



DESIGN GUIDELINES

WSU - Facilities Services- Capital

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SECTION

1

Introduction

Purpose

Development
Responsibility

Historical Context

Regional Context

Guiding Principles

Resources

PURPOSE

The purpose of this document is to provide direction for the planning, design, and construction for facilities on Washington State University's (WSU) Pullman campus. The guidelines are intended to complement WSU's Design and Construction Standards (DCS), while addressing specific influences of the Pullman campus. Deviations from the DCS and these guidelines can be considered only if they benefit the project and gain approval from the WSU project manager.

It is the consultant's responsibility to comply with these documents and all applicable laws and regulations. Where conflicts arise as a result of these documents, established building codes adopted by the City of Pullman and the State of Washington shall take precedence. Discrepancies shall be brought to the attention of the WSU project manager.

DEVELOPMENT RESPONSIBILITY

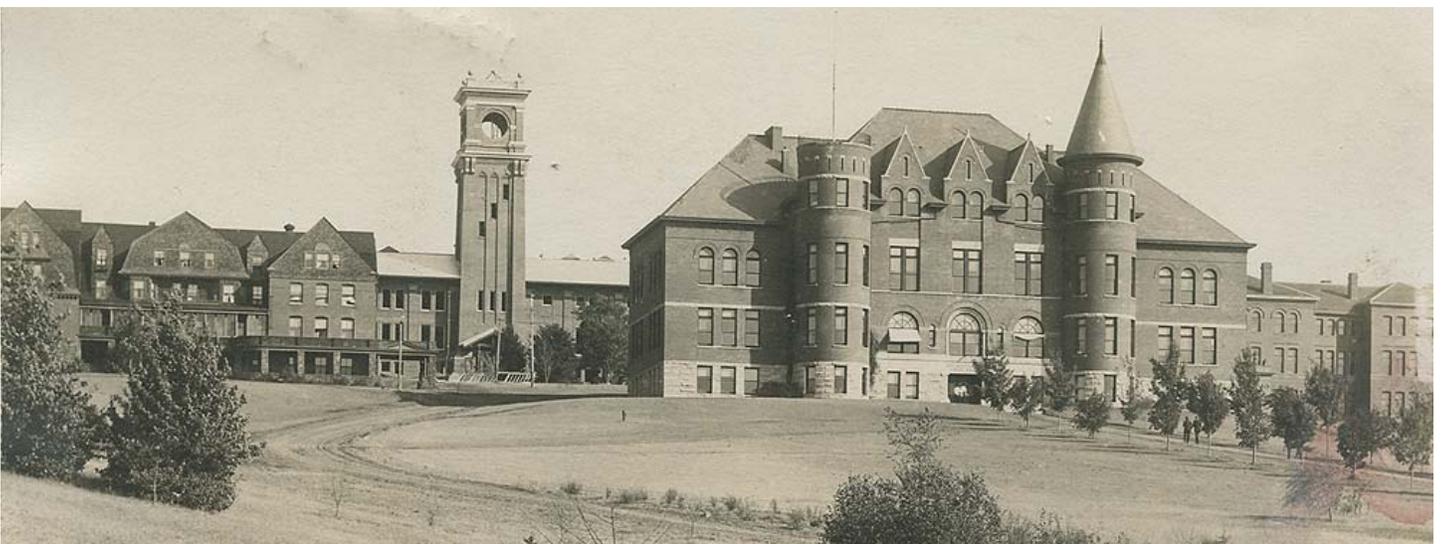
WSU Facilities Services is the organization that plans, designs, constructs, operates and maintains the physical facilities and environments of the University. For each project, a WSU project manager will serve as the main point of contact for the university. The project manager's primary role is to administer the delivery of the project in a fashion that it is supportive of the project's program, the Pullman campus master plan, and the university's mission and strategic plan. During the initial planning stages, the project manager will help establish project requirements, and then facilitate collaboration between WSU stakeholders, the design team, and local jurisdictions to satisfy the requirements of the project.

The City of Pullman is the Authority Having Jurisdiction (AHJ). Pullman's *Planning Department* develops and administers the city's Comprehensive Plan and facilitates the orderly development of the community. With the city's role in on-campus construction projects ARE evolving; the WSU project manager and design team should work closely with the city throughout the project to facilitate the process and build a strong working relationship.

HISTORICAL CONTEXT

In 1890, the first governor of Washington State, Elisha P. Ferry, signed legislation establishing a State Agricultural College and School of Sciences. As the state's land grant institution, its purpose was to provide a practical education that was accessible to agricultural and industrial workers of Washington State. In January 1892, the college formally opened its doors to students in the farming community of Pullman, Washington. The inaugural class consisted of 75 students, and courses were held in a single-story 2,160 SF building which became known as the Crib.

Throughout its history, this institution has grown from a small state college, into a distinguished public research university which remains committed to its land-grant mission. Today, WSU has approximately 30,000 students enrolled in five campuses across the state and online. WSU also provides educational programs and services at research and extension offices in each of the state's 39 counties.



Washington State University circa 1910

REGIONAL CONTEXT

Pullman is a rural town located in the Palouse region of Eastern Washington, and approximately 75 miles south of Spokane, WA. The Palouse is characterized by the agriculture industry and its iconic rolling hills. The region is home to two land grant universities, the University of Idaho in Moscow and Washington State University in Pullman. Located just eight miles apart, the two universities provide a diverse and vibrant collegiate atmosphere.

The city of Pullman is laid out over four major hills – College Hill, Military Hill, Sunnyside Hill, and Pioneer Hill – in an arrangement that forms quadrants around downtown, which is nestled in the valley where the four hills come together. WSU is located on College Hill, overlooking downtown from the east. This adjacency establishes a crucial relationship between the campus and the city of Pullman, infusing the culture and pride of the university into the community. This interaction with the local community is highly valued and is an important element of the campus setting. The future development of the west side of campus should reinforce the connection to downtown.



View of the Palouse, picturing Moscow, ID (left) and Pullman, WA (right) as seen from Kamiak Butte

GUIDING PRINCIPLES

The following principles represent important elements of the university's strategic plan that should be considered in all aspects of design, construction and operation of new facilities and physical environments at WSU:

Superlative research campus

First and foremost, new facilities and physical environments at WSU should reflect the university's ultimate goal of becoming one of the nation's top 25 public research universities and offer a transformative educational experience to students.

Leadership in Sustainability

WSU is committed to providing new facilities that are responsible in the use of natural resources. These projects shall comply with the USGBC LEED rating system as a point of reference, and LEED Silver certification will be the minimum goal for the project. Additional opportunities for LEED compliance will be considered in every aspect of the design and every economical attempt will be made to provide the maximum level of sustainability possible.

Campus Character and Sense of Place

WSU's Pullman campus has a distinct character which is derived from the uniform use of building materials, the consistent pattern of volumes and spaces between them, and from the fairly narrow range of architectural styles. Despite the unifying elements, the imaginative eclecticism of the many designers involved has led to a pleasant diversity in the structures and the open spaces.

RESOURCES

City of Pullman Planning Department

<http://www.pullman-wa.gov/departments/planning>

Washington State Building Code

<https://fortress.wa.gov/es/apps/sbcc/Page.aspx?nid=14>

University Communications

<https://ucomm.wsu.edu/>

WSU Brand

<https://brand.wsu.edu>

WSU Environmental Health and Safety

<https://ehs.wsu.edu>

WSU Transportation Services

<https://transportation.wsu.edu/>

WSU Facilities Services

<http://facilitieservices.wsu.edu>

WSU Waste Management

<https://sustainability.wsu.edu/operations/waste-management/>

WSU Public Safety

<https://police.wsu.edu/>

WSU Design & Construction Standards (DCS)

The WSU Design & Construction Standards (DCS) are critical tools to assist architects, engineers, other design professionals, contractors, and university staff in understanding the desired standards of Washington State University in developing, maintaining, and repairing its facilities. The DCS are Standards, not Specifications. The components within these documents are to be conveyed within the specifications developed by industry professionals for all WSU projects.

Any deviation shall be clearly communicated with the WSU Project Manager, and the legal responsibility for project document preparation shall continue to reside with the Design Professional.

The DCS can be found at <https://facilitieservices.wsu.edu/constructStandard.aspx>

WSU Interior Signage Standards

Can be found on the DCS

WSU Exterior Signage Standards

Can be found on the DCS

WSU Landscape Accessories Standards

Can be found on the DCS





SECTION

2

Site Planning

- Building Siting
- Open Spaces
- Landscape Design
- Site Lighting
- Signage

BUILDING SITING

WSU's sense of place results from the blending of numerous characteristics; topography, architecture, landscape, and a broader geographic context to its host community, Pullman, are all factors that can make building siting a challenge.

Verticality is a significant characteristic of campus that influences site and building design. Although it poses many design challenges, it also provides opportunities for creative design strategies. The terrain allows the campus populace to experience the reality of the Palouse hills, emphasizing the physical connection between the Palouse and students. Pullman's features could be enhanced through careful placement of future buildings so that the views of rolling hills are shown to the best advantage. Also, explore sustainable strategies and opportunities for efficient land use, low-impact development, effective storm-water management, and passive design.

Thoughtful planning should go building siting. At a minimum, the placement of new buildings should promote the university's overall approach to pedestrian oriented development and facilitate interdisciplinary research and collaboration. Study existing campus connections and adjacencies for the opportunity to create new relationships and physical arrangements that shape courtyards, quadrangles, or enhance campus open spaces.



Smith Center for Undergraduate Education, located on a hill

OPEN SPACES

The campus landscape is characterized by a framework of open spaces that blends the urban landscapes of campus with the natural environment of the Palouse. The spaces on campus vary from places of relatively urban character such as Terrell Mall, with hard surfaces and rigidly aligned trees, to informally planted landscapes on the slopes of the hills. This unique blend of landscapes contributes to the character of campus and enhances the sense of place.



Terrell Mall, a formal open space

Formal open spaces are loosely characterized by the urban landscapes of campus. They typically incorporate streetscapes, paths, plazas, courtyards, campus lawns, and feature formal and ornamental plantings. These spaces often serve a variety of uses and generally receive more regular maintenance than informal open spaces.

Informal open spaces are generally characterized by natural features of the Palouse. These spaces include wetlands, streams, forests and grasslands of the Palouse, as well as campus amenities such as playfields, the WSU Arboretum and Wildlife Center, and the Eggert Family Organic Farm.



Martin Stadium, a functional open space

Functional open spaces could be characterized as either urban or rural areas that serve a particular purpose and often restrict access and use. These spaces include areas such as athletic fields, the golf course, and Martin Stadium, as well as agriculture fields and pastures.

LANDSCAPE DESIGN

The overall landscape design for each project should promote a healthy and safe atmosphere on campus. Consideration must be given to the placement of landscape elements and vegetation in order to minimize safety concerns, potential hazards and maintenance requirements

Pedestrian Safety

Pedestrian safety is a significant factor of landscape design. Near constructed pedestrian surfaces, avoid fruiting and cone-bearing plantings as well as species that may develop root systems that will heave, crack or otherwise damage constructed surfaces and create hazards for pedestrians. Designs shall not allow buildup of mud or ice on constructed pedestrian surfaces to ensure unsafe conditions are not created, especially in the winter when daily freeze/thaw cycles can create icy conditions and damage constructed elements.

Consideration must be given to the placement of trees and other vegetation near buildings, as they may obscure a building's entrance and potentially cause maintenance issues. Landscaping shall not hinder area lighting and visibility, provide hiding places or harbor pests. Arrange vegetation in a way that won't inhibit maintenance or emergency access or obstruct building air intakes and exhaust vents. Additional consideration shall be given to visibility requirements at vehicular traffic and pedestrian sight lines.

Planting beds and Irrigation

All turf and planted areas adjacent to major buildings shall be irrigated unless specifically designed to thrive without supplementary watering. To meet the goals and requirements established in WSU's Water System Plan, WSU has implemented a number of actions to reduce the impact of landscaping practices on water usage.

WSU's Water System Plan, establishes specific goals and requirements to reduce the impact of landscaping practices on water usage. Future projects shall explore options that reduce the area of irrigated planting beds to minimize water use. To further reduce water usage and irrigation needs, use native and drought-tolerant plants for new landscaping.



The top of Terrell Library with a variety of plants



Terrell Mall appropriately lined with trees

Tree Policy

Existing trees are a valuable asset to the campus and should be maintained as much as possible. WSU has inventoried the majority of the Pullman campus trees. By request and on a project by project basis, WSU can provide to the LA the location, description, and assessment value for existing trees. This must be requested as part of Inventory and Analysis at the beginning of the preliminary design phase. PM will consult with the WSU Tree Committee before deciding to remove any existing trees as special specimens should be maintained as much as possible. If, at the close of a project, the value of the new landscaping is less than the assessed value of any removed trees, the difference will be transferred from the project budget to the Tree Replacement Fund. While this difference is a cost only to the university, consultants and contractors should be aware the university prefers to keep this cost to a minimum.

Trees must have a minimum distance of 10ft away from utilities.

Turf Areas

On the Pullman, Tri-Cities, and Spokane campuses sod is the preferred method of turf installation. On the Vancouver campus seeding may be preferred. Preferred methods at other locations must be developed in consultation with the PM and WSU professional staff. Refer to the DCS 32 92 00 for seed mixes used for turf lawns and playfields.

Mulch

Mulch for the WSU Pullman campus is a Red Fir, medium course, bark mulch. When placed around trees it needs to be a maximum depth of 2 inches, assuring it is at least ½ inch below grade at walk edges. Keep bark mulch 3 inches away from plant stems [02900, 5. Maintenance Considerations, e. Planting Beds].

Drainage Systems

All foundation drains must drain to the storm drain system. Do not drain to percolation pits, drainage pits, or cisterns as the local soils in Pullman provide poor percolation rates and do not allow for percolation of storm runoff. Do not design for storm water dissipation. As the soils do not percolate, dissipation then comes in the form of evaporation and this process is impractical in the winter months. Refer to [DCS 33 40 00](#) for more information concerning storm drainage utilities and [DCS 33 46 00](#) for more information concerning sub drainage.

Site Grading

The Pullman campus is located near the eastern edge of the Columbia Plateau Geologic Province. The geologic substructure is characterized by a thick zone of basalt, of the Columbia River Group, which is as much as 5,000 to 10,000 feet thick in this area and consists of separate flows and occasional interlayers of sedimentary materials. Blanketing the basalt is a material commonly referred to as the “Palouse Loess”. This soil consists of wind-deposited clay and silt particles and usually classifies as CL or ML in the Unified Soil Classification System. It has a relatively low dry unit weight, is highly sensitive to moisture content changes, and some phases are considered collapsible. Only under extended dry weather conditions can it be successfully reused for compacted structural fill purposes, and only then if measures are taken to thoroughly control and monitor moisture content. The thickness of the Palouse Loess stratum varies throughout the campus from only several feet to 100 feet or more. A geotechnical analysis and a geotechnical baseline report may be necessary for proper evaluation of site characteristics.

On the Pullman campus experience has shown that the native soils are notorious for failing; they will settle under structural loads. They are suitable only for embankment fills and landscaping. All loads should be carefully designed as spread footings are susceptible to movement in the clay. The consultant will note that all slopes cut into native hillsides which are greater than the natural angle of repose are subject to slough and slide, particularly during wet weather. Any embankment cut which exceeds the angle of repose will be subject to additional stabilization requirements such as retaining walls or other acceptable methods. Refer to [DCS 31 00 00](#) for more information concerning earthwork.

Because of the close proximity of classrooms and residence halls, pile hammer noise is detrimental to the campus environment. Consequently, auger cast pile is the preferred method of pile foundation on the Pullman campus. All other methods must be approved by the PM.

SITE LIGHTING

Exterior lighting is to comply with IENSE standards, at a minimum, and priority must be given to safety considerations. WSU must insure adequate levels of light for nighttime activity and safety. If possible, meet the current LEED requirements for light pollution reduction to improve night sky access and reduce development impact on nocturnal environments. In general, exterior lighting cutoff optical systems shall allow no more than 1% up light. Exceeding this rating requires approval from WSU Engineering Services.

New fixtures shall complement nearby light fixtures and the overall character of campus, especially in historic zones. Limit the variety of fixtures types to be specified in new construction and do not specify non-standard or custom-made luminaires or fixtures, unless specifically approved by WSU Engineering Services.

Fixtures shall be designed and installed in locations readily accessible for maintenance and replacement. Exterior lighting along walkways, roadways, and parking lots shall be mounted on precast concrete pole bases. Light fixtures shall not be encased or embedded in concrete (i.e., stair lights, sign lights, etc.). These are very difficult to maintain and replace. Wherever possible, exterior lighting along walkways, roadways, and parking lots shall be mounted on precast concrete pole bases. Minimize use of cast-in-place light poles and fixtures.

Designers shall specify one of the following control methods:

1. Auto on/off using lighting control system astronomical clock control option; Auto on/off using photocell may be necessary and acceptable at a few specific locations.
2. Independent astronomical clock control.

WSU Building Automation System (BAS) shall not be used to control exterior lighting.

SIGNAGE

Exterior and interior signage are both major components of campus branding, wayfinding, and building identification. For exterior signage and construction related signage requirements refer to WSU's [Exterior signage Standards](#); for interior signage requirements, please see WSU's Interior Signage Standards.



Light posts that line Stadium Way need to follow both lighting and signage guidelines





SECTION

3

Circulation

Campus Circulation
Vehicular Circulation
Building Access

CAMPUS CIRCULATION

In the past, the development of campus facilitated the use of vehicles and provided parking within the campus core. As the campus grew, however, the use of vehicles on campus created conflicts and safety concerns for pedestrians. Campus planning efforts now promote a pedestrian friendly environment that relies less on personal vehicles. Limiting vehicular traffic at the campus core and focusing on pedestrian circulation promotes efficient campus movement, encourage health and physical exercise, help decrease traffic congestion, and limit carbon emissions.

Pedestrian circulation is the most common mode of transportation on campus. The academic core provides a 10 minute walking radius to allow students and faculty to make it to their next class within the designated 10 minute passing period. However, with the expansion of campus to the east, new academic buildings fall well outside the ideal 10-minute walking radius. As development continues, campus circulation will require a more organized approach to provide an efficient means of circulation throughout campus.

The Pullman campus strategic plan prioritizes pedestrian travel over other transportation methods. Path location should generally follow the natural “desire line” between destinations, with the recognition that in most cases ninety degree turns are not comfortable and therefore not realistic for pedestrian movement. Landscaping can be used to encourage a certain pedestrian movement, but will not be adequate to force an action that does not approximate the desire line. Major components of the pedestrian system are major pathways, stand-ard pathways, plazas, and building approaches and entrances.

Pathways provide a way to introduce the human scale into the landscape. To maintain a cohesive environment and strengthen the campus sense of place, pathways should be designed to blend with existing paths and follow desire lines to their destinations. At major intersections, especially those in the campus core, consider implementing seating areas, special plantings, lighting, wayfinding elements, and other landscape features.

Ramps and stairs are classified as pedestrian surfaces and therefore must comply with ADA and ANSI A117.1 standards. Do not design elements that form potential trip hazards, such as specifying plants that spread or cause damage to surfaces and require maintenance specifically to prevent such hazards. Exterior stairs and ramps are to have a broom finish to prevent buildups of ice or mud. Snow-melt systems are to be incorporated into all major building entrances.

Major pathways will be the primary desire line between two or more major destinations. Often these paths will lead to the entrances of major buildings; to and from heavily used transportation centers like bus stops, large parking lots, and the parking garage; or be a conduit that provides links to many other paths. Major paths act as the spine of the pedestrian system.

- The width of any particular path is a factor of the amount of traffic it accommodates and the scale of the landscape it intersects. Most pathways should be 10-12 feet wide. In cases where they accommodate an unusually large number of people or multiple transportation types, they can be much wider. In no cases should a major path be less than 8 feet wide for snow removal.
- A walkway might need to double as a fire lane, in which case it should be widened and strengthened appropriately.
- The intersections of pathways, especially those in the campus core, should be emphasized and accommodate seating areas, special plantings, and wayfinding elements.
- Paths should be solid concrete or pavers with edges of a contrasting material. They should be designed to blend with other major campus paths to make a cohesive whole.
- All paths should accommodate the use of alternative wheeled transportation such as bicycles, skateboards, and wheelchairs.
- All paths should be handicapped accessible and should not have stairs. However, if stairs are needed, also include a ramp.
- Trash and recycling bins should be located along paths at regular intervals and at intersections of major paths.

- Paths should be well lit. [See Site Lighting for more information.](#)
- Paths should merge when approaching roads to condense the number of street crossings to a minimum. When paths cross vehicular roads, they should always be at a right angle with an open view of the street.
- If a bus stop is near a pedestrian street crossing, the crossing should be in front of the parked bus if possible.
- Service drives should not be alongside major paths. Similarly, service crossings of major paths should be minimized.
- Emergency phones should be dispersed along major pathways.



The Holland Terrell Mall is a major pathway for students everyday providing students access to the CUB, Todd, and many other major campus buildings

Standard pathways accommodate fewer pedestrians than major pathways. They might connect a major destination with a minor destination or lead to a major pathway or secondary entrance of a building; the campus landscape is currently crisscrossed with standard paths. Projects should strive to reduce the number of paths to clarify the means to reach one's destinations, as well as allow larger areas of landscaping. However, by minimizing the number of paths, it becomes more critical to evaluate the location of each path, maximizing its efficiency to reach the desired destination.

- The preferred width of a standard pathway is 8 feet. In some limited cases where the pathway is not to be plowed in the winter, it can be reduced to a minimum of 4 feet wide. However, it should be assumed that most standard pathways will require plowing by a truck with an 8 foot plow blade.
- Pathways should follow desire lines to their destinations. In cases where the desire line is not appropriate, an alternative route can be built with extensive landscaping features to encourage the use of the alternative route.
- Most pathways will accommodate slower pedestrian speeds than major pathways and the surrounding landscape should accommodate smaller, more intimate scaled features.
- Pathways should be well lit. [See site lighting for more information](#)
- Stairs should be discouraged on pathways unless topography dictates otherwise.
- Pathways should accommodate trash and recycling bins near building entrances.
- Where service drives intersect or parallel standard pathways, the service drive should be integrated into the pathway design while still maintaining adequate space for both functions to co-exist. Service vehicles should never park directly on pathways, but at designated service parking spaces adjacent to standard paths with appropriate landscaping to minimize the negative visual effect to pedestrians.

Railings are to be 2¼ inch pipe that is either galvanized or painted dark tavern green. The preferred paint color and manufacturer are Williamsburg Market Place CW401 – market square dark green, lead-free polyurethane enamel. Acceptable manufacturers are Columbia, Sherwin Williams, United, and Fuller O'Brien. A powder coat is the preferred method of exterior paint application.

Plazas place emphasis on the pedestrian experience, and typically exist in areas of heavy and frequent use, for instance, near main building entrances or at the intersections of major pathways. The design should consider the relationship between the plaza, surrounding buildings, landscape features, and the microclimate, including sun exposure and seasonal conditions.

Landscape elements and plantings can be an effective means to influence pedestrian use, movement, and bring a human scale and intimacy to a plaza. Specify plantings in accordance with the Landscape Design section within this document and WSU Landscape Accessories Standards. The overall design of plazas must consider campus security and promote a safe and welcoming environment.

Pedestrian malls support large volumes of pedestrian traffic and provide spaces for events. Glenn Terrell Mall is located at the heart of campus and extends east to west, connecting several major destinations such as Martin Stadium, the CUB, as well as Holland and Terrell Libraries. It intersects Library Road Mall on the west end, which travels along the north-south axis.

Library Road Mall passes along Owen Science Library and connects residence halls on the north and south sides of campus to the campus core. In 2016, both ends of the Library Road Mall were improved with the construction of two student-oriented buildings – the Chinook Student Services Building on the north end, and the Spark on the south.



Library road provides opportunities for students to walk to their classes or sit for a while

Bicycles are not currently precluded from any area on campus, but they present a potential safety hazard to pedestrians and other bicyclists. As the campus grows, bicycles will continue to provide an efficient method of transportation on campus, but designated routes may require a more organized approach. If applicable to future projects, consider separating bicycle routes from pedestrian routes to improve circulation and safety.

Bicycle racks should be located at the primary entrances of all buildings. Reserve an appropriate amount of space for bike racks to serve the building occupants. Some projects, such as residence halls, may require bike shelters, green bike stations, or storage facilities. Bicycle racks, green bike stations, and bike shelters are OFCI. Coordinate with your WSU project manager and refer to our Landscape Accessories Standards.

VEHICULAR CIRCULATION

Major campus roads are defined as the primary vehicular routes around and through campus. Refer to [WSU's Exterior Signage Standards](#) for details concerning construction and placement of roadway directional signage.

- Major roads should be designed as parkways, with trees and landscaping lining the edges of the road, this is to encourage slower traffic speeds to ensure safe travel for both drivers and pedestrians. While the speed limits of downtown Pullman range from 25 to 35 mph, the campus speed limit is 20 mph.

- Low impact traffic calming methods should be considered along major roads, including varying paving surfaces at important intersections, neck downs at major pedestrian crossings, and road-side landscaping. These traffic calming methods should be balanced by the need for efficient transportation movement, winter snow plowing, and long term maintenance of the road system.
- Accommodations for bike lanes and other alternative transportation methods should be provided either within the road shoulders or immediately adjacent to the road.
- Major roads should be separated from pedestrian paths by curbs and elevation changes.
- Allow for generous sight lines at intersections and crosswalks. Do not install landscaping elements that will obscure sight lines. [See the City of Pullman Design Standards for required set-backs.](#)
- Sidewalks should be provided along the entire length of road on at least one side, and on both sides of the road where possible. [Refer to WSU's Exterior Signage Standards](#) for details concerning construction and location of crosswalk signs.

Minor Roads

Minor roads are those that provide secondary access through campus and are characterized by one-or-two lane widths and an abundance of crosswalks. [Refer to WSU's Exterior Signage Standards for details](#) concerning construction and placement of roadway and pedestrian directional signage, including crosswalk signs.

- Minor roads should be separated from pedestrian paths by curbs and elevation changes.
- Traffic calming methods should be designed at regular intervals along minor roads, including crosswalk tables, varying paving surfaces near high-use pedestrian areas, neck downs, and road-side landscaping. These traffic calming methods should be balanced by the need for efficient transportation movement and other issues such as efficient plowing in the winter and long term maintenance of the university's road system.

Service Access and Waste Management

WSU Waste Management provides recycling and waste collection services for the WSU Pullman campus and university community. Regular recycling and waste collection services are provided to all buildings and public areas on campus and for this reason the service area of each new building needs to be able to accommodate two service vehicles as well as space for Waste Management vehicles to maneuver in and out. Frontload trucks and containers are typically used for waste collection. They require the following clearances.

Clearances: 20' wide, and 13'-6" overhead

Turning radius: 37' interior, 57' exterior

To prevent damage to buildings when clearances are restrictive, it is recommended to locate waste receptacles away from the building structure, rather than incorporating them into the loading dock. If adjacencies allow, consider grouping waste collection with neighboring buildings to increase efficiency of waste collection services. Coordinate required equipment with your WSU project manager and WSU Waste Management.

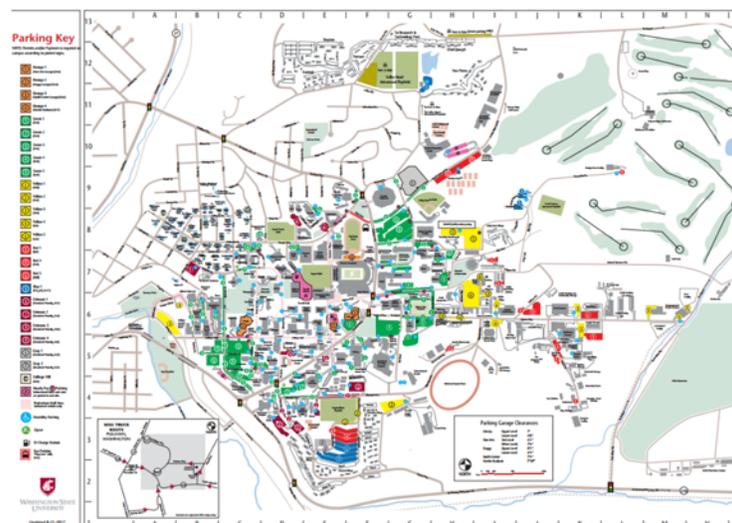
The service area for a new building should be located away from the main entrance. They must incorporate a loading dock or loading zone that accommodates at least two service vehicles at a time, unless otherwise noted. Loading docks should be accessible via ramp or leveling device and be sheltered from the weather. Equipment and services for each building may vary depending on the functions within the building.

Whenever possible, separate service routes from pedestrian and bicycle routes to minimize conflicts with pedestrians and automobile traffic. Where service drives intersect or parallel pathways, the service drive should be integrated into the design with sufficient space for both functions to co-exist. Consider utilizing existing service routes and grouping service areas near those of neighboring buildings.

Parking

Lot design should allow efficient snowplowing methods and provide locations to store snow. Entryways and vehicular circulation should be easily accessed with safe viewing angles for oncoming traffic, and clear signage should occur at each main entrance. Pedestrian access to and from lots should be carefully considered. Coordinate with the WSU project manager and WSU Transportation Services to determine specific project requirements, however new parking should follow these general standards.

- All ADA and visitor spaces should be adjacent to the main building entry.
- Provide setbacks in lieu of wheel stops in parking areas adjacent to lawns and sidewalks to assist with lawn mowing as wheel stops tend to hamper snow removal.
- The layout of surface parking lots should allow efficient snowplowing methods and provide locations to store snow.
- Whenever possible, lots should be double-loaded to help with ingress and egress traffic and cut reduce wait times.
- Where parking lots border major sidewalks or campus roads, the edges of lots should be landscaped to provide a buffer zone and vegetative screening.
- Lot interiors should not include plantings, medians or islands as these elements create some hardship for snow removal efforts and cut down on lot efficiency.
- Lots should be appropriately lit to increase safety. Lights should be directional to minimize glare and light pollution.
- Concrete curb should be installed along the edge of all lots associated with the campus core.
- Major parking lots along the campus periphery should have a convenient bus stop nearby.
- Entryways and vehicular circulation should be easily accessed with safe viewing angles for oncoming traffic, and clear signage should occur at each main entrance.
- Lots should have the appropriate number of service and handicapped spaces to accommodate the surrounding buildings.
- Pedestrian access to and from lots should be carefully considered to minimize vehicular-pedestrian conflicts.
- Consider using natural drainage systems, where safe, or porous surfaces to provide runoff infiltration.
- Reduce roadside parking. Instead incorporate drop off zones when possible.



The current map of parking on the Pullman Campus

If a project requires the use or elimination of a parking lot, before it can be turned over for the start of a construction project WSU Transportation Services requires 6 weeks advance notice to notify permit holders, establish detour routes, and make necessary adjustments to striping, signage, parking equipment, ADA parking, and other miscellaneous tasks. If no advance notice is given, parking lots will not be turned over to a contractor during the following periods:

First two weeks of the Fall or Spring semester.

Last two weeks of the Fall or Spring semester.

The first day after Thanksgiving, Winter, Spring breaks.

Crosswalks and Curbs

All crosswalk signs must be equipped with visual, tactile, and auditory street crossing indicators. The sign itself must contain an image of a person walking as well as a raised directional arrow indicating which way a person pressing the crossing button is to walk. The sign must also contain braille lettering above the crossing button that informs visually impaired users which street will be crossed when the walk signal becomes active. The crosswalk signal must contain a speaker that alerts visually impaired users the walk sign has become active and also states the name of the street he or she will be crossing. Tactile ground tiles can also be used within the crosswalk area as another aid for the visually impaired.

Curb cuts should be placed as close to the ends of a crosswalk as possible so mobility challenged pedestrians can easily transition from the crosswalk to the sidewalk. Curb cuts are not to impede the use of snowplow jeeps on sidewalks and therefore need to slope until they are either flush with the street edge or fan out to create an apron that is flush with the street edge. Where vehicle access is necessary, curbs must be rolled.

VEHICULAR TRANSPORTATION OPTIONS AVAILABLE TO STUDENTS

As the campus expands and establishes an environment that relies less on personal vehicles, alternative transportation options will become increasingly important components of campus circulation. Coordinate with your WSU project manager to determine if your project will require accommodations for either of the following:

Pullman Transit

Pullman transit provides public transportation for commuters to and from campus, as an on-campus shuttle to travel between two campus destinations. As the campus expands to the east, and parking is being moved from the center of campus, public transportation will become a greater component of campus circulation.

For projects that require a bus stop, specific locations of on-campus bus stops and shelters are to be coordinated with the WSU project manager and Pullman Transit. When space permits, incorporate a bus pull-off so stops don't impede traffic flow; for stops that serve multiple routes consider providing room for two busses to prevent backups. When on-campus bus stops should include a shelter [refer to DCS for information regarding bus shelters](#).



Pullman Transit provides easy transportation around campus and the city of Pullman

Car-sharing program

WSU has partnered with a car sharing company to serve the Pullman campus. The program allows students to check out a car for a period of time, and provides a sustainable alternative transportation solution that reduces demand for on-campus parking and alleviates traffic congestion. With WSU focusing on pedestrian friendly environments, this service will become an increasingly important campus amenity. WSU currently has car-share stations located near several residence halls. New campus projects may require additional locations.

Coug Bikes

WSU offers more alternative methods of transportation for students with their bike share program. Coug Bikes provides bike rack locations at the Chinook, CUB, Global Scholars, Goertzen Hall, Honors College, Ruby Street Park, Southside, SRC, Stadium Way, Valley Road and Vogel Hall. Each location is stocked with bikes that you can check out, and return later at any bike rack location.



THE COUG BIKE RACK LOCATION AT THE SRC

BUILDING ACCESS

On campus buildings must accommodate a broad range of service, delivery, and emergency vehicles. For the university to function properly, it is important to provide adequate access for all users of the building.

WSU aims to provide a barrier-free campus, and therefore has made a commitment to accessibility. All construction must comply with accessibility laws outlined under WAC 162-38-070 Accessibility. New projects should incorporate a plan that provides accessible parking and accessible paths in a manner that complements topography of the site. To promote accessibility, stairs are discouraged on pathways unless topography dictates otherwise. Renovations of historic buildings should seek to improve accessibility in a manner which maintains the building's historic integrity.

Approaches and Entrances

Public entrances to buildings should be easily identified, accessed and be a welcoming feature on the campus.

- Appropriately-scaled landscaping should frame the building and lead to the entrance doors.
- Buildings should have at least one handicapped accessible entrance, ideally the main entrance, which provides push button door operators and easy access to the elevator.
- Building signs should be located near the main entrance of the building in view of the closest major walkway. Refer to [WSU's Signage Standards](#) for details concerning construction and locating of building signage.
 - Small landscaped areas should be located near the building entrance to serve the building occupants during lunch breaks, between classes, etc. These areas should be relatively intimate in scale and frame views out of the space.

- Service entrances should not be located in view of the main entrances, but also should not be difficult to access for deliveries.
- Bike racks should be provided near the primary building entrances, with more for larger buildings accommodating greater numbers of people. Bike racks could be located at several entrances of larger buildings. While bike racks are an owner-furnished, contractor installed (OFCI) element, [refer to the bike rack standard for dimensions of bike racks](#) so an appropriate amount of space can be reserved for them. The shelter standard can be consulted for details concerning construction of bike rack shelters, should they be required.
- Outdoor transition space should be designed between the building approach and indoor lobbies. This transition space should include materials that relate to the materials used in the building interior or on the exterior walls. This space should also provide some protection from rain, sun, and wind and include a walk-off mat on both sides of entry doors.
- All entrances and new stairs require a snowmelt system. [See snow melt and winter snow removal section for more information.](#)
- A walk off system must be at each main entrance into a building, for more information on the walk off system please see *Interior Design context* in section 4.

Emergency Access

In order to easily identify buildings the building's street address must be viewable from the street. Knox-Box, fire hydrants, fire department connections, and post indicator valve locations will be governed by the NFPA and may affect emergency access routes. Coordinate with the Pullman Fire Department (PFD), local law enforcement, and WSU Public Safety.

The drive lane for building access must be suitable for Pullman Fire Department's largest piece of equipment, their ladder truck. The following radiuses and clearances are required at a minimum for a PFD Ladder Truck:

Clearances: 20' wide, and 13'-6" overhead

Turning radius: 37' interior, 57' exterior

Snowmelt and Winter Snow Removal

Winter weather can have a huge impact on campus circulation and building access. To promote safety and maintain access to campus facilities during winter weather, Facilities Services has established a Snow Removal Policy, which can be found on the Facilities Services – Operations website. For new projects, coordinate with the WSU project manager and Facilities Services - Operations to establish a Snow Removal Plan that considers safety and explores the following:

Snowmelt systems are required at primary building entrances and ADA entrances from the closest parking to the building entrance to ensure continual building access and safer walking surfaces. If stairs or ramps are necessary to access the building, snowmelt must be incorporated into at least one continuous run that must be at least 4feet wide. Additional snowmelt may also be required in areas where it is difficult to maneuver equipment or manually remove snow. Coordinate requirements with the WSU Project Manager.

Design hydronic snowmelt systems to utilize the university's steam system; electric snowmelt may only be used where steam and gas are unavailable. Proper drainage should be incorporated into areas of snowmelt. Runoff from snowmelt shall be directed to nearby landscape bedding or the storm drainage system to prevent surface flows from creating icy conditions on pedestrian surfaces.

Snow removal routes, ease of snow maintenance, and equipment clearances need to be considered during site design. If spaces are restrictive, obtain equipment clearances and turning radiuses from Facilities Services to ensure the area is accessible.

Snow storage may be required in designated areas during heavy snowfall in order to keep roads and walkways clear and safe for travel. If required, snow storage areas should be thoughtfully incorporated into the landscape design. Hardy plantings are preferred to minimize

damage to the landscape during storage; avoid lawns in designated snow storage areas. Consider the potential impacts to site drainage and surface flows caused by runoff from melting snow.



A clear sidewalk after it has snowed is important for students safety





SECTION

4

Building Planning

Exterior Design Context
Interior Design Context

EXTERIOR DESIGN CONTEXT

Few could deny that the historic campus core has a unique character reflecting its architectural evolution. Many of the historic buildings reflect the various revivalist styles of architecture. Whether they could be described as Georgian or Classical revival, they have a common origin and conform to a restrained sense of classism. Some buildings within the historic core are highly eclectic and combine several styles giving them character and identity of their own; nevertheless, their use of materials, vertically proportioned windows, architectural scale, and underlying symmetry link them stylistically to the other buildings. For the facades of new buildings it is important that each building has character and identity of its own, while acknowledging the significance of its neighbors.

Scale

Architectural scale is an important element that helps to unify the campus. The majority of campus buildings are four stories high, but some structures add an important element of variety. For example College and Van Doren Halls are smaller structures and help contribute to the human scale. Bryan Hall's Clock Tower, on the other hand, acts as a fine vertical feature which has become an icon for the entire community.

In many of WSU's historic buildings, the tripartite elevation was a common design element which further express the human scale. Buildings often feature stone and detailed brick patterns on the lower floors, and more refined brick patterns and vertical elements on the upper floors, which were capped by large cornices and overhanging eaves at the top. The tripartite division is further emphasized by the stone horizontal stringcourse.

Fenestrations and Glazing

Rigidly aligned and vertically proportioned windows found in Georgian architecture became a common campus design element that is prominent in many older buildings, and it still influences fenestration on newer campus buildings.

The design for new buildings can utilize fenestration and glazing as an architectural element, but must consider passive design strategies and energy code requirements. The implementation of fenestration is not to detract from the character of campus. *Refer to DCS 08 80 00 for glazing requirements*

Cladding

The use of red brick and basalt on campus is a historical precedent dating back to the first college buildings. This tradition was started because brick factories were conveniently located in the Palouse communities. These buildings were constructed on foundation walls, plinths constructed with basalt, and the facades using bricks that were made from clay found on College Hill. The builders of later structures respected the precedent that had been established on campus and chose masonry with sensitivity, beginning a tradition of red brick buildings that is still being used today.



Brick being used on one of the oldest buildings on campus and a newer building

WSU has established three brick blends. It will be desirable to select the blend which is most similar to a projects adjacent buildings. Refer to the appendix to see approved brick pallets and discuss with your WSU project manager before selecting a brick blend. Architectural elements and additional

materials such as concrete, metal, and glazing should be incorporated into the façade in a manner that evokes the traditional materials and elements of the historical campus architecture and maintain a strong link to the fabric of the historic campus core.

Brick may not be used for copings on exterior walls. When stone is used for copings or where it abuts brick, use silicone in joints to allow for unequal expansion. Provide for control joints and expansion joints in masonry copings. If masonry abuts concrete on exposed surfaces, be sure that adequate anchorage is provided or properly sealed expansion joints are used. Joints are to be of silicone over a foam backing rod. [See the appendix for the brick blends used on each campus.](#)

Roofing

Roofs are either pitched with broadly overhanging eaves, or flat with wide cornices to provide a termination at the top of brick facades. The projections of eaves and cornices are another design element that provides a unifying effect.

For new construction, a flat roof system with membrane roofing is preferred. If equipment is to be placed on the roof, a 42 inch parapet is required to eliminate the need for fall restraints during maintenance. Penthouses for equipment is preferred.

INTERIOR DESIGN CONTEXT

When selecting interior finishes for academic buildings, consider characteristics such as durability, visual appearance, cost, and ease of maintenance. The following information is provided to assist designers in understanding the general requirements for interior spaces. This information should not be used for programming or the evaluation of the users' needs.

Entrance Lobbies

Entrances are transitional spaces between the outdoor environment and the interior of a building. Entrance lobbies have a high level of visibility and public use, and as a result, they become a focal point of the building and warrant a higher degree of visual detail and finish.

Entry Walk Off System

To help reduce water, mud, and debris from being tracked into the building, a walk-off system must be integrated into each primary entrance. Each walk-off system must be permanently placed in the entryway, and must stretch at least 10 feet, and meet the LEED requirement for entryway systems. WSU currently uses a three-part walk-off system that includes the following materials;

Outside the entrance of a building:

Covered exterior:

MFG: Arden Architectural

Style: Rugged Scrub

Color: Charcoal

Uncovered exterior:

MFG: Grating Pacific

Style: Welded Serrated Grating

Color: Stainless

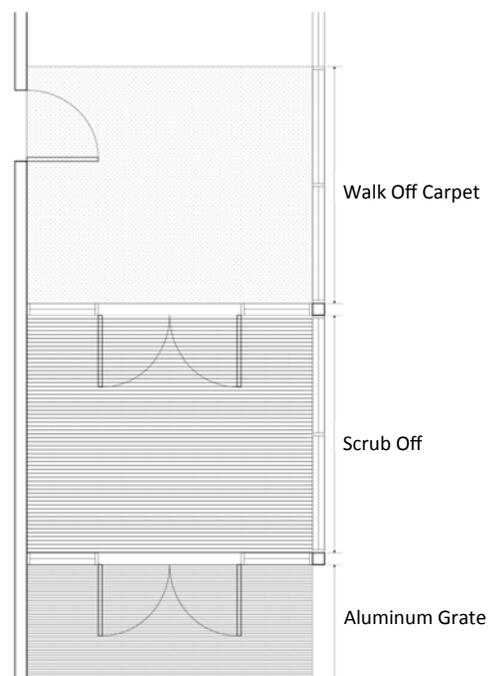
Vestibule:

MFG: Arden Architectural

Style: Rugged Scrub

Color: Charcoal

Interior walk off system: Walk off carpet tile



chambers, and multipurpose meeting rooms. These shared spaces are a place for collaboration between scientists, graduate/undergraduate students, and faculty when they perform research projects and discuss their approach, methods and results. Refer to the project's RFP for specific lab requirements

Offices & conference rooms

Space allocations will be based on functional program requirements to support the activities and operating requirements for equipment, storage, meeting space and confidentiality associated with this office or workstation. The average area allowances listed below are intended to be used as guidelines for space allocation.

General area allowances:

Private offices:

Dean and Executive Offices	225 sq. ft.
Department heads and Director Offices	175 sq. ft.
Faculty offices	140 sq. ft.
Staff offices	120 sq. ft.

Open office areas:

Staff workstations	100 sq. ft.
Graduate Student cubicles	60 sq. ft.

Standard elements required in all offices:

- Standard adjustable shelving, 3 sets, 3 shelves high, 48" wide x 10" deep (with ends) on brackets & 8' ht. Standards, mounted directly above 4" base (see shelving details).
- Heavy duty "Mecho" type roller shades
- Operable sash exterior window, sill ht. To be 3'-0" max. Above floor.
- 4' w. X 3' ht., 1/2 tack board, 1/2 dry-erase board or as specified by user. Location to be determined at time of installation.
- Full ht. Relite next to door where possible (frosted or textured glass to be determined)
- 3' x 7' solid core wood door in metal frame
- 2 coat hooks on back of door, 1 @54" ht. And 1 @ 66" ht.
- Provide a 20" minimum space behind door {for file cabinet}
- 4 plex receptacle 2'-2" min. - 3' max. From exterior wall, 18" ht.
- Telephone/data outlet 2'-2" min. - 3' max from exterior wall, 18" ht.
- Duplex receptacle, 18" ht.
- Thermostat, locate on wall opposite shelving, 54" from interior corner. Fin tube radiation, build into wall below window sill where possible.
- Fin Tube Radiation, build into wall below sill where possible
- If there is a reight on the latch side of the door, the office sign needs to go on the hinge side of the door, on the wall.

For diagrams refer to the appendix.

Restrooms

Restrooms should be located in convenient and easy to find locations on an accessible route in a public area that is available to all users. For ease of maintenance and custodial services, wall hung water closets with an accessible plumbing chase are preferred. Each restroom should have a hose bib and floor drains to aid custodial services.

Toilet compartments shall be floor mounted with overhead bracing. Panels, doors, screens and pilasters shall be fabricated from high density polyethylene (HDPE) or solid reinforced composite containing a minimum of 50% recycled material. Refer to [DCS 10 21 13](#) for more information concerning acceptable partition materials and construction.

Single-Occupancy Restrooms

The construction of single- occupancy ADA accessible restrooms shall be included in building's design and major renovations. One single-occupancy restrooms per wing or floor when applicable. Single occupancy restrooms are facilities with a toilet and sink with mirror which have a user operated door hardware that includes an occupancy indicator to ensure privacy.

Required:

- Located on an accessible route.
- ADA accessible with a 5' turning radius.
- Sink with mirror
- Paper towel, soap dispenser and waste receptacle
- Include menstrual product dispenser and disposal if square footage and wall space allows
- Baby changing station if square footage and wall space allows
- Coat hook
- Exterior signage to indicate the room as "Restroom", the toilet pictogram and International Symbol of Accessibility. Signage must comply with the WSU Interior Signage Standards.

Multi-Stall All-Gender Restrooms

New Capital and major renovations projects should incorporate a multi-stall gender inclusive restroom.

Required:

- Located on an accessible route
- ADA accessible with a 5' turning radius
- (2) or more toilet stalls that include user operated door hardware with occupancy indicator
- (1) or more sinks with mirror, paper towel, soap and trash receptacle
- Include menstrual product dispenser and disposal
- Baby changing station
- Coat hook
- Adequate light levels in each toilet room; the toilet rooms should not feel dark
- Appropriate mechanical, electrical and life safety requirements in each stall and common area.
- Exterior room signage to indicate the room as "Multi-Stall Restroom" with the toilet pictogram and International Symbol of Accessibility. Signage must comply with the WSU Interior Signage Guidelines.

Preferred:

- Floor to ceiling stalls minimum of 8'-0" constructed with stud walls or 1" thick floor to ceiling partition dividers that allow air flow. Stall doors to have overlapping (gap free) design. Stall doors to include user operated door hardware with occupancy indicator
- Separate vanity area, in addition to lavatories, min 3' in length with mirror when feasible.
- Full length mirror
- Consideration of partition color is important in order to not dominate the space
- Consider visual site lines at the entry in the design.

Lactation/ Wellness Rooms

New Capital and major renovations projects shall incorporate a permanent lactation/wellness room. Lactation/ Wellness rooms should be on an accessible route in a public area that is available to all users. If a building is already well served by an existing lactation/wellness room that meets the following standards, then the project is not required to add a dedicated lactation/wellness room, as the needs are already being met. Lactation/wellness rooms cannot be a restroom, toilet stall, storage room or janitorial closet. The room should be a minimum of 50 square feet. The lactation/wellness room shall conform to the following requirements.

Required:

- Located on an accessible route and floor
- ADA accessible with 5' turning radius
- Single-occupancy room to include user operated door hardware with occupancy indicator
- Floor to ceiling walls with sound attenuation to minimize echoes and sound transmission.
- ADA accessible sink and faucet combination deep enough to wash supplies
- Mirror, paper towel, soap and trash receptacle
- Counter surface material to be antimicrobial in nature and easily cleaned
- Under counter refrigerator that does not take up the knee space beneath the work area or sink
- Designated space for a supportive chair and working surface or small table
- Baby changing station
- Coat hook
- Multiple electrical outlets to allow for room flexibility
- Dimmable lighting
- Resilient floors for easy cleanup
- Exterior room signage to indicate the room as "Lactation/Wellness" and include the international breastfeeding symbol. Signage must comply with the WSU Interior Signage Guidelines.

Preferred:

- Calming environment and soothing color palette
- Windows will have shades or obscure glass for visual privacy
- Full length mirror
- Sharps container; responsibility of the department
- Half height lockers or locking storage
- Tack board
- Separate thermostat for room to allow for comfortable temperatures

Trash and Recycling areas

A dedicated space for trash and recycling receptacles is required to serve each floor. Place receptacles in a visible location that is centralized within the building and near the service elevator. Consider additional locations near the entrances or within the vestibules of large lecture halls.

Interior Lighting

All interior lighting should be specified with LED fixtures. Interior lighting levels are to comply with the current edition of IESNA lighting standards, and be kept to the lowest acceptable levels for the intended use. For interior lighting specifics, [please refer to the DCS, section 26 51 00](#).

SUSTAINABILITY DESIGN CONTEXT

Washington State University is committed to improving its performance in sustainability in all areas of operations to meet the needs of current generations without impairing the ability to meet the needs of future generations. Washington State University will continually develop appropriate systems for managing environmental, social, and economic sustainability programs with specific goals, objectives, priorities, and processes.

LEED

Washington State University has completed many LEED certified projects at many of their campuses, and strives to continue to provide sustainable buildings to students and faculty. A policy that WSU must follow is if the project is state funded, it must be at least LEED Silver certified. Recently LEED guidelines have changed from v2009 to v4. While not many requirements have changed it is still important to be up to date to design the most sustainable building as possible.

For more information on the differences between LEED versions you can visit USGBC's website at <https://www.usgbc.org/resources/summary-changes-leed-2009-v4-bdc>

See the appendix for LEED scorecards of WSU's previous projects. This reference is not intended to be a prescriptive guideline that spells out how a consultant or designer may or may not go about achieving a particular credit. Instead this is to act as a reference of what credits have been obtainable on previous projects





SECTION

5

Building Systems

HVAC

Central Chilled Water
Steam and Condensate
systems

Electrical

Plumbing

Emergency Power

HVAC

In the interest of conserving energy, heating and air conditioning systems are to be discussed with WSU Engineering Services and the WSU project manager during design. The systems must be compatible with the university's existing system and interface with the maintenance and operation programs. Typically heating and air conditioning systems on the WSU campus shall be installed with individual room control. Design documents are to show systems in totality for verification of design logic. [An example can be found in the appendix.](#)

Provide positive exhaust ventilation for all custodial closets, bathrooms, and mechanical rooms. Mechanical rooms exhaust shall be thermostatically controlled. Elevator equipment rooms are typically installed with split system air conditioners to comply with edicts from the Department of Labor and Industries.

Whenever possible, mechanical equipment shall not be exposed on the roof; instead, mechanical equipment is preferred to be housed in a basement or penthouse. The consultant shall coordinate design to avoid unsightly clutter due to any exposed mechanical on roof areas.

HVAC Controls

On the Pullman campus, the University has operated and maintained a state-of-the-art building automation system (BAS) using a Siemens Building Technologies Apogee system. Recently a second vendor, Allerton, has been added to the University's control systems. These systems are capable of, but not limited to, global campus controlling of electrical demand; heating and cooling demands using duty cycling; chiller optimization; peak demand limiting and start stop time optimization programs; lighting controls; irrigation; security; domestic water wells and reservoirs; metering condensate, chilled water, domestic water, and electricity; and other applications.

The BAS utilizes single point, campus global controlling (this ability shall be maintained) to directly manage, at a minimum, the following systems:

- Building and exterior lighting control
- Campus chilled water loop pumping function at multiple locations
- Campus class bells and clock system
- Campus irrigation system
- Central chiller plant operation
- Cooling demand for chilled water tank storage management
- Domestic water wells and reservoirs
- Electrical demand for peak load and power recovery after outages
- Heating demand for limiting purposes during emergency conditions
- Ice-melt systems for gutters, downspouts, and pipe protection
- Operation/integration of campus chillers into the chilled water loop
- Security
- Snowmelt system for outside stairways and walkways of campus

Special Exhaust Systems

WSU has a number of laboratory facilities, some of which contain corrosive and/or hazardous chemicals. For this reason the University has a specific fume hood design standard that details specific design and exhaust requirements that will impact overall HVAC design. [See DCS 23 38 00 for more information on fume hoods.](#)

CENTRAL CHILLED WATER (CCW)

Central Chilled Water (CCW) is the terminology used for the campus distribution system that generates and distributes campus-chilled water for HVAC cooling and process cooling loads. The system is a primary-secondary variable flow system. During winter months the distribution system is also used like a heat pump

system to transfer waste heat for energy conservation and provide “free cooling.”

The consultant shall discuss the proposed system(s) with the WSU project manager and WSU Engineering Services before design begins. The consultant shall work with WSU Engineering Services to develop a satisfactory “total system” design solution. The use of a central system in lieu of individual chiller plants at each building saves considerable energy, operational and maintenance services. If there is a project where central cooling is to not be used must be reviewed by Engineering Services.

STEAM AND CONDENSATE SYSTEMS

Steam is the primary heat source throughout the Pullman campus. The grimes Way and College Avenue steam plants provide steam for building heat and hot water, sterilization for veterinary medical facilities and humidification of libraries and green houses.

Saturated steam is generated at the steam plants and distributed via a looped piping system which operates at 100 psig (338°F) The distribution system serves a majority of campus. Utility tunnels are the preferred method of distribution. They allow for maintenance access, future utility installation, inspections, and pathways for high pressure condensate recovery. Direct bury steam and/or condensate piping or piping systems are not acceptable.

The condensate return system operates with up to 180°F condensate, parallel with the steam piping. All uncontaminated condensate shall be returned. Design conditions for the condensate return system is gravity drainage wherever possible, lower elevations may require condensate pumps to be connected to emergency power.

The Mechanical Engineer consultant shall conduct an on-site inspection of the current steam and condensate piping adjacent to the project site prior to DD. Only WSU Utility personnel may shut down, drain, and lock-out systems for necessary work.

ELECTRICAL

In addition to designing the electrical systems, the electrical consultant shall prepare all load calculations, fault current calculators and all other data required for the submittal of the electrical drawings and specifications to the Washington State Department of Labor Industries.

For renovations, the WSU project manager will provide to the consultant with;

1. The maximum demand for the previous twelve months on the medium voltage feeder and substation main bus involved
2. A copy of the One Line Diagram of the medium voltage feeder involved back to the utility point of service

The consultant is required to evaluate all WSU provided information and field verify. The consultant is required to coordinate with local utility for available fault duty at the utility point of service. When 30-day demand measures are needed per NEC, the consultant shall be responsible for completing these measures.

Campus Power Distribution

The campus' 5kV electrical systems are manipulated by WSU Facilities Services. The 13,200 volt lines on campus are owned by Avista Utilities and are maintained by Avista under an agreement with WSU. WSU currently owns, operates and maintains a 5kV distribution system using 2 5kV substations -one at either end of campus- with individual feeders to campus loads. This section applies to facilities connected to the WSU 5kV distribution system. Avista, the local utility uses a 13kV feeder system. WSU is in the process of transferring primary service to Avista's 13kV feeder system. Wherever possible, newly constructed facilities shall connect to the utility 13kV system. Newly constructed service connections to the WSU 5kV distribution system shall require approval of the WSU project manager and Engineering Services.

Building Power Distribution

Each facility is to be served by outside transformers 277/480v and 120/208v three phase transformers, feeding a 277/480v distribution and 120/208v distribution. The maximum size of any transformer is 2,000KVA. All lighting load and mechanical load such as motors, snowmelt and mechanical equipment loads are to be served from the 277/480v distribution. All general loads are to be served by the 120/208v distribution. If the total building load is 300kVA or less, then only one 208Y/120V service is required,

EMERGENCY POWER

All newly constructed facilities shall connect to feeder EB13 for NEC 700 loads. Exceptions to this rule require approval of the WSU project manager and Engineering Services.

Emergency lighting must be the corridor night light system providing 1 fc; emergency light fixtures must be of the same model as the normal light fixtures. Emergency lights must also be installed in the transformer vault, main mechanical room, receiving room, auditoriums, theaters, large lecture halls, and dining rooms. These same lights are to be utilized as night lights providing 1 fc for egress. For interior lighting specifics, [please refer to the DCS 26 51 00](#).

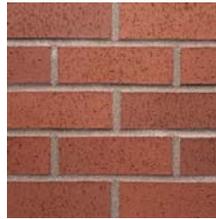
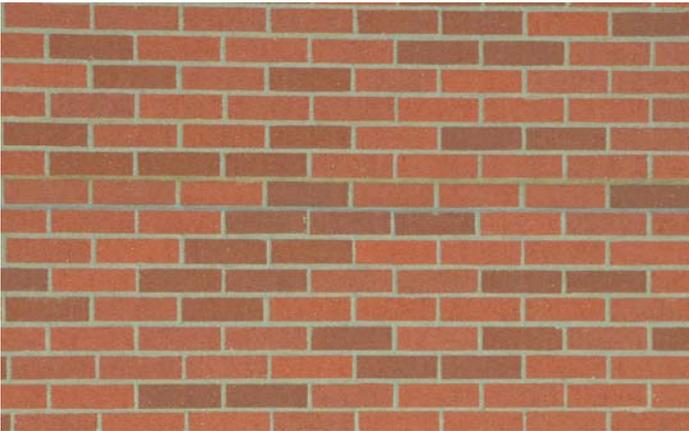
Exit lights will be connected to the emergency lighting system and be continuously illuminated. Exit lights must be installed in accordance with the NEC's and the recommendation of the AHJ. Letters and direction arrows must be green. The power must come from the building emergency power source - EXIT light circuit/emergency generator.

Appendix

Brick Standards
LEED Scorecard
Office Standards

BRICK STANDARDS

PULLMAN BLEND Inca 70% | Burgundy: 30%
(Mutual Materials Item Number: D250500MMI)

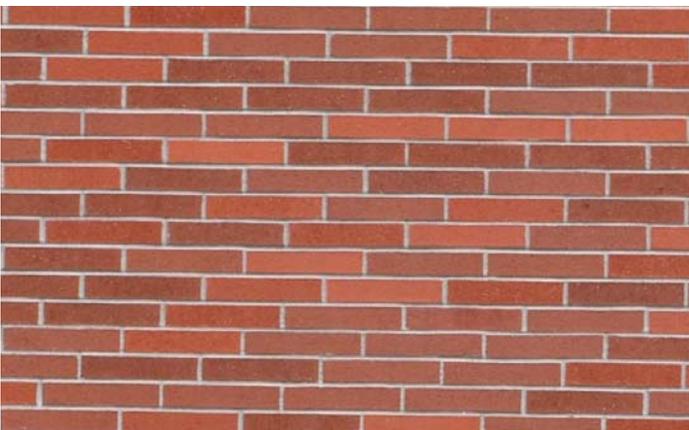


Inca



Burgundy

ALTERNATE 1 Imperial Red 60% | Burgundy: 40%
(Mutual Materials Item Number: D940524MMI)

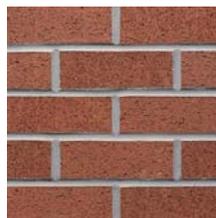
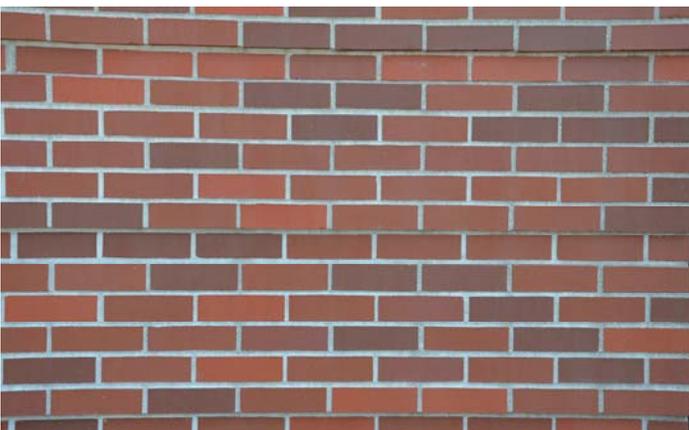


Imperial Red



Burgundy

ALTERNATE 1 Imperial Red 40% | Burgundy: 40% | Vintage: 40%
(Mutual Materials Item Number: A880500MMI)



Imperial Red

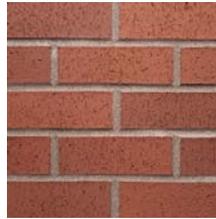
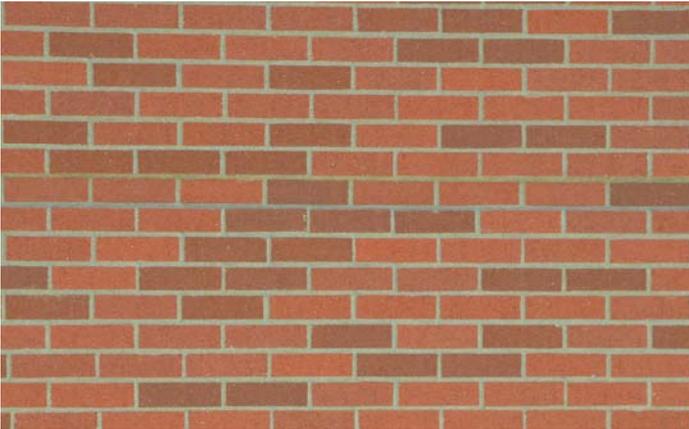


Burgundy



Vintage

SPOKANE BLEND Inca 70% | Burgundy: 30%
(Mutual Materials Item Number: D250500MMI)

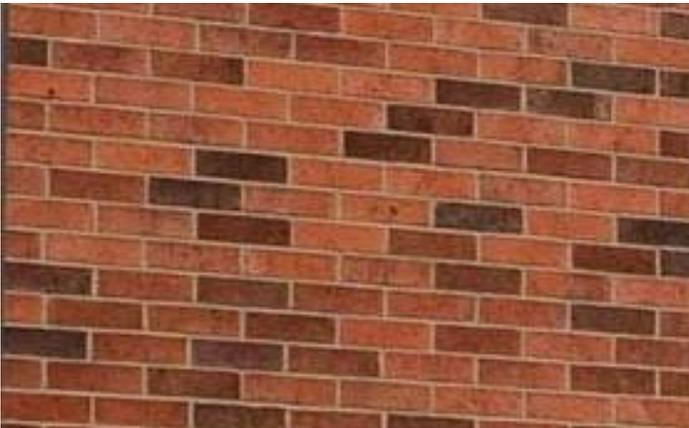


Inca

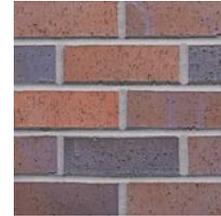


Burgundy

VANCOUVER BLEND Autumn Blend 70% | Mountain Blend: 30%
(Mutual Materials Item Number: F950100NCO)



Autumn



Mountain

LEED SCORECARD

Credits	Points Possible
Integrative Process	1
Sustainable Sites	26
SSp1: Construction Activity Pollution Prevention	Required
SS1: Site Selection	1
SS2: Development Density and Community Connectivity	5
SS3: Brownfield Redevelopment	1
SS4.1: Alternative Transportation-Public Transportation Access	6
SS4.2: Alternative Transportation-Bicycle Storage and Changing Rooms	1
SS4.3: Alternative Transportation-Low-Emitting and Fuel-Efficient Vehicles	3
SS4.4: Alternative Transportation-Parking Capacity	2
SS5.1: Site Development-Protect or Restore Habitat	1
SS5.2: Site Development-Maximize Open Space	1
SS6.1: Storm water Design-Quantity Control	1
SS6.2: Storm water Design-Quality Control	1
SS7.1: Heat Island Effect-Non-Roof	1
SS7.2: Heat Island Effect-Roof	1
SS8: Light Pollution Reduction	1
Water Efficiency	10
WEp1: Potable Water Use Reduction-Domestic Water 20%	Required
WE1.1: Water Efficient Landscaping-Reduce by 50%	2
WE1.2: Water Efficient Landscaping-No Potable Use or No Irrigation	2
WE2: Innovative Wastewater Technologies	2
WE3.1: Potable Water Use Reduction-Domestic Water 30%	2
WE3.2: Potable Water Use Reduction-Domestic Water 40%	2
Energy and Atmosphere	35
EAp1: Fundamental Commissioning Of Building Energy Systems	Required
EAp2: Minimum Energy Performance-10% New or 5% Existing	Required
EAp3: Fundamental Refrigerant Management	Required
EA1: Optimize Energy Performance	19
18% New or 14% Existing	4
20% New or 16% Existing	5
22% New or 18% Existing	6
24% New or 20% Existing	7
26% New or 22% Existing	8
EA2: On-site Renewable Energy	7
EA3: Enhanced Commissioning	2
EA4: Enhanced Refrigerant Management	2
EA5: Measurement and Verification	3
EA6: Green Power	2
Materials and Resources	14
MRp1: Storage and Collection of Recyclables	Required
MR1.1: Building Reuse-Maintain Existing Walls, Floors, and Roof	3
Reuse 55%	1
Reuse 75%	2
Reuse 95%	3

Key

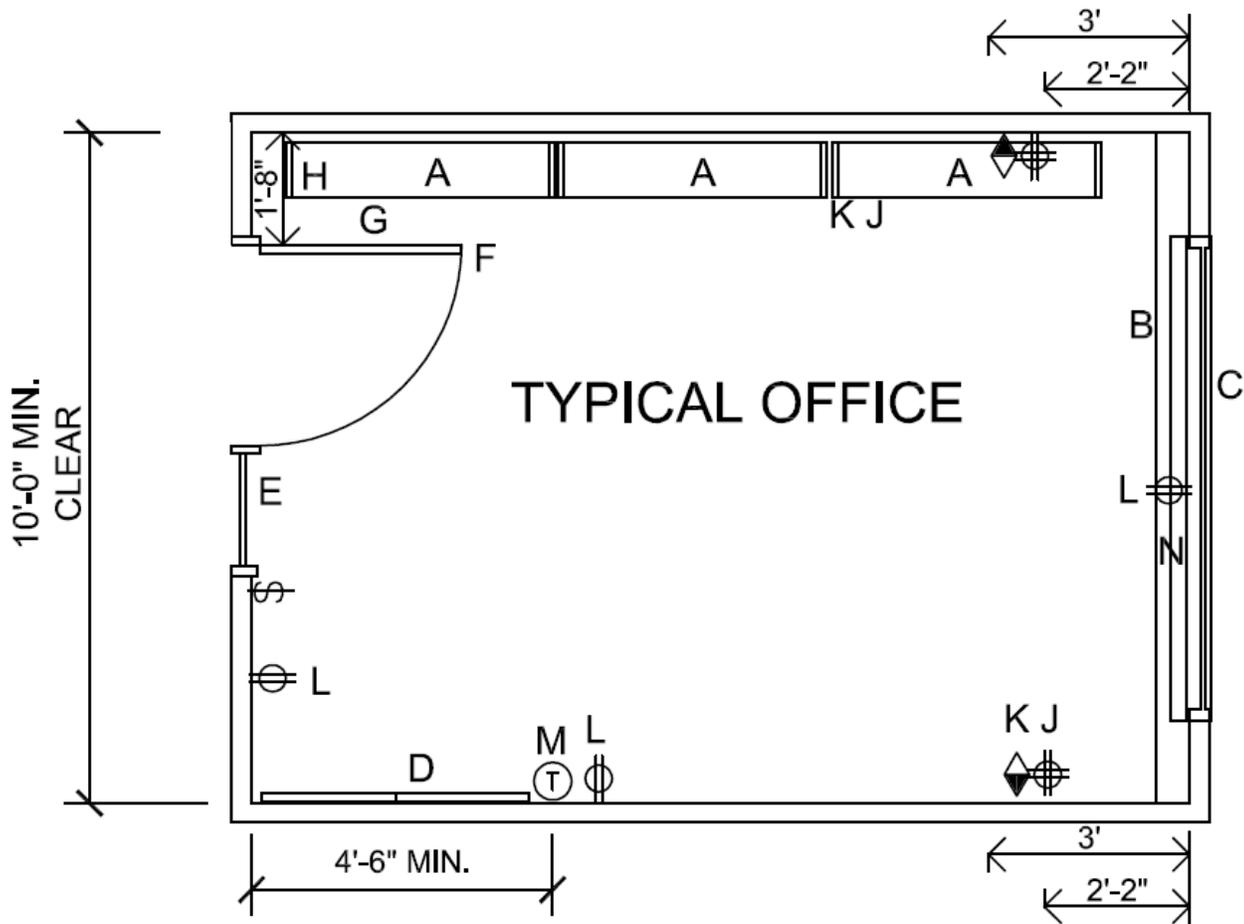
	Usually obtained
	Often obtained
	Harder to obtain
	Rarely obtained
	Usually not obtained

MR1.2: Building Reuse-Maintain 50% of Interior Non-Structural Elements	1
MR2: Construction Waste Management	2
50% Recycled or Salvaged	1
75% Recycled or Salvaged	2
MR3: Materials Reuse	2
Resue 5%	1
Reuse 10%	2
MR4: Recycled Content	2
10% of content	1
20% of content	2
MR5: Regional Materials-10% Extracted, Processed & Manufactured Regionally	2
10% of content	1
20% of content	2
MR6: Rapidly Renewable Materials	1
MR7: Certified Wood	1
Indoor Environmental Quality	15
IEQp1: Minimum Indoor Air Quality Performance	Required
IEQp2: Environmental Tobacco Smoke (ETS) Control	Required
IEQ1: Outdoor Air Delivery Monitoring	1
IEQ2: Increased Ventilation	1
IEQ3.1: Construction Indoor Air Quality Management Plan-During Construction	1
IEQ3.2: Construction Indoor Air Quality Management Plan-Before Occupancy	1
IEQ4.1: Low-Emitting Materials-Adhesives and Sealants	1
IEQ4.2: Low-Emitting Materials-Paints and Coatings	1
IEQ4.3: Low-Emitting Materials-Flooring Systems	1
IEQ4.4: Low-Emitting Materials-Composite Wood and Agrifiber Products	1
IEQ5: Indoor Chemical and Pollutant Source Control	1
IEQ6.1: Controllability of Systems-Lighting	1
IEQ6.2: Controllability of Systems-Thermal Comfort	1
IEQ7.1: Thermal Comfort-Design	1
IEQ7.2: Thermal Comfort-Verification	1
IEQ8.1: Daylight and Views-Daylight 75% of Spaces	1
IEQ8.2: Daylight and Views-Views for 90% of Spaces	1
Innovation	6
I1.1: Innovation in Design	1
I1.2: Innovation in Design	1
I1.3: Innovation in Design	1
I1.4: Innovation in Design	1
I1.5: Innovation in Design	1
I2: LEED Accredited Professional	1
Regional Priority	4
RP1.1: Region Specific Environmental Priority: Region Defined	1
RP1.2: Region Specific Environmental Priority: Region Defined	1
RP1.3: Region Specific Environmental Priority: Region Defined	1
RP1.4: Region Specific Environmental Priority: Region Defined	1
Total	110

Key

- Usually obtained
- Often obtained
- Harder to obtain
- Rarely obtained
- Usually not obtained

OFFICE STANDARDS



- A. Standard adjustable shelving, 3 sets, 3 shelves high, 48" wide x 10" deep (with ends) on brackets & 8' ht. Standards, mounted directly above 4" base (see shelving details).
- B. Heavy duty "Mecho" type roller shades
- C. Operable sash exterior window, sill ht. To be 3'-0" max. Above floor.
- D. 4' w. X 3' ht., 1/2 tack board, 1/2 dry-erase board or as specified by user. Location to be determined at time of installation.
- E. Full ht. Relite next to door where possible (frosted or textured glass to be determined)
- F. 3' x 7' solid core wood door in metal frame
- G. 2 coat hooks on back of door, 1 @54" ht. And 1 @ 66" ht.
- H. Provide a 20" minimum space behind door {for file cabinet}
- I. 4 plex receptacle 2'-2" min. - 3' max. From exterior wall, 18" ht.
- J. Telephone/data outlet 2'-2" min. - 3' max from exterior wall, 18" ht.
- K. Duplex receptacle, 18" ht.
- L. Thermostat, locate on wall opposite shelving, 54" from interior corner. Fin tube radiation, build into wall below window sill where possible.
- M. Fin Tube Radiation, build into wall below sill where possible

