

THE CORPORATION OF THE DISTRICT OF BURNABY

PLANNING DEPARTMENT

MAY 26, 1971

MR. H. W. BALFOUR
MUNICIPAL MANAGER

Dear Sir:

RE: BIG BEND AREA STUDY - STAGE I

Following a number of submissions from the residents of the South Slope Residential District, the Council directed that a review of the Big Bend Area be undertaken by this department.

In our report of January 8, 1971, a two stage study of the area was proposed as follows:

Stage 1.

- a. Examine alternative land uses from a social, economic and physical viewpoint, with particular emphasis on the advantages and disadvantages of the following uses:

Farming
Recreation
Residential
Industrial

- b. Present a report to Council on the first stage for general discussion and decisions on the uses to be accommodated in the area and on the goals to be aimed at in providing for these uses.

Stage 2.

- a. On the basis of the Council decisions made in Stage 1, examine objectives and policies suitable for the development of the Big Bend Area and prepare programs, development plans, and development control bylaws to implement the objectives.
- b. Present a report on the second stage to Council for general discussion and decision.

The Council, on January 11, 1971, concurred with this approach.

The report covering Stage 1 of the Big Bend Study will be available for the Council meeting on March 29th. Included in the report is a survey of pertinent background information and an examination of possible alternative land uses for the area. This is followed by a review of the main conclusions reached from an analysis of the study findings and a summary of the goals and objectives which are recommended for the consideration of the Council as guidelines for future development, and

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MUNICIPAL MANAGER

MAY 26 1971

MR. H. W. BLAFOUR

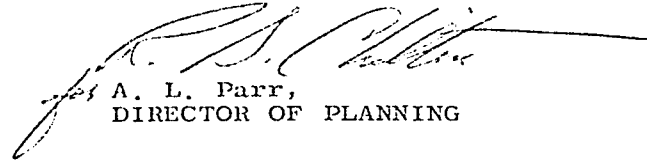
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MARCH 26, 1971

RE: BIG BEND AREA STUDY - STAGE I

to provide the basis for the preparation of a detailed plan for the area to be carried out as Stage 2 of the study.

Respectfully submitted,



A. L. Parr,
DIRECTOR OF PLANNING

RBC/mp

c.c. Chief Building Inspector
Chief Licence Inspector
Chief Public Health Inspector
Municipal Clerk
Municipal Engineer
Senior Planner

MANAGER'S REPORT

ITEM NO. 11

THE CORPORATION OF THE DISTRICT OF BURNABY

PLANNING DEPARTMENT

MARCH 26, 1971

MR. H. W. BALFOUR
MUNICIPAL MANAGER

Dear Sir:

RE: BIG BEND AREA STUDY - STAGE I

I SURVEY

1. Location

The Big Bend area, which comprises approximately 2268 acres of land, is located between Marine Drive and the North Arm of the Fraser River at the extreme southerly end of Burnaby. The area is bounded by Vancouver on the west, while Fenwick Avenue separates it from New Westminster on the east.

At the metropolitan level, the Big Bend area occupies a strategic central location -- 10 miles from downtown Vancouver, 3 miles from downtown New Westminster and 9 miles from the Vancouver International Airport.

2. Physical Characteristics

Topographically the area slopes steeply down from Marine Drive to a low and relatively flat interior flood plain. A strip of land along the western portion of Marine Drive extending to the toe of the slope is composed of highly consolidated glacial soils -- a mixture of gravel, sand and silt -- which are very compact and form a good foundation for all types of construction. Bedrock outcrops mantled with a thin layer of glacial till are located along the eastern portion of Marine Drive and in the south where a strip of higher ground forms a natural levee adjacent to the Fraser River. The stagnant condition which characterizes the large Fraser Delta flood plain between the levee and the high ground to the north gave rise to conditions suitable for the growth of peat. The Fraser Delta section of the area, which covers approximately 1700 acres, is underlain by peat soils of the "readily treatable" type. In the Fenco Report of 1960 a typical soil stratigraphy is described as follows:

Top 15 feet - brown fibrous peat
Next 15 feet - soft organic silt-clay
To great depth - sands and silts of adequate
strength and low compressibility

According to this report, "readily treatable" peat lands are those which can be prepared for construction by the direct and controlled application of moderate quantities of fill material. Where turf or landscaping is desired, the land must be drained and put under cultivation for some years before grass and vegetation can be produced.

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MAY 1971
Municipal Manager

RE: BIG BEND AREA STUDY - STAGE I3. Land Ownership and Subdivision Pattern

The present irregular property boundary pattern in much of the Big Bend Area has resulted from the merging of two basic gridiron patterns of subdivision upon which has been superimposed two railway rights-of-way. This has resulted in the creation of a large number of triangular and irregularly shaped parcels which may hinder the assembly of land for future development. However, the large parcel sizes which predominate and the substantial acreages under single ownership, such as the Corporation and the CNR, should serve to reduce future land assembly and resubdivision problems in extensive portions of the area.

The existing land ownership in the area is shown in the following table:

	<u>Area (Acres)</u>	<u>% of Total</u>
Corporation	379.4	16.70
C.N.R.	351.8	15.50
Provincial & B. C. Hydro	65.7	2.90
Other Private	<u>1,471.3</u>	<u>64.90</u>
Total	<u>2,268.2</u>	<u>100.00</u>

4. The Regional Plan and Current Zoning

In the Official Regional Plan for the Lower Mainland most of the Big Bend area is designated as Industrial (IND-1). The section east of Meadow and south of Fifteenth is included in an Urban (URB-1) category in which residential, commercial, industrial, recreational and rural uses are permitted. The area along the south side of Marine Drive, extending from the Newhaven site on the west to Fifteenth Avenue on the east, has an RRL-1 designation, a category designed for future agricultural, residential or recreational development. This category has also been applied to a small area between the Newhaven site and Greenall Avenue to the north of Scott Street.

The existing Municipal zoning is mainly Heavy Industrial (M3 and M3a), which accounts for 1960 acres or about 86.4% of the total land area. Agricultural (A1) Zoning covers approximately 154 acres in the section east of Meadow and south of Fourteenth Avenue, and makes up a further 6.7% of the total area. Residential Zoning, extending to a depth of 200 feet along the south side of Marine Drive includes the R2 (Single Family) Residential category west of Byrne Road and R5 (Two Family) Residential to the east. These zones cover a combined area of about 71 acres.

5. Existing Development

Existing land use in the area is broken down as follows:

RE: BIG BEND AREA STUDY - STAGE I

<u>Land Use Category</u>	<u>Area (Acres)</u>	<u>% of Total Area</u>
Residential	38.2	1.68
Small Holdings	120.2	5.30
Agricultural	354.9	15.64
Industrial	258.6	11.40
Commercial	8.1	0.36
Public and Recreational	23.1	1.02
Institutional	14.3	0.63
Developed roads and streets	69.6	3.06
Undeveloped Land	<u>1,381.2</u>	<u>60.91</u>
Total	<u>2,268.2</u>	<u>100.0</u>

There are presently 344 dwelling units located within the Big Bend area, accommodating an estimated 1300 persons. The population has remained at a relatively constant level since 1956. The data collected for the Burnaby Demographic Study in 1968 indicated that the number of persons per household was higher than the Municipal average. The proportion of rented dwellings as opposed to owner occupied units was also higher than average. The majority of the housing in the area is located in the Boundary, Scott and Greenall Avenue sector in the west, between Marine Drive and Meadow Avenue in the east, and along the south side of Marine Drive. The lack of growth in the number of dwelling units and the population over the last few years indicates that the area has not been a popular location for housing.

Most of the existing small holdings are situated east of Meadow Avenue and south of Fourteenth Avenue -- an area which is mainly zoned A1 Agricultural. The prevailing parcel sizes in this sector average about one acre.

Examination of the foregoing table shows that 354.9 acres of land, comprising approximately 15.6% of the area, are presently developed agriculturally. Most of this land, on fairly large holdings, is used for intensive market garden and nursery cultivation. The developed agricultural properties are located primarily along Byrne Road and on the south side of Marine Drive.

The industries in the Big Bend area vary in type from open storage uses and small workshhops to warehouses and large wood products manufacturing plants. These may be divided into the following general groupings:

<u>Industrial Type</u>	<u>No. of Establishments</u>	<u>% of Total</u>
a) Outside storage uses (lumber storage and sales; automotive, trailer and equipment storage and sales; trade contractors; auto wrecking and junk yards.)	27	32.9

RE: BIG BEND AREA STUDY - STAGE I

	<u>No.</u>	<u>%</u>
b) Wood products manufacturing (Building materials, roofing, furniture, woodworking shops, paper products etc.).	22	26.7
c) Miscellaneous manufacturing (Foundaries, machine and similar uses, shops, welding shops etc.).	16	19.6
d) Warehousing and wholesalers	8	9.9
e) Service Uses (crating and framing, printing, drafting, refrigeration service etc.).	4	4.8
f) Peat processing	3	3.7
g) Trucking and transportation (trucking, freight handling, automotive repair shops).	2	2.4
Total	82	100%

Those types of industries involved in the manufacturing of wood products and outside storage uses are the dominant activities in the area. Much of the existing industrial development is situated along Byrne Road, Marine Drive, and in the western and southern portions of the area. Most of the larger industrial firms have located on the strip of good ground which parallels the North Arm of the Fraser River. In the peat areas the major industrial types are those with a small building to land ratio and uses which require large outside storage areas. Current zoning restrictions have resulted in a concentration of auto wrecking and junk yards in the southeasterly section of the area.

Commercial development is quite limited in the area with a small concentration at the foot of Gilley Avenue. The nearest shopping facilities are at Royal Oak and Rumble, Kingsway and Edmonds, and a few shops along Twentieth Street in New Westminster.

The Riverside Elementary School on Meadow Avenue serves that portion of the Big Bend Area to the east of Byrne Road

The catchment areas of three South Slope elementary schools (Suncrest, Riverway West and Glenwood) cover the remainder of the area. The Newhaven Industrial School occupies a 14 acre site on the south side of Marine Drive, to the west of the Sussex Avenue right-of-way.

An extensive portion of the Big Bend, comprising some 1381 acres and 60.9% of the total land area, remains vacant and undeveloped.

6. Transportation Facilities, Services and Utilities

The remoteness of the Big Bend area from major road routes has, to some extent, hindered its development. Although similar peat conditions occur in the Central Valley, the location of this area in relation to the Freeway and

RE: BIG BEND AREA STUDY - STAGE I

Lougheed Highway has attracted a considerable amount of industrial development of the transportation-oriented type.

From Marine Drive, the northern boundary, Byrne Road provides the main access route into the central part of the area. Meadow and Willard Avenues, together with a number of connecting cross streets, serve the Agriculturally zoned southeasterly sector, while Marshland Avenue extends to the southwest. Boundary Road and Greenall Avenue, which are linked by Scott Street south of Marine Drive, provide road access into the westerly section of the area.

The Big Bend is served by the C.N.R. and the Vancouver and Lulu Island branch of the C.P.R., operated by B. C. Hydro. Three rail lines, which traverse the central and southerly portions of the area, provide connections with a number of railways including the Pacific Great Eastern, the Burlington-Northern, the Chicago-Milwaukee, the St. Paul and Pacific, and the Northern Pacific.

The availability of rail transport is a definite asset for future development. In addition, the area has a long frontage on the North Arm of the Fraser River in which a minimum draft of 10 feet is maintained and which is open to barge and scow traffic.

Services and utilities are not well developed in the area, although they are considered capable of being extended where necessary to meet anticipated needs in the future. Existing services include a water main which follows Marine Drive with extensions into the area from Boundary Road, Greenall Avenue, Byrne Road and Twelfth Avenue. A trunk sewer follows Marine Drive to the west of Fourteenth Avenue with extensions along the relocated Marine Drive route and to the North Arm of the Fraser River. Power and telephone services are available and gas lines extend into the area along Greenall Avenue, Byrne Road and Meadow Avenue from a trunk line on Marine Drive.

II LAND USE ANALYSIS

In seeking conclusions and recommendations from an examination of alternate land uses in the Big Bend Area, reference has been made to the locational attributes of the area, specifically in terms of possible industrial growth.

Conclusions, based upon the analysis of these locational factors, will be focused upon the following guiding questions:

1. Based on the locational criteria examined, what conclusions can be made concerning possible industrial growth in the area?
2. What benefits would alternate land uses offer in the development goals of the Big Bend Area?

RE: BIG BEND AREA STUDY - STAGE IA. Industrial Location Analysis, Big Bend AreaExisting Development

In general, it appears that there are a number of "footloose" industries situated within the study area that have relatively few specific determinants other than a desire to be close to their markets and/or suppliers, as well as obtaining land at an initial cost advantage.

Some of the larger industries, on the other hand, tend to have more specific desires. Some, for example, because of their nature require waterfront access for both the output and input of goods. Others have found the large acreages available with zoning that can accommodate special types of industrial activity, an attracting force in this area.

Every firm already located, or intending to locate in any area, has undertaken some form of locational analysis to the extent that they are satisfied with the final selection of their particular site.

It remains then to examine some of the controlling factors in this site selection process and to subsequently comment on possible alternate land uses in light of the variables discussed.

For the purposes of convenience, the major factors will be discussed under the headings of "pull" (attracting) and "push" (repelling) forces.

i) Pull Forces Attracting Industrial Development

- a) Situation - regionally speaking, the Big Bend Area enjoys the same locational advantages as other industrial areas within the Lower Mainland. Nearness to markets and suppliers as well as an abundant labour force are characteristic of the required setting. The waterfront access and an abundant fresh water supply are strong locational advantages for the foreshore industries.
- b) Transportation - barge transit is available for those firms with waterfront access, while for those located in the southern portion of the inland area, rail facilities are generally available. Full freeway facilities are not found in, or adjacent to the area, but a number of main arterials including the proposed relocated Marine Drive are, or will be available.
- c) Land Use Conflicts - due to its relatively undeveloped state, the area is generally free from residential concentrations which might be in direct conflict with existing or future industrial development.

MARCH 26, 1971

RE: BIG BEND AREA STUDY - STAGE I

- d) Size of Lots - several of the firms surveyed by the Planning Department indicated as a locational determinant, the size of lots available in the area. Many of the smaller industries requiring acreage for storage purposes have been able to acquire sites from 2 - 5 acres. Much larger holdings are also available as subdivision has not been extensive.
- e) Ownership of Lots - large holdings under single ownership are common to the area and as such would greatly reduce consolidation problems. The Corporation of Burnaby and C.N.R. for example are two major land owners in the area, with a combined acreage comprising some 32.2% of the total area.
- f) Value of Lots - it is difficult to obtain a consensus as to the land values characteristic to the area. This difficulty in part, stems from the fact that assumed values vary according to:
- The depth and type of peat involved
 - The size of the assembled acreage involved
 - The zoning
 - The intended land use and associated loadings
 - The availability of services

Obviously, the various combinations of these factors will affect a generalized market value. However, for the purposes of comparison, the following approximate values are given below:

<u>Area</u>	<u>Industrial Land Values (\$/acre)¹</u>		
	<u>Raw Land Untreated</u>	<u>Treated Land</u>	<u>Treated, Serviced Land</u>
Big Bend (peat area)	5,000	15,000	20,000
Marine Dr. area (Burnaby)	10,000	--	20-30,000
Central Valley (treatable peat)	20-25,000	30,000	--
M4 - Beresford	--	--	30-40,000
Lake City	--	--	50,000
Marine Dr. (Vancouver)	--	--	55-60,000
Richmond	--	15-30,000	--

A definite cost advantage is gained by locating in the Big Bend Area despite the extra capital required for site

¹ From various sources.

RE: BIG BEND AREA STUDY - STAGE I

preparation. It would follow then that the demand by the non-specific determinant industry and the low-intensive large acreage firm will not decline, especially as alternate sites become more developed.

- g) Zoning - as outlined earlier the M-3, M-3a zoning categories predominate, comprising 86.4% of the total land area. Of this portion, the majority of the acreage is under the M-3a category which puts an added demand pressure on this area as it is the only M-3a area located in Burnaby. As a result, firms may be located in the area not because of strong locational advantages, but more because of the zoning location restriction. The visual appearance of these types of industrial activities (e.g. auto wrecking yards, car storage areas etc.) is of a low standard, and because of topographic conditions is very difficult to effectively screen from the south slope area.
- h) Shoreline Foundations - unlike the very poor footings found in the basin areas, the foundation conditions along the shoreline are of a higher quality and are capable of withstanding most forms of industrial development. This results from a band of ground varying in width from 200 to 1,500 feet where no peat or only a shallow layer exists.
- i) Comprehensive Development Potential - because of the large acreages of land under single ownership in the area, the possibility exists for a large scale joint-development to be undertaken by a consortium of the principal land owners. For example, the Corporation of Burnaby and C.N.R. have extensive holdings in the D.L. 164/5 that are capable of a comprehensive industrial development suitable to the prevailing conditions.
- j) Agglomeration Economics - several of the smaller firms situated within the Big Bend Area have expressed a satisfaction with their situation despite many local problems. This is because of the advantages of being located within the immediate area of the larger wood processing firms. Competitive availability of supplies combined with low transport costs results in economics perhaps not realized at more removed sites.

RE: BIG BEND AREA STUDY - STAGE Iii) Push forces Repelling Industrial Development

- a) Foundation Conditions - of the approximate 2,200 acres which comprise the Big Bend Area, about 1,700 acres are of the "treatable" peat variety. These generally can be prepared for construction and loadings by the controlled application of moderate quantities of fill material, and in some cases timber piles and caps. Not only is this preparation costly,¹ but in many cases it does not remedy the problem entirely. Several of the firms surveyed have found post-occupancy settling to be of a constant concern. Comments explaining the extent of the problem have ranged from "very major" to "black top cracking and also cement cracking". Others have noted changes in floor drainage and "continued maintenance around buildings and continued raising of storage areas."

- b) Drainage and Flooding Problems - during periods of heavy rains there periodically are severe flooding problems in the area resulting from poor natural drainage and an inadequate storm sewer system. Recent photographs illustrate the severity of this problem. One firm, situated on relatively stable ground, expressed an alternate drainage concern:

"We are located on the south slope, perhaps 50' above the delta peat and 300' back on sandy loam. From our vantage on the hillside, it is evident the delta is flooded from time to time with heavy rains and would require a drainage system before construction (commences) at the base of the hill. We, ourselves, being on a sand base with run-off from the hillside are somewhat concerned that erosion may eventually affect our foundations and we will have to, in the foreseeable future, make some alterations to curb this condition."

A general flood hazard also exists during the spring crest period of the Fraser River. Discussions have been held concerning dyke improvement construction which would help reduce the flood threat, but will not result in complete flood proofing for the delta area. To help achieve

¹ The Fenco Report (1960) estimated the average extra cost to be approximately \$9,000/acre. Results from early returns of a recent survey of industrial firms by the Planning Department substantiate this general figure, although the average cost appears to be closer to \$10,000/acre for individual sites.

RE: BIG BEND AREA STUDY - STAGE I

this full security, the Fraser River Joint Program Committee, comprised of federal, provincial and municipal representatives is presently undertaking a study to establish minimum elevations for building construction in the Fraser Delta lowland areas.

- c) General Hazards - concern often has been expressed that peat conditions constitute a potential fire hazard under certain conditions. Should a sub-grade peat fire occur, it is possible that extensive damage could occur over a large area before being brought under control. Normal filling with combustible hog fuel would also add to the hazard potential.

Somewhat less a hazard, but worth mentioning is the unstableness of the entire area in the event of a moderate-to-heavy earth tremor occurring. The jelly-like condition of the bog could cause severe structureal damage unless extraordinary precautions were taken.

- d) Poor Local Setting - Within the Vancouver area itself, the area does not possess a strong locational advantage in terms of local access. Truck-oriented activities, for example, have found the Central Valley area much more attractive in the past, even at a substantial land cost disadvantage, because of the exceptional access to freeway and highway facilities. However, it is possible that as land costs in the Central Valley and elsewhere finally became prohibitive for the smaller scale operations, an increased demand for this sort of activity could occur in the Big Bend Area. As a result, one could foresee the establishment of smaller, marginal operations in an area not possessing the strong local access advantages required.

Related to the general remoteness of the area and the lack of either heavy employment and/or residential concentrations is the fact that the majority of the area is lacking public transit service.

- e) Environmental Considerations - In terms of existing or potential land use conflicts, the area under review is entering a stage that numerous other industrial-oriented areas have already experienced. When this area was originally zoned M3 and M3a at a time when presumably industrial expansion was being solicited, it was recognized that provision must be given to the accommodation of special types of industry in order to balance the industrial structure of the Municipality. Logically, these sorts of activities were limited to areas that would offer the least possible conflict with residential development. In terms of physical distance, it seems that the southern regions of the Big Bend Area are still complying with this original locational guideline. However, as residential development increases in the south slope area the aesthetics of the lowland development is becoming of more concern. The flat terrain makes the effective screening of industrial uses from the view of south slope residents extremely difficult. Thus, even though the Big Bend Area, at least the southern portion, provides a location for industry which is well removed from residential development, the view problem resulting from topographic conditions is presenting a land use conflict in terms of a possible decline in the environmental quality of the general area. Any large scale increase in the low intensive, storage-type uses, it seems, can only aggravate this concern.

RE: BIG BEND AREA STUDY - STAGE I

- f) Encroachment of Agricultural Lands - as previously mentioned, a certain segment of the delta area is within the A1 (Agricultural) zoning category. There has been concern expressed by some that the truck-farming and marketing areas will gradually be displaced by new industry entering the area. As one industrial survey respondent had to say:

"It is really a pity to see such beautiful agricultural land used for industrial development especially when it is so naturally unsuitable for the required loading conditions."

Preliminary investigations reveal that the truck gardening in the area is quite successful, but is dependent upon intensive labour practices. Generally, the raw peat land can be cultivated 2 to 3 years after soil preparation has begun. This involves cleaning, draining and the application of soil additives.

Crops grown include some small fruits and vegetables such as lettuce, cauliflower, spinach and celery to name a few. Because of the relatively long frost-free period characteristic to the area, it is possible to achieve multiple yields in each growing season.

- g) Conflict with Recreational Land Usage - a number of recreational facilities have been suggested for the area and includes:

- 1) A regulation size golf course
- 2) A district sports centre
- 3) A marina/launching facility
- 4) Areas to be intergrated within the Municipal Trailway system

Preliminary siting of the proposed golf course and sports centre has been completed which would preclude industrial expansion in the immediate area of the proposed sites.

iii) Conclusions

Unfortunately, there is no one land use that is naturally suited to the conditions present in and adjacent to the Big Bend Area. However, there are certain land uses that are more suited to certain areas than others.

As a basis for the recommendations to follow outlining the desired objectives concerning these alternate land uses, discussion will focus upon the original questions posed.

1. Based on the locational criteria examined, what conclusions can be made concerning possible industrial growth in the area?

As stated previously, there are both repelling and attracting forces influencing the private investment dollar in this area. Alternatively, from a Municipal viewpoint there are also favourable and unfavourable considerations in projecting the future physical, economic and social implications of industrial expansion in the Big Bend Area. Generally, however, it can be stated that an expansion of qualified industrial activity, in certain sectors of the study area, would be advantageous.

Internal variations such as relative foundation conditions, availability of rail and water transport, land ownership,

RE: BIG BEND AREA STUDY - STAGE I

potential land-use conflicts, and the location of existing development have established various levels of locational attractiveness throughout the entire area. In general, it can be stated that the southern portions of the study area are more attractive than the northern regions, from all viewpoints.

In terms of industrial quality, it seems that Burnaby has reached a stage in its urban growth that it can afford to be more particular about the quantities and types of industrial activity occurring within its boundaries. The Big Bend Area, once considered the "back yard" area of the Municipality suitable only for the less intensive, open-space type of industry is capable of a more appropriate industrial use. To permit for example, an increased development of storage and low intensity type industry would cause later problems of redevelopment, or relocation.

Industrial growth will and should play a significant role in the development of the Big Bend Area. This growth, however, must be controlled in terms of location and quality in order to achieve the desired objectives. This would be reflected in a policy limiting industry to the southern portions of the study area as well as encouraging a more intensive form of activity with higher development standards.

2. What benefits would alternate land uses offer in the development goals of the Big Bend Area?

a) Agriculture

Experience has shown that specialized agriculture has been practical in the area. In light of the considerations discussed earlier, it would seem reasonable to retain, and possibly add to, the existing agricultural acreage in the northern portions of the study area for the following reasons:

- 1) in combination with the proposed recreational usage in the general vicinity, it would provide a direct buffer band along the entire northern segment of the Big Bend Area between the industrial usage to the south and the residential development to the north.
- 2) somewhat related to 1), agricultural (of the A2 variety) provides a more suitable setting in terms of visual appearance from the upland areas.
- 3) the foundation conditions of the area are more suited to agricultural rather than industrial usage.
- 4) an increased development of nursery and truck gardening acreage would help meet the increasing urban demand for the related agricultural products. (It may be worth further study to examine the merits of establishing a municipal nursery in the area as a pilot project.)

b) Recreation

The development of recreational facilities in the northern sectors of the area would offer the following advantages:

RE: BIG BEND AREA STUDY - STAGE I

- 1) when mixed with adjoining agricultural usage, it would help provide an effective buffer area between the residential and industrial land uses.
- 2) it would provide a logical site for a future public golf course. The Burnaby Parks and Recreation Study has stated that the number of golf courses in relation to population is extremely low in Burnaby, which has one regulation 18 hole course for a population of approximately 130,000. One standard used for this type of facility is one course per 50,000 population. The study also suggested that Burnaby should aim at providing an additional facility by 1976. At the present time, the development of this course is a second priority item (1977-1982) in the parkland acquisition program.

The fact that the Corporation is a major land owner in the vicinity of the proposed site will significantly reduce acquisition costs in the future. Further to this, it would be worth examining the advantages of realigning the proposed relocated Marine Drive to a position south of the existing alignment to gain the fullest advantages of the Municipal holdings in the area. At present, the proposed alignment tends to dissect the Municipal lands in the north-west sector of the study area.

- 3) the provision of a District Park/Sports Facility (a first priority item in the parks acquisition program) in the northern area would be in harmony with the findings of the Parks and Recreation Study which established the ratio analysis (population/facilities) in the South Burnaby area to be particularly deficient in district park facilities.
- 4) provision for areas to be included within the Municipal Trailway System is a stated goal of the report Urban Structure which states:

"The policy attempts to pull the whole Municipality together with a free flowing continuous arterial network of parks and trails in which people can move freely, and in the process arrive at logical destinations. Such destinations would be the shores of the Inlet, the banks of the river----"¹

It would follow then that at this destination point, some form of attracting development would occur. This might be a marine/boat launching facility, a picnic area viewpoint, or an alternate recreational usage.

¹ Urban Structure, P. 106

RE: BIG BEND AREA STUDY - STAGE Ic) Residential

Residential development is particularly unsuitable for the majority of the area. Not only are servicing and site preparations costs high, but as well settling problems have caused structural damage in much of the existing development. However, the most serious problem in the area remains flood and drainage control which makes large scale development prohibitive.

In addition, an increased residential development in the basin areas would only add to the potential land use conflicts for the entire area.

It would seem reasonable, however, to permit the continuance of residential development along the south side of Marine Drive where good foundation conditions exist and potential land use conflicts are minimal.

d) Special Comprehensive Uses

The preceding conclusions have been made assuming that a single large-scale development is not practical in the area. The sorts of possibilities discussed but discarded due to this assumption included the creation of a man-made lake formed by dredging out the peat cover in the basin area, a large-scale agricultural research facility, and a Disneyland-style recreational development.

IV RECOMMENDED GOALS AND OBJECTIVES

The following general policies are recommended for the consideration of the Council as guidelines for future development and to form the basis for the preparation of a detailed plan for the Big Bend Area.

1. The maintenance of the low density residential development along the south side of Marine Drive, in keeping with the existing zoning and the residential character on the north side of this route, with the boundary of the residential area reflected, wherever possible, by the existing subdivision pattern.
2. The preservation and further development of the major portion of the land that is presently developed for agriculture, plus the addition of suitable adjoining parcels, particularly in the northern section of the area. The application of A2 (Small Holding) zoning to these areas is suggested -- a category which permits such uses as farming, truck gardening, orchard or nursery cultivation and greenhouses.
3. The retention of the existing A1 Agricultural zoned section in the easterly portion of the area.
4. The designation of an area south of Marine Drive and west of Royal Oak Avenue for the South Burnaby Sports Complex; a proposal of the Park Sites Report which has been

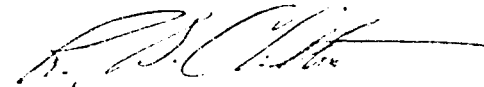
RE: BIG BEND AREA STUDY - STAGE I

included in the Parkland Acquisition and Capital Improvement Programs for park development.

5. The future development of a public golf course in the area south of Marine Drive, as recommended in the Park Sites Report, to meet the anticipated need for a second facility of this type in the Municipality and to provide an attractive buffer area between the residential development on the South Slope and the industrial district to the south. Consideration should also be given in locating this facility to include as much Municipally owned land as possible in order to reduce the amount of private property that would have to be acquired.
6. The designation for industrial use of the land in the vicinity of the B. C. Hydro rail line and extending south to the North Arm of the Fraser River and west to Boundary Road. While the retention of the existing M3 (Heavy Industrial) zoning will be recommended in some sections of the area, it is considered desirable that other zoning districts, including the M2 (General Industrial) and, possibly, the recently recommended new category, be applied in certain appropriate locations. A further proposal could involve a considerable reduction in the area covered by the present M3a category to reflect existing development only. Certain additional measures should be considered, including the flood proofing of industrial sites through the controlled application of land fill to a predetermined elevation and the provision of more stringent screening standards than those currently in effect.
7. The encouraging of large scale projects in the industrial portion of the area along industrial park lines by a limited number of developers is proposed. This will increase the economic feasibility of development and improve the opportunities for achieving a good standard of industrial use in the area.
8. The provision of a continuous trail and parkway system through the area to provide access to recreational facilities and to the North Arm of the Fraser River. Such a system should include appropriately located park buffer areas and green spaces.

The attached sketches have been included as a schematic summary of the conclusions discussed in the preliminary analysis of the area. The sketches reflect the broad land use allocations which have been proposed and the boundaries should be considered flexible in nature.

Respectfully submitted,



A. L. Parr,
DIRECTOR OF PLANNING

RBC/JSB/mp

Attachments

POSSIBLE DEVELOPMENT OBJECTIVES-
BIG BEND AREA.

