

**THE EVERGREEN STATE COLLEGE**  
Campus Master Plan

VOLUME I - Site Specific Recommendations



ZIMMER GUNSUL FRASCA ARCHITECTS LLP | JANUARY 2008

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(companion document)

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(companion document)



01



PREFACE



# 01 PREFACE



Figure 1.1. Evergreen campus.



Figure 1.2. The clock tower marks the main campus core and Daniel J. Evans Library.



Figure 1.3. Red Square is the heart and 'stage' of the campus.

The Evergreen State College Campus Master Plan is a comprehensive long term plan for the facilities and campus grounds of the college. The plan establishes priorities for campus development consistent with the College's Mission, Strategic Plan and other current initiatives. The multi-volume document identifies opportunities where the College can focus resources to meet future demands on its facilities and land resources.

The Master Plan is structured as follows:

Volume I - Site Specific Recommendations

Volume II - Goals and Policies for Land Use (1998 Campus Master Plan; updated 2005)

Volume III - Appendix

The aim of the process and plan is to provide a comprehensive document that: (1) helps guide campus development, and (2) serves as a concept plan for future development. This plan is a living document that will be frequently revised and updated. This plan contains the core values that guide campus facilities and land use decisions.

## PURPOSE OF THE MASTER PLAN

The College has completed its strategic planning process which incorporates all academic and support operations. A previous Master Plan was completed in 1998 and updated in 2005. The previous Master Plan provides the framework for development on the campus with policies and statements regarding how the College should be developed and landscaped. The earlier documents do not provide definitive plans for various types of academic, administrative, and student space. There is also no discussion of possible sites should additional facilities be needed to meet the expected enrollment target or an identification of which facilities should be modified and renovated to meet the changing academic program needs. The previous Master Plan serves as the philosophy behind the development of the campus and is incorporated as Volume II of the Master Plan. Volume I specifically address facility renovations, sites for potential new facilities, land use policies including the identification of areas for student and faculty research and projects, use of the waterfront and accompanying beach area and similar issues relative to the overall campus.

The overall goal of this campus Master Plan is to assist the College in translating the strategic goals and objectives of the various College units into a physical plan which identifies where the College should be focusing its resources to meet future demands on its facilities and land resources. The Master Plan is a key part of the College's Capital Budget Request and 10-year Capital Plan that will be submitted to the Washington State Office of Financial Management in September 2008. The Master Plan will also guide the capital construction on the campus for at least the next two biennia. The Master Plan covers the period from 2005 - 2020.





02



## EXECUTIVE SUMMARY



## 02 EXECUTIVE SUMMARY

The campus master planning effort represents an important step in a process intended to assist the College in translating the strategic goals and objectives of the various College units into a physical plan. The multi-volume document identifies opportunities where the College could focus resources to meet future demands on its facilities and land resources. The plan is an important part of the College's Capital Budget Request and 10-year Capital Plan that will be submitted to the Washington State Office of Financial Management in September 2008. The plan covers the period from 2007-2020 and will help inform the development of the campus over the next two bienna.

As part of the updated Strategic Plan, the College has established the ambitious goal of being carbon and waste neutral by the year 2020. This sustainability focus has informed a process that is rethinking campus operations and facilities planning at the College.

The plan outlined in this document takes the ambitious sustainability initiatives set by the College and considers a wide range of opportunities to set the stage for making significant contributions towards balancing both carbon use and waste production and include:

- transportation modes and patterns
- energy production and use
- campus biome protection, use and enrichment
- food production
- construction practices
- waste stream management
- student life and housing



Figure 2.1. The legacy of the past and promise of a sustainable future define the campus character.

## PROCESS

From the beginning, a concerted effort was made to engage the campus community in a dialog concerning the future of the College and how to make the campus an even better place to live, work, teach, visit and learn.

Based on the philosophy of 'building community', the process utilized for the campus planning process was intensive, inclusive and collaborative. Initial steps included gathering existing data and reviewing past Master Plans. These initial steps were followed by a series of on-campus meetings that included open information sessions, pizza dinner discussions, one-on-one meetings, facility and campus tours, community presentations and focused charrettes. These events took place over a five month period between February and June of 2007 and included participation in the College's annual Synergy Conference and an Eco Charrette.



Figure 2.2. Planning input was received at the student-sponsored annual Synergy Conference.



Figure 2.3. Meeting in the Campus Activities Building (CAB) engaged the campus community in the process.



Figure 2.4. Seminar II Building was a venue for input sessions to highlight sustainability.

The process was divided into the following tasks: Task 1 – Goals/Objectives/Needs Assessment, Task 2 – Alternatives/Evaluation, Task 3 – Master Plan Recommendations/Implementation and Documentation. This Master Plan contains information on the process, the information collected, and a set of project specific recommendations. This document was initially issued in a preliminary draft format in July of 2007 to provide opportunity for comment from campus constituents. In the fall of 2007, a series of on-campus meetings were held to allow direct input from the community, faculty, students and staff. This revised version of the Master Plan incorporates revisions resulting from the fall 2007 sessions as well as comments submitted via the campus website.



Figure 2.5. The pedestrian bridge connection between CAB and CRC is dysfunctional and disorienting.



Figure 2.6. Green roofs and bioswales harvest rainwater at SEM II.

## EXISTING CONDITIONS

The Evergreen State College campus is part of the Cooper Point Peninsula which reaches into the southern end of Puget Sound and is located west of the City of Olympia. The campus is located on 1,008 acres of land, which remains predominately forested with a mixture of largely native second growth vegetation. The campus was initially conceived in the early 1970's to one day accommodate approximately 12,000 students and initial projects and infrastructure elements were constructed with this ultimate goal in mind. Current development and facilities accommodate approximately 4,500 students (FTEs). There is student housing on campus; however, nearly 80% of students live off-campus and commute to campus for classes and/or events.

References to areas of the campus follow previous Master Plans including: Core ("urban" area of the campus including the main academic, administrative, residential, social and recreational facilities – commonly referred to as upper and lower campus); central Core (Red Square and the major, multi-use buildings that surround it – commonly referred to as upper campus); Clusters (group of facilities outside the Core, including Organic Farm, Geoduck House and Maintenance Shops, serving a specific function) and Reserve (substantially undeveloped areas surrounding the Core and Clusters where natural ecosystems are the predominant feature).

The majority of facilities are concentrated within the campus Core. The upper campus central Core consists of numerous concrete buildings which create a strong unified architectural expression. Organized around Red Square, a large central open space, the instructional and administrative spaces of the College are dispersed and integrated along with faculty offices, science labs and studio spaces. Lower campus is defined by groupings of student housing facilities that adjoin a large open space that serves as the athletic fields for the campus.

The predominant construction technique and aesthetic utilizes exposed concrete and glass scaled to create large spaces with limited visibility into building spaces. The solid and somewhat imposing feel of many of the buildings limits a visitor's exposure to the activities going on inside the buildings and contributes to a sense that there are a limited number of students on the campus at any given time. The large scale of both the buildings and the areas between contribute to a sense that the spaces and buildings are over-scaled and lack definition. Much of the campus housing structures can be typified as being low density, aging wood framed facilities rapidly reaching the end of their usefulness.

Located approximately five miles from downtown Olympia, and somewhat peripheral to population centers in Thurston County, The Evergreen State College's setting poses significant challenges to creating an efficient transportation system for its students, staff and faculty. Despite this relatively remote location, relatively high levels of transit use, cycling, and ridesharing occur. This good performance indicates a strong commitment by the College community to using alternatives to single-occupancy vehicles. This commitment provides an essential foundation for creating a more energy efficient and less polluting campus transportation system.

The Evergreen State College has a Central Utility Plant (CUP) that provides steam and chilled water to the campus for heating, cooling and domestic hot water through a comprehensive underground tunnel system. The tunnel system connects directly to mechanical rooms in the Communications Laboratory (Comm

Lab), Seminar I (Sem I), Seminar II (Sem II), College Recreation Center (CRC), College Activities Building (CAB), Library, Lecture Halls Building, Science Lab I (Lab I) and Science Lab II (Lab II). A crawlspace tunnel to Housing Buildings A, B, C & D provides steam to those buildings. A direct bury branch from that tunnel provides steam to the Community Center and Housing Units E through U. Additional direct bury piping (steam and chilled water) runs from the main tunnels to the Longhouse and Arts Annex buildings. The Modular Housing buildings are heated by electric baseboard and have no connection to the CUP. The Childcare Center has its own gas-fired hot water boiler and is not connected to the CUP. Additional outbuildings consist of the Farmhouse, Geoduck House and Maintenance Shops. Each of these outbuildings has its own stand-alone heating system.

With the exception of Geoduck House, which is currently occupied by the Olympia Community School and located near the shoreline, the campus buildings are connected to the City of Olympia water and wastewater systems. The City of Olympia and Evergreen have agreements for these services and the City will continue to provide water and wastewater service to the campus. The Geoduck House is currently served by a septic tank and drain field. This on-site wastewater treatment system should be evaluated to verify that it is functioning properly, and is sized correctly for the school population and soil conditions.



Figure 2.7. Informal break-out spaces encourage interaction that is at the core of the learning environment at Evergreen.

## GOALS AND OBJECTIVES

*'The Evergreen State College will be a laboratory for sustainability as demonstrated in its operations, curriculum, and quality of life for employees and students. We will nurture values and practical skills that motivate a lifetime commitment to a sustainable, inter-generational just way of living on a healthy planet.'*

*- The Evergreen State College Sustainability Task Force*

From the beginning of this campus master planning process, the Planning Committee and consultant team understood that past master planning efforts in 1998 and again in 2005 developed very strong foundations from which to build. The mission and goals of this master planning effort (listed below) represent direct developments and refinements from these earlier processes.

The mission of the plan is to provide support for future Capital Budget Requests and integrate programmatic faculty needs. As a result, a particular focus has been placed on identifying:

- Renovations and additions
- Infrastructure improvements
- Sites for potential new facilities
- Land use/landscape policies

The following five goals were developed early in the planning process and built upon previously stated goals from prior master planning efforts. The third goal was significantly refined to emphasize and strengthen the campus focus on sustainability.

- Develop state-of-the-art learning facilities and housing options that advance the mission of the College.
- Provide an open and supportive environment for those who study, work and live on campus.
- Create a visibly sustainable campus that recognizes the College's aspirations of carbon and waste neutral by 2020, through educationally rich, proactive design, planning and goal-setting.
- Provide educational opportunities in the delivery of campus planning, operations and services.
- Integrate College educational activities with cultural, social, civic and business activities of the surrounding community.

## RECOMMENDATIONS

The plan illustrated in this document has been developed as a tool to understand the impact of the projected growth in enrollment and the interrelationship of the various planning objectives established by the College through this and past master planning processes. The plan proposes a pattern of development that is based on both the established building pattern that reinforces the Core of the campus and a new direction that aims to integrate the entire campus into the community, sustainable and educational goals of the College. At the campus Core, proposed renovations and additions are focused on developing and enhancing a sense of place that is sensitively scaled, provides good solar access and forms a connectedness among adjacent buildings. New facility locations also build upon the existing development patterns at the campus Core and reinforce the ideas related to creating appropriately scaled outdoor spaces, establishing visual connections between inside and outside and limiting the sprawl of the campus. Circulation improvements – both vehicular and pedestrian – build on existing patterns and develop a comprehensive network of connections among the various Education Centers, upper and lower campus and the community.

At the core of the recommendations outlined in this document is an understanding that the educational experience nurtured at the College is based in a deeply held series of beliefs that prioritize inclusive, hands-on, experiential, communal, collaborative, interdisciplinary teaching and learning opportunities. The recommendations embrace the open atmosphere embodied by the educational values of the campus and focus on supporting the teaching paradigms that reinforce these important and unique Evergreen characteristics.

The recent addition of the Seminar II Building in the central Core of the campus was originally envisioned to accommodate the current and projected classroom needs in conjunction with a series of renovations to existing facilities. The subsequent renovations have not yielded all of the projected spaces and specific needs remain unfulfilled. The recommendations outlined in this document are intended to address the space needs that have been stated during the Master Plan process. The evaluation of the proposed projects during the earlier preliminary draft review determined a prioritized list of projects to meet anticipated campus needs and is reflected in the listing of projects that exists in subsequent sections of this document.

All of the investigations undertaken during the planning process used sustainability as a touchstone and integrate opportunities for hands-on student learning, participation, engagement and community involvement. Three general organizing categories emerged that focused on notions of Community, Sustainability and Learning.



Figure 2.8. Master Plan focus: community, sustainability and learning.

## LEARNING

- Develop on-campus Education Centers in Clusters in the Reserve areas (forest and marine ecologies, organic farming, sustainable practices, environmental stewardship, waste stream)
- Use Red Square as a stage to showcase College's mission and student life
- Create outdoor laboratories and classrooms – field study emphasis
- Support faculty research
- Improved learning environments – better classroom environments
- Develop flexible instruction space off-campus

## SUSTAINABILITY

- Increase use of low impact alternative transportation (walking, biking, transit, car pool)
- Increase use of self-sustaining resources (recycling, composting, storm water harvesting, ground water)
- Green building practices
- Maintain cultural resources
- Develop alternative power sources (geo-thermal, solar, wind)



## COMMUNITY

- Support Campus as Community Resource - Invite community and neighborhood to use campus as a learning environment (Extended Ed, cultural events, interpretive trails, Organic Farm tours, conferences and sport camps, sustainability tours, teaching gardens, beach walks, nature walks, cultural walks, bicycle loops, volunteer opportunities)
- Increased on-campus student population
- Leadership in innovative programs - Use the campus as a global venue (sustainability innovations, Native American culture, innovative programs, environmental conservation and demonstration)
- Provide services for students and community (shops and restaurants)

One of the primary missions of this master planning process has been to develop Land Use strategies that focus on preserving, supporting and enhancing the Reserve areas of the campus. The approach proposed has been categorized into four primary groups identified as Identity, Education, Circulation and Stewardship.

## IDENTITY

Earlier Master Plans divided the Reserve into four quadrants – north, south, east, and west. This naming convention does not convey the ecological, educational, or recreational significance of the Reserve areas. This planning effort studied and recommends the identification of place and amenity names within the Reserve. The place naming is intended to allow research areas to be protected and the identities of the Reserve's areas and amenities to be formalized.

## EDUCATION

The College has established a set of sustainability goals which include waste and carbon neutrality by 2020. The technologies and practices that will help achieve these goals also provide educational opportunities. This plan proposes Education Centers at various locations within the Reserve, as well as enhancements to existing campus facilities such as the Organic Farm. The proposed and enhanced centers are envisioned to create a greater sense of presence in the Reserve areas by the College that is consistent with the education mission of the College. The centers are not generally envisioned to require the development of significant buildings but rather as stand alone instructional support features that might include signage, monitoring equipment and program staging spaces. By integrating the Reserve into the activities of the College, the biomes can be more deliberately and comprehensively monitored, studied and restored so that the value of the Reserve areas can continue to serve as a unique regional environmental asset.



*Figure 2.9. Geoduck House is a unique setting for learning on the shore of Eld Inlet.*

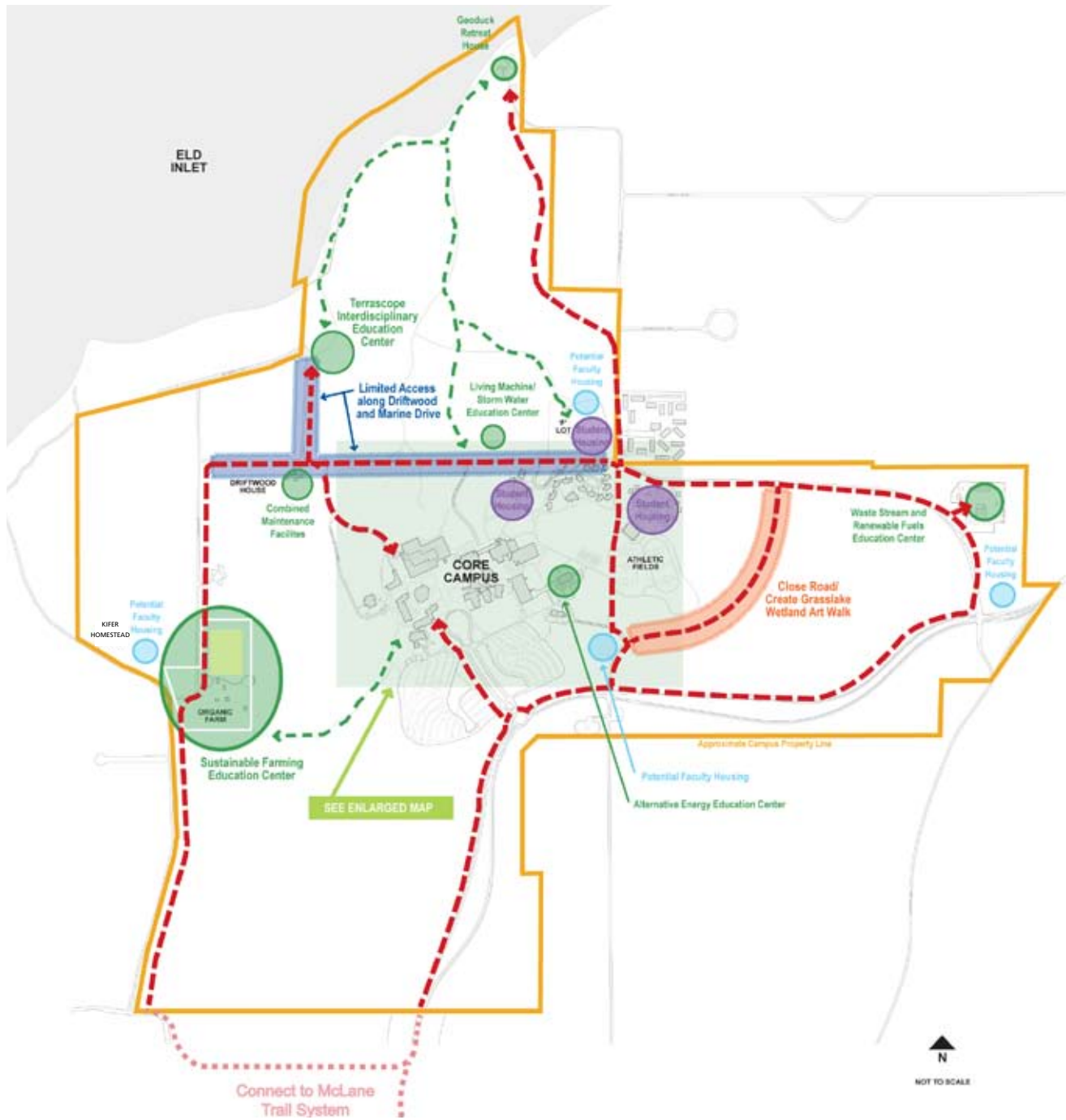


Figure 2.10. Trail and road revisions connect Education Centers located strategically around the campus.

## CIRCULATION

Facilitating easy, accessible and safe campus mobility is a priority of the planning effort. As the campus evolves, the ability to move easily among the Core facilities and around the campus Reserve areas must be accommodated. A revised network of roads, paths and trails are proposed to support and link areas of the campus and connect to off campus networks. In addition to the proposed trail network, two low traffic roads are proposed to be modified to facilitate a reconnecting of the campus Reserve areas and to discourage and reduce non-college traffic.

## STEWARDSHIP

Engendering a sense of ownership by the students, faculty, staff and surrounding community is seen as a powerful way to ensure that the unique environmental assets of the campus are preserved, managed, maintained and treasured for future generations. Currently, the large contiguous land area that makes up the Reserve areas of the campus represents a forest and meadow system that is being replaced by encroaching suburban development as Olympia and surrounding Thurston County populations grow. Through partnerships with state, county, community, and environmental organizations, there may be opportunities to address regional trail, wildlife, and environmental initiatives that leverage campus assets and connect the College to a larger set of regional goals.

## RENOVATIONS, ADDITIONS AND BUILDING SITES

In addition to developing land use strategies, the planning process developed options for future development on the campus that included potential building sites for academic, student life and housing facilities. Building on the idea of enhancing the developed areas of the campus, sites for new facilities and expanded housing options focused on currently or previously disturbed or developed areas of the campus.

The notion of making great exterior spaces that connect directly with interior spaces and functions – we call this ‘placemaking’ - is central to the concepts utilized in the plan. The Master Plan recommends the creation of a series of new and enhanced ‘places’ linked by visual and pedestrian axes. Three campus places are recommended for enhancement as pedestrian activity hubs: Red Square, East Campus Square, and West Campus Square. Under the Master Plan, new buildings are proposed to enhance each of these places.

The goal of making The Evergreen State College a residential liberal arts college adds new opportunities and potential for lower campus. ‘Placemaking’ and community building are central to the long term strategy. Making the campus an attractive place to live and where there is easy access to basic amenities emerged as primary goals in shaping the thinking about the vision for the lower campus. The goal is to add housing to achieve the ability to provide on-campus housing for 33% of the students and some faculty housing.

Working with the assumption that the projected 2020 enrollment will equal 5,000 FTEs and with an on-campus residential student population target of 33% of the total student population, the campus needs to plan for approximately 1,650 beds. Assuming demolition of the Modular housing, the existing bed count totals approximately 907 beds. Meeting the 2020 housing goal will require the addition of 743 beds.

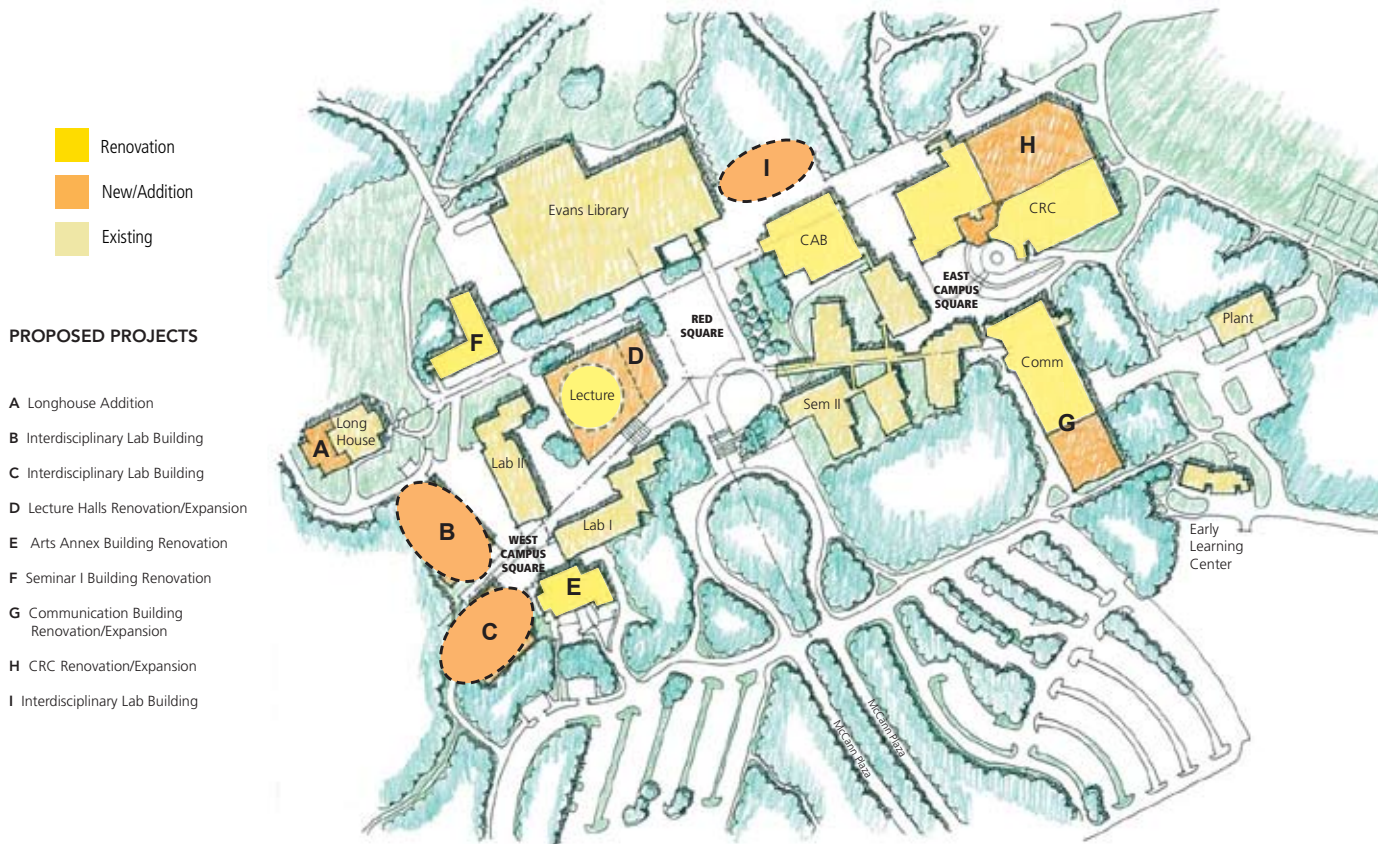


Figure 2.11. Core campus proposed projects.

Several options for increasing the number of housing units on campus have been developed. The illustrated option adds four additional Quad-style buildings (400 beds) enclosing courtyards to accommodate underclassmen. New suite-style housing (Eco-Village) will be developed on the Modular housing site to appeal to students seeking a sustainable life-style (343 beds). Retail with cottage-style faculty housing (18 units) will be built on a portion of Lot F at the intersection of Overhulse Road and Driftwood Road. Lot F will be reconfigured to maintain current capacity and screened from the housing by landscaping. Additional options are illustrated in other sections of the document.

In addition to addressing the needs of the main campus, the planning process addressed recommendations for the Tacoma Campus and Reservation Based/Community Determined Programs that, as with additional housing options, are documented in the Recommendations section of the document.

The following is a summary of proposed new buildings and additions. These proposed facilities are in response to the list of needs compiled during meetings. This list should be reviewed and prioritized by the College community before becoming a final Master Plan recommendation.

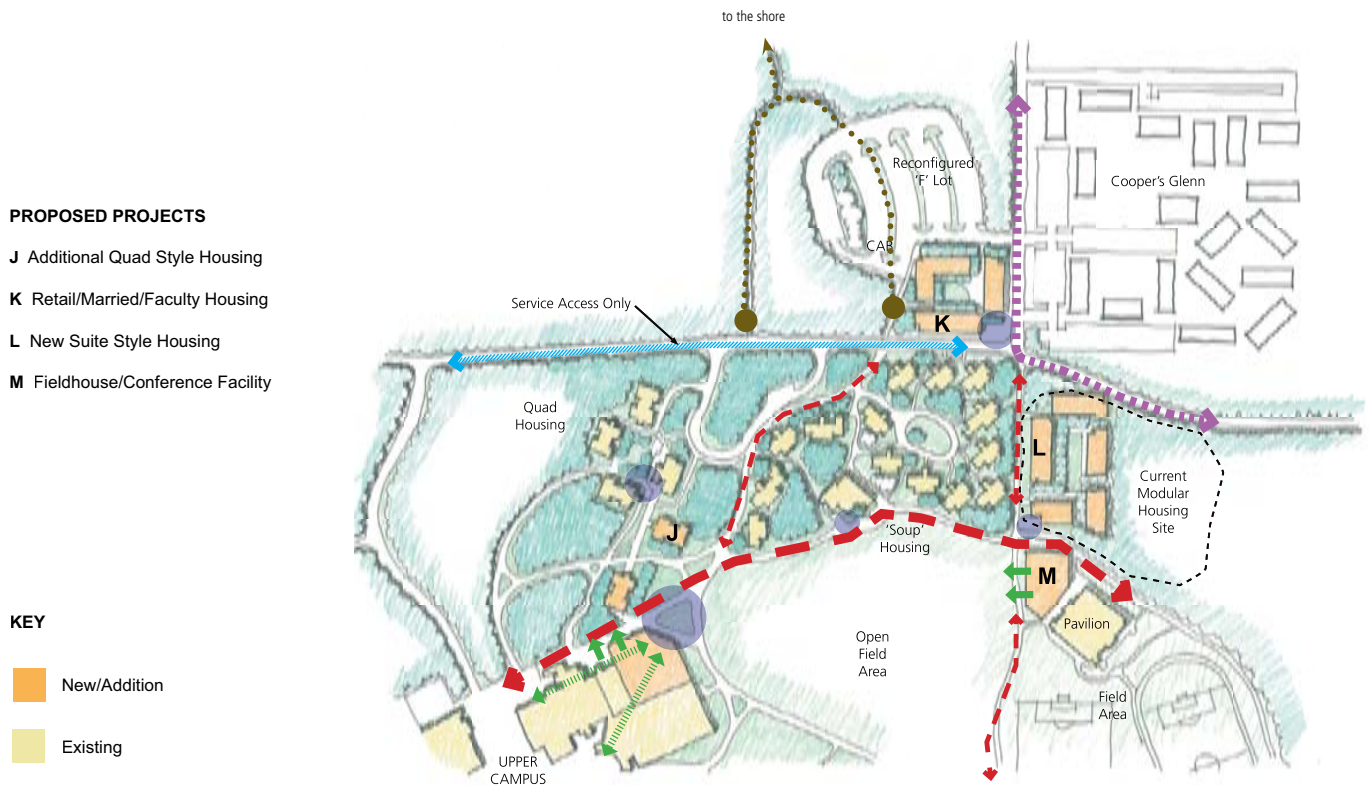


Figure 2.12. One of the proposed housing alternatives.



Figure 2.13. Additional Quad-style buildings enclosing courtyards.

**PROPOSED NEW BUILDINGS, RENOVATIONS AND ADDITIONS**

**Longhouse Expansion (Project A)**

Total Square Footage: 1,800 gsf

Projected Uses:

- Research, Office, Gallery, Resource Display Space

**Interdisciplinary Lab Building (Project B)**

Floor Plate: 16,500 gsf

Total Square Footage: 2.5 floors = 41,250 gsf

Projected Uses:

- Labs/Dirty Lab
- Flexible Interdisciplinary Labs
- Faculty Offices
- Faculty Lounge/Meeting Space/Coffee Bar

**Interdisciplinary Lab Building (Project C)**

Floor Plate: 16,500 gsf

Total Square Footage: 2.5 floors = 41,250 gsf

Projected Uses:

- Art and Science labs
- Flexible Interdisciplinary Labs
- Faculty Offices
- Art Studio/Gallery
- Extended Education Center (Special Project)

**Lecture Halls Renovation/Expansion (Project D)**

Floor Plate: 36,600 gsf

Total Square Footage: 1.5 floors = 54,900 gsf (31,261 SF addition and 23,639 SF renovation)

Projected Uses:

- Gallery and Breakout Space
- Flexible Interdisciplinary Labs
- Lecture/Seminar Space
- Faculty Offices
- Center for Sustainability
- Campus Information and Tours

**Arts Annex Building Renovation (Project E)**

Floor Plate: 9,126 gsf

Total Square Footage: 3 floors = Approximately 27,377 gsf

Projected Uses:

- Renovated/Updated Studio Art Labs
- Renovated/Updated Studio Art Shops
- Renovated/Updated Flexible Interdisciplinary Labs

**Seminar I Building Renovation (Project F)**

Floor Plate: 11,227 gsf

Total Square Footage: 4 floors = Approximately 44,909 gsf

Projected Uses:

- Campus Police Services Offices
- Campus Health Services Offices
- Renovated Classrooms
- Faculty Offices
- General Campus Administrative Offices

**Communication Building Renovation/Expansion (Project G)**

Total Square Footage: 59,825 gsf (addition only)

Projected Uses:

- Performance/Lecture Space
- Conference Programs and Receptions
- Flexible Interdisciplinary Labs
- Faculty Offices
- Communications Building Renovation and Expansion Predesign Study, July 2002

**CRC Renovation/Expansion (Project H)**

Floor Plate Addition: 40,500 gsf

Total Square Footage Addition: 1.5 floors = 60,750 gsf (addition only)

Projected Uses:

- Exercise, Recreation and Wellness Center
- Cafe, Lounge and other student life amenities
- Entry Lobbies and improved circulation

**Interdisciplinary Lab Building (Project I)**

Floor Plate: 16,500 gsf

Total Square Footage: 2.5 floors = 41,250 gsf

Projected Uses:

- Performance Spaces
- Flexible Interdisciplinary Labs
- Gallery/Display
- Faculty/Staff Offices

**Quad Dorm Expansion (Project J)**

Total Square Footage: varies

Projected Uses:

- First and Second Year Housing

**Driftwood Suites Housing (Project K)**

Total Square Footage: varies

Projected Uses:

- Local retail space
- Student/Married Student Housing
- Potential Faculty Housing
- Visiting Scholar Housing

**Modular Replacement Housing (Project L)**

Total Square Footage: varies

Projected Uses:

- Replaces Modular Housing
- Higher Density Housing
- Eco Village Location

**Fieldhouse Pavilion Expansion (Project M)**

Total Square Footage: 13,000 gsf

Projected Uses:

- Field House activities – lockers and team rooms
- Sport Camp and Conference Services
- Light catering and flexible meeting spaces

**Goeduck House Renovation (Project N)**

Total Square Footage: 5,000 gsf

- Renovation/Updating of existing facility for small retreats
- Limit uses to minimize environmental impact

**Organic Farm Lab Facility (Project O)**

Total Square Footage: 12,000 gsf

- Food Grade Teaching Lab
- Greenhouse
- Equipment Storage

**Terrascope Interdisciplinary Education Center (Project P)**

Total Square Footage: 12,000 gsf

- Flexible Interdisciplinary Labs
- Forest Canopy Studies Lab
- Marine Studies Lab
- Equipment Storage
- Community Education Resource Center

**Combined Housing and Campus Facilities Maintenance Building (Project Q)**

Total Square Footage: 12,000 gsf

- Housing Maintenance Offices
- Campus Maintenance Offices
- Maintenance Vehicle Parking
- Maintenance Shop Space
- Maintenance Material Storage

Funding for the various proposed projects may occur through various possible funding sources. In a time when receiving capital funding dollars from the State continues to be challenging, understanding alternative strategies for funding projects and initiatives is critical. Several various funding groupings are listed below with appropriate project types indicated to provide a sense for how many of the ideas embodied in the plan could be realized and include:

**CAPITAL PROJECTS**

Funding in this category typically supports additions, renovations and new facility projects and may include the proposed:

- Science Buildings/Renovations
- Interdisciplinary Lab Buildings
- Communications Building Renovations/Expansion
- Lecture Halls Renovation/Expansion
- Seminar I Renovations
- CAB Renovations/Additions
- CRC Renovations/Additions
- Arts Annex Renovations/Additions
- Maintenance Facilities

**MAINTENANCE PROJECTS**

Funding in this category typically supports smaller projects that are targeted at supporting and maintaining existing campus facilities and grounds and may include the proposed:

**Trails**

- Accessibility Improvements
- Signage/Gateway Marking
- Red Square Pavement Replacement



Road Removals/Changes

Reforestation Projects

Transit Waiting Areas

## SPECIAL PROJECTS

Projects in this category are typically not supported directly by the Legislature and rely on student fees, grants, gifts and other sources of revenue and may include the proposed:

Conference Center

Extended Education Center

Performing Arts Center

Field House

Canopy Walk

Arable Land Project

Faculty Housing

Student Housing

Careful evaluation of the projects and proposals listed in this report and the input provided during the fall of 2007 review sessions helped distinguish between projects of greater and lesser importance to allow a refined prioritization to occur. Key future actions emerging from the master plan process include:

Add interdisciplinary and flexible lab space

Renovate Arts Annex

Expand arable land and teaching facilities at the Organic Farm

Create Terrascope-Forest Canopy educational and retreat center

Expand student and faculty housing choices

Expand and renovate Recreational Facilities

Enhance student life facilities

Highlight economic, ecological and educational value of making campus a laboratory for sustainability

Define and implement the most effective means of meeting the College's goal of carbon and waste neutrality by 2020

Centralize extended education programs on the main campus to maximize their synergy



03



PROCESS



## 03 PROCESS



Figure 3.1. An 'eco-charrette' identified opportunities to enhance sustainability.



Figure 3.2. Planning workshops defined means to improve campus accessibility.

Throughout the Master Plan process, every effort was made to engage the campus community in a dialog concerning the future of the physical facilities of the campus and how to make the campus an even better place to live, work, teach and learn.

The Master Plan process was intensive, inclusive, collaborative, and based on the philosophy of 'placemaking' and 'building community'. Initial steps included gathering existing data and reviewing past Master Plan documents. These information gathering steps were followed by a series of on-campus meetings that took the form of open information sessions, pizza dinner discussions, one-on-one meetings, facility and campus tours, community presentations and focused charrettes. These campus and community gatherings took place over a five month period between February and June of 2007 and included participation in the annual Evergreen student sponsored Synergy Conference and an Eco Charrette.

The process was divided into the following tasks: Task 1 – Goals/Objectives/Needs Assessment, Task 2 – Alternatives/Evaluation, and Task 3 – Master Plan Recommendations/Implementation. This plan documents the process, information collected, and the list of recommendations developed. Opportunities for students, faculty, staff and the greater community of The Evergreen State College to evaluate the ideas and concepts included in this document were provided over the course of the summer and into the fall of 2007.

Utilizing the process outlined above, functional requirements for master planning (site circulation, parking, loading, etc.) were considered simultaneously with potential views, sun, wind, trees, etc. These issues were evaluated in conjunction with building function (both quantitatively and qualitatively) and in relation to the landscape. It has been an inductive, as opposed to a deductive, process. On a campus such as Evergreen's, the integration of the buildings and roads with the vegetation and the terrain are ideally seamless. In addition to such considerations, the 'readability' of the campus has been enhanced to make it easily understood by visitors, students, staff and surrounding residents. The outdoor spaces that connect the various areas of the campus have been shaped and modified to relate to an overall vision of the campus that will accommodate future programmatic changes and unanticipated growth while maintaining a sense of integrity.

The overall challenge was to create a visionary and comprehensive campus master plan for a unique state liberal arts supported college located on an exceptionally beautiful, natural site.

While building upon past planning efforts, the process was an important new chapter in the development of the College and responds to the challenges of the current strategic and academic plans by creating a graphic and physical plan that will accommodate the future vision of the College. New issues have been addressed and old issues revisited, including ideas related to image and identity, the role of the College in the region and community, new facilities to accommodate enrollment and program growth, updating and renewing aging facilities, integrating environmentally sustainable strategies, transportation and way finding improvements, off campus development, preservation and use of wooded and shoreline areas and making the campus experience more inviting



Figure 3.3. Planning input was gathered at the annual Synergy Conference.

and accessible for existing and perspective students, faculty, staff and community. Placemaking – the process of creating places where people want to be and go - and sustainability have been fundamental drivers in the planning process.

This plan builds upon and expands recent College sustainability initiatives stated in the Strategic Plan and exemplified by the Seminar II building. The plan establishes LEED standards and encourages sustainable strategies related to building siting, energy, water, stormwater and landscaping. The plan also considers the historical development of the site, Native American influences, and natural ecologies. The precedents from the original campus plan and its updates have been reviewed and incorporated into this plan.

The engagement of constituents, especially students, in the planning process has been essential in enriching both the product and participants themselves. Early in the process, with the assistance of the faculty, opportunities for student involvement were identified and several students became vital and active participants in the process, focusing on place naming and process support.

In addition to meetings with the Master Plan Committee, The Campus Land Use Committee, Senior Staff, and the Sustainability Task Force, the planning team met with the College's Board of Trustees, Cooper Point Association, Ralph Munro, City, County, Thurston County Regional Planning Council staff, and Intercity Transit. There were three periods of contact with most of these groups; near the beginning of the process the groups were invited to offer ideas and aspirations, later they were asked to comment on concept alternatives and finally, a third feedback session in the fall of 2007 when the plan was updated to include comments generated by the preliminary draft document.

The purpose of this structure was to first engage stakeholders before any major decisions were made, to then demonstrate how their input was incorporated into the concept alternatives, and finally to allow course corrections as the Master Plan was finalized. The resulting product of the process was generated gradually with continual involvement by the College community.



Figure 3.4. Tours allowed faculty and students to express the important and varied uses of campus reserves areas.



Figure 3.5. Alternatives to suburban development are sought for on-campus housing for faculty and staff to improve sustainability, offer affordability and build community.

## TASK 1 – GOALS/OBJECTIVES/NEEDS ASSESSMENT

The Master Plan process was founded on the values and aspirations of the College community. The planning process was kicked-off by a meeting with the Planning Committee and subsequent individual meetings over a two-day period with key constituents to gain a thorough understanding of their vision, goals, and immediate and future facilities needs. Mutual goals and objectives for the Master Plan were then identified and reviewed by the Planning Committee. These goals and objectives have provided a touchstone throughout the planning process (see the Mission and Goals section of this report).

The needs assessment began with a review of the 2006 Strategic Plan, purpose, role, and recommendations of the Campus Land Use Committee, Facilities Condition Assessment, current Capital Plan, academic plans, past Master Plan documents from 1998 and 2005 and other background materials.

The values of an institution of higher learning are not always reflected in the built environment of a campus. An important part of the Master Plan process has been to detect the changes in values that have occurred over the years, as reflected in the Strategic Plan. Related to this is the constant refocusing and refining of academic programs. We have met with the Program Unit Coordinators (PUCs) to discuss how they anticipate programs will change over the next decade and beyond, and what changes in facilities and functional adjacencies are implied or needed to support those changes.

Four interconnected information categories have been studied in this task: (1) the historical development, natural features and ecology inventory, (2) the buildings inventory, (3) the landscape inventory and (4) the functional infrastructure of the site. Diagramming these existing conditions has informed decisions about expansion, reuse, remodeling and replacement of facilities. The Open Space Inventory evaluates the many landscape features of the campus, with the intention of developing a comprehensive vision of campus landscape, including plantings, public gathering spaces, views and view corridors. The Functional

Infrastructure of the site includes the many overlapping systems that are necessary: utilities, signage, access, circulation, parking, building orientation, and pedestrian circulation. Each system has been mapped to expose how it works, where it may be deficient, and how it can be improved. Much of this information has been gathered from existing mapping, inventories and data available from the College.

Land use and zoning issues have been assessed. The campus is a center of more intense use within a semi-rural area with encroaching suburban development. While sewer, water and transportation needs of the College must be met, areas surrounding the College are desired to retain their rural character. This sensitive land use strategy is also consistent with the green image of the College. Land use and zoning strategies are consistent with this intent. Continued off-campus (satellite) development was also evaluated under the plan.

## TASK 2 – ALTERNATIVES/EVALUATION



Figure 3.6. Current bus service is well used.

In response to input from Task 1 and working with the Planning Committee and Senior Management, the team developed and evaluated alternatives for the components and sub-components of the Master Plan. Attention to sustainability and compatibility with the campus culture were integral to the development of alternatives and the subsequent recommendations.

With the College's commitment to environmental stewardship and zero net carbon and waste production by the year 2020, issues of sustainability are at the core of all of the concepts proposed. This commitment applies to open space and other sustainable strategies such as energy consumption, efficiency, and reduction, view corridors, storm water harvesting, green roofs, building sites, solar orientation, and massing. Wayfinding elements that form "visual gateways," such as signage and monuments at entry points, are proposed. Public gathering spaces and recreational areas have been identified and programming proposed.



Figure 3.7. Recent transportation shelter improvements.

The building renovation and development plan identifies potential new development sites, massing alternatives, additions and renovations. All alternatives incorporate sustainable strategies based both on the design principles established in previous campus planning efforts and as identified during this planning process. New housing units and renewal and renovation of existing housing and food service facilities have been addressed.

The transportation plan has been developed to address transportation issues at the campus core, the student housing and the connections to other regional destinations and off campus facilities. The plan accommodates automobile movements to minimize conflicts, provides for parking that is convenient yet inconspicuous, emphasizes safe and convenient walking routes and will expand paths and bike trails. Alternative transportation ideas and modes are proposed and encouraged.

Intercity Transit (IT) provides public transportation service to the campus and its transit center is prominently located at the entry to Red Square. Means of making public transit a more attractive option for campus users have been investigated and outlined in the recommendations section of this document.

Our approach to determining transportation demands began with building a clear picture of the number of people using campus facilities at specific times. Using





Figure 3.8. Alternate modes of transportation are utilized.



Figure 3.9. Signage and mapping are critical to effective wayfinding.

anticipated enrollment, class schedules, activity programs and employment levels, we have identified staff, faculty, student, and visitor populations by time of day to determine peak periods and their duration. Changes in traffic, parking, transit, and bicycle demand generated by proposed new campus buildings and facilities have been calculated based on available data on the mode of travel to campus for each population group .

In the Reserve areas, park and wildlife sanctuary transportation planning principles have been applied to preserve these natural areas. With the College's input, priorities for new pedestrian and bicycle trail connections and upgrades to existing trails have been developed. Preferred public access routes to and through the campus have been identified. Clearly marked trails with interpretive graphics and providing trailheads near transit stops have been considered to increase accessibility to these outdoor "classrooms." A landscape plan has also been developed to logically integrate open spaces and buildings.

Campus utility needs have been assessed and a diagram of the utilities developed. Wet utility (water, sewer, and storm drainage) and dry utility (power, telephone, gas, and cable) demands have been analyzed to establish needs and evaluated to determine capacities. Again, consideration of sustainability has been central to the assessment and recommendations for meeting the current and future needs of the campus. These considerations are documented in later sections.

### TASK 3 – MASTER PLAN RECOMMENDATIONS/IMPLEMENTATION

The Campus Master Plan has been synthesized from all that is outlined above. The values and physical needs of the institution have been recorded, refined and restated through interviews with those directly affected, through community and stakeholder workshops, and through reviews by the College community, Planning Committee, Senior Management and the Sustainability Task Force.

Careful evaluation of the projects and proposals listed in this report and the input provided during the fall of 2007 review sessions helped distinguish between projects of greater and lesser importance to allow a refined prioritization to occur. Additionally, the value of the previous planning documents were restated and have been incorporated into the overall product of this process as supplemental volumes. This report provides site specific recommendations and works in conjunction with the two additional volumes that comprise the overall Campus Master Plan vision.



04



EXISTING CONDITIONS



## 04 EXISTING CONDITIONS

The Evergreen State College campus is part of the Cooper Point Peninsula which reaches into the southern end of Puget Sound and is located west of the City of Olympia. The campus is located on approximately 1,008 acres of land, which remains predominately forested with a mixture of largely native second growth vegetation. The campus was initially conceived in the early 1970's to one day accommodate approximately 12,000 students and initial projects and infrastructure elements were constructed with this ultimate goal in mind. Current development and facilities accommodate approximately 4,500 students. There is housing on campus; however, nearly 80% of students live off-campus and drive to campus for classes and/or events.

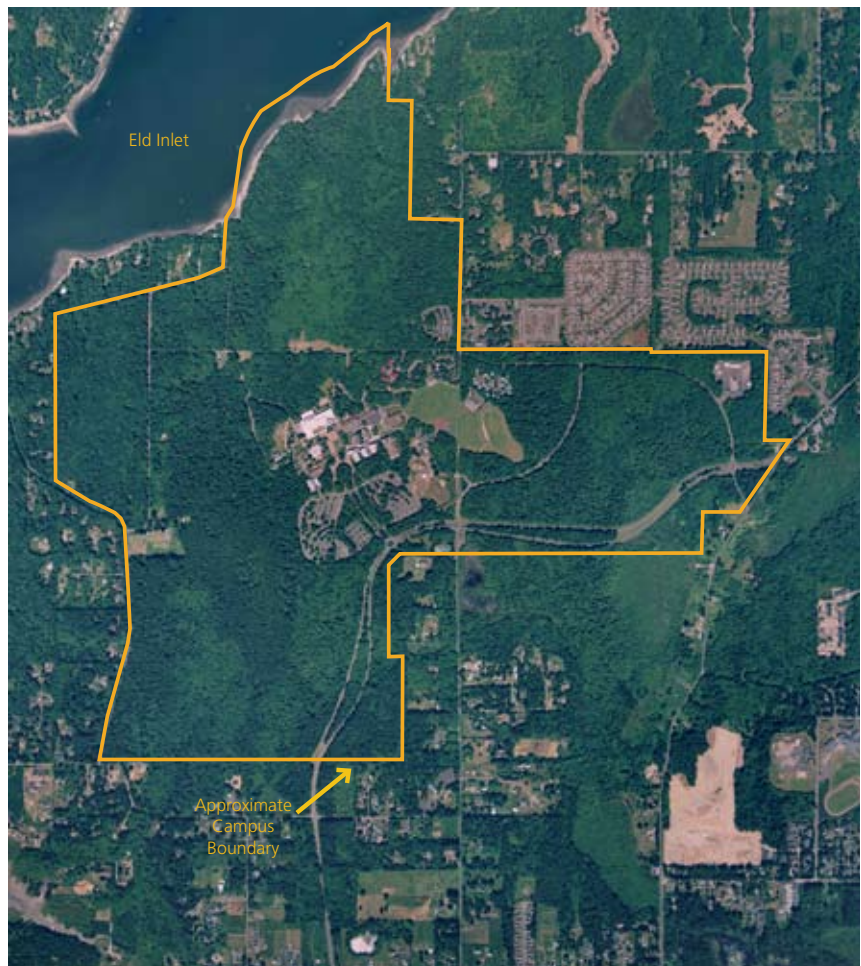


Figure 4.1. The College currently occupies 1.5 million SF of building space that leaves the majority of the campus undeveloped.

The campus topography is generally made up of gradually sloping gentle terrain. Some areas of lower elevation (southeast) and steep ravines (northern) can be found. Bluff areas are located along the northern part adjacent to the shoreline. The highest point lies just west of the campus Core between the main area of facilities development and the Organic Farm on the extreme western edge of campus.

The forested areas of campus are vegetated with species representative of the Western Hemlock zones of Washington and Oregon. This land is mostly unmanaged by the College with the exception of the campus Core areas and the Organic Farm to the east. The entire campus was logged at one time along with much of the surrounding area. Today, there are regions of second growth Douglas Fir found in the eastern and southeastern Reserves between the campus Core and the Organic Farm, as well as in the northern ravine areas of the campus. The Reserve also contains a mix of other conifers such as Western Red Cedar and hardwood species such as Big Leaf Maple and Red Alder.

Wetland areas are located in all quadrants of the Reserve with extensive areas in the southeastern parts of the campus, along streams on the property, north of the meadow area next to Driftwood Road and along Evergreen Parkway. The eastern half of the Reserve is considered by many to be the least disturbed and most pristine on campus. This consists of contiguous patches of Douglas Fir and other conifers. Beach areas in the northern half of the Reserve are dominated by tidal marine plants. Campus Core landscapes are managed and consist of lawn areas, gardens along pathways, recreational field areas and identified teaching garden.

More detailed information regarding vegetation can be found in the 1998 and 2005 Campus Master Plans and in the 2006 Floristic Study located in the Appendix (Volume III).

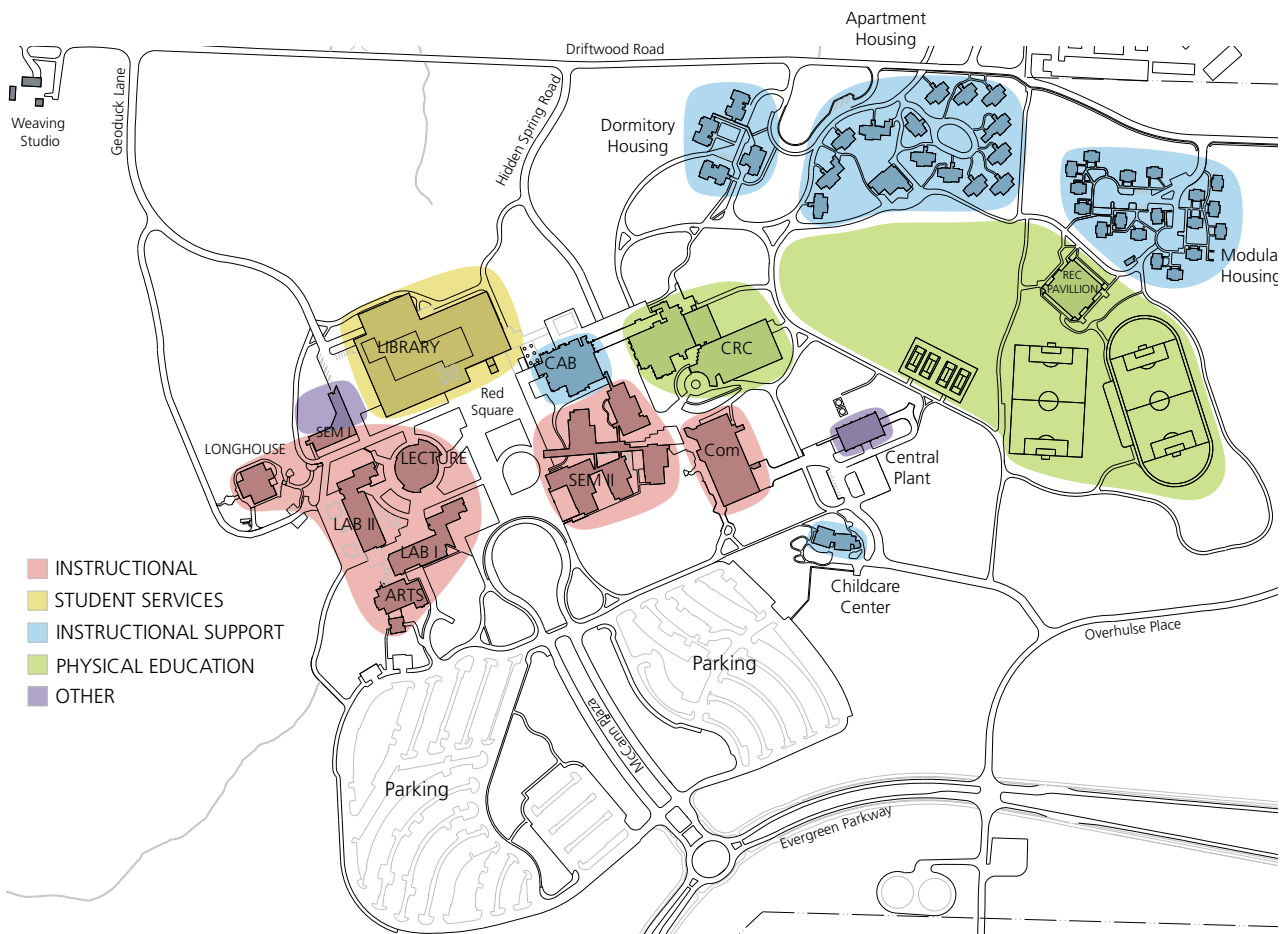


Figure 4.2. Space and Building uses.

The majority of facilities are concentrated around the campus Core. The Core is made up of two general areas referred to as upper and lower campus. The upper campus Core consists of numerous concrete buildings which create a strong unified architectural expression. Organized around Red Square, a large central open space, the instructional and administrative spaces of the College are dispersed and integrated along with faculty offices, science labs and studio spaces.

The predominant construction technique and aesthetic utilizes exposed concrete and glass scaled to create large spaces with limited visibility into building spaces. The solid and somewhat imposing feel of many of the buildings limits a visitor's exposure to the activities going on inside the buildings and contributes to a sense that there are a limited number of students on the campus at any given time. The large scale of both the buildings and the areas between contribute to a sense that the spaces and buildings are over-scaled and lack definition.



Figure 4.3. The concrete construction used in much of the campus hides the activities within and creates a cold, unfriendly public realm.



Figure 4.4. Limited gathering opportunities at CRC Plaza.



Figure 4.5. Few indoor/outdoor connections between CAB and CRC.

Lower campus is a collection of facilities developed to support student housing and the athletic fields. There are several housing options including shared room, multi-story housing (phase I) typically used for first and second year students. Lower density, apartment style units (phase II and III) that provide living rooms and kitchen facilities and an apartment feel. The final option is Modular housing that provides low density and almost an individual house feel. Occupancy rates for all of the options vary from quarter to quarter with Fall and Winter being the most popular with occupancies near 100%. Occupancy rates have been trending upwards across all quarters.



Figure 4.6. Lower Campus Athletic Fields.

Athletic fields and an open sports pavilion adjoin the housing facilities and are used by both the community and the College for summer camp programs and current athletic programs.

There are several main buildings at the maintenance yard site off Driftwood Road in the east portion of the campus that support grounds maintenance, refuse pickup and motor pool services for the College. The site houses shop buildings for



Figure 4.7. Quad dormitory housing built in 1971 houses lower classmen.



Figure 4.8. Soup housing (Alphabet Soup) built as apartment style housing, 1987-1989.



Figure 4.9. The athletic fields of the College provide a central amenity for on-campus housing.



Figure 4.10. Modular housing built in 1971 as temporary student housing.



office space, a woodshop, metal shop, a sign shop, paint shop, a lunch room, tool storage, materials storage rooms and a safety equipment storage room. There are also several other structures on-site that house additional shop and office space including a grounds equipment storage unit, shop equipment storage, a surplus shed, grounds office space, a hazardous materials storage unit and a boat shed. There are two garages, one for motor pool with a mechanics office and another bay containing a lunch room.

The site also has parking and storage space for 51 campus vehicles and maintenance equipment, ranging from trucks, vans, tractors, mowers and forklifts to chippers, sweepers. Vehicles are categorized as for academics, fleet, grounds/shop, grounds, locksmith, maintenance services, motor pool and refuse. Parking is also available for customers and staff at the site.



Figure 4.11. The Organic Farm provides a unique campus identity and learning environments.

Residential Services office and maintenance facilities are currently located within the Quad Buildings. To accommodate additional maintenance space and restore space for residential uses, Residential and Dining Services will be moving temporarily to the Modular housing site where they will potentially occupy two Modular housing units.

The campus also has several developed areas dispersed around the campus that include the Maintenance Shops, a currently unused facility called Driftwood House, a facility at the shore called Geoduck House currently housing a K-3 grade independent school, and an Organic Farm that has approximately four acres of arable land and several support buildings. The road system is comprised of a series of adopted county roads and a parkway constructed to create a formal entry to the College. An earthen trail system connects the farm and the shore with the campus Core.

## TRANSPORTATION

The setting of the main campus of The Evergreen State College, located approximately 5 miles from downtown Olympia and somewhat peripheral to population centers in Thurston County, poses significant challenges to creating an efficient transportation system for its students, staff and faculty. Despite this seemingly remote location, strong levels of transit use, cycling, and ridesharing occur. Such good performance indicates a strong commitment among the College's community to using alternatives to single-occupancy vehicles. This commitment provides an essential foundation for creating a more energy efficient and less polluting campus transportation system.

### Modes of Travel

Table 4.1 shows the mode of travel used by staff and by students for commuting to campus. These data come from separate surveys of those two groups, the Commute Trip Reduction survey for staff (June 2005), and the Evergreen Student Experience Survey 2006 for students.

Mode of Travel	Faculty & Staff	Commuter Students
Drive Alone	66%	60%
Rideshare	16%	15%
Bus	6%	20%
Bike	10%	3%
Walk	2%	2%
<b>TOTAL</b>	<b>100%</b>	<b>100%</b>

Bike use appears particularly strong among staff, while transit use is high for commuting students. Both groups have high levels of ridesharing. In fact, ridesharing rarely goes higher than these rates. Walking, not surprisingly, occurs at low rates since comparatively few people live within reasonable walking distance of campus. It should be noted that the strength of alternative modes is only minimally influenced by the very modest parking charges levied on campus.

### Parking Demand and Supply

Parking is monitored by Parking Services which counts the number of vehicles present each weekday at 10:00 am, 1:00 pm and 7:30 pm. Based on counts conducted from January 2006 through February 2007, the peak number of vehicles parked occurs during the fall term. Figure 4.12 illustrates the variations in demand across the academic year.

The peak occurs in the fall quarter at 1:00 pm equally on Tuesdays and Wednesdays. At the peak, approximately 545 spaces remain vacant. Table 4.2 shows the use and availability by lot.

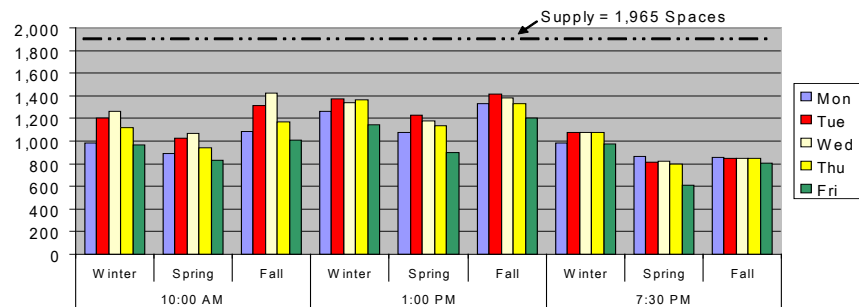


Figure 4.12. Parking Demand by term and time of day.

LOCATION	SPACES	VEHICLES PARKED	SPACES AVAILABLE	% OCCUPIED
Lot B	777	505	272	65%
Little B	182	33	149	18%
Lot C	557	548	9	98%
Lot F	318	272	46	86%
Fireweed Lot	23	2	21	9%
Meters	16	7	9	44%
Accessible Spaces	41	31	11	77%
Others	50	16	34	32%
	<b>1,965</b>	<b>1,414</b>	<b>551</b>	<b>72%</b>

Only Lot C achieves full use, mainly due to its closer proximity to the campus Core that offers a shorter walk. The bulk of unused parking, over 400 spaces, exists in Lot B and in Small B. Lot F caters primarily to resident students. An early morning (6:30 a.m.) check of Lot F and other housing area parking spaces on three separate days in April, 2007, found an average of 234 vehicles parked, representing peak demand for resident students.

On balance, Evergreen has more than enough parking to meet most current needs. Exceptions include days when athletic fields host games for which too little parking exists near the fields for spectators, and special event days such as Super Saturday and Commencement.

Table 4.3 provides the estimated composition of demand at the peak time among students, staff, faculty and visitors.

POPULATION GROUP	VEHICLES PARKED	% OF TOTAL
Faculty/Staff/Temporary Employees	469	33%
Commuting Students	688	49%
Resident Students	235	17%
Visitors (estimated)	25	2%
<b>TOTAL</b>	<b>1,417</b>	<b>100%</b>

Source: Tilghman Group

Commuting students account for the largest share of peak demand, in spite of having a low rate of auto use. Student vehicles outnumber all other parked cars due simply to the large number of students present.

Auto availability differs widely between resident and commuting students. Based on current usage, one car is available for every 4 resident students while one car is available for every 1.5 commuter students.



Figure 4.13. Adequate parking exists on campus.

### Parking Rates and Revenue

The amount charged to park on campus has remained constant since 2000. A rate increase has been proposed and, if approved, would take effect in the Fall quarter of the 2007/08 academic year. Rates apply commonly to all vehicles parking on campus without regard to student, staff or faculty status. Table 4.4 lists current rates.

PERIOD	RATE (2006)	RATE (2007)
Daily Pass	\$1.25	\$2.00
Quarterly Permit	\$32	\$40
Fall/Winter/Spring Permit	\$90	\$115
Full Year Permit	\$96	\$120
Meters:		
Housing Loop	\$0.40 / hour	\$0.60 / hour
All Others	\$0.30 / hour	\$0.50 / hour

In 2007, people purchasing a \$115 permit pay only \$12.70 per month to park, substantially less than the cost of a transit pass, which is currently \$25 per month .

Parking revenues and expenses are shown in Table 4.5.

SOURCE	REVENUE FY 2006
Permits Sold	\$165,663
Daily Revenue	\$142,846
Infractions	\$ 96,351
<b>TOTAL REVENUE</b>	<b>\$404,860</b>
<b>EXPENSES</b>	<b>\$416,467</b>
<b>NET REVENUE</b>	<b>\$(11,607)</b>

The parking system does not currently take in sufficient revenue to cover its expenses. In addition, the system has outstanding debt incurred to pay for expansion and improvements in parking lots in 2004.

A table found in the appendix compares parking rates at public universities and colleges throughout the Northwest. Since many institutions offer tiered rates, the table groups them into high, middle and low ranges. Evergreen’s current and proposed parking rates fall at the lower end of all schools’ rate.

### Transit Services

Two bus routes serve the campus from downtown Olympia: Route 41 and Route 48. Operated by Intercity Transit, these routes run from the downtown transit center to the campus every half-hour from 6:00 am to 9:00 pm and then only Route 41 continues hourly until midnight. With their overlapping schedules, these two routes offer a bus every 15 minutes between campus and downtown. Due to the popular destinations served including Evergreen, Westfield Capital Mall and downtown Olympia, these are Intercity Transit’s most productive routes. Table 4.6 compares ridership generated by Evergreen’s campus to the total route ridership.



Figure 4.14. Transit stop adjacent to Red Square.

TABLE 4.6 TRANSIT RIDERSHIP AT EVERGREEN STATE COLLEGE		
ROUTE	EVERGREEN RIDERS (WEEKDAY, ON + OFF)	% OF TOTAL ROUTE RIDERSHIP
Intercity Transit #41	780	32%
Intercity Transit #48	300	20%
<b>SUM</b>	<b>1,080</b>	<b>28%</b>

Based on Intercity Transit's passenger counts, McCann Plaza is the primary origin and destination of passenger trips, serving 70% of riders. Conversely, the Housing loop generates only 1 of every 6 campus boardings, but is used by many more disembarking riders to reach the campus core sooner than they would by riding around to McCann Plaza (Route 41 goes first to the Housing Loop, then to McCann Plaza requiring an additional 9 minutes). It is estimated that McCann Plaza would actually serve 85% of riders if all routes went directly to it.

Evergreen students pay a fee for transit service amounting to \$1.10 per credit up to 12 credits. This generates over \$150,000 annually which, through a negotiated purchase, provides unlimited use passes for students to ride Intercity Transit buses. This fee amounts to roughly \$0.65 per ride (when counting only those rides to and from campus), less than the regular fare of \$0.75. The state provides college employees with the Star Pass which is paid for with state funds outside of Evergreen's budget. This is a benefit to state employees here and elsewhere. Although student fees do not subsidize employee passes, they do make more service available to them.

### Cycling & Walking Routes

Dedicated multi-purpose bike and walking paths along Evergreen Parkway connect to other trails and roads linking campus to downtown Olympia and area neighborhoods. The McLane trail is the primary connection. Bicycle riders, however, face a number of gaps in the trail system and must also rely on streets without striped paths for bikes. Gaps occur between Division Street and Evergreen Parkway, on Cooper Point Road between Walnut Road and Evergreen Parkway, and on Harrison Street between Kaiser and Evergreen Parkway. Sidewalks lack continuity along Driftwood Road between Overhulse Road and Evergreen Parkway. Trail heads for walking trails through the Reserve tend to be difficult to locate and would benefit from better signs. Trails serving the Reserve north of Driftwood Road lack continuity from the campus Core to their destinations.



Table 4.15. Providing bicycle amenities supports alternative transportation.

### Internal Circulation

The campus was carefully laid out to capture vehicles at the edges and preserve the Core areas for pedestrians. Major walkways and plazas were designed to accommodate service, security and other occasional vehicles when necessary. However, it appears that vendor, service and security vehicles routinely travel into the Core of campus and are frequently present on Red Square and other plazas. While such vehicles travel slowly, avoiding serious conflicts with pedestrians and bicycle riders, their presence and their large size (frequently full-size vans) clearly diminish the walkable character of walkways and plazas that are intended to be free of large vehicles. Some maintenance personnel now use smaller electric vehicles which fit much better on paths and plazas. Opportunities to manage vehicles better on internal roads are discussed in subsequent sections.

## Transportation-related Carbon Emissions

With the goal of achieving zero waste and carbon neutrality by 2020, Evergreen's Sustainability Task Force has undertaken to calculate the College's carbon footprint. It estimates that transportation generates approximately 31% of the campus's total carbon emissions. This includes commuting, transit services to campus, use of the college fleet, deliveries, and long-distance air travel for college purposes. The contribution of each activity is shown in Table 4.8.

TABLE 4.8 TRANSPORTATION GENERATED CARBON EMISSIONS PER YEAR		
ACTIVITY	METRIC TONS OF CARBON DIOXIDE EQUIVALENT (MTCDE)	% OF TOTAL
Commuting	5,392	78%
College Fleet	292	4%
Deliveries	126	2%
Air Travel	1,077	16%
<b>TRANSPORTATION TOTAL</b>	<b>6,887</b>	<b>100%</b>

Source: John Pumilio, Sustainability Task Force

It is clear that the opportunity for the greatest reductions in carbon emissions will be achieved from a focus on addressing commuting patterns.

## ENGINEERING SUMMARIES

### Utility Infrastructures

Chillers, boilers, electrical service, and sewer capacities were initially designed to support a campus of 12,000 students. Not all of the chillers and boilers were installed but space was allocated. As current and anticipated enrollment is significantly lower today, capacity issues are not anticipated. Utility Infrastructure components have been evaluated by the appropriate engineering consultant and their findings follow.

### Mechanical Systems

This section summarizes existing mechanical systems, including observed or reported operational issues, and a condition assessment based on a non-invasive field visual survey. This evaluation of the mechanical systems is based on field notes and a review of documents and drawings made available by the College for this assessment.

In describing and evaluating the mechanical systems, three terms are used that should be defined. These terms are: capacity = what can be produced; connected load = what could be used or needed; and diversity = not using the capacity at any one time. Diversity can result from oversized or inefficient systems, space usage, and building materials and orientation. In general, the capacity of mechanical systems at the College exceeds demand. Although the connected loads are high, diversity results in lower demand – as demonstrated by actual energy usage.

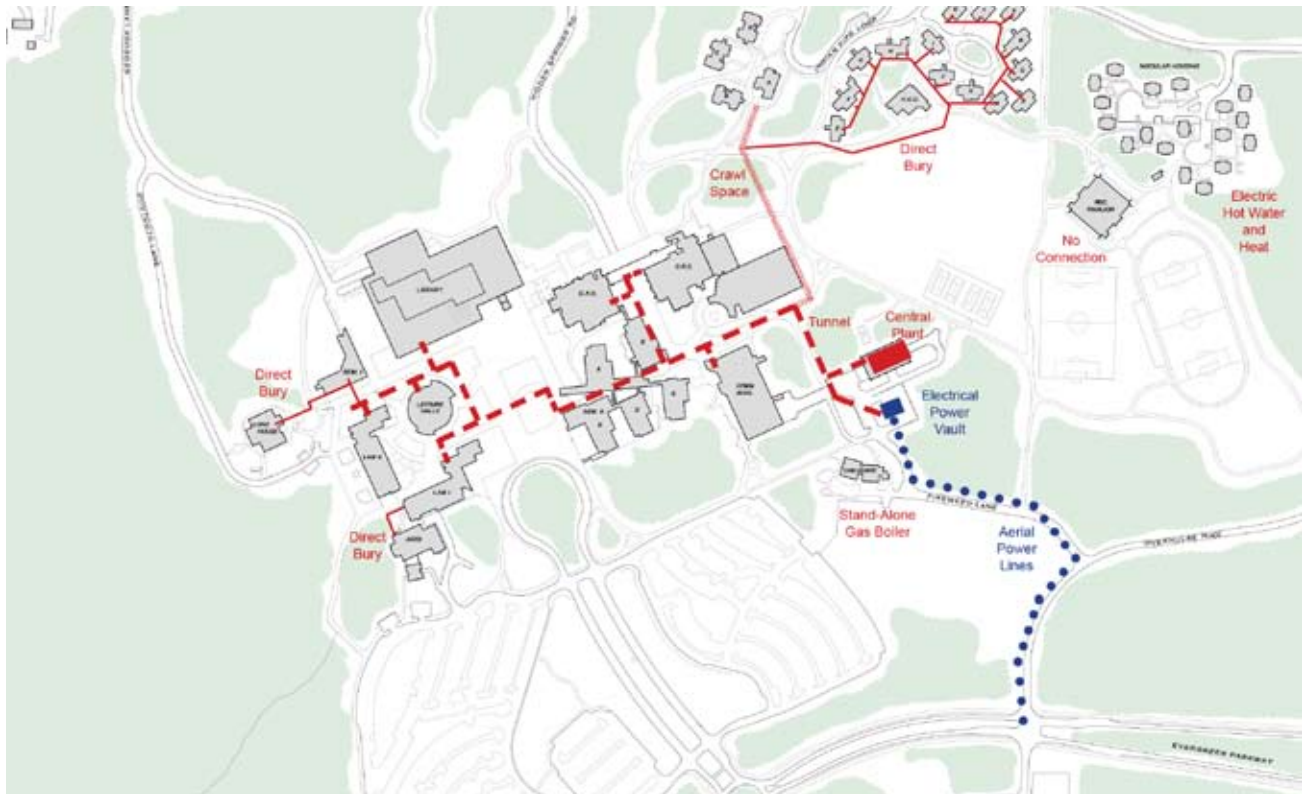


Figure 4.16. Utility framework diagram.

The College has a Central Utility Plant (CUP) that provides steam and chilled water to the campus for heating, cooling and domestic hot water through an underground tunnel system. The tunnel system connects directly to mechanical rooms in the Communications Building (Comm Bldg), Seminar I (SEM I), Seminar II (SEM II), College Recreation Center (CRC), College Activities Building (CAB), Library, Lecture Halls Building, Science Lab I (LAB I) and Science Lab II (LAB II). A crawlspace tunnel to Housing Buildings A, B, C & D provides steam to those buildings. A direct bury branch from that tunnel provides steam to the Community Center and Housing Units E through U. Additional direct bury piping (steam and chilled water) runs from the main tunnels to the Longhouse and Arts Annex buildings. The Modular housing buildings are heated by electric baseboard and have no connection to the CUP. The Childcare Center has its own gas-fired hot water boiler and is not connected to the CUP. Additional outbuildings consist of the Farmhouse, Geoduck House, Driftwood House and Maintenance Shops. Each of these outbuildings has its own stand-alone heating system.

Each main campus building has a steam to hot water heat exchanger for building heating and a separate heat exchanger for domestic hot water. The CRC has a separate heat exchanger for pool water heating, and the CAB utilizes steam directly for kitchen purposes.

#### **Boiler System**

The Central Utility Plant contains three steam boilers. The two main boilers produce 35,000 lbs/hr (approx. 33,964 MBH) of steam. These boilers are designed as 250 psig boilers, but are only run at approximately 100 psig. The BTU's per lb

of steam automatically drop 2-1/2 percent (at full load) by reducing the pressure that amount. The normal full load efficiency of these boilers is approximately 80%. Since these boilers are rarely run at full load, the actual efficiency is much lower than it would be at full load, in addition to the 2-1/2% loss from the pressure reduction. There is an additional 12,000 lb/hr (11,644 MBH) boiler that runs in the summertime to produce steam for domestic hot water heating.

The main campus total heating connected load (total of heating coils) is approximately 56,000 MBH. This does not include housing heating or any (main campus and housing) domestic hot water capacity. From discussions with boiler operating personnel, it appears that only one main boiler operates at any time during the winter. The housing total heating connected load is approximately 7,700 MBH. The main campus total domestic hot water connected load is approximately 25,000 MBH. The housing total domestic hot water connected load is approximately 3,300 MBH. That equals a total connected load of approximately 92,000 MBH. Since only one large boiler (33,964 MBH capacity) is operated at a time and the connected load, or possible total heating need, is 92,000 MBH, then the actual steam production is only 37% of the total connected load. Obviously the connected load is much greater than what is required to actually heat the buildings due to diversity.

The existing steam system suffers from considerable leakage at all converters, valves, condensate receivers, etc., in the existing mechanical rooms and utility tunnel. A steam to hot water system suffers loss through the heat exchanger itself on the magnitude of approximately 10-20%. However, most steam systems rely on accurately receiving condensate back from the system for re-use in producing steam. Most systems have a fair amount of loss in the condensate system, both through transmission loss in the piping and as well as leakage at receivers, valves and pumps. In combination with this, most mechanical rooms have been provided with cooling, thereby using additional energy to offset the heat loss through the steam system.

The main campus currently runs the boilers on an interruptible gas service. This means that when the utility company is under peak load they may call the College to have them switch from gas to oil for their heating needs. This occurs approximately once or twice a year on average.

#### ***Cooling System***

The existing Central Utility Plant (CUP) houses an existing 800-ton York centrifugal chiller and associated pump installed in 1997 and a new 1000-ton centrifugal chiller and chilled water pump installed in 2007. Therefore, the capacity is 1800 tons. The current total connected load is 1600 tons with no diversity. There have not been any major complaints about lack of cooling throughout the campus, however, the system does suffer from some pumping issues and lack of circulation in the most remote buildings.

#### ***Primary Air Handling Systems***

The eleven main campus buildings each contain a main built-up air handling system (or systems) housed in indoor mechanical rooms that are provided hot water and chilled water to the coils from the main campus system. Air handlers generally have both a supply and return fan. Conditioned air is provided to the spaces through galvanized sheet metal ducts and ceiling mounted diffusers. The majority of equipment observed (not all equipment was visible) appears to be



original to the age of each building, with some minor exceptions. The existing ductwork that was observed was generally insulated and in good condition. Conditioned air is provided at 55°F year round, and then heated as needed to provide the appropriate leaving air temperature, depending upon seasonal and space requirements.

Exhaust fans serve various spaces (mostly bathrooms and locker rooms) throughout the buildings. Most fans are located on rooftops, although some are located in ceilings or crawl spaces. The LAB I and LAB II buildings have mostly 100% outdoor air systems for the labs with fume hood exhaust systems located on the roofs. There is currently only one heat recovery unit serving a lab space in LAB II. All other labs do not have heat recovery. The Arts Annex building also utilizes mostly 100% outdoor air systems and its exhaust does not have heat recovery.

#### ***Pool Conditioning Systems***

The main unit serving the pool area, a built-up air handler located in the lower mechanical room, is operating as a 100% outside air system. It currently has a heat "run-around" coil installed in its air stream. HRC-1A and HRC-1B, as well as HRC-2A thru HRC-2D were installed in the autumn of 2002. This run-around loop is capable of capturing nearly 900 MBH of heating value. The coil currently located in the outside air intake air stream and the coil that is located in the return air stream are both functioning. The pump serving this system has a newer (high efficiency) 1.5 hp motor. All piping insulation appears to be in good condition.

At present, the exhaust air coil is located in the plenum air stream with a large amount of free/bypass area surrounding it, and much of the rigid insulation lining the plenum is no longer attached to the walls, blocking the air stream. This is substantially reducing the efficiency of the run-around loop. This condition is also allowing chlorine-laden air to be absorbed by the concrete walls.

Current drawing schedules suggest that all return air is being processed through HRC-2A thru HRC-2D. This is presently not the case, due to factors noted. Observations currently estimate only approximately 50% of this exhaust air is being processed through the coils.

The main pool filter, heater, valves and main piping are located in a room beneath the pool area. The original sand filter was a large bed style requiring the flow of a 40 HP pump. The large bed style sand filter has been converted to an open tank for skimming. In 1988 two smaller modern, closed vessel type sand filters were added to the system.

The original 40 HP motor SP-2 has been changed. In 1988 the pump was changed to a 20 HP, 925 GPM at 60Ft H.

The two new sand filters added are STARK Model S1-120, having a min surface area of 35 SF and a flow rate of 462 GPM & 13.2 GPM/SF. The flow total for the filters is 924 GPM.

#### ***Plumbing System***

A majority of existing plumbing fixtures appear to be original, but are in reasonably good condition. Some bathrooms appear to have been renovated, and some of the fixtures have been replaced. Many urinals have been updated to no-water type urinals.

Drain and vent lines all appear to be cast iron and in very good condition. Domestic water piping appears to be a mix of copper and galvanized steel, with the majority of visible piping being copper. No dielectric connections were visible during our initial inspection. The majority of domestic water lines appear to be properly jacketed and insulated. There is a mix of old and new insulation visible in the tunnels. Specific tests would need to be performed to determine if any of the insulation contains asbestos or other friable material.

### ***Controls***

The existing controls are a mix of pneumatic and electronic controls with some minor hand operation. There is a main DDC system on campus that is located in the CUP, with control components scattered throughout the buildings. Existing control equipment varies in condition, the majority of it is original to the buildings, but several upgrades have occurred in the last ten years. In addition, the pneumatic system suffers from considerable leakage that affects the quality of control. The building operators appear to have a reasonably good understanding of the equipment and how it should be operated, but the overall DDC System needs to be inventoried and calibrated so that all control functions and sequences are catalogued, recorded and understood.

### ***Fire Protection System***

There is an existing wet-pipe fire protection system that serves the main campus buildings. Existing pipe is conventional black-iron, with standard response sprinkler heads. The piping and heads appeared to be in excellent condition.

## **Campus Power, Lighting and Low Voltage Systems**

### ***Campus Primary Power Distribution***

Campus power is provided via two 12.5kV (kilovolts) distribution feeders (F5-1C and F5-2C) from outdoor fused switches located south of the Central Utility Plant. Service is provided from Puget Sound Energy by overhead lines to the outdoor switchgear. The system was originally designed for a much larger student base. Most of the 12.5kV feeders on campus are located in cable trays that run in the utility tunnel covering most of the main campus. The cables were installed in the original 1971 campus construction. Some direct bury cables have been installed where the utility tunnel does not provide access. An example of this is the cables serving the Housing area. The 12.5kV splices to buildings are made in oil filled link boxes located in the utility tunnel. Transformation from 12.5kV to 480 volt, 3 phase power occurs within the main electrical gear rooms in most building. The majority of the buildings on campus were constructed in the early to mid 1970's. Switchgear, transformers, panel boards and building power distribution are largely untouched in these buildings.

Emergency power is provided at most buildings via emergency backup generators. In some of these building there is a mix of both code required life safety and optional emergency loads. For example in the Campus Activities Building egress lighting loads are mixed with kitchen equipment loads.

Students currently pay \$1 per credit hour towards a Green Energy Fee, which provides the campus with one hundred percent green energy from renewable sources.

### ***Lighting***

Interior lighting consists of a variety of different lamp and fixture types. Many of the existing recessed lens fluorescent and recessed incandescent down lights are

operational and in good shape. Most of the down lights have had the incandescent lamps replaced with screw in type compact fluorescent lamps. There have been upgrades and additions in several of the buildings with the newer type lighting (T8 lamps and electronic ballasts) system installed. The Seminar II and Longhouse buildings have newer lighting technology lamps and ballasts.

Exterior lighting is provided by campus standard light poles, building mounted surface fixtures and walkway mounted recess step light type fixtures.

#### ***Lighting Control***

The majority of interior lighting is controlled via wall switches only. Only a few of the buildings and areas with additions or renovations done within the past ten years have automatic controls to meet the Washington State energy code. Seminar II does have limited daylighting control for fixtures within skylight zones via daylight type photo cells. Seminar II also has a low voltage programmable lighting control relay system and occupancy sensors controls. Lecture rooms in Seminar II have Lutron Grafik Eye control systems for pre-set zone controls and interface with the room audio/visual systems.

Exterior building and campus lighting is controlled via photo cells. The exception is Seminar II which uses the low voltage programmable lighting control relay system with photo cell input for control of exterior lighting.

#### ***Fire Alarm Systems***

The campus standard is EST (Edwards System Technology) that has been installed in newer building and older buildings that have been renovated or have additions. There is a campus fire alarm communication loop in the utility tunnel that provide campus wide monitoring. Several buildings such as the Campus Activities Building have older Simplex/Autocall systems. These systems were installed before ADA requirements for audio/visual and mounting height restrictions were mandated.

#### ***Access Control/CCTV Systems***

Access control and CCTV systems have been added to many of the buildings on campus. The access control system is the Millennium system. CCTV camera systems have been added to cover selected entries and spaces, including the CAB building .

#### ***Clock***

There are two clock systems in use on campus. The original hard wired, 120 volt pulse clock system is operating in most of the original buildings. There have been problems with this system and as a result a second system is being phased in. This is the Primex wireless clock system. This uses battery operated clock with GPS receiver and transmitters for automatic time correction.

### **Telecommunications Campus Cable Distribution Infrastructure**

#### ***Campus Distribution***

Buildings located near the central Core are served by an underground system of utility tunnels that contain cable trays used in the routing of electrical and telecommunications cables.

The tunnel system is sufficiently large enough for pedestrian traffic and small motorized carts to be driven through them to deliver tools and equipment to strategic locations. Separate cable trays for low voltage communications and primary power campus loop are provided throughout the tunnel system.

Cables exit the tunnel system to reach out lying buildings and at these points the cables enter a system of direct buried underground conduits and cast concrete vaults. Examples of these buildings are the Longhouse, Residence Units, and the Shops.

Within this system of underground conduits, plastic innerduct conduits are placed inside of larger metallic or PVC conduits to facilitate the installation of the fiber optic cables.

#### ***Data/Communication System***

The campus' main telephone switching system (PBX) is located in the basement level B-wing of the Library building. From this location, acting as a hub, all copper cables radiate in a star topology out to all other buildings on campus distributing telephone and other miscellaneous services to those buildings. Telephone tie lines connect the Olympia campus system to the Tacoma branch campus PBX. Qwest provides telephone service to the housing residents.

The campus' main data networking system is located in the Library A-wing of the basement level. This room is referred to as the Machine Room and all campus fiber optic cables radiate outward in a star topology to all other buildings also.

Emergency 'blue' telephone stanchions are located through out the main campus that are routed back to the Police Services dispatch.

#### ***Cellular Communication***

Cellular phone service on campus from some service providers is intermittent. Currently, there is no cell tower located on campus.

#### ***Data/Communication Cabling***

The inter-building, or backbone, telecommunications cables used on this campus are made up of large pair count, shielded, twisted pair, (STP), copper cables and fiber optic cables in three types, and coaxial cables. The first type of fiber cable is singlemode (SM) fiber; the second type is 62.5/125 micron multimode (MM) (legacy fiber cables); the third type is 50/125 micron laser optimized multimode (MM) fiber optic cable to support 10 Gbps transmission speeds between buildings.

The backbone fiber and copper cables run through the basement level of the Library until they enter the tunnel system then on to other parts of the campus.

Most buildings are area cabled with Category 5E type cables that are being upgraded to Category 6(t) as buildings are renovated.

Many of the existing communication equipment rooms were carved out of existing closets or storage rooms. These rooms are cramped and do not provide proper clearances, HVAC systems and have no room for expansion. As buildings are being renovated (such as recent renovations to the Library) these rooms are being replaced per College standard.

Lightning protection devices are provided and grounded on both ends of the copper cables that extend beyond the tunnel system into the underground conduits. The College must continue its current practice of installing lightning protection devices and grounding on both ends of the copper cables. This installation is a requirement of the NEC, Article 800.

### ***Cable Television***

A television satellite dish is located on top of the Library, this dish down-links a signal that can be inserted into the campus-wide cable distribution system. The coaxial cable distributes CATV signals to locations throughout the campus. The system also has the capacity for distribution of up to three locally originated channels.

## **Civil**

### ***Water and Wastewater Utilities***

With the exception of Geoduck House which is currently occupied by the Olympia Community School and located near the shoreline, the campus buildings are connected to the City of Olympia water and wastewater systems. The City of Olympia and Evergreen have agreements for these services and the City will continue to provide water and wastewater service to the campus. The Olympia Community School is currently served by a septic tank and drain field. This on-site wastewater treatment system should be evaluated to verify that it is functioning properly, and is sized correctly for the school population and soil conditions.

Existing wastewater and water utilities were originally designed to serve a student population of 12,000 students. Discussions with campus staff indicate that the system is in good working order.

### ***Storm Water Management***

The Evergreen campus lies within four different drainage basins. Portions of the campus drain to the following creeks: Snyder Cove Creek, Green Cove Creek, Unnamed (Evergreen faculty name: Barking Dog) Creek, and Houston Creek.

### ***Snyder Cove Creek***

The Snyder Cove Creek Drainage Basin lies within the Evergreen campus property. The creek has been degraded over the last 30 years since the campus Core drains into it. A majority of the campus roadways and parking areas also discharge to Snyder Cove Creek. The campus Core is located in the upper portion of the basin, and during large storm events, high flows off the impervious surfaces can cause erosion and carry sediment downstream. Discharge from the campus is not currently monitored. In the past, the United States Geological Survey monitored Snyder Cove Creek just upstream of the culvert and Evergreen faculty used to monitor the discharge location from the campus Core.



Figure 4.17. Snyder Cove Creek outlet.

Snyder Cove Creek discharges into Eld Inlet in Puget Sound. There is a culvert where Sunset Beach Drive NW crosses over Snyder Cove Creek. This culvert is not designed to let fish pass since the invert of the inlet is only submerged during high tides. The College is currently working with environmental groups to make Snyder Cove Creek fish friendly by installing a box culvert at its confluence with Eld Inlet.

### ***Green Cove Creek***

An eastern portion of the campus drains to Green Cove Creek. This area includes the ball fields, modular housing, and portions of the perimeter road. Green Cove Creek discharges to Budd Inlet in Puget Sound.

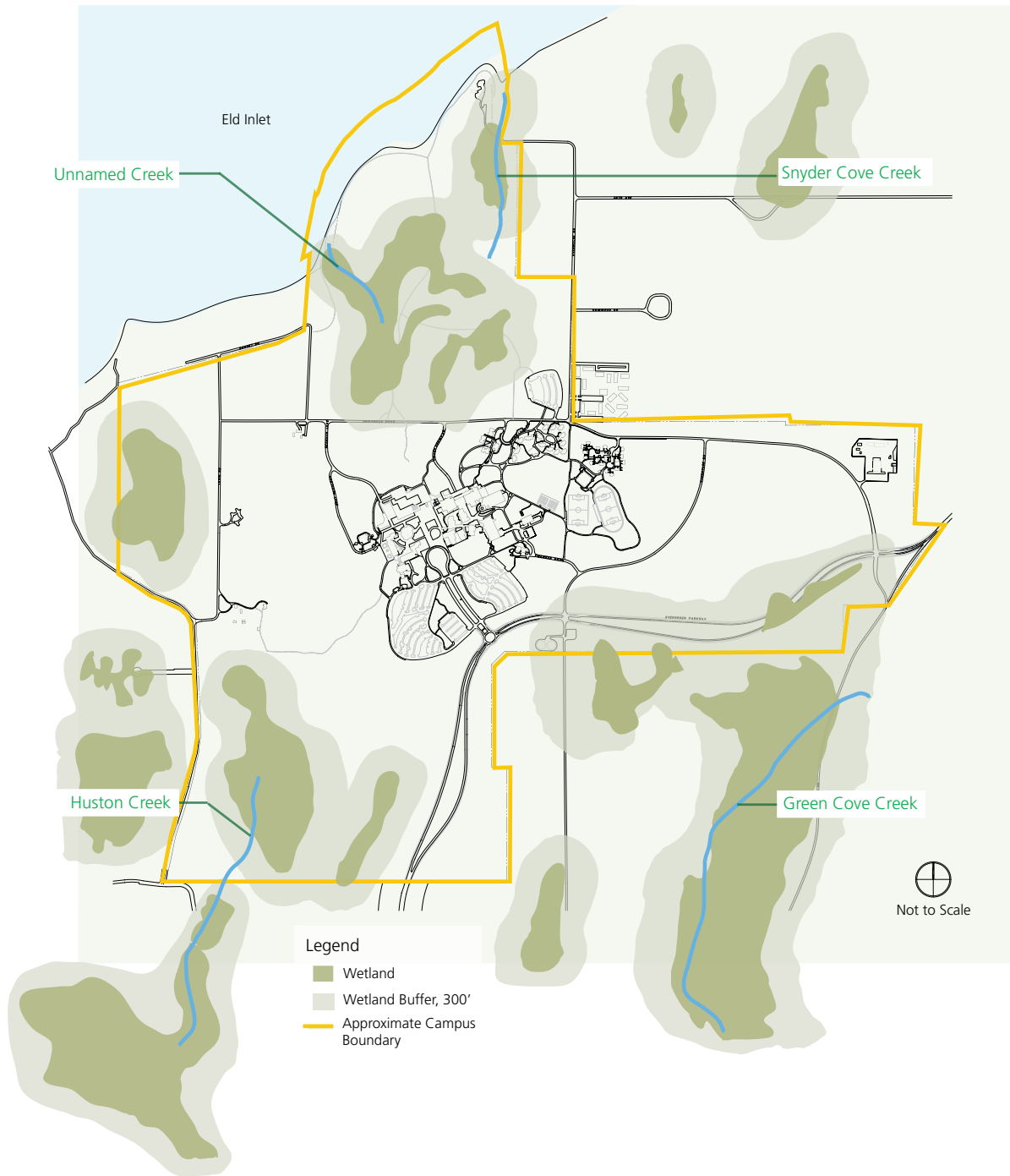


Figure 4.18. Campus Hydrology Diagram.

***Unnamed Creek (Evergreen faculty name: Barking Dog)***

This creek is completely contained within the campus Reserve. This creek is fed by groundwater through seeps in the basin. The Master Plan recommends seeking adoption of the name Barking Dog.

***Houston Creek***

The Evergreen Campus Parkway drains into wetlands that feed into Houston Creek. Houston Creek drains into Mud Bay.

***Evergreen Campus Stormwater System***

Evergreen is in the process of completing a Stormwater Plan for the campus. In addition to mapping the stormwater collection and treatment system, Evergreen is verifying the connections to the system. It is uncertain if the existing core buildings discharge into the existing stormwater pipes.

Evergreen must meet the Washington State Department of Ecology Non-Point Discharge Elimination System (NPDES) Permit as a secondary MS4 permittee. As part of the permit requirements, all new construction at Evergreen that affects more than 2,000 sf must meet current stormwater management requirements as listed in the 2005 Ecology Stormwater Management Manual for Western Washington. This includes any activities to update existing campus buildings, roadways, and classrooms. The permit and manual encourages best management practices, including low impact development elements, erosion and sediment control, and community education.

***Opportunities for Low Impact Development***

Evergreen is taking steps to be a sustainable campus by implementing strategies that mimic the natural hydrologic processes that occurred prior to the campus development. Evergreen is a leader in this type of stormwater management. The Seminar II building contains green roofs, rain gardens and bioswales that attenuate stormwater prior to entering the campus system and discharging into Snyder Cove Creek. The Library was also retrofitted with a green roof that is visible and accessible from the fourth floor. Pervious asphalt was installed at ADA parking stalls near campus housing.





05



## GOALS AND OBJECTIVES



## 05 GOALS AND OBJECTIVES

*'The Evergreen State College will be a laboratory for sustainability as demonstrated in its operations, curriculum, and quality of life for employees and students. We will nurture values and practical skills that motivate a lifetime commitment to a sustainable, inter-generational, just way of living on a healthy planet.'*

*- The Evergreen State College Sustainability Task Force*



Figure 5.1. Community.



Figure 5.2. Learning.



Figure 5.3. Sustainability.

From the beginning of this Campus Master Plan process, the Planning Committee and consultant team understood that past master planning in 1998 and again in 2005 developed very strong foundations from which to build. Both the mission for this Master Plan and the goals listed below represent direct developments and refinements from these earlier processes. To avoid repeating much of the very thorough and descriptive documentation of both campus features and ambitions, the intent of this document and plan is to work in conjunction with the previous documents.

### MISSION

The mission of this Master Plan is to build on past efforts and focus on developing diagrams, programs and descriptive statements of ideas and projects that represent physical manifestations of the evolving vision for the campus.

Specifically, this document aims to develop a comprehensive long term capital plan for College facilities and grounds both on and off campus, establish priorities consistent with the College's mission and strategic plan, ensure that the plan reflects the unique qualities of the College and campus and builds upon the philosophical basis of past planning efforts.

The plan will help provide support for future capital budget requests, a particular focus has been placed on identifying:

- Renovations and additions
- Infrastructure improvements
- Sites for potential new facilities
- Land use/landscape policies

### GOALS

The following five goals represent a refinement of previously stated goals from prior master planning efforts:

- Develop state-of-the-art learning facilities and housing options that advance the mission of the College.
- Provide an open and supportive environment for those who study, work and live on campus.
- Create a visibly sustainable campus through educationally rich, proactive design, planning and goal-setting.
- Provide educational opportunities in the delivery of campus planning, operations and services.
- Integrate College educational activities with cultural, social, civic and business activities of the surrounding community.



06



## RECOMMENDATIONS



## 06 RECOMMENDATIONS

This Master Plan has been developed as a tool to understand the impact of the projected growth in enrollment and the interrelationship of the various planning objectives established by the College through this and past master planning processes. This Master Plan proposes a pattern of development that is based on both the established building pattern that reinforces the Core of the campus and a new direction that aims to integrate the entire campus into the community, sustainable and educational goals of the College. At the campus Core, proposed renovations and additions are focused on developing and enhancing a sense of place that is sensitively scaled, provides good solar access and forms a connectedness among adjacent buildings. New facility locations also build upon the existing development patterns at the campus Core and reinforce the ideas related to creating appropriately scaled outdoor spaces, establishing visual connections between inside and outside and limiting the sprawl of the campus. Circulation improvements – both vehicular and pedestrian – build on existing patterns and develop a comprehensive network of connections among the various proposed and existing educational centers, upper and lower campus and the community.

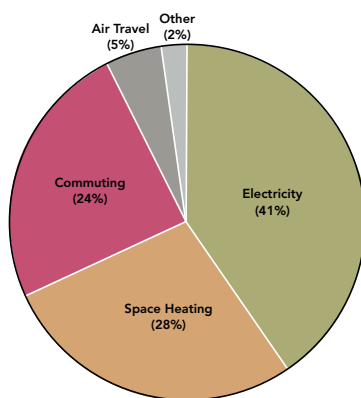


Figure 6.1. Sources of Evergreen's 2006 carbon emissions.

Source: "Carbon Neutrality by 2020: The Evergreen State Colleges Comprehensive Greenhouse Gas Inventory," John F. Pumilio, June 2007.

As part of the campus master planning effort, the College established the goal of achieving a balance in the production of both carbon and waste by the year 2020. This net zero carbon and waste focus has informed the planning process and allowed rethinking of campus operations and facilities planning at the College. Meeting the challenge of carbon neutrality at Evergreen by 2020 will require bold measures. Preserving and expanding the wooded areas of the campus will off-set a small portion of Evergreen's current carbon footprint and represents a unique resource for carbon sequestration. Additionally, fundamental changes are needed to encourage alternative transportation and energy (see Figure 6.1).

Although the College was initially planned to accommodate as many as 12,000 students, the evolving mission as a liberal arts institution as well as the current and planned facilities reflect a 'right sized' capacity of the campus in 2020 of approximately 5,000 students. With a systems infrastructure constructed to support a significantly larger campus, the current land and facility use patterns require careful evaluation and planning in order to achieve the overall sustainable vision. This plan considers a wide range of opportunities that will set the stage for making significant contributions towards balancing both carbon use and waste production and include:

- transportation modes and patterns
- energy production and use
- campus biome protection, use and enrichment
- food production research and training
- construction practices
- waste stream management
- student life and housing

All of the investigations under taken during the planning process used sustainability as a touchstone and integrate opportunities for hands-on student learning, participation, engagement and community involvement. Three general organizing categories emerged that focused on notions of Community, Sustainability and Learning.



Figure 6.2. The Master Plan focuses on opportunities to enhance community, sustainability, and learning.

## LEARNING

- Develop on-campus Education Centers in Clusters within the Reserve (forest and marine ecologies, organic farming, sustainable practices, environmental stewardship, waste stream, etc.).
- Use Red Square as a stage to showcase College's unique educational mission and student life.
- Create outdoor laboratories and classrooms – field study emphasis.
- Support faculty research.
- Improve interdisciplinary learning environments – classroom environments that support Evergreen teaching paradigms

## SUSTAINABILITY

- Increase use of alternative transportation (walking, biking, transit, car pool)
- Increase and encourage use of self-sustaining resources (recycling, composting, stormwater harvesting).
- Support and utilize Green building practices.
- Maintain and expand multi-cultural resources.
- Develop and explore alternative power sources (geo-thermal, solar, wind).

## COMMUNITY

- Support campus as community resource - Invite community and neighborhood to use campus as a learning environment (Extended Ed, cultural events, interpretive trails, Organic Farm tours, conferences and sport camps, sustainability tours, teaching gardens, beach walks, nature walks, cultural walks, bicycle loops, volunteer opportunities)
- Increased desirability of living on campus
- Provide facilities that support leadership in innovative programs - Use the campus as a global venue (sustainability innovations, Native American culture, innovative programs, environmental conservation and demonstration)

## LAND USE

One of the primary missions of this master planning process has been to develop and use strategies that focus on preserving, supporting and enhancing the Reserve areas of the campus. The approach proposed is categorized into four primary groups conceptualized as Identity, Education, Circulation and Stewardship.



## IDENTITY

Earlier master plans divided the Reserve into four quadrants – north, south, east, and west. This naming convention does not convey the ecological, educational, or recreational significance of the Reserve areas. This planning effort recommends the identification of place and amenity names within the Reserve. The place naming is intended to allow research areas to be protected and to formalize the identities of areas and amenities in the Reserve. The Board of Trustees of the College must approve all campus facility and place names.

Students in the Community Activism/Community Design program have developed a set of sample place names for the broad regions of the Reserve as an initial step in a process of formally renaming areas of campus and include:

- ***Ecoforestry/Ecoagriculture Area***  
This portion of the Reserve is dedicated to providing learning opportunities as they relate to sustainable farming and forestry. This portion of the Reserve is anchored by the existing Organic Farm, but also encompasses the proposed Organic Farm expansion and a stand of Big Leaf Maple and Red Alder that lies north of the farm. This portion of the Ecoforestry/Ecoagriculture Area is set aside for a future sustainable logging and undercropping curriculum.
- ***Old Forest Area***  
This name denotes the portion of the Reserve that extends from the campus' southern boundary northward to the bluff above Geoduck Beach, between the campus Core and the Ecoforestry/Ecoagriculture Area. Many of the Reserve's most significant stands of second growth forest lie within this portion of the Reserve, as does most of the campus trail system.
- ***Geoduck Beach***  
This is simply the formalization of the colloquial name for the College's beach on Eld Inlet.
- ***Grass Lake Wetland Area***  
This portion of the Reserve lies between the athletic fields and the eastern edge of campus. This is currently the most remote part of the Reserve and sees the least amount of recreational use. It is contiguous with a larger wetland system southeast of campus.

These place names are especially important because they convey an ecological, educational or research significance to the place they describe.

A similar convention is envisioned for major trails within the Reserve, as well as discrete places such as meadows and forest stands. These names can be developed on an ongoing basis and submitted to the College's Board of Trustees for approval. The student developed naming recommendations are found in the Appendix.

These place and amenity names can be used on campus maps, signage, and other Reserve related documents. The names suggested here are intended to initiate a broader discussion on the campus to develop names that will ultimately be formally adopted by the College.

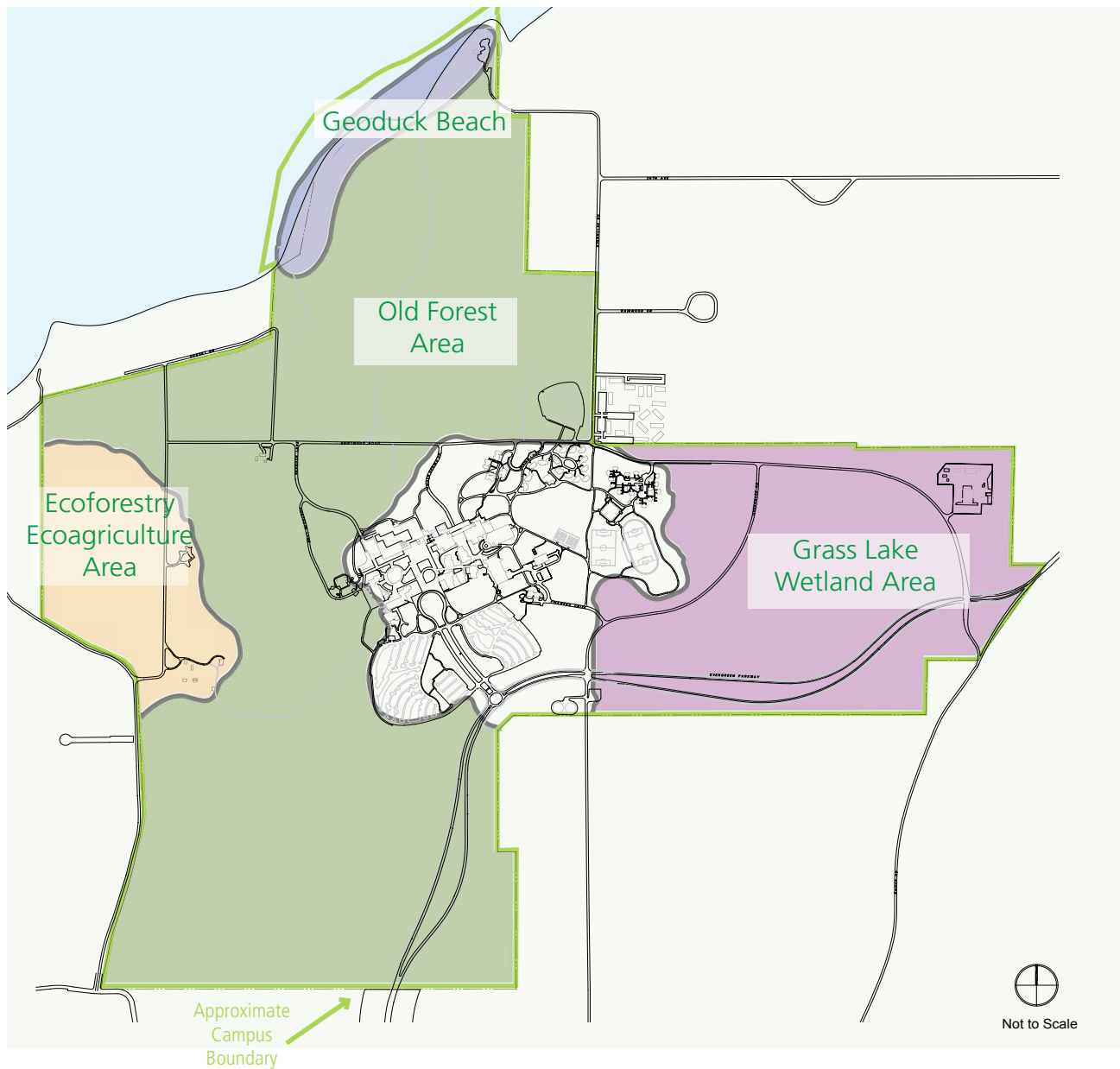


Figure 6.3. Naming Reserve areas emphasizes their relationship to learning, sustainability, and community.

## EDUCATION

The College has established a set of sustainability goals which include waste and carbon neutrality by 2020. The technologies and practices that will help achieve these goals may also provide educational opportunities. This plan proposes the creation of Education Centers located at various locations within the Reserve, as well as enhancements to existing educational centers such as the Organic Farm. The proposed and enhanced Education Centers are envisioned to create a greater sense of presence in the Reserve areas by the College that is intended to be consistent with the educational mission of the College. In many cases, these

centers are located in existing Clusters within the Reserve. The centers are not generally envisioned to require the development of significant buildings but rather create discrete, stand alone facilities that provide instructional support, signage and program staging spaces not significant additional buildings. By integrating the Reserve into the activities of the College, the biomes can be more deliberately and comprehensively monitored, studied and restored so that the value of the Reserve areas can continue to serve as a unique regional environmental asset. Education center opportunities are identified in Figure 6.4 and serve as examples of the sort of Reserve activities that can be envisioned.

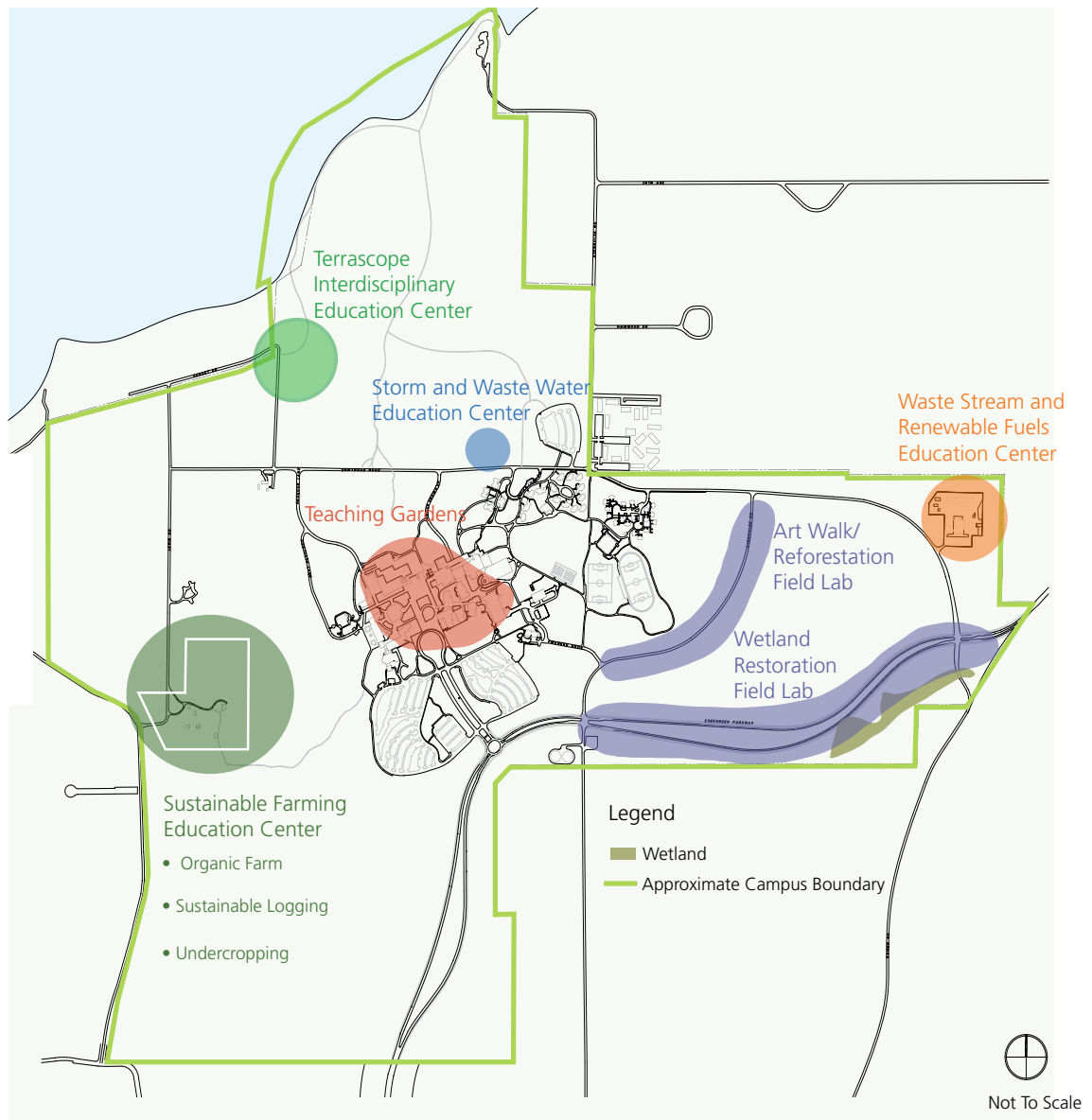


Figure 6.4. Education centers within the Reserve create resources for learning, sustainability and community.



Figure 6.5. Arable land allows for increased educational experiences for students.

### Organic Farm Education Center

The 2007 Evergreen Organic Farm Plan outlines facility needs for the continued development and operation of the farm (the report is included in the Appendix).

The College currently dedicates 24 acres to the Organic Farm Education Center. Today, only a portion of this acreage is being used. The fields themselves cover about four acres, and no other land is cleared at present for crop rotation. Because the soil in the three acre plot has been continuously farmed for about three decades, soil-borne pathogens have had time to establish and proliferate, and currently the farm is not a sustainable enterprise. The farm needs to be able to rotate its crops off the existing plots onto new arable land. The earlier Master Plan identifies land to the east of the current farm as area for expansion, but this would cut into one of the Reserve's prime stands of second-growth Douglas Fir forest. Additionally, this land slopes up onto a ridge and would be more difficult to cultivate. This plan recommends that the farm's allotment of 24 acres be reoriented to the north on level ground into stands of Big Leaf Maple and Red Alder.

Any remodeled or new facilities should be designed and constructed to maintain the unique character of the Organic Farm and do not need to reflect the architectural characteristic of the campus Core.

Building on the success of the current Organic Farm and as outlined in the detailed farm plan prepared in 2006 and 2007 and included in the appendix volume of the Master Plan, the evolution of this Education Center includes adding a food

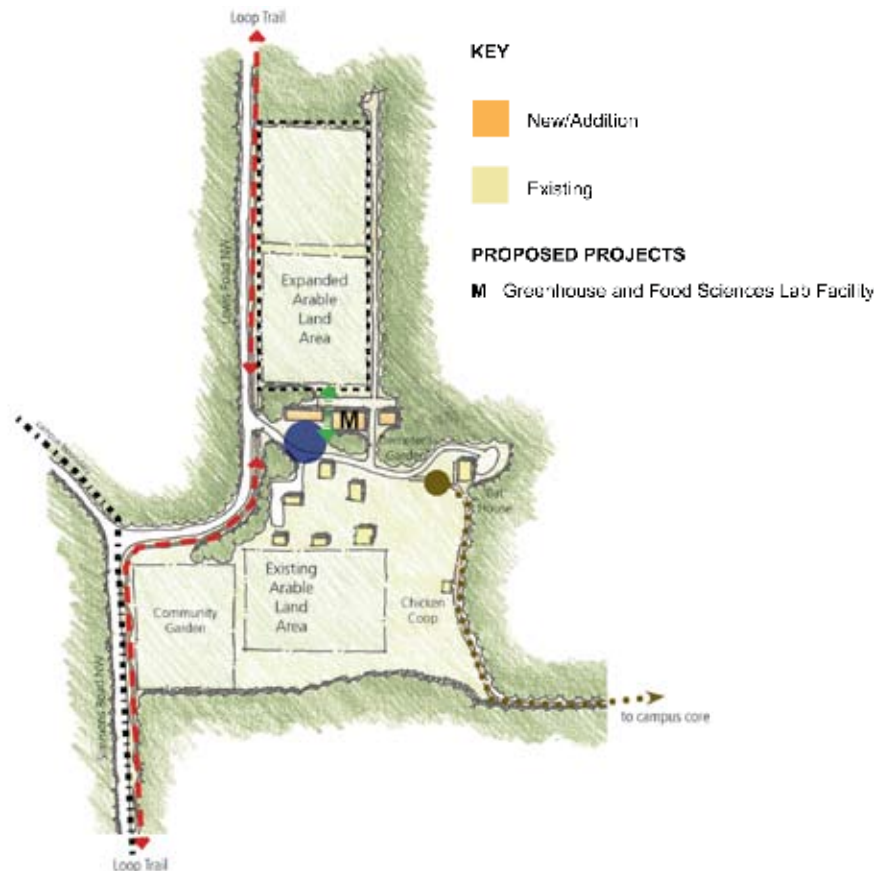


Figure 6.6. Diagram of organic farm configuration and additions.

production and sciences lab, animal barn, a green house and general storage facilities. Increasing arable land from about 4 to 9 acres is also critical to ensure the continued soil health of the farm. Although produce from the farm will continue to supplement the food needs of the campus and farmers markets, partnerships with area and regional farmers will be required to achieve greater food independence. Composting (excluding limited farm generated materials) and bio-diesel activities should be relocated to the Renewable Fuels and Waste Stream Education Centers as these activities are not directly related to the activities of the farm.

**Geoduck House**



Figure 6.7. Existing Geoduck House

The existing Geoduck House sits on a sensitive coastal site that will not easily accommodate increased activity. Envisioned as a retreat facility for small gatherings of faculty and students or other similar low impact groups, the renovated facility will focus on special uses and perhaps support recreational activities such as student-run kayak and canoe rental activities by providing storage and staging space. The facility renovation will incorporate sustainable features targeting carbon and waste neutrality and consist of only minor additions.

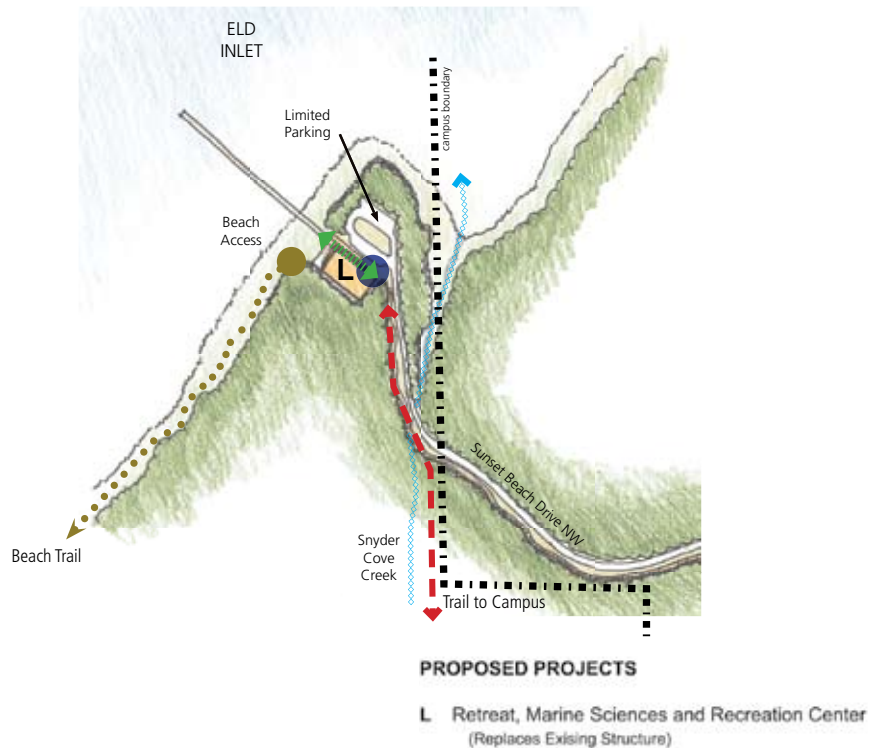


Figure 6.8. Diagram of Geoduck House .

**Terrascope Interdisciplinary Education Center**

The “Terrascope” (a structure with which to see the world) will augment the curricular needs of our environmental studies, visual arts, and creative writing programs. It will provide classroom, laboratory, and studio space surrounded by forest and other natural habitats. This structure will also provide access to the forest canopy in safe and non-destructive ways. An open pavilion, located at the beginning of the canopy walk, and descriptive panels provide a place for the community, student groups and other visitors to learn about the campus biomes and share in the experience of the continued monitoring of the forest. The minimal shelter and an adjoining flexible lab space is envisioned to support interpretive materials and be carefully integrated into its site to minimize the impact of the project from both a visual and environmental standpoint.

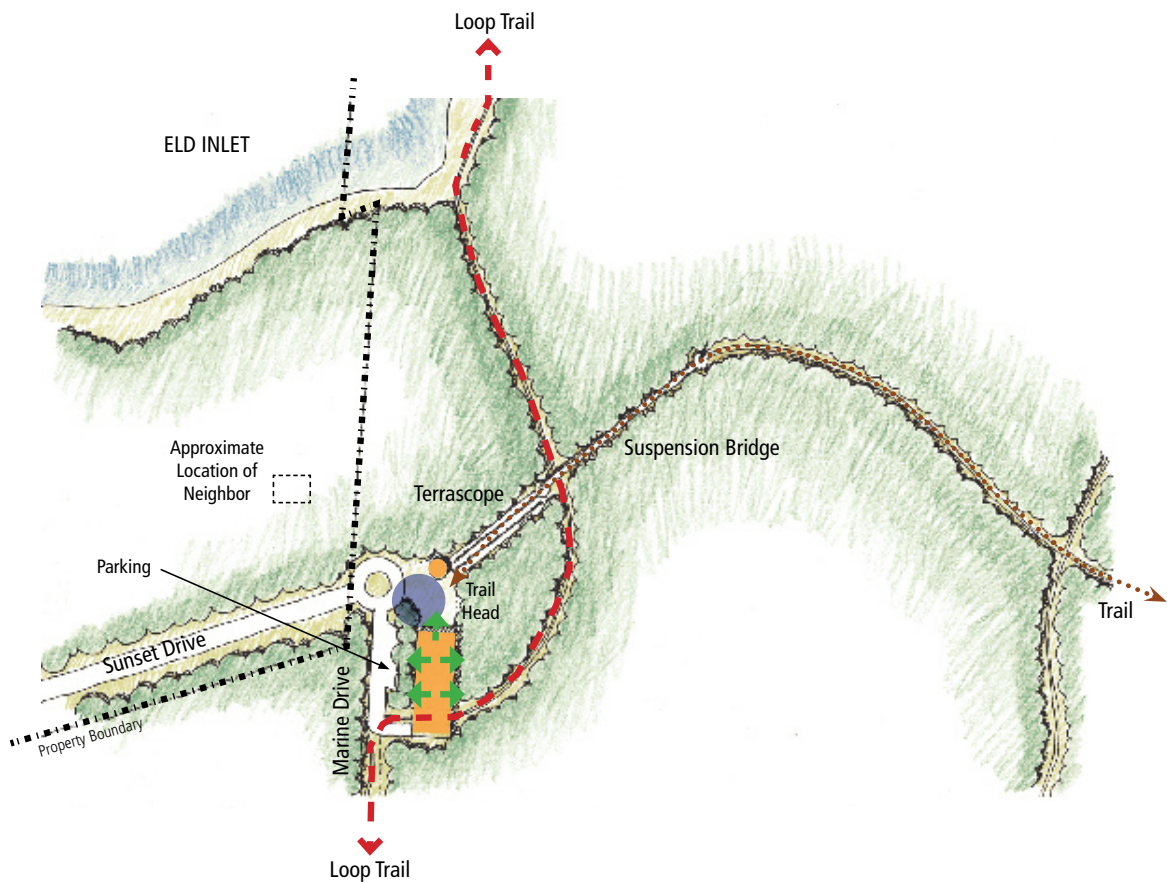


Figure 6.9. Proposed Terrascope education center.

**Grass Lake Art Walk/Forest Reestablishment Field Laboratory**

The Grass Lake Wetland Reserve is currently cut in two places by road corridors. This plan proposes the closure of Overhulse Place. The pedestrianized Overhulse Place corridor could become a field laboratory for both the study of forest reestablishment and an alternative venue for the display of art. The corridor could be divided into control and study parcels comparing managed and natural reestablishment processes. The proposed trail would allow art to be displayed in landscape in contrast to the natural environment.

### **Storm and Waste Water Monitoring Education Center**

Building on the existing campus system for treating storm water, this Education Center will allow for the monitoring of the flows and quality of water by developing the infrastructure into a visible system that exposes the way that storm water is managed on campus. Development of the center at the existing oil/water separators located adjacent to Driftwood Lane and between the 'soil farm' and parking lot 'F' will minimize the facilities needed and provide a location near the campus Core. This center will focus on exposing and describing existing systems and providing a platform for monitoring, measuring and testing strategies to address collected water run-off. This center could incorporate bioswales and living machine technology as a means of storm and waste purification and infiltration.

### **Alternative Energy Education Center**

Located at the Central Utility Plant and building on the extensive utility tunnel infrastructure, the Energy Education Center will allow the campus to innovate, monitor and evaluate how the campus heating and cooling needs are met. Replacing aging boilers with new technologies and system options provides the opportunity to implement forward looking solutions that student and faculty can monitor, measure and test to evaluate the effectiveness of different strategies and systems.

### **Solid Waste Stream and Renewable Fuels Education Center**

- Locate a Central Composting/Recycling facility at the current Maintenance Shops site. Limited composting at the Organic Farm will focus on the agricultural program, rather than on the campus-wide effort.
- Develop a Central Archive/Storage Facility at the existing Maintenance Shops site. This facility will provide space for long-term storage and the storage of large, bulky items, such as, furniture, equipment, projects, etc. The intention is to remove long-term storage functions from the campus Core to provide additional space for Core related functions.
- Develop a Central Distribution Center at the existing Maintenance Shops site. This will allow low-volume, non-bulky goods (e.g., vending machine stock, paper products, cleaning supplies, etc.) to be transferred to small, non-polluting vehicles for use within the campus.
- Create a Solar Farm at the current Maintenance Shops site to be used to power that site and charge small, electric vehicles used to distribute goods within the campus.
- As the College explores new fuel technologies for its fleet of vehicles, educational opportunities may present themselves. This center could feature a biodiesel production center, as well as a photovoltaic cell farm, and could support research as it pertains to efficiency and cost analysis.

## CIRCULATION

Facilitating easy, accessible and safe campus mobility is a priority of the planning effort. As the campus evolves, the ability to move easily among the Core facilities and around the campus Reserve areas must be better accommodated. A revised network of roads, paths and trails are proposed to support and link areas of the campus and connect to off campus networks.

### Road Management and Revisions

The character and natural environment of the Reserve will be enhanced by redirecting automobiles to the perimeter of campus. The vehicular rights-of-way within the campus are owned and managed by the College. These rights-of-way include: Evergreen Parkway, Driftwood Road, Overhulse Place, and Marine Drive. The following revisions are recommended:

- Convert Overhulse Place to a bicycle/pedestrian path. Three quarters of the traffic using Overhulse Place are College-related. Trips from the neighborhood for US 101 access are limited. The extra vehicle miles related to those trips are offset by the reduction in College-related trips. This road closure will reconnect the eastern portions of the Reserve with the rest of the campus and create an additional area of habitat restoration and reforestation.
- Limit traffic on Driftwood Road and Marine Drive west of Overhulse Road to campus related services and maintenance traffic, emergency vehicles and ADA parking access.
- Retain current public access to private waterfront homes via Lewis Road.

### Paths and Trails

A comprehensive network of paths and trails are envisioned as a way to connect all areas of the campus for pedestrians and bike users. As illustrated in the diagram, several types of trails are proposed. Most of the trails are proposed as being similar to the current McLane Trail and are intended to knit through the wooded landscape in a manner that minimizes impact to the forest ecology and landscape. The paths would provide a loop that builds upon existing trail components along Evergreen Parkway and adds connections to the campus Core and out to the Geoduck House and other Education Centers. Existing trails to the shore and farm within the Reserve areas would be enhanced but remain primarily earthen trails.

The majority of the campus was constructed prior to the adoption of current accessibility requirements. As a result it is recommended that particular attention be paid to resolving universal access challenges as buildings are remodeled and constructed. It will be important to focus on campus wide connection paths that may not be considered part of one project or another but rather link overall areas of the campus. More appropriate paving choices and attention to issues related to universal access on the campus will increase access to the College for people of all abilities.

Signage improvements combined with the creation of clear departure points from the campus Core to the Reserve trail systems are envisioned to aid in the visibility of the connections to campus features outside the campus Core.





Figure 6.10. Existing and proposed paths and trails.

**Public participation in restoration and maintenance projects.**

- 1. Teaching Gardens
- 2. Reforestation
- 3. Wetland Restoration
- 4. Connect to McLane Trail
- 5. Connect to Munro Conservation Easement
- 6. Huston Creek Salmon Habitat Restoration
- 7. Snyder Cove Creek Salmon Restoration

**Connect biomes across campus boundaries.**

- 8. Overhulse Wetland Preserve
- 9. Kaiser Preserve (Green Cove Wetland)
- 10. Paul-Leigh Conservation Easement
- 11. Munro Conservation Easement

**Public use of the campus features.**

- 12. Interpretative Canopy Walk
- 13. Interpretative/ Medicine Trail
- 14. Community Gardens.
- 15. Grasslake Wetland Art Walk (Unpaved Pedestrian Trail.)

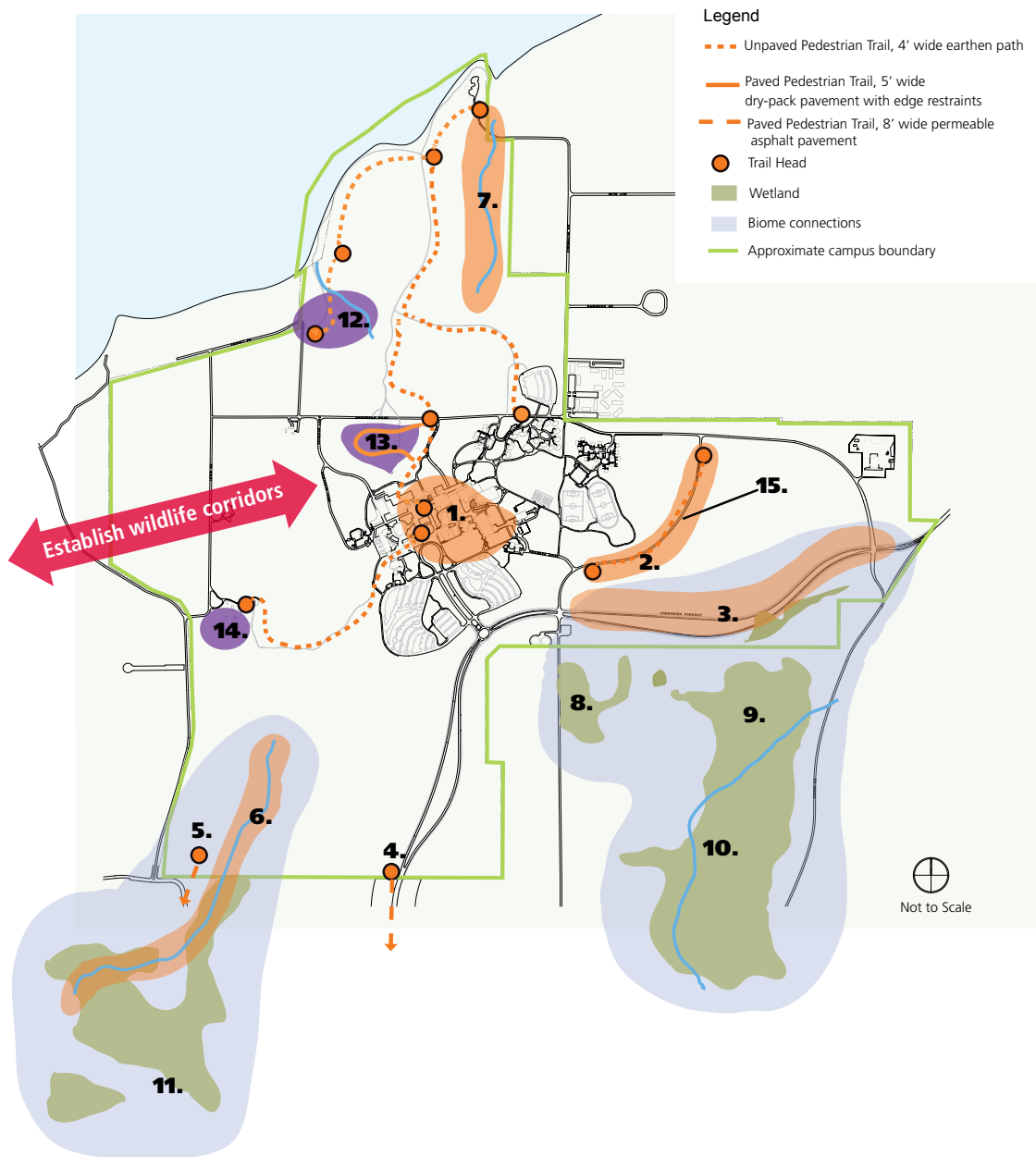


Figure 6.11. Environmental stewardship: encouraging sustainability and community partnerships.



Figure 6.12. Trails provide recreational and educational amenities to the College and the community.

## STEWARDSHIP

Engendering a sense of stewardship by the students, faculty, staff and surrounding community is seen as a powerful way to ensure that the unique environmental assets of the campus are preserved, managed, maintained and treasured for future generations. Currently, the large contiguous land area that makes up the Reserve areas of the campus represents a forest system that is being surrounded by suburban development as the City of Olympia and Thurston County populations grow. Through partnerships with state, county, community, and environmental organizations there may be opportunities to address regional trail, wildlife and environmental initiatives that leverage campus assets and connect the College to a larger set of regional goals.

Connecting to or creating initiatives that link the College and community allows the campus to play a greater community role and allows the creation of programs that encourage participation in the development and preservation of the ecological resources of the campus. Trail and wildlife corridor development and maintenance could be achieved through community volunteer programs not unlike the continuing and successful evolution of the neighboring McLane Trail.

The Reserve trail system and teaching gardens within the Core of the campus are utilized as educational and recreational resources by the College and community. Currently, the College's Grounds Crew manages all campus landscapes including the Reserve. Opportunities for the use of student and community volunteers to supplement campus crews encourages participation in the active management of the campus and establishes partnerships to outside organizations and non-profits interested in restoration, native planting and other related projects. A designated Reserve outreach role could be created to coordinate community involvement and help establish opportunities for desirable partnerships.

Research and evaluation are needed to compile data on regional biodiversity and regional planning goals to identify the College's potential conservation goals. Partnerships and collaboration with regional planning efforts, land trusts and existing corridors could help to develop ways to connect these potential corridor areas to the campus ecologies. Connections to the campus loop trail system and the McLane Trail would open a valuable community corridor that would facilitate alternate modes of transportation. Partnerships with existing land trusts, land conservation easements and preserves located near the College could forge educational opportunities for students and develop environmental solutions to increased development in the area.

Specific Master Plan concepts and recommendations are described below and are grouped based upon generalized campus locations. A prioritized list of the projects is included at the end of this section.

## PROJECTED NEEDS AND RATIONALE

The recent addition of the Seminar II Building in the campus Core was originally envisioned to accommodate the current and projected classroom needs in conjunction with a series of renovations to existing facilities. The subsequent renovations have not yielded all of the projected spaces and specific needs remain unfulfilled. This section documents spaces and features that have emerged as stated needs during the initial phase of the Master Plan process. The following generalized space categories briefly describe the understanding of stated needs.

### **Faculty Offices**

All existing faculty office space on campus is occupied. To support projected student growth of approximately 600 FTE and maintain a 1:20 faculty to student ratio, the College will need to plan for approximately 30 additional faculty offices to meet the need of the increased faculty. Faculty offices are currently distributed around the campus often with a purposeful mixing of disciplines. Due to the distributed nature of the offices on campus, additional offices could be accommodated as existing buildings are renovated, modernized and expanded. Additionally, new facilities should be programmed to include faculty office space.

### **Administrative Support Spaces**

Additional administrative space will also be required to support the growth in both students and faculty. To maintain the current 1:2 faculty to staff ratio, 60 additional staff will be required. At 250 gross square feet per person, 15,000 additional gross square feet will be required. Not unlike the faculty offices, staff space is anticipated to be distributed in both new and renovated spaces.

### **Faculty/Student Research Space**

A shift towards more research by faculty and students is creating a need for additional research focused space. Confirming effective use of existing research space will continue to be critical. Research space needs should be evaluated on a project by project basis.

### **Science Labs**

Science programs anticipate a continued growth in a 'field oriented and hands-on future'. This emerging focus requires more storage and set-up space specifically designed to provide easy access for the loading and unloading of field equipment and instruments. Existing labs are in high demand and expansion will be needed as related programs grow to meet demand. Facilities at the farm do not adequately support program needs. Addressing and improving the variety and flexibility of the lab types provided on campus has been a primary focus of the planning process and facilities to support these program needs are described later in the document.

### **Theater and Media Storage**

Focused on needs related to the Communications Building and anticipated to be addressed as the facility is renovated, the needs include provisions for adequate equipment storage and infrastructure improvements to accommodate increasing technology, performance lighting, and power demands. Performance continues to be a vital part of many programs on campus and is seen as a continued strength of Evergreen programs. Improving and providing adequate space for performance emerged as a top priority during the planning process and is reflected in the prioritization of the Communications Building Renovation project.

### **Design Labs (Homerooms)**

The number of large multipurpose, interdisciplinary, flexible spaces that provide students with project space is limited. With an increasing number of programs occurring over multiple quarters and that require 24 hour student access, the

campus has struggled to find appropriate spaces to support this important need. These project focused classroom lab spaces include:

- Painting studios – current number not adequate to meet demand
- Interdisciplinary studio labs providing project and lecture support space – ‘homeroom classrooms’ like the one added to the top of the Communications Building
- 3D studios for visual arts, environmental studies

### Student Hang-out Spaces

Creating attractive places for students to gather and meet is critical. Renovation of the CAB is anticipated to address some of this need at upper campus. Every effort should be made to ensure that student lounge spaces are included in all newly renovated or expanded facilities. This is an important element of creating an overall campus atmosphere that encourages students and faculty to interact and remain on campus beyond the set class times. Comfortable, technology connected and dispersed informal gathering spaces will contribute to the sense that the campus is an active, learning community setting. Essential to the improvements to hangout spaces will be a focus on improvements to Red Square and the creation of additional outdoor gathering spaces.

### Causal Learning Spaces

Opportunities on campus for quiet, solitary study are limited. Likewise, spaces for small group work sessions represent a growing need that is not accommodated as class assignments focus on team oriented projects and assignments. Both sorts of spaces should be included in the programming of all new buildings, renovations or additions. Emphasis should be placed on ensuring that there is adequate access to technology to create useful and highly functional spaces for study and interaction.



Figure 6.13. The Longhouse and the adjacent ethno-cultural garden are campus landmarks and focal points for Reservation-based programs.

**UPPER CAMPUS RECOMMENDATIONS**

Past campus planning principles encouraged compact development and preservation of the natural environment. Development has been ordered around a primary visual and pedestrian axis at McCann Plaza and a cross axis in front of the Library connecting the Longhouse with Lower Campus. Seminar II introduced a diagonal axis in the Core campus as a pedestrian spine. The Master Plan recommends a mirror of this diagonal axis and spine be extended into the west side of the campus terminating in a gateway space and creating an intimately scaled new plaza space.

The notion of making great exterior spaces that connect directly with interior spaces and functions – we call this ‘placemaking’ - is central to the concepts utilized in the plan. The master plan recommends the creation of a series of new and enhanced ‘places’ linked by visual and pedestrian axes. Three campus places are recommended for enhancement as pedestrian activity hubs: Red Square, East Campus Square, and West Campus Square. Under the Master Plan, new buildings are proposed to enhance each of these places.

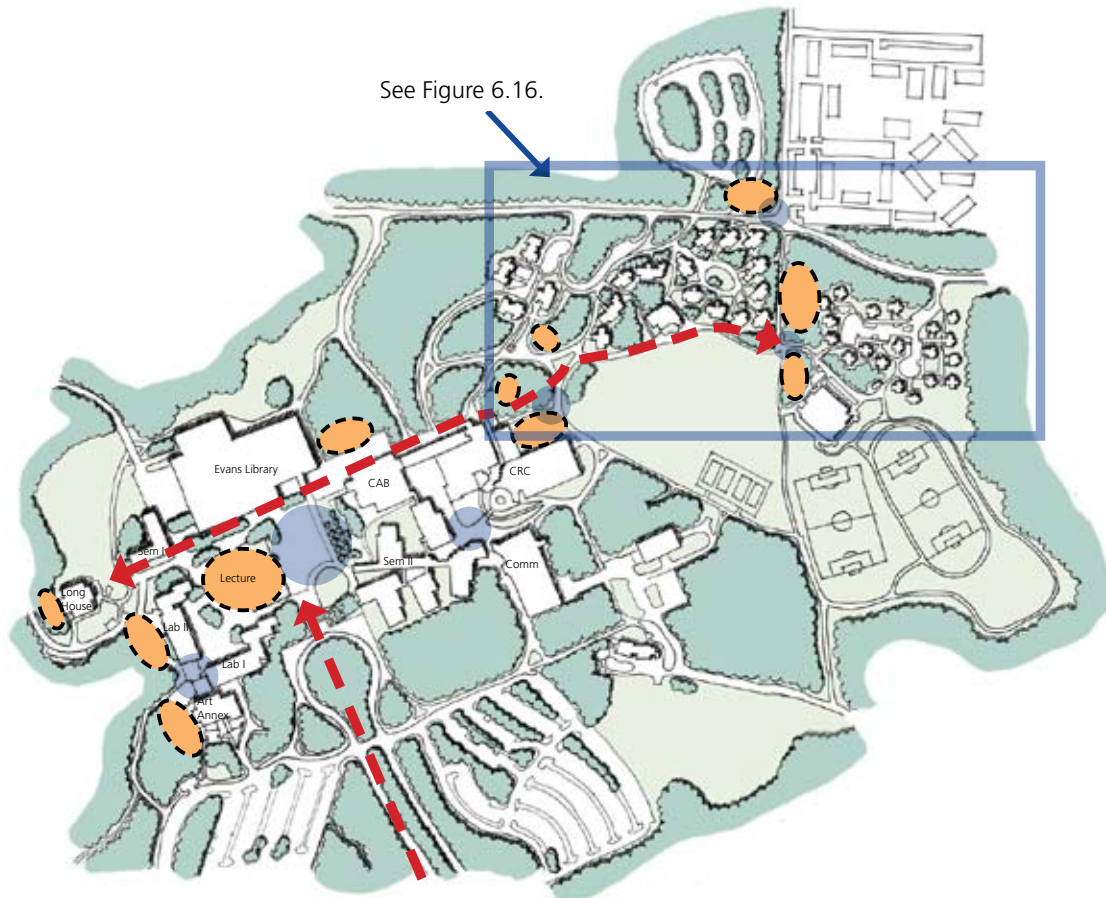


Figure 6.14. Upper and lower campus with proposed projects.

**PROPOSED PROJECTS**

- A Longhouse Addition
- B Interdisciplinary Lab Building
- C Interdisciplinary Lab Building
- D Lecture Halls Renovation/Expansion
- E Arts Annex Building Renovation
- F Seminar I Building Renovation
- G Communication Building Renovation/Expansion
- H CRC Renovation/Expansion
- I Interdisciplinary Lab Building



Figure 6.15. Upper campus proposed projects.

**PROPOSED ACTIONS, NEW BUILDINGS AND ADDITIONS**

**Red Square**

As defined in the original master plan, Red Square is the central gathering place for the College. In this role Red Square functions as a ‘great stage’ for campus activities and major graduation venue. However, Red Square was scaled for an institution expected to reach 12,000 students, rather than a 5,000 student liberal arts college. Red Square should be scaled down, made more accessible and integrated with surrounding land uses. Uses surrounding Red Square should

reflect the Mission and Strategic Plan of the College and interact with the public open space. Flexible, indoor/outdoor space should front on the square. Library and CAB activities should be encouraged to have greater transparency - visual connection - from and to Red Square.

- **Lecture Halls Addition:** Wrap the Lecture Halls with a flexible and highly transparent addition housing adaptable space for an interdisciplinary studio lab, campus environmental resource center, student display and break out spaces. Incorporate large glass doors and large covered outdoor spaces that allow spaces to be opened up for the sale of organic farm produce and to provide weather-protection during graduation. Reconcile the grade changes between the east and west portions of Red Square and provide ADA accessibility for the Lecture Halls.
- **Red Square Repaving:** Repave Red Square with new paving materials to create a pervious surface that is slip-resistant and sustainable.

### **East Campus Square**

The Seminar II café illustrates the potential of East Campus Square to be a popular gathering place on campus.

- **CRC (Campus Recreation Center) Addition:** Add an addition to the CRC that enhances the accessibility and wayfinding from the East Campus Square and lower campus. Inviting new entries fronting on East Campus Square and the athletic fields will be created as part of the addition. The addition will provide space for expanded recreation and wellness facilities and programs.
- **CAB renovations and additions** will be encouraged to add to the activity and vitality of East Campus Square. Potential improvements include expanded indoor/outdoor dining and the removal of the pedestrian bridge to open-up views, light and air to the square.
- **Communications Building Performing Arts Center Addition:** The Performing Arts Center Addition will provide and opportunity to enhance the relationship of the Communications to the East Campus Square and create a gateway to the campus from the parking on Lot C. The location of the addition to the Communications Building should be carefully studied to ensure issues related to access and campus proximity are addressed.

### **West Campus Square**

Mirroring the Seminar II axis on the west side of the campus Core creates and opportunity to create West Campus Square, a new gathering place on campus. New buildings developed west of Laboratory II and the Arts Annex will enclose and activate the square and create a gateway to the Organic Farm trail.

- **Interdisciplinary Lab Building I:** A classroom lab building will be added west of Lab II to accommodate classroom and multiple lab needs. Lab space will accommodate additional wet labs and a dirty lab that has a direct connection to an adjacent plaza area and easy loading access. This building will also include an interdisciplinary studio lab space and café fronting the square and an adjoining faculty lounge oriented to the west.



- Interdisciplinary Lab Building II: As the second interdisciplinary building and forming an integral part of the new West Campus Square, this facility will provide much needed 3D and art studio space. This building will also include an interdisciplinary studio lab, art display space, and space for faculty and staff.

### **Campus Gateways**

Gateways to upper campus should be created and enhanced at the following locations: 1) McCann Plaza (campus front door), 2) the Longhouse, 3) plaza at the new entry to the CRC on lower campus, 4) plaza at the new Interdisciplinary Lab Building on the west edge of campus, and 5) plaza at the Performing Arts Center addition to the Communications Building. New wayfinding systems should be developed to direct visitors to campus facilities including the Organic Farm, Geoduck House, the various Education Centers, gardens and trails.

The following is a summary of proposed new buildings and additions on upper campus. These facilities respond to the wish list of needs compiled from our meetings with the PUCs. This list should be reviewed and prioritized by the College community before becoming a final Master Plan recommendation.

### **Combined Maintenance Facility (Driftwood House)**

Consolidation of campus and Residential Services maintenance facilities closer to the campus Core in a Combined Maintenance Facility will enhance efficiency and sustainability. Relocation and consolidation will reduce vehicle miles traveled, improve access to campus service docks and loading facilities and allow facilities and equipment to be shared. The following is recommended:

- Relocate campus and Residential Services maintenance facilities to the Driftwood House site and develop shared maintenance shop, service and repair facilities. The Driftwood House site is proximate to both upper and lower campus.
- Relocate motor pool and maintenance equipment yard to the Driftwood House site and co-locate with Residential Services maintenance facilities.
- Enhance connections and wayfinding between the campus Core and the Driftwood House site to encourage pedestrian and bicycle access to the motor pool.

## **PROPOSED NEW BUILDINGS, RENOVATIONS AND ADDITIONS**

### **Longhouse Expansion (Project A)**

Total Square Footage: 1,800 gsf

Projected Uses:

- Research, Office, Gallery, Resource Display Space

### **Interdisciplinary Lab Building (Project B)**

Floor Plate: 16,500 gsf

Total Square Footage: 2.5 floors = 41,250 gsf

Projected Uses:

- Labs/Dirty Lab
- Flexible Interdisciplinary Labs
- Faculty Offices
- Faculty Lounge/Meeting Space/Coffee Bar

**Interdisciplinary Lab Building (Project C)**

Floor Plate: 16,500 gsf

Total Square Footage: 2.5 floors = 41,250 gsf

Projected Uses:

- Art and Science labs
- Flexible Interdisciplinary Labs
- Faculty Offices
- Art Studio/Gallery
- Extended Education Center (Special Project)

**Lecture Halls Renovation/Expansion (Project D)**

Floor Plate: 36,600 gsf

Total Square Footage: 1.5 floors = 54,900 gsf (31,261 SF addition and 23,639 SF renovation)

Projected Uses:

- Gallery and Breakout Space
- Flexible Interdisciplinary Labs
- Lecture/Seminar Space
- Faculty Offices
- Center for Sustainability
- Campus Information and Tours

**Arts Annex Building Renovation (Project E)**

Floor Plate: 9,126 gsf

Total Square Footage: 3 floors = Approximately 27,377 gsf

Projected Uses:

- Renovated/Updated Studio Art Labs
- Renovated/Updated Studio Art Shops
- Renovated/Updated Flexible Interdisciplinary Labs

**Seminar I Building Renovation (Project F)**

Floor Plate: 11,227 gsf

Total Square Footage: 4 floors = Approximately 44,909 gsf

Projected Uses:

- Campus Police Services Offices
- Campus Health Services Offices
- Renovated Classrooms
- Faculty Offices
- General Campus Administrative Offices

**Communication Building Renovation/Expansion (Project G)**

Total Square Footage: 59,825 gsf (addition only)

Projected Uses:

- Performance/Lecture Space
- Conference Programs and Receptions
- Flexible Interdisciplinary Labs
- Faculty Offices
- Communications Building Renovation and Expansion Predesign Study, July 2002

**CRC Renovation/Expansion (Project H)**

Floor Plate Addition: 40,500 gsf

Total Square Footage Addition: 1.5 floors = 60,750 gsf (addition only)

Projected Uses:

- Exercise, Recreation and Wellness Center
- Cafe, Lounge and other student life amenities
- Entry Lobbies and improved circulation

**Interdisciplinary Lab Building (Project I)**

Floor Plate: 16,500 gsf

Total Square Footage: 2.5 floors = 41,250 gsf

Projected Uses:

- Performance Spaces
- Flexible Interdisciplinary Labs
- Gallery/Display
- Faculty/Staff Offices

**LOWER CAMPUS RECOMMENDATIONS**

The goal of making The Evergreen State College a residential liberal arts college adds new opportunities and potential for lower campus. Notions related to 'placemaking' and community building are central to the long term strategy. Making the campus an attractive place to live and where there is easy access to basic amenities emerged as primary goals in shaping the thinking about the vision for the lower campus. The goal is to add housing to achieve the goal of providing on-campus housing for 33% of the students and some faculty housing.

Working with the assumption that the projected 2020 enrollment will equal 5,000 FTEs and with an on-campus residential student population target of 33% of the total student population, the campus needs to plan for approximately 1,650 beds. Assuming demolition of the modular housing, the existing bed count totals approximately 907 beds. Therefore, new housing will be needed to provide approximately 743 beds by 2020.

**Concepts**

- Create a suite-style, eco-village housing option attractive to students desiring to live an outwardly sustainable life-style.
- Develop unique and attractive rental housing for faculty to assist in recruiting national and international instructors to meet the Mission and Strategic Plan of the College.
- Create retail opportunities within convenient walking distance to student housing, adding to the 24/7 activity and vitality of campus.
- Focus retail at a location visible from the Overhulse Road and Driftwood Road intersection, the "side door" of the campus and connection to off-campus housing.
- Expand the CRC to create an inviting entry oriented to campus housing and add easily accessible recreational options.
- Develop a Fieldhouse Pavilion Expansion to provide additional recreation and conferencing opportunities.

- Convert offices on the third floor of Residential Building A back to dorm rooms and add Quad-style housing to expand the number of rooms available for freshmen.
- Replace the Modular housing with apartments or suite-style residential options to create a more compact campus community.
- Strengthen the east/west connections between upper and lower campus, providing a wide, well lit, accessible pedestrian and bicycle path.
- Emphasize the development of sheltered outdoor gathering spaces that connect directly with renovated, expanded or new facility developments.
- Create gathering place at the proposed entry to the expanded CRC as a gateway to upper campus.
- Reactivate student-operated food services in the HCC.

The following specific projects are proposed to address the needs of the lower campus area:

#### **Quad Dorm Expansion (Project J)**

Total Square Footage: varies

Projected Uses:

- First and Second Year Housing

#### **Driftwood Suites Housing (Project K)**

Total Square Footage: varies

Projected Uses:

- Local retail space
- Student/Married Student Housing
- Potential Faculty Housing
- Visiting Scholar Housing

#### **Modular Replacement Housing (Project L)**

Total Square Footage: varies

Projected Uses:

- Replaces Modular Housing
- Higher Density Housing
- Eco Village Location

#### **Fieldhouse Pavilion Expansion (Project M)**

Total Square Footage: 13,000 gsf

Projected Uses:

- Field House activities – lockers and team rooms
- Sport Camp and Conference Services
- Light catering and flexible meeting spaces

### **Housing Options**

The following three options illustrate opportunities to meet future on-campus housing needs. All three options replace the existing Modular housing and add to the Fieldhouse to provide expanded recreation and convention facilities. In all cases parking demand is accommodated through the use of the modified Lot F

supplemented by remote parking that utilize excess capacity located in the existing little 'B' portion of Lot B. The options are as follows:

**Option 1**

Additional quad-style housing, retail/married student/faculty housing; new suite-style and more "Soup" housing (the existing apartment-style units named for alphabet soup).

Option 1 will add two additional Quad-style buildings (100 beds each) enclosing a courtyard to accommodate additional freshmen. Suite-style and "Soup"-style units (408 beds) will be developed on the Modular housing site. Retail, married student housing (135 beds) and faculty housing (18 units) will be built on Lot F at the intersection of Overhulse Road and Driftwood Road. Lot F will be reconfigured to maintain current capacity and screened from the housing by landscaping.

**Option 2**

Additional Quad-style housing; retail/faculty cottage housing; new suite style housing (Eco-Village).

Option 2 will add four additional Quad-style buildings (400 beds) enclosing courtyards to accommodate underclassmen. New suite-style housing (Eco-Village) will be developed on the Modular housing site to appeal to students seeking a

- KEY**
- New/Addition
  - Existing

**PROPOSED PROJECTS**

- J** Additional Quad Style Housing
- K** Retail/Married/Faculty Housing
- L** New Suite Style Housing
- M** Fieldhouse/Conference Facility



Figure 6.16. Housing option 1.

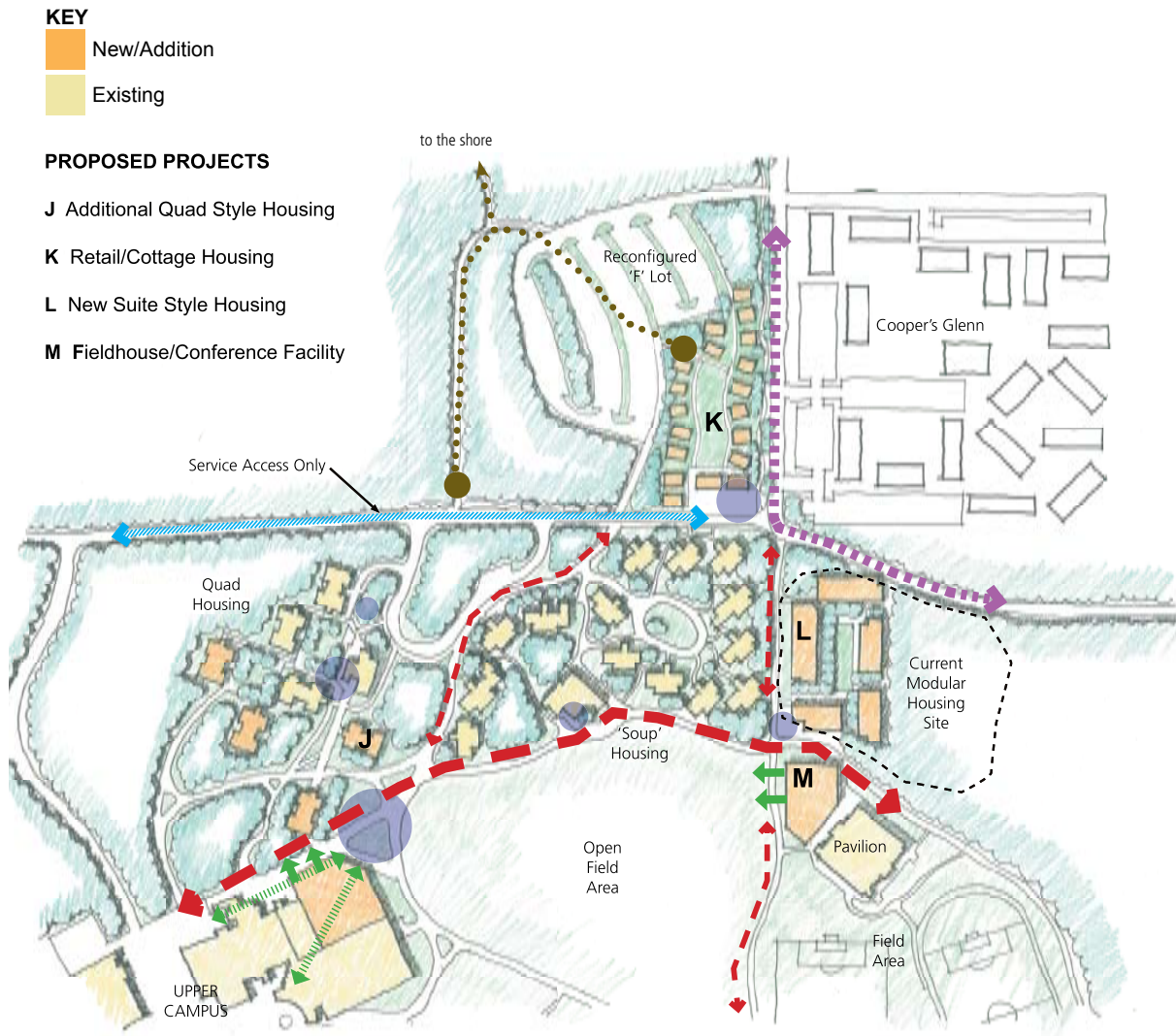


Figure 6.17. Housing option 2.

**KEY**

- New/Addition
- Existing

**PROPOSED PROJECTS**

- J** Additional Quad Style Housing
- K** Retail/Married/Faculty Housing
- L** New Suite Style Housing & more Soup Housing
- M** Fieldhouse/Conference Facility

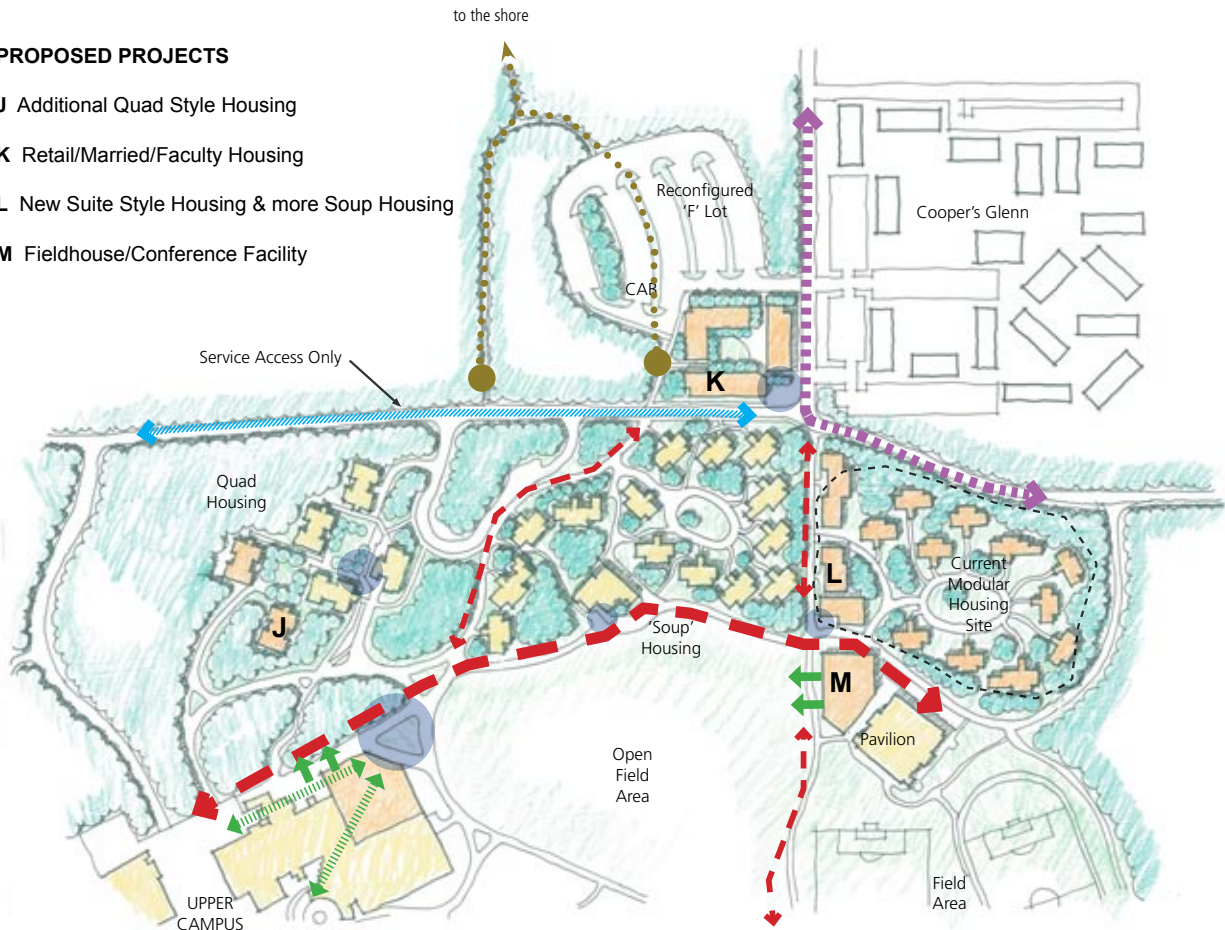


Figure 6.18. Housing option 3.

sustainable life-style (343 beds). Retail with cottage-style faculty housing (18 units) will be built on a portion of Lot F at the intersection of Overhulse Road and Driftwood Road. Lot F will be reconfigured to maintain current capacity and screened from the housing by landscaping.

### **Option 3**

Additional Quad-style housing; retail/married student/faculty housing; new suite style housing (Eco-Village).

Option 3 will add two additional Quad-style buildings (100 beds each) enclosing a courtyard to accommodate additional freshmen. New suite-style housing (Eco-Village) will be developed on the Modular housing site to appeal students seeking a sustainable life-style (408 beds). Retail, married student housing (135 beds) and faculty housing (18 units) will be built on F Lot at the intersection of Overhulse Road and Driftwood Road. Lot F will be reconfigured to maintain current parking capacity and screened from the housing by landscaping.

## **OTHER RECOMMENDATIONS**

In addition to the projects located at the campus Core, there are several additional projects that round out the recommendations. Listed below are the projects intended to support several of the education centers located outside the campus Core. These projects are equally as important to the continued success of the campus and support the variety of programs and needs that add to the diversity of experiences offered by the College and include:

### **Geoduck House Renovation (Project N)**

Total Square Footage: 5,000 gsf

- Renovation/Update existing facility for small retreats
- Limit uses to minimize environmental impact

### **Organic Farm Lab Facility (Project O)**

Total Square Footage: 12,000 gsf

- Food Grade Teaching Lab
- Greenhouse
- Equipment Storage

### **Terrascope Interdisciplinary Education Center (Project P)**

Total Square Footage: 12,000 gsf

- Flexible Interdisciplinary Labs
- Forest Canopy Studies Lab
- Marine Studies Lab
- Equipment Storage
- Community Education Resource Center

### **Combined Housing and Campus Facilities Maintenance Building (Project Q)**

Total Square Footage: 12,000 gsf

- Housing Maintenance Offices
- Campus Maintenance Offices
- Maintenance Vehicle Parking
- Maintenance Shop Space
- Maintenance Material Storage



**Faculty Housing**

Strong support for on-campus faculty housing was expressed during the master planning process. Faculty housing provides the following opportunities:

- Provides a recruitment tool for new and visiting faculty
- Encourages faculty and student interaction
- Supports sustainability goals by reducing commuting trips
- Adds to the walk-in market for on-campus retail
- Allows faculty to experience Evergreen’s unique environment
- Expands the inventory of affordable housing for faculty
- Provides transitional housing for newcomers to the community
- Provides temporary housing for visiting faculty and scholars

As the land for the housing would be state-owned, it was assumed that the housing would be rental, rather than owner-occupied. A small quantity (approximately 18) of detached units (cottage-style) or townhouses was envisioned. A number of potential locations were identified, including:

- Lot F (northwest corner of the intersection of Driftwood and Overhulse Road)
- Kifer Homestead site (west of the Organic Farm)
- Fireweed Lot (south of the Athletic Fields)
- Driftwood and Evergreen Parkway (northeast corner of the intersection of Driftwood and Evergreen Parkway)

Some faculty preferred faculty housing sites close to the campus Core, while other faculty preferred sites that were remote. It is assumed that one or two sites might be developed.

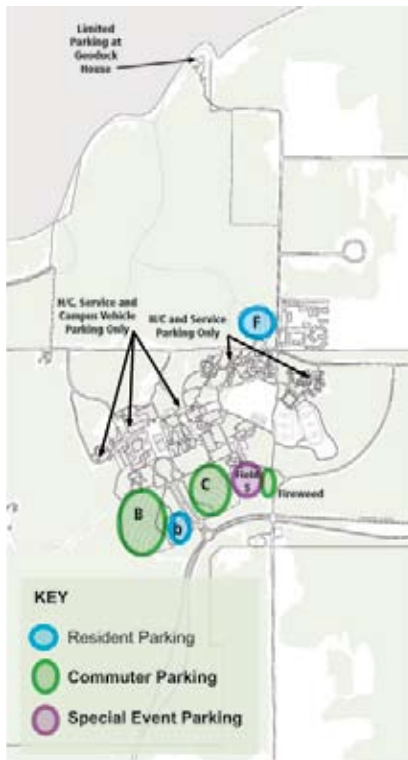


Figure 6.20. Existing parking on campus. Existing campus parking can support an increased student population.

**TRANSPORTATION ENGINEERING RECOMMENDATIONS**

**Transit Service Improvements**

Centralizing access to the existing 41 and 48 bus routes at McCann Plaza will reduce transit vehicle miles traveled and increase transit service hours. Expanding jitney service and late night and weekend public transportation options serving lower campus, will reduce automobile usage. The following revisions are recommended:

- Consolidate the transit stops for the 41 and 48 routes at McCann Plaza. Eliminate Driftwood/Overhulse Place loop, while retaining stops on Evergreen Parkway.
- Vans to provide jitney service and expanded late night and weekend public transportation options at the Driftwood Road transit stop proximate to student housing.

**Opportunities to Reduce Vehicle Use and Carbon Emissions**

While the campus can physically accommodate parking and traffic increases associated with enrollment targets, its goal to achieve carbon neutrality necessitates new measures to reduce transportation related energy use. A comprehensive, campus-wide Transportation Management Plan will be essential to realizing energy and carbon reductions. Components of the plan would include:



Figure 6.19. An Evergreen double decker bus could increase efficiency of trips to and from campus.

1. **Reducing the number of autos used for commuting.** Suggested targets for reducing single-occupancy vehicle are a 10% reduction in use by faculty and staff and a 20% reduction by commuting students. To do this requires:

- a. Raising the cost to park on campus. Significant increases would be needed. Experience at a variety of universities indicates that demand will drop about 1% for each 10% increase in parking price. To achieve a 10% reduction in demand would require Evergreen to raise its rates to \$225 per academic year (up from \$90 now for fall/winter/spring). Even at this amount, parking would cost staff no more than a transit pass. To be most effective, parking should cost more than a transit pass.
- b. Increasing transit service to reach more potential riders and simplifying routes to reduce travel time. For example, preliminary information indicates a number of staff living in the Lacey area who might benefit from direct bus service instead of transferring downtown as is currently required to reach campus. A direct route could reduce total travel time from just over 1 hour to approximately 30 minutes. Also, demand for service from areas not currently served by public transit such as the Steamboat Island Peninsula should be investigated for appropriate types of service. One option would be for Evergreen to operate vans, also called jitneys, on key roads that could be hailed by students, staff or faculty for rides to and from campus during designated hours. Such custom van service could also provide student employment. This type of service would broaden transit options for resident students and faculty.
- c. Maximizing rideshare services with ridematching for carpools and vanpools. Ridesharing already occurs at fairly high levels but it may be possible to assist more people to form a car or vanpool with targeted ride-matching.
- d. Ensuring the availability of fuel-efficient on-campus College vehicles for non-commuting trips.
- e. Encouraging on-campus bicycle use by exploring pilot programs for bike sharing.
- f. Promoting bicycle commuting by partnering with suppliers to provide major discounts on bicycle purchases by College students, faculty and staff.
- g. Improving bicycle access to campus. Filling in gaps in the bike trail network would increase cycling safety and convenience for more people. Important segment include completing connections to the McLane trail, and creating better connections along Mud Bay Road, Harrison, Division and Cooper Point Road.

2. **Use more fuel efficient vehicles and encourage use of alternative fuels.**

Evergreen's drivers already use a fleet more efficiently than the national average (according to findings by the Sustainability Task Force), yet additional efficiencies can be encouraged through incentives either to acquire or use vehicles with greater fuel efficiency and those that allow use of alternative fuels. A goal would be to encourage a 10% increase in efficiency.

3. **Use More Efficient Fleet Vehicles.** The current but limited use of smaller, electric vehicles for maintenance and security functions should be expanded to serve the majority of those trips on campus. Police vehicles could be downsized and supplemented by hybrids for off-campus trips. Greater use of bicycles and

electric carts and scooters for patrols is also recommended. Smaller, quieter vehicles are also more compatible in primarily pedestrian areas such as Red Square and on main walkways.

4. **Investigate central receiving and distribution for vendors' products.** As with maintenance and security vehicles, too many large trucks and vans now enter pedestrian areas to deliver beverages and other goods. By consolidating truck deliveries at existing loading docks and then distributing goods using electric carts, the delivery system can better maintain a pedestrian atmosphere, reduce noise and minimize fuel consumption.

5. **Shorten the distance each auto travels.** Creating park and ride lots for campus commuters would reduce the number of vehicle miles traveled for each trip to and from campus. Remote lots need to be located near major travel corridors such as US 101, I-5 and major arterial streets. Potential locations for park and ride lots include the west end of Mud Bay Road near Madrona Beach Road, the vicinity of the Westfield Capital Mall, and potentially the existing Lacey Park and Ride lot (assuming its expansion). Such locations allow a convenient point to park commuter vehicles from the west, south and east. Based on available information, it is estimated that from 925 to 1,000 remote spaces in total would be appropriate, assuming that some staff and students would still need to park on campus occasionally, as would visitors and resident students. Each location would need approximately 250 – 400 spaces (more precise figures would be determined through more detailed surveys of travel patterns). These locations would reduce daily vehicle miles of travel by about 40% (currently, commuters drive an average of 13 miles each day, and these locations would shorten the trip total by approximately 6 miles). Dedicated buses such as a double-decker bus would shuttle commuters between the remote parking lot and the campus. Buses should arrive frequently, at a minimum every 10 minutes and preferably every 5 minutes. Such buses could operate on bio-fuels or natural gas to reduce carbon and other emissions. It is estimated that 6 buses would be needed to serve three park and ride sites.

Table 6.1 shows the range of emission reductions possible with the implementation of the above transportation management actions. Significant reductions could be achieved through aggressive action, but such results can only be realized through a coordinated set of policies addressing the cost of parking, the provision of convenient commuting options, and greater fuel efficiency and fuel flexibility in the vehicles used.

	EXISTING	FUTURE (5,000 ENROLLMENT)	CHANGE OVER EXISTING
<b>Current Policy</b>	5,027	5,258	4.6%
<b>Minimal Action</b> SOV Reductions: -10% Staff; -20% Students		4,519	-10.1%
<b>Moderate Action</b> Above, plus 10% More Efficient Vehicles		4,108	-18.3%
<b>Maximum Action</b> Above, plus Park & Ride		3,540	-29.6%
<b>Maximum Action – with Biodiesel</b>		2,989	-40.5%

### Parking Can Help Pay for New Transportation Services

Increases in parking fees not only reduce parking demand but they can generate substantial new revenue to pay for additional transit services. As previously noted, the current parking system operates at a deficit considering its debt obligations. Even with the proposed 25% fee increase, revenue will only just meet the total obligation, leaving little surplus. The increase, while necessary, barely lifts parking rates to a level that would influence demand. Table 6.2 presents the range of revenue that could be generated from parking rates that equal or exceed the monthly cost of a transit pass.

TABLE 6.2 POTENTIAL PARKING REVENUE				
	2006	2008	2008 OPTION A	2008 OPTION B
REVENUE	ACTUAL	PROJECTED	PARKING PERMIT EQUALS TRANSIT PASS COST	PARKING PERMIT EQUALS TRANSIT PASS COST + 25%
Permits Sold	\$165,663	\$214,000	\$378,647	\$ 447,709
Daily Revenue	\$142,846	\$237,200	\$325,689	\$ 485,676
Infractions	\$ 96,351	\$115,000	\$104,000	\$ 98,375
Total Revenue	\$404,860	\$566,200	\$808,335	\$1,031,760
Expenses	\$416,467	\$451,000	\$451,000	\$ 451,000
<b>Net Revenue</b>	<b>\$ (11,607)</b>	<b>\$115,200</b>	<b>\$357,335</b>	<b>\$ 580,760</b>
Debt Service Interest (on Deficit Balance)		\$ (7,000)	\$ (7,000)	\$ (7,000)
Debt Service Principal & Interest		\$ (72,299)	\$ (72,299)	\$ (72,299)
Funds Available for Other Uses		\$ 35,901	\$278,036	\$ 501,461

Notes:

1. Higher parking rates expected to reduce demand by 5% & 15% for Options A and B, respectively.
2. Repayment of Interfund loan created an account deficit for which additional monies were borrowed accruing additional interest.

### Subsequent Planning and Analysis

As Evergreen pursues its goals of carbon neutrality and evaluates options to meet those goals, the College will need to develop its own internal surveys to get reliable and sufficiently detailed information to plan for and monitor the effect of new transportation services. For example, it will become extremely helpful to map the residential locations of bus riders, carpoolers, bike riders and drivers to identify new service opportunities tailored to their needs. Basic patterns can be identified while protecting individual privacy and the confidentiality of personal information. Also, greater specificity can be achieved in determining the mode of travel by asking for the mode used on specific days rather than asking for the mode 'typically' used.

## **ELECTRICAL ENGINEERING RECOMMENDATIONS**

### **Power Distribution System**

The existing campus 12.5kV power system cables have been tested and are in good condition. The system also has capacity to handle the expected future growth of the campus for the next ten years.

Original switchgear and panel boards in the 1970's era buildings are at or beyond their expected usable life. Evergreen has periodically tested and maintained this equipment but has experienced problems finding replacement breakers and parts for this equipment. Additionally this equipment was installed prior to AIC (Ampere Interrupting Capacity) ratings for gear. Recommend replacing electrical distribution equipment as a part of building addition and renovation projects.

Part of the sustainability energy savings recommendation would be to replace existing dry type transformers (480 volt to 120/208 volt) with new energy efficient type transformers as a part of building additions or renovations.

Monitoring of the power system would provide valuable information on energy usage. Metering of loads such as large mechanical units and lighting would allow the college to identify problems with mechanical and lighting control system, maximize energy savings and prioritize system improvements.

On-site power generation such as co-generation, wind and solar are currently not cost effective. These systems are in a period of major development and in the next few years the payback period will make some or all of these systems feasible. In the mean time small scale demonstration projects are useful for educational purposes and could make sense for the College.

### **Interior Lighting**

Lighting in many of the buildings on campus is very inefficient and does not create a comfortable environment. The replacement of existing recessed acrylic and parabolic lens type fixtures with pendant direct/indirect fixtures with electronic ballasts and T5 type lamp would greatly reduce energy consumption and provide a much better working environment. Newer light fixture reflectors designed around the T5 lamps allow for greater distance between fixtures and reduction in the number of fixtures and lamps. Note many local power companies have payback incentive programs to help offset the cost of fixture replacements (for example Puget Sound Energy).

New lamp technologies such as the development of an array of fixtures using LED (Light Emitting Diode) lamps have potential of greater energy efficiency and reduced maintenance. Recommend that these technologies be evaluated for use in replacement or future projects.

### **Exterior Lighting**

The campus standard area lighting pole fixtures do not meet LEED (Leadership in Energy and Environmental Design) dark sky cut off requirements. Replacement of these fixtures with high cut off type light distribution is recommended. Fixtures installed as part of the Seminar II project should be reviewed for use as replacement fixtures. Additionally many of the building or canopy mounted fixtures are not energy efficient. Replacement of these fixtures with lower wattage, better light distribution fixtures works with sustainability goals.

### **Interior Lighting Controls**

On average, lighting loads make-up 25 to 30 percent of a building's energy consumption. More energy efficient lighting fixtures are part of the overall strategy to reduce energy use. In addition, lighting controls such as motion sensors and zoned switching can double the potential energy savings.

Currently much of the existing lighting system on campus is controlled by local switch controls. This means lighting in toilet rooms, classrooms and offices are generally left on for hours when the rooms are unoccupied. Providing automatic on/off controls such as occupancy sensors ensure lights are not left on when a room or space is not occupied. Public areas where it is not desirable to have fixtures going on and off via motion sensor such as corridors would benefit from a programmable lighting control system to automatically turn on and off the fixtures on a daily schedule.

Using natural daylighting strategies provides the greatest opportunity for energy savings. Many new daylighting control systems are on the market. Typically these use photo cells to control dimming ballasts in the light fixtures. Dimming the lights is much less disrupting to users than turning on and off lamps. Dimming also gives the user much greater control of lighting in a space. Savings can be as high as 50 percent.

### **Exterior Lighting Controls**

Photo cells currently turn on the campus exterior fixtures at dusk and off at dawn. There are many hours where the lights are on with few or no one in many of the areas. Control systems that time the fixtures to 50% at a set hour and use motion sensors to bring fixtures back up to 100% would save energy and provide for personal safety.

Although many of the listed strategies are common energy saving approaches today, it often takes careful coordination and a continued focus to ensure that the systems are not only ultimately included in a project but also are fully realized in workable solutions.

## **TELECOM/DATA RECOMMENDATIONS**

Existing telecommunication equipment rooms in much of the campus are too small and should be replaced with dedicated rooms that meet ANSI/TIA/EIA standards. Adequate equipment rooms should be incorporated into the programs as facilities are renovated.

Wireless LAN (Local Area Network) system coverage has been installed to the B&C wings of Library. Currently the A wing of the Library is under renovation and wireless LAN coverage is being added. The pre-design for the CAB renovation has wireless coverage identified. It is recommended that the wireless network be expanded to cover exterior spaces around buildings, plaza area and all existing and new buildings.

Existing telephone exchange (Private Branch Exchange (PBX)) equipment can not support changing to a VOIP (Voice over Internet Protocol) type telephone system. It is recommended that the benefits of a VOIP system be explored when it is determined that the existing PBX system needs replacement.



Figure 6.21. Wind turbines, solar panels, green roofs and other sustainable features are learning opportunities and help support campus sustainability initiatives.

## MECHANICAL ENGINEERING RECOMMENDATIONS

The Evergreen campus has an excellent infrastructure consisting of the Central Utility Plant (CUP) and main utility tunnels that connect to the 11 main campus buildings. Both the CUP and the tunnels were built to serve a campus of approximately 12,000 students. The current campus population is in the low 4,000's. It therefore makes economic and logistical sense to continue to utilize this infrastructure, as it has plenty of space for growth and change, with very little capital investment in the infrastructure itself.

The service life of the equipment varies throughout the campus. In general, the mechanical systems have been well maintained and are in good condition. Much of the existing HVAC equipment has gone beyond its expected service life, as defined by ASHRAE and technically should be replaced. Service life for the type of equipment found in these buildings is generally in the 20-25 year range. However, many pieces of equipment are still in excellent condition and have had service upgrades to extend their life. The main air handlers in the buildings are generally in good condition and should remain. These units are built-up systems and can have pieces replaced as they wear out. The piping in the tunnels appears in excellent condition as well and can be retained depending upon its particular service. The chillers in the CUP are new or near-new and have had control and service upgrades in the recent past.

The major exception to the above observations is the boiler system. The main, large boilers have exceeded their life expectancy, and have control components that are extremely difficult to replace and maintain. However, the smaller boiler used in the summer is in excellent condition and could be retained.

The other primary factor when evaluating the equipment is efficiency. The existing heating equipment, at its most efficient when new, was approximately 80%. This is at the peak of the heating season with the boiler running at 100% capacity. This type of boiler does not operate very well at part-load, which accounts for the majority of our heating season. In addition, as noted in the boiler section above, these boilers are run at lower than designed for pressures, further limiting their efficiency. The inefficiencies of the steam system were previously outlined. Nearly all of the existing air handlers currently have hot water coils, to convert the steam at each building into hot water for heating purposes. Converting the existing steam to hot water system into an all hot water system, with new, more appropriately sized, high efficiency boilers with modern controls located in the CUP would greatly improve the overall energy efficiency of the building heating systems.

Concurrently, converting the domestic hot water system from a central plant supported function into a distributed, point of use type hot water heater network will also greatly improve the efficiency of this campus system. This type of system could also be tied into rooftop solar thermal systems on each building that could provide some or all of the domestic hot water heating needs. The exception to this recommendation is the CRC and CAB, which have high domestic hot water loads. Further investigation would be required to determine what would be the most efficient domestic hot water system replacement for those particular buildings.

The chillers and chilled water piping appears to be in very good condition, and well insulated. This system also appears to be adequately sized, and does not suffer from gross inefficiencies. Some savings can be seen through certain control and piping revisions that have been identified in previous studies.

The existing controls are in generally good condition and can adequately control the majority of the campus systems. However, a more thorough evaluation of the controls would be necessary to fully determine what measures would be required in order to maximize the efficiency of the current mechanical systems.

### Heating and Cooling Recommendations

- Continue to utilize a central plant and utility tunnel approach – provides potential economies and builds on the more than adequate tunnel infrastructure.
- Replace existing boilers with multiple smaller boilers connected in series – boilers are either on at full capacity (most efficient mode) or off.
- Change the heat delivery method of the system from steam to looped hot water.
- With the exception of the CAB and CRC, remove the heating of domestic hot water from the central plant and localize into instant-on systems. The pool, shower and kitchen functions of the CAB and CRC could still be efficiently handled by the central plant.
- As facilities (Education Centers) develop outside the Core, focus on renewable and localized systems targeted as carbon neutral and combine solar, photovoltaic and wind options.
- Explore partnerships with GE, Westinghouse and others to use the campus as a test facility for innovative power plant initiatives, such as the use of multi-fuel energy generation plants.
- Study the viability of ground source geothermal heat pump systems that utilize well fields under the athletic fields.

Most plumbing fixtures could be retained, but with new faucets and flush valves. Some fixtures would need to be replaced due to age, lack of ADA units and inefficiency. If bathrooms are to be re-configured or updated, we recommend replacing all plumbing fixtures with more water efficient or waterless type units. Existing domestic water piping would need to be further evaluated. It is most likely that the majority of water pipe is copper pipe and does not need replacement in the near future.

The fire protection system will most likely only need revisions to accommodate any new space configuration. Existing heads would need to be replaced with fast action heads. The buildings would need to be evaluated to determine if there are any areas that are currently not sprinklered that need to be under today's code, such as in ceiling plenums and tunnels. These areas would most likely need to be fully sprinklered and could occur on a building-by-building basis.

Many of the sustainability goals for the campus, such as improved envelope and maximizing daylighting, can be achieved on a building-by-building basis. Overall campus energy goals and strategies should mainly focus on efficient delivery of building utilities from the central plant and/or campus. As previously indicated, a more efficient heating system at the central plant would greatly improve the overall campus energy use. Strategies such as the use of bio-fuels for the main heating system could be incorporated with that strategy. Domestic hot water production was also previously addressed. Overall, potable water consumption could be reduced through rainwater catchment and on-site treatment/retention.

The campus cooling system could possibly be supplemented by the use of



ground-source heat pumps. Further study would be required to determine if this is a viable option.

Photovoltaics could provide some of the campus electrical needs, but are unlikely to replace the current grid-fed system due to the high cost of these types of systems. These could, however, be evaluated and possibly used on a smaller, building-by-building, or system-by-system basis.

Large-scale solar thermal systems are similar in that they make environmental sense, but face first cost concerns and thus today make less economic sense in this application. As energy costs rise and alternative energy source costs decline, the campus could begin to implement alternative energy strategies.

Wind generators also do not currently make economic sense in this location. Most wind generators require average wind speeds of 12 mph and greater to achieve any sort of reasonable power generation, and the Puget Sound region has average wind speeds in the 7-9 mph range. Specific data and/or testing would be required to determine if this particular location has applicable wind speeds. However, recent advancements in low-wind-speed technology have created a new genre of wind generators that work well in the 7-9 mph range, and could provide supplementary power generation on a case-by-case basis.

The current infrastructure and CUP facilities lends themselves well to a Co-Gen or Tri-Gen type facility due to the central location, large amount of free space and distributed network. These types of facilities generally produce heat, electricity and possibly chilled water from a single source. However, an economically and environmentally sensible fuel source (such as bio-gas, crop waste, bio-diesel, etc.) must be available for these types of systems to be viable. Currently, there is not an identified source on this campus.

The outlying campus buildings do, however, lend themselves well to many of the above mentioned strategies. A combination strategy of PV Panels, Solar Thermal, Low Wind Speed Generators, Rainwater Catchments, and Bio-fuels could be utilized to meet most, if not all, of these small buildings' needs. This could occur on a demonstration type level, which could then be applied on a larger scale as the economics change due to higher energy costs from conventional energy sources, and reduced production costs of sustainable technologies. Students currently pay \$1 per credit hour towards a clean energy fee.

## **CIVIL ENGINEERING RECOMMENDATIONS**

As part of this master planning effort, Evergreen intends to become a "zero" carbon and "zero" waste campus by 2020. Continuing to effectively manage the infrastructure will help achieve this goal. Evergreen is actively using low impact development/green infrastructure elements around the campus and is committed to including them in future development.

Consistent with other efforts to become more sustainable, it is recommended that Evergreen complete a functional analysis of all resources on campus and in the surrounding areas. This analysis would help to determine what natural systems are degraded and how to target resources to improve them. This functional analysis will allow Evergreen to catalog the existing ecological functions and green infrastructure connections within and around the campus. For example, Evergreen can take advantage of the existing ecological functions and green infrastructure

connections of the adjacent forest preserves, the regional bike and pedestrian trail system, Puget Sound, and the habitat and wetland areas surrounding the campus.

Continued preservation of the forest Reserve and encouraging alternative modes of transportation will reduce the need for pollution generating impervious surfaces and maintain the quality of the adjacent creek basins. Any new development should limit the clearing of trees and dense vegetation to reduce the impacts of increased runoff from the campus. Low impact development should be required for all new and redeveloped facilities on campus including buildings, roadways, parking areas, and related construction activities.

Evergreen may want to explore retrofitting the existing Core buildings to include low impact development elements. These opportunities include stormwater planters around the campus Core buildings, pervious pavements and permeable pavers for the walkways and outdoor gathering spaces, swales and bioswales along the parking areas and walkways, rain gardens at the campus housing and outlying buildings.

Students and the faculty provide maintenance, monitoring, and research resource for the campus. These elements can be applied at varying scales based on demonstration and sustainability goals of Evergreen. Currently, depending on programs, monitoring includes the following:

- Biodiversity of plants and animals over time
- Examining substrate types, freshwater sources and predation patterns that impact biodiversity
- Stream water quality measures should be taken to institutionalize this resource

Water and wastewater management will be controlled by installing low flow fixtures in campus buildings and housing, and controlling and maintaining the wastewater system to prevent inflow and infiltration into the wastewater



Figure 6.22. Living Machines provide learning opportunities and eliminate waste water.

system. Using native plantings that require less irrigation or considering rainwater catchment systems to water vegetation and plants throughout the campus will also help. In addition, incorporating pervious surface materials and strategies when maintaining, renovating or expanding existing parking facilities will also reduce run-off and help the campus meet evolving storm water standards.

**CAPITAL PLAN**

The current capital plan indicates numerous projects and renovations over the next several biennia (see Table 6.3).

The Master Plan is intended to initiate discussion to establish a prioritized list of projects that will inform the development of revised 2007 – 2020 Capital Budget Plan vision. The list below in Table 6.3 continues to evolve and will be informed by order of magnitude costs to be applied to the proposed projects. Bold type indicates new capital projects.

TABLE 6.3 PROJECTS AND RENOVATIONS				
BIENNIUM	2007 - 17 CAPITAL PLAN	2007 - 09 FUNDED CAPITAL PLAN	MAINTENANCE PROJECTS	SPECIAL PROJECTS
<b>2007-2009</b>	CAB Renovation (major renovation of the infrastructure and exterior) Longhouse Expansion (design/construction) College Recreation Center (CRC) Renovation (pre-design) COM Bldg. Renovation (major renovation per the 2002 Pre-design)	CAB Renovation (major renovation of infrastructure and exterior) Longhouse Expansion (design/construction)	Brick Paver Renovation/Restoration- phase I (design/construction) Interpretive Trails/Bicycle Paths (design all phases) Life Safety/Code Compliance (design/construction) Road Revisions & Improvements (design all phases and execution of Overhulse closure) Reforestation and Landscape Restoration (design and construction of Overhulse) Signage/Gateway Marking (design)	
		<b>PROPOSED IN FACILITIES MASTER PLAN</b>		
<b>2009-2011</b>	Seminar I Renovation (design/construction) Science Center Renovation (Labs I & II) College Recreation Center (CRC) Renovation (design)	COM Bldg. Renovation (design/construction per the 2002 Pre-design) <b>Lecture Halls Renovation/Expansion</b> (pre-design) Science Lab Modernization - Lab II (design/construction) <b>Sustainable Agriculture Lab/Greenhouse</b> (design/construction) College Recreation Center (CRC) <b>Renovation and Expansion</b> (pre-design)	Interpretive Trails/Bicycle Paths (construction phases I & II) Life Safety/Code Compliance (design/construction) Road Revisions & Improvements (construction phases I & II) Reforestation and Landscape Restoration (construction phases I & II) Signage/Gateway Marking (construction) Forest Observation Education Pavilion (design/construction) Sustainable Agriculture Field Improvements (design/construction)	Geoduck Retreat Center/Marine Sciences Outpost Lab (design/construction) Revised Housing Master Plan

TABLE 6.3 PROJECTS AND RENOVATIONS (CONTINUED)				
BIENNIA	2007 - 17 CAPITAL PLAN	PROPOSED IN FACILITIES MASTER PLAN	MAINTENANCE PROJECTS	SPECIAL PROJECTS
2011-2013	College Recreation Center (CRC) Renovation (construction)	CRC Renovation & Expansion (design)	Brick Paver Renovation/Restoration- phase I (design/construction)	Field House Pavilion Expansion (design)
	COM Bldg. Expansion (design)	Lecture Halls Renovation/Expansion (design/construction)	Interpretive Trails/Bicycle Paths (construction phases III & IV)	Canopy Walk Project
	Science Center Renovation (Labs I & II)	Arts Annex Modernization (design/construction)	Life Safety/Code Compliance (design/construction)	Quad Dorm Expansion (design)
		Seminar I Modernization (pre-design)	Road Revisions & Improvements (design and construction phases III & IV)	
2013-2015	COM Bldg. Expansion (construction)	Science Lab Modernization - Lab I (design/construction)	Interpretive Trails/Bicycle Paths (construction phases V & VI)	Field House Pavilion Expansion (construction)
	Science Center Renovations (Labs I & II)	Interdisciplinary Lab Building (pre-design)	Life Safety/Code Compliance (design/construction)	Mod. Replacement Housing (design)
		CRC Renovation & Expansion (construction)	Road Revisions & Improvements (construction phases V & VI)	Extended Ed. Center (pre-design)
		Seminar I Modernization (design/construction)	Wastestream and Renewable Fuels Education Projects (design/construction)	Quad Dorm Expansion (construction)
2015-2017	Arts Annex Renovation (design/construction)	Interdisciplinary Lab Building (design)	Interpretive Trails/Bicycle Paths (construction phases VII & VIII)	Mod. Replacement Housing (construction)
		Science Lab Office Wing Renovation - Lab I & II (design/construction)	Life Safety/Code Compliance (design/construction)	Driftwood Suites Housing (design)
		Science Lab Modernization - Lab I (design/construction)	Road Revisions & Improvements (construction phases VII & VIII)	Extended Ed. Center (design)
		Combined Maintenance Facility (design/construction)		
2017-2019		COM Bldg. Expansion (design)	Interpretive Trails/Bicycle Paths (construction phases IX & X)	Driftwood Suites Housing (construction)
		Interdisciplinary Lab Building (construction)	Life Safety/Code Compliance (design/construction)	Extended Ed. Center (construction)
		Science Lab Modernization - Lab I & II (design/construction)	Road Revisions & Improvements (construction phases IX & X)	

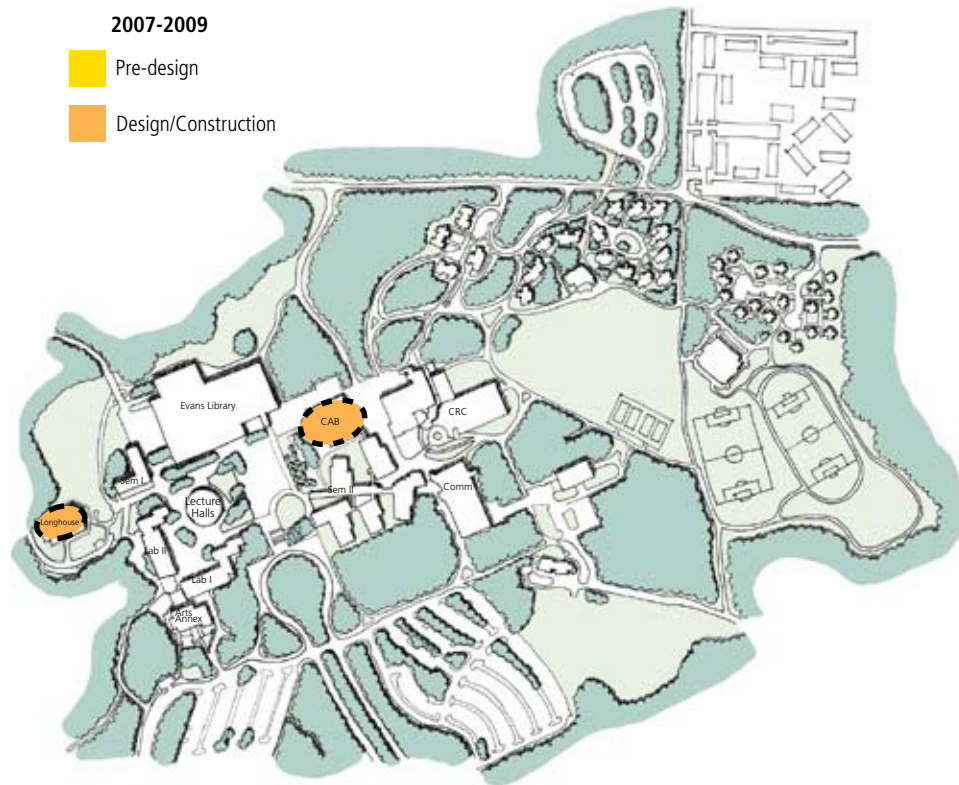


Figure 6.23. Capital Plan biennium diagram showing 2007 – 2009 projects.

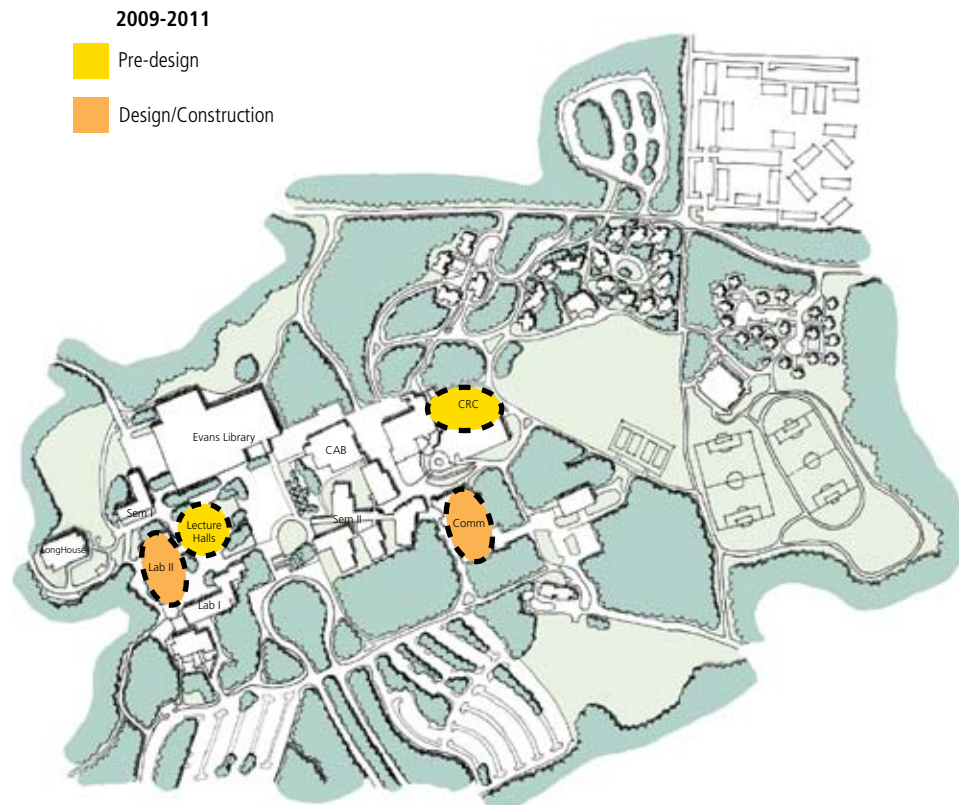


Figure 6.24. Capital Plan biennium diagram showing 2009 – 2011 projects.

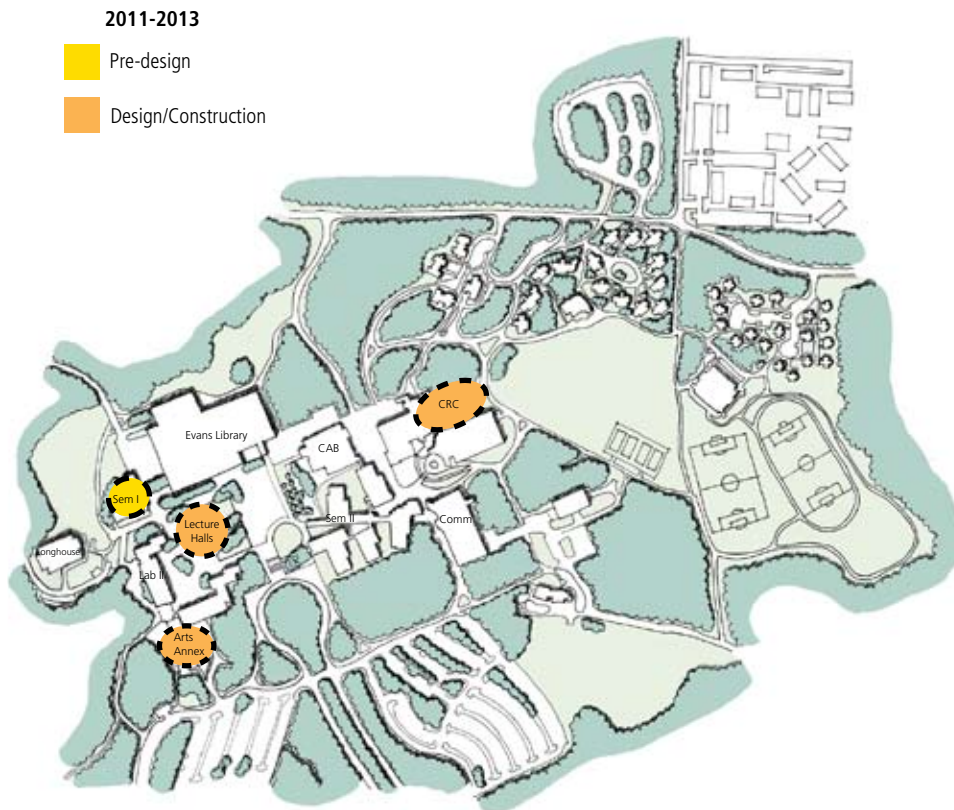


Figure 6.25. Capital Plan biennium diagram showing 2011 – 2013 projects.

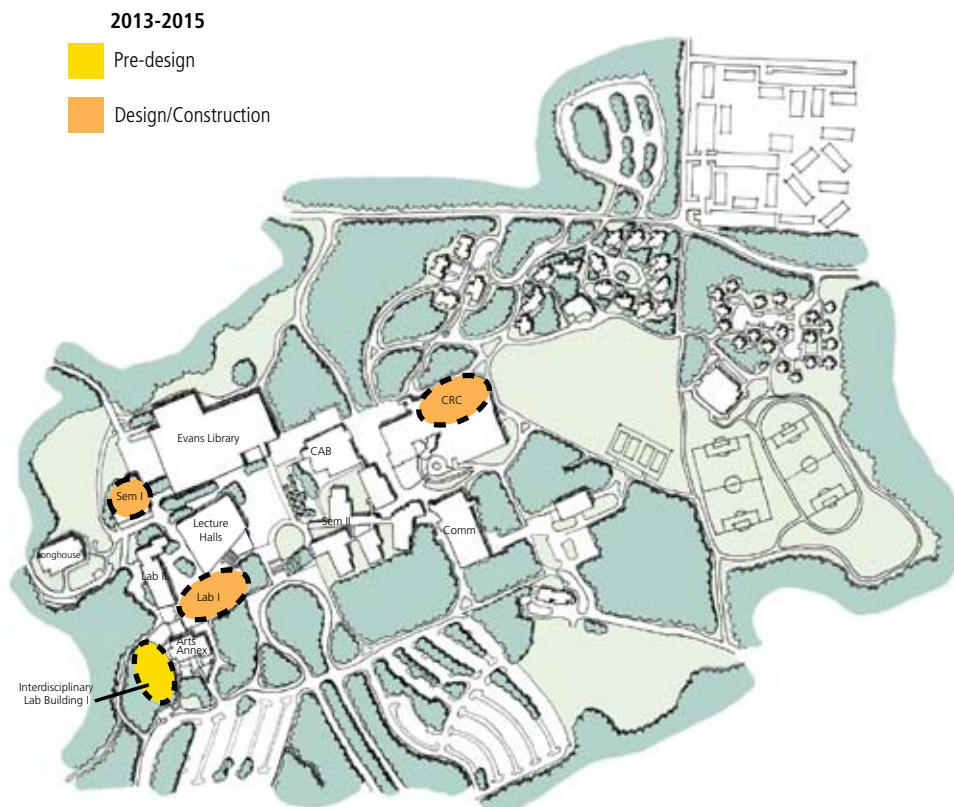


Figure 6.26. Capital Plan biennium diagram showing 2013 – 2015 projects.

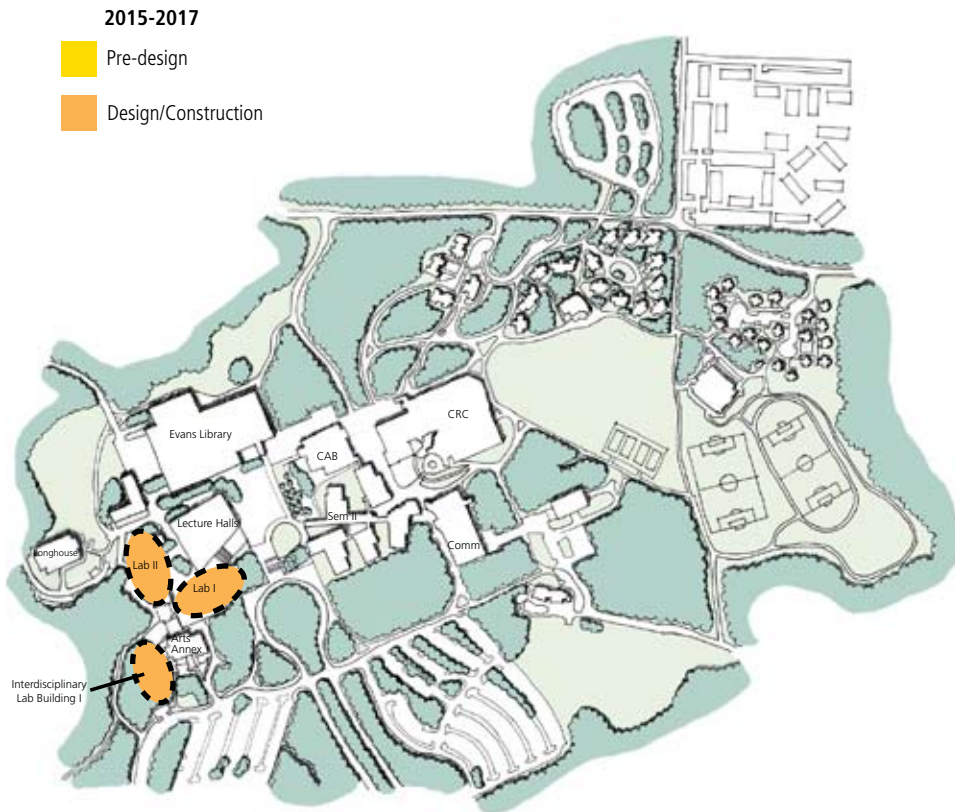


Figure 6.27. Capital Plan biennium diagram showing 2015 – 2017 projects.

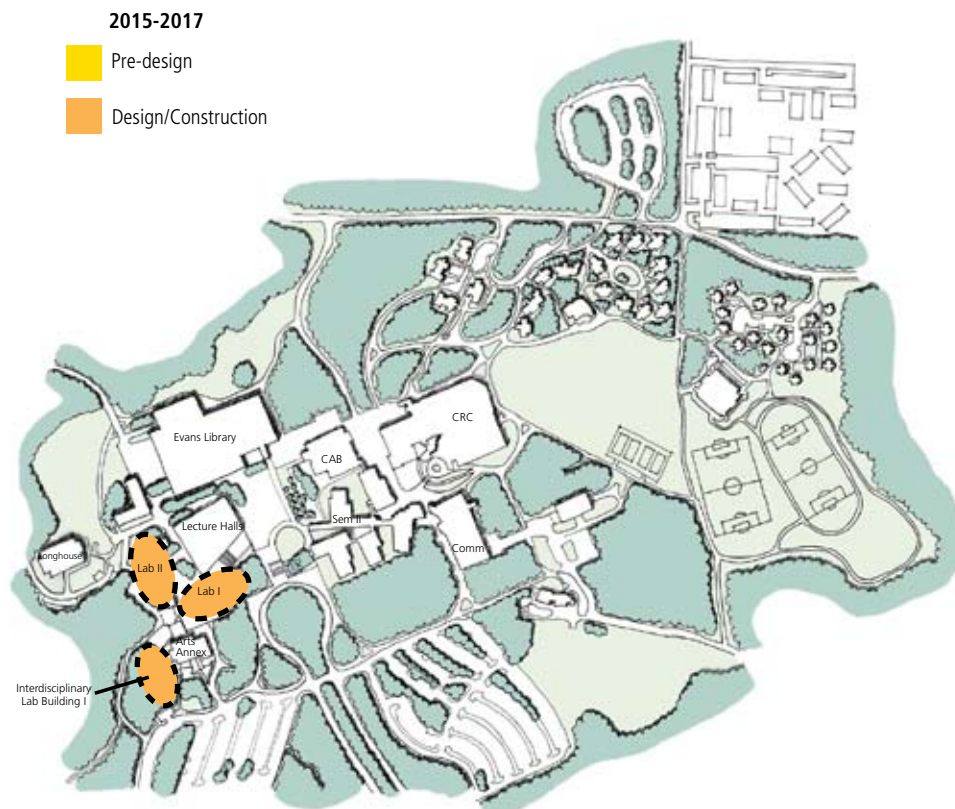


Figure 6.28. Capital Plan biennium diagram showing 2017 – 2019 projects.

## OFF-CAMPUS FACILITIES RECOMMENDATIONS

### Tacoma Campus



Figure 6.29. Murals by African artists reflect ethnic and cultural diversity at the Tacoma campus.

The Tacoma program is committed to providing an interdisciplinary, reality-based, community-responsive liberal arts education. It is preparatory for careers and future studies in community development, organizational development, law and public policy, education, social and human services, public administration, communication and media arts, environmental studies and public health.

Current enrollment is 225 students. Enrollment is exclusively third and fourth year students who have completed two years at community college (Tacoma Community College Bridge Program) or vocational schools, such as Bates and Clover Park Technical Colleges. Currently, three quarters of the students are women. The faculty has grown from four to seven plus two adjunct faculty.

The College is actively seeking faculty of color. Minority students make up a significant percentage of the demographics. The décor of the Tacoma campus reflects its cultural diversity. A mural by African artists graces the main entry. The College at its current location is contributing to the revitalization of the Hilltop neighborhood, a predominantly Afro-American neighborhood.

The existing Tacoma program is located on a full block site in a two story brick and stucco building of recent construction. The facility is accessible and contains the following facilities: lobby, four seminar rooms, wet lab, a large multi-purpose room with four adjacent faculty offices, central administration offices and conference room, work room and storage space. Parking and public transit facilities are adequate.

The existing facility has been designed to allow for the addition of a third floor. Given current enrollment levels, expansion of the facility is not anticipated at this time. Currently the College is negotiating an extension to the current 10 year lease.

### Reservation Based/Community Determined Program

The Reservation Based/Community Determined Program began in 1989. Classes are only for third and fourth year students with the Grays Harbor Community College Bridge program preparing the majority of the students.

Currently six tribes participate in the program (Makah, Muckleshoot, Nisqually, Port Gamble S'Kallam, Quinault and Skokomish). Classes are taught at the following locations: Quinault, Muckleshoot, Nisqually, Lower Elway, Port Gamble and Skokomish. Four Saturdays per quarter all the students in the program (TESC/Grays Harbor interface) attend classes in the Longhouse on The Evergreen State College main campus. Four classrooms (20 students each) are used in the Longhouse at this time. The kitchen at the Longhouse is used extensively during Saturday classes and traditional tribal meals are served to students and faculty.

The Tribal Councils are actively involved in overseeing the program and classes taught and have a 'government to government' agreement with Evergreen on the respective responsibilities of the program.



The Longhouse and adjacent Ethnobotanical Garden on Evergreen main campus are central to the program. The design and construction timbers used in the Longhouse were donated by the tribes. There is a cleansing ceremony at the Longhouse at the beginning of each Saturday program. A separate graduation ceremony for the program with active participation of alumni of the program occurs each year at the Longhouse.

Currently there are 80 students in the program (35 Evergreen and 45 Grays Harbor). The program is expected to double in size, at which point, the Longhouse might be used eight Saturdays per quarter.

An expansion is currently planned for the Longhouse to provide additional classrooms, offices, storage and student display space.



07



DESIGN GUIDELINES



# 07 DESIGN GUIDELINES

## DESIGN GUIDELINES

### Purpose

The intent of the design guidelines is to provide guidance for the development and enhancement of existing and planned campus landscape and architectural features under the Master Plan. The design guidelines support the goals and objectives of the Master Plan including:

Reflect mission, strategic plan and pedagogy of the College by:

- Providing interdisciplinary, collaborative learning environments
- Encouraging stewardship of natural resources
- Building community partnerships
- Improving the quality of faculty and staff work life
- Creating a residential liberal arts college by accommodating thirty percent of the students in campus housing and enhancing student life
- Becoming a national model of sustainable design and practices
- Supporting the campus Core and Reserve areas as a teaching and learning environment for students, faculty, staff and community
- Developing memorable places within the campus by harmonizing with nature and clustering activities to foster socialization and gathering in settings of various scales
- Encouraging the integration of students, faculty, administration and staff

In response to these goals and objectives, the design guidelines have been grouped into the following categories: Campus Form, Sustainable Design and Learning Environment. References to areas of the campus follow previous Master Plans including: Core (“urban” area of the campus including the main academic, administrative, residential, social and recreational facilities—commonly referred to as upper and lower campus); central Core (Red Square and the major, multi-use buildings that surround it—commonly referred to as upper campus); Clusters (group of facilities outside the Core, including Organic Farm, Geoduck House and Maintenance Shops, serving a specific function) and Reserve (substantially undeveloped areas surrounding the Core and Clusters where natural ecosystems are the predominant feature).

## LANDSCAPE DESIGN GUIDELINES

### Campus Form



Figure 7.1. Seminar II is integrated into the landscaping which softens and complements the buildings material choices.



Figure 7.2. The Ethnobotanical garden and other teaching gardens use the landscape as a teaching resource.



Figure 7.3. Native plants used in campus teaching gardens enhance the sustainability of campus landscapes.

- Establish transition in the landscape between the more formal landscapes of the Core, to the less formal Education Centers and the natural landscapes on campus.
- Preserve vegetative buffers around the campus boundaries to maintain the site's character and define the relationship with neighboring land uses.
- Provide contrast, color and softening of architectural features with surrounding landscaping.
- Support the integration of parking lots into the natural environment by providing planting strips within parking areas to break up visual effects of cars.
- Establish long range planting designs for planting strips on roadways and parking lots.
- Integrate existing mature plant material into proposed design schemes when possible.

### Sustainable Design

- Preserve, restore and enhance campus landscapes as a carbon off-set.
- Remove invasive plant species such as English Ivy, English Holly and Scot's Broom from campus Core, Clusters and the Reserve areas whenever possible.
- Characterize roadways with low maintenance native vegetation.
- Promote sustainable landscapes with low maintenance native plants and xeriscaping techniques to reduce energy and water usage (see Appendix for list of recommended plants with these qualities).
- Improve wildlife habitat in the Core and Reserve areas.
- Invite faculty to inform projects involving potential land use changes to consider use of native plants and ecological restoration methods in proposed plans.
- Minimize development impact to surrounding landscape when establishing new trails or improving existing ones and in development of buildings, renovations and additions.
- Facilitate access for potential volunteers helping to maintain campus landscapes.
- Establish physical links between campus ecological biomes and surrounding ecologies.
- Establish an extensive trail system and amenities to expand campus pedestrian and bicycle access and encourage alternative transportation modes.



Figure 7.4. Flexible gathering space in the Longhouse is used in interdisciplinary ways.



Figure 7.5. Sem II cafe uses its strong solar orientation to activate the space.

## Learning Environment

- Create opportunities for learning from the landscape.
- Animate the campus landscapes with public art where feasible and appropriate.
- Improve wayfinding and user experience of campus landscapes.
- Implement signage and interpretative amenities in the Core, Clusters and Reserve areas indicating trail systems and recreational and educational opportunities.
- Increase universal access in the Core, Clusters and Reserve areas.

## ARCHITECTURAL DESIGN GUIDELINES

### Campus Form

- Maintain aesthetic continuity by selectively incorporating exposed concrete within the Core in new development.
- Enhance the transparency of buildings and the activities within them (the Sem II building is valued in its extensive use of glass to reveal the activities within the building and to create inviting entrances).
- Utilize materials and forms that complement existing structures while enlivening them through innovative and sustainable design.
- Limit the height of buildings in the Core to the height of the Library, excluding the clock tower.
- Encourage integration of campus populations with buildings incorporating academic, administrative and interdisciplinary uses.
- Develop buildings to incorporate spaces providing interdisciplinary, collaborative learning environments and informal breakout spaces (Sem II is a model of such development).
- Harmonize the development of Clusters with the natural environment and preserve the rural quality of the Organic Farm.
- Emphasize primary pedestrian malls, plazas and pedestrian pathways in the Core.
- Bring campus life and Evergreen ideals to the forefront of design.
- Create a variety of special places on campus by developing indoor/outdoor multipurpose and flexible spaces for socialization.
- Activate places between buildings and provide connections to adjacent buildings.
- Establish new gathering places and activity centers along pedestrian axes.



Figure 7.6. Interpretive amenities animates learning experiences.

### Sustainable Design

- Apply LEED® and other sustainable strategies in campus renovation and development.
- Utilize solar access when designing outdoor and indoor public spaces.
- Encourage design and development that preserves the natural environment.
- Centralize major development close to the Core.

### Learning Environment

- Consider opportunities for learning with interpretive amenities.
- Create opportunities for learning for the campus and community by incorporating interpretive information on the sustainable features for new buildings and renovations.



08



## ACKNOWLEDGEMENTS



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Campus meetings, informal sessions, open discussions, one-on-one meetings, facility and campus tours, community presentations and focused charrettes were held in order to engage the campus community in a dialog about the future of the College. Evergreen administration, staff, faculty, students and community members participated in these events. We apologize to those we have not included here who have been equally important to the process.

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