

SECTION 15. UPDATED COMMUNITY SURVEY RESULTS

As part of the planning process, a survey of Richmond households was conducted to determine residents' attitudes toward the issues facing the Town. The survey was distributed to every household in Richmond and included a self-addressed return envelope. Residents were given the option of mailing back the survey or dropping it off at four locations throughout the Town. Two hundred seventy-eight completed questionnaires were returned and processed.

This section summarizes the findings of the community survey. The detailed cross tabulations of the results are included in Appendix A.

A. Characteristics of Respondents

Of the 278 households which returned a survey, just over 41% live in the Village area. Thirteen percent live in the Beedle/New Roads area east of I-95, while about 10% live in the Beedle/Brown Roads area west of I-95 and 17% in the Alexander/Langdon Roads area east of I-95. Approximately 8% live in the Richmond Corners area, with the balance scattered in other areas.

The respondents were primarily people who have lived in Richmond more than twenty years (38.0%) or those who have lived here less than two years (21.4%) (Table 6). Thirteen percent of respondents have lived in Richmond three to five years, while 9% have been in Richmond six to ten years. Almost 19% have lived in Richmond eleven to twenty years.

The age of the head of household was quite widely distributed, with the 35-to-44 age group being the largest (28.5%), followed by the 25-34 year group (21.3%) and the over 65 years group (19.5%) (Table 6). The middle-aged groups were rather small with the 45-to-54 year group being slightly larger (14.4%) than the 55-to-64 year group (12.3%).

Just over 52% of households responding to the survey have one or two members, while 10.5% have five or more members (Table 6). Three-person households comprise about 22% of the respondents, while over 15% have four members.

Almost one-third of the respondents report that the head of their household is employed in a professional or administrative position (Table 6). One quarter are retired, while almost 23% report working in blue collar positions. Under 3% are employed in farming or forestry operations.

TABLE 6
 Richmond Community Survey
 Profile of Respondents
 Richmond Comprehensive Plan

	#	%
Length of Residence in Richmond		
- one or two years	59	21.4
- three to five years	36	13.0
- six to ten years	25	9.1
- eleven to twenty years	51	18.5
- more than twenty years	105	38.0
Age of Head of Household		
- under 25 years	11	4.0
- 25 to 34 years	59	21.3
- 35 to 44 years	79	28.5
- 45 to 54 years	40	14.4
- 55 to 64 years	34	12.3
- 65 years or older	54	19.5
Number of People in Household		
- one	49	17.6
- two	97	34.9
- three	60	21.6
- four	43	15.5
- five	21	7.6
- six or more	8	2.9
Principal Wage Earner's Occupation		
- Professional/Administration	85	32.7
- Other white collar	27	10.4
- Skilled blue collar	46	17.7
- Other blue collar	13	5.0
- Farming/Forestry	7	2.7
- Unemployed	3	1.2
- Retired	65	25.0
- Homemaker	2	0.8
- Other	12	4.6

Of those heads of household who are employed, almost one-quarter report working within Richmond. Of those who commute outside of Town to work, Bath-Brunswick is the principal destination (41.4% of employed) followed by the Augusta-Gardiner area (15.6%). A small number of people report working in either Lewiston-Auburn or Greater Portland.

Almost one half of the respondents report not being related to any other households in Richmond, while just over 21% are related to one or two other Richmond households. Over 20% of households are related to six or more Richmond households.

B. Commercial-Industrial Development

Respondents generally supported the idea that the Town should encourage new business in order to provide jobs for the Town's young people. Over three-quarters of all respondents agreed with this statement. Support was reasonably uniform across subgroups and was strongest among long-term residents (over 20 years) and younger households (less than 25 years old) and elderly households (65+ years).

In a similar vein, respondents generally disagreed with the statement that new business should be discouraged since it will create a demand for residential development. Almost three-quarters disagreed with the statement. Young households were the most likely to disagree with the statement.

While respondents were somewhat supportive of the idea that the area near I-95 should be set aside exclusively for industrial development (just over 59% exhibited some level of agreement), the concept of other types of new commercial development at the interchange such as motels, truck stops and restaurants received approximately the same level of support (just over 56% in agreement). There was a substantial group (19.9%) strongly opposed to other nonindustrial types of commercial development in this area. Support for industrial development at the interchange is strongest among newcomers (less than 5 years) and long-term residents (more than 20 years).

When asked if the Town should acquire land and develop it as an industrial park, almost 50% of respondents were opposed while almost 19% were neutral. A substantial group of just under 20% strongly favored Town participation in an industrial park. Support for Town involvement was strongest among newcomers and households less than 45 years old.

Respondents slightly favored the position that the Town should permit the building of a shopping center on Route 197 just outside the Village District. A substantial group (21.5%) were strongly opposed to this. Agreement was strongest among newcomers and long-term residents and among younger households (under 35 years old). Within the 35-to-64 year old groups, the response to this issue was about neutral with large groups at both ends of the spectrum. There appears to be no consensus on this issue.

C. Rate of Growth

When asked about Richmond's rate of growth over the past decade, almost one-half of respondents felt it was about right. Thirty percent thought it was too slow or much too slow, while only 17% thought it was too fast or much too fast. Residents of the Beedle Road area and the Alexander/Langdon Roads area were the most likely to feel that the Town was growing too fast.

Almost 80% of respondents feel that the Town will grow faster in the next ten years than it did over the past decade. Less than 3% thought that growth would be slower. Newcomers and younger households were more likely to see the Town growing at a much faster rate, while middle aged and elderly groups were more likely to see a similar or only somewhat higher growth rate than the past decade.

When asked about the Town's current zoning and land use regulations, over 47% thought they are about right, 28% thought they are too lenient, and just over 24% feel they are too restrictive. Newcomers were more likely to feel that the current regulations are too lenient, while long-term residents are more likely to feel they are too restrictive. Households in the 35-to-44 year age group were most likely to feel that the regulations are too lenient, while younger and older groups are more likely to feel they are too restrictive.

D. Residential Development

The survey asked residents about the role the Town should play with respect to new residential development. Opinion was split quite evenly with about 37% favoring the Town doing everything possible to control the amount of new residential development in Richmond. A slightly smaller percentage favored actively encouraging residential development by making public sewerage and water mains available, while 30% favored letting residential development be controlled by the forces of the real estate market. No major pattern of differences emerged among the subgroups.

Residents were also asked where in the Town new residential development should be located. The vast majority (74%) favored scattering it throughout the Town, while almost 15% favored it being located in and around the Village. About 11% favored new development being directed to two or three areas of the Town to create a number of smaller villages. Longer time residents were more likely to prefer scattered development than were other households.

The survey also asked residents whether they would prefer to see fifty new homes located in one large subdivision, in a few small subdivisions, or scattered along existing roads. Over three-quarters of respondents favored scattered development along existing roads. Over 20% favored a number of small subdivisions, while almost 5% favored a single large subdivision.

Older households (55+ years) were the most likely to favor scattered development, while households in the 25-to-54 year range gave more support (but not the majority) to locating new development in subdivisions.

E. The Village

The questionnaire asked a number of questions about residents' attitudes towards issues facing Richmond Village.

Respondents generally supported the concept that the Town should actively work to preserve the historic character of the Village. Over 53% strongly agreed with this statement, while almost three-quarters of all respondents indicated some level of agreement. As might be expected, the level of agreement among respondents who live in the Village was the highest, but all geographic areas of the Town supported this concept. Support for preserving the historic character of the Village was strongest among people who have lived in Richmond for less than ten years and among younger respondents.

The survey also asked if respondents thought property owners in the Historic District should be required to conform to architectural standards when making changes to historic buildings. Thirty-seven percent strongly agreed that they should, while 60% expressed some level of agreement with this concept. Support for architectural standards was quite uniform.

Residents were asked about the types of commercial uses that should be allowed in the Village. Almost 78% favored encouraging professional offices and services, while almost 69% agreed that antique stores, craft and gift shops, and art galleries should be encouraged to locate in the Village. These attitudes were reasonably consistent by age and length of residence in Richmond.

Residents generally did not favor the establishment of new manufacturing or industrial uses in the Village Historic District. Sixty-four percent of respondents agreed with limiting these type of uses, while an additional 13% were neutral. Village residents were only slightly more likely to support limiting these uses. Newer residents agreed with the statement somewhat more often.

On the issue of fast food franchises locating in the Village, there was significant disagreement. While just over 44% of respondents agreed somewhat strongly that these uses should be prohibited in the Village, over 33% somewhat strongly disagreed. Village residents' attitudes were quite similar to the Town as a whole. Length of residence in Richmond had no influence on respondents' views. Support for restricting fast food operations was greatest in the 35-to-54 year old age groups.

F. Open Space and Recreation

The survey asked residents a number of questions about their willingness to expend Town tax money to protect open space and important natural areas. The response to these questions indicated significant disagreement over these issues. On these questions, the general pattern of responses was to have a reasonably large group at the two extremes and a smaller but significant group in the middle or neutral position.

Respondents were most positive about spending local tax dollars to purchase important wildlife habitats followed by acquiring river front land outside of the Village for recreational use. In both cases, the overall response was somewhat positive. Newcomers and younger households were generally more supportive of these uses of tax money.

Respondents were neutral on the issue of using tax dollars to provide tax breaks to owners of forest land who keep it undeveloped and open it to the public for hunting and similar uses, and opposed to using tax money to keep open spaces from being developed.

Respondents were also neutral on the concept of developing the Town forest for recreational use with a significant group (24.7%) very willing to spend tax dollars for that purpose but an opposing group (21.4%) very unwilling and a very large neutral group without a strong position on the issue.

Respondents supported the concept of developing a plan for the future use of the railroad right-of-way for recreational purposes. The idea of encouraging the development of marina facilities in the river received some support but only to a moderate degree.

The idea of requiring forest landowners to practice sound wood lot management to minimize over cutting was endorsed by a majority of respondents, with over three-quarters agreeing in some degree.

G. Agricultural Land Preservation

The survey asked residents two questions about the preservation of farm land. On one question, respondents were asked to choose between providing financial assistance, regulating or simply encouraging landowners as the best means of preserving farm land. Almost 65% selected passive encouragement, while just under 30% selected financial assistance. Only 5% selected regulation.

The second question asked how willing people would be to have tax money used to provide tax breaks to farmers to keep their land in agricultural production. The overall response was slightly positive to this concept, with 54% of respondents indicating some level of willingness.

H. Historic Preservation Assistance

The concept of using tax money to assist in the restoration of historic buildings was received cautiously by respondents. The overall result was slightly negative, with only 37% of respondents indicating a willingness to see their taxes used for this purpose. Residents of the Village and newcomers to Richmond were the most likely to support this idea.

I. Public Facilities and Programs

The survey asked respondents about the use of tax money to support a number of public facilities and programs. A large majority of respondents indicated that they were willing to have their tax money used for improving and constructing sidewalks in the Village. Support for this concept was significantly greater in the Village than in most outlying areas.

The idea of using taxpayers' money for constructing off-street parking near Main Street received moderate support from respondents. Fifty-two percent of respondents indicated some level of support. Support for off-street parking was quite consistent throughout the Town.

A significant group of respondents favored using tax money to upgrade the school system. Almost 41% indicated they would be very willing and a total of 60% indicated some level of willingness. Support for the schools was greatest among newcomers, younger households and households with children.

The concept of using tax money for expanding the sewer system to encourage development on the fringes of the Village met very mixed results. Significant groups were very unwilling (22.0%) and very willing (18.3%) to see this type of project carried out, while a higher percentage of responses were clustered in the center indicating lack of any community consensus on this issue.

J. Property Upkeep and Maintenance

Respondents overwhelmingly supported the idea that the Town should actively enforce regulations on junk cars and property maintenance. Over 61% strongly agreed with the idea, while over 81% of respondents indicated some level of agreement.

SECTION 16. ECONOMIC TRENDS

Richmond is, in many ways, influenced more by regional and national economic factors, than it is by local conditions. The major employers in the Town are involved in national and international markets. The Town, on the other hand, has a very limited retail or service role and is primarily reliant on other communities for the majority of these services. In addition, a growing group of residents commute to jobs in the Augusta or Bath-Brunswick labor markets.

This section summarizes many of the key economic factors which reflect the economic trends which have impacted Richmond in the recent past and which are likely to continue to influence the Town in the future.

A. Labor Force

The labor force of a community is the number of people employed or actively seeking employment and registered with the Bureau of Employment Security. Between 1980 and 1987, the Town's civilian labor force remained virtually unchanged. In 1980, the Bureau of Manpower Affairs reported that the average labor force for the year was 1,257. In 1987, the labor force was reported to be 1,237.

B. Employment By Industry

The 1980 Census surveyed residents on the type of industry in which they were employed. For people who lived in Richmond in 1980, the distribution was:

Construction	3.2%
Manufacturing	44.4%
Transportation/Communications	6.2%
Wholesale	1.9%
Retail	7.0%
Services	23.3%
Resource Industries	4.5%
Public Administration	7.3%
Finance, Insurance, Real Estate	2.3%

Employment in manufacturing and public administration was significantly higher than the statewide employment pattern, while employment in the retail, wholesale and services sectors were significantly lower. This employment pattern reflects Richmond's existing economic base and its economic relationship with the Augusta and Bath-Brunswick areas.

C. Jobs

The Maine Bureau of Manpower Affairs reported that Richmond had 1,145 employed residents in 1980. By 1987, the level of employment had increased only to 1,154. Detailed information on employment in smaller communities is not regularly published on a town-by-town basis.

There are three major employers located in Richmond. Etonic-Tretorn, the Town's largest industry, employs approximately 250 people in its golf shoe manufacturing plant. Employment at the facility fluctuates between 200 and 275 depending on market conditions. During the early 80's, employment at the shop declined and bottomed out in the mid 80's. Over the past few years employment has rebounded somewhat, but has not reached the level of the late 70's. Clarostat-Richmond, Inc., located in the Ames Mill, produces electronic components and employs approximately 100 people. In April of 1990, Clarostat announced its intention to phase out its Richmond operations and consolidate manufacturing at its Dover, New Hampshire facility. Port City Auto Auction, a recent addition to the community, employs approximately 30 people, all of whom work on a part-time basis.

Other major employers of Richmond residents include Bath Iron Works in Bath and Brunswick, Central Maine Power Company in Augusta, and Maine State government. In 1988, BIW reported that 209 Richmond residents were employed. Approximately 60 Richmond residents work in State government in various locations.

Richmond is part of the Augusta Labor Market Area. Between 1981 and 1988, this economic area experienced a growth in civilian employment from 29,980 to 37,160, a change of 24% (Table 7). Services was the largest increase in absolute terms with a growth of almost 2,100 jobs. Major growth sectors were wholesale trade (75.6%), services (47.6%), finance, insurance and real estate (45.1%), retail trade (42.2%) and construction (40.5%). Manufacturing experienced declining employment over this period.

The economic downturn of 1990 has resulted in stabilization of job growth in the region. The economic outlook for the area economy is unknown, but it is unlikely that the region will see the job growth in the first years of the 1990's that was experienced in the 1980's.

During the 1980's, Richmond has become more economically involved with the Bath-Brunswick Labor Market Area. This area has experienced major job growth spurred on by major increases at BIW. It is unlikely that this trend will continue in the future as BIW adjusts to reductions in defense spending and potential cuts in Navy contracts.

TABLE 7
 Nonfarm Wage and Salary Employment
 Augusta Labor Market Area
 Richmond Comprehensive Plan

	1981	1984	1988	Change 81-88	Percent Change
• Manufacturing	4,740	4,590	4,090	- 650	- 13.7
• Construction	1,260	1,210	1,770	+ 510	+ 40.5
• Transportation/ Utilities	1,680	1,680	1,980	+ 300	+ 17.9
• Wholesale Trade	1,190	1,380	2,090	+ 900	+ 75.6
• Retail Trade	3,980	4,330	5,660	+1,680	+ 42.2
• Finance, Ins., Real Estate	910	940	1,320	+ 410	+ 45.1
• Government	11,870	12,460	13,820	+1,950	+ 16.4
TOTAL	29,980	31,390	37,160	+7,180	+ 24.0

Source: The Maine Employment and Earnings Statistical Handbook

D. Commuting Patterns

Of the employed residents of Richmond in 1980, 46.6% reported working in the Town, a very high percentage compared to most Maine communities. Almost one worker in five reported commuting to work in the Bath-Brunswick area, primarily to the City of Bath. A similar number of workers commute to jobs in the Augusta area primarily in the City of Augusta.

The community survey asked respondents for the location of the principal wage earner's job. Almost one quarter reported that person working in Richmond. Over 40% reported that the principal wage earner works in Bath-Brunswick, while only 15% reported the Augusta-Gardiner area as the job location.

E. Retail Sales

During 1987, businesses in Richmond had 3.3 million dollars in retail sales of merchandise subject to Maine State Sales Tax. Since the Town has a small number of businesses, detailed sales tax information by category is not available.

Retail sales in Richmond grew steadily during the 80's. In 1981, taxable sales were \$1,590,000 increasing to approximately 2½ million dollars by 1985-86. During 1987 and 1988, sales jumped significantly to reach \$3.3 million in 1988. This is an increase of approximately 108% since 1981. During this same period, retail sales in Kennebec County increased from \$330,170,000 (1981) to \$724,220,000 (1988), a 119% increase, while Sagadahoc County sales increased by 154%.

F. Issues and Implications

Historically, Richmond was an economic center both in terms of jobs and retail services. Over the past decades, this role has eroded. Increasingly the Town is populated with people who commute to jobs outside of Town. The local industrial base depends on the decisions of firms whose interest lies outside of Richmond. Increasingly, Richmond residents shop outside of Town for major items, relegating the local merchant to serving the everyday needs of the community.

Three key issues emerge out of this situation. The future of the Main Street commercial area is changing. This area has the potential to be a viable local service center but requires good parking and a pleasant environment to be successful.

The I-95 interchange presents opportunities to develop commercial-industrial facilities to serve the Town. This course has potential for creating jobs and tax revenues but could increase growth pressures and the demands for public services. In addition, this creates a separate center apart from the Village.

The question of commuters versus local jobs raises important issues for the Town. The ability to maintain volunteer services and a sense of community are dependent on a local labor force.

SECTION 17. TRANSPORTATION

A. Introduction

This section of the Comprehensive Plan identifies the existing transportation systems in the Town of Richmond and provides an overview of the ability of those systems to provide an adequate and safe level of mobility to the residents of Richmond as well as people traveling through the community.

The section also analyzes the transportation systems to identify areas which should be addressed in the policy and recommendations of this plan.

B. Roadway System

Richmond contains 69.07 miles of public roads. Interstate 95 runs north-south through the western portion of the community for a distance of approximately 5.5 miles. This road is a limited access highway. The Richmond-Litchfield exit provides access both north and southbound from Route 197. State Route 201 also runs north-south through Richmond to the west of I-95. The road is a 2-3 lane paved facility which is in good condition. Route 201 was the major route to Augusta prior to the construction of the interstate. Now it serves mainly as a carrier of intercommunity traffic.

The Town also contains a network of secondary roads which are part of the State highway network. Route 24 runs north-south along the western shore of the Kennebec River connecting Richmond Village to Gardiner and Bowdoinham. Route 197 runs east-west from Dresden to Litchfield and serves as Richmond's Main Street. Both roads are two-lane paved facilities in good to fair condition and serve both intercommunity and local traffic. Route 138 connects with Route 201 near Richmond Corner and runs south into Bowdoinham. This road is a two-lane paved facility in good condition and serves both local and intercommunity traffic.

Richmond also has approximately 40 miles of local roads. Most of these roads are two-lane facilities, which serve intracommunity travel and provide access to abutting land. The streets within the Village are paved and are generally in fair to good condition. In the rural portion of the Town, the local road network is a mix of paved and gravel roads. The Beedle Road, Goshen Road, New Road, Reed Road/Pitts Center Road, Alexander Road, Langdon Road, the Thorofare, the Carding Machine Road, White Road, Ridge Road, Old Ferry Road, and Old Route 201 are paved and in fair to good condition. The remaining local roads are gravel.

C. Functional Classifications

The Maine Department of Transportation classifies roads by the role they serve in the overall transportation network. The three principal classifications are:

1. Arterials - These are the most important travel routes in the State. They carry high speed, long distance traffic and attract a significant amount of federal funding. They usually carry interstate or U.S. route number designations.
2. Collectors - These are the routes which collect and distribute traffic to and from the arterial routes. They serve places of lower population density and are somewhat removed from main travel routes.
3. Local roads - These are the routes which serve primarily for access to adjacent land areas and usually carry low volumes of traffic.

Within Richmond, Interstate 95 is the only road which is classified as an arterial by the Maine Department of Transportation.

The Town contains 24.88 miles which are functionally classified as collectors (Figure 8), including:

- State Route 24 from the Bowdoinham Town Line to the Gardiner Town Line
- State Route 197 from the Litchfield Town Line to the Dresden Town Line
- State Route 201 from the Bowdoinham Town Line to the Gardiner Town Line
- State Route 138 from the Bowdoinham Town Line to Route 201
- the Alexander Road from Route 197 to Pitts Center/Reed Road
- the Pitts Center/Reed Road from the Alexander Road to Route 201
- the White Road from County Road to the Bowdoinham Town Line
- the Thoroughfare from Route 201 to the Litchfield Town Line

The balance of the roads in the Town are functionally classified as local roads. There are 33.14 miles of local roads.

D. Traffic Volumes

The Town's road system has experienced significant traffic growth during the 1980's. Main Street (Route 197) in the Village and South Front Street (Route 24) saw average daily traffic volumes more than double between 1980 and 1988 (Table 8). The County Road (Route 197) also saw significant traffic growth with increases of 75% to 85% in the segments east of Route 201 and over 50% west of Route 201. Route 201 also saw its average daily traffic grow

TABLE 8
 Average Annual Daily Traffic Volumes
 at Selected Locations 1973-1988
 Richmond Comprehensive Plan

	1973	1980	1988	% Change 1980-1988
Route 24/So. Front Street (south of Main)	2,005	1,300	3,110	139.2
Route 24/River Road (north of Ferry Road)	905	1,070	1,330	24.3
Route 197/Main Street (west of Front Street)	2,725	3,090	6,320	140.0
Route 197/Ferry Road		1,770	2,230	26.0
Route 197 (at bridge)	1,365	1,690	1,890	11.8
Route 197/County Road (east of I-95)		1,360	2,540	86.8
Route 197/County Road (west of I-95)		830	1,540	85.5
Route 197/County Road (east of Route 138)		910	1,590	74.7
Route 197/County Road (west of Route 201)		700	1,090	55.7
Route 201 (north of Route 197)		1,070	1,630	52.3
Route 201 (south of Route 197)		950	1,280	34.7
Route 138 (south of Route 197)		190	250	31.6

by one-third to one-half during this period. The River Road (Route 24), Ferry Road (Route 197) and Route 138 all experienced traffic growth of 25% to 30%.

This growth in Richmond traffic is mirrored by changes in traffic volumes on I-95. Between 1980 and 1987, northbound traffic near the Richmond interchange increased from 3,330 to 5,940 (78.4%), while southbound traffic grew from 3,280 to 6,270 (91.2%). In 1980, approximately 260 vehicles entered I-95 to go southbound at the Richmond-Litchfield exit, while approximately 190 entered to go northbound. No recent counts of entering traffic are available.

While the amount of traffic using the local road network in Richmond has grown dramatically over the past decade, most roads carry relatively low volumes of traffic. Only Main Street has average daily traffic volumes in excess of 5,000 vehicles per day.

Growth of traffic in the Route 1 corridor has raised concerns about Route 197 being designated as an alternative route for tourists seeking to avoid congestion in Bath and Wiscasset. The Maine Department of Transportation completed a preliminary study of the Route 1 corridor in October 1989. This study recommends that the Route 1 corridor be upgraded to accommodate the traffic flow. The report does suggest that it may be necessary in the future to construct a new road linking I-95 with Route 1 north of Bath.

E. Safety

The Maine Department of Transportation defines a high accident location as a roadway intersection or segment which experiences 8 or more accidents in a three-year period and has a critical rate factor in excess of 1.00. The critical rate factor is a measure of the actual number of accidents compared to the theoretical accident experience that would be normally expected in that situation.

Accident data from 1985 through 1987 shows that there are no locations in Richmond which meet this definition of a high accident location. There are a number of locations which might be considered problem areas (a critical rate factor greater than one and 4 or more accidents in three years). The locations include:

- the Route 197 bridge across the Kennebec (6 accidents)
- the intersection of Routes 197 and 201 (6 accidents)
- Main Street east of the railroad tracks (6 accidents)
- the approach to the bridge (5 accidents)
- Route 24 from Beedle Road to the Town line (6 accidents)
- Route 24 north of Pitts Center Road (4 accidents)
- the Reed Road east of Alexander Road (4 accidents)
- the intersection of the County Road/Main Street and Williams Street (4 accidents)

F. Congestion

There are no major congestion problems in the Town of Richmond. The growth in traffic on the collector system creates some minor nuisances, but no major problems exist or are likely to develop in the near future. Main Street is beginning to experience minor congestion during the morning and afternoon peaks, which results in delays and inconvenience.

G. Sidewalks/Pedestrian Facilities

In the past, Richmond Village had a system of sidewalks. Over the years, this system has deteriorated. Richmond Village has the potential to be a pedestrian environment with improvements to the sidewalk system. Two major areas for sidewalk improvements are Main Street and North Front Street. A major goal of the community should be to provide sidewalks along the streets in the Village and to major public facilities such as the schools to encourage walking within the Village.

The outlying portions of the community provide innumerable opportunities for walking. In many cases, these involve using private property. There are unimproved and abandoned Town roads, utility rights-of-way, and the former Maine Central Railroad right-of-way that offer the potential for creating long distance walking paths (Figure 8) that could link local trails and assure a permanent backbone of a path system for the Town.

H. Parking

There are three significant parking issues in Richmond. The first is the provision of adequate parking to meet the needs of the Main Street commercial area. The reconstruction of Main Street/Route 197 will result in the loss of some off-street parking. The Town has attempted to develop off-street parking to replace this but this has not been successful to date. The economic vitality of this area is dependent on the availability of convenient parking. The possibility exists for developing new off-street parking in cooperation with private owners within existing public rights-of-way and at the rear of existing buildings.

A second parking issue involves parking for public facilities. The Town Office, as well as the Marcia Buker School, has minimal parking. The public park and boat launch at the foot of Main Street also has limited public parking. The potential for providing expanded parking to serve the Town Office and the elementary school exists in the area between the two facilities.

A third concern is the provision of adequate parking in conjunction with private development. This is a particular concern for the reuse of big older homes in the Village so that the necessary parking is provided in a manner which does not destroy the character of the Village.

I. Railroad Right-of-Way

The Maine Central Railroad owns a right-of-way which runs along the western shore of the Kennebec River. This rail line is proposed to be abandoned. This right-of-way raises a major policy issue for the State and communities along it. On one hand, there is some interest in reviving rail service along this line. The concept of commuter or tourist passenger service has been discussed. There is also interest in using this right-of-way for recreational uses.

J. Other Transportation Systems

There is no public service mass transportation serving the Town. There are also no airports within the community. The State of Maine maintains a landing and parking area on the Kennebec shorefront which serves as the primary access to Swan Island. This facility is located just upstream from the Town park at the foot of Main Street.

The Kennebec River is maintained as a navigable channel. While the river provides extensive recreational potential and there is a limited mooring area for small boats adjacent to the Town Landing and Yacht Club, there are no commercial docking facilities or water dependent uses on the riverfront.

K. Issues and Implications

For better or worse, the future transportation system of the Town is dependent on the motor vehicle and highway. This factor raises a number of important issues for the community. Interstate 95 has increased Richmond's access to both the Bath-Brunswick and Augusta areas for commercial services. This convenience also means that Richmond is within commuting distance of both of these employment centers, as well as the Lewiston-Auburn area. To date, the Interstate has resulted in only limited highway related development near the Route 197 interchange. The availability of large, undeveloped areas adjacent to this interchange creates the potential for commercial and industrial development in this area.

The Town is dependent on a local road network consisting of both paved and gravel roads for access to much of the land in the community. Continued development along these roads will create demand for upgrading these roads, particularly those that are not paved, will increase the use of these roads, and will change the rural roadscape.

Route 197 serves as both the Main Street of Richmond and as a through route connecting the communities along it. As use of Route 197 increases, these two roles potentially conflict. Since the road bisects the Village, significant traffic increases could disrupt the functioning of the Village as a single unit and fragment the community.

The possibility of Route 197 being designated as an alternative corridor for coastal tourist traffic creates some commercial potential but also could be a major disruption particularly in the Village. While this does not appear to be likely in the foreseeable future, the possibility of such an action is cause for continued awareness by the Town of regional transportation planning.

The future use of the Maine Central right-of-way is a major regional policy issue facing area towns. The key is assuring that the right-of-way remains intact so that future options are not foreclosed.

SECTION 18. PUBLIC FACILITIES AND SERVICES

A. Introduction

The Town of Richmond provides a full range of facilities and services for its residents, which are summarized and analyzed in this section.

B. General Government

The current Town Office, constructed in 1982 on Gardiner Street to replace the old office on lower Main Street, provides office space for the following departments:

- Town Manager
- Town Clerk
- Code Enforcement Officer (part time)
- Police Department
- Administrative Personnel
- Social Services
- Voter Registration.

Since the Town Office is relatively small in size and does not contain a separate meeting room, the majority of public meetings are held at the High School or other locations. The Town Manager feels that the size of the office is adequate to handle the various functions and does not anticipate the need for any expansion in the foreseeable future.

C. Public Safety

1. Police

The Richmond Police force consists of four full time officers and two active constables. The constable is an appointed position with specific job responsibilities, such as posting warrants and assisting an officer. The Department currently has two cruisers.

The Police Department maintains a close working relationship with the Sagadahoc County Sheriff's Department. Since there is no dispatcher at the police station, calls are handled through the Sheriff's Office. Around the clock police coverage is not provided by the Town. However, there is always an officer on call for emergencies.

The Police Department is headquartered in the front of the new Town Offices in the center of the Village. If the Fire Department constructs a new fire station, the Police

Department will most likely relocate to that facility. Since the Town Office has no lock-up or detention cell, jail cells in nearby towns are used on a bed availability basis.

2. Fire Protection

Richmond has a 45 member volunteer fire department with a Chief and two assistant Chiefs. Volunteers are paid on an hourly basis, while the three chiefs draw an annual salary.

The department's equipment is housed in two fire barns, one on Lincoln Street and the other on Main Street. The Main Street station is an historic structure with doors that are too small for modern firefighting equipment.

The Central Fire Station on Main Street Station has the following equipment:

- 1988 four wheel drive forestry vehicle with 500 gal. portable pump
- 1956 Ford, 500 gal. pump
- 1962 Ford, 1000 feet of hose, with a pump on a trailer
- 1946 Maxim, 500 gal. per minute pump

The William J. Sullivan Station on Lincoln Street has the following equipment:

- 1982 International, 1000 gal. pumper, with 750 gal. tank and 4000 feet of hose
- 1972 International, 1000 gal. pumper, with 750 gal. tank and 4000 feet of hose
- 1962 6X 1000 gal. tanker

The Town is in the process of assessing its fire service needs and plans to either enlarge the Main Street station, using the vacant parcel the Town owns next door, or to build a new one at a different location in 1992 or 1993. The Police Department has expressed an interest in sharing space with the Fire Department if and when the move occurs. Long-term planning also includes the purchase of a new pumper/tank truck with a 2500 gallon tank in 1992.

Fire communications are handled through the "red network telephone system," located in the homes of eight of the members of the department. The first person to answer the phone keys the central alarm to alert the rest of the volunteers. A paging system is also used to alert the members of the department. A mutual aid agreement exists with all towns in Sagadahoc County to provide backup assistance in case of a major fire.

The Town has two sprinkler systems in place at the present time: at the Ames Mill on Front Street and at the Etonic Shoe Factory on Main Street. Fire hydrants are found throughout the Village. In the rural parts of Richmond water needs for firefighting are met through a system of dry hydrants on fire ponds. The town currently has 14 ponds, all on private property, with plans to add two more this summer. More will be developed as the need arises.

3. Rescue Service

Emergency medical and ambulance services are provided to the residents by the City of Gardiner Ambulance Service under a contractual agreement with the Town. Most patients who need hospital care are taken to the Kennebec Valley Medical Center in Augusta. Over the last year the ambulance service handled 118 calls from Richmond, approximately 10% of their total calls.

D. Highway Department

The Town's Highway Department operates out of the Town Garage on High Street. The four full time personnel handle snow plowing and general maintenance on its road system, the Town Office, the firebarns, and the schools. The Department's equipment includes four trucks, a grader, a front end loader, a backhoe, and a bulldozer. The Town will be constructing a new salt storage shed to comply with State requirements by 1995.

The State Department of Transportation handles all maintenance on I-95 and Route 197 throughout the year. Additionally the State provides summer maintenance on the Alexander Road, Reed Road, White Road, and the River Road. The State DOT has a maintenance facility just north of Richmond Corners, where they have just completed a large salt storage silo.

E. Solid Waste

The Town is an associate member of Mid-Maine Waste Action Committee (MWAC), a quasi-municipal agency in Auburn responsible for the incineration of the Town's solid waste. Solid waste disposal in Richmond is handled by private haulers through curbside pickup. Trash is sent to the MWAC Incinerator in Auburn, where the Town pays the tipping fee, currently \$75.00 per ton. The Town spends approximately \$100,000 per year on solid waste through the tipping fee program. Fees are expected to be stable in the foreseeable future.

The Town's landfill on Lincoln Street has been closed and temporarily capped. The Town is currently working with the DEP to develop a permanent close-out plan for the former landfill. The site is currently used as a transfer station for white goods and tires, which are removed by a private hauler. Brush and other material are burned at the Lincoln Street site. Demolition debris is disposed of by private contractors. After investigating several sites, the Town has determined that the present site on Lincoln Street is the most appropriate one to use as a permanent transfer area for solid waste. The actual area to be used to hold white goods, tires, and other materials will be moved further back from the edge of the road.

The Town does not have a recycling program at the present time, although it did apply for State funds in 1990 but was denied. Through the Town Manager, Richmond is planning on

participating in the recycling program being organized in Lincoln County, trucking recyclable materials to the North Wiscasset recycling center. If this program goes into effect, the current curbside pickup would also include recyclables. The Town considers meeting the State's goals of recycling 25% of the waste stream by 1991 and 50% by 1994 to be a top priority.

A detailed description of the solid waste problem in Town was recently presented in the Final Report from Richmond's Solid Waste Committee, January 4, 1990.

F. Recreation

Within the past year the Town has started a Parks and Recreation Committee whose goals are to:

- provide recreational opportunities to all people in Richmond, regardless of age or physical limitations
- oversee the maintenance of the various park and athletic facilities throughout the Town
- develop recreation and other programs as appropriate
- acquire land for recreational purposes as the need arises.

The committee's recreation program at this time includes Women's Basketball and a Summer Recreation Program for the children of the community. The High School, under the direction of the Superintendent of Schools, has maintained an open door policy for its facilities and is widely used by the Town for a variety of recreational and educational programs.

The public outdoor recreational facilities owned and maintained by the Town include:

- Tennis courts (2) at the High School
- Little League Field on High Street
- Lane field on Southard Street
- Playground next to the Elementary School
- Basketball court next to the Elementary School
- Waterfront Park and boat launch on the Kennebec River
- Basketball hoops at the high school
- Soccer fields, softball field, and baseball field at the high school.

In addition to these Town facilities the residents also have access to:

- the Kennebec River
- Pleasant Pond, via the new boat launches
- Snowmobile trails maintained by the Richmond Snowmobile Club
- The Alice Wheeler farm (development rights were recently purchased through the Land for Maine's Future Board; limited public access will be allowed)
- Peacock Beach State Park

- Swan Island, via the ferry on the river near the Water District.

Private recreation facilities that offer opportunities for residents include:

- the skeet range on the Alexander Road
- several horse farms
- Richmond Corner sauna.

The Richmond Snowmobile Club maintains approximately 40 miles of groomed trails throughout the Town. New rules for operations within the Village area have recently been developed by the club, the game warden, the town manager, and private citizens. The Maine State Snowmobile Association pays the club a portion of the fees collected for registration, to be used for trail maintenance and grooming. The club also maintains cross country ski trails and will be working with the Town's recreation committee to prepare walking trails for summer use.

G. Library

The Isaac F. Umberhine Library on Main Street houses a collection of 15,000 volumes. The library is run by a Board of Directors (the Richmond Library Association) and receives half of its yearly operating budget from the Town. The other half comes from fiduciary accounts and fundraising events. The building is open 16 hours per week and circulates approximately 8,000 volumes per year. In addition to the general collection the library also contains three specialized collections: York County deeds; the Richmond Bee, a newspaper published between the 1850's and 1964 (to be put on microfilm); and an extensive selection of material on Maine Indians. The library added a children's room in 1987.

H. Historical Society

The Richmond Historical Society maintains artifacts from the Town's past in various locations throughout the Town. Old photographs are currently being stored in a fireproof safe in the Children's Room at the library. Additional material is stored upstairs at the library.

The long-term plans of the Historical Society include a move to the Southard Carriage House on Main Street, where there will adequate room for display and storage of artifacts.

I. Richmond Utility District

The Town of Richmond is served by the Richmond Utility District, a quasi-municipal organization chartered by the Public Utility Commission to provide sewer and water service to Richmond Village and a portion of Bowdoinham. The Utility District, as it is known today, was

organized in 1977 when the former Sewer Department bought out the privately held Richmond Water District. The RUD has a separate Board of Trustees and depends wholly on its ratepayers for income and support.

The majority of its customers, estimated to be a population of 1,600, are located within the Village. Its charter allows the District to extend its service one half mile south along Route 24 into Bowdoinham. At the present time, two homes in Bowdoinham are hooked up to the system.

The District employs two full-time employees--one for managing the water supply, the other for sewer--plus a bookkeeper and a part-time laborer.

In addition, the District retains the service of an environmental consultant for operations of the sewer plants. He monitors the day-to-day workings of the plant, reviews the rate structure, helps to set policy on funding mechanisms for improvements to the plant, and advises the District on technical matters and dealings with the Department of Environmental Protection.

1. Water Supply

The Village is served by municipal water that originates in a 61 foot deep sand and gravel well in the Town of Dresden. Twice a day the water is pumped from the well field across the Kennebec River to the Utility District office, where it is pumped again to the standpipe on Route 197. From this half million gallon facility, constructed in 1979, the water is distributed to users and hydrants throughout the Village. See the UTILITY PLAN (Figure 6) for a diagram of the distribution network in Town.

Within the past year the District upgraded the distribution line from the standpipe to better serve the high school, the Etonic shoe factory on Route 197, and close to two dozen private homes. The work extended to Williams Street and increased the pipe from a ten to a twelve inch service.

The Utility District owns approximately 116 acres surrounding the well in Dresden, with a considerable amount of frontage on the Kennebec. Much of this property is a former gravel pit, set in a neighborhood of scattered single family homes. In the mid 1970's, the Richmond Water District purchased the first 28 acres as a measure to protect the supply from possible contamination. The remainder of the land was purchased in 1985 by the Utility District. In an effort to reclaim the gravel pit and to prevent further erosion, the District last year planted 9,000 tree seedlings. The remainder of the land is wooded.

The Town of Dresden does not have townwide zoning in effect at the present time, although the selectmen are considering an update to their Comprehensive Plan. The need for some form of land use controls may be pointed out by this plan. Water supply and preservation of water quality for residents and neighboring well fields are two areas of concern that may be addressed by a hydrogeologic survey.

With its present well producing a very adequate supply of water, the Utility District does not anticipate that water will be a factor to limit growth in the developed portions of Richmond.

In 1990 the District is replacing the 100 year old 10 inch water line on Main Street up to High Street with a 12 inch line, in conjunction with the Maine Department of Transportation's improvements to Main Street. Both projects are expected to be completed by fall. The limit of work extends to the shut-offs at the individual services; no work is being done on private property under this contract.

The costs for the water line improvements, estimated at \$185,000, will be borne by the Utility District. Earlier in 1990 the District applied for funds (part grant, part loan) from Farmers Home Administration, but was rejected. The application has been resubmitted with a decision due in August. If FmHA approves the funding, the District would end up paying approximately half of the costs of the water line.

The Utility District has plans for a second standpipe, to hold 120,000 gallons of water, to be installed adjacent to the existing 500,000 tank. An application has been made to FmHA for funds for this project also; if approved, work may begin in 1991. The new tank would provide the District with backup capacity that is lacking with the present situation. It would also give the Town reserve capacity in the event of fire or other unusual needs.

At present time there are no Utility District plans to extend water service beyond the present service area.

2. Sewer Service

The Village is also served by a sanitary sewer system owned and operated by the Richmond Utilities District. Sewage is treated at a primary treatment plant south of the Village on Water Street, near the Richmond/Bowdoinham town line. Treated primary effluent is discharged into the Kennebec River, which is tidal at this point.

The existing treatment plant was constructed in 1966, and is considered to be in excellent physical condition. The collection lines, on the other hand, are much older, and are subject to considerable infiltration of non-wastewater into the system. The District estimates that approximately 140,000 gallons of water per day enters the lines through faulty joints and cracked pipes. It is estimated that the Kimball Street/Gardiner Street area alone accounts for roughly half of the dry-weather infiltration into the system. The area between Gardiner and Main streets and from Front to High streets was recently rebuilt and is thought to be in excellent condition.

The District owns three major sewage pump stations and one small one that serves less than half a dozen homes. In addition there are a few private pumps that feed into the system that are not maintained by the District.

The treatment plant was originally designed to handle an average of 200,000 gallons per day (GPD), with a design peak of 800,000 GPD. It currently handles 220,000 GPD, with peak flows estimated to 1,400,000 GPD during severe rainstorms.

Combined storm and sanitary lines in some sections of the village cause these high flow rates. The District has embarked on a program to separate the two systems to reduce the peak flows that discharge into the treatment plant and ultimately the river. A considerable amount of work still remains, particularly in the area south of Gardiner Street and north of Main Street.

The Department of Environmental Protection has granted the District an operating license, which is due to expire on April 1, 1990. One of the limitations on the present license is a requirement for secondary treatment, from which the District currently has a variance from the DEP. The Federal Clean Water Act established July 1, 1988, as the deadline for all municipalities to provide secondary treatment for wastewater discharges. In 1989 the Utility District completed a major stormwater separation project in the Gardiner Street area as part of its long-term goal of reducing inflow and infiltration into the system. The water main work being completed this year also includes some additional sewer reconstruction at the upper end of Main Street.

The sewage treatment plant that had been operating as a primary treatment facility is in the process of being updated to include secondary treatment. The plant is due to go on line in July of 1990, with final completion expected in September.

According to the District's records, the sewage system currently serves approximately 60% of the population of the Town, or 1,600 of the estimated 2,754 (MDI 1988 estimate) residents. For design purposes, it was assumed that the demand on the system would rise to 2,000 by the year 2008, an increase of 400 persons. Assuming that the average household has between 2.5 and 2.7 persons, over the next twenty years the sewage system could accommodate a growth of 150 to 160 new dwelling units (homes and/or apartments), or seven to eight per year.

If the District were to make the required improvements to the lines to minimize infiltration, the 400 person projection would rise, but not significantly, according to the engineers. At this point, data is not available to project an upper limit that may be achieved with the repairs in place. Once the plant has been converted to secondary treatment, the District will be in a better position to measure the flows and make new projections.

At the present time, the District assesses a sewer connection charge for new hookups. With this fee, the District can set aside funds for future expansion, separation activities, and general system upgrade.

The soils in the area immediately surrounding the Village are largely clay with a high seasonal water table. According to the medium intensity soils survey for Sagadahoc County,

developed by the USDA Soil Conservation Service, very few opportunities exist for on-site disposal within or near the Village (Soils Map, Figure 7).

The design and capacity of the treatment plant may be a limiting factor in attracting new industrial or commercial development in Town. Heavy sewage users would be required to have on-site pretreatment if they were to locate in Town.

J. Energy Facilities

There are no energy generating facilities in the Town of Richmond. During the early 1970's Central Maine Power Co. acquired 1,000 acres of land along the Kennebec River to be used as a backup site as part of their application to construct a nuclear power plant at Sears Island. When that plan fell through, CMP dropped all interest in nuclear power in Richmond, but retained the property. The land was also used as a backup site for an application to build a coal-fired facility, but those plans were also dropped. At this point CMP has no active plans to use the land for any energy related ventures, and has indicated that they may be willing to dispose of the property.

In 1983 the State Legislature passed into law An Act to Promote the Wise Use and Management of Maine's Outstanding River Resources. The classification of the Kennebec River as an "Outstanding River" precludes the use of the river for hydroelectric development. This action was the result of an intensive two year study of the State's rivers by the Maine Bureau of Parks and Recreation and the northeast regional office of the National Park Service.

CMP currently has one substation at Darrah and Kimball Street which is being upgraded from 25 kV to 37.5 kV. The upgrade will not increase the physical size of the station as a result of this action. There are no plans to make any modification to the electrical distribution system in Town at the present time.

K. Communications

New England Telephone Co. is presently converting their old "step by step" system, located in their office on Southard Street, to an electronic office with an expected completion date of 1991-92. When completed NET will have the capability to install 911 emergency service at the Town's request. Two fiber optic cables have been extended from Gardiner to upgrade the quality of northbound long distance calls. No plans exist to replace the lines to the south.

NET has a right of way which runs north-south through the eastern portion of the Town into Gardiner. The 3 inch aerial cable on poles has been discontinued and is in the process of being removed.

The Town is served by a number of newspapers, including the MidCoast edition of the Portland Press Herald (daily), the Times-Record (daily from Brunswick), the Kennebec Journal (daily from Augusta), and the New Paper, published weekly in Richmond.

The U.S. Post Office operates out of its building on upper Main Street.

L. Health Care

Local health care is provided by the Richmond Area Health Center, located on Gardiner Street in the Village. The Center was started by a group of local citizens who saw the need in the Richmond area for expanded health care and a suitable facility. The Center is open five days a week and one evening. During 1989 the Center had 3,024 users, with 10,285 visits. Twelve thousand visits are projected for 1991.

The Center offers a wide range of primary care, including medical, dental, psychiatry, substance abuse, podiatry, OB, health education, diet counseling, Women Infant and Children's program (WIC), State-funded immunizations for children, and family planning. The staff includes three doctors (one half time), one physician's assistant, and three nurses (two part time, one full time). Dental care is available one-half day per week.

M. Education

Public education in Richmond is provided by the Town at the Marcia Buker Elementary School (up to grade 5), the Junior High, also known as the Middle School (grades 6-8), and the Senior High School (grades 9-12). While total school enrollment has remained relatively stable over the past ten years, elementary enrollment has grown significantly since 1987.

Marcia Buker Elementary School, which houses preschool through fifth grade, was constructed in 1952. The first addition in 1968 doubled the number of classrooms. A second addition was constructed in 1987. The Town is currently planning to add another six to eight classrooms in the near future. One temporary classroom is on site now, with two more on order for next year. The Elementary School also has a multi-purpose room that is used as a lunchroom, gymnasium, and auditorium. Hot lunches are prepared at the High School and transported to the Marcia Buker School.

The Junior High School was opened in 1974 and was expanded in 1978. The building serves grades six through nine. The Senior High School was built in 1978. The building may have to be expanded to accommodate the various programs being mandated by the State.

TABLE 9
School Enrollment in Richmond Schools

YEAR	TOTAL	ELEM	JR. HIGH	SR. HIGH
80-81	573			
81-82	569			
82-83	563			
83-84	573			
84-85	549			
85-86	542	249 (2)	121	172 (1)
86-87	548	250 (1)	113	185 (2)
87-88	565	290 (3)	112	163 (2)
88-89	591	301	109	181 (2)
89-90	558	309	114	135

NOTES

- (1) Includes 1 special ed student accommodated out of town
- (2) Includes 2 special ed students accommodated out of town
- (3) Pre-K program and transitional 1st initiated

The School Department staff includes 3 principals, 1 librarian, 3 guidance counselors, 11 aides and teaching assistants, 1 speech therapist, and 48 teachers. The enrollment includes 15 exceptional students. A program for gifted students is being planned for the next academic year.

School children are transported by a fleet of seven buses, with a new bus on order for next year. The Town does not bus children who live within a mile of the school.

Vocational courses are available in Bath and Augusta. At the present time two students attend courses at the Bath Vocational Center and 7 are enrolled at the Capital Area Regional Vocational Center (CARVC).

An active adult education program is run by the school department throughout the school year. When the program started in 1986 it served less than fifty individuals. That number has risen each year: 87-88: 120, 88-89: 350, and 89-90: 410. The activities include a literacy program for adults with less than a ninth grade education, GED and Richmond High Diploma programs, training programs in job skills (in conjunction with Coastal Economic Development Program), a commercial drivers license program, a quilting course, counseling courses in substance abuse and other health related issues (in conjunction with the Richmond Area Health

Center), elder citizens health care courses, in addition to a wide variety of multi-disciplinary courses of general interest.

The administrative offices of the School Department, including the Superintendent's office, are located in leased space on South Front Street.

Costs for operating the schools are subsidized by State aid. The State is currently contributing \$1,600,000 plus debt service, which is over half of the total budget of \$2,616,873 for 1989-90.

N. Cemeteries

Richmond, like most rural towns in Maine, has a number of cemeteries located throughout the countryside:

- The Cotton Cemetery, on the County Road (Route 197) just west of the Village
- Evergreen Cemetery, on the east side of Alexander Road
- On the east side of the State Road (Route 201) opposite Knight's Feed
- On the west side of the State Road, north of the Litchfield Road
- On the Pitts Center Road, near the State Road
- Plumer Cemetery, on the east of the Plumer Road
- Gaubert Cemetery, on the west side of the River Road near Iceboro
- On the north side of the Beedle Road, near the River Road
- Reed Cemetery, on the north side of the Pitts Center Road next to Umberhind Marsh
- Curtis Cemetery, on the west side of Alexander Road.

The only cemetery maintained by the Town is the one on Route 201 across from Knight's Feed. The others are all either privately maintained or receive no maintenance.

O. Issues and Implications

In general the public facilities and services provided by the Town appear to be adequate to serve the current level of population. This section identified a number of issues which need to be addressed in the policies and recommendations of this Plan. These include:

- The need to provide adequate public facilities to serve the needs of a growing population. Areas which may need attention in the foreseeable future include: additions to the Elementary and High Schools, school bus garage, police station, fire station.

- The need to plan for continued maintenance and replacement of public facilities.
- The importance of maintaining and promoting voluntary services as a method of controlling the costs of municipal services
- The need to develop environmentally sound solutions to the Town's solid waste problems: a close-out plan for the landfill, location and construction of a transfer station, and a recycling facility. This effort should continue to explore intermunicipal cooperation to benefit from the economy of scale.
- The necessity of working with the Town of Dresden to provide adequate long-term protection for Richmond's water supply.
- The need to address the issue of inflow and infiltration into the sewage system and to get a firm estimate of the capacity of the existing plant to accommodate growth.
- The desirability of limiting the expansion of public sewer and water service into areas where growth and development are not desired.
- The utilization of the Maine Central Railroad right of way for either transportation or recreation.

SECTION 19. FISCAL CAPACITY

A. Tax Base

The Town of Richmond has a somewhat diverse tax base consisting of a large residential sector, modest commercial and industrial holdings and a large amount of rural land. The Town's industrial/commercial sector is limited to Clarostat, Etonic-Tretorn, Port City Auto Auction, and numerous small retail and service businesses.

For the 1989-1990 fiscal year, the total valuation of the Town's real estate and taxable personal property is approximately \$41,000,000. This value is based on an estimated ratio of assessed value to market value of 56%.

The Town has experienced only modest expansion of its tax base over the past five years. The total assessed value has increased from \$35,486,178 in 1984-85 to the current \$41,182,272 or an increase of 16%. During this period, no revaluation of existing properties was done so this represents true growth in the Town's tax base. The majority of this growth in valuation is the result of new residential development in the community.

The Town faces the need to revalue property to bring it into compliance with State requirements. This process raises many issues of equity and the treatment of various types of property. A key issue in the upcoming revaluation will be the assessment approach to rural and agricultural land.

B. Revenues

During fiscal year 1987-88, the Town of Richmond had total revenues of just over \$3,000,000. Just under a half of the revenue (\$1,488,408) was received from the State of Maine through the school funding program. Local real and personal property taxes amounted to \$1,051,942 or 35.1% of total revenue. Excise taxes on motor vehicles and boats raised \$162,741 (5.4%) while other intergovernmental transfers brought \$214,613 to the Town. These included \$167,223 in State revenue sharing, \$9,170 in federal revenue sharing, \$36,936 in State road aid, and \$1,284 in miscellaneous transfers. The Town earned \$11,343 in investment income and had miscellaneous revenues of \$72,352 including Ames Mill rental, permit fees, and interest on taxes.

Staff education funding is a major source of revenue for the Town. This funding is allocated to school systems throughout the State on a formula basis. This system relates the number of pupils in the system to the total valuation of taxable property in the Town. This has the result of increasing the level of State funding if enrollment grows or reducing it if valuation grows.

In 1983-84, the Town raised \$744,994 through local property taxes. For 1989-90, the projected property tax income is \$1,297,244 or an increase of almost 75% over six years. To raise the revenue, the local tax rate has increased from \$22.25 per thousand dollars of assessed valuation in 1983-84 to \$31.50 per thousand in 1989-90, an increase of 41%.

State law limits the ability of the Town to seek different approaches to raising revenues. The only method that is available is the wider use of user fees.

C. Expenditures

During fiscal year 1987-88, the Town of Richmond spent \$2,949,272 to operate the Town government, support the Richmond School District and pay its proportional share of the operation of Sagadahoc County (Table 10). The cost of education was over \$2,230,000 (75.7% of total expenditures) of which approximately two third's was funded through State subsidy. The operation of the Town government cost \$663,660 while County tax was \$54,182.

In 1983-84, the total expenditures of the Town were \$2,162,790 of which approximately 64% went to support education. Between 1983-84 and 1987-88, the costs of operating Town government changed very little while school spending increased significantly. Over this period, the local cost of operating the school system increased from \$543,972 to \$712,005, or almost 31%.

The Town also maintains a system of reserve accounts for the funding of special projects. As of June 30, 1988, the Town had approximately \$100,000 in these accounts primarily in the Ames Mill reserve account. Other reserve accounts include fire truck replacement, fire station and school building district.

The Town also has a number of long-term financial obligations as a result of bonded debt and lease-purchase arrangements. As of June 30, 1988, the Town had \$727,600 of outstanding debt. Since then some debt has been retired while the Town has borrowed additional funds to purchase a school bus. The Town also has entered into a seven year lease-purchase agreement for a new road grader.

D. Issues and Implications

Richmond is heavily dependent on the local property tax to finance the operation of local government. In recent years, the Town has seen the amount of revenue that must be raised through property taxes increase by almost 75% (1983-1984 to 1989-1990). While this increase was offset somewhat by the growth in taxable property, the local tax rate still needed an increase of 41% to raise the necessary revenue. While the ability of the Town to utilize other sources

of revenue is constrained by State law, the possibility of increased use of user and service fees is one approach to relieving property tax burdens.

The Town faces important issues in the fiscal arena. On one hand, the demand for expanded services creates pressure for increased revenues. Without growth in the tax base, these increased costs are passed along to existing property owners. On the other hand, growth and expansion of the tax base will result in the demand for expanded services with additional costs. One approach to meeting the demand for services is through multi-town activities in which the costs are shared.

TABLE 10
Total Expenditures - All Funds
1983 - 1984 to 1987 - 1988

	1983/84	1984/85	1985/86	1986/87	1987/88
Current:					
General Government	\$ 147,488	\$ 159,102	\$ 157,940	\$ 186,032	\$ 217,275
Public Safety	111,245	99,145	95,183	95,385	95,575
Public Works	122,307	129,169	152,288	154,835	163,726
Education	1,380,276	1,486,416	1,637,653	1,878,427	2,164,572
Unemployment and Workers Compensation	4,626	11,769	14,140	13,521	20,442
General Assistance	10,944	1,958	2,973	2,452	3,300
Insurance and Retirement	19,431	17,537	18,003	20,390	21,763
County Tax	32,144	34,465	37,684	45,705	54,182
Miscellaneous	33,172	34,581	59,164	77,783	113,536
Debt and Interest	182,055	200,787	208,729	211,832	322,747
Capital	370,683	165,254	37,729	305,383	511,846
Total Expenditures	\$2,414,371	\$2,340,183	\$2,421,486	\$2,991,745	\$3,688,964

Source: Annual Town Reports

SECTION 20. HOUSING

A. Background

Richmond has had a rich and varied history. It began as an agricultural community (1700's to early 1800's); grew as a shipbuilding center (1830's to 1870's); experienced a second spurt of growth due to the ice industry (1870's to 1900); reverted back to a market town serving an agricultural area (early 1900's); stabilized with a shoe factory and Eastern European immigrants (mid-1900's); and most recently, has grown again as a suburb for workers commuting to Bath-Brunswick, Augusta, and Lewiston-Auburn.

The housing stock reflects this diverse history. Old farmhouses, ornate ship captains' and manufacturers' homes, workers' apartments, old and new mobile homes, cottages, and postwar subdivisions are arrayed side by side. One challenge for Richmond is to maintain the quality and diversity of its older houses, while at the same time adapting them to new families and uses. Another is to create provisions to allow the development of new housing, of similar quality and diversity, which can house the population of the future, without taking away from the open spaces and vital town center which contribute to Richmond's unique quality of life.

B. Housing Stock

Richmond had about 1,000 housing units in 1980. Of these, less than 5% were seasonal. Of the remainder, almost 85% were in one-family units -- either single family (71%) or mobile homes (12%). About 80% of the occupied year-round housing was owned (Table 11).

The housing stock in 1980 was old. Nearly 60% was built before 1939. About 7% lacked some plumbing, and 4% were overcrowded, higher proportions than those for the State as a whole. Although the Town has had a Community Development Program and privately funded housing rehabilitation in recent years, there remain deteriorated homes in the Village and outdated mobile homes in rural areas.

Since 1980 the year-round housing stock in Richmond has increased by about 200 units, or 20% (Table 12). Half of the increase has been in single family homes, about a third in mobile homes, and the remainder apartments.

C. Housing Costs

Housing costs have risen in Richmond in recent years (Table 13). Yet they remain low compared to neighboring towns in Sagadahoc County, and have not risen more than incomes. Sagadahoc County's average sale price in 1988 was \$72,200, while Richmond's was only

\$58,700. Rents also remain fairly low; according to one local landlord, rents range from the low \$200's to the \$500 range for a house. Housing affordability was a problem primarily for low income households in 1980, and to a lesser extent for moderate income households. The U.S. Census reported that affordability was a problem for 92% of renter households and 86% of owner households with incomes of less than \$5,000/year and for 41% of renter and 21% of owner households with incomes between \$5,000 and \$10,000 in 1980.

In recent years home prices have risen rapidly. The average value of homes sold in Richmond in 1989 was \$69,181, an 18% increase from 1988. The median cost of a house lot in Richmond in 1989 was \$23,000 (Table 14).

This inflation has made affordable housing more difficult to obtain. But what exactly is affordable housing? There are many definitions. For purposes of comprehensive planning, the State Department of Economic and Community Development defines affordable housing as either rental housing in which total costs (rent, insurance, utilities) do not exceed 30% of the income of a low income household (defined as a household with less than 80% of the town median income); or moderate income household (80% to 150% of median household income); or owner housing in which total costs (mortgage, taxes, utilities, insurance) do not exceed 28% of the income of a low or moderate income household.

Using this yardstick, a low income household (with income less than 80% of median household income) in Richmond in 1989 (income about \$16,600 or less, according to the National Planning Data Corporation) could afford an apartment with a maximum rent of about \$365 (utilities excluded), or a new home costing under \$35,000 (Table 15). A moderate income household (\$16,000 to \$31,000) could afford an apartment with a rent between \$365 and \$700 a month excluding utilities or a home costing between \$34,000 and \$72,000.

There are few homes or apartments around at price levels affordable to low income households. Moderate income households, particularly those at the upper end of the range, have a wider choice of housing. The median sales price of housing in Richmond in 1989 is \$69,950. Looking at the first quartile -- the bottom quarter of houses sold -- the price goes down to \$50,000.

With the cost of a house lot running from \$15,000 to \$30,000, it is difficult to buy a lot and build a new affordable house.

D. Subsidized Rental Housing

One source of affordable housing for low income households is subsidized rental housing. Rents are subsidized through a variety of programs, but the basic format is that the low income household pays 30% of its adjusted income, and the Federal Government pays the remainder. There are four subsidized projects in Richmond, and six apartments subsidized in private housing. In all this totals 72 subsidized units (Table 16). The proportion of rental subsidized

Looked at in any perspective, the Town's goals for affordable housing in the next five years could be met by a single project -- a mobile home park, a subsidized rental development, the rehabilitation of one or several buildings downtown.

The important question is how Richmond will choose to meet this goal. Land and house prices remain low enough in Richmond to meet affordable housing goals without large State or federal subsidies. The obstacle to achieving these goals is not in a lack of private or public financing, but in the lack of town clarity and ordinances promoting such goals.

To be more specific, density and parking requirements in the village make the efficient use of the existing stock difficult. Poor soils, and lack of public sewer and water, make development difficult in rural areas.

The Town has several options before it. First, it might choose to promote apartments, mobile home parks, or higher density housing on the fringes of the village, through a planned expansion of sewer and water facilities. Second, it might choose to promote the rehabilitation and re-use of existing large homes and commercial structures in the village to provide low cost apartments. Third, it might choose to identify areas where new, higher density housing could be built.

housing in Richmond is currently slightly more than that in the rest of Sagadahoc County and the State of Maine as a whole. A conversation with a Farmer's Home representative indicates that Richmond is not seen as a high priority for further subsidized housing in the near future.

E. Adapting the Old Housing Stock

Over half of Richmond's housing stock is more than 50 years old. Then families were large, and businesses were conducted from the home. Today families are small -- and getting smaller -- and people work outside the home.

A household is described as "overcrowded" by the Census if there is more than one person per room. In 1980 35 Richmond households, or 4% of the total, were classified as such.

The situation can be looked at in reverse as well. If there are more than 2-3 rooms per person, the family might be described as "overhoused." In 1980 nearly half of Richmond households lived in housing with more than 2-3 rooms per person (Table 17). Considered in another way -- nearly half of Richmond's housing stock has more than 6 rooms, and over half of Richmond's households are only 1 or 2 persons.

Many people want to have large houses, can afford large houses, and are happy with this situation. But there are also others who may find large houses hard to keep up, who strain under property taxes, who would like to be able to rent some rooms to help out.

There is another consequence of this situation. Much of the demand for new housing, which has resulted in development pressure in Richmond, is from new and small households. If a part of that demand could be met by adapting the existing stock, there would be less pressure for new development.

Currently town zoning discourages the addition of apartments in the village, and the addition of apartments in the upper floors of commercial establishments, through strict density and parking requirements. As a result, some buildings in the village area are run down and underused. Given the demand, an adjustment of village zoning could lead to increased investment, and increased affordable housing, with minimal effects on town services and taxes.

F. Issues and Implications

There is some problem of affordability in Richmond, although less than that experienced in other towns around Maine. Prices for apartments and homes remain modest. Subsidized housing is available. Inflation, at least up until the past few years, has been under control.

TABLE 11
Housing Stock in 1980
Town of Richmond
Richmond Comprehensive Plan

	Single Family	2 Family	3-4 Family	5+ Family	Mobile Homes	Total Year-Rd	Seasonal Units	Total Stock
Number of Units	717	47	50	75	126	1,015	58	1,073
% of Year Round Stock	71%	5%	5%	7%	12%	100%		
Number Occupied	670	45	41	60	120	936		
Number Owner Occupied	604	23	6	6	105	744		
% Owner Occupied	90%	51%	15%	10%	88%	79%		
Number Renter Occupied	66	22	35	54	15	192		
% Renter Occupied	10%	49%	85%	90%	13%	21%		
Vacant	47	2	9	15	6	79		
Vacancy Rate	7%	4%	18%	20%	5%	8%		

Source: U.S. Census

TABLE 12
Housing Additions Since 1980
Town of Richmond
Richmond Comprehensive Plan

	Single Family	2 Family	3-4 Family	5+ Family	Mobile Homes	Total Year-Rd Units	Total Seasonal Units	Total Stock
1980	7	0	0	0	6	13		
1981	4	2	0	0	13	19		
1982	3	0	0	0	9	12		
1983*	10	0	0	0	14	24		
1984	11	8	0	0	15	34		
1985	9	0	4	0	18	31		
1986	15	0	0	0	3	18		
1987*	24	4	0	0	0	28		
1988*	23	2	0	0	0	25		
Additions (1980-1988)	106	16	4	0	78	204	0	204
% Growth	15%	34%	8%	0%	62%	20%	0%	19%
Annual %	1.5%	3.3%	0.9%	0.0%	5.5%	2.1%	0.0%	2.0%
Est. 1988 Housing stock	823	63	54	75	204	1,219	58	1,277
% of Year Round Stock	68%	5%	4%	6%	17%	100%		

Sources: Maine State Housing Authority, New Construction and (*) U.S. Census Building Permit reports

(note: the year for MSHA data is from April 1 to March 31st; e.g., 1980 data represents construction from April 1, 1980 to March 31, 1981.)

TABLE 13
Housing Inflation
Town of Richmond
Richmond Comprehensive Plan

	1980	1986	80-86 Annual Change	1988	86-88 Annual Change	80-88 Annual Change
Rents	\$158	\$317	12%	\$400	12%	12%
Homes	\$31,800	\$44,414	6%	\$58,657	15%	8%
Mortgage	\$223	\$312	6%	\$412	15%	8%
Downpayment	\$6,360	\$8,883	6%	\$11,731	15%	8%
Median HH Income	\$12,770	\$18,382	6%	\$20,755	6%	6%

Sources: 1980 data on rents, home values, mortgage payments, and incomes from the U.S. Census. Income data from the National Planning Data Corporation (1986 interpolated). Rent data is estimated from conversations with local officials. Median home value for 1988 is from the Maine State Housing Authority.

TABLE 14
1989 Home Prices
Town of Richmond
Richmond Comprehensive Plan

	Land	Houses
Number of sales	15	22
Median value	\$23,000	\$69,950
First Quartile	\$15,000	\$50,000

Source: Town Records

TABLE 15
Affordable Housing Defined
Town of Richmond
Richmond Comprehensive Plan

1989 Median income	\$20,755 (estimate)	
	Low Income (<80% of median) <\$16,604	Moderate Income \$16,604 to \$31,133
Maximum housing cost (30%)	<\$415/month	\$415 to \$780/month
Less utilities	\$50/month	\$50 to \$80/month
Maximum affordable rent	<\$365/month	\$365 to \$700/month
Maximum home payment (28%)	<\$387/month	\$387 to \$726/month
Less taxes, utilities	\$150/month	\$150 to \$225/month
Maximum affordable mortgage	<\$237/month	\$237 to \$501/month
Maximum affordable home price	<\$33,660	\$33,660 to \$71,720

Sources: National Planning Data Corporation; Market Decisions estimates

Note: Formulas from Department of Economic and Community Development
Maximum home price assumes 8½% MSHA financing for a term of 30
years with a 10% downpayment.

TABLE 16
 Subsidized Rental Housing
 Town of Richmond
 Richmond Comprehensive Plan

	Type	Program	Units	Elderly	Family
Millbrook Village	FMHA	515	24	0	24
Richmond Elderly	FMHA	515	4	4	0
Richmond Sr. Citizens Park	MSHA	8	12	12	0
Richmond Terrace	MSHA	8	26	26	0
Scattered Site	MSHA	8	6	1	5
Total			72	43	29
Distribution of apartments			100%	60%	40%
% of population			100%	14%	86%
% of stock					
- Richmond		6.3%			
- Sagadahoc County		5.8%			
- Maine		5.6%			

Source: Maine State Housing Authority

TABLE 17
 Richmond Housing Study
 Rooms and Households, 1980

Year	<u>Household Size</u>			
	1970	1980	1989 (est)	1994 (proj.)
Household Size	2.96	2.78	2.72	2.68

"Overhoused" in 1980

Rooms	Persons	Owner	Rental	Total
4	1	47	12	59
5-6	1-2	159	20	179
7+	1-2-3	183	16	199
Total				437
All HH				936
% "overhoused"				47%

Large houses and small households, 1980

	Number	%
Over 6 rooms	283	47%
1 or 2 persons	513	55%

Source: 1980 Census, National Planning Data Corporation

SECTION 21. NATURAL RESOURCES

The inventory and analysis of Richmond's natural resources is one of the basic starting points in determining the limitations and opportunities for future use of the land. Natural resources are both visible (rivers, woods, wildlife) and invisible (groundwater, fresh air, soil conditions), large scale (Pleasant Pond, Umberhind Marsh, deer yards) and small (wood duck nesting sites, vernal pools, old maples lining the roadways).

Richmond is a series of interrelated natural systems, defined by watersheds, soil conditions, vegetation patterns, and wildlife habitats. Up to now most development has avoided the more environmentally fragile areas. For the most part, larger wetlands remain intact, steep slopes along the Kennebec have not been disturbed, major deer wintering yards have not been encroached upon. Understanding the Town's natural resources is key to protecting areas of sensitivity in the face of inevitable change and guiding development into areas most appropriate for growth.

A. Watersheds

One of the most instructive ways of looking at a community is to examine its watersheds - the drainage basins that are defined by the ridges and high points leading into the streams, ponds, and rivers. Richmond is divided into eight major watersheds, each with its own physical characteristics, natural environments, and patterns of development. All the land area ultimately drains into the Kennebec River. The following descriptions accompany the Watershed Map contained in Appendix C.

The Kennebec River Watershed North parallels the Kennebec River in a band 2,000 to 3,000 feet in width. The watershed occupies approximately 2.4 square miles, or 7.5% of the land area of the Town. While Richmond is strongly associated with the Kennebec, very little of the Town drains directly into it. The watershed is generally defined by Route 24, the River Road. Steeply sloping, mostly wooded hillsides roll down to the Kennebec. Most of the watershed is undeveloped or lightly settled, with a few active farms opening up dramatic views to the river. The remnants of the village of Iceboro are located two miles north of the Richmond Village. Central Maine Power Company owns 250 acres of land on the east side of Route 24, purchased in the early 1970's as a backup site for a nuclear power plant. The Maine Central Railroad, at the edge of the floodplain, once provided a major transportation route between Augusta and the coast, but now has the potential for abandonment. The right-of-way runs the length of the watershed and offers the Town tremendous opportunities in light of the recent interest in both continued rail service and regional recreation.

The Mill Brook Watershed is the second largest watershed in Richmond, encompassing approximately 7.35 square miles, or 23.1% of the Town's land area. Mill Brook discharges into the Kennebec River in a deep gully just north of the village. The topography in the watershed consists of gently rolling hills interspersed with a fine network of deeply incised watercourses. With the exception of a small section of Richmond Village at its southerly end and a portion of the Alexander Road, which runs along its southwestern boundary, the Mill Brook Watershed is one of the least populated areas within the community. The headwaters of Mill Brook are found at Umberhind Marsh, the largest and most valuable wetland found in Richmond. Localized wetlands are located along the borders of the intermittent streams that feed into Mill Brook at the midsection of the watershed. Richmond's largest deer wintering habitat (500-600 acres) is located at the upper end of the watershed, just north of Umberhind Marsh. Three other deer yards are found along the eastern edge of the watershed.

The Wilmot Brook Watershed is situated in the extreme northeast corner of the Town and covers approximately 2.23 square miles, 7.0% of the Town. Wilmot Brook drains into the Kennebec River near the Gardiner City line. This area is characterized by rolling topography, steeply incised stream beds, and a few isolated wetlands. The only roadway in the area is the Beedle Road, which is very sparsely settled throughout the watershed. The local game warden characterizes the habitat within the area bounded by the Telephone easement and the Beedle Road as excellent for both birds and animals, with deer wintering habitat that supports 10-20 animals.

The Rolling Dam Brook Watershed is drained by two intermittent fingers of Rolling Dam Brook that drains a large portion of the City of Gardiner. The brook ultimately empties into the Kennebec River, approximately four miles north of the Town line. This 0.63 square mile area (less than 2% of the Town) has seen very limited development. A rather large wetland near the Gardiner line has been identified by IF&W and rated as low value for waterfowl.

The Abagadasset River Watershed is the major drainage area in Richmond, covering approximately 8.84 square miles, which is 27.8% of the Town. The upper reaches of the watershed extend up to the Libby Hill Road in Gardiner. South of Richmond, the 'Abby' joins with Baker Brook and flows into Merrymeeting Bay at Brown Point in Bowdoinham. Throughout most of its run through Richmond the river is a narrow, sluggish stream, bounded by wetlands and often choked with fallen trees. The Department of Inland Fisheries and Wildlife (IF&W) indicates that the majority of the stream has moderate value for waterfowl, although the local game warden characterizes the Abby north of the County Road as having excellent habitat values. A considerable portion of the watershed is characterized by hydric soils and soil series that have very severe restrictions to development due to the presence of a high water table. The topography ranges from relatively flat to gently rolling. Four deer yards are located in or partially in the watershed, primarily between the Pitts Center Road (Reed Road) and the Bowdoinham Town line. The major cultural feature is Interstate 95, which is located

in some of the most extensive wetlands in the Town. Most of the Town's active agricultural lands are located within the watershed, north of the Pitts Center Road (Reed Road).

The majority of the Baker Brook Watershed is found in Bowdoinham, where it joins with the Abagadasset River and flows into the Kennebec River at Merrymeeting Bay. The Richmond section, extending over 2.26 square miles (7.1% of the Town land area), has a very limited number of wetlands, although a considerable amount of its soil is classified as hydric. The topography ranges from level to gently rolling, with some steeper slopes along the stream bank. Portions of deer wintering areas are found along the fringes of the watershed. The wetlands along the brook are considered of average habitat value. A high percentage of the recent development in Town has occurred within this area, due to its proximity to Richmond Village and the Interstate, the availability of sewer and water, and the relatively flat topography. Most of the new construction has been in the form of single family subdivisions and expanded commercial activity. This section of Richmond has the most diverse pattern of land use, including single family residential, schools, a large cemetery, industrial development, commercial activity, dairy farming, orchards, reverting fields, and woodland.

The Denham Stream Watershed is located in the southwestern corner of Richmond, where it drains approximately 4.32 square miles (13.6% of the Town). The majority of the watershed is located in Bowdoinham and ultimately discharges into the West Branch of the Cathance River. Most of the water bodies within the Richmond section of the watershed are classified as intermittent streams or wetlands. IF&W has rated all the wetlands within the area as having negligible or low value for waterfowl, although the local game warden considers two of the larger wetlands (northwest and southeast of the Interstate interchange) as having excellent habitat values. Interstate 95 was constructed along the center of Denham Stream in the mid 1970's. Provisions were made by the state to impound a section of the stream as mitigation for the disturbed wetlands. While no action has been taken yet, IF&W is anticipating raising the water level on the west side of the interchange in the immediate future. Soils within the watershed vary from wetlands and hydric to rather extensive areas that have only moderate limitations to development. Several deer wintering areas are scattered throughout the watershed. The Town's designated commercial/industrial zone is located near the I-95 interchange. Recent changes in land use include the construction of an auto auction yard, a storage facility and machine shop, and several single family homes.

The Pleasant Pond Watershed contains the most extensive amount of recent development within the community, most of which is focussed on Pleasant Pond. In general, the soils in this 3.43 square mile area (10.7% of the Town's land area) are better suited for on-site septic systems than the rest of the Town, although there are several areas of wetlands that border the pond and small drainageways leading into it. The upper end of the pond contains an extensive wetland that IF&W has rated moderate value for waterfowl. A small deer wintering area has been identified on the extreme southern end of the area on

the Bowdoinham Town line, near an area of recent subdivision activity. Route 201, formerly the major north-south corridor before the construction of I-95, traverses the length of the watershed. The Pond receives heavy pressure from recreational uses: cottage owners in both Richmond and across the pond in Litchfield, day users at Peacock Beach State Park, campers at a commercial campground, and fishermen who put in at the new boat ramps at the midsection of the pond. The pond is part of a much larger system of waterways that include Cobbosseecontee Lake and Cobbosseecontee Stream, ultimately draining into the Kennebec River in Gardiner. Water quality is of great concern to the Cobbossee Watershed District and the Maine Department of Environmental Protection. The lake is categorized by DEP as Moderate/Sensitive (generally below average for Maine lakes), primarily due to the late summer algal blooms, fairly high concentrations of phosphorus, and decreased levels of oxygen at the lower depths. Agricultural runoff, combined with the increased development pressure and conversions of seasonal dwellings within the watershed, have all contributed to the decline in water quality.

B. Topography

In general the topography of Richmond is flat to gently rolling, typical of this part of the state known as the "coastal lowlands." Elevations range from less than 20 feet above sea level on the shores of the Kennebec below the village to a high point of 400 feet atop Ring Hill in the northwest quadrant of Town. A subtle ridge, 250-300 feet high, extends south from Ring Hill and defines the boundary of the Pleasant Pond watershed. The only other high point is on the Beedle Road, near the New Road, where a 300 foot hill offers a break in the linear road alignment.

A slope analysis of the Town was completed as part of the mapping process. Richmond was divided into the following four slope categories, based upon the percent of slope measured from the USGS mapping of the Town (a 3% slope rises 3 feet vertically for every 100 horizontal feet):

- 0 - 3%
- 3 - 15%
- 15 - 25%
- over 25%.

The land area with the least gradient (0-3%) is often an indication of poor drainage conditions and the possible presence of wetlands. These relatively level areas, where not covered with wetlands, are highly suitable for agriculture and most forms of community development. Slopes in the 0-3% range are found throughout the Town, with a prevalence in the Abagadasset, Denham Stream, and Baker Brook watersheds, i.e., the central and southern parts of Richmond. Approximately 40% of the Town can be classified as level to nearly level.

Over 50% of the Town is characterized by slopes in the 3-15% range, which may be ideally suited for most forms of community development. Care must be exercised on the steeper slopes when locating homes and driveways to avoid problems with erosion and sedimentation. The steeper land also presents a limitation for larger commercial and industrial development due to the quantity of earthwork involved in construction.

Less than 5% of the Town has slopes in the 15 to 25% range. These steeper situations are found mainly in the Pleasant Pond and Kennebunk River watersheds, on the sides of the hills facing the water. They are also found on the upper elevations of the gullies surrounding Mill Brook and Wilmot Brook.

Less than 2% of the Town has slopes that can be characterized as very steep, i.e., greater than 25%. The only significant occurrences are along the Kennebec River and near Wilmot Brook.

The topography of Richmond generally does not offer dramatic grade changes or bold landforms that contribute to its visual resources, with the exception of the shores of the Kennebec River.

C. Steep Slopes

Steep slopes, i.e., greater than 15%, occupy a rather limited portion of the Town, less than 5-7% of the land area. Where they occur, however - along the Kennebec River, on Wilmot and Mill Brooks, and above Pleasant Pond - they are also usually associated with other natural resources: e.g., deer wintering areas, scenic vistas to the water, and water bodies. Steep slopes in Richmond are usually found in long ribbons, following the stream corridors and side slopes of hills, but can also be found in discontinuous patches. The most highly visible area is the land on the east side of the River Road, between the Gardiner line and the Richmond-Dresden Bridge.

Steep slopes are of concern for community planning for a number of important considerations. On most types of soils the potential for erosion is enhanced by slopes in excess of 25% (Figure 8). The State Plumbing Code prohibits on-site septic disposal systems on slopes greater than 20%. Slopes greater than 15% can be built upon, but need extreme care to avoid problems with erosion, sedimentation of nearby water courses, and slumping. Roads located on slopes greater than 6% should be paved to prevent surface erosion. Driveways can be built on slopes in the 12-15% range, but only if proper care is taken to account for the effect of stormwater.

D. Soils

1. Overview of Soil Resources

More than two dozen different soil types have been identified within Richmond by the U.S. Department of Agriculture, Soil Conservation Service (SCS). Each soil represents, to varying degrees, limitations to future development within the Town. An understanding of the opportunities and constraints imposed by soils is critical in developing long range strategies to meet the goals of the Comprehensive Plan.

A Soils Map of the Town of Richmond has been prepared as part of the Comprehensive Plan (Appendix C). The map, developed at a scale of 1"=1000', is based upon an enlarged version of the four 7.5 minute USGS quadrangle maps of the Town. The soils data is taken from the Soil Survey, Androscoggin and Sagadahoc Counties, Maine prepared by the SCS in 1970.

When considered with other elements of the natural resource inventory, the soils map can be a key element in:

- providing for orderly growth and development in appropriate areas
- protecting the quality and quantity of water resources
- protecting critical natural resources, such as wetlands and wildlife habitat
- safeguarding agricultural and forest resources.

The description of the soil resources in Richmond is divided into several major components: Soil Associations, Soil Potential Ratings, Hydric Soils, Agricultural Suitability and Prime Farmland Soils, and Forest Suitability.

Appendix B contains a detailed description of each of the soil mapping units. Information is given on the physical properties (soil depth, drainage, seasonal high water table, surface material, underlying material, depth to bedrock), geologic origins, agricultural and other uses, limitations to development, locations where the soils are found in Town, State Plumbing Code recommendations for size of disposal field, the DEP minimum lot size for homes with on-site disposal, as per Chapter 376 Soil Types Standard of the Site Location Law, and the Soil Profile/Condition.

2. Soil Potential Rating

The Soil Conservation Service has developed a method called Soil Potential Ratings for evaluating and rating soils for their potential as locations for low density single family homes with on-site septic systems. This method takes into consideration both soil conditions which may contribute to environmental degradation and the costs of corrective measures and maintenance which towns may incur if development takes place. The ratings indicate the relative quality of a soil when compared with other soils in the same county.

Using the soil potential rating system, soils are evaluated for the following properties: texture, permeability, slope, drainage, water table, flooding, and depth to bedrock. These soil qualities relate directly to the suitability for particular uses in low density development, such as dwellings with basements, local roads and streets, and septic tank absorption fields.

A Soil Potential Index was derived by assigning numerical values to the soils, based upon their performance characteristics. Values are also assigned to the costs of corrective measures to overcome limiting properties of the soils type. The numerical index is determined by subtracting the value of all corrective measures from the value assigned to the soil performance. The best soils are assigned a value of 100, with all others set at lower values. The numerical index has been rated as follows:

SOIL POTENTIAL INDEX RATING CLASS

100	Very High
99-85	High
84-60	Medium
59-40	Low
39-0	Very Low

The description of the individual Soil Units contained in Appendix B gives the Soil Potential rating for each soil for Septic, Dwellings with Basements, Roads, and a composite rating for Development. The last rating was determined by a weighted average of the individual soil potential ratings as follows: Septic: 45%; Dwellings with Basements: 20%; and Roads: 35%.

3. Hydric Soils

Hydric Soils are defined by the SCS as those which are saturated, flooded, or ponded long enough during the growing season to develop anaerobic (lack of oxygen) conditions in the upper part. Hydric soils are usually sufficiently wet to support the growth and regeneration of hydrophytic (wetland) vegetation. Hydric soils found in Richmond include:

- Biddeford Silt Loam
- Leicester Fine Sandy Loam
- Peat and Muck
- Scantic Silt Loam
- Scarboro Fine Sandy Loam
- Swanton Fine Sandy Loam
- Walpole Fine Sandy Loam

The hydric soils are one of the indicators of wetlands, along with vegetation and hydrology. The location of hydric soils on the Natural Resources Constraints Map of the Town

(Figure 8) should be taken as an indicator that wetlands may be present and that further investigation may be required.

4. Agricultural Suitability and Prime Farmlands

Prime Farmlands are defined by the U. S. Department of Agriculture as the land that is best suited for the production of food, feed, forage, fiber, and oilseed crops. It has the soil quality, growing season, and moisture content to produce a sustained high yield of crops while using acceptable farming methods. Since farming prime farmlands produces the highest yields and requires minimal amounts of energy and economic resources, it results in the least damage to the natural environment. Areas with prime farmland soils in many communities are considered a very limited natural resource. The Prime Farmland soils identified in Richmond include:

- Buxton Silt Loam, 0-8% slope
- Charlton Fine Sandy Loam, 0-8% slope
- Melrose Fine Sandy Loam, 0-8% slope
- Ninigret Fine Sandy Loam, 0-8% slope
- Paxton Fine Sandy Loam, 0-8% slope
- Suffield Very Fine Sandy Loam, 0-8% slope
- Suffield Silt Loam, 0-8% slope
- Sutton Loam, 0-8% slope
- Woodbridge Fine Sandy Loam, 0-8% slope
- Woodbridge Loam, 0-8% slope

In addition to the Prime Farmland, the SCS notes the presence of Additional Farmland of Statewide Importance, which include:

- Buxton Silt Loam, 8-15% slope

Prime farmland in Richmond is in scattered locations throughout the community, with concentrations along the Beedle Road, the Pitts Center Road, and near Pleasant Pond. The most common soil in Town, Buxton Silt Loam, is considered a Prime Farmland Soil by the SCS.

5. Forest Suitability

The Soil Survey, Androscoggin and Sagadahoc Counties, Maine uses a system of Woodland Groups for forest management purposes. The county is divided into eight woodland groups defined by common soil characteristics which influence the suitability of land for growing, harvesting, and managing timber. Other factors that are considered include seedling mortality rates, windthrow hazard, and seasonal wetness.

Woodland Group 1 consists of well drained to excessively well drained, sandy, loamy and gravelly soils that can provide enough moisture for maximum growth of trees in spring and early summer.

Woodland Group 2 consists of well drained, non-rocky soil that are typically shallow to bedrock. Root zone is shallow and the available water capacity is limited.

Woodland Group 3 consists of deep, well drained soils that provide the optimum growing conditions for tree growth. They have high levels of available water and a deep root zone.

Woodland Group 4 consists of moderately well drained soils with high available water. Seasonal high water tables or hardpans restrict root development to 18-24 inches below the surface.

Woodland Group 5 consists of poorly drained soils that are usually too wet for most tree species. The water table is near the surface throughout much of the year.

Woodland Group 6 consists of poorly drained and very poorly drained soils that are excessively wet for long periods of time.

Woodland Group 7 are very rocky, very shallow soils with very low available water capacity. Windthrow hazard is very severe.

Woodland Group 8 are organic soils that rarely support commercial woodland.

Table 18 illustrates the component soils of the various Woodland Groups in Richmond. The suitability rating is taken from the Soil Survey and is a summary of the ratings given for White Pine and other species, based upon the limitations described above. The table also indicates the relative frequency of the soil in Richmond.

The best and most common growing conditions for woodland production are found in the Buxton, Sutton, and Woodbridge soils. Buxtons are commonly found in areas of rolling topography in the Abagadasset, Mill Brook, and Denham Brook Watersheds. Sutton soils are commonly found on the lower parts of long slopes and in slight depressions on hills and ridges in the area around Pleasant Pond and on the east side of Route 201. Woodbridge soils are found on gently sloping lands, primarily in the upper sections of the Baker Brook watershed.

E. Land Cover

Woodland is the primary land cover in Richmond, with a diverse mixture of softwoods and hardwoods.

TABLE 18
Forest Suitability of Richmond Soils

SOIL NAME	WOODLAND GROUP	SUITABILITY	OCCURRENCE
Adams loamy sand	1	Good	Limited
Hinckley gr sl	1	Good	Limited
Merrimac fsl	1	Good	Limited
Hollis fsl	2	Fair/poor	Common
Charlton f & vsfsl	3	Fair	Common
Hartland vfst	3	Good	Limited
Melrose fsl	3	Fair	Limited
Paxton vsf	3	Good	Limited
Belgrade vfst	4	Good	Limited
Buxton silt loam	4	Good	Common
Ninigret fsl	4	Good	Limited
Sutton l & fsl	4	Good	Common
Winooski sl	4	Good	Limited
Woodbridge l	4	Good	Common
Leicester f & vsfst	5	Fair/poor	Limited
Swanton fsl	5	Fair/poor	Limited
Biddeford silt loam	6	Poor	Common
Scantic sl	6	Poor	Common
Scarboro fsl	6	Poor	Limited
Whately	6	Poor	Limited
Whitman loam	6	Poor	Limited
Hollis fsl	7	Poor	Common
Peat & Muck	8	Very poor	Limited

Source: SCS Soil Survey, Androscoggin and Sagadahoc Counties, Maine

Agricultural Lands are concentrated in several areas, primarily in the northern and central part of the community. The active farms are primarily dairy and beef operations. A limited amount of land is used for orchards. No large scale fruit or vegetable farms are found in Richmond.

Abandoned Fields are found throughout much of the community, and the area is expected to grow as the economics of farming become less and less favorable.

Wetlands occupy a substantial portion of the Town's land area, as indicated by the Hydrology Map (Appendix C). In addition, much of the land that is adjacent to the mapped wetlands may also be considered wetlands under new definitions, since there are extensive areas of hydric soils found throughout the community. Many of the old fields that have been abandoned over the past generation are reverting to alders, which are usually an indication of high water table and wetland conditions.

Open water defines Richmond on the east and west (Kennebec River and Pleasant Pond), and divides the Town in the middle (by the Abagadasset River); it is not a common land cover type. The only other major water body of note is UMBERHIND Marsh.

Urban areas occupy a very small proportion (approximately 2%) of the community's land area. These areas are, however, intensively developed and contain a substantial percentage of the housing stock in Town. The urban area is well defined on the east by the Kennebec River, on the south by the Bowdoinham town line, and on the north by topography. The western boundary remains in a state of flux as development continues to spread into the relatively level, easily accessed areas that are serviced by sewer and water.

F. Wetlands

Wetlands contribute many important ecological and economic benefits to the natural systems that are found within Richmond. These benefits, which are often cited in the various regulations at the State and federal level, may include:

- Biological contribution to wildlife and fisheries
- Hydrologic support
- Flood control
- Shoreline protection
- Prevention of water pollution
- Economic value
- Recreation
- Scenic value
- Educational value

Not all wetlands exhibit measurable values in all categories. The understanding of wetlands is continuing to evolve as more and more agencies become involved in defining wetlands and regulating the changes that can occur on them. Many methods are available to evaluate their biological and physical characteristics and to determine their values and public benefits.

The definition given below, adopted by the DEP, was developed by EPA and the Army Corps of Engineers for administering the Federal Clean Water Act. It is important to note, however, that the definition of wetlands is continually being modified and fine-tuned. Many of the areas that were not counted in the wetland surveys in the 1980's are now wetlands by today's definition. The current definition of wetlands emphasizes the three components necessary for a wetland to exist, i.e., hydrology, vegetation, and saturated soils:

"Those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas."

At the present time there are many federal and State agencies with some level of jurisdiction and/or degree of concern regarding wetlands, including the U.S. Army Corps of Engineers, the U.S. Fish and Wildlife Service (F&WS), the U.S. Environmental Protection Administration (EPA), the U.S. Department of Agriculture Soil Conservation Service (SCS), Maine Department of Environmental Protection (DEP), and Maine Department of Inland Fisheries and Wildlife (IF&W).

The Maine Department of Environmental Protection is currently developing a standardized policy to regulate activities in, on, over, or adjacent to freshwater and coastal wetlands, to insure no net loss of the State's wetland resource. The result of DEP's efforts may be changes to the Natural Resources Protection Act, currently administered by DEP.

A variety of maps have depicted wetlands in Richmond. The original source is the 1980 (and earlier) USGS 7.5 minute topographic map, which shows the major wetlands with the familiar marsh grass symbol. The wetlands defined on these maps are typically nonforested, with standing water and readily identifiable wetland vegetation. If the symbol is present, there is a very good likelihood that the area is a wetland.

The Soil Conservation Service Soils Maps, issued in 1970, show the location of hydric soils, one of the indicators of possible wetland conditions (see Section D. Soils for a further discussion regarding hydric soils and their implications on community development). If the soils are called out as hydric, there is a fair to good likelihood that the area is a wetland. In instances where a piece of land is shown to be hydric but the other sources of data do not map it as wetlands, additional testing will be required to determine whether or not the land qualifies as a wetland.

In 1980 the Biological Services Program of the U.S. Fish and Wildlife Service (USF&WS), Northeast Region, prepared a National Wetlands Inventory, published as part of An Ecological Characterization of Coastal Maine. The wetlands identified were generally greater than 3 acres in size. Most of the wetlands in Richmond were classified as either Shrub-scrub or Forested. The National Wetlands Inventory is continuing and is revising the data for much of the State.

In 1982 the State Legislature directed DEP to conduct a study to identify freshwater wetlands in those parts of the State not under the jurisdiction of the Land Use Regulation Commission (LURC). As a result of this initiative, wetlands greater than 10 acres in size, characterized by predominantly wetland vegetation and not subject to existing environmental regulations, were mapped by the Maine Geological Survey. The results were sent to each of the municipalities for review and comment, and revisions were made based upon the comments received. Once identified, the wetlands were confirmed using the previous inventories conducted by USF&WS and SCS noted above. The results of this mapping effort are shown as the "State" wetlands on the Natural Resources Constraints Map (Figure 8).

The Maine Department of Inland Fisheries and Wildlife has conducted surveys of wetlands as part of its ongoing statewide wetland inventory. Subsequent evaluations have been made by Dave Peppard, the regional game warden for IF&W. The wetlands that have been identified and shown on the Natural Resources Constraints Map (Figure 8) have been rated (High, Moderate, Low) according to their value to wildlife.

By overlaying all of these various sources of information, however, many discrepancies become apparent. In several instances hydric soils are found in areas where no wetlands are indicated on the maps but are found in the field. In other areas, there are wetlands noted on one of the maps that do not correlate to the soils mapping for hydric soils.

A relatively large percentage of the Town is characterized by lands that have been mapped as hydric soils and/or wetlands. As in many coastal communities in Maine, the wetlands in Richmond constitute a considerable natural resource that should be preserved for many of the reasons cited above. Wetlands are often part of areas that have multiple resource values: e.g., they are usually major components of the deer wintering areas, they have been shown to have high value for wildlife habitat, around Umberhind Marsh and the upper end of Pleasant Pond they are part of the designated scenic areas.

Additional information on wetlands in relation to wildlife habitat is presented in Section L. below.

G. Surface Water

1. The Kennebec River

The Kennebec River forms the eastern boundary of the Town and has been responsible for shaping much of the economic and community development in the community over the past century. The Kennebec is Maine's second largest watershed, draining a total of 5,870 square miles. The entire land area of Richmond, 30 square miles, ultimately drains into the river.

The section of the Kennebec between Bay Point and the Edwards Dam in Augusta has been designated an Outstanding River by the Legislature, meaning that no new hydroelectric power generating facilities will be allowed. The 1982 Maine Rivers Study, by the Maine Bureau of Parks and Recreation and the National Park Service, identified the Kennebec as Outstanding and gave it an "A" rating. This means that the State considers it to possess natural and recreational resource value with greater than state significance, based upon the following values: geologic/hydrologic, critical/ecologic, scenic, anadromous fisheries, and historic. The last three values were noted as having greater than statewide or national significance.

The water quality in the river is presently classified by the Department of Environmental Protection as Class C, which means that it is suitable for drinking water after treatment; fishing; recreation in and on the water; industrial process and cooling water supply; navigation; and as a habitat for fish and other aquatic life.

2. Abagadasset River

The Abagadasset River is 13 miles in length from its headwaters in Richmond to its confluence with the Kennebec in Merrymeeting Bay. The Maine Rivers Study also gave the Abagadasset an "A" rating based upon its value as an undeveloped river segment and its importance for anadromous fish. Throughout most of Richmond the river is usually a narrow, slow moving stream, bounded by wetlands and often choked with fallen trees. The majority of the river has moderate to excellent value for waterfowl.

The water quality in the river is presently Class B, the third highest classification given by DEP. Class B waters are suitable for drinking water after treatment; fishing; recreation in and on the water; industrial process and cooling water supply; navigation; and as a habitat for fish and other aquatic life. Any discharges to Class B waters shall not cause adverse impacts to aquatic life.

3. Pleasant Pond

Pleasant Pond forms the western boundary of the Town and forms the common edge with the Town of Litchfield. The pond has a surface area of 748 acres, a mean depth of 6.9 feet, and achieves a maximum depth of 26 feet. The 3.4 square mile watershed in Richmond that drains into Pleasant Pond is relatively insignificant compared to its total 211.0 square mile drainage

area. A more detailed discussion of Pleasant Pond and the problems that it is encountering with water quality is found in Subsection J.

4. Minor Streams and Brooks

Five smaller streams are found throughout the Town, as described earlier in Subsection A, Watersheds: Mill Brook, Wilmot Brook, Rolling Dam Brook, Baker Brook, and Denham Stream.

5. Fire Ponds

Many of the rural areas in Town have a number of small (less than one acre) ponds adjacent to the road that have been developed as sources of water in the event of fire. Dry hydrants have been installed to facilitate drawing water.

H. Groundwater

The primary source of information on groundwater resources is Hydrogeologic Data for Significant Sand and Gravel Aquifers in Parts of Cumberland, Kennebec, Lincoln, and Sagadahoc Counties, Maine, Map 10, published by the Maine Geological Survey in 1982. The Town of Richmond does not have any sand and gravel aquifers identified on the map. The water supply for the Town comes from wells in the Town of Dresden on the opposite side of the Kennebec River.

I. Threats to Water Resources

Threats to water resources in Richmond are primarily to Pleasant Pond and individual wells. The village relies upon a wellfield in Dresden for its primary water supply, so the Town is vulnerable to actions across the Kennebec, outside its jurisdiction. The following is a listing of the causes for concern relative to water quality in Town:

- Agricultural runoff, primarily within the Pleasant Pond watershed, has been a problem of regional concern, leading to phosphorus contamination and algal blooms (see Subsection J below).
- New subdivisions within the Pleasant Pond watershed have the potential to cause additional phosphorus loading and sediment runoff.
- Conversion of summer cottages into year-round homes within the Pleasant Pond watershed can lead to failure of leachfields and additional pollutants being washed into the pond.

- Paving of gravel/dirt roads within the watershed can increase the amount of phosphorus that enters the water.
- Diminishing the amount of the vegetative buffer between Pleasant Pond and new residential development can reduce the ability of the natural environment to filter sediment and other pollutants.
- Improperly designed or installed septic systems may contaminate nearby water supplies, especially dug wells.
- Salt used for ice control on road surfaces can cause problems with nearby wells.
- Accidents involving hazardous materials being transported through the Town on the Interstate or the various state highways have the potential to cause major, long-term problems with water supplies.
- Service stations that sell petroleum products, change oil, and provide automotive repairs have the potential to cause problems with water supplies and surface water quality if waste oil and other contaminants are not properly handled and disposed of.
- Improper storage and use of fertilizers, pesticides, and other agricultural chemicals could pose a threat to nearby water supplies.
- Salt and other potential contaminants that are stored in or near the town garage can pose a threat if not properly covered and handled.
- The Lincoln Street landfill may pose a threat to water quality in local streams if it is not properly capped.
- Combined sanitary and storm sewers within the Village bypass the treatment plant during peak storm events, discharging raw sewage into the Kennebec River.
- The State highway garage, located off Route 201, is adjacent to a wetland with potential for sedimentation and contamination.

J. Water Quality Problems: Pleasant Pond

Pleasant Pond is a component of a much larger system of ponds and streams that eventually discharges into the Kennebec River. As a system it is very sensitive to land use in the surrounding watershed, and is particularly affected by an increase in nutrients (fertilizers), most noticeably phosphorus. Increases in the level of phosphorus in the water cause dramatic increases in the population of algae, microscopic plants than are normally present in relatively

low numbers. When algae populations soar, causing algal blooms, oxygen levels in the lake can be depleted causing serious problems for trout, salmon, and other cold water fish species. In addition, algae can alter the taste and color of water, which can be a concern where public water supplies are concerned. Pleasant Pond had been a source of water for the City of Gardiner in the past, and still is considered a secondary source. However, with the problems that Pleasant Pond is currently facing, it is unlikely that Gardiner would use the water since extensive treatment would be required.

The Water Bureau of the Department of Environmental Protection categorized water quality in lakes and ponds on a scale that begins with Outstanding, and proceeds downward through Good, Moderate/Stabile, Moderate/Sensitive, Poor/Restorable, and Non-Restorable. Pleasant Pond has been classified as Moderate/Sensitive, which means that the water quality is generally below average for Maine lakes. Algal blooms are described as intermittent, occurring in 1983 and again in 1989. Phosphorus concentrations in the pond are usually high enough to sustain blue-green algal blooms. Most of the phosphorus runoff into the pond comes from agricultural lands in Litchfield, West Gardiner, Bowdoin, and Bowdoinham. In addition to these problems, the DEP has noted that the pond has some color in the water, a lower than normal oxygen level at the bottom, and a fairly high pH level.

The DEP data, collected largely through the volunteer Lake Monitoring program, noted that the lake was in good condition when they started the sampling in 1978. In the early 80's the lake started to lose oxygen and visibility. In 1977, the Cobbossee Watershed District released the Pleasant Pond Study that identified the primary non-point sources of phosphorus pollution and recommended measures to correct the situation. In the late 1970's the District began to implement a program to reduce phosphorus loading through manure storage and control, primarily on the farms in Litchfield and West Gardiner.

At this point the DEP cannot predict how effective the Cobbossee program will be in stabilizing the water quality problem. The algal blooms, however, are an indication of a drop in overall quality in the lake, although it is too early to predict if the lake will be reclassified down to Poor/Restorable. In the future the Cobbossee Watershed District may attempt a lake restoration program similar to the one completed on Lake Annabessacook in the mid 1970's. Prior to any large scale efforts, however, the district would have to be assured that all major forms of runoff were controlled to the maximum extent possible.

While the amount of phosphorus that runs off into the lake from the cottages along the Richmond shoreline may not compare with the agricultural runoff throughout the rest of the watershed, control of this source is vital to the future of Pleasant Pond. Control measures can include maintenance of buffer strips of 150-250 feet between new development and the lake, minimization of paved or otherwise impervious surfaces, handling stormwater on an individual lot basis, strict controls on erosion and sedimentation, increasing the minimum lot size, and the establishment of detailed performance standards.

In planning for the future of Pleasant Pond, the Town should follow the guidelines established in a recent publication by DEP Phosphorus Control in Lake Watersheds: A Technical Guide to Evaluating New Development. Richmond will have to select a level of protection for Pleasant Pond to deal with the issue of phosphorus loading. The Lake Protection Levels available, High, Medium, or Low, are an indication of the acceptable increases in lake phosphorus concentrations over a 50-year period. DEP recommends that a Medium Level of protection (allowing a 1 part per billion increase in lake phosphorus) should be adequate to offer good long-term protection for most lakes. However, a High level of protection may be required if study shows that the water quality of Pleasant Pond will be significantly reduced by a very small increase in phosphorus concentrations and algae. Technical assistance can be obtained from the Cobbossee Watershed District in Winthrop.

K. Floodplains

In 1988, the Federal Emergency Management Agency (FEMA) issued a set of Preliminary Flood Insurance Rate Maps for the Town of Richmond. The data contained on these maps has been transferred onto the Constraints Map as a line that parallels the Kennebec and Abagadasset Rivers and the border of Pleasant Pond.

The Town is no stranger to the awesome force of the Kennebec River. The combination of warm weather in late winter/early spring, combined with sudden rainstorms, is notorious for causing the ice to go out with tremendous force. Great chunks of thick amethyst colored ice have left scars on many of the older trees along the banks of the river.

The only structures within the floodplain are a portion of the Town-owned Ames Mill on Front Street, the base of the Richmond-Dresden Bridge, and sections of the Maine Central Railroad, which is built a few feet above base flood elevation. The Town boat landing, constructed by the Maine Bureau of Parks and Recreation and turned over to the Town, suffers a minor amount of damage to the shoreline, although the massive size of the rip-rap used in construction has held the ice scouring to a minimum.

The reputation that the Kennebec River has for damage is justly deserved. The floodplains identified on the FEMA maps, both along the Kennebec and other water bodies within the Town, should be off limits for any type of permanent structural development.

L. Wildlife and Fisheries Habitats

1. Endangered or Threatened Species

Merrymeeting Bay, by Reed & D'Andrea, 1975, identified three rare or threatened species that inhabit Merrymeeting Bay and may be found in Richmond: the Northern Bald

Eagle, (Haliaeetus leucocephalus alascanus), the American Osprey (Pandion haliaetus), and the Shortnose Sturgeon (Acipenser brevirostrum). In addition, the Kennebec River is also home to the Atlantic Sturgeon (Acipenser oxyrinchus), which is considered uncommon in Maine.

2. Deer Wintering Areas

Deer are widely distributed throughout the Town over the majority of the year. When winter snows exceed eighteen inches they seek out areas to provide shelter from bitter winds and snow. These areas, known as deer yards or deer wintering areas, typically represent 10 to 20% of a deer's year-round range.

The locations of deer wintering areas in Richmond have been mapped by IF&W on a 15' USGS topographic base of Richmond, based upon field surveys that were conducted prior to the early 1980's, warden reports, and air surveys. A few of the yarding areas reportedly have been disturbed by the construction of I-95. Dave Peppard, the local game warden and a member of the Richmond Planning Board, has updated this map to show the locations of 13 active deer wintering habitats in Richmond and the relative number of animals using each yard.

The dozen deer wintering habitats that have been identified by Dave Peppard include the following:

- A 75-100 acre area along the Abagadasset River, south of Route 197, extending into Bowdoinham. It is noted as having 10 - 20 deer.
- A small piece of Alice Wheeler's farm, less than ten acres on the Bowdoinham Town Line, just west of the village. It is noted as having fewer than ten deer.
- A 150 acre habitat west of I-95, between Route 197 and the Langdon Road. It is noted as having 10 - 20 deer.
- A 450-500 acre tract east of I-95, between Route 197 and the Langdon Road. This area is roughly half the size of the largest yard identified by IF&W. It is noted as having 10 - 20 deer.
- A 100-150 acre area north of Mill Brook, on the east side of Evergreen Cemetery. It was identified by IF&W and contains fewer than ten deer.
- A 200-250 acre habitat west of the River Road, between the Pitts Center Road, Lincoln Street, and the extension of the Langdon Road. It is noted as having 10 - 20 deer.
- A 300-325 acre area between the Langdon Road and the Pitts Center Road, on either side of the Abagadasset River. It is a slightly smaller area than the yard identified by IF&W. It is noted as having 20+ deer.

- A 100 acre area on the east side of the Plummer Road, between the Langdon Road and the Pitts Center Road. It is noted as having 10 - 20 deer.
- A 100 acre piece on the west side of the Plummer Road, between the Langdon Road and the Pitts Center Road. It is noted as having 20+ deer.
- A 50-75 acre area north of the Pitts Center Road, west of the Brown Road. It is noted as having fewer than ten deer.
- A 500-600 acre habitat on both sides of Rangeway Road, between the Pitts Center Road and the Beedle Road, north of Umberhind Marsh. It is the largest yard noted in Richmond with 20+ deer.
- A 150 acre area west of Route 24 between the Pitts Center Road and Beedle Road. It is considerably smaller than the yard identified by IF&W with 10 - 20 deer.
- A 250-300 acre area north of Beedle Road near the NET&T ROW and Wilmot Brook. It is noted as having 10 - 20 deer.

Caution must be exercised in examining information on deer wintering areas, since deer tend to roam across their territory and the limits of yarding can have considerable variation. However, deer tend to use the same general areas year after year. The deer yards that are noted as sheltering greater than 20 animals occupy approximately 1,000 acres in Richmond. The yards with 10 - 20 deer are found over 1,500 acres in Town, while the yards with less than 10 animals account for only 250 acres. Deer yards are found over 2,750 acres of land in Richmond, approximately 14% of the land area.

Deer yards provide the herd with cover and food to sustain them through the winter months. Protection of the number, location, and quality of these wintering areas is critical to the maintenance of the herd. IF&W recommends the preservation of dense stands of softwood growth to provide the necessary shelter, and the protection of travel corridors throughout their range. The softwood canopy helps to maintain the temperature of the local environment by reducing the effects of radiational cooling and buffering the herd from the wind. Snow within the yards tends to become firmly packed, making travel easier and thus requiring less energy.

Additional information will be forthcoming from IF&W within the next few years on deer wintering areas, as well as on wetlands, marine wildlife habitats, and seabird nesting habitats. Teams from the agency are expected to make field visits to the various areas noted on the resource maps to assess their current status and importance to a wide variety of wildlife. The information to be collected will assess the deer yards and rate them for importance, based upon the criteria of access, shelter quality, browse availability, proximity to other deer yards, size and shape, population of deer, and operability of forest stand.

When IF&W finishes its evaluation of the Town, the deer wintering areas will be rated either high, medium, or low value, based upon the seven criteria noted above. Current agency policy recommends that both high and medium value areas should be protected from development, while low or indeterminate value yards should be regulated to prevent fragmentation or loss of significant habitat. In all cases, IF&W recommends that the regional wildlife biologist be consulted in any development proposal that may impact the designated areas.

Timber harvesting is recognized not only as a permissible, but necessary land use activity, relative to maintenance of deer population. As a general goal 50% of the cover in the yards should be maintained as mature softwood. IF&W recommends that in any 15-year period up to 20% of the total volume may be removed, with single openings not to exceed 14,000 square feet. Individual canopy openings of greater than 10,000 square feet should not be closer than 150 feet apart.

Where timber harvesting occurs within a deer yard, IF&W recommends that the road clearing be limited to 30 feet in width, and that it be limed, fertilized, and reseeded at the conclusion of the operation.

Deer are an important part of the Town's natural resource system, as indicated on Table 19, Summary of Deer Harvest. The deer population reflects the change in habitat from open farmland to reverting fields, which affords them greater opportunities for food and cover.

TABLE 19
Summary of Deer Harvest

PERIOD	MEAN HARVEST	RANGE (low-high)
1939-1949	23.7	11-49
1950-1959	57.2	45-67
1960-1969	41.9	16-63
1970-1979	50.3	18-79
1980-1988	64.9	54-101

3. Waterfowl and Wetlands

Wetlands environments are common throughout Richmond, ranging from the high value, extensive UMBERHIND Marsh north of the Pitts Center Road, to the common wet fields found along the borders of many inactive farms. Wetlands are very important habitats for a wide variety of species, including waterfowl, songbirds, shorebirds, furbearers, deer, moose, and other smaller mammals. Animals are attracted to wetlands by the availability of food and cover and because they offer protected travel corridors between undeveloped tracts of land. Maine Inland Fisheries and Wildlife maintains boxes for nesting ducks (e.g., wood ducks, hooded mergansers, and goldeneyes) in several of the wetlands throughout Richmond. The State is currently in the

process of establishing a new wetland on the west side of the Interstate 95 interchange, a measure that was proposed in the mid 1970's as mitigation for the loss of habitat that resulted from the highway construction.

The uplands adjacent to wetlands and other water bodies, known as the riparian zone, help to protect water quality by filtering groundwater of excess nutrients and sediment before it reaches a water body, maintaining water temperature, and contributing vegetation and invertebrates to the food chain of the aquatic ecosystem. Riparian habitats also are a valuable cover type and serve as an important travel corridor for many species.

Wetlands are among the most sensitive of the natural environments found in Maine. In addition to the direct value to wildlife, wetlands play an important role in groundwater recharge, sediment filtration, floodwater storage, recreation, and visual quality. Over the past several decades, many wetlands in Maine have been damaged or destroyed by filling, draining, or sedimentation. Alteration of the riparian zone has also led to the degradation of the quality of the wetland habitat.

IF&W has evaluated some of the larger wetlands in Richmond, based upon their potential value for waterfowl. Table 20 summarizes their findings. According to IF&W, the ratings tend to be on the conservative side and should be field evaluated in the future. A high value wetland has high value for feeding, nesting, or cover for waterfowl, or exhibits heavy use by geese and/or ducks. A wetland that received a moderate rating is defined as offering moderate value for the feeding, nesting, and cover habitat needs for waterfowl, or exhibits significant use by ducks and/or geese.

TABLE 20
Wetland Types and Rating for Waterfowl

WETLAND	WETLAND TYPE	RATING	USE
NW of Village	Fresh Meadow	Negligible	--
E of Reed Cemetery	Shrub Swamp	Low	N,F
Umberhind Marsh	Shallow Fresh Marsh	High	N,F,M
Upper Abagadasset R.	Fresh Meadow	Negligible	--
Abby R. N of Village	Fresh Meadow	Moderate	F
N end of Abby River	Fresh Meadow	Low	F
N of Bowdoinham Ridge	Fresh Meadow	Negligible	--
Denham Stream Flowage	Fresh Meadow	Negligible	--
W of Umberhind Marsh	Shrub Swamp	Moderate	N,F,M
N of Richmond Corner	Wooded Swamp	Negligible	--
Rolling Dam Brook	Shallow Fresh Marsh	Low	N,M
KEY: N - Nesting	M - Migration		
F - Feeding	W - Wintering		

Fresh Meadows are often found bordering the landward side of shallow marshes; they may also fill shallow lake basins or potholes. The soil tends to be waterlogged to within a few inches of the surface during the growing season. When they are associated with permanent water bodies, they are used commonly by nesting waterfowl and deer. Common plant species include rushes, reedtop, and reed grass.

Shallow Fresh Marshes may be found along the landward side of deep fresh marshes. They may also nearly fill shallow lake basins or potholes. While the soil is usually waterlogged throughout the growing season, it may be flooded with up to six inches of water. These types of wetlands are heavily used by nesting and feeding waterfowl, deer, moose, other bird species, and furbearers. Vegetation can include arrowheads, cattails, and plume grass.

Shrub Swamps are usually found along slow moving streams. The soils are usually waterlogged throughout the growing season and may be flooded with up to a foot or more of water. These types of wetlands are used to varying degrees by deer, moose, ducks, woodcock, and raccoons. Alders and shrub species of dogwoods predominate on the drier areas with willow, buttonbush, and sweet gale found commonly on the wetter areas.

Wooded Swamps are also found along sluggish streams, on flat uplands, and in shallow lake basins and potholes. The soils are usually waterlogged but may be flooded with up to a foot or more of water. These types of wetlands are used to varying degrees by feeding waterfowl, deer, moose, hole nesting ducks, beaver, and many other species of birds and mammals. Wooded swamps typically will be composed of red (swamp) maple, tamarack (hackmatack), balsam fir, and black ash, with a thick carpet of various types of moss and ferns.

Current IF&W policy recommends that wetlands which have been rated as having either high or medium value for wildlife should be protected from development, while low value or indeterminate wetlands should be regulated. In all cases, IF&W recommends that the regional wildlife biologist be consulted in any development proposal that may impact the designated areas.

Over the past several years IF&W has been conducting resource assessments of habitats throughout Maine. While the agency has not included Richmond at this point, the following recommendations on wetlands for the Mid-Coastal area are likely to apply.

High and Moderate Value Wetlands

- Land use activities which directly affect water and habitat quality in wetlands should be prohibited. Activities include filling, draining, and waste disposal.
- Riparian vegetation within 250 feet or more of these wetlands should be protected from development and other forms of changes in habitat, other than modifications authorized by IF&W.

- The first 100 feet of riparian habitat should remain undisturbed.
- Within the next 150 feet, timber harvesting operations should not remove, in any 10-year period, more than 20% of the total volume on each acre involved of trees six inches or greater diameter measured at breast height (DBH). Single openings in the forest canopy should not exceed 14,000 square feet. Individual canopy openings of greater than 10,000 square feet should not be closer than 150 feet.

Low Value Wetlands

- Land use activities which directly affect water and habitat quality in wetlands should be considered unacceptable. Activities include filling, draining, and waste disposal.
- Riparian vegetation within 100 feet or more of low value wetlands should be protected from development and habitat modification, other than those authorized by IF&W.

Wetlands of Unknown Value

- Before any land use changes within 250 feet of these wetlands occur, IF&W should be consulted to determine the importance of these habitat areas for waterfowl and other wildlife species. IF&W will recommend appropriate management strategies.

4. Fisheries

Richmond has three major bodies of water that have existing or potential value as fish habitat: the Kennebec River, the Abagadasset River, and Pleasant Pond. In addition, a number of smaller ponds exist throughout the Town, used primarily as fire ponds and farm ponds.

In the future IF&W will be assessing the value of watercourses, just as they are determining the habitat value of wetlands. A rating system will be developed (high, moderate, low, or indeterminate value) and guidelines will be established for development activities within the riparian zone surrounding the water bodies. The guidelines will closely parallel those established for wetlands, with an emphasis on protecting the 250 foot riparian zone on the upland sides of the watercourse.

The 1982 Maine Rivers Study noted that "the Kennebec River has the potential for being the state's number one producer of anadromous fish. It presently rates high in species diversity and overall fish abundance as well as recreational and commercial importance. The river provides habitat for all of Maine's anadromous fish species including the endangered short nosed sturgeon. Research suggests that non-stocked Atlantic salmon are spawning in the river and tributaries."

Many of the people who keep boats on the waterfront use them for access to Merrymeeting Bay. Striped bass have started to run in the river over the past three years,

usually toward the southerly end of the bay early in the season. Bluefish are caught in July. Several people in the community fish for eels in the river.

The Department of Marine Resources (DMR) does not have a restoration program for Atlantic Salmon on the Kennebunk, primarily due to the dam at Augusta.

5. Furbearers

The Kennebec Valley and the associated countryside provides excellent habitat for a number of furbearing mammals. Aquatic furbearers - mink, otter, muskrat, and beaver - are found in Richmond's wetlands, ponds, and other waterways. Upland furbearers - red fox, grey fox, raccoon, fisher, and most recently the coyote - are found throughout the Town in reverting fields, woodlands, farmlands, and along the watercourses.

According to IF&W records, the most commonly taken furbearer during the past decade has been the raccoon, followed by beaver, red fox, and mink. The population and density of these species can fluctuate widely, depending upon trapping and hunting pressures, climatic conditions, habitat availability, competition, predation, and disease.

6. Other Wildlife Habitat

Annual figures for species such as woodcock, grouse, and snowshoe hare are not available through IF&W. Richmond has a great diversity of habitat types that are extremely important in maintaining population levels of game and nongame species. What may appear to some to be wasteland -- reverting fields, cutover land, alder thickets, and wetlands -- is actually prime habitat for the Town's wildlife population.

Richmond is one of the northernmost towns found along the perimeter of Merrymeeting Bay. The bay has long been recognized as a significant waterfowl concentration area and a key component of the Atlantic Flyway system. Spring and fall migrations are naturally peak times for waterfowl populations.

M. Unique Natural Areas

The Critical Areas Program of the State Planning Office has on file a listing for one site - the extensive wetland on the Beedle Road - that was included in the Natural Areas Inventory in 1971. The area was first recognized by the Natural Resources Council in 1973 and was field verified in July of 1976. The report describes the area as "one of the most productive freshwater marshes in the State. Nesting area for wood duck, black duck, and teal have been set out. Muskrat and deer are abundant. Inland Fisheries and Wildlife controls the water level of the marsh."

In 1978 the Natural Areas Inventory estimated its significance as local and indicated that it was not a Critical Area. Interstate 95 has been constructed through the western portion of the marsh.

While not part of Richmond, the Steve Powell Refuge and Wildlife Management Area on Swan Island (Perkins Township) in the Kennebec River is a significant natural area. Swan Island has been the site of nesting bald eagles, which can be seen flying overhead along the river. The presence of the nature preserve forms a wooded backdrop for one of the major views in Richmond, looking down Main Street in the village.

The Natural Heritage Program in the Department of Economic and Community Development, Office of Comprehensive Planning, has records of three plant species found in mud flats along the Kennebec River that are on the State list of Rare and Endangered Natural Features. The Parker's Pipewort, (*Eriocaulon parkeri*), is listed as a Special Concern species, which means that it is represented by 5-10 documented, recent occurrences within the State. The Estuary Monkeyflower, (*Mimulus ringens* var. *colophilus*), and Spongy Arrow-head, (*Sagittaria calycina* var. *spongiosa*) have been placed on the State's Watch List, which means that more than 10 occurrences have been recorded recently, but is still of concern to the State. The official State status for plants is determined by the Endangered Plant Technical Advisory Committee and administered by the Critical Areas Program of the State Planning Office. All three species are found from Richmond down to Merrymeeting Bay.

N. Analysis

The Town is seen as a series of natural systems, defined by watersheds. The understanding of these systems is key to developing plans for preservation of the important natural resources and setting land aside to accommodate anticipated growth. The natural resources of Richmond raise many important issues about its future.

Wetlands are found throughout the Town, and are probably much more common than most residents realize. Conflicts seem to exist between the mapped wetlands and the extent of wetland vegetation seen in the field. How should the Town go about defining wetlands? Is there a need for a map of the Town's wetlands? Should the Town be taking any additional measures to protect this resource?

The sewer service area in Richmond is relatively small and will most likely not expand to cover any appreciable change in area. Should there be additional limitations on development due to constraints related to soils: high water table, depth to bedrock, hydric soils?

There are many areas of excellent wildlife habitat throughout the community: wetlands, steep stream banks, deer wintering areas. What measures should the Town take to ensure that these resources are maintained? Is the community willing to accept changes in specie numbers and diversity as development continues?

Deer wintering habitat is mapped and covers approximately 15% of the land area of Richmond. The actual land used by deer is much smaller and has not been mapped. Deer tend to move from year to year as conditions change. Should the Town consider deer wintering areas a prime natural resource? How should the Town deal with development that threatens the deer wintering habitat?

The Department of Inland Fisheries and Wildlife recommends the preservation of high and moderate value deer wintering yards because of its mission in continuing the tradition of hunting. Is the Town in agreement with the goal of maintaining the herd for this purpose? Should hunting continue to the same extent that it now occurs as the population increases and development starts to spread into the more rural areas?

Many areas of Town have been designated as either prime agricultural land or prime forest land, or both. Should the Town take steps to preserve these areas for future generations, knowing that these lands are also some of the best sites for community development (on-site sewers, foundations, road building, etc.)?

Growth and development will continue to affect the water quality in Pleasant Pond. While the problems with the pond extend well beyond Richmond, and may be primarily agricultural in nature, any additional development within the watershed has the potential to cause serious and long-term problems. What steps should the Town take to implement DEP's recommendations for phosphorus control?

Potential threats to water resources throughout the Town are numerous. What steps should the Town be taking to ensure that its main source of water in Dresden remains pure? What steps need to be taken to ensure the continued quality of on-site wells, the most common form of drinking water in the rural area?

SECTION 22. MARINE RESOURCES

Richmond is considered a coastal community by virtue of its location on a tidal river, even though it takes the average boater a good two hours to reach open ocean. Richmond is similar to many Kennebec River communities in its long history of commercial activity along its waterfront that linked it to the sea. Ice harvesting, shipbuilding, and shipping all contributed to make Richmond the place that it is today. With the changes in transportation systems, the demise of sail, and new refrigeration technology, Richmond's waterfront quickly deteriorated. Today it only contains relics of a once active past.

The waterfront in Richmond is located in a bend in the side channel of the Kennebec River. The main channel, 16 feet in depth, is on the east side of Swan Island. According to the Coastal Marine Geologic Environments of the Gardiner SE Quadrangle, Maine, prepared by Barry Timson in 1976 for the Maine Geological Survey, the majority of the channel is classified as Tidal Fluvial Channel, which means that it is typical of the lower portions of river channels under tidal influences, but not carrying estuarine waters. The chart shows the presence of occasional ledges, mud flats, and fluvial marshes. The latter environment consists of vegetated river floodplains and banks with freshwater pond vegetation subject to daily tidal action.

A decade ago a few pleasure boats started to tie up in the river between Swan Island and Richmond. In the 70's the Maine Bureau of Parks and Recreation constructed a boat launch, parking area, and picnic area at the foot of Main Street to meet the demand for access to the newly restored river. At the same time similar facilities were installed in Augusta, Hallowell, Gardiner, and Bowdoinham. In the early 80's the State turned the boat launch over to the Town. Today the Town's maintenance crews put in the ramp and float, repair the embankment, and clean the park. The Fire Department is called in to hose down the parking area in the springtime. The harbor activity to date has operated without a budget from the Town, relying mainly on money generated from Swan Island Yacht Club dues.

Richmond is presently seeing a great upsurge of interest in recreational boating. The average vessel that uses the waterfront is a 20-25 foot motorboat. A few large boats, up to 42 feet in length, tie up, as well as a few sailboats. The boat launch and related facilities are well used by residents of many of the surrounding towns who appreciate its location relative to Merrymeeting Bay and the ocean. People who live west of Town consider the boat launches in Gardiner and Hallowell to be inconvenient and find the Richmond facility easy to get to via Routes 197 and 202. Over the past few years the use has grown to a point where parking on the weekend has become a problem. This year the parking lot behind the Ames Mill will be used to handle cars pulling boat trailers.

According to the harbormaster, Bruce Hurley, the demand for moorings has just about doubled every year for the past few years. As of now there is no estimation of the ultimate capacity of the harbor. With the increase in the use of the river and the congestion on the shore, it is clear that a more definitive plan for the harbor is needed. This section of the river, with its

protection and easy access, is seen by the community as being most suitable for water dependent uses.

The harbormaster is appointed by the Town to manage what happens on the waterfront, to enforce the rules and regulations on the waterfront, to set out signs marking the entrance to the mooring area, to assign mooring spaces, to monitor the effects of currents and floods, and to keep moorings away from the Town's water line and the State's power line to Swan Island. The harbormaster sets two markers to warn boaters of exposed ledges in the river. A large white sign on Swan Island warns boaters of the presence of the water and electric lines crossing the river. Other than these and two sets of harbor entrance signs, there are no markings for the channel or navigational hazards.

The harbormaster has established a waiting list for persons desiring to obtain a Kennebec River mooring in Richmond. State law requires that at least 10% of commercial and noncommercial moorings be available to nonresidents if demand warrants.

The Swan Island Yacht Club, formerly the Richmond Yacht Club, is an open membership organization that has an active interest in the use of the waterfront. Members, who don't necessarily own a boat or use the facilities, are mainly from the Richmond, Litchfield, Lewiston area, with a few from as far away as New Hampshire and Massachusetts. The club owns a small parcel of land behind the Ames Mill and is responsible for putting in most of the moorings in the river. This year the club is planning on putting in 120 feet of floats. In addition to the 30 Yacht Club moorings, an additional 12 are located on the north end of the waterfront, and a similar number are in place at the southern end.

Ice is one of the major causes of damage along the river, although the waterfront has only seen minor damage over the last decade. Periodic additions of fill are necessary to repair minor washouts in the springtime adjacent to the abutments that hold the stiff arms in place at the dock. The State designed the facility to withstand the onslaught of the ice, and thus far the large rocks have held reasonably well.

Of more serious concern is the flooding that occurs in the springtime. The last major storm in 1987 deposited a considerable amount of sand in the back channel at the southern end of Town, further narrowing the passage between Swan Island and the Richmond shoreline. The harbormaster anticipates that dredging may be necessary to keep the channel open if similar storms deposit sand in the future.

Over the last few years tourboats from the south have been stopping at Richmond at the rate of one or two per month during the summertime. These 40-45 foot boats allow their 25-30 passengers an opportunity to explore the Village during the stopover. Arrangements are purely informal; no activities or itineraries are planned.

In addition to the problems noted above, the boating public has to deal with periodic logs that float to the surface in the springtime (remnants of the log-driving era), the 3-4 foot tidal

fluctuation, tricky currents and wind conditions, and the sharp drop-off at the end of the ramp. People who are not used to launching in the river have been known to damage their boats while putting them in. The harbormaster believes additional education is necessary, particularly aimed at novices to the river.

The Richmond-Dresden Bridge, located just upstream from the Village, is staffed from Memorial Day to October 1 from 5 a.m. to 9 p.m., and from October 1 to river freezing from 7 a.m. to 5 p.m. The bridge is usually only required to open on the weekends to allow larger vessels to pass, particularly at high tides. Most of the boating traffic on the river is in the form of smaller pleasure craft, but the river is starting to draw an increasing number of tour boats from the Boothbay Harbor region, which require the bridge to open for passage.

There are no shellfishing or worming areas in the Town.

SECTION 23. CULTURAL RESOURCES

A. Historic Resources

Building in towns the size of Richmond are usually small in scale, lacking stylistic pretensions, charming in their modesty, reflecting the surrounding agricultural area. Richmond, historically, was not an agricultural community. To the contrary, it was a community of shipbuilders and seafarers who used their construction skills and knowledge of foreign lands to construct fine, large homes. Often these homes were patterned after buildings seen on their travels on the world trade routes.

During the decades prior to the Civil War, Richmond experienced a period of economic prosperity and growth. It was during this era and the period following the war that much of Richmond's current village center was developed. At that time, Greek Revival architecture was popular, resulting in numerous homes in the "temple style," whose columns terminated in good examples of the Greek orders or in individual's ideas of the attractive. In addition, the Village contains numerous other structures in various architectural styles.

A significant portion of Richmond Village has been designated as a National Register Historic District. The district encompasses the area roughly bounded by the Kennebec River, South Street, High Street, and Chestnut Street. Within the district there are a large collection of architecturally and historically significant structures. The most noteworthy of these are:

The Southard Block - This building is a three-story commercial structure with a cast iron facade and mansard roof. The building is located on South Front Street between White and Church Streets. The building was built in 1882 by T.J. Southard as a bank and counting house. The building is designated as a National Register Historic Site and an Historic American Building. (National Register - February 23, 1973 and HABS - ME 159).

The Southard Mill - This structure is located across South Front Street from the Southard Block. It was built in 1881 by T.J. Southard as a cotton mill involving the manufacturing of cotton bags. The building is constructed of brick.

The T.J. Southard House - This structure was built in 1855 by T.J. Southard as his residence. The home is located at the corner of Church and Pleasant Streets. The house is one of the most stylish wooden Italianate homes surviving in the State of Maine. The building is designated as an Historic American Building (HABS - ME 149).

The Captain David Stearns House - This structure was built in approximately 1851-1855 for Captain Stearns. The house is located on Gardiner Street and is a fine example of Greek Revival architecture. It has an interesting feature in that the capitals of the

columns are carved in stylized lotus leaves, reflecting the influence of the Egyptian Revival. The house is designated as an Historic American Building (HABS - ME 142).

The Methodist Church - This building was originally built as the Village Chapel Society in 1846. It is a characteristic village or rural church with fine Gothic Revival detail on the exterior and is modeled after the Gardiner Universalist Church. The building is designated an Historic American Building (HABS - ME 155).

The William S. Hagar House - This house was built in approximately 1870-1875 by Hagar. The house is located on South Front Street and is a good example of decorative Victorian architecture. The house is a three-story structure with a central tower which is its most outstanding and decorative feature.

The Captain Francis Theobald House - This house was built in approximately 1847-1855. It is located on Pleasant Street and is a fine example of Greek Revival architecture with a classic facade with fluted columns rising to a lovely pediment. The columns are capped with Corinthian capitals, the only such examples in Richmond.

The William Maxwell House - This home was built in approximately 1880 and is located on South Front Street. This two and a half story dwelling with a mansard roof and attached barn is designed in the Second Empire style and is one of the finest homes in Richmond.

The Charles B. Foster House - This home was built around 1850 and is located on South Front Street. It is built in the Greek Revival style.

The Nazarene Church - This structure was built in 1857 as a Congregational Church. The lines of the church are basically Greek Revival but depart from this style with rounded arch windows with keystones and heavy brackets in the tower.

The Central Fire Station - This building was built in 1846 as the Town Hall and Schoolhouse. The building is located on School Street and is a two-story gable roofed brick structure.

The Charles Southard House - This building was built in approximately 1870-1875. It is located at 75 Main Street.

The Hathorn Block - This four and a half story masonry building was built in 1850 as a commercial structure. It is located at the foot of Main Street and is done in the Greek Revival style.

In addition to the designated historic district, there are numerous other architecturally important structures in the northern part of the Village and in outlying areas of the Town. One such building is the Peacock Tavern located on Route 201. This building was built in 1807 and

served as an inn for the traveling public on the old post road. The building is registered on the National Register of Historic Places and is protected by an historic easement.

Taken collectively, the building, village fabric and rural hinterland represent a significant historical resource as a representation of a small nineteenth century Maine town.

In addition to the buildings remaining from the nineteenth century, the Town contains the sites of the original Fort Richmond established in the early 1700's. The original site is located on the river side of North Front Street. The fort was later moved to a site near the Richmond-Dresden Bridge. These sites represent a major piece of the heritage of the community.

B. Archaeological Resources

Richmond contains a number of significant archaeological resources. The Maine Historic Preservation Commission has identified two prehistoric sites located on the bank of the Kennebec River (sites 25.39 and 25.40).

There are also four identified historic archaeological sites in Richmond. These sites are:

- Me 369-01 Fort Richmond Site (1719, 1940)
- Me 369-02 Nowell Mill Site (1738)
- Me 369-03 Swan Island Site (1650's - 1721)
- Me 369-05 Richmond Corner Settlement Sites (1800's)

The Maine Historic Preservation Commission has conducted intensive level survey work at the Fort Richmond Site and hopes to continue this work in the future. The Commission suggests that future fieldwork focus on the Anglo-American sites ranging from early colonial settlements to nineteenth century shipbuilding sites.

C. Recreational Resources

The Town of Richmond owns and maintains a number of recreational facilities including the riverfront park and boat launch, Little League and baseball fields and facilities at the schools. These facilities are described in Section 18.

The State of Maine owns two facilities in the Town. On the Kennebec riverfront, the State maintains a facility which provides access to Swan Island. The area includes a parking lot and docking facilities for the island ferry. The Bureau of Parks and Recreation operates Peacock Beach State Park on Pleasant Pond. The facility is a small area catering primarily to the residents of nearby communities. The park offers freshwater swimming and picnicking facilities. The most recent survey (1987) of State park users showed a high degree of dissatisfaction with the lack of concessions, sanitary facilities, limited recreational opportunities and operating season.

The only significant private recreational facility in Richmond is the Gardiner-Richmond Campground located on Pleasant Pond off Route 201. This facility is licensed for 78 sites.

The vast majority of the land in Richmond is undeveloped and in forest or field. Access to much of this land is available on a limited basis with permission of the landowner. Areas with significant value as wildlife or fisheries habitat are identified in Section 21.

A major resource is the frontage along the Kennebec River. The State of Maine has designated the Lower Kennebec as a river segment which contains natural and recreational resource values with greater than State significance. The riverbanks and Swan Island provide important habitat for the majority of Maine's wintering and breeding populations of eagles. The river is also important habitat for anadromous fish. In addition, the vast majority of the river frontage upstream of the Richmond-Dresden Bridge is undeveloped and somewhat isolated by the Maine Central Railroad right-of-way, which runs parallel to the river. This results in high scenic value and recreational potential for the river and riverfront.

Formal access to the Town's major water bodies is limited to a small number of points. Access to the Kennebec is available at the Town park in the Village. This facility includes a boat launch. Swan Island, a State-owned island in the Kennebec, is accessible on a controlled basis. Access to Pleasant Pond is available through the State Park and at boat launches recently constructed on roads crossing the pond. There is no formal access to the other water bodies in the Town. Informal access across private property is available on a controlled basis.

D. Scenic Resources

Scenic resources mean different things to different users. We commonly think of public scenic resources; the views and vistas that we see from public roads or public land. But there is a second set of scenic resources which is more private, the views seen from the Town's water bodies and within the countryside. This section catalogues the significant scenic resources of a public nature and discusses the nature of the more private resources.

The Kennebec River represents a major scenic resource. Major views of the river are available from the Richmond-Dresden Bridge, Ferry Road, North Front Street approaching the Village, locations along the River Road, and from the Beedle Road. In addition, the riverscape itself is a major scenic resource. The Maine Rivers Study identified the Lower Kennebec as a scenic resource of greater than State significance. The study describes the river's scenic value as "a unique and extremely diverse juxtaposition and combination of land, water, vegetative and cultural elements..."

Pleasant Pond represents a second major scenic resource in Richmond. The pond is crossed by two roads, Route 197 to the south and the Thorofare to the north. Both roads provide significant views of the ponds and the shorefront. As with the Kennebec, the shoreline represents a scenic resource when seen from the water.

A third area with significant scenic value are the open farmlands on the fringe of Richmond Village. In addition to being visually attractive and providing long views across open land, these areas also delineate, quite clearly, the transition from urban to rural and therefore define the Village area.

A fourth area of significant value is the view over the UMBERHIND Marsh from the Reed Road. This view capsulizes the character of the community, the rolling fields, woodlands, and wetlands.

Other areas with significant public scenic values include the views across Peacock Pond from Route 201 near the Town line, views across the open farmland along the Beedle Road, the views of open land from the Interstate, Richmond Corner and pleasant rural roadscapes including parts of the Langdon Road, Alexander Road, Beedle Road, Pitts Center Road, Outer Lincoln Street, and the River Road.

In addition to these public values, the Town has a significant private resource of scenic quality. The many brooks and streams, woodlands and fields create a wide variety of scenic experiences that are an important part of the Town's rural character. The Abagadasset River corridor is just one of these treasures.

E. White Russian Influences

During the 1950's and 1960's, a large number of eastern European immigrants, primarily White Russians, settled in the Richmond area. This group has provided an additional element in the Town's cultural milieu. The most visible symbol of their role in the community is St. Alexander Nevsky Russian Orthodox Church with its onion steeple. In addition, they have organized social clubs and organizations reflecting their heritage.

F. Issues and Implications

The cultural resources of Richmond raise many important issues about its future and possible growth and development.

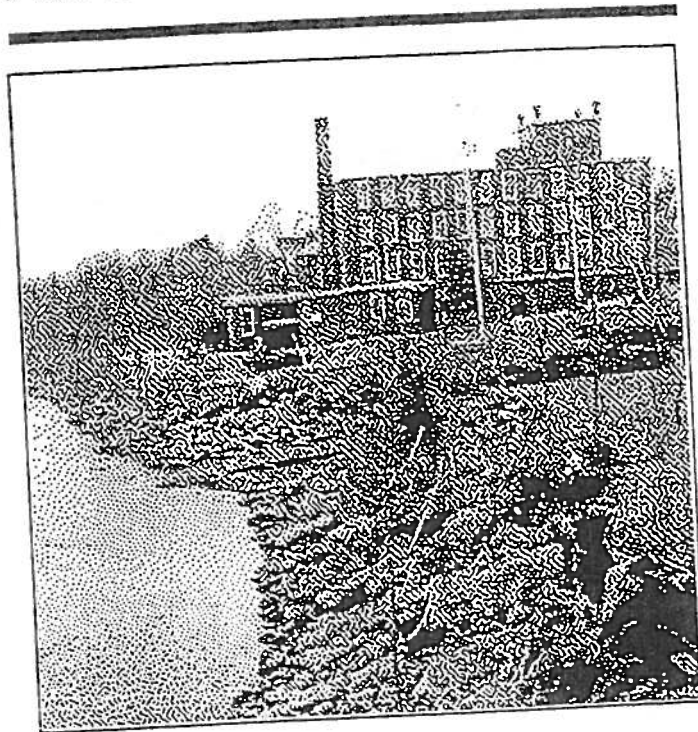
Richmond Village represents a significant historic, visual and cultural resource. However, many of the older buildings are poorly maintained. In addition, the automobile and the need for parking threatens the character of the visual environment. How can the nature of the Village be preserved and property owners encouraged to respect the character that it incorporates?

The Town has a well defined pattern of Village and rural areas which creates much of Richmond's character. Suburban type growth, particularly on the fringes of the Village, potentially threatens this balance.

The Town's scenic resources are also subject to change as growth and development occur. How can these resources be retained without impinging on the property rights of landowners?

And finally, Richmond contains a diversity of people and cultures; long-time rural landowners, newer residents, White Russians, and others. This diversity is important to the character of the Town and should be retained as growth and change occur.

Part E



APPENDICES

- Appendix A Detailed Community
Survey Results
- Appendix B Soils Information