasons for not addressing these topics.

Prior to this project, the site was generally tree covered. There were bedrock outcrops throughout the site and significant infilling appears to have been conducted along the western and northern perimeter of the site. There were no existing site conditions that could result in site heat gain.

Prevailing Winds

Prevailing wind direction (Trade winds, Westerlies, or Polar easterlies)	West
Did this information influence the project design? (Yes or No)	Yes

Provide a brief explanation of how the information gathered influenced the project design. If applicable, give reasons for not addressing these topics.

The prevailing winds will be from the South-West in the summer, and West in the winter. The building is positioned on the lower portion, and the eastward side of a significant hill, with the entry courtyard and wander garden facing the hill. This will create a sheltered microclimate for the entry courtyard and secure outdoor space and protect the residents from strong winds. Additionally, the development of the design will take advantage of prevailing winds to minimize entrapment of exhaust into the building and optimize energy efficiency.

Average Monthly Precipitation

Average monthly precipitation (in or mm)	91.58 mm
Did this information influence the project design? (Yes or No)	Yes

Provide a brief explanation of how the information gathered influenced the project design. If applicable, give reasons for not addressing these topics.

Given the average monthly precipitation in the area, it was determined that a permanently installed irrigation system was not required.

Seasonal Temperature Ranges

Seasonal temperature ranges (degrees Fahrenheit	25.1 C

or degrees Celsius)	
Did this information influence the project design? (Yes or No)	Yes

Provide a brief explanation of how the information gathered influenced the project design. If applicable, give reasons for not addressing these topics.

The building envelope was designed with regional temperature in consideration to maintain occupant comfort while also reducing energy demand. Energy modeling exercises were performed throughout design to verify the project specific energy performance targets were met. This information also assisted the mechanical designer in the sizing of equipment to maintain thermal comfort parameters. Additionally, Building Envelope Commissioning was performed to ensure the design intent was carried out throughout construction activity.

Vegetation

Primary vegetation types

List of primary vegetation types

The site is generally tree covered with bedrock outcrops throughout.

Did this information influence the project design? (Yes or No)	Yes

Provide a brief explanation of how the information gathered influenced the project design. If applicable, give reasons for not addressing these topics.

Native and adaptive vegetation types were selected in order to improve human experience and eliminate the need for a permanent irrigation system. Additionally, a large portion of the site was protected from construction in order to preserve the existing vegetation.

Greenfield areas

Greenfield areas (sq ft or sq m)	0
Shown on site plan? (Yes or No)	Yes
Did this information influence the project design? (Yes or No)	Yes

Provide a brief explanation of how the information gathered influenced the project design. If applicable, give reasons for not addressing these topics.

The site is an undeveloped, vacant lot, which is predominately forested; however, the entire site is brownfield and considered to be previously disturbed. There is therefore no existing greenfield area on the site. The soil contamination will be remediated and the building design allows for a significant portion of the site to remain open space undisturbed by major construction.

Significant Trees and Vegetation

Shown on site plan? (Yes or No)	No
Did this information influence the project design? (Yes or No)	No

Provide a brief explanation of how the information gathered influenced the project design. If applicable, give reasons for not addressing these topics.

No significant trees or vegetation were identified on the project site.

Threatened or Endangered Species and Unique Habitat/Corridors

List of threatened or endangered species

N/A

Unique habitat/corridors shown on site plan? (Yes or No)	No
Did this information influence the project design? (Yes or No)	No

Provide a brief explanation of how the information gathered influenced the project design. If applicable, give reasons for not addressing these topics.

No threatened/endangered species or unique habitat/corridors were identified on the project site.

Invasive Plants

Locations of invasive plants shown on site plan? (Yes or No)	No
Did this information influence the project design? (Yes or No)	No

Provide a brief explanation of how the information gathered influenced the project design. If applicable, give reasons for not addressing these topics.

No invasive plants were identified on the project site.

Soils

NRCS Soils Delineation

Brief description of NRCS soils delineation (or local equivalent for projects outside the U.S.)

Based on geologic mapping, the principal soil type in the area is a thin glacial till deposit. Bedrock in the area is mapped as sandstone, shale and conglomerate.

Shown on site plan? (Yes or No)	No
Did this information influence the project design? (Yes or No)	No

Provide a brief explanation of how the information gathered influenced the project design. If applicable, give reasons for not addressing these topics.

Refer to the Geotechnical Investigation Report for a summary of how the native soil affected the foundation design and general site work.

Prime Farmland Soils

Brief description of prime farmland soils (or local equivalent for projects outside of the U.S.)

The project site is classified as Class 7 in the Canada Land Inventory. Class 7 land is not considered prime farmland and is described as having no capability for arable culture or permanent pasture.

Did this information influence the project design? (Yes or No)	No

Provide a brief explanation of how the information gathered influenced the project design. If applicable, give reasons for not addressing these topics.

The project is not located on prime farmland.

Healthy Soils and Previously Developed or Disturbed Soils

Brief description of healthy soils and previously developed or disturbed soils

Based on the findings of Phase I and II Environmental Site Assessments, the project site was determined to be contaminated. Petroleum, PAH, and metals concentrations in soil throughout the site exceeded the applicable guidelines.

Did this information influence the project design? (Yes or No)	Yes

Provide a brief explanation of how the information gathered influenced the project design. If applicable, give reasons for not addressing these topics.

The project site was remediated prior to the beginning of this project.

Human Use

View Corridors

(such as views looking onto other properties that could be enhanced)

Shown on site plan? (Yes or No)	No
Did this information influence the project design? (Yes or No)	Yes

Provide a brief explanation of how the information gathered influenced the project design. If applicable, give reasons for not addressing these topics.

The project site is located adjacent to the former [redacted] site and it is also in close proximity to a cemetery. Both of these facts have influenced the project design. First, the building has been sited to avoid views to the former industrial/brownfield lands. Second, the building was oriented such that the "back" of the building (where the staff parking and service entrance is located) addresses the cemetery. The main public access road, public-visitor parking, and the main entrance of the building area do not promote direct views to the cemetery. The building is also oriented to provide favorable views to the [redacted] River.

Existing and Known Planned Adjacent Transportation Infrastructure

(such as roadways, mass transit, bicycle and major pedestrian facilities)

Shown on site plan? (Yes or No)	Yes
Did this information influence the project design? (Yes or No)	Yes

Provide a brief explanation of how the information gathered influenced the project design. If applicable, give reasons for not addressing these topics.

The project is located in [redacted], which has existing transportation infrastructure. Additionally, the presence of noise generating neighboring activities, including major roadways, was accounted for by the project team by designing the project to take advantage of grading and natural earthworks on site to provide acoustic shielding.

Adjacent Properties

(such as land uses and significant wildlife habitat)

Shown on site plan? (Yes or No)	No
Did this information influence the project design? (Yes or No)	Yes

Provide a brief explanation of how the information gathered influenced the project design. If applicable, give reasons for not addressing these topics.

As described in the "View Corridors" section, the building has been sited to avoid views to the former industrial/brownfield lands and adjacent cemetery. The building is also oriented to provide favorable views to the [redacted] River.

Construction Materials with Existing Recycle or Reuse Potential

Brief description of construction materials (such as structures, building materials, vegetation, roads, parking lots, pathways, and historical structures/landscapes) with exiting recycle or reuse potential

There was no previous developments on the site and therefore there was no existing construction materials with recycle or reuse potential.

Did this information influence the project design? (Yes or No)	No

Provide a brief explanation of how the information gathered influenced the project design. If applicable, give reasons for not addressing these topics.

No construction materials with recycle or reuse potential were located on the site.

Human Health Effects

Proximity of Vulnerable Populations

Proximity of vulnerable populations (miles or kilometers)	N/A
Did this information influence the project design? (Yes or No)	No

Provide a brief explanation of how the information gathered influenced the project design. If applicable, give reasons for not addressing these topics.

Consideration of potential vulnerable populations that could be near the site was not in the scope of this project.

Adjacent Physical Activity Opportunities

Adjacent physical activity opportunities (miles or kilometers)	N/A
Did this information influence the project design? (Yes or No)	No

Provide a brief explanation of how the information gathered influenced the project design. If applicable, give reasons for not addressing these topics.

The site selected for this project is just south of [redacted] Street, which has shops, the Town Hall, and the [redacted] Stadium.

Proximity to Major Sources of Air Pollution

Proximity to major sources of air pollution (miles or kilometers)	N/A

Did this information influence the project design? (Yes or No)	Yes

Provide a brief explanation of how the information gathered influenced the project design. If applicable, give reasons for not addressing these topics.

The project is not located in close proximity to any major sources of air pollution; however, the project design has still accounted for potential airborne contaminants via the use of MERV 13 filtration on each ventilation system that supplies outdoor air to occupied spaces.