

V. RECOMMENDATIONS

Several basic assumptions were made at the beginning of this study. (Pages 6 and 7) Certain of these assumptions have been reaffirmed by the extensive research conducted during the course of this study; others have proven to be invalid.

Population growth in the Greater Anchorage Area Borough, as evidenced by preliminary returns from the 1970 Census, indicate that the initial assumption of 4.25 percent per year may have been conservative. Population growth between the Special Census of October, 1968, and the Decennial Census of April, 1970, has been at the rate of nearly six percent per year. Although this is a very short period of time, it would seem to indicate that the short range population increase could be more substantial than originally thought. The six percent per annum growth rate exhibited in recent months was doubtless in immediate response to the wide-spread publicity associated with the oil lease sale of 1969. A more reasonable estimate of the long term growth for the Anchorage area would be near the 4.25 percent per year rate exhibited between 1960 and 1970.

Since returns from the 1970 Decennial Census have yet to be published in sufficient detail, it is impossible to determine what the rate of growth within this planning district has been in recent months. We must, therefore, assume that the growth rate exhibited in the planning district between 1960 and the Federal Census of 1968 will continue into the near future and will be substantially higher than that of the entire Greater Anchorage Area Borough.

The research clearly indicates that; (1) additional general aviation facilities are needed to reduce existing congestion of air space and ground facilities in the metropolitan area; and, (2) there are sufficient problems

involved with locating a new general aviation facility at Campbell Airstrip to necessitate comprehensive evaluation of available alternatives prior to actual commitment to such a facility. The basic assumption earlier discussed concerning utilization of Campbell Airstrip as a general aviation facility is, at least until further study proves otherwise, invalid.

The extensive research which has been conducted concerning existing land use patterns within the planning district bears out the original assumption on this subject. That is, that the predominant existing land use throughout the developed portion of the planning district is residential in nature with several areas of commercial use in the northwestern and western portions of the planning district.

The original assumption concerning zoning of the area is essentially valid although the time element may be reduced. The entire metropolitan area may well be definitively districted by the spring of 1971. This completion date depends, of course, upon a number of variables which may act to delay completion of districting in areas "F" and "G" (the areas generally south of Dowling Road extended) beyond this date.

It was originally assumed that the portion of the planning district lying within the Military Reservation would be released by 1975. It has long been thought that the major reason for release of these lands would be in response to uniform local demand for a civilian general aviation facility located at Campbell Airstrip. In December, 1970, the Army did, in fact, declare that these eight square miles of land area were surplus to its needs. This action came about as a result of urging by the City of Anchorage officials, the Alaska Congressional delegation and the Anchorage offices of the Federal Aviation Administration. It is thus apparent that the proposal to develop four and one-half square miles of the Campbell area into a general aviation airfield was a major factor in the decision to effect the release. There appears, however, to be substantial valid objection and some general public opposition to development of another general aviation airfield in the Anchorage urban area and especially at Campbell Airstrip. The Greater Anchorage Area Borough Planning Commission feels that the Anchorage area's aviation needs must be evaluated in a truly comprehensive manner.

Such an evaluation or planning effort should be conducted jointly by the Federal Aviation Authority, the State of Alaska, the Greater Anchorage Area Borough and the City of Anchorage. The Airport and Airway Development Act of 1970 calls for such planning efforts and provides for funding such studies. There are provisions in the act for national planning of public airport development, grants for airport development and several other functions. The act specifically provides for two kinds of planning. The first is designated "airport master planning", and is concerned with the development of information and guidance to determine the extent, type, and nature of development needed at a specific airport. Such a planning effort is currently underway at Anchorage International Airport under the auspices of the State of Alaska, Division of Aviation. The second type of planning effort provided for in the act is designated "airport systems planning". It is concerned with the development of information and guidance to determine the extent, type, nature, location and timing of airport development needed in a specific area (in this case, the upper Cook Inlet region).

Section 13 of the 1970 Act authorizes the granting of funds to planning agencies for airport system planning and to public agencies for airport master planning. The Planning Commission recommends that an "airport systems planning" study be initiated at the earliest possible date and that it be jointly sponsored by the concerned Federal, State and local agencies. The study should be directed at finding solutions to the need for additional aviation facilities in the Cook Inlet basin and specifically the Anchorage area.

Now that release of this area has occurred, there is a locally unprecedented opportunity to achieve a truly planned community. The land remains in governmental ownership and is almost entirely vacant. With proper planning these eight square miles of the present Military Reservation and approximately five square miles of essentially vacant land outside the Military Reservation can have a substantial balancing effect on some of the overcrowded conditions in presently developed portions of the metropolitan area. Once lost, this opportunity will not occur again in the Anchorage community.

This area of the planning district should be planned for the maximum benefit of the Anchorage area, but planning such an addition to the community is only part of the picture. It is an old cliché, but it nonetheless bears repeating that the best laid plans of mice and men often go astray. This plan document is, quite literally, not worth the paper it is written on unless the plans are effectively and realistically implemented.

A. LAND USE PLAN

The Land Use Plan for the Anchorage Metropolitan Area (Figure 12) is somewhat more generalized than this land use plan. The minor differences between the two result from the more detailed investigation and analysis that was conducted in the much smaller area with which the present plan deals as compared to the areawide land use plan. Although in the time since the metropolitan area land use plan was prepared and adopted, such information as that provided by the Anchorage Metropolitan Area Transportation Study has become available, there are no major conflicts between the two plans. This plan is intended to serve as a detailed supplement to the metropolitan plan.

Figure 13 and the recommendations of the Implementation have resulted from some twelve months of work by the Planning Commission and its staff. The land use plan itself indicates a pattern of land uses which is designed to accomplish a number of desirable ends. The proposed watershed extension can serve three of the present requirements of the Anchorage community. It can provide a quantity of potable water sufficient to supply the Anchorage community until such time as other larger water supplies can be developed. This area can also serve to meet some of the needs of the Anchorage community for close-in open space and recreational facilities insofar as these activities can be made compatible with the provision of safe drinking water. For example, the recharge lakes have a potential for such things as non-motorized boating and fishing activities in addition to their scenic value and their intended purpose of providing economical and safe potable water. Other compatible uses of this area would be hiking trails for those not desiring the more strenuous and difficult mountain-type trail activities. Very pleasant and, of equal significance, highly accessible picnic and playgrounds could be developed.

However, since the stated purpose of a watershed reserve is to insure a safe supply of drinking water for the community, the "Standing Requirement For the Protection of Watersheds Supplying Anchorage Water" of the City of Anchorage Water Utility, presently enforced in the existing Watershed District, can and should be utilized. In addition, careful studies of the effects of such activities as suggested above should be evaluated in terms not only of these requirements, but also in terms of the geological and hydrologic conditions of the area immediately surrounding the site of the proposed activity.

As previously indicated, there is a potentially valuable gravel deposit present in the alluvial fans of the north and south forks of Campbell Creek. This resource can be developed to serve not only the increasing demand for gravel, but with careful planning and implementation, the value of the water resource can be improved. First gravel would be extracted from carefully pre-selected locations. When the extraction operation has taken a sufficient amount of gravel from that location, water in measured quantities can be directed from the nearby creek to the site of the excavation. As water, in carefully predetermined amounts, flows into the gravel pit, a large portion will sink into the high permeable material. This would have the effect of substantially raising the water table in the vicinity so that comparatively shallow wells located around the lake could provide relatively warm water to the community at low pumping costs. It should be emphasized that this concept, though new to Alaska and outlined here in an extremely brief and highly simplified manner, has proven to be an effective means of raising water tables in communities of the upper midwest.

The areas indicated as recreation-open space on Figure 13 are composed of land that is presently in local governmental ownership and lands that should not, in the public interest, be built upon but which should be acquired by local government. Mention was made earlier of the flood hazard in certain defined areas along the creeks and also that development is beginning to encroach upon these flood plains. Such lands as these should be acquired (or retained) and utilized for the public good by local government. The flood plains themselves are, in many instances, of sufficient width to provide sizable recreational sites such as picnic and playgrounds while

other stretches of flood plain are better suited to trail-related activities including cross country skiing, sled dog racing and snowmobiling in the winter, and walking, horseback riding or bicycling in summer months. By the very nature of flood plains, generally long and comparatively narrow, such areas have a built-in accessibility to many residential areas. Wherever a road crosses a creek an access point should be established with the open space-natural atmosphere dominate over the highway or street!

The relatively high density residential areas indicated along Tudor Road and the Seward Highway reflect the relationship of these areas to major arterials and thus to major employment and retail centers of the community. This relationship is already reflected by the presence of numerous apartment buildings and by the type of zoning which has been sought by residents of the area. The areas of moderate residential densities adjoining the higher density developments are transitional to areas which are developing with lower residential densities.

Lower density residential land uses are indicated by Figure 13 over relatively large areas of the northwestern half of the planning district. These densities, similar to those present in the interior of Wickersham Park and in Bancroft Subdivisions, reflect existing development and that which will develop in years to come. This density will evolve in response to the desire for single-family homes common in the Anchorage community. The areas indicated on Figure 13 as lower density residential are physically capable of supporting this type of development because they are well-drained, have flat to gently rolling topography and are largely comprised of stable surface materials.

The "island" of proposed low-density residential near the confluence of the north and south forks of Little Campbell Creek reflects the nature and location, relative to stream beds, of soil types in that area. The soils are swamp-types which, because of their spongy nature, serve as natural flood control reservoirs. During high-water periods, these marshes absorb excess runoff and, conversely, slowly release water during low-water periods. The net effect is stabilization of stream flow. Were this area developed with high intensity land uses, this built-in flood control feature would be lost to the detriment of downstream areas.

The belt of low-density residential in the lower foothills of the Chugach Mountains is proposed in this location for two reasons. First and foremost of these is because of the relationship of this area to the community water supply from subsurface sources. The boundary between this area of low-density residential and the high density residential area proposed to the northwest closely follows the heavy black line on Figure 6. The net effect of development southeast of this line, regardless of the density allowed, will be a reduction of the amount of water reaching the deep water system. Residential density of a maximum of three dwelling units per acre is the optimum density recommended for this area. More than three dwelling units per acre will substantially reduce the amount of water reaching the deep water system; restricting development to less than three dwelling units per acre is, however, simply not warranted. The second reason underlying the proposed low-density residential in the foothills is the factor of distance from major employment and shopping facilities. Because this distance is relatively great, this area is less desirable for higher density residential uses than areas closer to the heart of the urban core.

Those areas indicated as "slope-ratio-density residential" on Figure 13 represents the effect of steep slopes on man's use of this kind of land. The proven practice of limiting development densities on hillsides by use of the slope-ratio-concept involves simply increasing the minimum size of lots as the degree of slope increases in accordance with a given ratio.¹⁴ Limiting of densities in this manner is highly desirable from several standpoints. There is a safety factor involved since steep slopes will slide when the natural contours and vegetation is disturbed, particularly when subsurface materials become saturated by the on-site sewage disposal systems which will continue to be used in these areas until a community sewer system is available. There is also a health hazard present. Since bedrock is quite close to the surface in many areas of steep slopes, liquid sewage from on-site disposal systems will be dispersed along the surface of the bedrock in a state which is unfiltered by passage through normal depths of soil. Pollution of wells far removed from the site is thus quite possible. Also, normal community services such as street maintenance, emergency

¹⁴American Society of Planning Officials, Planning Advisory Service Information Report No. 126, "Hillside Development", Chicago, Illinois, September, 1959.

services and sewer and water systems are inordinately costly for the community to provide in areas of steep slopes.

"School Section 16" is depicted on Figure 13 as being developed with a combination of moderate, and low-density residential uses, open space, and neighborhood commercial land uses. Here, as is the case with the Campbell Airstrip portion of the Military Reservation, the pressures of a rapidly growing urban community will probably lead to development of this area. The most feasible method would be by means of a long-term lease by a private individual. This is desirable for several reasons; development can be strictly controlled for maximum community benefit by the terms of such a lease and the land would yield a monetary return to the State which must by law be used for educational purposes to the benefit of the entire State. Present informal use of this area for recreational and open space uses would be supplanted by development of the large Borough-owned area of 320 acres north of Abbott Road for recreational uses as well as by those lands within Section 16 which are proposed to be permanently devoted to such uses.

The moderate residential densities depicted in School Section 16 are desirable for two major reasons. This area is rather close to the light industrial area which is developing along the Alaska Railroad north of Klatt Road. It thus has good access to this employment center. Secondly, this area also will enjoy the benefit of good access to the downtown area and to the military bases via the new Seward Highway and the expressway system recommended by the Anchorage Metropolitan Area Transportation Study.

The residential uses of land discussed above and delineated on Figure 13 represent the probable pattern of development for a population ranging between 35,000 and 44,000 people at the end of the twenty-year planning period (1990). This range of future population is based upon two assumptions: first, that the pattern of residential densities shown on Figure 13 does, in fact, develop; second, that average family size in the planning district will approximate 3.4 persons in 1990. The maximum population or "holding capacity" of the planning district, based upon the total and complete development of the planning area as depicted and at the maximum densities allowed by the proposed land use plan is approximately 160,000 persons. The

possibility of this population level, or of the illustrated densities, ever being attained is highly unlikely. Very few communities attain their maximum holding capacity populations since urban living has not attained a degree of sophistication to permit such intense development. The practical ultimate population for the planning district is estimated at 50-60 percent of the 160,000 figure given above, or 80,000 to 96,000 population. Based upon the assumption that the area will be opened for development after 1975, and based upon growth rates demonstrated in the rest of the Anchorage community, it is projected that the planning district will attain a population of from 35,000-44,000 persons by the year 1990.

Given the general patterns of residential land use which are likely to develop and the probable number of residents in the planning district delineated, we turn now to a discussion of those other uses, public and private, which will be required to serve the present and future residents of the area. Sufficient space is already available in the Central Business District and along Northern Lights Boulevard to serve the major shopping needs of the Anchorage community for many years into the future. A demand for community shopping facilities will arise as a result of development of the planning district and surrounding area. Two community centers is all, however, that will be needed. One of these centers is recommended south of the intersection of the Seward Highway and O'Malley Road near Klatt Road. This is the southern end of an expressway proposed by the Anchorage Metropolitan Area Transportation Study. The second location is suggested along the AMATs' proposed north-south expressway near the geographic center of the planning district.

A need will arise in the planning district for several relatively small neighborhood commercial areas in addition to the two community-sized centers. Such commercial areas have already developed near Tudor Road and Lake Otis Parkway, at Dimond Boulevard and the Seward Highway, and, to a lesser extent, at International Airport Road and the Seward Highway and at Dowling Road and the Seward Highway. Additional neighborhood commercial areas will be needed as higher population densities develop. Such neighborhood facilities depend upon good access and close proximity to populated areas.

Locations meeting these criteria exist at several points in the planning district. One, at Boniface Parkway and Tudor Road, could serve the needs of the moderate to high density residential area which will develop along Tudor Road as well as areas to the north of the planning district. Another is at the intersection of O'Malley and Birch Roads. This area could serve the needs of the lower density residential areas surrounding upper O'Malley, Abbott and Huffman Roads. Assuming that the Anchorage community continues to develop its elementary school facilities along the lines of the "neighborhood school" concept, approximately thirteen additional elementary schools will be required in the planning district by 1990. Recommending specific locations for each of these schools would be meaningless at this time. Site location studies will be required to specifically locate these facilities in a timely manner and as the need for them develops.

Another community service which requires sites for its facilities is fire protection. The subject of fire station location was treated in the Anchorage Borough's Fire Protection Services Plan, published July, 1970. Two fire stations are recommended for the planning district. The study conducted during the preparation of this land use plan indicates that those recommendations are still valid. Combination structural and brush-fire suppression fire-fighting units are recommended for location on O'Malley Road near Hillside Drive and in the present location of the Bureau of Land Management fire-fighting unit. Stations in these two locations, in conjunction with stations in locations outside the planning area, will serve the needs of this portion of the community through the planning period.

The transportation system delineated on Figure 13 is based upon the existing road system, on the proposals of the Anchorage Metropolitan Area Transportation Study and on the Collector Street Plan for the Greater Anchorage Area Borough. The proposed additions to the system delineated by the earlier plans and those similar additions contained herein should be considered as corridors only. Delineation of specific alignments will require intensive study.

The collector and arterial street system proposed is essentially a grid system designed to carry traffic between the essentially residential planning district and employment, commercial and personal service centers located

outside the area. The proposed parkway connecting Hillside Drive and Muldoon Road should serve as a pleasant scenic drive, with turnouts overlooking the Anchorage bowl, in addition to serving the need for a connecting link through the present Military Reservation.

Costs of acquiring the sites and rights-of-way for these community facilities will undoubtedly rise as the area continues to develop. For this reason, acquisition of community facility sites should take place in as timely a manner as possible.

This land use plan is intended to supplement the "broad-brush" Metropolitan Area Land Use Plan (Figure 12). It represents a logical pattern of land uses which should be encouraged to develop in this planning district. This pattern of uses of the available land was constructed on the basis of the best available technical data. It is based also on the premise that a pleasant and desirable place to live is, in large measure, a result of how man's development fits not only the nature of surrounding uses, but the character of the land itself. In instances where the two land use plans conflict, this more specific and detailed plan should prevail and be given the most weight when making decisions affecting the community and the planning district.

B. IMPLEMENTATION

Portions of the Borough's ongoing planning program will, through its natural course of events, make substantial contributions toward implementing this plan. The Planning Commission and staff are presently directing effort toward preparation of regulations which will regulate development of steep slopes. Subdivision regulations soon to be adopted will provide the basic tool required to regulate development of all types. Efforts are being made to prepare flood plain development regulations which will serve to reduce the hazard from flooding along the several streams which flow through the Anchorage Borough. These planning activities are intended for much broader application than just aiding in the implementation of this plan. There are, however, several steps needed to specifically aid in implementing the concepts of this land use plan. These steps are discussed below.

C. POTABLE WATER SUPPLY

The two subsections above which are related to the community's supply of water, addressed the geologic situation in general terms and the community's present and future needs for an adequate supply of safe water. A shortage of water can, among several other detrimental effects, act to retard normal community growth. The recommendations made in the two subsections immediately following are designed to present such deleterious effects by improving upon existing water supplies in as economic a fashion as possible consistent with meeting the pressing need.

D. WATERSHED BOUNDARY

This study was intended to develop a land use plan for the upper Campbell Creek planning area. Precise delineation of an addition to the existing watershed is beyond the scope of this plan. It is nonetheless considered vital that steps be taken to protect this additional water supply. Therefore, the Planning Commission recommends that an extension of the Watershed District be delineated prior to release of the area and certainly before additional development occurs in the area. The Planning Commission further recommends that necessary technical assistance to accomplish this be sought from knowledgeable public agencies such as the City of Anchorage Water Utility, U.S. Soil Conservation Service, U.S. Geologic Survey, U.S. Corps of Engineers, Federal Water Pollution Control Administration, Borough Health Department, Bureau of Land Management and Alaska Division of Lands.

Since the proposed watershed extension extends far into the metropolitan area, and since the community must derive maximum utilization of all lands in the area, other uses of this area may be found to be consistent with the protection of water purity. The Planning Commission, therefore, recommends that proposals for multiple use of the Watershed District for recreational activities, which may be made from time to time, be carefully evaluated with appropriate technical assistance in terms of their compatibility with the preservation of the potable water supply of the Campbell area. Where no conflict arises, or where stringent controls can minimize the conflict, such activity should be permitted and encouraged.

The graphically illustrated extension of the watershed boundary on Figure 13 is not intended to be precise; it represents an approximation of the limits of extension. No private properties would, now or any here proposed, be included in this watershed boundary extension. The one square mile area known as "Basher" would be completely surrounded by watershed reserve lands if this concept is implemented. Properties within this one square mile are all privately owned. These private ownerships pre-date the creation of the watershed. It is not proposed that any of these lands be acquired and added to the watershed reserve. Residential uses at the extremely low densities being developed in Basher today can be tolerated in this "island" so long as the area is not enlarged and so long as stringent regulations on such matters as lot size, sewage disposal facilities, excavation techniques, etc., are adhered to.

E. ARTIFICIAL RECHARGE

The potential of artificially raising water tables was discussed in Chapter IV B and the importance of the gravel resource present in the alluvial fans of the two forks of Campbell Creek were described in general terms in Chapter II A. These two heretofore seemingly unrelated subjects in fact present an unprecedented opportunity to improve upon the quantity and quality of this potable water resource in an economic manner, increase the scenic and recreational potential of the area, and extract a portion of the rich gravel resource with the benefit accruing to the public. These benefits may be realized in the manner outlined previously.

The Planning Commission, aware of the potential for community benefit in such a multiple use of the area in which the gravel deposits are located and acting in its role as the comprehensive local planning body, recommends that the requisite investigations into the feasibility of this method of extracting gravel and recharging the potable water supply systems be conducted. Technical assistance in this highly involved area should be sought from the various offices of the United States Geologic Survey.

VI. CONCLUSION

Land use plans are intended to serve as guidelines for community growth and development. This plan document represents the best thinking of the Planning Commission and its professional staff as to the most desirable directions which community growth should take in the area encompassed by this planning district. By their very nature, land use plans often lend themselves to controversy. The recommendations contained in this particular plan document are doubly so as the plan tends to recommend contrary to what many people in the area (including some members of the Planning Commission and staff) have traditionally felt to be the obvious use of the "Campbell Airstrip" area.

While this plan will doubtless be the subject of considerable debate by elected community leaders, public officials and private citizens, there can be no question that the well-being of the entire Anchorage community will be markedly effected by what takes place in this portion of the Anchorage metropolitan area.

The community has the locally unprecedented opportunity to take positive action which can markedly improve the urban environment of the Anchorage area. Sectional differences and special, single-purpose interest groups must not be allowed to stand in the way of betterment for all the community. Anchorage is blessed with one of the most magnificent settings in the entire world. The potential is present for the community to approach the splendor of its environment. All of the necessities and the amenities of urban living can be provided in Anchorage with a minimum of urban sprawl and the attendant problems so common "outside".

We have an unparalleled opportunity to prove, in this planning district, that development and conservation can peacefully co-exist.

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