

UNIVERSITY *of* WASHINGTON

GREEN BUILDING STANDARD

Version 2.0

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UW GREEN BUILDING STANDARD VERSION 2

Overview

The new UW Green Building Standard version 2 is comprised of the Green Building Standard itself (this document) and several supporting documents (see Appendix A):

1. **A UW GBS Process Map**, which shows the required steps to follow when implementing the GBS on a project.
2. **The UW Life Cycle Cost Analysis (LCCA)** requirements, a separate policy referenced in the UW GBS.
3. **The UW Bird-friendly Design Guidelines**, developed by the College of Built Environments.
4. **A set of UW LEED Scorecards** for projects with certification requirements indicating required and preferred credits.

The Standard breaks down the types of projects conducted by UW into four tiers and adjusts the requirements for each tier as applicable. This approach extends the opportunities and impact of the UW GBS to a wide variety of projects across the University and provides appropriately scaled requirements for each tier. The tier for a project is set early in project formation by UW to allow for the requirements to be considered when scoping and budgeting the project.

Project Tiers

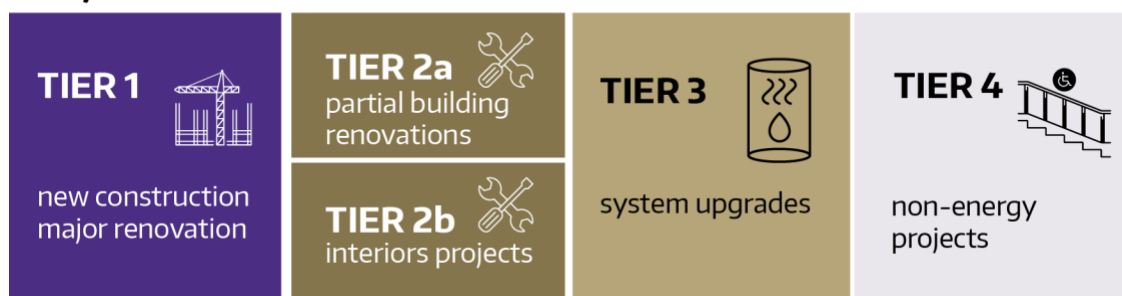


Figure 1a: An overview of the UW Green Building Standard Project Tiers

TOPIC AREAS	DESCRIPTION
WATER	Reducing the use of potable water.
ENERGY & CLIMATE	Decarbonizing, maximizing efficiency, planning for an increasingly warm climate.
EMBODIED CARBON	Addressing the impact of carbon embodied in building materials.
HEALTH & WELL-BEING	Recognizing that the built environment is a major determinant of health and well-being.
ECOLOGY	Understanding how development of sites and buildings impact the local ecology.
EQUITY	Ensuring accessibility.
CERTIFICATION SYSTEMS	Following the guidance of green building programs such as LEED and Fitwel.

Figure 2b: An overview of the UW Green Building Standard Topic Areas

There are requirements in all topics in the top tier (Tier 1) which applies to ground-up construction of new buildings and major renovation of existing buildings. Projects in other tiers have a smaller list of requirements to which they must adhere. Projects are required to follow the UW GBS Process Map, comply with UW Facility Design Standard (FDS) and/or similar standards for other campuses and departments, and follow the UW LCCA requirements where applicable.

Rating system requirements are defined for certain tiers and in certain situations. A set of UW LEED Scorecards identifies required credits that are widely applicable to UW projects and relate to the topics covered in the standard, including a list of LEED innovation and pilot credits that are preferred by the University (see Appendix A).

The UW GBS includes specific requirements in each topic area. Some requirements apply to all projects, the rest of the requirements vary depending on which of four different tiers of project types a project falls. Teams should refer to both “Requirements for All Projects” section of this GBS and requirements within the Tiers Requirements page. A visual Quick Reference guide is available in Appendix D.

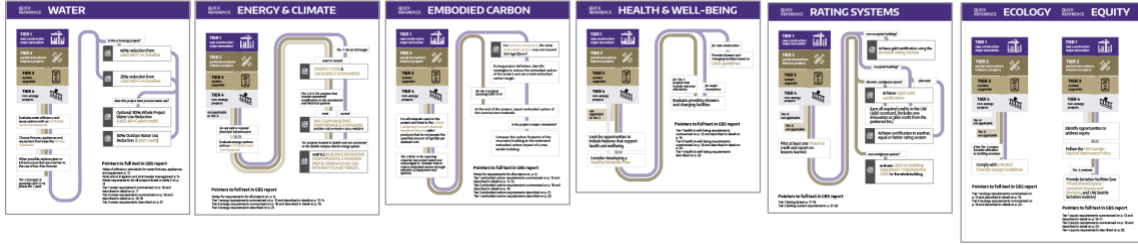


Figure 3: Thumbnail image of Quick Reference Guide (Appendix D)

UW GBS – Tier 3 Requirements

Tier 3 Requirements

Tier 3 projects are system upgrades. These are projects that focus on energy or water consuming systems that don't include additional project scope like updates to finishes or reconfiguring space. **Tier 3 projects must meet the requirements for 'all projects' (as applicable) and the energy requirements below.** This table is a high-level summary of requirements. Additional details, definitions, and guidance are provided below and links to all referenced resources are included in Appendix C.

Topics	Requirements for all Tier 3 capital projects
Energy & Climate	<p>Implement energy conservation measures (ECMs) that meet or exceed code requirements and other applicable University standards.</p> <p>Energy Use Intensity (EUI) Targets: For projects that include substantial modification to the mechanical and electrical systems, meeting the definition for minor renovation in the UW LCCA requirements, design the systems to meet the Washington State Clean Buildings Performance Standard (CBPS) EUI target for the activities in the affected spaces. Projects located in Seattle and not connected to the Seattle campus district energy system must also plan for compliance with the Seattle Building Emissions Performance Standard (BEPS) Greenhouse Gas Intensity (GHGI) target.</p>

Table 6: UW GBS requirements for Tier 3 projects

The following notes provide information and guidance relevant to implementing the "all projects" and energy requirements on Tier 3 projects.

Water

- System upgrades involving plumbing should include replacing pipes or other infrastructure that are a barrier to use of low-flow fixtures.

Energy & Climate

- EUI targets:** For projects that include substantial modification to the mechanical and electrical systems, meeting the definition for minor renovation in the UW LCCA requirements, design the systems to meet the Washington State Clean Buildings Performance Standard (CBPS) EUI target for the activities in the affected spaces. Projects located in Seattle and not connected to the Seattle campus district energy system must also plan for compliance with the Seattle Building Emissions Performance Standard (BEPS) Greenhouse Gas Intensity (GHGI) target. See Tier 1 for more information on meeting these performance standards.

Embodied carbon

- Embodied carbon reporting requirements are not applicable to Tier 3 projects. Project teams are encouraged to investigate the latest information available on embodied carbon in systems and equipment and consider how to reduce embodied carbon through selection.

Each Tier Requirements section in the GBS starts with a high-level summary of the requirements in a table.

Additional guidance is provided in the narrative following the table.

Acronyms, vocabulary, and references mentioned in the standard are defined and listed in Appendix C.

UW Facilities is responsible for the UW Green Building Standard and for developing tool, training and resources to support implementation. These resources are found on UW Sustainability's website (see link in Appendix A).

Applicability

The UW Green Building Standard (GBS) applies to all UW capital projects in Washington State but will be rolled out in two phases, as outlined in the call-out box to the right. Ultimately, the UW GBS is for UW capital, regardless of funding source, on all UW facilities owned or operated by the University.

The requirements in the UW GBS apply to capital projects that have completed Project Formation and are greater than \$1,000,000 in total project cost. However, the *UW GBS Process Map* includes steps to prepare projects for meeting these requirements that occur earlier, in strategic planning, concept development, and project formation.

Phase 2 of the new GBS roll-out is still in development but will address a variety of property and ownership models where UW is not the owner and operator of the facility.

Phase 1 Applicability Examples

- A. UW Housing and Food Services is building a new residential hall. *This project must meet the GBS.*
- B. UW Recreation requests a project to renovate/retrofit the pool and locker rooms space at the IMA. This only takes up a portion of the building but is made up of contiguous space.

This project must meet the GBS for the scope of the work being done to support the project. Compliance is not required for spaces outside of the scope of work.

- C. The University has an opportunity to renovate a building that is registered as a Historic Landmark.

This project must meet the GBS. If any of the GBS is not achievable due to Historic Landmark preservation requirements, the team may follow the Exceptions process listed in the GBS and provide documentation supporting why specific requirements cannot be met.

Phased Roll-out

Phase 1 applies to:

Properties and spaces owned and operated* by the UW.

- at all campuses and satellite locations;
- for all divisions, departments, or units;
- that complete project formation after June 30, 2024; and
- are greater than \$1,000,000 in total project cost.

Projects that completed formation prior to June 30, 2024 may have to comply with the UW GBS version 1 and can substitute v2.

Phase 2 applies to:

- Property types to be included in Phase 2 applicability is yet to be determined.

Phase 2 will start approximately 1 year after Phase 1, possibly as pilot projects as determined by UW Facilities and UW Real Estate.

*operated by the UW means using University staff and resources for day-to-day operations.

- D. A program requires a new building to meet expanding program needs but is limited in funding and is seeking donors. *This project must meet the GBS.*
- E. The UW and Cascadia Community College are building a shared facility on the Bothell campus that will be used by both organizations and jointly operated.
The project must meet the GBS.

Exceptions

This version of the UW Green Building Standard is designed to hold a consistent standard of sustainability across all projects and to be flexible enough in application such that exceptions are not needed or are rare. The limited reasons for an exception include:

- An individual requirement is unachievable on a project due to project constraints outside of the project team’s ability to influence or change.
- For energy and water performance requirements, an LCCA demonstrating that a substantial first cost increase does not provide a reasonable life cycle cost savings. However, first-cost increases are not justification for an exception on their own.

To apply for an exception:

- Submit documentation explaining the circumstances to the Associate Vice President of Asset Management and the Director of Sustainability as early in the project as possible.
- For energy and water performance requirements, include an LCCA following the *UW LCCA Requirements* comparing the life cycle costs of complying with the standard versus other options the project proposes.
- Include information about what standard or approach the project will include instead of meeting the requirement. Explain how that level of performance or approach still benefits building occupants, the University, the community, or the greater environment.
- For exceptions of individual required LEED credits that are unachievable due to project constraints outside of the project team’s ability to influence, provide similar documentation to the Director of Sustainability with a LEED project scorecard demonstrating how the project will otherwise meet the LEED certification requirement.
- Include information about individual requirements that are not applicable for, exempted, or require different method of achievement in the GBS Workbook.

Project Tiers

One of the ways that version 2 of the UW GBS provides flexibility and scalability is through project tiers. First, the GBS identifies a set of requirements that all projects must meet. Then, the additional GBS requirements are determined by what tier applies to the project. The most applicable tier for a project will be identified by UW Facilities early in project formation to allow for the requirements to be considered when scoping and budgeting the project. As the scope can evolve as a project progresses, the applicable tier may need updating and project managers should coordinate with UW Facilities to help with this process.

TIER	DESCRIPTION
1: NEW CONSTRUCTION AND MAJOR RENOVATION	New ground up construction, major renovations of whole buildings and stand-alone additions.
2a: PARTIAL BUILDING RENOVATIONS	Projects that include multiple system upgrades or renovations (HVAC, plumbing, lighting, finishes) and that have distinct, contiguous space eligible for LEED v4 certification.
2b: INTERIORS PROJECTS	Projects that include multiple system upgrades or renovations (HVAC, plumbing, lighting, finishes). Scope may be distributed throughout a building; not eligible for LEED v4 certification.
3: SYSTEM UPGRADES	Projects that are upgrading or adding new mechanical, electrical, and plumbing equipment or systems that will consume or influence the University's consumption of energy or water and that do not include additional scope.
4: NON-ENERGY PROJECTS	Non-energy projects involving materials but limited or no systems.

Table 1: UW GBS Project Tiers

Tier 1: Tier 1 projects include all new construction and major renovation projects. These projects are defined as new ground-up construction, major renovations of whole buildings, and stand-alone additions. This tier has the most comprehensive set of requirements.

Tier 2a: Tier 2a projects are partial building renovations projects that include multiple systems (i.e., HVAC upgrades, plumbing, lighting, and finishes) and may also include envelope improvements. The scope of a Tier 2a project is typically concentrated in one area or section of a building that can be clearly defined for a LEEDv4 Commercial Interiors certification. Additions that are integrated into a building, such as expanding the footprint of part of a building to increase the size of a space also fall in Tier 2a.

Tier 2b: Tier 2b projects are interiors projects that include multiple systems (i.e. HVAC upgrades, plumbing, lighting, and finishes) They may include space configurations or involve building updates dispersed throughout a building. The scope and area are such that the project is not eligible for LEEDv4 Commercial Interiors certification. The GBS requirements for this tier are narrowed to match the scope of work for these project types.

Tier 3: Tier 3 projects involve upgrading or adding new mechanical, electrical, or plumbing (MEP) equipment or systems that consume or influence consumption of energy or water by the University. It excludes fire/life safety systems and low voltage technology projects and equipment that doesn't directly use energy or water or influence how other equipment uses energy or water. Tier 3 projects don't include additional project scope like updates to finishes or reconfiguring space.

Tier 4: Tier 4 projects are non-energy projects, or minor works involving materials but limited or no systems. Project scope may be distributed throughout a space/building. Examples include a landscaping project or minor upgrades to finishes.

Determining Project Tiers - Examples

UW Facilities will identify tiers for upcoming projects prior to completing project formation.

- A. A former warehouse building was acquired by the UW for the Tacoma Campus. It will undergo a complete interior renovation including installing new MEP (mechanical, electrical, plumbing) systems, and minor improvements to the envelope.

This is a Tier 1 project.

- B. A 1960's building will undergo renovation to modernize it and address safety and accessibility issues. The scope of the renovation may not include all areas of the building or update all systems depending on budget and code requirements and will be finalized with the project team during project definition.

This project may qualify as Tier 1 or as a Tier 2a project. The project team should work with UW Facilities and the Project Delivery Group (PDG) during project definition to determine the correct tier based on the final scope.

- C. A wing of a large building on the Seattle Campus is undergoing upgrades on multiple floors. Improvements include some limited reconfigurations of rooms, and lighting and finish upgrades in the affected spaces. The work is spread out and not contiguous. It does not include HVAC system upgrades but does include some bathroom and plumbing updates.

The project is a Tier 2b project.

- D. The University chooses to expand an existing building to add floor area in one of these ways:

- Only minor work to enable the addition is performed in the main building. The addition is clearly a distinct wing and has complete systems of its own, though they connect to district energy sources directly or via the main building.

The addition is a Tier 1 project.

- The addition closes in adjacent outdoor space and creates new interior spaces that are integrated into existing spaces. Much of the main building remains undisturbed.

This is likely a Tier 2a project if space is contiguous.

- The project includes substantial improvements, including systems upgrades, to the main building in addition to adding space.

This is likely a Tier 1 project for the entire building and addition.

- The project is an energy modernization and asset preservation project for one of the 1960's era buildings on campus focused on system replacements and upgrades.

This is a Tier 3 project.

- The Project is an accessibility improvement that doesn't include work on building systems.

This is a Tier 4 project.

- The Project is a classroom modernization project without HVAC improvements.

This is a Tier 4 project.

- The Project is an infrastructure project to repair the Montlake campus membrane.

This is a Tier 4 project.

Requirements for All Projects

This table is a high-level summary of requirements. Additional details, definitions, and guidance are provided below and links to all referenced resources are included in Appendix C.

TOPICS	REQUIREMENTS FOR CAPITAL PROJECTS
PROCESS	UW GBS Process Map: All projects follow guidelines in the UW GBS Process Map as applicable to the tier and project scope.
LIFE CYCLE COST ANALYSIS	LCCA: Use UW LCCA requirements to evaluate technologies to achieve performance goals and optimize energy and water use.
DESIGN STANDARDS	Comply with the UW Facility Design Standard and/or applicable similar standards for other campuses and departments that address sustainable design and construction.
ENERGY	<p>No fossil fuels: No new or expanded fossil fuel systems in buildings except for backup power or for research purposes.</p> <p>Connect to district energy systems: Wherever the University maintains district energy systems for heating or cooling, buildings must connect to those systems for primary cooling and heating needs.</p>
WATER	Fixture, appliance, and equipment efficiency: Meet efficiency standards listed in the Fixture, Appliance, and Equipment Standards table (see below).
EMBODIED CARBON	Product embodied carbon limits: For all materials used on the project and listed in the Carbon Leadership Forum’s Material Baselines Report, select products that do not exceed the specified amount of kgCO ₂ e per declared unit.

Table 2: UW GBS requirements for all projects

All applicable¹ capital projects must:

- ❑ Follow the **UW GBS Process Map** as applicable to the tier and project scope (see Appendix A). The UW GBS Process Map is maintained separately from the Green Building Standard and may be updated over time to reflect changes to UW process.
 - The LEED credit for Integrative Process is supported by the UW GBS Process Map and is required for all projects that are required to earn LEED certification
- ❑ **Use life cycle cost analysis** to evaluate technologies to achieve performance goals and optimize energy and water use. Follow the latest version of the *UW Life Cycle Cost Analysis (LCCA) Requirements* at the time of the analysis (see Appendix A). See specific applications of LCCA noted by tier in the following sections.
- ❑ **Comply with University design standards.** Design and construction requirements related to building performance and sustainable building are found throughout the UW Facility Design Standard (FDS) for the Seattle Campus and similar standards for other campuses and departments.
- ❑ **Follow fixture, appliance, and equipment efficiency standards.** Table 3 below lists efficiency standards and maximum flow rates for fixtures, appliances, and equipment that use water.

FIXTURE/APPLIANCE/EQUIPMENT	EFFICIENCY STANDARD
NON-RESIDENTIAL LAVATORIES	0.5 gpm
METERING FAUCETS	0.25 gpc
RESIDENTIAL LAVATORIES	1.2 gpm Meets WaterSense
KITCHEN FAUCET	1.8 gpm
WATER CLOSETS	1.28 gpf 1.28/1.1 gpf dual flush preferred Meets WaterSense
URINALS	0.125 gpf Meets WaterSense
BLOWOUT FIXTURES	1.6 gpf
SHOWERS	1.5 or lower gpm Meets WaterSense
RESIDENTIAL AND COMMERCIAL CLOTHES WASHERS	ENERGY STAR or performance equivalent

¹ See *Applicability* section

FIXTURE/APPLIANCE/EQUIPMENT	EFFICIENCY STANDARD
RESIDENTIAL DISHWASHERS	ENERGY STAR or performance equivalent
PRERINSE SPRAY VALVES	1.3 gpm
ICE MACHINE	ENERGY STAR or performance equivalent
REPLACEMENTS IN-KIND	Where water using fixtures, appliances, and equipment are being replaced in kind, replace with the same water use rate or meet the above efficiency standard, whichever is lower and where practicable.
HEAT REJECTION AND COOLING	No once-through cooling with potable water for any equipment or appliances that reject heat.
OTHER ONCE THROUGH PROCESS WATER USES	Evaluate non-potable water sources for any process water uses, including lab processes that require once-through water.

Table 3: Fixture, Appliance, and Equipment Efficiency Standards

- ❑ **Product embodied carbon limits:** For all materials used in the project that are listed in the Carbon Leadership Forum’s Material Baselines Report, select products that do not exceed the amount of kilograms of carbon dioxide equivalents (kgCO₂e) per declared unit.
 - Reference the *Carbon Leadership Forum’s Material Baselines Report* that was current at the start of design².
 - For concrete products, projects must reference Pacific Northwest region values.
 - Products noted as not having an “adequately representative data source” do not have to meet this requirement.

A note about irrigation and stormwater: Irrigation standards for efficiency are included in the UW Facility Design Standard and the UW has Stormwater Management Plans for all three campuses. The UW irrigation strategy is to provide irrigation for all planted areas using the most efficient systems available on the market, ensuring enough water to sustain plants in dry periods, monitoring water use and plant health, and adjusting to avoid overwatering.

Removing or disconnecting irrigation after establishment is not allowed except in naturalized areas.

Project teams should also consider if there are opportunities to further reduce potable water use for irrigation, collect stormwater for other uses, or provide additional stormwater flow control and treatment as part of the project, incorporating into LCCA as applicable.

² At the time of GBS adoption (July 1, 2024), that was the August 2023 report.

- Collect Environmental Product Declarations (EPDs) demonstrating the product's embodied carbon footprint for all applicable products. This requirement aligns with reporting required of state projects for the Buy Clean, Buy Fair Act.
- ❑ **Include no new or expanded fossil fuel systems** in buildings except for backup power or for research purposes. This includes kitchen cooking equipment. Capital projects that will replace existing fossil fuel equipment at the end of life should plan for updating equipment and systems with a non-fossil fuel alternative. Emergency repairs and necessary maintenance to keep fossil fuel systems in working order until replaced are allowed.
- ❑ Wherever the University maintains **district energy systems** for heating or cooling, buildings must **connect to those systems** for primary cooling or heating needs.
 - This requirement is driven by the University's Energy Transformation Strategy to convert fossil fuel-based utility plants to non-fossil fuel energy sources. Buildings must connect to UW district energy systems for primary cooling or heating needs depending on the capacity available as some district energy systems in some locations may not be able to accommodate additional loads. Where connection to a district energy system is required, any request for an exception must perform an LCCA to inform the consideration and decision for an exception. If granted, the project must provide the ability to connect the building to district energy systems in the future.

UW GBS Process Map

The UW GBS Process Map is separate guidance on expectations, timing, and best practice for projects in meeting the UW GBS v2. It may be updated more frequently than the UW GBS requirements as processes and practices for capital projects at the University evolve and change. It covers:

- Steps for the UW to take in strategic planning and project formation to prepare a project to meet the UW GBS requirements
- Roles and responsibilities from project initiation through construction
- Reporting requirements during and at the end of a project

You can download the latest version from UW Sustainability's website.

Reporting

Campus Architecture and Planning will initiate a GBS Workbook at the start of the project and UW PDG will use it to track and report on GBS compliance during project execution.

Design and construction teams are responsible for providing PDG with information necessary for reporting. All projects are required to submit reporting to the university at several points during the project as indicated in the GBS Workbook.

Tier 1 Requirements

Tier 1 projects include all new construction and major renovation projects. These projects are defined as new ground-up construction, major renovations of whole buildings, and stand-alone additions. **Tier 1 projects must meet the following requirements in addition to the requirements for all projects.** This table is a high-level summary of requirements. Additional details, definitions and guidance are provided below and links to all referenced resources are included in Appendix C.

TOPICS	REQUIREMENTS FOR ALL TIER 1 CAPITAL PROJECTS
WATER	New construction, except housing: At least 25% reduction in annual indoor water use from the LEED BD+C v4 baseline.
	New housing: At least 40% reduction in annual indoor water use from the LEED BD+C v4 baseline.
	Alternate for projects with process water uses: 30% reduction using the LEED BD+C v4 Whole Project Water Use pilot credit (WEpc115).
ENERGY & CLIMATE	Energy Use Intensity (EUI) targets (EUI _t): Design the building to perform better than the Washington State Clean Buildings Performance Standard (CBPS) EUI _t for the building type and activities. Projects located in Seattle and not connected to the Seattle campus district energy system must also plan to exceed the City of Seattle Building Performance Standard (BEPS) Greenhouse Gas Intensity (GHGi) target.
	Project specific targets: During project definition, set a project-specific EUI _t that meets or exceeds the EUI _t , code requirements, and other applicable University requirements.
	Embodied carbon limit: The total as-designed embodied carbon of the project building may not exceed 500 kgCO ₂ e/m ² in primary materials and use stages A1-A4.
EMBODIED CARBON	Project specific targets: During project definition, identify strategies to reduce the embodied carbon of the project and perform calculations to set a project-specific total embodied carbon target.
	LEED/Required calculations: At the end of the project report as-built embodied carbon of actual new construction materials using the EC3 tool and following the LEED pilot credit for Procurement of Low-Carbon Construction Materials (MRpc132).
	Major renovation projects: Estimate the embodied carbon impact of the materials required to build a new, similar building using EC3 and the LEED pilot credit (MRpc132) methodology and compare it to the actual footprint of the renovated building to demonstrate carbon avoided through project material reuse.

TOPICS	REQUIREMENTS FOR ALL TIER 1 CAPITAL PROJECTS
RATING SYSTEM	<p>Achieve LEED Gold certification in the most applicable LEED system in version 4 BD+C (including Residential).</p> <hr/> <p>Earn all required credits for the applicable LEED rating system in the UW LEED scorecard, including one innovation or pilot credit from the preferred list.</p> <hr/> <p>Pilot at least one Fitwel v3 credit that addresses resiliency, ecology, experience of place, health and well-being, or diversity, equity, and inclusion and is appropriate for the project and report on lessons learned.</p>
ECOLOGY	Comply with UW Bird-Friendly Design Guidelines.
HEALTH AND WELL-BEING	<p>New construction projects must include showers and changing facilities.</p> <p>Major renovation projects evaluate options to provide showers and changing facilities.</p>
EQUITY	<p>Provide lactation facilities.</p> <hr/> <p>Follow the UW Gender-Neutral Restrooms policy.</p>

Table 4: UW GBS requirements for Tier 1 projects

Water

- ❑ Meet **indoor water use reduction** minimums per project type:
 - New Construction: At least 25% reduction from the LEED BD+C v4 baseline.
 - Major Renovation: At least 25% reduction from the LEED BD+C v4 baseline unless existing plumbing will not support lower flow. In these cases, evaluate use of 1.6 gpf blowout fixtures to allow use of low flow fixtures.
 - New housing: At least 40% reduction from the LEED BD+C v4 baseline.
 - Projects with process water uses: Option to achieve 30% reduction using the LEED BD+C pilot credit: Whole Project Water Use Reduction, WEpc115, updated March 28, 2023, in lieu of other targets. Full language and a link to the USGBC LEED credit language are provided in Appendix C.

These requirements are meant as a minimum performance threshold. Project teams should explore ways to reduce water use beyond the minimum during project definition, including evaluating non-potable water sources for lab or other process water uses or for equipment that requires once-through water. Use LCCA to analyze viable options and make the case for water use reduction investments, such as potential water and sewer reductions and associated cost savings.

UW LEED NC Scorecard - Required LEED Credits

- Outdoor Water Use – 50% reduction.
- Indoor Water Use – A percent reduction target for the project types as listed above.

UW LEED MFMR Scorecard - Required LEED Credits

- Total Water Use – 40% reduction.

Projects may achieve a 30% reduction using the LEED BD+C pilot credit: Whole Project Water Use Reduction, WEpc115 as an alternative to the Indoor and Outdoor Water Use credits.

The Rainwater Management credit is not required but is encouraged to be pursued on sites where it is achievable and in line with stormwater management plans.

Energy & Climate

- EUI targets(EUI_t):** Design the building to perform better than the *Washington State Clean Buildings Performance Standard (CBPS) EUI_t*, and the *Seattle Building Emissions Performance Standard (BEPS) Greenhouse Gas Intensity (GHGi) target* if the building is in the City of Seattle and not connected to the Seattle campus district energy system.

Use the actual building type and activities as defined in the applicable performance standards, not limited to the building activity type for Education – College/University. For example, laboratory buildings may use the Technology/Science – Laboratory type, UW Medicine facilities should use the applicable Healthcare type, and new housing projects should use either Lodging/residential – Multifamily housing, or Lodging/residential – Residence hall/dormitory depending on the housing type.

Follow the guidance in the Performance Standards to determine the EUI_t, and GHGi target if applicable. For Clean Buildings Performance Standard compliance, all new construction and major renovation of newer buildings that were permitted based on an application permit date of July 1, 2016, or later, also follow section 7.2.1.1 - Additional Target for More Recently Built Buildings. This section reduces the EUI_t by 15%. For major renovations of older buildings, determine the state EUI_t without this reduction. Summarize the calculations used to determine the CBPS and BEPS targets, as applicable, in the project definition.

- During project definition, **set a project-specific EUI_t** and a GHGi target that meets or exceeds the CBPS and BEPS targets as applicable, EUI_t, code requirements, and other applicable University requirements such as achieving LEED Gold or eliminating use of fossil fuels.

UW LEED NC Scorecard - Required LEED Credits

As required by the Fundamental Commissioning prerequisite, the UW will provide an Owner's Project Requirements (OPR) document. The project team must provide a basis of design document including building envelope requirements as applicable for review by the commissioning professionals.

- ❑ Enhanced Commissioning – Option 1, Path 1; and
 - Option 1, Path 2 Monitoring-Based Commissioning where the project location has the infrastructure to support monitoring-based commissioning (such as most projects on the Seattle Campus), and
 - Option 2, Building Enclosure Commissioning for all new construction projects and for major renovations that modify the building envelope.

- ❑ Advanced Energy Metering

As part of the UW's Energy Transformation Strategy and to comply with the CBPS, the University is committed to having all buildings designed with necessary metering and monitoring. Confirm the requirements with UW Facilities or the appropriate department at the project's location for the specific expectations. Where necessary metering and monitoring are already required by the University, projects must earn the Advanced Energy Metering and Monitoring-based Commissioning points.

UW LEED MFMR Scorecard - Required LEED Credits

- ❑ Advanced Utility Tracking
- ❑ Innovation: Enhanced Commissioning

Embodied Carbon:

- ❑ The **maximum** amount of as-designed **embodied carbon in the primary materials** used on a project from use stages A1-A4 is limited to **500 kgCO₂e/m²**.

This limit is derived from the 2017 *Embodied Carbon Benchmarking Study* from the UW Carbon Leadership Forum (CLF)³ that analyzed 1,000 building life cycle assessments. The buildings assessed in this study were typical building types; therefore, this threshold is attained for standard building types but may be unreasonable for unique project types. Where the nature or size of a building may exceed this limit, project teams can apply for an exception⁴.

³ [2017 Embodied Carbon Benchmark Study V1 - Carbon Leadership Forum](#)

⁴ See *Exceptions* section

- Life cycle stages A1-A4 cover the carbon emissions associated with a material's raw material extraction, manufacturing, and transportation, as defined by standard EN 15978.
- Primary materials include the building's foundation, structure, and enclosure, as defined by the Institute for Living Future in v4.0 of the Living Building Challenge.
- The CLF study included projects with structured parking. It is rare that UW projects include structured parking, but if structured parking is planned include those structural materials in the calculation.
- Report potential biogenic carbon but exclude it from the calculation.

During project definition, determine the expected CO₂e/m² using any life cycle assessment software approved by the International Living Future Institute for use on Living Building or Net Zero Carbon projects. Project teams may use the definition for 'primary materials' or 'structure and enclosure' and 'floor area' as defined by the tool selected for modeling.

- In addition to confirming the project will not exceed the maximum, the project team must also **set a project-specific total embodied carbon target**. Consider how the project's total embodied carbon footprint can be reduced by building or material reuse, material quantity reductions, or product alternatives. Identify intentional actions the team will take to reduce the project's embodied carbon.
- LEED/Required calculations:** At the end of the project **report as-built embodied carbon of actual new construction materials** using the EC3 tool and following the LEED pilot credit for Procurement of Low-Carbon Construction Materials (MRpc132).
- Major renovation projects** must also **estimate the embodied carbon impact of the materials required to build a new, similar building** using EC3 and the LEED pilot credit (MRpc132) methodology. Estimate the amount of each material needed to build a similar, code-compliant building today and compare it to the actual carbon footprint of the renovated building to understand the benefits of building reuse.

UW LEED NC Scorecard - Required LEED Credits

- Environmental Product Declarations (EPD)
- Construction & Demolition Waste Management (CDWM)
- Pilot credit for Procurement of Low-Carbon Construction Materials (MRpc132)

UW LEED MFMR Scorecard - Required LEED Credits

- Environmentally Preferable Products

- ❑ Construction Waste Management
- ❑ Pilot credit for Procurement of Low-Carbon Construction Materials (MRpc132)

Rating System

- ❑ **Achieve LEED Gold certification** in the most applicable LEED system in version 4 BD+C (including Residential).

Non-occupied buildings such as power plants, or major civil infrastructure projects may also be required to earn Gold certification using the Envision rating system from the Institute for Sustainable Infrastructure instead of LEED. The UW will identify the applicable rating system or systems for each project in advance. Where multiple LEED rating systems may apply, the project team will evaluate options during project definition.

The UW will register upcoming projects under version 4 for as long as a LEED v4 is open for registration. This allows projects to select the version, either version 4 or version 4.1 of each credit that is most appropriate for the project. Once available, project teams may substitute LEED version 5 rating systems, targeting Gold.

Projects may propose to use alternative rating systems that have equal or better requirements. The following rating systems are considered equal or better than LEED Gold:

- LEED v5 Gold
- Any LEED Gold certification plus LEED Zero Energy, Carbon, Water, or Waste
- LEED Platinum
- International Living Future Institute programs:
 - Core Green Building Standard
 - Petal or full Living Building Challenge certification

- ❑ **Earn all required credits** in the applicable system as noted in the UW LEED scorecard, including one innovation or pilot credit from the preferred list.

The UW LEED scorecard includes scoring for LEED New Construction, Healthcare, Commercial Interiors, and Multifamily Midrise (see Appendix A). The UW may update the list of preferred innovation and pilot credits as new innovation and pilot credits become available (or as the credits are closed by USGBC).

- ❑ **Pilot at least one Fitwel v3 credit** that addresses resiliency, ecology, experience of place, health and well-being, or diversity, equity, and inclusion and is appropriate for the project and report on lessons learned in sustainability reports to UW Facilities. Projects do not need to report to Fitwel or register for full certification.

Ecology

- Comply with the **UW Bird-Friendly Design Guidelines**, prepared by the College of Built Environments with funding from the Campus Sustainability Fund and published in 2024. Specific requirements from these guidelines may be adopted in the UW Facility Design Standard in the future or further updated by the College of Built Environments.

UW LEED NC Scorecard - Required LEED Credits

- Sensitive Land Protection
- Reduced Parking Footprint
- Heat Island Reduction
- Light Pollution Reduction

UW LEED MFMR Scorecard – Required Credits

- Sensitive Land Protection
- Heat Island Reduction
- Nontoxic Pest Control

Health and Well-being

- New construction projects must include **showers and changing facilities**. Major renovation projects should evaluate options to provide showers and changing facilities.

Use the guidelines in the LEED Bicycle Facilities credit to determine the minimum number of showers to include but also evaluate the unique needs and preferences of the building occupants. Major renovation projects must consider how to include at least one shower and, where possible, the quantity required by LEED.

To further support health and well-being and achieving LEED points for selecting healthy materials, consider developing a Healthy Materials Plan for the project. A Healthy Materials Plan is a project-specific plan that identifies material ingredients to be avoided as much as possible on the project and how they will be specified and tracked. The UW can provide examples from past projects.

UW LEED NC Scorecard - Required LEED Credits

- Material Ingredients
- Enhanced Indoor Air Quality (IAQ) Strategies
- Low-Emitting Materials
- Construction IAQ Management Plan
- IAQ Assessment

UW LEED MFMR Scorecard – Required LEED Credits

- Enhanced Ventilation
- Contaminant Control

Equity

- Provide **lactation facilities**. New buildings and major renovation projects should include lactation facilities that support infant feeding, nursing, and pumping of breast milk for building occupants. See [UW Seattle lactation stations](#) for examples of the access and amenities provided at other buildings on the Seattle campus.
- Follow the UW **Gender-Neutral Restroom policy**. This policy applies to UW-owned facilities including new construction, existing, and renovated facilities.

Tier 2 Requirements

Tier 2 projects are partial building renovations and interiors projects that include multiple systems (i.e. HVAC upgrades, plumbing, lighting, and finishes) and may include some envelope improvements..

Tier 2 is broken down into two sub-tiers:

- Tier 2a projects with a discrete, contiguous space that has sufficient scope to be eligible for LEED v4 Commercial Interiors. They may include additions that are integrated into a building, such as expanding the footprint of part of building to increase the size of a space.
- Tier 2b projects do not have scopes that are eligible for LEED v4 Commercial Interiors. They may include space configurations or involve building updates dispersed throughout a building.

Tier 2 projects must meet the following requirements in addition to the requirements for all projects.

Tier 2a Requirements

This table is a high-level summary of requirements. Additional details, definitions, and guidance are provided below and links to all referenced resources are included in Appendix C.

TOPICS	REQUIREMENTS FOR ALL TIER 2a CAPITAL PROJECTS
WATER	At least 25% reduction in annual indoor water use from the LEED ID+C v4 baseline. Alternate for projects with process water uses: 30% reduction using the LEED ID+C v4 Whole Project Water Use pilot credit (WEpc115).
ENERGY & CLIMATE	Implement energy conservation measures that meet or exceed code requirements and other applicable University standards and that support LEED Gold certification. Energy Use Intensity (EUI) targets (EUI _t): For projects that include substantial modification to the mechanical and electrical systems, (as defined under minor renovation in the UW LCCA requirements), design the systems to meet the Washington State Clean Buildings Performance Standard (CBPS) EUI _t for the activities in

TOPICS	REQUIREMENTS FOR ALL TIER 2a CAPITAL PROJECTS
	that space. Projects located in Seattle and not connected to the Seattle campus district energy system must also plan for compliance with the Seattle Building Emissions Performance Standard (BEPS) Greenhouse Gas Intensity (GHGi) target.
EMBODIED CARBON	LEED/Required calculations: Report as-built embodied carbon of actual new construction materials using the EC3 tool and following the LEED pilot credit for Procurement of Low-Carbon Construction Materials (MRpc132).
RATING SYSTEM	<p>Projects with a discrete, contiguous space that has sufficient scope to be eligible under LEED v4 Commercial Interiors are to target LEED Gold.</p> <p>Earn required credits in the UW LEED CI scorecard, including one innovation or pilot credit from the preferred list.</p> <p>Pilot at least one Fitwel v3 credit that addresses resiliency, ecology, experience of place, health and well-being, or diversity, equity, and inclusion and is appropriate for the project and report on lessons learned.</p>
ECOLOGY	Comply with the UW Bird-Friendly Design Guidelines where the project includes alterations to the building envelope.
HEALTH AND WELL-BEING	Evaluate providing showers and changing facilities.
EQUITY	<p>Evaluate providing lactation facilities.</p> <p>Follow the UW Gender-Neutral Restroom policy.</p>

Table 5: UW GBS requirements for Tier 2a projects

Water

- ❑ Meet **indoor water use reduction** minimums:
 - At least 25% reduction from the LEED ID+C v4 baseline.
 - Projects with process water uses: Option to achieve 30% reduction using the LEED ID+C pilot credit: Whole Project Water Use Reduction, WEpc115, updated March 28, 2023, in lieu of other targets. Full language and a link to the USGBC LEED credit language are provided in Appendix C.

Where Tier 2 projects have opportunities to exceed these performance thresholds such as when renovating a lab space with process water uses, use LCCA to analyze viable options and make the case for water use reduction investments, such as potential water and sewer reductions and associated cost savings.

UW LEED CI Scorecard - Required LEED Credits

- ❑ Indoor Water Use Reduction Total Water Use – 25% reduction.

Energy & Climate

- ❑ **Implement energy conservation measures (ECMs)** that support LEED Gold certification and meet or exceed code requirements and other applicable University standards. Use LCCA as a tool to evaluate ECMs and select the best approach for the project.
- ❑ **EUI targets (EUIt):** For projects that include substantial modification to the mechanical and electrical systems, meeting the definition for minor renovation in the UW LCCA requirements, design the systems to meet the *Washington State Clean Buildings Performance Standard (CBPS)* **EUIt** for the activities in that space. Projects located in Seattle and not connected to the Seattle campus district energy system must also plan for compliance with the *Seattle Building Emissions Performance Standard (BEPS)* **Greenhouse Gas Intensity (GHGi) target**. See Tier 1 for more information on meeting these performance standards.

UW LEED CI Scorecard - Required LEED Credits

As required by the Fundamental Commissioning prerequisite, the UW will provide an Owner’s Project Requirements (OPR) document. The project team must provide a basis of design document including building envelope requirements as applicable for review by the commissioning professionals.

- ❑ Enhanced Commissioning – Option 1; and
 - Option 2 Monitoring-Based Commissioning where the project location has the infrastructure to support monitoring-based commissioning (such as most projects on the Seattle Campus), and
- ❑ Advanced Energy Metering

As part of the UW’s Energy Transformation Strategy and to comply with the CBPS, the University is committed to having all buildings designed with necessary metering and monitoring. Confirm the requirements with UW Facilities or the appropriate department at the project’s location for the specific expectations. Where necessary metering and monitoring are already required by

the University, projects must earn the Advanced Energy Metering and Monitoring-based Commissioning points.

Embodied Carbon

- ❑ **LEED/Required calculations:** At the end of the project, **report as-built embodied carbon of actual new construction materials** using the EC3 tool and following the LEED pilot credit for Procurement of Low-Carbon Construction Materials (MRpc132) methodology.

UW LEED CI Scorecard - Required LEED Credits

- ❑ Environmental Product Declarations (EPD)
- ❑ Construction & Demolition Waste Management (CDWM)
- ❑ Pilot credit for Procurement of Low-Carbon Construction Materials (MRpc132) (if there is a structure and envelope component to the project.)

Rating System

- ❑ **Projects with a discrete, contiguous space** that have sufficient scope to be eligible under LEED v4 Commercial Interiors should target LEED Gold for this space.

The UW will work with the project to confirm if it includes a LEED CI eligible space and register the project with USGBC.

- ❑ **Earn** required credits in the UW LEED CI scorecard, including one innovation or pilot credit from the preferred list.

The UW LEED scorecard, including scoring for LEED v4 Commercial Interiors, is a supporting document for this Green Building Standard (see Appendix A). UW Facilities may provide an updated list of preferred innovation and pilot credits as the list may evolve as new innovation and pilot credits become available (or as the credits are closed by USGBC).

- ❑ **Pilot at least one Fitwel v3 credit** that addresses resiliency, ecology, experience of place, health and well-being, or diversity, equity, and inclusion and is appropriate for the project and report on achievements and lessons learned in sustainability reports to UW Facilities. Projects do not need to report to Fitwel or register for full certification.

Ecology

- Comply with the **UW Bird-Friendly Design Guidelines** where the project includes alterations to the building envelope, e.g., in the case of window replacements. These were prepared by the College of Built Environments with funding from the Campus Sustainability Fund and published in 2024. Specific requirements from these guidelines may be adopted in the UW Facility Design Standard in the future or further updated by the College of Built Environments.

Health and Well-being

- Evaluate providing **showers and changing facilities** where the scope of the project includes restroom alterations. Consider how to include at least one shower and, where possible, the quantity required by LEED.

To further support health and well-being and achieving LEED points for selecting healthy materials, consider developing a Healthy Materials Plan for the project. A Healthy Materials Plan is a project-specific plan that identifies materials ingredients to be avoided as much as possible on the project and how they will be specified and tracked. The UW can provide examples from past projects.

UW LEED CI Scorecard - Required LEED Credits

- Material Ingredients
- Enhanced Indoor Air Quality (IAQ) Strategies
- Low-Emitting Materials
- Construction IAQ Management Plan
- IAQ Assessment

Equity

- Evaluate providing **lactation facilities**. Tier 2 projects should evaluate if they can include lactation facilities to support infant feeding, nursing, and pumping of breast milk for building occupants. Reference the Fitwel v3 credit *Shared Space - Lactation Rooms and Stations* for guidelines and develop an appropriate approach for the project. Also see [UW Seattle lactation stations](#) for examples of the access and amenities provided at other buildings on the Seattle campus.
- Follow the UW **Gender-Neutral Restroom policy**. This policy applies to UW-owned facilities including new construction, existing, and renovated facilities.

Tier 2b Requirements

This table is a high-level summary of requirements. Additional details, definitions, and guidance are provided below and links to all referenced resources are included in Appendix C.

Tier 2b projects are not eligible for LEED. However, LEED and Fitwel are referenced in Tier 2b requirements. Projects should refer to LEED guidelines and use USGBC calculators as needed but do not need to submit for third party review.

TOPICS	REQUIREMENTS FOR ALL TIER 2b CAPITAL PROJECTS
ENERGY & CLIMATE	<p>Implement energy conservation measures that meet or exceed code requirements and other applicable University standards.</p> <hr/> <p>Energy Use Intensity (EUI) targets (EUI_t): For projects that include substantial modification to the mechanical and electrical systems, (as defined under minor renovation in the UW LCCA requirements), design the systems to meet the Washington State Clean Buildings Performance Standard (CBPS) EUI(t) for the activities in that space. Projects located in Seattle and not connected to the Seattle campus district energy system must also plan for compliance with the Seattle Building Emissions Performance Standard (BEPS) Greenhouse Gas Intensity (GHGi) target.</p>
RATING SYSTEM	<p>Projects with non-contiguous spaces spread throughout a building, structure, or facility or where there are substantial modifications to the mechanical system are to evaluate LEED v4 Building Operations + Maintenance Gold for the whole building.</p> <hr/> <p>Pilot at least one Fitwel v3 credit that addresses resiliency, ecology, experience of place, health and well-being, or diversity, equity, and inclusion and is appropriate for the project and report on achievements and lessons learned in sustainability reports.</p>
ECOLOGY	<p>Comply with the UW Bird-Friendly Design Guidelines where the project includes alterations to the building envelope.</p>

TOPICS	REQUIREMENTS FOR ALL TIER 2b CAPITAL PROJECTS
HEALTH AND WELL-BEING	Evaluate providing showers and changing facilities.
EQUITY	Evaluate providing lactation facilities. Follow the UW Gender-Neutral Restroom policy.

Table 6: UW GBS requirements for Tier 2b projects

Energy & Climate

- ❑ **Implement energy conservation measures (ECMs)** that meet or exceed code requirements and other applicable University standards. Use LCCA as a tool to evaluate ECMs and select the best approach for the project.
- ❑ **EUI targets (EUIt):** For projects that include substantial modification to the mechanical and electrical systems, meeting the definition for minor renovation in the UW LCCA requirements, design the systems to meet the *Washington State Clean Buildings Performance Standard (CBPS)* **EUIt** for the activities in that space. Projects located in Seattle and not connected to the Seattle campus district energy system must also plan for compliance with the *Seattle Building Emissions Performance Standard (BEPS)* **Greenhouse Gas Intensity (GHGi) target**. See Tier 1 for more information on meeting these performance standards.

Rating System

- ❑ Projects with **non-contiguous spaces** spread throughout a building, structure, or facility or where there are **substantial modifications to the mechanical and electrical systems are to evaluate LEED v4 Building Operations + Maintenance Gold** for the whole building. Substantial modification is defined under Minor Renovation in the UW LCCA Requirements.

This requirement will be facilitated by UW Facilities and coordinated with the project team as needed.

- ❑ **Pilot at least one Fitwel v3 credit** that addresses resiliency, ecology, experience of place, health and well-being, or diversity, equity, and inclusion and is appropriate for the project and report on achievements and lessons learned in sustainability reports to UW Facilities. Projects do not need to report to Fitwel or register for full certification.

Ecology

- ❑ Comply with the **UW Bird-Friendly Design Guidelines** where the project includes alterations to the building envelope, e.g., in the case of window replacements. These were prepared by the College of Built Environments with

funding from the Campus Sustainability Fund and published in 2024. Specific requirements from these guidelines may be adopted in the UW Facility Design Standard in the future or further updated by the College of Built Environments.

Health and Well-being

- ❑ Evaluate providing **showers and changing facilities** where the scope of the project includes restroom alterations. Consider how to include at least one shower and, where possible, the quantity required by LEED.

To further support health and well-being, consider developing a Healthy Materials Plan for the project. A Healthy Materials Plan is a project-specific plan that identifies materials ingredients to be avoided as much as possible on the project and how they will be specified and tracked. The UW can provide examples from past projects.

Equity

- ❑ Evaluate providing **lactation facilities**. Tier 2 projects should evaluate if they can include lactation facilities to support infant feeding, nursing, and pumping of breast milk for building occupants. Reference the Fitwel v3 credit *Shared Space - Lactation Rooms and Stations* for guidelines and develop an appropriate approach for the project. Also see [UW Seattle lactation stations](#) for examples of the access and amenities provided at other buildings on the Seattle campus.
- ❑ Follow the UW **Gender-Neutral Restroom policy**. This policy applies to UW-owned facilities including new construction, existing, and renovated facilities.

Tier 3 Requirements

Tier 3 projects involve upgrading or adding new mechanical, electrical, or plumbing (MEP) equipment or systems that consume or influence consumption of energy or water by the University. It excludes fire/life safety systems and low voltage technology projects and equipment that doesn't directly use energy or water or influence how other equipment uses energy or water. Tier 3 projects also don't include additional project scope like updates to finishes or reconfiguring space. **Tier 3 projects must meet the requirements for 'all projects' (as applicable) and the energy requirements below.** This table is a high-level summary of requirements. Additional details, definitions, and guidance are provided below and links to all referenced resources are included in Appendix C.

TOPICS	REQUIREMENTS FOR ALL TIER 3 CAPITAL PROJECTS
ENERGY & CLIMATE	<p>Implement energy conservation measures (ECMs) that meet or exceed code requirements and other applicable University standards.</p> <hr/> <p>Energy Use Intensity (EUI) Targets (EUI_t): For projects that include substantial modification to the mechanical and electrical systems, meeting the definition for minor renovation in the UW LCCA requirements, design the systems to meet the Washington State Clean Buildings Performance Standard (CBPS) EUI_t for the activities in the affected spaces. Projects located in Seattle and not connected to the Seattle campus district energy system must also plan for compliance with the Seattle Building Emissions Performance Standard (BEPS) Greenhouse Gas Intensity (GHGi) target.</p>

Table 6: UW GBS requirements for Tier 3 projects

The following notes provide information and guidance relevant to implementing the “all projects” and energy requirements on Tier 3 projects.

Water

- ❑ System upgrades involving plumbing should include replacing pipes or other infrastructure that are a barrier to the use of low-flow fixtures.

Energy & Climate

- ❑ **EUI targets (EUI_t):** For projects that include substantial modification to the mechanical and electrical systems, meeting the definition for minor renovation in the UW LCCA requirements, design the systems to meet the *Washington State Clean Buildings Performance Standard (CBPS)* **EUI_t** for the activities in the affected spaces. Projects located in Seattle and not connected to the Seattle campus

district energy system must also plan for compliance with the *Seattle Building Emissions Performance Standard (BEPS)* **Greenhouse Gas Intensity (GHGi) target**. See Tier 1 for more information on meeting these performance standards.

Embodied carbon

- ❑ Embodied carbon reporting requirements are not applicable to Tier 3 projects. Project teams are encouraged to investigate the latest information available on embodied carbon in systems and equipment and consider how to reduce embodied carbon through selection.

Health and Well-being

- ❑ Look for opportunities to include features that support health and well-being, such as providing higher levels of air filtration or adding thermal comfort controls.

Equity

- ❑ Look for opportunities for energy projects to address equity in design, such as getting feedback from Maintenance and Construction on access to systems for repair, or location of controls.

Tier 4 Non-energy Projects

Tier 4 projects are non-energy projects, or minor works involving materials but limited or no systems. Project scope may be distributed throughout a space/building. Examples include a landscaping project, or minor upgrades to finishes. **Tier 4 projects do not have additional requirements beyond those required for all projects.** The following notes include information and guidance relevant to implementing the “all projects” requirements. This table is a high-level summary of requirements. Additional details, definitions, and guidance are provided below and links to all referenced resources are included in Appendix C.

TOPICS	REQUIREMENTS FOR ALL TIER 4 CAPITAL PROJECTS
ALL TOPICS	See the requirements for "All projects" above.

Table 7: UW GBS requirements for Tier 4 projects

Embodied Carbon

- ❑ In addition to selecting low-carbon building materials that don’t exceed the limits in the CLF’s Material Baselines report, consider how to optimize the amount of materials used, choosing a different type of material that has a lower carbon footprint (e.g. mineral wool instead of fiberglass insulation), and how to recycle or reuse left-over materials.

Health and Well-being

- ❑ Look for opportunities to include features and materials that support health and well-being, such as adding lockers to a bathroom even if the project doesn’t include shower additions, signage to improve wayfinding and access to amenities, or selecting finishes with patterns and colors from nature.

Equity

- ❑ Similarly, non-energy projects may present opportunities to add small features to support lactation, such as a lock on a door, or a comfortable chair, and improve access to gender-neutral restrooms simply by changing signage. At the beginning of the project, identify potential opportunities and what the project will do to address equity.

Appendix A: Supporting Documents

The UW Green Building Standard v2 requires the following Supporting Documents in addition to this Green Building Standard document.

Download the latest version of all documents from the UW Sustainability's website at <https://sustainability.uw.edu/campus/buildings/green-building-standard>

- **Green Building Standard Process Map**, which shows required steps to follow when implementing the GBS on a project.
- **UW Life Cycle Cost Analysis (LCCA)** requirements, a separate policy referenced in the UW GBS.
- **UW's Bird-Friendly Design Guidelines**, developed by the College of Built Environments.
- A set of **UW LEED Scorecards** for projects with certification requirements indicating required and preferred credits.

Appendix B: UW Green Building Standard History

The first Green Building Standard (GBS) for the University of Washington was established in 2019 and comprised three straightforward requirements.



Overall Sustainability Rating: LEED Gold certified is the minimum target using the most current LEED standard. Seattle’s Living Building Pilot Program (petals) is an acceptable substitute for LEED. Additional project-program specific certifications (WELL, Fitwel, Passive House, etc.) are also encouraged as a way to improve overall sustainability.



Energy Efficiency: Design to reduce energy use with a minimum threshold of 15% more efficient than the local city code. (Exceptions to meeting the Energy Efficiency target are subject to review and approval by the UW Environmental Stewardship Committee Chair.)



Potable Water: Using current code as a baseline, design to achieve at least 50% reduction for indoor and outdoor potable water use.

Figure 4: UW Green Building Standard version 1

This standard was demonstrated in the Hans Rosling Center for Population Health as a pilot project for the new GBS. Projects that followed the Rosling Center encountered some barriers to achieving all three requirements and many projects received exceptions. In 2022, the University decided to update the standard to one that was more flexible for multiple types of projects and addressed additional sustainability priorities and outside drivers such as state regulation on major institution’s energy use and a growing focus on reducing the carbon footprint across the institution.

The Green Building Standard Committee established a set of goals to drive the update process that fell into two groups: outcome goals and implementation goals.

Goals

Outcome goals

- Result in sustainable buildings and facilities that match the status of UW’s teaching and research.

- Make our buildings part of our pedagogy to empower graduates to go out into the world and implement what they've learned at UW.
- Empower projects to incorporate additional sustainability measures beyond code or typical practices to serve as a model to others.
- Holistically address sustainability including water, energy, biodiversity, experience of place, embodied carbon, health & well-being, and equity.
- Produce measurable results that can be tracked and shared.

Implementation goals

- A clear and simple standard that is implementable and achievable across a wide range of projects.
- Requirements that scale to the size of the project from small projects implemented by Maintenance and Construction to major new buildings managed by the Project Delivery Group (PDG).
- A standard that is fully adopted and supported when establishing funding for projects and to which all projects are accountable.

UW Definition of Sustainability

At the University of Washington, we define sustainability as the capacity to create and maintain healthy, equitable and diverse communities and ecosystems. That capacity comprises 1) an understanding and respect for the interdependence of the atmosphere, the waters, the land, and all life on Earth, 2) a full recognition of legacy and on-going impacts of human activity, and 3) a commitment to cultivate collective wisdom and to deliberately act out of that understanding, respect and recognition.

The Committee also directed that the GBS update work in conjunction with other plans being updated around the same time such as the Sustainability Action Plan, consider the energy transformation strategy the University was undertaking to comply with state regulations on building performance, and University goals to become a carbon-free organization. The Committee's initial work also identified that the University of British Columbia's Green Building Action Plan and the green building requirements embedded in it were an excellent model for the content and structure of an updated UW Green Building Standard.

The update process conducted in 2023 included focus groups with key players on sustainability topics including energy, water, carbon, resiliency, health and well-being, and equity, as well as the University process for initiating, forming, and executing projects, resulting in series of recommendations by topic that were then presented to the GBS committee.

Topic Areas Addressed in this GBS version 2

The updated version of the UW's Green Building Standard is also intended to encompass a broader range of sustainable building topics than the first version. The topics are:

- **Process** – defining an implementation process that supports achieving the Green Building Standard and is required of all projects.
 - **Rating systems** – identifying when certification in the U.S. Green Building Council (USGBC) Leadership in Energy and Environmental Design (LEED) rating system will be required and at what level, whether to require certain LEED credits, and what other rating systems may add value, in what context.
1. **Water** – reducing the use of potable water.
 2. **Energy** – minimizing energy and fossil fuel use, positioning the University to comply with the Washington State Clean Buildings Performance Standard, and support UW efforts to transform the way it uses energy.
 3. **Embodied Carbon** – addressing the present-day impact of the carbon embodied in building materials used for capital projects.
 4. **Climate** – considering how to adapt the way buildings are built and used in a changing climate and how to make facilities more resilient.
 5. **Ecology** – understanding how development of sites and buildings impact the local ecology and species.
 6. **Health and well-being** – recognizing that the built environment is a major determinant of health and well-being of individuals and communities.
 7. **Diversity, equity, and inclusion** – reflecting the University's long-standing commitment to diversity, equity and inclusion on its campuses and the University has a compelling interest in ensuring the University is accessible to all.

What about Materials?

‘Materials and Resources’ is a common category in green building standards and rating systems and these topics are just as important for the UW Green Building Standard. Materials will be addressed in several ways:

- LEED credits, which include construction and demolition waste management, materials transparency and optimization, and low-emitting materials. Construction waste is also managed as part of UW recycling and reusable materials through UW surplus.
- Embodied carbon requirements where the University establishes maximum embodied carbon allowed in building materials and requires submission of Environmental Product Declarations, similar to the Buy Clean, Buy Fair reporting requirements.
- Materials may also be a focus under health and well-being where teams are encouraged to create a healthy materials plan, or as the focus of Fitwel credits projects choose to pilot.

Appendix C: Acronyms, Definitions, and References

Biogenic carbon – the carbon that is stored in biological materials, such as wood, plants, or soil.

Building Performance Standards – building performance standards are energy or emissions targets that existing buildings must meet over time to improve energy efficiency and reduce climate impacts. There are two building performance standards applicable to University of Washington buildings:

1. Washington Clean Buildings Performance Standard (CBPS), which focuses on energy
2. Seattle’s Building Emissions Performance Standard (BEPS), which focuses on greenhouse gas emissions

Carbon footprint – a carbon footprint refers to the total amount of greenhouse gas emissions (such as carbon dioxide, methane, and nitrous oxide) produced directly or indirectly by an individual, organization, product, or activity.

Carbon Leadership Forum (CLF) – a program of the College of Built Environments at the University of Washington accelerates the transformation of the building sector to radically reduce the greenhouse gas emissions attributed to extraction, manufacturing, and transportation of materials (also known as embodied carbon) used in buildings and infrastructure.

Carbon Leadership Forum Material Baselines Report – CLF publishes baseline embodied carbon values for major material categories that have Environmental Product Declarations (EPDs.) The CLF’s Material Baselines Report will be updated every couple of years. The [2023 CLF North American Material Baselines Report](#) is the most current report at time UW GBS v2 was published but projects must adhere to the baseline current at start of design.

District energy system – a system that uses a centrally located facility, or facilities, to generate thermal energy, heat, hot or chilled water, such as the UW Power Plant or West Campus Utility Plant in Seattle or the gas boiler plants at the Bothell and Tacoma campuses.

Diversity, Equity, and Inclusion (DEI) – as a topic in the UW GBS, DEI refers to the ways the University’s built environment can be designed and constructed to support UW DEI commitments. An example is the Gender-Neutral Restroom Policy.

Ecology – as a topic in the UW GBS, Ecology refers to how development of sites and buildings impact the local ecology and species.

Embodied Carbon – (also known as embodied greenhouse gas emissions) pertains to the amount of emissions associated with the entire lifecycle of a product or material. Embodied carbon is usually measured in CO₂ equivalent, meaning the global warming potential of all the greenhouse gas emissions from the product converted to an amount of carbon dioxide with the same global warming potential.

Embodied Carbon Construction Calculator (EC3) – a free and easy-to-use tool that allows benchmarking, assessment, and reductions in embodied carbon, focused on the upfront supply chain emissions of construction materials. [Building Transparency](#)

Energy Conservation Measures (ECMs) – improve the energy efficiency of building infrastructure, including heating/cooling/ventilation systems; construction of walls, roofs, and windows; lighting and equipment, and operational practices.

Energy Use Intensity (EUI) – expresses a building’s energy use as a function of its size or other characteristics in thousands of Btu (British Thermal Unit) per square foot per year.

Energy Use Intensity Target (EUI_t) – expresses a building energy use target for design.

Environmental Product Declaration (EPD) – a statement that the product meets the environmental requirements of ISO 14021–1999, ISO 14025–2006 and EN 15804, or ISO 21930–2007. EPDs are a standardized way of communicating the environmental effects associated with a material’s life cycle.

Envision – a framework developed by the Institute for Sustainable Infrastructure (ISI) that encourages systemic changes in the planning, design, and delivery of sustainable, resilient, and equitable civil infrastructure through education, training, and third-party project verification. [Envision | Sustainable Infrastructure](#)

Fitwel – a certification system focused on healthy buildings. Fitwel was originally created by the U.S. Centers for Disease Control (CDC) and Prevention and U.S. General Services Administration and is operated by the Center for Active Design. [Fitwel](#)

Green Building Standard (GBS) – the UW Green Building Standard ensures project teams have the necessary information to manage all capital projects to achieve the UW sustainability goals, track progress towards those goals and communicate with stakeholders about these efforts. Referenced herein as the Green Building Standard, University of Washington Green Building Standard, GBS, and/or UW GBS.

Green Building Standard Committee – a diverse group of key players from all three campuses who are charged with developing and updating the UW Green Building Standard.

Greenhouse Gas Intensity (GHGi) – a measurement of a covered building's greenhouse gas emissions from its energy use relative to its size. A building's GHGi is the sum of each energy fuel source consumed in one year multiplied by the emissions factor of that fuel, divided by the gross floor area of the building. GHGi is measured as a value of kgCO₂e units per square foot per year (kgCO₂e/SF/yr).

Healthy Materials Plan – a project-specific plan that identifies material ingredients to be avoided as much as possible on the project and how they will be specified and tracked.

International Living Future Institute – the organization that founded and administers the Living Building Challenge and a variety of related building rating systems.

Lactation Facilities – facilities that support infant feeding, nursing, and pumping of breast milk for building occupants. Reference the [Fitwel v3 credit *Shared Space - Lactation Rooms and Stations*](#) for guidelines and develop an appropriate approach for the project. Also see [UW Seattle lactation stations](#) for examples of the access and amenities provided at other buildings on the Seattle campus.

Leadership in Energy and Environmental Design (LEED) – an international standard for the design, construction, and maintenance of environmentally sustainable buildings and infrastructure, run by the U.S. Green Building Council. This is the primary green building rating system used in the State of Washington and the United States. There are several families of LEED ratings systems and different versions:

- **Building Design + Construction (BD+C)** – the group of LEED rating systems for whole buildings. It includes two rating systems relevant to the UW GBS, **New Construction (NC)** – for new construction and major renovations and **Healthcare (HC)** – for hospitals and large medical facilities. LEED for Schools is not routinely used by the University of Washington as it is intended for K-12 schools.
- **Interior Design and Construction (LEED: ID+C)** – the group of LEED rating systems for partial building interior projects.
Commercial Interiors (CI) – for interior spaces dedicated to functions other than retail or hospitality. Tier 2a projects have scopes that meet the Minimum Program Requirements of LEED v4 CI.
- **Operations and Maintenance (LEED: O+M)** – the group of LEED rating systems for certification of operating whole buildings.

- **LEED Homes** – the group of LEED rating systems for certification of residential projects. Relevant to the University of Washington is the **Multi-family Midrise (MFMR)** rating system which is appropriate for dormitories and apartment buildings.

[LEED rating system | U.S. Green Building Council](#)

LEED pilot credits – are intended to facilitate the introduction of new credits to LEED. The process allows projects to test more innovative credits that haven't been through USGBC's complete drafting and balloting process. UW has identified a list of pilot credits that are preferred for University projects.

LEED v5 – the latest version of the LEED green building certification program. It aligns with the Paris Climate Accord's 2030 and 2050 targets and addresses equity, health, ecosystems, and resilience. As of publication of GBS, LEED v5 is in public comment while LEED v4 remains the officially adopted version of LEED. [LEED v5 | U.S. Green Building Council](#)

Life Cycle Cost Analysis (LCCA) – an approach used to assess the total cost of owning or running a system or project. It considers all the costs associated with building or installing a system and operating and maintaining it during its life.

Life Cycle Stages A1-A4 – the carbon emissions associated with a material's raw material extraction, manufacturing, and transportation, as defined by standard EN 15978.

Major Renovation – the definition of major renovation in the Green Building Standard and for LEED is extensive alteration work usually in addition to work on the exterior shell of the building, primary structural components, or the core and peripheral MEP and service systems and/or site work to the extent that the project can meet all the LEED for New Construction prerequisites and enough points to earn certification.

The UW Life Cycle Cost Analysis (LCCA) Requirements have a slightly different, specific definition for major renovation that aligns with the State definition - work on a building, structure, or facility that demolishes the space down to the shell structure and rebuilds it with new interior walls, ceilings, floor coverings, and systems when the work affects 50 percent or more of the affected project square footage and the affected space is greater than 5,000 square feet.

Potable water – refers to safe and drinkable water that meets quality standards for human consumption and is provided by utilities to UW facilities.

Primary Materials – primary materials include the building’s foundation, structure, and enclosure, as defined by the Institute for Living Future in v4.0 of the Living Building Challenge. [International Living Future Institute](#)

Process water – in the context of the UW, process water is all water used for laboratory, medical, or industrial processes, cooling, or other purposes outside of drinking, cooking, bathing, and flushing. In some projects, process water uses may be significantly higher than typical uses and a good opportunity to use water from non-potable sources like rainwater.

Procurement of Low-Carbon Construction Materials (MRpc132) – a LEED pilot credit intended to reduce the embodied carbon of materials used in construction. [Procurement of Low Carbon Construction Materials | U.S. Green Building Council](#)

Seattle Building Emissions Performance Standard (BEPS) – adopted at the end of 2023, establishes greenhouse gas emission targets that existing buildings in Seattle must meet over time to reduce climate impacts. [Seattle Building Emissions Performance Standard | City of Seattle](#)

Stand Alone Addition – an addition to an existing building that is clearly distinct (such as a new wing) and has complete systems of its own, though they may connect to district energy sources directly or via the main building.

U.S. Green Building Council – the U.S. Green Building Council (USGBC) is a nonprofit organization that supports the development of prosperous, healthy, and resilient communities through the transformation of the built environment. USGBC runs the LEED building program and LEED credentialing program.

UW Bird-Friendly Design Guidelines – prepared by the College of Built Environments (CBE) with funding from the Campus Sustainability Fund to reduce bird mortalities related to collisions with transparent glass and reflective materials. CBE will maintain these guidelines. Contacts are Alex Anderson, ata@uw.edu and Chris Meek, cmeek@uw.edu.

UW Project Delivery Group (PDG) – part of UW Facilities, PDG is responsible for the delivery of capital projects that help fulfill the University’s teaching, research, health care and innovation mission, from concept to completion to transition to occupancy. [Project Delivery | UW Facilities](#)

UW Facility Design Standard (FDS) – maintained by UW Facilities and intended for use by design, construction, and maintenance professionals to facilitate the design, construction, and maintenance of University facilities and assets. [UW Facilities Design Standard](#). There are similar or additional standards for the Bothell and Tacoma campuses and departments like UW Medicine or Athletics that may address green building.

UW Gender-Neutral Restroom policy – in accordance with the University’s nondiscrimination policies, these guidelines seek to create an inclusive campus environment for all genders and provide direction on the planning and implementation of gender-neutral facilities in UW buildings. [Gender-Neutral Restroom policy | UW Facilities](#)

UW Stormwater Management Plans – for the latest information on stormwater management on the Seattle and Bothell campuses see: [Stormwater | UW Environmental Health & Safety](#). For the Tacoma campus see: [Stormwater on Campus | Sustainability | University of Washington Tacoma](#)

UW Sustainability – part of UW Facilities, UW Sustainability advances the university’s commitment to sustainability including oversight of the Green Building Standard. [UW Sustainability office](#)

Washington State Clean Buildings Performance Standard – the Clean Buildings bill was signed into law in 2019. It requires existing buildings to comply with energy targets in order to lower costs and pollution from fossil fuel consumption in existing buildings. [Washington State CBPS | Washington State Department of Commerce](#)

WaterSense – WaterSense labeled products meet EPA’s specifications for water efficiency and performance, and are backed by independent, third-party certification. [WaterSense Product Search | EPA](#)

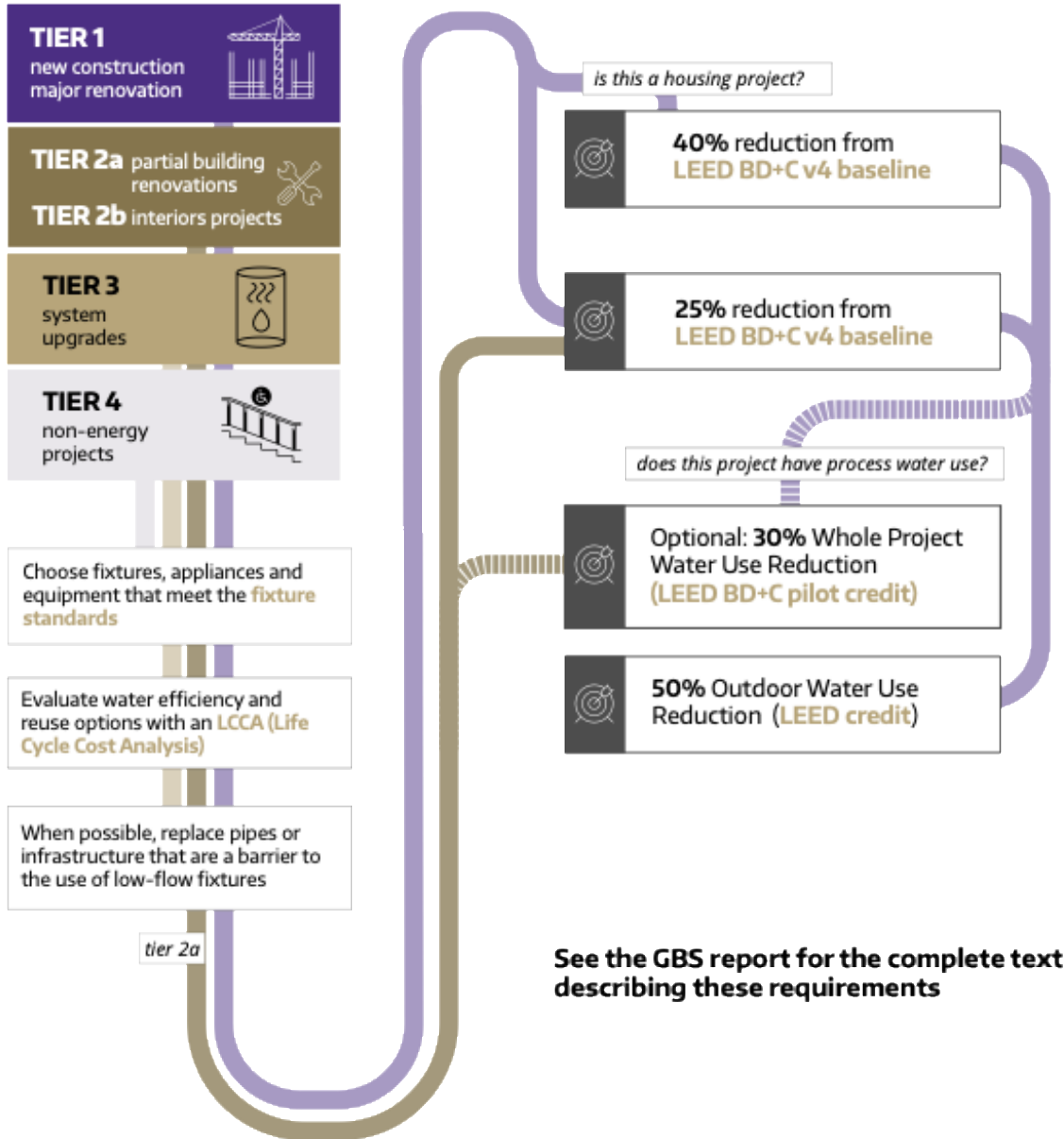
Whole Building Life Cycle Assessment (WBLCA) – an evaluation of the environmental effects of a product from cradle to grave, as defined by ISO 14040–2006 and ISO 14044–2006. Applied in LEED to a project’s structure and enclosure in the [Building Life-Cycle Reduction credit](#) or in the [Interiors life-cycle impact reduction](#).

Whole Project Water Use Reduction pilot credit (WEpc115) – a LEED pilot credit to reduce indoor and outdoor water consumption of the entire project. It allows projects to include potentially significant water savings that are not recognized in the Indoor Water Use credit, such as process water. [Whole Project Water Use Reduction | U.S. Green Building Council](#)

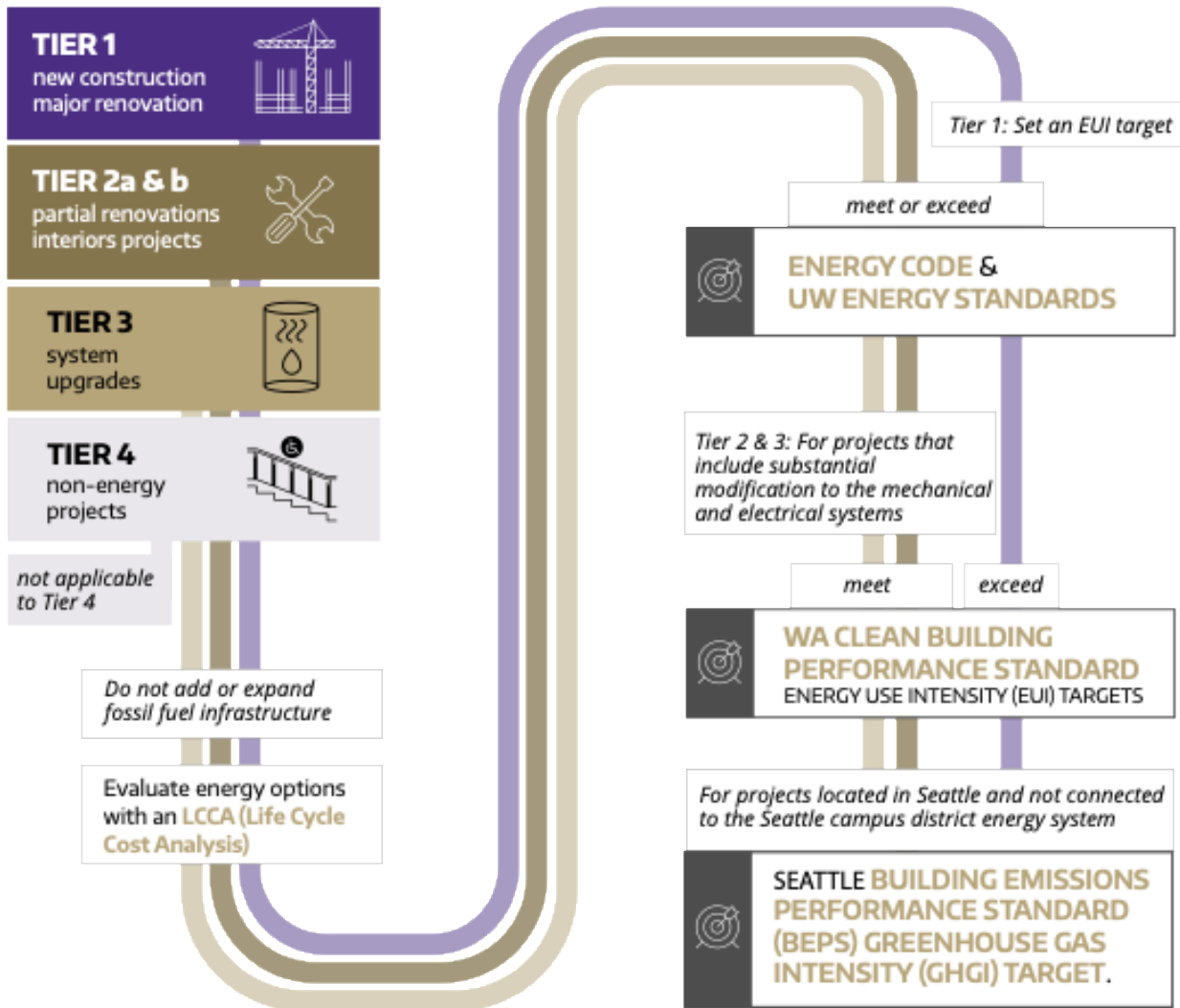
Zero Carbon Handbook – guidance from the International Living Future Institute on implementing the Zero Carbon Certification. The Zero Carbon Certification is used as a reference for the maximum embodied carbon equivalents per square meter limit and carbon calculation guidelines in the UW Green Building Standard. More information here: [Zero Carbon | International Living Future Institute](#)

Appendix D: Quick Reference Guide

QUICK REFERENCE WATER



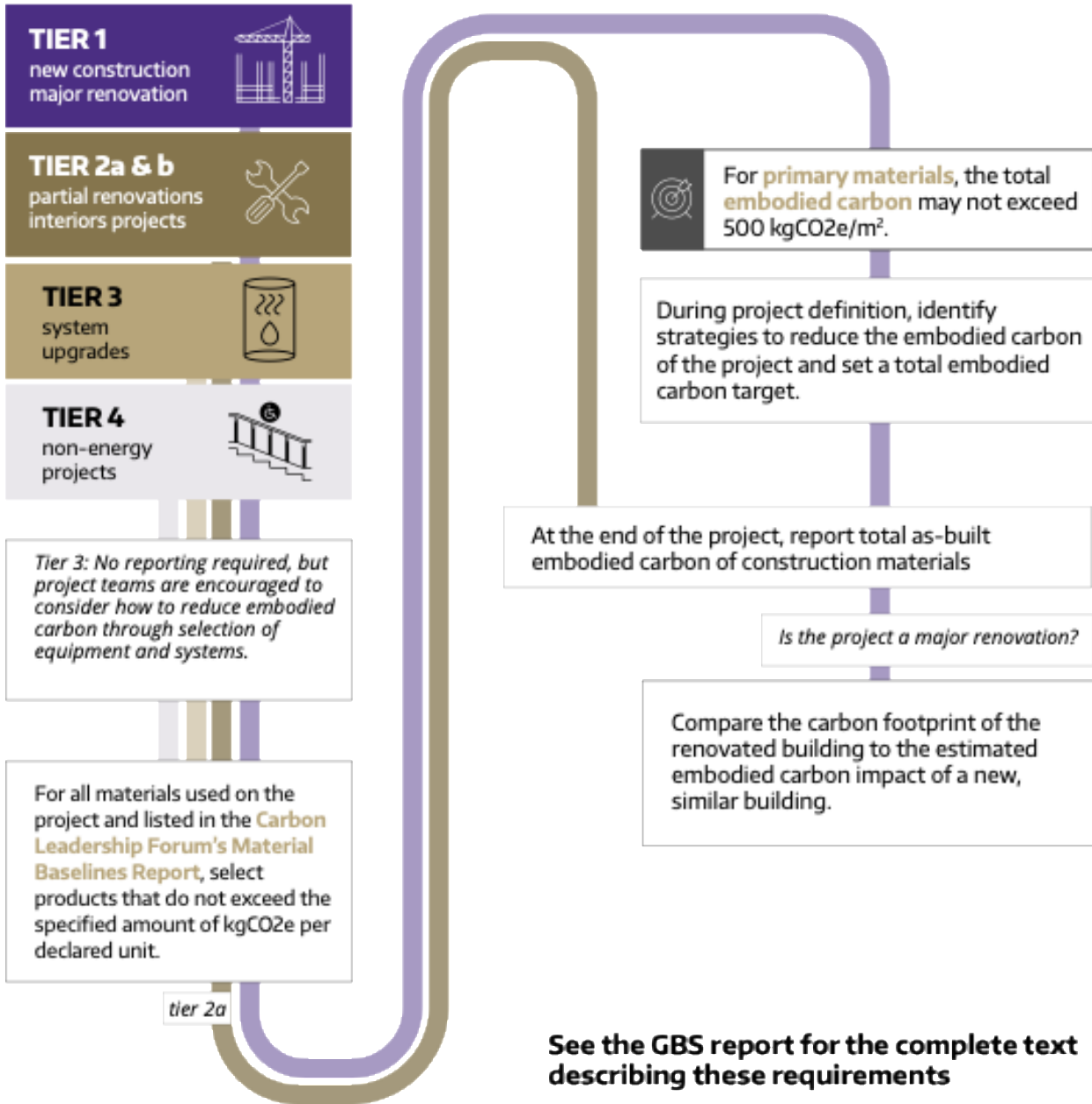
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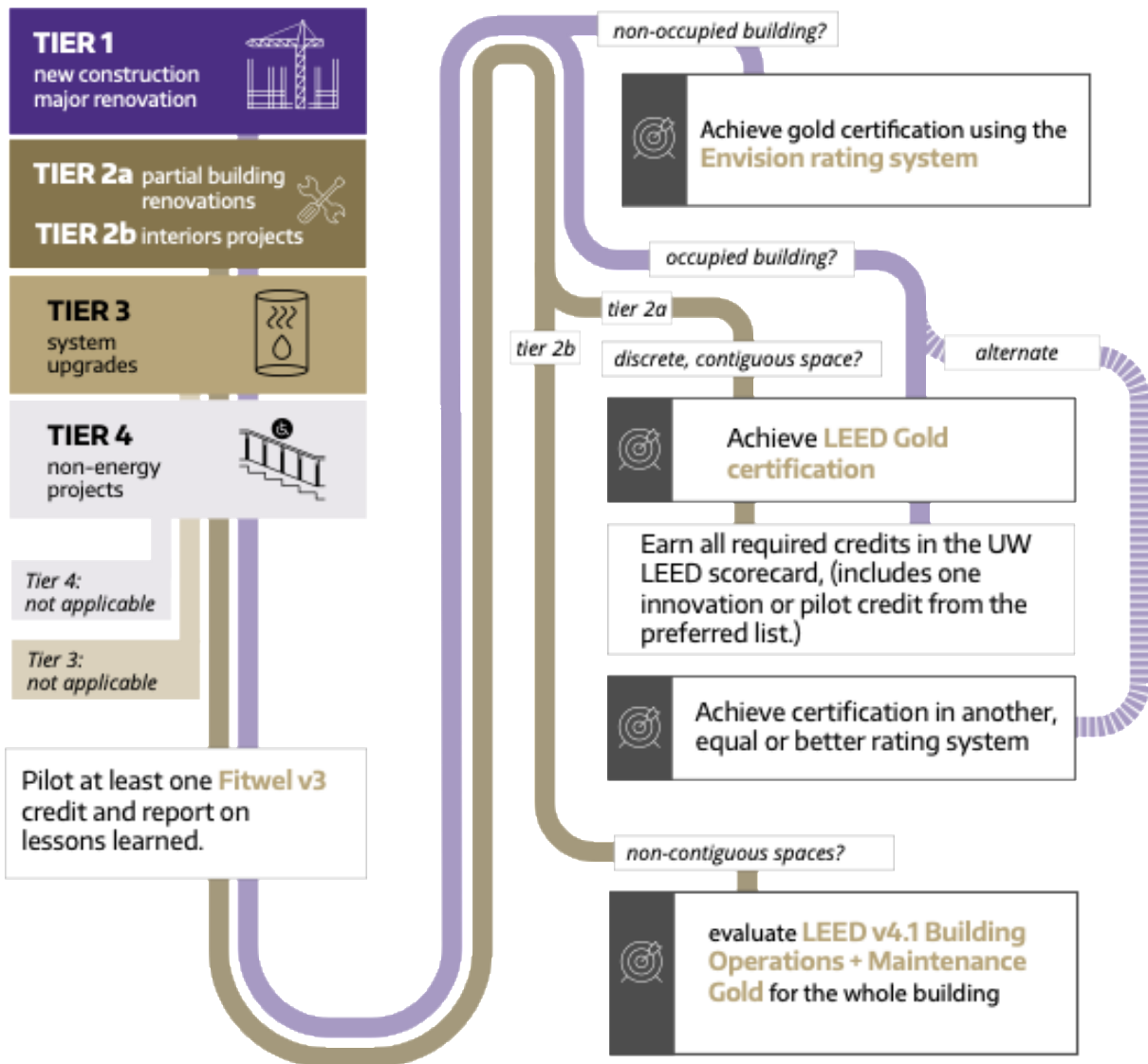
See the GBS report for the complete text describing these requirements

QUICK REFERENCE

EMBODIED CARBON



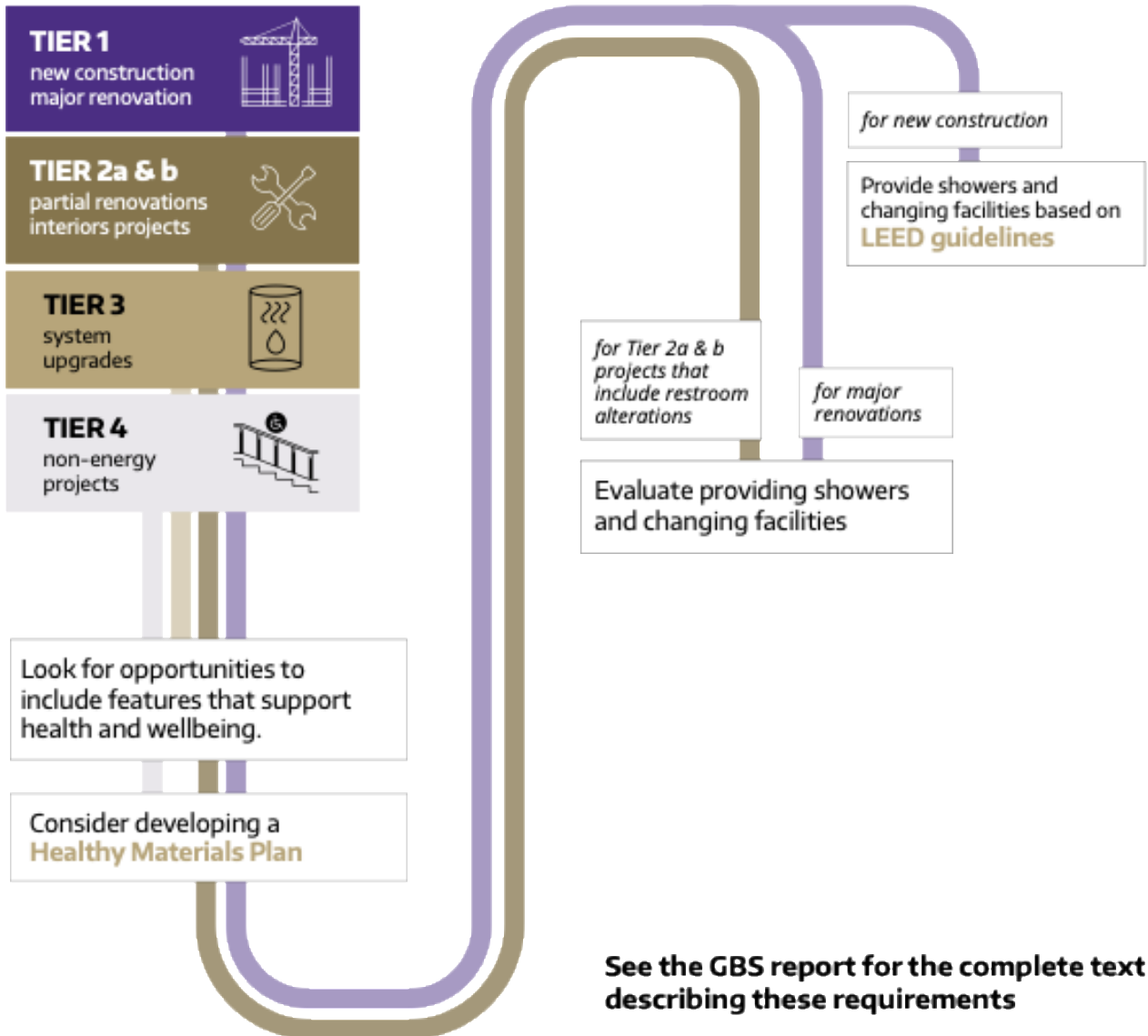
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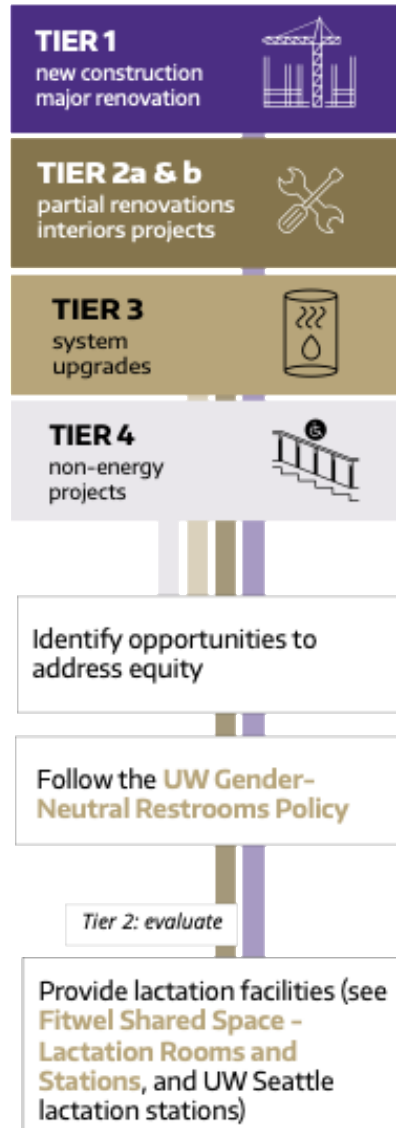
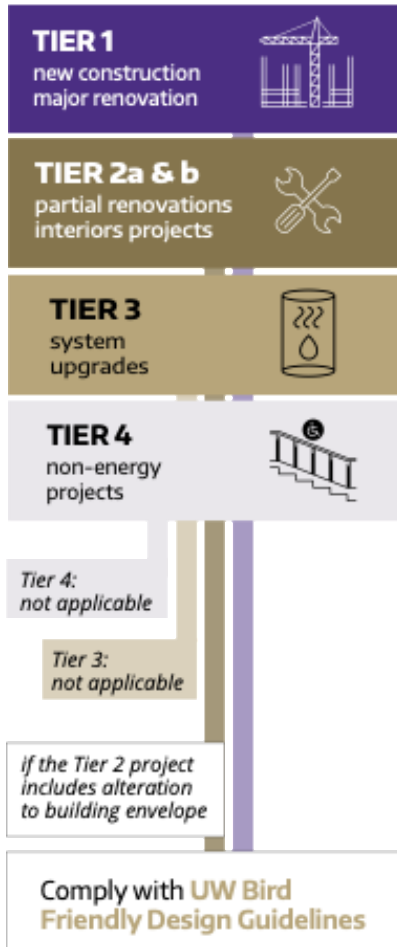
See the GBS report for the complete text describing these requirements

QUICK
REFERENCE

HEALTH & WELL-BEING



QUICK REFERENCE **ECOLOGY** QUICK REFERENCE **EQUITY**



See the GBS report for the complete text describing these requirements