



Credit Guidance

Water Efficiency

UBC Vancouver Campus

Prerequisite:
**Outdoor
 Water Use Reduction**

CAMPUS	MANDATORY	PRIORITY	AVAILABLE
Vancouver			Required
Okanagan			

REQUIREMENTS

All projects must comply as per the requirements of LEED BD+C v4.1.

VANCOUVER RESOURCES

[UBC Technical Guidelines - Vancouver Campus - Section 32 80 00 Irrigation](#)

[UBC Technical Guidelines - Vancouver Campus - Section 22 11 00 Facility Water Distribution](#)

[UBC Water Action Plan](#)

VANCOUVER GUIDANCE

The UBC Technical Guidelines - Vancouver Campus requires automatic irrigation and drought tolerant planting in all landscaped areas. Drip irrigation is prohibited on the Vancouver campus. Project teams are encouraged to consider high performance and efficient spray head systems. Drip irrigation may be acceptable in some circumstances; teams should propose it where appropriate and discuss with the relevant UBC project manager.

OKANAGAN RESOURCES

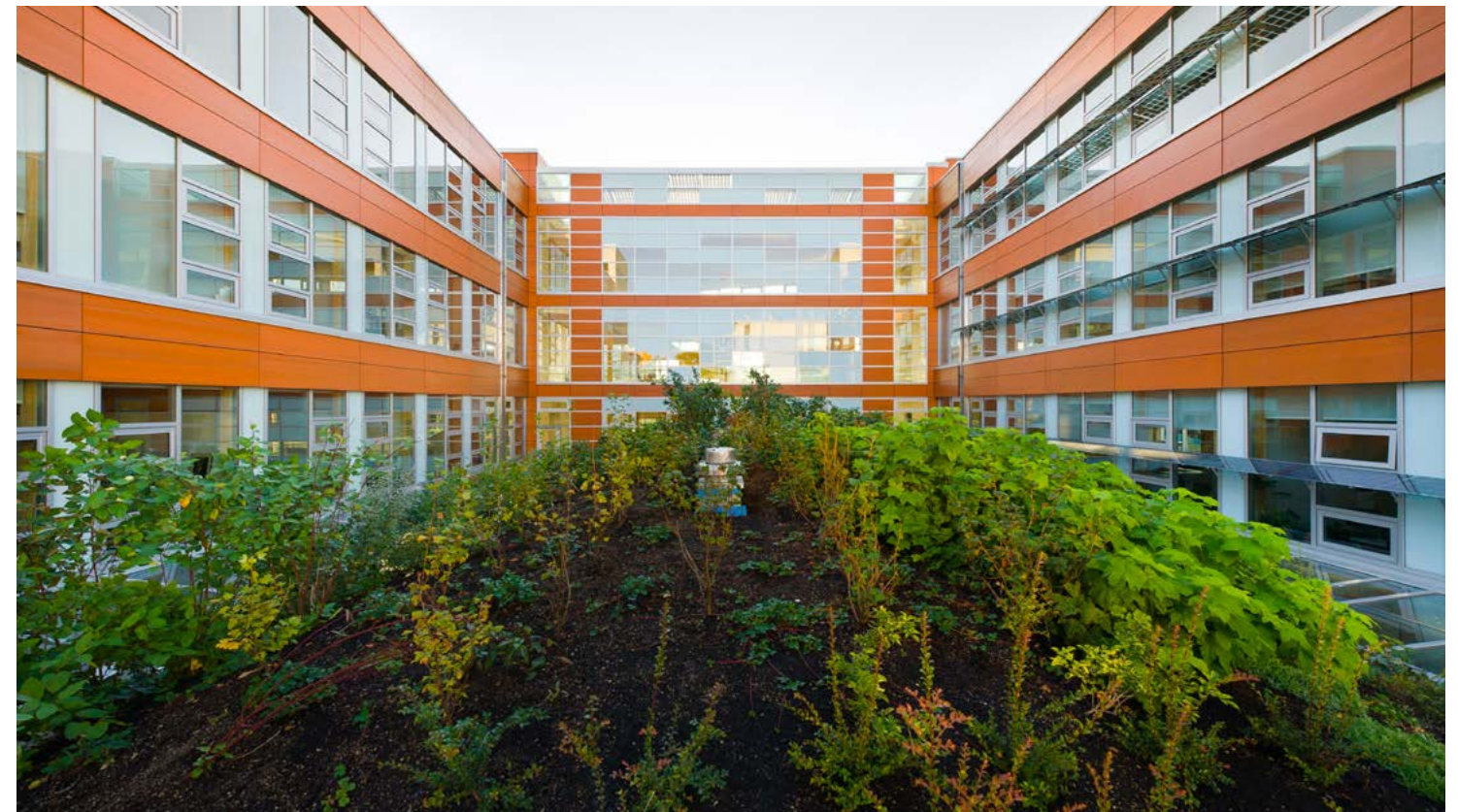
[UBC Technical Guidelines - Okanagan Campus - Section 32 80 00 Irrigation](#)

[UBCO Campus Design Guidelines Section 2.3.1 Planting; Section 2.3.3. Irrigation](#)

[Whole Systems Infrastructure Plan](#)

OKANAGAN GUIDANCE

Where irrigation is required, the UBC Technical Guidelines - Okanagan Campus require subsurface drip irrigation systems in combination with drought tolerant planting.



Centre for Interactive Research on Sustainability, UBC Vancouver Campus

Prerequisite:
Indoor Water Use Reduction

CAMPUS	MANDATORY	PRIORITY	AVAILABLE
Vancouver			Required
Okanagan			

REQUIREMENTS

All projects must comply as per the requirements of LEED BD+C v4.1.

RESOURCES

- [WaterSense Product Search](#)
- [Maximum Performance \(MaP\) website.](#)
- [UBC Technical Guidelines: Section 22 40 00 Plumbing Fixtures](#)
- [UBC Water Action Plan](#)

GUIDANCE

Low flow plumbing fixtures are preferred where appropriate and supported by UBC maintenance teams. Project teams are encouraged to consider strategies beyond fixture efficiency to reduce indoor water use.

WaterSense labelled fixtures can be challenging to source in Canada, project teams are encouraged to access the [WaterSense product search](#) website early to identify fixture options.

In addition to fixtures and fittings, LEED BD+C v4.1 includes minimum performance standards for some appliances and process water loads as per Table 2 and Table 3 of the prerequisite in the beta Reference Guide/online Credit Library. Project teams are encouraged to review and identify further opportunities for water use reduction by selecting efficient appliances such as *ENERGYSTAR* or equivalent standard, and by identifying building typologies or building spaces with unique process water loads. A water assessment is also required as part of the Integrated Process credit to assess early in the design process, specific loads from kitchens, laboratories, laundry, cooling towers, and other equipment demand volumes and reduction opportunities, as applicable.

Refer to the [Integrative Process](#) credit and the UBC Integrated Sustainability Process for related guidance.

Prerequisite:
Building Level Water Metering

CAMPUS	MANDATORY	PRIORITY	AVAILABLE
Vancouver			Required
Okanagan			

REQUIREMENTS

All projects must comply as per the requirements of LEED BD+C v4.1.

VANCOUVER RESOURCES

- [UBC Technical Guidelines - Vancouver Campus Section 01 92 00 Monitoring Based Commissioning;](#)
- [UBC Technical Guidelines - Vancouver Campus Section 20 00 06 Meters](#)
- [Vancouver Campus Plan - Design Guidelines](#)
- [UBC Water Action Plan](#)

OKANAGAN RESOURCES

- [UBC Technical Guidelines - Okanagan Campus Section 01 92 00 Monitoring Based Commissioning](#)
- [Okanagan Campus Plan - Design Guidelines](#)

GUIDANCE

Building level water metering, data collection, and reporting is aligned with UBC goals and performance targets. The UBC Water Action Plan and UBC Okanagan Whole Systems Infrastructure Plan support implementation of a comprehensive water metering and performance monitoring system to track individual buildings.

Project teams should refer to the [Vancouver Campus Plan Design Guidelines \(Part 3\) Section 2.1 \(i\)](#) and the [UBC Monitoring Based Commissioning Requirements](#) for both campuses, which require projects to include potable water metering to track water consumption for building and exterior landscape within the project scope.

WE Credit:
Outdoor
Water Use Reduction

CAMPUS	MANDATORY	PRIORITY	AVAILABLE
Vancouver	1	1	2
Okanagan	1	1	

REQUIREMENTS

All projects must comply as per the requirements of LEED BD+C v4.1, Option 2 Reduced Irrigation (30%) to earn at least one point.

VANCOUVER RESOURCES

- [UBC Technical Guidelines - Vancouver Campus Section 32 80 00 Irrigation; Section 22 11 00 Facility Water Distribution](#)
- [UBC Water Action Plan](#)

VANCOUVER GUIDANCE

The UBC Technical Guidelines - Vancouver Campus require drought tolerant planting and automatic irrigation in all landscaped areas. Drip irrigation is prohibited on the Vancouver campus. Project teams are encouraged to consider high performance and efficient spray head systems to maximize water savings accordingly. Drip irrigation may be acceptable in some circumstances; project teams should propose it where appropriate and discuss with the relevant UBC project managers.

Alternative water source systems, such as rainwater capture or “clear water waste”, are another way to reduce potable water demand. To ensure any proposed systems are successful, project teams should:

- Consult the [UBC Technical Guidelines - Vancouver Campus, Section 22 11 00 Facility Water Distribution](#), for applicability and specific design requirements, noting that these systems require a variance application to ensure the appropriate stakeholders are involved.
- Key elements that must be in place include design review by UBC, provisions for system commissioning, and approval of operations and maintenance plans including commitment of responsible parties and funding.

OKANAGAN RESOURCES

- [UBC Technical Guidelines - Okanagan Campus - Section 32 80 00 Irrigation](#)
- [UBC Okanagan Campus Design Guidelines Section 2.3.1 Planting; and 2.3.3. Irrigation](#)
- [Whole Systems Infrastructure Plan](#)

OKANAGAN GUIDANCE

Potable water use reduction is a major priority for UBCO. Where irrigation is required, the [UBC Technical Guidelines - Section 32 80 00 Okanagan Campus](#) require subsurface drip irrigation systems in combination with drought tolerant planting.

Alternative water source systems such as rainwater capture are another way to reduce potable water demand. To ensure any proposed systems are successful, project teams should:

- Consult the [UBC Technical Guidelines - Okanagan Campus, Section 22 11 00 Facility Water Distribution](#) for applicability and specific design requirements, noting that these systems require a variance application to ensure the appropriate stakeholders are involved.
- Key elements that must be in place include design review by UBC, provisions for system commissioning, and approval of operations and maintenance plans including commitment of responsible parties and funding.

WE Credit:
Indoor
Water Use Reduction

CAMPUS	MANDATORY	PRIORITY	AVAILABLE
Vancouver		4	6
Okanagan		4	

REQUIREMENTS

All projects are encouraged to demonstrate indoor water use reduction for at least four points (40% savings), or to the maximum extent possible.

RESOURCES

- [Maximum Performance \(MaP\)](#)
- [UBC Technical Guidelines: Section 22 40 00 Plumbing Fixtures](#)
- [UBC Technical Guidelines: Section 22 11 00 Facility Water Distribution](#)
- [UBC Water Action Plan](#)
- [Appendix A - UBC Integrated Design Process](#)

GUIDANCE

Low flow plumbing fixtures are preferred where appropriate and supported by UBC maintenance teams. Project teams are encouraged to consider strategies beyond fixture efficiency to reduce indoor water use.

WaterSense labelled fixtures can be challenging to source in Canada, teams are encouraged to access the [WaterSense product search](#) website early to identify available fixture options.

Projects are urged to consider captured rainwater or “clear water waste” alternative sources and strategies to reduce potable water demand. To ensure any proposed systems are successful, project teams should do the following:

- Consult the [UBC Technical Guidelines: Section 22 11 00 Facility Water Distribution](#), for applicability and specific design requirements, noting that these systems require a variance application to ensure the appropriate stakeholders are involved.
- Key elements that must be in place include design review by UBC, provisions for system commissioning, and approval of operations and maintenance plans including commitment of responsible parties and funding.

In addition to fixtures and fittings and non-potable sources, project teams are encouraged to review and identify further opportunities for water use reduction through selecting efficient appliances as per *ENERGYSTAR* or equivalent standard, and to identify building typologies or building spaces with specific process water loads. Teams are also encouraged to pursue water-related systems as part of the Integrative Process credit to assess specific loads (kitchens, laboratories, laundry, cooling towers, and other equipment as applicable) and consider design strategies for water use reduction. Teams should be aware that once-through (open loop) water cooling of equipment is a significant water use at UBC and is prohibited by the Technical Guidelines in new construction and renewal projects.

Refer to the Integrative Process credit and the UBC Integrated Sustainability Process for related guidance.

WE Credit:
Optimize
Process Water Use

CAMPUS	MANDATORY	PRIORITY	AVAILABLE
Vancouver		2	2
Okanagan	1	1	

VANCOUVER REQUIREMENTS

All projects are encouraged to pursue two points as per the requirements of LEED BD+C v4.1.

VANCOUVER GUIDANCE

There is no district cooling system at the Vancouver campus. Applicability of this credit will depend on the building type and mechanical system approach for each project.

- Option 1 is available for projects with cooling towers or evaporative condensers.
- Option 2 is available only for certain project types where the ASHRAE 90.1-2016 baseline system per Appendix G includes a cooling tower.
- Option 3 is available for projects that use process water representing at least 10% of total building regulated water.

Water used for cooling is excluded in Option 3; Options 1 or 2 are more likely compliance paths for the building types where this credit applies.

OKANAGAN REQUIREMENTS

All projects are required to earn at least one point as per the requirements of LEED BD+C v4.1 via any compliance path.

RESOURCES

[Appendix G – Okanagan Campus: Process Water Data](#)

OKANAGAN GUIDANCE

UBC Okanagan’s Low Temperature District Energy System (LDES) includes cooling towers for heat rejection and their performance qualifies for this credit. Projects connected to the district cooling system are eligible to pursue credit via any available option.

- Option 1 is available for projects based on the LDES cooling tower performance. Refer to UBCO’s supporting data on LDES cooling tower performance for projects to use under Table 1 and/or Table 2 of Option 1. Refer to Appendix G Okanagan Campus: Process Water Data.
- Option 2 is available for projects not connected to the LDES and where the ASHRAE 90.1-2016 baseline system per Appendix G includes a cooling tower.
- Option 3 is available for projects that use process water representing at least 10% of total building regulated water.

WE Credit: Water Metering

CAMPUS	MANDATORY	PRIORITY	AVAILABLE
Vancouver	1		1
Okanagan	1		

REQUIREMENTS

All projects must to comply as per the requirements of LEED BD+C v4.1.

VANCOUVER RESOURCES

[UBC Technical Guidelines - Vancouver Campus Section 01 92 00 Monitoring Based Commissioning](#)

[UBC Technical Guidelines - Vancouver Campus Section 20 00 06 Meters](#)

[UBC Standard Drawings E4-6 and E4-6C](#)

[UBC Vancouver Campus Plan](#)

[UBC Water Action Plan](#)

OKANAGAN RESOURCES

[UBC Technical Guidelines - Okanagan Campus Section 01 92 00 Monitoring Based Commissioning](#)

[UBC Technical Guidelines - Okanagan Campus Section 20 00 06 Meters](#)

[UBC Okanagan Design Guidelines](#)

GUIDANCE

Projects should focus metering on the most substantial end uses in buildings, such as domestic hot water. Projects with significant water process loads such as laboratories are encouraged consider a metering strategy early in the design process. [UBC Technical Guidelines: Section 01 92 00 Monitoring Based Commissioning](#) for both campuses require metering for irrigation. All meters must be compatible with the BMS for easy data retrieval. Refer to the Integrative Process credit and include considerations as part of the water-related analysis if pursued.



Biosciences Building, UBC Vancouver Campus