

A Joint Planning Effort by:

**The Port of Seattle
King County**

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Gentlemen:

This recreation master plan for North Sea-Tac Park is hereby submitted for your consideration.

The text identifies the community needs generated by previous county planning efforts, outlines the extensive community involvement in this planning process, identifies and assesses major natural and manmade constraints of the site and proposes a master plan for the development of this project.

This study was undertaken with a great deal of enthusiasm and a realization that, nationally, this is a pioneer airport planning project. The master plan, when implemented, will be a great asset to the Sea-Tac communities, the Port of Seattle, and King County.

We have a strong personal and professional interest in the plan, and would be pleased to assist in any discussion relative to its future development.

Sincerely,

JONGEJAN/GERRARD/MCNEAL



David McNeal

DM/c1

December 6, 1979

Gentlemen:

As Chairman of the North Sea-Tac Park Steering Committee, I commend the design and problem solving process involved in the study. The ultimate recommended design is the culmination of extensive citizen input, public agency cooperation and consultant coordination and guidance.

The recommended North Sea-Tac Park Plan reflects the wants and needs of the Highline Community. Recommendations from the FAA regarding the density of people per acre and the abilities of the Port of Seattle, King County, and different user groups to create, administrate, and maintain recreational facilities within their own community were considered in the planned development. We appreciate, moreover, the assistance from the recreational groups, including the Highline Soccer Association, the Highline Recreation Council, and various other sporting groups as well as those neighbors nearby the proposed North Sea-Tac Park who will be able to use the park a few minutes walk from their front door.

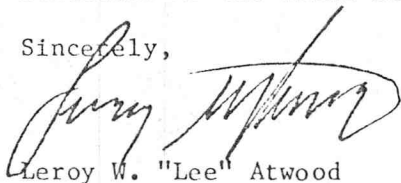
Two large public meetings and eight Steering Committee meetings were held within the community during the course of the plan. Presentations were made before the Highline Community Council, Highline Recreational Council, and Policy Advisory Committee. Opportunity for public input was available at every meeting.

Jongejan Gerrard McNeal, Landscape Architects should be congratulated on their sensitive response to many controversial issues raised during the study process. FAA participation was appreciated; their guidelines were incorporated from the start of the project. King County and the Port of Seattle, co-sponsors of the Sea-Tac/Communities Plan, predecessor of this effort, and partners of the North Sea-Tac Park Study, should be thanked for their perseverance and encouraged to do whatever possible in their powers to implement our recommended plans.

Most of all, I would like to thank the citizens of the Highline area who submitted suggestions, gave responses, attended public meetings, and otherwise participated in the North Sea-Tac Park Study. Our Steering Committee has met diligently and hammered out an implementable proposal that will benefit the community and our lives as residence of the Highline area.

The Steering Committee endorses the North Sea-Tac Park as providing solutions to the basic needs for recreation in the Highline area.

Sincerely,



Leroy W. "Lee" Atwood
Chairman, North Sea-Tac Park Steering Committee

Acknowledgements

This masterplan is the result of a combined effort of many people dedicated to seeing the site utilized in a rational plan that respects the recreational use policies established by the sponsoring agencies.

We gratefully acknowledge the efforts of Mr. Ed Parks, Port of Seattle Project Manager, and Mr. Dave Baugh, King County Planner, whose positive attitudes have kept the project growing in a direction that best represents and serves the community. We appreciate the contributions of Mr. George Saito, FAA Planner, whose dedication resulted in effective communication between FAA and the Steering Committee. We also wish to thank the members of the Steering Committee, who gave generously of their time and advice.

Finally, we applaud those who cared enough about their community to offer criticism or support for the plan, for the exchange of ideas is the crucial element in the park planning process. Without this exchange, the process and plan cannot reflect the community's desires and needs.



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Introduction

Introduction

The North Sea-Tac Park Master Plan Study was undertaken to explore recreation opportunities on noise-impacted land either acquired or scheduled for acquisition by the Port of Seattle. This report is the documentation of the process which led to the recommended recreation master plan and implementation strategies.

The site of the proposed North Sea-Tac Park is directly north of Sea-Tac International Airport in southwest King County. The site encompasses approximately 420 acres of land.

The study began in the spring of 1979, when the sponsoring agencies, Port of Seattle and King County, retained the services of Jongejan/Gerrard/McNeal, Landscape Architects. The charge given to the landscape architects was to research the recreation capabilities of the study area, analyze demands for recreation and provide graphic documentation of the information to facilitate decisions by the Port, King County, and North Sea-Tac Park Steering Committee. The Steering Committee, composed of area residents and representing a variety of interests, provided the major vehicle for community participation. Community participation was a primary consideration throughout the study.

Background

In 1942, when the Port of Seattle began development of a new airport in South King County, the 906 acre site was located in a predominantly rural area. Within two decades, the airport had expanded to 1400 acres and a thriving suburban community had been established in the surrounding area. This community survived not only because of the economic opportunities provided by SeaTac Airport, but also because of the close proximity of the manufacturing areas of South Seattle and Renton.

Through a succession of improvements, the airport facilities grew in size and efficiency. The last major expansion of airport facilities began in 1968. Although the majority of airport property had been acquired prior to 1961, until this last expansion, the full impact of the airport was not apparent to the local residents. The 1968 improvement plan necessitated extensive vegetation removal, grading and paving which increased the physical presence of the airport in the community. Steep banks of earth, devoid of vegetation appeared at the edge of the airport facility. Water drainage patterns were altered. Water, air and noise pollution increased.

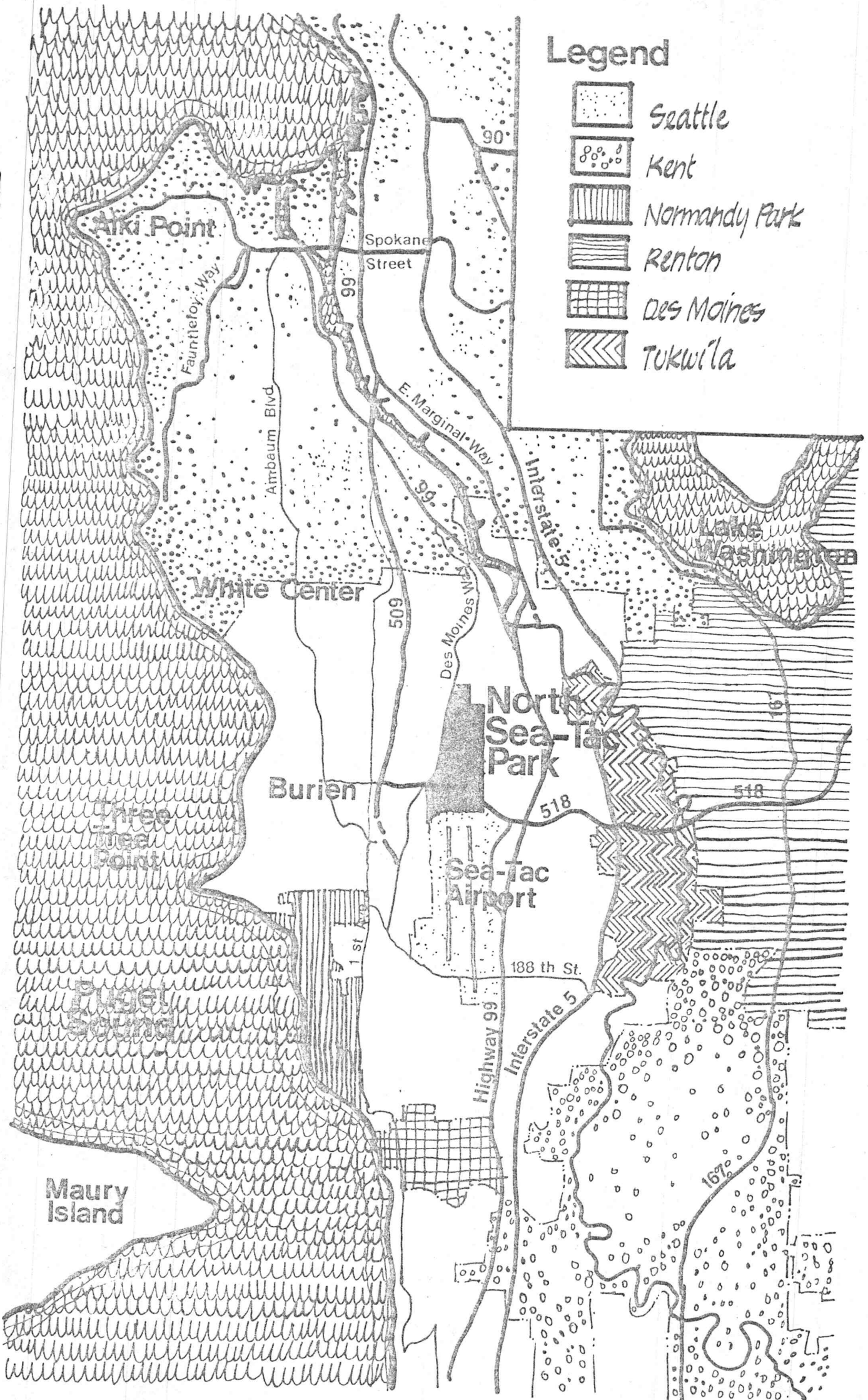
Of course, the recent airport expansion was not solely responsible for degenerating air and water quality. Growing population in the area also increased pressures on the natural systems. Expanses of paving around shopping centers altered drainage and storm water runoff characteristics, and cars on the heavily traveled roadways pumped pollution into the air.

No comprehensive land-use plan had been developed for the Sea-Tac vicinity by 1973. Then, King County, the major agency responsible for planning in the area, recognized the urgent necessity for such a planning tool. The King County Planning Department began development of a plan which would become official county policy, regarding land use, circulation, drainage, open space and parks.

Meanwhile, the Port of Seattle was faced with extensive problems resulting from airport expansion in a residential area. Of all the impacts that SeaTac Airport had on the community, noise pollution was the one that most angered local residents.

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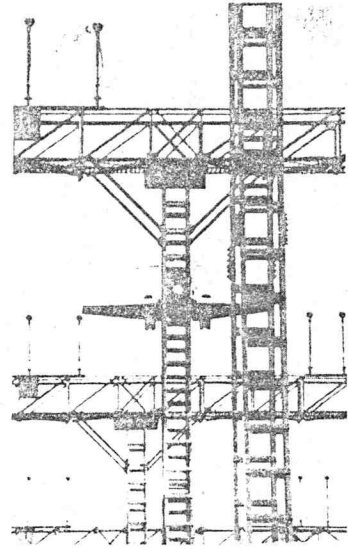
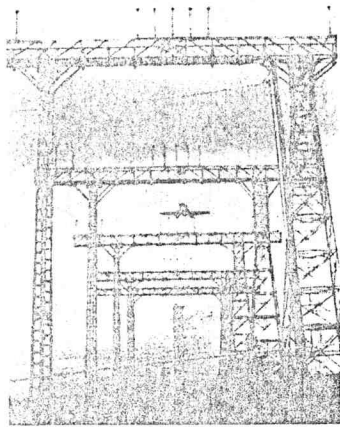
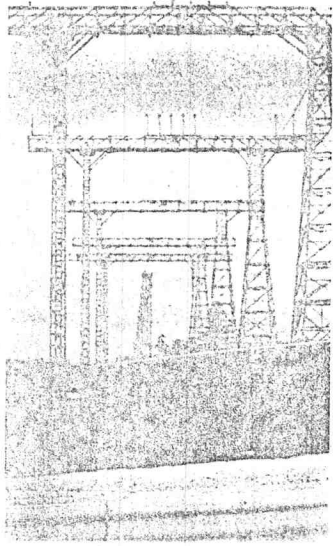
-  Seattle
-  Kent
-  Normandy Park
-  Renton
-  Des Moines
-  Tukwila



Vicinity

North Sea-Tac Park





The Federal Aviation Administration (FAA) calculated noise exposure in the Sea-Tac area with the object of delimiting zones of noise intensity. The area with the greatest noise impact was designated Zone 3. Since 1969, the Federal Housing Administration has refused to insure new home construction in the high noise impact zone, and while taxes on the homes within the area increased, the resale of these properties became more difficult. Angry about noise pollution and economic losses, a committee of Zone 3 residents petitioned the Port to develop a planning program that would recognize, basically, that a defined area around the airport was unsuitable for residential use. The number of lawsuits against the Port of Seattle increased daily.

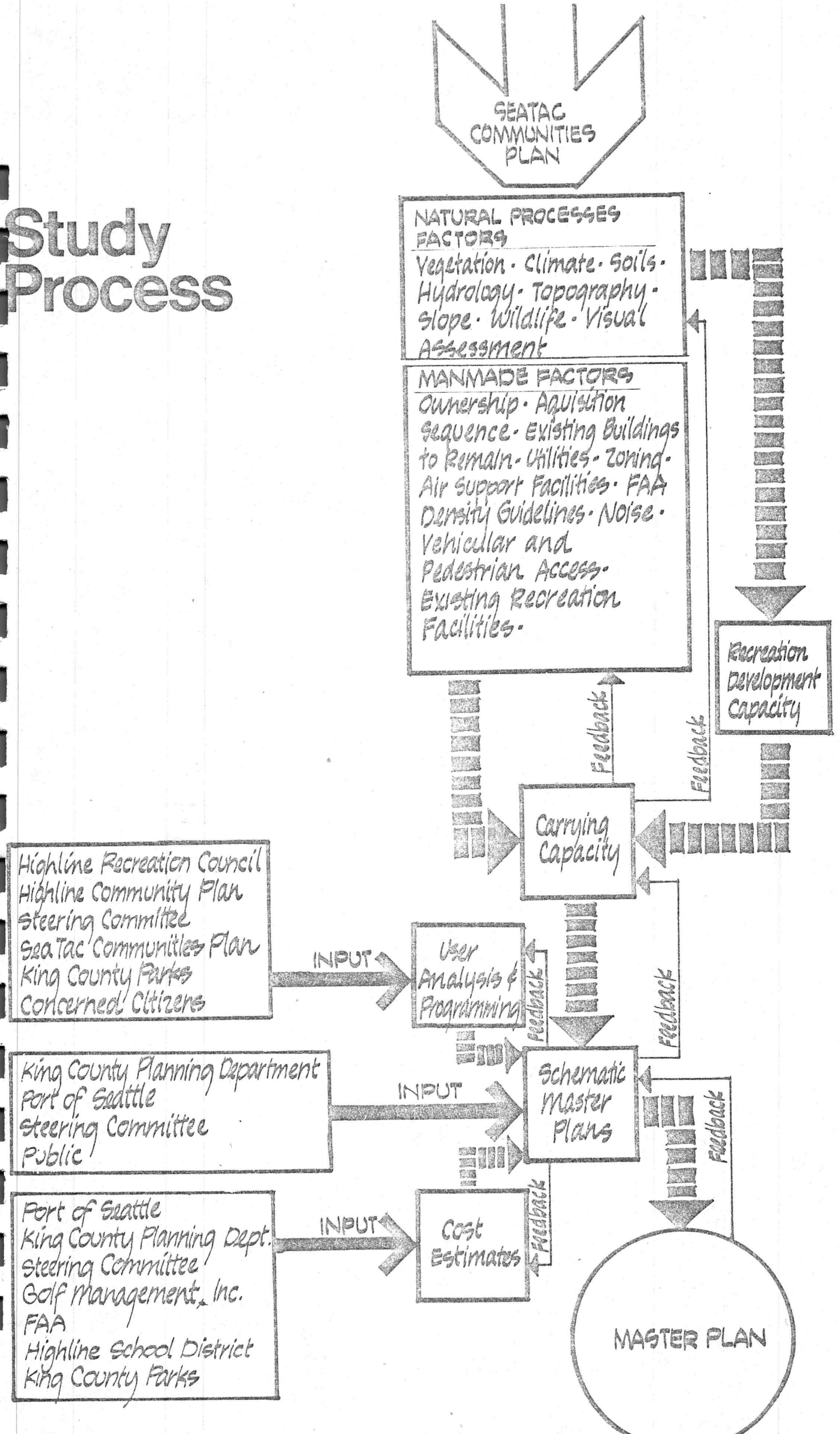
In 1973, Port of Seattle Commissioners decided to seek federal funds for acquisition of land to secure approach protection areas. Land had already been acquired for a clear zone; this additional land would be referred to as an extended clear zone. North of Sea-Tac Airport, the extended clear zone would reach to South 136th Street and extend from Des Moines Way South to 24th Avenue South. Federal funds for such a project were available to assure compatible land use around airports (FAA order 5100.17).

Pressed by citizen demands and the flurry of lawsuits, the Port of Seattle authorities realized the necessity of establishing airport policies that would lead to solutions of the environmental and social problems in the Sea-Tac area. At the same time, the King County Planning Dept. was ready to begin development of a comprehensive plan for the Highline Community that included the Sea-Tac area. The two planning teams decided to work together and share staff and resources.

The purpose of the Sea-Tac/Communities Plan, as the study was finally designated, was to develop a master plan for future development of the Sea-Tac area. Two years of environmental studies and community meetings were dedicated to gathering the necessary information and establishing policies. The project was funded, in part, by the FAA with funds made available by the Airport and Airways Development Act of 1970.

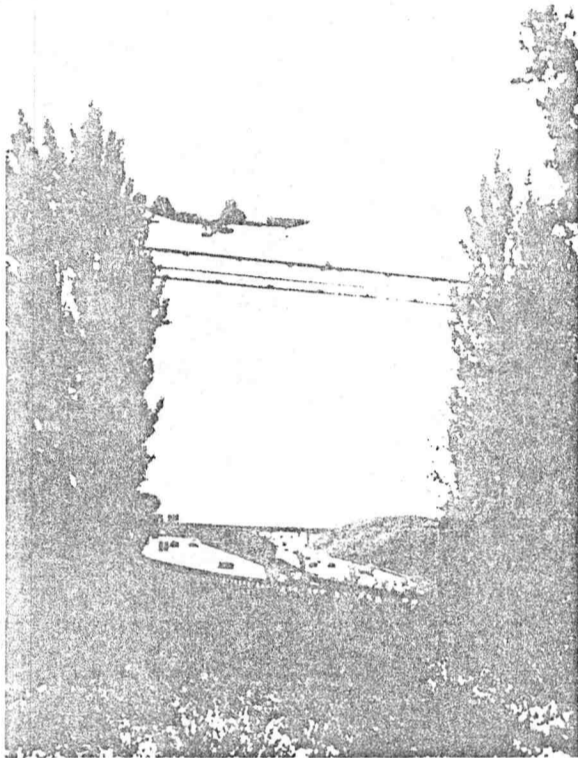
Among the key actions of the Sea-Tac/Communities Plan was the "establishment of a comprehensive noise remedy program . . .", the "provision of maximum financial assistance by the FAA for such noise remedy actions," and "implementation of extensive drainage, water quality, park and recreation program improvement by King County." The noise remedy program identified the site of the proposed North Sea-Tac Park as acquisition area; open space was the planned land use for the acquired land.

Study Process



Process

The process of the North Sea-Tac Park Master Plan study actually began with the Sea-Tac/Communities Plan which designated those parts of the study area not already owned by the Port of Seattle as an airport acquisition zone. The plan made recommendations for open space and recreational land uses. The Sea-Tac/Communities Plan also provided for continued monitoring of the progress in implementation of the plan.



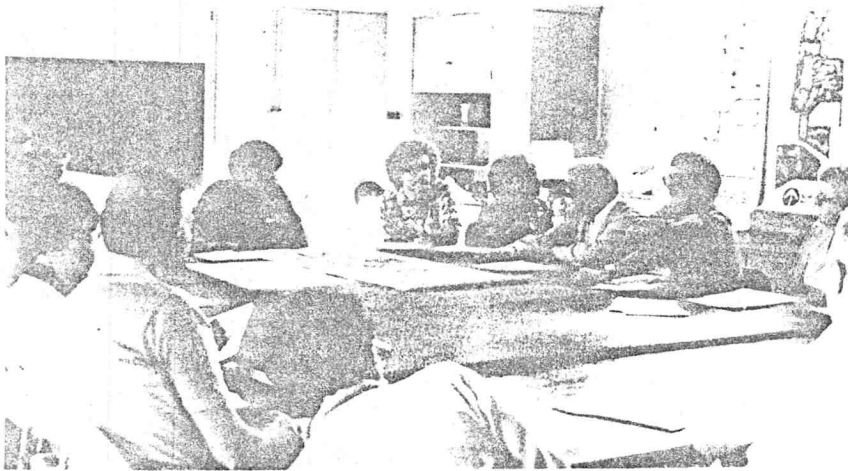
When the study team for Jongejan/Gerrard/McNeal began the North Sea-Tac Park Master Plan study, their first task was to inventory the natural and manmade conditions of the site which would affect recreational development. The information gathered for this inventory came from a variety of sources: field observation, government agencies such as the Soil Conservation Service and the local utility districts, news articles and studies done by University of Washington students. The environmental studies prepared as part of the Sea-Tac/Communities Plan were also reviewed at this point.

Using only the factors of natural processes, the Recreation Development Capacity of the site was illustrated. This allowed the study team and the community to recognize those areas where environmental degradation might occur as a result of a particular level of recreation development. Then, taking the manmade factors into consideration with the Recreation Development Capacity, the Carrying Capacity plan was developed. This plan delineates zones of the site that could be developed to specific levels of intensity without seriously affecting the site, the local community or violating manmade constraints.

To present the gathered information to the community, a public meeting was held July 10, 1979. After this meeting, which was designed to promote public participation, interested persons were invited to join a Steering Committee. The Steering Committee formed an important communication link with the public and assisted the consultants in making crucial decisions about which activities were least and most desirable on the proposed North Sea-Tac Park site.

Other methods were used to stimulate community participation. The Steering Committee, Port of Seattle, King County and Jongejan/Gerrard/McNeal received numerous letters and telephone calls subsequent to the first public meeting. A handout had been distributed at that meeting to allow members of the community to illustrate their own ideas concerning North Sea-Tac Park. Later, as a result of newspaper articles and on the advice of members of the Steering Committee, more citizens wrote or called to make their opinions known. Over 120 written responses were received at the office of Jongejan/Gerrard/McNeal, more were sent to King County and the Port of Seattle. All the Steering Committee meetings were open to the general public and a number of citizens attended. These times of verbal (occasionally vocal) communication proved to be extremely helpful for determining the needs of the community.

During program development, the consultants and the Steering Committee evaluated all recommendations for proposed activities. These recommendations came from previously prepared plans, citizen recommendations and recreation needs forecasts. After analyzing the various demands, the plans, and the predictions concerning facility needs, the Steering Committee, Port of Seattle, King County and Jongejan/Gerrard/McNeal developed a program of activities to be included at the proposed North Sea-Tac Park. Exact numbers and sizes of facilities were to be considered later and were to be dictated primarily by amounts of suitable land.



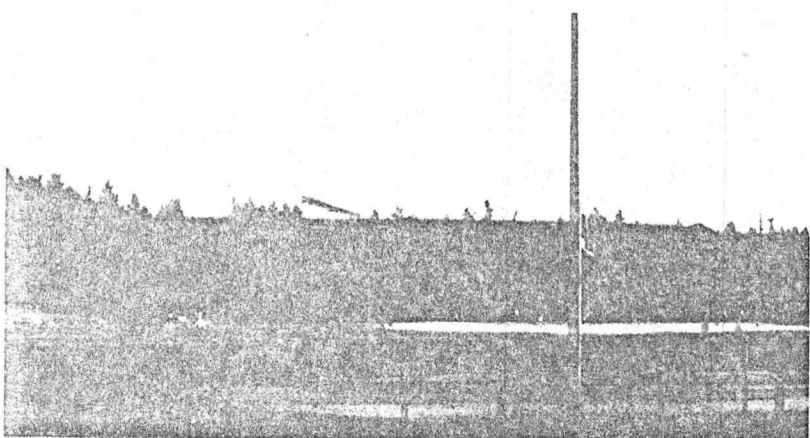
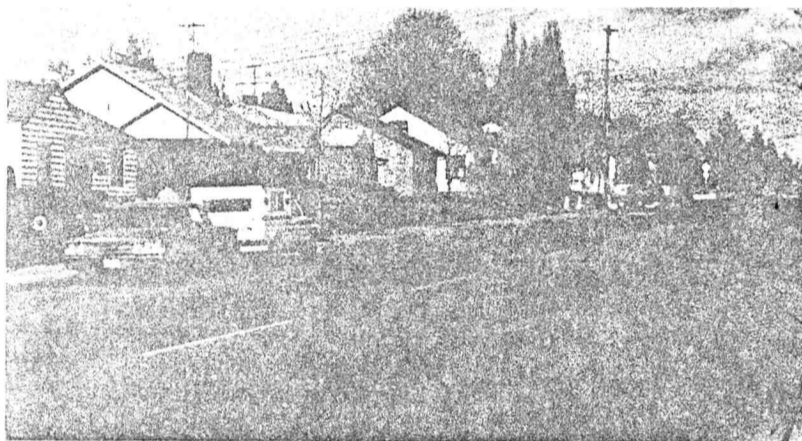
With the final program established, an overall concept could be, and was, developed. Jongejan/Gerrard/McNeal, the Steering Committee, the Port of Seattle and King County determined that North Sea-Tac Park should be developed as an active park with certain conditions. These conditions include: preservation and development of environmental integrity, observation of manmade constraints, adequate buffering between active facilities and residential community, and consideration of economic feasibility.

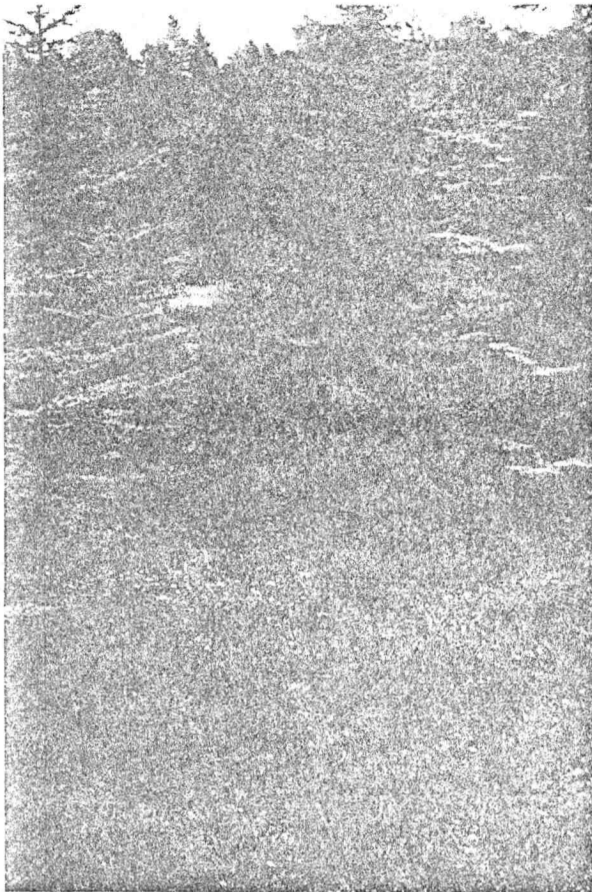
Following the established concept and observing the Carrying Capacity of the site, Jongejan/Gerrard/McNeal developed a series of schematic master plans. At this point, careful consideration was given to two factors: the acquisition sequence and economic feasibility. On this basis, a schematic master plan was selected. This plan was presented to the general public and appropriate public agencies whose response gave the finishing touches to the final recommended recreation master plan.

Inventory

Existing Conditions

To begin the process of the North Sea-Tac Park Master Plan study, the study team from Jongejan/Gerrard/McNeal observed and recorded the existing conditions of the site. The southern quarter of the site has been airport property since 1967; the majority of homes have been removed from this portion. North of SR 518 and south of South 136th Street is more recently acquired land; many homes have been removed or are being prepared to be moved. North of South 136th Street is still primarily residential. Some existing open spaces are found on unbuildable land; the wet land surrounding Tub Lake is an example. The average lot size, within and adjacent to the study area, is 7,500 square feet, although numerous half-acre and acre lots can be found. The majority of the housing stock in the community is comprised of moderate income homes; 60 to 70% of the homes built before 1960, 10 to 15% built before 1940. In addition to the houses, existing structures and facilities include Boulevard Park Elementary School, Sunset Junior High School (vacated), King County Shops, Sunset Park and City of Seattle Water Reservoir (under construction).





Natural Processes

The natural systems of the site were researched, inventoried and then analyzed, insofar as the analysis gives an indication of the appropriateness of a proposed activity. The factors of climate, slope, hydrology, vegetation, wildlife and soils were examined independent of one another and, where applicable, the study team assigned ratings expressing recreational design capacity. Design capacity ratings are an indication of the type of activity that could be developed in a particular area at minimum cost and with a minimum of negative environmental results. The recreational design capacity ratings are as follows:

- Very High: The area is suitable for intensive activities that may produce noise or night light, or require manipulation of land form, soils, or vegetation. These uses are potentially highly disruptive to the natural environment. These activities include sports fields, horse trails, and motorcycle trails.
- High: The area is suitable for less intensive activities or activities that are limited to a small area such as play structures. These activities are less disruptive of the natural landform, yet may require some landform alteration or may have negative environmental effects. Playgrounds, golf, dog training, and picnic shelters all have a "high" rating.
- Moderate: The area is suitable for passive activities such as foot paths, picnic areas, frisbee playing, nature study and in some instances, golf.
- Low: The area is unsuitable for any development (or suitable for minor development such as foot paths) because of the high sensitivity of the environment.

The method of rating used is somewhat subjective. For each natural process, the study team weighed the possible effects of different levels of development, creating scenerios demonstrating possible results, then chose the most appropriate rating. For example: the soil underlying a portion of North Sea-Tac Park was found to be subject to rapid erosion. Activities which are included under the definition of "Very High" have the potential for aggravating an erosive condition and consequently are inappropriate for areas with this soil. Such areas should receive a "High" or lower rating.

In the text, following the discussion of each rated natural process is a listing of the factors contributing to the ratings; the ratings are illustrated in the upper corner of the maps. As previously stated, not all natural factors were rated: hydrology, soils vegetation and wild-life were found to have considerations significant enough for rating.

The Recreation Development Capacity Map (page) is a result of all rated natural process capacities combined. It indicates those areas which are best suited for the activities listed above.

CLIMATE

The general climate of the Puget Lowlands is a mid-latitude west coast marine-type climate. Maritime air has a moderating influence both in winter and in summer.

Temperature:

The normal range of temperatures recorded at the Sea-Tac Airport Weather Station varies in summer months between 50^o to the low 70's and winter temperatures range from a minimum of 20^o with highs in the mid 30's and low 40's. Extreme temperatures recorded at this station were a low of 0^oF. and a high of 99^oF.

Precipitation

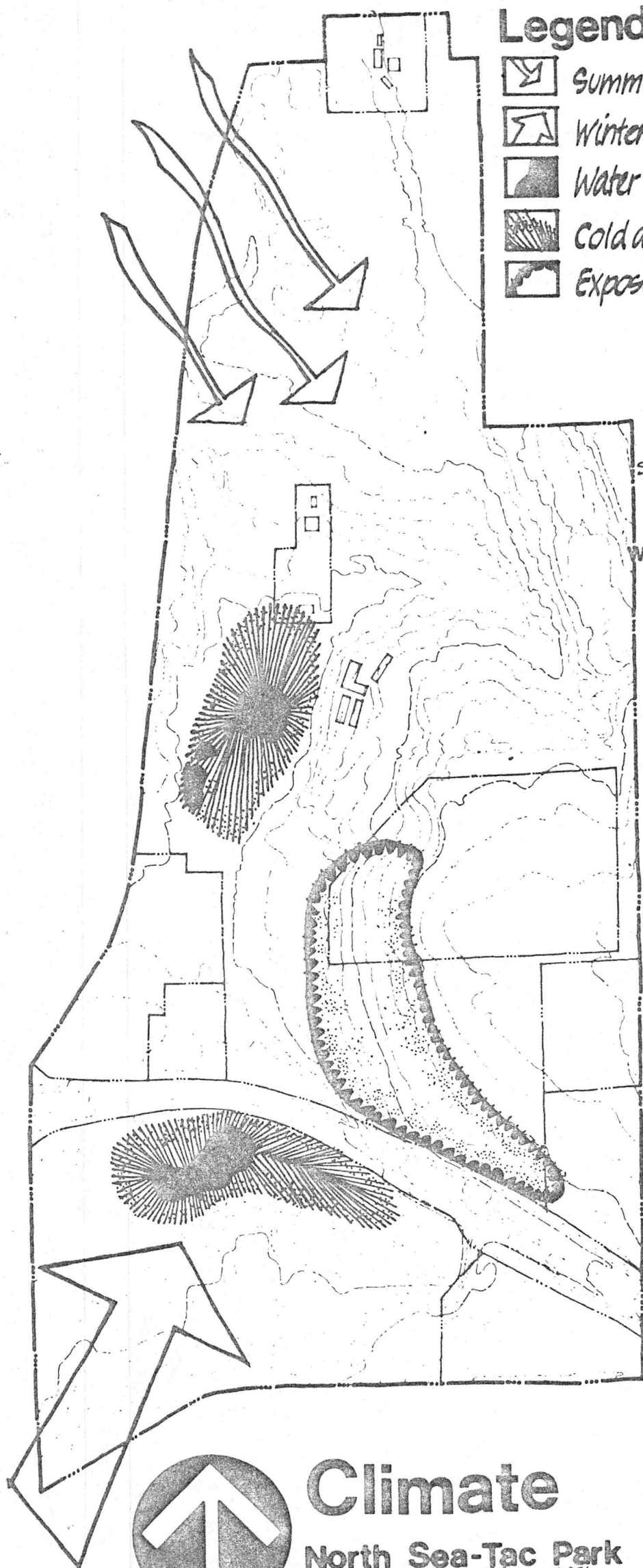
Precipitation ranges from 32" to 35" annually. Half of the annual precipitation falls between October and January. July and August have less than 5% of the total rainfall. Rainfall in this area is usually of light to moderate intensity and continues over a period of time rather than downpours occurring at brief intervals. Winter snowfall is light. In an average winter, frost may reach a soil depth of 4" to 8", depending on vegetation, soil type, snow cover and temperature.

Winds:

Prevailing winds in the study area are from the south and southwest in fall and winter, gradually shifting to northwest in spring and summer. The strongest winds are from the south/southwest and usually occur as the more intense Pacific winter storms move inland. In summer, winds are light and on most afternoons, a northerly breeze develops over the water and lowlands.

The site is also subject to microclimatic occurrances. Because cold air sinks, cool, moist air accumulates at Tub and Reba Lakes, and cool air masses follow the course of Miller Creek. The west aspect of the site's steepest slopes are open to regional climate patterns.

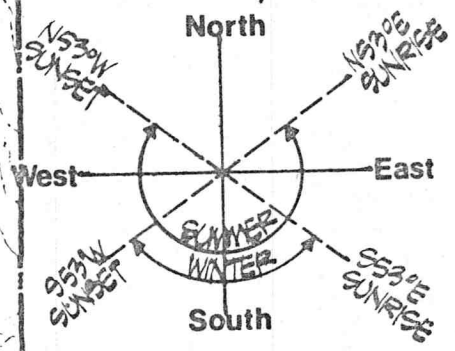
Wind and climate have no significant limiting factors requiring rating.



Legend

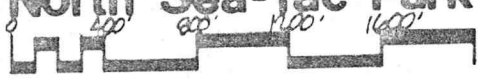
-  Summer breezes
-  Winter Winds
-  Water bodies
-  Cold air pockets
-  Exposed slopes

Sun Angles



Climate

North Sea-Tac Park



TOPOGRAPHY/SLOPE

The physiographic characteristics of the site vary from low-lying depressions to moderately steep (10 to 20%) and steep (20%) slopes. The formations are fairly typical of the Puget Lowlands: the north-south slopes in the southeastern portion of the site are indicative of the direction of glacial movement, while drainage patterns follow the previously cut glacial terrain. Tub Lake and other marshy areas occupy glacial depressions. The landforms are fairly stable; some hazards do occur on steeper slopes.

Some parts of the site have been severely altered. In the north, residential development has created a series of small plateaus. In the south, the runway expansion has necessitated creating a large, unnaturally symmetrical slope.

The topography of the North Sea-Tac Park creates an environment which could strongly influence the form of the final master plan. Generally, the park exists in an elongated bowl dominated by the eastern hill formation. This, reinforced by the vegetation pattern creates a comfortable, secure feeling that would be desirable to maintain. Topography can also be used to separate incompatible uses such as active sports facilities and residential uses.



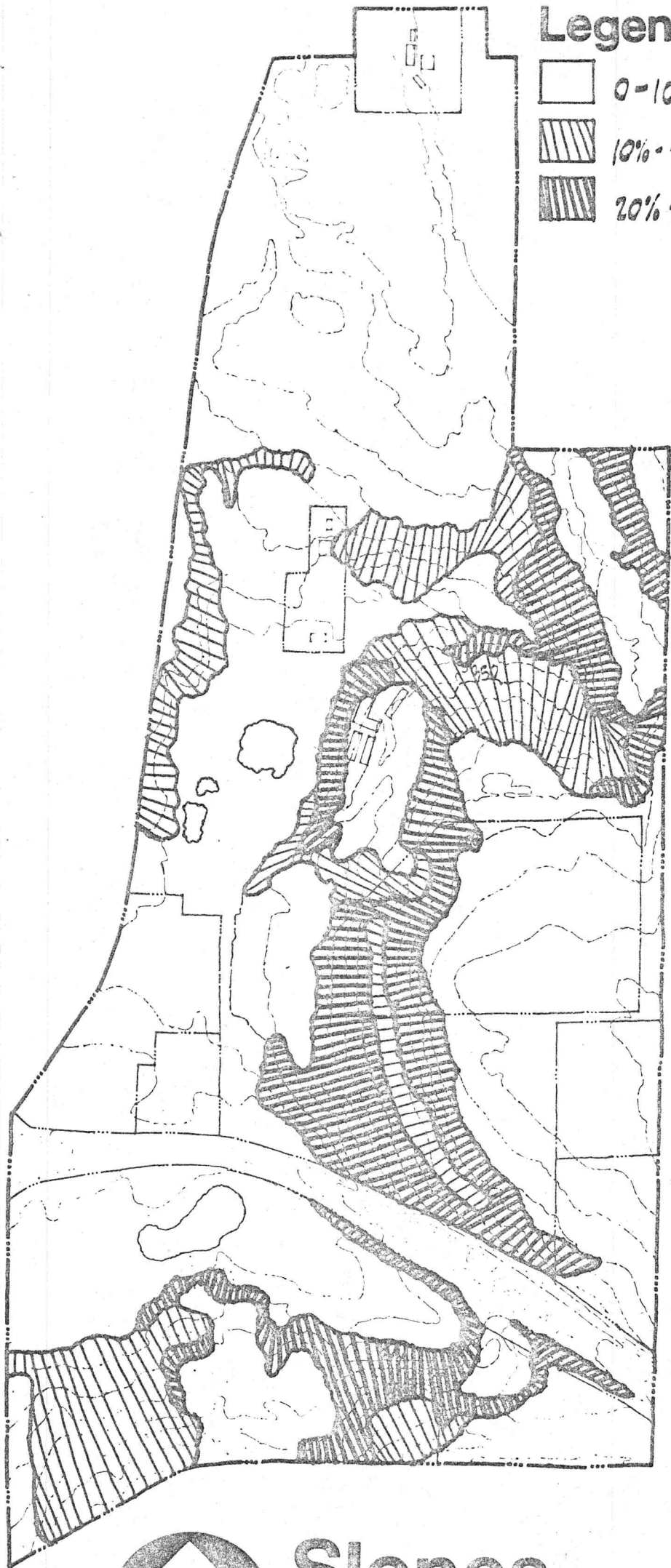
HYDROLOGY

Context:




North Sea-Tac Park is located in the Upper Miller Creek Drainage Basin, a highly urbanized drainage area approximately 4750 acres in size. The site is the focus of three sub-catchment areas and represents the "headwaters" of Miller Creek. There are two lakes on the site: Tub Lake, a natural formation and Lake Reba, a holding pond created for runoff from the airport. In the past three decades, Miller Creek has undergone rapid change and degradation. Although the North Sea-Tac Park site is only a small portion of the drainage basin, many of the problems the creek is suffering downstream can be solved or mitigated upstream at the park site. The hydrology of the entire basin must be examined to determine design considerations at North Sea-Tac Park.

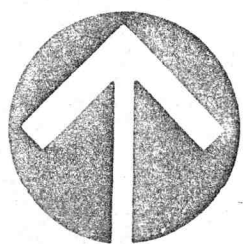
The Miller Creek Drainage Basin:

There has been extensive research done on the problems of the Miller Creek drainage basin. Studies done by students of the University of Washington; Stevens, Thompson, and Runyun, Inc., and others all express the need for methods of controlling pollution and storm runoff into Miller Creek.



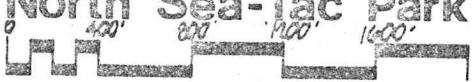
Legend

-  0-10% Slopes
-  10%-20% Slopes
-  20%+ Slopes



Slopes

North Sea-Tac Park





Miller Creek suffers from winter floods, eroding banks, and a severely depleted wildlife population. Water quality studies have shown that Miller Creek violates Washington State standards regarding coliform bacteria, dissolved oxygen content, temperature, and turbidity. The stream also has chronic concentrations of pesticides and herbicides.

This situation is the result of pollution and excessive runoff caused by urban development. Urbanization is characterized by vegetation removal, exposed soils, and extensive areas of impenetrable paved surfaces. Rather than filtering slowly through the soil, rain water is forced to flow overland carrying silt and pollutants that are deposited in Miller Creek. The silt and pollutants reduce the capacity of the stream and kill wildlife. A seasonal pattern of flow emerges: a torrent after winter storms; a trickle on warm, sunny days. Septic tank failures, oil and gasoline washed from roads, and the herbicides and pesticides from suburban gardens have caused severe pollution problems.

Previous studies have listed a series of alternative solutions to the Miller Creek problem. Among those directly applicable to North Seatac Park are: 1) the development of holding ponds to retain storm runoff and function as settling ponds; 2) plant trees to shade streams and increase vegetative cover; instream temperature in shaded streams will be decreased and overall infiltration will increase; 3) stream aeration and removal of excess algae growth.

On-Site Hydrology:

As in the rest of the Miller Creek basin, the hydrological cycle in North Sea-Tac Park has been altered by urban development. Fortunately, most of the development has been residential; there are few large paved parking lots. Also, there are still large areas of natural vegetation to intercept rainfall: trees and shrubs are much more effective as infiltration devices than lawns. If left with natural vegetation, the soils of the site are permeable with good water storing capabilities. Areas of fill, however, have reduced water storage in the soils around Tub Lake by compressing the efficient waterholding peat.

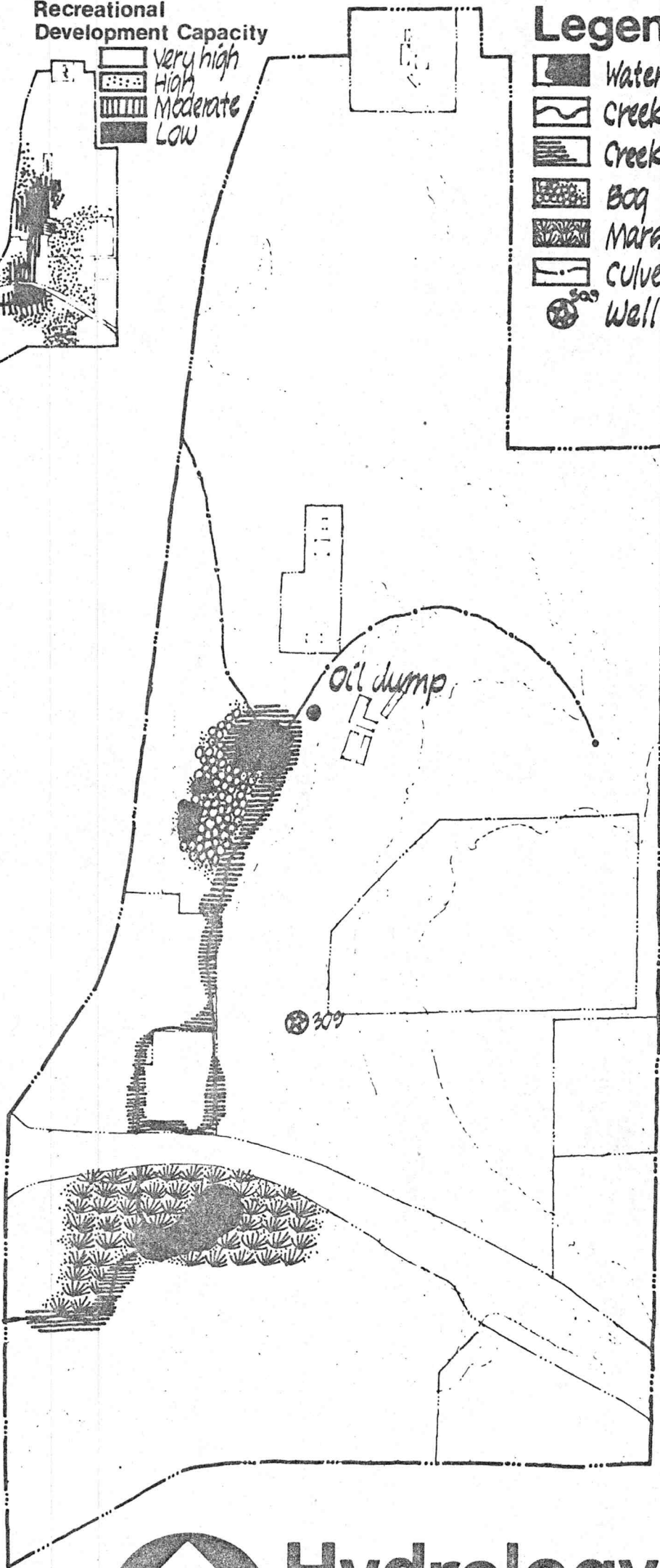
Recreational Development Capacity



Very high
High
Moderate
Low

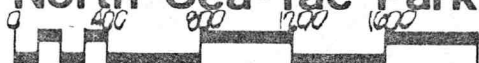
Legend

- Water body
- Creek
- Creek bed, adjacent banks
- Bog
- Marsh
- Culverted creek
- Well with piezometric level



Hydrology

North Sea-Tac Park



Water pollution problems common to the entire basin exist at the site. Particular problems of the site are the pollution and debris caused by garbage dumped into the stream channel and fertilizers from playfields, sports fields, and lawns that may have caused increased algae growth. A serious on-site source of pollution is found adjacent to Tub Lake. Apparently, the site had been used for oil dumping after World War One. At present, the oil leaches through the soil into the surrounding area. The light oil slick intermittently visible on Tub Lake has been attributed to the abandoned dump.

There are three major water bodies located on the North Sea-Tac Park site: Miller Creek, Tub Lake, and Lake Reba. Miller Creek, north of Lake Reba, is not a distinctive stream. When it is not passing through narrow channelized sections, the creek is lost in shallow, mucky areas with no clear channel. Whether or not this is entirely the result of urbanization is not certain. Tub Lake and Lake Reba are important water storage elements. The Sea-Tac/Communities Plan delineated plans to increase the holding capacity of Lake Reba.

Factors Contributing to Recreation Development Capacity Ratings:

- Very High: Areas not adjacent to stream channels or pools not likely to erode cause increased sedimentation.
- High: Areas not adjacent to stream channels or ponds that are erosive or have vegetation that contributes to infiltration capacity of site.
- Moderate: Areas adjacent to streams or ponds that contribute to water storing capacity of water feature.
- Low: Areas that are periodically flooded and contribute to water storing and infiltration.

SOILS

According to USDA, Soil Conservation Service surveys, there are ten soil types at North Sea-Tac Park. The soils are, for the most part, derived from glacial deposits.

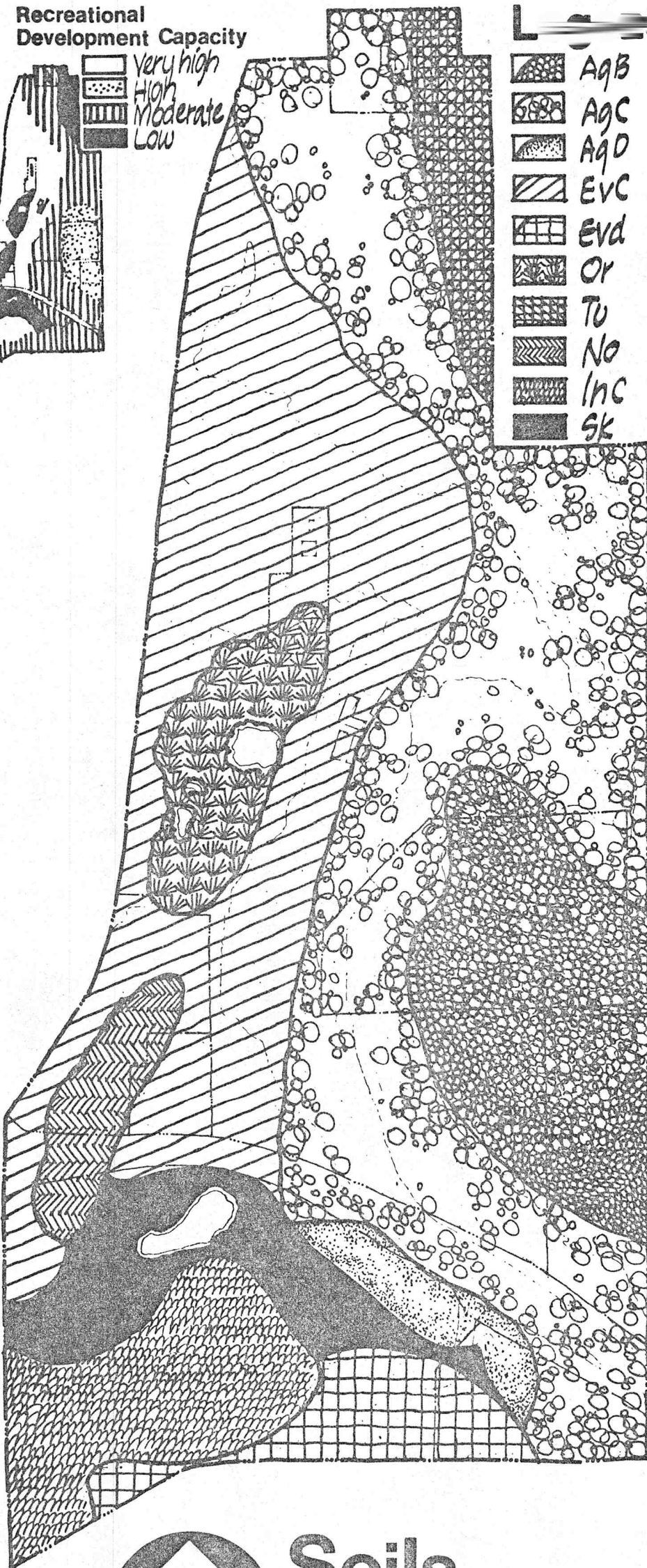
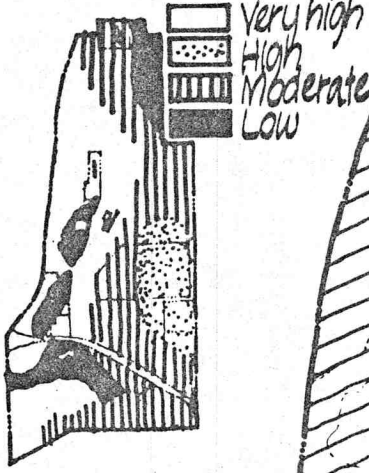
The most common soils, Alderwoods, Everetts, and Indianola, are sandy or gravelly with moderate to rapid permeability. Alderwoods (Agd) have an underlying substratum of impermeable compacted glacial till which can cause seasonal high water tables and on steeper slopes, moderate slippage hazards. Steeper slopes of Alderwood and Everett soils (Agc, Agd, Evb) are subject to erosion hazards ranging from moderate to severe. If erosion hazards are controlled, all three soils, Alderwoods, Everetts, and Indianola, are suitable for construction and farming (Everett and Indianola are better suited for permanent vegetation rather than row crops because of seasonal droughtiness).

The remainder of the soils at North Sea-Tac Park were formed in glacial depressions or clayey alluvium and are very poorly drained. Derived from vegetation in varying degrees of decomposition, the soils are acidic with a high organic content. Orcas and Seattle Muck (Or and Sk) are characterized by thick layers of peat. Organic soils are inappropriate for construction because of high compressibility. Because the water table is at or near the surfaces of these soils, they are unsuitable for development of any kind.

Factors contributing to Recreation Development Capacity:

- Very High: (EvC, InC) because of stable, well-drained soils.
- High: (AgB) because of underlying impermeable layer; may cause seasonal high water table.
- Moderate: (AgC, AgD, EvD) because of erosion and slippage hazards.
- Low: (No, Or, Sk, Tu) because of high water table, high compressibility.

Recreational
Development Capacity

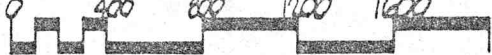


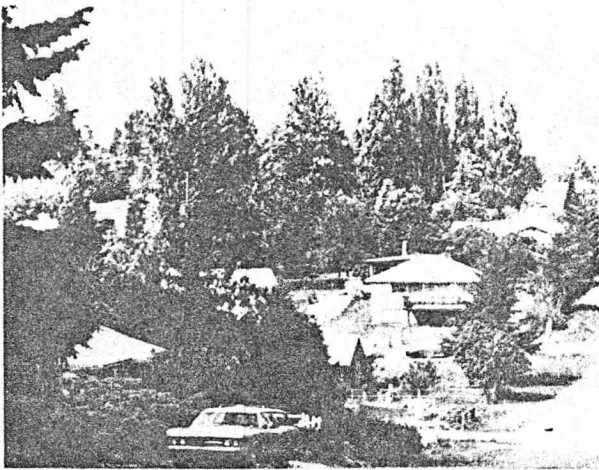
- AqB Alderwood 0-6%
- AqC Alderwood 6-15%
- AqD Alderwood 15-30%
- EVC Everett 5-15%
- EVD Everett 15-30%
- Or Orca's peat
- Tu Tukwila muck
- No Norma
- Inc Indianola 4-15%
- Sk Seattle muck



Soils

North Sea-Tac Park

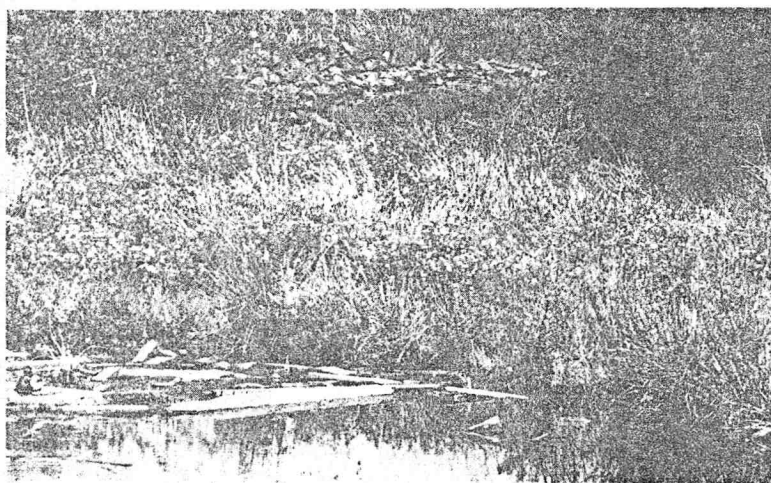


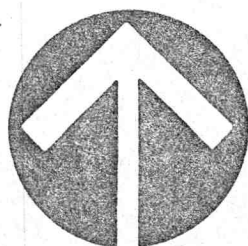
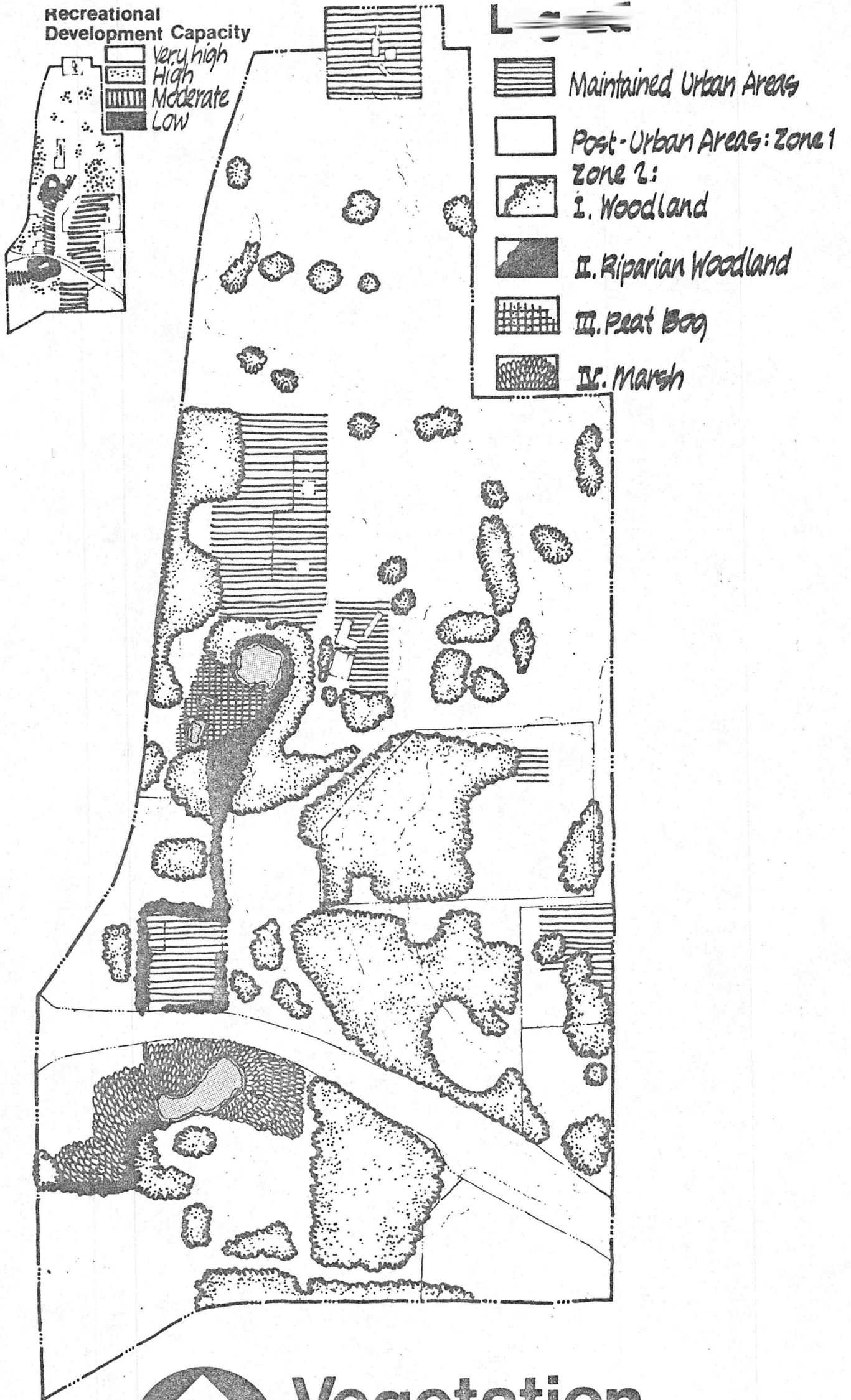


VEGETATION

The site can be described as having two distinct zones of vegetation: one, a zone recovering from the impact of recent urbanization in gradual successive stages; and two, a zone comprised of "natural" areas, that is, untouched landscapes which exist now because of inherent qualities that prevented urban development.

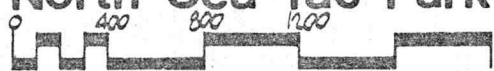
Zone one is characterized by grassy open spaces dotted with occasional ornamental plant groupings. Once a portion of the Boulevard Park Neighborhood, the homes in this area have been relocated or are in the process of being relocated. Left behind is an odd landscape of small plateaus with rings of ornamental plantings. Some areas are just beginning to revert to a "natural" state: grasses are overtaking foundations, ornamental shrubs are gaining unruly proportions and blackberry and other pioneering species are beginning to appear. In five years time, if left unattended, the grasses will become less prominent and the pioneering species of shrubs and trees will dominate. Invasive ornamentals will spread in heavily scarred areas. Scotch broom will become established as it has in the area south of Sunset Jr. High. In ten to twenty years time, native forest vegetation will appear: young Douglas fir, full grown alder, big-leaf maple, cottonwood, madrona, and typical understory. Lower growing ornamentals will begin to die out in the forest environment. Ornamental trees may remain to form an interesting blend with natives as evidenced at the southern portion of the site where homes were removed between years 1960 and 1965.





Vegetation

North Sea-Tac Park



Zone two is composed of four different vegetation types which occur generally in the southern half of the site.

- I Woodland: These areas occur mostly on upland portions of the site or on slopes and create a strong visual edge and sense of enclosure for lower portions of the site. Forests of Douglas fir, big-leaf maple, salal, madrona, dogwood, and understory are typical.
- II. Riparian Woodland: This type of vegetation occurs in wetlands adjacent to Miller Creek and along the north and east sides of Tub Lake. Plants here thrive on the moist soil conditions. Characteristic of the course of the creek and lake edge: willows, alder, cottonwood, vine maple, horsetails, blackberries, rushes, grasses, occasional cattails, and other water loving species.
- III. Tub Lake Bog: Tub Lake is located in the western portion of the site near Sunset Park and is characterized on its northern and eastern shores by riparian vegetation which gradually blends to Douglas fir, alder, woodland, etc. The southwesterly tip of the lake supports an undisturbed bog of swamp laurel, Labrador tea, and a visually attractive stand of Western hemlock.
- IV. Lake Reba Marsh: Lake Reba is a manmade holding pond located at the southwestern portion of the site. Characteristic vegetation includes: willows, alder, cottonwoods, cattails, rushes, sedges, grasses, and typical water-loving and marsh species.

Factors Contributing to Recreation Development Capacity Ratings:

- Very High: Maintained playfields, portions of zone one without large or significant vegetation that cannot be easily replaced.
- High: Portions of zone one with large or significant vegetation that cannot be easily replaced.
- Moderate: Woodland and riparian woodland; moderate as long as extensive clearing does not occur.
- Low: Lake Reba Marsh and Tub Lake Bog because of sensitivity and individuality of vegetation.

WILDLIFE

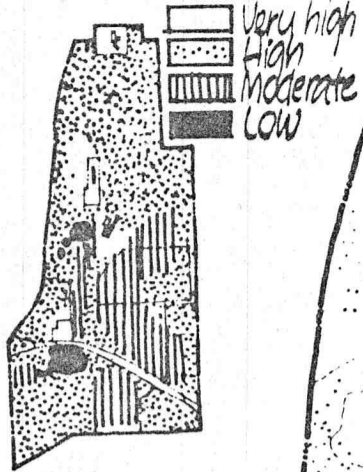
As the site exists, there are three major categories of wildlife habitat: 1) urbanized and post urbanized, 2) woodland and 3) wetland. Ordinarily, in an urbanized environment such as North Sea-Tac Park, wildlife would be a minor consideration. However, this site has tremendous potential to become a significant wildlife habitat, a rare amenity in population centers. Therefore, in evaluating habitats, the relative rarity of each habitat in the Sea-Tac community was considered. The most uncommon habitats were judged to be highly sensitive to development as any alteration would eliminate the already scarce habitat.

The least sensitive and most common environment is the urbanized and post urbanized habitat. This habitat does have the advantage of a diversified food source as the result of the introduction of ornamental plants, but the lack of continuous cover reduces wildlife potential. After the houses are removed, natural plant succession will increase cover.


In ten to twenty years, the post-urbanized habitat will appear similar to the woodland habitat. This environment has a greater diversity of species and greater number of native species than the urbanized habitat, but motorcycles, people, cats, dogs, and poor air quality may have limited the potential of the existing woodland habitat. Dense brush provided by overgrown blackberries, willows, and other plants provide important barriers to protect wildlife species.

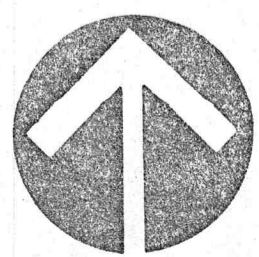
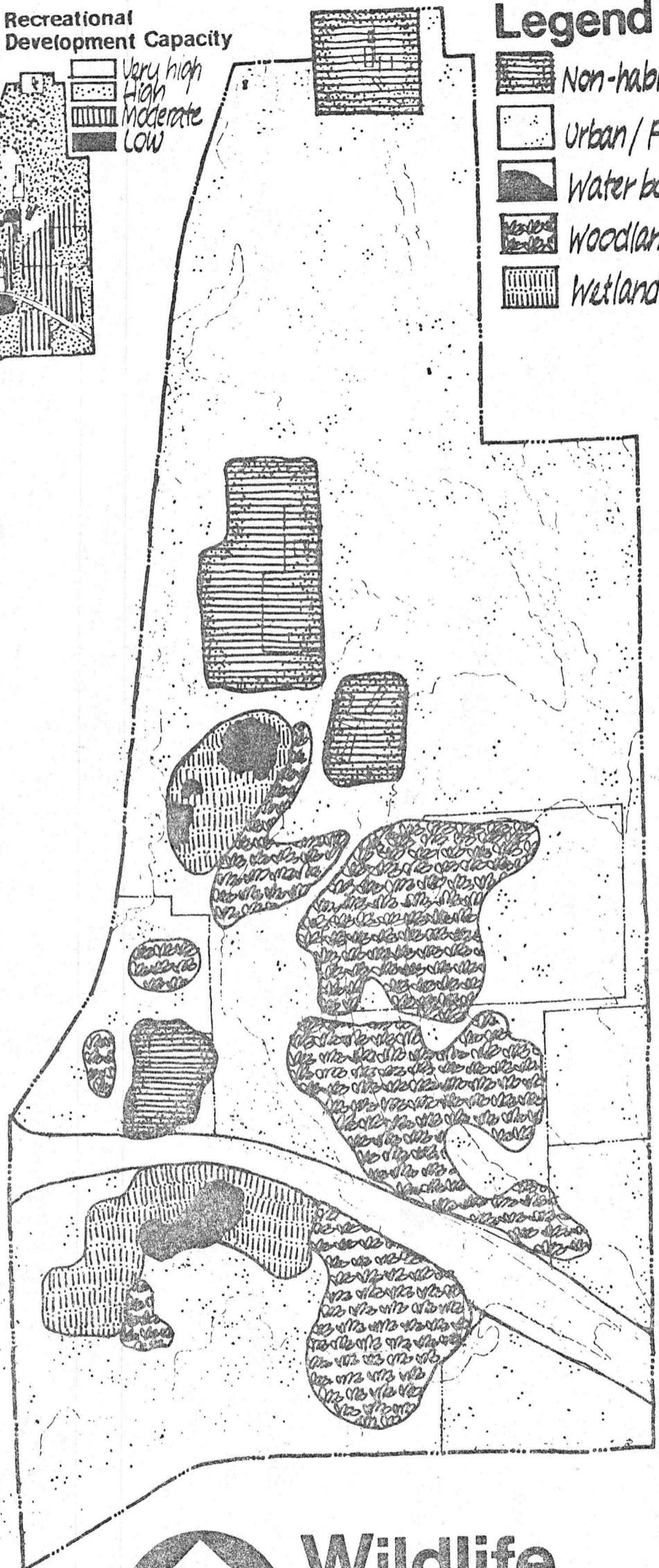
The locally most uncommon environment is the wetlands habitat. Marshy areas and dense brush provide a barrier to human traffic, protecting many wildlife species. The shallow water areas of wetlands are an important production area for juvenile fish. Unfortunately, poor water quality has severely reduced fish population. Potentially, this environment could provide habitat for a number of species that exist in marshes (marsh wren, Virginia rail) as well as a number of more common songbirds and wildfowl.

Recreational Development Capacity



Legend

-  Non-habitat
-  Urban / Post Urban
-  Water body
-  Woodland
-  Wetland



Wildlife

North Sea-Tac Park



Factors Contributing to Recreation Development Capacity Rating:

Very High: None except existing playfields.
High: Recently urbanized areas without well-developed cover.
Moderate: Woodland with well developed vegetation and food sources.
Low: Lake Reba and Tub Lake, locally uncommon wetlands habitat.

Although wildlife habitat would be a benefit to the local community, a special consideration exists at North Sea-Tac Park in that birds could create a hazard for overhead planes. To mitigate this potential problem, wildlife habitat improvement measures should not encourage flocking species of birds. Avoiding large expanses of water that attract flocks of waterfowl may solve problems. Unfortunately, the starling, which is the most common hazard, is a very pervasive bird and as likely to be a hazard if the site were covered with industrial development as a coniferous forest.

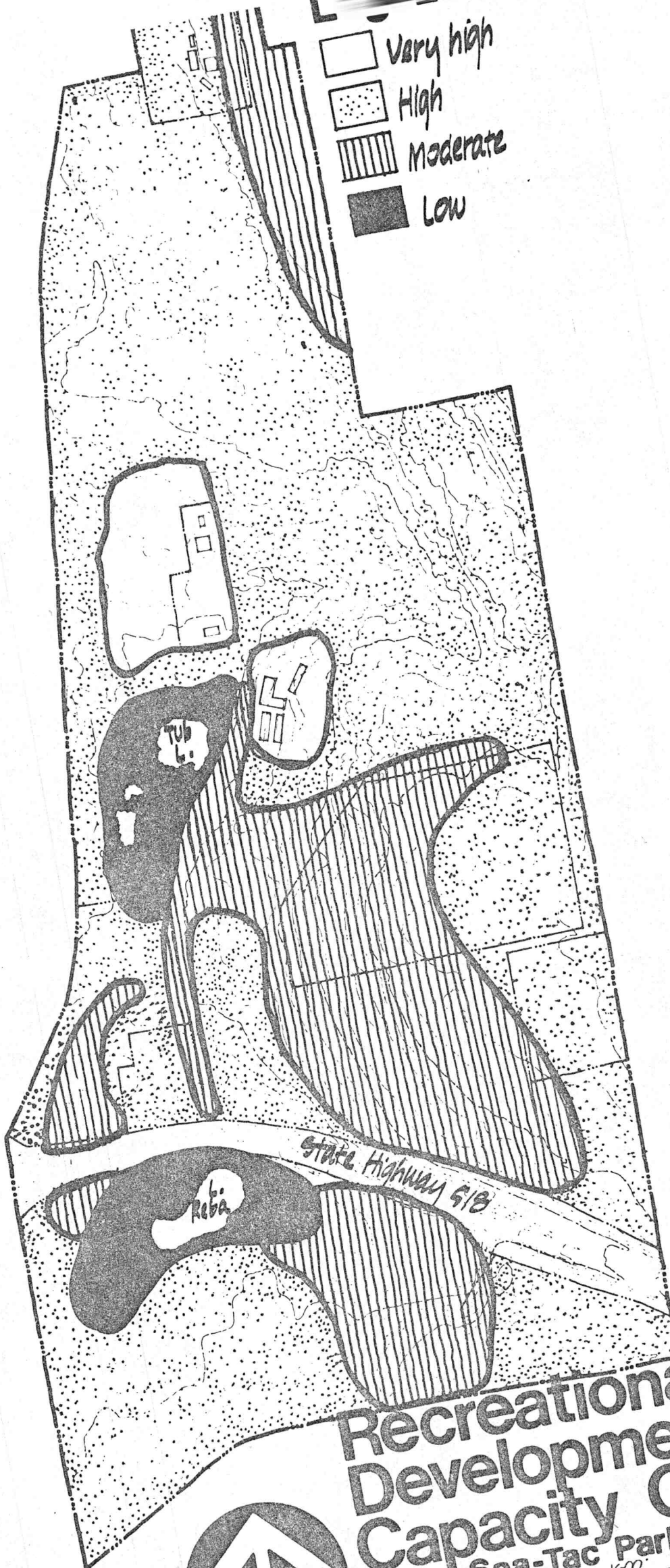
The study team gave some consideration to the effect of noise on wildlife. Information of the subject is sparse, but the indication is that wildlife will adjust to noise if it is presented somewhat predictably.

RECREATION DEVELOPMENT CAPACITY COMPOSITE

As previously stated, the recreation development map is the result of all natural processes capacities combined. To reach this result, the Recreational Development Capacity ratings of Very High to Low were assigned numbers of one to four, respectively. By overlaying the maps of Recreational Development Capacity for hydrology, soils, vegetation, and wildlife, a composite with cumulative totals was developed. The totals were divided to reflect the Very High to Low rating system. The composite indicates those areas where different activities may be developed with minimal expense and minimal environmental degradation.

North of Sunset Jr. High, the major factors influencing the rating of the composite are soils and wildlife. In most cases, these two factors account for the difference between a high rating and the very high rating that may have been anticipated because this area is presently urbanized. The erosive alderwood soil predominates in much of this area of North Sea-Tac Park. Under a regime of motorcycles, horses, or other agents, this soil will erode, decreasing the fertility of the soil and increasing the siltation and turbidity in the Miller Creek drainage basin. The potential for wildlife habitat in this area is very good and wildlife habitat is a valuable resource in an urbanized community. However, the 'High' rating north of Sunset Jr. High should not be interpreted to mean that no new sport facilities can be located in this area. With proper precaution to avoid soil erosion and adequate concessions to wildlife habitat, 'Very High' recreational development may be appropriate here.

Elsewhere on the site, the combination of the constraints imposed by the natural systems are more concise: variations from the suggested activities should be discouraged. All analysis indicate that the areas around Tub Lake and Lake Reba are highly sensitive to development and should be protected. The large patches of vegetation and underlying erosive alderwood soils (and subsequent effects on hydrology and wildlife) give rise to a moderate rating for the slopes in the southern part of the site. Much of this area is in private ownership.



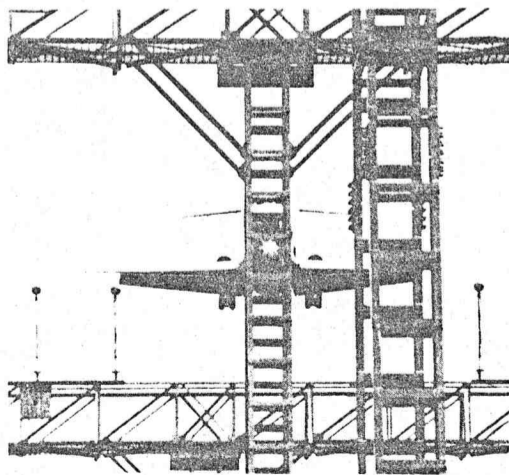
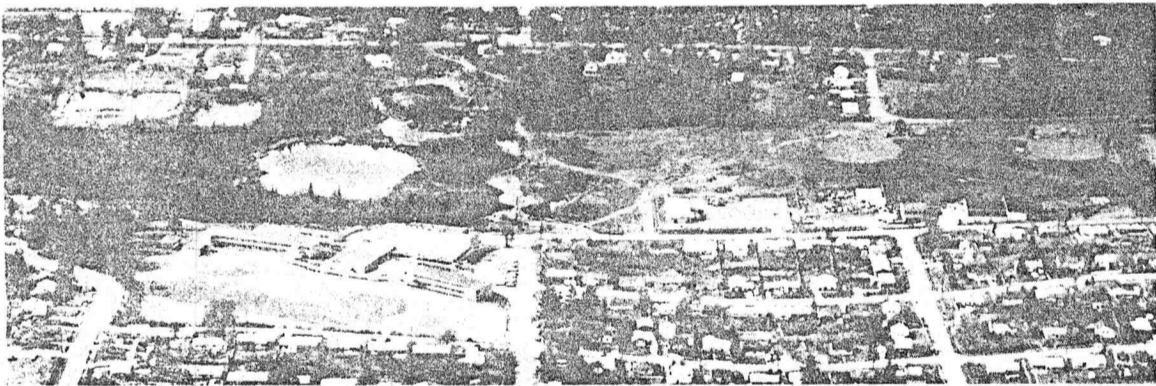
**Recreational
Development
Capacity Compos**
North Sea-Tac Park

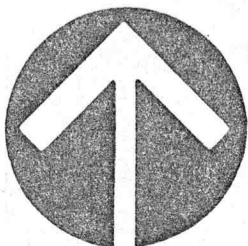
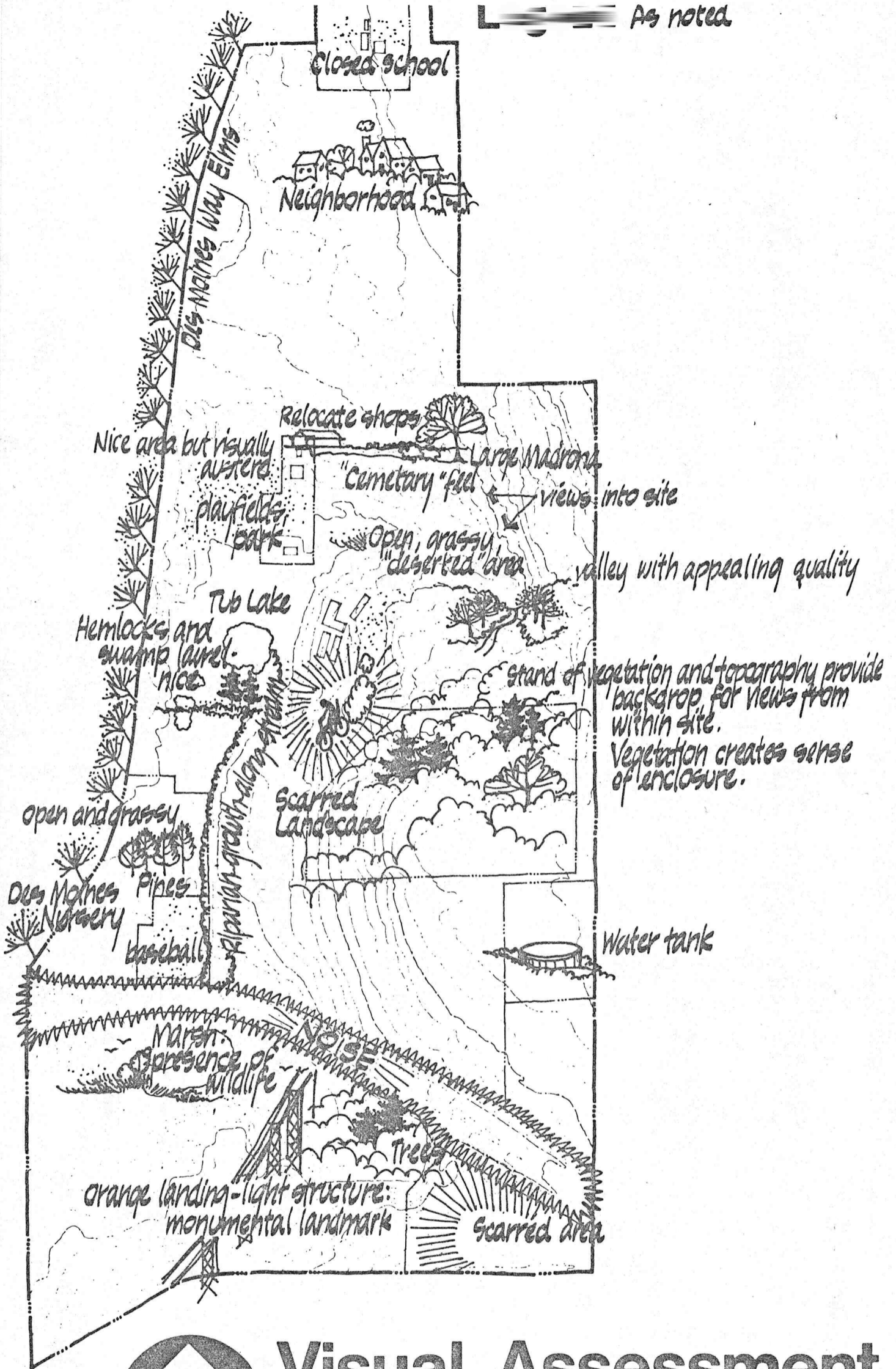




Visual Assessment

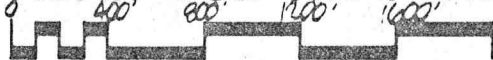
Visual assessment is the record of the elements of the landscape that have an effect upon human perceptions. These elements can be topographical characteristics, a building with an interesting shape, or an activity that creates an unpleasant noise or odor. These elements can convey a sense of place and provide an historical context. Elements of visual assessment can be reflected in the master plan in a variety of ways. Some, such as woodland trails and appealing views, are positive features of the site that should be preserved or enhanced. Others, such as scarred landscape areas, are negative aspects that should be considered for alteration.



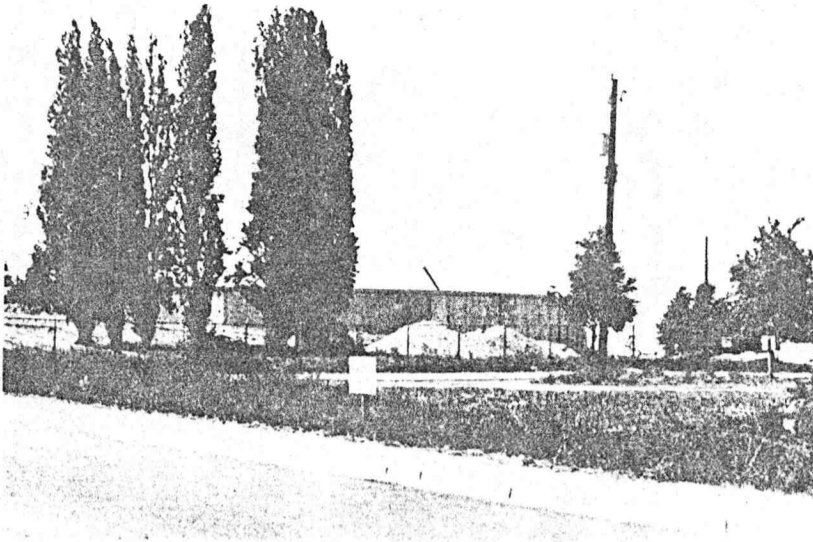


Visual Assessment

North Sea-Tac Park



Manmade Factors



The manmade factors of the site have been observed and noted to give an indication of the constraints and potentials presented by these elements. These factors include physical features such as roads, structures, sewers, and air support facilities. Constraints introduced by regulations such as zoning and FAA recommendations were also considered in this section.

Ownership:

This map illustrates the proposed ownership pattern. Design considerations derived from this map include location of private areas that may need buffering depending upon future development.

Acquisition Sequence:

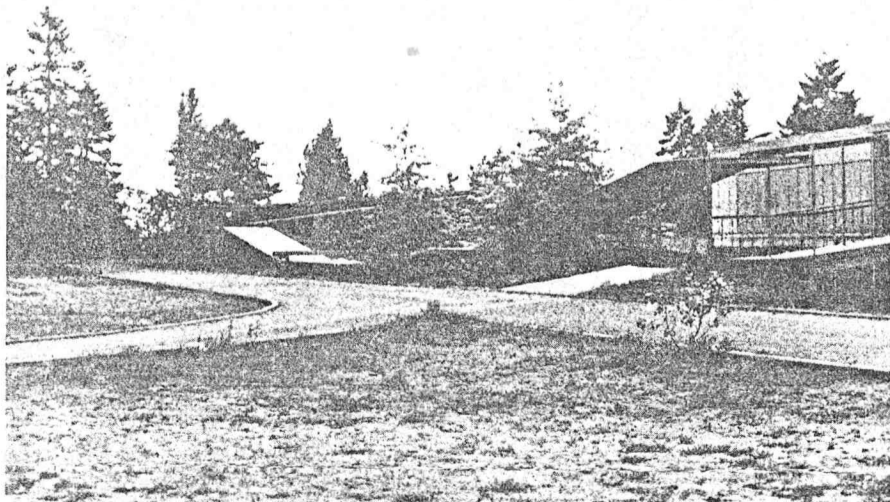
This map helps clarify which parcels of land are immediately available for public use. If warranted, the final master plan could have a development sequence based on this map. Providing that there were no other constraints, activities that received a high priority could be located in already acquired land; others could be introduced as land is acquired. (For detailed information on methods of acquisition, see appendix).

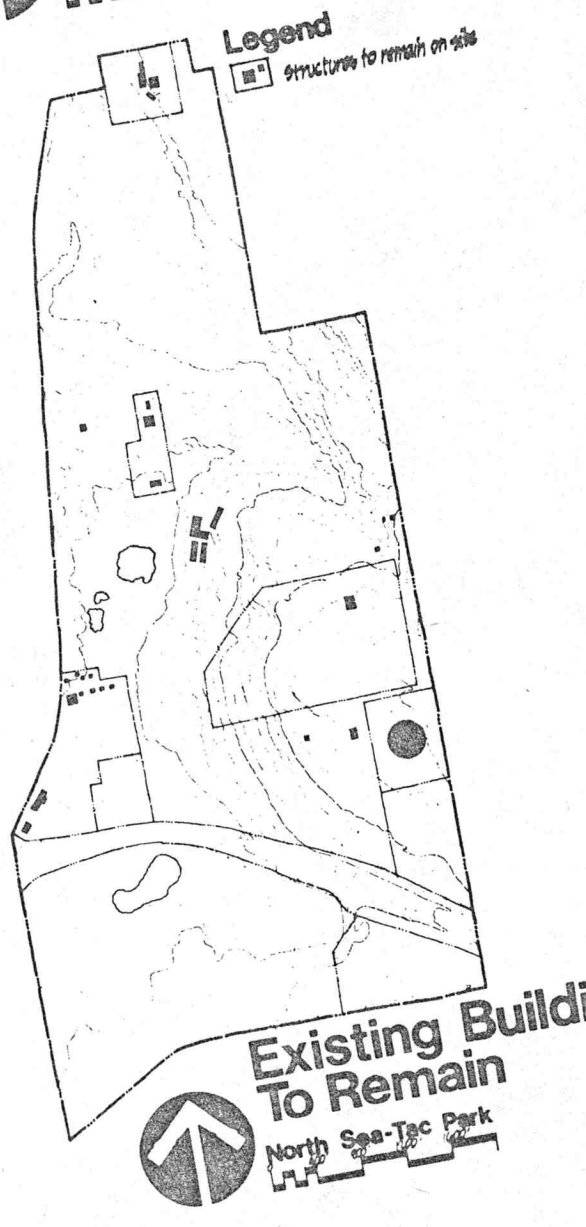
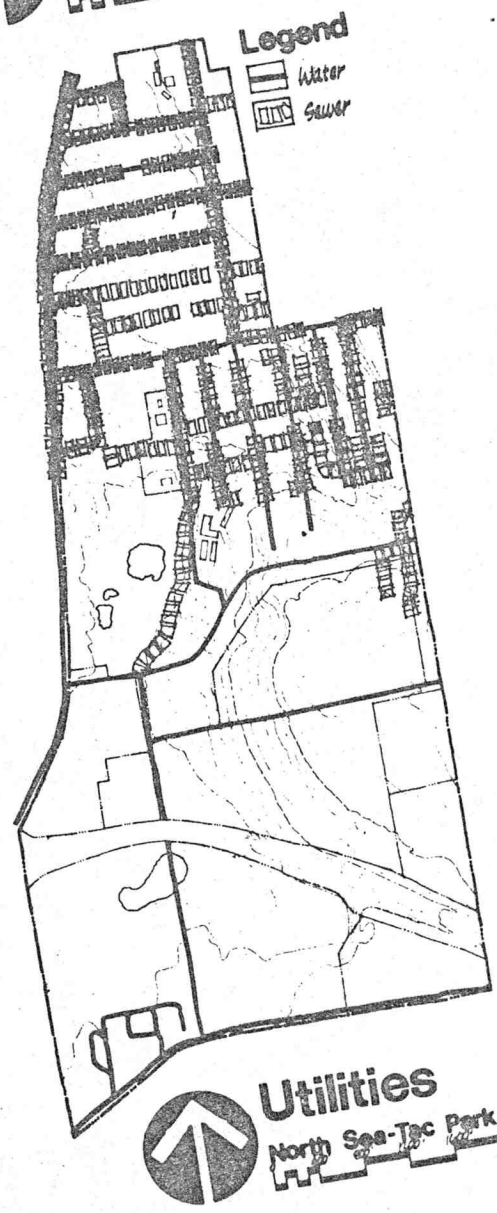
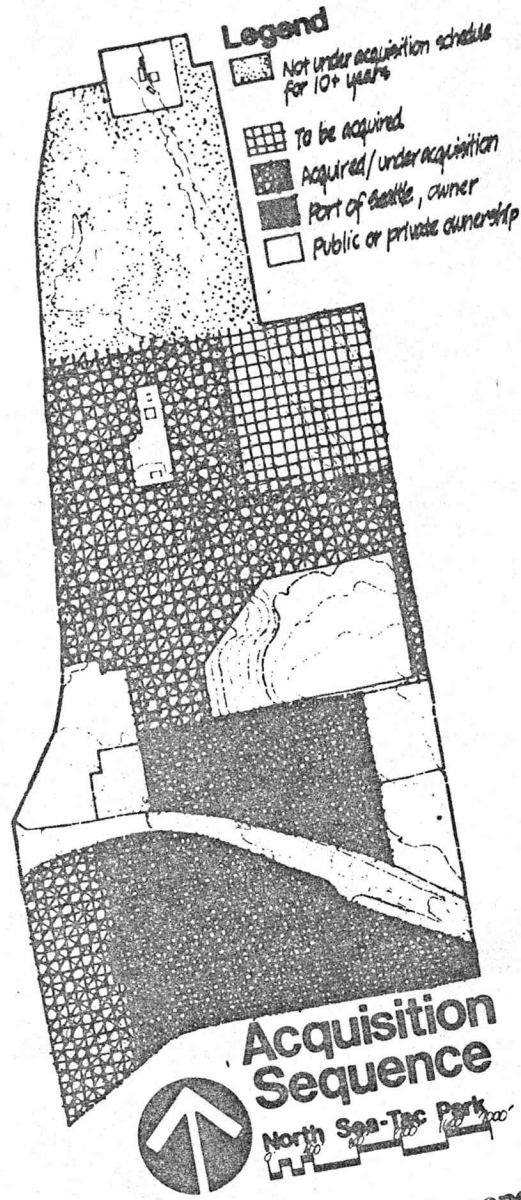
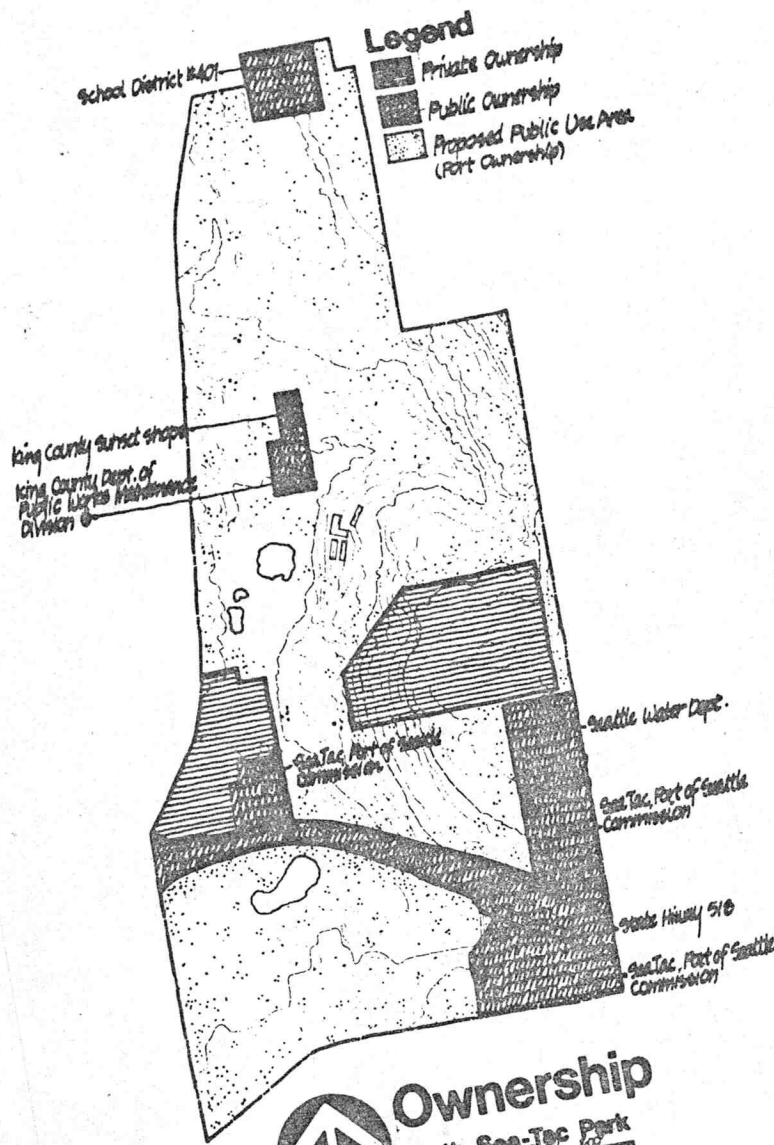
Utilities:

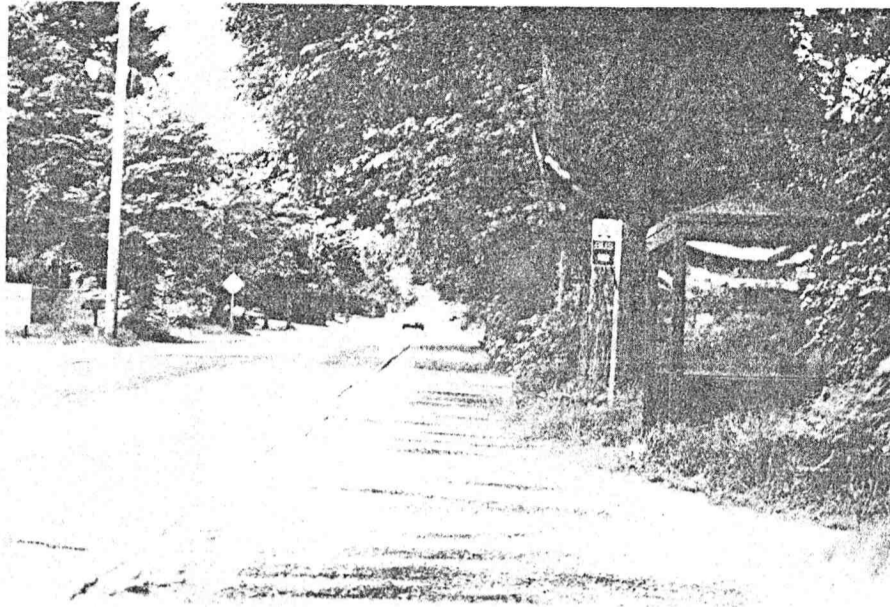
The utilities map can give an indication of where facilities such as restrooms and picnic shelters could be located to avoid the expense of additional sewer and water pipes.

★ Existing Buildings to Remain:

Among the existing buildings to remain is one that will have great impact on the final master plan: Sunset Jr. High. Other buildings such as the King County Shops and those on private land may require screening or other special conditions.












Zoning:

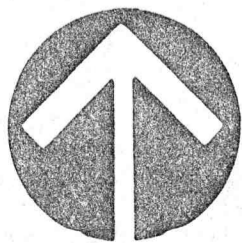
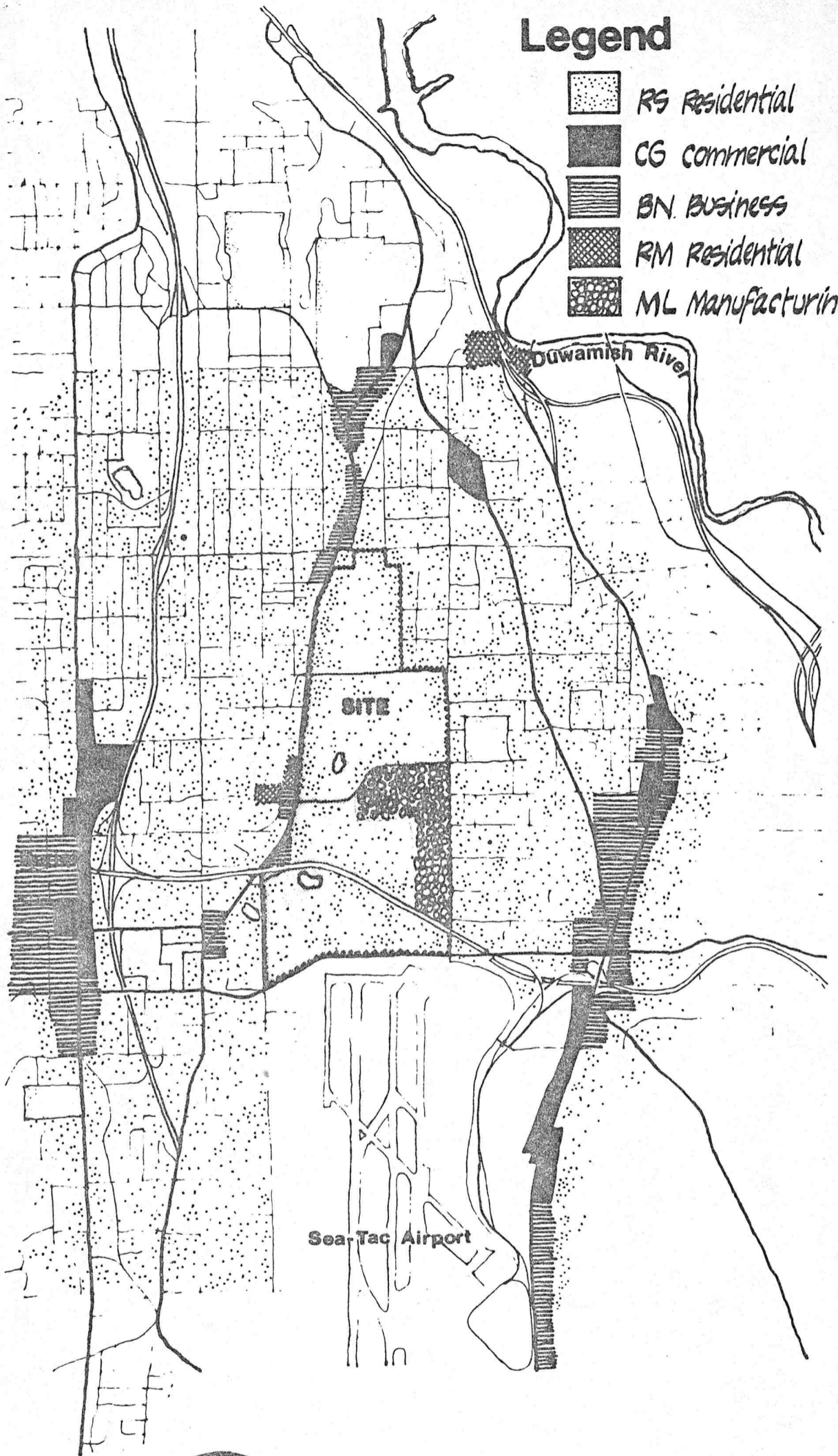
The zoning map is a reflection of land uses surrounding North Sea-Tac Park. The area is zoned predominantly residential, indicating, among other items, that the park will probably be used all week and at any hour (as compared to a park in a business area that is heavily used at lunch hour on week days).

Vehicular and Pedestrian Access:

Highways and roadways in the community around North Sea-Tac Park form a major land use. Numerous freeways cross the area forming barriers between neighborhoods and altering drainage patterns. Cars using the roads have increased noise and pollution levels. The southern quarter of the North Sea-Tac Park site is severed from the rest of the site by State Route 518. Des Moines Way South is a major arterial forming the western boundary of the site. This gently winding roadway lined with historic elms is an ideal pedestrian/bicycle corridor, but the asphalt is too narrow and the shoulder in bad repair. The site is affected by five other secondary arterials. Three form the north, south and west boundaries. The other two dissect the site. The numerous roadways cause problems, but also create benefits. Vehicular and pedestrian access to the site is very good, but internal circulation patterns are disrupted by the thoroughfares. Heavily traveled roads may require buffering or screening.

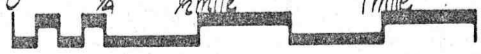
Legend

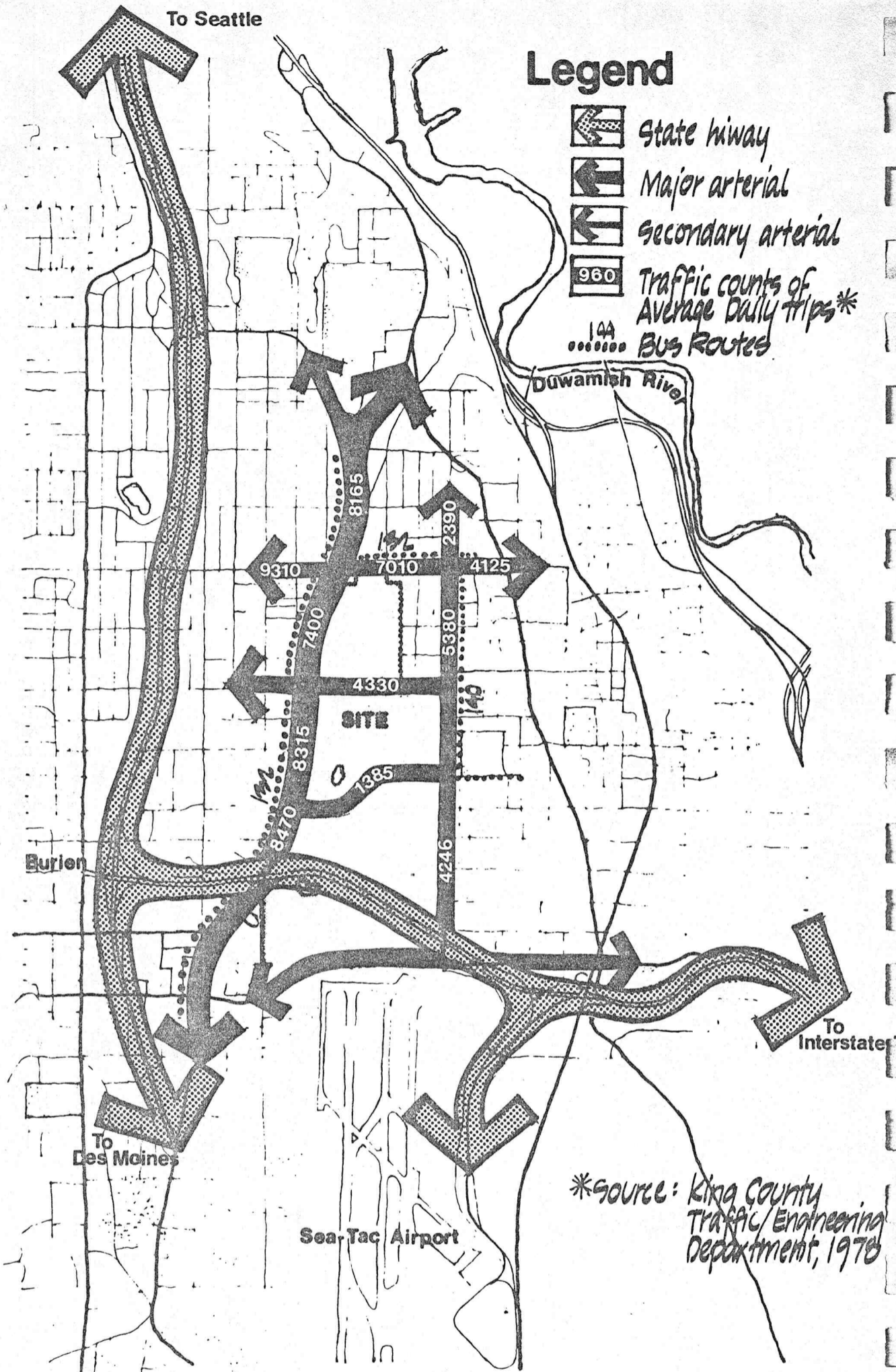
-  RS Residential
-  CG Commercial
-  BN Business
-  RM Residential
-  ML Manufacturing








Zoning

North Sea-Tac Park

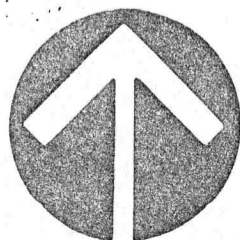




Legend

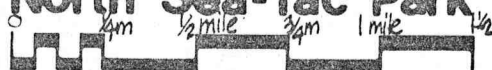
-  State hiway
-  Major arterial
-  Secondary arterial
-  Traffic counts of Average Daily Trips*
-  Bus Routes

*Source: King County Traffic/Engineering Department, 1978





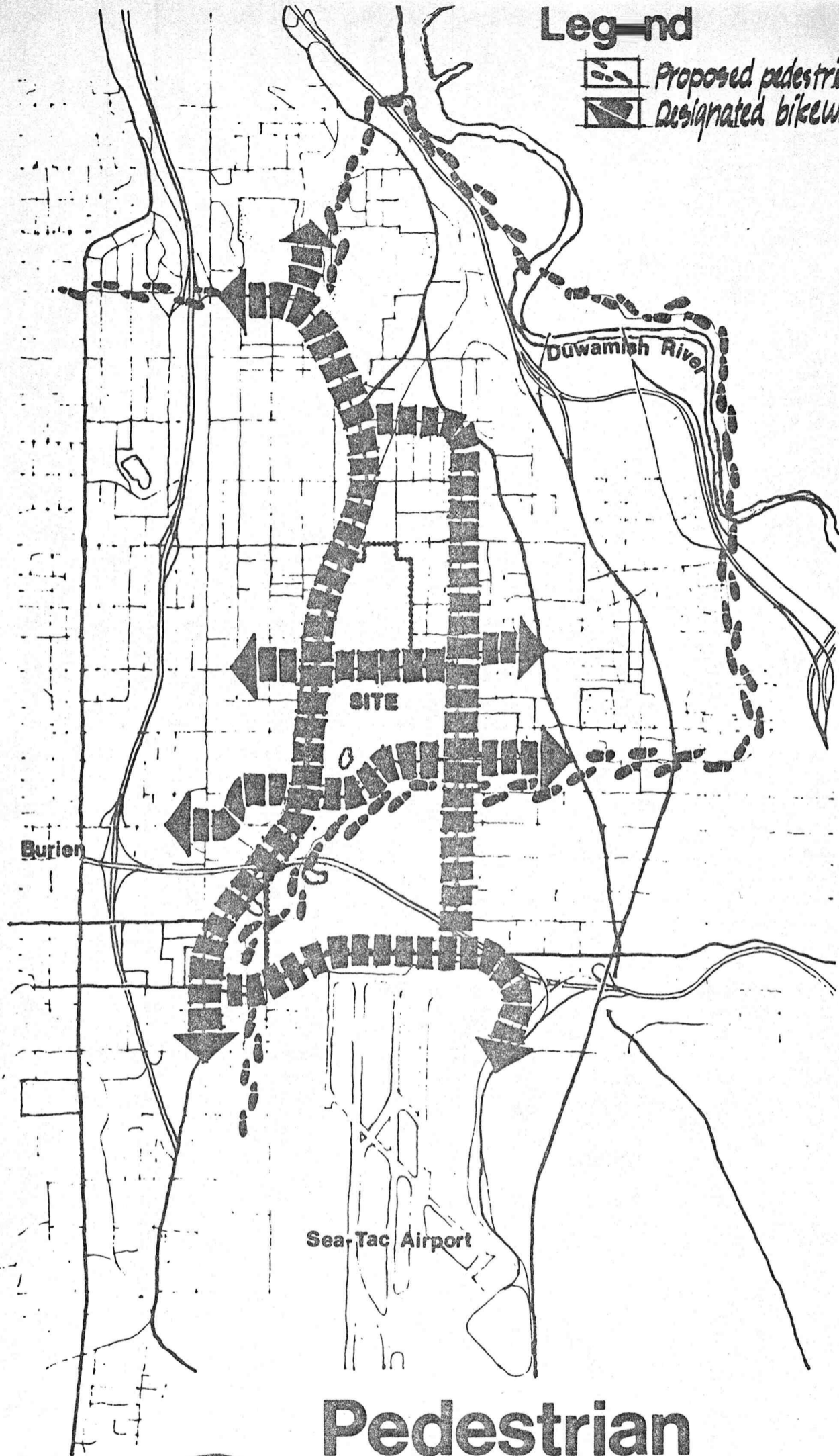
Vehicular Access

North Sea-Tac Park



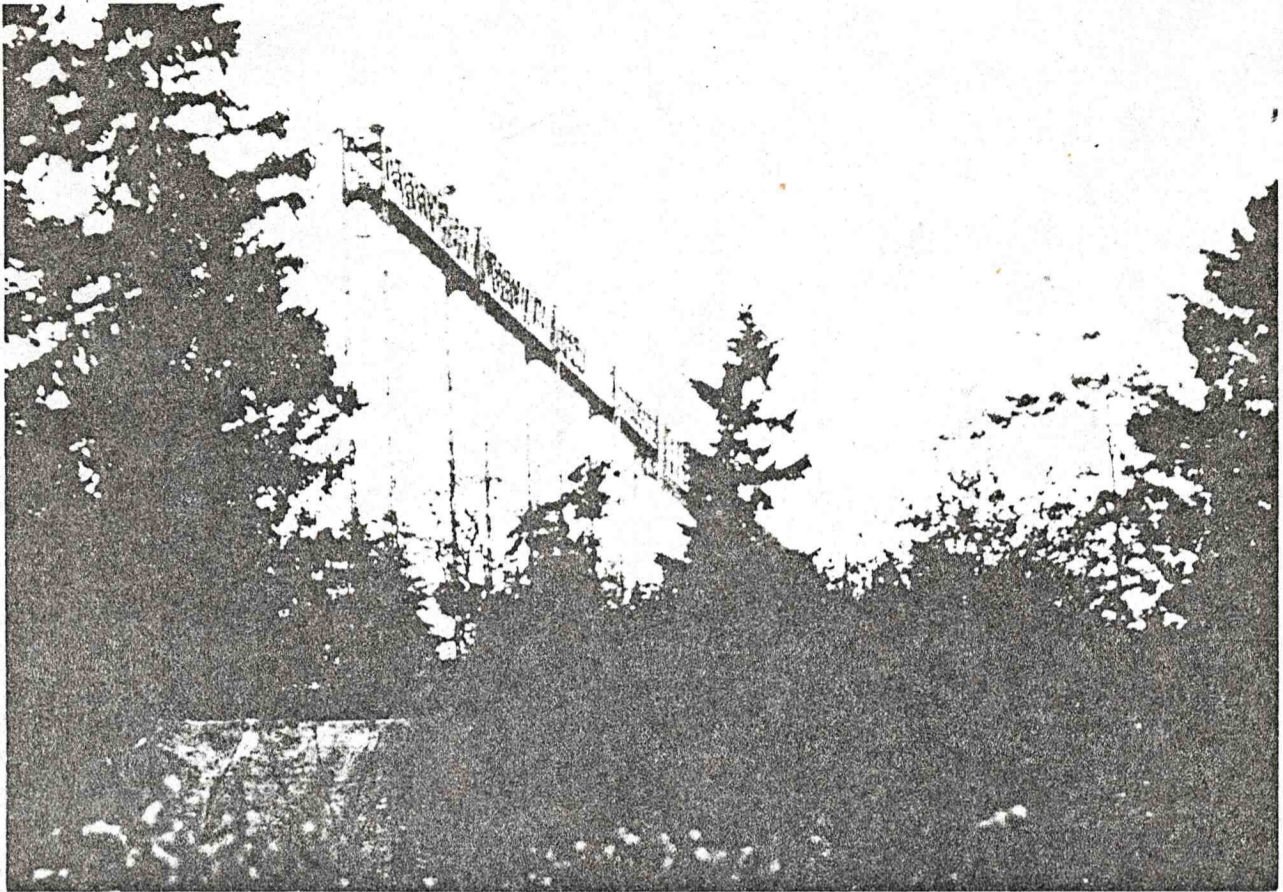
Legend

-  Proposed pedestrian trail
-  Designated bikeway



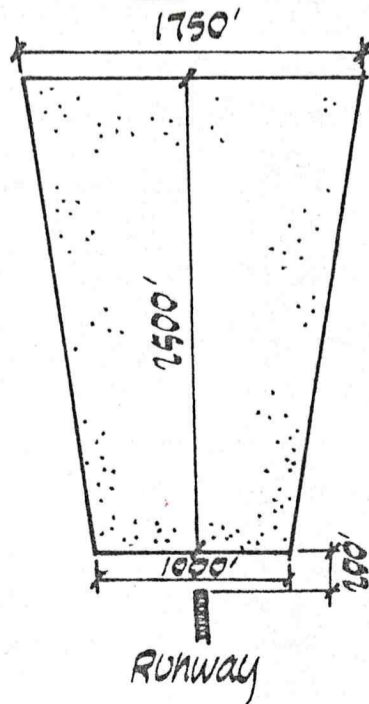
Pedestrian Access







Air Support Facilities:

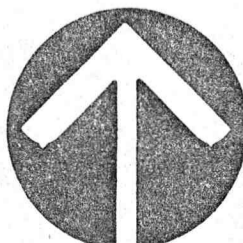
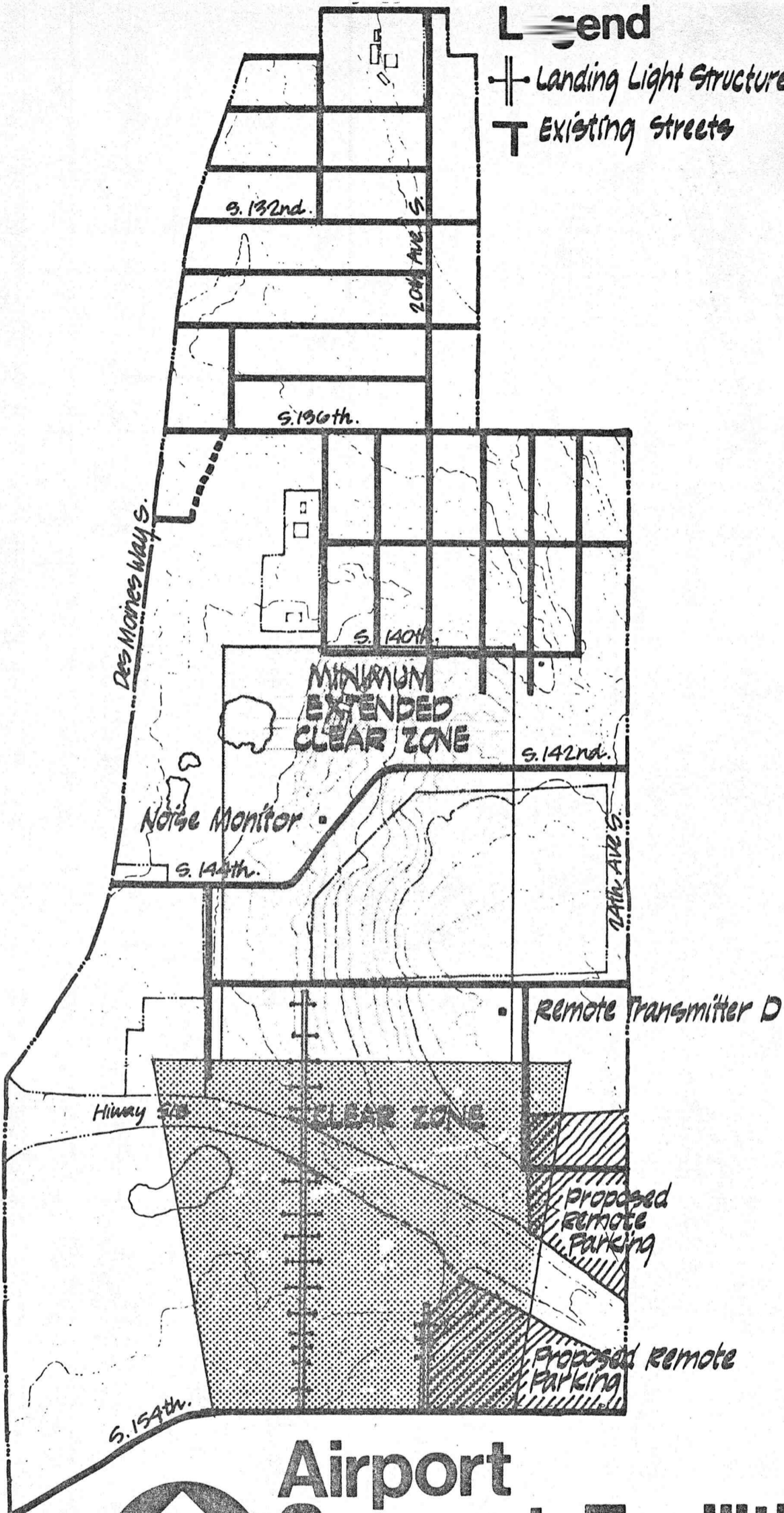
The air support facilities map indicates not only the structures required by the airport, but also the boundaries of the clear zone and extended clear zone. A clear zone is an approach protection area and is used to assure compatible land use in areas adjacent to airports. The minimum dimensions of the clear zone are as shown below. The minimum dimensions of the extended clear zone are 2,500 feet from the end of the clear zone with 1,250 feet on either side of an extended runway center line. However, the extended clear zone can include the area from the minimum to the next natural or manmade boundary. At the North Sea-Tac Park site, total extended clear zone is from the end of the clear zone north to South 136th Street and from Des Moines Way South to 24th Avenue South. Within the clear zones, there can be no features that disrupt airplanes approaching or leaving Sea-Tac Airport. Tall buildings and facilities that produce smoke or glare and areas that attract large flocks of birds are all potentially hazardous. Large gatherings of people should also be avoided because of the increased risk of injuries in the event of an accident.



CLEAR ZONE DIMENSIONS

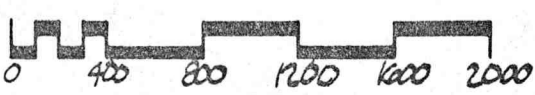
Legend

-  Landing Light Structure
-  Existing Streets



Airport Support Facilities

North Sea-Tac Park

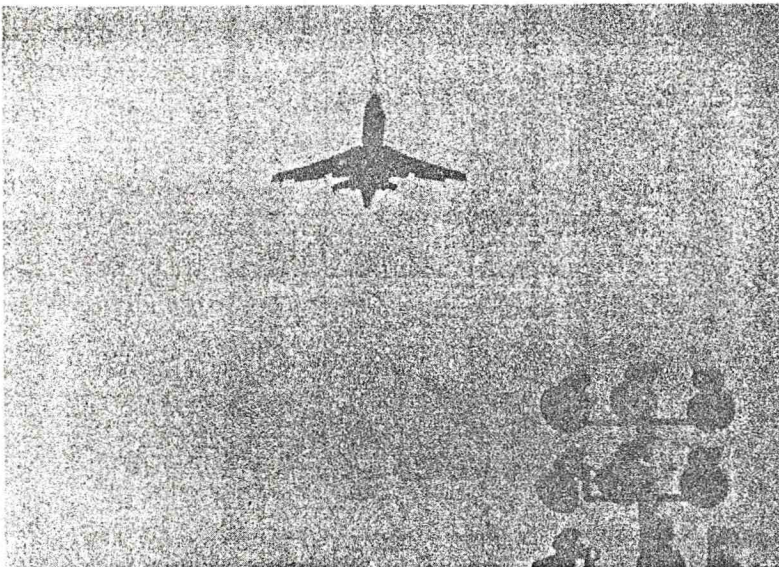


FAA Density Guidelines

The Federal Aviation Administration is responsible for safe aircraft use. If federal funds are used in acquisition, the location and extent of runways and air support facilities requires the approval of FAA.

No specific national standards have been established for the uses of airport clear zones and existing FAA literature can be broadly interpreted: Compatible uses are described as: "...agriculture, playgrounds, parks (types which do not generate assemblies, automobile parking), industry (types which do not create smoke or electronic interference) and similar use" (FAA order 5100.17).

Working with the citizens and the study team from Jongejan/Gerrard/McNeal, the FAA Northwest Regional Office, developed density guidelines to aid the planners in the design of North Sea-Tac Park. While these densities are not regulations which require strict adherence, the figures do represent safe, sensible numbers of people to allow in clear zones. If an airline mishap should occur, an even greater tragedy could be averted by following these guidelines.



NOISE MEASUREMENTS AND EVALUATION

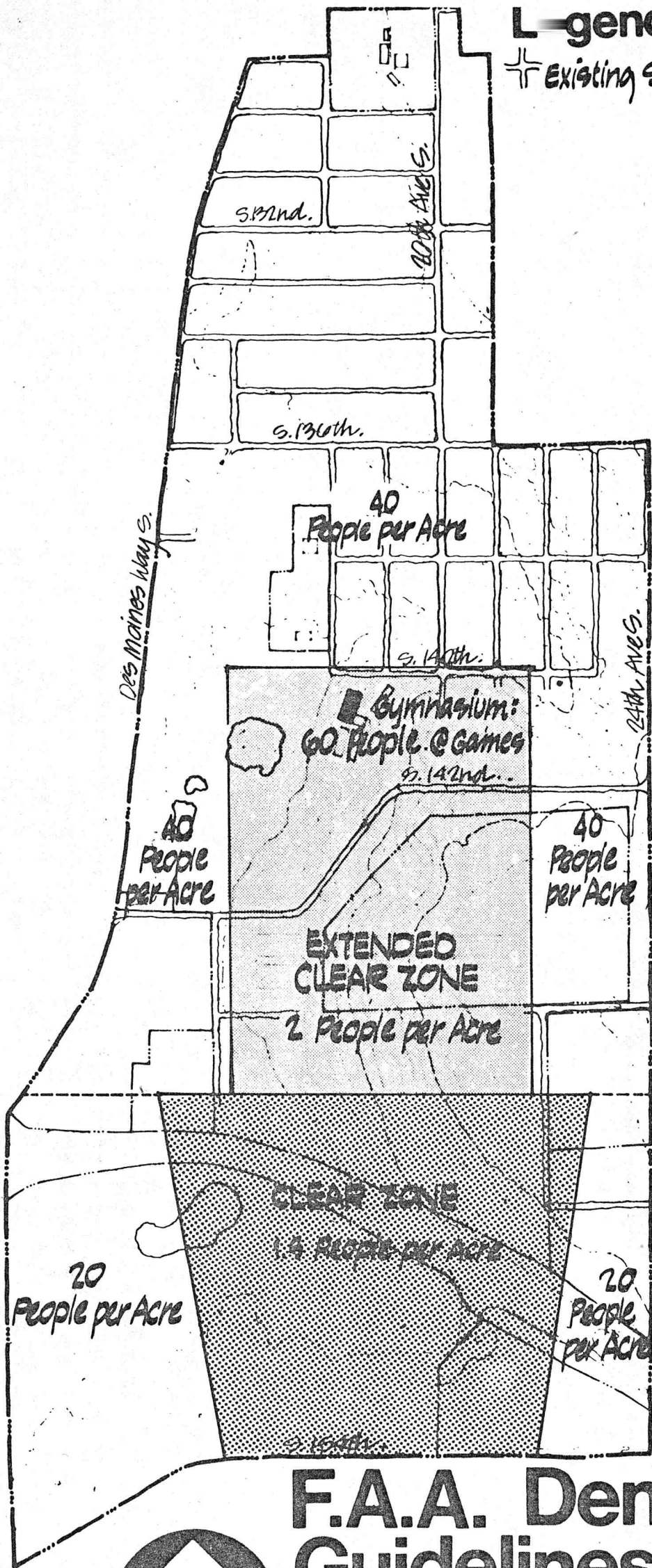
Introduction:

The North Sea-Tac Park is located directly north of Seattle-Tacoma International Airport and as a result is exposed to fairly high noise levels from jet operations. Since the activities proposed for the park are relatively short, lasting 1 to 3 hours, park users are likely to be exposed to either jet departures or approaches during their stay, rather than a mixture of the two. The jet departures produce significantly higher noise levels than approaches and would result in the higher noise exposure with regard to activity or speech interference. Although approaches may be more annoying at times, due to the higher pitched noise from some jets, they don't adversely impact park activities as much as the departures. To determine the highest noise exposure from Sea-Tac jet operations within the park, it was decided to measure the time above specified noise thresholds during a typical busy hour for jet departures. Originally, the times above threshold were to be presented as a contour map, but because of the aircraft operating conditions, this was not possible.* Instead, the time above a specified threshold is shown for each measurement location on the map.

* Temporary grounding of DC10's by the FAA to correct structural failures of engine mounts, during this study altered the types and frequencies of aircraft flying over the site.

Legend

⊕ Existing Streets



F.A.A. Density Guidelines

North Sea-Tac Park



Noise Measurements:

Noise measurements were made at six locations within the Park during the afternoon of June 25, 1979. The noise from at least seven jet departures was recorded on calibrated magnetic tape at each measurement location. The recordings at sites 1,2, and 3 were made simultaneously, as were those at sites 4, 5, 6.

The tape recordings were played into a sound level meter with an A-scale frequency-weighting network to a graphic level recorder. The latter instrument was connected to a statistical analyzer from which the time (minutes) above 65, 70, 80, and 85 dBA was determined for each aircraft fly-over. The results of the seven or eight flyovers at each site were then averaged to give the time above thresholds for a typical jet departure from Sea-Tac for each of the six measurement locations.

Examination of a schedule summary of Sea-Tac operations (based on a report of 12/09/78) indicated the typical busy hour between 8:00 a.m. and 6:00 p.m. had approximately 13 departures. Therefore, the average times for a jet departure were multiplied by 13 to get the total time above each threshold for a typical busy hour. The resulting time in minutes, out of an hour, above 65, 70, 75, 80, and 85 dBA are shown for each of the measurement locations (1 through 6) within the Park in the attached figure. A summary showing the range of time above thresholds over the entire Park is shown in Table 1.

TABLE 1

<u>Level, dBA</u>	<u>Range of time above thresholds at park (minutes)</u>
65	6.8 - 8.8
70	5.6 - 7.5
75	4.6 - 6.1
80	3.3 - 4.3
85	1.9 - 3.2

Originally, it was proposed that a time above threshold contour map be provided. However, the fact some aircraft practice noise abatement procedures while others do not, tends to spread or smear the contours. Noise abatement is practiced by initially applying full power on takeoff, then reducing power until the aircraft reaches a high altitude after which more power is applied. It would require more measurement locations with many more jet departures at each in order to determine the trends required to develop an accurate contour map. However, the times for the locations shown on the figure do provide a good estimate of the noise exposure.

General aviation (propeller type) departures from Sea-Tac probably contribute some to the times above 65, 70, and perhaps 75 dBA. This would mainly be in the areas of Locations 1, 2, and 3 since they generally turn to the east or west soon after taking off and rarely fly straight over the length of the Park.

Criteria

The following outdoor recreational uses require speech communication: soccer, football, baseball, basketball, softball, and tennis. The quality of speech communication is dependent upon the level of speech and distance as well as the level of interfering noise. Table 2, lists the appropriate talker-to-listener distances for just reliable communication for various interfering noise levels and voice levels.

Leg

Level, dBA	Minutes
65	8.3
70	6.8
75	5.2
80	3.4
85	1.9

⑤ measurement Location

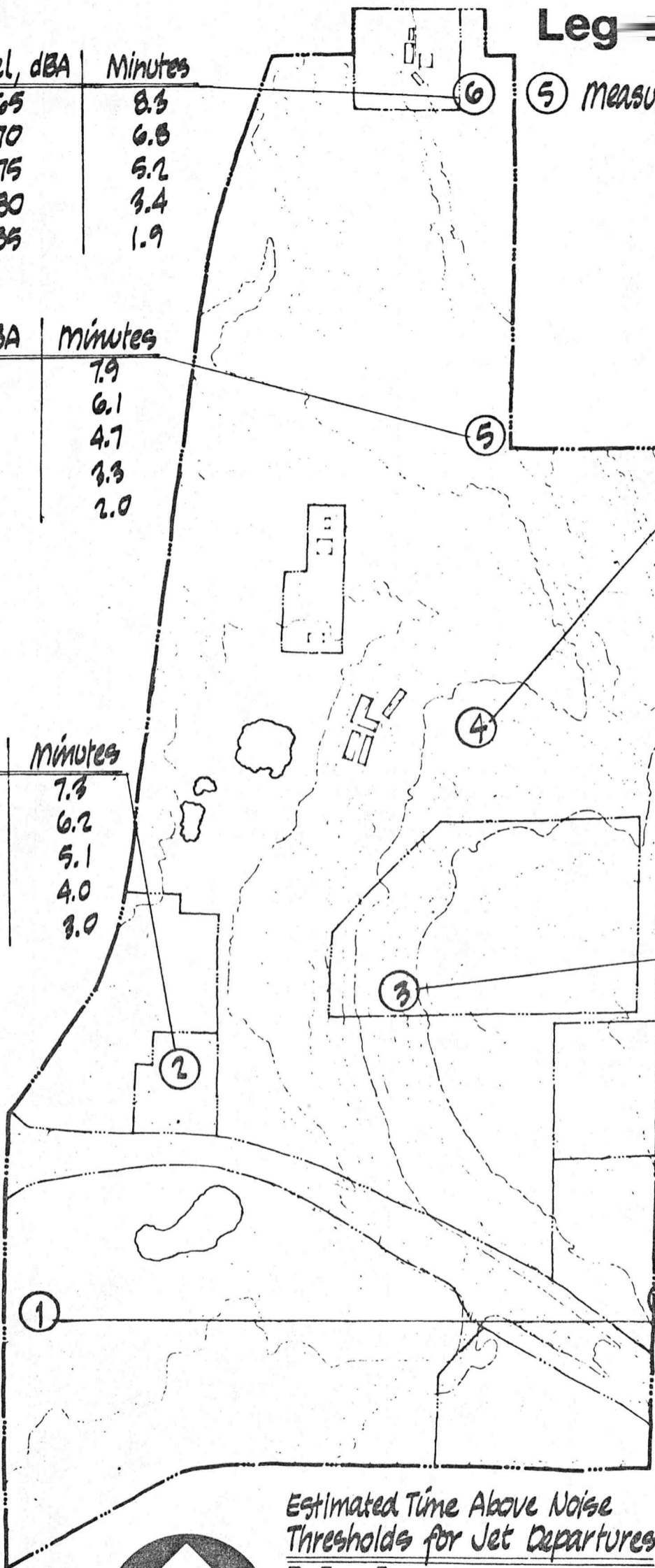
Level, dBA	minutes
65	7.9
70	6.1
75	4.7
80	3.3
85	2.0

Level, dBA	minutes
65	8.8
70	7.5
75	6.1
80	4.3
85	2.2

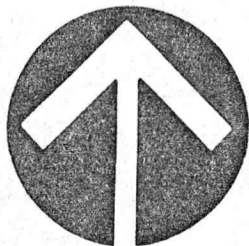
Level, dBA	minutes
65	7.3
70	6.2
75	5.1
80	4.0
85	3.0

Level, dBA	minutes
65	6.8
70	6.0
75	5.1
80	4.2
85	3.2

Level, dBA	minutes
65	6.9
70	5.6
75	4.6
80	3.4
85	2.1



Estimated Time Above Noise Thresholds for Jet Departures



Noise

North Sea-Tac Park



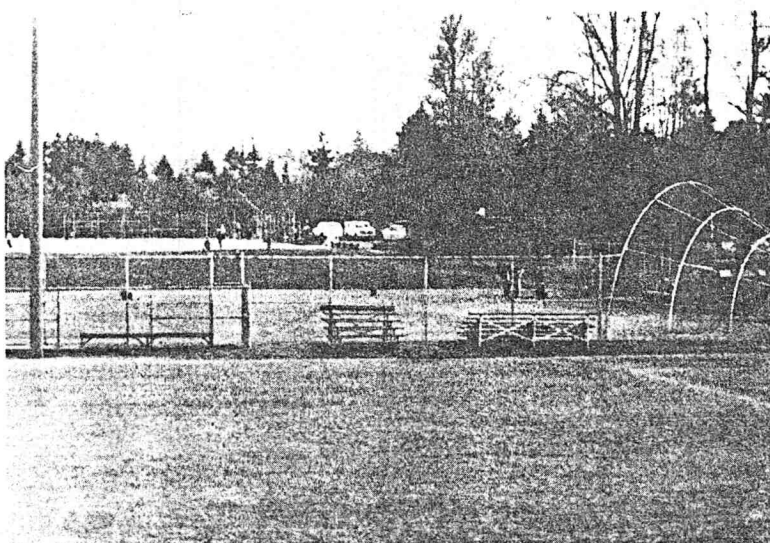
TABLE 2

INTERFERING NOISE LEVEL, dBA	APPROX. TALKER-TO-LISTENER DISTANCES (IN FEET) FOR RELIABLE COMMUNICATION			
	<u>NORMAL VOICE</u>	<u>RAISED VOICE</u>	<u>VERY LOUD</u>	<u>SHOUT</u>
65	4	8	15	31
70	2	4	8	16
75	1	2	4	8
80	under 1	1	2.5	5
85	under 1	under 1	1.5	3

Some aspects of the recreational uses require speech communication over relatively large distances (greater than 15 feet) i.e. coach to player, game officials making announcements, etc. This type of communication will not be possible for 5 to 6 minutes out of an hour in the Park due to noise from jet departures. Where the distance between a talker and listener is less than 15 feet, then a speaker could not be heard for at least 2 to 3 minutes out of the hour. If desired to not use more than a raised voice, then no communication would be possible for about 5.5 minutes at 2 feet, 7 minutes at 4 feet and 8 minutes at 8 feet distance between the talker and listener. It should be kept in mind that the above times do not represent a continuous interruption, but the total time for thirteen separate interruptions occurring during the hour.

The requirements for speech communication within some of the proposed enclosed recreational facilities, such as Sunset Jr. High, are similar to the outdoor facilities but more restrictive. These include meeting rooms, film showings, and banquet facilities which may require that an unassisted speaker be understood over a distance of about 25 feet, assuming a small to average size room. This would require the background noise not exceed about 48 dBA using a normal voice and about 54 dBA for a raised voice. For the larger rooms, a sound reinforcement system may be necessary for the speaker, in which case, the background noise should not exceed about 60 to 65 dBA.

The possible use of the facility as a music room for group practice has more critical listening requirements where the background noise levels should not exceed about 35 to 40 dBA.



Noise Mitigation Measures

The outdoor facilities' noise exposure can only be reduced by reducing the noise emitted by the source (jets). Noise reduction policies have been established as part of the Sea-Tac/Communities Plan, but these measures are not immediately significant. However, it may be possible to schedule events during those times of the day when fewer aircraft operations occur, although these times may be difficult to predict on a regular basis.

The activities which occur indoors can be sufficiently protected from the jet noise by treating the noise transmission path from outside to inside a building. These paths include windows, doors, walls, roof and mechanical penetrations. Normally, the windows are the most likely path which could cause problems and may require double glazing and/or laminated glass along with being non-operable. Any exterior doors directly to the rooms should be at least solid core with resilient gaskets and automatic threshold closures with possibly a vestibule required for a music room. The walls and roof would be required to have enough mass to sufficiently reduce the low frequency noise from the jets. Since the windows cannot be opened to provide ventilation, an HVAC system must be provided for the building and must be designed so that there is no direct path through the mechanical ductwork into any rooms. Also, any mechanical penetrations through the roof and exterior walls should be adequately sealed to prevent any noise leaks around the penetrations. Refer to the report "Aircraft Noise Study/Remedial Construction/Schools" (August, 1973) for a detailed discussion of acoustical recommendations made for Sunset Jr. High School.

Two previous studies on Sea-Tac Airport noise were analyzed for this report: The Unbearable Menace of Airport Noise, by Peter Breyse and Aircraft Noise Study, by Larry Ikenberry. Both studies were concerned with residential uses and therefore concentrated on sleep disturbance and classroom interference without presenting much insight on recreational uses. The Ikenberry study does state that exposure to excessive noise can lead to dilated pupils, increased blood pressure and increased oxygen consumption. Both studies were conducted before 1973 when noise levels were much higher than at present.

Residents attending Steering Committee meetings expressed considerable concern about the physiological effects of noise on the human body. The study team was able to unearth some research performed on laboratory animals with extremely high intensity noise, but there has been little to no research performed with conditions similar to those existing at North Sea-Tac Park. These conditions are moderate to loud (in the range of 95 dBa) intermittent noise and open rather than enclosed space (which could have psychological differences).

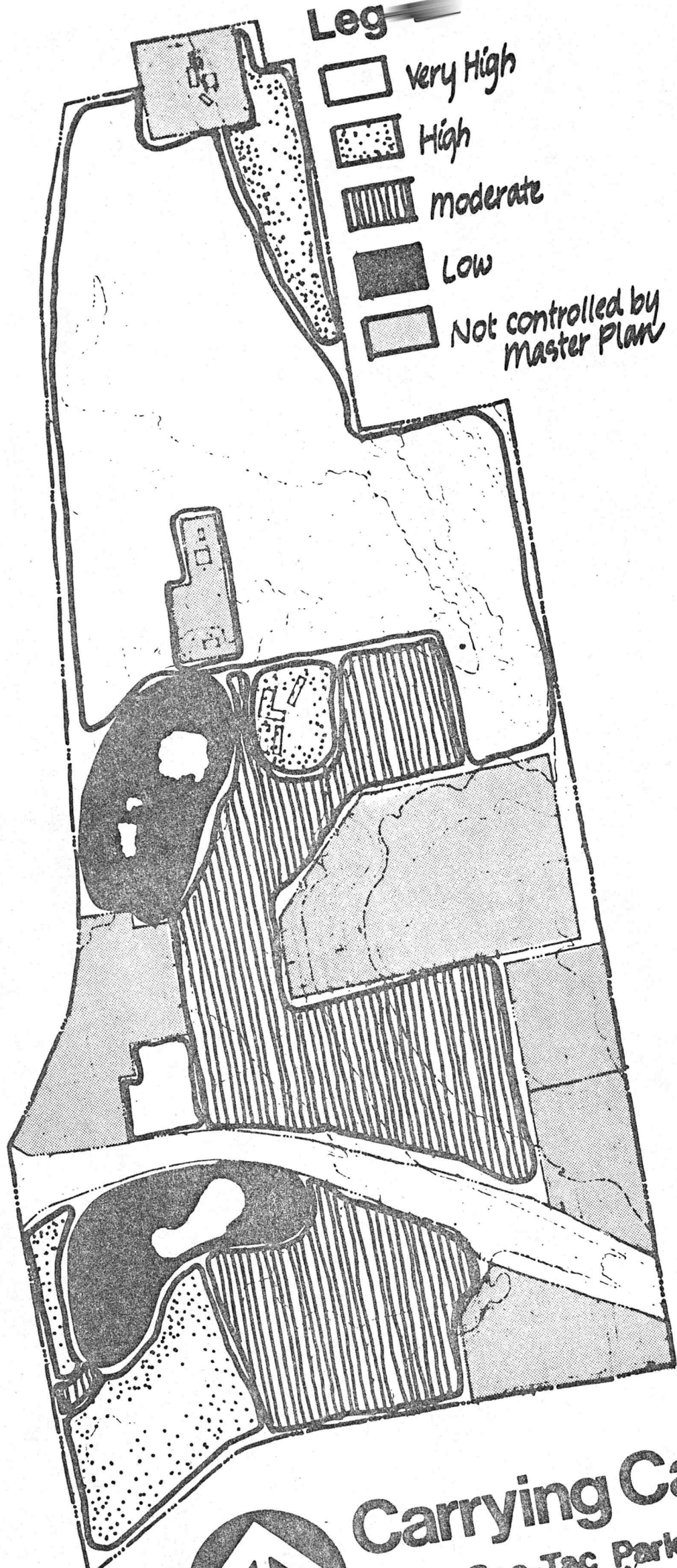
Such testing is not within the scope of this study. However, observations of areas similar to the North Sea-Tac Park site may provide some insight. Located at the south end of the Sea-Tac airport runway, Tyee Golf Course is under a nearly identical noise regime as North Sea-Tac Park. Yet, Tyee is a popular course competitive with other courses not under airplane noise. The manager of Tyee explained that while some people may not play the course because of noise, Tyee still does a profitable business because many people do not consider the noise a problem. Basically, the issue of noise at Tyee Golf Course is resolved by a right of choice. Those persons affected by the noise stay away, those not affected use the facilities. (For a daily record of noise levels at North Sea-Tac Park, see Appendix).

Carrying Capacity

Carrying Capacity is the reflection of the Recreation Development Capacity combined with the manmade factors and restrictions of the site. This gives an indication of those areas that are most suitable for particular intensities of development. While these values are not absolutes, observing these guidelines while developing the North Seatac Park Master Plan will provide the most safe, sensible and economically sound solution.

The ratings are as follows:

- Very High: This area is suitable for intensive activities that may attract large groups of people (not exceeding FAA density guidelines), or require manipulation of landform, soils or vegetation.
- High: The area is suitable for less intensive activities that will not attract large numbers of people. These activities are less disruptive of the natural landform yet may require alteration of vegetation and soils.
- Moderate: The area is suitable for passive to semi-passive activities that will not attract large numbers of people nor require extensive alteration of landform.
- Low: The area is suitable for only limited development and limited numbers of people.



Leg

Very High

High

moderate

Low

Not controlled by master plan

Carrying Capacity

North Sea-Tac Park



Program Development

Introduction

Program development centered on user needs; up until this point, major consideration had been on the natural and manmade constraints of the site. Now would be the opportunity for the community to voice its needs and desires. Jongejan/Gerrard/McNeal, working closely with the Steering Committee, Port of Seattle and King County, researched community plans, recommendations from people of the community and existing facilities. By examining the advantages and disadvantages of different uses, a program for the site was developed. The consultants used this program, which still had major variables, to develop schematic master plans. After re-examining the acquisition sequence, a final schematic master plan was established.

An issue which developed during the program development phase was the agreement of community versus regional needs. The issue was made more complex by varying definitions of "regional" and "community". After some discussion, the consultants determined the Highline Community, the area encompassing the Highline School District, was in itself large enough with a great enough population density to be considered a "region". The area immediately surrounding North Sea-Tac Park was considered as the local community. This area includes a large portion of the Boulevard Park region and extends, approximately, from South 154th Street to South 120th Street from 1st Avenue to Military Road.

Community Plans

The process of determining user needs began with analyzing previously prepared plans. The three plans that apply directly to North Sea-Tac Park are: Sea-Tac/Communities Plan, the Highline Communities Plan, both produced by government agencies, and the Highline Recreation Council Proposal, developed by a citizens' organization. Following is a synopsis of each plan:

THE SEA-TAC/COMMUNITIES PLAN

The Sea-Tac Communities Plan, which was the major impetus to this report, makes the following policy statements regarding the airport acquisition areas:

- * the areas should be in open space use.
- * uses should not further degrade the environment or residential character of neighborhood.

The plan offered some recommendations concerning suitable open space uses in airport acquisition zones. These activities range from the most active, soccer, rugby and tennis to passive uses such as golf and naturewalks.

When addressing the North Acquisition Area (North Sea-Tac Park), the Sea-Tac/Communities Plan supports these policies:

- * the area surrounding Tub Lake should be reserved for wetlands and development along Miller Creek should be limited to a footpath.
- * a golf course should be included in the program, consideration given to using Boulevard Park Elementary School as a clubhouse. Access and parking for the golf course should be near commercial concentration on Des Moines Way South and South 128th Street.
- * Sunset Park should remain in its present active use,
- * Sunset Jr. High and Boulevard Park Elementary School buildings should be used as community facilities.

THE HIGHLINE COMMUNITIES PLAN

The Highline Communities Plan, completed subsequent to the Sea-Tac/Communities Plan is the policy standard by which King County judges land use decisions in the Sea-Tac vicinity. The Highline Community Plan basically upholds the Sea-Tac/Communities Plan with a few additional recommendations:

- * an athletic complex should be developed south of SR 518 on the North Acquisition Area. This complex would eventually consist of three baseball and five soccer fields.
- * Preservation of the historic elm grove along Des Moines Way South.
- * Improvements of Sunset Park to correct parking, drainage and irrigation problems.

A technical report which accompanied the Highline Communities Plan forecasted community recreation needs by the year 1990. These needs in the areas adjacent to North SeaTac Park are predicted as follows:

Baseball fields:	8 community scale 1 neighborhood scale
Football/soccer fields:	15 community scale 9 neighborhood scale
Recreation centers:	2 community scale
Tennis courts:	5 community scale
Passive park:	97.9 acres (neighborhood & community scale)

THE HIGHLINE RECREATION COUNCIL

The Highline Recreation Council is an organization comprised of representatives of activity associations throughout the Highline Community. Participating members are: girls' clubs, boys' clubs, football leagues, soccer leagues, baseball leagues, service organizations and others. Formation of this group was an attempt to combine forces to circumvent problems between different organizations and to improve facilities in the local community.

In May, 1978, the Highline Recreation Council developed a recreation proposal for acquisition lands surrounding the vacated Sunset Junior High School. This proposal is especially valuable in that it lists possible volunteer developers and contact persons. Following is a list of activities recommended by this proposal:

- * Non-motorized bicycle course
- * All-terrain vehicles course
- * Soccer/football fields
- * Baseball fields
- * Swedish jogging and fitness trail
- * Outdoor Basketball
- * Short-nine golf course
- * Handball courts
- * Tennis courts
- * Sunset Junior High Activities Center



Public Participation






People in the local neighborhood, as well as the community surrounding North Sea-Tac Park, were actively involved in program development. Some attended public meetings and Steering Committee meetings to present their requests or questions. Others telephoned or wrote directly to King County, the Port of Seattle and Jongejan/Gerrard/McNeal.

Community demands were numerous and disparate in focus. A small group of citizens favored no development whatsoever, preferring that North Sea-Tac Park be used as a greenbelt. Most requests centered on a particular recreational facility, both in favor of or against the facility in question. The most controversial item seemed to be a request for an all-terrain vehicles course. Other suggested facilities or uses included soccer/football fields, horse shoes, bocce, handball courts, bicycle moto-cross, horseback riding area, nature walks and P-patch gardening areas. Rather than naming facilities, some citizens made requests to provide some type of activity that would appeal to specific groups of people; specifically, senior citizens, handicapped and small children.

Existing Recreation Facilities

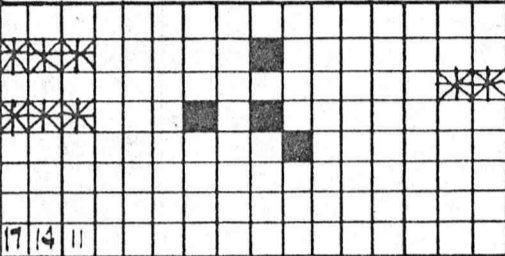
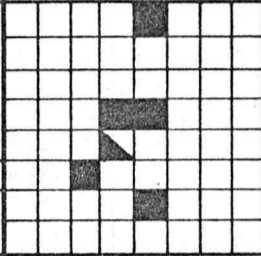
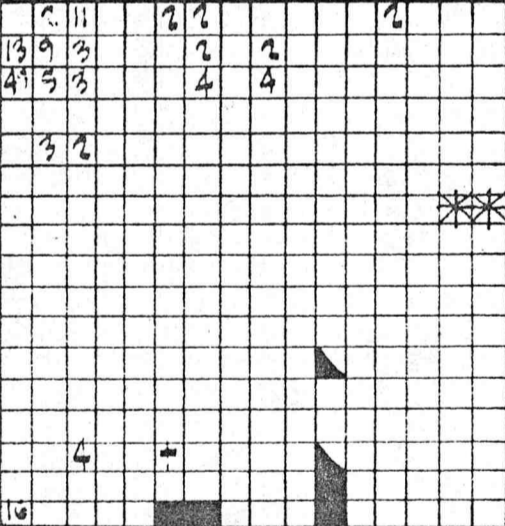
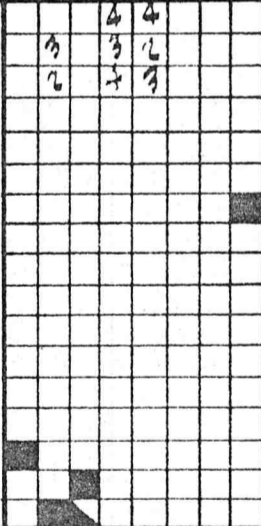
To help comprehension of local recreation needs, an inventory was taken of recreation facilities in the surrounding community. Schools as well as private and public parks were considered. As indicated on the Recreation Facilities Matrix, the area surrounding North Sea-Tac Park has many standard sport facilities such as gymnasiums and baseball fields. There are few or no specialized activities such as archery, bocce, or exercise courses. While most small neighborhood parks have the potential for passive activities, there are almost no parks developed for nature study, walking trails, or picnicking.

Legend

-  Potential Facility
-  Existing Facility
-  Use by members/studen
-  Number of Facilities
-  No swimming

Adjacent Community






Local Area

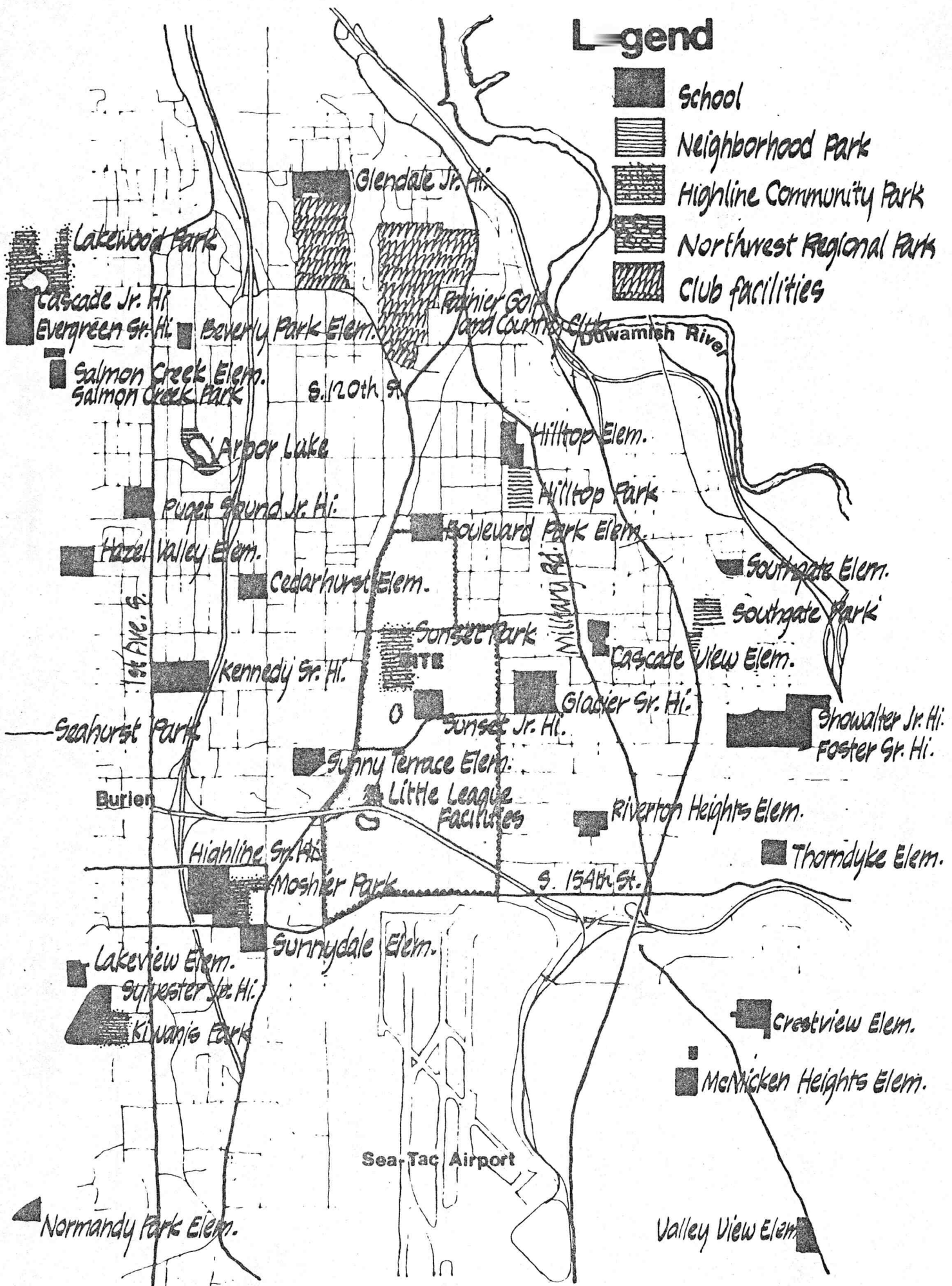
Adjacent Community	Local Area	FACILITIES	ACTIVITIES
ELEMENTARY SCHOOLS JR. HIGH SCHOOL SR. HIGH SCHOOL HILLTOP PARK SOUTHGATE PARK LAKEWOOD PARK SUNSET PARK KIWANAS PARK MOSHIER PARK SEAHURST PARK ARBOR LAKE SALMON CREEK PARK McMICKEN PARK LITTLE LEAGUE FIELD GLEN ACRES GOLF COURSE RAINIER GOLF CLUB	NORMANDY BEACH GRANDVIEW PARK ANGLE LAKE PARK VALLEY RIDGE PARK WHITE CENTER PLAYFIELD DES MOINES CREEK PARK SALTWATER STATE PARK TYEE VALLEY GOLF COURSE	COMMUNITY SERVICE ARTS AND CRAFTS CLUB HOUSE CLASSROOMS/MEETING ROOMS CONCESSIONS BATH HOUSE RECREATION SPACE GYMNASIUM	Indoor
		WILDLIFE STUDY HORTICULTURAL STUDY WALKING TRAILS PICNICING MEADOWS	Passive
		TENNIS SOCCER/FOOTBALL BASEBALL/SOFTBALL BASKETBALL TRACK EXERCISE COURSE GOLF COURSE EQUESTRIAN TRAILS BICYCLE TRAILS LAWN BOWLING OR BOCCE ARCHERY RANGE FRISEBEE HORSESHOES SKATEBOARD SWIMMING FISHING PLAY GROUND	Active

North Sea-Tac Park

Existing Facilities/Activities Matrix

Legend

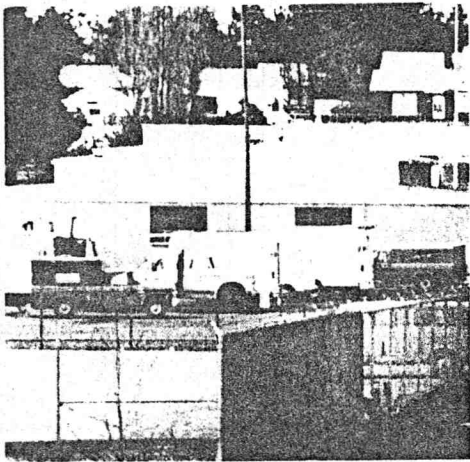
-  School
-  Neighborhood Park
-  Highline Community Park
-  Northwest Regional Parks
-  Club facilities



Recreation Facilities

North Sea-Tac Park





Program Development: Proposals

The following section is a listing of various proposals gleaned from the three plans and citizen requests. Each proposal is accompanied by a list of considerations. The discussion following each proposal records the process by which the Steering Committee, Jongejan/Gerrard/McNeal, the Port of Seattle, and King County made decisions.

PROPOSAL: INDUSTRIAL AREA

This proposal recommended that the North Seatac Park site be used as an industrial area.

Considerations:

- * Employment opportunities in local community could be upgraded, depending on type of development.
- * Land would be in taxable use.
- * Land would be in private use, no public facilities.
- * Use would be in opposition to Sea-Tac/Communities Plan and Highline Communities Plan, both of which recommend recreation and open space.
- * The Sea-Tac Communities Plan points out that industrial and commercial development in acquisition areas would not be a logical or natural geographic extension of existing development. Further, the study states that the North Sea-Tac Park site does not have "the necessary economic factors and amenities to attract major industry in competition with nearby industrial centers".
- * Use would be in violation of existing King County zoning.
- * Land might be visually impacted by homogeneous structures spreading over a large land area (warehouses and manufacturing buildings).
- * Land, air and/or water could become polluted depending upon types of industries which locate at the site. Effects would not be confined to site, but would also be experienced off site.
- * Increased amounts of paved surfaces and broad roof expanses could cause runoff problems and heavily impact Miller Creek.
- * Noise pollution from manufacturing uses could contribute to the existing noise problem.
- * Industrial use would further degrade the residential character of the neighborhood.
- * On some areas of the site, larger numbers of workers would not correspond with FAA Density Recommendations.
- * Industrial use would require a number of workers who would spend whole work days in an area that has been declared unfit for homes due to noise.
- * Land for needed recreational facilities would have to be located and purchased elsewhere in the community.

Discussion and Recommendation:

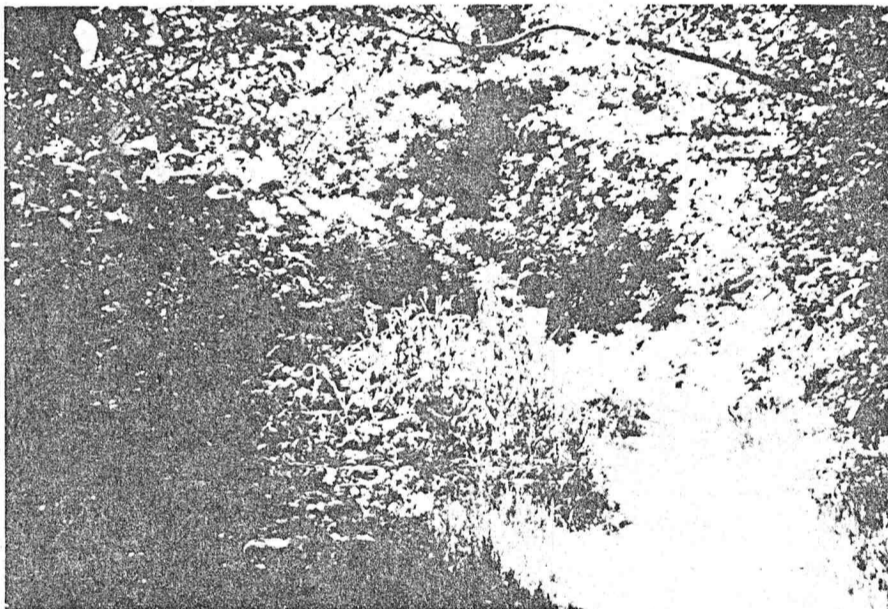
The negative aspects of industrial development greatly outweigh the possible positive aspects. Foremost considerations were the increased potential for environmental problems and inconsistency with previous governmental plans and zoning. For these reasons, industrial development was not further investigated.

PROPOSAL: GREENBELT

This proposal was to dedicate the entire North Sea-Tac Park site to a greenbelt with no recreation facilities.

Considerations:

- * Greenbelt would form buffer between airport and residential uses; local residents would have attractive landscape to view.
- * Fewer people would be on site to be affected by noise.
- * Trees could provide visual barrier to overhead planes.
- * Flood runoff in Miller Creek could be reduced by heavy vegetation.
- * Areas of wildlife habitat would be increased.
- * Land for needed recreational facilities would have to be located and purchased elsewhere in the community.
- * Trails developed by children, animals, bicycles and motorcycles would penetrate into the greenbelt.
- * If unfenced, access would be uncontrolled: a) controlling unsavory activities becomes more difficult; illegal garbage dumping could become more frequent; b) there would be less control over all-terrain vehicles; erosion and siltation could increase as ATV riders establish hill climbs on erosive slopes; and c) environmentally sensitive areas would be less protected.
- * If fenced, land would be unavailable for public use, recreation or education.



Discussion and Recommendation:

The positive benefits of a greenbelt were desirable, yet use of the entire site for a greenbelt ignored the need in the community for active recreation facilities.

The need to control garbage dumping and illegal vehicle use was made apparent during the natural processes inventory. An unfenced greenbelt is too alike the existing situation in which these activities frequently occur. Fencing the area would create a barrier in a community saturated with barriers.

The final solution was to include small greenbelts in the master plan. These greenbelts would protect environmentally sensitive areas, buffer local residents from active sports areas and provide passive park space for trails.

PROPOSAL: ACTIVE SPORTS PARK

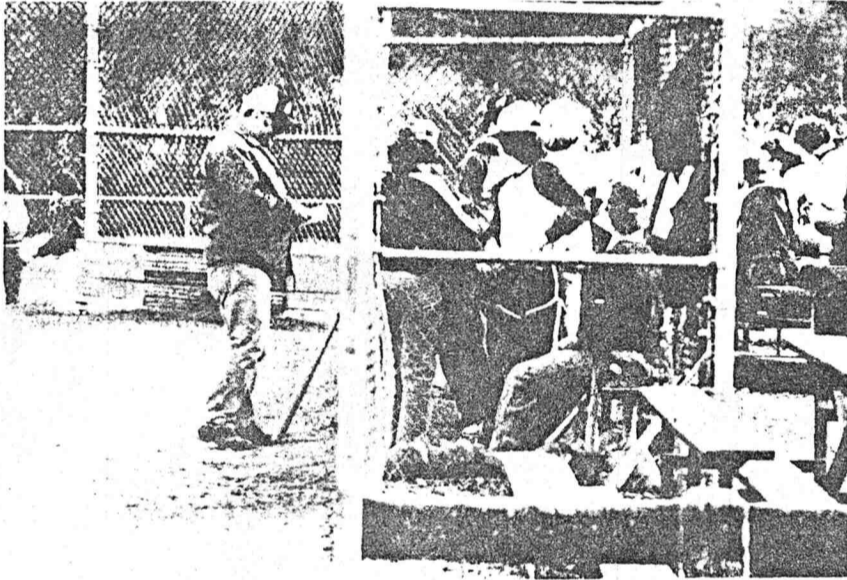
This proposal was to establish an active sports park at North Sea-Tac Park, including as many as 24 soccer fields, 8 baseball fields, and other facilities such as outdoor basketball, handball, tennis, and bicycle moto-cross.

Considerations:

- * More people would be on site to be affected by noise.
- * On some areas of the site, large groups of people would not correspond with FAA density recommendations.
- * Areas environmentally unsuitable for this type of development would require costly alteration, unique vegetation and valuable wildlife habitat could be eliminated.
- * Fertilizers from sports fields and storm runoff could cause heavy storm flows and water quality problems.
- * High maintenance costs could force user fees to be established.
- * Residents surrounding the park could be negatively affected by loss of privacy and increased noise.

Discussion and Recommendation:

The need to include some types of active recreation at North Sea-Tac Park was apparent early in the study. The Highline Communities Plan, the Highline Recreation Council, and a deluge of citizen requests all emphasized the lack of existing facilities in the community.



However, the number and types of recreation facilities was still in question. Besides the above-mentioned negative effects of an extensive active recreation park, the problem of noise still persisted on the site. If more desirable locations existed in the community, then those should receive priority for development. However, field sports require a large area and space is limited in the community surrounding North Sea-Tac Park. Further, if facilities were dispersed throughout the community, rather than concentrated in one area, travel time and distance would be reduced for users and residents in areas adjacent to North Sea-Tac Park would be less impacted by people traveling through their neighborhood.

The final solution was to locate a limited number of facilities at the park, fitting the fields and courts into areas between existing vegetation and greenbelt buffers. Of course, the facilities would be located in areas deemed appropriate by the Carrying Capacity of the site. Court games such as tennis and outdoor basketball would be included in the program, but as these could fit into small neighborhood parks more easily than field games, the emphasis would be to disperse the courts throughout the community.

Because of limited space and potential incompatibility of some recreation facilities, priorities had to be established. To do this, Jongejan/Gerrard/McNeal surveyed the Steering Committee, reviewed the citizens' requests, and reviewed previous plans to establish the following list.

These facilities were considered to be high priority items and were to be included in all alternatives developed by the consultants:

- * Softball/baseball fields
- * Football/soccer fields
- * Totlots/playgrounds
- * Bicycle moto-cross

Some activities were of moderate priority to be included as space allowed. These were:

- * Tennis courts
- * Bocce
- * Outdoor basketball courts
- * Skateboarding
- * Exercise trail
- * Nature walks
- * Picnicking

Low priority items were:

- * Rugby fields
- * Handball courts
- * Lawn Bowling
- * Archery
- * Horseshoes
- * Skateboard course
- * Rollerskating
- * Frisbee field
- * Indoor tennis
- * Dog training area

PROPOSAL: WATER SPORTS

This proposal was to develop water sports on Tub Lake and Lake Reba.

Considerations:

- * A number of interest groups and age groups could benefit from multi-use; canoeing, rowing, swimming.
- * Dredging, cleaning and enlarging of the lakes could be necessary.
- * Peat and marsh soils would be impacted: compaction would lead to less water holding capacity and less ability to support unique vegetation.
- * Fishing: fish stocking and water quality improvement measures would be necessary.
- * Swimming: water quality measures would be necessary or construction of a pool.
- * Large expanses of water could attract flocks of water fowl, causing a hazard to the overhead planes.

Discussion and Recommendation:

The two lakes, ponds really, are small enough to be severely impacted by any development for water sports. Therefore, the program does not include canoeing, rowing, fishing or swimming in natural water bodies. Consideration was given to including an indoor pool in the master plan, but such a facility would be in noncompliance of FAA Density Recommendations.

PROPOSAL: EQUESTRIAN FACILITY

This proposal recommended that a large portion of the site be devoted to an equestrian facility, including trails, arenas and stables.

Considerations:

- * Fewer people would benefit from the use of open space. (This solution caters to select interest group.)
- * Fewer people would be on site to be affected by noise.
- * Land for other recreational uses would have to be located on a smaller portion of site and/or located elsewhere in the community.
- * Could be visually pleasing if facility included woodland trails (also used by pedestrians), meadows, and open pasture areas.
- * Areas with highly erosive or compressive soils would be unsuitable for this type of development.
- * Erosive slopes subjected to this use could increase situation in Miller Creek. Slopes could show erosion, affecting vegetation.
- * Miller Creek could show an increase in coliform levels.

Discussion and Recommendation

This was a little-requested, little-discussed proposal. (It was mentioned briefly in the Sea-Tac/Communities Plan and one citizen request was received). While there are horse owners in the area surrounding North Sea-Tac Park, they are of an insufficient number to justify a large expenditure for equestrian facilities. Consideration was given to including horses on a path system with pedestrian and bicyclists, but the hazards of such a system were calculated to be too great. And again, the small number of horse owners did not justify establishing separate facilities with controlled access. For these reasons, and because of the lack of interest, horse riding was not included in the program. If, in the future, greater interest is evinced, this decision should be re-evaluated.



PROPOSAL: P-PATCH

This proposal was to establish a rentable, family-oriented agricultural facility. The P-patch program is already established in King County.

Possible Effects

- * The costs could be covered by incoming rents.
- * Some soils found at North Sea-Tac Park are inappropriate for agricultural uses.

Discussion and Recommendation

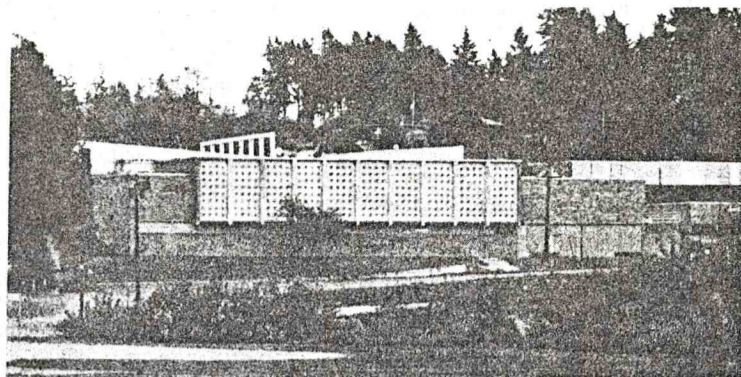
The P-patch proposal did not appear in any of the previously prepared plans, however, numerous community members requested such a facility. An important aspect of P-patches is that they are relatively inexpensive to implement. For the above reasons, P-patch facilities were recommended to be included in the master plan in an appropriate area of the site.

PROPOSAL: SUNSET JUNIOR HIGH COMPLEX

One of the proposals was to provide indoor recreation facilities for the community at the vacated Sunset Junior High School. Dropping enrollment in the Highline School District coupled with noise impacts caused Sunset Junior High School to be closed. The facility has a gymnasium equipped with locker rooms and showers, a lunchroom with kitchen facilities, classrooms, and an outdoor track. Other proposed uses included meeting rooms, storage facilities, visiting nurse facilities, music rooms, and a cultural arts annex. Sunset Junior High is presently being used by two community groups for recreation and as archival storage. A final proposal was to demolish the structure (see Architect's Report on Sunset Junior High School in the Appendix).

Considerations:

- * Large gatherings of people would not correspond with FAA recommendations to avoid groups of people for long periods of time.
- * The building would require renovation to be protected from jet noise. Windows will require double glazing and/or laminated glass. Ventilation will have to be designed so there is not a direct link to the exterior through mechanical ductwork. Walls and roofs will require insulation (see Noise Mitigation Measures, page 39).
- * Buildings would need to be renovated for handicapped access.
- * Roads for vehicular traffic will have to be maintained into the site.
- * If proposal is not developed, buildings and land will have to be located and purchased elsewhere in the community.



Discussion and Recommendation:

As previously stated, numerous alternative uses were considered for the former school, ranging from re-occupation to demolition of the structure.

★ Four issues influenced the final recommended use for Sunset Jr. High. First, the structure would require extensive expensive acoustical modification to be suitable for use by the general public. Secondly, locker rooms are located one story below the gymnasium; providing handicapped access would require an extremely costly conversion. Third, due to the location of the building complex, the FAA guidelines limits the total number of people to sixty (60). This eliminates spectator events in the gym. Lastly, school closures in the Highline school district are making available to the community, four other surplus schools, one of which is Glacier High School, just two blocks east of the site. Any of these other schools would be more desirable as a recreation facility because they are removed from high noise level zones and would not come under FAA recommended densities.

★ For these reasons, the use of Sunset Jr. High as an indoor recreational facility should be on only an interim basis until a more suitable facility can be found. Interim activities would include "pick-up" basketball and similar low-key activities. Use of the outdoor track by individuals should continue; the facility should be a permanent element of the Master Plan, but the track should be used for organized sports events.

★ *Interim Basis*
While Sunset is impractical as a recreation facility, it is well suited for storage uses. The school is currently serving as the King County Depository for the State of Washington archives and should continue in this use.

PROPOSAL: ALL-TERRAIN VEHICLES COURSE

Several variations of this proposal were received. One was to develop a large-scale all-terrain vehicles course with facility for jeeps, motorcycles and three-wheeled motorcycles. Proposals ranged from this extreme to a small motorcycle training area, where unlicensed drivers could learn road bike skills.

Considerations:

- * Unless carefully located on the site, an ATV course would cause environmental degradation.
- * ATV's are incompatible with other recreation uses such as passive park and nature trails because of dust, noise and safety hazards.
- * An ATV course would further degrade noise and air quality in direct violation of policies established by SeaTac Communities Plan.
- * By establishing an ATV course, the Highline Community would be promoting an energy consuming activity at a time when national policy is to conserve energy and gasoline.

Discussion and Recommendation:

No proposal was as emotionally charged as this one. Many people were actively opposed to any facility. Others repeatedly pointed up their need to have a site to ride their vehicles legally as no such facility was available.

The arguments against the facility were convincing: the motorcycles could cause environmental degradation, the use was incompatible with other recreation activities and the residential characteristics of the local area. Also, the facility would contribute noise to an already noise-impacted area. The Steering Committee was finally able to determine that if a facility was to be constructed, it should be an educational facility, not a motorcycle race course. The Steering Committee reached a consensus to include an optional motorcycle training course that would be fenced and controlled by a responsible organization such as the local school district or police force. The purpose of this facility would be to teach unlicensed riders motorcycle road safety. Further, the facility would be sited where it would not disrupt the residential neighborhood with noise, dust, or fumes. A limited number of riders would be able to use the course at a time to reduce any potential for adverse effects.

PROPOSAL: GOLF COURSE

There were three basic variations of this proposal: an eighteen-hole golf course, a nine-hole golf course, and a par three "Pitch and Putt". Ancillary activities could include clubhouse, restaurant and driving range.

Considerations:

- * Golf course would act as greenbelt, buffer between airport and residential uses.
- * A large portion of the site would be dedicated to the golf course reducing the area available to other activities or land uses (but not eliminating such alternatives).
- * A large portion of the site would be unavailable for use by the general non-golfing public.
- * A fewer number of people would be on site to be affected by noise.
- * Most of the site is environmentally suitable for golf course; no serious hazards should result, except runoff of storm water and fertilizers which could cause water problems.
- * Golf courses are high-maintenance facilities, although presumably the maintenance costs would be covered by user fees.

Discussion and Recommendation:

One of the uses the Sea-Tac/Communities Plan recommended for North Sea-Tac Park was a one-hundred and twenty acre golf course. Golf course proposals were numerous among public requests.

A golf consultant (Roy Moore) volunteered much information which helped the Steering Committee and the landscape architects determine the type of course that should be developed; practical economics proved to be the base of that decision. An eighteen-hole golf course is the most profitable course to build. Since people who prefer nine-hole courses and those who prefer eighteen holes can both play on an eighteen-hole golf course, the longer course is more versatile. Further, a cost estimate done by Jongejan/Gerrard/McNeal showed that a nine-hole golf course cost seventy percent as much as to build as an eighteen-hole course. The golf consultant indicated that a nine-hole golf course received only half of the income of eighteen holes. Also, Mr. Moore explained that a Par 3 "Pitch and Putt" was uneconomical because it is an unpopular type of course. For these reasons, the Steering Committee and the landscape architects decided that, if possible, an eighteen-hole course would be included in the master plan.

PROPOSAL: OTHER PUBLIC USES

Two similar recommendations regarding the use of North Sea-Tac Park as an emergency training area were received. One was from the local King County Fire District to use an area for once-a-week fire department drills. The second was from the Seattle Police Department to develop a large automobile pursuit course which would be used to train police officers from several Washington State Jurisdictions.

Considerations:

- * Public good would be served by providing a site for police and fire protection training.
- * The police facility would require a large portion of the site to be fenced and made unavailable to the public.
- * The police facility would be in opposition to the Sea-Tac/Communities Plan which recommends recreation and open space uses on the site.
- * The police facility is incompatible with recreational and residential uses.

Discussion and Recommendation:

The Fire Department proposal was considered to be an event occurring infrequently enough to be compatible with recreation and residential uses and therefore was considered an appropriate use. Since this use could occur anywhere on site, it is not a plan element.

The police proposal required a large amount of land and was an incompatible use. The Steering Committee, the Port of Seattle and the consultants recommended against this proposal.

Schematic Master Plans

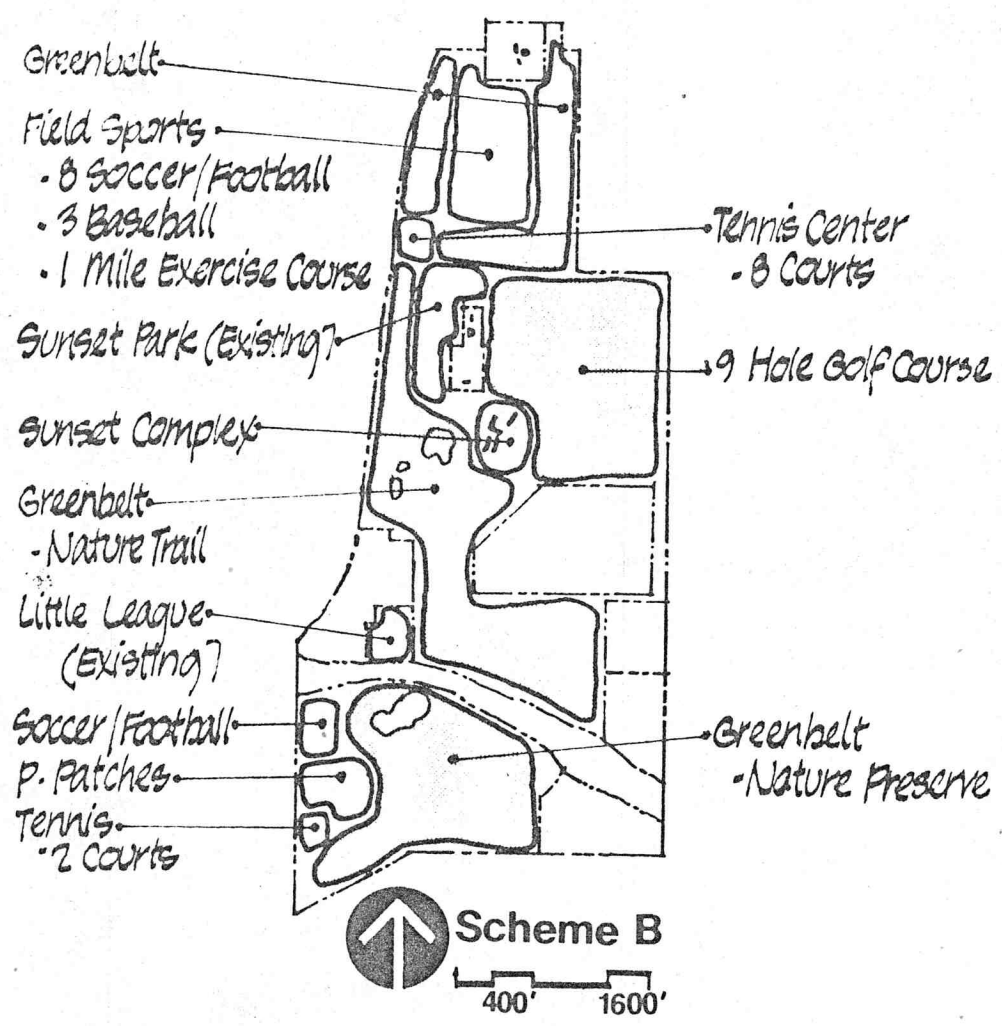
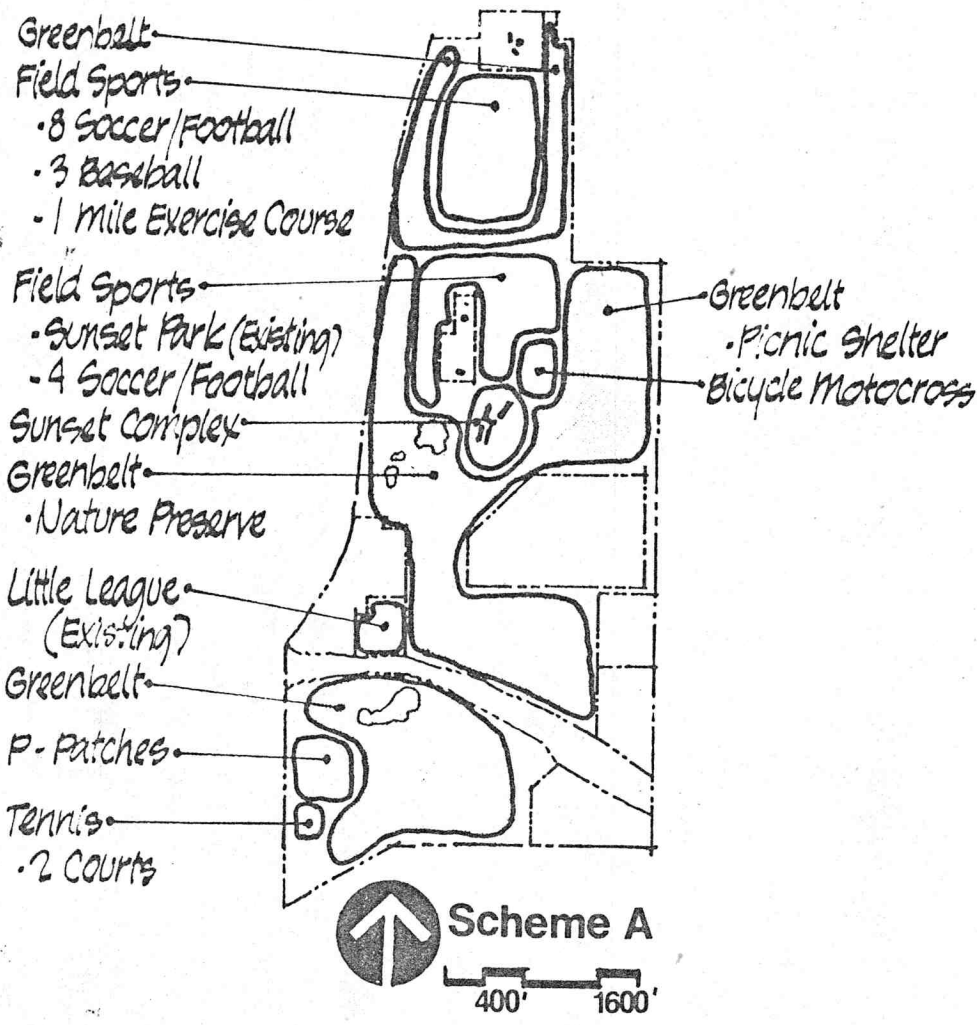
Throughout the process of program development, Jongejan/Gerrard/McNeal used a series of schematic master plans to help the Steering Committee visualize the effects of different programs. All the schematics reflected the carrying capacity of the site: FAA Density Guidelines and environmental considerations were observed.

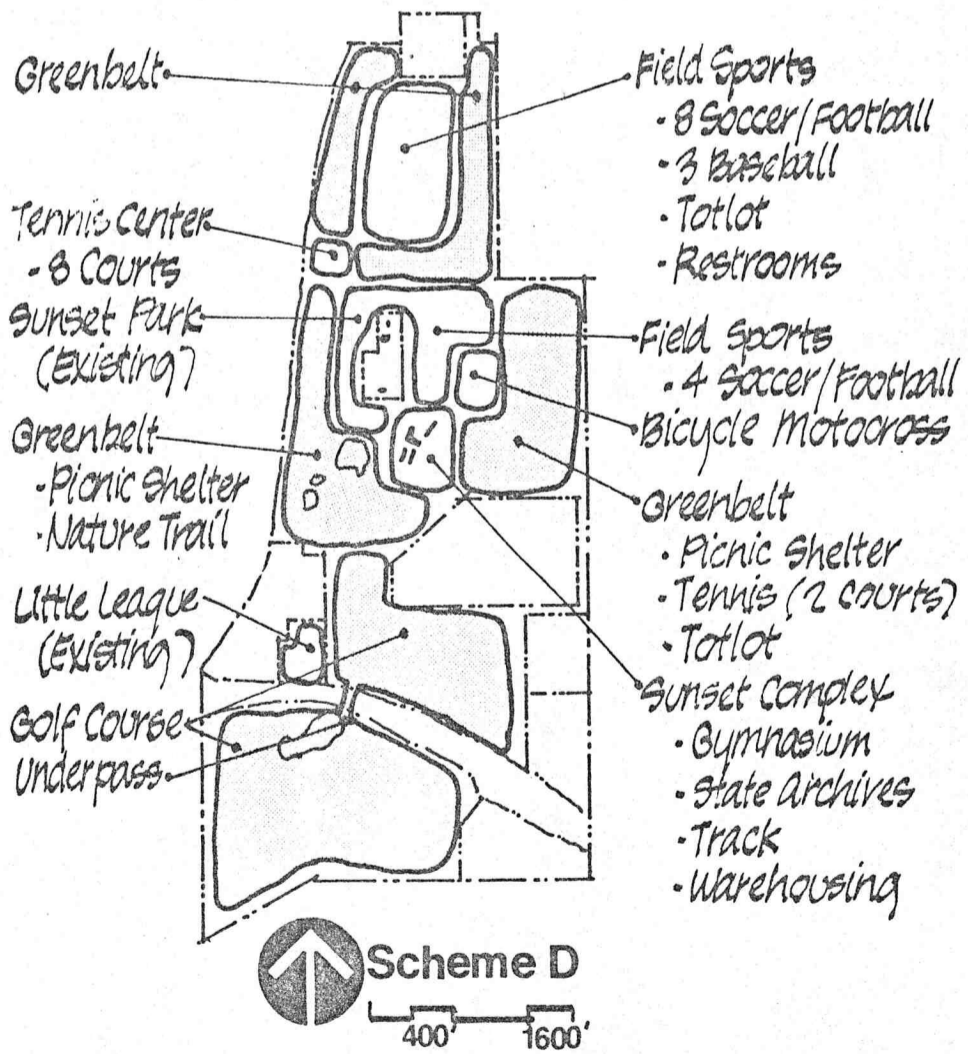
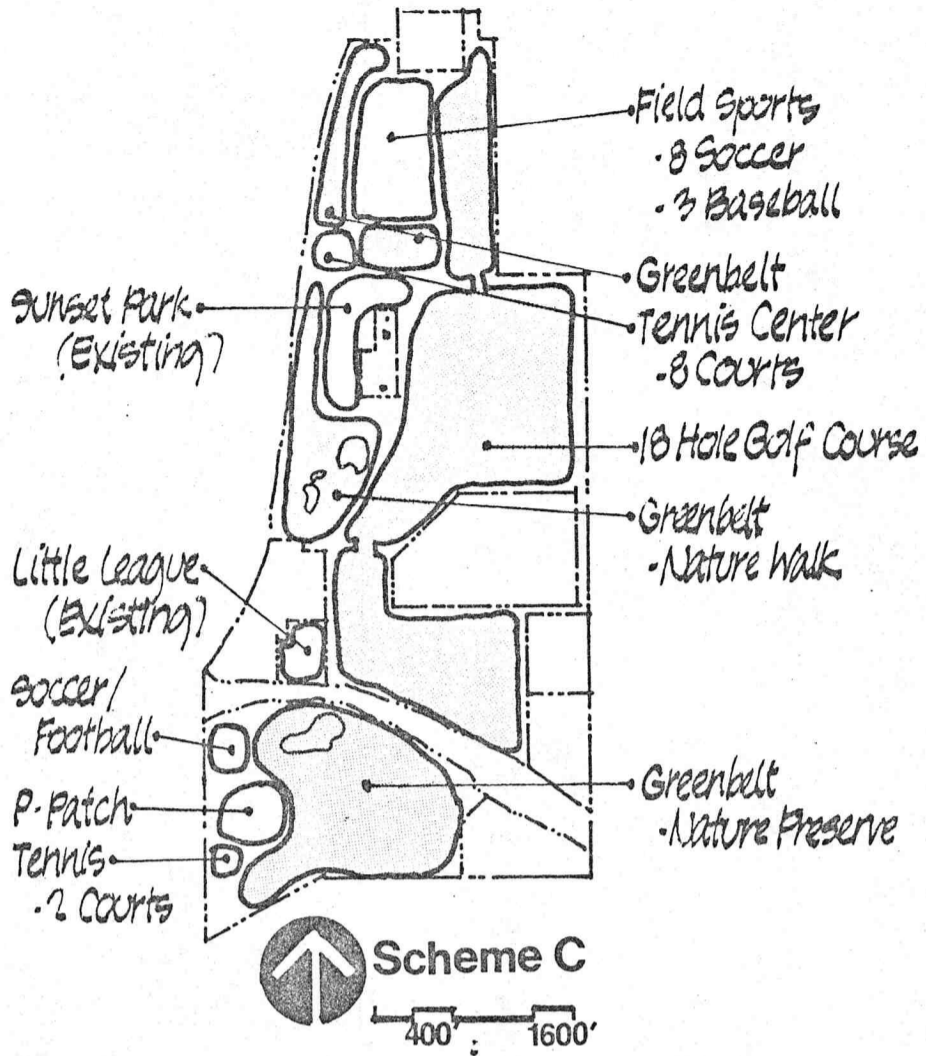
The first major schematic plans were Schemes A, B and C (pages 55 and 56). These were developed before the committee decided that if a golf course was to be included, an eighteen-hole course was the most practical solution. Therefore, the major variable in Schemes A, B and C is the golf course. At the time the Steering Committee and Jongejan/Gerrard/McNeal discussed the feasibility of a golf course, they discovered the possibility of using profits generated from a course to maintain and/or develop the rest of North Sea-Tac Park. This new concept made the golf course a much more attractive land use.

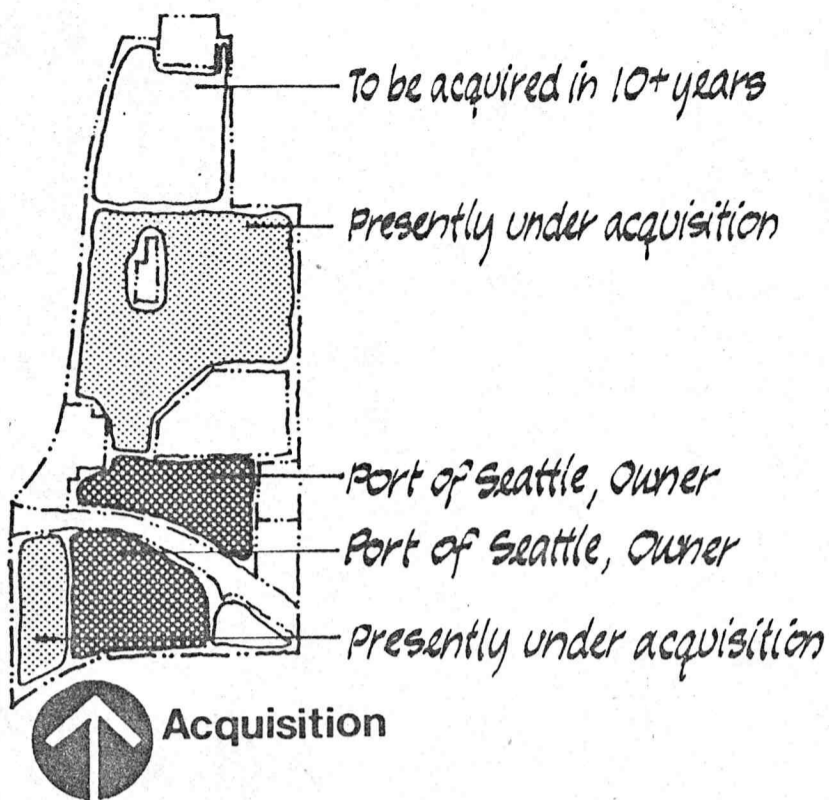
However, the acquisition sequence arose as a major concern at this point. In its present condition, the area of North Sea-Tac Park was quickly becoming a blight. With no park development and few people using the site, the area was becoming a center for unsavory activities such as garbage dumping and illegal motorcycle riding. To reverse this process, Jongejan/Gerrard/McNeal, the Steering Committee, the Port of Seattle and King County wanted redevelopment to proceed as land became available. Most of the area south of South 136th Street was acquired, but the area north of South 136th Street would probably not be acquired for ten or more years.

If Scheme C were developed, the building of the golf course would be delayed until all the land for the course was acquired. Secondly, FAA Density Guidelines recommended against intensive use in the southern half of the site. If a golf course were to be developed in the portion of the site between South 136th Street and South 144th Street, no new soccer/football fields could be developed for ten or more years. An urgent need for soccer/football fields exists in the community.

(continued on page 57)







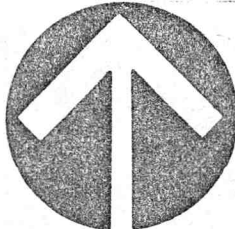
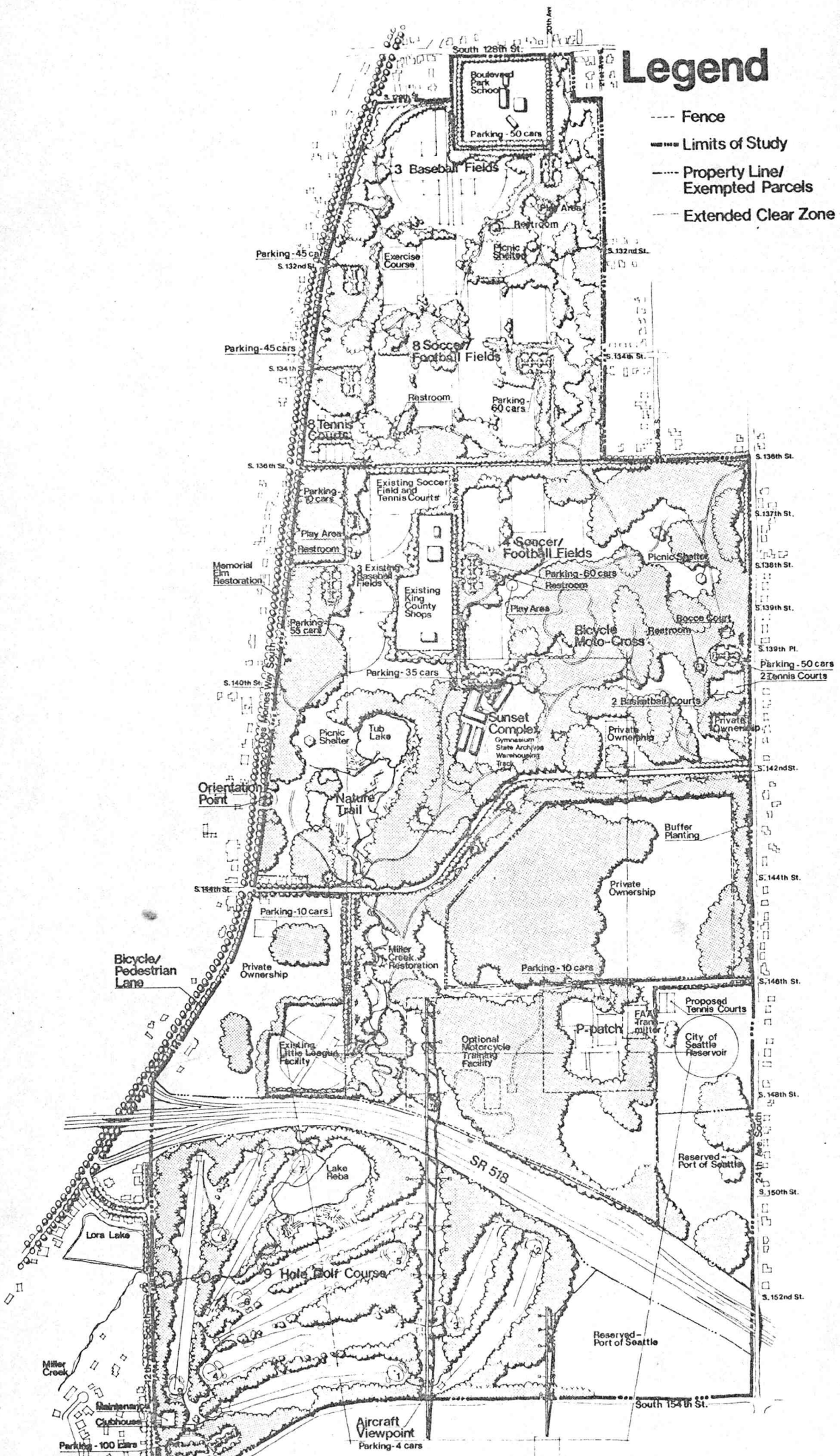
Scheme D (see page 56) was developed as a resolution to the above problems. It includes a golf course but confines it to the southern portion of the site where FAA Density Guidelines limit more intensive use.

However, Scheme D created new problems; essentially, a very expensive overpass or underpass on SR 518. At this time, the consultants and the Steering Committee became aware of the possibility of expanding the golf course south of the southwestern corner of the North Sea-Tac Park. With this in mind, Scheme E (see Master Plan, page 58) was developed. The master plan is a refined version of Scheme E.

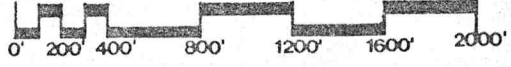
Master Plan

Legend

- Fence
- Limits of Study
- Property Line/ Exempted Parcels
- Extended Clear Zone



Master Plan North Sea-Tac Park



Elements of the Master Plan

The construction, use or function of many of the facilities provided by the proposed Master Plan is self evident. Soccer fields are similar from one recreation facility to the next. The following description of master plan elements will focus only on the aspects unique to North Sea-Tac Park.

Soccer/Football Fields

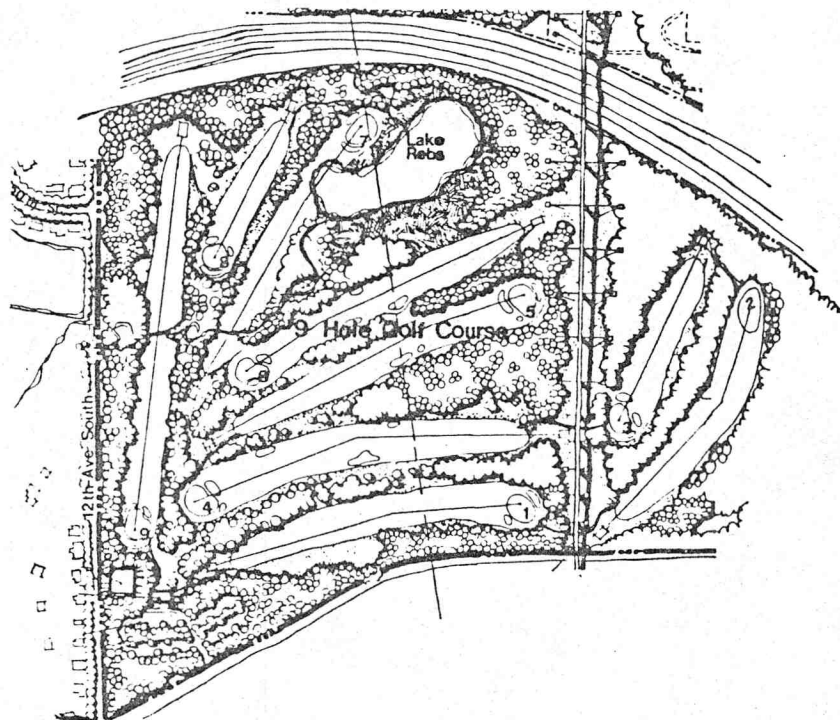
To meet FAA Density Recommendations, the consultants and the Steering Committee agreed that no spectator seating should be provided in order to discourage large assemblies of people.

Existing Little League Baseball Fields

This facility, leased and developed by a special interest group should be retained. The fields serve a useful purpose and effectively demonstrate the possibilities of user maintenance.

Golf Course

The facility indicated in the proposed master plan is a nine-hole golf course with expansion for a second nine holes to the south. As previously stated, an eighteen-hole course is the most desirable facility as it is the most profitable. The clubhouse, parking lot and maintenance facilities proposed for North Sea-Tac Park are sized for the eventual eighteen-hole course.



**Future
Golf Course
Expansion**

The golf course extends into an area identified on the Carrying Capacity map as "Low". This area surrounding Lake Reba is best suited for only limited development. The golf course should be an appropriate activity if the following conditions are met: First, the course should leave a substantial portion of marsh and shallow water areas to assure adequate production areas for juvenile fish and to maintain wildlife habitat. Secondly, as much as possible of the Miller Creek stream channel should be shaded by large trees. Third, fertilizer and maintenance schedules should be established so that chemical runoff into the hydrological system is reduced.

Aircraft Viewpoint

On South 154th Street, under the landing light structure, a dramatic view of landing aircraft has created a safety problem as motorists stop on the narrow roadway to watch the approaching planes. To alleviate this problem and take advantage of the view, the proposed Master Plan indicates an aircraft viewpoint including a small (four car) vehicle turnout.

Path System

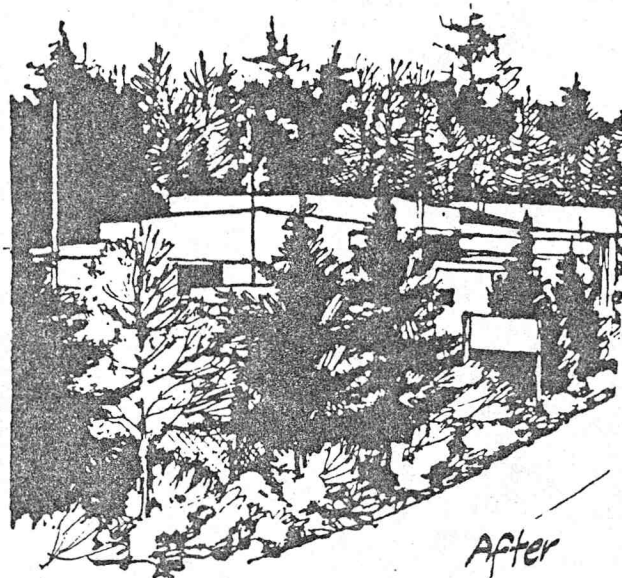
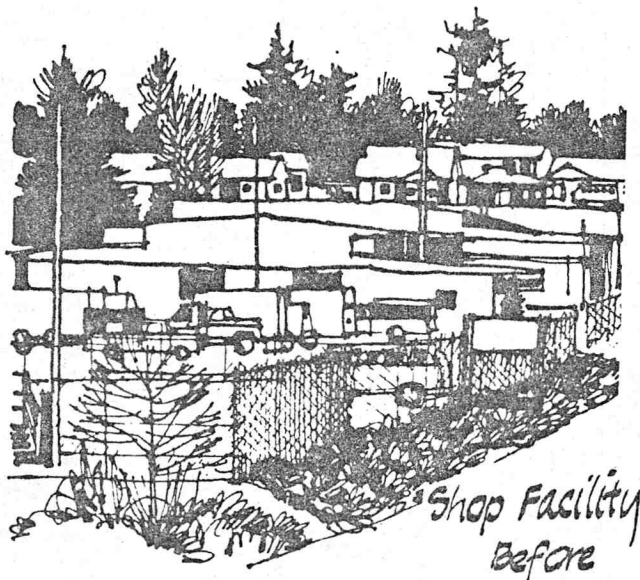
The path system is multi-purpose. Many paths will be paved with a hard surface so that they will be suitable for skateboarding and rollerskating as well as bicycling and walking. Secondary paths and those through sensitive natural areas will be a cinder, gravel or dirt surface.

Bicycle Moto-cross

This facility is a dirt track with earth jumps, moats and banks designed to meet bicycle moto-cross (BMX) suggestions and guidelines. The facility should be fenced to prevent uncontrolled expansion of the course by track users. The entire fenced limits of the facility should be planted with dense buffers of shrubs and trees to screen this potentially unsightly area from the rest of the park.

Buffer Areas

Generous passive areas have been reserved between adjacent housing areas and the active areas of the park to buffer the residents from any park-generated noise and to provide a pleasing landscape to view from their homes.



King County Public Works and Park Department Shops

These existing facilities are located in a highly visible and awkward situation within the park. Immediate steps should be taken to screen the facility with a fast-growing planted buffer. In the long range, the facilities should be relocated to a site with better vehicular access and where the facility would have less impact on adjacent uses.

Sunset Park

This existing facility consisting of two tennis courts, one soccer field and three baseball diamonds will continue as an element of the master plan. Parking will be relocated and screened so that it is in accordance with landscape guidelines (page 64). The play area and restroom will be renovated to meet increased that will result as North Sea-Tac Park is developed.

Private Ownerships

Several private ownerships within the study area remain and must be screened from the park to obtain a mutual privacy. The private land uses range from industrial to neighborhood business to dog kennels.

The Port of Seattle has reserved two parcels of land at the southeast corner of the project area for future airport expansion.

Sunset Junior High School

As discussed in Program Development, the Sunset Junior High Gymnasium should be a recreation facility on only an interim basis until a more suitable facility can be found. The building should be continued to be used as a storage facility and the track should become a permanent feature of North Sea-Tac Park. None of the facilities at the Gymnasium should be used for spectator events. The parking lot at the Junior High should be made available for the Fire Department.

Boulevard Park Elementary School

During the greater part of the study, uncertainty surrounded the future of this facility. Therefore, the consultants were directed to exempt the school from the final master plan. In September, 1979, however, the Highline school district announced that the school would close its doors at the end of the 1979-80 school year.

Future uses for the school building should be integrated with activities and facilities of North Sea-Tac Park.

Optional Motorcycle Training Area

This facility is proposed as a training facility to learn on-road motorcycle riding and motorcycle maintenance.

No single issue has been more controversial throughout the planning process than this facility. The need for such a facility has been demonstrated as have potential adverse effects. The Citizens' Steering Committee supports the concept, providing a sponsor can be found to operate the facility under guidelines and conditions that do not adversely impact adjacent neighborhoods with noise (to be defined and proposed by a separate subcommittee of the Citizens' Steering Committee).

After the final proposal has been developed and prior to implementation of this facility, a further detailed study should be conducted. This study should include accurate noise measurements and resident surveys. The results of the study should be reviewed by a committee of representatives from the Port of Seattle and King County, local residents and members of the North Sea-Tac Park Steering Committee.

The optional facility indicated on the plan is sited near the existing noise generators: the airport and the freeway. The facility is geographically removed from adjacent houses, having been located at the base of a slope and is further buffered by a forest of existing vegetation. Access to the facility would be controlled by a security fence, the gate monitored by the sponsoring group. The number of users would be necessarily limited to 25 persons to comply with FAA Density Recommendations.

The facility is in an area identified by the Carrying Capacity map as "Moderate" which indicates that the area is suitable for passive to semi-passive activities that do not attract large numbers of people or require extensive alteration of landform. The previously proposed study should include detailed research concerned with the impact of the facility on hydrology, soils and vegetation. Special consideration should be given to laying out the facility to maintain vegetation and minimize landform alteration.

Finally, if the motorcycle facility is not developed, consideration should be given to developing equestrian trails in this area. Horse trails would also require a study as outlined above.

Design Vocabulary

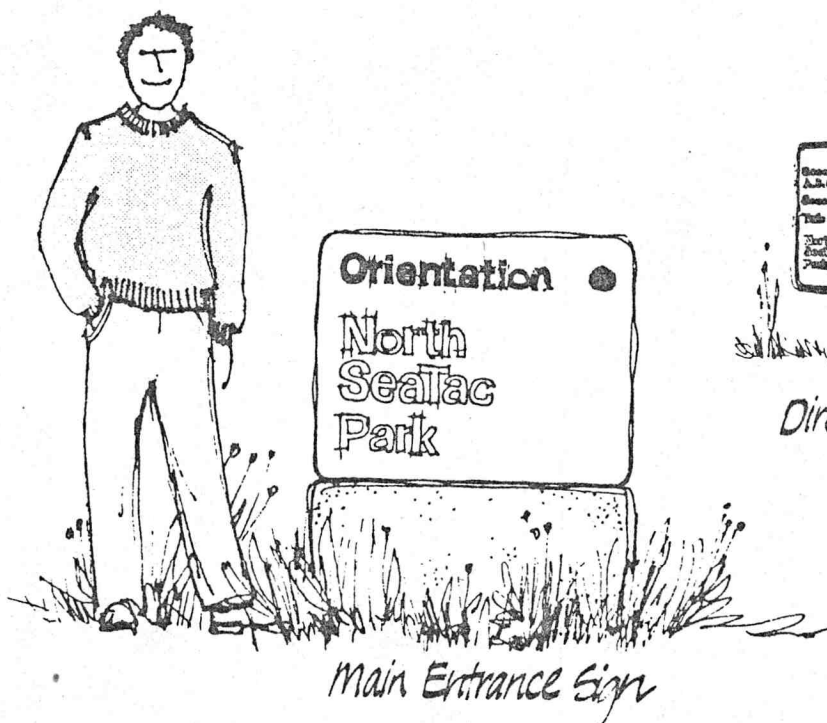
Introduction

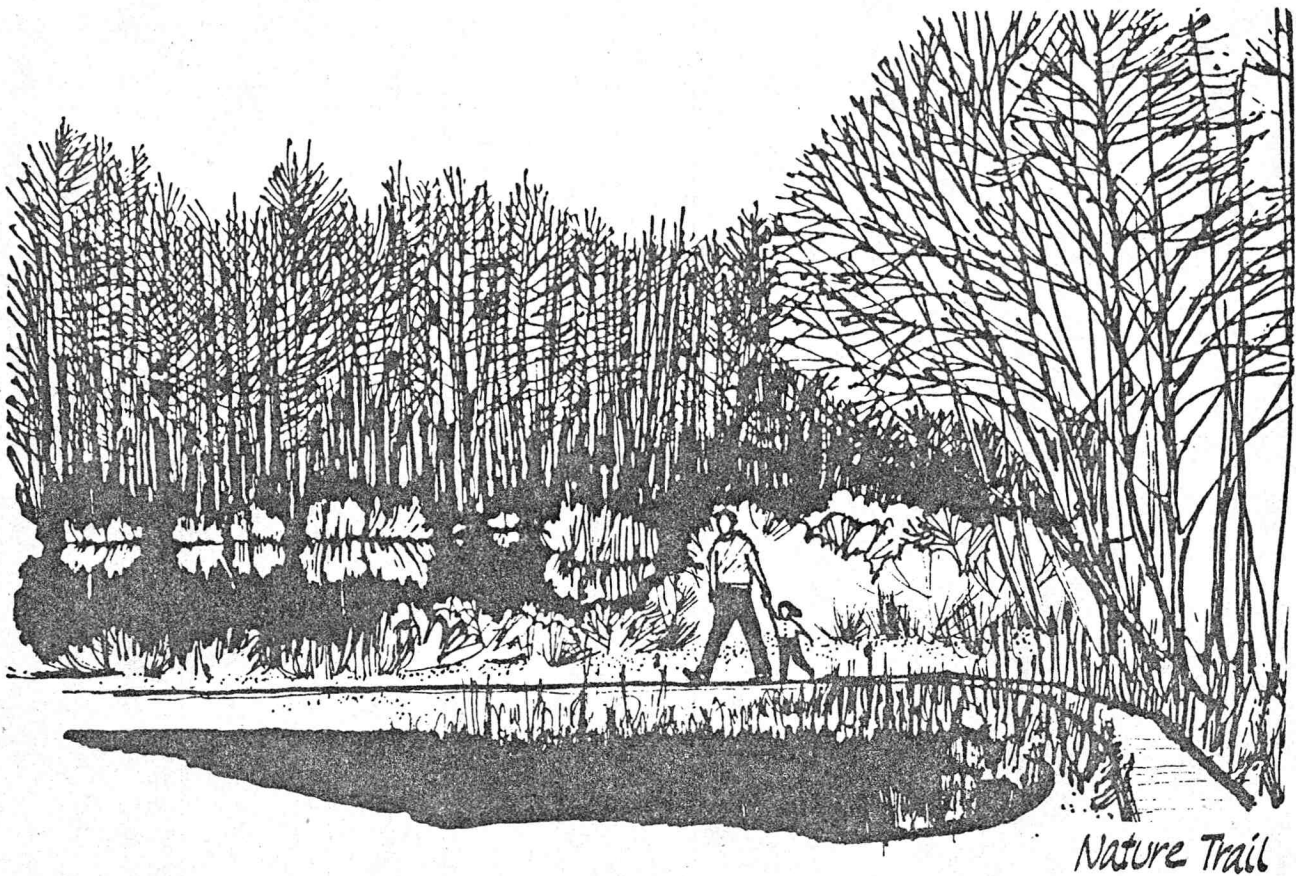
Fulfilling the master plan requires more than building the facilities illustrated in the plan. Development of North Sea-Tac Park must follow a design vocabulary to become an integrated element with itself and within the community. The following section establishes the design vocabulary; its elements are: graphics, circulation, landscape, lighting and parking.

Graphics

A comprehensive signage of graphic system is essential to a park as large as North Sea-Tac Park. A graphic system will promote a savings of time and energy and help prevent needless traffic on neighborhood streets. Following are the primary elements of this system:

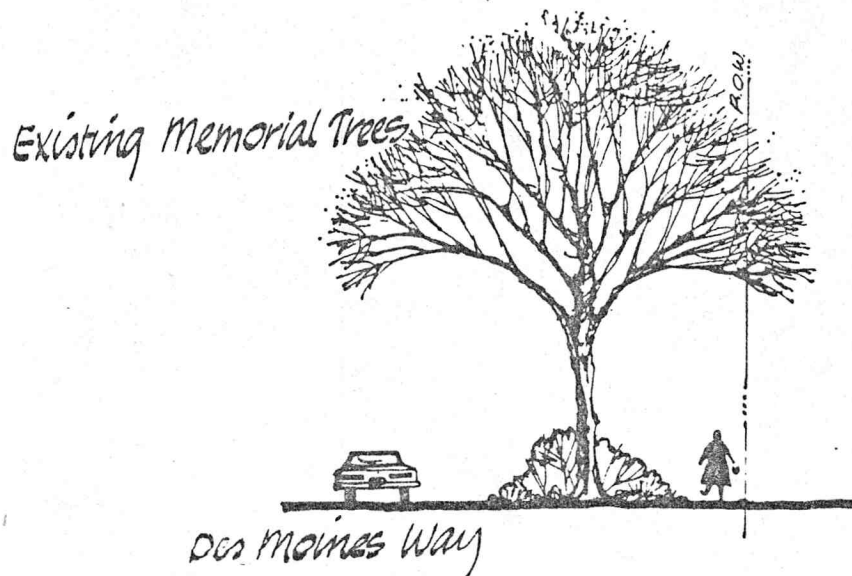
- * The proper freeway exit ramps should be identified with the accepted standard State of Washington Department of Transportation signage system.
- * Regional facilities such as the golf course and soccer fields should be properly identified and directional aids given to all vehicular traffic immediately after exiting the freeway, at major intersections of the arterials and collectors that define the limits of the park.
- * A vehicular/pedestrian park orientation area should be developed to aid the "first-time" park visitor and serve as a place to check for park regulations, facilities schedules, assignments or announcements. This orientation area should be accessible to all modes of transportation (auto, transit, pedestrian and bicycle) and should be sited to achieve maximum exposure to the user public. The master plan indicates this orientation point on Des Moines Way between South 140th Street and South 144th Street.
- * The signage should be easily read with categories of signs established to suit various points of view such as motorist, pedestrian or cyclist.
- * A sign system should "ring" the site with signs at each entrance road and major pedestrian access points. Each sign should give the park name and state what activities are served at this particular point of access.
- * The graphic system should anticipate change and should be easy to expand.
- * The system should be vandal resistant and require little or no maintenance.
- * Regulations for all specific activity areas should be posted to facilitate enforcement of park rules and to protect the public.





Circulation

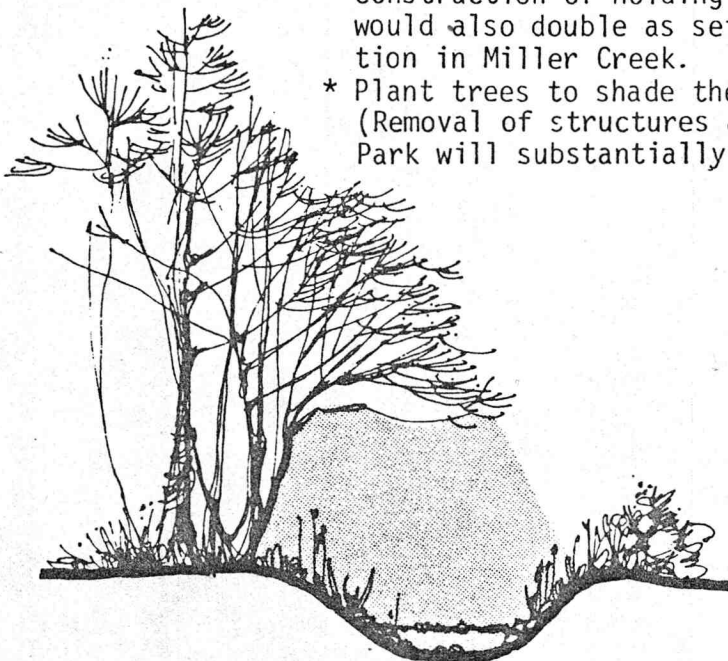
- * Eliminate all non-essential roads/streets that once served the residential neighborhood that have been or will be relocated by the Port acquisition. Retain only the streets that serve park, Port, private and county facilities remaining or proposed within the study area.
- * Retain all arterials and collector streets essential for community traffic, park access and emergency services. These major streets are South 144th to South 142nd Streets and South 138th Street.
- * Provide a comprehensive pedestrian/bicycle path system within the park that eliminates auto/pedestrian conflict where possible. The park path system should connect with existing and proposed street ends, walks, trails and bikeways adjacent to the site, forming a viable link in the community's pedestrian system.
- * Create a bikeway/pedestrian path along the east side of Des Moines Way South to link the north and south sections of the park.
- * Create a nature trail in the Tub Lake bog to permit access. Align trail to prevent use as a 'shortcut' and to restrict bicycle traffic and running.
- * All trails must be handicap accessible.
- * As required, the trail system should be capable of handling service and emergency vehicle access to the park as well as to FAA navigational equipment. Trails to airport equipment should be built to FAA standards.



Landscape

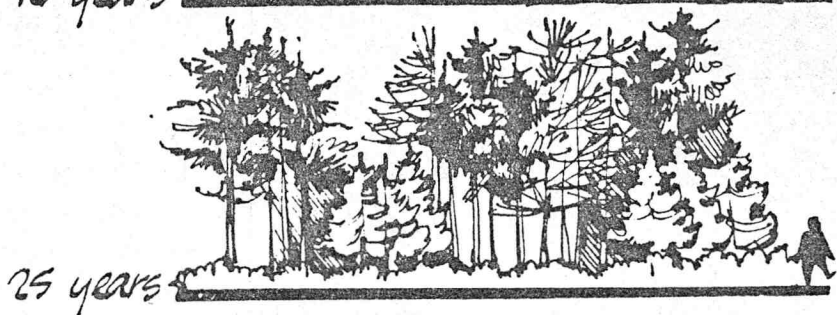
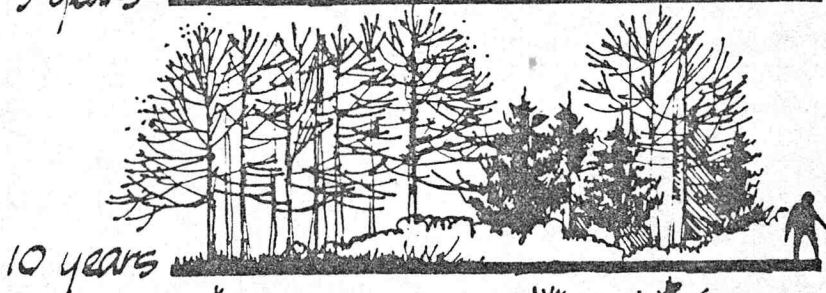
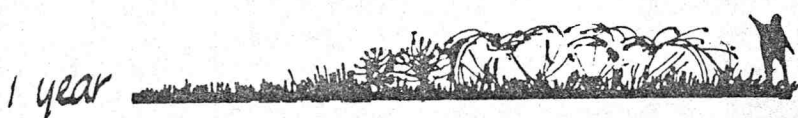
The following guidelines were formulated to encourage a public awareness of the landscape. Through awareness and recognition of various components, needless expenditures of funds may be eliminated during the plan implementation process.

- * Protect and enhance existing lakes and stream system.
- * Remove garbage and debris from water bodies.
- * Re-establish stream channels: increase capacity of stream (for aesthetic reasons as well as water storing functions) by construction of holding ponds and check dams. These pools would also double as settling ponds, helping to reduce siltation in Miller Creek.
- * Plant trees to shade the streams and increase infiltration. (Removal of structures and roads in the proposed North Sea-Tac Park will substantially increase infiltration).

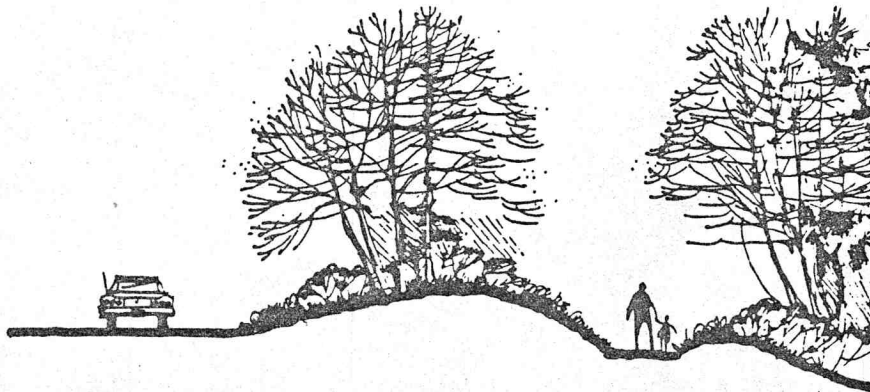


Typical Stream Section

- * Establish fertilizing and maintenance schedules that would reduce chemical runoff into the water system.
- * Protect and enhance existing trees. While serving as wildlife habitat and visual screening of incompatible or unsightly land uses, these trees are important in providing interest and variety in park spaces. In some areas, allow succession to proceed normally.



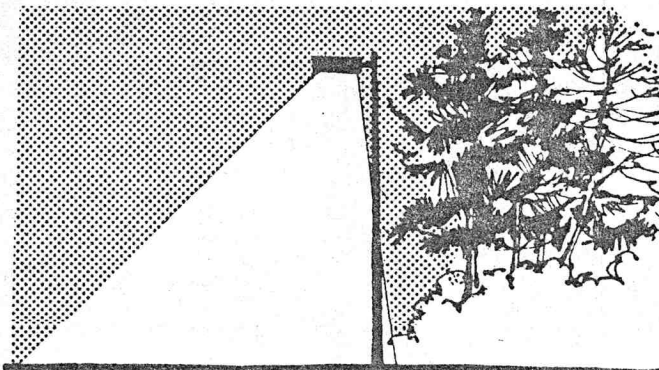
- * Plant street trees along roads within the park to provide definition at all park edges and to extend the street tree theme of Des Moines Way South.
- * Replace missing or dead memorial trees along Des Moines Way South. Extend tree plantings south of SR 518 along Des Moines Way South and South 150th Street to visually strengthen the pedestrian/bicycle link between the sections of the park bisected by the limited access highway.
- * Utilize heavy screen or buffer plantings of sufficient height and density to visually separate all unsightly and/or incompatible land uses within or adjacent to the site.
- * Utilize existing roadways within the park where possible in order to realize economic savings and to retain existing vegetation growing in close proximity to these roads.
- * Grade all slopes in a manner that promotes ease of maintenance and user safety.
- * Restore the "gravel pit" south of the Sunset complex to a more natural slope and plant with grasses and indigenous woody plants.



Lighting

Even though the noise levels in North Sea-Tac Park are somewhat less than they were several years ago, the site is still noisier than other recreational facilities in the community. Because these other facilities are more desirable environments, they should have priority consideration for night lighting, which is an extremely expensive site improvement. Secondly, to insure the safety of overhead planes, night lighting should be restricted. Night lighting should be limited in the clear zone or extended clear zone. When and if night lighting is deemed necessary in order to expand the availability and use of North Sea-Tac Park facilities, the following guidelines should be considered:

- * All illumination improvements shall meet FAA standards.
- * Facilities with regional impact such as the soccer fields and 8 tennis courts should be considered for future lighting.
- * Facilities related to neighborhood needs should not be night lighted in order to protect the neighborhood from increased traffic and noise during the evening hours.
- * Select 'cut-off' fixture models to direct light toward the ground and minimize glare away from lighted areas.
- * Group lighted areas together for economic savings and to create a minimum of on-sight lighted areas.
- * Plant landscape buffers to contain illumination spillage.

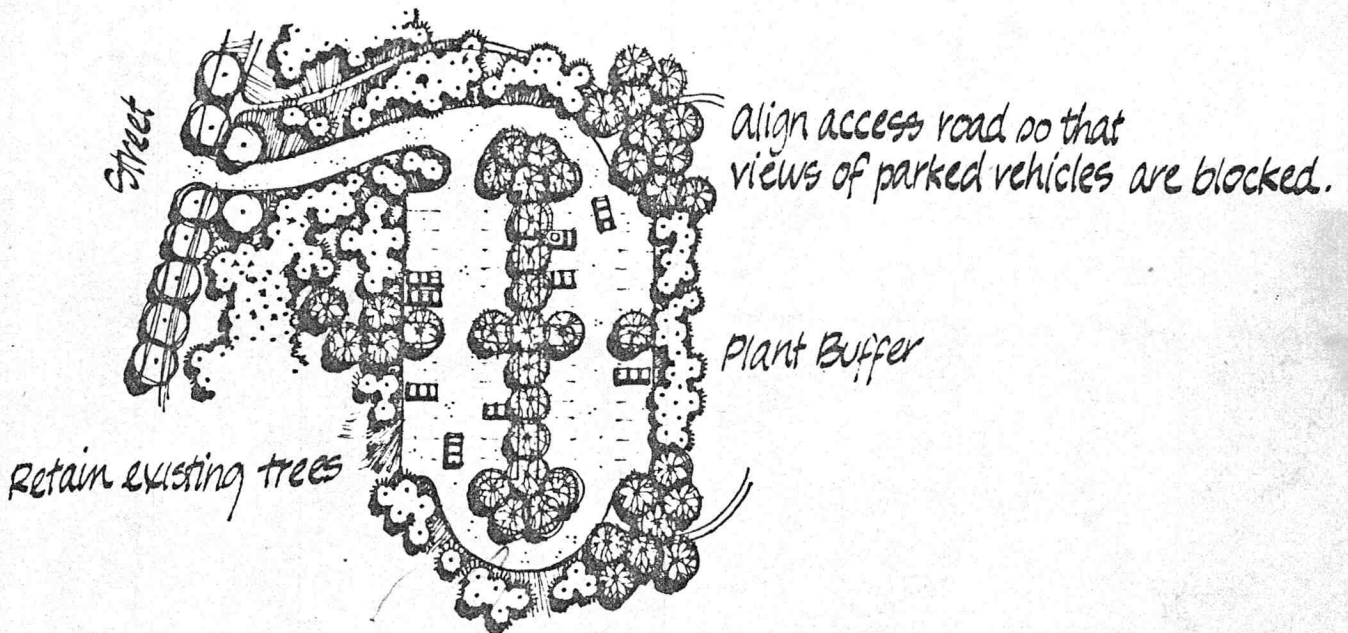


Cut-off fixture

Landscape Buffer

Parking

North Sea-Tac Park is both a regional and community park and as such will generate automobile traffic from outside the community as well as inside the community. The analysis of parking demand is based on peak total facility capacity. However, readjustments were made for park users who would arrive at the park by a mode other than private automobile. Further, the analysis was modified to reflect that at no time will all the park facilities be in simultaneous peak operation.



ANALYSIS OF PARKING DEMAND

Activity/Facility	Facility Capacity (people)	No. Cars Required Ea. Facility Group	Daily Turnover	Daily No. Trips	Daily Total No. People
golf course (18 holes)	100	100	3	300	300
soccer/football (13)	715	325	3	975	2145
baseball/softball (6)	240	90	3	270	720
tennis courts (12)	48	36	6	216	288
basketball court (2)	20	10	6	60	120
fitness trail	50	25	4	100	200
bicycle moto-cross	20	5	6	30	120
trail system	100	20	4	80	400
nature trail	15	5	8	40	120
group picnic shelters (2)	100	40	1.5	60	150
play areas (3)	75	25	4	100	300
passive meadows/woodlands	200	80	3	240	600
P-patch	30	10	8	80	240
motorcycle training area	20	10	4	40	80
sunset complex	75	25	6	150	450
SUBTOTAL	1808	806	-	2741	6233
LESS 20% (MODE SPLIT)*		-161		-548	
SUBTOTAL		645		2193	
LESS 20% (ANTICIPATED AVERAGE USE)**		-129		-439	
TOTAL PARKING		516	one way trips	1754	
			total trips	3508	

* Mode Split - Assume 20% of park users get to park by means other than automobile such as transit, bicycle, on foot, etc.

** Anticipated Average Use = Facility Capacity - 20%. Assume - 20% as function of seasonal nature use patterns, weekday vs. weekend activity loads etc. We are not sizing parking lot for peak load (Facility Capacity).

Bicycle Moto Cross

Cost Estimate & Implementation

Implementation

For purposes of implementation and cost estimating, the park has been divided into three sections:

1. South - South 154th Street to South 144th Street.
2. Central - South 144th Street to South 136th Street.
3. North - South 136th Street to South 128th Street.

Two of these sections, South and Central are owned (or will be shortly) by the Port and will be available for immediate implementation. The North section is still in private ownership but is slated for acquisition during the next decade.

The park facilities in the South section are a golf course, P-patches and an optional motorcycle training area. The Steering Committee recognizes that the golf course, while of the highest priority, is only possible with the large amount of capital necessary for construction. The P-patch and the motorcycle facility could be constructed first because of the smaller construction price tag.

The facilities in the Central section are considerably more diverse than the South section. The Steering Committee established the following priority groups for this section:

First Priority:

- * 3 soccer/football fields
- * path system
- * bicycle motocross
- * 1 playground

Second Priority:

- * 2 basketball courts

Third Priority:

- * 2 picnic shelters
- * 1 playground

Fourth Priority:

- * 1 soccer/football field

Fifth Priority:

- * 2 tennis courts
- * 1 bocce court

Sixth Priority:

- * nature trail

These listed priority items are activity facilities only. Each of the items would require support features such as parking, restrooms, fencing and landscaping to be developed commensurate with the activity facility.

Recognizing that the North section is not yet owned by the Port, and that recreation demands and needs are subject to change, the evaluators did not establish priorities for this area. The Master Plan is a guideline subject to change as future needs change. The North section should be developed as land becomes available rather than waiting until all the area is purchased.

The Steering Committee realizing that the implementation of the master plan would require a substantial investment, formed a funding subcommittee to identify and consider potential means of funding park development. The following implementation strategies were considered:

1. A park and recreation county-wide bond issue proposed to be on the ballot in November, 1980 was endorsed as the most favored method of implementing the park. Bond funds could also then be used for matching funds from the Interagency Committee for Outdoor Recreation (matching money is presently in short supply and thus the competition for those funds will be stiff). The subcommittee encouraged volunteer donations of labor and equipment by user groups to develop facilities on land presently owned by the Port. Application for federal and state funds for land and water reclamation is also a possibility.

2. Utilize a revenue bond offered by King County to assure long-term funding for potential revenue-generating facilities such as the golf course. The receipts of the golf course operation could then be used to pay installments of the bond. Again, volunteer donations of labor and materials and applications for federal and state funds for land and water reclamation should be utilized.
3. The subcommittee also investigated the formation of a park and recreation district which could float revenue bonds with a favorable vote of the people within the district. A few such districts exist in King County but have a history of inactivity and ineffectiveness.
4. The subcommittee also considered private development of part of the site in revenue-generating recreation developments (i.e., golf, tennis). Funds generated by private developments could then be used as capital for public facilities. Many legal problems may exist: could funds from private operators be directed to this specific project or would they have to be deposited in the county's or county park's general fund? Further, potential problems would require constant management review.

Port of Seattle has funds allocated for "clean up" after houses are removed from recently acquired land. The "clean up" procedure includes removing debris, grading to break down foundations and terraces, and reseeding. After approval of the master plan, these funds could do double service by cleaning up the site in a way that would hasten implementation of the plan. For example, the areas designated as future soccer fields could be rough graded to soccer field specifications.

Cost Estimate

Cost estimates were based on all the facilities meeting standards and requirements established by King County and being constructed by the public competitive bid process. This is the only dependable way funds can be budgeted for future development. Some facilities may ultimately be constructed by volunteer user groups, but for purposes of this estimate, this type of effort has been discounted. The estimates do not reflect the costs of maintenance.

North Sea-Tac Park South (south of 154th Street to South 144th Street)*
 PRELIMINARY ESTIMATE OF PROBABLE CONSTRUCTION COST
 September 25, 1979

1. Demolition		\$ 25,000.00
2. Clearing and Grubbing		190,000.00
3. Grading		200,000.00
4. Irrigation		410,000.00
5. Site Utilities		
Water		6,200.00
Sewer		14,000.00
Electrical		2,000.00
6. Construction		
Optional Motorcycle Training Area		6,800.00
Clubhouse		85,000.00
Parking Lot (asphalt with concrete curb)		70,000.00
Parking Lot (crushed rock)		2,000.00
Path System		61,000.00
Maintenance Shop		30,000.00
7. Landscaping		
Miller Creek Restoration		48,000.00
Fine Grading		78,000.00
Sand Traps		72,000.00
Green Installation		144,000.00
Tee Installation		45,000.00
Seeding		185,000.00
Plant Material		210,000.00
	Subtotal	\$1,884,000.00
8. Other Project Costs		
Fees (6.6%)		124,344.00
Mobilization (5%)		94,200.00
Sales Tax (5.3%)		99,852.00
Permits		6,000.00
	Subtotal	\$2,208,396.00
	10% Contingency	220,840.00
	TOTAL	\$2,429,236.00

*including an 18-hole golf course

North Sea-Tac Park - Central (south of South 136th Street and north of South
144th Street)

ESTIMATE OF PROBABLE CONSTRUCTION COSTS
September 18, 1979

1. Demolition		\$ 7,000.00
2. Clearing and Grubbing		42,000.00
3. Grading		*
4. Irrigation		*
5. Site Utilities		
Water		1,500.00
Sewer		1,000.00
Electrical		12,000.00
6. Construction		
Restrooms (2)		80,000.00
Restroom Renovation (1)		20,000.00
Picnic Shelter (2)		80,000.00
Playground (2)		50,000.00
Parking Lots (asphalt with concrete curb)		98,000.00
Path System (asphalt/9' wide)		170,000.00
Nature Trail		27,000.00
Bicycle Moto-cross		2,000.00
Tennis Courts (2) (lighted)		65,000.00**
Basketball (2)		10,000.00**
Bocce (1)		4,000.00**
Soccer/Football Fields - "Cushionturf" (4)		
5% Slope (4)		387,000.00**
7. Landscaping		
Deciduous trees		88,000.00
Coniferous trees		18,000.00
Shrubs		17,000.00
Fine Grading/Preparation		39,000.00
Seeding		35,600.00
	Subtotal	\$1,254,100.00
8. Other Project Costs		
Fees (6.9%)		86,533.00
Mobilization (5%)		62,705.00
Sales Tax (5.3%)		66,467.00
Permits		2,000.00
	Subtotal	\$1,471,805.00
	10% Contingency	147,180.50
	TOTAL	\$1,618,985.50

* Cost included in specific construction items.

** Cost includes clearing, grading, drainage, irrigation, surface and equipment.

North Sea-Tac Park - North (north of South 146th Street)
 ESTIMATE OF PROBABLE CONSTRUCTION COST
 September 18, 1979

1. Demolition		\$ 4,000.00
2. Clearing/Grubbing		50,000.00
3. Grading		*
4. Irrigation		*
5. Site Utilities		
Water		3,000.00
Sewer		2,000.00
Electrical		6,000.00
6. Construction		
Restroom (2)		80,000.00
Picnic Shelter (1)		40,000.00
Playground (1)		25,000.00
Parking Lots (asphalt with concrete curb)		132,000.00**
Path System (asphalt/9' wide)		140,000.00**
Par Course		30,000.00**
Tennis Courts (8) (lighted)		134,000.00**
Baseball Fields with Backstop and Fence (3)		161,000.00**
Soccer/Football Fields - "Cushionturf" (8)		
0% Slope (2)		142,000.00**
3% Slope (4)		327,000.00**
5% Slope (2)		193,000.00**
7. Landscaping		
Deciduous trees		71,000.00
Coniferous trees		10,000.00
Shrubs		11,000.00
Fine Grading/Preparation		55,000.00
Seeding		50,000.00
	Subtotal	\$1,666,000.00
8. Other Project Costs		
Fees (6.7%)		111,622.00
Mobilization (5%)		83,300.00
Sales Taxes (5.3%)		88,298.00
Permits		2,000.00
	Subtotal	\$1,951,220.00
	10% Contingency	195,122.00
	TOTAL	\$2,146,342.00

* Cost included in specific construction items.

** Cost includes clearing, grading, drainage, irrigation, surface, and equipment.

Appendix

INDEX TO ACTIVITIES, USES, AND FACILITIES

All-Terrain Vehicles Course/Motorcycle Training Facility	9, 43-44, 52-53, 58, 61, 66-67.
Archery	44-46, 50.
Baseball (softball)	43-46, 49-50, 55-59, 66, 70.
Basketball (outdoor)	43, 45-46, 49-50, 55-58, 66-67, 69.
Bicycle Trails/Moto-cross	43-46, 49-50, 55-58, 60, 66-67.
Bocce	44-46, 50, 59, 66-67, 69.
Dog Training Area	9, 50.
Equestrian Facilities	9, 44, 45-46, 50, 61.
Frisbee	9, 45-46, 50.
Golf Course	9, 42-43, 45-46, 53-59, 66-68.
Gymnasium	44-46, 51.
Handball	43-44, 49-50.
Horseshoes	44-46, 50.
Indoor Tennis	50.
Industrial	47.
Lawn Bowling	45-46, 50.
Nature Walk	9, 42, 44-46, 50, 55-58, 66-67, 69.
P-patch	44, 51, 55-58, 66-67.
Par Course	44-46, 50, 66.
Passive Recreation/Greenbelt	42-46, 48-49, 55-58, 66-70.
Picnicking	9, 44-46, 50, 66-67, 69-70.
Rugby	42, 50.

Rollerskating	50, 58, 60.
Skateboard Course	45, 50, 58, 60.
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Sunset Jr. High	7, 26, 42-43, 51-52, 58, 61.
Sunset Park	7-8, 42-43, 60.
Tennis	42-46, 49-50, 55-58, 65-68.
Tot/Lot Playground	9, 45-46, 50, 55-58, 66-67, 69-70.
Track	51-52, 58-59.
Trails	9, 28, 30-31, 44-46, 48, 62, 65-66, 70.
Water Sports (fishing, boating, swimming)	44-46, 50.

STEERING COMMITTEE MEMBERS

Steering Committee

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Dottie Harper, Subcommittee Chairwoman
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Roy Moore

DAILY RECORD OF NOISE LEVELS IN NORTH SEATAC PARK

ALL DEPARTURES
(Runway 34 flow)

ALL ARRIVALS
(Runway 16 flow)

Dates (1979): July 2, 13, 16
August 25
September 12, 13

July 25, 27
August 17, 30
September 7, 27

<u>Time</u>	<u>Average</u>	<u>Range (of 6)</u>	<u>Average</u>	<u>Range (of 6)</u>
0000-0100	82	80-84	73	66-78
	80	77-82	72	59-76
	73	45-78	70	48-75
	72	43-79	71	58-75
	72	45-77	64	51-66
	0500-0600	79	64-87	73
80		74-86	76	71-79
86		84-88	75	71-77
84		81-87	74	73-75
79		77-80	77	73-79
80		77-84	75	69-78
1100-1200	84	82-86	81	80-82
	84	84-86	79	73-82
	83	79-86	78	74-80
	82	82-83	74	72-76
	79	75-81	76	74-77
	80	78-82	77	72-79
1700-1800	82	80-83	78	77-79
	82	80-84	79	76-80
	83	80-84	78	74-80
	78	74-80	79	78-81
	78	72-80	79	78-81
	78	76-80	78	75-79
2300-2400	80	77-84	79	76-81

METHODS OF ACQUISITION

The following is the section of the SeaTac Communities Plan summary which describes the land acquisition process: PROGRAM APPLICATION CRITERIA.

A unique analytical procedure was developed by the Study Team to determine how and where a given noise remedy program category could best be applied. As described in the detailed SeaTac Communities Plan document, the procedure employed a grid system made up of 40 acre cells and Adjusted Noise Exposure (ANE) values for each cell. The latter were based on measured (1973) and forecast (1978, 1983, and 1993) exposure conditions. The application criteria selected for use can be summarized as follows:

1. Noise exposure areas permanently above ANE 40 should be acquired outright to prevent any residential or other noise sensitive use. (Note: "Permanent" is defined as remaining at an ANE 40 or higher value throughout the 20-year planning period of the SeaTac Communities Plan.)
2. Areas exposed to sustained noise levels of ANE 40 or above should be eligible for programs that guarantee public purchase of noise-impacted private properties, if so desired by the affected property owner. (Note: A "sustained" exposure level is one that is expected to fall below ANE 40 at some point during the planning period.)
3. For exposure areas permanently above ANE 35 (but below sustained ANE 40), a program of cost-sharing noise insulation and acquisition of easements should apply.
4. For areas exposed to sustained noise levels of ANE 35 or above (but below permanent ANE 35), a more limited program of cost-sharing insulation assistance and limited term easements should apply.
5. Programs involving special development controls (zoning, subdivision regulations, building codes) and property advisory services should be applied with the Study Area wherever an ANE value of 25 or higher is indicated.

ACQUISITION

Two separate areas, involving some 481 acres, have been identified for outright acquisition by the Port of Seattle (boundaries as shown are based on noise remedy program criteria and a previously established Interim Acquisition Program). The north area encompasses 305 acres and 702 single family homes.

RIDENOUR, COCHRAN & LEWIS AIA ARCHITECTS

1715 114th Avenue S.E./Suite 212/Bellevue, Washington 98004/454-2074

Site Visit Report

Monday, June 4, 1979

Location: Sunset Junior High School

Present: Bill Ridenour & Dave McNeil, Jongejan & Gerard

The school site is under the northern flight path of the main runway at Seattle Tacoma International Airport, perhaps just slightly to the west of the main flight path. At the time of the inspection, several jets of size from 747 on down to 727s approached the field over the school, and one propeller driven aircraft.

✓ The site is approached from the north with a parking lot on the south side of south 140th Street. The structures consist of four main buildings. ~~Building A contains a small divisible gymnasium.~~ The support facilities, lockers, and dressing and shower areas are on a lower level on the west side of the building, with main storage, food preparation, multi-use hall enclosed locker bay on the main level with the gymnasium. The administrative area is a half-level higher on the end of the east wing of this structure. GHCPB

○ Building B and Building C are essentially the same structural plan reversed. They have two stories, entry from on-grade or slightly below grade to the lower level on the back side and a single loaded balcony to the second level. Main window areas in these two buildings have west/northwest orientation. Archives

✓ The fourth building, Building D, contains metal shop, wood shop, and an arts and crafts area with their support areas. It is one level on-grade. All buildings are of substantial construction, with either structural concrete floors or slab on-grade, exposed steel columns unprotected and exposed steel trusses or beams overhead. Roof deckings are either acoustically treated T-steel or a galvanized fluted structural steel deck, obviously with rigid insulation and built up flat roofs on top. Walls infills are primarily brick. Wood is used in a few cases in secondary beams in covered walkway situations, roof fascias and on the two story buildings, a bevel siding sprandrel or belt course between floors. Walkways are primarily concrete slab on grade and all major connections are covered. GHCPB

Drawings are dated 1956 and according to the Parks Department representative who showed us through the facility, they were abandoned for school use approximately five years ago.

The main storage areas and the auxiliary physical education space in Building A are being used for material storage. The bulk of Buildings B, C & D are being used for School District equipment and material storage.

Site Visit Report
Monday, June 4, 1979
Location: Sunset Junior High School
Page 2

The general condition of the buildings is excellent. As I understand it, most of the moveable equipment, such as in the kitchens, shops, classrooms and science areas will all be removed by the School District. All of the windows have been covered with plywood, bolted to the outside. Typical of the era, from sill-line approximately 3 feet in the classroom buildings up to ceiling height, is a window-wall assembly. It consists of a single layer of glass in unpainted galvanized steel sash. On the opposite side, above the 7 foot entry door head height, is generally a continuous band of clear story windows. The most commonly used acoustical ceiling treatment is the old blown-on asbestos spray material, of Zonolite, Sprayed-On, etc. were common brand names. These areas could not be used for public occupancy until some corrective treatment has been taken, if the particulate count is above the danger level.

Floors are generally asphalt tile in poor condition. The gymnasium floors are the old splined short strip maple flooring installed directly on insulation and asphalt-treated paper with a glue-down process. According to the county representative, some repairs have been made where there have been roof leaks.

The masonry walls appear to be in good condition, general interior surfaces are in much better condition than the typical junior high school that we have experienced of this age. Fixtures and the toilet partitions are in fair shape for a building of this age, all partitions generally being flush panel steel. None of the toilet rooms meet the handicap requirement and you have a floor separation that would be difficult to solve for handicap requirements between the gym floor and the shower/dressing areas, toilet rooms below.

Two story Buildings B & C do not meet the handicap requirements, although hand rails, balustrades, do meet current code requirements for the 9 inch maximum openings between intermediate members. The County is in the process of doing some roof repairs at the present time. I have no idea of what the past maintenance record has been on them. The steel frames and decks are in good condition with very little rust showing, although they are at the point now where they should receive attention as quickly as possible as some minimum rusting is starting to show. If it is left unmaintained for any length of time, the corrective painting repair will be much more difficult.

The heating system would appear to be steam or hot water from a central boiler, piped to exposed overhead unit heaters in the ceiling of the industrial education building and various support areas in Building A and to exterior wall unit ventilators in the traditional fashion in the majority of the academic areas. Some radiation units are in smaller support areas. The County personnel have no knowledge of the condition of the heating system or of the electrical system, although on initial survey, I was impressed with the generally substantial character of the structural system, and other materials utilized. All of the buildings are illuminated by incandescent fixtures with the exception of two classrooms in Building B

Site Visit Report
Monday, June 4, 1979
Location: Sunset Junior High School
Page 3

that have been retrofitted to minimize the noise from jets overhead, one classroom on the lower level of Building B and the other directly overhead on the upper level. In general, they have either removed the asbestos ceiling or covered it with gypsum wallboard with a perimeter of some type of acoustic tile. Pendant mounted fluorescent illumination fixtures, carpeted floors were installed. The windows were infilled with some type of an assembly that is either vertically combed stucco panels or precast concrete panels, with some type of a frame and gypsum wallboard assembly on the inside. Over the unit ventilators, they left one fixed light window and boxed the exterior of the unit ventilator grills with a sound-trap housing with a galvanized sheet steel exterior.

All of the exterior doors in the classrooms are solid core wood. On the hollow metal jams and head and across the metal threshold were mounted aluminum acoustical stops.

It was interesting to note empirically that there was not a substantial sound reduction listening to the planes approach overhead in the acoustically treated rooms compared to the untreated library, although the library did have a tremendous amount of wall stacks on the perimeter. In the acoustically treated rooms, the weak link appeared to be the door assembly because the sound came almost as a point source from the door.

The major code correction items, depending on the degree of compliance required by the supervising code authority, would appear to be:

1. Bringing the building up to energy standards with respect to heat loss.
2. To minimize the amount of aircraft noise entering the building. The correction of this would undoubtedly also serve as a correction for the first item of heat loss. The big offenders are doors and the large glass areas.
3. The third item would be the degree to which the handicapped code provisions would have to be met, particularly the vertical circulation problems from PE support areas up to the gymnasiums, and access to the second level of buildings B & C. There are other problems that have not been examined which might be raised, such as fire separations and fire separation openings, alarm systems, any requirements for one hour separation to corridors where they have used extensive areas of wire glass, but with wood frames, relight sash, and general rehabilitation of illumination, power and the heating system.

End of report.

Bill Ridenour

WCR: lhm

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"Aircraft Noise Study, SeaTac Airport, Zone Three," Larry Ikenberry, Dept. of Social and Health Services; June 1972.

FAA Order 5100.17, chg. 2

FAA-AC 150/5050-6

FAA-AC 150/5300-2C

Highline Communities Plan - "Technical Report: Parks and Recreation Needs Assessment in the Highline Communities Planning Area," King County Division of Planning; April 15, 1976.

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"Recreation Proposal for Sunset Junior High," Highline Recreation Council; May, 1978.

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"Sea-Tac and Its Neighbors," League of Women Voters of King County South; October, 1973.

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"SeaTac Communities Plan Summary," Port of Seattle, King County pamphlet.

"SeaTac Communities Plan - Water Quality and Drainage Study," Stevens, Thompson & Runyan, Inc., Port of Seattle, King County pamphlet; August, 1974.

"The Unbearable Menace - Airport Noise," Peter A. Breyse, Editor; Environmental Health and Safety News, Volume 20; Sept., Oct., Nov., Dec., 1972.

RELEVANT LETTERS AND NEWS ARTICLES

The following section includes news articles and letters which comment on the final master plan (page 58).

PORT OF SEATTLE

P.O. BOX 1209 SEATTLE, WASHINGTON 98111

February 11, 1980

Mr. Dave McNeal
Jongejan, Gerrard, McNeal
23 103rd Avenue N.E.
Bellevue, Washington 980004

Dear Mr. McNeal:

Re: North Sea-Tac Park

As Chairman of the Policy Advisory Committee, I thank you for Jongejan, Gerrard, McNeal's work on the North Sea-Tac Park Plan. Two presentations were made to PAC, one by yourself, which detailed the project process and initial proposals, and one on February 6, by Ed Parks of the Port of Seattle staff.

After long and serious discussion, the Policy Advisory Committee voted on February 6, 7 to 1 (with one abstention) to "adopt the North Sea-Tac Park Plan as shown in the draft document."

Acceptance of the North Sea-Tac Park Steering Committee's recommendations does not constitute a full approval of all aspects of the plan for issues such as a motorcycle training area and the control of people per acre density must be addressed. Funding for projects, maintenance, leasing of projected recreational facilities and providing security for a neighboring residential areas must be fully scrutinized before individual park projects are implemented.

The Policy Advisory Committee is pleased to recommend to the Port Commission and the County Council acceptance of the North Sea-Tac Park Plan as a guide and policy for implementation of the Sea-Tac and Highline Community Plans.

Sincerely,



Oris Dunham
Chairman, Policy Advisory Committee

EP/16/15

cc: Policy Advisory Committee Members

RECEIVED FEB 11 1930

Highline Recreation

Council



17023 34th Ave. So.
Seattle, Wn. 98133

February 3, 1930

Port of Seattle Commission
i.r. Paul Friedlander, President

Dear Commissioners,

The Highline Recreation Council, at their January 22, 1930 meeting unanimously voted their approval of the proposed North Sea-Tac Park.

We congratulate the Port of Seattle and King County on their timely action on co-sponsorship of the planning of the north clear zone into, what we think is an innovative and comprehensive recreation plan.

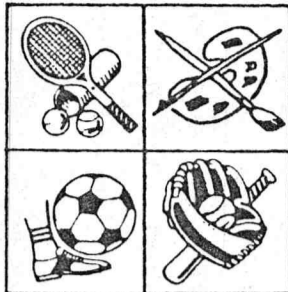
With an extension of the proposed nine-hole golf course, down the westside to make an eighteen-hole course, we see stabilization to the adjoining community.

The use of Sunset Jr. High by the community should be of next concern, when possession is taken by the Port. Occupancy by the State archives is a good beginning.

We thank the Port of Seattle, and their staff, for their responsiveness to community needs in recreation and look forward to working with them in the future for our mutual benefit.

Sincerely yours,

Geraldine Van Notric, President
Highline Recreation Council



Highline Recreation Council

RECREATIONAL COUNCIL MEMBERS

1979 - 80

East Highline Little League
Highline Soccer Association
Highline Community Council
South Highline Little League
Barren Bearcats Football
Highline Badminton Club
Highline Youth Recreation Association (HYRA)
Salvation Army Community Center
Highline Youth Service Bureau
Highline School District
PTSA Softball
Southwest King County Arts Association
Bicycle Motocross
Highline YCA
Boys Clubs of America (Des Moines)
South King County Jr. Football League
Al Haynes (Baseball)
Dorothy Laird (motorcycle training)
Highline Times
Kathy Hand
King County Parks (Des Moines & White Center)

DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION

NORTHWEST REGION
FAA BUILDING KING COUNTY INT'L AIRPORT
SEATTLE, WASHINGTON 98108



JAN 25 1980

Mr. Dave McNeal
Jongejan, Gerrard, McNeal
23-103rd Avenue Northeast
Bellevue, Washington 98004

Dear Mr. McNeal:

As requested, we have reviewed the draft North Sea-Tac Park Report which your firm prepared for the Port of Seattle and King County. As stated in your January 3, 1980, letter to the Port and to the County, a copy of which is presented at the beginning of the report, the North Sea-Tac Park study was undertaken with much enthusiasm and a realization that this is nationally a pioneer land use planning effort involving a major airport. We feel the report reflects this enthusiasm and the pioneer nature of this important project in a well-written manner.

Our overall views on the North Sea-Tac Park study are summarized below. In our August 6, 1979, letter to Ms. Janis Snoey of your firm, we indicated our preference for the use of the "Modified Passive 2" plan as the basis for further analysis and study in the development of a final recreation plan for the area which would include open spaces as well as active use facilities. This plan was one of five "pre-schematic site" plans developed in July 1979. Also, our August 6, 1979, letter provided recommendations on what we feel are acceptable levels of assemblies of people for recreation planning purposes in the study area.

After the more refined proposed park schemes (A through E) were prepared, we stated in our November 14, 1979, letter to the Port that we would prefer scheme "C" for further study. This was based on our belief that scheme "C" is most closely related to the earlier "Modified Passive 2" plan and also reflects major land use features originally envisioned in the Sea-Tac Communities Plan. In that letter, we also emphasized our concern that any final park plan should not only consider the recreational needs of the community as a whole but also all of the possible significant adverse impacts on the residential neighborhood immediately adjacent to the study area.

Page 57 of the North Sea-Tac Park Report shows the master plan. This master plan relates more closely to scheme "E" than to scheme "C", our preferred choice. However, we believe that we can work with the Port and the County using this master plan assuming that our density per acre use guidelines and our concerns involving the possible adverse

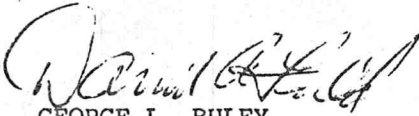
2.

impacts on the residential neighborhood immediately adjacent to the study area are fully reflected in any implementation program for the development of the proposed park. The development of such implementation programs should include the opportunity for further input from the local residents.

Needless to say, we would also continue to strongly discourage any recreation development which would create or increase the potential for any possible problems with airport operations including those involving bird hazards, incompatible lighting, and smoke-producing and/or electronic interference-producing activities. We feel the master plan reflects this concern for any such possible problems with airport operations.

Our detailed review comments are furnished in the enclosed marked-up copy of the draft North Sea-Tac Park Report. We would like to discuss these comments with you. Please return the enclosed report to us as it is our only copy. We appreciate the opportunity to review the draft report.

Sincerely,



GEORGE L. BULEY
Chief, Airports Planning Branch, ANW-610

Enclosure

cc: Art Yoshioka, Port of Seattle
Karen Rahm, King County

RECEIVED FEB - 5 1980

February 4, 1980

Mr. Dave McNeal
Jongejan, Gerrard, McNeal
23-103rd Avenue Northeast
Bellevue, Washington, 98004

Dear Mr. McNeal:

The North Sea Tac Park proposal is inconsistent with the Sea Tac Communities Plan which envisioned a golf course "under the flight corridor", running north and south to approximately So. 128th. It included passive open space uses, as well as "community use reserves" for the future demand of our community. Soccer/football/baseball/tennis/basketball and other types of sports uses were mentioned as proponents for some of these lands.

The need for a recreation/alternative use study for this area was important--time had elapsed since the PLAN was accepted by the POS and King County. However, it is my belief that the "volunteer group" was stacked! Open-minded people were not wanted. Recreation was the prime goal for the "free land".

However, the land is not free. It was purchased, or will be purchased, by the POS with federal funds--that means there are strings attached. While the noise is almost unbearable at times, the acquisition is for SAFETY. There were no funds available for noise! The extended clear zone goes to So 140th--the same funds are being used for acquisition to So 136th. To now forget SAFETY, is to have fraudulently obtained the funds!!!!

The acquisition from So 136th to So 128th will be for noise!

The FAA expressed their preference for the use of the "Modified Passive 2" plan as the basis for further analysis and study in the development of a final recreation plan. Using this plan they made some recommendations on what they felt were acceptable levels of assemblies of people for recreation planning in the study area. That map showed the golf course down the corridor with active sports to the sidelines.

Later, more refined proposed park schemes were prepared. The FAA preferred "Scheme C" for further study. It was "most closely related to the earlier "Modified Passive 2" plan and reflected major land use features originally envisioned in the STCP.

Their comments were ignored! I attempted to participate and was ignored! When the golf course was moved from the original site selection to south of 518 and up the west side of the airport, I objected--but was told--"too bad--you people can have all the things we're afraid may go up the westside if the golf course isn't put there".

ll

No way will you ever convince me that soccer/football fields should go under the flight path. No way will you ever convince me that the density guidelines for that area will ever be adhered to. The FAA, along with saying "keep concentrations for the sides" also recommended that these be principally practice facilities with tournament type facilities elsewhere". Too long--the Rec Council has said that they want a regional park site, another "Fort Dent" at the Sunset Complex. (A major urban park--A large park area of 100 or more acres, providing broad expanses of natural or man-made scenery, often including features of areawide interest, and capable of accommodating large numbers of people)

No way will you ever convince me that the FAA's recommendations won't be forgotten as soon as the soccer fields are in!

Incase you need reminding--the same Highline planner planned a Highline Rec Complex in a place where one should not be--they also planned a community/recreation center at Sunset Jr. Hi--where one can never be! I think that in their search for most needed recreation land they have forgotten the reality of life--"there is a time and a place for everything". But this land and our kids, with the airplanes that fly in and out of Sea Tac, should not be "joined together" at THIS particular site.

In a letter dated July 3, 1974 from George Buley, FAA--a paragraph that I hold a great belief in is as follows. "In regard to a school (Sunset) located in an extended clear zone, it is beyond our authority or responsibility to impose land use requirements upon local communities. However, in the case where a school would be acquired with FAA participation then we would not allow this type of use to continue." If it had not been for this paragraph and the trust I have developed since then for our local FAA's decisions I would have given up participation in the planning process along time ago.

Whether you recognize it or not--the opportunity for further input from the local residents--the neighbors immediately adjacent to the study area is of utmost importance. It should be your job, either thru the POS or KC to see that these people are made aware of the PLAN--thru a public meeting, the newspapers or a mailout. Include the maps, the FAA's guidelines, the what, when and whys--do not skip the subject! Do not, as was said at a steering committee meeting--"Don't show the community toooooo much, it will only confuse them." Honesty never hurt anyone!

Thank you for your participation in our neighborhood project--too bad that you didn't hear us!!! I'm sure SOME of us are willing to try again.

Virginia Dana

Mrs. Virginia E. Dana
2648 So 142nd
Seattle, WA 98168

Sunset Plan gains Rec Council nod

by Kevin Patterson

The Highline Recreation Council voted unanimous support toward acceptance of the North Sea-Tac Park Plan (Sunset Plan) at its regular monthly meeting Tuesday and heard a request from the council's president to urge other organizations and individuals in the Highline area to endorse the plan.

The North Sea-Tac Plan proposes development of Sea-Tac International Airport's north clear zone into a multi-use recreational park.

The plan is nearly ready for presentation to the Port of Seattle Commission and King County Council for final acceptance or

rejection.

The recreation council's endorsement is one of the items sought by those who had worked to develop the plan.

Following the unanimous endorsement, Council President Geraldine Van Notrick urged council members to contact county, school and Port officials and inform them of the council's endorsement as part of an apparent endorsement campaign.

DOTTIE HARPER, Southwest King County Arts Council chairwoman, said she thinks the endorsement should be followed by a strong recommendation to expand the proposed golf course from nine to 18 holes and to en-

courage the further use of Sunset Elementary School as a state archives site.

Her suggestion to expand the golf course would extend the course into the area the Boeing Corp. had planned to use as the site of its corporate headquarters building, which has been halted through legal action brought on by West side airport residents.

"I just feel we should make a statement because it's something that would be of use," she said and added later, "I think it's important that we speak up. We're the only ones that will."

In other business Tuesday, the council compiled a list of objectives for 1980 from council

members and the few members of the audience who turned out.

Among some of the suggestions offered for 1980 goals were to make the council more well known in the community in order to foster more community involvement with it and improve its function.

Another suggestion, along the same lines, was to change council meetings from monthly to quarterly to encourage better attendance.

OTHER SUGGESTIONS included: Making better use of existing parks; work with Metro to develop more bus routes to parks and install emergency telephones at public parks.

Perfect recycle: Unused school to become records center

Officials of several levels of government are near agreement on what is described as "the perfect recycle."

It involves transforming part of a former junior high school in the Seattle-Tacoma Airport noise zone into a state archives, or record center.

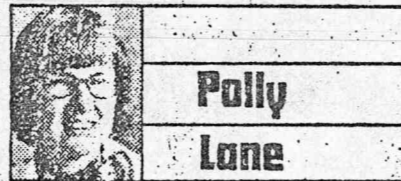
All available governmental historical records from the cities, towns, county and the Port of Seattle would be stored in the former Sunset Junior High School, 1809 S. 140th St., in the Highline School District. The school has been closed for three years.

The Port will acquire ownership of the 20-plus-year-old school next July as part of a settlement of a lawsuit with the school district, involving airport noise. It was one of 14 schools involved in the \$10.7 million suit settled in 1977.

The school gymnasium is being used for recreation now by youth groups, but officials believe intensive use of the entire school for recreation or as a community center is not desirable so close to the busy airport.

So, use as a storage center with one or two employes and a handful of visitors seeking records is seen as "just the thing" for the buildings there.

Costs of financing the operation, maintenance and any capital improvements required, and lease arrangements with the Port, still must be worked out. But the state Department of General Administration is going ahead with limited funds to establish the center while it is available.



Times real estate editor

Mike Saunders, state-archives assistant for local records who is coordinating the effort for the state, said the opportunity to use the school has come at least a year ahead of any planning for records storage in this area. The department presently is budgeted to work out centers at Cheney, Ellensburg and Bellingham in conjunction with long-standing plans at the state universities in those cities.

But he said a survey has shown that records of King County governments make up about four times as much as in some other regions of the state which include 7 to 12 counties. The need is great, he said, and with city and county financial help and cooperation of the Port, the opportunity to begin setting up a center here now is too good to ignore.

J.M. Neil, city conservator, agrees and thinks the reuse of the school this way is a splendid idea.

He said storage space occupied by city government would be available at an estimated \$1.20 a square foot a year — a lot less than the space being occupied in City Hall now is worth to the city for

more intensive uses. City records are stored in the City Hall basement, in departments and in city warehouses.

The same situation exists for the county, according to Jake Thomas, county historic-preservation officer.

The city and county are considering each allocating \$10,000 a year to the center for the next two years to help set it up. The state has purchased some shelving, has negotiated a lease with the Highline School District of one building at the school, and is talking with the Port of Seattle about the future lease arrangements. A state staff member probably will be assigned to the center sometime next year, according to Saunders.

Some of the records from governments in King County presently are stored by the state in warehouses as far away as Bellingham and even at Fort Columbia at the mouth of the Columbia River.

The former classroom building being recycled has two floors and will provide an estimated 30,000 to 40,000 cubic feet of storage space. Besides shelving, the center will need equipment to handle the stacks of papers and documents, furniture and a research room for visitors wishing to use the documents.

Genealogists, in particular, have been unable to track down a lot of information which could be helpful, Neil said. Others interested in historic pres-

ervation, local history and public-planning research are expected to find the Burien-area center useful, he added.

Officials hope that information will be available within a day after requests are made to the new center when it is fully operating.

Some of the more important documents — the originals, not microfilms — include Superior Court records from the 1850s, late 19th Century land-office filings with the government and others relating to early-day development of the area.

Saunders said it would cost several million dollars to microfilm the records to occupy less space. And because the area is younger, archivists here do not have a "wear" problem on the materials as is developing in East Coast communities — yet.

He said the main concern is that the papers be kept at a steady temperature and humidity. The school's heating system is expected to handle that with no difficulty in the near future.

Volunteers from the Association of King County Historical Organizations will help set up steel shelving in the classroom building in the weeks ahead. Officials hope the center will be open for at least limited public use by late spring or early summer.

The modern-era jet noise isn't likely to bother the stacks of history that will be stored there for better accessibility by occasional visitors.

Seattle Times
December 2, 1979

A tremendous plan for Sunset

Here's a question for Highline residents:

What can you do with 240 acres of land which is inundated with noise from low-flying aircraft — so much noise you can't live there?

Consider that the land is surrounded on three sides by residences. It is flat and highly developable. And it's adjacent to a busy international airport which needs more room.

Also, remember much of the land has already been developed into athletic playfields and there's a closed-down school with usable classrooms and a gymnasium in its midst.

What's the best usage of this land?

Airport-related light industry is compatible with aircraft noise. Industry creates jobs and the result could be a general economic spurt for the Highline area.

On the other hand, there's already the makings of a park there with the athletic fields and gymnasium. Why not expand it into one gigantic park facility?

These are the questions

currently facing residents of Highline for the property north of Sea-Tac International Airport. The Port of Seattle owns most of this property in the area called the north clear zone.

Under the Port's land acquisition program, houses are being purchased and removed from the zone. The homes will all be removed within the next several years.

Now, the predominant plan for the zone is a park. The Port of Seattle and King County have already spent \$15,000 each to prepare a park proposal.

The plan is now on paper and has received much publicity lately. There'll be soccer fields, softball fields, tennis courts, nature trails, a bicycle motocross course, a golf course, and (hold on) a motorcycle training area.

A citizens' committee which included Port and County officials worked several weeks on the plan and presented it to the general public in a meeting last week.

And a firey meeting it

was! While many of the participants liked the idea of the park, there was heated debate over the golf course and motorcycle training track.

Would a golf course serve enough people, especially considering there's already a course at the south end of the airport?

We're among those who don't think so. One course with aircraft buzzing the greens is enough. Planners should come up with a better idea for that proposed golf course property north of South 154th Street and south of State Route 518.

The motorcycle training track was another hot topic.

"Nothing — 747s, cars, trucks, even rifle shots — drowns out the sound of motorcycles," one woman complained. "They'll hear them on Vashon," another said.

Indeed, motorcycles can be noisy. But motorcycles with legal mufflers — and those will be the only ones allowed on the track, according to the plan — are no more noisy than the cars and

trucks which travel SR 518.

Actually, the motorcycle track seems to be one of the better ideas for an already noisy area. We see no reason why the motorcycle track should be taken out of the plan.

However, there should be a firm proposal for controlling usage of the track before this particular aspect of the plan is implemented. The track will be a nuisance to nearby residents if the rules aren't enforced.

Generally, the overall plan for the park facility is a tremendous one, we feel. It's good usage of the land and will be of great benefit to residents of all Southwest King County.

Now the problem is finding a way to pay for the park. This may be the most difficult step lying ahead for the people who are working hard to see the plan a reality.

We won't offer any suggestions now on funding since there are many avenues to be examined. But we will say afford to provide that the Port could more than just the land.