

January 13, 1984
3276A/hz

INTRODUCED BY: AUDREY GRUGER

PROPOSED NO. 84-50

ORDINANCE NO. 6708

AN ORDINANCE adopting the Sewerage General Plan for the County operated Richmond Beach Sewer Service Area under the provisions of RCW 36.94 and KCC 20.12.030.

PREAMBLE:

The Council of King County has declared it advisable and necessary to prepare a sewer general plan for sewer service to the Richmond Beach Area of the County.

A comprehensive sewerage plan, entitled "Sewerage General Plan - Richmond Beach" dated May 1981, has been prepared. The Richmond Beach Sewer Area Sub-Committee of the King County Sewerage General Plan Review Committee reviewed the plan, and on August 11, 1981, recommended it be approved in accordance with Chapter 36.94 RCW.

Sewer service to this area is consistent with the King County Sewerage General Plan.

On June 4, 1981 King County filed a Declaration of Non-Significance for the proposed reorganization of the Richmond Beach sewer service area pursuant to RCW 36.94.

As required by RCW 36.94 the Metro Council on October 1, 1981 approved the Richmond Beach Sewerage General Plan by Resolution No. 3780.

BE IT ORDAINED BY THE COUNCIL OF KING COUNTY:

SECTION 1. The "Sewerage General Plan - Richmond Beach," (attached) is hereby adopted as an amendment to Chapter 7 of the King County Sewerage General Plan pursuant to Chapter 36.94 RCW and as an element to the comprehensive plan for King County under the provisions of KCC 20.12.030. The Sewerage General Plan for the County operated Richmond Beach

1 sewer system is an amplification and augmentation of the County
2 Comprehensive Plan, as provided in Chapter 7 of the King County
3 Sewerage General Plan.

4 INTRODUCED AND READ for the first time this 23rd day
5 of January, 1984.

6 PASSED this 5th day of March, 1984.

7
8 KING COUNTY COUNCIL
KING COUNTY, WASHINGTON

9
10 Gary Grant
11 Chairman

12 ATTEST:

13
14 Jarvis M. Owens
15 Clerk of the Council

16 . APPROVED this 13th day of March, 19 84.

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18 Randy R. Will
19 King County Executive

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SEWERAGE GENERAL PLAN
FOR
RICHMOND BEACH
KING COUNTY SEWER UTILITY
DEPARTMENT OF PUBLIC WORKS

FEBRUARY, 1984

This general plan has been prepared to satisfy the requirements of K.C.C. 13.24 and RCW 36.94, prior to changing the operating authority of the district from the Diking and Drainage Act, RCW Title 85, to the County Services Act, RCW 36.94.

An environmental checklist has been circulated and a Declaration of Non-Significance prepared.

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District No. 3

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BACKGROUND

The Richmond Beach sewer system encompasses 350 acres located in the northwest corner of King County (see Figure 1). A portion of the system dates back to 1918 when an 8-inch sewer line was constructed from the Firlands Sanitorium to Puget Sound. In 1939 and 1940 the Richmond Beach sewer system and treatment plant were constructed and the Sewerage and Drainage District No. 3 was formed in 1941. A sub-district was formed and constructed in 1965.

The District is operated by the County under the authority of RCW 85.08, the Diking, Drainage, and Sewerage Improvement District Act.

The district is bounded on the north by Snohomish County, to the east and south by the Ronald Sewer District and Puget Sound to the west with the exception of the area west of 27th Avenue West known as Apple Tree Lane. The Seattle city limits are four miles south of the area.

No expansion of the present system boundary is anticipated.

SUB-BASIN IDENTIFICATION

The following sewer general plan is located within portions of two separate sub-basins designated as NPS-8 and NPS-9 (Boeing Creek subarea) in the comprehensive sewer plan entitled "Metropolitan Seattle Sewerage and Drainage Survey," dated May 19, 1958. N.P.S. indicates drainage into the North Puget Sound basin. The report was prepared by the firm of Brown and Caldwell and was

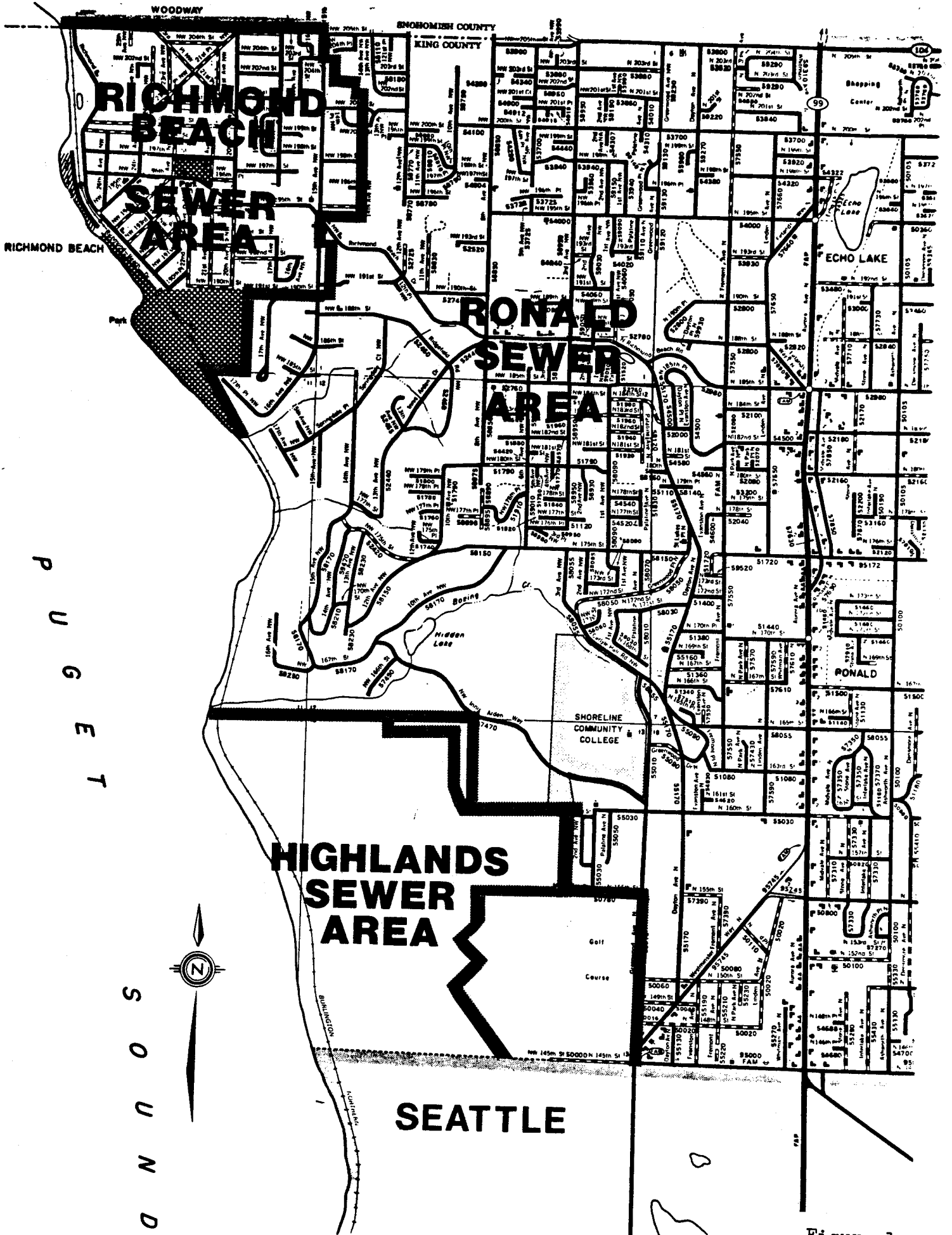


Figure 1

subsequently adopted by resolution by the Municipality of Metropolitan Seattle. Figure 2 identifies the drainage basins in the Richmond Beach Sewer System.

The service area of the system is within the local service area established by the King County Sewerage General Plan as adopted by County Ordinance No. 4035 on January 15, 1979.

TOPOGRAPHY AND SOIL DESCRIPTION

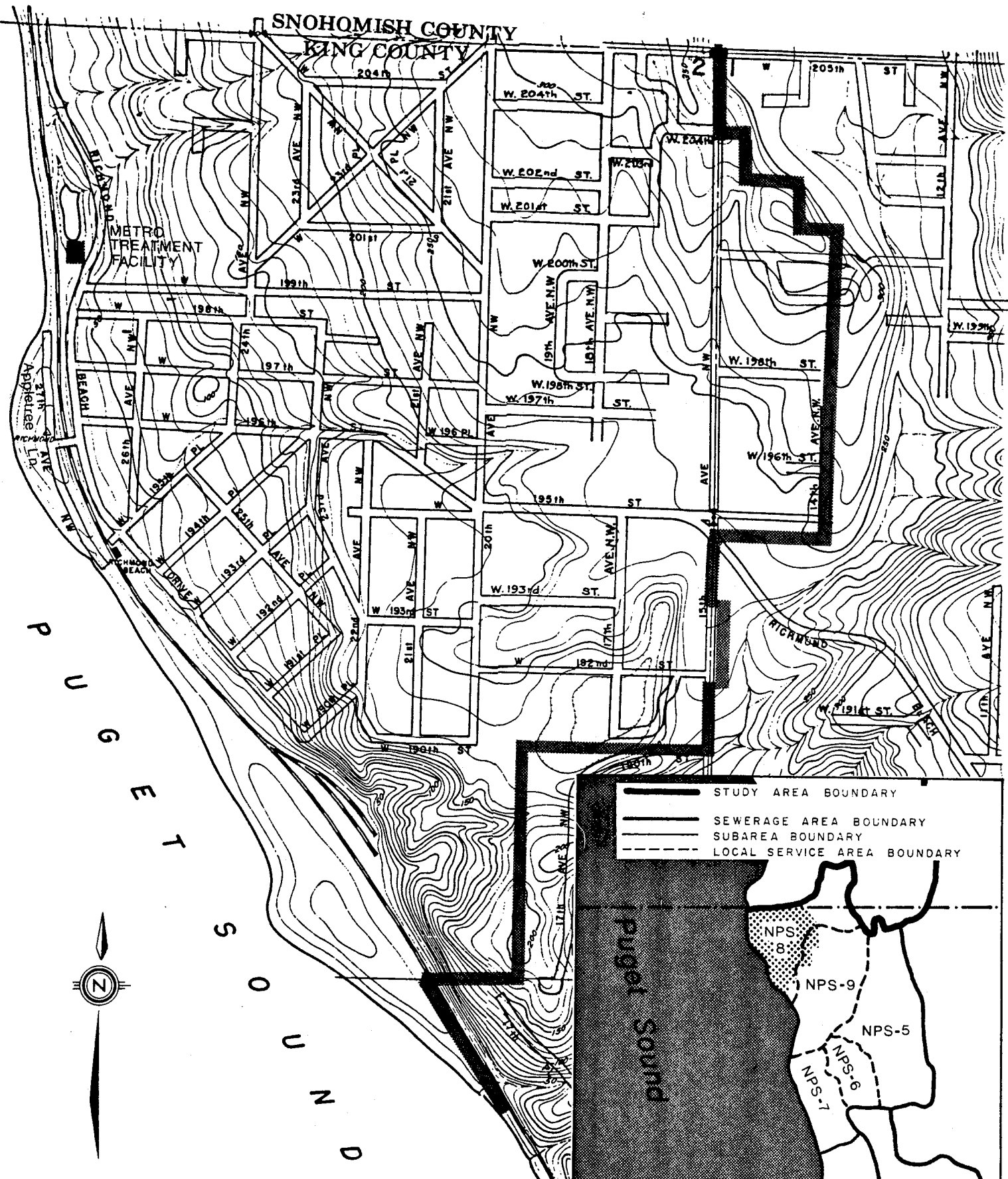
Drainage in the district is generally westerly toward Puget Sound. Figure 2 indicates the topographic characteristics of the area. Soils in the area are generally Alderwood-gravelly- sandy-loam. Such soils are usually deemed unsuitable for long term use of septic tanks and leaching fields.

INTER-GOVERNMENTAL AGREEMENTS

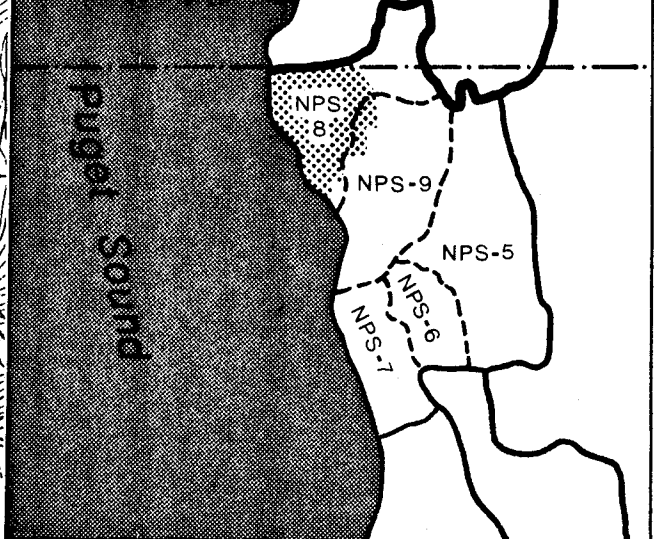
A county-wide sewer agreement has been negotiated between King County and the Municipality of Metropolitan Seattle (METRO) providing for Metro treatment of effluent from County-operated sewer systems. An environmental assessment was prepared and circulated. The County-Metro agreement, which provides for Metro treatment of sanitary sewage collected by the County, has been executed and is in force.

There is a contract between King County and the Ronald Sewer District regarding the Apple Tree Lane area. Apple Tree Lane has been annexed by Ronald Sewer District and formation of a Utility Local Improvement District for construction of a sewer system is in progress. The County-Ronald agreement provides for transfer of Apple Tree Lane to King County if the current attempt by King County to divest the County-operated systems is not successful.

SNOHOMISH COUNTY
KING COUNTY



- STUDY AREA BOUNDARY
- SEWERAGE AREA BOUNDARY
- SUBAREA BOUNDARY
- - - LOCAL SERVICE AREA BOUNDARY



P
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G
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METRO
TREATMENT
FACILITY

Applelee
L.D.

N

NPS-8

NPS-9

NPS-5

NPS-6

NPS-7

Puget Sound

EXISTING COLLECTION SYSTEM

The existing collection system provides service to all but a small portion of the study area.

The collection system consists of approximately 70,000 feet of sanitary sewers excluding side sewers. Three lift stations are located in the study area to pump effluent from low lying areas. Figure 3 indicates the existing facilities.

As of January 1, 1984, the system served 1,010 connections with approximately 1130 dwelling units. Service is also provided to a Chevron Petroleum plant on Point Wells just north of the King-Snohomish County border.

All effluent from the collection system is transported to the Metro Richmond Beach treatment plant located at 20001 Richmond Beach Dr. N.W., which provides primary level treatment. The treated effluent is discharged into Puget Sound.

Ownership of Lift Station No. 24, located at 19425 Richmond Beach Dr. N.W. was transferred from Metro to King County in 1979.

The most recent addition to the collection system involved construction of an 8 inch line on 15th Ave. N.W. from N. W. 191st northward for 700 feet.

In 1975 and 1976 a County construction project removed all remaining storm water connections from the sanitary sewer system. Infiltration and inflow is not considered to be a major problem in the system.

All other facilities in the system are considered to be in good condition.

Based upon the Shoreline Comprehensive Plan zoning, the density of the district could increase to approximately 1750 dwelling units, which is within the capacity of the existing system. It is doubtful that this level of density will be realized. Most of the property within the district has already been developed with a much lower density.

LAND USE

Most of the land in the district is devoted to single family residential use, although some multiple dwellings and neighborhood businesses exist along N.W. 195th Street between 21st Avenue N.W. and 15th Avenue N.W.

The district is included in the Shoreline Community Plan, adopted August 25, 1980 by King County Council Ordinance No. 5080. The community plan maintains the residential nature of the area. Zoning classifications for the district are indicated in Figure 3.

Most of the district is zoned RS 7,200 (327 acres) for single family residential. Portions of the district are zoned RM 2,400 (19 acres) and RD 3,600 (.5 acre) for medium density multiple dwellings. Approximately 4 acres of the district is zoned BN for neighborhood businesses.

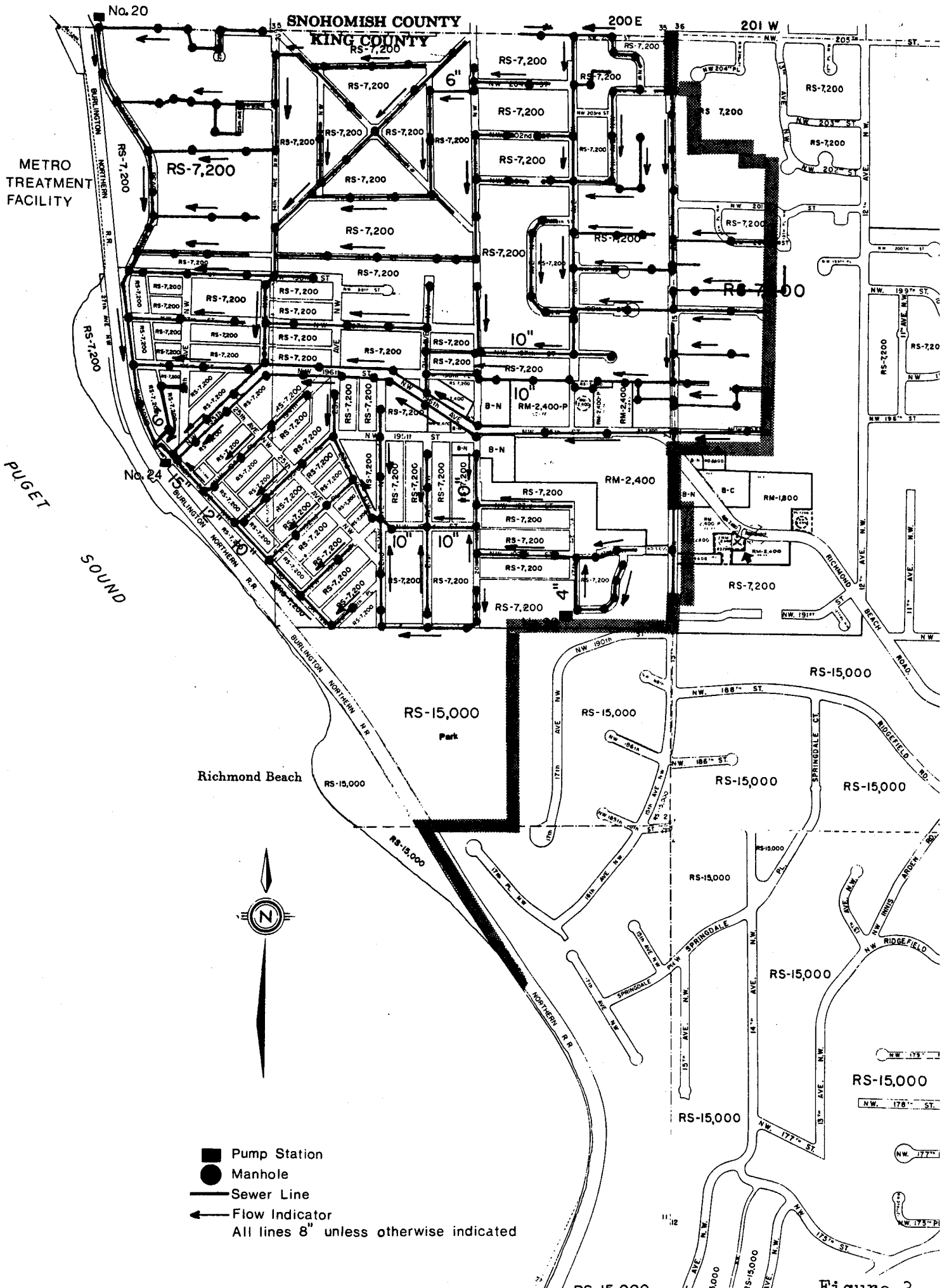
Currently sixty percent of the areas zoned for medium density multiple dwellings have been developed with approximately 125 condominium and apartment units.

Many homes on the western slope of the study area have a broad view of Puget Sound and the Olympic Mountains. Lot sizes are in the 7,000 to 10,000 square foot range, with some lots up to several acres. The houses vary in style, size, age and condition.

The County park (Richmond Beach Park) is located in the southern portion of the district. The Richmond Beach Elementary School, located on N.W. 197th Street between 21st and 23rd Avenues N.W., is now owned by the King County Park Department and is used as a community recreation center with a small portion for a private school. The Richmond Beach Library is located at 2402 N.W. 195th Place. The Melvin G. Syre Elementary School is located just east of the district at 19545 12th Avenue N.W.

POPULATION

The district includes the majority of Census Tract 201 and small portions of tracts 202 and 208 (see Figure 4). The Puget Sound Council of Governments (PSCOG) has prepared population projections for the region using area allocation model (AAM) districts (see Table 2). AAM District 6660 includes the study area and is comprised of census tracts 201 and 202. The district estimates are based on the proportionate population in the study area to the population in the AAM District.



METRO
TREATMENT
FACILITY

PUGET
SOUND

SNOHOMISH COUNTY
KING COUNTY

- Pump Station
- Manhole
- Sewer Line
- ← Flow Indicator
- All lines 8" unless otherwise indicated



Table 2

RICHMOND BEACH

POPULATION INFORMATION BY AAM DISTRICT

	<u>Population</u>		
	<u>1970</u>	<u>1980</u>	<u>1990</u>
Richmond Beach Sewer System		3,270	3,349
AAM District 660	8,321	8,229	8,429
City of Seattle	530,831	503,501	523,227
King County	1,156,633	1,207,756	1,367,440

Single Family/Multiple Family Units in AAM District

	<u>1980</u>	<u>1990</u>
Single Family Households	2,360	2,330
Multiple Family Households	505	785
Total	2,865	3,115

AAM Population By Age Groups

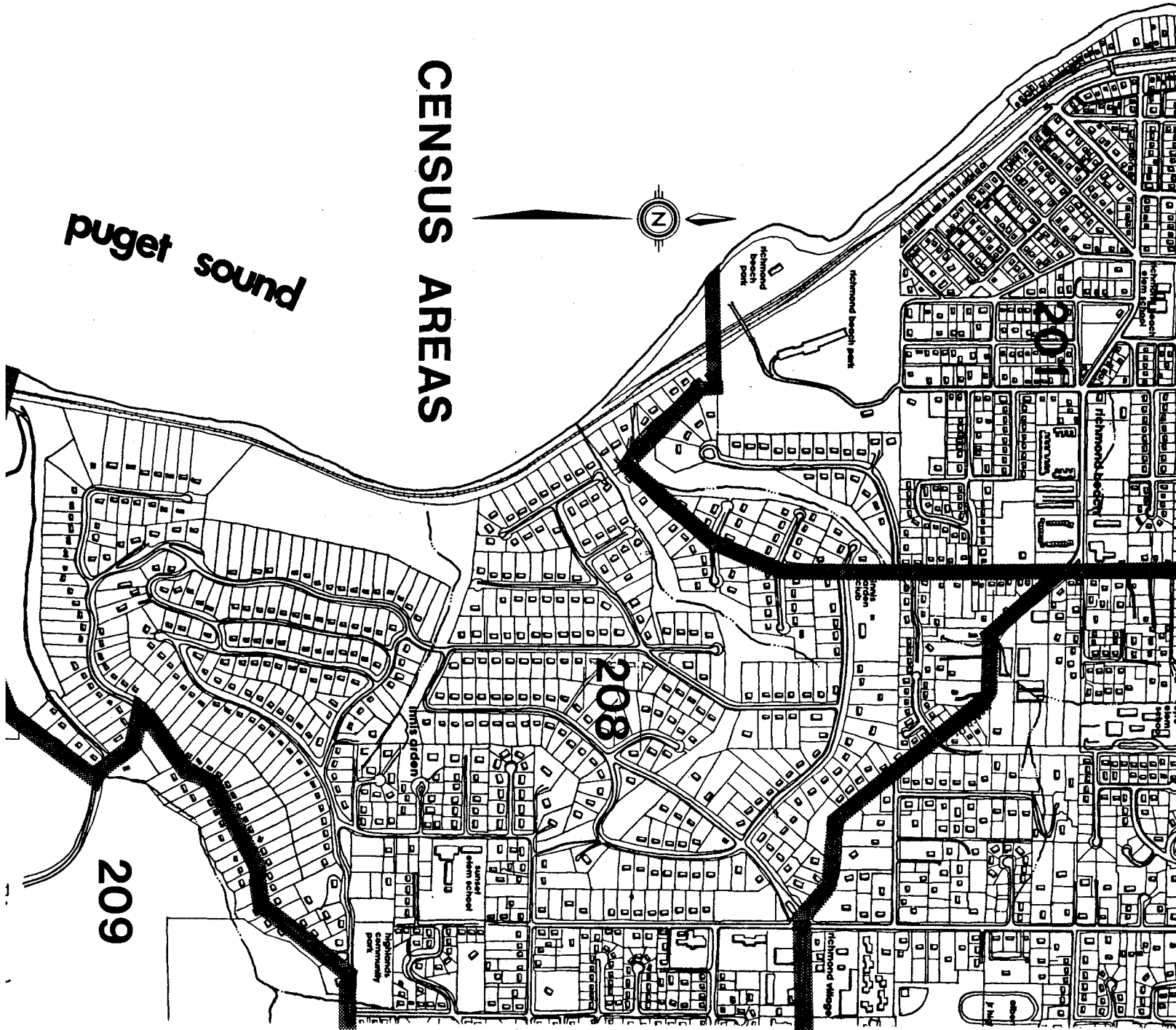
	<u>0-17</u>	<u>18-24</u>	<u>25-44</u>	<u>45-64</u>	<u>65+</u>
1980	2,179	731	2,391	2,016	912
1990	2,074	530	2,591	2,059	1,175

AAM Population by Household Size

	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>	<u>6+</u>
1980	550	1,057	479	384	231	164
1990	720	1,190	496	351	211	147

CENSUS AREAS

puget sound



Richmond beach park

Richmond beach park

201

Richmond beach

208

Hillis garden

Seward open school

Highlands community park

Richmond village

209

RICHMOND BEACH

FACILITIES AND SERVICES

Schools	Shoreline School District (412)
Fire Protection	King County Fire Protection District No. 4
Police Protection	King County Precinct No. 2
Water Service	Seattle Water Department
Public Transportation	Metro Transit
Telephone Service	General Telephone
Recreation	Two King County Parks are located in the study area
Power	Seattle City Light
Gas	Washington Natural Gas

DESIGN STANDARDS

All extensions or additions to the sewer system must adhere to the County design and material standards.

Construction plans for extensions or additions to the sewer system must be approved by the County Department of Public Works.

Sewer Sizing

Sewers shall be designed with sufficient capacity to carry peak flows from the tributary area at ultimate development. The minimum diameter of gravity laterals shall be eight inches and side sewers, six inches. Four inch sewers to serve a single residence will be permitted from property lines to the house.

The ability of a sewer to transport suspended solids contained in sewage is related to the velocity of flow in the sewer. A velocity of two feet per second is generally considered to be the minimum which will keep pipe surfaces clean and free of deposited material.

Diameters of gravity sewers constructed of concrete are determined by means of Manning's pipe friction formula, using a roughness coefficient "n" of 0.0013 and considering the pipe to be flowing 0.8 full.

Table 3
MINIMUM SLOPES FOR SEWER PIPES

<u>Sewer Size</u>	<u>Minimum Slope Ft./Ft.</u>
4" & 6" (for house sewers and side sewers)	0.0200
8" (for main)	0.0040
8" (end run)	0.0050

The design of force mains is predicated on the basis that they flow full and under pressure. Again, as in the case of gravity sewers, the mains must be capable of carrying the peak flow from a given area.

Force main design shall be based on a minimum self-cleaning velocity of three feet per second. The roughness coefficient will depend on the pipe material selected.

Developer Extensions of the Sewer System

In accordance with policy developed for the King County sewer systems, developer extension agreements will be negotiated which will include the following requirements:

1. Plans and specifications shall be prepared by a licensed professional engineer.
2. Plans and specifications shall be approved by the Washington State Department of Ecology, the Municipality of Metropolitan Seattle (METRO) and King County.
3. Inspection and testing shall be by an engineer approved by King County.
4. An area charge shall be paid prior to connection.

5. Upon acceptance of the work, the facilities shall be deeded to King County.

FINANCES

Currently, district revenue is obtained by means of an annual maintenance assessment which is prepared and collected by the County Office of Finance. The King County Department of Public Works Utilities Section provides the Office of Finance with the necessary information required to prepare and send the maintenance assessments to the customers.

Additional revenue is also generated by permit fees and connection charges; however, as the district's growth is relatively stable, this is a small portion of the annual income.

The construction bonds for the sub-district mature in 1985. Although the amount outstanding on the bonds exceeds the assessments receivable, the district has sufficient reserves available to redeem the bonds when they mature.

Adoption of the Richmond Beach General Plan will allow the County to begin operating the system under the authority of RCW 36.94, the County Services Act.

The 1983 maintenance and operation budget for the Richmond Beach system was \$181,748.