The Evergreen State College
MASTER PLAN
phase 1 studies
MASTER OF ART

The Evergreen State College

President's Report

Submitted to the Board of Trustees
MASTER PLAN
phase 1 studies

The Evergreen State College
Olympia, Washington

Prepared for The Board of Trustees

Durham • Anderson • Freed
Architects • AIA
Seattle

Quinton Engineers, Ltd.
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* DECEASED
The Board of Trustees  
The Evergreen State College  
1020 East Fifth Street  
Olympia, Washington 98501  

Dear Sirs and Madam:  

Within these covers is presented the Phase I master plan for The Evergreen State College. This report, with its text and drawings, constitutes the recommended plan for future development. The plan covers proposed land use, important site factors, planning concepts, vehicular access and parking, campus configuration, architectural concepts, utilities, construction phasing and cost estimates. Conclusions and recommendations are set forth at the beginning of the report.

The purpose of this Phase I report is to portray the results of studies made by the Durham, Anderson and Freed/Quinton Engineers, Ltd. team. The objectives of the plan outlined are set forth under “Background Studies, General.” Also provided is the philosophy involved in the development of a comprehensive plan for a major educational institution in this modern and changing era, based upon a fundamental educational program suitable for a four-year liberal arts college.

A section of the report deals with “Implementation” of the proposed program. We realize that the process of development will require many years. However, the plan presented gives direction and is flexible to meet expected changing times and conditions. Plans and decisions of other public bodies and private groups can now be weighed in the light of this report. The design framework that the plan establishes will permit the orderly staging of development and expenditure of capital funds in years ahead.

The recommendations set forth and the capital improvement program resulting from development of the plan are consistent with the policies established by the Board of Trustees and by the cooperating agencies. The plan presents an unparalleled opportunity for development of an ideal, refreshing new institution suitable for those among us, young and old, who desire the education that our society demands.

It has been a challenge and a rewarding experience to perform the professional studies in developing this plan and report. We are indebted to the Board of Trustees for their dedicated leadership and enthusiastic encouragement throughout the planning program. We look ahead to continued close association with THE EVERGREEN STATE COLLEGE.

Very truly yours,

Robert L. Durham, FAIA

Donald H. Grugel, AIA

DURHAM, ANDERSON and FREED

QUINTON ENGINEERS, LTD.
TABLE OF CONTENTS

INTRODUCTION
   Introduction .................................................. 1

CONCLUSIONS AND RECOMMENDATIONS
   Conclusions .................................................. 2
   Recommendations ............................................ 3

BACKGROUND STUDIES
   General ....................................................... 4
   Regional Location .......................................... 8
   Vicinity Pattern ............................................ 8
   The College Related to the State ......................... 8
   Existing Land Use ........................................... 10
   Present Zoning .............................................. 10
   Regional Access ............................................. 12
   Site Access .................................................. 12

SITE FACTORS AFFECTING PLANNING
   Site Description ............................................ 14
   Macro-Climate ............................................... 16
   Micro-Climate ............................................... 16
   Topography ................................................... 18
   Vegetation, Ecology and Biology .......................... 20
   Sanitary Sewers ............................................. 22
   Water Supply .................................................. 24

THE MASTER PLAN
   The Master Plan ............................................. 25
   Internal Circulation and Parking ......................... 26
   Site Grading .................................................. 28
   Water Distribution .......................................... 28
   Sanitary Sewers ............................................. 31
   Power Supply .................................................. 31
   Telephone Service ........................................... 31
   Natural Gas Supply .......................................... 31
   Electrical Power and Communications ..................... 33
   Central Heating and Refrigeration System ............... 33
   Storm Drainage .............................................. 35

ARCHITECTURAL CONCEPTS
   Research into Contemporary Educational Institutions ...... 37
   Projected Building Life ...................................... 37
   Economy of Construction ..................................... 37
   Design Concept ............................................... 37
   Operation and Maintenance Study .......................... 37
   Space Requirements ......................................... 37
   Atmosphere Sketches ........................................ 37

IMPLEMENTATION
   Phase Development and Cost Estimates ...................... 45
   Maintenance and Operation .................................. 45
   Projected Areas and Costs ................................... 45

APPENDICES
   Parking Policy ............................................... 50
   Wind .......................................................... 51
   Precipitation ................................................ 51
   The Master Planning Team ................................... 52
   Consultants to the Master Planning Team ................. 52
   Educational Consultants for the Evergreen State College 52
   Acknowledgements ............................................ 52
   Bibliography .................................................. 53

SCHEDULE OF PLATES

<table>
<thead>
<tr>
<th>PLATE NO.</th>
<th>PAGE</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>5</td>
</tr>
<tr>
<td>2</td>
<td>6</td>
</tr>
<tr>
<td>3</td>
<td>7</td>
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<td>34</td>
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<td>36</td>
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<td>19</td>
<td>46</td>
</tr>
<tr>
<td>20</td>
<td>47</td>
</tr>
</tbody>
</table>
INTRODUCTION
INTRODUCTION

The development of a new four-year state college in Thurston County was authorized by House Bill No. 596, Chapter 47, Laws of 1967, State of Washington. The act passed the legislature on March 8, 1967 and Governor Daniel J. Evans signed the bill on March 21, 1967. An emergency clause was appended on July 1, 1967. An excerpt from the law reads as follows:

"BE IT ENACTED BY THE LEGISLATURE OF THE STATE OF WASHINGTON:

NEW SECTION. Section 1. The primary duty delegated to the temporary Advisory Council on Public Higher Education by the 1965 extraordinary session of the legislature was to study and by a vote of at least three-fourths of the members of the council make a finding as to the need for immediate initiation of a new four-year state college and by a vote of at least two-thirds of the nonlegislative members of the council determine a specific site for the location thereof. The Council members have determined by a unanimous vote of the members that there is a need for immediate initiation of a new four-year state college and have further determined by a unanimous vote of the members thereof that the new four-year state college be located at a suburban site in Thurston county within a radius of approximately ten miles of Olympia.

It is the purpose of this enactment to provide for the immediate initiation of a new four-year state college at a location in Thurston county in accordance with the study, determination and finding made pursuant to law by the temporary Advisory Council on Public Higher Education."

Subsequently, a Board of Trustees was formed and a name, "The Evergreen State College," was selected.

Late in 1967, the State of Washington contracted with the Stanford Research Institute, Inc. to select and evaluate sites and report to the Board of Trustees and the State. Whitacre Engineers, Inc. supported SRI in the investigation of twenty-one sites. Their studies included establishment of general site selection guidelines; identification, collection, organization and evaluation of data pertaining to sites offered; interviews with persons responsible for decisions concerning sites selected elsewhere, and with college and university administrations; defining specific evaluation criteria; and ranking sites in terms of criteria. Their studies considered site configuration, land forms, utility services, development influences and acquisition costs. The Cooper Point site emerged from the selection process as clearly the outstanding choice. The Institute's report stated:

"The Cooper Point Peninsula site includes approximately 1,000 acres of land with about 3,000 feet of water frontage on Eld Inlet of Puget Sound. While the site is divided into numerous parcels, relatively few homes will be disturbed because the site is largely undeveloped acreage. The site satisfied all limiting criteria. It is easily within the ten-mile radius of Olympia city limits. Assurances that the site can be purchased within the budget are based on prices paid in recent sales in the area. The topography and soil conditions, both subsoil and topsoil, are such that at least 600 acres would be available in one contiguous parcel for economical construction of the physical plant. There are no known extreme nuisance factors or hazards in the area. Because of its close proximity to the City of Olympia, water and sewage services can be provided to the college by the City at a reasonable cost."

"The area is served by a grid of country roads and is approximately two miles from the Grays Harbor-Shelton limited access highway, and within five miles of the State Capitol."

"The site is endowed with natural beauty, having a sweeping view of Puget Sound, the Olympics, the Black Hills, Mount Rainier, and the Cascade Range. The topography is gently rolling and the terrain should not create unusual construction problems. The highest elevation in the area is 243 feet gradually sloping to Eld Inlet. The view of Puget Sound and the potential opportunity to develop waterfront recreational activities add greatly to the attractiveness of this site."

The Board of Trustees of the College received the Stanford Research Institute report on December 1, 1967 and the enclosed site was publicly identified. Land acquisition was begun in April, 1968. The acquisition program is proceeding as the needs for certain lands became evident from the master plan development. Although a minimum area of 600 acres was specified, the present acquisition target is approximately 940 acres.
CONCLUSIONS AND RECOMMENDATIONS

Conclusions

The proposed master plan reflects the accumulated conclusions of the planning-architectural team, and their consultants in the fields of ecology, biology, oceanology, soils, geology and traffic research. The site influences brought into focus by the work of these people are combined with and modified by the findings of the Arthur D. Little Company, the educational consultants. The evolved master plan is based upon the following principal planning conclusions:

1. The recognition of outstanding land forms and environmental qualities of the site;
2. The creation of an approach corridor — prime thoroughfare, limited access roadway from the U.S. 101 freeway;
3. The necessity for two major entrances, one from the West Olympia-Cooper Point area and the other from the U.S. 101 freeway area;
4. The recognition of a need to preserve certain areas of prime growth or other superior or unique natural environmental qualities as ecological laboratory and classroom areas;
5. The need to recognize the added benefits and capabilities afforded the site by the water frontage;
6. The recognition of certain areas of potential foundation instability on the site and the need for additional detailed investigation;
7. The desire that structures should not dominate the site with relation to the human element and site qualities;
8. The desire to create an academic campus in which the integral units are capable of both individual function and relatively convenient interaction;
9. The desire to create a campus in which student participation is made a part of the fabric of the campus structure and program, rather than separating it and, perhaps, alienating such feeling;
10. The desire to create a campus whereby a student-community inter-action core area is created, thus heightening possible involvement of the student and off-campus community while intensifying possible community participation and interest in support of the college program;
11. The necessity to recognize the essential service of the automobile on The Evergreen State College campus, and the necessity to recognize the potential hazard created for the campus by the automobile in the domination of land use and daily campus life.
12. The necessity to separate automobile and pedestrian traffic areas while still recognizing the need for internal service, vehicular traffic security and minimization of through traffic;
13. The necessity to recognize the effects upon campus plan and structure of a sizable evening program for non-resident students who will commute, oftentimes after dark;
14. The necessity to recognize certain legal or physical limitations and obligations created by the off-site utility service conditions and connections;
15. The necessity to plan and construct community utility systems in co-ordination with Thurston County and the City of Olympia;
16. The desire to limit site grading to that required for buildings, utilities, roads, parking, and playfield areas;
17. The need to hold important the view potential to the Olympic Mountain Range, Mount Rainier and Puget Sound;
18. The necessity to establish and maintain zoning restrictions outside the campus to assure compatible community growth;
19. The need to provide buffer protection in the planning program on the campus perimeter;
20. The need to preserve the ecological and biological qualities of the campus;
21. The need to develop architectural concepts, compatible with site characteristics, utilizing low-maintenance cost materials, uniquely “Northwest” in character;
22. The desire to present an exciting imaginative, functional and flexible development plan.

The foregoing, coupled with the space and function criteria produced by the educational consultants, became the dominant parameters of the planning program. The evolved plan represents the team’s effort to implement them. Thus, the plan and the supporting space, phasing and cost data included, lead directly to the recommendations of the planners.

The basic questions of policy determination and implementation of policy became dominant influences in execution of the plan. Critical are the extent of and nature of the physical education and/or athletics plant, the possible Conference Center, the possible cluster colleges conceptualization, the degree to which College Union functions are centralized or dispersed into housing “groups,” and the implementation and enforcement of vehicular parking controls. These are discussed individually below.

The extent of athletic program probably will evolve quite naturally; with time and basis for evolution resulting from public concern and support afforded the college. It is critical in the present planning, as a means of insuring that possible future space requirements and traffic demands are recognized, that the present needs for intramural activities also be recognized and provided.
The Conference Center will become critical in terms of its requirements for space reservation, for physical services, and for access and in terms of its place and function in the college community service program.

The College Union policy determination will affect space allocations and functional installations in the central campus union complex. Space allocation and equipment installation planned for the housing groups must recognize those functions displaced from the central Union complex, should a dispersal or partial dispersal policy be adopted.

"Cluster" colleges apparently will be a step in the sequential evolution of the college plant and decisions regarding them can be deferred to await ultimate policy determination.

The matters of administrative policy and physical development are intimately joined in the area of vehicular parking and control. Decisions made and control methods chosen vitally affect large areas of campus land, maximize vehicular traffic flows and concurrent hazards, and commit the college to large sums of money to be expended for construction, maintenance and protection of these developed areas. The planners recommend the policy of establishing numerous small parking areas which may be effectively screened or broken up as to expanse, thus perpetuating the essential "forest" quality of the site. This policy also permits dispersal of traffic, brings faculty and administrative personnel relatively close to their places of work and permits storage of a vehicle within reasonable distance of a traffic-free, pedestrian campus core area without necessity for concern in time of inclement weather. Such plan would not require an on-campus bus service. Space assignment, administration and enforcement policy are considered to be required extensions of this program and are discussed at length in the Appendix.

Recommendations

The master plan is intended to serve as a tool in the hands of the College administration to formulate immediate and long range policy governing the use of the campus lands and its design treatment. To implement policy, the following recommendations are presented as the consultant's expression of needs to accommodate and facilitate the master plan. To foster follow-on cooperative activities between the campus planning team and interested public and private groups, constructive recommendations are presented herein. The campus planning and architectural consultants recommend that:

1. The master plan, as presented, be adopted;

2. Zoning controls be established in the vicinity of the campus by Thurston County and the City of Olympia to control growth, deter development of undesirable land uses, and encourage orderly, positive growth;

3. Architectural, engineering and other design criteria, standards and controls, coupled with a continuing coordinating design and planning effort, be established as a guide to physical development of the institution;

4. Right-of-way be acquired by Thurston County and the State of Washington to assure arterial corridors to the south and east entrances of the campus;

5. The Evergreen State College proceed in cooperation with the City of Olympia to mutually develop community water and sanitary sewer systems in order to serve the college;

6. Thurston County develop a road network to serve the community outside the perimeter of the College;

7. Detailed geological investigation be made of bluffs along the Eld Inlet water frontage and in the vicinity of the proposed dam and artificial lake to assure stability of the areas where roads, utilities and structures are proposed;

8. Steps to be taken to safeguard the prime timber purchased by the State in order to preserve the unique natural environmental qualities of the college campus;

9. Existing overhead electric power and telephone lines traversing the site be relocated by the utility companies involved to permit continuous service to customers dependent upon these lines;

10. That all proposed utility services be placed underground;

11. The view potential of Mount Rainier, the Olympic Range and Puget Sound be maximized;

12. Site clearing and grading be limited to that required for buildings; utilities, roads, parking, plazas and playgrounds;

13. Ecological and biological environment of the college site be consistently and vigorously protected;
BACKGROUND STUDIES

General

During the course of early planning the campus planners arrived at certain preliminary considerations which became parameters in guiding the course of the assignment. These points evolved out of the study of physical conditions pertinent to the site and regional influences relative to adjacent land use, access to the area and utility services. In early presentations to the Board of Trustees, the following items were expressed as “basic philosophies:”

1. The site for The Evergreen State College should remain evergreen. Clearing of the site should be held to a minimum.

2. Site grading should occur only as required for individual project implementation. Mass grading is not desirable.

3. Utility services will be jointly shared with adjacent developments wherever cost sharing and savings are possible.

4. Eventually, basic access to the site will occur via a parkway corridor offering a limited access, high standard, divided roadway with separated sections and grade lines.

5. Internal arrangement should not encourage use of the site for “through” traffic purposes.

6. An ideal internal traffic circulation plan should permit very nearly complete separation of vehicular and pedestrian traffic.

7. The siting of proposed campus facilities will consider:
   - The established educational program requirements
   - The topography and physical features of the site
   - Flexibility
   - View potential
   - Waterfront potential
   - Prevailing winds
   - Macro and micro climatic conditions
   - Architectural design philosophy, aesthetics, function, style and overall theme

8. The planning and phasing of the college development will be guided by the needs defined in the educational consultant’s findings.

Based upon these very broad parameters and the first schedule of program-derived building areas, basic use relationship and land consumption study solutions were accomplished. Circulation patterns engendered by each of these solutions then were considered.

Review of these early studies permitted the development of six alternate schemes which recognized not only the emerging site and building space influences, but also the organizational and functional ideals developed in a two-day seminar dealing with the College planning program. The seminar, held during July, 1968, was attended by the Board of Trustees, the planning consultants and representatives of Arthur D. Little Company. Featured were presentations by significant consultants to the latter company in the prime sectors of college organization and function inasmuch as these are emerging forces in the changing academic campus of today. Campus master plan studies which evolved during this stage of the work included, in varying degrees, the ideals expressed or developed at the seminar. To establish a degree of preference and priority for the various studies, and to derive a clear recommendation to the Board of Trustees, the planners prepared and applied a scoring system for all six plans. The plan shown hereafter best met the selected criteria and achieved the highest score in that review. These criteria are reproduced below:

Does the proposed master plan accomplish the following?

1. Recognize land form
2. Provide good accessibility
3. Provide temporary access
4. Allow future improvement in access
5. Provide aesthetic impact
6. Provide an interesting configuration
7. Provide economy of utility
8. Recognize geological factors
9. Recognize marine educational potential
10. Recognize site ecology
11. Recognize land availability
12. Balance cut and fill earthwork
13. Utilize natural drainage
14. Recognize standing timber
15. Dramatize views
16. Dramatize “evergreen” exposure
17. Provide flexibility of educational concepts
18. Provide a variety of recreational opportunity
19. Provide flexibility for expansion
20. Provide good inter-relationship of departments
21. Provide natural teaching laboratories
22. Provide adequate open spaces
23. Provide good dispersal of automobile parking
24. Provide adequate service access
25. Provide good inter-relationship of buildings

In the final study one significant detail of the plan was changed. The relationship of the gymnasium to the internal campus structure was re-examined. Subsequent to the jury and Board review, a decision was made to resite the gymnasium adjacent to the proposed playfield areas rather than make the structure integral to the more publicly oriented campus area of the performing arts — union complex.

Based on these decisions, the planners proceeded to develop the final Phase I master plan and report as presented herein.
Regional Location

The location of the site within the Puget Sound region is graphically illustrated on Plate I. The relationship of the site to Olympia-Tacoma-Seattle and to southwestern Washington and Portland is indicated. Directionally and dimensionally, the site is 66 miles southwest of Seattle, 29 miles southwest of Tacoma, and 123 miles north of Portland. The location selected places The Evergreen State College within the rapidly expanding Seattle-Tacoma-Olympia area, the Olympic Peninsula and southwestern Washington. Olympia, the capital of the State of Washington, exerts a strong regional influence. Cultural and political affects upon the college will result from association with that city and more heavily populated Western Washington.

Vicinity Pattern

Plate 2 shows the site in relationship to the city of Olympia and other land and water areas in the immediate vicinity. Located approximately three miles northwest of Olympia, the institution will draw upon three vital areas — the local relationship to Olympia, the state capital, with identification with this governmental nerve center, and adjacency to major highway units providing adequate regional access. Finally, location upon the shores of Puget Sound on Cooper Point provides access to the water surface of the Sound and to the desirable living areas of Cooper Point. The vicinity of the college provides all of the desirable attributes needed to plan, design and construct an educational institution of the type and magnitude visualized.

The College Related To The State

Plate 3 shows the relationship of other higher educational institutions to The Evergreen State College. West of the Cascade Mountain Range one state college and one state university are shown as well as three private universities, three private colleges, and sixteen community and junior colleges. Two state colleges, one state university, four private colleges and six community and junior colleges are located east of the Cascade Range. Acknowledging that approximately two-thirds of the population of the state is concentrated west of the Cascades, and that the Seattle-Tacoma-Olympia axis is the fastest growing area of the state, the validity of the original action locating The Evergreen State College in the selected location emerges clearly. Additionally, response to the questionnaires distributed to potential students by the educational consultant confirms the need for an institution for higher education in the Olympia area.
**Existing Land Use**

The pattern of land use existing upon a site under study frequently has a strong affect on subsequent planning decisions. However, in the case of the site for The Evergreen State College, the land use factor is less incisive since it is located in a largely rural area with no intensive land use impinging upon it. The site is largely unoccupied with rural residences or small farmsteads as the major occupancies. One service-commercial occupancy occurs on the site in the vicinity of Overhulse Road. To the immediate north, east and south only scattered rural residences exist both inland and on the shore of Eld Inlet. Limited commercial uses occur at a few roadway intersections. Institutional or public land uses are limited to school and fire station installations, see Plate 4. Close to U.S. Route 101 to the south and southeastward and eastward towards West Olympia, the pressures of more intense land use and potential development projects have increased both in the past, and more pointedly, during recent months. The pattern of these uses and pressures for additional development indicate most strongly the need for thoughtful and consistent land use planning and control for the protection of the college environs and approach corridors.

**Present Zoning**

At the time of selection of the site for The Evergreen State College, the Thurston County Planning Commission applied a residential-agricultural zone to the entire area of Cooper Point outside of the corporate limits of the City of Olympia. This has permitted development of lands in the vicinity of the college site to continue largely within the pattern existing in the area, see Plate 4, but has discouraged the immediate, intense, opportunistic commercial developments which tend to occur in the vicinity.

As a part of the total planning program for the college, it is anticipated that the approaches to the College and certain key access points will require special planning and zoning attention in order that the necessary extent of development may be reasonably accomplished while the quality of these approaches and environs is preserved.

Thurston County is currently developing provisions in its zoning ordinance for Residential Planned Developments in the present Residential Agricultural zones as one means of protecting the environs of the new campus. This action is permitted by state enabling legislation.

In the future, the development of strategically located nodal service areas, rather than strip development flanking the approaches, could be studied and encouraged, thus avoiding the extended, often deleterious road frontage business agglomerations prevalent in much of our American scene.

Since the Urban Arterial Limits now include the college area, these funds will provide aid in planning an orderly arterial development program.

It will be necessary to modify several existing access roads that will be affected by revised traffic patterns created by the college. Of particular concern will be Overhulse Road, Lewis Road, Driftwood Road and Marine Drive. The vacation of a portion of Overhulse Road will necessitate the provision for new roads between Overhulse and Kaiser Roads, both north and south of the campus. When Driftwood and Lewis Roads are vacated, it will be necessary to extend Marine Drive westerly to existing Marine Drive where it connects to Simmons Road.

Local participation in the construction of the proposed major southern access route to the college is not considered practical since this roadway will be a limited access corridor to the college campus. It is not desirable to permit uncontrolled access to the entrance corridor, or commercial development to occur along the roadway. The consultants urge that steps be taken to construct the highway with state funds.
The Evergreen State College
Olympia, Washington

PROPOSED MAJOR ARTERIAL TO COOPER POINT
SUGGESTED PARKWAY SECTION

INTERCHANGE LOCATIONS UNDER STUDY

PLATE 5
REGIONAL ACCESS

PROPOSED ROADS
ROADS TO BE ABANDONED
INTERCHANGE REQUIRING DESIGN

DURHAM • ANDERSON • FREED • QUINTON ENGINEERS, LTD.
ARCHITECTS • PLANNERS • ENGINEERS
SEATTLE, WASHINGTON
Regional Access

Although the site is approximately three miles from Olympia, a city served by a scheduled airline and two railroads, it seems apparent that major access to the site will be by motor vehicle — whether public or private. See Plate 5.

Approximately one mile to the south, U.S. 101 parallels the southern boundary of the site and provides immediate access from the Shelton-Bremerton-Aberdeen areas. By interconnection with Interstate Route 5 immediately south of Olympia, direct access to the site via major improved highway is available southward from Tacoma and Seattle and northward along the coastal areas from Portland.

In the immediate vicinity of the site, accessibility is limited by the character and capacities of the county roads which approach it from U.S. 101 and from West Olympia. Overhulse and Kaiser Roads are principal approaches. Secondary approaches are provided by Simmons Road on the west and Adams Road on the north.

In the future, major new approaches must be planned to provide adequate access from U.S. 101 and from the general vicinity of the West Olympia area.

The accompanying "Regional Access" map, Plate 5, shows the proposed south entrance corridor within which the major access highway would be constructed. Several technical problems must be solved before the exact alignment can be determined. Study must be given to the interchange location, right-of-way considerations and soils problems. Although no major difficulties are anticipated, coordination with the State Highway Department and other agencies must be accomplished along with cost analysis of the several alternate schemes. This highway will be constructed in conformance with State Highway Department standards. Cuts and fills should be carefully graded and planted and a median of varying width, providing separate roadway levels where required, may be utilized. A phased or partial development of such a roadway is possible and practical.

The future major arterial shown on Plate 5 at Cooper Point Road is a suggested solution to the access problem east of the college. This preliminary location is based on the discussions with the Olympia City Engineer’s office and the Thurston County Planning Commission. It is strongly urged that this roadway be constructed to parkway standards consistent with the high quality arterials proposed to serve the college.

Site Access

Present vehicular access to the college-area, shown on Plate 5, consists of Interstate Highway 5, U.S. 101 and local county roads. Local county roads expected to serve the college initially are Harding, Kaiser and Overhulse Roads, which have severe limitations. An adequate regional highway system that would preserve the integrity of the campus is essential.

Thurston County is presently engaged in a regional transportation study but results and recommendations are not available for this report. Those parties concerned should urge this study group to evaluate and adopt the recommendations in this report as a part of the regional plan.

The proposed major access to the college from U.S. 101 is an essential component needed to preserve the character of The Evergreen State College. This access will serve as a relief to local roads and as an attractive and safe approach to the campus. The highway will be constructed to the highest aesthetic standards fully considering land form and grading, natural vegetation and views.

Cooperative action with Thurston County is imperative in order to permit them to begin planning interim arterial improvements as well as long range programs. Several of the local roads will quite probably deteriorate under the impact of construction equipment and the increased future traffic flows.
SITE FACTORS AFFECTING PLANNING

Site Description

The College has been sited on a gently rolling tract of land of natural wooded character. The land rises fairly steeply from Eld Inlet, with the shoreline a clearly defined bluff formation and with ravines extending from the shoreline southward into the Cooper Point land mass which rises to about 240 feet above sea level about 3,000 feet inland. The essentially virgin site offers many opportunities for imaginative campus planning and design solutions without the need to use steep slopes or eroded or unstable areas.

With the exception of the bluff area and the ravines, the site is gently modeled, with slopes confined to less than ten percent gradient over most of the area. A central knoll forms the most dominant inland land form and is so oriented as to afford an opportunity to utilize it for viewpoints, capturing views of the water and the Olympic Mountains to the northwest and Mount Rainier slightly south of east. Other minor rises in elevation occur to the southeast and a major depression forms at the southern property line. The eastward extension towards Kaiser Road is predominantly flat land, so flat in fact, that immediate drainage is hindered in portions of the area.

Preliminary geological investigations in the waterfront area of the site indicates that major structures should be located somewhat removed from Eld Inlet. Shown on Plate 7 is a geologic setback line that should be observed for building siting to insure structural stability.
Various physical factors have affected the planning of the site. The illustration on the opposite page provides a visual summary of the primary factors which either constituted limitations or provided opportunities for potential development.

Among the many factors considered during the course of the planning study were topography, drainage, vegetation, shoreline, existing buildings, roads, utilities, prevailing winds and view potential.

**Macro-Climate**

The climate at the Evergreen State College site is, in general, the same as that to be found throughout the immediate shoreline areas of Puget Sound. In all cases, the presence of the large body of water serves to modify and equalize temperatures. Additionally, the immediate presence of the water increases the incidence of fog and may increase the chances of heavy localized falls of rain or snow in areas close to the shoreline.

Analysis of wind directions, as recorded at Olympia Municipal Airport, approximately six miles to the southeast of the college site, indicates a flow of air predominantly from the southern quadrant. In fact, the airflow from the southeast, south and southwest throughout the year is 49.4% of the time with the highest mean velocities apparent in this quadrant. However, shorter periods of time are occupied by occasional high velocity flows from the west, northwest and northeast. Records indicate a maximum wind velocity of 60 mph in 1968 — a velocity which could damage forest growth and buildings. See Appendix B for wind tabulation.

The site is undoubtedly affected by the presence of the Black Hills to the south which land mass may quite effectively divert or channel portions of the air flow from the south. By the same token, the form of the Hills is such that it may, on occasion, actually “funnel” southerly winds onto the site at greater velocity than might otherwise be expected. This indicates the strong possibility that the northwesterly and northeasterly airflows off of the water, coupled with these occasional high velocity gusts, may be the dominant factors in wind or storm activities at the site.

Precipitation is indicated as totalling approximately 50 inches annually. Of this, the greatest percentage falls during the fall, winter and early spring months, with extremely limited precipitation during July and August. Snowfall averages approximately 15 inches, with January recording the heaviest accumulation. The maximum snowfall on record for a 24-hour period totaled 45 inches, occurring in 1950. See Appendix C for precipitation tabulation.

Mean daylight sky cover has averaged 7.4 percent. Fog occurs approximately 94 days out of the year, generally concentrating along the shores of Puget Sound, and relative humidity at 10:00 a.m. varies from 60 to 89 percent. Thunderstorms are rare, only four having been recorded in an 18-year period.

**Micro-Climate**

Without precise investigations accumulated over a period of time, on-site consideration of micro-climatic conditions must be largely a matter of conjecture arising from observation and deduction.

Undoubtedly the most exposed areas on the site are the bluff face above Eld Inlet. Winds and storm conditions of occasional violence, arising on the waters of Puget Sound, should be expected at the site, particularly on slopes exposed to the Sound. Airflows within the area will generally gravitate towards the ravines, with cooler moist air following these channels and being additionally cooled by the presence of moisture and heavy foliage in the ravines. The exposed westerly sloping hillsides, recently cut over, can be expected to receive and radiate greater local heat conditions during hot weather and thus may be more drastically affected by periods of hot dry weather. Regrowth may well be altered by these conditions.

Localized humidity within the site can be expected to be increased by the degree and nature of forest cover (the more dense the cover, the greater the humidity) and the presence of standing water or boggy conditions. These latter occur in limited areas within the site. Fog pockets within the site have not been observed or noted. It is to be assumed that lower, more moist areas may encourage the continued presence of fog and that areas subject to the sweep of wind and exposure to bright sunlight would clear more rapidly.
Topography

The topography illustrated on the maps is not a precise representation, owing to the presence of heavy growth and foliage over much of the site, particularly in many of the areas now proposed for building groups. The topographical information available is satisfactory for preliminary planning purposes; however, as the planning advances into building planning study status, more precise surveys of selected development areas will be needed. These will be accomplished by ground survey methods utilizing precise controls.

Slope Analysis

A slope analysis of the existing topography of the site was developed in order to study the percentage of level and steep terrain.

Each of the slope areas were measured with the results indicated in the following table:

<table>
<thead>
<tr>
<th>Slope Range (percent)</th>
<th>Acres</th>
<th>percent of total</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 - 8</td>
<td>725</td>
<td>76.8</td>
</tr>
<tr>
<td>8 - 16</td>
<td>101</td>
<td>10.6</td>
</tr>
<tr>
<td>16 - 24</td>
<td>40</td>
<td>4.3</td>
</tr>
<tr>
<td>25 and over</td>
<td>77</td>
<td>8.3</td>
</tr>
<tr>
<td>Total</td>
<td>943</td>
<td>100.00</td>
</tr>
</tbody>
</table>
The Evergreen State College
Olympia, Washington

DENSE TREE COVER
MIXED FOREST & SHRUB
SPARSE TREE COVER
OPEN AREA

PLATE 9
VEGETATION
Vegetation, Ecology and Biology

As stated previously, the site lies in a region of heavy evergreen forest lands common to the shores of Puget Sound. Except where recent logging has occurred, or in the few areas cleared many years ago in the original logging, tree growth abounds and is dominated by Western Hemlock, Western Red Cedar and regrowth of the Douglas Fir species. See Plate 9. Other areas of lessened growth exist in locations which have tended towards bogginess because of peat deposits or “perched” water conditions. At the southern edge of the site a considerable expanse of Alder and other deciduous growth occurs, occupying an area which apparently tends towards this moist condition. However, this general area contains a mixture of growth and growing conditions. These point toward its retention as an ecological preserve for use by the College as teaching resource areas in the future. The natural regimen of the selected site offers great opportunities for study. Situated as it is where land meets water in one of the growth-dominant regions of our country, the totality of the biological and ecological indicators is very apparent and extremely detailed.

The land area of the campus abounds with hundreds of varieties of native birds and small animals, protected by the native foliage. The shores and waters of Eld Inlet contain multitudes of varieties of shellfish, shallow water fishes and deep sea varieties.

Preservation of the integrity of the shoreline so that teaching activities, should they occur there, are in no way hindered by the recreational program, is a key point in the oceanologist’s preliminary observations of site capability.

Reports of the biological and ecological consultants are referenced in the Appendix.
The Evergreen State College
Olympia, Washington

PLATE 10
SANITARY SEWERS

EXISTING SEWER
PROPOSED FORCE MAIN
PROPOSED TRUNK
FUTURE TRUNK

DURHAM • ANDERSON • FREED • QUINTON ENGINEERS, LTD.
ARCHITECTS • PLANNERS • ENGINEERS
SEATTLE, WASHINGTON
Sanitary Sewers

Sanitary sewerage for Cooper Point is one of the most difficult problems facing the community. The City of Olympia and Thurston County have accelerated their planning efforts in the area west of Olympia because of the impact of the College development. Their studies have resulted in preliminary solutions both on an interim and long range basis. A proposal has been presented informally to the planning team by the City of Olympia and it has been evaluated in terms of desirability, feasibility and economics. The proposed program is considered reasonable and a satisfactory solution for the college’s waste problem, as well as providing a regional solution for the Cooper Point area. See Plate 10.

The State Pollution Control Commission has set forth the following guidelines for the planning effort:

1. Any system must fit properly into the Thurston County regional comprehensive sewer plan.
2. If an interim system is necessary it must be abandoned when the regional comprehensive plan is implemented.
3. If an interim system is used, a sprayfield will not be approved. The most reasonable system at this time appears to be a normal treatment plant with discharge to salt water.
4. The interim plant should be operated by trained experienced municipal treatment plant operators.

The engineering consultant engaged for the regional study has investigated several solutions to the Cooper Point sewerage problem including transmission of untreated waste to Olympia, the discharge of treated waste into Eld Inlet and finally the discharge of treated waste into Budd Inlet from a future plant on Cooper Point. The interim and final solutions may, after more detailed study, eventually be a combination of the first and last alternates. Initially, it is planned that the college’s waste will be transmitted to the existing treatment plant in Olympia through new or existing trunk lines southeast of the campus. It appears that, with developers pressing the city and county for sewerage facilities in this area, and with the college’s participation, the proposed regional trunks will be economically feasible.

If the effluent were to be directed to Eld Inlet the effluent would have to conform to rigid quality standards requiring tertiary treatment, chlorination with absolute certainty that a maximum coliform count of 70 MPN would be achieved to avoid pollution of the oyster breeding areas in Eld Inlet. Though this high degree of treatment is possible, a chlorinated effluent discharged into water used for growing shell fish might be objectionable. If the treated effluent were transported over Cooper Point and discharged into Budd Inlet, several miles of force main and right-of-way would be required.

The final requirement to resolve is conformance to the Thurston County Regional Sewerage Plan and thus cooperation with the City of Olympia appears to be mandatory. An on-site treatment facility would be approved only on an interim basis, requiring that the college construct, maintain and operate a treatment and effluent disposal facility, removing it at some future date. The college would then participate in the establishment of a regional system. Cost sharing figures for this future system are not possible of derivation at this time.

The important sequential phases and working arrangements of the regional solution as proposed by the City of Olympia are as follows:

A. A pumping station be constructed near Kaiser Road on college property and a force main installed in Kaiser Road and Walnut Street. See Plate 15. The sewage would flow by gravity to the existing treatment plant in Olympia. The City proposes to maintain both the pumping station on the college site and the force main. Cost participation by the college is proposed as follows:
   1. An overall acreage charge of $0.01 per square foot for the watershed tributary to the system;
   2. Pay for increases in trunk line sizes due to increased flow rates generated by the college;
   3. Pay for cost of pumping station and off-site force main.

Preliminary study indicates that budget appropriations should anticipate an amount ranging between $500,000 and $700,000. The City has stated that funds of this order will satisfy the college’s responsibility to the regional system.

B. Ultimately, college wastes will flow by gravity to a pumping station at Green Cove and then be pumped to a treatment plant on Budd Inlet. The college will not be assessed for the construction of this future plant nor the collection system.
Water Supply

Water supply to college does not pose significant problems except those connected with general phasing difficulties attributable to a growing community. These difficulties can be summed up in terms of adequacy of supply mains and storage reservoir capacities. See Plate 11.

The City of Olympia has an excellent source of water at McAllister Springs which is capable of delivering 21 million gallons per day and is presently investigating a second future source which will be capable of producing up to 70 million gallons per day.

The present supply to the Cooper Point area is through the municipal supply and distribution system crossing over to the "West Olympia" area on arterial bridges. The supply pressure is then boosted to several small elevated reservoirs on the east side of Cooper Point. These reservoirs and the distribution system in the area operate at a static elevation of 288 feet above sea level. The college will be served by this same system but college requirements will necessitate the construction of an on-site booster pumping station and storage reservoirs to serve the campus.

Primary components of the proposed regional system as they affect the college are as follows:

1. Construction of a 12-inch supply main in Kaiser Road from Cooper Point Road to the campus. The city is expanding their system to Kaiser Road.
2. Participation in the construction of a regional four million gallon storage reservoir to be located approximately one mile from the campus.
3. Provision for an easement to the City of Olympia for a water line across the campus north of Driftwood Road. Some cost sharing in the construction of this line will be necessary.

A chemical analysis of the Olympia water supply is as follows:

<table>
<thead>
<tr>
<th>Substance</th>
<th>Symbol</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Silica</td>
<td>SiO₂</td>
<td>47.50 ppm</td>
</tr>
<tr>
<td>Iron</td>
<td>Fe</td>
<td>.02 ppm</td>
</tr>
<tr>
<td>Manganese</td>
<td>Mn</td>
<td>.075 ppm</td>
</tr>
<tr>
<td>Calcium</td>
<td>Ca</td>
<td>10.40 ppm</td>
</tr>
<tr>
<td>Magnesium</td>
<td>Mg</td>
<td>7.40 ppm</td>
</tr>
<tr>
<td>Sodium</td>
<td>Na</td>
<td>3.80 ppm</td>
</tr>
<tr>
<td>Potassium</td>
<td>K</td>
<td>1.73 ppm</td>
</tr>
<tr>
<td>Bicarbonate</td>
<td>HCO₃</td>
<td>62.71 ppm</td>
</tr>
<tr>
<td>Sulfate</td>
<td>SO₄</td>
<td>23.00 ppm</td>
</tr>
<tr>
<td>Chloride</td>
<td>Cl</td>
<td>2.94 ppm</td>
</tr>
<tr>
<td>Fluoride</td>
<td>F</td>
<td>.33 ppm</td>
</tr>
<tr>
<td>Nitrate</td>
<td>NO₃</td>
<td>6.20 ppm</td>
</tr>
<tr>
<td>Nitrite</td>
<td>NO₂</td>
<td>.013 ppm</td>
</tr>
<tr>
<td>Phosphate</td>
<td>PO₄</td>
<td>.63 ppm</td>
</tr>
<tr>
<td>Total Solids</td>
<td></td>
<td>134.9 ppm</td>
</tr>
</tbody>
</table>

Hardness as CaCO₃

<table>
<thead>
<tr>
<th>Substance</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total</td>
<td>63.60 ppm</td>
</tr>
<tr>
<td>Alkalinity</td>
<td>51.40 ppm</td>
</tr>
<tr>
<td>Noncarbonate</td>
<td>12.20 ppm</td>
</tr>
<tr>
<td>Calcium</td>
<td>25.96 ppm</td>
</tr>
<tr>
<td>Magnesium</td>
<td>30.46 ppm</td>
</tr>
<tr>
<td>Free Carbon Dioxide (CO₂)</td>
<td>29.0 ppm</td>
</tr>
<tr>
<td>Hydrogen Ion Concentration (pH)</td>
<td>8.13</td>
</tr>
<tr>
<td>Specific Conductance (Micromhos/cm, 25°C)</td>
<td>127.00 ppm</td>
</tr>
</tbody>
</table>
PLATE 12

PHOTO OF MODEL

THE EVERGREEN STATE COLLEGE

OLYMPIA WASHINGTON

DURHAM, ANDERSON, AND FREED
SEATTLE, WASHINGTON

QUINION ENGINEERS, LTD.
SEATTLE, WASHINGTON

SCALE IN FEET

VERTICAL SCALE
THE MASTER PLAN

The development of a comprehensive master plan of The Evergreen State College requires that all basic factors affecting the site and the desired form and function of the college plant and program to be brought together. A synthesis of an organically composed total installation may then occur. Such a requirement for compilation of influences automatically calls for analysis of topography and soils, vegetative cover, drainage, access, off-site utility services, adjacent land use, land use controls, and the total predicted growth and educational program of the college. This is the process which has been followed in developing the master plan for The Evergreen State College to the stage possible at the date of this report. Plate 12 shows a photograph of preliminary model and Plate 13 shows the master plan for the Phase I study.

Primary access is considered to be necessary from the U.S. 101 freeway, and since this would serve as a gateway route, it is proposed that it originate in a grade separation near the northwest edge of the Black Hills above Mud Bay. Proceeding northward on a hillside support, this road could follow an easy alignment and grade and eventually could achieve a total parkway character, utilizing a variable width median and individual grade lines for the separated roadways. This would provide a highly desirable entry to the college.

Primary circulation through the site has developed as a “ring road” around the campus, providing access to the exterior face of the academic campus and, alternatively, to the housing units located outside the loop road. Spur roads provide access to the conference center, north campus area and beach. An internal “local” connecting link from the east entranceway to the south entranceway completes the “ring road.”

A basic land use decision places major academic functions within the ring road with housing and special use functions outside this road. The intent here is to provide a pattern of traffic movement which brings automobiles arriving for academic functions off of the main roadway into parking areas where they are then deposited. The passengers then alight and proceed on foot into the campus core. Ideally, no crossing of vehicular and foot traffic occurs. Exit movement exactly reverses the sequence of entry movement.

Internal circulation occurs over conveniently accessible central or accessory walks and pathways which can also accommodate, where necessary, both service and emergency vehicles. The character of these walkways is expected to be commodious, but informal, permitting a full capture and retention of the wooded landscape of the site.

The academic core is basically a building complex surrounding the wooded knoll — the highest point on the campus. Circling this knoll, at an upper level, is a primary but informal connecting walk, providing pedestrian circulation between major building groups within an informal wooded preserve. Buildings will step down the hillside from this upper level, thus relating at their upper entrances to the pedestrian activity and at their lower floors to the ring road and vehicular services.

The administration building group is proposed to be placed where its “public business” component can relate to the principal entrance drive, both locationally and elevationwise. The extreme upper level, relating to the campus, is proposed for academic administration activities. Joining them would be the computer center — available to serve both areas of administration, but also accessible from the campus.

Two academic groups are intended to be created of related pairs of building complexes. These would be the social sciences group and the physical sciences group. Each of these pairs would be functionally joined at the lower elevation and would, in effect, enjoy a “sub-campus” relationship to each other. Hence, a person traversing the informal upper level pedestrian ring-mall might pause to look down into the lower level plazas joining the related educational “pairs,” and experience a visual impact quite different from that of his immediate informal surroundings.

Joining the academic complexes in a central dominant location is the library — logically expected to be a major building on the campus — and joined physically and functionally by a major lower level mall to the college union. The union is, in turn, connected by a series of malls and plazas, to the performing arts center. Thus, the library-union-performing arts facilities and functions tend to be grouped and made convenient for maximum interaction forming a potentially vital educational-social-community relationship activity core. Access to this area and parking is available from the major campus drives, and a difference in the elevations between the “activity plazas” of this group and the upper academic circulation mall permits a logical separation of student and semi-public groups, as and if desired.

Continuing eastward from this activity core to the edge of the playfield area via a major circulation mall and a pedestrian overpass over an internal service drive, the formal campus development terminates in a gymnasium installation so located as to be related, yet separate from the internal campus and easily accessible to traffic from off campus.

Housing groups are established individually in varied settings almost equidistant from the academic and educational-social activities core. Future cluster colleges, if established, will occupy separate and distinctively different sites more remote from the central campus area. A possible drainage retention lake on the north edge of the campus creates the opportunity for a unique special sub-campus if and when it might be justified in the future college program. Finally, in the same general northern sector, a prominent point overlooking the waters of Eld Inlet has been designated for the site of a conference center — a college-sponsored installation for “continuing education,” activities of value both to the college and the public, and particularly vital in view of the campus’ proximity to Olympia, the seat of State Government.

Peripheral to the central campus area are major forest areas near the south entrance designated as “ecological preserves” offering the opportunity for total natural environment studies. The northwesterly slope between the campus and Eld Inlet
may be selectively cleared to provide views and vistas towards the water and to provide possible additional recreation area. This clearing process should be carefully and methodically accomplished to preserve the best of existing growth. The beach should be made accessible both by carefully planned and developed footpaths through the ravines, and by a limited driveway to the water level and any installations such as recreational boat moorage facilities and/or teaching facilities, if required.

Finally, quite naturally, the more isolated extension of the site eastward towards Kaiser Road will become the location of the proposed playfields and, if and when required and justified, any formalized major athletics installation. Such a location utilizes the flatter portions of the property and presents the possibility of separating major off-campus traffic from on-campus traffic in the case of major events at the fieldhouse and stadium site.

Landscape development, it is proposed, will be placed within two major categories. The bulk of the undeveloped, or non-architecturally oriented portions of the site, may well be treated by selective cutting and clearing in areas outside of the preserves. Augmentation or aiding the best quality native growth would be the limit of cultivation efforts. Exposure of specimen trees or outstanding groves by restricted selective cutting could gain the greatest advantage from the natural landscape qualities of the site.

Within the architectural plazas and walls more restricted and intensively cultivated, plantings could be developed, using the best of the plant materials available in the richly endowed botanical vocabulary of the Puget Sound area.

This master plan provides expansibility and flexibility necessary to meet future educational requirements as the college develops into a major educational institution. In addition, the plan can be totally compatible with the planned future development of the Cooper Point area.

Internal Circulation and Parking

The internal circulation system, as proposed, indicates several types of roadways; the primary or backbone component of the system being the divided roads separating the major academic and residential areas. These roads would serve as major traffic arteries and as scenic drives, and will connect directly to major access arterials. The character and configuration of this major arterial has been a major consideration throughout the planning process since it affects the inter-relating components of the overall plan. During design and construction, special care should be given to grade, alignment, lighting, landscaped treatment, views and above all, the preservation of desirable existing vegetation. These major arterials should be constructed to their ultimate configuration during the initial phases of the campus development program since they will serve as vital access routes for the progressive development of the college.

Parking on campus has generally been dispersed so that the individual areas can be integrated into the landscape. It is a basic concept that the internal academic and residential areas be isolated as much as possible from the automobile except for vital access routes for emergency and service vehicles. Local or service roads have been planned and will be constructed to appear as pleasant walkways rather than service drives. The area between the library, the administration complex and the westerly classroom complex is planned as basically a park, and though emergency and service vehicle access must be provided, it is important the area be treated as a pedestrian complex and that the major walkways are capable of service drives for emergencies or intermittent service use. All roads and parking areas should be provided with adequate lighting but only to the levels required by the activity and for safety.

The road and parking area configuration has been planned to safely maximize traffic movements to destination points throughout the campus. Left turn movements will be handled by left turn lanes at intersections or entrances to parking areas. As the campus grows, it may prove necessary to provide signalization at major intersections. It is proposed that major parking be dispersed within the “ring road” so that the basic movement of traffic will occur in following sequence; upon arrival — from moving vehicle to parked vehicle, to pedestrian, to destination without intentional crossing of major traffic flows by pedestrian. Upon leaving, the reverse sequence would occur.

All arterials are proposed to be constructed to Washington State Highway Department and City of Olympia standards, when applicable. Modifications of these standards will be made to accommodate unique aspects of the campus in terms of aesthetics and maintenance. In general, the roads will be designated for a maximum design speed of 40 mph with proper consideration of established standards for efficient traffic movement and safety. See Appendix A for parking policy.
Site Grading

Grading on the site should be accomplished carefully as the program develops and as individual facilities are planned and designed.

It is recommended that mass grading not be attempted as an arbitrary approach, although it may be required to improve drainage of large areas of ground devoted to athletic playfield use or mass parking areas. It is intended in this conceptual stage of the plan that grading be confined to such areas and that it not be a major pre-requisite of any building grouping design. Because the general topographical configuration of the site and the proposed development plan place more intense building groupings on the more rolling sections of topography, such an approach to the restrictive control of mass grading seems entirely realistic.

Detailed or limited grading operations intended to accommodate the ground surface to structures, roads, parking or special use areas should be tailored to the specific requirements of that particular segment of the site. However, general rules can be developed which establish parameters and an approach to grading design for such projects.

Basically, areas of prime tree growth will be avoided or very sensitively planned for development to preserve or best utilize that growth. Where fills are not intense or where structural containment is possible without extensive damage to the root mass, trees can be preserved by welling or other treatment. Where cuts occur which are liable to change the water table or deprive trees of natural ground moisture, removal of tree growth may be necessary. Where confinement of extended cut or fill slopes by structural means will preserve major groups of prime trees or shrubbery, such structural confinement should be considered and measured for cost and effectiveness.

Generally speaking, it is anticipated that major building groupings will accommodate themselves to changing grades, stepping down hillsides and providing terraces at intermediate grades with integrally designed retaining walls to limit grading.

Where slopes are incurred, whether for fill or cut, aesthetic handling of slope profiles as to contour and visual form will be crucial. Ultimate treatment with selected seeding or landscape materials, whether sterile or growing, to control erosion is a necessity.

Maximum allowable gradients in graded ditches or swales and the handling of runoff from major areas over man-made cut or fill slopes and nature of soils exposed therein must be scrutinized to avoid the creation of erosive conditions on the site. Treatment with various erosion control methods, applications or installations may be a necessity but can many times be forestalled by grading design properly related to the soil types exposed.

All building or construction projects should be programmed to include a complete site grading and site development program. Such a program should restore the disturbed area to a state and quality compatible with the general grading and landscape development plan desired for the balance of the campus, and should create visually desirable slopes and surfaces which may in themselves enhance and be a part of the building design.

Water Distribution

The adjoining "Water Distribution" map, plate 14, shows the trunk water system. This schematic plan is intended to show a distribution system which will provide a dependable supply of water to any point on the campus for both domestic and fire protection purposes.

The basic component of the water distribution system is the on-site pumping station with suction withdrawal from back-up ground level storage reservoirs. These facilities have been included in the master plan since the supply main from the City of Olympia will not satisfy the college's requirements for adequate fire flows at minimum residual pressures. This problem is further complicated by the absence of nearby storage and dependence by the college on a single supply main.

The proposed pumping station and storage reservoirs will be constructed in two stages. Stage I will have a 1.25 million gallon capacity with Stage II adding 0.75 million gallons totaling 2.0 million gallons to serve the college and the surrounding community. The pumping station will boost the pressure to the system operating level.

Approximately 50% of the pumps will be supplied with standby diesel power for use in the event of a power failure.

The distribution system will be designed to supply the required fire flow and the peak domestic flow rate. The system will be flexible for expansion to serve outlying complexes or facilities that will be added in the future. The system will be divided into two separate pressure zones:

Zone I:

Primary service pressure based on off-site storage reservoirs operating at a static elevation of 288 feet above sea-level. This pressure zone can be used to supply the on-site reservoirs, the stadium complex, and the area north of Driftwood Road.

Zone II:

The primary distribution system will operate at an approximate elevation of 375 to 400 feet above sea level. This zone will be used to serve the major portion of the campus.

Distribution piping, pumping station and storage reservoir capacities have been tentatively sized for estimating purposes according to average daily flows for the anticipated student population and fire flow requirements in the building complexes. Design will become more specific as actual building sizes and uses are determined. In general, domestic flow rates have anticipated 175 gallons per capita day for full time residents and 20 gallons per capita day for transients. Minimum domestic pressure will be established at 40 p.s.i. A fire flow rate of 2,000 gallons per minute at a residual pressure of 30 p.s.i. will be used. Storage requirements were computed on the basis of a 48-hour domestic demand plus a two hour duration fire flow.
The Evergreen State College
Olympia, Washington

ON SITE DISTRIBUTION
FUTURE REGIONAL SUPPLY
PROPOSED REGIONAL SUPPLY
WATER METER

WATER DISTRIBUTION

PLATE 14
Sanitary Sewers

The accompanying Plate 15 shows the sanitary sewer trunk system without showing connections to individual buildings. The system shown has been designed on the basis that wastes will be initially transmitted to the City of Olympia's municipal collection system and treatment plant. At a future date, the wastes will discharge directly into a proposed Cooper Point trunk system which will flow to the north.

Approximate sewage flows have been determined in order to arrive at order of magnitude costs for the system and also to aid the City of Olympia in their planning. These flows or corresponding pipe sizes are not indicated since they in the future will be subject to detailed design. The system has been planned to provide gravity flow and to minimize lengths of force main and numbers of pumping stations; however, the irregular topography will necessitate the inclusion of several pumping stations in lower areas. The proposed complex near Eld Inlet clustered around the proposed lake will be difficult to serve. Sewage in this area could be directed towards the Inlet if the proposed water level interceptor were to be constructed. Planning will anticipate this possibility but will include the provision of a pumping station and force main back to the major campus collection system. If the waterfront interceptor is built, the pumping station could be eliminated and the wastes directed to this interceptor.

Although the college will be developed in increments, the physical configuration of the sanitary sewer system requires that most of the major trunk lines be constructed in the first construction phase. These lines will be sized for the ultimate flows but some modifications will be necessary in the pumping stations when the system is subjected to additional flows.

The system will be designed to handle peak flows from the building complexes with a minimum velocity to provide a system capable of operating with a minimum amount of maintenance. Pumping stations will be placed underground and capable of pumping the peak flow rates with standby capability.

All sewerage lines and appurtenant facilities will conform to standards of the City of Olympia and will be in accordance with established criteria and standards for such work.

Power Supply

The Olympia area is served by the Puget Sound Power and Light Company. Adequate power is available to serve the initial college development. Although the power company has a regional sub-station located near Kaiser Road and Walnut Street, the need for an additional regional substation located nearer the campus is anticipated. Additional power backup is being planned by means of a proposed 115 kv. transmission line near U.S. 101 which will service the entire area. See Plate 11.

The existing distribution voltage is 12.5 kv., 3-phase, and it is planned that this will remain as the distribution voltage.

Present plans provide for the primary power supply to enter the substation overhead, but distribution within the campus will be in underground duct systems.

Telephone Service

Telephone service to the college campus will be provided by Pacific Northwest Bell Telephone Company. Since the announcement that The Evergreen State College will be constructed on Cooper Point, advance planning by the telephone company has anticipated extensions or establishment of new cable lines into the general area to accommodate the college as well as other proposed developments.

The telephone company will be faced with the necessity to modify their existing service system as the college begins to affect existing road right-of-ways. It may be necessary to either relocate these existing overhead lines around the campus or place them in underground ducts in an easement across the site. It seems probable that costs of any underground placement would be shared by the college.

Natural Gas Supply

The Olympia area is served by the Washington Natural Gas Company. Natural gas usage is constantly increasing and supply is adequate to serve any type of installation. Presently the gas company has high pressure pipeline southwest of Olympia. They state that the college can easily be served at competitive rates. The economy of utilizing gas for space heating will be subject to further detailed comparative studies.
Electrical Power and Communications

Plate 16 illustrates a schematic layout of the proposed electric power and communications system. It is proposed that all lines be placed underground in concrete encased duct banks with access manholes.

Distribution on site will originate from a new sub-station or switching station to be constructed near Overhulse Road. The underground system will be designated to serve a variety of uses including power, telephone, security and fire warning systems, communication systems relating to teaching programs, television transmission, and other special systems that may develop in the college's academic programs and business operations. Provisions will be made for the incremental growth of the buildings as well as for the inclusion of systems to be added at a later date. The overall system will have the flexibility for interconnecting all building complexes.

The substation or switching station on site will be sized for incremental growth.

All existing overhead lines will be removed, or placed underground, as part of the ultimate development.

Central Heating & Refrigeration System

An analysis will be made in a subsequent phase of this planning study, to determine the most economical system for meeting heating and air conditioning requirements.

For purposes of establishing cost estimates a conventional type of system has been selected utilizing high pressure steam boilers and electric driven water chillers. This type of system has been utilized most frequently in the past for similar types of institutions. Other types of systems which may prove advantageous when additional necessary data is available include the following:

1. An all electric system;
2. A central plant for the main grouping of buildings and an all electric system for outlying buildings;
3. High temperature water with electric driven chillers;
4. Total energy system.

The tentative system selected consists of a central plant with multiple high pressure boilers fired with oil and gas, and electric driven centrifugal water chillers. Steam and chilled water would be distributed to the various buildings through high quality, insulated, underground conduits. Distribution mains would be sized to accommodate the future buildings. As the utility demand increased, the number of boilers and chillers would be increased in increments.


Storm Drainage

The site has good natural drainage, an exception being the area east of Overhulse Road. Natural drainage patterns are illustrated on the “Geology and Drainage,” Plate 17, and show positive drainage within the major building complex. Local areas of poor drainage exist adjacent to Overhulse Road and near Kaiser Road. In order that positive drainage be provided in these areas, a combination of open channels and pipe systems should be constructed together with general grading to improve surface runoff to the drainage system.

In general, the building areas, parking areas and roads will require a combination of pipe systems, culverts, ditches, earth swales, channels and sheet flow runoff. The basic concept of the drainage system will be to control erosion, intercept the runoff before large accumulations occur, and preserve the natural drainage patterns as closely as possible. Because of the undeveloped character of the campus between building complexes, these areas will percolate substantial quantities of storm water. Sub-drain systems around buildings may be required which will discharge either into natural or man-made drainage courses or pipe systems. Of particular concern will be the provision for drainage in electrical and communication manholes or tunnels.

Surface runoff tributary to building and paved areas will be intercepted before settling can occur on the pavement, in catch basins and pipe systems, thus reducing maintenance problems. Velocity retardant facilities will be provided where runoff is concentrated and erosion is anticipated.

Plate 17 shows major elements of the over-all drainage systems. Of specific concern are the open channels at the athletic and stadium complex and the lake which will also function as a reservoir for storm runoff.

The open channels between Overhulse and Kaiser Roads will be designed to be integral with the road system with discharge directly to the natural water course paralleling Kaiser Road. Pipe culverts will be provided at roads and entrances to parking areas with pipe systems collecting storm water runoff from the paved and landscaped areas.

The proposed small lake shown on the north campus will be subject to further detailed study. Actual quantities of runoff must be determined to properly size the optimum water area but additional water supplies may be required at times of low flows if runoff does not replenish the losses from evaporation or percolation. This additional water may be supplied from wells. Special attention must be given to water quality, soils problems and dam structure itself. Because of the possibility of water entering lenses of soil under the proposed cluster complex near Eld Inlet, the possibility of earth slides should be investigated and it may be necessary to line the lake to avoid such possibility. The proposed scheme provides an earth fill dam to retain the lake. This structure will be constructed of materials appropriate for such structures and will include overflow capabilities for periods of major runoff. It is possible that satisfactory native materials may be available at higher elevations on the site for the core construction of the earth fill structure.

Design of all facilities will be based on rainfall frequency curves for Olympia, Washington. The design storm period will be 10 years for undeveloped areas not adversely affected by intermittent flooding, and 25 years for building or developed areas where positive runoff control is critical. Appearance of all drainage structures should be carefully planned with the basic intent that they fit into their surroundings and be aesthetically acceptable.
ARCHITECTURAL CONCEPTS

Research Into Contemporary Educational Institutions

Principals of the architectural planning team have visited more than thirty new institutions of higher learning. These include those which have started from the bare ground to a complete university or those with a major improvement program which has essentially changed the concept of the institution. During the visits, relationships between the spaces were studied and architectural and construction techniques noted. Slide photographs were secured during most of the visits and colored slides have been used for study by the staff during the formation of the master plan for The Evergreen State College.

The visits gave an opportunity to study continuity of architectural design, student traffic patterns, parking solutions, treatment of natural environment and construction of man-made lakes, reflecting pools, avenues of trees, etc. There appears to be little continuity in the architectural design pattern from one institution to another. There are many evidences of the use of new construction technology including precast concrete, integration of mechanical and electrical facilities with architectural treatment and efforts to create flexibility for future change.

Projected Building Life

It is proposed that all buildings be of Class A fireproof construction with great care taken in the interrelationship of mechanical and electrical systems which will allow future alteration. The selection of materials is proposed to produce a fifty-year usable life for surface materials.

Economy of Construction

Studies will be developed to assist in selecting a type of construction which will lead to efficiency and economy. A modular floor and column system which can be projected in three directions in order to take care of the hillside topography is considered essential. Wall panels which will allow a great deal of variety can then be utilized in exterior surfaces. Interior partitions should be of salvagable type made up of flexible building components. Such a system will utilize most of the advantages of the so-called movable wall while requiring only a fraction of its first cost.

Design Concept

While the basic planning philosophy has been discussed earlier, it is anticipated that this general philosophy will be incorporated into an overall concept with accent on excellence in design. This concept will evolve during the early stages of the Development Planning Studies, Phase 2, and will establish standards which will influence the subsequent project design phase.

Operation & Maintenance Study

During the review of new colleges, there has been an opportunity to study operational and maintenance factors affecting planning. A detailed study will be made to determine the most efficient and desirable method of heating and air conditioning of major structures. Consideration will be given in further studies to creating minimum fiscal maintenance requirements and to produce operational efficiency for both faculty and maintenance staff.

Special emphasis will be placed on the servicing of college buildings by off-campus vehicles. Pedestrian pathways will be designed to accommodate emergency and service vehicles.

Space Requirements

Development of the master planning concept opens up many avenues for providing flexible and attractive space. The difference in contours surrounding the hilltop upon which the academic core is proposed allows the development of three-dimensional modular space. This will allow for the economy of a day-light basement with the appearance of a main floor. The master plan incorporates the functional space requirements recommended by the Arthur D. Little Company. The phasing plan, Plate Nos. 19 & 20 allows for logical and convenient steps between one construction period and another.

Building relationships conform to recommendations of the educational consultant. The library becomes the focal point of an academic core with classroom facilities, laboratories, the college union and the center for performing arts conveniently nearby. Physical education facilities and accessory recreational facilities have been located convenient to the residential center. For space requirements for all programs see section which follows entitled "Phase Development and Cost Estimates."

Atmosphere Sketches

The sketches on the following pages are included primarily to suggest the educational environment which may be captured, preserved or created within the various campus areas.
1 LECTURE HALL
The interior of a lecture hall illustrates the latest in educational equipment. The student is made aware of the beauty of the site through windows which augment the functional advantages of acoustics, sight lines and the best in audio visual techniques.

2 LIBRARY TERRACE
Through the glass wall of the college library one can appreciate the wealth of informational material available and at the same time absorb the beauty of a dramatic terrace overlooking the Olympic Mountains. Appropriate outdoor reading areas will be provided related to the library stacks.
3 SPACE FOR DISCUSSION

Because of the college’s strategic relation to the state capital, it is anticipated that there will be a development of an important center for civic leadership and for the social sciences. The college will provide many spaces where students can search for new insights under ideal environmental conditions.

4 LEARNING RESOURCES CENTER

An important college built in the computer age must provide space not only for sophisticated educational equipment of this day and age but be flexible enough to adequately coordinate new tools not yet developed in buildings which will permit non-interuptive visual contact with this natural setting.
ENVIRONMENT FOR LEARNING

The aim of the architects and planners for the college is to marry man-made architecture with natural beauty. The watchword will be utilization of and conservation of the natural beauty of the site in every conceivable manner.

STUDENT SERVICE CENTER

The traditional college union building will be given a new environmental shape for student activity in order to capture the drive for student self-determination and to make it a part of the educational process. The sketch illustrates a student service mall which will form a link for activities between the academic center and the major residential clusters.
EVERGREEN TERRACE

Outdoor spaces for relaxation, for education, for discussion and for meetings will take second place to nature. The spirit of the campus will be the word, "Evergreen." Buildings will be fitted around trees and man-made architecture appropriately related to the natural landscape in order to create a unique campus environment.

OLYMPIC VIEWPOINT

The highest point of the 900-acre campus will be preserved for a viewpoint overlooking Puget Sound and the Olympic Mountains. The viewpoint will be immediately adjacent to the major student mall and next door to the college union and performing arts center. By the same token the terrace at the south end of the academic mall will afford a view of Mount Rainier.
COLLEGE ENTRANCE

A four-lane highway designed for convenience to the public and for the ultimate enrollment of the college will form a link between the Aberdeen-Olympia freeway and the new college site. An appropriate entrance symbol will mark the edge of the main campus.

PARKING MALLS

The many students who drive to The Evergreen State College will park their cars in small informal spaces surrounded by native trees and vegetation. Their walk from the parking area to the academic area will take them on pleasant informal pathways and through pedestrian mall areas.
11 BRIDGES AND BREEZeways

Major buildings will be connected by covered walkways which will allow the students and faculty to move from one building to another comfortably in inclement weather. Maximum advantage will be taken of the opportunity to allow a freedom of choice to cross from one learning center to the other in the mild Puget Sound environment or to choose the protected path.

12 ACADEMIC MALLS

A major grove of trees at the top of the highest knoll is being retained as an "evergreen mall" sheltering relaxing conversational and connecting terraces and pathways. The terraces and the grove will offer unique vistas of distant mountains. The site offers an opportunity to combine an environment appropriate to Washington State in complete harmony with the beauty of the natural setting.
ARCHITECTURE FOR GROWTH

The search for meaningful structure and architecture for the final construction aims to provide a flexible module which will allow the college to grow from its initial enrollment to an ultimate capacity of 12,000 students. Modular fireproof structures and flexible mechanical and electrical facilities will allow a variety of surface materials, appropriately complementing the natural setting.

OUTDOOR THEATER

This is a pleasant convenient place for students to gather for discussions or for outdoor presentations to be made by those interested in anything from drama to politics. Such an assembly area would be adjacent to major indoor facilities for the performing arts and student seminar rooms.
IMPLEMENTATION

Phase Development and Cost Estimates

To facilitate the orderly and efficient staging of the new college facilities, construction development is planned in four phases. The first phase is scheduled during the 1969-71 biennium, the second phase during the 1971-73 biennium, the third phase during the 1973-75 biennium and the fourth phase or the final program during the 1975-77 biennium. Preliminary estimated costs are summarized in the following tabulation.

<table>
<thead>
<tr>
<th>Phase</th>
<th>Year</th>
<th>Buildings</th>
<th>Roads and Site</th>
<th>Utilities</th>
<th>TOTALS</th>
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<tr>
<td>First Phase</td>
<td>1971</td>
<td>$37,970,523</td>
<td>$7,917,000</td>
<td>$5,008,280</td>
<td>$50,895,803</td>
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<tr>
<td>Second Phase</td>
<td>1973</td>
<td>$24,162,447</td>
<td>$2,164,800</td>
<td>$1,461,600</td>
<td>$27,788,847</td>
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<tr>
<td>Third Phase</td>
<td>1975</td>
<td>$23,355,422</td>
<td>$2,307,000</td>
<td>$1,702,080</td>
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<tr>
<td>Final Phase</td>
<td>1977</td>
<td>$49,525,044</td>
<td>$8,456,400</td>
<td>$3,527,160</td>
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</tr>
<tr>
<td>Totals</td>
<td></td>
<td>$135,013,436</td>
<td>$20,845,200</td>
<td>$11,699,120</td>
<td>$167,557,756</td>
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</table>

The estimated cost for each item includes the cost of design, construction, equipment and administration of the construction program. A factor for inflation was also included. Costs developed are total costs and do not reflect any possible reductions due to federal or other fund grants.

An important element in a long range development program is the need for careful coordination of design and construction planning. Administrative tools such as CPM and PERT scheduling systems are important in such operations to assure coordination of structural and utility elements as design and construction progresses. The timely placement of all materials and implementation of needed manpower may also be achieved. Optimum utilization of funds, especially critical in a project of this magnitude, is also obtained. In addition, costs may be reduced by an orderly and significant contract arrangement suitable to qualified contractors.

The phased development program has been determined from data furnished by the Arthur D. Little Company. These data, if revised in subsequent studies, should become the basis for future construction program revisions and corresponding revisions of the campus master plan.

Maintenance and Operation

Design criteria and standards are expected to be developed in a subsequent study by the consultants. New facilities will be designed utilizing optimum standards of quality, economy and ease of maintenance. Careful selection of construction materials, equipment and control of installation methods, in conformance with established standards, will produce a sound, low maintenance physical plant.

In the initial operation and maintenance of utility services, roads or structures, the college administration may wish to arrive at agreements with the City of Olympia, Thurston County, agencies of the state or utility companies. The importance of a qualified physical plant staff must be emphasized in the interest of operating all systems with minimal down time, preventive maintenance and efficiency. Maintenance and operation performance and cost records must be kept and careful planning must be exercised in the continuity of systems operation during the construction of additional facilities.
### PROJECTED AREAS AND COSTS

#### FIRST PHASE – TO 1971

**3500 Students**

<table>
<thead>
<tr>
<th>Area</th>
<th>Floor Area</th>
<th>Estimated Cost</th>
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<td>Instructional</td>
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<td>32,032</td>
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<td>College Union</td>
<td>89,232</td>
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<td>Physical Education</td>
<td>53,865</td>
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<td>Health Services</td>
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<td>Administration</td>
<td>32,340</td>
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<td>Maintenance Shops, Etc.</td>
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<td>Residential Food Service</td>
<td>13,266</td>
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<td>Roads – Off-Site</td>
<td>3,300,000</td>
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<td>Power and Communications</td>
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<tr>
<td>Total</td>
<td>831,922</td>
<td>$ 50,895,803</td>
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</table>

Revised 12/18/68.

### PROJECTED AREAS AND COSTS

#### SECOND PHASE – 1971-1973

**5600 Students**

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<th>Area</th>
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<td>44,831</td>
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<td>College Union</td>
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<td>2,044,005</td>
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<td>Physical Education</td>
<td>14,630</td>
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<td>Health Services</td>
<td>2,803</td>
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<td>Academic Offices</td>
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<td>221,375</td>
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<td>9,664</td>
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<td>Roads – Off-Site</td>
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<td>Sanitary Sewers – Off-Site</td>
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<td>59,400</td>
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<td>79,200</td>
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<td>Storm Drainage</td>
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<td>Heating &amp; Air Conditioning Distribution</td>
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<td>Power and Communications</td>
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<td>Site Improvements</td>
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<td>Total</td>
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### PROJECTED AREAS AND COSTS
#### THIRD PHASE – 1973-1975

**6900 Students**

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<td>College Union</td>
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<td>Physical Education</td>
<td>30,590</td>
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<td>7,623</td>
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<td>Storage – Supplies</td>
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<td>Maintenance Shops, etc.</td>
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<td>297,000</td>
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<td>Residential Food Service</td>
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<td>Roads</td>
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<td>Sanitary Sewers</td>
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<td>Water Distribution</td>
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<td><strong>482,305</strong></td>
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### PROJECTED AREAS AND COSTS
#### SUMMARY

**12000 Students**

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<td>10,640</td>
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### PROJECTED AREAS AND COSTS
#### FINAL PHASE – 1975-1977

**12000 Students**

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<td>College Union</td>
<td>271,843</td>
<td>13,318,742</td>
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<tr>
<td>Physical Education</td>
<td>109,725</td>
<td>4,673,951</td>
</tr>
<tr>
<td>Health Services</td>
<td>43,680</td>
<td>3,594,687</td>
</tr>
<tr>
<td>Academic Offices</td>
<td>165,539</td>
<td>7,973,628</td>
</tr>
<tr>
<td>Administration</td>
<td>70,224</td>
<td>3,188,518</td>
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<tr>
<td>Computer Center</td>
<td>12,320</td>
<td>594,708</td>
</tr>
<tr>
<td>Storage – Supplies</td>
<td>13,860</td>
<td>350,295</td>
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<tr>
<td>Maintenance Shops, etc.</td>
<td>27,772</td>
<td>950,713</td>
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<tr>
<td>Heating – Air Conditioning Plant</td>
<td>25,000</td>
<td>3,981,000</td>
</tr>
<tr>
<td>Residential</td>
<td>1,100,000</td>
<td>47,824,755</td>
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<tr>
<td>Residential Food Service</td>
<td>53,544</td>
<td>2,886,166</td>
</tr>
<tr>
<td>Roads – Off-Site</td>
<td>3,300,000</td>
<td></td>
</tr>
<tr>
<td>Roads</td>
<td>4,207,200</td>
<td></td>
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<tr>
<td>Sanitary Sewers – Off-Site</td>
<td>650,000</td>
<td></td>
</tr>
<tr>
<td>Sanitary Sewers</td>
<td>484,080</td>
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<tr>
<td>Water Supply – Off-Site</td>
<td>150,000</td>
<td></td>
</tr>
<tr>
<td>Water Distribution</td>
<td>910,800</td>
<td></td>
</tr>
<tr>
<td>Storm Drainage</td>
<td>1,419,360</td>
<td></td>
</tr>
<tr>
<td>Heating &amp; Air Conditioning Distribution</td>
<td>5,179,680</td>
<td></td>
</tr>
<tr>
<td>Power &amp; Communications</td>
<td>2,905,200</td>
<td></td>
</tr>
<tr>
<td>Site Improvements</td>
<td>150,000</td>
<td></td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>2,671,700</strong></td>
<td><strong>$167,557,756</strong></td>
</tr>
</tbody>
</table>
APPENDIX A

Parking Policy

The planners contend that it is impossible to plan and develop a campus which will completely solve the automobile traffic and parking problem without an integrated policy of administrative control and enforcement. Research has shown that some students (and faculty members) will drive from building to building on a campus (even though the buildings stand side by side) if allowed to do so and parking space is openly and freely provided. Since roads and driveways must be provided, the key to this situation is, first, the restriction, if any, placed upon the possession and operation of motor vehicles on campus and the nature and degree of control placed upon their whimsical use.

Since students will require automobiles for access to The Evergreen State College campus either on a resident or day-commuter basis, or from campus to off-campus employment, etc., the necessity for the admission and parking of relatively large numbers of vehicles must be recognized and accepted.

Parking takes on several aspects:

1. The relatively long term storage of vehicles belonging to dormitory or housing group residents, with limited demands for daily mobility, both on and off campus;
2. The more mobile short term storage of such cars by resident students with off-campus employment;
3. The daily storage of vehicles for non-resident students, faculty or staff members;
4. The evening parking load expected to be generated by a sizable non-resident evening class program;
5. The occasional mass parking requirement created by special events.

If the contention is correct that the possession and operation and storage of a motor vehicle on the campus of the college is a privilege (as opposed to being a right) then the college administration in turn has the right, and perhaps the obligation, to state how that motor vehicle shall be operated or stored while on campus. This evolves from the fact that possession, operation and storage of a vehicle, repeated in great numbers, creates certain problems, namely:

1. The required provision of adequate roads, driveways and parking areas;
2. The quantitative determination of parking space needs generated at each building complex by staff, faculty and “major” students;
3. Construction thereof based upon experience ratios with percentage factors applied for occupancy ratios and/or occasional visitor spaces;
4. The assignment of cars to spaces within an area on a “compound” rather than an “assigned” space basis;
5. The identification of cars for “compound” space use allocation by colored or coded identification markers;
6. The limited enablement of inter-area transfer of vehicles either by application of a token charge or special permit system where a demonstrated need for such transfer exists;
7. The enforcement of space use control measures with graduated penalties for consistent or repetitive violators which could culminate in the revocation of operation and/or storage privileges on the campus properties.

The objectives of such parking program are, of course, the provision of the required parking space, the limitation of parking space construction to the required minimum located relatively close to parking “generators,” and the minimization of whimsical movement of cars between the established areas. Only through a consistent policy determination, application and enforcement can the on-campus parking problem be solved.
APPENDIX B

Wind

The following is a tabulation of wind data at the nearby Olympia Municipal Airport, latitude 46° 55' north, longitude 122° 54' West, elevation 190.0 feet above mean sea level.

<table>
<thead>
<tr>
<th>Direction</th>
<th>Mean Velocity</th>
<th>Percent of Year</th>
</tr>
</thead>
<tbody>
<tr>
<td>N</td>
<td>7.2</td>
<td>5.7</td>
</tr>
<tr>
<td>NNE</td>
<td>7.3</td>
<td>4.7</td>
</tr>
<tr>
<td>NE</td>
<td>10.1</td>
<td>6.2</td>
</tr>
<tr>
<td>ENE</td>
<td>7.6</td>
<td>1.9</td>
</tr>
<tr>
<td>E</td>
<td>6.8</td>
<td>1.9</td>
</tr>
<tr>
<td>ESE</td>
<td>6.4</td>
<td>1.4</td>
</tr>
<tr>
<td>SE</td>
<td>5.7</td>
<td>2.9</td>
</tr>
<tr>
<td>SSE</td>
<td>14.9</td>
<td>3.0</td>
</tr>
<tr>
<td>S</td>
<td>15.3</td>
<td>10.3</td>
</tr>
<tr>
<td>SSW</td>
<td>14.3</td>
<td>18.4</td>
</tr>
<tr>
<td>SW</td>
<td>12.4</td>
<td>14.8</td>
</tr>
<tr>
<td>WSW</td>
<td>13.1</td>
<td>6.3</td>
</tr>
<tr>
<td>W</td>
<td>13.1</td>
<td>2.9</td>
</tr>
<tr>
<td>WNW</td>
<td>13.8</td>
<td>2.4</td>
</tr>
<tr>
<td>NW</td>
<td>8.2</td>
<td>2.5</td>
</tr>
<tr>
<td>NNW</td>
<td>8.8</td>
<td>2.7</td>
</tr>
<tr>
<td>Calms</td>
<td></td>
<td>13.9</td>
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</table>

APPENDIX C

Precipitation

Following is a summary of average precipitation by months for Olympia, Washington.

<table>
<thead>
<tr>
<th>Month</th>
<th>Average Precipitation Inches</th>
<th>Average Snowfall Inches</th>
<th>Average Minimum in °F.</th>
<th>Average Maximum in °F.</th>
</tr>
</thead>
<tbody>
<tr>
<td>January</td>
<td>7.85</td>
<td>7.1</td>
<td>31.1</td>
<td>45.1</td>
</tr>
<tr>
<td>February</td>
<td>6.62</td>
<td>3.1</td>
<td>32.2</td>
<td>49.6</td>
</tr>
<tr>
<td>March</td>
<td>5.40</td>
<td>2.2</td>
<td>34.0</td>
<td>54.4</td>
</tr>
<tr>
<td>April</td>
<td>2.96</td>
<td>Trace</td>
<td>37.6</td>
<td>62.3</td>
</tr>
<tr>
<td>May</td>
<td>2.01</td>
<td>–</td>
<td>41.6</td>
<td>68.6</td>
</tr>
<tr>
<td>June</td>
<td>1.79</td>
<td>–</td>
<td>45.5</td>
<td>72.6</td>
</tr>
<tr>
<td>July</td>
<td>0.76</td>
<td>–</td>
<td>48.0</td>
<td>79.7</td>
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<tr>
<td>August</td>
<td>0.89</td>
<td>–</td>
<td>47.8</td>
<td>78.9</td>
</tr>
<tr>
<td>September</td>
<td>2.09</td>
<td>–</td>
<td>44.4</td>
<td>72.6</td>
</tr>
<tr>
<td>October</td>
<td>5.28</td>
<td>Trace</td>
<td>40.5</td>
<td>62.3</td>
</tr>
<tr>
<td>November</td>
<td>7.67</td>
<td>1.5</td>
<td>35.2</td>
<td>52.4</td>
</tr>
<tr>
<td>December</td>
<td>9.05</td>
<td>1.3</td>
<td>33.9</td>
<td>47.5</td>
</tr>
<tr>
<td>Annual</td>
<td>52.37</td>
<td>15.2</td>
<td>39.3</td>
<td>62.2</td>
</tr>
</tbody>
</table>
APPENDIX D

The Master Planning Team

Durham, Anderson and Freed • Architects
Robert L. Durham, FAIA
David R. Anderson, AIA
Aaron Freed, AIA
Richard V. Peterson, AIA
Harold K. Roe, P.E., S.E.
Kenneth E. Richardson, AIA

Quinton Engineers, Ltd. • Planners and Engineers
Donald H. Grugel, AIA
George Wickstead, AIP, FASLA*
Robert D. Robertson, Provisional AIP*
Hanford Thayer, P.E.
Charles E. Torkko, P.E.
Hiam A. Barmack, P.E.
A. Warren Lippitt, P.E.

* also members of Society for College and University Planning

APPENDIX F

EDUCATIONAL CONSULTANTS FOR THE EVERGREEN STATE COLLEGE

Arthur D. Little, Inc.
Roger Malek, Project Director

APPENDIX G

Acknowledgement is extended the following agencies for their helpful guidance and assistance in the preparation of this report:

Thurston County Board of County Commissioners
Thurston County Planning Commission
Thurston County Engineer
City of Olympia
State of Washington, Department of Highways
State of Washington, Water Pollution Control Commission
State of Washington, Department of Health

Cover Photograph by Charles Kurtz
Perspective Rendering By John H. Rohrer, AIA

APPENDIX E

Consultants to the Master Planning Team

Shannon and Wilson, Seattle, Washington — Soils and Geology
Lewis-Redford-Engineers, Bellevue, Washington — Traffic Studies
Walker and Associates, Seattle, Washington — Aerial Photography and Photogrametry
Dr. Lauren R. Donaldson, University of Washington — Aquatic Biology
Dr. Gordon H. Orians, University of Washington — Ecology and Zoology
Omar J. Lillevang, Los Angeles, California — Marine Studies
APPENDIX H

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May 1966 December 1967
September 1966 January 1968
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March 1968

Architectural Forum

October 1966
November 1967