State of Florida
Department of Administration
Division of State Planning
Bureau of Land and Water Management
660 Apalachee Parkway
Tallahassee, Florida 32304

DEVELOPMENT OF REGIONAL IMPACT
Application for Development Approval Under
Section 380.06(6), Florida Statutes

PART I. Application Information and Instructions

1. I, David A. Kirscht, the undersigned authorized representative of Bluewater Bay Development Co., Ltd., hereby propose to undertake a Development of Regional Impact as defined in Section 380.06, Florida Statutes, and Chapter 22F-2.10, Florida Administrative Code. In support thereof, I submit the following information concerning Bluewater which information is true and correct to the best of my knowledge.

SEPT. 15, 1976
date

David A. Kirscht
Vice President of Planning
Bluewater Bay Development Co., Ltd.

2. Applicant: Bluewater Bay Development Co., Ltd.
4526 IDS Center
Minneapolis, Minn. 55405
612/332-4383

3. Authorized Agent: David A. Kirscht
4526 IDS Center
Minneapolis, Minn. 55405
612/332-4383

4. Names and addresses of all persons having fee simple or lesser estate in site: Bluewater Bay Development Co., Ltd.
4526 IDS Center
Minneapolis, Minn. 55405
612/332-3483

5. A legal description of the site is submitted herewith as Attachment I.

6. This is a Residential Development as defined in Chapter 22F-2 of the Florida Administrative Code. The site contains approximately 1600 acres. On completion, there will be approximately 5579 dwelling units which will house an estimated ultimate population of 13,945.

7. We have not requested a DRI binding letter of interpretation or vested rights determination from the Division of State Planning pursuant to Section 380.06(4), Florida Statutes.

8. Attachment II is a list of all local governments with jurisdiction over the proposed development.

9. Attachment III is a list of all agencies (local, state and federal) from which approval and/or a permit must be obtained prior to initiation of development.

DESCRIPTION
OF
BLUEWATER

Commencing at the Northeast (N.E.) corner of Section 23, Township 1 South, Range 22 West, Okaloosa County, Florida for the Point of Beginning; thence S.00°50'33"W., 5398.33 feet to the Northeast (N.E.) corner of Section 26, Township 1 South, Range 22 West; thence S.00°57'01"W., 1794.41 feet; thence N.89°09'55"W., 1695.29 feet; thence S.0°47'42"W., 423.94 feet; thence N.89°00'53"W., 2563.61 feet; thence N.1°04'00"E., 2238.74 feet; thence N.89°48'00"W., 1168.00 feet, to the Southwest (S.W.) corner of said Section 26; thence N.89°44'00"W., 2709.96 feet; thence N.88°56'00"W., 500.0± to the edge of Choctawhatchee Bay; thence N.41°04'46"W., 181.69 feet; thence N.68°36'42"W., 35.54 feet; thence N.12°13'11"E., 15.68 feet; thence N.16°42'35"W., 92.86 feet; thence N.39°27'28"W., 201.13 feet; thence N.29°37'14"E., 109.90 feet; thence N.22°08'55"W., 152.86 feet; thence N.36°19'49"W., 200.26 feet; thence N.32°36'31"W., 199.98 feet; thence N.37°28'11"W., 100.25 feet; thence N.32°19'18"W., 100.00 feet; thence N.36°31'14"W., 300.43 feet; thence N.39°10'32"W., 201.03 feet; thence N.43°40'21"W., 101.65 feet; thence N.27°45'08"W., 200.92 feet; thence N.39°27'35"W., 241.34 feet; thence N.15°42'59"W., 62.94 feet; thence N.39°16'13"W., 154.47 feet; thence N.30°16'48"W., 254.61 feet; thence N.3°05'32"E., 91.20 feet; thence N.7°19'04"W., 126.48 feet; thence N.30°53'49"W., 200.82 feet; thence N.37°53'15"W., 204.57 feet; thence N.19°28'30"W., 201.20 feet; thence N.29°19'45"W., 400.79 feet; thence N.24°53'30"W., 200.02 feet; thence N.21°27'57"W., 200.57 feet; thence N.31°10'46"W., 200.90 feet; thence N.21°10'39"W., 100.31 feet; thence N.30°19'33"W., 200.65 feet; thence N.48°06'57"W., 29.27 feet; thence N.10°25'54"W., 99.57 feet; thence

N.37°20'02"W., 31.86 feet; thence N.16°36'05"W., 500.01 feet; thence N.12°07'06"W., 211.26 feet; thence N.10°40'44"W., 157.42 feet; thence N.25°26'33"W., 85.00 feet; thence N.6°50'33"W., 170.74 feet; thence N.20°47'48"W., 258.45 feet; thence N.2°19'03"W., 272.89 feet; thence N.18°48'33"W., 225.39 feet; thence N.5°57'03"W., 705.34 feet; thence N.4°38'27"E., 105.85 feet; thence N.31°52'03"W., 483.00 feet; thence N.10°04'12"E., 300.30 feet; thence N.22°17'33"W., 127.11 feet; thence N.6°38'03"W., 336.38 feet; thence N.82°09'15"E., 33.99 feet; thence S.11°11'46"E., 96.95 feet; thence N.85°13'26"E., 169.75 feet; thence S.2°22'41"W., 46.80 feet; thence S.51°12'45"W., 1.61 feet; thence S.2°29'55"W., 86.00 feet; thence S.8°13'11"W., 93.05 feet; thence S.22°46'37"E., 201.79 feet; thence S.12°04'52"W., 284.08 feet; thence S.11°11'11"E., 389.49 feet; thence S.13°59'58"E., 869.86 feet; thence N.1°22'17"W., 858.80 feet; thence N.29°08'26"E., 208.07 feet; thence N.68°00'31"E., 249.08 feet; thence S.41°25'30"E., 54.21 feet; thence S.12°35'45"E., 129.60 feet; thence S.9°08'41"E., 77.24 feet; thence S.37°45'33"E. 92.23 feet; thence S.69°05'54"E., 80.89 feet; thence S.1°03'42"W., 69.00 feet; thence S.1°03'48"W., 349.09 feet; thence S.1°03'46"W., 1334.88 feet to the Northwest (N.W.) corner of Section 22, Township 1 South, Range 22 West; thence S.89°11'30"E., 5421.28 feet to the Northeast (N.E.) corner of said Section 22; thence S.89°03'22"E., 1045.86 feet to the Right-of-Way of Florida Highway 20; thence S.49°58'37"E., 711.43 feet; thence N.81°08'17"W., 172.43 feet; thence S.8°51'43"W., 30.00 feet; thence S.81°08'17"E., 205.71 feet; thence N.40°00'23"E., 8.46 feet; thence S.49°59'37"E., 266.53 feet; thence S.40°00'23"W., 5.00 feet; thence

S.49°59'37"E., 300.00 feet; thence N.40°00'23"E., 5.00 feet; thence S.49°59'37"E., 1000.00 feet; thence S.40°00'23"W., 25.00 feet; thence S.49°59'37"E., 1859.80 feet; thence S.50°00'17"E., 3.13 feet; thence S.15°55'43"W., 172.60 feet; thence S.74°04'17"E., 66.00 feet; thence N.39°59'43"E., 130.68 feet; thence S.50°00'17"E., 405.98 feet; thence N.39°59'43"E., 20.00 feet; thence S.50°00'17"E., 800.00 feet; thence N.39°59'43"E., 5.00 feet; thence S.50°00'17"E., 83.14 feet to the East line of said Section 26; thence N.0°50'33"E., 735.40 feet; thence N.50°00'17"W., 797.83 feet; thence N.39°59'43"E., 20.00 feet; thence N.50°00'17"W., 539.76 feet; thence N.49°59'37"W., 1859.80 feet; thence S.40°00'23"W., 25.00 feet; thence N.49°59'37"W., 2000.00 feet; thence N.40°00'23"E., 10.00 feet; thence N.49°59'37"W., 153.75 feet; thence N.40°00'23"E., 26.63 feet; thence S.89°03'22"E., 1436.66 feet; thence N.1°06'05"E., 4108.98 feet; thence N.50°30'42"E., 370.86 feet; thence N.35°04'42"E., 427.28 feet; thence N.31°14'03"W., 433.39 feet; thence N.3°30'16"W., 392.13 feet; thence S.87°56'12"E., 1095.19 feet; thence S.1°09'25"W., 5439.23 feet; thence S.89°04'00"E., 1345.81 feet to the Point of Beginning. EXCEPT the following parcels - Parcel "A" - Commence at the Northeast (N.E.) corner of Section 26, Township 1 South, Range 22 West and extend a line N.88°45'59"W. along the North boundary line of said Section 26 for 1793.89 feet to the Point of Beginning on the centerline of a paved road. Then turn left and extend a line Southwesterly along the arc of a curve to the left which has a radius of 1484.54 feet and a central angle of 5°26'27" for 140.97 feet (chord bearing S.3°30'55"W, 140.92 feet) to a point of tangent; thence S.0°47'42"W. for 957.84 feet; thence S.87°23'00"W. for 315.02 feet; thence S.55°15'20"W. for 115.08 feet;

thence N.54°23'45"W. for 291.75 feet; thence S.82°03'33"W. for 258.70 feet; thence N.52°32'40"W. for 234.56 feet; thence N.75°03'28"W. for 277.81 feet; thence N.7°58'23"E. for 69.74 feet; thence N.18°41'48"E. for 78.34 feet; thence N.33°32'06"E. for 167.38 feet; thence N.48°08'14"E. for 153.17 feet; thence N.77°42'04"E. for 230.77 feet; thence N.69°14'27"E. for 208.88 feet; thence N.41°02'20"E. for 119.25 feet; thence N.18°16'45"E. for 256.82 feet to a point on the North boundary line of the aforesaid Section 26; thence S.88°45'59"E. along said North boundary line for 558.40 feet to the Point of Beginning. This parcel of land is in the North half of Section 26, Township 1 South, Range 22 West, Okaloosa County, Florida and it has an area of 24.55 acres, more or less. AND EXCEPT PARCEL "B" - Commence at the Northeast (N.E.) corner of Section 26, Township 1 South, Range 22 West, and extend a line S.0°57'44"W. along the East boundary line of said Section 26 for 1794.41 feet; thence N.89°09'55"W. for 1695.29 feet; thence S.0°47'42"W. for 423.94 feet; thence N.89°00'53"W. for 100.00 feet to the Point of Beginning on the centerline of a paved road. Thence continue N.89°00'53"W. for 1771.52 feet; thence N.26°13'20"E. for 287.62 feet; thence N.6°18'43"E. for 98.60 feet; thence N.3°17'25"W. for 257.87 feet; thence N.3°41'06"W. for 305.85 feet; thence N.8°48'22"W. for 246.48 feet; thence N.50°47'12"E. for 144.30 feet; thence N.58°32'45"E. for 204.50 feet; thence N.82°55'51"E. for 78.27 feet; thence S.75°03'28"E. for 277.81 feet; thence S.52°32'40"E. for 234.56 feet; thence N.82°03'33"E. for 258.70 feet; thence S.54°23'45"E. for 291.75 feet; thence N.55°15'20"E. for 115.08 feet; thence N.87°23'00"E. for 315.02 feet to a point on the centerline of a paved road;

thence S.0°47'42"W. along said road centerline for 1131.97 feet to the Point of Beginning. This parcel of land is in the North half of Section 26, Township 1 South, Range 22 West, Okaloosa County, Florida, and it has an area of 46.82 acres, more or less.

ATTACHMENT II

LIST OF ALL LOCAL GOVERNMENTS WITH JURISDICTION OVER THE PROPOSED DEVELOPMENT

West Florida Regional Planning Council
106 South Reus Street, P. O. Box 486
Pensacola, Florida 32593

Okaloosa County
County Courthouse
Crestview, Florida

ATTACHMENT III

LOCAL, STATE AND FEDERAL AGENCIES FROM WHICH APPROVAL AND/OR A PERMIT MUST BE OBTAINED PRIOR TO INITIATION OF DEVELOPMENT

Okaloosa County Board of Commissioners

Okaloosa County Planning and Zoning Commission

Okaloosa County Engineer

Okaloosa County Health Department

Okaloosa County Building Inspector

Northwest Florida Water Management District

Florida State Department of Environmental Regulation

Division of Health

Division of Environmental Permitting

Florida State Department of Transportation

In addition to those agencies listed above, the following agencies will provide an approval and/or a permit before development occurs in or adjacent to navigable waters:

Florida State Department of Natural Resources

Bureau of Beaches and Shores

United States Coast Guard

United States Department of the Army

Corps of Engineers

12. General Project Description

Bluewater has been planned as a community which will meet the demands for new housing (single-family, attached, and multi-family) in Okaloosa County. In this planning process significant areas have been set aside to accommodate the need for school sites, municipal-type services, commercial and industrial development, recreational facilities and open spaces in which environmentally sensitive areas would be left undisturbed.

The project is bordered on the east by Eglin Air Force Base and the town of Seminole, on the north by a state park, on the south by privately owned property, and on the west by the open waters of Choctawhatchee Bay. The northwest corner abuts, in part, Ward Cove. The topographic variations and access to the water combine the factors which provide the most desirable amenities for residential community usage. The planning process has been deliberately directed to maximize these resources and amenities while creating the lowest feasible impact on the existing ecosystems in the area.

Florida State Road 20 traverses the property and can be utilized by the residents for an approximate five minute auto trip to Niceville, the nearest established city.

On March 7, 1976, the Okaloosa County Commission adopted the first zoning ordinance for the county. That ordinance designated the zoning for this property as Residential General Development District (RGD). Under this classification, the ordinance permits the development of total new communities with the appropriate variety of land uses, subject to the approval of a master development plan designating the proposed uses.

Bluewater Bay Development Company has carefully studied the use of this tract. This comprehensive analysis has led to the conclusion that the natural amenities should be supplemented by created recreational space. A club house is planned, as noted on the Master Development Plan, with tennis courts, swimming pool, etc. A yacht club is planned for the Ward Cove area. The initial construction and early maintenance costs will be borne by the developer, but as the population increases, the facilities will be turned over to the homeowners' association or established on a private club basis. Certain portions of the golf course and green belts will be utilized for bicycle paths or hiking trails.

The basic thrust of the development is to provide a residential community with the amenities, recreational, and required support facilities. The following is the approximate number of dwelling units by category for the completed project:

Type	Number of D.U.'s
Low/Low and Low (Single family)	1683
Medium (Attached)	784
Medium/High (Attached)	790
High (Multi-family)	2457

The approximate sizes of the service and support areas are as follows:

Type	Aggregate Acreage
Commercial	46.5
Municipal & Public Works	16
Educational	48
Light Industrial	56
Office	38
Yacht Basin	5

To attempt to precisely define the nature and magnitude of the commercial and/or industrial type development which will eventually take place within the project would be conjecture at this point. Commercial development will be governed as to schedule, magnitude and type by a variety of factors, most of which are beyond the control of the developer and in part by the governing agencies. The 39 acre site set aside for commercial development and the 38 acre site designated for office development will be planned in detail at a later date and submitted as a supplement to this document as will the 56 acre light industrial site.

The 16 acres set aside for municipal use can be used for such diverse local government type functions as interim wastewater disposal facilities and/or a sheriff's substation.

The aggregate acreage set aside for school use may vary slightly in the number of acres required and the location of the sites. The developers are prepared to accommodate all reasonable requests to avoid development of required school sites, and will avoid needless improvements to the sites which will increase the equity. Continuing liaison with the Okaloosa School Board staff will be maintained to insure that the public interest is served.

The street system shown on the Master Development Plan depicts the collector and arterial streets only. The detailed planning and lotting of the individual neighborhoods will take place on a phase by phase basis and will be subject to separate review by the appropriate agencies. Individual residential streets shall be shown on these plans. Every effort will be taken to insure that these streets will provide the privacy and security appropriate for a residential street, and will adequately provide a means of vehicular ingress and egress from the arterial system.

The overall pattern of this proposed development is intended to provide the aesthetic amenities, safety, and convenience which will insure the desired quality of life for the residents.

13. Environment and Natural Resources: Air

Air quality in the Bluewater Development will be primarily dependent upon dust particles emitted into the air from the various construction activities and auto emission pollutants. Dust emissions at construction sites can be effectively controlled, where practical, through the use of water or chemicals. Open bodied vehicles transporting materials that are likely to give off airborne dust can likewise be covered when such vehicles are in motion between materials and construction sites. Overall, however, the analyst does not believe that dust pollution will be a major problem within the Bluewater Development when considering the phasing of the project and the fact that most of the dust problem will be confined to the specific areas under construction.

With regard to auto emissions, the analyst likewise does not perceive that the vehicular volumes shown in Figures 31-1 and 31-2 will within themselves create significant traffic air quality problems. The analyst's prior experience in urban areas has shown that traffic volumes under 50,000 vehicles per day are well under the appropriate standard of the Environmental Protection Agency. Certainly, with the rural setting of the Bluewater Development and the daily vehicular trips forecasted, air quality indices would not be exceeded or even approached.

There are several points discussed below in support of this conclusion on the air quality related to automobile emissions in the Bluewater Development.

First, in studying the roadway system and the traffic forecasts shown in Figures 31-1 and 31-2, the analyst does not perceive that any major traffic congestion points will exist as long as proper signalization and 4-lane facilities are provided where necessary. As a result, travel speeds will range from 15 to 25 miles per hour over the roadway system within the Bluewater area and congestion will be minimized. Since carbon monoxide (CO) emissions are highly dependent upon speed, the efficiency of the street system in maintaining uniform vehicular speeds will aid in regulating the amount of CO emittants. The air quality standard promulgated by the Environmental Protection Agency is that the CO not exceed 9 parts per million (ppm) for a 24-hour average; 9 ppm for any continuous 8-hour period; and 35 ppm for any 1-hour period.[9] Considerably heavy concentrations of vehicles in start and stop conditions are necessary to begin to approach the levels in this standard. Such conditions are naturally prevalent in some urban areas along the East Coast and in downtown centers of some metropolitan areas. Such will not be the case or the condition in the Bluewater Development. An additional point to consider with auto emissions is the fact that measures are underway to increase the efficiency of the

automobile engine, reduce its fuel consumption and reduce its pollutants admitted into the atmosphere. This will have a significant factor on auto emissions considering the length of time it will take for the ultimate total development of Bluewater.

Using a current Federal Document on Air Quality calculations, the analyst went through the mathematical steps to calculate the ppm of CO for a "worst case condition" regarding auto emissions in the Bluewater Development. The calculations assume the following:

1. Highest traffic volume location which was on Highway 20 of 28,600 vehicles per day (2,860 peak hour).
2. Heavy duty vehicles were less than 1%. Analyst used the 0% HTV table.
3. A stagnant wind of 1 mile per hour velocity.
4. Wind angle was taken at 12^{o}, the minimum angle allowed under the Federal calculation methodology.

In progressing through these calculations, the analyst determined that for a stagnant wind, the ppm of CO was equal to .419. This is well below the air pollution standards previously quoted above.

Reference: Air Quality Manual, Vol. IV, U.S. DOT, Federal Highway Administration, April 1972.

AVERAGE DAILY EMISSIONS (POUNDS PER DAY)

% Development		Exhaust Particulates	HC	NO_x	SO_x	CO
50	On site	19.8	44.0	173.9	9.9	363
	Off site	154.8	378.5	1066.6	77.4	3027
	TOTAL	174.6	422.5	1240.5	87.3	3390
100	On site	54.3	93.5	331.8	27.1	705
	Off site	420.1	840.2	2100.6	210.1	7188
	TOTAL	474.4	933.7	2432.4	237.2	7894

Notes:
1. Based on traffic volumes shown on Figures 31-1 and 31-2.
2. Volumes include traffic to commercial, public, and educational
3. On site emissions should not present a significant air quality the isolated location of the site between government property Bay.

Figure 13-1

14. Environment and Natural Resources - Land

A. The following soils information was furnished to the developer by the U.S.D.A. Soil Conservation Service (S.G.S.) in August, 1976. The soils names, map symbols and other data are expressed in S.C.S. terminology. The soils data chart on page 7 was prepared in accordance with the application for development approval except for the soils descriptions and the depth to rock. The soils descriptions are given on pages 14-4 - 6. The depth to rock is unknown because it was beyond the scope of the S.C.S. report. The S.C.S. report does not encounter any rock up to 72" of depth, therefore it is felt that rock will not present any problems.

B. Two of the soil types have little or no limitations for use as shown on the master plan map. These are 28B - Lakeland Sand and 37B - Kureb Sand. These two soils occur over most of the site and the proposed Phase I will be located on soil type 28B. The balance of the soil types have some type of limitation as to use. Two of the soils have a moderate limitation due to slope, one has a moderate limitation due to wetness, one has a severe limitation due to slope, 3 have a severe limitation due to wetness, and 2 have a severe limitation due to wetness and low strength.

A more comprehensive soil investigation will be conducted at a later date on the nine soil types that have some type of limitation. A soils engineering firm will be used to conduct this investigation and develop recommendations on how to best overcome the limitations.

Some of the areas will not be disturbed at all by development. It is intended to leave all the present drainage channels and wetlands in their natural state to help protect not only the wildlife on the site but to help control the quality of the water that drains into Choctawhatchee Bay.

C. According to information received from the U.S.D.A. Soil Conservation Service, there are nc known mineral deposits on the site.

D. The development will be done in accordance with the regulations of Okaloosa County. Clearing and grading of roadways, streets, driveways, and house sites will be kept to an absolute minimum. As grading is completed for any of the above named functions, the area will be grassed or sodded depending upon susceptability to erode. Those areas susceptable to high erosion will be sodded.

In order to help minimize areas of high erosion, sedimentation barriers will also be installed. These sedimentation barriers will be constructed of pine straw or haybales with iron rods drawn through them to anchor them in place. These barriers will not only reduce water velocity and minimize erosion, but will also filter the storm water before it reaches the existing drainage channels. This will help to minimize any possible siltation damage to those which are to be left in their natural state.

On housing sites the same type of sedimentation barriers can be used to limit storm water runoff and control water quality.

The only erosion anticipated due to wind is dust. This can be controlled by watering or by the use of chemicals for this purpose.

Soils

25B - Chipley sand, 0 to 5 percent slopes

The Chipley series consists of moderately well drained, rapidly permeable, strongly acid, sandy soils that occur in nearly level to sloping landscapes. These soils have a very dark gray A horizon about 6 inches thick. Beneath the A horizon is a light yellowish brown or brownish yellow C horizon. At depths of 32 inches the soil is mottled in shades of gray, yellow or brown and changes to light gray colors with increasing depths. They have 5 to 10 percent silt plus clay between depths of 10 - 40 inches.

28B - Lakeland sand, 0 to 5 percent slopes

28D - Lakeland sand, 5 to 12 percent slopes

28F - Lakeland sand, 12 to 30 percent slopes

This soil is strongly to very strongly acid throughout. It is excessively drained, very rapidly permeable with slow surface runoff. It has rapid internal drainage and the depth to seasonal water table is more than 80 inches. It is low in organic content and available water capacity. Typically, the surface layer is very dark grayish brown or dark gray sand. Beneath this layer is a yellowish brown sand that extends to 80 or more inches. Silt plus clay content in the 10 to 40 inch layer is 5 to 10 percent.

37B - Kureb sand, 0 to 5 percent slopes

37D - Kureb sand, 5 to 23 percent slopes

This soil is strongly to very strongly acid. It consists of excessively drained soils of the uplands. Typically, these soils have a dark gray sand surface layer. The subsurface is light gray sand. Beneath this layer is a brownish yellow, dark brown, yellowish brown and pale brown sand that extends to depths of 80 inches or more. Silt plus clay is less than 5 percent. These soils have slow surface runoff and rapid permeability. They are low in organic content and available water capacity.

40 - Leon sand, 0 to 3 percent slopes

These are poorly drained, sandy soils with a weakly cemented, organic stained layer within 30 inches deep. They have a thin sand surface layer and a light gray sand subsurface layer. The weakly cemented, organic stained layer is black, dark reddish brown, or dark brown sand. Below the cemented layer to 80 inches deep is loose sand. These soils are nearly level to gently sloping and occur in the lower Atlantic and Gulf Coastal Plain. They formed in acid sandy marine sediments.

62 - Rutlege sand, 0 to 5 percent slopes

This series consists of wet, sandy soils of the Coastal Plains. These soils are on level or depressional landscapes. Generally,

they are subject to flooding. Typically, the surface layer is thin, very dark grayish brown, loamy fine sand. The underlying loamy sand or sand layers, to a depth of 75 inches or more, are shades of gray mottled with yellowish brown, brownish yellow and light brownish yellow and light brownish gray.

71 - Dorovan-Pamlico Association

The soils in this association are strongly to extremely acid. They consist of nearly level (0-2%), very poorly drained soils on the flood plains of tributaries of major streams and on level to depressional surfaces. Typically, these soils consist of black, highly decomposed acid-organic materials (muck) about 30 to more than 51 inches thick over sandy mineral material. The organic matter is primarily decomposed leaves, roots, and twigs with common partially decomposed woody fragments. Permeability is very slow because of a high water table. Water covers the surface most of the time.

84 - Coastal Beach

The land type is sand deposited by wave action along the coast. It occurs as long, narrow strips along bays, lagoons, and the Gulf of Mexico.

92 - Tidal Marsh

This land type consists of areas along the coast that are often covered by salt water or brackish water at high tide. It occurs adjacent to bays and lagoons. They have organic surface layers underlain by sands.

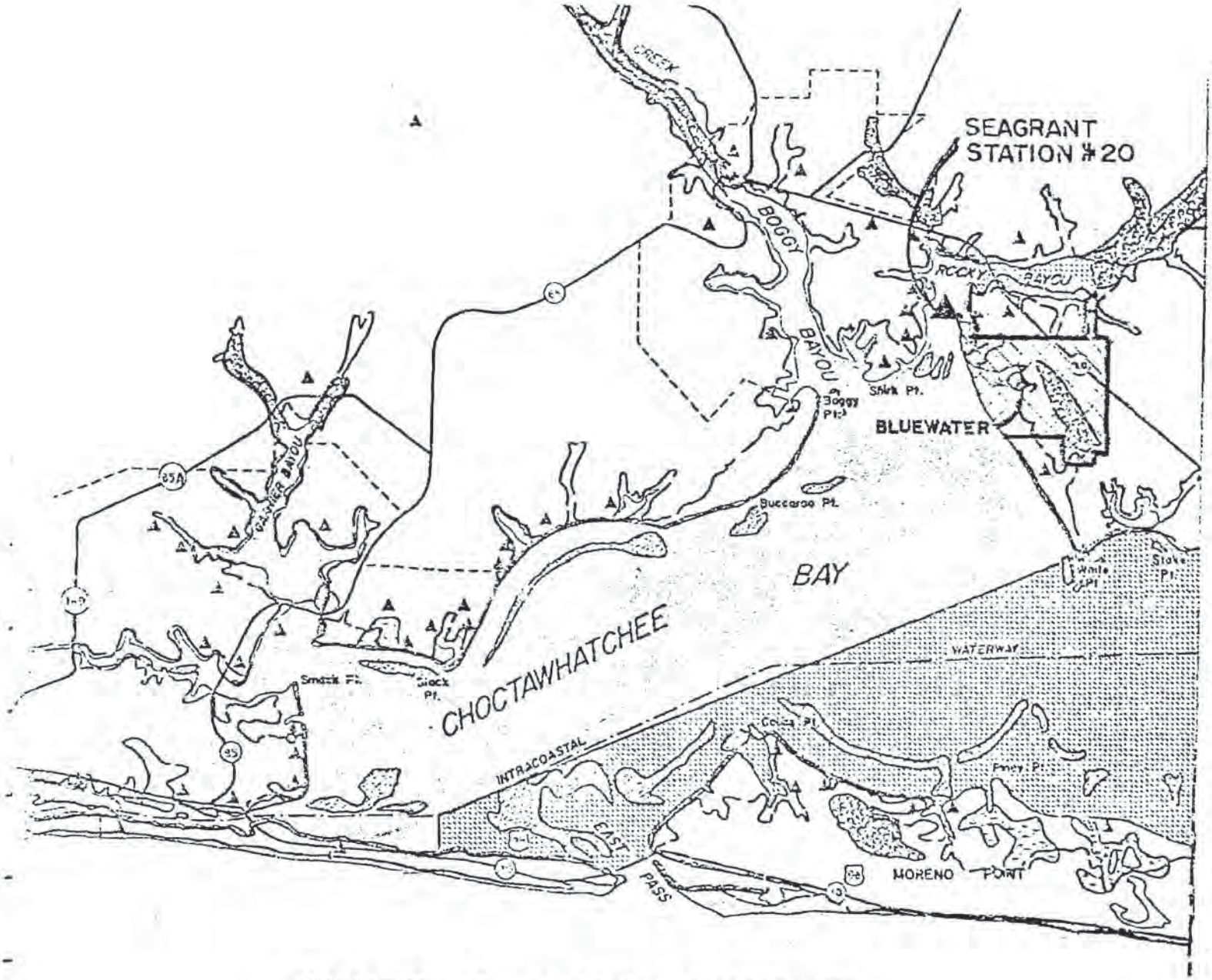
SOIL DATA CHART

Soil Name & Map Symbol	Seasonal High Water Table Depth	Seasonal High Water Table Duration	Permeability Rate in./hour	Degr of L for
25B-Chipley Sand	Between 20" & 40"	2 to 4 months	6" to 20"/hr	M (
28B-Lakeland Sand	More than 72"	N.A.	More than 20"/hr.	
28D-Lakeland Sand	More than 72"	N.A.	More than 20"/hr.	
28F-Lakeland Sand	More than 72"	N.A.	More than 20"/hr.	
37B-Kureb Sand	More than 72"	N.A.	6" to 20"/hr.	
37D-Kureb Sand	More than 72"	N.A.	6" to 20"/hr.	
40-Leon Sand	0 to 12"	1 to 4 months of year during high rainfall periods	0to15"-6"to20"/hr. 15"to30"-0.6"to6"/h 30"to80"-more than 20"/hr.	
62-Rutlege	At or near the surface	6 months	6"to20"/hr.	
71-Dorovan-Pamlico Association	At or near the surface	6 to 12 months	0to54"-0.6"to2"/hr 54"to80"-6"to20"/hr	
84-Coastal Beach	0 to 2"	6 to 12 months	More than 20"/hr	
92-Tidal Marsh	At or near the surface	12 months	6"to20"/hr.	

15. Environment and Natural Resources: Water

A. The proposed development is bordered along the west by the Choctawhatchee estuarine system. Shown on Figure 15-1 are the water classifications of the waters bordering or near the development area. No significant aquifer recharge areas exist on the site. Major recharges for the Floridan aquifer, from which the water supply for the facility will be provided, is considerably north of the area in southern Alabama and Georgia. This aquifer is considerably below surface and would not be externally affected by the development.

B. The University of West Florida under the Seagrant program, occupied a sampling point at the mouth of Rocky Bayou in Ward's Cove, for one year beginning in January, 1975, and ending December, 1975. Results of this sampling effort are contained in the authors' files and are available on request. The summary of this data shows the water quality of this area to be quite good, almost pristine conditions. Since the sampling station was located in the mouth of the bayou, water on both sides of the inlet was sampled during different tidal cycles. This is the most comprehensive data on surface water quality available on water quality near the site.



WATER QUALITY AREAS IN OKALOOSA COUNTY

LEGEND

- Class III Waters
- Class II Waters
- Marine Grass Beds
- Selected Coastal Marshes
- Selected Freshwater Swamps

FIGURE 15-1

16. Environment and Natural Resources - Wetlands

A. There are 298 acres of wetlands on the site. They are delineated by vegetative code in accordance with the Florida Land Use and Cover Classificiation System. The wetlands on Map D have been numbered for the purpose of question discussion.

B. Wetland Areas Number 3 and 13 will be the two most affected by development. Area Number 13 is located in Development Phase XXI and is proposed to be developed into high density residential. As detail design progresses in this area every effort will be made to minimize the use of the wetland area and develop around it.

Wetland Area Number 3 is located in the center portion of the project and runs from near the north property line to the south property line. The northern two-thirds (2/3) of this wetland area, Phases III, VI, VIII, and IX, will be developed into low density single family residential with a portion of the back nine holes of the golf course. By limiting the clearing and grading necessary for streets, houses, and driveways some of the wetlands can be preserved. The golf course will require more clearing and grading than the residential areas. Selective clearing and grading will save some additional wetland areas in the golf course. This wetlands area will require special

design considerations and development techniques.

The southern one-third (1/3) of Wetland Area Number 3 lies in Phases X, XIV, and XVI. This area will be developed into low density residential with some of the recreational amenities being in Phase X. The wetlands in this area will be undisturbed except for some road crossings. The type of road crossings have not been determined at this time, but will be designed to have minimum impact on the wetlands. Lot layout will be arranged so that the rear of the lots abut the areas to be left undisturbed.

Wetland Areas 2 and 7 will also be traversed by road crossings. The type of crossings has not been determined at this time, but will be designed to minimize impact on the wetland.

C. Wetland Areas Numbered 1, 4, 5, 6, 8, 9, 10, 11 & 12 will be preserved in their natural state. Lot layout around these areas will be arranged so that the rear of the lots abut the areas to be left undisturbed. During development, sedimentation will be controlled by hay bale or pine straw barriers designed to filter storm water runoff.

The following is a breakdown of the wetlands areas:

		Area Number	Acres	% of Total Wetlands
I	Areas Undisturbed -	1,4,5,6,8,9, 10,11,12	72	24%
II	Areas Traversed by Road Crossings	2,7	87	29%
III	Areas to be utilized for residential & recreational use	3,13	139	47%
		TOTAL	298	100%

Calculations indicate that 53% of the wetlands will remain undisturbed. Of the remaining 47% that will be in some way affected by development, additional acres will probably be preserved by field control of the clearing and grading of all streets, golf course, and homesites. The developer intends to maintain architectural control over all development in order to preserve as much of the natural state of the land as possible.

17. Environment and Natural Resources: Flood Plains

A. Since a regional flood plain study has not been prepared for this area, the 100 year flood plain elevation is unknown. A major flood plain study was completed in June, 1971, by the U. S. Army Corps of Engineers on the West side of Choctawhatchee Bay at Fort Walton Beach, Fla. The report states that the highest tidal flood recorded occurred on 8/30/50 when an elevation of 5.3 MSL was reached at the mouth of Santa Rosa Sound. The report further states that the 100 year flood level at Fort Walton Beach is estimated to be 9.2 feet MSL.

Fort Walton Beach is approximately 7 miles across Choctawhatchee Bay to the proposed project. For the the purpose of this DRI-ADA, it is felt that the 100 year flood for this site will be between 5.2 MSL & 9.2 feet MSL. A 100 year flood plain elevation of 8.0 feet MSL was selected until a regional flood plain study is completed.

Based on an elevation of 8.0 feet MSL, there will be some developable land that lies in the flood plain. This land lies directly along the beach area. Finished floor elevations for any structures constructed

in the flood plain will be above the 100 year flood elevation. The developer, through architectural control, will make certain that all floor elevations are above the 100 year flood elevation. Probably the most economical method to assure that floor elevations will be above the 100 year flood elevations, will be to fill the area upon which any structure is to be built to one foot above the flood elevation.

B. The local jurisdiction in which this development is proposed does not qualify for federal flood insurance. The Federal Insurance Administration is presently conducting a study in this area to identify flood prone areas.

18. Environment and Natural Resources: Vegetation and Wildlife

A. The vegetation is identified in accordance with the Florida Land Use and Cover Classification System. An onsite inspection of the project area indicated that the trees were healthy and in good condition. The basic ecological function of all vegetation on this land is normal forestation in addition to providing a habitat and food source for all animal life.

The following are the results of the onsite inspection conducted by Messrs. Michael W. Ziegler and Donald V. Mitchell of the University of West Florida:

411 Pine flatwoods. Longleaf pine (Pinus palustris) scrub and saw palmetto (Serenoa repens) dominate. During the rainy months, the soil is usually wet or soggy. The large pines are worthy of being preserved, as this is the only cover.

413 Florida sandhill vegetation. Walter pine (Pinus glabra), rather than longleaf pine dominates this area. This indicates a little wetter climate than the usual sandhill habitat. Also present are turkey oak (Quercus falcata), hawthorn (Craetegus) and bracken fern (Pteridium aqualinum). This is a well-drained very dry soil. The only vegetation of interest are the scattered, large Walter pines.

421 Xeric oak forest. This area is a mixture of sandhill and hardwood forest, indicating succession to a hardwood forest. The presence of scrub indicates it is not near a climax forest. There are a few scattered live oaks (Quercus virginiana) worthy of preservation.

The dashed line which separates the xeric oak forest from the sandhill vegetation indicates the ecotone is very broad and change in vegetation is gradual. This line could be located about 100 feet either east or west from its present position.

422 Other hardwood. These areas are mesic hardwood forests - many of which are climax forests. The climax condition is indicated by a full crown of the dominating species with little understory or scrub growth. These areas are dominated by well developed magnolia (Magnolia grandiflora) and live oak trees, usually with Spanish moss draping the branches. Much care should be exercised to remove as little vegetation as possible.

621 Freshwater swamp. These are hardwood wetlands - mostly bogs and bayheads. The dominant species in most areas are: titi (Cliftonia monophylla), sweet bay (Magnolia virginiana), red (Persea borbonia), black gum (Nyssa biflora), and along Rocky Bayou, red maple (Acer rubrum) and river cypress (Taxodium distichum). The presence of sphagnum moss indicates these areas are very wet much of the year. The ecotone between hardwood forest (422) and hardwood wetlands is very sharp and well defined. These bogs and bayheads have very dense undergrowth which appears as a wall when approached from the hardwood forest.

641 Freshwater marsh. This is a sawgrass marsh (Cladium jamaicensis) with some scattered longleaf pine. The soil surface is practically always submerged with fresh water.

642 Saltwater marsh. This area is dominated by needlerush (Juncus roemerianus) and has some sawgrass along its periphery. Saltmarshes and freshwater marshes are important as buffer zones - causing the removal of silt in water and removing excessive nutrients, and as high primary production areas, providing food and shelter for invertebrates and mammals. Both areas should be undisturbed.

710 Beach. There is a very narrow beach along Choctawhatchee Bay. At Wards Cove, this beach widens and shows signs of dune formation. The dunes are stabilized by saltmeadow cordgrass (Spartina patens).

B. There are no known rare or endangered plants on the site. As previously stated in 18A, an onsite inspection was conducted. The following are the results of the onsite inspection of the environmentally sensitive areas:

PRESERVED AREAS

The box at the eastern end of Rocky Bayou marks the approximate location of the second largest live oak tree (Quercus virginiana) recorded in the State of Florida. The asterisk below the northern border of the property (along the fenceline) marks the location of one of the several possible Indian remains on the Bluewater property.

SENSITIVE AREAS

The freshwater marsh (641) Wetlands Area No. 1 along Choctawhatchee Bay appears to provide food and shelter for a great number of mammals. According to Arthur Butt (DER), a federal and possibly a state permit would be required to develop in this marsh area.

The freshwater swamp (621) Wetland Areas No. 7 & 8 along the eastern end of Rocky Bayou contains many river cypress. The several small streams and associated large forest make this a very attractive area for limited development. As of the present time, no water quality data is available for Rocky Bayou. All indications are that the Bayou is free from nutrification and other forms of pollution - including heavy siltation from excessive land runoff. Since streams in the northernmost part of this property drain into Rocky Bayou, future development must proceed with consideration of the effect on Rocky Bayou.

The small freshwater marsh area (621) Wetlands Area No. 4 is an attractive titi swamp. The trees are large and twisted. If set aside, this could be a beautiful nature spot.

As previously discussed in Section 16 - Wetlands, it is intended to leave these areas in their natural state and protect these areas from siltation by the design of sedimentation barriers to filter the storm water runoff.

C. There are many types of wildlife that live, nest, and feed on this site. Some of the ones that have been observed on the property are: deer, armadillo, racoon, bobcats, rabbits, field mice, frogs, river otter, snakes of various kinds, duck, quail, woodpecker and blue jay.

As has previously been stated in Section 16 - Wetlands, Wetlands Areas numbered 1, 4, 5, 6, 8, 9, 10, 11, and 12 will be preserved in their natural state, and Wetlands Areas numbered 2 and 7 will be preserved in their natural state except for some road crossings. These wetland areas constitute 53% of the total wetlands that now exist on the property. These areas are known to provide food and shelter for most of the wildlife mentioned.

The property is not open to the public for hunting at present nor does the developer intend to open it for such purpose.

D. A field inspection of the property was made by Messrs. Michael W. Zeigler and Donald V. Mitchell

of the University of West Florida. The area examined is included in the ranges of some endangered wildlife where their preferred habitats are found to exist, but no endangered species were observed.

The only threatened species encountered were the Florida Gopher Frog (Rana aerolata aesopus) and the Gopher Turtle (Gopherus polyphemus).

As stated in Section 18C, over 53% of the wetlands areas are to be preserved in their natural state to provide breeding, nesting, and feeding areas for all wildlife. Since no hunting will be allowed, these areas should provide sufficient protection.

19. Environment and Natural Resources: Historical and Archaeological Sites

It is believed that there may be several archaeological sites at this property. Attached herewith as Exhibit 19-1 is a copy of the proposal from the State of Florida, Division of Archives, History and Records Management to the developer to conduct an archaeological and historical survey so that all significant sites can be located, and their limits defined. A team of two staff professionals initiated their field survey on September 13, 1976, and the results are expected to be reported within approximately eight weeks of that date. A copy will be made available as soon as possible with the request that it be appended to this application.

It is the intent of the developer to work with the Division of Archives in every way feasible to avoid the destruction of significant sites.

A PROPOSAL FOR AN ARCHAEOLOGICAL AND HISTORICAL SURVEY OF THE PROPOSED BLUEWATER RESIDENTIAL DEVELOPMENT OKALOOSA COUNTY, FLORIDA

The Florida Department of State, Division of Archives, History and Records Management will perform an archaeological and historical survey of the proposed Bluewater residential development in Okaloosa County, Florida. The property comprises approximately 1750 acres and includes all of Sections 14, 16, and 26, Township 1 South, Range 22 West, as shown on a map furnished by Mr. Thomas M. Besett of the firm of Henningson, Durham and Richardson.

Insofar as is possible without significant excavation, the proposed survey will seek to locate and record all presently unknown archaeological and historical sites on the subject property which are potentially in danger of destruction or disturbance from clearing, construction, or other modifications of the landscape. A second objective of the survey will be to evaluate the historical significance and delineate the extent of two previously recorded archaeological sites within the proposed project area and also of a third recorded site which may be partially inside of the project.

A final written report of the findings will be furnished to Henningson, Durham, and Richardson no later than six weeks after the completion of the field survey. This report will indicate the location of any new sites discovered and will also contain a rough sketch map of the presently known sites plotted on a small scale (less than 1" = 1,000') contour map of the project, to be provided by Henningson, Durham, and Richardson before the commencement of field work. As far as possible, without extensive

excavation the historical significance of each site on the property will be discussed and its relative historical importance evaluated. The report will also contain recommendations for preservation or salvage excavation of any threatened sites.

Project plans as well as a small scale contour map of the development will be provided by Henningson, Durham and Richardson prior to the beginning of field work. All artifactual materials collected during the survey will become part of the permanent collection of the Division but may be made available on loan for display purposes at the discretion of the Division and upon demonstration by the property owners that such material will be housed and curated in a facility that will protect it from theft, defacement or other damage.

The total proposed cost of the survey will be $2461.80.

20. Economy: Employment and Economic Characteristics

A. When completed, the Bluewater project will have cost about $226 million for development. This estimate was prepared by application of two basic costing factors. First, the basic development costs per unit, including purchase of acreage, clearing, grading, and installation of basic utility lines is estimated at $5,560 per unit. Second, construction costs were estimated at $25 per square foot. Square footage of units should average 1,000 in high density areas, 1,250 in moderate high density areas, 1,500 in moderate density areas, and 2,000 in all lower density areas. These computations are summarized in Table 20A-1. A breakdown of type of cost is provided in Table 20 A-2. Cost estimates by phase are included in Table 20 A-3. It should be noted that disaggregation of the cost estimates into the seven categories of Table 2 and 147 categories of Table 3 results in some rounding error, about 0.5 percent. This does not affect the validity of the data as general indicators of the cost of the project.

It is anticipated that at least 90 percent of total expenditures will occur within the region. Some specialized skills and materials may be drawn from other Florida communities such as Pensacola and

TABLE 20A-1

ESTIMATED COST OF BLUEWATER PROJECT

DENSITY	NUMBER OF UNITS	AVERAGE SQUARE FEET	TOTAL SQUARE FEET	CONSTRUCTION COSTS (X 1000)	DEVELOPME COSTS (X 1000)
H	2,457	1,000	2,457,000	$ 61,425	$13,661
M/H	790	1,250	987,500	24,688	4,392
M	574	1,500	861,000	21,525	3,191
L	1,758	2,000	3,516,000	87,900	9,775
TOTAL	5,579	--	7,821,500	$195,538	$ 31,019

TABLE 20A-2

DETAILED COST ESTIMATES FOR BLUEWATER PROJECT

TYPE OF EXPENDITURE	EXPENDITURE
Construction Labor	$ 99,685,000
Construction Materials & Equipment	88,357,000
Management and Administration	6,797,000
Professional Services	2,266,000
Maintenance and Repair (Labor)	1,133,000
Maintenance and Repair (Materials)	680,000
Other[1]	27,640,000
TOTAL[2]	$226,557,000

1 Includes Interest, Insurance, Acreage & Operating Expenses.

2 Does not sum due to rounding error.

TABLE 20A-3 COST ESTIMATES BY PHASE FOR BLUEWATER PROJECT (1976 dollars x 1000)

Phase	Construction Labor	Construction Materials & Equipment	Management & Administration	Professional Services	Maintenance & Repair (Labor)	Mainte & Re (Mater
I	$ 5,329	$ 4,724	$ 363	$ 121	$ 61	$
II	2,592	2,297	177	59	29	
III	4,332	3,840	295	98	49	
IV	10,204	9,044	696	232	116	
V	1,956	1,734	133	44	22	
VI	2,151	1,907	147	49	24	
VII	2,567	2,275	175	58	29	
VIII	4,033	3,575	275	92	46	
IX	5,696	5,049	388	129	65	
X	1,907	1,690	130	43	22	
XI	2,885	2,557	197	66	33	
XII	3,912	3,467	267	89	44	
XIII	3,740	3,315	255	85	42	
XIV	2,811	2,492	192	64	32	
XV	1,833	1,625	125	42	21	
XVI	2,567	2,275	175	58	29	
XVII	7,692	6,818	524	175	87	
XVIII	10,165	9,010	693	231	116	
XIX	9,439	8,367	644	215	107	
XX	6,535	5,792	446	149	74	
XXI	6,898	6,114	470	157	78	
TOTAL	$99,244	$87,967	$6,767	$2,256	$1,126	$6

Tallahassee and perhaps from Alabama communities such as Dothan and Mobile. Given high local unemployment rates, all labor will be available from the local area.

B. The applicant is proposing a residential development, but some land has been set aside for possible future development by others. Since the applicant is not proposing this developmental aspect, two-digit SIC codes and annual payroll cannot be estimated. An estimate of permanent employees is possible from the acreage anticipated in each use if standard factors for employees per acre by type of use are applied. The appropriate factors are:

Light Industrial Use	20 employees/acre
Commcercial Use	30 employees/acre
Office/Governmental Use	100 employees/acre

A total of 66 acres is noted on the master plan for Public Works and Light Industry and thus employment could be provided for 1,320 people. Commercial and Convenience Commercial account for about 49 acres or about 1,470 employees and Office and Municipal provide 44 acres or potentially 4,400 employees. Potentially up to 7,190 jobs could be provided on the land that has been set aside. The level of employment and development that actually occurs cannot be projected at this time.

TABLE 20C-1

BREAKDOWN BY INCOME GROUP FOR FULL-TIME AND PART-TIME EMPLOYMENT

PHASE	UNDER 5,000 ($)	5,000 6,999 ($)	7,000 9,999 ($)	10,000 14,999 ($)	15,000 24,999 ($)	OVER 25,000 ($)	TOTAL
I	67	166	219	166	33	13	665
II	49	122	161	122	24	10	488
III	71	177	234	177	35	14	709
IV	192	479	633	479	96	38	1,917
V	24	61	81	61	12	5	244
VI	27	67	89	67	13	5	269
VII	32	80	105	80	16	6	319
VIII	50	126	166	126	25	10	503
IX	71	177	234	177	35	14	709
X	24	60	79	60	12	5	239
XI	36	90	119	90	18	7	360
XII	49	122	161	122	24	10	488
XIII	47	117	154	117	23	9	466
XIV	35	88	116	88	18	7	351
XV	23	57	75	57	11	5	228
XVI	32	80	105	80	16	6	319
XVII	124	309	408	309	62	25	1,236
XVIII	230	575	759	575	115	46	2,301
XIX	214	536	707	536	107	43	2,143
XX	149	371	490	371	74	30	1,485
XXI	157	391	516	391	78	31	1,565
TOTAL	1,703	4,251	5,611	4,251	847	339	17,004
ANNUAL AVERAGE	114	283	374	283	56	23	1,134

Note: Totals may not sum due to rounding error

Bluewater, if approved, will bring people to an area heretofore undeveloped, creating a need for additional services in the region. The adjacent Raintree project will also increase demand for goods and services in the area, thus increasing the probability of commercial development on the land so designated. The area is zoned RDG (Residential Development - General) which means commercial establishments may, with special permits, locate near the development to provide gasoline, groceries and other goods and services.

C. Development of the proposed Bluewater site will necessitate the employment of people in construction, management, and administration, consulting and maintenance and repairs. Table 20C-1 provides the breakdown of annual income from the project for all construction related employment. Since nonresidential development will be a function of completed residential sites and their subsequent activities, this table includes only residential development estimates.

D. Does not apply.

E. Nonconstruction permanent employees will be very few in number and, given the high unemployment rates locally, are expected to be drawn entirely from the local labor supply.

F. A field investigation of subject property has revealed no evidence of any significant agricultural development ever having taken place on this property.

While a substantial portion of the property is now covered by pine forests, an inspection of the property by car, and a detailed examination of the aerial photograph does not reveal extensive reforested areas, as indicated by a geometric alinement of the trees. Apparently, little if any pulp wood harvesting has occurred on this site.

Sizeable portions of the proposed project site are now covered by hardwood forests. The type of trees which constitute these forests, the nature of the growth patterns and the condition of the forests in general make it highly improbable that significant hardwood harvesting has taken place.

It is the intention of the developer to contract with a forestry company to harvest the trees which will be removed from the road rights-of-way, recreational spaces, etc. so that maximum utilization of this resource can be achieved.

G. As noted in Item 20B, the development on available land of retail trade and services cannot be determined at this time. Some form of shopping center on the land would meet a large proportion of demand generated by Bluewater residents for such outlets. The needs of residents of Seminole and Raintree would also be partially met by commercial development at Bluewater. Maximum development of the land, as noted in Section 20B would provide 7,190 jobs or 1.3 jobs for every residential unit in Bluewater.

H. No federal, state, or local governmental assistance will be involved in this project.

I. The Bluewater project is located in an unincorporated area of Okaloosa County, southeastward of the incorporated city of Niceville. The marketing potential for the development can be assessed through evaluating population trends for the region and the Niceville area, which create the demand for housing, offset by the competitive ability of other projects to absorb this demand.

The general area under consideration is at the northwest shore of Choctawhatchee Bay, and includes the communities of Fort Walton Beach, Valparaiso, and Niceville. The major income sources for this area are Eglin Air Force Base, tourism, and expenditures by retired persons. A "second home" market, and a "pre-retirement" market also exists for developed and undeveloped properties.

Development has been extensive from Fort Walton Beach to Valpariso and little developable land still exists, so that growth process has shifted to Niceville and its vicinity during the 1970's. The Bluewater project can be expected to have growth characteristics similar to those of Niceville, since it is immediately adjacent to that city and will share the amenities that have attracted residents to that community.

Population estimates provided by the Florida Division of Population Studies are shown in the following table:

ESTIMATED POPULATION

COUNTY AND CITY	1970	1972	1973	1974	1975
Okaloosa County	88,187	91,677	95,826	101,266	102,017
Sinco Bayou	362	358	358	408	408
Crestview	7,952	8,169	8,227	8,549	8,565
Ft. Walton Beach	19,994	21,385	21,808	22,136	22,231
Laurel Hill	418	459	465	507	512
Mary Esther	3,192	3,479	3,686	3,841	3,854
Niceville	4,155	4,606	5,009	5,719	5,951
Shalimar	578	578	578	578	578
Valparaiso	6,504	6,577	6,658	6,715	6,778
Unincorporated	45,032	46,066	49,037	52,813	53,140

During the 1974-1975 period, Niceville experienced a growth rate of 4.06 percent, whereas no other area of Okaloosa County had growth rates of as much as 1.0 percent. Niceville's growth has outpaced that of other communities in the general region throughout the 1970-1975 period, as shown in Figure 20 I-1. In this figure, annualized growth rates for the communities of Niceville, Valparaiso, and Fort Walton Beach are plotted against overall growth rates for Okaloosa County for the 1970-1975 time period. During this entire period, the growth rate of Niceville has exceeded that of the County consistently. Growth

in Fort Walton Beach exceeded that of the County in 1970-1972, but has otherwise been below the County average. Similarly, the community of Valparaiso, immediately to the west of Niceville, has experienced a relatively low growth rate, with a maximum of 1.23 percent in 1972-1973, but otherwise consistently below 1.0 percent, again indicating the relative attractiveness of the Niceville vicinity.

Extrapolation of the growth curve for Niceville indicates that an annual 3.5 percent increase could be expected for Niceville even if growth in Okaloosa County were zero.

The data from which Figure 20 I-1 was plotted are given below for reference.

ANNUALIZED RATE OF GROWTH

PERIOD	COUNTY (%)	NICEVILLE (%)	VALPARAISO (%)	FT. WALTON BEACH (%)
1970-72	1.96	5.29	0.56	3.42
1972-73	4.53	8.75	1.23	1.98
1973-74	5.68	14.17	0.86	1.50
1974-75	0.74	4.06	0.94	0.43

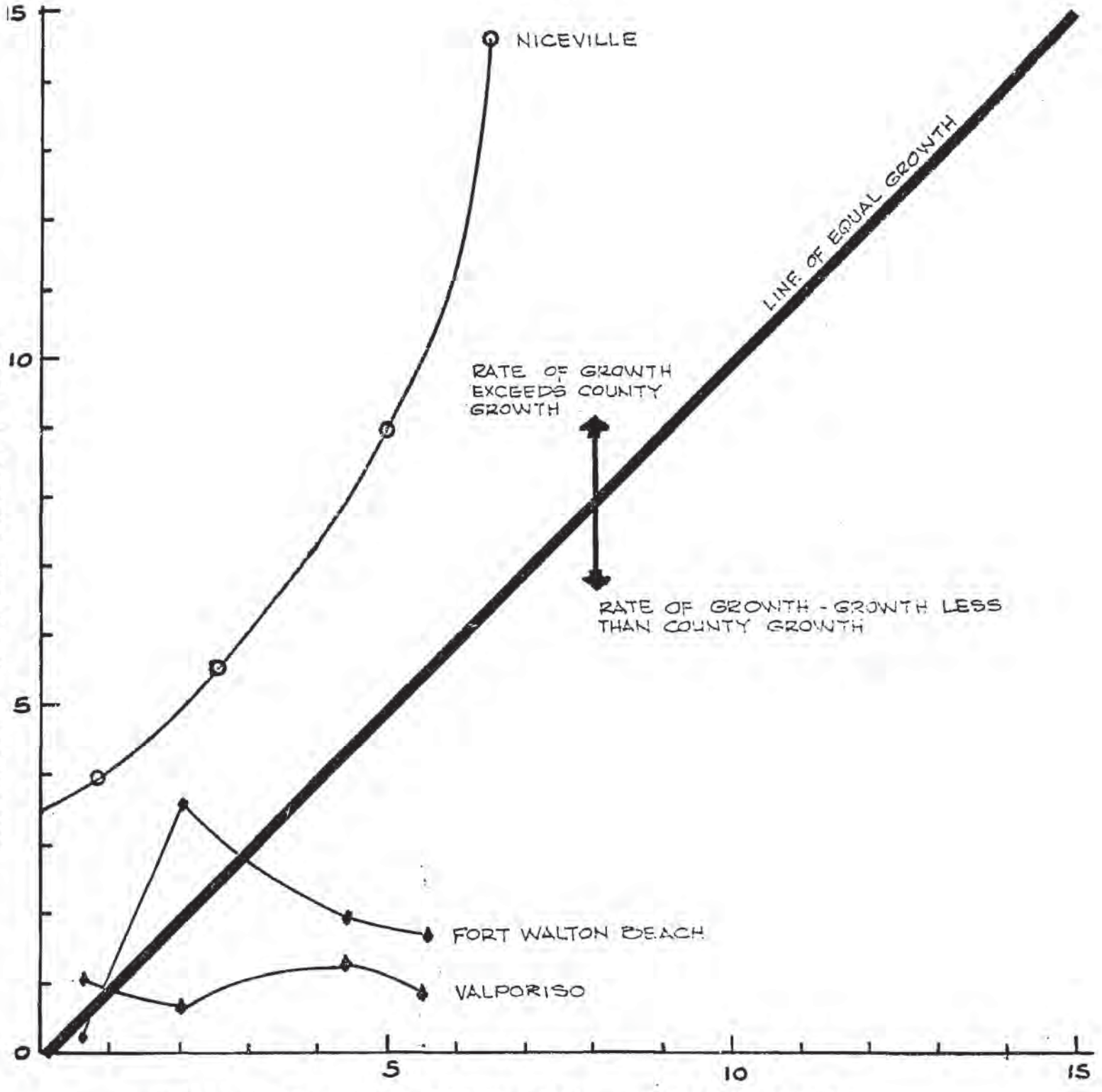


FIGURE 201-1. GROWTH RATE OF COMMUNITIES IN PROJECT AREA, IS GROWTH RATE IN OKALOOSA COUNTY AS A WHOLE, 1970 - 1975.

Population trends for Okaloosa County have also been projected by the Division of Population Studies as follows:

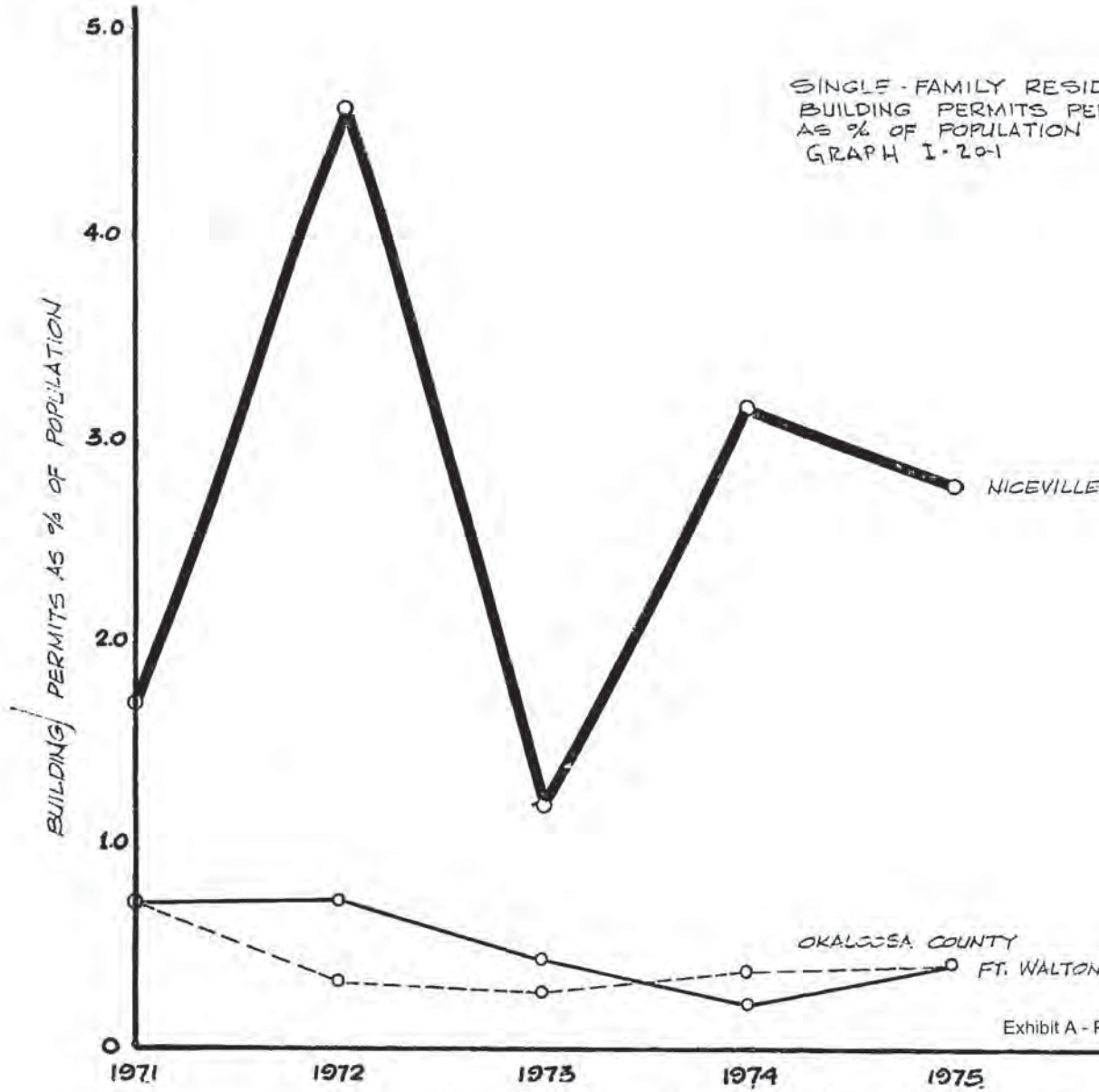
YEAR	POPULATION
1975	102,017
1980	120,000
1985	133,900

To the extent that the data of Figures 20 I-1 are accurate, their projections would result in estimated growth rates in the Niceville area as follows:

GROWTH RATES

TIME PERIOD	OKALOOSA COUNTY	NICEVILLE AREA
1975-1980	3.30	6.8
1980-1985	2.22	5.6

Growth pressure in Niceville as compared to other communities in the area can also be seen from Figure I 20-2 and I 20-3, which show building permits issued in Fort Walton Beach, Niceville, and Okaloosa County for the 1971-1975 period, as a percent of the respective populations. The data from which these figures were derived is shown in Table I 20-1. Single family dwelling construction has been consistently higher proportionate to population than that in Fort Walton


SINGLE-FAMILY RESID
BUILDING PERMITS PE
AS % OF POPULATION
GRAPH I-20-1
BUILDING PERMITS AS % OF POPULATION
5.0
4.0
3.0
2.0
1.0
0
1971
1972
1973
1974
1975
NICEVILLE
OKALOOSA COUNTY
FT. WALTON
Exhibit A - F

BUILDING PERMITS
AS PERCENT OF P
GRAPH I-20-2

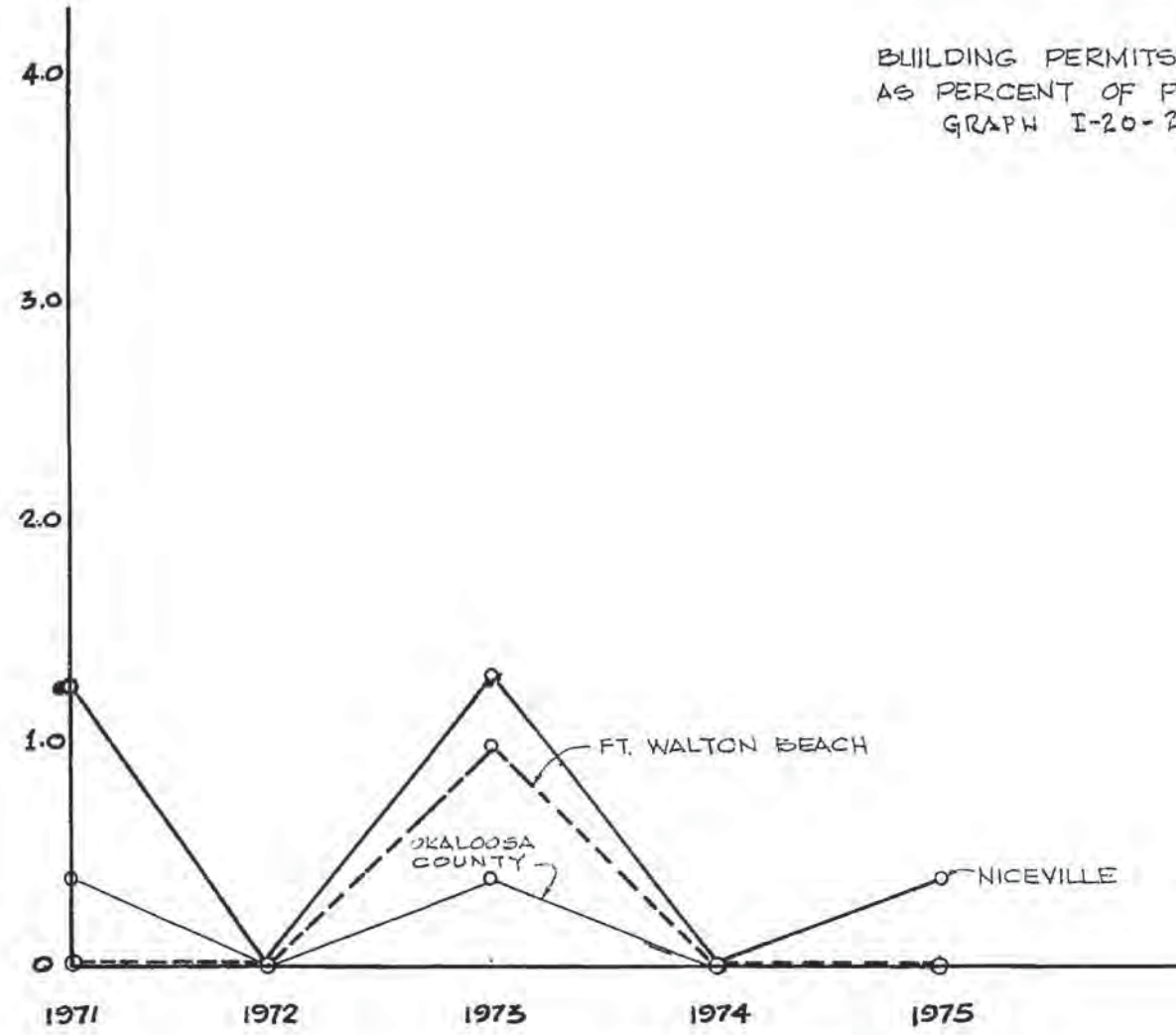


Table I 20-1. Building permits and population, 1971-1975.

YEAR	TYPE	PERMITS			POPULATION			AS PE OF POPU	
		FWB	NV	CO	FWB	NV	CO	FWB	NV
1971*	SF	134	76	600	20,676	4,381	89,932	0.65	1.7
	MF	239	0	325				1.16	0
1972	SF	141	208	427	21,385	4,606	91,677	0.66	4.5
	MF	10	0	12				0.05	0
1973	SF	79	53	194	21,808	5,009	95,826	0.36	1.0
	MF	315	60	375				1.44	1.2
1974	SF	37	194	316	22,136	5,719	101,266	0.17	3.4
	MF	0	0	0				0	0
1975	SF	76	173	310	22,231	5,951	102,017	0.34	2.9
	MF	30	30	30				0.13	0.5

*Estimated by linear extrapolation

FWB = Fort Walton Beach
NV = Niceville
CO = Okaloosa County
SF = Single Family Dwellings
MF = Multiple Family Dwellings

Beach and in the county as a whole; multiple dwelling construction has been more sporadic, but equaled or exceeded the County average since 1973.

Available data indicate that the Niceville area will continue to grow, and will grow predominantly as a residential area. Expansion is also expected to be toward the Bluewater project, because other areas in the Niceville vicinity are hilly, with slopes in excess of 20 percent and rising to 100 feet or more, inhibiting economical development.

Based upon the current estimates of population growth for Okaloosa County, which are directly supported by recent recorded building permit activity in the county, potential housing demand for the county is projected as follows:

	OKALOOSA COUNTY	
	1976-1980	1981-1985
Population Increase	18,000	14,000
Average Household Size	3.3	3.0
Increase in Number of Households	5,450	4,700
Average Increase in Number of Households per year	1,090	940

Table I 20-2 shows the building permit activity countywide for 1972-73 and 1974-75 in the Fort Walton Beach area (southwest portion of the county) the Niceville area (southeast portion of the county) and in the remainder of the county. Shift in the locational emphasis of residential growth in the community is readily apparent from the table. In the earlier period over half of the construction activity was occurring in the Fort Walton Beach area, whereas in the second 2-year period, this emphasis had shifted to the Niceville area.

TABLE I 20-2
Building permit activity in Okaloosa County, 1972-1975
(percent)

YEAR	FT. WALTON	NICEVILLE	REMAINDER OF COUNTY	TOTAL	TOTAL PERMITS
1972-73	54	32	14	100	(1008)
1974-75	22	56	22	100	(656)

In large part this shift is occurring because land is available for additional development in the Niceville area, but potential urban land in the southwest portion of the county is rapidly filling. The area in the north at Okaloosa County above Eglin Air Force Base is physically separated from the south portion by the base. Current trends indicate that roughly

one-half of the future total residential demand in Okaloosa County is likely to occur in the Niceville area.

The distribution between single and multiple family units is determined largely by the propensity to rent. This factor has been estimated to influence construction in the county as follows:

	Okaloosa County	
	1976-1980	1981-1985
New Housing Demand (at 95 percent occupancy)	5,700	4,000
Average Annual Housing Demand	1,150	1,000
Propensity to Rent (percent)	35	30
Average Annual Ownership Demand	750	700
Average Annual Rental Demand	400	300

From this data it can be projected that approximately 350 to 375 homes in the Niceville area and 150 to 200 rental units will be required annually.

Examination of known and potential competitive development in the Niceville vicinity indicates only one large development, the Raintree tract located immediately south of Bluewater. Raintree anticipates

the construction of 75 single-family homes, 21 cluster homes, and 15 rental units per year over the 10-year life of the project. Assuming that all of these units are sold as they are constructed, 111 units will be added to the local supply to meet the projected demand. Construction of additional units by small developers can also be assumed to increase the local supply. However, no reliable data are available to project the construction activity by small developers. This activity has therefore been assumed at one-half of the construction activity in the Raintree project, or 38 single-family homes, 10 cluster homes, and 8 rental units a year for a total of 56 housing units by small developers. This total of 167 units consists of 144 single-family units and 23 rental units.

Using the conservative assumption that 50 percent of residential construction in the County will occur in the Bluewater area (as the recently experienced 56 percent), the following demand can be expected for single family and rental units through 1985.

ANNUAL DEMAND, UNITS

TYPE	HIGH	LOW
Single Family	375	350
Rental	200	150
Total	575	500

Assuming that the capture rate by Raintree and others is as projected, they would achieve an absorption of 144 single family and 23 rental units. The probable capture rate on this basis would be:

ANNUAL DEMAND, UNITS

TYPE	HIGH	LOW
Single Family	375	206
Rental	177	127
Total	408	333

The average demand on this basis is 371 units/year.

The Bluewater development will ultimately include a total of 5579 dwelling units and the applicant anticipates a fifteen year sales and construction period. To complete all units in this time frame, an average of 372 units must be built and sold in each of the fifteen years. Forty-four percent of the project is designated as high-density dwelling or multi-family dwelling units; 14 percent in medium high density units or patio homes; 10 percent in medium density units and 32 percent in low density housing units. Rental units in south Okaloosa County are currently effectively full with 95 to 98 percent occupancy figures. Condominium construction and

TABLE 20J-1 ESTIMATED ANNUAL AD VALORUM TAX YIELD

Tax Year (1)	Owner Occupied Taxes Added	Rental Unit Taxes Added	Cumulative Annual Tax Yield
1	$159,128	0	$ 159,128
2	148,463	0	307,591
3	87,785	69,224	464,600
4	87,785	69,224	621,609
5	87,785	69,224	778,618
6	87,785	69,224	935,627
7	87,785	69,224	1,092,636
8	156,663	69,224	1,318,523
9	127,305	69,224	1,515,052
10	156,663	69,224	1,740,939
11	156,663	69,224	1,966,826
12	94,309	69,224	2,130,359
13	69,468	69,224	2,269,051
14	64,826	69,224	2,403,101
15	64,472	69,224	2,536,797

(1) One year lag from construction year

and purchase has slowed dramatically in recent years and many condominiums are standing empty on market. Thus, most of the demand for multi-family dwelling units appears to be in the rental market. On this basis, the following buildout schedule has been projected to meet the demand. The Phases shown in the last column correspond to the area development/ density program shown on the plot plan for the program. A constant unit/year schedule is contemplated, with low and medium-high density initially, and high density phasing in at the third year of construction.

J. Ad valorum taxes have been computed for the multi-family and single-family units. On completion, the Bluewater residential areas will provide over $2.5 million annually to Okaloosa County at the current millage rate of 14.76 mills. This yield and the annual yield during 15 years of development, as presented in Table 1, was computed as follows:

1. All high density areas were assumed to be rental units including annual construction of 77 units at 800 square feet, 77 units at 1,000 square feet, and 35 units at 1,400 square feet, for a total of 187,600 square feet per year. The replacement value was

Table I20-3 Build-out schedule.

YEAR	DENSITY				TOTAL	PHASES
	H	MH	M	L		
1		154		218	372	I, II
2		139	168	65	372	II, III, IV
3	189	183			372	IV, XVIII
4	189	183			372	IV, XVIII
5	189	131		52	372	IV, V, XVIII
6	189			183	372	V, VI, VII, XVIII
7	189			183	372	VII, VIII, XIX
8	189			183	372	VIII, IX, XIX
9	189			183	372	IX, X, XI, XIX
10	189			183	372	XI, XII, XIX, XX
11	189			183	372	XII, XIII, XX
12	189			183	372	XIII, XIV, XV, XX
13	189		41	142	372	XV, XVI, XVII, XX, XX
14	189		183		372	XVII, XXI
15	189		182		371	XVII, XXI
	2,457	790	574	1,758	5,579	

estimated at $25 per square foot for a total value of $4,690,000 added per year.

2. The computation of high density units was based on replacement value and no homeowners exemption applies so the millage rate was applied to the value for an estimated tax yield of $69,224 added per year.

3. Dwelling units in Phase II, III, XV, and XVII were estimated to have an average sale of of $40,000. Units in Phases I, IV, V, VI, VII, VIII, X, XIV, and XVI were assumed to have an average sale value of $50,000 and units in Phases IX, XI, XII, and XIII were estimated at an average sale value of $80,000.

4. The assessed value of owner-occupied homes was computed as 85 percent of the purchase price as this is the factor used by local financial institutions to compute escrow accounts. The assessed value was further reduced by $10,000 homestead exemption. The taxable value of a $40,000 home is thus estimated as $24,000; a $50,000 home as $32,500; and a $80,000 home as $58,000.

5. The millage rate of 14.78 mils was multiplied by the taxable value and the number of units projected annually in each cost category (Table 2) to estimate the ad valorum tax yield from owner-occupied units.

This procedure yields a general indication of potential taxes generated by Bluewater. The procedure assumes no inflaton of home values, no change in millage rates, and that all taxable units are occupied in the first tax year following construction. Each of these estimates is conservative so that error is more likely to result in an underestimation rather than overestimation of the ad valorum tax yield.

K. Capital improvement costs to be borne by local government will be limited to meeting the increased educational demands generated from the project. Decisions to expand existing facilities or construct new facilities will significantly affect the cost of these facilities and the decisions must be made by local authorities. In general, Okaloosa County's School Superintendent's Office projects an average cost of $1,000 per student per year for meeting educational needs. This figure includes teacher salaries and materials as well as capital improvements. Based on the most probable

TABLE 20J-2

NUMBER OF OWNER OCCUPIED UNITS
ADDED BY PRICE CATEGORY AND CONSTRUCTION YEARS

CONSTRUCTION YEAR	MEDIAN PURCHASE CATEGORY		
	$40,000	$50,000	$80,000
1	154	218	0
2	239	133	0
3	0	183	0
4	0	183	0
5	0	183	0
6	(	183	0
7	0	183	0
8	0	0	183
9	0	78	105
10	0	0	183
11	0	0	183
12	38	115	30
13	146	37	0
14	183	0	0
15	182	0	0

number of new students from Bluewater (3,394), the annual cost of education in the county will increase by $3,394,000 by the completion of the project. Depending on grade levels and type of school, a new facility would cost between 2 and 4 million dollars.

21. Public Facilities: Wastewater Management

A. Presented on Figure 21-1 are projected estimates of daily flow of wastewater corresponding with each phase of the proposed development. This wastewater will be typically domestic in nature and no unusual wastes, i.e., industrial or otherwise, are anticipated.

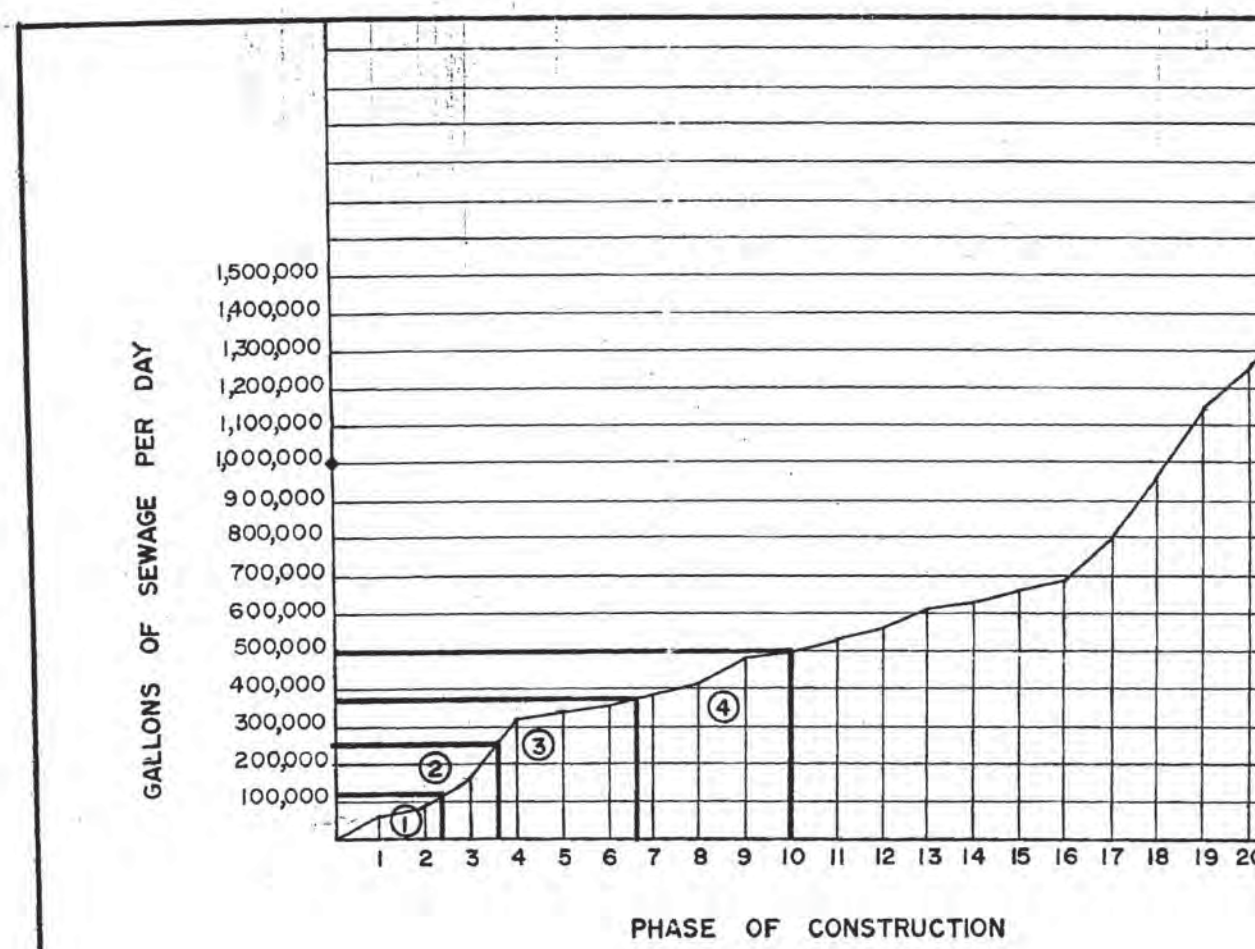
B. All wastewater will be collected, treated, and disposed of on site. This method of treatment and disposal will be used until the proposed regional wastewater facilities north of the site are completed, at which time all sewer services will be connected to the regional facility. The interim facility will consist of a contact stabilization modular system with the capacity of 125,000 GPD. This unit would provide for secondary treatment, i.e., 90% BOD and suspended solids removal. In addition to the secondary treatment, the effluent would be further filtered prior to final discharge. Chlorination will also be utilized to maintain a 1.0 milligram per liter chlorine residual after 30 minutes. After subsequent treatment, effluent will be held in a retention pond for 5 days, at which time effluent will be sprayed upon forested land for final disposal. The expected life of the plant is estimated to be 10 years and as needed, additional modular units will be added along with adjunct facilities

to provide the necessary treatment and disposal of the wastewater, provided the regional wastewater facility is not completed. Utilizing a 2" per week irrigation rate and to provide 25% reserve area in keeping with the DER regulation regarding land disposal of effluent, a spray field of 21 acres will be fenced off and used as the final disposal site. This final disposal site will be in the northeast corner of the development as shown on Map H. This interim facility will be operated by Okaloosa County. The volume of sludge is estimated to be 1% of total volume per year, or approximately 1250 gallons per day. Sludge drying beds will be utilized at the sewage treatment plant and dried sludge will be transferred to the sanitary landfill. All facilities will meet all requirements of the DER with regard to the disposal of wastewater effluent.

C. No septic tanks will be used on the site.

D. A letter has been solicited from Okaloosa County asking if the regional facility could accept all the wastewater from this development as projected in Table 2. Arrangements will be made prior to the completion of the regional facility so the development can be served by the regional facilities at the earliest convenience possible, at which time the existing wastewater facilities will be phased out and

a lift station installed to provide the proper pumping required to get the wastewater to the regional facility.



ESTIMATED DAILY VOLUME OF SEWAGE

22. Public Facilities: Drainage

A. The proposed drainage system will use a variety of drainage facilities to conduct the drainage off the site in such a manner to minimize erosion, siltation, excessive velocity, and other damage that might occur due to an increase in runoff from development. Bridges, and/or large culverts will be used to cross wetlands. These should provide unobstructed storm drainage flow and also minimize any construction damage to the wetlands. Curbs and gutter, or swales, will be used to collect street and road drainage with catch basins and culverts being used at major points of collection to conduct the storm water runoff to the major drainage channels.

All curb and gutter, swales and catch basins will be designed for 25 year return frequency rainfalls. All major drainage facilities as well as any drainage channels that have to be constructed will be designed for a 100 year return frequency rainfall. These design criteria will minimize flooding of the developed areas.

B. There are 15 existing drainage areas that are outlined on Map G - Master Drainage Plan. The acreage of each

drainage area plus any offsite drainage area is shown on the map.

A detailed analysis will be necessary before it can be determined if any retention areas will be necessary. The quality of the storm water runoff is more important than the quantity and as each phase is designed, water quality controls will be designed. These may take the form of sedimentation barriers as discussed in Section 16, or temporary retention ponds. The total acres of impervious surfaces can not yet be determined.

C. The increase in storm water runoff is shown on the Master Drainage Plan at the points where the runoff will occur. The quantities shown are those that will occur at ultimate development. With the exception of drainage areas 7, 9, and 15, all drainage is naturally drained to the Wetlands and then either directly to Choctawhatchee Bay or through Grassy Lake and Pippin Lake to Choctawhatchee Bay. It is felt that the storm water runoff should be allowed to drain unobstructed through the wetlands into the Bay. To create artificial ponds to control runoff or to channelize flows would destroy wetlands and greenbelts, thereby destroying the food supply and habitat of the wildlife that exists on the property. It would also have a deleterious effect on the quality of the receiving waters. The

runoffs at the southern end and the northwesterly side of the property are rather large at full development, but even at peak capacity, the depth of flow will be less than 4 feet at the southern end and less than 2 feet at the northwestern side of the property. The velocity in both cases will be less than 1 fps, so no erosion should result from this flow.

At ultimate development, the quality of the runoff will be essentially the same as it is in the predevelopment state of the property. Since seeding and/or sodding of all graded areas will have taken place, little erosion will occur. Sedimentation barriers as discussed in Section 16 (Wetlands) will be maintained in place until all grassing and sodding have established proper growth.

D. The roads, streets, and drainage easements will be dedicated to Okaloosa County. On acceptance Okaloosa County will become responsible for the maintenance of the drainage system.

23. Public Facilities: Water Supply

A. The type of supply required will be entirely potable. The usage rates for tables and graphs is 150 gallons per person per day. This represents the estimated average demand. Daily peaks and fire protection demands will be met by elevated storage facilities. Units shown are millions of gallons. Refer to Table 23-1 for a complete breakdown of potable water demand at the end of each phase of development.

B. Potable water supply will consist entirely of ground water pumped from deep wells. Refer to Table 23.2 for a complete breakdown of well-water supply and elevated storage at the end of each stage of development. Water supply development has been divided into stages of construction designed to satisfy the usage demands at the end of a group of phases of housing.

C. The proposed wells will be 8-inch diameter 400 feet deep with average pumping rates from 250 to 300 gpm, and maximum pumping rate of 500 gpm. The well water will receive chlorination before distribution and storage for potable use. Refer to Water Distribution Master Plan (Map K) for location of the proposed wells, elevated storage tanks and distribution system.

D. The Okaloosa County Utilities Company will operate and maintain the internal water supply system after completion of the development.

E. No off-site supply is proposed at this time.

F. The use of large size (6" or larger) mains, hydrants and adequate elevated storage will insure adequate pressure for fire flows and for connection to sprinkler systems of commercial buildings.

TABLE 23-1

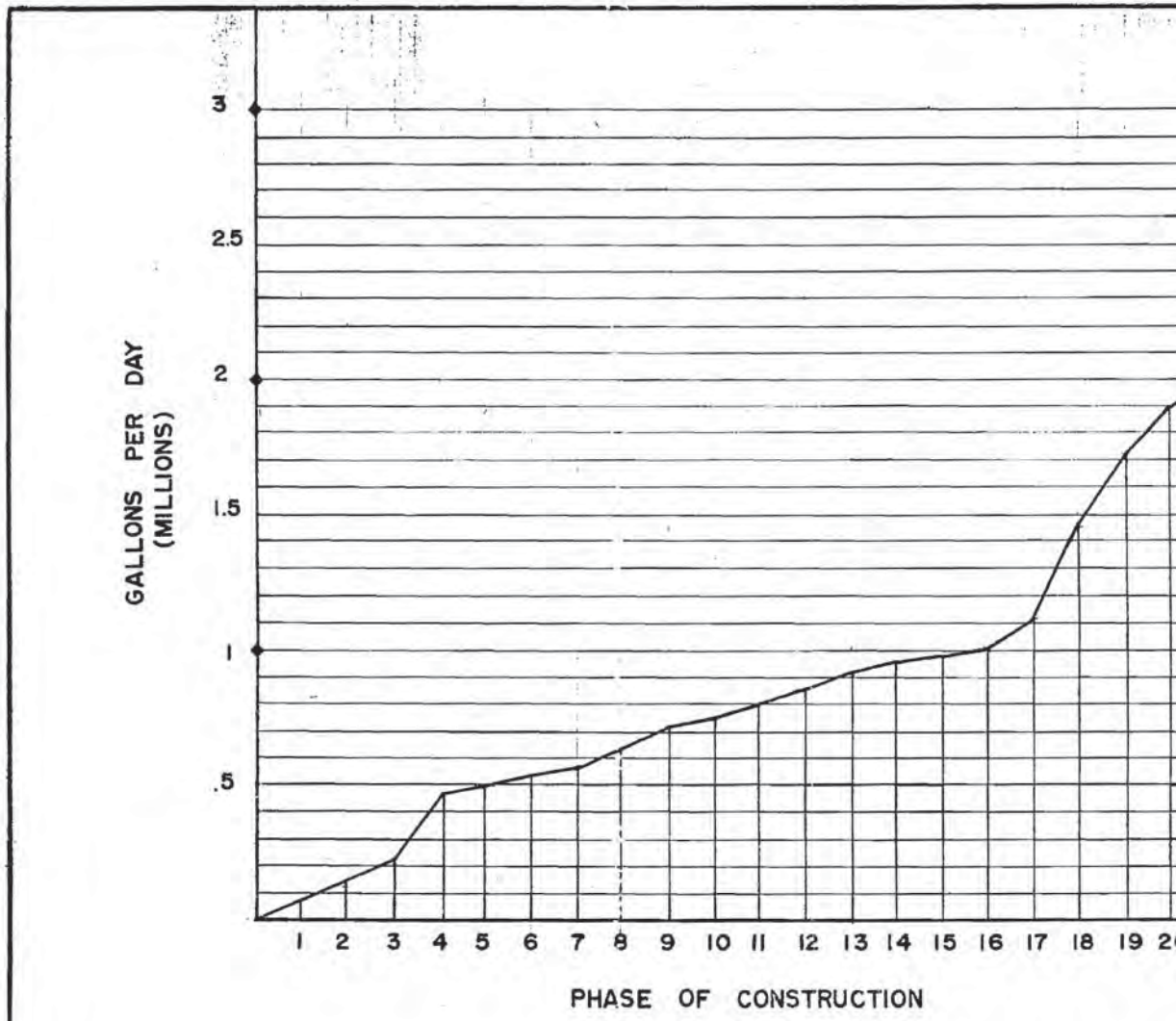
NON-POTABLE/POTABLE WATER DEMAND

Phase	Water Demand		
	Potable (MGD)	Non-Potable (MGD)	Total Water Demand (MGD)
Existing	0	0	
Phase 1	.0818	0	.0818
Phase 2	.1418	0	.1418
Phase 3	.2292	0	.2292
Phase 4	.4655	0	.4655
Phase 5	.4955	0	.4955
Phase 6	.5285	0	.5285
Phase 7	.5678	0	.5678
Phase 8	.6297	0	.6297
Phase 9	.7172	0	.7172
Phase 10	.7463	0	.7463
Phase 11	.7907	0	.7907
Phase 12	.8507	0	.8507
Phase 13	.9080	0	.9080
Phase 14	.9512	0	.9512
Phase 15	.9792	0	.9792
Phase 16	1.0187	0	1.0187
Phase 17	1.1709	0	1.1709
Phase 18	1.4544	0	1.4544
Phase 19	1.7177	0	1.7177
Phase 20	1.899	0	1.899
Phase 21	2.0922	0	2.0922

TABLE 23-2

POTABLE WATER SUPPLY (MGD)

Phase	On-Site Supply		
	Ground Water	Elevated Storage (MG)	Total Supply
Existing	0	0	0
Phase 1	.432	.125	.432
Phase 2	.432	.125	.432
Phase 3	.432	.125	.432
Phase 4	.432	.125	.432
Phase 5	.432	.125	.432
Phase 6	.432	.125	.432
Phase 7	.864	.250	.864
Phase 8	.864	.250	.864
Phase 9	.864	.250	.864
Phase 10	.864	.250	.864
Phase 11	.864	.250	.864
Phase 12	.864	.250	.864
Phase 13	.864	.250	.864
Phase 14	.864	.250	.864
Phase 15	.864	.250	.864
Phase 16	1.296	.375	1.296
Phase 17	1.296	.375	1.296
Phase 18	1.296	.375	1.296
Phase 19	1.296	.375	1.296
Phase 20	1.364	.500	1.364
Phase 21	1.364	.500	1.364



ESTIMATED WATER REQUIREMENTS IN MILLIONS OF G

24. Public Facilities: Solid Waste

A. The planned development consists primarily of residential development with small amounts of commercial and light industry, and some institutional development. For purposes of projecting solid waste quantities, the a area is likened to a small town with a very small amount of non-residential development. In a recent solid waste study for Escambia County, Florida, a rigorous sampling program was undertaken to determine actual generation rates for solid waste. These figures were correlated with experience throughout the United States with regard to similar type developments and results found in Escambia County are very much in line with nationwide trends. The generation rates developed for Escambia County involved residential, commercial, and institutional categories. The rates were 1.98 lbs. per capita per day, 1.49 lbs. per capita per day, and 0.090 lb. per capita per day, respectively, for a total generation rate of 4.37 lbs. per capita per day for the three large categories. For purposes of this development, commercial and instutional waste would not be the magnitude of those in Escambia County; therefore, it was assumed that a generation rate of 4.00 lbs. per capita per day would

best fit the development described herein. This is a realistic rate in that several counties in Florida report similar generation rates.

Presented in Table 24-1 are solid waste generation figures, shown in cubic yards and tons for each individual phase. The volumes are virtually of no use unless there is a purpose behind it; therefore, both collection and disposal modes were chosen to delineate volumes of solid waste. With regard to collection, a unit weight of 400 lbs. per cubic yard was used. These collection volumes are necessary to determine the impact in regard to the number of collection vehicles required and other equipment used to collect the waste. The unit weight of 400 lbs. per cubic yard is considerably less than what an ordinary packer truck could obtain; therefore, this unit weight would be used with reference to open top vehicles and other non-compaction vehicles. The unit weight used for disposal would be ideal for use when considering the number of packer trucks required to move the material to the disposal site. A unit weight of 800 lbs. per cubic yard was chosen for disposal. This is a realistic value for solid waste as placed and compacted in a landfill. This volume reflects the impact with regard to the potential landfill space required from the

proposed development, and as mentioned earlier, is a good unit value to be used for packer type collection vehicles.

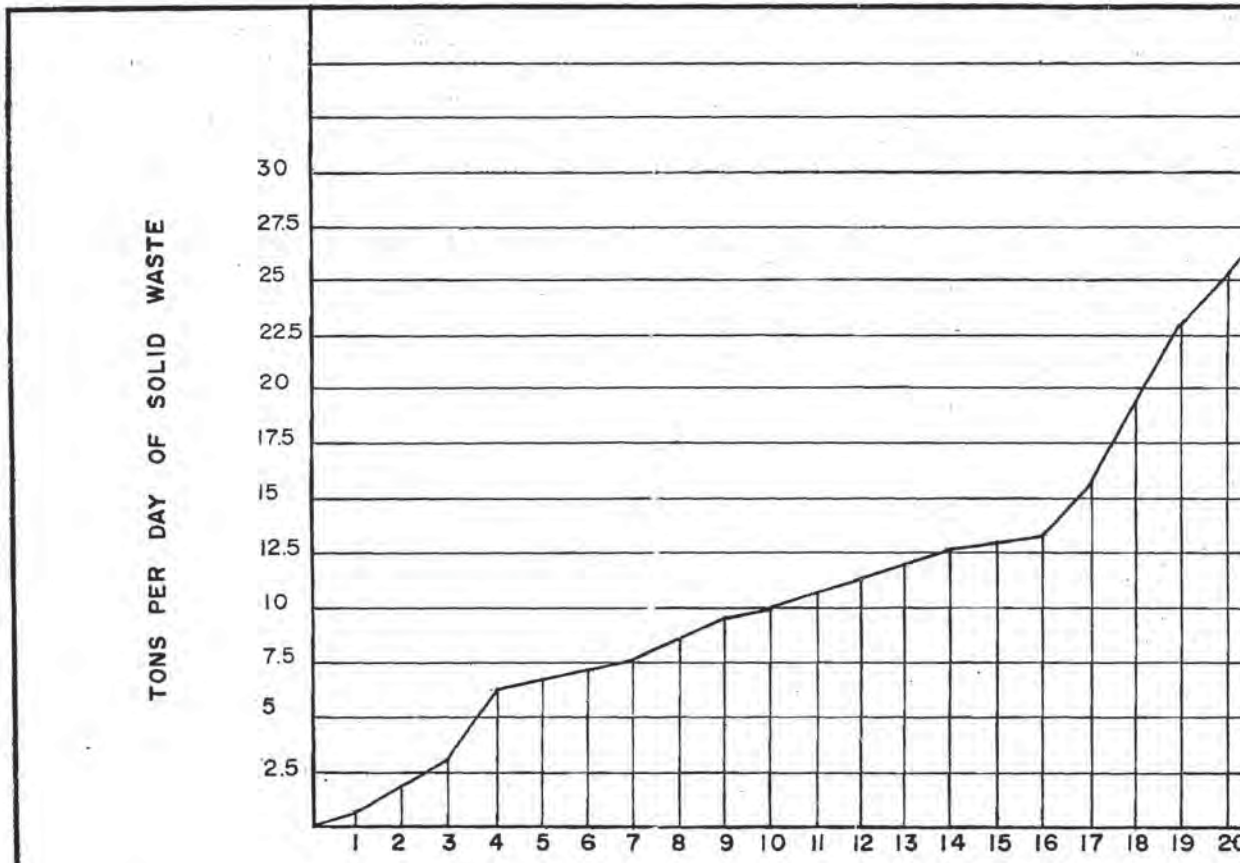
B. No on-site solid waste disposal is planned.

C. Okaloosa County currently has franchise type solid waste collection procedures. The current franchise holder for the area in question is Powell Sanitation. Contact has been made with Powell with regard to their capabilities to provide the service required for the development. They have notified us that they indeed plan to have and will provide the necessary collection service required. The current site for disposal is Valparaiso-Niceville Landfill, which is currently operated by Okaloosa County. This site has limited capacity; however, planned permanent landfill sites are being considered in the northern portion of Okaloosa County. A letter has been solicited from Okaloosa County asking for some direction in this regard. Information has been supplied to Okaloosa County showing projected solid waste quantities and the estimated capacity required per phase, based on the following assumptions: 20 ft.cell height, a compaction factor of 800 lbs.

per cubic yard, and yearly volumes as shown in the Solid Waste Generation Table. The 20 ft. cell actually refers to depth of solid waste and a considerably higher elevation rise would be encountered when considering daily cover and final cover. It was also assumed that adequate cover material was available. We have solicited a letter asking for commitments and proposed expansions which would take care of these excess volumes in the future.

TABLE 24-1
SOLID WASTE GENERATION

Phase	Domestic Solid Waste		
	Collection Cy/Day	Disposal Cy/Day	Tons/Day
Existing	0	0	0
Phase 1	4.5	2.7	1.09
Phase 2	9.5	4.7	1.89
Phase 3	15.3	7.6	3.06
Phase 4	31.0	15.5	6.21
Phase 5	33.0	16.5	6.61
Phase 6	35.2	17.6	7.05
Phase 7	37.8	18.9	7.57
Phase 8	41.9	20.9	8.4
Phase 9	47.8	23.9	9.56
Phase 10	49.8	24.9	9.95
Phase 11	52.7	26.4	26.36
Phase 12	56.7	28.4	11.34
Phase 13	60.5	30.27	12.11
Phase 14	63.4	31.71	12.68
Phase 15	65.3	32.6	13.06
Phase 16	67.9	33.9	13.58
Phase 17	78.0	39.0	15.61
Phase 18	96.9	48.48	19.39
Phase 19	114.5	57.3	22.9
Phase 20	126.6	63.3	25.3
Phase 21	139.5	69.74	27.9



ESTIMATED DAILY VOLME OF SOLID WASTE

25. Public Facilities: Energy

A. Since neither gas, oil, or coal are readily available to this site, electrical power is the only source of energy that will be utilized. The projected daily energy demands and peak hour demands are listed in the tale below for each phase:

ELECTRICAL POWER REQUIREMENTS

	Average Daily Energy Demand	Peak Hour Demand
	KWH	KVA
Phase I	17,256	1,438
II	20,856	1,738
III	36,312	3,026
IV	67,548	5,629
V	74,388	6,199
VI	82,164	6,847
VII	91,632	7,636
VIII	106,836	8,903
IX	128,532	10,711
X	135,876	11,323
XI	147,084	12,257
XII	162,288	13,524
XIII	176,820	14,735
XIV	187,740	15,645
XV	194,868	16,239
XVI	204,840	17,070
XVII	232,488	19,374
XVIII	266,328	22,194
XIX	297,744	24,812
XX	320,076	26,673
XXI	343,500	28,625

B. There will be no on-site electrical generating facility involved with this facility.

C. Attached is a letter from Choctawhatchee Electric Cooperative, Inc. (CHELCO) in answer to the requirements of the paragraph (Exhibit 25-1).

D. Residential design will be reviewed by the developer's architect, with energy conservation being a key consideration. Significant points in this consideration would be adequate insulation, site orientation to minimize glass solar loading and selection of mechanical equipment with high Equipment Efficiency Ratings (EER) as established by the American Refrigeration Institute (ARI).

E. Solar energy systems have not been proven to be economically feasible for residential construction in the Northwest Florida area, and therefore, were not considered for this project.

EXHIBIT 25-1

ROUTE 1, BOX 7
BAKER, FLORIDA 32531
TEL. (904) 537-3331

P. O. BOX 37
FREEPORT, FLORIDA 32439
TEL. (904) 835-2581

Choctawhatchee Electric Cooperative, Inc.

Chelco

GENERAL OFFICES: 700 WEST BALDWIN AVENUE
POST OFFICE BOX 512 • TEL. (904) 892-2111
DEFUNIAK SPRINGS, FLORIDA 32433

September 3, 1976

Mr. Joseph W. Moore, Jr.
Henningson, Durham and Richards
P. O. Box 12744
Pensacola, Florida 32575

Re: Bluewater

Dear Mr. Moore:

I have analyzed the master plan dated August 19, 1976 prepared by your firm on Bluewater. I am attaching a tabulation of projected loads for each phase and cumulative load through the development of each phase. We estimate that the associated development would add an additional 2450 KVA to the 28,625 KVA projected for phases I through XXI. The estimates involve a good deal of judgment but among other things assume 100% development of each phase. We would expect that average daily energy demands would be 40% to 50% of the yearly peak load demands provided.

As you know we are in a dispute before the Public Service Commission with Gulf Power Company as to which utility has the right to serve the area or territory covered by Bluewater. It now appears that the area designated phases XVII and XVIII will be assigned to Gulf Power Company and the remainder to the Cooperative. We have included the estimates for the whole development but will likely not be able to serve phases XVII and XVIII. This would reduce the load on our system by 5124 KVA.

The load in this area is now served and will continue to be served through the distribution system of this Cooperative. Bulk power supply to the area is provided by Alabama Electric Cooperative, Inc., (AEC) with headquarters at Andalusia, Alabama. AEC is a generation and transmission cooperative that supplies bulk power to 20 wholesale customers similar to this Cooperative. It provides the required capacity in generation, transmission, and substation facilities. AEC now owns 138 megawatts of generation and has under construction an additional 460 megawatts. It is also interconnected with Alabama Power Company,

the Southeastern Power Administration which markets government hydroelectric capacity and energy, and Georgia Power Company. Those companies are in turn interconnected to Gulf Power Company, Mississippi Power Company, Florida Power Corporation, the Tennessee Valley Authority, and others. AEC therefore has or can supply virtually unlimited capacity.

The transmission facilities now serving the area extend from an interconnection between AEC and Alabama Power Company south of Opp, Alabama, to Freeport, Florida, at 115 KV transmission voltage. The capacity of the line is 130 MVA. A 46 KV transmission line extends from Freeport to the Villa Tasso substation serving the area of Bluewater. The capacity of the 46 KV line is 21 MVA. A second 115 KV transmission line is now under construction, and the first section already completed, from Freeport to DeFuniak Springs to Glendale to Clayhatchee, Alabama, on the AEC system that will provide a loop feed at 115 KV into the Freeport transmission substation. The capacity of the additional transmission line is 140 MVA. Since the present load on the Villa Tasso substation and therefore the Freeport-Villa Tasso 46 KV transmission line is only 3.5 MVA, the existing facilities should be adequate for all development for the next few or several years depending upon rate of development. When total load in the area exceeds 21 MVA, a 115 KV line of 150 MVA or more could be constructed from Freeport to the Bluewater area.

The Cooperative is therefore willing and able to provide service of the quantity and characteristics, including underground, to the final development and at all stages of development. Please let me know if you need further information from the Cooperative.

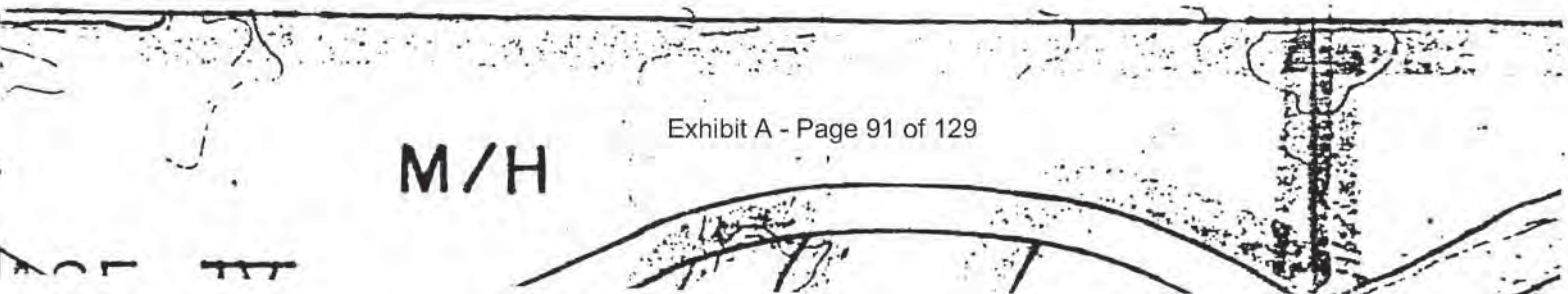
Very truly yours,

M. J. Parish III
General Manager

MJP:sm

Enclosure.

DWELLING UNITS BY TYPE & PHASE						KVA	
PHASE	H	M/H	M	L	TOTAL	Phase Load	Cum. Load
I	-	-	-	218	218	1438	1438
II	-	160	-	-	160	734	1738
III	-	-	168	65	233	1431	3026
IV	-	630	-	-	630	2892	5699
V	-	-	-	80	80	633	6199
VI	-	-	-	88	88	697	6847
VII	-	-	-	105	105	831	7636
VIII	-	-	-	165	165	1306	8903
IX	-	-	-	233	233	1845	10,711
X	-	-	-	78	78	618	11,329
XI	-	-	-	118	118	934	12,257
XII	-	-	-	160	160	1267	13,524
XIII	-	-	-	153	153	1211	14,735
XIV	-	-	-	115	115	910	15,645
XV	-	-	-	75	75	594	16,239
XVI	-	-	-	105	105	831	17,070
XVII	-	-	406	-	406	2304	19,374
XVIII	756	-	-	-	756	2820	22,194
XIX	702	-	-	-	702	2618	24,812 *
XX	486	-	-	-	486	1861	26,673
XXI	513	-	-	-	513	1952	28,625
TOTAL	2457	790	574	1758	5579		
Sq. Ft.	1000	1200	1500	2000			



ASSOCIATED DEVELOPMENT

Location		KVA
Municipal	6A	300
Commercial	10A	150
Golf		100
Public Works	10A	100
Office	38A	300
Commercial	39A	350
Light Industry	56A	400
Schools		750
		2450

26. Public Facilities: Education

A. The planned Bluewater Development will have 2457 high density units, 1364 moderate-high and moderate density units and 1758 low and very low density units on completion, a total of 5579 new housing units. The number of school age children will depend on the type of unit, the number of people per unit, the type of people who select Bluewater (retired persons with grown families or young couples in their childrearing phase), and future birth rates. To reflect the complexity of school planning, several general estimates of the potential number of school age children are provided.

The maximum reasonable estimate projects 4497 additional school age children. Assuming units are sold and rented at the average annual buildout rate of 372 units with an average of 3.3 people per unit during the first five years and 3.0 people per unit for all remaining years, a total of 17,295 people could be living in Bluewater (372 x 5 x 3.3 + 372 x 10 x 3.0 -1). The Florida Statistical Abstract, 1975, shows 26 percent of Okaloosa County's 1974 population was school age. Using this factor, a maximum of 4497 (17,295 x 0.26) children of school age could live in the project.

The maximum estimate does not recognize the high proportion of 1 and 2 bedroom rental units which are likely to include fewer school age children per unit than the low density residential units. This occurs because high density units are more likely to attract retired persons with no school age children and young marrieds, also with no school age children. The minimum estimate of school age children is 2151 children. Assuming sales and rental at the buildout rate with an average of only 2.0 persons per unit, including 0.2 of school age, in the high density areas, 2.5 persons per unit, including 0.25 of school age, in the moderate high and moderate density areas, and 3.0 person per unit, including 0.75 of school age, in the lower density areas would result in 13,598 people in the development and only 2151 (15.8 percent) of school age. This would generally resemble a retirement area.

The most probable number of school age children is projected as 3395 in a total population of 16,036 people (21 percent school age). This estimate was computed by assuming purchase and rentals to match the buildout rate with an average of 2.5 people per high density unit and 0.25 school age children, 3.0 people per moderate high and moderate density

unit and 0.75 school age children and 3.3 people in the lower density units with 1.0 school age children.

This projection appears to have validity on several bases: the populations per unit reflect those used in sections 20.I and 32; and 21 percent approximates the 22 percent used in the independently prepared Raintree applicant's report; and the 21 percent reflects the lowered birthrates of recent years that helps produce the current 26 percent of Okaloosa County;s population being of school age.

Table 1 provides the information on existing schools in the Niceville-Valpariso area including capacities of existing facilities and enrollments for the past 3 years. Excess capacity exists at both the elementary and high school levels but junior high schools are at 102 percent of capacity. This is possible because at junior and senior high school levels not all students are in their seats at all times and with careful scheduling "capacity" can be exceeded to the number of pupil stations (seats). Thus the junior high schools have an assigned capacity of 1626 students, but can accomodate 1960 pupils.

Currently, 48 percent of enrollments are at the elementary level (K-5), 28 percent in middle schools, and 24 percent in high school. These general proportions are also used to project future enrollment distributions as displayed in Table 2. Based on these projections, local schools will be at or above capacity by about 1980.

B. The applicant has set aside about 50 acres for future development of educational facilities by the Okaloosa County School Board. The areas designated on the comprehensive plan are not finalized and the insufficient size of some parcels is known (minimum of 15 acres for an elementary school and 20 acres for junior or senior high schools). Specific plans will be developed if the School Board expresses an interest in purchasing land in the development. It should additionally be noted that the county prefers to expand existing facilities, rather than build new ones, to a maximum of 800 students per elementary school, 1500 per junior high school, and 2500 per senior high school.

Table 1. Capacity and Enrollments on public schools in Southeast Okaloosa.

SCHOOLS	CAPACITY	ENROLLMENT		
		1976-77	1975-76	1974-75
Edge Elementary	540	518	542	454
Cherokee Elementary[1]	800	585	569	687
Valparizo Elementary	660	483	400	439
Oak Hill[1]	745	619	644	623
Plew Elementary	730	647	671	730
TOTAL ELEMENTARY	3,475	2,852	2,826	2,933
C.W. Ruckel Jr. High	990[2]	1,010	1,022	993
Lewis Jr. High	636[3]	655	626	623
TOTAL JR. HIGH	1,626	1,665	1,648	1,616
Niceville High	1,587[4]	1,400	1,312	1,281
TOTAL ALL SCHOOLS	6,688	5,917	5,786	5,830

[1]Located on Elgin AFB.
[2]Pupil stations (number of seats) is 1,165.
[3]Pupil stations is 795.
[4]Pupil stations is 1,671.

Table 2. Projected school enrollments from Bluewater.

YEAR	GRADE LEVEL			TOTAL
	ELEMENTARY	JR. HIGH	SR. HIGH	
1	160	94	80	334
2	142	83	71	296
3	88	52	44	184
4	88	52	44	184
5	95	55	47	197
6	111	64	55	230
7	111	64	55	230
8	111	64	55	230
9	111	64	55	230
10	111	64	55	230
11	111	64	55	230
12	111	64	55	230
13	106	62	53	221
14	88	52	44	184
15	88	52	44	184
TOTAL	1,632	950	812	3,394
EXIST-ING (1976)	2,852	1,665	1,400	5,917

27. Public Facilities: Recreation and Open Space

A. The recreational facilities to be provided on site include a golf course, and clubhouse and recreation center. The clubhouse and recreation center will include a golf and tennis pro shop, dining facilities, locker rooms, lounge, swimming pool, and tennis courts. There will be between 165 to 200 acres allocated for the above recreational purposes. The beach will be left in its natural state.

These recreational facilities will not be open to the general public. They are being provided for the use of people residing in the development.

B. This development will not remove from public access land or water previously used by residents. These lands have been in an estate for over 20 years and have not been available for any public use.

C. Recreational facilities will not be dedicated to the public. They will be maintained by the developer until they are turned over to the eventual owner of the facilities.

28. Public Health: Health Care

No medical or health care facilities are proposed onsite. Acute care will be available through the Niceville/ Valparaiso Hospital which has 46 beds, including an addition of 10 beds in the past year, and the June 1976 occupancy rate was 67.6 percent. The number of medical professionals employed in Okaloosa County falls short of the number recommended by the federal government, causing the county to be designated as a critical medical shortage area. No data are shown on the distribution of medical professinals in the county so the adequacy/inadequacy to South County cannot be determined.

29. Public Facilities: Police

No special police protection services, facilities, or sites will be dedicated or otherwise provided onsite. Land is designated for municipal development if local authorities prefer to provide a regional substation. Currently, two sheriff's deputies patrol the Niceville area with backup support from Fort Walton Beach. Current plans call for six additional deputies countywide, including one for the Niceville area. Additional deputies are generally provided as population growth requires.

30. Public Facilities: Fire

It appears that neither Niceville nor Seminole will be able to provide adequate fire protection service to Bluewater. During the initial phases of development, the developer will assume the responsibility of providing a fire protection organization. As development progresses, this organization will be turned over to the homeowners' association.

31. Public Transportation Facilities: Transportation Considerations

Introduction. The following discussion constitutes an analysis of the transportation impacts for the proposed master plan for the Bluewater Development located in Okaloosa County, Florida.

The analysis below is intended to provide a description of the existing transportation conditions, future traffic forecasts, and future transportation impacts generated by this proposed development.

A. Existing Highway Network Conditions.

The proposed Bluewater Development is located on Florida State Highway 20 in the southeasterly corner of Okaloosa County. The site is approximately five miles southeast of Niceville.

Regional access to the Bluewater Development would be primarily by State Highway 20. Additional regional access is provided by State Highways 85 and 285 at Niceville and by U. S. Highway 331 at Freeport, which is approximately 20 miles east of the site. Each of these highways connects to the major east-west state arteries of U.S. 98 (running along the Gulf Coast) and Interstate 10 (running midway through the Florida Panhandle). These major east-west arteries connect the proposed site to Pensacola and to other

major cities within the state. In the vicinity of the site, State Highway 20 is a 2-lane asphalt roadway with a rural design standard of 24-foot width. The 2-lane standard extends all the way from Freeport westerly by the site to the outer limits of Niceville where State Highway 20 becomes 4 lanes.

According to the Florida Department of Transportation District Offices[5]), traffic volumes along this section of State Highway 20 are under 5,000 vehicles per day. Actual 1975 traffic counts showed daily volumes of 4,839 at the Bay Bridge approaching Niceville and 2,727 at the County line to the east of the site.

For these traffic volumes, State Highway 20 would be operating at level of service A and well above the roadway capacity of 9,500 vehicles per day for this type of roadway.[6])

No improvements are scheduled or planned for State Highway 20 in the proximity of the proposed Bluewater Development.[5])

B. Projections of Traffic Increases on the Existing Network that are Expected from Sources other than the Bluewater Development.

Developable land along the State Highway 20 corridor in Okaloosa County is fairly restrictive due to the

vast land holdings of the Eglin Field Military Reservation. As such, only a few pockets of privately owned land available for development are available - such as the site now proposed for the Bluewater Development.

Because of these restrictions, traffic growth along the State Highway 20 should be fairly low over the next 20-year period. Forecasts for this section of Highway 20 have not been developed.[5)8)]

In reviewing the potential situations relating to traffic forecasts, the analyst believes that traffic volumes within the next 20 years could reach as high as 7,000 vehicle trips per day with a more reasonable figure being of 5,000 trips per day. The following values show the potential for future traffic volume increases based upon assumed traffic growth of 1/2 to 5%.

Potential Annual Traffic Growth	Actual 1975 Daily Traffic	Potential 1995 Daily Traffic
0.5%	2727	3013
1.0%	2727	3327
5.0%	2727	7235

These assumed growth potentials are based upon the analyst's knowledge of rural traffic flow patterns.

Even if the higher value of 7,235 daily vehicle trips was obtained, the existing Highway 20 would be operating within the accepted level of Service D[6)] which would be acceptable for a 2-lane roadway.

C. Projections of Traffic Expected to be Generated by the Proposed Development.

The proposed Bluewater Development consists of varying intensities of residential development along with a small core comprised of commercial, light industry, and office land uses.

Table 31-1 shows the assumed trip generation rates for the various land uses proposed in the Bluewater Development. These rates were then applied to the various land use categories on the site to generate the potential amount of maximum vehicular traffic for the residential and non-residential areas assuming complete development of the entire site. These trip generation forecasts for the complete development of the site are shown in Table 31-2 for the residential developments and in Table 31-3 for the non-residential developments. It should be noted that the trips shown in Tables 31-2 and 31-3 are the individual land uses themselves, and do not reflect the interaction (exchange of trips) between the various land uses themselves.

TABLE 31-1

TRIP GENERATION RATES[1) 2)]

Residential		
High Density	8.69	Trips/Dwelling Unit
Med. /High Density	9.72	Trips/Dwelling Unit
Medium Density	9.06	Trips/Dwelling Unit
Low Density	8.87	Trips/Dwelling Unit
Commercial	621.38	Trips/Acre
Office	135.43	Trips/Acre
Municipal	66.25	Trips/Acre
Light Industry	28.63	Trips/Acre
Schools		
Elementary	0.50	Trips/Student
High School	1.30	Trips/Student

TABLE 31-2

RESIDENTIAL TRIP GENERATION
(Assuming Full Development)

Phase	DU	Density	Trip Rate	Daily Trips	%
I	218	L	8.87	1,934	3.88
II	160	M/H	9.72	1,555	3.12
III	168	M	9.06	1,522	3.05
	65	L	8.87	577	1.16
IV	630	M/H	0.72	6,124	12.29
V	80	L	8.87	710	1.42
VI	88	L	8.87	781	1.57
VII	105	L	8.87	931	1.87
VIII	165	L	8.87	1,464	2.94
IX	233	L	8.87	2,067	4.15
X	78	L	8.87	692	1.39
Subtotal	1,990			18,357	36.84
XI	118	L	8.87	1,047	2.10
XII	160	L	8.87	1,419	2.85
XIII	153	L	8.87	1,357	2.72
XIV	115	L	8.87	1,020	2.05
XV	75	L	8.87	665	1.33
XVI	105	L	8.87	931	1.87
XVII	406	M	9.06	3,678	7.38
XVIII	756	H	8.69	6,570	13.19
XIX	702	H	8.69	6,100	12.24
XX	486	H	8.69	4,223	8.48
XXI	513	H	8.69	4,460	8.94
Total	5,579			49,827	100.00

TABLE 31-3

OTHER LAND USE TRIP GENERATION
(Assuming Full Development)

Land Use	Quantity	Trip Rate	Daily Trips
Commercial	39A	621.38	24,234
	10A	621.38	6,213
Municipal	6A	66.25	397
Office	38A	135.43	5,146
Public Works	10A	28.63	286
Light Industry	56A	28.63	2,128
Schools			
Elem. (North)	350	0.50	175
Elem. (SE)	650	0.50	325
Elem. (W)	670	0.50	335
High	3350	1.30	4,355
Total			43,594

TABLE 31-4

TRIP DISTRIBUTION

Residential Trip Purpose	% of Residential Trips[3)]	Internal/External Split % of Residential Trips: Internal	External
Work	43%	12.9 (30)	30.1 (70)
Shop	28%	12.6 (70)	5.4 (30)
Office	6%	3 (50)	3 (50)
Education	7%	6 (85)	1 (15)
Social/Recreation	13%	6 (50)	7 (50)
Other	3%	0 (0)	3 (100)
	100%		

For a development of this magnitude, the generation of traffic is best related to the residential development. With this in mind, the analyst took the generated residential traffic and developed a trip distribution methodology using the assumed trip purpose percentages shown in Table 31-4. Assumptions were then further made as to the split between internal and external trips at the Bluewater Development. The trip generation totals shown in Table 31-3 were then used to roughly check the residential trip purpose distributions assumed in Table 31-4. Minor adjustments and modifications were made during the later traffic assignments in order to allow the residential trips and non-residential trips to balance more closely.

There is sufficient information available to properly generate the magnitudes of traffic for land use developments as shown in the Bluewater Development. The situation, however, becomes a little more complex when these trips are broken down further into individual zones (phases of the Development) and attempts are made to distribute the generated trips between the various zones. As such, the assumptions for the distribution of the trips become fairly important in looking at the methodology imposed for the traffic analyis.

Overall, the assumptions utilized in the distributing of the trips generated from the Bluewater Development are as follows:

1. Of the internal to external trips produced by the site, 75% were assumed to be directed along Highway 20 to the northwest. This assumption was based upon the proximity of the site to the Pensacola Metropolitan Area and the location of the major cities and towns with proximity to the site.

2. It was assumed that approximately 70% of the residential work trips would be external trips. This was based upon the fact that the Bluewater Development has a low percentage of land allocated to industry and commercial land uses. In addition, the major emphasis of the development seems to be on residential land uses with the work force commuting to other employment center areas.

3. It was assumed that 70% of the residential shopping trips would remain within the Bluewater Development. This assumption was based upon the fact that a sufficient area for commercial facilities was included in the Bluewater Development Site Plan.

4. It was assumed that the social and recreation trips would be split fairly evenly between the internal and external areas. This assumption is based upon the size of the proposed development along with the proposals

for outdoor recreation (golf and boating) and the potential for indoor recreation (theater, etc.) at the commercial center.

5. Educational trips were anticipated to be nearly all internal when considering the magnitudes of the population living in the Bluewater Development.

The analyst recognizes that variations in the assumptions utilized for the trip generation and trip distribution described above are certainly feasible. However, as will be shown in the traffic assignment volumes described later in this paper, the range of impacts to the transportation system are fairly well defined. For these reasons the analyst feels that the above discussion provides a sound base for evaluating the transportation impacts of the Bluewater Development.

It should be noted at this stage that the forecasted traffic pertains only to motor vehicle traffic (automobile) which, in the opinion of the analyst, will serve as the major transportation link within the proposed site and to other areas within the region. A major emphasis was not given to transit, due to the geographical location of the proposed site and to the land densities in the proposed development.

The analyst does recognize, however, that the makeup of the proposed Bluewater Development does lend itself to some pedestrian, boat, and bicycle modes of travel. However, these are not considered significant to warrant a major reduction in the vehicular trips forecasted.

The phased development of the Bluewater Development will have a major impact upon the traffic generated from the site. During the initial developments of the early phases, most of the traffic will be external in nature with volumes being fairly low and within the capacity limits of State Highway 20. Additional commentary on the traffic forecasts associated with the full development and phased development of the site can best be explained in the traffic assignment portion of this discussion. (31-E).

D. An Estimate of the Internal/External Split of the Traffic Projections for this Proposed Development.

The assumptions related to the internal/external split of the traffic volumes generated by the proposed site were presented in Table 31-4 and discussed in conjunction with the trip generation commentary previously under 31-C.

E. Assign the Trips Expected to be Generated by this Proposed Development and Show Traffic Increases Which are Expected from Other Sources to Determine the Expected Resultant Network Conditions.

Since the proposed Bluewater Development is subdivided into 21 individual phases, the analyst aggregated the phases into two groupings for the transportation analysis. These groupings consisted of the traffic forecast assuming 100% development and assuming 50% development. Figure 31-1 shows the daily traffic volume forecast assuming 100% development of the Site. In addition to the traffic volumes generated by the Bluewater Development, the through traffic volumes not related to Bluewater are also shown for State Highway 20.

These volumes were developed by making a rough traffic assignment using the residential traffic volumes from Table 31-2. The generated traffic was assigned over the most logical roadway link to get from the assumed origins to the assumed destinations.

The volumes shown have been rounded to provide the approximate traffic volume levels anticipated for the various roadway sections. Peak hour traffic volumes would be approximately 10% of the daily volumes shown in Figure 31-1. The percentage of truck traffic would be under 3% for Highway 20 and under 1% for all other roadway links.

Figure 31-2 shows the traffic forecast assuming 50% development for the Bluewater site. From the Table 31-2 calculations, a 50% development would produce approximately 37% of the daily traffic volumes ultimately produced by the full development of the site. Using this percentage, as well as the concentrations of the development on the site for Phases I through X, the analyst approximated the volumes shown in Figure 31-2.

With the 50% development, the analyst assumed that through traffic on State Highway 20 would be approximately 3,500 vehicles per day.

Peak hour and truck percentages would be the same as previously given above for Figure 31-1.

The volumes given in Figures 31-1 and 31-2 should give the reader a good cross-section of the range in traffic volumes based upon the two milestones of 100% and 50% development of the site.

F. Describe Highway Network Modifications Which Will Be Necessary as a Result of the Expected Total Traffic Increase.

As previously stated, the capacity of a 2-lane rural roadway is approximately 9,500 vehicles per day.[6)]

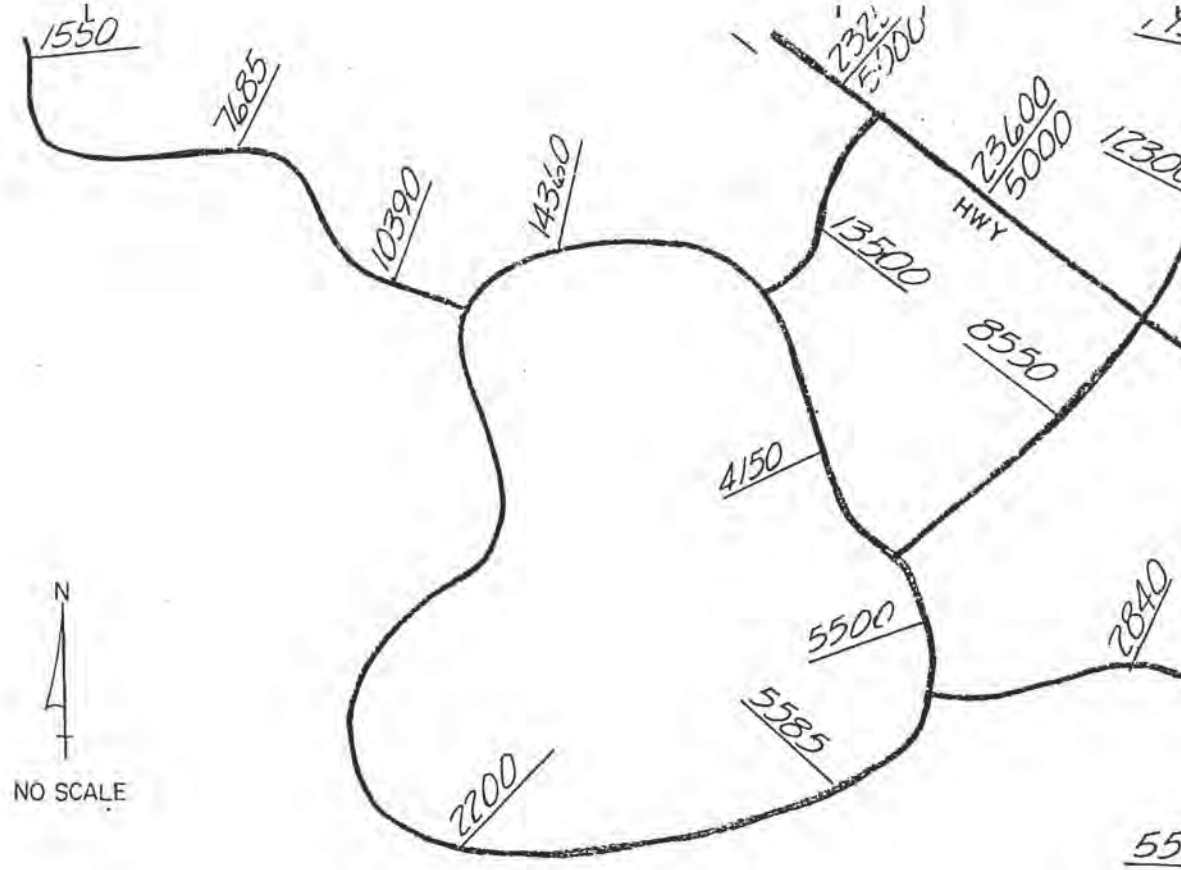
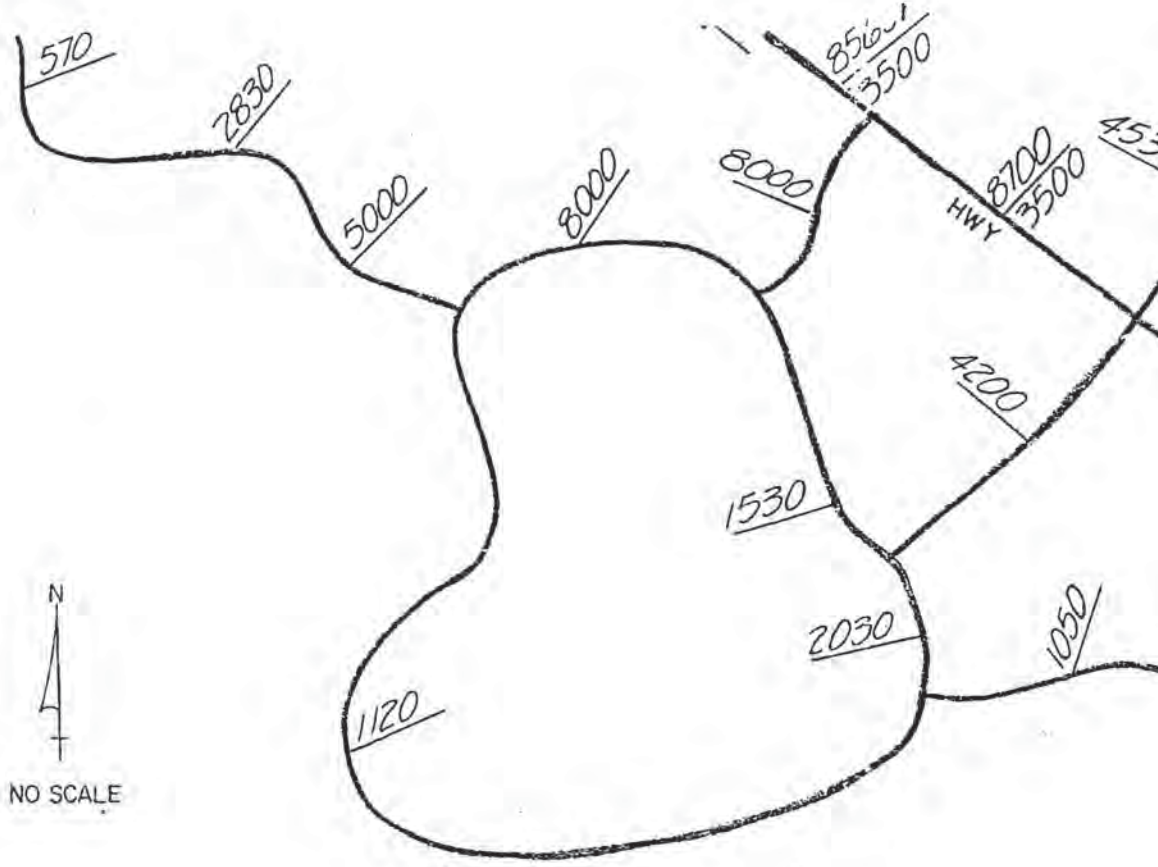


FIGURE 31-1
TRAFFIC FORECAST
Assumes Full Development

Daily Volumes Generated
XXXX By Bluewater
YYYY By Other Areas

BLUEWATER



Daily Volumes Generated
XXXX By Bluewater
YYYY By Other Areas

FIGURE 31-2
TRAFFIC FORECAST
Assumes 50% Development

BLUEWATER

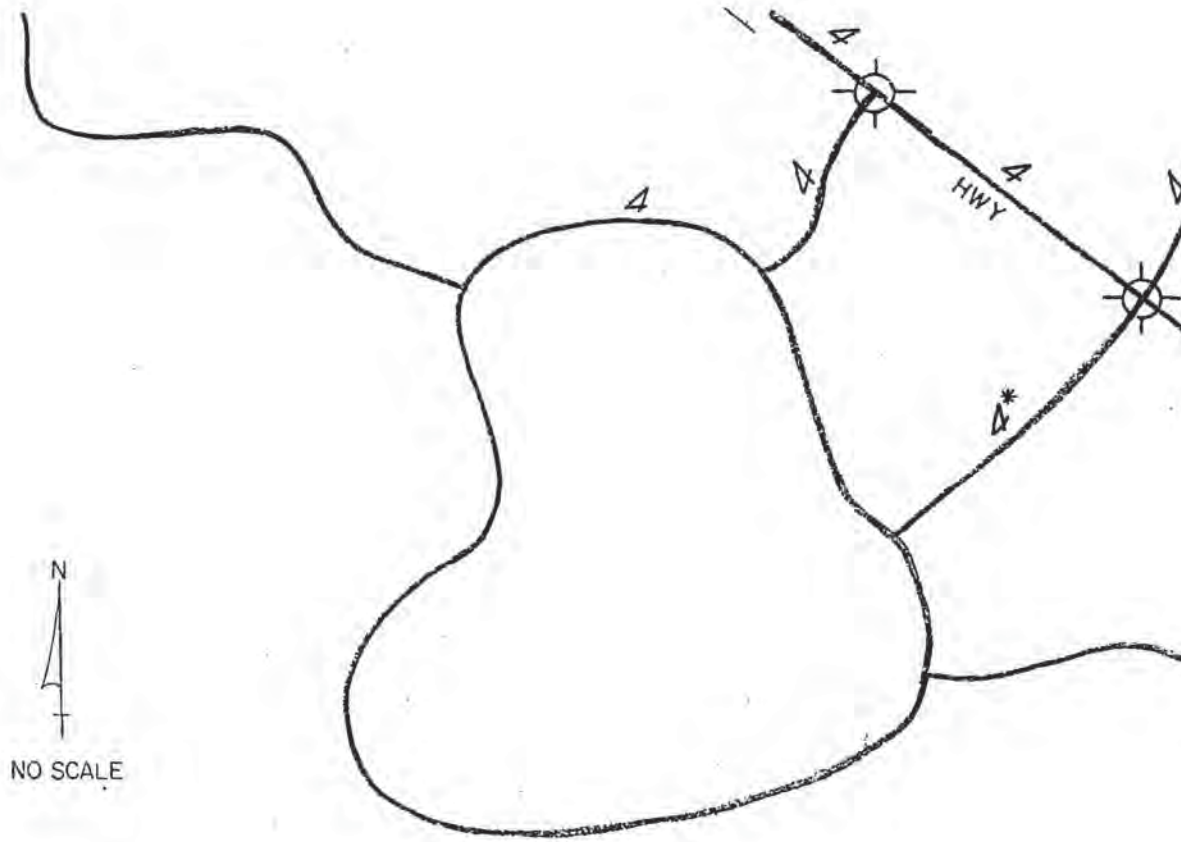


FIGURE 31-3
TRAFFIC LANE REQUIREMENTS
Assumes Full Development

Traffic Signal
4 Total Traffic Lanes
* Recommend For Street Continui
Traffic Flow, & Safety

With the Bluewater Development, the nature of the roadways around the Site will take on more of an urban characteristic which will increase the capacity for a 2-lane roadway to approximately 10,400 vehicles per day.[6)7)] Any degree of access control or high restrictions on the driveway openings will increase these capacity levels to a slightly higher value.

Assuming a 50% development of the Bluewater Development, all roadways on the Site could function adequately for the traffic forecasts shown in Figure 31-2 as 2-lane roadway facilities. The possible exception would be along State Highway 20 wherein intersection channelization (separate left turn lanes) would be desirable at two of the three Bluewater intersections with Highway 20.

For the full development of Bluewater, the need for traffic signals and 4-lane roadways will be necessitated along Highway 20 and along those Bluewater roadways connecting into Highway 20. Figure 31-3 shows the roadway sections which the analyst believes would require 4-lane capabilities for reasons of street continuity, traffic flow and capacity, and safety.

The analyst suggests that Highway 20 should have a median for the volumes shown in Figure 31-1. A median

is also suggested for the roadways radiating from Highway 20.

The above suggestion for the lane allocations is based upon the following Levels of Service:

General Roadway Levels of Service

Roadway	C	E (Capacity)
2 lane Rural	6,150	9,500
2 lane Urban	7,800	10,400
4 lane Urban	18,800	24,800

The widening to 4 lanes of Highway 20 would involve a length of approximately 4 miles which would connect the existing 4-lane section southeast of Niceville through to a point several thousand feet southeast of the proposed Bluewater Development. The necessity for such an improvement is estimated to be 15 to 20 years away, based upon the traffic forecasts shown in Figure 31-1. However, the intersection channelizations suggested for the traffic volumes in Figure 31-2 would be required within approximately 5 years of the start of the Bluewater Development.

Street improvements to 2-lane and 4-lane standards on the Bluewater Site should be phased in along with the land use developments on the Site.

G. Describe Any Plans for Public Transit or Other Means of Moving People Which Alleviate Highway Network Pressures.

Given the size of the Bluewater Development and the densities of the land use proposed, the analyst does not believe that any form of transit is economically feasible or practical for consideration.

The analyst does believe that car pools will play a major role in reducing the number of vehicular work trips from Bluewater to employment centers external to the site. The impact of car pooling on vehicular traffic would probably provide a 1% to 2% reduction in motor vehicle travel.

Bicycles can be effectively utilized on the site. Bicycles will be used by school children and by a small percentage of the adults making shopping or social/recreation trips. The percentage reduction to the motor vehicle trips is assumed to be insignificant since trips by students were not extensively utilized in the forecasting of the motor vehicle traffic volumes in Figures 31-1 and 31-2, except for the high school.

Walking will also be an effective means of transportation within the Bluewater Development.

One possible means for consideration is the use of van pools as a substitute for car pools. Such efforts, however, would have to be coordinated closely by central employers with such employers promoting the program and funding the purchases of the vans. Should a van pool program be implemented, the reduction in daily vehicular traffic could range from 2 to 5%.

H. References and Contacts

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9. Federal Register, April 30, 1971, Environmental Protection Agency.

32. Housing: Provision of Residential Units

A. The following is a breakdown of the proposed construction of residential units by price or rental range with the type of unit and number of bedrooms noted:

Owner Occupied Units: (1)

PHASE I

Price Range	Type of Unit	2 BR	3 BR	4 BR (or more)	TOTAL
$25,000-34,999	Single Family	25	15	--	40
35,000-49,999	Single Family	--	69	69	138
50,000-70,000	Single Family	--	15	25	40
	TOTALS	25	99	94	218

PHASE II

$20,000-24,999	Cluster	20	20	--	40
25,000-34,999	Cluster	--	80	--	80
35,000-49,999	Cluster	--	20	20	40
	TOTALS	20	120	20	160

PHASE III

$20,000-24,999	Patio Home	21	21	--	42
25,000-34,999	Patio Home	21	21	--	42
25,000-34,999	Single Family	--	21	--	21
35,000-49,999	Patio Home	--	84	--	84
35,000-49,999	Single Family	--	11	11	22
50,000-60,000	Single Family	--	11	11	22
	TOTALS	42	169	22	233

(1) These prices reflect the price of the units only. The total sale price will average $10,000 more when the cost of the land is included.

PHASE IV

Price Range	Type of Unit	2 BR	3 BR	4 BR (or more)	TOTAL
$15,000-19,999	Cluster	79	78	--	157
20,000-24,999	Cluster	--	79	79	157
25,000-34,999	Cluster	--	79	79	158
35,000-49,999	Cluster	--	79	79	158
	TOTALS	158	314	158	630

PHASE V

$25,000-34,999	Single Family	--	20	--	20
35,000-49,999	Single Family	--	20	20	40
50,000-65,000	Single Family	--	10	10	20
	TOTALS	--	50	30	80

PHASE VI

$25,000-34,999	Single Family	--	20	--	20
35,000-49,999	Single Family	--	24	24	48
50,000-65,000	Single Family	--	10	10	20
	TOTALS	--	54	34	88

PHASE VII

$20,000-24,999	Single Family	--	26	--	26
25,000-34,999	Single Family	--	26	--	26
35,000-49,999	Single Family	--	13	13	26
50,000-60,000	Single Family	--	13	14	27
	TOTALS	--	78	27	105

PHASE VIII

$35,000-49,999	Single Family	--	41	42	83
50,000-70,000	Single Family	--	41	41	82
	TOTALS	--	82	83	165

PHASE IX

Price Range	Type of Unit	2 BR	3 BR	4 BR (or more)	TOTAL
$25,000-34,999	Single Family	--	39	38	77
35,000-49,999	Single Family	--	40	39	79
50,000-70,000	Single Family	--	38	39	77
	TOTALS	--	117	116	233

PHASE X

$20,000-24,999	Single Family	13	13	--	26
25,000-34,999	Single Family	--	13	13	26
35,000-49,999	Single Family	--	13	13	26
	TOTALS	13	39	26	78

PHASE XI

$35,000-49,999	Single Family	--	29	30	59
50,000-70,000	Single Family	--	29	30	59
	TOTALS	--	58	60	118

PHASE XII

$35,000-49,999	Single Family	--	40	40	80
50,000-70,000	Single Family	--	40	40	80
	TOTALS	--	80	80	160

PHASE XIII

$35,000-49,999	Single Family	--	38	38	76
50,000-70,000	Single Family	--	38	39	77
	TOTALS	--	76	77	153

PHASE XIV

Price Range	Type of Unit	2 BR	3 BR	4 BR (or more)	TOTAL
$20,000-24,999	Single Family	19	19	--	38
25,000-34,999	Single Family	--	19	20	39
35,000-50,000	Single Family	--	19	19	38
	TOTALS	19	57	39	115

PHASE XV

$20,000-24,999	Patio Home	35	35	--	70
25,000-34,999	Patio Home	--	70	--	70
35,000-50,000	Patio Home	--	35	35	70
	TOTALS	35	140	35	210

PHASE XVI

$20,000-24,999	Single Family	18	17	--	35
25,000-34,999	Single Family	--	17	18	35
35,000-50,000	Single Family	--	17	18	35
	TOTALS	18	51	36	105

PHASE XVII

$15,000-19,999	Patio Home	50	40	--	90
20,000-24,999	Patio Home	63	62	63	188
25,000-34,999	Patio Home	--	64	64	128
	TOTALS	113	166	127	406

PHASE XVIII

$20,000-24,999	Condominium	94	95	--	189
25,000-34,999	Condominium	189	189	--	378
35,000-50,000	Condominium	95	94	--	189
		378	378	--	756

Rental Units

PHASE XIX

Rent Range	Type of Unit	1 BR	2 BR	3BR	4 BR	TOTAL
$100-149	Apartment	200	---	---	---	200
150-199	Apartment	100	150	---	---	250
200-249	Apartment	---	96	100	---	196
250-300	Apartment	---	---	---	56	56
	TOTALS	300	246	100	56	702

PHASE XX

$100-149	Apartment	120	---	---	---	120
150-199	Apartment	---	240	---	---	240
200-249	Apartment	---	---	126	---	126
	TOTALS	120	240	126	---	486

PHASE XXI

$100-149	Apartment	120	---	---	---	120
150-199	Apartment	---	273	---	---	273
200-249	Apartment	---	---	120	---	120
	TOTALS	120	273	120	---	513

B. It is the current plan of the developers to "wholesale" improved building sites to responsible builders and maintain control of the type of structures to be erected thereon through deed restrictions. (Copies will be provided on completion). In this manner the architectural style, degree of landscaping, general quality of construction, etc., will be controlled by the developers so that their investment as well as that of the residents will be protected. All

lots and building sites will front on a paved road and have access to the community water supply and sewage collection system.

C. The "target group" for the marketing effort by the developers, will be responsible builder-sellers. They will develop their own retail marketing programs and specific "target groups". With the current inventory of completed units and the continuing availability of raw beachfront property, no significant market for second or vacation homes is anticipated.

D. The developer's marketing program is planned to be conducted within the state.

E. No registration with the Division of Florida Land Sales is now required, under Chapter 478 of the Florida Statutes. Should the marketing program be revised to include out-of-state marketing, proper registration will be executed in advance. Registration with HUD will be performed, but there are no current plans to register the project with state agencies outside Florida.

F. Densities by phase are noted on the "Master Development Plan, Map H.