This version of the Predesign Report has been modified to remove content that no longer aligns with the reduced budget.

The Budget Reconciliation Meeting Presentation is included after the Appendix, and is the program and budget reconciliation completed to date. Additional program validation is required.
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Section 01
EXECUTIVE SUMMARY
[This page intentionally left blank for the purpose of double-sided printing.]
The new Student Development and Success Center (SDSC) described in this report houses 25,155 assignable square feet dedicated to support services that help ensure academic success for Western’s students, from admission through graduation and beyond, providing the skills and experience they need to thrive in their careers. The total project budget is $59,800,000 which includes $300,000 of Predesign funding in the current biennium. Western Washington University is requesting Design and Construction funding of $49,500,000 in the 2023-2025 biennium and will contribute an additional $10,000,000 in non-state funds to the project.

PROBLEM STATEMENT
Students have many obstacles that may deter them from accessing, persisting, and ultimately succeeding in higher education. For some, the thought of higher education seems implausible, and access to this world seems beyond their current abilities or means. Some students are able to access higher education, but do not truly thrive while on campus. Some of those students may decide to leave, or be forced to leave, for reasons that can feel beyond their control and abilities to navigate.

Very often, these students come from marginalized and disenfranchised groups, including: first-generation students, students of color, students with disabilities, students managing significant and complex mental health needs, students identifying as LGBTQ+, students who are undocumented, students struggling with food insecurity and homelessness, student-parents, or students managing multiple of these identities in an environment that may not be prepared to support them fully.

The Student Development and Success Center is envisioned to recruit and support students in all of their identities, with needs that range across a broad spectrum with the ultimate goals of supporting access, persistence, and overall success through to graduation and beyond. By co-locating an Admissions Welcome Center with key student services, prospective students and their families will be better able to envision their educational path and the people and services readily available to support them along the way.

At 67%, Western Washington University’s overall six-year graduation rate is significantly lower than the University’s goal of 75-80%. The rate at Western for underrepresented students is even lower, at approximately 61%, and 60% for Pell-eligible students. Western has had less success recruiting these students than its peer institutions. When students begin college and don’t graduate, significant personal and state resources are wasted.

There are many challenges facing students that contribute to making the decision to leave Western without graduating. These can include financial strain, difficulty navigating complex campus resources, multiple and competing demands distracting them from their academic focus, and, particularly among underrepresented students, a shortage of welcoming and inclusive spaces.
Critical student services that are fundamental to addressing these challenges are currently spread out in Old Main and hindered by their remote location, poor visibility, and lack of equitable access. As the oldest building on campus perched on the side of a hill, Old Main is not conveniently located, physically accessible, or culturally welcoming and inviting to the entire spectrum of the student population.

A new Student Development and Success Center (SDSC) will contribute significantly to Western’s ability to fulfill its mission, as well as the distinct mission of Student Services. An easily accessible and welcoming facility with consolidated student support services is crucial to achieving Western’s goal of improving its graduation rates, especially those of underrepresented students. By providing inclusive and welcoming spaces, and easily accessible and convenient student services and support, it will aid in student persistence, leading to increased graduation rates, and better prepare students to successfully enter the job market.

The Preferred Alternative described in this report is a new 40,985 square foot facility that will co-locate a new Welcome Center with Admissions, New Student Services / Family Outreach, Academic Advising, Career Services, Student Outreach, and the Counseling and Wellness Center in one collaborative facility.

The facility will also have flexible space where complementary student services not based in the SDSC (such as Registrar, Financial Aid, Student Employment, Scholarships, and Disability Services) can offer more direct student-facing interaction, efficiently providing a comprehensive spectrum of services without relocating entire departments. A Social Justice Center and Commuter Resource Center are planned, as well as a café funded with auxiliary dollars that will entice foot traffic and encourage the use of collaborative/study space during many hours of the day.

The SDSC will achieve the following goals:

**A Welcoming Gateway**
The Student Development and Success Center, welcoming and accessible to all, manifests the essence of the Western experience enabling prospective students to understand campus culture and see themselves thriving in the Western community. Recruitment outcomes are optimized by increasing the likelihood of ongoing retention and eventual graduation of enrolled students.

**Access, Diversity, Equity, and Inclusion**
The SDSC will be physically and culturally welcoming and accessible to all, with particular emphasis on improving inclusivity and access for students of marginalized or disenfranchised populations.

**Visible, Integrated Spectrum of Student Services**
Access to and utilization of an integrated spectrum of student services, offering a range of engagement models to suit individual needs, is enhanced by co-location of key services to seamlessly support student success. A central point of contact and support facilitates wayfinding of services within the facility and across campus.

**Culture of Wellness & Prevention**
Student health and wellbeing is prioritized by the integration of the Counseling and Wellness Center into the SDSC program, in combination with access to a variety of wellness-promoting programs and features. Improved access to and delivery of these services will positively impact student retention by addressing their needs holistically.

**Efficiency, Flexibility, and Future Thinking**
The SDSC represents an effective and efficient use of capital resources, leveraging hybrid work patterns and collaboration technologies to find new and efficient ways to allocate and use space. A variety of shared meeting and collaboration spaces are provided to support student service functions during the day and are reservable by students and student clubs in the evening hours, supplementing the few that currently exist in the area to create a much needed network of flexible, multi-purpose spaces in the South Campus.

**Holistically Sustainable**
In accordance with Western’s adoption of the Okanagan Charter, all aspects of the SDSC emphasize and support health, wellbeing, and sustainability. The project achieves net-zero energy and net-zero carbon (including embodied carbon) performance and achieves Living Building Challenge v4.0 Petal (Energy) Certification.

**ANALYSIS OF ALTERNATIVES**

**Preferred Alternative: New Construction in One Biennium**
The Preferred Alternative creates a new Student Development and Success Center at the primary south pedestrian entrance to the academic core to welcome prospective students and their families to Western’s campus. The Center will provide the following:

**A Welcoming Beacon**
Located at the south end of the academic core of campus, adjacent to Flag Plaza, the new building is envisioned as a greeting point and welcome center for visitors arriving on campus.

Its siting at the more accessible southern entrance to campus will allow the Center to serve as the meeting point for campus tours and community interactions. Interactive display spaces will give prospective students and their families the opportunity to explore the college experience at Western in a building designed to be welcoming and inclusive to students of all backgrounds and experience.

The facility will also be a strong draw for current students who will utilize the vibrant café space, Commuter Resource Center, and collaboration room spaces, creating a hub of student life at the south end of campus, and in so doing creating more connection with, access to, and visibility of the student support services housed in the building.
Consolidated & Accessible Student Support
Active, welcoming student development space will be used to coach and engage students to support their academic success and development of personal and civic responsibility. Collaborative study spaces will accommodate group learning throughout the day and evening. Meeting and collaboration spaces will serve multiple purposes and could support leadership, entrepreneurial, and/or wellness functions. Services and building amenities are optimized to help students successfully transition into and through the university to emerge as thoughtful, engaged citizens.

Showcase Student Success and Wellness
The facility will employ multiple strategies for showcasing student success and wellness. The Welcome Center will feature student work and student life on display through physical and/or digital media allowing prospective students to see themselves living and succeeding at Western. This is especially important for underrepresented populations. A sense of student wellness will permeate the building through messaging, displays, and integration with nature, light, natural materials, and biophilic elements.

Efficient Reuse of Space
The Preferred Alternative will enable administrative space that is vacated by SDSC occupants to be utilized in the near term to create program surge space for the planned renovation of Environmental Studies (ES) building, while also meeting long-term growth needs of less student-facing administrative functions better suited to their Old Main location.

ALTERNATIVES CONSIDERED & REASONS NOT PREFERRED
Alternatives were identified and evaluated against the Preferred Alternative. These featured alternative funding/design timelines, a renovation option, and a ‘No Action’ alternative, and are described in detail in Section 03. These alternatives were generally not preferred for a variety of reasons, including:

> The urgency of meeting the need for improved student recruitment, retention, and completion was better addressed in the Preferred Alternative.

> Lack of a dedicated Welcome Center would continue to hinder recruitment

> Alternative funding/design schedules would add cost and schedule risk and defer access to improved services

> Deferred completion would impact future projects’ access to surge space

> Renovation in Old Main would be costly and fail to resolve current access issues
Program Assessment
The proposed program for the SDSC allocates 40,895 gross square feet for the building. The program has a 61% efficiency ratio, indicating that 61% of the total building area is allocated for assignable program functions and 39% is allocated for building support, building services, circulation, walls, and shafts. A program summary for the SDSC is shown in the table at right.

The proposed SDSC facility will bring together programs from three Enrollment and Student Services units in one location, including Enrollment Management, Student Success Initiatives, and the Counseling and Wellness Center, as well as many shared supports and amenities for students.

Of the assignable building area, 15% will accommodate Enrollment Management departments (including Admissions and New Student Services / Family Outreach), 25% will accommodate Student Success Initiatives departments (including Academic Advising, Student Outreach Services, and Career Services), and 13% will accommodate the Counseling and Wellness Center. The remaining area will house a variety of supports and amenities, including the Welcome Center (11%), shared support (18%), and community amenities (18%), as shown in the chart at right.

Community Amenities include the Cafe, Comuter Resource Center, and Social Justice Center. Shared Support spaces include a variety of conference and meeting rooms utilized as collaboration areas.

Areas in the SDSC building have two primary functions, or space types: office areas and collaboration areas. Of the assignable area, 53% will accommodate office areas and 47% will accommodate collaboration areas, as shown in the chart to the right.

<table>
<thead>
<tr>
<th>PROGRAM AREA</th>
<th>NSF</th>
</tr>
</thead>
<tbody>
<tr>
<td>OFFICE AREAS</td>
<td></td>
</tr>
<tr>
<td>Enrollment Management</td>
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<tr>
<td>Student Success Initiatives</td>
<td>6,325</td>
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<tr>
<td>Counseling, Health and Wellness</td>
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<tr>
<td>COLLABORATION AREAS</td>
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<td>Welcome Center</td>
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<tr>
<td>Shared Support</td>
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<tr>
<td>Community Amenities</td>
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<tr>
<td><strong>Total Assignable Square Feet</strong></td>
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<td>UNASSIGNABLE AREAS</td>
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</tr>
<tr>
<td>Unassignable Areas</td>
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</tr>
<tr>
<td><strong>Total Building Area (GSF)</strong></td>
<td><strong>40,985</strong></td>
</tr>
</tbody>
</table>

**Building Efficiency**
61%
Office areas are comprised of counseling rooms, advising rooms, staff offices, and open workstations, along with check-in, waiting areas, storage, and other departmental support. The counseling and advising rooms are provided for counselors and advisors who meet frequently with students and provide services that require confidentiality. Staff work areas are consistently sized across all facility departments and are designed with flexibility in mind, within a column grid that will accommodate future program changes such as new or expanding services, the changing impacts of hybrid work, and the use of multiple modalities for accessing services.

Collaboration areas are distributed throughout the building to provide groups of various sizes to meet, study, and build community. These areas are used to provide student services in a variety of formats, promoting dialog between students, peer mentors, and advisors, and improving collaboration among the advisors and other student services. Many collaboration spaces can also be reserved during evening hours for group study and student group meetings.

Building Configuration
The 40,985 square-foot, three-story Student Development and Success Center will be a welcoming gateway building for the campus. It is envisioned to be central hub for student services to be co-located to improve access to, visibility of, and collaboration of student services. Collaboration areas are focused on the ground floor and dispersed on each floor in proximity to other services, to bring more student traffic and visibility of student services.

Student services functions are centralized in a three-story volume within a structural frame, allowing for flexibility for reconfiguration of services as needs evolve. Vertical circulation and connecting openings are prominently located for ease of wayfinding, communication, and connection between these services. The narrow floor plate of the main building allows for better access to daylight, visibility, and views for all occupants.

Student Success Initiatives services are distributed on all three floors, with Student Outreach Services on the first floor, Academic Advising on the second floor, and Career Services on the third floor. Admissions is distributed on both the first and second floors of the building, and New Student Services / Family Outreach is on the first floor.

The Welcome Center and café are single-story, pedestrian-scaled pavilions that are focal points at the south end of the site to draw people in and showcase Western’s vibrant culture and diversity to prospective and existing students. Collaboration spaces, such as informal study areas and dedicated meeting rooms, line the east side of the facility and are visible from the main campus thoroughfare, while also activating the much-needed outdoor gathering spaces created by the building’s shape.

The Commuter Resource Center, Social Justice Center, and Counseling and Wellness Center are located at the north end of the building facing campus on the first, second, and third floors respectively. The location of the Counseling and Wellness Center on the third floor, as well as its direct access from the less-public north building entrance, provide additional privacy for students seeking services.
**SITE ANALYSIS**

The site for the Student Success Center is positioned to provide a new gateway experience at the south end of campus and create a welcoming place for the future student body. The new building will connect to the active Flag Plaza on the south, which will in turn embrace the future transit hub to the south. The site also sits between the Student Recreation Center to the west and the Academic Instructional Center (AIC) West building to the east.

The SDSC will displace a portion of an existing parking lot served by an asphalt drive to the west and bordered by the primary campus pedestrian spine to the east, both of which receive significant pedestrian traffic. The SDSC will clarify the function of these routes, prioritizing pedestrian flow to the east and maintaining the asphalt drive as parking access and service for both this building and the Recreation Center.

The site offers views of the Chuckanut Mountains to the south. The Welcome Center pavilion and main visitor entry angle to face the view with a native-seeded meadow landscape in the foreground that serves as the arrival landscape surrounding the path from Flag Plaza.

Connecting internal building spaces to the outdoors creates a vibrant, welcoming place for everyone and supports the function of the building to promote health and wellness through connections to nature, the outdoors, and recreation. A café will be situated at the southeast corner of the site to help activate the building and the south campus area.

On the north side of the café, a patio and courtyard will provide space for outdoor seating and general student activity, protected from seasonal winds and weather and linking to the Communications Lawn to the northeast. The courtyard will have ample seating options for small- and medium-sized group activities and serve as the foreground to the main entry into the Student Success Initiatives area.

The site offers convenient access to the campus utility infrastructure, including a campus utility tunnel running parallel to the asphalt drive west of the building. Electrical and Telecommunications service will be through the tunnel, while domestic water, fire service, and sanitary sewer will connect to existing infrastructure adjacent to the site. Stormwater will be collected and treated on site, and potentially reused for toilet flushing.

**PROJECT MANAGEMENT & DELIVERY**

The project will be managed by Western’s Facilities Development & Operations (FDO) and delivered using the Progressive Design-Build methodology. FDO includes the following areas:

- Financial & Business Services
- Capital Budget & Finance
- Planning & Development
- Building & Campus Services
- Maintenance & Operations
- Integrated Sustainability
**PROJECT SCHEDULE**

The anticipated project schedule is summarized at right. Design is slated to start July 2023, with construction beginning March 2025 and reaching substantial completion by August 2026. The Design-Build procurement process will begin in May 2023 with selection occurring in June 2023. Move-in and occupancy will occur in August and September 2026, respectively.

Throughout the project, the Design-Build will ensure cost transparency is maintained throughout the project. Target Value Design, a process used throughout a project to help clarify priorities, will allow the project to achieve its budget goals while providing full program scope and high levels of quality.

**PROJECT BUDGET ANALYSIS**

The total project budget for the Student Development and Success Center is summarized in the table at right.
Section 02

PROBLEM STATEMENT

A. Problem Identification

B. Statutory & Other Requirements

C. Connection to Agency Mission, Goals, & Objectives

D. What is Needed to Solve the Problem

E. Relevant Project History
SECTION 02

PROBLEM STATEMENT

A. PROBLEM IDENTIFICATION

NEED
Students have many obstacles that may deter them from accessing, persisting, and ultimately succeeding in higher education. For some, the thought of higher education seems implausible, and access to this world seems beyond their current abilities or means. Some students are able to access higher education, but do not truly thrive while on campus. Some of those students may decide to leave, or be forced to leave, for reasons that can feel beyond their control and abilities to navigate.

Very often, these students come from marginalized and disenfranchised groups, including: first-generation students, students of color, students with disabilities, students managing significant and complex mental health needs, students identifying as LGBTQ+, students who are undocumented, students struggling with food insecurity and homelessness, student-parents, or students managing multiple of these identities in an environment that may not be prepared to support them fully.

The Student Development and Success Center (SDSC) is envisioned to recruit and support students in all of their identities and needs that range across a broad spectrum, with the ultimate goals of supporting access, persistence, and overall success through to graduation and beyond. By co-locating an Admissions Welcome Center with key student services, prospective students and their families will be better able to envision their educational path and the people and services readily available to support them along the way.

At 67%, Western Washington University's overall six-year graduation rate is significantly lower than the University's goal of 75-80%. The rate at Western for underrepresented students is even lower, at approximately 61%, and 60% for Pell-eligible students. Western has had less success recruiting these students than its peer institutions.

For first year (freshman) students, Western has a target of 87-90%. Western's first year retention rates were 80% overall in 2021-22, 72% for underrepresented students, and 74% for Pell-eligible students. Western's goal for Degrees Awarded is 4,300 to 4,600 per year, with 1,450 to 1,500 in the State's high-need areas. In 2021-22, there were 3,896 degrees awarded, with 1,315 in the State's high-need areas. When students begin college and don’t graduate, significant personal and state resources are wasted.

There are many challenges facing students that contribute to making the decision to leave Western without graduating. These can include financial strain, difficulty navigating complex campus resources, multiple and competing demands distracting them from their academic focus, and, particularly among underrepresented students, a shortage of welcoming and inclusive spaces.

28% of Western's students are first-generation students, defined by Western as having neither parent earning a
bachelor’s degree. This demographic includes students from marginalized and disenfranchised populations at a significantly higher rate than the overall student body. A 2021 study commissioned by Western that polled these students found that first-generation students:

> Would benefit from improved access to information and outreach regarding campus resources
> Are impacted by a limited understanding of college expectations, services, and systems
> Need more assistance with financial aid processes
> Are interested in strengthening their first-generation identity and community

A recent article in The Chronicle of Higher Education cited research by the Economic Policy Institute showing that first-generation and other underrepresented students who do graduate still have a harder time finding a first job out of college and earn less than their more privileged peers. The article also cites data showing that these students take part less frequently in internships, networking, and other career-building activities that will help them stand out in the hiring pool after graduation, and evidence suggests these students are not aware they need these resources to be competitive. Reasons cited for this participation gap include many of the same challenges that lead some students to leave college before graduating.

Students’ lack of understanding that needed services even exist is compounded by poor wayfinding to and among these services. Not only may they not know what services they need (or that they even exist), they also may not know where to go to get them once they do.

Critical student services that are fundamental to addressing these challenges are currently spread out in Old Main and hindered by their remote location, poor visibility, and lack of equitable access. As the oldest building on campus perched on the side of hill, Old Main is not conveniently located, physically accessible, or culturally welcoming and inviting to the entire spectrum of the student population.

The existing Admissions and New Student Services / Family Outreach offices are hindered by lack of space that directly supports recruitment: a visible welcome center that is easily accessed by prospective students and their families, accurately conveys and communicates the Western experience and culture, and exposes prospective students of all backgrounds to the academic programs, campus life, and wide range of real-world learning opportunities Western offers. Administrative functions that are remotely located from tours and other welcoming functions challenge the department’s abilities to provide ready counsel and support to prospective students, especially those from marginalized communities who require these services most.

The Student Success Initiatives unit provides centralized advising services, learning assistance programs, staff and peer mentor support, and career services designed to better prepare students to succeed academically and personally, and to successfully enter the workplace. These services lack crucial visibility in their Old Main locations, leading to a lack of awareness that they exist, particularly among underrepresented students. The disjointed nature of current facilities also hinders seamless integration of services and collaboration across programs.

The Counseling and Wellness Center has seen a 15-20% increase in demand for counseling services in recent years and lacks adequate space and facilities to accommodate this demand. Their location at the top floor of Old Main with substandard elevator access impedes visibility of and access to these services, limits the ability to grow prevention and wellness programs, and subtly undermines Western’s stated commitment to creating a culture of wellbeing.

Recent projects at other institutions have demonstrated the value in developing buildings dedicated to, and purpose-built for, welcoming and providing essential student services. Research at Western has shown that students who utilize central advising services are retained at levels higher than non-users and that difference is often greater for those from underrepresented groups. And, as evidenced by the move of Western’s Tutoring Center to the Wilson Library Learning Commons several years ago, placing student services in a visible, easily accessed area increases utilization exponentially, particularly among underrepresented students who may not be as inclined to seek out services on their own.

B. STATUTORY & OTHER REQUIREMENTS

The State of Washington has a strong commitment to degree completion or credential attainment and recognizes the benefits of higher education in diversifying our state workforce, meeting the workforce demands for employees with postsecondary credentials, improving the economic circumstances for the citizens of this state, and growing the state’s overall economy. In 2013, the Washington State Achievement Council (WSAC) proposed a statewide goal that 70% of the state’s population aged 25 to 44 would have completed a post-secondary credential, which was signed that year into law by Governor Inslee.

WSAC regularly partners with the Council of Presidents, of which Western is a member institution, to identify best practices and strategies to promote and provide equitable access to higher education, to support the personal and academic needs of students throughout their college experience, and to provide them with the support and tools they need upon graduation to become active and engaged citizens of the state. As a state, we continue to fall short of meeting this goal. The integration of these key
services in the SDSC will provide for a more seamless experience for students, from recruitment to graduation, and would position Western well in helping the state meet its goal of 70% for post-secondary credential completion.

C. CONNECTION TO AGENCY MISSION, GOALS, & OBJECTIVES

WWU VISION, MISSION, & VALUES

Western Washington University prepares and inspires individuals to explore widely, think critically, communicate clearly, and connect ideas creatively to address our most challenging needs, problems, and questions.

The University is a public, comprehensive institution dedicated to serving the people of the state of Washington and committed to making a positive impact in the state and the world with a shared focus on academic excellence and inclusive achievement.

As a community, Western upholds certain basic values, including:

> Commitment to student success, critical thought, creativity, and sustainability
> Commitment to equity and justice, and respect for the rights and dignity of others
> Pursuit of excellence, in an environment characterized by principles of shared governance, academic freedom and effective engagement
> Integrity, responsibility, and accountability in all our work

Core themes essential for Western’s mission reflect the goals of the strategic plan and include advancing inclusive excellence, increasing Washington impact, and enhancing academic excellence:

Advancing Inclusive Success
Education is a powerful social equalizer and engine for upward mobility. While postsecondary institutions become increasingly diverse, the degree attainment gap persists for low-income students and students of color. Western recognizes that its most important challenge is to advance inclusive success by increasing retention and persistence rates and the number of graduates, while eliminating achievement gaps for students from diverse and underrepresented socioeconomic backgrounds.

Increasing Washington Impact
In order to contribute to the future workforce needs in Washington and the region, Western recognizes the need to expand access to programs, increase persistence and graduation rates, and to prepare its students to be successful in a continuously changing work and social environment.

Enhancing Academic Excellence
Western continues to enhance the high quality of undergraduate and graduate programs while simultaneously extending its reach to become a greater catalyst for regional economic and social development. Western strives to expand and deepen its work to build a diverse, inclusive, and equitable community and culture: in terms of access and success, curriculum, learning, shared experiences, embedded values and beliefs, and engagement opportunities to create enduring change.

ENROLLMENT & STUDENT SERVICES: VISION, MISSION, GOALS, & VALUES

It is the vision of the division of Enrollment and Student Services (ESS) that “Every student graduates, prepared for a life of growth and purpose.”

It is the mission of ESS to “Enroll, engage, and support students to promote healthy development of the whole self and our communities.” ESS supports the mission of Western Washington University through providing a comprehensive set of programs and services to promote inclusive achievement, support student learning and development, and increase Western’s impact across the state.

It is the explicit work of Enrollment and Student Services to support access, diversity, equity, and inclusion through every program, service, and structure of every department across the division.

ESS goals and related strategies for achievement include:

Increase access and persistence to graduation for all students by:
> Operate efficient enrollment management services to optimize enrollment and degrees awarded.
> Offer effective student outreach and support services targeting an 87% first-to-second year retention rate and a 75% six-year graduation rate.

Actively pursue justice and equity in policies, practices, services, and impacts
> Implement progressive recruitment and admissions practices striving for enrollment of 30% students-of-color (SOC) and overall enrollment that is representative of the state population.
> Offer strong inclusive engagement, education, and support programs to realize retention and graduation rates for SOC and other marginalized student populations that match those of the overall student population.
> Take persistent action to improve equity and justice in policies, practices, and structures, especially to advance the success of Black students reflected by participation rates by SOC in programs and services that are representative of student population.

Provide broad co-curricular programs and services to support student development
> Offer impactful social activities and co-curricular programming
> Offer robust professional development opportunities to increase professional competencies and achieve an 80% graduate employment rate.
Cultivate partnerships to foster strong community and promote holistic wellness

> Operate collaborative community wellness programs targeting increased access to social support and wellness services and increased partnerships with university departments and community organizations.

The Student Development and Success Center will increase access to and effectiveness of student services at Western in ways that directly support these goals and strategies, and in so doing, further the mission of Western Washington University.

D. WHAT IS NEEDED TO SOLVE THE PROBLEM

A new Student Development and Success Center (SDSC) will contribute significantly to Western’s ability to fulfill its mission and the distinct mission of Enrollment and Student Services. An easily accessible and welcoming facility with consolidated student support services is crucial to achieving Western’s goal of improving its graduation rates, especially those of underrepresented students. By providing inclusive and welcoming spaces, and easily accessible and convenient student services and support, it will aid in student retention leading to increased graduation rates and better prepare students to successfully enter the job market.

The Preferred Alternative described in this report is a new 40,985 square foot facility that will co-locate a new Welcome Center with Admissions, New Student Services / Family Outreach, Academic Advising, Career Services, Student Outreach, and Counseling and Wellness services in one collaborative facility. Existing space that is vacated by these programs will serve to meet long-term growth needs of less student-facing administrative functions better suited to their Old Main location.

The facility will also have flexible space where complementary student services not based in the SDSC can offer more direct student-facing interaction, including Registrar, Financial Aid, Student Employment, Scholarships, and Disability Services. A social justice resource center and commuter student support spaces are planned, as well as a café funded with auxiliary dollars that will entice foot traffic and encourage the use of collaborative/study space during many hours of the day.

The total project budget is $59,800,000. Western Washington University is requesting Design and Construction funding of $49,500,000 in the 2023-2025 biennium and will contribute an additional $10,000,000 in alternative funding to the project. $300,000 was allocated for Predesign in the 2021-2023 biennium.

The SDSC will achieve the following goals:

**A Welcoming Gateway**

The Student Development and Success Center, welcoming and accessible to all, manifests the essence of the Western experience. Prospective students’ decisions to enroll are grounded in an accurate and improved understanding of Western’s culture, clarified alignment with their personalities and preferences, and enhanced ability to envision themselves thriving as part of the Western community. Recruitment outcomes are thus optimized by increasing the likelihood of ongoing retention and eventual graduation of enrolled students.

**Access, Diversity, Equity, and Inclusion**

The SDSC will be physically and culturally welcoming and accessible to all, with particular emphasis on improving inclusivity and access for students of marginalized or disenfranchised populations. Occupants and visitors will see themselves reflected in the design and in the corresponding reflection of Western’s culture, promoting diversity through increased recruitment and improved retention and success for students from historically underrepresented populations.

**Visible, Integrated Spectrum of Student Services**

Access to and utilization of an integrated spectrum of student services, critical to increasing student retention and success rates, is enhanced by co-location of key services to seamlessly support student success from pre-enrollment through graduation. A central point of contact and support, adjacent to vibrant student collaboration spaces, facilitates both physical and functional wayfinding of services within the facility and across campus and offers a range of engagement models to suit individual needs including self-service, drop-in, and scheduled appointments. Campus tours will highlight availability of services, increasing awareness for prospective students and peace of mind for family members.

**Culture of Wellness & Prevention**

As an early adopter of the Okanagan Charter, Western is committed to embedding health and wellness into all aspects of campus culture.

Student health and wellbeing is prioritized by the integration of the Counseling and Wellness Center into the SDSC program, in combination with access to a variety of wellness-promoting features and functions such as a healing garden and meditation space. Improved access to and delivery of these services will positively impact student retention by addressing their needs holistically.

**Efficiency, Flexibility, and Future Thinking**

The SDSC represents an effective and efficient use of capital resources, leveraging hybrid work patterns and collaboration technologies to find new and efficient ways to allocate and use space. Hoteling space is provided to support complementary ‘pop-up’ services such as Registrar, Financial Aid, and Disability Services that are based elsewhere on campus, efficiently providing a co-located spectrum of services without relocating entire departments.
A variety of shared meeting and collaboration spaces are provided to support student service functions during the day and are reservable by students and student clubs in the evening hours. These spaces will supplement the few that currently exist in the area to create a much needed network of flexible, multi-purpose spaces in the South Campus.

**Holistically Sustainable**
In accordance with Western’s adoption of the Okanagan Charter, all aspects of the SDSC emphasize and support health, wellbeing, and sustainability through visible strategies that serve as a reflection of Western’s culture and values. The project achieves net-zero energy and net-zero carbon (including embodied carbon) performance and achieves Living Building Challenge v4.0 Petal (Energy) Certification.

**E. RELEVANT PROJECT HISTORY**
The Student Development and Success Center was included in Western’s 2021-2031 Ten-Year Capital Plan and received predesign funding in the 2021-2023 Capital Budget. Several of the programs intended for the new building have had their existing spaces in Old Main renovated recently under the Minor Works category, in order to improve their functionality in spaces that have no room for growth and are not ideal for providing high-quality student services. The renovations were designed by Western’s in-house team with the expectation that the programs would be moving to a purpose-built facility and were deliberately designed for flexibility for future backfill.
Section 04

DETAILED ANALYSIS OF PREFERRED ALTERNATIVE

A. Scope & Project Description
B. Site Analysis
C. Consistency with Long-Term Plans
D. Consistency with Other Laws & Regulations
E. Problems That Require Further Study
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I. Commissioning
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SECTION 04
DETAILED ANALYSIS OF PREFERRED ALTERNATIVE

A. SCOPE & PROJECT DESCRIPTION
The conceptual program for the Preferred Alternative allocates a total of 40,985 gross square feet for a new three-story Student Development and Success Center (SDSC) that supports the project goals described in Section 02, Problem Statement.

A WELCOMING BEACON
Located at the south end of the academic core of campus, adjacent to the Flag Plaza, the new building is envisioned as a greeting point and welcome center for visitors arriving on campus.

Its siting at the more accessible southern entrance to campus will allow the Center to serve as the meeting point for campus tours, prospective student visits, and community interactions. Interactive spaces will give prospective students and their families the opportunity to explore the college experience at Western.

The facility will also be a strong draw for current students who will utilize the vibrant café space, commuter resource center, and collaboration room spaces, creating a hub of student life at the south end of campus, and in so doing create more connection with, access to, and visibility of the student support services housed in the building.

CONSOLIDATED & ACCESSIBLE STUDENT SUPPORT
Active, welcoming student development space will be used to coach and engage students to support their academic success and development of personal and civic responsibility. Collaborative study spaces will accommodate group learning throughout the day and evening.

Meeting and collaboration spaces will serve multiple purposes and could support leadership, entrepreneurial, and/or wellness functions. Services and building amenities are optimized to help students successfully transition into and through the university to emerge as thoughtful, engaged citizens.

Enrollment Management programs being addressed include:
> Admissions
> New Student Services / Family Outreach

Student Success Initiative Programs being addressed include:
> Academic Advising
> Student Outreach Services
> Career Services
> Select complementary services (Financial Aid, e.g.) in shared hoteling stations

Counseling, Health, and Wellness programs being addressed include:
> Counseling and Wellness Center

SHOWCASE STUDENT SUCCESS AND WELLNESS
The facility will employ multiple strategies for showcasing student success and wellness. The Welcome Center will feature student work and student life on display through physical and/or digital media, allowing
prospective students to see themselves living and succeeding at Western. This is especially important for underrepresented populations. A sense of student wellness will permeate the building through messaging, displays, and integration with nature, light, natural materials, and biophilic elements.

Existing locations of key services ‘off the beaten path’ create barriers to access. Direct visibility and seamless access to services and wellness activities will increase utilization of these services and enhance the benefits to students.

Creating a services ‘hub’ where both open and semi-private student support activities are conducted prominently will help normalize the activity of seeking out services. Similarly, health and wellness programs will utilize multipurpose rooms and other building features to prominently showcase wellness activities available to students. The prominence of these services and amenities will give prospective parents and guardians peace of mind, knowing these resources are available and accessible to Western students.

**PROGRAM ALLOCATION**

The proposed SDSC facility will bring together programs from three Enrollment and Student Services units in one location. Of the assignable building area, 15% will accommodate Enrollment Management departments (including Admissions and New Student Services / Family Outreach), 25% will accommodate Student Success Initiatives departments (including Academic Advising, Student Outreach Services, and Career Services), and 13% will accommodate Counseling, Health and Wellness. The remaining area will house a variety of support spaces and amenities, including the Welcome Center (11%), shared support (18%), and community amenities (18%).

Program areas are shown in the above chart and described in the following Section A.1.

**HIGH-PERFORMANCE DESIGN**

Buildings are responsible for some 40% of total annual global greenhouse emissions. Consequently, they have an outsized impact on climate change and must be designed sustainably from the start. Traditionally, design decisions have been driven by first costs or cost of construction; a sustainable approach looks at the triple bottom line – economy, ecology, and equity.

Decisions are made with concern for the balance between responsible use of public resources, preservation of natural systems, and consideration for societal needs. Western Washington University understands these imperatives and has long made sustainability a central tenet of their identity and mission, which will be reflected in the SDSC building.

Since 1969 and the inception of the College of the Environment, Western has built a reputation for educating and advocating for sustainability and fostering the next generation of sustainability leaders. Sustainability has become integral to Western’s identity. In 2015, Western established the Institute for Energy Studies (IES), a multi-college, interdisciplinary program to address the science, technology, policy, business, and economic aspects of clean energy systems. Beyond a wide variety of courses, degree programs, and extracurricular activities centered on sustainability, Western has made broad infrastructure improvements and initiatives that reduce environmental impacts.

While more remains to be done, the campus itself serves as a living laboratory for sustainability. WWU has purchased 100 percent renewable energy since 2004 and aims to achieve carbon neutrality by 2035. Western released its Sustainability Action Plan in 2017, serving as a comprehensive roadmap for an inclusive set of sustainability measures, including operational energy, carbon emissions, ecology, social equity, and human health. The new SDSC building is intended to represent Western’s unique character and put its Sustainability Action Plan into practice and on display.
As both a place to welcome new students and support existing students, the SDSC must embody the mission and values of Western. Sustainability will be woven throughout the building and be displayed through material use, a focus on health and wellbeing, and achievement of net zero operational energy.

Given Western’s ambitious sustainability goals, the project is pursuing the following strategies:

- International Living Futures Institute (ILFI) program: meet the requirements of the Living Building Challenge (LBC) v4.0 Energy Petal certification which includes:
  - All LBC Core Imperatives
  - Meet Energy Petal requirements:
    - No combustion
    - Supply 105% of the project’s energy needs through on-site renewable energy (on a net annual basis)

- Develop and incorporate a resilience strategy to allow the building to be habitable for one week (using batteries, storages, etc.) OR participate in support for the local community in a disaster.

The LBC program is more consistent with WWU’s goals and therefore replaces the University’s minimum standard (as described in their Sustainability Action Plan) of LEED v4.0 Gold certification.
A.1 NATURE OF SPACE / SPACE TYPE INVENTORY

Areas in the SDSC have two primary functions, or space types: office areas and collaboration areas. Of the assignable area, 53% will accommodate office areas and 47% will accommodate collaboration areas, as shown in the chart at right.

OFFICE AREAS

Office areas are primarily comprised of counseling rooms, advising rooms, staff offices, and open workstations, along with check-in, waiting areas, storage, and other departmental support space. The counseling and advising rooms are provided for counselors and advisors who meet frequently with students and provide services that require confidentiality. Workstations are provided for staff who do not need that level of privacy.

Staff work areas are consistently sized across all facility departments and accommodate WWU’s office furniture standards. The office areas are designed with flexibility in mind, within a column grid that will accommodate future program changes such as new or expanding services, the changing impacts of hybrid work, and the use of multiple modalities for accessing services.

Office areas in the new SDSC include departments from the following Enrollment and Student Services units:
> Enrollment Management
> Student Success Initiatives (SSI)
> Counseling, Health, and Wellness

Enrollment Management

Enrollment Management departments accommodated in the building include Admissions and New Student Services/Family Outreach. Admissions provides admission advising for individuals and groups, orientation, campus tours, and hosts information sessions for prospective students. New Student Services/Family Outreach supports the transition process of new students and their families to the WWU community through the orientation process, access to academic advising and registration programs, and special events for students and families.

Enrollment Management also runs the Welcome Center, which is included below in the Collaboration Areas section. The Welcome Center serves as a touchpoint when prospective students arrive, forming their first impressions of the University. The entry experience will help students understand the feel and culture of the institution and promote sense of belonging across a spectrum of potential students.
Program areas include:

> Shared use of the Welcome Center check-in desk and reception area.

> Advising rooms and open workstations to accommodate a total of 42 staff. Advising rooms are located adjacent to and in some cases within the Welcome Center to provide a seamless and integrated experience for prospective students and their families.

**Student Success Initiatives**

SSI programs offer advising, tutoring, and mentorship for enrolled students to better prepare them to successfully enter the workplace. Departments accommodated in the building include Academic Advising, Career Services, and Student Outreach Services.

Academic Advising offers support and resources around academic plans and goals through drop-in and scheduled appointments. The Career Services Center provides career advising, professional connections, access to volunteering and internship opportunities, and interview training and support. Student Outreach Services serves first-generation, multicultural, and non-traditional students through academic coaching, peer mentoring, and specialized programs.

The proposed SSI space will provide a welcoming and engaging environment that will encourage students to access services through a variety of service modalities (independent online access, one-on-one support, and group engagement) and styles (informal discussions, drop-in sessions, and scheduled appointments).

The co-location of SSI programs will allow students to easily access a full range of services offered for academic and career planning in a single location enabling smooth handoffs between advisors, career counselors, and other support staff.

Program areas within SSI include:

> Check-in desk with four stations and a waiting area to accommodate up to 15 students. An expanded service hub in the waiting area also locates advising staff and student staff ( navigators) to meet students where they are and provide non-confidential services at open and accessible help stations.

> Open workstations serving 47 staff and 10 student staff are supported by adjacent shared confidential advising rooms.

> Hoteling stations are provided for access to complementary/ supplemental services not based within the SDSC including Registrar, Financial Aid, Student Employment, Scholarships, and Disability Services, efficiently providing a comprehensive spectrum of services without relocating entire departments.
Counseling, Health, and Wellness
This department provides counseling, prevention, and wellness services for Western students. The proposed program accommodates a range of services including one-on-one therapy, couples counseling, and group therapy, along with wellness and prevention education programs for groups.

The Counseling and Wellness Center is located on the third floor, directly accessible from the main stair and elevator, and with access to daylight, views, and nature to provide the most suitable healing environment for both counseling staff and the students they are serving. These spatial qualities will also improve staff retention and recruitment, including enhanced recruitment for the doctoral internship, post-doctoral, and practicum training programs.

Program areas include:
> Check-in and waiting room for up to eight students as well as an additional private waiting room for students in trauma.
> Private offices/counseling rooms for 20 counseling staff and eight open workstations for prevention/wellness staff.
> Dedicated meeting room for group counseling and wellness education.
> Dedicated student space for student volunteers and graduate students.
> Access to a rooftop patio surrounded by a green roof, which will serve as healing garden and outdoor space for wellness programs.

COLLABORATION AREAS
Collaboration areas are distributed throughout the building to provide groups of various sizes to meet, study, and build community. These collaboration areas are located with direct adjacency to student services to promote visibility and access to services while promoting opportunities for dialogue between students, peer mentors, and advisors, as well as improve collaboration between the advisors and other student services. A diversity of sizes, functions, and space types (formal and informal, open and private) provide a welcoming environment for students, peer mentors, and staff to engage in a variety of ways.

Collaboration and shared amenities within the facility include the following, and are described in more detail below:
> Welcome Center
> Shared Support
> Community Amenities

Welcome Center
The Welcome Center provides an identifiable and accessible entry point to the University for students and visitors, directly improving student recruitment. It also serves as a touchstone for new students to come back to when they need services but are not sure where to turn, providing the basis for an ongoing relationship and optimizing student persistence. What prospective students see through photos, art, diverse representation, languages, and culture help to create a strong connection between their initial perception and their actual student experience once they are here.

Program areas in the Welcome Center include:
> Information desk with three staff that are available to provide general information and referrals to other services, as well as serving as the check-in desk for Enrollment Management services.
> Reception area that is sized to accommodate up to 80 people (standing) for tour groups and other events. The waiting areas serve as a place to access needed information and learn about the Western experience while waiting for presentations and tours to begin.
> The interactive exhibit gallery is an open area with rotating displays showcasing Western's identity and spirit, as well as providing additional gathering space for events for up to 30 people. The gallery will use technology for students and guests to access information specific to them in their exploration of Western Washington University.

> The presentation room is a large, flexible space that accommodates up to 50-100 people for formal presentations or other large gatherings.

**Shared Support**
The proposed shared support areas for the SDSC include a variety of different areas, to provide an array of flexible-use environments for both student and staff support and collaboration.

Program areas include:

> Five collaboration areas, each accommodating up to 15 people, provide informal areas for small- to medium-sized student groups to gather, study, and socialize. They also serve as overflow waiting areas for student services as well as places for advisor and student mentors to engage with students outside of a traditional enclosed advising room.

> Four small conference rooms, seating up to four people each, and four medium conference rooms, seating up to 25 people each, are distributed throughout the building to provide support for department staff and other building users. They allow for service departments to collaborate internally and with each other. Workshops for student services and prevention and wellness in the medium conference rooms and are located at prominent corners of the facility to promote holistic student wellness. The small conference rooms will be used for multiple functions such as break out meeting space, student study, mentoring, and interviewing. These small and medium collaboration spaces are located directly off main building circulation so that they may be available outside of normal business hours for extended periods of use by students, staff, and external groups.

> A staff break room, with a seating area and kitchenette, can accommodate up to 20 people and is shared by all building staff. This is envisioned to be an additional impromptu collaboration area as well as a respite space for the staff.

> “Break-out” niches along circulation routes are small unprogrammed open areas that provide convenient locations for students, student mentors and advisors to take a break or make casual connections and conversations.
Community Amenities
The proposed community amenity spaces in the building provide additional services and support for students, as well as reinforcing WWU's identity and culture. By creating a supportive and engaging environment, these spaces help build community, address currently unmet student needs in the southern part of campus. The amenities improve student persistence, particularly for underrepresented students, by providing specific resources these populations need.

Community amenities within the SDSC include:

> A study café will provide food and beverage service and open study lounge area and table seating for between 50-100 people. The café is envisioned to provide healthy food alternatives in theme with the mission of the facility and provide respite for students and staff. The study café’s prominent location at the south end of campus will serve as a destination for students to gather, study, socialize, and collaborate. The study café’s immediate proximity to student services and the Welcome Center creates an opportunity for a more casual engagement between advisors and students over coffee or a light meal. The study café is surrounded by outdoor gathering spaces promoting holistic health through the promotion of social connections and connection to nature.

> The Commuter Resource Center provides access to a variety of functional supports for students who do not live on campus. The space includes a seating area with a kitchenette, computer/printer station, day-use lockers, shower/changing room, meditation room, and a nursing mother’s room. An attendant station is also provided for supervision. The Commuter Resource Room is anticipated to improve access and availability of adjacent services to underrepresented students.

> The Social Justice Center supports WWU’s Social Justice and Equity Committee (SJEC) in the “ongoing examination, reflection, and action needed to transform the academic policies, practices, and behaviors that result in inequity, exclusion, and social injustices at WWU.” This area includes a group collaboration space for up to 28 students and three shared workstations, and accommodates SJEQ’s work supporting social justice grants, providing faculty learning labs, and hosting facilitation training and critical dialog sessions.

PROGRAM SUMMARY BY SPACE TYPE
The table on the following page identifies the program areas in the facility by space type and provides a total assignable area (NSF) for each function.

A.2 OCCUPANCY
The Preferred Alternative provides facility space for 601 occupants on campus, including the following:

> 167 occupants in office areas, including staff offices, staff and student open workstations, and reception/waiting areas.

> 434 occupants in collaboration areas, including the Welcome Center (exhibit and presentation spaces), shared support (collaboration rooms and conference rooms), and community amenities (café, Commuter Resource Center, and Social Justice Center).

See the Program Summary table on the following page for a breakdown of occupancy counts for each building area.
**A.3 BUILDING CONFIGURATION**

The 41,000-square-foot, three-story Student Development and Success Center will be a welcoming gateway building for the campus. It is envisioned to be central hub for co-located student services, to improve access to, visibility of, and collaboration of student services. Collaboration areas are focused on the ground floor and dispersed on each floor in proximity to other services, to bring more student traffic and visibility of student services.

Student services functions are centralized in a three-story volume within a structural frame, allowing for flexibility for reconfiguration of services as needs evolve. Vertical circulation and connecting openings are prominently located for ease of wayfinding, communication, and connection between these services. The narrow floor plate of the main building allows for better access to daylight, visibility, and views for all occupants.

Student Success Initiatives services are distributed on all three floors, with most of Student Success Initiatives on the first floor and second floor, and Career Services on the third floor. Admissions is distributed on both the first and second floors of the building, and New Student Services / Family Outreach is on the first floor.

The Welcome Center and study café are single-story, pedestrian-scaled pavilions that are focal points at the south end of the site to draw people in and showcase Western’s vibrant culture and diversity to prospective and existing students. Collaboration spaces, such as informal study areas and dedicated meeting rooms, line the east side of the facility and are visible from the main campus thoroughfare, while also activating the in-demand outdoor gathering spaces created by the building’s shape.

The Commuter Resource Center, Social Justice Center, and Counseling and Wellness Center are located at the north end of the building facing campus on the first, second, and third floors respectively. The location of the Counseling and Wellness Center on the third floor, as well as its direct access from the less-public north building entrance, provide additional privacy for students seeking services.
SECTION 04 | DETAILED ANALYSIS OF PREFERRED ALTERNATIVE

DIAGRAM:
Conceptual Plan: Third Floor
A.4 SPACE NEEDS ASSESSMENT

PROGRAM DEVELOPMENT PROCESS

The program development process began with an analysis of building users’ needs. Information was gathered through a visioning session with staff stakeholders, interviews with each department, program questionnaires, service delivery process mapping, and multiple student engagement sessions. In addition, a detailed inventory of existing space usage was developed for relevant programs.

Information gathering was followed by the development of a comprehensive listing of required spaces, supported by the technical requirements for each. The Washington State Facilities Evaluation and Planning Guide (1994) and State Facilities Workplace Strategies and Space Use Guidelines (2017) were utilized as planning tools to establish physical facility square footage requirements, in addition to WWU office standards and historic program information from similar projects.

An initial “ideal” numeric program evolved from this process, outlining the desired spaces. This initial program was refined to align with the allowable program size accommodated by the allocated budget, through efficient use of space and implementation of shared usage wherever possible, while still accommodating the necessary program functions.

Reduction strategies included developing shared check-ins, waiting areas, and conference rooms, creating hoteling stations to accommodate some functions, and utilizing circulation areas for informal gathering space. The resulting building program, at 40,985 gross square feet, aligns with budget requirements and meets Western’s program needs.

<table>
<thead>
<tr>
<th>Program Area</th>
<th>FEPG Guidelines</th>
<th>Space Use Guidelines</th>
<th>SDSC Program</th>
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</thead>
<tbody>
<tr>
<td>Offices</td>
<td>120-175 SF each</td>
<td>100-150 SF each</td>
<td>100-120 SF each</td>
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<tr>
<td>Workstations</td>
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<td>42-64 SF each</td>
<td>40-60 SF each</td>
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<td>Conference Rooms</td>
<td>20 SF/person</td>
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<tr>
<td>Focus Rooms</td>
<td>n/a</td>
<td>40 SF/person</td>
<td>25 SF/person</td>
</tr>
<tr>
<td>Collaboration Space</td>
<td>n/a</td>
<td>20 SF/person</td>
<td>20 SF/person</td>
</tr>
</tbody>
</table>

PROGRAM COMPARISON TO GUIDELINES

Proposed program areas for the SDSC are in alignment with, or more efficient than, the State guidelines, as shown in the table above.

Other required facilities in the State Facilities Workplace Strategies and Space Use Guidelines that are provided in the proposed SDSC program include a wellness room (required if facility is over 5,000 GSF), lactation room (required if over 50 employees), and shower facilities (required if facility is over 20,000 GSF).

IDENTIFIED NEEDS

Enrollment Management / Student Success Initiatives

Enrollment Management and Student Success Initiatives departments have been retrofitted into Old Main, a building that was not intended or built for the needs of today’s student. These services have been ‘piecemealed’ within Old Main and are negatively impacted by the existing structure and its physical limitations to effectively inhibit an integrated and collaborative delivery of student services, offering little or no flexibility to accommodate future growth and major reconfiguration.

Accessibility and wayfinding are both difficult within Old Main, and the architectural character, while historically significant, is perceived as intimidating and uninviting by many students seeking services, effectively limiting access to these services for students that may need them to succeed.

The student services are currently dispersed and fitted into obscure corners of Old Main, preventing students from seamlessly experiencing the full range of services offered for academic and career planning and learning assistance. Instead, students must be referred out and handed off between service units, which creates frustration and discourages students from seeking the services they need. The dispersion of services does not contribute to a sense of community and collaboration between the service units that are striving to provide student-centered care and support.

Counseling, Health, and Wellness

The Counseling and Wellness Center is currently serving a high volume of students: approximately 15-20% of the student population. This reflects a significant increase in demand for counseling services at Western in recent years that has overwhelmed the Counseling and Wellness Center. There are not enough counseling rooms for the number of counseling positions nor sufficient space for the large number of student volunteers.

Therapy rooms are small and barely adequate for couples counseling. The acoustics in the current facility are also challenging for confidentiality. A new facility will improve services for the high volume of students seeking counseling services, and improve staff retention and recruitment of post-graduate students.
The current Counseling and Wellness Center facility on the fifth floor of Old Main is difficult to find, uninviting, and inaccessible to those who are mobility challenged. Its location directly adjacent to academic classrooms has discouraged students from seeking help and creates confidentiality challenges.

A greater emphasis is being placed on prevention and wellness education, to combat the increased demand for counseling services. This is hampered by the lack of dedicated resource space to support workshops and trainings. The current spaces being used are either inaccessible by wheelchair or located in a converted attic storage room.

The poor visibility and other challenges inherent in the existing Counseling and Wellness Center are also inconsistent with Western’s commitment to holistic student wellness in all aspects of campus culture, the ideals that led to the Okanagan Charter.

**Welcome Center**

The campus visit is overwhelmingly the single most influential source of information for students in their decision on college choice (Brown, 2010; Hesel, 2004; Okerson, 2016). Western Washington University does not have a welcome space for prospective students and families that reflects the spirit and identity of the University, making it an outlier amongst its competitors.

The current check-in space at the Wade King Recreation Center does not meet the broader hosting needs that the Admissions office requires. Space limitations create a fragmented guest experience, lacking the festive, celebratory space traditionally seen in Welcome / Visitor Centers.

The arrival experience for prospective students is chaotic, confusing, and frustrating. There is no clarity of where to start and where to go. There is no welcoming space for prospective students, and no large presentation space of adequate size for information sessions, requiring Admissions to compete for available and sometimes ad hoc spaces for this important function. Prospective students often have “subdued” excitement,” particularly due to the lack of any defined welcome center, compared to competitor institutions.

The Welcome Center plays an important role in improving both the recruitment and persistence of students. Having accessible and welcoming space for prospective students and families improves recruitment. Having a space that communicates a strong and accurate picture of WWU's identity and offerings gives students a true sense of what WWU offers and is part of making sure that the University is recruiting students that will succeed in the long term.

**Collaboration Areas and Community Amenities**

Existing collaboration areas across campus are heavily utilized throughout the day, however there are few such spaces serving south campus. Providing variety in type and scale of comfortable, welcoming collaboration areas along with shared amenities such as a café will appeal to a wide range of students for individual and group study, collaboration, and socializing.

Integration of collaboration areas and other shared amenities will serve complementary and synergistic functions with the proposed student services programs. As evidenced by the relocation of Western's Tutoring Center to the Wilson Library Learning Commons several years ago, students who come to the SDSC to utilize these spaces are also more likely to be aware of and utilize the student services offered in the building, directly support the primary goals of the project. Vibrant, active collaboration spaces will also convey a strong sense of Western's culture to prospective students and their families who are visiting the Welcome Center and participating in campus tours.
**B. SITE ANALYSIS**

**B.1 SITE STUDIES THAT ARE COMPLETED OR UNDERWAY**

**GEOTECHNICAL ASSESSMENT**
The predesign team had access to several geotechnical assessments that were prepared for recent campus development in the vicinity of the proposed site. Findings in these reports informed the conceptual basis of design narratives and the project budget analysis.

For the purposes of the predesign study, it is reasonable to assume that soil conditions at the proposed site will not differ measurably from those at nearby building. A site-specific geotechnical investigation and site survey will be completed prior to commencement of design activities; costs for this study are included in the Form C-100.

**TRAFFIC STUDY**
A traffic study was previously completed to inform future roadway modifications and a planned transit center adjacent to the campus entry, which in turn informed the conceptual project siting. Specific traffic impacts related to the SDSC are not considered significant and were not evaluated as part of the predesign study.

**HEATING CONVERSION FEASIBILITY STUDY**
Western is completing a Heating Conversion Feasibility Study at the request of OFM, to determine the feasibility of converting the existing steam distribution system on the WWU campus to a water-based system. The intent is to reduce, and ultimately eliminate, the WWU heating system’s greenhouse gas emissions and reduce its overall environmental impact. Findings of this study will inform design strategies of SCDS mechanical systems during the design phase.

**B.2 PROJECT SITE INFORMATION**

**LOCATION**
The Student Development and Success Center will be prominently situated as a gateway building for the Western Washington University campus in Bellingham, Washington. Located at the terminus of the primary access road to the south end of campus, the proposed new building will act as a gateway and improved entry point for the campus.

Transportation and vehicular improvements are proposed to the south along West College Way to address existing circulation challenges and to meet long-term sustainability goals. In the future, this part of campus will be a vital hub and place of arrival for a new generation of students and visitors.
FOOTPRINT, ADJACENCIES & SITE FEATURES

Building Footprint
The proposed building footprint is approximately 16,615 square feet and occupies approximately 30% of the site area of 56,800 square feet. The building is primarily a long three-story structure configured in a north-south orientation. Two one-story "pavilion" structures branch off the main volume to accommodate the Welcome Center and café programs.

Adjacent Facilities and Site Features
Western Washington University is surrounded by three major geologic features; Bellingham Bay to the west, Cascade Mountains to the east, and the Chuckanut Formation which lies throughout the greater Bellingham area, and beneath WWU. This feature has been eroded and uplifted over centuries, but its presence today is visible through the varied terrain on-site and surrounding mountains.

The project site is bordered by the two-story Wade King Recreation Center to the west and a three-story academic building (Academic Instructional Center West) to the east. An outdoor athletic field is located to the northwest, at a higher elevation. A service road (21st Street) along the west side of the project site separates the building from the athletic fields and provides vehicular service and fire truck access to the building and site. The main paved campus promenade running north-south is along the east side of the project and is the main pedestrian thoroughfare and connection to the project.

To the south is Flag Plaza, which serves as the main outdoor gathering area for students and visitors arriving by car or bus. To the northeast of the site is Communications Lawn, a large oval shaped outdoor green that is surrounded on three sides by academic facilities. Another notable site feature is an underground utility tunnel located east of 21st Street.

The site's vehicular access is from the south along West College Way. Two major intersections are in close proximity to the site, where West College Way intersects with Bill McDonald Parkway and South College Drive. Several large surface parking lots are located directly to the south of West College Way and will provide the primary parking for the new facility. The project site and building will displace approximately 40 existing parking stalls, which will be relocated elsewhere on campus.
Circulation
As shown in the above diagram, major pedestrian thoroughfares connecting to the rest of campus exist on both sides of the site, along 21st Street to the west of the site and the campus promenade to the east of the site. Fire and service access is provided along the west side of the property on 21st Street.

There is a well-utilized pedestrian and bike pathway connection near the southeast corner of the building. Vehicular access is on West College Way and runs east-west along the south side of Flag Plaza, as well as from Bill McDonald Parkway, which intersects with West College Way.

Parking is located on both sides of Bill McDonald Parkway, with the majority of the accessible parking at the parking lot southwest of the intersection of West College Way and Bill McDonald Parkway.

Topography
The site is relatively flat. There is a gentle grade change increase from the south to the north side of the site. Over the 300-foot length of the property, this grade change may be significant. A detailed topographical survey and coordination with grading strategies during the design phase will be needed to establish the right elevation of the first floor, to minimize significant ramping up to the building and reduce retaining wall heights on the north end of the building.

New grading will align with proposed site improvements and as necessary to meet drainage requirements for the new development. The proposed building design may require a slight cut and excavation into the sloped topography at the north half of the site. A low-berm landscape feature at the south end of the site, intended to protect outdoor seating areas from prevailing wind and visually conceal vehicular traffic, may be an opportunity for excavated soils to be used on site and create a balanced site export and import.

Geotechnical / Soils
The predesign team reviewed historical geotechnical assessments prepared for projects in the vicinity of the proposed site. The most recent and relevant was completed in 2005 for the AIC project located immediately east of the proposed project site. This report indicated encountering “variable conditions across the site, including fill materials likely remaining from earlier campus development, glaciomarine
drift, and lodgement till, all underlain by siltstone/sandstone bedrock at nearly all borings." These findings and the recommendations included in the 2005 report informed the conceptual basis of design narratives and project budget analysis for this predesign study.

A site-specific geotechnical report and site survey will need to be completed prior to commencement of design activities to completely assess site, soils, and structural requirements for the building site.

**Solar and Wind**

The site receives good solar access during business hours, from 8:00 am to 5:00 pm all year long, as shown in the above diagram. AIC West to the east and the Recreational Center to the southwest do not obstruct solar access in any meaningful way. The hillside to the west of the site will also block much of the late afternoon sun, minimizing its impact on the building.

Prevailing winds are from the south and the north and can be at a measurable velocity to impact comfort. Consideration should be made for providing wind protection for outdoor spaces in the design of the facility. The strong wind flows may also be a benefit for natural ventilation to portions of the building.
**PREFERRED ALTERNATIVE SITE CONCEPT**

The site for the Student Development and Success Center is positioned to provide a new gateway experience and create a welcoming place for the future student body. The new building will connect to the active Flag Plaza on the south, which will in turn embrace the future transit hub to the south.

The site offers views of Chuckanut Mountain to the south and provides great opportunities to situate the building and its users with views towards this landscape, which is integral to the identity of Western Washington University. The Welcome Center pavilion angles to face that view and features a native-seeded meadow in the foreground that serves as the arrival landscape surrounding the path from Flag Plaza.

**Vehicular Improvements**

Currently, the campus community uses the asphalt drive to the west of the site and the promenade to the east of the site. It is recommended that the connection between Flag Plaza and the western route be closed off, because it splits campus circulation and detracts from a clear campus arrival.

Service access along this western route could remain in place from the north to the SDSC loading area. New landscaping in this area would remove the redundant route to College Way and create a more visually separated service core for the Recreation Center and the SDCS. It will also emphasize a clear route to the primary north-south campus corridor along the east elevation of the new building.

**Welcome Center Entry**

The south entry is highly visible from Flag Plaza and will greet prospective students and visitors as they arrive. The welcoming arrival is framed by the Welcome Center and café that flank the entry with student activity and student culture on display. Specialty outdoor signage or branding elements to further mark the gateway into campus and allow for “Instagram moments.”

The visibility of solar panels and green roof on top of the Welcome Center and café pavilions, along with the meadow landscape, further reinforce the university’s identity of sustainability and connection to nature.

**Student Success Entry**

The Student Success entry will be accessed from the north courtyard and patio, adjacent to the promenade.
Student services will be prominently identified by signage, along with the visibility of advising activities and wellness programs on display from the outside.

**Outdoor Gathering Areas**
Connecting internal building spaces to the outdoors creates a vibrant, welcoming place and supports the function of the building to promote health and wellness through connections to nature, the outdoors, and recreation.

On the north side of the café, the patio and courtyard will provide space for café spill-out and other student activity. These areas will be protected from the busier vehicular and parking zone to the south, as well as provide a buffer to seasonal winds and weather.

The courtyard will have ample seating options for small- and medium-sized group activities to serve as the foreground to the main entry into the Student Success area. The courtyard stretches between the entire east elevation of the SDSC and the active north-south campus corridor, providing a relatively protected outdoor space on campus.

This area will have abundant solar access and will be bordered by lush planting that screens the space from the promenade and provides stormwater quality treatment.
**WATER RIGHTS & WATER AVAILABILITY**

Domestic water service for the new facility will be supplied by a water main adjacent to the west of the project site. Although located on WWU campus property, this is a City of Bellingham-owned mainline system.

Based on preliminary coordination with permit review staff of the City of Bellingham Public Works Department, there is no formal process or documentation required to confirm water rights and availability for the proposed site development. The City of Bellingham owns the water infrastructure in the site area, and as the sole water utility purveyor for the site, a water availability process is not required. It is recommended that specific water utility requirements associated with the proposed development be confirmed through a pre-application meeting with the City of Bellingham prior to permit submittal.

**STORMWATER REQUIREMENTS**

The City of Bellingham has adopted the Department of Ecology (DOE) Stormwater Management Manual for Western Washington (municipal code states “current edition” of the manual). The drainage approach designed for the project will comply with the requirements in DOE manual.

The project is located within the South Campus Basin within the WWU campus. There is an existing storm mainline system adjacent to the west of the project site.

Based upon a Stormwater Report by Cascade Engineering Group for the C-Lot upgrades Phase II, Western Washington University has provided stormwater mitigation facilities for the existing impervious areas within the south campus basin in accordance with the current City of Bellingham requirements. The south campus detention vault (South Campus Storm Drainage Basin) was sized to mitigate a portion of the 2017 onsite impervious surfaces to forested conditions.

The City of Bellingham, per BMC 15.42.060 E.2, allows for 50% of the impervious surfaces within the basin in the year 1995 to not be mitigated. (BMC 15.42.060 E.2: “Replaced surfaces may be allowed to be mitigated differently than new surfaces. When required to comply with the forested standard of Minimum Requirement No. 7 in subsection (F) of this section, only 50 percent of the replaced surfaces must be mitigated to comply with the forested standard. The remaining 50 percent of the replaced surfaces may either be considered in the forested condition or if desirous, may be considered in the condition existing as of September 1, 1995, as may be determined using aerial photography or other means acceptable to the city.”)

Based upon this information, to meet the City of Bellingham stormwater requirements, it is anticipated that only the new impervious surfaces would be required to be mitigated, and that the south campus detention system has been designed with the capacity to mitigate runoff of an equivalent area of the existing impervious. However, after the completion of the adjacent EECS Building and South Campus Parking, the south campus detention system will be at capacity.

The university has sustainability goals to pursue LBC v4.0 Petal Certification, which has more strict requirements for stormwater mitigation than those currently established by City of Bellingham code. Based on LBC v4.0 Petal Certification requirements, the project will require additional mitigation for the 50% of 1995 existing impervious that was not required to be mitigated in order to meet the full stormwater mitigation to preexisting requirement of the Petal Certification.

Preliminary calculation for detention volumes, if mitigated independent of other campus surfaces, would require approximately 0.52 cubic feet of detention for every square foot of impervious surface required to be mitigated. Based upon the preliminary site plan, that volume could be approximately 8,400 cubic feet of storage or approximately 62,830 gallons.

The project does not anticipate new or replaced pollution generating surfaces, thus no water quality treatment is anticipated to be required for this project.

The feasibility of On-site Stormwater Management (OSM) facilities will be required to be determined for the project. The City of Bellingham maps soils on the site as consisting primarily of Chuckanut Urban Land Complex (Unit 29) and Squalicum Urban Land Complex (Unit 159). Based on the mapped soils and currently available geotechnical information from other development on the campus site, at this time, it is assumed that on-site infiltration will likely be infeasible.
Previously completed geotechnical investigations for other campus development in the vicinity of the site area generally recommend that all stormwater structures/facilities be tightlined to the storm system, and the site graded to flow stormwater away from building foundations. At this time, it is anticipated that non-infiltrative approaches will be implemented to mitigate runoff from the site.

The Living Building Core Certification requires reduction of indoor water use by 50%. One feasible OSM strategy being considered is on-site stormwater reuse for flushing toilets. Based on the current site plan, a cistern system is proposed adjacent to the north end of the SDSC building. Stormwater collected from the roof would be conveyed to the new cistern system by a proposed new 8-inch storm line.

As additional measures will be required for the stormwater being collected off the roof system prior to discharge into the cistern system, a vortex rainwater filter is proposed at the discharge point of the storm line. Water from the stormwater detention tank discussed above can be used for toilet flushing and significantly reduce indoor water use to meet LBC requirements. A second potential option for indoor water use reduction is use of ultra-low-flow water closets and a vacuum waste system.

Other OSM measures for consideration are trees and bioretention planters. Since there is no ability to infiltrate, the bioretention planters would not be considered as an OSM measure by the City of Bellingham.

**PROPERTY SETBACK & EASEMENT REQUIREMENTS**

Per the Institutional Master Plan: “When development in the Institutional zone is abutting or across a right-of-way from non-institutional zoned areas, the development should comply with setback requirements of the non-institutional district...” The proposed site is not adjacent to a non-institutional zoned area, therefore there are no specific setback requirements. The building will comply with building separation requirements as delineated in the International Building Code.

There are no noted easement conditions within the proposed site.

**NEIGHBORHOOD ISSUES**

Due to the project site’s location on the WWU campus, no neighborhood issues currently exist or are anticipated during construction or operations.

**UTILITY EXTENSION OR RELOCATION ISSUES**

**Existing Utility Tunnel**

An existing utility tunnel, extending north/south, is located immediately adjacent to the west side of the proposed site. Based on the current site plan and proposed siting of the SDSC, it is assumed that the existing tunnel and associated maintenance access node will not be impacted by the new development.

Per record drawings of the tunnel provided by WWU, the proposed building footprint will not conflict with the existing tunnel or nearby maintenance access point.

**Domestic Water and Fire Service**

Domestic water service for the new facility will connect into the existing 20-inch ductile iron water main adjacent to the west of the project site. Although located on WWU campus property, this is a City of Bellingham-owned mainline system.

Based upon the current site plan, the existing hydrant will be impacted by the proposed development, and the proposed siting for the SDSC will require relocating this existing infrastructure to maintain hydrant coverage for the adjacent AIC West building. The water line serving the hydrant is threaded through both the stormwater system and the utility tunnel and has limited ability to be moved.

The majority of the existing fire hydrant line and fire hydrant at the AW Building will be removed. A portion of this existing water line is proposed to be utilized for a new domestic and fire service line.

A new hydrant line is proposed to be connected to the existing City of Bellingham 20-inch mainline, routed below the utility tunnel with vertical bend and routed to a new hydrant south west of the AW building. Currently, the system is proposed as 8-inches transitioning to 6-inches at the hydrant.

**Sanitary Sewer System**

There is an existing university-owned sanitary sewer mainline located adjacent to the west of the project site. The proposed new side sewer(s) for the new facility will connect to this existing mainline system. It is anticipated that the building will require multiple 6-inch connections or at least one 8-inch connection.

Sizing for the new side sewer will be coordinated with the Plumbing Designer/Mechanical Engineer and will be in accordance with standards and requirements defined by WWU. The sewer main is located on the west side of the utility tunnel but at a depth that, if necessary, could be connected below the tunnel. Alternatively, it appears that, depending on the depth, a connection may be made to the SSMH where the tunnel drops.
Electrical Service
Main electrical service to the new building will be via new medium voltage feeders served from the existing adjacent campus utility tunnels. The existing campus utility tunnels contain medium voltage feeders, steam piping distribution, mechanical piping, and fiber/copper telecommunications cabling.

The tunnels contain extensive racking for the mechanical piping and steam lines. Medium voltage conductors and telecommunication cabling are located within cable trays along the side of the tunnel. Medium voltage conductors transition in and out of the tunnel via vertical wall penetrations.

Voice / Data/ CATV Services
Telecommunications services for the SDSC will consist of Voice (VoIP) and Data services delivered over optical fiber cabling. Outside plant (OSP) cables will be installed into a new Main Distribution Facility (MDF) in the SDSC. It is anticipated that these OSP cables will originate from Bond Hall, as it is the campus demarcation point for most networking services on campus. These new cables will be installed within the tunnel connections between the SDSC and Bond Hall.

Analog voice systems, such as elevator phones which rely on legacy Category 3 cabling, will be served with 200-pair copper cabling that follows the same route as the optical cabling.

The demarcation point for all services will be located on the ground floor of the new building inside the MDF. The MDF will be the largest communications room in the building and house any servers or active equipment needed to run services within the building.

Potential Environmental Impacts
Green Space & Amenity Preservation
Green spaces and natural amenities near the site that should be preserved include Communications Lawn, located to the northeast of the proposed site. Flag Plaza, immediately south of the proposed site, is an important campus open space element that should be carefully considered in the SCDS design and preserved and/or modified/integrated into the design concept to realize the project goals related to strengthening the campus gateway.

Two nearby art installations, “Stadium Piece” by Bruce Nauman, located in the ellipse quad, and “Untitled” by Donald Judd, located east of Flag Plaza, are also to be preserved.

Site Mitigation
Western is not currently aware of a history of contamination nor of any need for site mitigation. The building will largely be sited on an existing parking lot, effectively mitigating an existing stormwater pollution source. Replacement parking elsewhere on campus will be constructed to meet current stormwater conveyance and treatment code requirements.

Wetlands, Shoreline Impacts, and SEPA Requirements
The new SCSC must comply with the Washington State Environmental Policy Act (SEPA). While there are no shoreline or wetland impacts, the project is located in the Padden Creek Watershed and a SEPA report will be required.

Assuming that the project is granted a determination of non-significance for SEPA, an environmental impact statement will not be required, nor will there be additional requirements related to the National Environmental Policy Act.

Parking & Access Issues
The building site will be displacing approximately 40 existing parking stalls and those stalls will need to be relocated elsewhere on campus. Four potential sites have been identified, and a final decision can be made during the design phase. Electric charging stations per campus standards will be included as part of the replacement parking, as will integrated ADA and universal access features.

Construction Impact
Western has demonstrated success at managing complex construction projects in its campus core and mitigating diverse impacts to surrounding areas. Establishing adequate lay-down areas, coordinating deliveries and traffic control, and managing construction noise impacts, all with an emphasis on ensuring the safety of the campus community and construction workers, are proven keys to success.

The site is currently occupied by an existing parking lot. It is anticipated that portions of the parking lot outside the building footprint will be utilized as construction lay-down area, causing a disruption of available parking spaces.

It is anticipated that the construction can be completed in a single phase.

C. Consistency with Applicable Long-Term Plans
The project will be consistent with the WWU Institutional Master Plan (IMP), adopted by the City of Bellingham, September 24, 2001, Ordinance #2001-09-068, and approved by WWU Board of Trustees, October 5, 2001. The IMP is a document that provides a framework for future campus developments. The facility is located within WWU’s IMP District 14, which has a land use classification of Academic, Administrative/Support, Open Space, and Student Activities.

The site is located on the Western Washington University campus, owned by the State of Washington. There are no noted building easement requirements. While the University has an institutional zone designation per the City of Bellingham Land Use Code and no building setback requirements, the SDSC will comply with all applicable code requirements. Per the International Building Code, fire hazard setback requirements will be based on the location of an assumed property line between the existing AIC West building and SDSC.
D. CONSISTENCY WITH OTHER LAWS & REGULATIONS

D.1 HIGH-PERFORMANCE PUBLIC BUILDINGS (RCW 39.35D)
Western Washington University implements environmental stewardship and sustainability principles in the development and management of their buildings and capital projects. Sustainable design includes efficient management of energy and water resources, management of materials and waste, protection of health and indoor environmental quality, protection of the environment and reinforcement of natural systems, and an integrated design approach. Sustainability encompasses design, construction, operations, and demolition practices, as well as environmental, economic, and social impact.

State-funded university projects will be designed, constructed, and certified to at least the LEED Silver standard. Western, however, has a minimum sustainability certification level of LEED Gold, as outlined in their Sustainability Action Plan. As a student-centered building, the SDSC prioritizes health, equity, and inclusion - in addition to carbon and ecology goals. Consequently, the Living Building Challenge (LBC), rather than LEED, is the most appropriate sustainable certification framework system to align with Western's values and goals. The LBC goes beyond LEED in sustainability categories ranging from water use to energy, carbon reductions, and equity.

The project intends to use highly-efficient mechanical systems, mixed-mode ventilation, reduced refrigerants and cooling loads through passive systems, a high-performance envelope, on-site photovoltaic (PV) energy production, and use of carbon sequestering mass timber structural elements. Many of these elements can be highlighted inside the building through signage and display as a bold example of a living laboratory for sustainability on campus that can be used for teaching, research, and engagement. See Appendix D for greater detail on sustainability strategies.

Sustainability is more than just energy and carbon reduction; it must also include social aspects, such as occupant’s health, comfort, and well-being. The COVID-19 pandemic has brought to light increased risk of social isolation, anxiety, and a range of mental health struggles. George Floyd’s death in 2020 also exposed deep wounds related to inequality and racism throughout the country.

Acknowledging this history and incorporating social justice, equity, and inclusion into the design is paramount for the project and Western. Here again, Western’s goals synchronize with the LBC as a sustainability framework which requires “inclusion” as one of its core tenants. This requirement also addresses Executive Order 22-01 Equity in Public Contracting.

Western has embraced the Okanagan Charter with the goal of embedding and promoting health into all aspects of the campus. The SDSC building will address these issues through use of natural, biophilic elements, daylight, thermal comfort, visual connections within the building and to the outside, plantings, and a variety of spaces at different scales for students and staff to work, collaborate, socialize, and even heal.

D.2 STATE EFFICIENCY & ENVIRONMENTAL PERFORMANCE REQUIREMENTS (EXECUTIVE ORDER 20-01)

Washington State’s Executive Order 20-01 states that all newly constructed state-owned (including lease-purchase) buildings shall be designed to be zero energy or zero energy capable and include consideration of net-embodied carbon. Western Washington University’s Sustainability Action Plan aims at achieving carbon neutrality by 2035.

The Living Building Challenge (LBC) v4.0 Energy Petal Certification aligns with Executive Order 20-01. The path to LBC Energy Petal Certification includes meeting the following requirements:

> No combustion
> Supply 105% of their project’s energy needs through on-site renewable energy (on a net annual basis)
> Develop and incorporate a resilience strategy to allow the building to be habitable for one week (using batteries, storages, etc.) OR participate in support for the local community in a disaster

Compared to a Code minimum building, the project must implement the following enhancements to achieve LBC v4.0 Petal Certification:

> Maximize on-site energy generation
> Install energy storage
> Design the envelope and systems to be highly efficient
> Assumption of no connection to the existing campus steam plant
> Reduce outdoor water use: capture and reuse building rainwater from the roof or design landscape that requires no irrigation after establishment period
> Reduce indoor water use: capture and reuse building rainwater from the roof or use ultra low-flow water closets and vacuum waste system
> Treat 100% of the stormwater on site
REDUCING BUILDING ENERGY USE

One of the LBC Core Imperatives is to achieve 70% energy use reduction, as compared to a baseline building. Baseline building energy use assumptions come from the 2003 Commercial Building Energy Consumption Survey (CBECS). The Energy Use Intensity (EUI) baseline and target were generated using the Zero Tool, as shown in the figure at upper right.

Designing a building that achieves the target EUI will require focusing on many elements: envelope, lighting, mechanical and electrical equipment, and equipment used by the occupants. The graph (center right) shows which strategies can be implemented to achieve the target EUI.

The chart (lower right) shows estimated solar array sizes needed to offset 105% of the building’s energy (net positive) for different building Energy Use Intensities (EUI), assuming the project is 41,000 square feet.

D.3 STATE ENERGY PERFORMANCE STANDARDS FOR CLEAN BUILDINGS (RCW 19.27A.210)

The SDSC project comprises less than 50,000 gross square feet of construction and is thus not a ‘Covered Commercial Building’ nor bound by the requirements of RCW 19.27A.210.

D.4 ELECTRIC VEHICLE INFRASTRUCTURE (RCW 19.27.540)

The SDSC project is not providing any new on-site parking and is thus not bound by the requirements of RCW 19.27.540. Western will relocate approximately 40 existing stalls that will be displaced by the SDSC and will incorporate electric vehicle (EV) recharging stations per its standard.
D.5 GREENHOUSE GAS EMISSIONS REDUCTION POLICY (RCW 70.235.070)
Western will reduce greenhouse gas emissions to meet and exceed the goals passed by the Washington State Legislature in April of 2009, requiring Washington State agencies reduce emissions 15% below 2005 levels by 2020, and 36% below 2005 levels by 2035.

Western was one of the first signatories to the American College and University President’s Climate Commitment in 2007, committing the campus to a path of climate neutrality by 2050. Since WWU has a goal to be carbon neutral, it is important to look at the whole life carbon of buildings. This includes the embodied carbon, operational energy, refrigerant emissions and end-of-life impacts.

Key principles include reducing overall emissions while also finding carbon sinks for projects, such as sustainably harvested wood, other natural materials, biochar, site landscaping, and more.

A critical first step in reducing greenhouse gas emissions is eliminating fossil fuels from the project. The SDSC building will be all electric with no fossil fuel combustion. The project will be designed to accommodate a large photovoltaic (PV) array on the roofs.

The architectural massing and façade choices will be designed to keep peak heating and cooling loads down to levels similar to a passive house project, thereby significantly reducing greenhouse gas emissions.

The LBC certification system also requires a mandatory 20% reduction in embodied carbon emissions. Embodied carbon emissions are impacts generated through the materials used to construct the building. Certain materials have an outsized impact on global warming emissions, such as concrete and steel. By using a mass timber framework and cross laminated timber (CLT) floors and roofs, the building will sequester substantial amounts of carbon, thereby offsetting carbon emissions compared to conventional construction.

Extensive research into mass timber has demonstrated that this construction type can not only reduce embodied carbon emissions by some 80% compared to other construction types, but it is also fast to build, fire resistive, supports local economies, and creates a healthy interior environment.

The strategies outlined above are consistent with the State Agency Climate Leadership Act (RCW 70A.45) that requires universities to increasingly drawdown their greenhouse gas emissions each decade until achieving net zero emissions by 2050.

D.6 ARCHAEOLOGICAL AND CULTURAL RESOURCES
Pursuant to section 3.2 of the 2021-2031 Capital Budget Instructions, Western Washington University has consulted with the DAHP regarding all of the projects for which funding has been requested in the 2021-2023 biennium and has included a letter in the Appendix confirming this process.

Western plans to keep in close contact with DAHP regarding these projects and any other projects in buildings over 50 years old, or projects disturbing new ground that may require further review as more information becomes available. It should be noted that the University is committed to stopping any work, and notifying the appropriate authorities immediately, should we encounter an unexpected discovery.
D.7 AMERICANS WITH DISABILITIES ACT IMPLEMENTATION (EXECUTIVE ORDER 96-04)

In addition to the ADA accessibility codes, the proposed facility will comply with the Revised Code of Washington (RCW) and Washington administrative code (WAC) requirements for barrier-free facilities, and the accessibility provisions of the Washington State amendments to the International Building Code and the W3C Web Content Accessibility Guidelines 2.0 (Level AA) shall be used as a target for meeting the University's commitments related to web and IT accessibility.

D.8 COMPLIANCE WITH PLANNING (RCW 36.70A)
Environmental regulations, including the Growth Management Act and local, state, and federal laws and regulations (such as shoreline and wetlands), will be met. The project will comply with all planning regulations as required by RCW Chapter 36.70A.

D.9 INFORMATION REQUIRED BY RCW 43.88.0301(1)
This project is consistent with the Western Washington University Institutional Master Plan (IMP), an addendum to the Western Washington University Neighborhood Plan for Bellingham, Washington. The City of Bellingham adopted the IMP on Sept. 24, 2001 (Ord. 2001-09-068; Ord. 2010-12-073; Ord. 2016-07-020) and it was approved by Western Washington University's Board of Trustees on Oct. 5, 2001.

The project is located entirely within Land Use District 14 that has accepted land uses of Academic, Administrative Support, Student Activities, and Open Space. The City of Bellingham's Land Use Designation is Institutional Area 1, WWU Neighborhood Plan.

D.10 OTHER CODES OR REGULATIONS
All construction will comply with the applicable version of the International Building Code that is adopted by the State of Washington and the City of Bellingham at the time of permit intake, as well as its reference documentation:

- International Building Code (IBC) and Amendments – Chapter 51-50 WAC
- International Mechanical Code (MBC) and Amendments – Chapter 51-52 WAC
- International Fire Code (IFC) and Amendments – Chapter 51-54 WAC
- Uniform Plumbing Code (UPC) and Amendments – Chapters 51-56, 51-57 WAC
- Washington State Energy Code (WSEC)
- National Electric Code (NEC)
- Washington State Electrical - Chapter 296-46B WAC

Energy Codes
The 2018 Washington Energy Code or subsequently adopted version will govern the design of the new SDSC. RCW 39.35 requires a life cycle cost analysis of energy costs be conducted when designing a facility of this size, including analysis of building envelope, HVAC, power, and lighting.

E. PROBLEMS THAT REQUIRE STUDY
UTILITY TUNNEL
Additional investigation of the existing utility tunnel running parallel to the east side of the proposed building is required during the design phase to coordinate both utility connections and footing design.

STORMWATER DESIGN
A site-specific geotechnical assessment will be completed during the design phase that will identify preferred locations for underground stormwater detention vaults. Preferred location of these vaults is at the north end of the construction site area (north of the building to be in closer proximity to the plumbing room). The site design may need to adjust if the geotechnical survey determines a more feasible location.

SITE TOPOGRAPHY
The site is assumed to be relatively flat. There is a gentle grade change increase from south to north side of the site. A detailed topographical survey and coordination of first floor datum with grading and ramping strategies will be required during the design phase.

HEATING CONVERSION FEASIBILITY STUDY
Western is completing a Heating Conversion Feasibility Study at the request of OFM to determine the feasibility of converting the existing steam distribution system on the WWU campus to a water-based system. Findings of this study will inform design strategies of SDSC mechanical systems during the design phase. This predesign study assumes the SDSC will be adaptable and designed to connect to a future water-based system.

F. COMPONENTS THAT EXCEED EXISTING CODE
Certain building systems strategies required to achieve LBC Energy Petal Certification will exceed baseline code requirements. As described herein, however, LBC is the most appropriate certification system to ensure alignment with Western's sustainability values and Sustainability Action Plan, and compliance with the various laws and regulations described in Section 04.D,
G. TECHNOLOGY INFRASTRUCTURE
Planned IT systems that impact the building design include telecommunications, wireless, LAN, security, audio-visual, and digital display systems, including associated raceways and support systems. The building system provisions will respond to WWU’s IT enterprise application requirements, as coordinated with the Office of the Chief Information Officer (OCIO) and the Technology Services Board per RCW 43.88.092 and 43.105.205.

H. SECURITY MEASURES
The Preferred Alternative neither includes nor requires significant or distinguishable security measures. Building access and security will be managed in a similar manner as existing adjacent academic buildings.

I. COMMISSIONING
Systems commissioning, per Washington State requirements and WWU standards, will be incorporated into the project for all applicable systems. Enhanced commissioning, requiring establishment of commissioning requirements early in the design phase, is recommended to ensure increased effectiveness of the process.

J. FUTURE PHASES OR FACILITIES
The site selected for this project is directly adjacent to the north edge of Western’s Flag Plaza, which is the primary approach for many students and visitors arriving by personal vehicle, community transit, and other forms of transportation.

The master plan for South Campus is to develop a transit and drop-off loop directly to the south edge of the Plaza. During the Schematic Design phase of the project, Western will charge the selected design team to anticipate a future (likely beyond 10 years) expansion of the Student Development and Success Center as student service and academic needs grow and evolve. Due to the siting of the current project proposal, expansion will likely be toward the north in the remainder of the existing parking lot.

K. PROJECT MANAGEMENT & DELIVERY METHOD

K.1 DELIVERY METHOD ALTERNATIVES
Western intends to utilize the Progressive Design-Build delivery method with a pre-determined Guaranteed Maximum Price (GMP) and scope. There are significant schedule and cost efficiencies that are realized when the entire Design-Build team is integrated with the Owner at the earliest possible time, allowing the team to collaboratively find innovative solutions for meeting project goals within budget. This will be particularly important for realizing project performance goals around net-zero energy and carbon and Living Building Petal certification.

Western also considered the Design-Bid Build (DBB) and General Contractor/Construction Administrator (GC/CM) delivery methods, and has extensive experience with both.

Western believes with Design-Build contracting, the University will be able to know the project construction price much earlier than with the traditional Design-Bid-Build (DBB) delivery method. In addition to a longer time to project completion, DBB creates a higher risk of a project coming in over budget through the design-bid-build “low bid” process. If all bids are outside the project budget, the owner must go back to the drawing board after the designs are complete and attempt to reduce the cost without the assistance and constructability analysis of the constructor.

The GC/CM delivery method offers advantages over DBB around risk management tied to cost and leverages the builder’s understanding of current market conditions and construction means and methods during the design phase. While the GC/CM can strategically manage the bid process, there is still budget risk tied to the low bid process across multiple bid packages. In addition, there are design phase inefficiencies inherent in the GC/CM process that can be avoided in Progressive Design Build resulting in a more efficient project schedule and resulting cost savings.

Western realized great success utilizing Progressive Design Build on the recently completed Alma Clark Glass Residence Hall, completing the project on time and under budget despite the global pandemic and volatile market conditions in the construction industry. Western believes Progressive Design Build is the most appropriate delivery method for the Student Development and Success Center.

K.2 PROJECT MANAGEMENT
The project will be managed by Western’s Facilities Development & Operations (FDO) and delivered using the Progressive Design-Build methodology. FDO includes the following areas:

• Financial & Business Services
• Capital Budget & Finance
• Planning & Development
• Building & Campus Services
• Maintenance & Operations
• Integrated Sustainability
L. PROJECT SCHEDULE
Design is slated to start July 2023, with construction beginning March 2025 and reaching substantial completion by August 2026. The Design-Build procurement process will also begin in May 2023 with selection occurring in June 2023. Move-in and occupancy will occur in August and September 2026, respectively.

Throughout the project, the Design-Builder will ensure cost transparency is maintained. Target Value Design will be employed to help clarify priorities and align with project scope and budget, while ensuring high levels of design quality.

L.1 HIGH-LEVEL MILESTONE PROJECT SCHEDULE
The anticipated project schedule for the Preferred Alternative is shown above.

<table>
<thead>
<tr>
<th>PHASE</th>
<th>START</th>
<th>END</th>
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</thead>
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<tr>
<td>Design / Construction Funding</td>
<td>July 2023</td>
<td></td>
</tr>
<tr>
<td>Consultant Procurement</td>
<td>May 2023</td>
<td>June 2023</td>
</tr>
<tr>
<td>Design / Preconstruction</td>
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<td>March 2025</td>
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</tr>
<tr>
<td>Move-In / FF&amp;E</td>
<td>August/September 2026</td>
<td></td>
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</tbody>
</table>

L.2 VALUE ENGINEERING & CONSTRUCTABILITY REVIEW
The Progressive Design-Build delivery method includes significant participation by the builder as an integrated team member during all phases of design and construction. Both Value Engineering Analysis and Constructability Review processes will be conducted collaboratively by the Design-Builder and Owner teams in order to meet the requirements of RCW 43.88.110(5)(c).

L.3 RISK FACTORS
There are no known unusual or extraordinary factors anticipated to pose a risk to the project schedule. The project team will need to manage (to the best of its ability) typical factors and processes during the design and construction phases that have the potential to impact schedule.

Funding is being requested for both design and construction in a single biennium to best align with the Progressive Design-Build delivery method. If design and construction funding is split across multiple biennia, this will introduce some degree of schedule risk. This risk is addressed in the analysis of Alternative #1 in Section 03.

L.5 JURISDICTIONAL PROCESS & COMMUNITY INVOLVEMENT
During the schematic design process, the City of Bellingham will be informed of the project and a project number will be established. Any effects to the schedule would likely be related to the City of Bellingham permit review and comment periods.

Since the project is located on the existing Western Washington campus, no outside community meetings will be held, but there will be periodic reviews by the Board and Facilities group throughout the project.

L.4 PERMITTING, ORDINANCE, OR NEIGHBORHOOD ISSUES
There are no known unusual or extraordinary factors anticipated within the permitting/entitlements process that pose a risk to project schedule. The project team will need to manage communication and intake scheduling with the local jurisdictions to anticipate likely review times and to best mitigate schedule risk.
D.2 ARCHITECTURAL BASIS OF DESIGN NARRATIVE

01 GENERAL

Supporting New and Existing Students
The Student Development & Success Center is to be located at the south edge of the WWU campus and serve as a new gateway into campus. With its proximity to visitor parking, general parking and public transportation, the new center will be both a destination for welcoming new and prospective students, as well as a place for existing students and staff to find financial, academic, and counseling support. The Center will also host a café, as well as indoor and outdoor spaces for gathering, socializing, and connection.

Space Program
The project will contain a mix of public and private spaces. A Welcome Center and a small grab-and-go café will be the most public areas of the building. There will also be public areas associated with the three primary tenants of the building: Advising, Counseling, and Financial Aid. A large portion of the building will consist of office space and collaboration space for staff and students.

See Tabular Space Program for more detail.

Jurisdiction
Anticipated Applicable Codes:
> 2021 International Building Code – Chapter 51-50 WAC;
> 2021 International Mechanical Code – Chapter 51-52 WAC;
> 2009 ICC/ANSI A117.1 Accessibility Code; and
> 2021 Uniform Plumbing Code published by the International Association of Plumbing and Mechanical Officials, Chapter 51-56 WAC, as amended by the state of Washington
> 2020 National Electric Code (NFPA 70), as amended by Chapter 296-46B WAC

Building height and other planning regulations are governed by the WWU’s Institutional Master Plan (IMP), not the Bellingham Municipal Zoning Code. As such, there are no specific zoning setbacks, massing or height restrictions. Although the building must conform to the character of the site and campus. The new building will respect access to light and air of all neighboring existing structures.

The project is required to submit for the State Environmental Policy Act (SEPA). Western Washington University is anticipated to be the lead agency with assistance from the design team to complete required SEPA documentation.

The roughly 41,000 sf building will be predominantly Group B, Business, Occupancy as defined by the International Building Code (IBC). There will also be some smaller areas of Group A-3, Assembly Occupancy. The building will be fully NFPA 13 sprinklered. The Construction Type, as defined in Chapter 6 of the IBC, will be one that allows predominantly combustible construction. A glued laminated timber post and beam system with mass timber floor and roof slabs will comprise the main building framework. As such, Type III-B is the most likely Construction Type, although Type IV-HT and Type V construction is also an option. Fire-resistance rated construction is largely not anticipated. The exception will be shafts and egress stairs.

Emergency power is required. The campus standard is a generator, but battery storage could be an alternate option. The generator or battery storage will be located within the building and require access and interior fire-rated assemblies.

Green Building Standard
The project is anticipated to achieve Living Building Challenge Petal certification for net zero energy. Reduction of operational and embodied carbon is a priority for the University. Equity and Inclusion is also a driving force for the development of the project, which aligns well with the Living Building Challenge Petal certification. Meeting the Living Building Challenge Petal certification will require significant time and coordination, as well as building infrastructure that goes well beyond code minimum. The campus minimum sustainability standard is LEED Gold.

Site and Massing
The building site is at the south end of the existing 19G parking lot. A portion of this parking area will be removed to make way for the new building. Removed parking spaces will be replaced at another portion of campus to be determined, for a total of 40 parking spaces. Existing walkways to the east and west of the site will remain and define the maximum footprint in this east-west direction. Campus utilities run adjacent to the west walkway, and therefore the building will be set back at a minimum dimension from these utilities so that they are undisturbed. The site boundary could extend as far as into the existing Flag Plaza at the south.

The building will be multi-story and largely 3-stories tall, except for the Welcome Center and Café pavilions, which are one-story. The floor plates, especially for the office occupancy, are anticipated to stack and repeat for structural and cost efficiency. Assembly occupancies will be more generous in structural grid spacing and ceiling height to provide a sense of welcoming, openness and transparency. Exterior overhangs will be used for covered and protected outdoor gathering areas.

Mechanical equipment will be located inside the building or penthouse. The roof will be designed to preserve as much area as possible for a PV array to achieve net zero energy.
Building Envelope
The building envelope will approach a "passive house" level of performance. In addition to this section, refer to the Mechanical Narrative for building performance characteristics. A net-zero energy building is a project goal, and the exterior envelope will play a critical role in achieving this. To meet net-zero, an Energy Use Index (EUI) of approximately 24 has been targeted by the stakeholder team. The primary goal is to reduce energy consumption, and any energy demand left will be met by an on-site PV roof array. Superior thermal control will be required to drive down energy use (operational energy) and meet this target.

Exterior walls will be of non-bearing light gauge steel stud construction or of fire-resistant treated (FRT) light wood framing and non-combustible exterior sheathing for Type III-B or Type IV-HT Construction. Type V construction may utilize standard dimensional lumber for exterior wall framing. The exterior walls will have R-24 fiberglass batt insulation filling the cavities between studs. In addition, there will be a minimum of 2 inches of continuous exterior mineral board insulation. A thermally broken fiberglass clip or rail system will be used to attach the building cladding back to the exterior wall structure. At the foundation, concrete slab edges will be insulated on the exterior to a minimum of R-10 continuous board insulation.

A low slope roof will be insulated to an average value of R-50 with continuous exterior board insulation located above the roof deck. Insulation will be mechanically fastened over a self-adhered vapor barrier over protection board and roof sheathing. Fleece-backed TPO (thermoplastic polyolefin) will be used as the roof membrane and be a minimum 80-mil thickness. Water will be directed to a series of roof scuppers, conductor heads and downspouts for drainage and on-site water storage facility. The roof will be designed so that a minimum 75% of the surface can host a PV array.

A continuous self-adhered air and weather resistive barrier will cover the entire exterior sheathing. Thermal bridges are to be minimized and all penetrations of the exterior air barrier will be fully sealed. The exterior enclosure will be constructed to achieve a maximum air-leakage rating of 0.17 cfm/ft at 0.3 inches water gauge. The building will be blower door tested to demonstrate conformance.

Exterior cladding materials will be of institutional quality and selected for durability and aesthetic integration with surrounding buildings. At exposed areas, a through-colored, closed joint fiber cement panel (such as Equitone or 1/8" thick metal plate system) is assumed. At covered areas protected from weather, a natural clear grained Western Red Cedar cladding or equivalent is assumed. Sheet metal flashing will be provided for weather protection around door and window openings, roof edges, parapet copings, counter-flashings and Schedule-40 metal pipe downspouts. Metal flashings not associated with masonry or below grade will be prefinished steel selected to best match cladding materials. Metal flashing at the base of wall that comes into contact with soil or paving will be 20-gauge stainless steel.

Fostering a strong connection to the exterior environment from interior occupied spaces is an important project goal. 90% of regularly occupied spaces in the building will have direct access to windows. Windows provide views, natural light and ventilation, but can also be a major source of energy loss in a building. Because opaque walls provide much better insulation values, the Washington State Energy Code (WSEC) mandates a maximum window to wall ratio of 30 percent before additional measures are required. Thermally broken fiberglass windows provide the best thermal performance, largest possible sizes and most environmentally friendly material (low carbon emissions and no toxic materials) when compared to other options. The Cascadia Universal fiberglass window system is the basis of design. Double-pane insulated glazing units with low-e coating and argon fill will be used for all exterior windows and glazed doors.

South facing windows will be protected from excessive solar radiation by building or roof overhangs. Windows on the west side of the building require additional shading treatments to prevent overheating during afternoon hours. Assume west facing windows to have solar shading fins, motorized shades or similar protection strategy.

Exterior doors will be thermally broken, aluminum framed. Exterior doors at main entries will be fully accessible and have bollard mounted ADA push button paddles to operate motorized door openers.

Exterior louvers will be located as high off the ground as possible for security purposes. Their construction should be fully tamper-resistant and capable of preventing ingress. Louvers will be prefinished, or field painted to match adjacent finishes, factory fabricated and complete with frame, Mullions and insect screens.

Stack ventilation will be utilized to promote passive ventilation. Refer to the Mechanical section for additional details.

All exterior cladding, framing, sub-framing and insulation elements will be chosen based on their performance, but also attention to minimizing toxic chemical additives and reduction of embodied carbon. These materials should perform be a minimum 20% better than industry standard for embodied carbon emissions.

Interiors
The building’s structural framing is anticipated to be mass timber, and much of this timber will be left exposed
as an architectural finish. The project will prioritize healthy interior materials that are durable but have low or no VOC emissions. Materials that conform to the "Declare" transparency label or are verified "Red List Free" will be prioritized. If Declare or Red List materials are not available, then materials that have Environmental Product Declarations (EPDs) and/or Health Product Declarations (HPDs) will be prioritized. Materials will be selected based on their embodied carbon, with those that have documented lower embodied carbon being prioritized.

To meet acoustic standards, approximately 50% of the ceiling will have an acoustic treatment (ACT or acoustic ceiling panels), and 50% of the ceiling will be exposed mass timber. In areas that have less acoustic ceiling treatment, acoustic wall paneling will be used. Ceiling fans will be used throughout the facility to promote air movement, natural cooling and thermal comfort.

Casework throughout the project will conform to the North American Architectural Woodwork Standards (NAAWS), custom grade. Medium Density Fiberboard (MDF) with no added formaldehyde (NAF) will be used as the primary substrate for HPDL finished elements or solid wood. In wet areas, such as countertops, moisture resistant MDF is to be used. Casework is to be constructed using a frameless, flush overlay style with concealed European-style hinges. Forest Stewardship Council (FSC) Certified wood and composite wood for casework shall be required.

Assembly areas, the two-story "atrium street," and other public zones will have a higher level of finish. Assume use of wood veneer paneling, acoustic wall paneling, graphic signage, and a more aesthetic acoustic ceiling system at these areas.

The ground floor will have an exposed retroplate concrete slab on the ground floor. Office spaces and other acoustically sensitive areas will have a carpet tile floor finish. Upper-level offices will have carpet tile flooring and assembly areas at upper levels will have resilient flooring, such as Marmoleum or PVC-free flooring.

Exterior windows to have manual operable roller shades at all spaces except for the Welcome areas, which will have motorized, automated roller shades. All operable windows will be operated by motorized actuators connected to the Building Management System (BMS).

Restrooms to be single occupancy gender neutral facilities that conform with WWU guidelines. This includes full height partitions with locking doors and exhaust air ducting for each space. Handwashing facilities will be largely outside of gender-neutral rooms in a shared handwashing area. Toilet compartments and handwashing areas to have ceramic floor tile and ceramic wall tile up to an 8-foot height. There will be one accessible drinking fountain with bottle filler on each level of the building.

The Welcome Center will have a higher level of finish, furniture, display, and technology components. For reference scope and quality, please refer to images of the UO Welcome Center. The Welcome Center’s presentation room will have a high-quality Audio and Visual system for presentations. The Student Success Center should assume three major information desks to serve students, as well as multiple self-help stations. At the main public areas of the building, there will be digital displays that tell the WWU story and showcase the campus’s inclusive initiatives and sustainability elements. 1% of the project cost will be devoted to art, which will be displayed at major public areas of the building or exterior. The café will consist of a coffee shop, grab-and-go food, and area to display merchandising. The café will also have associated storage and infrastructure for beverages and sales, as well as seating.
Draft Civil Pre-Design Narrative

Date: May 20, 2022; UPDATED June 14, 2022

To: Mahlum Architects

Attn: Joseph Mayo, AIA, LEED AP, Associate

From: Laurie J. Pfarr, PE, Principal | Owner

Project: Western Washington University – Student Development and Success Center Predesign Study

Subject: Civil Predesign Narrative – DRAFT

The following civil narrative outlines predesign-level site improvements for site development associated with the new Student Development and Success Center (SDSC) on the campus of Western Washington University located in Bellingham, Washington.

Note: Proposed paving and hardscape design will be by the Landscape Architect.

Topography and Grading

The topography of the existing site area is relatively flat, remaining at a consistent elevation of approximately 300-feet. New site grading will align with proposed site improvements and as necessary to meet drainage requirements for the new development.

Existing Utility Tunnel

An existing utility tunnel, extending north/south, is located immediately adjacent to the west side of the proposed site. Based on the current site plan and proposed siting of the new SDSC, it is assumed that the existing tunnel and associated maintenance access node will not be impacted by the new development. Per record drawings of the tunnel provided by WWU showing the location, extent, and scale of the tunnel structure, at this time, the proposed building footprint may need to shift farther east to provide adequate distance from the existing tunnel as not to result in any potential disturbances to the tunnel infrastructure or the existing maintenance access point, as well as, to allow adequate room for utilities to extend along the tunnel.
Domestic Water and Fire Service

Based on the currently proposed siting of the new building and the existing water infrastructure located in the site area, domestic water service for the new facility will connect into the existing 20-inch ductile iron water main adjacent to the west of the project site. Although located on WWU campus property, this is a City of Bellingham-owned mainline system.

According to City of Bellingham utility mapping, there is an 8-inch hydrant line extending from the 20-inch main toward the existing Academic International Center West (AW) building, which is located directly adjacent to the east of the project site. It appears that the tap on the 20-inch line is a 12-inch ductile iron pipe which transitions to 8-inch pipe. Based upon the current site plan, the existing hydrant will be impacted by the proposed development, and the proposed siting for the new SDSC will require relocating this existing infrastructure to maintain hydrant coverage for the adjacent AW building. The water line serving the hydrant is threaded through both the stormwater system and the utility tunnel, and has limited ability to be moved.

The majority of the existing fire hydrant line and fire hydrant at the AW Building will be removed. A portion of this existing water line is proposed to be utilized for a new domestic and fire service line. It is assumed that the new domestic water service connection for the proposed building will be sized at 6-inches, which is similar to existing service lines for campus buildings currently on-site. It is assumed that the fire service would also be a 6-inch system. The water meter will be sited adjacent to the northwest section of the building footprint near the proposed mechanical room. Similarly, the proposed fire service connection will connect to the building adjacent to the domestic service interior mechanical room where the DCDA for the building will be located.

A new hydrant line is proposed to be connected to the existing City of Bellingham 20-inch mainline, routed below the utility tunnel with vertical bend and routed to a new hydrant south west of the AW building. Currently, the system is proposed as 8-inches transitioning to 6-inches at the hydrant.

Summary of Proposed Water and Fire Service Improvements:
- New domestic water service connection (4- or 6-inch service connection)
- New fire service (6 or 8-inch)
- Relocation/rerouting the existing 8-inch fire hydrant line and hydrant.

**Sanitary Sewer System Utilities**

There is an existing University-owned sanitary sewer mainline located adjacent to the west of the project site. City sewer maps of the site area indicate that this is a 12-inch PVC gravity sewer mainline system. The proposed new side sewer(s) for the new SDSC facility will connect to this existing mainline system. It is anticipated that the building will require multiple 6-inch connections or at least one 8-inch connection. Sizing for the new side sewer will be coordinated with the Plumbing Designer/Mechanical Engineer and will be in accordance with standards and requirements defined by WWU. The sewer main is located on the west side of the utility tunnel but at a depth that, if necessary, could be connected below the tunnel. Alternatively, it appears that, depending on the depth, a connection may be made to the SSMH where the tunnel drops.

**Summary of Proposed Sanitary Sewer Improvements:**

- New side sewer connection(s)
**Stormwater Management**

The City of Bellingham has adopted the Department of Ecology (DOE) Stormwater Management Manual for Western Washington (municipal code states “current edition” of the manual). The drainage approach designed for the project will comply with the requirements in DOE manual.

The project is located within the South Campus Basin within the WWU campus. There is an existing storm mainline system adjacent to the west of the project site.

Based upon a Stormwater Report by Cascade Engineering Group for the C-Lot upgrades Phase II, Western Washington University has provided stormwater mitigation facilities for the existing impervious areas within the south campus basin in accordance with the current City of Bellingham requirements. The south campus detention vault (South Campus Storm Drainage Basin) was sized to mitigate a portion of the 2017 onsite impervious surfaces to forested conditions. The City of Bellingham, per BMC 15.42.060 E.2, allows for 50% of the impervious surfaces within the basin in the year 1995 to not be mitigated.

BMC 15.42.060 E.2 “Replaced surfaces may be allowed to be mitigated differently than new surfaces. When required to comply with the forested standard of Minimum Requirement No. 7 in subsection of this section, only 50 percent of the replaced surfaces must be mitigated to comply with the forested standard. The remaining 50 percent of the replaced surfaces may either be considered in the forested condition or if
Based upon this information, to meet the City of Bellingham stormwater requirements, it is anticipated that only the new impervious surfaces would be required to be mitigated, and that the south campus detention system has been designed with the capacity to mitigate runoff of an equivalent area of the existing impervious.

However, the University has sustainability goals to pursue Living Building Challenge Petal Certification, which has more strict requirements for stormwater mitigation than those currently established by City of Bellingham code. Based on Living Building Challenge Petal Certification requirements, the project will require additional mitigation for the 50% of 1995 existing impervious that was not required to be mitigated in order to meet the full stormwater mitigation to pre-existing requirement of the Petal Certification. Preliminary calculation for detention volumes, if mitigated independent of other campus surfaces, would require approximately 0.52 cubic feet of detention for every square foot of impervious surface required to be mitigated. Based upon the preliminary site plan, that volume could be approximately 8,400 cubic feet of storage or approximately 62,830 gallons.

The project does not anticipate new or replaced pollution generating surfaces, thus no water quality treatment is anticipated to be required for this project.

The feasibility of On-site Stormwater Management (OSM) facilities will be required to be determined for the project. The City of Bellingham maps soils on the site as consisting primarily of Chuckanut Urban Land Complex (Unit 29) and Squalicum Urban Land Complex (Unit 159). Based on the mapped soils and currently available geotechnical information from other development on the campus site, at this time, it is assumed that on-site infiltration will likely be infeasible. Previously completed geotechnical investigations for other campus development in the vicinity of the site area generally recommend that all stormwater structures/facilities be tightlined to the storm system, and the site graded to flow stormwater away from building foundations. At this time, it is anticipated that non-infiltrative approaches will be implemented to mitigate runoff from the site.

One feasible OSM strategy being considered is on-site stormwater reuse for flushing toilets and potentially as supplement for irrigation. Based on the current site plan, a 65,000 Gallon cistern system is proposed adjacent to the north end of the SDSC building. Stormwater collected from the roof would be conveyed to the new cistern system by a proposed new 8-inch storm line. As additional measures will be required for the stormwater being collected off the roof system prior to discharge into the cistern system, a vortex rainwater filter is proposed at the discharge point of the storm line.

Since volume requirements for detention to meet the City of Bellingham’s code requirement is limited, it is anticipated that the toilet flushing volume will meet the requirement for mitigating the new impervious. With the additional volume system for both toilet flushing and irrigation, the system will also meet the intent of Living Building Challenge Petal Certification requirements.

Other OSM measures for consideration are trees and bioretention planters. Since there is no ability to infiltrate, the bioretention planters would not be considered as an OSM measure by the City of Bellingham.

Summary of Proposed Stormwater Management Improvements:

- Additional detention
- OSM Measures
- Catch basins and stormwater piping
- Vortex Filter
Water Rights & Water Availability

Based on preliminary coordination with permit review staff of the City of Bellingham Public Works Department, there is no formal process or documentation required to confirm water rights and availability for the proposed site development. The City of Bellingham owns the water infrastructure in the site area, and as the sole water utility purveyor for the site, a water availability process is not required. It is recommended that specific water utility requirements associated with the proposed development be confirmed through a pre-application meeting with the City of Bellingham prior to permit submittal.
D.4 LANDSCAPE BASIS OF DESIGN NARRATIVE

OVERVIEW
The Student Development and Success Center (SDSC) will be situated at the core of campus and has the opportunity to act as a gateway and an improved entry point for the overall campus. Transportation and vehicular improvements are proposed to the south along College Way to address existing circulation challenges and to meet long-term sustainability goals. In the future, this part of campus will be a vital hub and place of arrival for a new generation of students and visitors.

Western Washington University is surrounded by three major geologic features; Bellingham Bay to the west, Cascade Mountains to the east, and the Chuckanut Formation which lies throughout the greater Bellingham area, and beneath WWU. This feature has been eroded and uplifted over centuries, but its presence today is visible through the varied terrain on-site and surrounding mountains.

Celebrated by local residents, these same mountains and waterways were cared for and protected for millennia by the Coastal Salish peoples. Descendants of the Lummi and Nooksack tribes continue to show respect for their homelands through engagement in their ancient traditions. This place and its people provide a diverse background to further celebrate these connections on campus through storytelling and environmental stewardship.

CAMPUS CONTEXT
The site for the Student Success Center is positioned to provide a new gateway experience and create a welcoming place for future student body. The new building will connect to the active Flag Plaza on the south. This connection will embrace the future transit hub to the south. The site also sits between the Student Recreation Center to the west and the AIC West building.

Today, the campus community uses the asphalt drive to the west of the site and the promenade to the east of the site. The design team recommends that the connection between Flag Plaza and the western route be closed off, because it splits campus circulation and detracts from a clear campus arrival. Service access along this western route could remain in place from the north to the SDSC loading area.

A new landscape area would remove the redundant route south to College Way. This new landscape will help knit together the Rec Center and future Student Success Center uses and establish a service core in this part of campus. It will also emphasize a clear route to the primary, north-south campus corridor along the east elevation of the new building.

Accessibility to the Student Development and Success Center will be fully ADA compliant. Additionally, pedestrian routes at the periphery of the building site are being planned to better connect other areas of campus. For example, to compliment the grand stair adjacent to Parks Hall, a new ADA route could be provided to the west for a fully accessible route into Haskell Plaza.

ENTRY PLAZA & SOUTH ELEVATION
A low-bermed landscape and seeded meadow will welcome visitors to the main entry plaza from the south. The entry plaza and south patio will be paved with pedestrian-rated brick or unit pavers. Near the front door of the Student Success Center, a series of fixed wood-capped seatwalls will provide seating beneath a small group of trees.

INDOOR-OUTDOOR EXPERIENCES
Connecting internal building spaces to the outdoors are important in creating a vibrant, welcoming place for everyone. It’s also important in creating a place that celebrates the surrounding landscape. The site offers a grand view of Chuckanut Mountain to the south and provides great opportunities to situate the building with views towards this landscape. In addition, using exterior program to enhance interior program is a good way to support the function of the building.

Arriving from the south through Flag Plaza, the Student Development and Success Center would likely be the first building in view. From this approach, a visitor would be greeted by significant University signage framed by a native seeded meadow. Closer to the SDSC building, the entry plaza connects to the Flag Plaza and the campus corridor where benches and shade trees are located adjacent to the building entry. For convenience to students, a café will be situated at the southeast corner of the building which will help activate the area.

Opening up on the north side of the café, a patio and courtyard would provide space for café spill-out and general student activity. The courtyard would be protected from the busier vehicular and parking zone to the south, as well as provide a buffer to seasonal winds and weather. In addition to the café patio, the courtyard will have ample seating options for small and medium sized group activities. The entire courtyard stretches between the east elevation of the SDSC building and the north-south campus corridor which will be well activated, but also provide for a relatively protected outdoor space on campus.

COURTYARD & WEST ELEVATION
Adjacent to the café on the north, a patio and courtyard will provide gathering areas for student activity. The café patio zone would be paved with pedestrian rated brick or unit pavers. Café-style tables and chairs will populate the patio area while fixed seatwalls or off-the-shelf benches will provide additional seating opportunities.
Connected to the north, a wood or concrete plank deck would provide space for outdoor study and student gathering. Site furnishings include wood-topped benches and precast concrete tables. This area will be bordered by lush planting that screens the space from the promenade, and provides stormwater quality treatment.

Along the west elevation, a landscape buffer would be established to provide seasonal shading and to minimize cooling loads internal to the building during the warmer months.

**LANDSCAPE & IRRIGATION**

Native plants and native adaptive plant material will be utilized which will minimize watering needs once mature. For planning purposes, all new planting areas will utilize 18” depth of import or amended topsoil, and 36” depth at new tree locations, while stormwater quality areas will receive 24” depth of topsoil. In order to achieve a mature landscape along the west building elevation sooner, 4” caliper trees and three-gallon shrubs would be installed. All other areas would utilize 2” caliper trees and two-gallon shrubs at time of installation. A native meadow seed mix will be selected for the south entry landscape.

All new landscape areas will have a dedicated low-flow irrigation system, which will tie into the existing campus system. A zoned irrigation approach will be utilized to allow for customized control during wet and dry seasons and to allow drawback as the landscape matures. Overhead spray heads and drip irrigation will be used for all shrubs, seed, and trees.
**Introduction**

The following narrative is intended to establish the structural systems and design criteria for the Student Development and Success Center building at Western Washington University (WWU). The building is currently anticipated to be 3 stories tall and framed primarily using mass timber.

**Structural Systems**

Based on the use of the building as well as the architectural and sustainability goals for the project, the structure for the building will primarily consist of mass timber, and will utilize Cross Laminated Timber (CLT) or similar panelized wood products for the floor and roof systems.

The anticipated floor assembly for each elevated floor is anticipated to consist of a cementitious topping (2” gypcrete or similar) placed over a 5-ply CLT panel. The cementitious topping may be either concrete or gypcrete depending on architectural, mechanical, and acoustic requirements for the project. The 5-Ply CLT panel to be approximately 5 ½” to 7.0” thick (actual thickness may vary based on design requirements and manufacturer standards). An acoustic mat is anticipated between the topping and the wood panels. Alternative wood panel products may also be considered for the project, including Dowel Laminated Timber (DLT).

The roof assembly is also anticipated to consist CLT (or DLT) panels, except that a 3-Ply or thinner 5-Ply panel will be used, and will not have a topping or acoustic mat. At mechanical areas, purlins will be added under mechanical equipment, and a cementitious topping may be required for acoustic isolation.

The panels will be supported by Glue Laminated (Glulam) wood beams and Glulam wood columns. The grid of beams and columns are anticipated to be spaced at approximately 16'-0” oc in areas that allow for narrow column spacing (wider spacing may be used in open areas of the building). The beam span lengths will generally be limited to about 30 feet, although short spans may be used in some areas based on architectural layout.

The ground floor of the building will be supported by a concrete slab-on-grade. The slab is anticipated to be approximately 5” thick and reinforced with #4@18” oc each way. The slab will be underlain with a vapor barrier and capillary break material. Below-slab insulation may be required at radiant heating areas and where required by architectural/mechanical.

The foundations for the project are anticipated to be conventional spread footings under columns, mat footings under frames, and a strip footing with stem wall under exterior walls. Soil conditions
below the building vary, and both the slab-on-grade and building foundations will require support by a ground improvement system as described below. Along the west side of the building, there is an existing utility tunnel that extends to a depth of approximately 12 to 16 feet below existing grade, which should be taken into consideration with new building foundations. Refer to the Geotechnical Considerations section below for additional information.

The lateral force resisting system for wind and seismic forces is anticipated to consist of steel braced frames. The frames should generally be located in stair walls or similar permanent walls where possible, to allow for maximum flexibility of space and to minimize conflicts with mechanical systems. Alternative systems, such as shear walls, may also be considered for the project.

The Construction Type for the building is anticipated to be Type III B or Type VB, which allows for combustible structural framing that is unrated (0-hour). A 0-hour rating allows for thin wood panels and avoids the need to oversize the panels, beams, and columns to create a char-rating.

Geotechnical Considerations

There is currently limited geotechnical information available for this building, however, based on existing boring logs made available to us, it appears that the building is underlain by varying depths of soft soils over bedrock/sandstone. The depth to bedrock/sandstone appears to vary from between approximately 5 feet and 12 feet below the ground surface. The soft soils are not suitable for building support.

Based on this information, we anticipate that the soft soils will need to be reinforced using a ground improvement system such as aggregate piers. We therefore anticipate that aggregate piers will be required below all footings and in a grid pattern below the slab-on-grade. Alternative foundation systems, such as micropiles, may also be considered, and have been used on other projects on campus. These assumptions will need to be verified once a geotechnical engineering is available to consult for this project.

Along the west side of the building, there is an existing utility tunnel running parallel to the new building. The depth to the bottom of the tunnel appears to vary from approximately 12 feet to 16 feet below existing grade. Depending on final placement of the building, this may place the tunnel within the influence zone of the new building foundations. Foundations along the west side of the new building will need to take the tunnel into consideration. This may potentially include lowering building foundations, or installing pile foundations in this area.

Design Criteria

Building Code

We anticipate that the governing building code for the project will be the 2018 or 2021 International Building Code (IBC), with Washington State Amendments. The structural design of this building will be in accordance with this code, and the appropriate documents that are referenced by the IBC.
In accordance with IBC Chapter 16, the building is classified as Risk Category II since the building is not used for primarily education purposes. This Risk Category establishes importance factors for Snow, Wind, and Seismic Loads that will be used for the structure as described below.

**Vibration Performance Criteria**

Based on the intended use for this building, we currently do not anticipate that strict vibration performance criteria will be required, such as would be required for sensitive lab equipment. Therefore, the project will be analyzed for walking excitation, with a goal to limit the acceleration of the floor system under walking impact loads to a reasonably small amount, in this case approximately 0.5 to 0.6% gravity. Since the perception of floor vibration is subjective, we cannot guarantee that the floor system will perform exceptionally for all occupants, or that the floor vibration will be completely imperceptible.

**Floor Flatness and Levelness**

Mass timber floor systems, similar to steel framed floor systems, cannot be constructed to exact flatness and levelness requirements due to inherent construction tolerances and floor deflections. We are not aware of specific criteria established by WWU for floor flatness and levelness. Depending on expectations for this criteria, leveling slabs or compounds may be required to achieve specific floor flatness and levelness requirements.

END OF STRUCTURAL NARRATIVE
**PROJECT DESCRIPTION**

**BUILDING DESCRIPTION**
The project is located on the Western Washington University campus located in Bellingham, Washington. It consists of an approximately 41,000 GSF building that will co-locate student advising, admissions and financial aid representatives, counseling, and career development into one collaborative facility.

**SUSTAINABILITY GOALS**

**CONTEXT**
The Washington State 20-01 executive order states that all newly constructed state-owned (including lease-purchase) buildings shall be designed to be zero energy or zero energy capable, and include consideration of net-embodied carbon. Western Washington University’s Sustainability Action Plan aims at achieving carbon neutrality by 2035.

**SUSTAINABILITY GOALS**
Given this context, the project is pursuing the following goals:

> ILFI program: meet the requirements of the LBC v4.0 energy petal certification which includes:
  > All core imperatives
  > Energy petal:
  > No combustion
  > Supply 105% of their project’s energy needs through on-site renewable energy (on a net annual basis)
  > Develop and incorporate a resilience strategy to allow the building to be habitable for one week (using batteries, storages, etc.) OR participate in support for the local community in a disaster.

> Note that the LBC program replaces a LEED v4.0 gold certification.

The intent is for sustainability to be visible on the project as a reflection of Western’s culture.

**WHAT IS SUSTAINABILITY?**
Sustainable design is often referred to as green design or high performance. Traditionally, decisions are made based on the economic bottom line approach, which is generally only concerned with short term cash flows. A sustainable approach looks at the triple bottom line – economy, ecology, and equity. Decisions are made with concern for the balance between profitability, preserving our natural systems, and benefiting the needs of society.

**SUSTAINABILITY PRINCIPLES**
The following are some of the key sustainability principles for the project. The project team should consider these as integrated design strategies for the project.

**SOLAR RESPONSIVENESS**
The architectural massing and façade choices can have significant impacts on a building’s annual greenhouse gas (GHG) emissions. The project team should strive to keep peak heating and cooling loads down to levels similar to that of a passive house project. This will allow more efficient building systems to be used, while also reducing the active energy required to make a building comfortable. In addition, the architecture needs to be responsive to solar energy generation with building forms that optimize rooftop solar potentials.
**WATER RESPONSIVENESS**
In order to achieve the ILFI water requirements a project needs to rethink what rainwater is and how it is used. Typical buildings see rainwater resources as ‘storm water’ which needs to be removed from the site. This is an unfortunate perspective as storm water is a valuable resource that can be used on the site. In Bellingham, the summers are quite dry compared to winters. This creates a seasonal collection and reuse dynamic where most of the water is collected outside of the summer but most of the water reused is in the summer. In order to achieve this, a project needs strategies to hold as much rainwater during wet periods for reuse in dry periods. Also key is reducing water reuse demands in dry periods to reduce water holding needs.

**CARBON RESPONSIVENESS**
Since WWU has a goal to be carbon neutral, it is important to look at the whole life carbon of buildings. This includes the embodied carbon, operational energy, refrigerant emissions and end of life impacts. By looking at whole life carbon, a project can get a full understanding of the environmental impacts of design decisions. Key principles include both reducing overall emissions while also finding carbon sinks for projects. Carbon sinks can include sustainably harvested wood, other natural materials, biochar, site landscaping and more. The goal should be to design a building that can show it is carbon neutral in the A and B stages of the Whole Life Carbon cycle.
SUSTAINABILITY

WATER

THE PATH TOWARDS LBC CORE CERTIFICATION

Compared to a Code minimum building, the project must implement the following enhancements to achieve the LBC Core Certification:

> Install ultra-low fixtures OR on-site rainwater collection and treatment systems
> Treat 100% of the stormwater on-site
> Eliminate the use of any potable water for irrigation after 12-month establishment (no lawn, native drought tolerant plants, etc.)

WATER BUDGET

A highly sustainable building would use no more water than the amount of rainfall that falls on its roof annually. All rainwater that falls on the site would be used or retained on the site. Finally, all wastewater generated in the building would be treated on the site.

Bellingham, Washington, receives approximately 36 inches of rainfall annually and the proposed Water Use Intensity (WUI) for the building is 4-8 gallons/sf/yr.

Ultra-low fixtures are not currently preferred on the project, thus the project will need to implement an on-site collection and treatment system to achieve the LBC CORE certification.

ENERGY

THE PATH TOWARDS LBC ENERGY PETAL CERTIFICATION

The LBC v4.0 energy petal includes the following requirements:

> No combustion
> Supply 105% of their project’s energy needs through on-site renewable energy (on a net annual basis)
> Develop and incorporate a resilience strategy to allow the building to be habitable for one week (using batteries, storages, etc.) OR participate in support for the local community in a disaster

Compared to a Code minimum building, the project must implement the following enhancements to achieve the LBC Petal Certification:

> Maximize on-site generation
> Install energy storage
> Design the envelope and systems to be highly efficient

The assumption is we are not connecting to the current campus steam plant. The LBC programs do not allow for combustion. Connecting to the steam plant would require negotiating with the ILFI and show that WWU plans on eliminating combustion.

- Steam = (to be confirmed with WWU) lbs CO2e/MMBtu
- CHW = (to be confirmed with WWU) lbs CO2e/ton-hour of cooling

THE PATH TOWARDS NET POSITIVE ENERGY

Following the 7 steps below is the key to designing and maintaining a sustainable building successfully:

> Set aggressive project goals
> Reduce building loads
> Design climate responsive systems
> Choose efficient mechanical and electrical systems
> Low refrigerant charge
> Opt for renewable energy sources
> Verify performance
REDUCING BUILDING ENERGY USE
One of the LBC Core Imperatives is to achieve 70% energy use reduction. PAE established the EUI baseline and target using the Zero Tool as shown in the following figure and table.

**TABLE 1: EUI BASELINE AND TARGETS (ZERO TOOL)**

<table>
<thead>
<tr>
<th>Category</th>
<th>EUI</th>
</tr>
</thead>
<tbody>
<tr>
<td>Baseline</td>
<td>77 kBtu/sf/yr</td>
</tr>
<tr>
<td>70% EUI reduction – LBC Target</td>
<td>24 kBtu/sf/yr</td>
</tr>
</tbody>
</table>

The table below summarizes the inputs used in the Zero Tool.

**TABLE 2: ZERO TOOL INPUTS**

<table>
<thead>
<tr>
<th>Category</th>
<th>Project Input</th>
</tr>
</thead>
<tbody>
<tr>
<td>Location</td>
<td>Bellingham, WA 98225</td>
</tr>
<tr>
<td>Heating Degree Days (HDD)</td>
<td>4,923</td>
</tr>
<tr>
<td>Cooling Degree Days (CDD)</td>
<td>62</td>
</tr>
<tr>
<td>Building type</td>
<td>New construction</td>
</tr>
<tr>
<td>Building use</td>
<td>Office</td>
</tr>
<tr>
<td>Gross area</td>
<td>41,000 sf</td>
</tr>
<tr>
<td>Number of weekly operating hours</td>
<td>65</td>
</tr>
<tr>
<td>Number of workers on main shift</td>
<td>92</td>
</tr>
<tr>
<td>Number of computers</td>
<td>80</td>
</tr>
<tr>
<td>Percent heated / percent cooled</td>
<td>100% for both</td>
</tr>
</tbody>
</table>
Designing a building that achieves the target EUI listed above will require focusing on many elements; envelope, lighting, mechanical and electrical equipment, and equipment used by the occupants. The graph shows which strategies can be implemented to achieve the target EUI.

**TABLE 3: PATH TO ACHIEVING THE LBC EUI TARGET – INPUTS**

<table>
<thead>
<tr>
<th>Discipline</th>
<th>Component</th>
<th>Proposed Design</th>
</tr>
</thead>
<tbody>
<tr>
<td>HVAC</td>
<td>Building heating hot water plant</td>
<td>Reversible air source heat pump</td>
</tr>
<tr>
<td></td>
<td>Building chilled water plant</td>
<td>Reversible air source heat pump</td>
</tr>
<tr>
<td></td>
<td>HVAC system</td>
<td>Internal zones: VAV + reheat</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Perimeter zones: DOAS + 2 pipe change over FCUs</td>
</tr>
<tr>
<td></td>
<td>Heat recovery at the rooftop unit</td>
<td>90% efficient</td>
</tr>
<tr>
<td></td>
<td>Demand control ventilation</td>
<td>In the open office spaces and in all densely occupied space (&lt;40 sf/pers)</td>
</tr>
<tr>
<td>Plumbing</td>
<td>Domestic hot water system</td>
<td>Air source heat pump (COP of 3 to 4)</td>
</tr>
<tr>
<td>Plug Loads</td>
<td>Average lighting power density</td>
<td>0.7 – 0.8 W/sf</td>
</tr>
<tr>
<td>Envelope</td>
<td>Daylight dimming</td>
<td>Primary and secondary daylight dimming in all daylit spaces.</td>
</tr>
<tr>
<td></td>
<td>Average equipment power density</td>
<td>0.7 – 0.8 W/sf</td>
</tr>
<tr>
<td></td>
<td>Infiltration rate</td>
<td>0.06 – 0.12 cfm/sf at 75 Pa</td>
</tr>
<tr>
<td></td>
<td>Wall performance</td>
<td>U-0.056 (R-18 effective)</td>
</tr>
<tr>
<td></td>
<td>Roof performance</td>
<td>U-0.017 (R-60 effective)</td>
</tr>
<tr>
<td></td>
<td>Window assembly performance</td>
<td>U-0.26</td>
</tr>
<tr>
<td></td>
<td></td>
<td>0.27 SHGC</td>
</tr>
<tr>
<td></td>
<td>Glazing distribution</td>
<td>Distributed to optimize daylight:</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Avoid glazing 0’ to 3’ off the floor,</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Distributed skylights.</td>
</tr>
</tbody>
</table>
ENERGY BUDGET
A net positive energy building generates 105% of the energy needed for its annual operation through on-site renewable energy. Typically, excess energy is generated in the summer and is sold back to the grid through net-metering to offset a deficit of renewable energy in the winter. On-site renewable energy generation may be harvested through solar photovoltaic systems, solar hot water collectors, wind turbines, or other sources.

This site is best suited for a solar photovoltaic system. The chart and table below show estimated solar array sizes needed to offset 105% of the building's energy (net positive) for different building Energy Use Intensities (EUI), assuming the project is 41,000 sf.

![Solar PV Required to Net Positive](image)

Figure 4: Solar PV Required to Achieve Positive Energy (105% of the Building EUI)

<table>
<thead>
<tr>
<th>PV Array Information</th>
<th>Building Energy Use, kBtu/sf</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>22 Building EUI</td>
</tr>
<tr>
<td>PV energy production (note this is 105% of the building EUI)</td>
<td>277,579 kWh/yr</td>
</tr>
<tr>
<td>PV nominal power</td>
<td>287 kW</td>
</tr>
<tr>
<td>PV panel area (without spacing)</td>
<td>14,568 sf</td>
</tr>
</tbody>
</table>

If the project was to not pursue the LBC v4.0 energy petal certification and pursued LEED v4.0 Gold instead, the design team would need to look at the LEED scorecard holistically to determine which credits to pursue. That being said, the project could likely achieve LEED Gold without any onsite renewables and energy storage systems.
MECHANICAL

GENERAL

CLIMATIC CONDITIONS
The climate summary for Bellingham, Washington is shown below in tabular format. Additional climate information, including some of the following charts, is available at the Western Regional Climate Center, wrcc@dri.edu.

<table>
<thead>
<tr>
<th>TABLE 5: CLIMATE SUMMARY CHART</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bellingham, WA</td>
</tr>
<tr>
<td>Geographical</td>
</tr>
<tr>
<td>Latitude 48.7 N</td>
</tr>
<tr>
<td>Longitude 122.5 W</td>
</tr>
<tr>
<td>Elevation 72 ft</td>
</tr>
<tr>
<td>Summer</td>
</tr>
<tr>
<td>Cooling</td>
</tr>
<tr>
<td>Degree Days (55°F) 986</td>
</tr>
<tr>
<td>50 Year Extreme 90°F</td>
</tr>
<tr>
<td>0.4% DB/MWB 84.9/65.2 °F</td>
</tr>
<tr>
<td>1.0% DB/MWB 81.2/63.7°F</td>
</tr>
<tr>
<td>2% DB/MWB 77.6/62.3°F</td>
</tr>
<tr>
<td>Evaporation</td>
</tr>
<tr>
<td>0.4% DB/MWB 66.5/82.5°F</td>
</tr>
<tr>
<td>2% DB/MWB 63.1/75.8°F</td>
</tr>
<tr>
<td>Daily Range 18.2°F</td>
</tr>
<tr>
<td>Winter</td>
</tr>
<tr>
<td>Heating</td>
</tr>
<tr>
<td>Degree Days (65°F) 5107</td>
</tr>
<tr>
<td>50 Year Extreme 2°F</td>
</tr>
<tr>
<td>99.6% 23.8°F</td>
</tr>
<tr>
<td>99% 28.4°F</td>
</tr>
<tr>
<td>Precipitation</td>
</tr>
<tr>
<td>Annual Rainfall 42.4&quot;</td>
</tr>
<tr>
<td>Snowfall 6.5&quot;</td>
</tr>
</tbody>
</table>

CODES AND STANDARDS 2021
> International Building Code with 2018 Seattle Amendments
> Bellingham Fire Code
> International Mechanical Code
> International Energy Conservation Code
> Uniform Plumbing Code

> ASHRAE Standard 62.1-2016 – Ventilation for Acceptable Indoor Air Quality
> 2019 Washington Electrical Code
> Washington State Energy Code
> ADA or Uniform Federal Accessibility Standards
> National Fire Protection Association (NFPA) Standards

WASHINGTON STATE ENERGY CODE – C406
The 2018 Washington State Energy Code requires additional efficiency measures to comply. The following table notes the measures required for the school. These have been grouped into likely, maybe and unlikely categories based on how challenging the requirements are for this building type. A total of 6 points are required. At least two of the maybe options will need to be likely to comply with the C406 requirements.

<table>
<thead>
<tr>
<th>TABLE 6: WASHINGTON STATE ENERGY CODE REQUIREMENTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>C406 #</td>
</tr>
<tr>
<td>---------</td>
</tr>
<tr>
<td>1</td>
</tr>
<tr>
<td>2</td>
</tr>
<tr>
<td>3</td>
</tr>
<tr>
<td>4</td>
</tr>
<tr>
<td>5</td>
</tr>
<tr>
<td>5.1</td>
</tr>
<tr>
<td>5.2</td>
</tr>
<tr>
<td>6</td>
</tr>
<tr>
<td>7</td>
</tr>
<tr>
<td>8</td>
</tr>
<tr>
<td>9</td>
</tr>
<tr>
<td>10</td>
</tr>
<tr>
<td>11</td>
</tr>
<tr>
<td>Total</td>
</tr>
</tbody>
</table>

The solar array sizing is noted in the electrical section for the C406 credits. A full sized array would help meet the WSEC requirements and move the project towards net zero.
HVAC

AIR SOURCE HEAT PUMP PLANT – 2-PIPE CHANGEOVER SYSTEM
Central heating and cooling for the building will be provided by air-to-water heat pumps located at the upper floor screened outdoors. System is sized for peak building heating load only with 2/3 redundancy. Heat pumps supply 2-pipe common hydronic distribution system to supply heating and chilled water with changeover diverting valves for heating and cooling operation. System will have a dead-band between changeover from one mode to the other of a at least 15°F outside air temperature; and provided with controls that allow operation in one mode for at least 4 hours before change over to the other mode; and allow heating and cooling supply temperatures at the changeover point to be no more than 30°F apart.

Dual temperature water will be distributed via a primary/secondary pumping system from variable speed/ variable flow pumps. Hydronic piping will be routed from the penthouse down a set of risers and out on each floor to serve the hydronic radiant system. Refer to companion mechanical floor plan of system areas.

> Air Source heat pumps: One 200 Ton Heat Pump with heating and cooling
> Electric Boilers: Two at 200 kW each
> Chilled water primary pumps: Two at 300 GPM, 10 HP each
> Chilled water secondary pumps: Two at 300 GPM, 15 HP each
> Heating water primary pumps: Two at 325 GPM, 10 HP each
> Heating water primary pumps: Two at 325 GPM, 15 HP each
> Boiler injection pumps: Two at 120 GPM, 3 HP each
> Chilled water buffer tanks: One at 1,500 Gallons
> Heating water buffer tanks: One at 1,500 Gallons

*AIR HANDLING SYSTEMS: DEDICATED OUTSIDE AIR SYSTEM (DOAS) – CUSTOMUNIT (QUANTITY 2)*
Air for ventilation will be distributed to all occupied spaces by central, custom, factory fabricated, variable air volume dedicated outdoor air handling units at 26,000 CFM.

Units will be equipped with the following components:
> Outside air damper
> Relief air damper
> Pre-filters (MERV 8) – supply air
> Final filters (MERV 13) – supply air
> Pre-filters (MERV 8) – return air
> Heat recovery plate with face/bypass dampers
> Hydronic heating coil
> Hydronic cooling coil
> Variable speed supply fans
> Variable speed return fans
> Supply air acoustic silencers
> Return air acoustic silencers

Zoning of air handling units will be based on environmental requirements and operating schedules.

The heat recovery plate sized for full airflow rate will transfer energy from the return airstream to the supply air stream when the unit is operating outside the airside economizer mode.

During economizer mode face/bypass dampers will position for free cooling.

Supply and Return fan speeds will vary speed to maintain the minimum airflow required to maintain ventilation requirements.

Heating coil and cooling coil valves will modulate to maintain supply air temperature between 65°F and 75°F.

Dedicated outdoor air handling units:
At 26,000 CFM with four 15 HP supply fans and two 20 HP return fans each. An energy recovery wheel fan, two at 0.25 HP

*AIR HANDLING SYSTEMS: DEDICATED VARIABLE AIR VOLUME (VAV)– CUSTOM UNIT*
Core spaces within the building will be ventilation and conditioned via a VAV Air Handling Unit. The AHU will be equipped with pre-filters, final filters, DX refrigerant cooling, hydronic heating coil, supply and return fans with variable speed drives, and economizer controls. Supply air to spaces will be controlled with single duct VAV terminal units with hydronic reheat coils supplied from the Air Source Heat Pump. Supply and return will be overhead (sidewall, ceiling, or duct mounted) in all spaces.

Preliminary Equipment Sizing

<table>
<thead>
<tr>
<th>Equipment</th>
<th>Quantity / Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>VAV</td>
<td>1 / 24,000 CFM</td>
</tr>
<tr>
<td>VAV Air Terminal Units</td>
<td>40</td>
</tr>
</tbody>
</table>

Units will be equipped with the following components:
> Outside air damper
> Relief air damper
> Pre-filters (MERV 8) – supply air
> Final filters (MERV 13) – supply air
> Pre-filters (MERV 8) – return air
> Hydronic heating coil
> Hydronic cooling coil
> Variable speed supply fans
> Variable speed return fans
> Supply air acoustic silencers
> Return air acoustic silencers

Zoning of air handling units will be based on environmental requirements and operating schedules.
During economizer mode dampers will position for recirculation and free cooling.

Supply and Return fan speeds will vary speed to maintain the minimum airflow required to maintain ventilation requirements.

Heating coil and cooling coil valves will modulate to maintain supply air temperature between 65°F and 75°F.

**TERMINAL EQUIPMENT - HYDRONIC**

**Radiant Ceiling with VAV Terminal Units**
Radiant ceiling panel heating and cooling will be provided to all spaces (conference rooms, offices, commons and office). Each radiant zone will be provided with a zone pump to recirculate water into the space.

Ventilation air to all spaces will be controlled with single duct VAV terminal units (i.e. squeeze boxes). will have demand control ventilation.

Assume 2 individual offices per zone and 1 zone per open office area. Assume a minimum of on zone per additional enclosed space. Spaces that are larger 500 ft² shall have one zone per 500 ft².

The exterior spaces shall be provided with motor operated windows and tied into the DDC system. The operation of the windows will be based on opportunity to utilize outside air for cooling.

Each space will be provided with a ceiling fan with wall mounted controls.

**NATURAL VENTILATION – OPEN LOBBY/ENTRY SPACE/CAFE**
The team will discuss ASHRAE standard 55 extended temperature and humidity ranges for naturally ventilated systems to help establish the users comfort zone.

This system can be combined with a mechanical system and operate in “mixed mode” if required. Operable windows will be provided with switches to shut-off the HVAC systems to spaces that have their windows open.

The natural ventilation system is capable of operating when outside temperatures permit. The mechanical heating and cooling system will operate when the outside air temperatures are at their extremes and the windows are closed.

The lobby/entry natural ventilation system will be provided with a fan to assist in the cooling effectiveness.

Exhaust fan: One at 5,000 CFM, 2 HP

**Cafe General Exhaust**
General room exhaust will be provided to the café area via the DOAS system with the goal of keeping the area slightly negative compared to adjacent areas.

**Elevator Machine Room, MDF/IDF, Large Electrical Room**
Spaces requiring 24/7 cooling will be given dedicated cooling only split systems with rooftop condensing units.

**CONTROLS**
A direct digital control (DDC) system will be provided to control and monitor all HVAC equipment and systems. Valve and damper actuation will be electric type. The control system will be integrated into the existing campus system to allow full control and monitoring from the existing operator’s terminal. The control system will perform all required control functions, including optimization of equipment and system performance, reliability, equipment life and energy consumption.

**MEASUREMENT AND VERIFICATION**
An extensive measurement and verification system is anticipated to carefully monitor the building’s energy use. Data on rainfall and incoming solar energy will be collected and displayed on flat screen monitors in the lobby. The building’s energy and water use will be compared to these natural budgets and the building’s CO2 emissions can also be tracked.

This system can be used to share several different trends with the building’s occupants.

**Preliminary Recommendation**
Our recommendation is to proceed with the non-utility metering strategy in accordance with LEED M&V, described below.

Monitoring building energy use at this level provides the following benefits:

> Continuous optimization of building performance.
> Education of tenants and building occupants.
> Serves as a case study for other building designs, helping the greater community of the built environment.

Separate monitoring of the following end use loads:

> Lighting – basement and ground floor
> Lighting – tenant floors
> Receptacles – basement and ground floor
> Receptacles – tenant floors
> Heating – basement and ground floor
> Heating – tenant floors
> Fans – basement and ground floor
> Fans – tenant floors
> Cooling – basement and ground floor
> Pumps
> Elevator
> Kitchen
> Water – total building use
> Domestic hot water
> Solar hot water use

In addition, a measurement and verification plan will be developed to analyze the building energy and water use after occupancy to optimize the building performance.
PLUMBING

PIPE MATERIALS
> Domestic Water Supply distribution piping: All Hot Water lines are Copper. Cold water lines are PEX or Copper
> Reclaimed Water distribution piping (to Toilets and Urinals): PEX or Copper
> Storm System: No Hub Cast Iron
> Waste & Vent Piping: No Hub Cast Iron
> Gas Piping: Steel Pipe, Schedule 40; Black.
> Condensate Drain Piping: CPVC, or Type M Copper

WASTE AND VENT SYSTEM
Sanitary waste and vent piping will be provided for toilet rooms and other spaces as required. Sanitary waste piping leaving the site will connect to a city sewer line on Union Street. Sump pumps will be provided for elevator shafts and connected to the gravity sanitary system within the building.

DOMESTIC WATER SYSTEM
A new 3” domestic water connection will be made into the campus utility tunnel. A backflow device and booster pump will be located in the water entry room at the first level.

A heat pump water heater will be provided in at the upper level. A master thermostatic mixing valve will temper the hot water to 120°F for general use. Domestic cold water and hot water lines will be routed from the water heaters to all potable fixtures (all plumbing fixtures except Toilets and Urinals).

STORM WATER SYSTEM
Bellingham, WA receives approximately 36” of rainfall annually. This results in over 400,000 gallons of water falling on the roof of the new building annually (assuming a 20,000 SF roof). This building could either be designed to capture and reuse this rainwater for toilet flushing and irrigation (non-potable water uses only) or to discharge the rain water to the Civil storm utility connection, see options 1 and 2 below.

WATER USE REDUCTION STRATEGIES

OUTDOOR WATER USE REDUCTION
The LBC v4.0 energy petal certification requires no potable water for irrigation after a 12-month establishment period. This could be achieved with one of the following 2 options:

Option 1: capture and reuse building rainwater from the roof surfaces:
A total of 65,000 gallons cistern will be considered for pricing. The cistern locations would be onsite above ground to be visible to students and staff. This would give the project an irrigation budget of ~74,000 gallons/year.

Option 2: landscape design that requires no irrigation after a 12-month establishment period.
If the project was to not pursue the LBC v4.0 energy petal certification and pursued LEED v4.0 Gold instead, the design team would need to look at the LEED scorecard holistically to determine which credits to pursue. That being said, the project could achieve LEED Gold without any onsite rainwater collection and treatment.

INDOOR WATER USE REDUCTION
The Living Building Core Certification requires to reduce the indoor water use by 50%. This could be achieved with one of the following 2 options:

Option 1: Use low-flow plumbing fixtures and capture and reuse building rainwater from the building roof surfaces (see table 7 below):
(1) 2,000 gallon cistern will be considered for pricing. The cistern location could be in the building or onsite above ground to be visible to students and staff. Several ideas for educational purposes are being explored including an LED light strip on the outside of the tank that lights up to indicate the tank fill level. The rainwater system non-potable lines (purple pipe) will be routed throughout the building to each Toilet and Urinal. This option achieves about 32% reduction before the rainwater reuse and over 50% reduction after rainwater reuse.

Option 2: Use ultra-low-flow water closets and a vacuum waste system (see table 7 & 8 below):
Rainwater capture and reuse will not be required as in option 1 so, all storm water would be discharged to the Civil storm utility connection. A vacuum waste system would be required to serve all toilets; this enables ultra-low flow water closets to easily achieve the 50% potable water use reduction and likely could result in a 65% reduction in potable water use.

If the project was to not pursue the LBC v4.0 energy petal certification and pursued LEED v4.0 Gold instead, the design team would need to look at the LEED scorecard holistically to determine which credits to pursue. That being said, the project could likely achieve LEED Gold without any onsite rainwater collection and treatment.
PLUMBING FIXTURES
Commercial grade low flow fixtures will be provided where indicated on the architectural drawings.

**TABLE 7: (OPTION 1) PLUMBING FIXTURE TYPES AND LOCATIONS**

<table>
<thead>
<tr>
<th>Fixture</th>
<th>Type</th>
<th>Control</th>
<th>Flow</th>
<th>Basis of Design</th>
</tr>
</thead>
<tbody>
<tr>
<td>Water Closet</td>
<td>Wall hung, vitreous china</td>
<td>Sensor Operated flush valve</td>
<td>1.28 GPF</td>
<td>Kohler water closets, Sloan flush valve</td>
</tr>
<tr>
<td>Lavatory</td>
<td>Counter mounted, vitreous china</td>
<td>Sensor Operated</td>
<td>0.5 GPM</td>
<td>Kohler sink basin, Delta faucet</td>
</tr>
<tr>
<td>Urinal</td>
<td>Wall Hung, vitreous china</td>
<td>Sensor Operated flush valve</td>
<td>0.125 GPF</td>
<td>Kohler Urinal, Sloan flush valve</td>
</tr>
<tr>
<td>Sink</td>
<td>Self-rimming, counter mounted, Stainless steel</td>
<td>Dual handle faucet, goose neck spout</td>
<td>1.5 GPM</td>
<td>Elkay sink basin, Delta faucet</td>
</tr>
<tr>
<td>Drinking Fountain</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dual height with bottle filling station, stainless steel</td>
<td>Front push pad operation for drinking fountains and sensor operation at bottle filler</td>
<td>1.5 GPM at bottle filler</td>
<td>Elkay</td>
<td></td>
</tr>
<tr>
<td>Emergency Eye Wash</td>
<td>Deck mounted</td>
<td>Point of use thermostatic mixing valve</td>
<td>0.5 GPM for 15 minutes</td>
<td>Bradley complies with ANSI Z358.1-2009</td>
</tr>
</tbody>
</table>

The same commercial grade low flow fixtures shown in Option 1 above will be provided for Option 2 with the following exception; in lieu of the Table 7 water closet use Table 8 water closet.

**TABLE 8: (OPTION 2) PLUMBING FIXTURE TYPES AND LOCATIONS**

<table>
<thead>
<tr>
<th>Fixture</th>
<th>Type</th>
<th>Control</th>
<th>Flow</th>
<th>Basis of Design</th>
</tr>
</thead>
<tbody>
<tr>
<td>Water Closet</td>
<td>Wall hung, vitreous china</td>
<td>Sensor Operated flush valve</td>
<td>.5 GPF</td>
<td>Acornvac</td>
</tr>
</tbody>
</table>
FIRE PROTECTION

OVERVIEW
It is estimated a 6-inch fire service will be provided and enter the building at the ground level and be routed to the Fire Sprinkler room.

Design-Build Fire Sprinkler contractor shall provide complete sprinkler system. Sprinkler room located at the first level on the side of the building. Fire Sprinkler Designer must be certified in accordance with RCW 18-270. The entire building will be totally sprinklered in accordance with NFPA 13.

A fire pump will be required, with an estimated design flow at 500 GPM and 100 psi. Provide all necessary provisions for code compliant fire protection including generator, fuel storage, booster pumps.

A detector double check assembly will be provided for the fire service in the Fire Sprinkler room.

The fire sprinkler system shall comply with NFPA 13, and local Fire Marshal requirements. In general, the fire sprinkler system shall consist of connection to new water service, including electric fire pumps, jockey pump, controllers, automatic transfer switch, main flow alarm station, zone control valves and flow indicators, alarm bell, fire sprinkler piping and heads. All related fire protection accessories as required will be provided. Coordinate location and type of tamper, flow, and pressure switches with the fire alarm system. All fire sprinkler piping to be concealed.

All required system isolation valves shall be provided with tamper switches. Each floor shall be provided with a zone isolation valves with tamper switches, flow switches, fire department test stations and hose valves (as required). The fire department test drain shall terminate outside of the building. Dry pipe sprinkler systems will be provided for areas subject to freezing. Dry pipe systems shall be galvanized inside and out, threaded or with cut grooves. All fire protection system materials to be made in the USA.

Provide a Class II standpipe per the requirements of the local Fire Marshal requirements and NFPA 14. Coordinate location of all hose valves in secure areas.

(2) Fully redundant horizontal split-case electric motor-driven fire pumps will be provided in accordance with applicable code and Fire Marshall Requirements.

Fire sprinkler heads to be chrome plated semi-recessed pendant type with polished chrome escutcheons in finished areas and upright rough brass finish type heads in unfinished areas. Horizontal dry sidewall sprinkler heads will be provided for overhangs and other perimeter areas subject to freezing. Quick-Response heads will be provided in all light hazard areas.

A full dry sprinkler system will be provided in the water entry room.
ELECTRICAL

ELECTRICAL DESIGN CRITERIA

The following electrical load densities will be used for the project:

<table>
<thead>
<tr>
<th>Area</th>
<th>Lighting Systems (VA/SF)</th>
<th>Power Systems (VA/SF)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Meeting</td>
<td>1.0</td>
<td>3.0</td>
</tr>
<tr>
<td>Commons / Lounge</td>
<td>2.0</td>
<td>3.0</td>
</tr>
<tr>
<td>Office</td>
<td>0.9</td>
<td>7-10</td>
</tr>
<tr>
<td>Circulation</td>
<td>2.0</td>
<td>1.0</td>
</tr>
<tr>
<td>Learning Support</td>
<td>1.4</td>
<td>7-10</td>
</tr>
<tr>
<td>Storage / Support</td>
<td>0.9</td>
<td>0.5</td>
</tr>
<tr>
<td>Electrical / Mechanical</td>
<td>0.9</td>
<td>0.5</td>
</tr>
</tbody>
</table>

Other loads included in the service size calculation and not carried on a VA/SF allowance include the elevator, IT/AV racks, kitchen equipment, mechanical equipment, water heating, fire pump, and EV chargers. These have been included in the service calculation as an assumed horsepower rating.

Based on these preliminary load densities and equipment ratings, the anticipated service sizes are summarized below.

Table 10: Electrical Load Summary

<table>
<thead>
<tr>
<th>Mechanical Options</th>
<th>Calculated Load (Amps @ 480v)</th>
<th>Service Size (Amps @ 480v)</th>
</tr>
</thead>
<tbody>
<tr>
<td>All Electrical</td>
<td>1245</td>
<td>1600</td>
</tr>
</tbody>
</table>

SERVICE AND DISTRIBUTION

SERVICE

Main electrical service to the new 41,000 GSF Student Development & Success Center will be via new medium voltage feeders served via existing adjacent campus utility tunnels.

The existing campus utility tunnels contain medium voltage feeders, steam piping distribution, mechanical piping, and fiber/copper telecommunications cabling. The tunnels contain extensive racking for the mechanical piping and steam lines. Medium voltage conductors and telecommunication cabling are located within cable trays along the side of the tunnel.

Medium voltage conductors transition in and out of the tunnel via vertical wall penetrations. At each penetration, fire-stopping and water sealant is applied around the conductor assembly to prevent water from entering the tunnel.

Medium voltage cabling within the tunnel cable tray is CLX metal clad armored cable type.

As a basis of design, provide (2) new exterior 1000kVA pad-mount transformers and transformer pad vaults will be specified to serve the new building from campus tunnel between T2 and T3. These transformers (along with the generator discussed below) is assumed to be located within an exterior service yard area.

Secondary feeders from the transformers will route underground (in conduit) and terminate at the new building main distribution panelboard.

Alternative: The existing building located at the proposed location of the new building is served from an existing adjacent building ‘ES’. Additional study and investigation is required to determine if the existing distribution within building ‘ES’ has the capacity to handle new building electrical loads. This will eliminate new transformers and transformer pads.

DISTRIBUTION

Based on schematic design electrical load calculations, the building MDP size is estimated to be 1600A, 480Y/277V, 3-phase, 4-wire. The MDP will be dual 1600A incoming services with a 1600A main-tie-main breaker. It will also contain a non-utility power meter, sure suppression device, ground-fault protection, distribution breakers for sub-distribution panelboards, and distribution breakers for larger motors such as elevators.

The building MDP will be located within the main electrical room. This room will also contain additional distribution panelboards for mechanical/lighting equipment, 480V-208Y/120V transformers, and 208V distribution panelboards.

It is anticipated there will be additional satellite electrical rooms throughout the building. These rooms will each contain a sub-distribution panelboard, mechanical distribution panelboards, lighting and lighting relay control panels, and 208V general purpose power.

To enhance power quality, a surge protection device (SPD) will be specified at the service main distribution panelboard and in all sub-distribution panelboards. As an additional means of minimizing surge damage, plug strips that incorporate surge protection should be used within offices and space where sensitive electronic equipment exists.
All branch circuit wiring will be copper conductors located in EMT raceway. Alternate wiring methods such as metal-clad cabling (MC cable) and the use of aluminum conductors for larger feeders are under consideration and requires further discussion with WWU facilities. A separate neutral wire shall be used in each individual branch circuit homerun.

Electrical power connections will be made to all mechanical equipment, to include providing all electrically associated devices such as disconnect switches, contactors, magnetic or manual starters, lock-out switches, etc., not furnished under Division 23. VFD’s furnished under Division 23 and installed under Division 26.

**ROOFTOP RENEWABLE SYSTEM**

The building electrical distribution will contain dedicated panelboard/s, grounding, controls, etc. to support a rooftop photovoltaic system. Refer to the sustainability section of this narrative for anticipated PV array sizes based on project sustainability goals.

**ELECTRICAL METERING**

The building electrical system will contain non-utility electrical submetering for branch panelboards. The design will for the submetering system will closely follow the requirements of LEED v4 gold certification and LBC v4.0 energy petal certification.

Building loads will be separated and metered based on their type. Load types include mechanical equipment, plumbing/mechanical pump, mechanical fans, domestic hot water pumps and distribution equipment, lighting and plug loads.

The metering system will be networked and integrated into the existing campus standard metering software suite.

The electrical metering information obtained will be used to compare actual building operational electrical usage to modeled electrical usage.

**GROUNDING SYSTEM**

A safe grounded power system will be provided in compliance with the NEC. It will consist of the building service grounding and bonding (multiple ground rods, UFER ground, ground ring around the building perimeter and bonding to the water service and structural steel) as well as transformer bonding. A building main ground bus bar will be provided in the main electrical room and will be extended throughout all electrical systems in the building. All metallic systems will be grounded to the building grid. An equipment grounding conductor will be provided in all feeder and branch circuit wiring runs. Separate isolated ground conductors will be provided for branch circuits with sensitive loads.

A performance grounding system will be provided for all telecommunications rooms in the building. The performance ground system will tie into the code required safety grounding system at the building main ground bus bar.
EMERGENCY POWER SYSTEMS

GENERATOR SIZE
The size of generator for schematic design has been based on the load density table above plus a 15% contingency for schematic design. The size of the generator will be revised based on nameplate loads for systems included above plus spare capacity for future loads. Further discussion with WWU is required to confirm any additional emergency or standby power requirements.

Emergency and optional standby power will be provided by a 350kW diesel generator. This generator size assumes the following loads are connected to it:

**TABLE 11: LOAD ESTIMATES FOR EMERGENCY POWER SYSTEMS**

<table>
<thead>
<tr>
<th>Load Description</th>
<th>Estimated kVA</th>
<th>Load Type (Standby S or Life Safety, LS)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Egress Lighting/Fire Alarm</td>
<td>35</td>
<td>LS</td>
</tr>
<tr>
<td>Network Systems</td>
<td>85</td>
<td>S</td>
</tr>
<tr>
<td>Network Cooling System</td>
<td>100</td>
<td>S</td>
</tr>
<tr>
<td>Fire Pump</td>
<td>35</td>
<td>LS</td>
</tr>
<tr>
<td>Elevator (1-30HP)</td>
<td>35</td>
<td>LS</td>
</tr>
<tr>
<td>Contingency (15%)</td>
<td>45</td>
<td>S</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>335</strong></td>
<td></td>
</tr>
</tbody>
</table>

EMERGENCY AND STANDBY DISTRIBUTION
The generator will be pad-mounted at the exterior of the building (adjacent to transformer). Accessories for the generator will include a sound attenuated weatherproof enclosure and integral belly tank, and an integrated load bank per campus standards. The tank will be sized to provide 24 hours of full load generator operation.

The generator will contain a single output breaker and feeder that will terminate within the main electrical room emergency distribution panel (EMDP).

From panel EMDP, separate feeders and (2) transfer switches (one for life safety and one for optional standby loads) will be provided within the emergency electrical room (located within the main electrical room).

Emergency and optional standby branch panelboards will be located within the small satellite electrical rooms located through the building.

LOW VOLTAGE SYSTEMS

FIRE ALARM
The Fire Alarm system will consist of a supervised addressable Class B hard wired system. Manual pull stations will be provided at each exit and exit leaving an elevated floor.

The fire alarm basis of design will be designed per campus standard: GE/Edwards system.

The system will contain a fully addressable fire alarm system consisting of fire alarm control panel, emergency voice/alarm communication system, central control system, remote annunciator at Fire Department point of entrance, power supplies, initiating devices, notification appliances, addressable smoke detectors (where required within mechanical units), control and monitoring relays.
The building will contain a mass notification system complete with speaker annunciation and amber visual devices.

**TABLE 12: FIRE ALARM COVERAGE**

<table>
<thead>
<tr>
<th>Device</th>
<th>Coverage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Manual pull stations</td>
<td>Located at each exit and each exit leaving an elevated floor.</td>
</tr>
<tr>
<td>Common Area Smoke Detectors</td>
<td>Corridors, Air handlers (&gt;2,000CFM), Elevators lobbies, Elevator machine rooms, Elevator hoistways.</td>
</tr>
<tr>
<td>Fire Sprinkler</td>
<td>Tamper and Flow</td>
</tr>
<tr>
<td>Annunciator</td>
<td>Remote annunciator panel at fire department entry</td>
</tr>
<tr>
<td></td>
<td>Speaker strobes to be used. Amber visual strobes to be used for mass notification.</td>
</tr>
<tr>
<td>Building Annunciation</td>
<td>Speaker and strobe annunciation throughout all common and gathering areas (i.e. meeting rooms, classrooms, lounge).</td>
</tr>
<tr>
<td>System outputs</td>
<td>Relay interface for mechanical system shut down and elevator recall.</td>
</tr>
<tr>
<td>Monitoring</td>
<td>Connect control panel to existing campus standard network; FireWorks fiber loop.</td>
</tr>
<tr>
<td>Additional FA Devices</td>
<td>Exterior sprinkler bell located along address side of structure (will bell visible from FDC)</td>
</tr>
</tbody>
</table>
LIGHTING

LIGHTING DESIGN CRITERIA

The lighting systems will be independent and stand-alone for the building with connections to the main campus for signal systems.

The following load allowances will be provided for the project:

<table>
<thead>
<tr>
<th>AREA</th>
<th>SOURCE</th>
<th>LIGHT LEVEL AMBIENT (ave FC)</th>
<th>LIGHT LEVEL EMERGENCY (ave) FC*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Meeting / Offices</td>
<td>LED</td>
<td>25 – 35</td>
<td>NA</td>
</tr>
<tr>
<td>Commons / Lounge</td>
<td>LED</td>
<td>15 – 25</td>
<td>1.0</td>
</tr>
<tr>
<td>Public Circulation/Transition</td>
<td>LED</td>
<td>15 – 25</td>
<td>1.0</td>
</tr>
<tr>
<td>Back of House Circulation</td>
<td>LED</td>
<td>15 – 25</td>
<td>1.0</td>
</tr>
<tr>
<td>Learning Support</td>
<td>LED</td>
<td>35 – 45</td>
<td>NA</td>
</tr>
<tr>
<td>Stairs</td>
<td>LED</td>
<td>15 – 25</td>
<td>1.0</td>
</tr>
<tr>
<td>Restrooms</td>
<td>LED</td>
<td>25 – 35</td>
<td>1.0</td>
</tr>
<tr>
<td>Storage</td>
<td>LED</td>
<td>15 – 25</td>
<td>NA</td>
</tr>
<tr>
<td>Mech/Elec/IT Areas</td>
<td>LED</td>
<td>35</td>
<td>1.0</td>
</tr>
</tbody>
</table>

(* Emergency Lighting: Emergency lighting system and panel capacity will be designed on the basis of 0.25 volt-amperes/sq. ft. of gross space)  **Monitored control will allow emergency lighting to be controlled to below this level during performances.  ***A group of energy efficient task lights will be selected.

LIGHT SOURCES

The luminaires will employ LED light sources in all project areas in upper level, including back of house spaces. Incandescent, fluorescent, and metal halide sources will not be used on this project unless specifically required by a program requirement.

All LED lighting used on this project will conform to all applicable codes and standards, including energy codes and performance standards. All existing lighting in lower level to remain, unless the space being modified or added.

All light sources used will feature a minimum color-rendering index of 80 CRI (90 CRI for OR suites). Color temperature (CCT) will be standardized to 3000K or 3500K nominal, pending selection of interior finishes and review with the design team.

Where possible, LED chip suppliers will be standardized to ensure that a minimal number of manufacturers are used on the project. LEDs manufactured by Philips, Osram Sylvania, General Electric, Xicato, Bridgelux, Nichia, Cree, are considered acceptable.

LEDs will have minimum CRI of 80 and will maintain color consistency within three MacAdam Ellipses over the rated life of the lamp. LED luminaires will conform to IES LM-80-08 and LM 79-08 test procedures for chromaticity, lumen output and lamp life. All LED luminaires (including LED arrays, drivers, housings, lenses, transformers and accompanying components) will carry a minimum 5-year, non-pro-rated, full replacement warranty.
TABLE 14: LIGHTING METHODS BY AREA

<table>
<thead>
<tr>
<th>AREA</th>
<th>LIGHTING TYPE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Classrooms</td>
<td>LED, Linear direct-indirect</td>
</tr>
<tr>
<td>Meeting / Offices</td>
<td>LED, Linear direct-indirect, suspended</td>
</tr>
<tr>
<td>Commons / Lounges</td>
<td>LED, Linear direct-indirect, Task Lighting</td>
</tr>
<tr>
<td>Public Circulation/Transition</td>
<td>LED, Linear, downlight</td>
</tr>
<tr>
<td>Back of House Circulation</td>
<td>LED, Linear, downlight</td>
</tr>
<tr>
<td>Learning Support</td>
<td>LED, Linear direct-indirect, suspended</td>
</tr>
<tr>
<td>Stairs</td>
<td>LED, Linear direct-indirect</td>
</tr>
<tr>
<td>Restrooms</td>
<td>LED, Wall vanity, downlight</td>
</tr>
<tr>
<td>Storage</td>
<td>LED, Linear</td>
</tr>
<tr>
<td>Mech/Elec Areas</td>
<td>LED, Linear</td>
</tr>
</tbody>
</table>

LIGHTING CONTROLS
To meet Washington Energy Code, the lighting control system, at a minimum, requires dimming, occupancy and vacancy sensing will require astronomical time function with automatic shut-off controls, load shedding capabilities and local over-ride switches. Provide wireless control devices to be basis of design.

Daylighting harvesting will be pursued when adequate daylight is available. Daylight harvesting will dim the luminaires when there is high natural light entering the space in primary, secondary, and skylit daylight zones, and will be adjusted to meet target light levels.

For more detailed specific lighting control sequence of operations for each individual space type, refer to the table below, the Area Lighting Design Concepts section, and the lighting control sequence of operations in the project specifications.

In all cases, LED connectors, drivers, and all other interconnected parts of the system rated for use with the LED array specified and will be warranted as an array and assembly for a 5 year full replacement, non-pro-rated warranty.

UL924 shunt devices to be provided where egress lighting fixtures are controlled to override to full output in the event of power loss.

TABLE 15: LIGHTING CONTROL STRATEGY MATRIX BY AREA

<table>
<thead>
<tr>
<th>AREA</th>
<th>CONTROL METHOD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Classrooms</td>
<td>Photocell – Daylight Dimming + Manual Override with occupancy sensing</td>
</tr>
<tr>
<td>Meeting / Offices</td>
<td>Photocell – Daylight Dimming + Manual Override</td>
</tr>
<tr>
<td>Commons / Lounges</td>
<td>Multi level Switching with occupancy sensing.</td>
</tr>
<tr>
<td>Public Circulation/Transition</td>
<td>Lighting Control Panel with bi-level switching + Manual Override</td>
</tr>
<tr>
<td>Back of House Circulation</td>
<td>Occupancy Sensor</td>
</tr>
<tr>
<td>Learning Support</td>
<td>Photocell – Daylight Dimming + Manual Override with occupancy sensing</td>
</tr>
<tr>
<td>Stairs</td>
<td>Step-Dimmed with occupancy sensing</td>
</tr>
<tr>
<td>Restrooms</td>
<td>Occupancy Sensor</td>
</tr>
<tr>
<td>Storage</td>
<td>Timed wall switch</td>
</tr>
<tr>
<td>Mech/Elec Areas</td>
<td>Wall switch (no automatic controls)</td>
</tr>
</tbody>
</table>
TECHNOLOGY

VOICE/DATA/CATV SERVICES

Outside Plant Design:
Telecommunications services for SDSC will consist of Voice (VoIP) and Data services delivered over optical fiber cabling. Outside plant (OSP) cables will be a combination of 24 strand single-mode and 24 strand multi-mode systems and will be installed into a new Main Distribution Facility (MDF) in SDSC. It is anticipated that these OSP cables will originate from Bond Hall as it is the campus demarcation point for most networking services on campus. These new cables will be installed within the tunnel connections between SDSC and Bond Hall.

While cabling will be rated for outside plant use, the route for cabling systems will be through a tunnel which connects Bond to SDSC and to the rest of the campus. There will be no splicing of OSP cabling used in the project and cabling installed shall be new and continuous from Bond to the new SDSC MDF.

Analog voice systems (elevator phones, blue phones etc.) which rely on legacy Category 3 cabling and the building will be served with 200-pair copper cabling which will follow the same route as the optical cabling.

The demarcation point for all services will be located on the ground floor of the newly renovated building inside the MDF. The MDF will be largest communications room in the building and house any servers or active equipment needed to run services within the building. Because the cabling systems will be run from the tunnel system the use of additional protection equipment may not be required. However, if in the case of CATV service cabling must be installed from another source outside of the Bond Hall system wall mounted protection equipment will be required inside the MDF.

Premise Cabling Design (Inside Plant): In addition to the Main Distribution facility, additional Intermediate Distribution facilities (IDF) will be added to the floorplates.

All room fittings including racks and associated connection and cable management hardware shall be provided. Fiber-Optic Distribution Units, 110 Wiring Blocks and other room fittings required for a compliant installation shall also be provided.

110 Wiring Blocks shall be:
> 50, 100 and 300 pair Block D type
> Accept 4 pair cable 110
> Category 6 verified
> Wired in the T568A wiring standard.

Telecom main ground bus bar (TMGB) will be established in the MDF. The TMGB will be referenced (bonded) to the nearest electrical main panel board ground.

Telecommunications bus bars (TGB) will be established in each upper floor IDF. The TGB will be referenced (bonded) to the nearest electrical branch panelboard ground or if the distance to the panel exceeds 30ft, it shall be bonded to the building structural steel.

Dedicated vertical conduit risers for data, legacy analog systems and CATV will be provided between each IDF. All Electrical and Audiovisual rooms shall be physically separate from all Telecommunications rooms.

The cable plant inside the building will consist of the following cabling types and grades:
> Backbone Optical – OM3 Laser Optimized or better 12 strands of Singlemode and Multimode
> Backbone Copper 50 pair to each telecommunications room
> Horizontal Data/Voice – Category 6
> Horizontal CATV – Radio Grade Series 6 Quad Shield (RG6QS)
> Cabling for all services will be installed/pulled, terminated, labeled and administered by the contractor.

In order to provide a flexible and scalable communications system the design of the pathways which transport, protect and support the cables must be designed with easy access and growth in mind.

In areas with no accessible ceiling and when cabling is routed below-grade, conduits and duct banks shall be used for cable distribution. All conduits and cable trays will be sized for 40% fill. In areas with greater accessibility and those which may need frequent cable changes the preferred method of cabling support will be cable tray.

Basket type cable tray will be used for horizontal cable distribution in corridors and Ladder-type tray will be installed in Distribution Rooms. Inside the corridors a minimum of 12” of clearance for cable tray on all sides will be maintained.

J-hooks will be located above accessible ceilings in areas where smaller amounts of cables need to be routed to work area outlets.

Each of the work area outlets shall contain a faceplate with 3 port insert provisions:
> 2 faceplates per office; (3) CAT6 jack (data/voice/spare) per faceplate
> Other program spaces will contain work area outlets as required by WWU or as recommended by design team

Wireless access points (WAPs) and other active equipment will be owner furnished, owner installed. Cabling to wireless access points will be CAT6 and will be located within the common area corridors. Approximate spacing between adjacent WAPs is 25-35 feet. Wireless access points shall feature (2) category 6 cables terminated by the contractor and installed in ceiling or wall mounted junction boxes for device installation by the owner.
Emergency Communication: First Responder Radio Systems and Mass Notification:

> Emergency communications systems have yet to be programmed and will be detailed in future design documents
This Budget Reconciliation Meeting Presentation is
the program and budget reconciliation completed
to date. Additional program validation is required.
# Target Reductions by Program Group

<table>
<thead>
<tr>
<th>Program Group</th>
<th>ASF</th>
<th>Target ASF Reduction</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENROLLMENT &amp; WELCOME CENTER</td>
<td>6,540</td>
<td>1,269</td>
</tr>
<tr>
<td>STUDENT SUCCESS INITIATIVES</td>
<td>6,325</td>
<td>1,227</td>
</tr>
<tr>
<td>COUNSELING, HEALTH AND WELLNESS</td>
<td>3,350</td>
<td>650</td>
</tr>
<tr>
<td>SHARED SUPPORT</td>
<td>4,400</td>
<td>854</td>
</tr>
<tr>
<td><strong>Total ASF (excl Community Amenities)</strong></td>
<td>20,615</td>
<td></td>
</tr>
<tr>
<td><strong>Target ASF Reduction</strong></td>
<td>4,000</td>
<td>19%</td>
</tr>
</tbody>
</table>
Summary of Conversation with Stakeholders

Enrollment | Admissions

- Willing to consider open office and scheduled shared appointment rooms.
- Priority towards maintaining all of the Welcome Center program and supporting staff. New Student Services could be a candidate to remain in Old Main since they are not a student facing group with the exception of Family outreach.

Student Success Initiatives

- Willing to consider open office, shared offices and scheduled shared appointment rooms.
- Currently staff are in a 3-2 days in office – work from home.
- Entry level/non senior Advisor are 70% student advising
- Senior Advisors are 40% student advising.
- Looking into extended operating hours as well.
- Career Services Counselors in the long term are to be embedded into the colleges. Career Closet may be important to be in SDSC
- Ops staying in Old Main was already part of Predesign

Counseling Health & Wellness

- Requested additional program space and counseling offices based on desires to grow and serve students better.
- 60% clinical load per staff.
  - however scheduled shared appointment rooms is not viable for Counseling due to the customization of space around therapy expertise
- Extended hours would be a challenge for their staff and impact staff retention.
- Would consider dividing staff to create 2 centers for CHW in Old Main at North Campus and SDSC at South Campus
CONTRIBUTIONS FROM EACH DIVISION

- **Compact Workstations**
  - Reduce Open Workstations to 40 SF

- **Enrollment & Welcome Center**
  - 8 shared appt rooms
  - 6 APPT, 2 ZOOM
  - NSS remains in Old Main

- **Student Success Initiatives**
  - 18 shared appt rooms
  - 12 APPT, 6 ZOOM

- **Counselling Health & Wellness**
  - Assume 10 counselors remain in Old Main
  - 10 + 3 behavioural health will be at SDSC
  - Future growth would occur in Old Main

**TARGET**

- 4000 ASF (-19%)
- 2800 ASF
- 1200 ASF
- 1200 ASF
- 700 ASF
- 2100 ASF
CONTRIBUTIONS FROM EACH DIVISION

- **Compact Workstations**
  - Reduce Open Workstations to 40 SF

- **Enrollment & Welcome Center**
  - 8 shared appt rooms
  - 6 APPT, 2 ZOOM
  - NSS remains in Old Main

- **Student Success Initiatives**
  - 18 shared appt rooms
  - 12 APPT, 6 ZOOM

- **Counselling Health & Wellness**
  - Assume 7 counselors remain in Old Main
  - 13 + 3 behavioural health will be at SDSC
  - Future growth would occur in Old Main
4000 ASF TARGET

1200 ASF
Compact Workstations
- Reduce Open Workstations to 40 SF

2800 ASF

2500 ASF
Shared Apt Rooms
- Admissions & SSI only
- All staff have open offices or shared offices
- No reductions in office size standards

2500 ASF
Programs stay in Old Main
- New Student Services
- Career Services (except interview rooms and career closet)
- 10 Therapy Counselors

6200 ASF of possible reductions

A COMBINATION OF REDUCTIONS
Reduce Open Workstations to 40 SF

Reduce Offices to 80 SF

COMPACT WORKSTATIONS / OFFICES