

2004 MASTER PLAN



Bow, New Hampshire

CERTIFICATE OF ADOPTION

In accordance with New Hampshire RSA 674:4, Master Plan Adoption and Amendment, and New Hampshire RSA 675:6, Method of Adoption, the Bow Planning Board, having held a duly noticed public hearing on July 8, 2004, hereby adopts and certifies the Acknowledgements, Table of Contents, Demographics Chapter, the Current Land Use Chapter, the Conservation, Preservation, and Open Space Chapter, the Transportation Chapter, the Future Land Use Chapter, the Regional Concerns Chapter, the Appendixes, and the Sources of the 2004 Master Plan for the Town of Bow, New Hampshire.


Chair


Secretary


Member


Member

Member

Member


Vice Chair


Selectmen's Representative

Member

Member

Member

Member

This document was received and recorded by the Town Clerk on _____ 2004.

Signed: _____

Bow Town Clerk

Seal: _____

CERTIFICATE OF ADOPTION

In accordance with New Hampshire RSA 674:4, Master Plan Adoption and Amendment, and New Hampshire RSA 675:6, Method of Adoption, the Bow Planning Board, having held a duly noticed public hearing on June 3, 2004, hereby adopts and certifies the Introduction Chapter, the Historic and Cultural Resources Chapter, the Community Facilities Chapter, the Housing Chapter, the Economic Development Chapter, and the Implementation Chapter of the 2004 Master Plan for the Town of Bow, New Hampshire.

Chair

Vice Chair

Secretary

Selectmen's Representative

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ACKNOWLEDGEMENTS

The Planning Board would like to express their sincere appreciation and gratitude to the following people who assisted with the 2004 Bow Master Plan. Their participation in this process was critical and helped community leaders better understand the values, goals, and needs of the community. Without their help, this Plan would not have been possible.

Master Plan Steering Committee

Planning Board

Steve Buckley and Gil Rogers

Conservation Commission

Nancy Rheinhardt

Board of Selectmen

Isabel Sinclair

Budget Committee

Sara Swenson

Business Development Commission

Rick Hiland

Zoning Board of Adjustment

Rob Mack

Historical Commission

Beth Titus

Bow School Board

Pansy Bloomfield

At-Large Citizens

Craig Ott and Louise Knee

Bow Planning Board

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Richard Weed, Vice Chair
Stephen Buckley, Secretary
Leon Kenison, Selectmen's Rep.
Doug Barnard, Member
Donald Lane, Member

John McAllister, Member
Sandy Crystall, Alternate
Thomas Hartley, Alternate
Rick Minard, Alternate
Gil Rogers, Alternate
John Wallace, Alternate

Chapter Subcommittee Participants

Dana Abbott
Eric Anderson
Mike Audley
Carol Bailey
Pansy Bloomfield
Joe Brigham
Steve Buckley
Chuck Christy
Chum Cleverly
Sam Colby
Done Crane
Sandy Crystal
Arthur Cunningham
Georgette Daugherty
Stan Halerman
Paul Hammond
Alan Hill
Alane Hill
Rick Hiland
Gail Horton
Jett Jennings
Brad Jobel
Leon Kennison
Linda Kling
Bill Klubben
Nancy Knapp
Louise Knee
Mike Labreck
Don Lane

Terry Large
Tim Locke
Margarette Lougee
Gary Lynn
Rob Mack
Ignatious MacLellan
Jack McAllister
Mike Moyers
Tim Neville
Carol Olson
Neil Ordway
Roger Ordway
Craig Ott
Jim Pitts
Matt Proulx
Nancy Rheinhardt
Gil Rogers
Doug Ryan
Janet Shaw
Bob Stevens
Dick Stevens
Beth Titus
Suzanne Waddell
Hillary Warner
Marge Welch
Bryan Westover
Spruce Wheelock
Peter Winship
Phil Wolf

We would like to thank the staff at the Central New Hampshire Regional Planning Commission for all their hard work and assistance in the Master Plan process.

We would also like to thank local Bow Artist Kerry B. Buckley for providing the artwork for the Master Plan cover.

For those we failed to mention, we sincerely appreciate your efforts and contributions.

CHAPTER I INTRODUCTION

A Master Plan is a living document that articulates the vision, desires, and concerns of a community. The Plan provides recommendations on ways to maintain or improve the features of a community. This Plan is intended to serve as a blueprint for all future activities of Bow. This includes future economic development efforts; amendments to land use regulations; environmental and historic preservation efforts; the development of a variety of housing stock options, and the expansion of community facilities and services for the next five to ten years.

This Master Plan is Bow's vision for the first quarter of the twenty-first century and beyond. It outlines what we are all about and where we want to go as a community in central New Hampshire. The Plan describes us today, and forecasts where we are heading. Most importantly, it defines what we will need to do over the next several years as we work together to shape the future of the Town of Bow. What you now have in your hands is the result of the collective efforts of those who made significant contributions of time, energy, and ideas. The new "Master Plan of the Town of Bow" is now ready for implementation.

WHAT IS A MASTER PLAN

A Master Plan is intended to be the device that influences the making, interpretation, and implementation of regulations and procedures that give shape and direction to the community. A Master Plan is required by law (RSA 674:2); but unlike other "master devices," it has no force of law and no way to generate the resources that may be required for implementation. An updated Master Plan is required prior to adopting a Zoning Ordinance, a Capital Improvements Program, a Growth Management Ordinance, or an Impact Fee Ordinance. The Master Plan can be a powerful tool to shape a community by giving direction to appointed and elected officials. However, the true power of the document is derived from the citizenry, as they will ultimately be the voice that approves the staffing, funding, regulatory alternatives and strategies identified by this Plan.

BOW'S MASTER PLAN PROCESS

In the Fall of 2001, the Bow Planning Board and the Central New Hampshire Regional Planning Commission (CNHRPC) entered into an agreement to conduct an update of the Town's 1992 Master Plan and to develop a land use build-out analysis. The follow is an abridged timeline for the Master Plan process.

Steering Committee Organization – Winter 2002

The Planning Board felt that a Steering Committee should be designed to oversee the development of the Master Plan. The Committee was created to be a cross-representation of the community. The Committee was comprised of 12 members that represent various Town Boards and Commissions, including the Planning Board, Conservation Commission, Board of

Selectmen, Budget Committee, Business Development Commission, Recreation Commission, Zoning Board of Adjustment, Historical Commission, School Board, and two At-Large citizens.

The specific roles of the Steering Committee are to have individual members chair the various Chapter Subcommittees, to review and approve the Chapters once the Subcommittees are done, and to present the Chapters to the Planning Board for their review and approval.

Build-out Analysis – Spring 2002

The Planning Board was interested in knowing how much more development potential there was in town, under current zoning and land use constraints, as part of the Master Plan process.

The first step in the build-out analysis was to merge the tax maps together with the Town Assessor's database. This database contains information related to a parcel's land use, zoning, and present building location. In addition to the parcel information, other data used in the analysis include the National Wetlands Inventory, Federal Emergency Management Agency (FEMA) Flood Insurance Rate maps that delineate the 100-year floodplain, utility easements as found in the tax maps, and information related to conservation lands from Town and Central NH Regional Planning Commission files. After the local data were linked to the digital map, maps were produced that portrayed zoning and existing land use at the parcel level.

Next, an initial review of "built-out" parcels was produced using lot size and underlying zoning. A better way to describe this analysis would be the identification of those parcels that cannot be further subdivided according to existing zoning. With those initial results, areas that likely will not be developed due to their ownership or use (Town lands, schools, Pages Corner State Forest, Merrimack Station Power Plant and adjacent lands, land along Class VI Roads), as well as wetlands, areas in the 100-year floodplain, and utility easements also were classified as "built-out".

The final step in identifying the built-out lands, was to estimate the number of potential residential lots in the Residential, Rural and Civic Zoning Districts and the developable commercial/industrial acreage in the I-1, I-2, Commercial, Institutional and Business Development Districts.

The results of the build-out analysis were presented to the Town at the Community Visioning Session and can be seen in Chapter III Current Land Use.

Community Visioning Session - May 18, 2002

In order to gather community input and involvement in the Master Plan, the Steering Committee organized a Community Visioning Session that was held on Saturday May 18, 2002 at the High School. The purpose of the Session was to introduce the Master Plan concept to Town residents, present previous research and studies as background information, highlight the results of the build-out analysis, and gather feedback to be used in the development of the different chapters.

There was a concerted effort to use and present existing data, maps, studies, and reports so as not to duplicate efforts that have already been undertaken. The Goals and Objectives of the 1992 Bow Master Plan were reviewed and the progress for each was noted (**Appendix A**). In addition to

the 1992 Master Plan, over 20 other data sources were reviewed and summarized for Visioning Session participants (**Appendix B**).

One of the greatest benefits of holding the Visioning Session was being able to have break-out sessions on topics that corresponded to the proposed Master Plan Chapters. Each of the sessions asked participants to state the “strength,” “weakness,” “threat,” and “opportunity” they felt were present for each topic. The results of the sessions (**Appendix C**) were used to help shape the content of each Master Plan Chapter.

Community Survey - September 2002

In September 2002, 3,321 community surveys, which were designed by the Steering Committee, were sent out to Bow residents (2,598) and non-residents (723) and 1,127 surveys were returned for an impressive 34% response rate. The survey results, which can be found in **Appendix D**, were used by the Chapter Subcommittees as a basis for the recommendations contained in the various Chapters.

Master Plan Chapter Work - Fall 2002 – Fall 2003

Once the Visioning Session and the Community Survey were completed, the next step was to start work on the individual Chapters with the Subcommittees. A member of the Steering Committee chaired each Subcommittee with CNHRPC staff acting as the staff resource. Participation in the Subcommittee was open to all members of the Community.

OVERALL MASTER PLAN GOALS

Contained within each Chapter is the collective catalogue of our hopes and dreams for our town-what we want to achieve in our growing and vital town. Ideas to help us strive toward this vision have been laid out for all to see and work towards. Just as those who have gone before us, we can seize this opportunity to move and shape our little bit of the world and to make it a better place for us, our children and our grandchildren. Herein lies a living document, one that will help us focus on the important issues in our Town.

Some of the recommendations contained within the individual Chapters can be seen below. The Implementation Chapter collects and classifies each recommendation as a “regulatory” or “non-regulatory” recommendation, the responsible party for implementation, the estimated cost to the Town of Bow for implementation, and a proposed timeframe for implementation to occur. The format is intended to facilitate accountability for implementation and hopefully assist in the next Master Plan update.

Economic Development Chapter

The Plan proposes to continue the Town's recent efforts to expand commercial and industrial activities in the southern area of town, east of I-93. The Plan expects water and sewer development and other regulatory changes to encourage high quality development and, therefore, a higher tax base.

Housing Chapter

The Plan leaves in place the Town's basic zoning map, which allows 2-acre lots across most of town. To help mitigate the impact of more housing, the Plan proposes that all larger developments conform to "conservation subdivision" guidelines to protect more of the natural buffer around the new homes and encourage the houses to be built in more compact groupings. The Plan also calls on the Town to develop and adopt a system of Transferable Development Rights which would allow for denser development in exchange for preserving much larger lots, in particular, such lots that would help the Town achieve the conservation and preservation goals identified in this document.

The Plan makes other recommendations to encourage the availability of more diverse types of housing in Bow. One recommendation would allow homeowners to add accessory apartments to their homes; another would make it easier for multi-family homes to be built in areas with water and sewer; another would encourage continued development of housing for older residents. The goal of these recommendations is to ensure that people of all incomes and ages can find a place to call home in Bow.

Transportation Chapter

The Plan recognizes that Bow is a town that evolved from a rural community primarily accessed by automobiles. Increased development, community activity and modern lifestyles have brought about a need for safer and more efficient automobile travel as well as alternative transportation modes such as walking and biking. The Plan lays out a schedule to modernize town road standards, within the context of a rural community vision, to provide roadway widths that encourage appropriate travel speeds and to add paved shoulders for dual pedestrian and bicycle usage. Enhancement to existing roads would occur in conjunction with regularly programmed road improvements, be they Town, State or developer funded.

Conservation, Preservation, and Open Space Chapter

The Plan includes recommendations to create a park with expanded access to the Merrimack River and to maintain and expand the network of trails throughout Town. It lays out a series of steps intended to protect ground water, habitat, and overall environmental quality.

Future Land Use Chapter

One of the goals under the "Vision for Future Land Use" section was to "preserve and increase the acreage of conservation lands in Bow and yet encourage the most productive kinds of commercial development." Three (3) build-out scenarios were run to assist in the preparation of future land use goals. These scenarios were (1) full build-out under current zoning, (2) all residential lots 20 acres or more to be developed as POS-RD subdivisions with a 20% density bonus, and (3) an assumption that some parcels west of I-93, including some under conservation easement, would be rezoned to the Business Development District.

Scenario (2) resulted in a recommendation in the Implementation Chapter reflecting that scenario. Relative to scenario (3), the Master Plan does not call for rezoning conservation land for commercial purposes, regardless of the fact that it is a Phase II recommendation of the plan prepared by the Business Development Commission in 2000. However the expansion issue may need to be reconsidered during future issues of the Master Plan.

CONCLUSION

As this Master Plan was being written, it became evident that Bow is at a crossroads. With incremental growth creeping from southern portions of the State and the City of Concord continuing to evolve and expand as a regional source of employment, Bow will continue to grow and face new challenges and issues. Those who contributed to this plan did their best to plan for such changes and to suggest appropriate strategies that will accommodate reasonable growth while maintaining the rural atmosphere. It is the resolve of the Planning Board to faithfully and aggressively pursue the recommendations included in this document.

The Master Plan is a document that outlines the kind of town Bow is now and the kind of town it would like to be, keeping in mind its importance as a community in central New Hampshire. It describes us today, forecasts where we are heading, and defines what we need to do over the next several years. Most importantly, we can see what we can achieve and, by committing it to paper for all to see, what our plan is for the future. It is to be a living document helping us to focus on the important issues of our times. We need each and every community member's efforts to bring fruition to the recommendations in this document.

CHAPTER II DEMOGRAPHICS

INTRODUCTION

It would be difficult to plan for the future of the Town without some statistics regarding who lives in or does business in Bow, and who is likely to move in or out of Bow in the future. The United States Census can provide us with a lot of information in this area. It is important to note, however, that the Census only gives us a snapshot of what has occurred in the past. We need to understand the changes that the town has experienced in past years in order to think about what may happen in the future and plan accordingly.

The future population projections prepared by the New Hampshire Office of Energy and Planning are somewhat general in nature and should be looked at as an estimate. According to the population projections prepared by the Office of Energy and Planning, Bow has already exceeded the projections for the year 2015. While it does include several variables, it does not take into account current zoning or planning practices of a particular community nor its current attractiveness to potential residents. Nevertheless, this information, as well as other sources, can be used as a starting point.

This Chapter not only looks at demographics for the Town of Bow, but also demographics for abutting communities, the county, and the State. This allows for the comparison and analysis of information for Bow as well as the abutting communities.

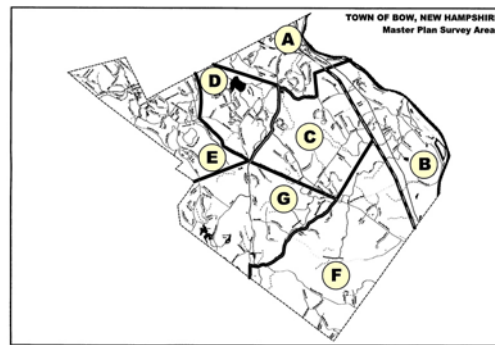
COMMUNITY SURVEY RESULTS

In September 2002, 3,321 Community Surveys were mailed out; 2,598 to Bow residents and businesses and 723 to non-resident landowners. There were 1,127 surveys returned, which resulted in a 34% response rate. The following questions from the Community Survey relate to the Demographics Chapter.

Are you a:	#	%
Legal resident of the Town of Bow	1,058	93.9%
Business	24	2.1%
Legal resident of another NH city/town	17	1.5%
Legal resident of another state	7	0.6%
NA	21	1.9%
Total	1,127	100%

What general area do you consider yourself a resident of?

Map Area	#	%
A	147	13.9%
B	36	3.4%
C	194	18.3%
D	129	12.2%
E	234	22.1%
F	136	12.9%
G	161	15.2%
NA	21	2.0%
Total	1,058	100%



Do you reside in Bow:

	#	%
Year-Round	1,046	98.9%
Seasonally	10	0.9%
NA	2	0.2%
Total	1,058	100%

How long have you lived in Bow?

Time	#	%
Less than 5 years	202	19.1%
5-10 years	190	18.0%
11-20 years	238	22.5%
Over 20 years	287	27.1%
NA	141	13.2%
Total	1,058	100%

How much longer do you plan on living in Bow?

Time	#	%
Less than 5 years	86	8.1%
5-10 years	188	17.8%
11-20 years	262	24.8%
Over 20 years	343	32.4%
NA	179	17.0%
Total	1,058	100%

What type of housing do you live in?

Type of Home	#	%
Single family home, on less than 1 acre	56	5.3%
Single family home, on 1-5 acres	869	82.1%
Single family home, on 5+ acres	111	10.5%
Two-family home	6	0.6%
Multi-family/apartment	5	0.5%
Other	4	0.4%
NA	7	0.7%
Total	1,058	100%

Are you a:

	#	%
Homeowner	1,044	98.7%
Renter	5	0.5%
Other	2	0.2%
NA	7	0.8%
Total	1,058	100%

How many individuals are in your household?

Individuals	# of Responses	%
One	76	7.2%
Two	372	35.2%
Three	162	15.3%
Four	290	27.4%
Five	103	9.7%
Six	41	3.9%
Seven	7	0.7%
Eight	2	0.2%
Nine	1	0.1%
Ten	0	0.0%
Eleven	1	0.1%
NA	1	0.1%
Total households	1,058	100%
Total population	3,321	-

Please indicate the number of children for each age group in your household.

Number of Children	Number of children under the age of 5 years old in Bow households	Number of children 5-10 years old in Bow households	Number of children 11-13 years old in Bow households	Number of children 14-17 years old in Bow households
One	96	137	165	165
Two	39	91	23	63
Three	3	11	0	4
Four	0	1	0	0
Total Households	138	240	188	232
Total Children	183	356	211	303

If your children are cared for outside of your home, in what town are they cared for?

Town	# of Responses	%
Concord	20	39.2%
Bow	16	31.4%
Hooksett	4	7.8%
Manchester	3	5.9%
Bow/Concord	3	5.9%
Pembroke	2	4.0%
Chichester	2	4.0%
Contoocook	1	2.0%
Goffstown	1	2.0%
Total Households	51	100%

**How many children in your household (pre-K through grade 12) attend school in Bow?
What are their ages?**

Number of Children	# of Households	% of Households
One	170	40.3%
Two	184	43.6%
Three	52	12.3%
Four	12	2.8%
Five	3	0.7%
Six	1	0.2%
Total households	422	100%
Total children in Bow school system	763	-

What are their ages?	#	%
Two	4	0.5%
Three	4	0.5%
Four	22	2.9%
Five	13	1.7%
Six	50	6.6%
Seven	50	6.6%
Eight	44	5.8%
Nine	72	9.4%
Ten	62	8.1%
Eleven	59	7.7%
Twelve	69	9.0%
Thirteen	55	7.2%
Fourteen	69	9.0%
Fifteen	62	8.1%
Sixteen	56	7.3%
Seventeen	63	8.3%
Eighteen	5	0.7%
Nineteen	1	0.1%
NA	3	0.4%
Total Children	763	100%

How many children in your household (pre-K through grade 12) attend school outside of Bow? What are their ages?

Number of Children	# of Households	% of Households
One	51	68.9%
Two	16	21.6%
Three	5	6.8%
Four	2	2.7%
Total households	74	100%
Total children not in Bow school system	106	-

What are their ages?	#	%
Two	1	0.9%
Three	6	5.7%
Four	8	7.5%
Five	11	10.4%
Six	6	5.7%
Seven	2	1.9%
Eight	2	1.9%
Nine	10	9.4%
Ten	9	8.5%
Eleven	4	3.8%
Twelve	4	3.8%
Thirteen	12	11.3%
Fourteen	4	3.8%
Fifteen	5	4.7%
Sixteen	5	4.7%
Seventeen	10	9.4%
Eighteen	4	3.8%
Nineteen	3	2.8%
Total	106	100%

Please indicate the number of adults in your household by age group.

Number of Adults	18-25 years old	26-35 years old	36-49 years old	50-64 years old	65-79 years old	80 years old and older
1	85	72	179	152	99	31
2	46	68	369	209	84	2
3	4	0	3	0	0	0
4	25	0	0	0	0	0
Total Households	160	140	551	361	183	33
Total Population	289	208	926	570	267	37

**Please indicate the number of employed persons in your household
(Age 16 years and older).**

Total number of employed persons (16 years old and older) = 1,289

Total number of households responding = 1,127

Full-Time			Part-Time		
Where Employed	# Employed	% Employed	Where Employed	# Employed	% Employed
Concord	495	40.7%	Concord	140	43.1%
Bow	252	20.7%	Bow	66	20.3%
Manchester	198	16.3%	Other NH Towns	48	14.8%
Other NH Towns	76	6.3%	Manchester	31	9.5%
Hooksett	45	3.7%	New Hampshire	18	5.5%
Massachusetts	30	2.5%	Hooksett	9	3.8%
New Hampshire	29	2.4%	Other States	7	2.2%
Merrimack	17	1.4%	New England	4	1.2%
Bedford	14	1.2%	Other	2	0.6%
Goffstown	12	1.0%			
Amherst	12	1.0%			
Pembroke	11	0.9%			
Hopkinton	11	0.9%			
Derry	10	0.8%			
Other States	4	0.3%			

**Please indicate the type of employment and number of people employed in your household
for each person age 16 years and older.**

Type of Employment	People employed
Professional	280
Health Care	223
Retired	191
Government	159
Education	157
Self-Employed	157
Other	156
Retail	97
Manufacturing	89
Finance	86
Computers/Hi-Tech	80
Construction	57
Non-Profit	32
Unemployed	21
Real Estate	18
Agriculture/Forestry	2

**Please indicate the highest level of education for each adult
(Age 18 years and older) in your household.**

Level of Education	Number of Adults
High school or less	98
High School graduate/GED	311
Certificate Program	76
College (no degree)	302
Associate's Degree	211
Bachelor's Degree	396
Master's Degree	312
Doctorate Degree	117

POPULATION CHARACTERISTICS

Historical Population Trends

Changes in the population of any community are influenced by a variety of factors, ranging from changes in the local economic base to national events, such as wars and recessions. From 1790 to 2000, Bow had seen a growth in population of 6,570 people. As can be seen in the following chart, this growth was not at a consistent rate and was subject to fluctuation.

Bow Historical Population, 1790-2000

Year	Population	# Change	% Change
1790	568	0	---
1800	719	151	26.6
1810	729	10	1.4
1820	935	206	28.3
1830	1,065	130	13.9
1840	1,001	-64	-6.0
1850	1,055	54	5.4
1860	909	-146	-13.8
1870	745	-164	-18.0
1880	734	-11	-1.5
1890	725	-9	-1.2
1900	617	-108	-14.9
1910	676	59	9.6
1920	568	-108	-16.0
1930	780	212	37.3
1940	942	162	20.8
1950	1,062	120	12.7
1960	1,340	278	26.2
1970	2,479	1,139	85.0
1980	4,015	1,536	62.0
1990	5,500	1,485	37.0
2000	7,138	1,638	29.8

Source: US Census, NH Office of Energy and Planning, CNHRPC

Regional Population Trends

As can be seen below, during the period of 1970 through 2000, Bow experienced a population increase of 195.1%. Since 1970, the population has increased by 4,719 people, with the largest increase occurring between 1990 and 2000.

Population Trends for Bow and Abutting Communities, 1970-2000

Town	1970 Population	1980 Population	1990 Population	2000 Population	# Growth 1970-2000	Percent Growth 1970-2000
Bow	2,419	4,015	5,500	7,138	4,719	195.1 %
Concord	30,022	30,400	36,006	40,687	10,665	35.0 %
Dunbarton	825	1,174	1,759	2,226	1,401	169.8 %
Hooksett	5,564	7,303	9,002	11,721	6,157	110.7 %
Hopkinton	3,007	3,861	4,806	5,399	2,392	79.0 %
Pembroke	4,261	4,861	6,561	6,897	2,636	61.9 %

Source: 1970 Census, 1980 Census, 1990 Census, and 2000 Census

Population Projections

By predicting future population changes, a town can better plan for what may happen in the future. As noted in the Community Facilities Chapter of this Plan, predicting future population growth is crucial for planning the expansion of community services and facilities. It is important to note that, any projection scheme is dependent on assumptions. Basic assumptions include: that there will be no major war, civil strife or major natural catastrophes and that there will be an adequate supply of energy at a reasonable price.

These local projections are highly dependent on the limits set by the county totals. The county projections are roughly based on long-term trends that occurred during the 1960-2000 period. The local projections are based on a community's historical share of its' respective county's growth. The principal assumption with this method is that trends of a community's population change, relative to the parent county will remain about the same in the future. However, there are limits and exceptions to this assumption.

The basic trends in shares of county population change were established using 1960, 1970, 1980, 1990 and 2000 population totals. The municipal share of total county population was calculated for each of these years. Then a test was applied. Towns that gained or lost shares in all decades or since 1980 were deemed, "consistent."

For consistent places, the numeric change as a percent of the county's population was calculated. This change was applied to the 2000 county share. This rendered a 2005-projected share for each consistent community. The same amount of change in county share was also applied to 2010. Thus, the 2005 and 2010 projected county shares are the result of trends established by the 40-year (since 1960) or 20-year (since 1980) trends.

However, for the 2015 county shares, the rate of historic change is diminished; only one third of the change is applied. This 2015 county share was then held constant and used for the remaining

two periods. The resulting sets of shares, for consistent places, are necessarily subject to further alteration. This is because shares for inconsistent places must be entered and then all shares must be forced to sum to 100% of projected county totals.

Municipalities could be classified, “inconsistent” for one of two reasons. A municipality could be have exhibited an inconsistent trend in the 1960 to 2000 period. Second, a municipality may have exhibited a consistent trend but, based on judgement supplied by OSP or a regional planning commission, were treated as inconsistent places. In most cases a regional planning commission supplied an updated rational for modifying the “consistent trend”. In other cases, it was obvious that the consistent trend was unlikely to continue into the future.

The following table shows projections formulated by the NH Office of Energy and Planning. This table provides interesting information, but Bow should consider other criteria when projecting population, such as the effects of the Growth Management Ordinance currently in place; the availability of water and sewer for development and how it affects the time frame for such; and other factors that may influence the attractiveness of Bow as a destination for residential growth.

NH OSP Population Projections for Bow and Abutting Communities, 2005-2025

Town	2000 Actual	2005 Projected	2010 Projected	2015 Projected	2020 Projected	2025 Projected	2000-2025 Projected Increase
Bow	7,138	7,890	8,720	9,590	10,450	11,300	58.3%
Concord	40,687	42,780	45,230	47,550	49,870	52,050	27.9%
Dunbarton	2,226	2,420	2,580	2,750	2,920	3,100	39.3%
Hooksett	11,721	12,960	14,270	15,560	16,840	18,020	53.7%
Hopkinton	5,399	5,720	6,080	6,440	6,800	7,180	33.0%
Pembroke	6,897	7,290	7,750	8,210	8,670	9,150	32.7%

Source: 2003 Population Projections, NH Office of Energy and Planning, and 2000 Census

These population projections can also be compared to the results of the build-out analysis, which was completed as part of this Master Plan. The results of this analysis provide an interesting and important look into the future of the Town. In the residential zoning districts, there is the potential for 1,727 to 1,975 new residential developments to occur. The build-out of the town would have a serious impact on the town’s population. See the Current and Future Land Use Chapter for more information on the build-out analysis.

Population Densities

One common measure of community character and sense of place is population density (persons per square mile). Population density can give a measure of the “feel” of a community – whether it feels urban, suburban, or rural. Understanding how Bow compares to its near neighbors can help to identify common goals in regional development. It can also help the Planning Board determine permit issuance and zoning requirements to promote the desired “feel.” These density figures are based on the total land area, including unbuildable land, roads, and permanently protected areas.

Population per Square Mile for Bow and Abutting Communities, 1970 - 2000

Town	Land Area (Sq. Miles)	Persons per Square Mile 1970	Persons per Square Mile 1980	Persons per Square Mile 1990	Persons per Square Mile 2000
Bow	28.6	85	140	192	250
Concord	67.2	447	452	536	606
Dunbarton	31.3	26	37	56	71
Hooksett	37.1	149.9	196.7	242.5	315.8
Hopkinton	45.1	67	86	107	120
Pembroke	22.8	187	213	288	302

Source: 1970, 1980, 1990 and 2000 Censuses

As noted above, Bow had 250 persons per square mile in 2000, which is in the middle range, when compared to abutting communities.

Age Characteristics

The key when adequately planning for Bow's future needs is knowing not only the number of people living in Bow, but also the age characteristics of the residents.

Households with Children and Older Adults

By knowing the number of households with children, under the age of 18, and adults, over the age of 65, the community can better plan for the needs and wants of the residents.

Households with Children, 2000

Town	Households with People Under 18 Years of Age, 2000		Households with No People Under 18 Years of Age, 2000	
Bow	1,177	51.1 %	1,127	48.9 %
Concord	5,26	32.4 %	11,013	67.6 %
Dunbarton	342	42.0 %	472	58.0 %
Hooksett	1,588	38.3 %	2,559	61.7 %
Hopkinton	764	36.7 %	1,320	63.3 %
Pembroke	1,049	39.4 %	1,612	60.6 %
Merrimack Co.	18,677	36.0 %	33,166	64.0 %
New Hampshire	167,367	35.3 %	304,459	64.7 %

Source: 2000 Census

As can be seen above, a little over half of all households in Bow have people under the age of 18, implying an increased demand for educational, recreational, and youth oriented needs. This is the highest percentage, as compared to abutting communities and is higher than the county and the state.

Households with Older Adults, 2000

Town	Households with People 65 Years Old or Older, 2000		Households with No People 65 Years Old or Older, 2000	
Bow	411	17.8 %	1,893	82.2 %
Concord	3,606	22.1 %	12,675	77.9 %
Dunbarton	110	13.5 %	704	86.5 %
Hooksett	771	18.6 %	3,376	81.4 %
Hopkinton	523	25.1%	1,561	74.9 %
Pembroke	506	19.0 %	2,155	81.0 %
Merrimack County	11,309	21.8%	40,534	78.2%
New Hampshire	168,371	35.5%	303,455	64.5%

Source: 2000 Census

As can be seen in the table above, 82.2% of Bow's households have no people over the age of 65, implying a fairly young community. This is fairly consistent with abutting communities and the county, but higher than the state percentage of households.

Population by Age Group

Understanding population trends by age group can help communities allocate resources for public infrastructure and services to meet the needs of the population. As can be seen below, the age group in Bow with the largest number of people is the 35-44 year age group, which is consistent with county and state figures.

Bow Population by Age Group, 2000

Age Group	Bow 2000 Population	Group as % of Bow 2000 Population	Group as % of County 2000 Population	Group as % of State 2000 Population
Under 5 Years	449	6.3	6.0	6.1
5 to 9 Years	667	9.3	7.1	7.2
10 to 14 Years	786	11.0	7.6	7.5
15 to 19 Years	573	8.0	7.1	7.0
20 to 24 Years	167	2.3	5.3	5.6
25 to 34 Years	506	7.1	12.4	13.0
35 to 44 Years	1,445	20.2	18.1	17.9
45 to 54 Years	1,310	18.4	15.3	14.8
55 to 59 Years	411	5.8	5.0	5.1
60 to 64 Years	221	3.1	3.7	3.8
65 to 74 Years	382	5.4	6.2	6.4
Over 75 Years	221	3.0	6.2	5.7
Total	7,138	100 %	100%	100%

Source: 2000 US Census

It is interesting to note that although the total population of Bow is 7,138, those in the taxpaying group (over 24 years of age) only number 4,496.

EMPLOYMENT, EDUCATION, AND COMMUTING CHARACTERISTICS OF RESIDENTS

Labor Force, Employment, and Unemployment

The labor force of a community is defined as the number of people who are over the age of 16, regardless of their employment status. In 1990, the population of Bow was 5,500 people, with a labor force of 2,864 people, constituting 52.1% of the population, which was higher than the county (50.5%) but not the state (56.4%). In 2000, the population of Bow was 7,138 people, with a labor force of 4,313 people, which is approximately 60.4 % of the population -- higher than the state (55.3%) and county (56.1%). As can be seen below, the changes in labor force, employment, and the unemployment rate for Bow are comparable with the surrounding communities.

1990-2001 Labor Force, Employment, and Unemployment

Bow	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
Labor Force	2,864	3,278	3,330	3,455	3,762	3,841	3,800	3,933	4,120	4,147	4,313	4,345
Employment	2,778	3,154	3,204	3,347	3,685	3,781	3,728	3,855	4,043	4,082	4,235	4,243
% Unemployment	3.0 %	3.8 %	3.8 %	3.1 %	2.0 %	1.6 %	1.9 %	2.0 %	1.9 %	1.6 %	1.8 %	2.3 %
Concord	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
Labor Force	17,372	19,367	19,181	19,352	20,479	20,895	20,631	20,928	21,365	21,501	22,331	22,459
Employment	16,432	18,003	17,942	18,452	19,833	20,340	20,057	20,421	20,876	21,076	21,872	21,910
% Unemployment	5.4 %	7.0 %	6.5 %	4.7 %	3.2 %	2.7 %	2.8 %	2.4 %	2.3 %	2.0 %	2.1 %	2.4 %
Dunbarton	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
Labor Force	922	1,023	1,033	903	889	892	893	1,215	1,297	1,316	1,364	1,373
Employment	898	985	987	860	851	873	861	1,194	1,270	1,283	1,331	1,333
% Unemployment	2.6 %	3.7 %	4.5 %	4.8 %	4.3 %	2.1 %	2.6 %	1.7 %	2.1 %	2.5 %	2.4 %	2.9 %
Hooksett	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
Labor Force	5,392	5,152	5,029	5,171	5,162	5,307	5,138	5,332	5,456	5,555	5,761	5,819
Employment	5,108	4,788	4,669	4,884	4,955	5,083	4,969	5,187	5,326	5,427	5,608	5,634
% Unemployment	5.3 %	7.1 %	7.2 %	5.6 %	4.0 %	4.2 %	3.3 %	2.7 %	2.4 %	2.3 %	2.7 %	3.2 %
Hopkinton	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
Labor Force	2,333	2,585	2,557	2,626	2,842	2,895	2,869	2,818	2,911	2,979	3,075	3,057
Employment	2,235	2,468	2,445	2,546	2,772	2,844	2,805	2,774	2,847	2,911	2,997	2,988
% Unemployment	4.2 %	4.5 %	4.4 %	3.0 %	2.5 %	1.8 %	2.2 %	1.6 %	2.2 %	2.3 %	2.5 %	2.3 %
Pembroke	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
Labor Force	3,687	4,122	4,128	4,192	4,341	4,395	4,351	4,192	4,265	4,305	4,473	4,490
Employment	3,412	3,758	3,794	3,936	4,194	4,283	4,223	4,081	4,164	4,204	4,363	4,370
% Unemployment	7.5 %	8.8 %	8.1 %	6.1 %	3.8 %	2.5 %	2.9 %	2.6 %	2.4 %	2.3 %	2.5 %	2.7 %

Source: NH Department of Employment Security, 2002

Occupations

The chart below outlines what types of occupations the residents of Bow were engaged in during the year 2000. The numbers below do not necessarily represent the types of occupations available in the Town of Bow, but the occupations of its residents. In 2000, the highest percentage of the Bow work force was employed in the management, professional, and related occupations. On the other hand, the lowest percentages of people were employed in farming, fishing, and forestry occupations, which is consistent with county and state figures.

Occupations of Employed Bow Residents, 2000

Occupations of Employed Bow Residents	Number Bow Residents Employed	% Bow Residents Employed	% County Residents Employed	% State Residents Employed
Management, professional, and related occupations	1,921	51.7 %	36.0%	35.8%
Service occupations	259	7.0 %	12.7%	13.0%
Sales and office occupations	1,028	27.7 %	27.9%	26.6%
Farming, fishing, and forestry occupations	21	0.5 %	0.4%	0.4%
Construction, extraction, and maintenance occupations	212	5.7 %	10.0%	9.4%
Production, transportation, and material moving occupations	276	7.4 %	13.1%	14.8%
Total Employed Persons over 16 years old	3,717	100 %	NA	NA

Sources: 2000 Census

School Enrollment

School records show that the school enrollment in Bow has grown from 810 students 30 years ago to 1,182 students ten years ago, to 1,511 students five years ago. The current enrollment for the 2002-2003 school year is 1,820 students. These are relative increases of 145% in the last 30 years, 52% in the last ten years, and 17% in the last five years. While the rate of growth in the school age population seems to have slowed somewhat recently, Bow's attractiveness to families with children is long-standing. It is important to consider the ratio of school age children to overall population when planning for the creation or expansion of services.

Bow School Enrollment by Level of School Type, 2000

	Population 3 years and over	Nursery School, Preschool	Kindergarten	Grade 1-4	Grade 5-8	Grade 9-12	College, undergraduate	Graduate or Professional School	Not enrolled in School
Public School	-	108	60	642	544	544	112	48	-
Private School	-	122	19	16	31	28	30	43	-
Total	6,939	230	79	658	575	572	142	91	4,592
% Total	100%	3.3%	1.1%	9.5%	8.3%	8.2%	2.0%	1.3%	66.2%

Source: 2000 Census

2002 Bow School District Enrollment

Bow Elementary School		Bow Middle School		Bow High School	
Preschool	14	5 th Grade	154	9 th Grade	161
Kindergarten	73	6 th Grade	131	10 th Grade	148
1 st Grade	118	7 th Grade	164	11 th Grade	143
2 nd Grade	118	8 th Grade	153	12 th Grade	163
3 rd Grade	115				
4 th Grade	163				
Total	601	Total	602	Total	615
Total Bow School District Enrollment			1,818		

Source: SAU #67 Office of the Superintendent, 11/02

Education Levels of Residents

In 2000, 94.6% of the total population in Bow had a high school degree or higher and 45.4% had a bachelor's degree or higher. These figures are significantly higher than most abutting towns, with the exception of Hopkinton. For more detail regarding the educational levels of Bow and abutting communities, please refer to the table below.

Educational Levels of Persons 25 Years and Older, 2000

	Bow	Concord	Dunbarton	Hooksett	Hopkinton	Pembroke	State
Some HS, no Diploma	248	3,185	86	856	178	583	103,754
	5.5 %	11.4 %	5.6 %	11.4 %	4.8 %	12.9 %	12.6 %
HS Diploma	945	7,845	385	2,182	775	1,562	247,723
	20.7 %	28.1 %	24.9 %	29.2 %	20.7 %	34.5 %	30.1 %
Some College	873	6,151	335	1,390	684	933	164,634
	19.2 %	22.0 %	21.7 %	18.6 %	18.3 %	20.6 %	20.0 %
Associate's Degree	420	2,182	152	858	342	481	71,772
	9.2 %	7.8 %	9.8 %	11.5 %	9.2 %	10.6 %	8.7 %
Bachelor's Degree	1,378	5,090	372	1,520	1,008	689	153,873
	30.2 %	18.2 %	24.1 %	20.3 %	27.0 %	15.2 %	18.7 %
Graduate or Professional Degree	692	3,487	215	678	749	275	82,230
	15.2 %	12.5 %	13.9 %	9.1 %	20.0 %	6.1 %	10.0 %
% of Population with HS Degree or Higher	94.6 %	88.6 %	94.4 %	88.6 %	95.2 %	87.1 %	87.4 %
% of Population with Bachelor Degree or Higher	45.4 %	30.7 %	38.0 %	29.4 %	47.0 %	21.3 %	28.7 %

Source: 2000 Census

INCOME CHARACTERISTICS OF RESIDENTS

The income characteristics of households, families, and individuals mirror the economic conditions within a community. In fact, income and poverty levels of a community can help a municipality determine the types of social services that it may need.

Per Capita Income

As can be seen below, In 2000 Bow had the second highest per capita income, when compared to abutting communities. From 1980 to 2000, Bow has the 2nd lowest percent change in per capita income, as compared to abutting communities, but a larger percentage change than the county or the state.

Per Capita Income, 1980-2000

Town	1980 Per Capita Income	1990 Per Capita Income	1996 Per Capita Income	2000 Per Capita Income	% Change 1980-2000
Bow	\$8,751	\$19,752	\$24,092	\$29,557	237.8 %
Concord	\$7,119	\$16,761	\$18,129	\$21,976	308.7 %
Dunbarton	\$7,494	\$17,805	\$21,422	\$27,892	272.2 %
Hooksett	\$6,849	\$18,872	\$22,985	\$24,629	259.6 %
Hopkinton	\$9,018	\$23,872	\$31,761	\$30,753	241.0 %
Pembroke	\$7,226	\$15,811	\$19,165	\$20,800	187.8 %
Merrimack County	\$9,915	\$20,703	\$25,733	\$23,844	140.5%
New Hampshire	\$9,601	\$20,713	\$26,522	\$23,208	141.7%

Source: 1980, 1990, and 2000 Censuses, NH Department of Revenue Administration, 2002

Median Household and Family Income

Household income is the total income of people living in one household. Family income is the total income of all family members who consider themselves members of one household.

Median household income is usually lower than median family income because it takes into account households consisting of one person, whereas median family income is based on two or more people. Median income is the middle figure in a series from lowest to highest. As can be seen below, Bow has the highest median household and family income, when compared to abutting communities, the county, and the state.

Median Household Income 1980-2000

Towns	Median Household Income 1980	Median Household Income 1990	Median Household Income 2000	Median Household Income Percent Change 1980-1990	Median Household Income Percent Change 1990-2000	Median Household Income Percent Change 1980-2000
Bow	\$25,915	\$54,633	\$79,329	110.8 %	45.2 %	206.1 %
Concord	\$15,933	\$32,733	\$42,447	105.4 %	29.7 %	166.4 %
Dunbarton	\$19,500	\$44,250	\$65,081	126.9 %	47.0 %	233.8 %
Hooksett	\$18,624	\$42,175	\$61,491	126.4 %	45.8 %	230.2 %
Hopkinton	\$20,427	\$46,810	\$59,583	129.2 %	27.3 %	191.7 %
Pembroke	\$18,463	\$39,059	\$49,494	111.5 %	26.7 %	168.1 %
Merrimack County	\$16,717	\$35,801	\$48,522	114.2%	35.5%	190.3%
New Hampshire	\$17,013	\$50,575	\$48,021	197.3%	-5.0%	182.3%

Source: 1990 Census, 2000 Census, NH Department of Employment Security, 2001

Median Family Income 1980-2000

Towns	Median Family Income 1980	Median Family Income 1990	Median Family Income 2000	Median Family Income % Change 1980-1990	Median Family Income % Change 1990-2000	Median Family Income % Change 1980-2000
Bow	\$26,670	\$46,855	\$83,567	75.7 %	78.4 %	213.3 %
Concord	\$19,676	\$39,531	\$52,418	100.9 %	32.6 %	166.4 %
Dunbarton	\$21,528	\$47,130	\$67,448	118.9 %	43.1 %	213.2 %
Hooksett	\$20,195	\$46,426	\$68,673	129.9 %	47.9 %	240.0 %
Hopkinton	\$22,009	\$52,407	\$69,737	138.1 %	33.1 %	216.9 %
Pembroke	\$21,348	\$44,983	\$57,106	110.7 %	27.0 %	167.5 %
Merrimack County	\$19,395	\$41,018	\$56,842	111.5%	38.6%	193.1%
New Hampshire	\$23,554	\$49,088	\$71,661	108.4%	46.0%	204.2%

Source: 1990 Census, 2000 Census, NH Department of Employment Security, 2001

Poverty

The Census Bureau uses a set of income thresholds that vary by family size and composition to define poverty levels. If a family's total income is less than the Census Bureau's threshold, then that family, and every individual in it is considered below poverty level. The poverty thresholds are updated annually for inflation using the Consumer Price Index. The following table contains the poverty thresholds from 1980-2000 that the Census Bureau used for its calculations.

Poverty Thresholds, 1980-2000

1980		1990		2000	
Individual Person	\$4,190	Individual Person	\$6,652	Individual Person	\$8,794
2-Person Family	\$5,363	2-Person Family	\$8,509	2-Person Family	\$11,239
3-Person Family	\$6,565	3-Person Family	\$10,419	3-Person Family	\$13,738
4-Person Family	\$8,414	4-Person Family	\$13,359	4-Person Family	\$17,603
5-Person Family	\$9,966	5-Person Family	\$15,792	5-Person Family	\$20,819
6-Person Family	\$11,267	6-Person Family	\$17,839	6-Person Family	\$23,528
7-Person Family	\$12,761	7-Person Family	\$20,241	7-Person Family	\$26,701
8-Person Family	\$14,199	8-Person Family	\$22,582	8-Person Family	\$29,701
9+ Person Family	\$16,896	9+ Person Family	\$26,848	9+ Person Family	\$35,060

Source: US Census Bureau, 2001

By looking at the table below, you can see that Bow had, in 2000, the second lowest percentage of families in poverty than any other abutting town. Furthermore, in 2000 Bow was tied with Hopkinton for the lowest percent of persons below the poverty level.

Poverty Data for Bow and Abutting Communities, 1980-2000

Town	% of Families Below Poverty Level 1980	% of Families Below Poverty Level 1990	% of Families Below Poverty Level 2000	% of Persons Below Poverty Level 1980	% of Persons Below Poverty Level 1990	% of Persons Below Poverty Level 2000
Bow	0.0 %	0.8 %	2.0 %	0.87 %	1.6 %	1.8 %
Concord	5.1 %	4.2 %	6.2 %	4.2 %	6.7 %	8.0 %
Dunbarton	4.4 %	4.2 %	2.3 %	2.7 %	5.1 %	2.8 %
Hooksett	4.1%	1.6 %	3.2 %	4.5%	2.8 %	4.0 %
Hopkinton	6.6 %	1.3 %	0.7 %	8.8 %	2.3 %	1.8 %
Pembroke	1.8 %	1.8 %	3.0 %	1.3 %	2.8 %	5.4 %
Merrimack County	NA	NA	4.1%	NA	5.5%	5.9%
New Hampshire	NA	NA	4.3%	NA	6.4%	6.5%

Source: 1980-2000 Censuses

BOW EMPLOYERS

Understanding historic trends in the local economic base can help the community better develop sound economic development strategies for the future. One key trend is the change in the size *and* type of the local employment base. Local employment data (i.e. the number and types of jobs in the community) are collected by various government agencies, including the Census Bureau and the New Hampshire Office of Employment Security. Using a classification system, the number of employment positions for each business in the community can be identified and tracked over time.

The data are derived from the federal-state cooperative effort known as covered employment (ES-202). The data are prepared as a result of the administration of the State Unemployment Insurance (UI) and Unemployment Compensation for Federal Employees (UCFE) programs. These programs require most employers to report quarterly the employment and wages of workers covered by UI and UCFE. Those businesses not covered by UI are not included in the data presented here.

To protect the confidentiality of individual employers, data are not disclosed in the following cases: (1) if there are fewer than three establishments in an industry group, and/or (2) if one establishment in an employment group in a given geographic area accounts for more than 80 percent of either employment or total wages.

Employment is defined as the numbers of employees on payrolls of employers covered by UI during the pay period, which includes the 12th day of the month. This includes full time, part

time, and temporary workers, both hourly and salaried. Employees who were not on the payroll during the pay period including the 12th day of the month are not counted.

The term “firm” usually indicates a single physical business location. However, an employer operating two or more physical establishments in a single town may be shown as one “firm.”

Average Weekly Wage is defined as the dollars paid (including bonuses, incentive pay, etc.) to all employees (both hourly and salaried) during the year, divided by the annual average number of employees, then divided by 52 (weeks) to obtain an average weekly figure.

In Bow from 1991-2001, there has been an increase in the number of employers and number of employees in most employment categories. Private Transportation and Public Utilities has seen a decrease in both employers and employees over the last ten years. Private Services have seen the largest increase in the number of employers (from 30 to 81) and Private Construction has seen the largest increase in the number of employees (from 31 to 260). The average weekly wage for most employment sectors has also increased. For more detail, please refer to the following table.

TRENDS IN THE BOW EMPLOYMENT BASE, 1991-2000

	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
Private Finance, Insurance, and Real Estate										
# Employers	NA	NA	NA	NA	3	4	NA	NA	9	11
# Employees	NA	NA	NA	NA	9	9	NA	NA	38	35
Average Weekly Wage	NA	NA	NA	NA	\$495	\$555	NA	NA	\$742	\$1,255
Private Services										
# Employers	30	36	42	54	60	62	74	81	73	81
# Employees	203	237	266	314	226	28	326	370	350	334
Average Weekly Wage	\$572	\$532	\$556	\$556	\$495	\$551	\$571	\$514	\$530	\$650
Private Transportation and Public Utilities										
# Employers	6	5	3	NA	NA	4	5	4	4	4
# Employees	21	22	13	NA	NA	11	14	16	12	10
Average Weekly Wage	\$518	\$415	\$598	NA	NA	\$1,323	\$1,095	\$1,208	\$1,342	\$1,493
Private Mining										
# Employers	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
# Employees	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Average Weekly Wage	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Private Construction										
# Employers	12	29	27	28	31	17	33	18	21	20
# Employees	31	285	296	305	345	161	418	223	245	260
Average Weekly Wage	\$380	\$601	\$610	\$633	\$682	\$622	\$707	\$655	\$705	\$827
Private Retail Trade										
# Employers	10	7	12	10	15	15	12	13	9	9
# Employees	191	193	252	225	353	353	449	414	280	279
Average Weekly Wage	\$492	\$494	\$510	\$546	\$406	\$441	\$589	\$632	\$978	\$994
Private Manufacturing										
# Employers	4	4	4	7	6	5	6	5	5	4
# Employees	38	37	37	75	102	99	101	102	110	120
Average Weekly Wage	\$422	\$512	\$474	\$512	\$514	\$476	\$447	\$515	\$506	\$512
Federal Government										
# Employers	2	2	2	3	3	3	3	1	1	1
# Employees	35	41	40	40	44	47	45	42	35	33
Average Weekly Wage	\$448	\$560	\$606	\$421	\$402	\$397	\$322	\$313	\$361	\$404
NH State Government										
# Employers	NA	1	1	1	1	1	1	1	NA	NA
# Employees	NA	32	31	30	28	29	37	19	NA	NA
Average Weekly Wage	NA	\$892	\$894	\$911	\$901	\$911	\$868	\$914	NA	NA
Local Government										
# Employers	5	5	6	6	6	6	6	6	6	6
# Employees	247	224	278	295	296	294	326	372	393	430
Average Weekly Wage	\$377	\$456	\$387	\$394	\$415	\$441	\$477	\$512	\$537	\$533

Source: NH Department of Employment Security, 2002

Wage Comparisons

To gain a better understanding of the type and quality of the jobs located in Bow we can compare wages paid by employers in Bow to those in the surrounding communities. Although the figures below show average annual weekly wages for people who work within the Town of Bow, they do not represent the average weekly wage of a Bow resident. See the table below for more detail.

Average Annual Weekly Wage - Private Sector and Government, 2000

	Bow	Concord	Dunbarton	Hooksett	Hopkinton	Pembroke
Private Sector						
# Employers	165	1,733	NA	352	98	105
# Employees	1,242	27,529	NA	3,781	769	887
Avg. Weekly Wage	\$794	\$610	NA	\$568	\$618	\$661
Government						
# Employers	7	271	NA	21	8	10
# Employees	232	3,758	NA	164	271	201
Avg. Weekly Wage	\$312	\$674	NA	\$655	\$616	\$720

Source: NH Department of Employment Security, 2001

Indicated above are the weekly wages for people in Bow working in the Private Sector are much higher than the wages in abutting towns. However, the average weekly wage for Bow government employees is much lower than that of abutting communities.

TAX CHARACTERISTICS

An examination of the tax rate helps businesses gauge the economic attractiveness of a community. Effective April 1, 1999, New Hampshire's property tax system included a state education property tax that is assessed and collected by local municipalities. The state education property tax was enacted in response to the NH Supreme Court's ruling in the *Claremont* case. The court ruled that it is the state's responsibility to fund an adequate education. It also ruled that property taxes used for the support of an adequate education need to be proportional throughout the state and not vary based upon the property wealth of a particular community.

The Legislature enacted a provision that requires each municipality to administer a statewide education property tax by assessing an amount equal to \$6.60 per \$1,000 (or \$5.80 per \$1,000 of value beginning with the April 1, 2002 tax year) of the total equalized value of all non-utility property in the community. However, because the taxes levied upon each individual property are based upon the local assessed value, not an equalized value, the state education property tax rate appearing on the tax bill is not necessarily \$6.60.

Property taxes are based upon the local assessed valuation of all taxable property within the town, as of April 1 of each year. When a town conducts a revaluation, property is physically

reviewed and then valued based upon the sales prices of other comparable properties or by other means. The intent of a revaluation is to assess all property at its "full and true" value, often referred to as "market" value. A revaluation insures that property within the town is assessed proportionally so that property owners bear their share of the property tax burden based upon the "value" of their property.

Towns and cities do not conduct reevaluations every year. Therefore, as a result of fluctuations in the real estate market, some towns are assessing property above full value, and other towns are assessing property below full value. Assessing property above or below full value is not cause for concern, as long as the assessments are proportional within the town: that is, as long as all property in town is assessed at approximately the same percent of market value. Bow conducted a reassessment of all property in 2002.

However, when dealing with property values statewide, these varying local assessment levels between towns create an imbalance. This imbalance between towns must be adjusted in order for a statewide property tax to be proportional. The process to accomplish this is called "equalization."

Each year the state Department of Revenue Administration equalizes the property values for every city and town. Equalization is an adjustment of the town's local assessed values, either upward or downward, in order to approximate the full value of the town's property. Adjustments are not made to any individual properties. Rather, the total value of all property in town is adjusted based upon the comparison of recent property sales with local property assessments. For example, if the comparison of recent sales indicates that on the average, the town is assessing property at 90% of market value, then the total local assessed value of the town would be increased by 10% in order to approximate the town's full value. If the comparison indicates that, on the average, the town is assessing at 105% of market value, then the total local assessed value would be decreased by 5%.

The purpose for equalizing local assessed property values is to provide a "level playing field." Once property values have been equalized, public taxes and state revenues shared by towns and cities may be fairly apportioned among them. This includes state education property taxes and county taxes.

Each town is responsible for raising an amount equal to \$6.60 per \$1,000 of the town's total equalized valuation. This amount represents the town's share of the statewide cost of an adequate education. However, in order for the town to raise this amount, the rate must be restated. This is due to the fact that property taxes are billed based upon the local assessed value of property, not the equalized value.

The difference between a community's local assessed value and its equalized value is the primary reason for a state education property tax rate different than \$6.60. Several other factors that influence this rate include the exemptions that your town provides to elderly residents, payments your town receives in lieu of property taxes, and any new construction that has taken place since last year.

As can be seen below, the tax rate for Bow has decreased over the past six years from a total \$23.43 per \$1,000 per assessed value to \$23.15 per \$1,000 assessed value, with the highest jump in rates between the year 2000 and 2001.

Breakdown of Equalized Bow Tax Rates, 1997-2002

Year	Municipal Tax	Local Education	State Education	County Tax	Total Tax
1997	4.42	17.31		1.70	23.43
1998	4.33	18.52		1.82	24.67
1999	4.25	10.54	7.81	1.80	24.40
2000	2.78	12.21	7.47	2.23	24.69
2001	4.75	13.53	8.27	2.54	29.09
2002	4.72	10.84	5.49	2.10	23.15

Source: NH Division of Revenue Administration, 2001

Tax Rates of Bow and Abutting Communities, 2002

Town	Total Tax Rate
Bow	\$23.15
Concord	\$27.28
Dunbarton	\$24.78
Hooksett	\$25.20
Hopkinton	\$27.59
Pembroke	40.32

Source: NH Department of Revenue Administration, 2002

CONCLUSION

The history of Bow's population changes is interesting. Looking at the Bow Historical Population table, we can see how Bow's population from 1790 to 1960 cycled up and down as the town changed from a farming community to a residential community for manufacturing plants in other towns. The decade from 1960-1970 saw almost a doubling of the population – the Baby Boom. Since that time, from 1970-2000, the town has grown at a fairly steady rate, adding about 1,500 people per decade.

Bow has grown more than the abutting communities, and also added a larger share of school age students. More than half of the households in Bow have children under the age of 18. More than half of employed people in Bow work in management, professional or other related occupations. It has the highest percentage of people who have earned Bachelor's Degrees (as compared to abutting communities as well as the state average), and also those who have earned graduate and post-graduate or professional degrees. It has the second highest per capita income of the abutting communities, and the highest median income. It has one of the lowest percentages of families in poverty.

The Bow employer base has increased since 1991, indicating some success of the town with respect to attracting commercial enterprise to Bow and increasing the business tax base. Bow's tax rate has increased over the years so it is no longer the lowest of the abutting towns. This is due in large part to the aging of the PSNH Merrimack Station power plant and the subsequent reduction in tax revenues from PSNH. The growth of the town's residential tax base has also reduced the relative effect of PSNH's contribution.

According to the statistics shown in this chapter, Bow is an affluent, well-educated, young community with lots of children. According to the population projections prepared by the Office of Energy and Planning, Bow has already exceeded the projections for the year 2015.

CHAPTER III CURRENT LAND USE

INTRODUCTION

This Chapter is to be used as a history lesson of land development in Bow, where the town has come from and where it is currently. The build-out analysis is a project based on that history – where the town will be in 5, 10, 15, or 20 years if the regulations do not change. The results of the analysis provide an interesting and important look at the Town’s future. In the Residential Zoning Districts, there is a potential for 1,975 additional single-family lots in the full build-out and 1,727 additional single-family lots excluding lots along difficult to improve Class VI roads. The projected number of single-family lots has the potential to increase Bow’s population by 5,354 to 6,122 people at full build-out. For commercial and industrial land development, the majority of developable acreage can be found in the Business Development District and the General Industrial zones.

The Future Land Use Chapter tackles the tough question of “What will the Town look like if changes are made today in the land development patterns, if historical trends do not continue?” Both Chapters are necessary in the Master Plan, one to tell people where the Town is and one to say where it could be going.

Increased population growth, evolving housing needs, as well as changing social and economic trends discussed throughout the Master Plan have had a direct impact on the landscape of the community. Land is a finite resource and thoughtful use of land is a critical issue for all communities. How a community uses its land base has a direct impact on aesthetics, community character, transportation infrastructure, housing affordability, as well as the tax base.

Bow's historic development pattern was determined long before there were any land use regulations in the State or Town. Development occurred in those areas with good drainage, access to a water supply, transportation, and waterpower. Most of Bow’s current development is being driven by the economic expansion of southern New Hampshire. This pressure is being felt primarily in the areas of housing and community infrastructure, as Bow is viewed as an attractive bedroom community to the Concord and Manchester areas.

The purpose of this Chapter is to identify and explore land use trends in Bow in the areas of housing, economic development, environmental protection, and land use needs of the community. According to the Community Survey, residents feel that the rural atmosphere is the most desirable feature of Bow. This Chapter reviews the land development patterns in Bow and the abutting communities since 1992 (when the last master plan was completed), describes the different Zoning Districts, and gives an overview of the other Zoning Ordinances that impact land development. The current land use section also includes the methodology and results for the build-out analysis that was conducted using current Zoning and Land Use Regulations.

CURRENT LAND USE TYPES

The existing land use pattern in Bow is typical of many communities in New Hampshire; commercial land uses are located along heavily traveled regional roadways while the majority of residential development is located in the back lands of the community. Please see the **Current Land Use Map** for more detailed information. The following table is a summary of the current composition of land uses in Bow.

Summary of Acreage Developed by Land Use Category

Category	Area (Acres)*	Percent of Total Land
Residential Land	8,160	45.3%
Conservation Land	3,560	19.7%
Public / Institutional Land	3,457	19.2%
Undeveloped Land	1,600	8.9%
Industrial Land	942	5.2%
Commercial Land	317	1.8%
Total	18,030	100%

Source: CNHRPC Geographic Information System (GIS), 2003

* Estimates based on GIS mapping for 2003 Master Plan

Residential Land

Residential land uses are scattered throughout the community, with development influenced by Concord and Manchester. In total, residential land uses occupy nearly 45.3% of the community's land area.

Conservation Land

Conservation lands include land that has been permanently set aside for conservation and prohibits development. Such land can include Town forests, lands owned by private conservation organizations, as well as properties subject to conservation easements. Occupying nearly 19.7% of the community's total land area, the majority of conservation lands are town owned.

Public/Institutional Land

In total, public and institutional land uses occupy approximately 19.2% of the community's land area. Examples of such uses include the schools, Municipal Building, Police and Fire stations, Library, and local churches and cemeteries.

Undeveloped Land

Undeveloped lands, which are lands that are neither developed nor protected from development, comprise 8.9% of the Town's entire land area. Some of these areas are located on land with steeper slopes, limited road access, or other development constraints that make them more difficult to develop. Land classified as undeveloped includes forested areas, fields, and agricultural lands.

Industrial Land

This use occupies slightly more than 5.2% of the community's total land area. Industrial uses can be thought of as any land use where raw materials are processed, modified, or assembled to create a finished or value-added product. Industrial uses can include the excavation of materials and lands classified as utilities.

Commercial Land

This land use occupies less than 1.8% of Bow's total land area. Commercial uses involve the sale or trade of goods and services, which can include restaurants, convenience stores, warehouses, as well as gas stations.

DEVELOPMENT PATTERNS, 1992-2002

Research and analysis of development patterns is important to help Bow better plan for future development. Development patterns make people aware of the changes taking place within a Town, as well as in abutting communities. By looking at how many subdivisions and site plans were approved, certificates of occupancy issued, and land placed in and taken out of Current Use during the past ten years, the Town is able to accurately report trends.

Subdivision Activity

During the period of 1992 through 2002, a total of 95 subdivisions were approved in Bow. Of that total, 61 were considered major subdivision consisting of three or more lots. The largest development consisted of 37 new lots in 1995 in the development know as Birchwood Hills off Brown Hill Road. The table below compares the number of subdivisions in Bow to the number of subdivisions in abutting communities.

Number of New Lots Created, 1992-2002

	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	Total
Bow	27	61	70	23	21	58	40	74	44	47*	40	505
Concord	9	33	32	22	14	28	88	57	58	220	121	682
Dunbarton	15	10	19	13	23	NA	13	13	5	23	21	155
Hooksett	NA	NA	64	134	128	115	13	163	103	15	7**	742
Hopkinton	6	12	15	9	2	3	16	13	24	3	17	120
Pembroke	2	NA	10	40	10	NA	2	9	36	35	59	203

Source: Annual Town Reports, CNHRPC Development Trends Report, and Town Staff, 2003

* White Rock Senior Living Development created 1 new lot with 192 units

** Includes only the amount of new lots for the fiscal year

The location of land subdivided in Bow since 1992 can be seen on the **1992-2002 Subdivision Location Map**.

Non-residential Site Plan Activity

From 1992-2002, the Town of Bow approved 103 Site Plans. These included a change of use from a commercial or industrial use to another, as well as approvals for new commercial or industrial operations. The table below shows the comparison to abutting communities.

Number of Site Plans Approved, 1992-2002

	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	Total
Bow	4	5	2	3	1	17	6	7	33	15	10	103
Concord	26	19	32	28	15	34	42	43	40	62	36	377
Dunbarton	1	2	4	3	1	0	0	0	1	0	0	12
Hooksett	NA	NA	36	18	39	24	29	20	37	27	22	252
Hopkinton	9	13	15	7	14	18	8	7	3	8	16	118
Pembroke	3	3	7	8	3	5	9	12	13	5	13	81

Source: Annual Town Reports, CNHRPC Development Trends Report, and Town Staff, 2003

Certificate of Occupancy

During the period of 1992 through 2002, Bow issued 541 certificates of occupancy and/or building permits for new residential construction. As compared to abutting communities, this was in the middle to high range.

Number of New Residential Certificates of Occupancy/Building Permits Issued, 1992-2002

	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	Total
Bow	35	48	51	63	89	54	47	32	35	30	57	541
Concord	80	60	72	65	95	67	65	284	112	125	91	1,116
Dunbarton	11	16	9	18	24	36	25	28	36	17	30	250
Hooksett	33	47	43	48	71	122	140	70	83	125	281	1,063
Hopkinton	16	19	23	15	38	44	52	39	23	18	25	312
Pembroke	7	8	15	4	12	9	6	31	27	40	40	199

Source: Annual Town Reports, CNHRPC Development Trends Report, and Town Staff, 2003
NHOSP 1999 Current Estimates and Trends in NH Housing Supply

Current Use

Current Use is one of the easiest and most popular methods of preserving undeveloped land, forests, and agricultural fields. Current Use is a preferential tax program (RSA 79-A) in which the land is taxed on its potential to generate income in its existing or current use. Bow residents have continually participated in this program, as can be seen by the figures below.

**Current Use Acreage for the Town of Bow
1992-2002**

Year	Land in Current Use (acres)	# of Owners Granted Current Use
1992	NA	NA
1993	NA	NA
1994	5,122	101
1995	5,386	110
1996	5,331	116
1997	5,446	109
1998	5,724	112
1999	5,122	109
2000	5,113	120
2001	5,044	107
2002	5,181	114

Source: Town Staff, 2003; Town Reports

CURRENT ZONING REGULATIONS

The power to regulate private property is one of the most important powers allocated to local government. Used properly, zoning can be a powerful tool to improve the aesthetics of a community, protect the natural environment, and enhance the quality of life. Used improperly, zoning can serve special interests, diminish the natural environment, and increase disparities between socioeconomic classes.

1992-2002 Zoning Changes

In 1925, the New Hampshire State Legislature, using a United States Department of Commerce Model Standard Act, granted municipalities the ability to adopt zoning. Bow first adopted Zoning in 1955 and the Ordinances have been amended periodically since then. The following is a summary of the Zoning changes that have taken place since 1992.

March 10, 1992

An amendment was adopted by petition to remove as an allowed use by Special Exception “hospital, nursing home and elderly housing, clinic and health maintenance or center.”

As of March 2003, hospitals, clinics, and medical/dental offices are not allowed in residential districts. Elderly housing is a permitted use in residential districts. Residential care facilities, which includes nursing homes, sheltered care facilities, and board and care homes, are permitted by Special Exception in residential districts.

March 9, 1993

Two warrant articles were adopted. The first changed from Residential to Commercial two parcels of land (Block 1, Lot 49 on Valley Road and Lot 114 - the interchange of I-89 and I-93). The second added supplemental regulations for day care facilities.

As of March 2003, both amendments remain in effect.

March 8, 1994

Seven of eight warrant articles were adopted. The changes included a detailed definition of home occupation (which was replaced in the comprehensive revision of 1998); regulations for driveways and prohibitions on shared driveways (which were modified for non-residential districts in 2000 – Planned Business Subdivisions); the addition of storage and repair of heavy motorized equipment as an allowed use in the I-2 district (the comprehensive revision of 1998 expanded motor vehicle repair to the C and I-1 districts); permitting day care facilities in the Civic, Institutional, and C districts (child care is now an allowed use in the CV, IN, and BD districts and permitted by Special Exception in C, I-1, I-2 districts); increasing the height limit in the I-2 district from 40 feet to 100 feet (later amended to require a Special Exception for buildings between 40 feet and 100 feet) and increasing lot coverage from 40% to a maximum of 60% (replaced in 2000 with provisions for maximum impervious surfaces); prohibiting wells within 50 feet of road rights-of-way (increased to 75 feet in 2002); and regulations for recreational vehicles in flood plains.

March 14, 1995

Eight articles were proposed and adopted. Furthermore, a definition for “change of use” was added. The definition for gasoline stations was expanded to include sale of diesel fuel (the comprehensive revision of 1998 substituted “fuel station”). Accessory buildings and uses were added to golf courses, country clubs, and tennis land uses (all of which were reorganized in the comprehensive revision of 1998). Other amendments added screening requirements, adjusted the sign code, expanded administration and enforcement to refer to other regulations, added provisions for sexually oriented businesses, and referenced other permits.

March 12, 1996

Two articles were proposed and adopted. The Planned Open Space - Residential Development (POS-RD) provisions were added and the zoning on Lot 91 in Block 1 (the old Bow Mills store) was changed from R to C.

March 11, 1997

Two articles were proposed and adopted. The Growth Management Ordinance was submitted by petition and adopted with the support of the Planning Board. The zoning was changed on Lot 91, Block 1 (Valley Road property behind the old Bow Mills Store) from R to C.

March 10, 1998

The comprehensive revisions prepared by Woodward and Mayberry with modifications were adopted. Five additional warrant articles further amended the ordinance to expand the Aquifer Protection district from Route 3A to the Merrimack River; to eliminate the grandfathered status for lots with less than 101 feet of frontage on a Class V street; to require a special exception and

site plan review for heliports and air strips; to establish supplemental development standards for keeping horses, cattle, other livestock, and similar animals; and to improve the Growth Management Ordinance.

March 9, 1999

Six amendments were proposed and adopted. The Growth Management Ordinance was amended and re-enacted and numerous corrections to other sections of the ordinance were made due to the comprehensive revisions that took place in 1998. Lot size requirements were reduced for elderly housing; parking requirements were moved to site plan regulations; residential care facilities, cemeteries, and laboratory / research facilities were permitted in R and RU districts; a broader mix of uses were permitted in the non-residential districts; agricultural uses were permitted in non-residential districts; and the wetlands and aquifer protection overlay districts were corrected and strengthened following the comprehensive revision.

March 14, 2000

All eight articles proposed by the Planning Board were adopted. One petitioned article (to change the zoning on Lot 108, Block 1 located at 2 Old Hill Road from R to C) that was not supported by the Planning Board was disapproved. The articles adopted included the interim growth management ordinance, which prohibited for one year all residential subdivisions and site plans except those for affordable housing and elderly housing. The Growth Management Ordinance was re-enacted and updated. Lot coverage provisions were replaced with limitations on impervious surfaces. Also adopted were provisions for planned business subdivisions; a clarification that non-elderly units in an elderly housing development must meet dimensional standards; a clarification of wetland buffers for septic systems and for prime wetlands; authorization for the Planning Board to create procedures for administrative Conditional Use Permits; and authorization for equitable waivers of dimensional requirements.

March 13, 2001

Five articles were proposed and adopted. The impact fee ordinance, which authorized the Planning Board to prepare and adopt impact fee methodologies, and the business development district were adopted. The Growth Management Ordinance was updated and re-enacted with an amendment to reduce the building permit limitation to 2% from 2.5% of existing units. The updated floodplain map was adopted and the flood plain ordinance was brought into compliance with National Flood Insurance Program requirements. A series of other amendments included limitations on the storage of unregistered vehicles; a definition of habitable floor area; additional information requirements for wireless communication facilities; authorization for the Planning Board to reduce setbacks for structures designed to utilize rail lines and spurs; and an increase in buffers for small wetlands (less than 1/4-acre) that are vernal pools.

March 12, 2002

Two articles were proposed and adopted. The transitional exemptions in the impact fee ordinance were removed. The second amendment included permitting planned business subdivisions in the Business Development District; updating and re-enacting the Growth Management Ordinance; authorizing the Planning Board to regulate small-scale, pre-development excavations; updating the definition of hardship for variances; clarifications of provisions for multiple principal structures on a single lot, of 75-foot buffers for streams, and

section 7.05 for multi-family and elderly housing; adding manufactured housing subdivisions as a permitted use in the RU district; restricting the use of boats and recreational vehicles (RV) for living quarters; adding the position of zoning administrator to the Ordinance; and to increase the setback for wells to 75 feet.

March 11, 2003

Four articles were proposed and adopted. The first article updated and re-enacted the Growth Management Ordinance. The second article required that POS-RD buffers be marked; moved consideration of variances to the wetland ordinance to the Planning Board, required that signs be placed on wetland buffers, and replaced the wetland buffers and permitted uses sections with tables; and authorized the Planning Board to regulate high risk activities in the aquifer protection district. The sign regulations in the BDD were applied to all non-residential districts. Notice requirements for ZBA hearings and penalties for zoning violations were increased.

Today (2004), Bow relies on eight primary Zoning Districts to regulate land use within the community. The following is a summary of current Zoning Districts and their allowed land uses. The location of these Districts can also be seen on the **Current Zoning Map**.

Rural District (RU)

The Rural District is designed to accommodate a range of residential uses at low density in a rural environment where sewer service is not available or anticipated, as indicated in the Master Plan. Agriculture, forestry, recreation, and other low intensity uses are permissible in the RU District.

The following are permitted uses in the Rural District: single-family residential; duplex or two-family residential; housing for the elderly; manufactured housing subdivision; planned open space residential development; home-based day care; publicly owned recreation facility; agriculture; horticulture; livestock; silviculture operations; home occupations; accessory structures and facilities; grazing, care, raising, and/or keeping of livestock for personal use; storage and use of a registered boat, recreational vehicle, camping trailer, or motor vehicle; farm or roadside stand; and signs.

The following are permitted uses, requiring a Special Exception¹, in the Rural District: multi-family housing; boarding or rooming houses; churches; public or private schools; residential care facility; municipal and public works facilities; cemeteries; essential public utilities and appurtenances; commercial outdoor recreation facility; campgrounds or youth camps; golf courses; removal and excavation of earth materials; planing mill or sawmill; commercial greenhouses including wholesale and retail sales; condominium conversion; cottage industry; storage of equipment/surplus associated with an off-premise occupation; accessory dwelling units; and child day care center.

¹ Special Exception – A use which may be approved by the Zoning Board of Adjustment in districts where the use is specifically authorized by the Ordinance, and where the Zoning Board of Adjustment finds that such use can be developed in accordance with the provisions of Article 13. “Appeals to the Zoning Board of Adjustment” of the Bow Zoning Ordinance.

The following are permitted uses, requiring a Conditional Use Permit², in the Rural District: manufactured housing park; minor/pre-development excavation of earth materials; laboratory or research facility; and stables and equestrian facilities.

The minimum lot size for the Rural District is two buildable acres³ with a minimum lot frontage of 200 feet. The minimum setback yard requirements are as follows: 35 feet for the front yard and 20 feet for both the rear and side yards. The maximum lot coverage cannot exceed 30%. The maximum number of stories allowed is 2 ½ (35 feet in height).

Residential District (R)

The Residential District is designed to accommodate a range of residential uses at low densities in areas where sewer service is available or the extension of such is anticipated at some future time.

The following are permitted uses in the Residential District: single family residential; duplex or two-family residential; housing for the elderly; planned open space residential development; home based day care; publicly owned recreation facility; livestock; silviculture operations; home occupation; accessory structures and facilities; grazing, care, raising, and/or keeping livestock for personal use; storage and use of a registered boat, recreational vehicle, camping trailer, or motor vehicle; farm or roadside stand; and signs.

The following are permitted uses, requiring a Special Exception, in the Residential District: multi-family residential; boarding or rooming house; churches; public or private schools; residential care facility; municipal and public works facilities; cemeteries; essential utilities and appurtenances; commercial outdoor recreational facilities; golf courses; agricultural; horticultural; stables and equestrian facilities; commercial greenhouses including wholesale and retail operations; condominium conversion; cottage industry; storage of equipment/surplus associated with an off-premise occupation; accessory dwelling unit; and child day care center.

The following are permitted uses, requiring a Conditional Use Permit, in the Residential District: minor/pre-development excavation of earth materials; and laboratory or research facility.

The minimum lot size for the Residential District is two buildable acres with a minimum lot frontage of 200 feet. The minimum setback yard requirements are as follows: 35 feet for the front yard and 20 feet for both the rear and side yards. The maximum lot coverage cannot exceed 30%. The maximum number of stories allowed is 2 ½ (35 feet in height).

² Conditional Use Permit – The Planning Board has the authority to administer or grant such permits.

³ Buildable land includes the total land area of a lot except: (1) land lying with slopes in excess of 33% or ledge which is exposed or lying within f feet of the soil surface; (2) wetlands; (3) land which is subject to an easement or right-of-way of a third party; (4) land necessary for the protection of aquifers which may serve as future sources of drinking water for the town; (5) land of such character that it cannot be safely used for building purposes because of danger to health or peril from fire, flood or other hazard or the use of which would tend to increase the danger to health, life or property or aggravate the flood hazard; (6) land subject to periodic flooding, poor drainage or other hazardous conditions; (7) land with unsuitable soil or inadequate capacity for individual sanitary sewerage disposal systems unless improvements will be connected to a common sewer system; or (8) land included in the Floodplain District or shown to be bog, marsh, swamp area, area of high water table or any similar situation.

Civic District (CV)

The Civic District is intended to define a town center which will accommodate institutional office uses together with small retail and service uses in an area where sewer service is available or the extension of such is anticipated at some future time.

The following are permitted uses in the Civic District: housing for the elderly; residential care facility; child day care center; libraries and museums; municipal and public works facilities; essential public utilities and appurtenances; publicly owned recreation facilities; general, professional, business, financial, or government offices; medical, dental, or health care offices; banks; retail sales and rental of goods and merchandise with less than 6,000 square feet of floor area; personal and business services; commercial kennels; restaurants within a fully enclosed structure; livestock; silviculture operations; home occupation; cottage industry; accessory structures and facilities; grazing, care, raising, and/or keeping of livestock for personal use; storage and use of a registered boat, recreational vehicle, camping trailer, or motor vehicle; signs; and child day care center.

The following are permitted uses, requiring a Special Exception, in the Civic District: churches; public or private schools; social, fraternal clubs and lodges; cemeteries; movie theater or concert hall; retail sales and rental of goods and merchandise with no floor area limit; hotels, motels, and inns; auction and auction houses; restaurants with service outside; car wash and truck wash; heliport and airstrip; agriculture; horticulture; condominium conversion; accessory dwelling units; drive in or drive through; and dwelling unit for resident caretaker or security personnel.

The following are permitted uses, requiring a Conditional Use Permit, in the Civic District: minor/pre-development excavation of earth materials.

The minimum lot size for the Civic District is one buildable acre with a minimum lot frontage of 200 feet. The minimum setback yard requirements are as follows: 35 feet for the front yard and 20 feet for both the rear and side yards. The maximum lot coverage cannot exceed 60%. The maximum number of stories allowed is three (40 feet in height).

Institutional District (IN)

The Institutional District is designed to accommodate office and institutional uses in an area where sewer service is available.

The following are permitted uses in the Institutional District: hospitals; residential care facility; child day care center; libraries and museums; municipal and public works facilities; essential public utilities and appurtenances; publicly owned recreation facility; general professional, business, financial, or government offices; retail sales and rental of goods and merchandise with less than 6,000 square feet of floor area; personal and business services; commercial kennels; mortuary or funeral homes; restaurants within a fully enclosed structure; livestock; silviculture operations; home occupations; cottage industry; accessory structure and facilities; grazing, care, raising, and/or keeping of livestock for personal use; storage and use of a registered boat, recreational vehicle, camping trailer, or motor vehicle; signs; and child day care centers.

The following are permitted uses, requiring a Special Exception, in the Institutional District: churches; public or private schools; adult day care facility; social, fraternal clubs and lodges; cemeteries; movie theater or concert hall; retail sales and rental of goods and merchandise with no floor area limit; hotels, motels, and inns; auction and auction houses; restaurant with service outside; car wash and truck wash; heliport and airstrip; agriculture; horticulture; condominium conversion; drive in or drive through; and dwelling unit for residential caretaker or security personnel

The following are permitted uses, requiring a Conditional Use Permit, in the Institutional District: minor/pre-development excavation of earth materials.

The minimum lot size for the Institutional District is one buildable acre with a minimum lot frontage of 200 feet. The minimum yard requirements are as follows: 35 feet for the front yard and 20 feet for both the rear and side yards. The maximum lot coverage cannot exceed 60%. The maximum number of stories allowed is three (40 feet in height).

Commercial District (C)

The Commercial District is designed to allow a broad range of commercial uses including retail, service, offices, restaurants, recreational, institutional, and transportation-related uses in areas along arterial roads where sewer service is available or the extension of such is anticipated at some future time.

The following are permitted uses in the Commercial District: hospitals; residential care facilities; social, fraternal clubs, lodges; municipal and public works facilities; essential public utilities and appurtenances; publicly owned recreation facilities; commercial outdoor recreational facility; indoor commercial recreational facility; movie theater or concert hall; golf courses; general professional, business, financial, or government offices; medical, dental, or health care offices; banks; retail sales and rental of goods and merchandise; personal and business services; hotels, motels, and inns; animal hospital; mortuary or funeral homes; auction and auction houses; restaurants; motor vehicle sales and rental up to 13,000 pounds GVW (gross vehicle weight); sales and installation of vehicle parts and accessories; motor vehicle repairs and maintenance; gasoline sales; car wash and truck wash; bus or train station; marina; sales of construction equipment and/or materials up to 15,000 square feet with no outdoor display or storage; laboratory or research facility; livestock; silviculture operations; commercial greenhouses including wholesale and retail sales; home occupation; cottage industry; accessory structures and facilities; grazing, care, raising, and/or keeping livestock for personal use; accessory dwelling units; storage and use of a registered boat, recreational vehicle, camping trailer, or motor vehicle; dwelling unit for resident caretaker or security personnel; farm or roadside stand; signs; and child day care center.

The following are permitted uses, requiring a Special Exception, in the Commercial District: churches; public or private schools; child day care center; adult day care center; libraries and museums; cemeteries; campgrounds or youth camps; commercial kennels; mini-storage; motor vehicle sales and rental; motor or rail freight terminal; sales or rental of recreational vehicles, camping trailers, or boats, including servicing and repair; heliport and airstrip; manufacturing, processing, repairing, and assembling goods and merchandise; warehousing and storage of non-

flammable, non-explosive goods; sales of construction equipment and/or materials with outdoor display or storage; agriculture; horticulture; stables and equestrian facilities; condominium conversion; radio or television tower or antenna or personal wireless service facility; storage of equipment/surplus associated with an off-premise occupation; and drive in or drive through.

The following are permitted uses, requiring a Conditional Use Permit, in the Commercial District: minor/pre-development excavation of earth materials.

The minimum lot size for the Commercial District is two buildable acres with a minimum lot frontage of 200 feet. The minimum setback yard requirements are as follows: 35 feet for the front yard and 20 feet for both the rear and side yards. The maximum lot coverage cannot exceed 80%. The maximum number of stories allowed is 2 ½ (35 feet).

Limited Industrial District (I-1)

The Limited Industrial District is intended to accommodate office and industrial uses in areas where sewer service is available or the extension of such is anticipated at some future time.

The following are permitted uses in the Limited Industrial District: hospitals; residential care facilities; libraries and museums; social, fraternal clubs and lodges; municipal and public works facilities; essential public utilities and appurtenances; home based day care; publicly owned recreation facilities; commercial outdoor recreation facilities; indoor commercial recreation facilities; movie theater or concert hall; golf course; general professional, business, financial, or governmental offices; medical, dental, or health care offices; banks; retail sales and rental of goods and merchandise; personal and business services; hotels, motels, and inns; animal hospitals; auction and auction houses; mini-storage; restaurants within a fully enclosed structure; motor vehicle repair and maintenance; gasoline sales; car and truck wash; motor or freight terminal; bus or train station; marina; manufacturing, processing, repairing, and assembling goods and merchandise; warehouse and storage of non-flammable, non-explosive goods; sales of construction equipment and/or materials up to 15,000 square feet with no outdoor display or storage; laboratory or research facility; livestock; silviculture operations; commercial greenhouses including wholesale and retail sales; home occupation; cottage industry; accessory structures and facilities; grazing, care, raising, and/or keeping of livestock for personal use; storage and use of a registered boat, recreational vehicle, camping trailer, or motor vehicle; dwelling unit for resident caretaker or security personnel; farm or roadside stand; signs; and child day care center.

The following are permitted uses, requiring a Special Exception, in the Limited Industrial District: churches; public or private schools; child day care center; adult day care facility; cemeteries; campgrounds or youth camps; commercial kennels; restaurants with service outside; motor vehicle sales and rental; sales and installation of vehicle parts and accessories; sales or rental of recreational vehicles, camping trailers, or boats including servicing and repairs; heliport and airstrip; bulk storage of fuels, chemicals, or flammable materials; materials recycling center; removal and excavation of earth materials; processing of earth materials; agriculture; horticulture; stables and equestrian facilities; condominium conversion; radio or television tower or antenna or personal wireless service facility; storage of equipment/surplus associated with an off-premise occupation; accessory dwelling units; and drive in or drive through.

The following are permitted uses, requiring a Conditional Use Permit, in the Limited Industrial District: minor/pre-development excavation of earth materials.

The minimum lot size for the Limited Industrial District is five buildable acres with a minimum lot frontage of 300 feet. The minimum setback yard requirements are as follows: 50 feet for the front yard and 30 feet for both the rear and side yards. The maximum lot coverage cannot exceed 80%. The maximum number of stories allowed is three (40 feet).

General Industrial District (I-2)

The General Industrial District is designed to include offices and industrial uses, and some limited commercial uses, in an area in which the extension of sewer service is anticipated at some future time.

The following are permitted uses in the General Industrial District: hospitals; residential care facility; libraries and museums; social, fraternal clubs and lodges; municipal and public works facilities; essential public utilities and appurtenances; home based day care; publicly owned recreation facility; commercial outdoor recreational facility; indoor commercial recreation facility; movie theater or concert hall; golf course; general professional, business, financial, or governmental offices; medical, dental, or health care offices; banks; retail sales and rental of goods and merchandise; personal and business services; hotels, motels, and inns; animal hospitals; mortuary or funeral homes; auction and auction houses; mini-storage; restaurants; motor vehicle sales and rental up to 13,000 pounds gross vehicle weight (GVW); sales and installation of vehicle parts and accessories; motor vehicle repairs and maintenance; gasoline sales; car wash and truck wash; motor or rail freight terminal; bus or train station; marina; manufacturing, processing, repairing, and assembling goods and merchandise; warehouse and storage of non-flammable, non-explosive goods; sales of construction equipment and/or materials with outdoor display and storage; contractor's yard or tradesman's shop; laboratory or research facility; livestock; silviculture operations; commercial greenhouses including wholesale and retail sales; home occupation; cottage industry; accessory structures and facilities; grazing, care, raising, and/or keeping of livestock for personal use; storage and use of a registered boat, recreational vehicle, camping trailer, or motor vehicle; dwelling unit for resident caretaker or security personnel; farm or roadside stand; signs; and child day care center.

The following are permitted uses, requiring a Special Exception, in the General Industrial District: churches; public or private schools; child day care center; adult day care facility; cemeteries; campgrounds or youth camps; commercial kennel; motor vehicle sales and rental; sales or rental of recreational vehicles, camping trailers, or boats including servicing and repairs; heliport and airstrip; bulk storage of fuels, chemicals, or flammable material; materials recycling center; removal and excavation of earth materials; processing of earth materials; planing mill or sawmill; junk yard; agriculture; horticulture; stables and equestrian facilities; condominium conversion; radio or television tower or antenna or personal wireless service facility; storage of equipment/surplus associated with an off-premise occupation; accessory dwelling units; and drive in or drive through.

The following are permitted uses, requiring a Conditional Use Permit, in the General Industrial District: minor/pre-development excavation of earth materials; and sexually oriented business.

The minimum lot size for the General Industrial District is two buildable acres with a minimum lot frontage of 200 feet. The minimum setback yard requirements are as follows: 50 feet for the front yard and 30 feet for both the rear and side yards. The maximum lot coverage cannot exceed 80%. The maximum number of stories allowed is three (40 feet in height).

Business Development District (BD)

The purpose of the Business Development District is to attract environmentally acceptable commercial, industrial, recreational, and institutional uses to the District; to encourage diversity in the community tax base through appropriate flexibility in land use and land use development; to optimize financial return on public infrastructure investments and expenditures, including municipal sewer, municipal water supply, and public highways; to minimize adverse traffic impacts on Route 3A, future interstate highway interchanges, and surrounding local streets and roadways; and to preserve valuable historical, cultural, and natural features within the District and to minimize adverse environmental impacts to water and air, while reducing light and noise pollution, flooding, clear cutting of vegetation, and the blocking of scenic views.

The following are permitted uses in the Business Development District: public or private schools; hospitals; residential care facility; child day care center; adult day care center; libraries and museums; social, fraternal clubs and lodges; municipal and public works facilities; essential public utilities and appurtenances; publicly owned recreation facility; commercial outdoor or indoor recreational facility; movie theater or concert hall; general professional, business, financial, or government offices; medical, dental, or health care offices; banks; retail sales and rental of goods and merchandise; personal and business services; hotels, motels, and inns; animal hospitals; auction and auction houses; restaurants; motor or rail freight terminals; bus or train stations; marinas; manufacturing, processing, repairing, and assembling goods and merchandise; warehousing and storage of non-flammable materials, non-explosive goods; sales of construction equipment and/or materials up to 13,000 square feet with no outdoor display or storage; laboratory or research facilities; silviculture operations; home occupations; signs; and child day care centers.

The following are permitted uses, requiring a Special Exception, in the Business Development District: churches; commercial kennels; mortuary or funeral home; heliports and airstrips; bulk storage of fuels, chemicals, or flammable materials; removal and excavation of earth materials; planing mills or sawmills; contractor's yard or tradesman's shops; commercial greenhouses including wholesale and retail sales; condominium conversion; radio or television towers or antennas or personal wireless service facilities; drive in or drive through; and dwelling units for resident caretakers or security personnel.

The following are permitted uses, requiring a Conditional Use Permit, in the Business Development District: minor/predevelopment excavation of earth materials.

The minimum lot size for the Business Development District is two acres on local roads and three acres on Route 3A. Minimum lot frontage on Route 3A is 300 feet, 100 feet on local roads with municipal water and sewer, and 150 feet on local roads without municipal water and/or sewer. The minimum setback yard requirements are as follows: for every one foot in building height there must be one foot of front setback and 0.75 feet in the side and rear setbacks. The

maximum impervious coverage cannot exceed 80% of the gross lot area on Route 3A or on local roads with municipal water and sewer or 60% of gross lot area on Route 3A or local roads without municipal water and/or sewer. The maximum building height is 55 feet on Route 3A and local roads with municipal water and sewer and 35 feet on Route 3A and local roads without municipal water and/or sewer.

The following is a list of all of the Zoning Districts in Bow and the approximate area of land located in each. The location of these Districts can also be seen on the **Current Zoning Map**.

Acreage in Each Zoning District

Zoning District	Acres*	Percent of Total Land Area
Rural (RU)	13,420	74.4%
Residential (R)	2,330	12.9%
Business Development District (BD)	850	4.7%
General Industrial (I-2)	805	4.5%
Commercial (C)	360	2.0%
Institutional (IN)	130	0.7%
Civic (CV)	75	0.4%
Limited Industrial ((I-1)	60	0.3%
Total	18,030	100%

Source: CNHRPC Geographic Information System (GIS), 2003

* Estimates based on GIS maps for 2003 Master Plan

Other Current Zoning Ordinance Provisions

In addition to the eight Zoning Districts, Bow has adopted numerous other Land Use Regulations that influence and help shape the land use patterns in Town. Some of these Zoning Ordinances are specific to a District, while others can be applied to the entire Town, when certain criteria are met. The following is a summary of these other current Zoning Ordinance provisions.

Growth Management Ordinance

The purpose of this Ordinance is to regulate and control the timing of development in accordance with the objectives of both the Master Plan and the Capital Improvements Program, which are adopted by the Bow Planning Board. The number of building permits for new dwelling units that are issued in a calendar year by the Town of Bow is limited to an amount that is two percent (2%) of the total dwelling units in Bow as of December 31st of the prior year. This Ordinance was originally adopted in 1997.

The Town issues building permits for new dwelling units on a “first come-first served basis,” with the following conditions: 25% of the permits issued shall be awarded to landowners whose building is intended to be their primary residence; no single entity shall be awarded more than five permits during a calendar year, however the Planning Board may approve the issuance of additional permits if the applicant has proposed measures that will mitigate the impact of additional lots; and Affordable housing and elderly housing is exempt from the provisions of the

Growth Management Ordinance. If at the end of the year there is a surplus of un-issued building permits for new dwelling units, the surplus shall be carried over one year.

Impact Fee Ordinance

The Planning Board has developed and the Town adopted in 2001, a methodology and fees for the assessment of impact fees for the Bow School District. On the basis of this methodology, new and expanded residential development in Bow is assessed an impact fee that represents its proportional share of demand on the capacity of the School District. Any person who seeks a building permit for new or expanded development is required to pay an impact fee. The school impact fee can be waived for qualified elderly housing developments.

Overlay Zoning Districts

Overlay Districts are superimposed upon the Base Zoning Districts, which were listed above, so that the regulations pertaining to the Overlay Districts shall be *in addition* to the regulations of the Base Districts. The land within the town may be used if and to the extent that such use is permitted in the applicable Base and Overlay Districts.

Wetlands Conservation District

The purpose of the Wetlands Conservation District is to protect and regulate the use of wetlands and buffer areas in the Town of Bow. This District is intended to:

- Control the development of structure and land uses within the District that would contribute to the pollution of surface waters and groundwater;
- Prevent the destruction of wetlands which provide flood protection, groundwater recharge, pollution abatement, and the enhancement of stream flow during dry periods;
- Prevent unnecessary or excessive expenses to the Town to provide and maintain essential services and utilities which arise because of unwise use of water resources;
- Encourage those uses which can be appropriately and safely located in the District;
- Protect potential water supplies and existing aquifers and their recharge areas;
- Preserve and enhance those aesthetic values associated with this area;
- Protect wildlife habitats and maintain ecological balances; and
- Protect unique and unusual natural areas

Floodplain District

The Floodplain District was established to reduce the hazards of floods upon public health, safety, and welfare; to protect areas from flooding caused by land development; to protect the public from financial burden for flood control and relief; and to protect the capacity of floodplain areas to absorb, transmit, and store runoff. See the **Surface Water Resources Map** in the Conservation, Preservation, and Open Space Chapter for the location of this District.

Aquifer Protection District

The Aquifer Protection District was established to preserve and maintain the existing and potential groundwater supplies, aquifers, and groundwater recharge areas of the Town, and protect them from adverse development or land-use practices; to preserve and protect sources of drinking water supply for the public health and safety; and to conserve natural resources.

Special Development Standards

The following regulations are specific standards that are set out to help guide development within Bow.

Planned Open Space Residential Development (POS-RD)

The Planned Open Space Residential Development allows for an alternative pattern of land development without an overall increase in density. This Ordinance allows the Town to encourage the development of dwelling units designed and constructed in a manner that is harmonious with the ecological and natural visual qualities of the Town.

The purpose of this Ordinance is to help facilitate the economical and efficient provision of public services; promoting open space conservation; protecting natural and scenic attributes of the land; maintaining controls for the development of affordable housing; preserving open space while providing greater flexibility in the design of residential subdivisions; and encourage diversity and originality in lot layout and individual building design to achieve a harmonious relationship between development and the land.

Manufactured Housing Parks and Subdivisions

The purpose of this Ordinance is to provide the opportunity to and the guidance for the development of manufactured housing parks and subdivisions within select residentially zoned areas of Town.

Accessory Dwelling Units

The purpose of this Ordinance is to allow the construction of dwelling units within single-family dwellings for the express purpose of enabling a person or persons related to the owner by blood, marriage, or adoption to reside in the same dwelling but in separate living quarters.

Elderly, Duplex, and Multi-Family Dwellings

The purpose of this Ordinance is to allow the development of elderly, duplex, and multi family dwellings within certain areas of Bow.

Home Occupations

The purpose of establishing conditions and criteria for home based businesses/occupations is to ensure that any and all such uses of an operation in the residential structure remain subordinate to the principal use of the property as a residence. Home Occupations are allowed by Special Exception in the R and RU Districts. A Home Occupation is not permitted if it would have a significant adverse impact on the surrounding neighborhood.

Cottage Industry

The purpose of this Ordinance is to allow a home business to exist that has a more intensive use of the site, non-family member employees, customer traffic, exterior advertising, and an exterior appearance that deviates from a traditional home business. Cottage Industries are allowed by Special Exception and must preserve the residential/rural character of the neighborhood.

Day Care Centers

This Ordinance applies to all day care centers and home based day care providers within the Town of Bow. It sets standards for safety and operation as a Home Business or Cottage Industry.

Grazing, Care, Raising, or Keeping of Livestock

The purpose of the Ordinance is to establish minimum area requirements for various species, pasture and enclosure area conditions, and best management practices that must be followed. Livestock includes horses, cattle, goats, pigs, sheep, llamas, poultry, ostriches, emus, and other similar animals.

Planned Business Subdivisions

The purpose of this Ordinance is to facilitate the development of planned business subdivisions through innovative zoning and land use regulations. The subdivision is to benefit the Town through creative design, higher utilization of business development properties, increased diversity of desired services, reduced public service costs, improved aesthetics, reduced environmental impacts, and greater taxable land value.

Campgrounds

The purpose of this Ordinance is to provide lodging to itinerant or temporary visitors. Recreational vehicles, travel trailers, or tents can remain on any campground site for up to 90 days. Manufactured housing is not permitted in any campground.

Animal Hospital or Commercial Kennel

This Ordinance sets the buffer, setback, and screening standards for the operation of such a business.

Radio/TV Tower or Antenna and Personal Wireless Service Facility

The purpose of this Ordinance is to set guidelines for the location, process, and approval of new or expanded radio, TV Tower, and Personal Wireless Service Facilities (PWSF).

Outdoor Storage of Boat, Recreational Vehicle, Camping Trailer, or Motor Vehicles

The purpose of this Ordinance is to specify the location, number, and use of boats, recreational vehicles, camping trailers, and motor vehicles that are stored outside.

Sexually Oriented Businesses

The purpose and intent of this Ordinance is to establish reasonable and uniform regulations to prevent the concentration of sexually oriented businesses within the Town of Bow; to promote the health, safety, and general welfare of the citizens of the Town Bow; and utilize the regulations to prevent problems of blight and deterioration. The provisions of the Ordinance do not have the purpose or effect of:

- Imposing limitations or restrictions on the content on any communicative materials;
- Restricting or denying access by adults to sexually oriented materials protected by the First Amendment;
- Denying access by the distributors and exhibitors of sexually oriented entertainment to their intended market; or
- Condoning or legitimizing the distribution of obscene material.

Industrial and Utility Uses

The purpose of this Ordinance is to specify the uses, fuel storage, and performance requirement for industrial and utility uses.

Planing Mills, Sawmills and Similar Uses

The purpose of this Ordinance is to establish minimum operating standards and land development standards for the operation of planing mills, sawmills, and similar uses throughout Town.

Laboratory and Research Centers, Corporate Office Headquarters, or Data Processing Centers

The purpose of this Ordinance is to establish standards for the development of laboratory and research centers, corporate office headquarters, and/or data processing centers in the Rural and Residential Zoning Districts.

Excavation of Earth Materials

The purpose of this Ordinance is to regulate the excavation of earthen materials through the setting of operational standards and reclamation standards for each site.

Accessory Buildings

The purpose of this Ordinance is to regulate the location of accessory structures, including farm produce stands.

Screening Standards

The purpose of this Ordinance is to outline the types of screening required for various development activities. Screening is considered to be a visual shielding or obscuring of one abutting or nearby structure or use from another by fencing, walls, berms, or densely planted vegetation.

Sign Regulations

The purpose of the sign regulations is to:

- Encourage the effective use of signs as a means of communication;
- Maintain and enhance the aesthetic environment of the Town while retaining the Town's ability to attract and encourage economic development and growth;
- Improve traffic safety;
- Minimize possible adverse effects of signs on nearby public and private property; and
- Enable fair and consistent enforcement of these sign regulations.

Off-Street Parking Regulations

The purpose of this Ordinance is to outline the applicability for off-street parking for all new development and for changes or expansions of existing uses and buildings, both residential and commercial developments.

Heliports and Airstrips

The purpose of this Ordinance is to set out the requirements under which an individual or business may develop a heliport or airstrip within the Town of Bow for personal or business use.

BUILD-OUT ANALYSIS – CURRENT LAND USE

With the initiation of the 2003 Bow Master Plan, the Planning Board decided to work with the Central NH Regional Planning Commission to complete an analysis of future land build-out based upon current Zoning Ordinance and Land Use Regulations.

The goal of the project was to determine the number of potential single-family residential lots, as well as the amount of developable commercial and industrial acreage, within Bow under current land development regulations and within the natural constraints of the land. Hence, a build-out analysis is a process by which land use regulations and physical land constraints are analyzed to see how many lots/areas can be developed under those conditions until there is no more developable land remaining – the town would be “built-out.”

The development of this analysis gives the Planning Board a tool that can be used to evaluate current land development standards, as well as model recommended changes made during the Master Plan process. It also gives other Town Departments and the School Department the information necessary for their future planning. The maps for the Build-Out Analysis can be seen at the end of this Chapter.

The Build-Out Process

The Town entered into an agreement during Summer 2001 with Cartographic Associates, Inc. to develop digital parcel maps. While the main emphasis of the project was to prepare individual tax maps, a composite tax map of the entire community also was created. Following the completion of these maps, the first step in the build-out analysis was to merge the geographic information on the maps with information from the Town’s assessor’s database. This database contains information related to land use, zoning, and specific information on buildings located on individual pieces of land. All of this data were necessary to complete the analysis.

In addition to the parcel information, other data used in the analysis include the National Wetlands Inventory, Federal Emergency Management Agency (FEMA) Flood Insurance Rate maps that delineate the 100-year floodplain, utility easements as found in the tax maps, information related to conservation lands from Town and Planning Commission files, and 1998 digital orthoquad (DOQ) aerial photos.

After all the local data was linked to the digital map, maps were produced that portrayed zoning and existing land use to the parcel level. See the **Current Zoning Map** and the **Current Land Use Map** for more information.

Next, an initial review of “built-out” parcels was produced using lot size and underlying zoning. A better way to describe this analysis would be to say that it identified parcels that cannot be further subdivided according to current zoning. See the **Built-Out Map** for more information.

With those initial results, areas that are unlikely to be developed due to their ownership or use were classified as “built-out.” Such areas included town-owned lands, schools, Pages Corner State Forest, Merrimack Station power plant and adjacent lands, as well as identified wetlands, areas in the 100-year flood plain, and utility easements.

After identifying the built-out lands, the next step was to estimate the number of potential single-family residential lots in the Residential, Rural and Civic Zoning Districts and the developable commercial/industrial acreage in the Limited Industrial, General Industrial, Commercial, Institutional and Business Development Districts. Several assumptions were developed to complete these calculations. First, all built-out parcels were taken out of the analysis. Following this step, all parcels or sections of parcels not constrained by identified wetlands, 100-year floodplain (for residential lots only) and utility easements were identified. This generated a base land area in which to work with.

As the minimum lot size in a particular zone determines the number of potential single-family residential lots and commercial/industrial acreage that can be developed, a simple calculation was performed to determine the gross developable area by parcel. For areas in the commercial and industrial zones, the calculated developable area was then checked against current land use and those parcels that are effectively built-out.

For all lots in residential zones with developable area of five acres or more, this number was then multiplied by a factor of 0.75 to give the estimate a measure of reality, as it would be expected that design issues and required rights-of-way in a larger subdivision will often result in a lesser overall number of lots created than the total acreage would imply. This factor was based upon a review of the last ten major subdivisions in Bow. The number was not factored in for smaller lots as there are fewer design issues in minor subdivisions as well as the ability of a landowner to have multiple principal uses on a single lot (Article 5.10 of the Zoning Ordinance). Finally, the number of potential residential lots was reduced by one if a residence already exists on that lot.

Results of the Build-Out Analysis

Following the completion of the initial estimates of future single-family residential lots and commercial/industrial acreage, the results were presented to the Planning Board and a review was undertaken by representatives of the Planning Board, Board of Selectmen, and Town staff.

During this review, the larger areas of developable land were reviewed on a lot by lot basis and the initial results compared with past subdivision proposals or local information regarding constraints, such as steep slopes or access problems. Several estimates were modified during this review, but only based upon specific knowledge of the parcel in question. Otherwise, the estimates remained the same.

In addition, a number of Class VI roads that are considered unlikely to be improved in the near future were identified to allow for both a short-term (next ten years) and full build-out analysis to be completed. Lots with sole access to these roads were then highlighted.

The results of the analysis provide an interesting and important look at the Town's future. In the Residential Zoning Districts, there is a potential for 1,975 additional lots in the full build-out and 1,727 additional lots when not including lots along difficult to improve Class VI roads. For commercial and industrial land development, the majority of developable acreage can be found in the Business Development District and the General Industrial zones. See the table below and the **Current Land Use Build-Out Analysis Map** for more information.

Zoning District	Existing Lots		Build-Out Analysis		
			Residential Lots*		Commercial / Industrial Acres
	Lots w/Bldgs.	Total	Full Build-Out	Without Certain Class VI Road Improvements **	
Residential	754	829	164	145	
Rural	1,626	1,888	1,619	1,390	
Commercial	57	78			73.5
Limited industrial (I-1)	21	26			16.5
General Industrial (I-2)	71	113			275.2
Institutional	17	19			26.9
Civic	4	5	192	192	
Business Dev. District	33	50			347.2
Total	2,583	3,008	1,975	1,727	739.3

*Only looks at single-family residential units. Does not take into account multi-family developments

** Identified as Class VI Roads not likely to be improved in next ten years

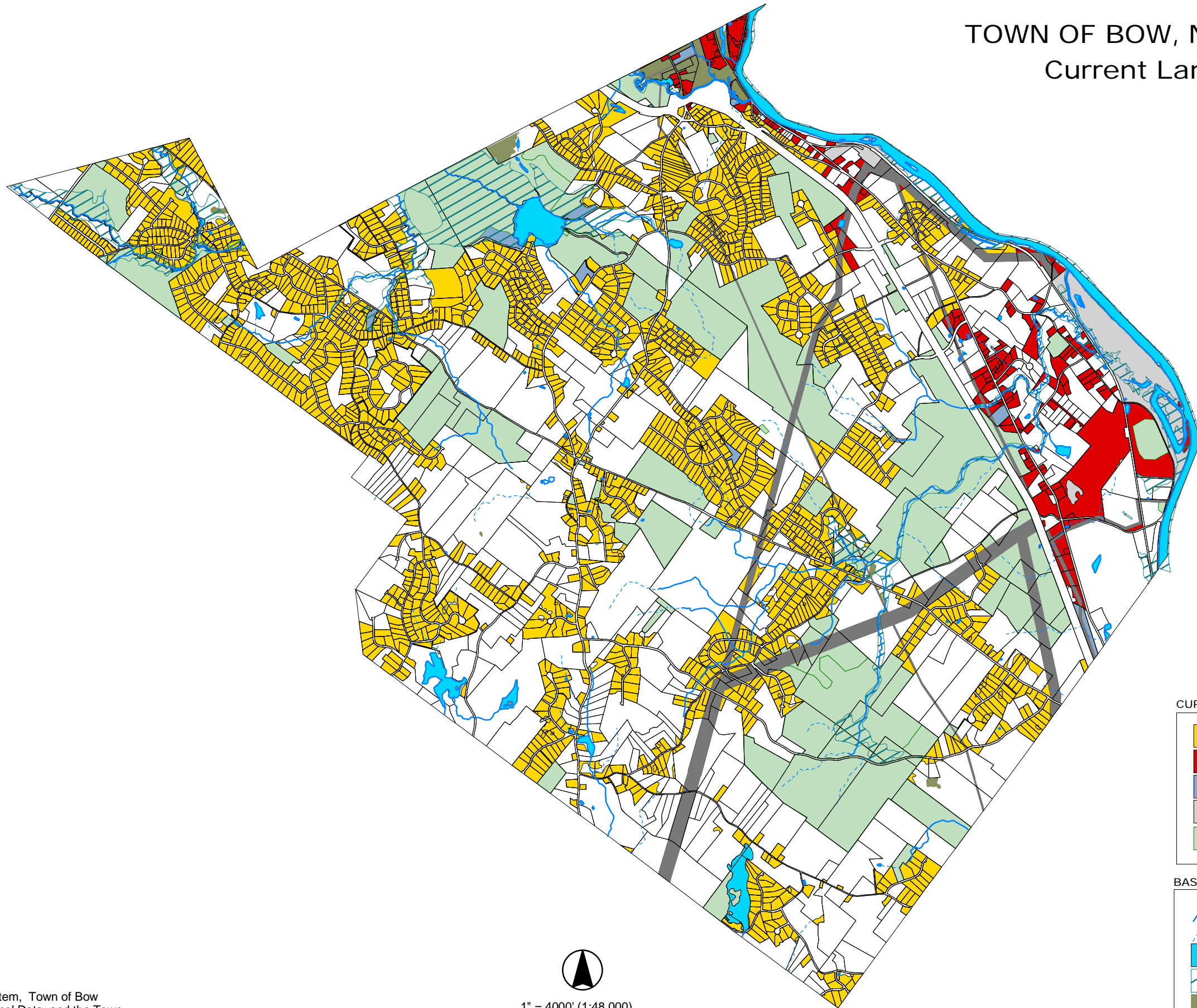
Source: 2002 CNHRPC Build-Out Analysis

CONCLUSION

This Chapter describes how the land in Bow is currently being used and the historic development patterns that brought the town to this point. It also shows, through the use of the build-out analysis, what Bow's future may look like if its current planning and zoning regulations remain in place without change. At this point in time, the more easily developed land in Bow is nearing depletion and the land still available is more difficult to develop and/or will have more of an impact upon the town. This development impact may be visual, environmental, historical, or fiscal, all of which merit the attention of the Planning Board and Zoning Boards. How these lands are to be used will impact all aspects of town life, for town services, schools, conservation, commercial, and residential growth. The Town is currently in a position to make decisions on future land use that will impact the development, feel, and character of the Town. The following Chapters in the Master Plan contain recommended changes to the land development regulations in an effort to help guide the future land use of the Town, while acknowledging the past and present.

TOWN OF BOW, NEW HAMPSHIRE








Current Land Use Map



CURRENT LAND USE LEGEND

	Residential Parcels
	Commercial / Industrial Parcels
	Institutional Parcels
	Utility Parcels
	Conservation Lands

BASE LEGEND

	Rivers and Streams
	Intermittent Streams
	Water
	100-Year Floodplain
	Wetlands
	Utility Easement
	Parcels

This map produced by
**Central New Hampshire
 Regional Planning Commission**
 28 Commercial Street
 Concord, NH 03301

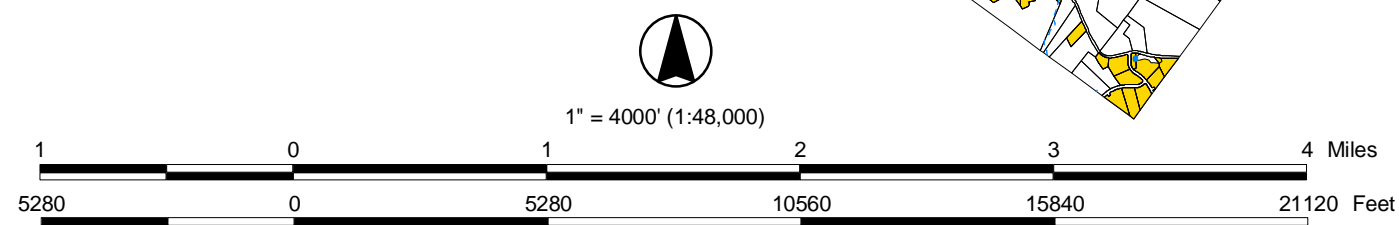
phone (603) 226-6020
 web www.cnhrpc.org



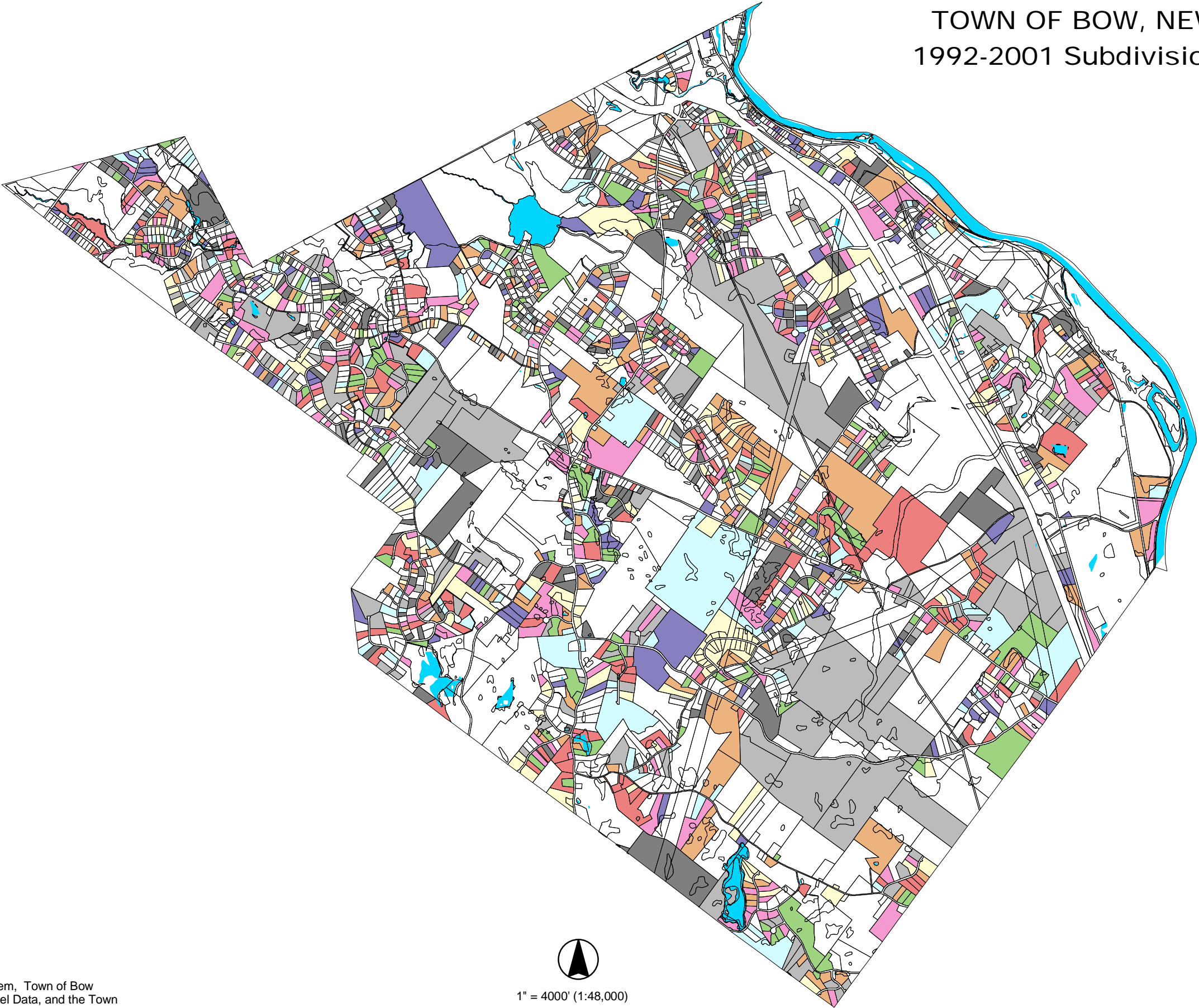
for the Bow Master Plan Current Land Use
 Chapter, September 2004.
 Data sources:

1:24,000 source scale from the NH GRANIT system, Town of Bow
 Build-Out Analysis, Town of Bow Digital Tax Parcel Data, and the Town
 of Bow. Corrections to base data made by the NH Department of
 Transportation, the Town of Bow, and CNHRPC.

This map intended for planning purposes only. Corrections are welcomed
 and should be directed to CNHRPC.



TOWN OF BOW, NEW HAMPSHIRE
1992-2001 Subdivision Location Map



This map produced by
**Central New Hampshire
Regional Planning Commission**
28 Commercial Street
Concord, NH 03301

phone (603) 226-6020
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











for the Bow Master Plan Current Land Use
Chapter, September 2004.
Data sources:

1:24,000 source scale from the NH GRANIT system, Town of Bow
Build-Out Analysis, Town of Bow Digital Tax Parcel Data, and the Town
of Bow. Corrections to base data made by the NH Department of
Transportation, the Town of Bow, and CNHRPC.

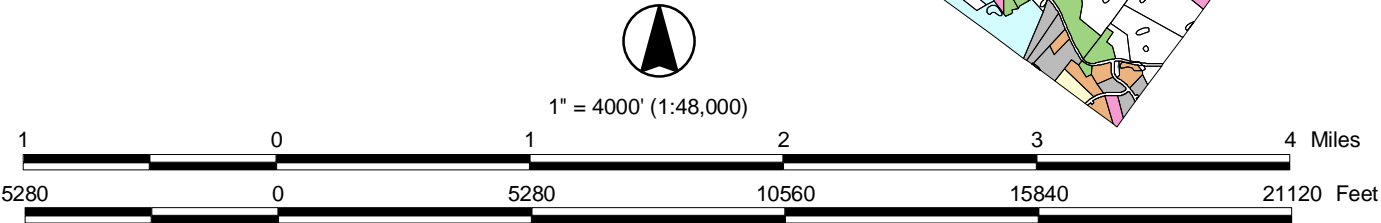
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LEGEND

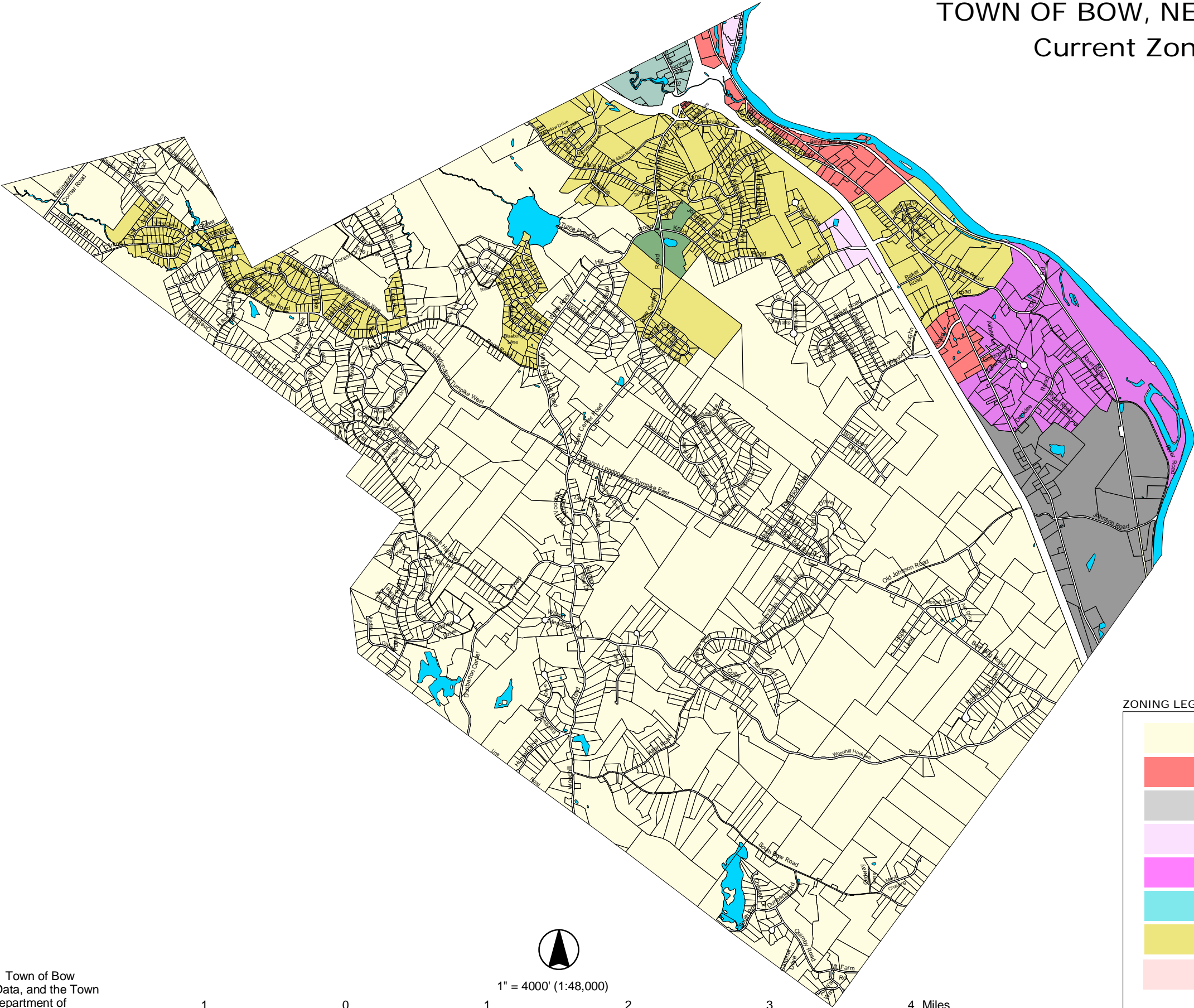
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	1993
	1994
	1995
	1996
	1997
	1998
	1999
	2000
	2001










BASE LEGEND

	Water
	Parcels



TOWN OF BOW, NEW HAMPSHIRE
Current Zoning Map



ZONING LEGEND	
	Rural District
	Commercial District
	Civic District
	Limited Industrial District
	General Industrial District
	Institutional District
	Residential District
	Business Development District
	Water

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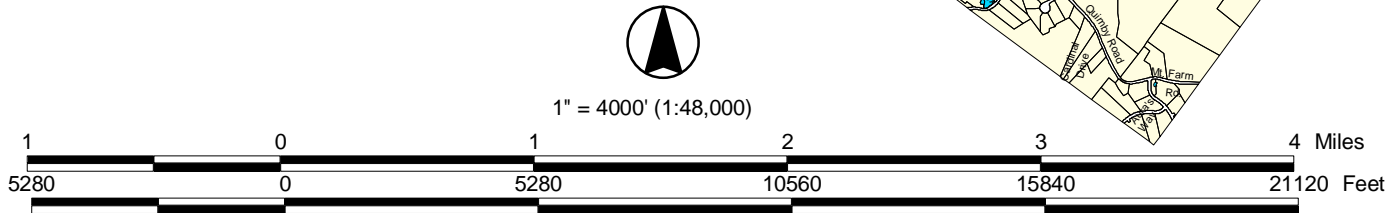
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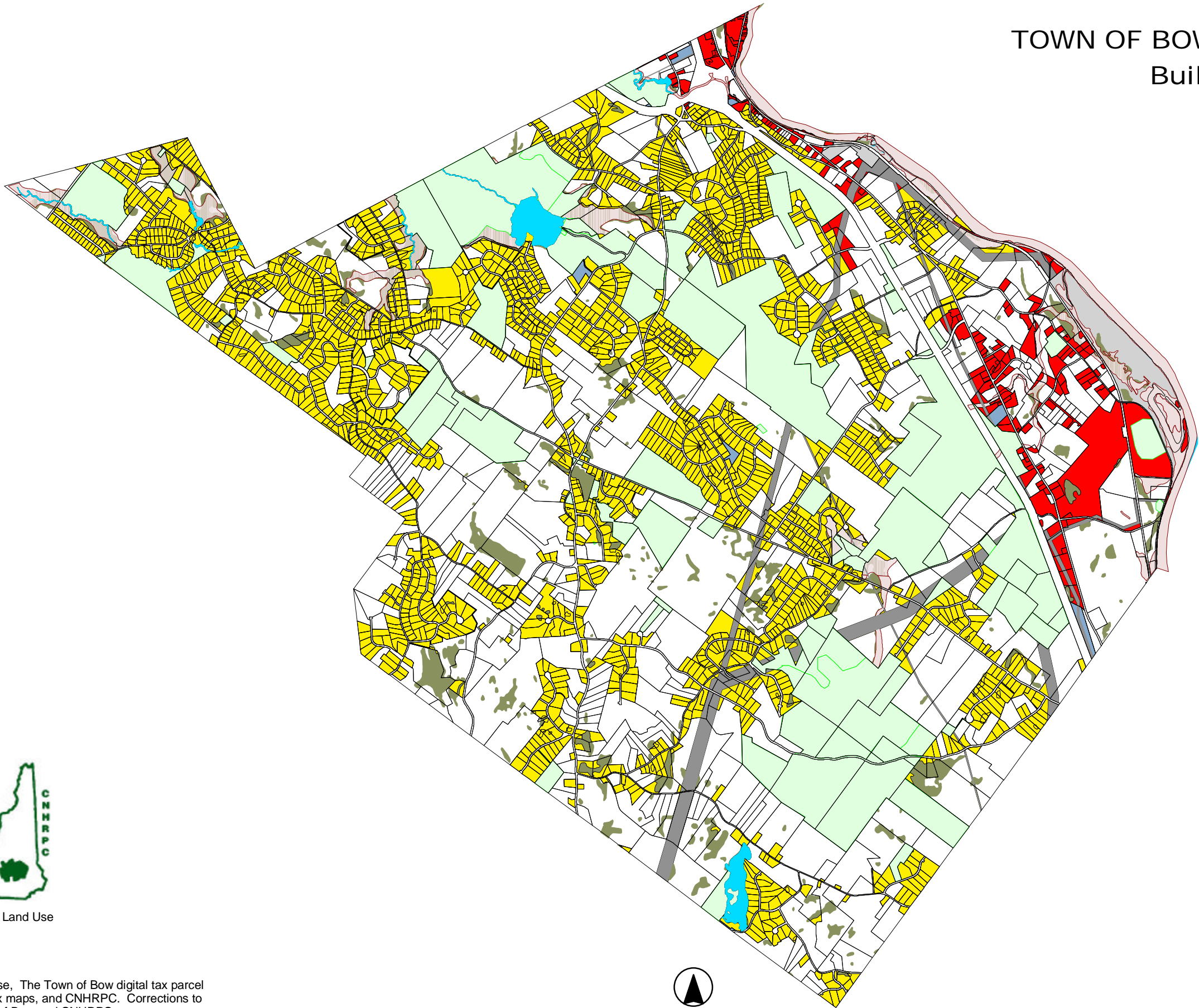
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TOWN OF BOW, NEW HAMPSHIRE
Built-Out Map



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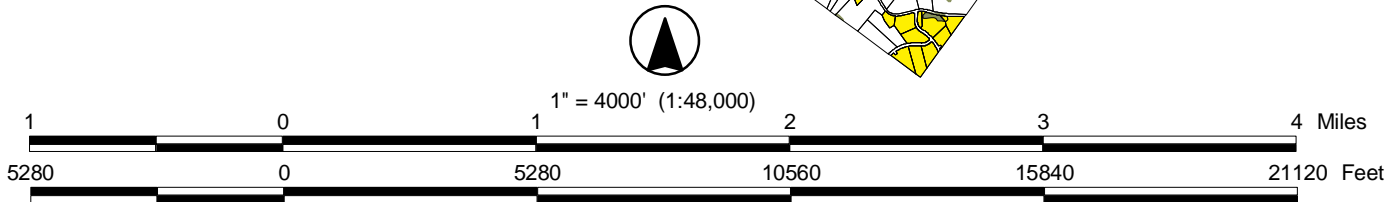


for the Bow Master Plan Current Land Use
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Data Sources:

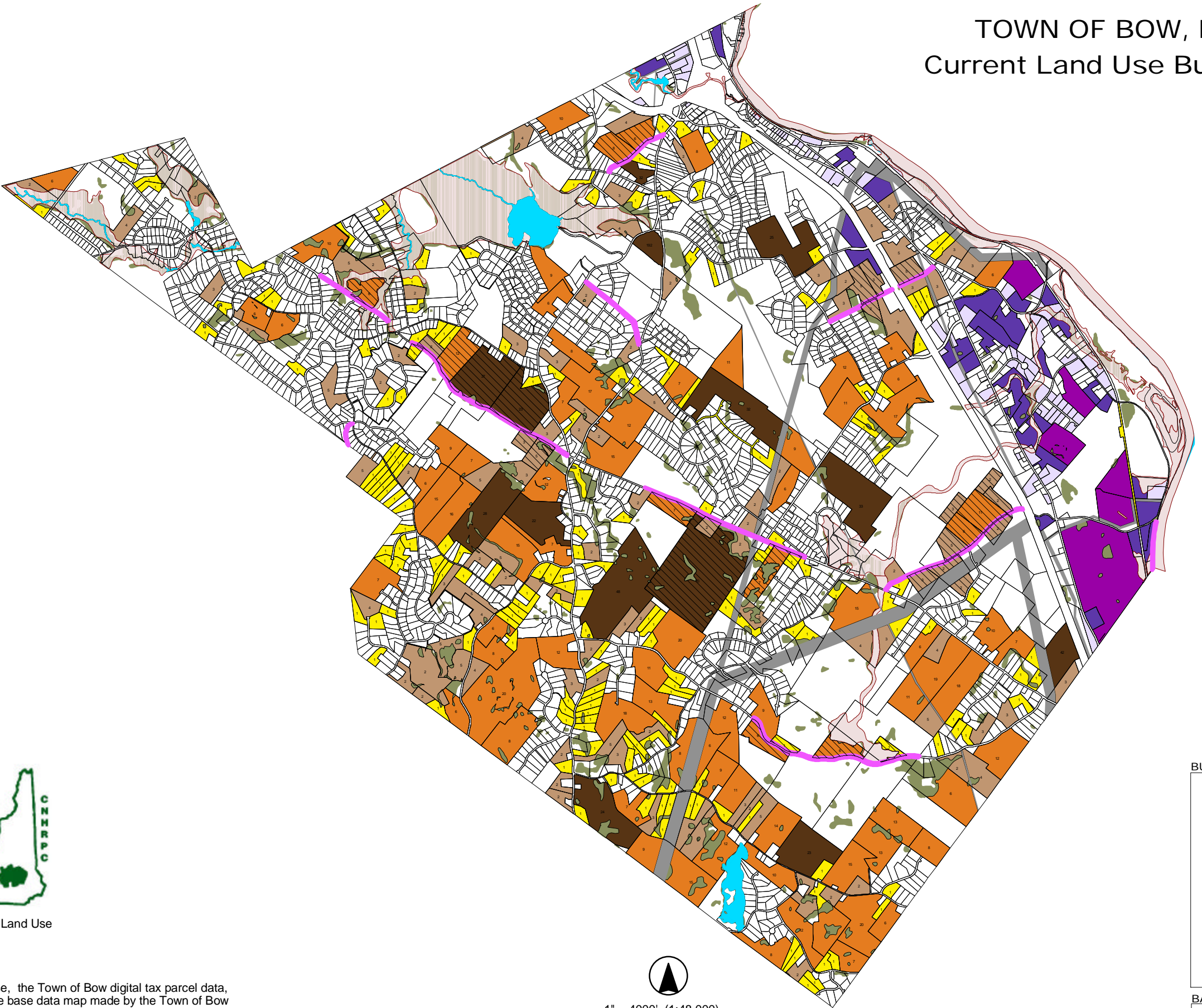
Town of Bow Assessor's database, The Town of Bow digital tax parcel
data, The Town of Bow 1980 tax maps, and CNHRPC. Corrections to
the base data map by the Town of Bow and CNHRPC.

This map intended for planning purposes only. Corrections are welcomed
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BUILT-OUT PARCELS LEGEND	
	Parcels That Could Be Further Developed
	Residential Parcels
	Commercial / Industrial Parcels
	Institutional Parcels
	Utility Parcels
	Conservation Lands
BASE LEGEND	
	Water
	100-Year Floodplain
	Wetlands
	Utility Easements

TOWN OF BOW, NEW HAMPSHIRE
Current Land Use Build-Out Analysis Map



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for the Bow Master Plan Current Land Use
Chapter, September 2004.

Data Sources:

Town of Bow Assessor's database, the Town of Bow digital tax parcel data,
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BUILD-OUT PARCELS LEGEND*

Potential Residential Lots (1,727 total lots)

- 1 lot (179 total lots)
- 2-5 lots (282 total lots)
- 6-20 lots (765 total lots)
- 21 or more lots (301 total lots)

Class VI roads not likely to be improved in the next 10 years

Lots adjacent to difficult to improve class VI roads (248 total lots)

Potential Developable Commercial / Industrial Acreage (739.3 total acres)

- 0.1 - 5 acres
- 5.1 - 25.0 acres
- 25.1 acres or more

* Analysis is based on current land development regulations.

BASE LEGEND

- Water
- Floodplain
- Wetlands
- Utility Easements

CHAPTER IV

HISTORIC AND CULTURAL RESOURCES

INTRODUCTION

There are many reasons for preserving historically significant resources and their surroundings. Among the most compelling are psychological ones, reasons which are associated with the continuity and quality of life. Older buildings provide us with tangible links to the past; they give us a sense of the continuity of time and place. Just as important, they become part of our own lives. These historic, cultural, and architectural riches frequently bear a relation to events, eras, or persons in history, which help to define us as a cultural group.

Many historical sites have been lost through the years due to growth and development. The construction of the I-93 and I-89 interchange had the largest impact. Much of the Bow Mills/Bow Junction was disrupted, the course of the Turkey River was altered, and farms were torn down. Other historic sites that have been lost in Bow include the birthplace of Henry Baker Eddy and the Mary Baker Eddy Pyramid.

Gradual and pervasive erosion of the historical character can happen with the accumulation of incremental changes to buildings and places. It is our challenge to ensure that this does not continue to happen in Bow. Historic preservation is an important issue to Bow residents, as evidenced through the Community Survey where 407 respondents felt the “preservation of historic sites and buildings” was a community service that needed to be improved.

Over the years, Bow has lost some important historic resources to development and neglect. This list of lost resources includes the White Farm, where the Hampton Inn now stands; the Grange Hall, where the Mobil Station is located; The Henry Baker homestead, which is now the location of the NH Auto Dealers Association; the Cote roadside stand, the present location of Pitco; and the brickyard, which is the location of the Grappone dealership. Preservation should not be a reaction to a crisis, but part of the planning process. Preservation does not and should not be thought of as prevention.

This Chapter looks to highlight local historic and cultural resources, describes why they are significant, and looks to provide the resources, recommendations, and tools to plan for the preservation, protection, and enhancement of those resources.

HISTORY OF BOW

Bow was incorporated as a town on May 20, 1727 but its first permanent settlers did not arrive until 20 months later. The exact origin of Bow’s name is uncertain, but it is assumed that it was chosen for one of two reasons; either to name it after a small village in England or to describe the bend that the Merrimack River makes along the Town’s eastern border. Bow’s boundaries were also “uncertain” for a long time. Overlapping land grants from the New Hampshire and Massachusetts governments caused a series of boundary disputes that were not settled until 1765.

During that year, Bow's area was determined to be the territory left over after the division of Pembroke and Concord. Despite these controversies, Bow grew to be an important part of the capital area. The Town was given better access to Concord as early as 1767, and several saw mills operated in the Town throughout the 1800's.

HISTORICAL RESOURCES

National and State Register of Historic Places

Having a property listed in the National or State Registers of Historic Places can contribute to the preservation of historic properties in a number of ways, which include:

- Public recognition that a property is significant to a community;
- Consideration and advocacy in the planning of local and state funded or otherwise assisted projects;
- Qualification for state financial assistance for preservation projects, when funds are available; and
- Special consideration or relief in the application of some access, building and safety code regulations;

National Register of Historic Places

Under the terms of the National Historic Preservation Act of 1966, the U.S. Department of Interior's National Park Service maintains the National Register, which lists the Nation's cultural resources worthy of preservation. The National Register is the Nation's roster of properties that are important in history, architecture, archeology, engineering, or culture. Properties may be nominated individually, in groups, or by Districts. The nomination process requires careful documentation as to a site's historical significance. In addition to buildings and bridges, other categories - such as Main Streets and roads, villages, parks, and monuments - can be listed. Bow currently has no sites listed on the National Register.

There are a number of benefits for properties listed on the National Register. These include the provision for special review and mitigation if a road widening, or other project using Federal funds is undertaken in the vicinity, and the possible eligibility for Federal benefits. These include charitable deductions for donations and easements, grants for preservation, and investment tax credits for the rehabilitation of income-producing buildings.

No additional restrictions are placed upon those properties that are listed on the National Register; but instead, a listing in the Register recognizes the property's significance, encourages the stewardship of the property or resource, and stimulates local pride, appreciation, and commitment to preservation.

New Hampshire State Register of Historic Places

The New Hampshire State Register of Historic Places is one part of the state's efforts to recognize and encourage the identification and protection of historical, architectural, archeological and cultural resources. These resources may be buildings, districts, sites, landscapes, structures or objects that are meaningful in the history, architecture, archeology, engineering or traditions of New Hampshire residents and communities. The New Hampshire

Division of Historical Resources (NHDHR) administers the State Register, which is the state's Historic Preservation Office. Bow currently has no sites listed on the State Register.

Owners of private property listed on the State Register are free to maintain, manage, or dispose of their property as they choose, without oversight or comment from the NHDHR, provided that no state monies or permits are involved.

All properties listed on the State Register are documented and evaluated against the following criteria. These broad criteria are designed to guide individuals, local governments and others in evaluating potential entries in the State Register. Properties not specifically described in the text below may still be eligible.

- Properties may be listed on the State Register for the story they tell.
- Properties may also be meaningful for their associations with people who made important contributions to a community, profession or local tradition.
- Properties may be listed on the State Register for their tangible merit, either as a well-preserved example of local architecture, design, construction or engineering, or as long-standing focal point in a neighborhood or community. These types of resources need not be extraordinary or the best example in town; they often can be a common, although irreplaceable, feature on the New Hampshire landscape.
- Identified, but unexcavated and unevaluated archeological sites may also be listed.

Generally, properties eligible for listing on the State Register should be at least 50 years old. Properties approaching the 50-year mark can be listed, if their historical values are already clear.

Recommendations – National and State Register of Historic Places

- Support individuals and organizations that are proposing sites in Town to be placed on the National Register or the New Hampshire State Register of Historic Places by providing applicable information and resources.
- Apply for National Register and/or New Hampshire State Register designation for the Old Schoolhouse, Mary Baker Eddy Birthplace, Town Pound, Bow Center, Green Cemetery, Bow Bog Meeting House, Town Hall, and/or Crossroads Community Church, as well as others.

State and Local Historic Markers

State Historic Markers

Many historic and cultural resources within the Town deserve to be highlighted and identified through State and Local Historic Markers for the purpose of public education. The Historical Marker Program is one way that New Hampshire remembers its past. The New Hampshire Division of Historical Resources is responsible for approving the subject, location, wording, and accuracy of the State Markers. The authorizing official of the historical marker program is the Commissioner of Transportation, who has the power to erect up to ten markers per year. The only way a marker can be placed in a Town is in response to a proposal and petition of 20 signatures from concerned citizens. These markers can be erected on State and local roads. However, the initial costs of the markers and on-going maintenance are local responsibilities. Some of the marker locations contain tangible reminders of the past, while others mark the locations where structures once stood or a historical event took place, as is the case in Bow.

The one State Historical Marker in Bow celebrates the visit of Andrew Jackson, which is located on the boundary between Concord and Bow. The marker can be seen at the intersection of Route 3A and I-89. Just north of this spot, on June 28, 1833, a party of excited citizens met President Jackson and they escorted him to the state's capital where he celebrated the conclusion of a grand New England tour. This site is sometimes referred to as Andrew Jackson Park. See the **State and Local Historic Marker Location Map** for more information.

Local Historic Markers

Local Markers, or the actual remnants of the structures themselves, indicate the sites of various other historic landmarks and events. Bow has 15 sites that are identified as Local Historic Markers throughout Town, which are listed below. The location of these local markers can be seen on the **State and Local Historic Marker Location Map**.

- 1) One of Bow's most famous residents was Mary Baker Eddy, the founder of the Christian Science Faith. She spent the first 15 years of her life in Bow and her birthplace is marked as a historic site.
- 2) Bow Baptist Church was one of the first churches built in Bow. It is located on Branch Londonderry Turnpike East and is now the Crossroads Community Church.
- 3) Bow Center Town Hall is also located on Bow Center Road. It was used as the Town Hall for over 100 years, from 1847-1957.
- 4) The Nichols Saw Mill once stood at a site near the Bow-Dunbarton town line. This frame building had vertical siding and was once listed with the Historic American Buildings Survey. Unfortunately, it was destroyed in the hurricane of 1938.
- 5) Canals played an important part in the development of central New Hampshire and were vital to the transportation of goods before the railroad arrived. The "Bow Canal System" was built in 1808. The Canal Lock, visible from Garvin Falls Road, is the only remnant of the mile long canal system that operated in Bow until the 1840's.
- 6) The Bow Bog Meeting House is an authentically restored Methodist church. This frame church was built in 1832 and its bell was later donated by Mary Baker Eddy. During the summer of 1997, its steeple underwent major renovations.
- 7) Sargent John Ordway participated in the Lewis & Clark expedition. The detailed journal that he kept is stored at the New Hampshire Historical Society. His home was located along the Bow-Dunbarton border.
- 8) The first Town of Bow Meeting House was built in 1770 at the top of White Rock Hill. In 1801, a new building was constructed on the same site. This building was used for Town meetings and church until Bow Center Town Hall was built in 1847.

- 9) The remains of the fieldstone enclosure used to build the Town Pound in 1821 can be seen from Branch Turnpike, 400-500 feet from the Crossroads Community Church. Two other Town Pounds have also been constructed in Bow over the years.
- 10) The foundation of a Grist Mill, which was constructed in the early 1800's, is located on South Street. There are indications that other mills were built on this site earlier than 1749.
- 11) The site of Congressman Henry Baker's home. Congressman Baker served in the U.S. Congress from 1892-1896. Located in this same area are the WWI and WWII Monuments. The WWI monument was voted on the Town Warrant in March 1920 and erected that year. It is an Honor Roll of those entering the service from Bow. The WWII monument was erected in 1948 as an honor roll of those entering the service from Bow.
- 12) "Steven's House" at Bow Center served as the Town's central meeting place for many years. Built in the early 1800's, it served as an Old Baptist Parsonage, village store, and as a Post Office.
- 13) North Branch Londonderry Turnpike, which was established in 1805, was the early turnpike from Methuen, Massachusetts to Concord, New Hampshire. The North Branch Londonderry Turnpike went from Hooksett to Hopkinton and is marked with a stone marker.
- 14) Noyes Ferry Landing was named after Benjamin Noyes who was born on April 29, 1742. Benjamin operated the first ferry in Bow, est. 1764. The ferry was located nearly opposite the mouth of the Soucook River and a store operated near the ferry as well. He was one of Bow's largest landowners.
- 15) Benjamin Norris Mill Site, which is across from Bow Auto Salvage. This was the site of the second mill constructed in Town, which was around 1771.

Recommendations – State and Local Historic Markers

- The Historical Commission should increase public education regarding the location and significance of State and Local Historic Markers in Bow.
- The Historical Commission should investigate the designation and placement of additional State and Local Historic Markers at sites within Town.
- Establish a permanent source of funding for the maintenance of the existing, and the establishment of new, State and Local Historic Markers, as well as the printing and distribution of material about the Markers.
- The Historical Commission should create a map of the local historic sites, with information about each one that can be used for self-guided tours.
- The Bow Historical Commission should have oversight of the maintenance, preservation, replacement, and expansion of the Local Historic Markers in Bow.
- Create a standard format for Local Historic Markers so that they are easily identifiable.

Archeological Resources

Almost 4,000 years ago, nomadic Indians who lived by hunting and fishing traveled the Merrimack River through Bow. They were known as “Red Paint Indians” because of their custom of smearing everything they possessed with red ochre mixed with grease. There is a large outcrop of red ochre in Bow, which was the source of much of the red paint used in the Merrimack Valley. Many Indian campsites have been found along the Merrimack River. Baker’s Point north of Ferry Road used to be a peninsula and was an ideal canoe landing spot. South of Old Ferry Road, unmarked pottery shards and other artifacts found here have been dated to the early Woodland Indians. Between Bakers Point and Garvins Falls, many Indian arrowheads, spearheads, and hammerstones have been found when fields were plowed. On this land, French coins have been found near a spring, undoubtedly lost by war parties during the French and Indian War. Garvins Falls with its many ledges and boulders made excellent fishing spots for salmon and shad and many implements have been found on farms in the area. Probably the largest site was that located at the mouth of the Turkey River. From Garvins Falls to Bow Junction the river current is very swift and migrating fish would swim up the Turkey River to rest. Here it was easy for Indians to catch fish. When the Bow Canal and later the railroad were built this site was all but lost.

On both sides of Bow Brook, north of the old highway was an abundance of good quality clay, which the Indians used to make pottery. Farmers plowing their fields have uncovered many Indian hearths where pots were baked.

The Turee Pond area was also frequented by Indians both to hunt moose, deer, and bear and to pick high bush blueberries. Southeast of Turee Pond a large stone covered with white quartz and chert chips has been found. Northeast of the pond stone implements have been found that are now in the Phillips Andover Indian Museum. Archaeologists also researched several sites when the high school was constructed. Early settlers found a much-used Indian trail which followed Turkey River from the Merrimack River to Turkey Pond. The trail continued on through Hopkinton to the Contoocook River.

Many of the Indians died during an outbreak of what is called Indian Fever in 1616-1619. During the mid to late 1600’s Mohawk war parties from Canada plundered villages. English settlers also were forcing the Indians off their land and further into the interiors.

On May 20, 1747, James Carr, Robert Buntin and his son Andrew crossed from Suncook to tend their Bow gardens on land owned by the Noyes family. They were attacked by Indians intent on taking them prisoner. Carr ran for the river and was shot dead, Buntin and his son were taken to Canada and sold as slaves. Robert earned his freedom in 11 months but it took Andrew 3 years to be released. He later served in the Revolutionary War.

The potential for archeological sites in Bow is high due to its close proximity to numerous water resources. Native American people occupied the Merrimack River valley for approximately 10,000 to 12,000 years. The river also provided early European settlers an easy access route for historic trade and exploration. Another water resource, Turee Pond, was a focal point for both Native American and European American settlement and use. Bow’s streams, tributaries, and wetlands are also potential areas to find evidence of prehistoric settlements.

Several archeological studies have been conducted in association with specific projects in Bow, including a boat access improvement project and a bridge replacement project. These studies looked at the potential impacts the projects would have on prehistoric and historic resources. Although these studies were focused on a particular project area, they also provide information about other archeological discoveries in Bow.

The Sargent Museum of Archaeology and Anthropology conducted an archaeological survey before improvements were made to an existing boat ramp at Turee Pond in 1999. A 5,000-year old projectile point was found at the site, illustrating that prehistoric hunters once used the area. Archaeologists identified the stone hunting point as a Brewerton Eared Triangle Point. This site was considered significant and eligible for nomination to the National Register of Historic Places. Quartz flakes or shatter were also found during the survey.

This survey also references a 1996 study done at the Bow High School property, where five archaeological sites, including a suspected Early to Middle Archaic (8,000 to 5,000 year old) occupation, a probable late Archaic occupation (4,000 to 3,000 years old), and a historic cellar hole on the shore of Turee Pond, were documented. The cellar hole is considered to be part of the Poor Farm, which was established in 1859 by the Town of Bow, but was sold in 1866. The cellar hole was preserved along with one of the prehistoric sites. The remaining three were destroyed by the construction of the high school. In addition to the Bow High School property, the survey mentions a projectile point dating between 3,000 to 1,500 years ago discovered on Bela Brook.

The survey done by the Sargent Museum references reports of Penacook Indian campsites at Turkey, Turee, Turtletown, Rocky, Loon, Shellcamp and Long Ponds. There was a site documented northeast of Turee Pond, near the current Concord line, which was adjacent to a small spring fed brook. Unfortunately, the creation of a gravel pit destroyed this site northeast of Turee Pond. A large Indian mortar carved in a boulder was also reported north and east of the intersection of Logging Hill Road and I-89. Broken pestles, gouges and beds of ashes were found. This is also reported to be the location of an old Indian trail from the Turkey River to Turee Pond.

Another study conducted in 1986 by the N.H. Department of Transportation examined an area on River Road prior to a bridge replacement project. This review mentions that several prehistoric sites along the Merrimack River have been documented in Bow, including at Garvins Falls and Baker's Point, as well as sites along the Soucook and Suncook Rivers and where these rivers join the Merrimack. There have been additional sites recorded near inland water sources, including a site at the end of Old Ferry Road, a site on the mouth of the Turkey River, a site near Turee Swamp, and fields along Bow Bog Brook.

Recommendations - Archaeological Resources

- Support the preservation of archeological resources in Bow by private, non-profit, and/or municipal entities.
- Ensure that important archeological artifacts are preserved using best management practices and accepted standards.

Cemeteries

Cemeteries - both Town-owned and small private family plots - are an important and personal link to the past. Cemeteries, whether they are historic family plots or larger and newly established, play an important and visible role in the history of Bow. The goal is to ensure that all cemeteries within Town are well maintained and protected to preserve their historic characteristics.

According to the Community Survey, 43.3% of respondents felt that cemetery care was “good,” 10.9% felt it was “fair,” and 43.3% had no opinion. The Town currently does minimal maintenance on the cemeteries that are located within Town.

The following is a chart of historic cemeteries located in Bow. The location of these cemeteries can be seen on the **Cemetery and Historic Structures Location Map**.

Cemeteries	Location	Ownership
Alexander Cemetery	River Road	Town
Brown Hill Cemetery	Hampshire Hills	Private
Evans (North) Cemetery	White Rock Hill Rd, by Turee Pond	Town
Goodhue Cemetery	Dunbarton Center Road	Private
Green Cemetery	Londonderry Branch Turnpike East	Town
Hadley Cemetery	Off Woodhill Road	Private
Hammond Cemetery	Off Dunbarton Center Road	Private
Heath Cemetery	Off Clinton Street	Private
Miss Alice Brown Cemetery	Brown Hill Road	Private
Ordway Cemetery	Off Ordway Lane	Private
Quimby Cemetery	Quimby Road	Private

Source: Bow Historical Commission, 2002
1998 Natural, Cultural, and Historical Resources Inventory of the Central NH Region

Recommendations - Cemeteries

- Create a permanent funding source for the repair and maintenance of headstones and historic cemeteries located in town.
- Ensure that the historic importance of established cemeteries are taken into consideration when any type of development is proposed that may impact the cemeteries and that appropriate precautions are taken, such as the establishment of buffers.
- The Historic Commission should conduct a detailed inventory of all historic cemeteries in Town, which should include photos of the headstones, a map of each cemetery with the layout, a copy of what each headstone says, and an assessment of the condition of each headstone at the time of inventory.
- The oversight of alterations to and the preservation and care of the historic cemeteries located in Bow should belong to the Bow Historical Commission.

Railroads

Railroads were one of the strongest forces that helped to convert America from a primarily agricultural country to a primarily industrial nation. In the 1840's railroad fever hit New Hampshire and Bow was no exception. From 1840-1842, planning was done for the construction of a rail line through Bow to Concord. The track was laid along the river and very close to the canal near Garvins Falls. The first passenger train passed through the Town on September 6, 1842.

Rapidly laid rail lines followed 1842 and changes spanned the state. Trains forced local farmers to produce perishable goods for sale locally because grains and other products from the west were available from the growing national market. When railroads came to Bow, the town's people had a unique concern, safety. Bow requested that at each road crossing, there be gates to protect people from the fast moving 25 mph-30 mph trains.

The spread of railroads to towns of New Hampshire also increased the speed of life for rural communities. People were able to travel farther in shorter amounts of time. The major rails in New Hampshire connected Bow to Concord, Boston and even Montreal.

Recommendation - Railroads

- Educate the public about the Town's railroad history by republishing and displaying historic maps and pictures.

Historic Structures

The following historic structures – Town-Owned Historic Structures, One-Room Schoolhouses, and Churches – were chosen for inclusion in this Chapter for many reasons. The most important reason being that the Town already owns many of them and therefore, should take care of them because of their historic and cultural value. Secondly, these resources are the one that the community identifies with as part of the Town's past. Lastly, although there are numerous other examples of privately owned homes and other structures within town that are of equal historic importance, the time and resources were not available to do a complete inventory.

Town-Owned Historic Structures

The Town of Bow currently owns three buildings of historic significance. The Town-owned buildings are listed below with descriptions of their historic significance.

Bow Bog Meeting House: George Wheeler built The Bow Bog Meeting House in 1835. It was "abandoned" by the Methodist Conference in 1951. There is a Paul Revere Bell in the tower that was donated to the Church by Mary Baker Eddy, who was born in Bow and later founded the Christian Science Church.

Bow Town Hall: In the Spring of 1847, Bow voters decided to build a new town hall to replace the old one located on White Rock Hill. The new building would be constructed on land given to the town, specifically for that purpose, by Colonel James Green, a former Selectman. The land is located at Bow Center near the intersection of Woodhill Road and Londonderry Branch Turnpike East.

Bow Center Schoolhouse: This schoolhouse was built in 1894 in North Bow at the Bow/Concord town line on the Branch Londonderry Turnpike near Clinton Street. It was used for 24 years as a school and then was vacant until 1924 when it was moved to its present location. The school was again used for 20 more years until 1944. In 1948 the School District sold the school to the Baptist Church for Sunday school classes. The Town bought the building from the Church in 1968 and restored it for use as a historical museum.

Town Pound: In 1768 at the Town Meeting, the citizens voted to build a town pound to pen any wayward hogs or cows on the east side of White Rock Hill Road. This pound was replaced in 1790 by a second one and in 1821 by a third on the west slope of Pond Hill. The walls of this later pound are still standing a few hundred feet east of the Bow Community Baptist Church.

One-Room Schoolhouses

Also known as the rural school, these schoolhouses were the earliest educational systems in America. Bow had 14 original one-room schoolhouses and five are still remaining, which are indicated in the list below.

- District #1:* Union District with Concord. This schoolhouse was built in 1894 and remained open through 1918.
- District #2* The Center District; organized in 1792 on the corner of Page Road and White Rock Hill Road; in 1858 on White Rock Hill Road near Turee Pond Road; 1888-1924 Meeting House School, and through 1945 as the Bow Center School.
- District #3* White District; organized in 1792 this has been converted into a private residence at the corner of Dow Road and Route 3A.
- District #4* River Road District; operated from 1792-1939 and has been converted into a private residence.
- District #5* Upper Bog District, organized in 1793 with a school on the corner of Bog and Robinson Roads; new school built in 1872; in 1887 the Upper Bog School was merged with the Lower Bog School.
- District #6* Greene School, upper Allen Road; merged with Wood Hill School in 1886
- District #7* Brown Hill District; organized in the late 1790's and closed in 1898.
- District #8* Baker District, at the intersection of Baker and Knox Roads; merged with White School in 1886.
- District #9* Woodbury District; organized in 1829 and closed in 1938.
- District #10* Wood Hill District, organized in 1790; located at the corner of Wood Hill and Dunbarton Center Roads; a second school was built on Wood Hill Road in 1829 and closed in 1920. This schoolhouse was purchased in 1932 and made into a private residence.
- District #11* Lower Bog District; organized in 1838; merged with Upper Bog in 1887
- District #12* Turnpike District; operated from 1838-1886 and then it was merged with the River Road District.
- District #13* Chateaugay District, located on the corner of Page and Birchdale Roads; operated from 1850-1888.

District #14 Bow Mills School, 1848 located on Valley Road; 1878-1927 brick schoolhouse at Bow Mills; 1927 two-room schoolhouse on Grandview Road; is currently used as the Municipal Building.

Churches

Throughout history, religion has played an important role within a community and this section tries to highlight those remaining houses of worship still remaining in Bow.

Crossroads Community Church: This church was erected in 1832 and is located at 6 Branch Londonderry Turnpike East. This church was known previously as Bow Baptist Church, Calvinistic Baptist Church, and the Bow Community Baptist Church. This church was established on September 3, 1795 and reorganized in 1816. Its meetings were held in members' homes and the Bow Meeting House on White Rock Hill prior to 1832. This church has survived and prospered for over 200 years and advocated the causes of abolitionism and temperance. Today this church also sponsors children's daycare, preschool, and youth programs.

Bow Bog Meeting House: This structure was erected in 1835 and is located at 111 Bow Bog Road. Mary Baker Eddy donated its bell and in 1997, its steeple was restored. This church was chartered in 1827 as the First Methodist Society and became a functional church in April 25, 1832. The congregation continued to meet during the 1860's and 1870's despite numerous periods without a regular minister. In 1892 the Bow Methodists split into two congregations. Soon afterwards both congregations began to hold services in the Women's Christian Temperance Union Hall in Bow Mills. The Bog Church was officially closed in 1951. In 1956 the Bow Mills United Methodist Church was built on South Street. In order to preserve the Bow Bog Meeting House, several Bow residents acquired the structure, which became Town-owned property in 1985.

The locations of the Town-owned historic structures, one-room schoolhouses, and churches can be seen on the **Cemetery and Historic Structures Location Map**.

Recommendations – Historic Structures

- The Historical Commission should increase education about the importance of historic buildings through the use of historic photographs and brochures to be displayed at the various historic buildings and in other public places.
- Create a management plan for all town-owned historic buildings that includes scheduled maintenance and rehabilitation, proposed uses, and funding sources for the preservation of these buildings.
- Support individuals and businesses that may want to purchase historic structures by making architectural and historical resource materials available to them. By providing these materials to property owners whom are interested in acquiring historic structures, you are helping them understand the structures historic and long-range value to the Town and the importance of its preservation.
- Encourage the use of the town-owned historic building for the education and display of historical resources, i.e. maps, documents, books, artifacts, etc. that can be accessible to the public to their use and research.

- Town should put aside funding each year for the purchase of additional historic resources, sites, and structures that may become available.
- Increase focus on maintenance and repairs at the existing town-owned historic buildings in the Capital Improvements Program (CIP), such as: Bow Meeting House – roof repairs and a structural assessment; Center School – reglaze windows, paint exterior of building, fix threshold; Town Pound – rebuild; Green Cemetery – fence post restoration.

Historic Preservation and Information Resources

There are many sources of historical information available about the Town of Bow both in the Town itself and in outside repositories. The following is a partial list of available organizations and resources, as they relate to the historical resources of Bow.

Bow Historical Commission

The Historical Commission is an advisory body to the Board of Selectmen. The basic charge of the Historical Commission is to advise the Board of Selectmen on any concerns dealing with historical issues in the Town of Bow. This may include the development and use of historical buildings owned by the Town of Bow. It may also include any matter referred to the Commission by the Board of Selectmen for its advice and expertise on historic issues.

The Commission is also charged with the development and maintenance of an inventory of historical structures in the Town of Bow. Such an inventory would be consulted when the Town receives applications for remodeling or demolition. The Commission is also responsible for recommending ways of financing the acquisition and/or preservation of historical structured and artifacts.

The Commission maintains and collects many historical and one-of-a-kind pieces of information including historic diaries, school district meeting notes, scrapbooks, survey notes, cemetery inventories, grave site information, photographs, restored documents, maps, and furniture.

Bow Municipal Records

The Municipal Building stores birth, death, and marriage records, town reports, Town Meeting and Board of Selectman meeting minutes, restored records, and property transaction records.

Baker Free Library

The Bow library houses old town reports, photographs, and a quilt. The library also has a collection of books, literature, and historic documents that were donated by Congressman Henry Baker.

The Library and Archives of New Hampshire's Political Tradition

First of its kind in the nation, the Political Library is designed to provide both an important historical record and insight into the primary election campaign process itself. The Library collects, organizes, and makes available, to scholars, students, campaign managers, reporters, current candidates and future aspirants, the only comprehensive collection of election campaign papers and paraphernalia from half a century of New Hampshire presidential primary history

New Hampshire Historical Society

The New Hampshire Historical Society, in Concord, is an independent, nonprofit organization and is accredited by the American Association of Museums. The services and resources that the New Hampshire Historic Society provides include the Museum of New Hampshire History, the Tuck Library, a museum store, a newsletter and quarterly calendar, and technical assistance to local libraries, historical organizations, and citizens.

New Hampshire Division of Historical Resources

The Division of Historical Resources, located in Concord, was established in 1974 as the "State Historic Preservation Office." The resources and materials available at the NHDHR include National Register of Historic Places criteria; New Hampshire historical marker programs; the offices of the State Architectural Historian, State Curator, State Archeologist; preservation tax incentive programs; historical survey programs; and grant programs.

New Hampshire State Library

The New Hampshire State Library houses approximately 2,400 titles of published family histories for New Hampshire and New England. This collection is enhanced by the unique name index to early town records on microfilm. The town records, ranging in years for each town, but falling roughly between the years 1640-1830/1840, can provide birth, death, and marriage dates, as well as a listing of such items as tax inventories. Other major resources available include town and county histories, annual town reports, Federal census records for New Hampshire (1790-1920), local newspapers on microfilm, the genealogical column of the "Boston Transcript," legislative biographies (1890 +), city and county directories, and military records.

Recommendations - Historic Preservation and Information Resources

- Create a database of all information available on the Town's history that is held by various organizations and Departments, both within the Town and at other State locations, and make the database available to the public.
- Ensure that historical information located in town – books, papers, artifacts, etc. – are stored using the best preservation and conservation practices, are properly catalogued and accounted for and are accessible to the public, where feasible.
- Create a permanent source of funding for the Historical Commission to preserve, protect, display, and educate residents about Bow's history.
- Create specific roles for the Historical Commission that relates to the education, maintenance, and preservation of historical resources within town.

CULTURAL RESOURCES

In a Town like Bow, cultural resources are difficult to isolate from historical resources because one is often part of the other. The following list highlights some of the Town's resources, which are often described as being cultural. Some of the resources are run by the Town, while others have benefited from an association with the Town but are privately directed.

Baker Free Library

Baker Free Library is located on South Street in Bow. It was built in 1914 and has grown considerably over the years. Congressman Baker, who was a cousin of Mary Baker Eddy, donated the land on which the library stands. The library hosts a Young Artists and Young Musicians series, pottery, poetry, writing workshops, and book discussions are offered to the youth in Bow. The library also sponsors an adult book group.

Bow Athletic Club

The Bow Athletic Club was founded in 1974 as a private, non-profit organization to foster the participation of the town's children in available sports programs. The Club coordinates programs in basketball, baseball, softball, and soccer.

Bow Community Men's Club

The Bow Community Men's Club was founded in 1948 for the purpose of promoting fellowship, understanding, and service to the community. The Club contributes time and financial support to various organizations in Bow including Cub Packs 75 and 275, Boy Scout Troop 75, the Rotary Club and many others.

Bow Garden Club

The objective of the Club, which was established in 1964, is to educate the public about environmental, conservation, and horticultural concerns at both the Town and State level. The Club creates and maintains landscape projects at various town buildings as well as providing holiday decorations for town buildings and signs.

Bow Parks and Recreation Department

The Parks and Recreation Department provides year-round programs of recreation and leisure activities for all of Bow's citizens. Some of the activities offered include art and theater trips, athletics for children and adults, craft classes, educational workshops, summer camp, preschool, and team sports.

Bow Pioneers Snowmobile Club

The Bow Pioneers Snowmobile Club was established in 1972 to develop a system of winter recreational trails throughout the Bow/Dunbarton area and to promote the fun of family snowmobiling and other winter activities in a safe manner. The Club takes responsibility for grooming, signing and maintaining the trail systems in these areas. All winter the Club plans rides, social outings and events for members and nonmembers.

Bow Rotary Club

The Rotary Club was established in 1970 and consists of over 60 members. These members donate their time to causes, programs, and projects to help others in Bow, the state of New Hampshire, and across the country. The Club has participated in numerous programs in Bow including School-to-Career programs at the schools, academic scholarships, the annual Winterfest Celebration, the renovation of the Old Town Hall and the new Town Bandstand.

Bow Young at Heart Club

Established in 1976, the Bow Young at Heart Club is an organization that promotes the social interaction of those residents in Bow over the age of 65. The Club sponsors educational programs, monthly social events as well as day trips.

Recommendations – Cultural Resources

- Work with cultural organizations to locate presentation and display spaces within the Town to highlight their work and/or programs.
- Work with cultural organizations to explore ways to meet the needs of residents not currently being served.

METHODS TO MEET THE NEEDS OF HISTORIC AND CULTURAL RESOURCES

Bow has a rich historical legacy that is evident in its buildings, landscapes, and patterns of development. These resources contribute to the quality of life in the community and provide a sense of identity that many residents enjoy and find important to them. The strategies listed below can help ensure that these resources are protected and preserved so that future generations may not only learn from them, but also enjoy them.

Barn Owner Tax Relief

RSA 79-D authorizes municipalities to grant property tax relief to barn owners who can demonstrate the public benefit of preserving their building and who also agree to maintain their structure throughout a minimum 10-year preservation easement. On or before April 15th of the new tax year, owners of historic barns or other farm buildings may seek relief by applying to their local governing body to grant a discretionary preservation easement to the municipality and by agreeing to maintain the structure in keeping with its historic integrity and character during the term of the easement. For more information contact the New Hampshire Division of Historical Resources.

Citizens for New Hampshire's Land and Community Heritage

This is a coalition of organizations that are working to protect the special places that define our state. This coalition provides technical assistance, outreach, and education, which are available to communities and organizations.

Cooperative Ventures with Private Organizations

When the interests of the Town to conserve historic or cultural resources match with the interests of a private organization, the potential for a cooperative partnership exists. This tactic will require some creative thinking and introductory discussions by Town officials with area organizations that have, or could develop, an interest in conserving such resources.

Grants from Foundations

The Town should research available grants and develop proposals to seek funding for the conservation of particular pieces of property or other historical resources within Town. Funding could be sought from foundations at the local, state, regional, and national level.

Land Trust

The Town should support non-profit land trusts that accept and pursue property and easements for land of local historic and cultural concern. For more information contact Five Rivers Conservation Trust, which is located in Concord.

New Hampshire Preservation Alliance

The Alliance was founded in 1985 and works to preserve New Hampshire's historic buildings, landscapes, and communities through leadership, advocacy, and education.

Preservation Easements

Preservation easements are initiated by landowners who wish to protect their land from future development, while still retaining owner's rights. Farms, buildings and scenic and historic areas all have the right to be protected by an easement. Perpetual easements protect the land or structure through subsequent owners, while term easements have a set time period agreed to by the town and current owner. Perpetual easements often reduce the estate tax on large amounts of property, although the decision to award tax relief is officially decided by State Law, local officials, and town assessors. For more information contact the New Hampshire Division of Historical Resources.

Revolving Funds

Revolving funds help protect and preserve publicly significant historic properties by using options to purchase, direct acquisition, or deed of gift to acquire threatened or endangered properties. Profits from the sales are rolled back into the fund to help save other endangered properties and perpetuate the fund. The National Preservation Loan provides loans to establish or expand local and statewide preservation revolving funds.

Tax Rehabilitation Credits and Incentives

Income tax deductions may be granted for two types of historic properties, a historically important area, or a certified historic structure. The government gives a 20 percent tax credit for rehabilitation of certified historic structures. The Bank of America Historic Tax Credit Fund grants equity investments for the rehabilitation of historic commercial and residential properties eligible for the federal and state historic tax credit, as well as the 10 percent non-historic federal tax credit.

Transportation Enhancement Funds (TE)

Transportation Enhancements Program (TE) is another viable source for improving communities. Funding for the TE program is slightly more than \$3 million annually. These funds are provided in an 80/20 match, with the State paying for the majority of the project cost. Typical examples of projects eligible for TE funds include:

- Acquisition of scenic easements and scenic or historic sites
- Scenic or historic highway programs
- Historic preservation
- Rehabilitation and operation of historic transportation buildings, structures, and facilities
- Preservation of abandoned railway corridors
- Archaeological planning and research
- Establishment of transportation museums

For more information contact the Central New Hampshire Regional Planning Commission.

CONCLUSION

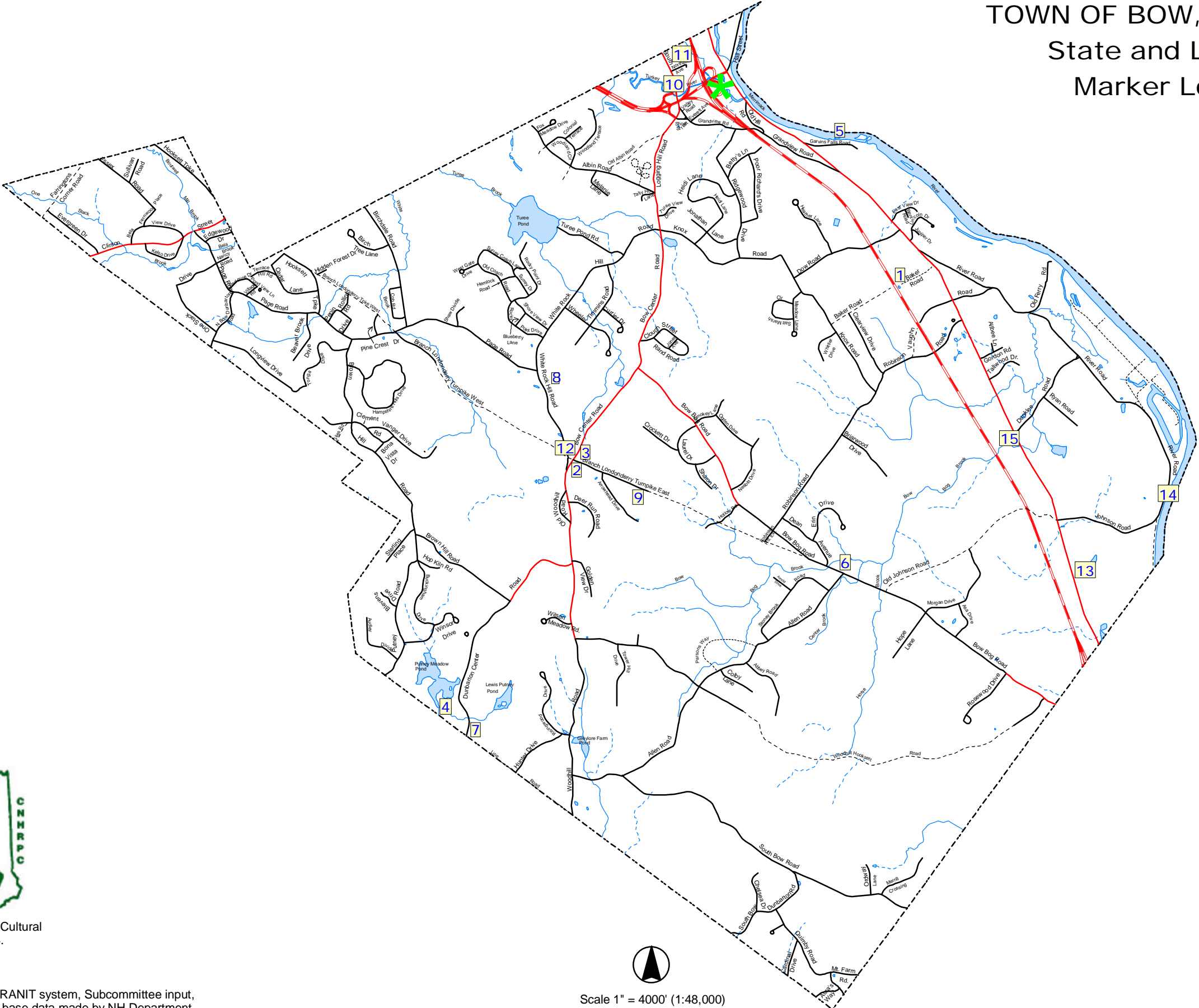
Founded in 1727, Bow has a long and distinguished history that deserves to be memorialized. Bow's historic resources range from farmlands, forests, stonewalls and waterways to cemeteries, farmhouses, barns, community buildings, churches and the sites of former buildings.

Particularly during a time of rapid growth, Bow should move more aggressively than it has in the past to protect its resources. These measures should include not only conservation steps to protect the town's natural resources, but initiatives to guard buildings and sites that were significant in the community's early life and growth.

Town officials and community groups should begin the process of placing significant structures and sites on national and state historic registers. Additionally, they should encourage the formation of private organizations that can begin to preserve and, when appropriate, acquire buildings and sites.

For the benefit of both the present generation and those who will follow, we need to establish permanent reminders of the people, sites and buildings that were part of the history and development of Bow.

TOWN OF BOW, NEW HAMPSHIRE
State and Local Historic
Marker Location Map



- LEGEND
- STATE HISTORIC MARKER
* Andrew Jackson's visit
- LOCAL HISTORIC MARKERS
- 1. Mary Baker Birthplace
 - 2. Bow Baptist Church
 - 3. Bow Center Town Hall
 - 4. Nichols Saw Mill
 - 5. Canal Lock
 - 6. Bow Bog Meeting House
 - 7. Sargent John Ordway House
 - 8. First Bow Town Meeting House
 - 9. Town Pound
 - 10. Grist Mill
 - 11. Henry Baker House / WWI & WWII Monuments
 - 12. Old Baptist Parsonage
 - 13. North Branch Londonderry Turnpike
 - 14. Noyes Ferry Landing
 - 15. Benjamin Norris Mill Site

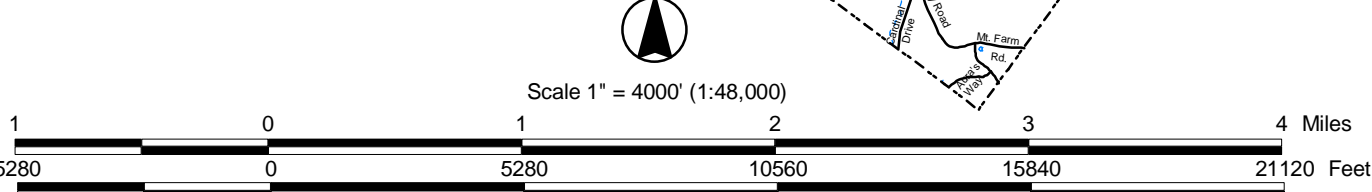
- BASE LEGEND
- Political Boundary
 - Interstate Highways
 - Class I & II Secondary State Highways
 - Class V Town Maintained Roads
 - Class VI Town Unmaintained Roads
 - Other Roads (Private, Trails, etc)
 - Rivers and Streams
 - Intermittent Streams
 - Water Bodies

This map produced by
Central New Hampshire
Regional Planning Commission
28 Commercial Street
Concord, NH 03301
phone (603) 226-6020
web www.cnhrpc.org



for the Bow Master Plan Historic and Cultural
Resources Chapter, September 2004.

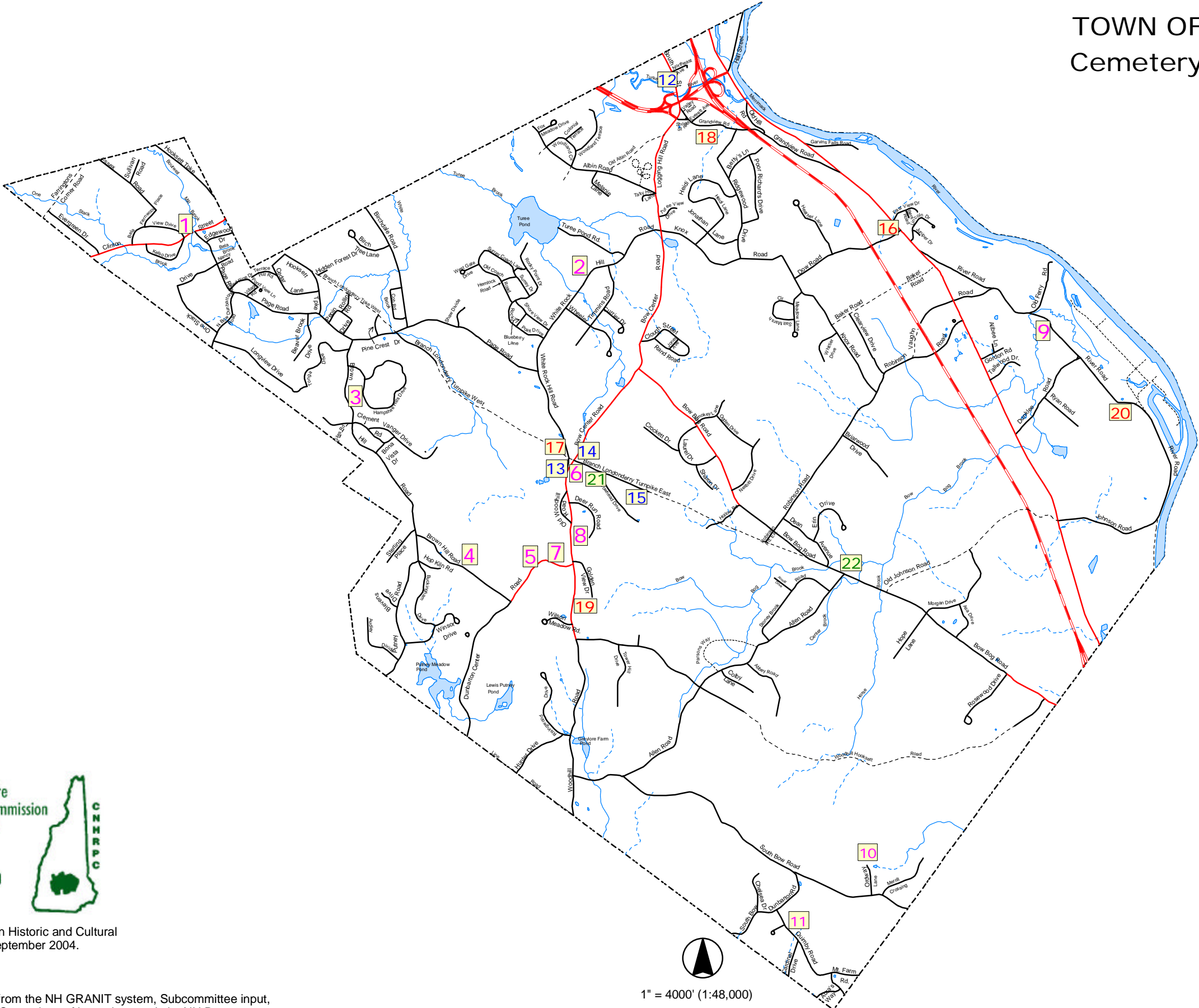
Data sources:
1:24,000 source scale from the NH GRANIT system, Subcommittee input,
and the Town of Bow. Corrections of base data made by NH Department
of Transportation, the Town of Bow, and CNHRPC.
This map intended for planning purposes only. Corrections are welcomed
and should be directed to CNHRPC.



TOWN OF BOW, NEW HAMPSHIRE

Cemetery and Historic Structures

Location Map



- LEGEND
- CEMETERIES**
- 1. Heath Cemetery
 - 2. Evans Cemetery
 - 3. Brown Hill Cemetery
 - 4. Brown Hill One Grave Cemetery
 - 5. Hammond Cemetery
 - 6. Green Cemetery
 - 7. Goodhue Cemetery
 - 8. Hadley Cemetery
 - 9. Alexander Cemetery
 - 10. Ordway Cemetery
 - 11. Quimby Cemetery
- TOWN-OWNED HISTORIC STRUCTURES**
- 12. Baker Free Library
 - 13. Bow Center School House
 - 14. Old Town Hall
 - 15. Town Pound
- ONE ROOM SCHOOL HOUSES**
- 16. White School
 - 17. Bow Center School House
 - 18. Bow Mills School House
 - 19. Woodhill School
 - 20. River Road School
- CHURCHES**
- 21. Crossroads Community Church
 - 22. Bow Bog Meeting House

- BASE LEGEND
- Political Boundary
 - Interstate Highways
 - Class I & II Secondary State Highways
 - Class V Town Maintained Roads
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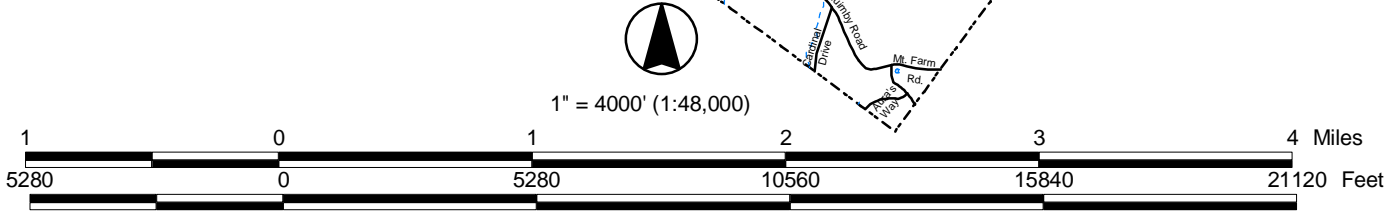


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CHAPTER V

CONSERVATION, PRESERVATION, AND OPEN SPACE

INTRODUCTION

This Chapter describes the major elements of the natural environment that are within the Town of Bow. The protection, preservation, and enhancement of the natural environment are important to the residents of Bow. When asked if the conservation of natural features was a desirable feature of Bow, 400 residents (of 1,127 surveys returned) responded positively through the Community Survey. The most desirable feature in Bow, according to the Community Survey, was “rural atmosphere,” which is directly linked to the conservation and preservation of the natural environment. Bow has taken some great steps in preserving and protecting its natural environment. When asked to rank municipal services, “natural resource conservation” had the following rankings: 37.4% as “good,” 23.5% as “fair,” and 3.5% as “poor.” This is a good beginning and we hope that this Chapter will provide ways to make the “good” rating even higher in future years.

To achieve the goals and recommendations of this Chapter, the Town should not view this Plan as a static document that lays out precisely what needs to be done for the next ten years, although in some cases it is able to do just that. In general, this Chapter is more like a lens focusing attention on certain critical environmental and resource issues that need to be monitored and that, in some cases, need further study at a fundamental level. The idea is to steadily increase the information base regarding important issues, make that information available to the public and decision makers in an accessible, clear, and consistent manner. From there this information should be used not only to refine management plans, but also to target and prioritize the need for additional information. It is useful to think of this Chapter as adaptive in the sense that it can be adjusted as we learn more about the environmental systems in which we live.

GEOLOGY

Bedrock

The variations in bedrock geology provide some insight into the expected variation in the properties and chemistry of groundwater, surficial materials and surface waters. These variations also will affect the distribution of plant species.

Bow is located in the geological province called the New Hampshire-Maine terrane. This area covers eastern New Hampshire as well as parts of Maine, Massachusetts and Connecticut. The area consists of primarily Silurian metasedimentary rocks, and the more recent late Devonian igneous rocks, principally the gray, two-mica Concord Granite.

The eastern section of Bow is underlain primarily by pelitic rocks of the Lower Rangeley Formation, which is characterized by its gray color and its thinly laminated metapelites, and the west-central section is underlain by the sulfidic schists of the Upper Rangeley Formation, which is a rusty weathered pelitic schist. Concord Granite underlies several areas in town, along the

northwest boundary of the town and several areas to the east. The sulfidic schists of the upper to middle Silurian Smalls Falls Formation and the pelitic rocks of the middle to lower Silurian Perry Mountain Formation underlie a very small area at the far northwest section of Bow.

All of the bedrock formations are sensitive to acid deposition, which means they do not have the capacity to neutralize acid precipitation (acid rain). Where the pelitic rocks and sulfidic schists are located, the iron concentrations may be high in groundwater where the pH of the water is low (i.e., the water is acidic). Particular plant communities may occur in the metal-rich soils over sulfide-rich horizons. In the granite bedrock locations, calcium and magnesium concentrations are low and fluoride, uranium, arsenic and radon concentrations may be high. Pegmatites, which are a type of granite in which the individual mineral crystals are quite large, occur as localized pods around the Concord Granite pluton. Ground water derived from wells in and around the pegmatites have been associated with elevated concentrations of arsenic.

Surficial Geology

The upper layers of geological materials (rocks and soils) on the bedrock (the crustal rock under the soil) were deposited by the last glaciation (Pleistocene), particularly the Wisconsinan stage. As the ice melted, the glacial debris formed two types of deposits: direct deposits falling or dumped by the ice as unsorted glacial till; and outwash deposits of sand, gravel, silt, and clay sorted out by the meltwater running from the ice. Streams and rivers into the valleys carried these latter deposits farther.

The following describes the glacial landscape features:

Direct Deposits (Till):

Ground Moraine

Mostly till overlying bedrock, and often encompasses outcrops of uncovered bedrock. It is the unsorted, glacially ground-up debris of clay, silt, sand, gravel, and boulders dumped under the glacial ice and now covering bedrock. It was not distributed by meltwater. Morphologically, it is usually a zone of small hills and basins.

Drumlins

Low, humpbacked elliptical hills or mounds of till deposited and shaped by the moving glacier; the long axis is parallel to the direction of ice motion. Drumlins are oriented in a northwest-southeast position, the direction that the glaciers moved. Drumlins may be found throughout Bow, including to the north and south of the top of Wood Hill and near Greylure Farm Pond.

Outwash Deposits (sand, gravel, silt and clay):

Outwash Plains

A broad almost flat-topped deposit of sorted sand and gravel layers, built up by the streams of glacial meltwater flowing from the stagnant or melting glacier.

Kame and Kame Terraces

A hill, hummock, or short irregular ridge of stratified sand and gravel deposited in contact with the glacial ice; when the ice melted, the deposit settled into its present form.

They range from 5 to 100 feet high. A kame terrace is a body of crudely sorted sand and gravel deposited between the glacier and an adjacent valley wall, thus forming the rather flat-topped terraces. Kame terraces are found near Turee Pond.

Eskers

Narrow, sinuous ridges of crudely stratified gravel and sandy gravel 10 to 100 feet high, deposited by meltwater streams flowing beneath the glacier in stream tunnels.

Varved Clays

Glacial clays of alternating sandy silt and silty layers, deposited in glacial lakes.

Stratified sand and silt from glacial outwash and recent stream deposits lay within the land adjacent to the Merrimack River. Stratified gravel and sandy gravel deposits are found throughout town in kame terraces, valley trains, eskers, and outwash plains.

See the **Bedrock Geology Map** for the bedrock geologic formations that underlie Bow.

Soils

One of the most important natural resources and determinants of land use is soils. This is particularly important in Bow, which has a limited public sewer district and no municipal water districts. Information about soil characteristics, with other supporting data, allows a community to make sound land planning decisions.

In addition to offering many environmental and agricultural benefits, soils are subject to contamination, erosion, and depletion at an alarming rate. Productive soils for farming and forestry are often prime development sites, that when built upon, become unavailable for those essential uses.

Each soil is a collection of organic materials and minerals that reflects a combination of factors that formed it – climate, plant and animal life, parent materials, topography, and time. In New Hampshire, most parent material was deposited by glaciers or is glacial material that has been reworked and deposited as a result of the forces of wind and water.

Among the most restrictive soils, in terms of development potential, are the hydric soils. These soils form where there is water at or near the surface for at least several weeks. This extended period of saturation causes visible changes in the soils. Hydric soils are one of the three indicators used to identify wetlands. Subsurface disposal systems (septic systems) must be located certain distances (at least 50 to 75 feet) from hydric soils to ensure that the wastewater is treated before it may reach the water table or nearby wetland.

Bow's major deposits of hydric soils follow the stream drainages through the community, with scattered isolated pockets. The hydric soils represented on the map are an incomplete representation of the presence of hydric soils in Bow. To locate hydric soils for local or state permitting, an on-site field investigation is typically required.

Like other soils, hydric soils may be classified by their drainage class. Most hydric soils are considered poorly drained or very poorly drained. Poorly drained soils are mineral-based soils. Other hydric soils are the very poorly drained soils, which have at least four inches of organic matter near the surface.

The Soil Survey (which is currently in draft form) identifies several categories of farmland that are mapped based on the soil units. Although Bow has little agriculture today, these soil characteristics pose fewer constraints for development. Among these categories are Prime Farmland, Farmland of State Importance and Farmland of Local Importance.

Prime Farmland

Prime farmland soils are those that have the following (of many) characteristics:

- Have either no water table or deep water table that allows cultivated crops common to New Hampshire to be grown.
- Are not frequently flooded during the growing season (less than a 50% chance in any year.)
- Are of the less erodible variety and have a permeability rate of at least 0.06 inches per hour in the upper 20 inches and have very few rock fragments larger than three inches in diameter in the top six inches.

Farmland of Statewide Importance

Land that is not prime but is considered farmland of statewide importance for the production of food, feed, fiber, forage and oilseed crops. There are several isolated areas.

Soils of statewide importance are soils that are not prime or unique and:

- Have slopes of less than 15 percent
- Are not stony, very stony or bouldery
- Are not somewhat poorly, poorly or very poorly drained (i.e., not hydric soils)
- Includes soil complexes comprised of less than 30 percent shallow soils and rock outcrop and slopes do not exceed 8 percent.
- Are not excessively drained soils developed in stratified glacial drift, generally having low available water holding capacity.

Farmland of Local Importance

Farmland of local importance is farmland that is not prime or of statewide importance, but has local significance for the production of food, feed, fiber and forage.

The criteria for Farmland of local importance in Merrimack County is:

- Soils that are poorly drained, have artificial drainage established and are being farmed.
- Specific soil map units, which may include soils that:
 1. Have slopes less than 25 percent.
 2. Are not extremely stony or bouldery.
 3. Are not poorly or very poorly drained.
 4. With complexes consisting of less than 40 percent shallow soils and rock outcrop and slopes do not exceed 25 percent.

See the **Bow Soils Map** for more information.

Recommendations - Soils

- Consider including soil based lot sizing requirements into the Zoning Ordinance, as outlined in the 1997 Rockingham County Conservation District "Ad-Hoc Soil Based Lot Sizing Study," as amended, to ensure that development is compatible with the soil being built upon.
- Through the Subdivision and Site Plan Review Regulations, require new developments to submit site-specific soil data to ensure that new developments have adequate carrying capacity for such proposed uses. Site specific data submittals should be consistent with "Requirements for Soils and Wetlands Data in Subdivision and Site Plan Review Regulations" prepared by the New Hampshire Office of State Planning in 1999.
- Require, through the Subdivision Regulations and/or Site Plan Regulations a complete analysis of the impact on the bedrock resources when a major subdivision or large-scale development proposes to use or alter the natural bedrock structure to ensure that the water resources within the bedrock will not be adversely affected.

SAND AND GRAVEL DEPOSITS

Large deposits of sand and gravel can be a valuable source of construction materials. Because of their permeability (the ability to allow water to flow through), sand and gravel deposits also tend to be good sites for water supply wells. Permeability also makes sand and gravel deposits very vulnerable to contamination; once contaminants are spilled or dumped, they can quickly spread. Therefore, special attention should be given to regulating land uses over these deposits.

The Town of Bow issues permits for commercial sand and gravel excavation under New Hampshire State statute (RSA 155-E:4-a) and also issues permits through Article 7.15 Excavation of Earth Materials in the Bow Zoning Ordinance.

There are currently 14 privately-owned sand and gravel pit operations, and one municipal gravel pit that will need to be reclaimed once all of the financially viable deposits have been removed. Reclamation means the restoring of an excavation site to a standard at least equal to those outlined in Town regulations. See the table below and the **Excavation Sites and Potential Sources of Contamination Location Map** for existing excavation sites within the Town.

Owner	Pit Size (Acres)	Sites	Amount Excavated 2002 (cubic yards)	Pit Assessed Value 2001*
Altid Enterprises	4	2	48,755	\$ 230,800
JDS Properties, LLC	5	1	5,000	\$ 107,000
Municipal	2	1	6,000-8,000	N/A
New Siteworks, LLC	2	1	1,500	\$ 61,050
Palazzi Corp.	10	1	177,758	\$ 143,500
Pasami, LLC	0.5	1	5,500	\$ 26,950
Patsfield Reality, LLC	0.8	1	21,780	\$ 11,500
PSNH	N/A	1	86,900	\$ 102,200
Vernon & Phylis Gordon	8	1	13,000	\$ 94,350

Source: Town of Bow Assessor Database 2003

*In 2002, gravel pits were no longer assessed separately from the entire lot.

Recommendations – Sand and Gravel Deposits

- The Town should look to acquire easements at current excavation sites after reclamation takes place, which can serve as recreational areas and/or provide river access for residents.
- Review the Excavation of Earth Materials Ordinance annually to ensure best management practices and technologies are incorporated.
- Any reuse of the sand and gravel pits located within the Town should be evaluated as to the appropriateness for the proposed activity, and best management practices should be used to prevent contamination of subsurface water bodies, as well as adjacent streams, ponds, rivers, and/or wetlands.

WATER RESOURCES

This section on water resources includes information on surface water, groundwater, drinking water supplies, wetlands, and floodplains located in the Town of Bow. Water resources, access to and protection of them, ranked as “high priorities” for those filling out the Community Survey. Access to the Merrimack River and other water bodies were the third and fourth most desirable type of recreational opportunity that people wanted expanded. Protecting groundwater and surface water was the “community service” most respondents wanted to see developed or improved (675) with the protection of wetlands as the third priority listed (521).

Surface Water

The two major watersheds that are located in Bow are those tributaries of the Merrimack River that drain towards Concord and tributaries of the Merrimack River that drain towards Manchester. The Merrimack River also represents the eastern boundary of Bow. The Merrimack River down to Garvin’s Falls in Bow is a State-designated river under the State Rivers Management and Protection Program. This section of the river is referred to as the Upper Merrimack. The Merrimack River eventually flows into the Gulf of Maine.

The State Rivers Management and Protection Program was established in 1988 with the passage of RSA 483-A to recognize and designate rivers to be protected for their outstanding natural and cultural resources. The Upper Merrimack was one of the first rivers to be designated in 1990. After designation, a management plan is created that recommends ways to protect resources identified during the nomination process. The plan is developed and implemented by a local river advisory committee that coordinates activities related to the plan on a regional level. The Upper Merrimack River Local Advisory Committee (UMRLAC) includes representatives from each community in its watershed, including Bow. Volunteer water quality monitoring in the Upper Merrimack is a major part of the UMRLAC's activity.

Smaller watersheds in Bow include the Turkey River watershed and the Bow Bog watershed. Surface drainage in Bow reaches the Merrimack River, which is formed upstream by the confluence of the Pemigewasset and Winnepesaukee Rivers in Franklin, and represents the entire eastern boundary of the Bow. The Merrimack River is the largest flowing surface water resource in town.

Along with the Merrimack River, Bow contains many surface water bodies, as can be seen below. See the **Surface Water Resources Map** for more information and the location of the water bodies.

Water Body	Source	Length or area in N.H.	Portion in Bow (area or length)
Bela Brook	Dunbarton Watershed	7.2 miles	1.14 mi.
Black Brook	Putney Meadow Pond	28.5 miles	2.52 mi.
Boutwell Mill Brook	Hopkinton Watershed	3.7 miles	0.9 mi.
Bow Bog Brook	Bow Watershed	6.4 miles	6.4 mi.
Brickyard Brook (Bow)	Concord	2.59 miles	0.6 mi.
Merrimack River	Pemigewasset/ Winnepesaukee Rivers	66 miles	6.1 mi.
One Stack Brook	Bow/Hopkinton Watershed	1.02 miles	3.2 mi.
Putney Ponds and Meadows	Bow Watershed	Temporarily Drained	20 acres
Turee Brook (including north and south tributaries, and the south branch of Turee Brook, which is also White Brook)	Turee Pond	11.14 mi.	9.64 mi.
Turee Pond	Bow Watershed	52 acres	52 acres
Turkey River	Turkey Pond	17.85 mi.	1.51 mi.
White Brook	Bow Watershed	3 mi.	2.46 mi.

Source: 1989 Water Resource Management and Protection Plan Town of Bow; USGS Topo quads; 1998 CNHRPC Natural, Cultural, and Historical Resources Inventory; US Geological Survey; CNHRPC GIS

Past Town documents have named Turee Pond, Bow Bog Brook, Putney Pond, and Putney Meadows as important water resources within the town. Turee Pond, a 52-acre lake in northern Bow, serves as a tributary to Turee Brook. The New Hampshire Volunteer Lake Assessment Program and has conducted annual water quality testing and assessments of Turee Pond since 1996. Bow Bog Brook flows 6.4 miles easterly until it meets the Merrimack River. It has been relocated from its original course in order to accommodate the PSNH coal-fired power plant. Seven tributaries enter Bow Bog Brook.

Putney Pond and Meadows (approximately 20 acres in size) are fed from the Bow Watershed and are located on the Bow-Dunbarton Town line. The outlet flows into Dunbarton and is a major source of water for Kimball Pond -- a Conservation Pond and a centerpiece of the Dunbarton Kimball Pond Conservation Area. The Putney Pond and Meadows have been drained, because the dam was deemed unsafe. There is interest in restoring the area to its previous state.

According to the 1989 Water Resource Management and Protection Plan, the Town of Bow does not believe that the existing surface waters could be used as a potential municipal water supply. First, the estimated costs of meeting State and Federal standards of treatment were too high. Second, the Town has no control over upstream land uses that could negatively affect the quality of water within the Merrimack River.

The Town has an obligation to protect its water quality. Conservation efforts in the past have helped to protect all these resource values through the Town's ordinances and through the acquisition of conservation land or easements. Because of these factors, it is important for the Town to take proactive steps to ensure that the quality and aesthetic value of the surface water resources are protected, enhanced, and valued.

Groundwater

Groundwater is an important limited resource. Without adequate amounts of high quality groundwater, development will be restricted. Groundwater is the subsurface water, which saturates sand, gravel and other soil deposits, and fills the cracks within the underlying bedrock. The top surface of this saturated zone is called the water table, which may be just below the surface or at some depth. In some locations, such as kettle hole ponds, the visible surface of the water may reflect the level of the groundwater of the adjacent land.

The groundwater is replenished largely by rainwater and snowmelt, which percolates downward through the soil. Other sources of replenishment, or recharge, may come from streams, lakes and ponds. Some groundwater flows to streams, ponds, and lakes and then becomes part of the surface water runoff. Although rainfall will percolate into all soil and weathered rock surfaces to some extent, areas of more porous sand and gravel will allow a greater amount of infiltration, and are specifically noted as "recharge zones" to signify their importance in recharging groundwater reservoirs. Therefore, it is important to identify and protect these areas from land uses that may be a significant threat of subsurface contamination.

In addition, if recharge areas are covered by development and impervious material, then the recharge of the underlying aquifers is reduced. The surface of the soil would be physically

sealed by various materials such as asphalt or cement, which would not allow any water to penetrate the surface. This means that, not only would the recharge of the aquifer be impaired, but also there would likely be an increase in surface runoff and, therefore, an increase in the occurrence of floods. Because aquifers are such a valuable natural resource, they should be protected.

If there is enough groundwater to provide an adequate water supply, that area of groundwater is called an aquifer. Most of the highly productive aquifers in New Hampshire consist of unconsolidated deposits of gravel and sand, floodplains, abandoned riverbeds and alluvial valleys.

Bow's stratified drift aquifer, adjacent to the Merrimack River is considered one of the largest and most productive stratified-drift aquifers in the south-central area according to studies by the United States Geological Survey (USGS). The aquifer underlies many residences and commercial and industrial businesses. The aquifer is a buried valley filled with highly permeable sand, gravel, and minor silt deposited as an esker. Thick coarse-grained deposits, which are more than 90-feet thick in some places, are hydrologically connected to the Merrimack River. The 3.4-square mile aquifer extends southward from the confluence of the Soucook and Merrimack Rivers into Bow immediately north of the PSNH coal-fired power plant. The coarse-grained deposits are bordered to the east and the west by younger, fine-grained lake-bottom deposits associated with glacial Lake Hooksett, which was formed by glacial meltwaters.

Using a computer to estimate the amount of water in this part of the Bow aquifer, USGS calculated that water availability would range from 1.6 –1.9 million gallons per day. The higher estimates might be achieved if gravel-packed production wells are installed in the coarse deposits of the aquifer and within a few hundred feet of the Merrimack River to induce recharge from the river.

See the **Groundwater Resources Map** for the known locations of wells and aquifers in Bow.

Drinking Water Supply

Bow depends primarily on groundwater for its water supply. The majority of private water supplies are from drilled wells in the bedrock. Since groundwater is found in open fractures in the bedrock, locating bedrock fractures is one way to locate areas that may provide high amounts of groundwater. The USGS has mapped such bedrock fractures, referred to as lineaments. Thus, one may have improved chances of locating water supplies in bedrock areas. The lineaments are shown on the **Groundwater Resources Map**.

Arsenic is a naturally occurring substance that is highly associated with New Hampshire bedrock. Although arsenic is found in many types of geologic conditions, a coarse-grained granite derivative called pegmatite, common to many parts of New England, is the most abundant natural source for arsenic in New Hampshire.

Arsenic in drinking water is linked to cancer in humans. The New Hampshire Department of Environmental Services estimates that 15 percent of the groundwater supplies in New Hampshire have arsenic concentrations that exceed the state level of 10 parts per billion (ppb). Community

Survey respondents (64) reported having high levels of arsenic in their wells. Most of these occurrences are in located in bedrock wells (drilled wells).

Many studies have been conducted to determine potential sources for a municipal groundwater supply. Studies conducted by Dufresne-Henry (1981), SEA Consultants, Inc. (1987), and Stearns & Wheeler (1992) have concluded that the Bow aquifer has great potential for development as a municipal water supply. In the Bow 1989 Water Resource Management and Protection Plan, the Merrimack and Turkey River aquifers, as well as the Bow Bog aquifer, Center aquifer, and White Brook aquifer were recommended as sites for exploration for a future municipal water supply. In fact, the 1995 US Geological Survey found that six-square miles or 22% of the Town is underlain by stratified drift aquifers.

As part of its examination of the development of Route 3A, the Bow Business Development Commission wanted to determine what water facilities could be available for commercial uses. In 2001, Marin Environmental conducted a study to examine the potential for development of the sand and gravel aquifers in the Route 3A Study Area as an independent water supply for the Town of Bow. Marin Environmental concluded that the Bow Aquifer, particularly in the area north of Old Ferry Road, had the potential to be a water supply. The Bow Aquifer, located adjacent to the Merrimack River in the eastern part of Bow, is a buried glacial valley filled with highly transmissive sand and gravel, which developed into an esker (see Geology Section). The high transmissivity and hydraulic connection of the Bow Aquifer with the Merrimack River are characteristics that are very favorable for development as a municipal water supply.

There are 35 water systems in Bow classified as Community Public Water Supplies. These systems service businesses and larger residential developments that have 15 or more connections or serve more than 25 people daily. The remainder of the Town relies on private wells for its water supply. Since 1984 when the New Hampshire Department of Environmental Services began registration of wells, more than 1,053 wells for domestic purposes have been identified in the Town of Bow. See the **Groundwater Resources Map** for the locations of these water supplies.

Wetlands

Wetlands are transitional areas between land and water. Wetlands are identified based on three indicators: the presence of water at or near the surface during part of the growing season, the presence of hydric soils, and the prevalence of vegetation adapted to grown in wet areas. Wetlands include, but are not limited to swamps, bogs, marshes, vernal pools, and similar areas.

Many wetlands have water present because the soils are poorly drained or the water table is very close to the surface. Bow has a significant number of wetlands. The primary impacts facing wetland resources in Bow today are the effects of development in their buffers or in the wetlands.

Wetlands have poorly or very poorly drained soils. Very poorly drained soils have a layer of muck or peat overlaying mineral material such as sand, silt and clay. Out of the total land acreage in Bow (19,266 acres), 21.79 % is comprised of hydric soils, as can be seen in the chart below.

Hydric Soils	Acreage	% of Town
Very Poorly Drained	2,539.37	14.08
Poorly Drained	1,389.24	7.71
Totals	3,928.61	21.79

Source: 2003 NRCS Draft Merrimack County Soil Survey Data
CNHRPC GIS data

Wetlands have been viewed in the past as areas with little economic value and have been subjected to filling, draining, and dumping with little regard for the consequences. In recent times, however, it has been shown that wetlands provide benefits to the community. Wetlands provide numerous functions and values, some of which are listed below.

- Flood Control – Some wetlands act as a giant sponge during periods of high run-off or flooding and then release this stored water slowly during drier periods.
- Water Storage and Groundwater Recharge - The water in the wetlands can move up by means of evaporation, laterally by flowing in streams, and downwards, thus recharging groundwater.
- Erosion and Sediment Control - Because wetlands vegetation absorbs or retains and slows down the rate of runoff, the water's erosive powers are decreased, and the sediment settles out of the water.
- Pollution Filtration - Wetlands vegetation and microorganisms reduce the harmful potential of pollutants such as organic material, bacteria, nitrates, and phosphates found in water.
- Wildlife - Wetlands vegetation and water provides food, habitats, and breeding grounds for a wide variety of wildlife and fish.
- Education and Recreation - Wetlands provide natural areas of study for all ages as they offer a diversity of wildlife habitats. Wetlands serve as excellent sites for photography, canoeing, snowshoeing, hiking, fishing, and hunting.
- Environmental Health and Diversity - Generally, only wetland plants can tolerate wet soils and only certain types of animals and wildlife can tolerate such an environment.

Larger wetlands (greater than two acres), mapped by the US Fish and Wildlife Service between 1986 and 1990, dot the entire Town. A 1989 study by New England Environmental Associates, Inc. inventoried wetlands within the town and assisted the Bow Conservation Commission in selecting prime wetlands. Initially, wetlands were selected based on the requirements in New Hampshire RSA 482-A definition that a prime wetland is a wetland with very poorly drained soils. Of the 104 wetlands identified in Bow by New England Environmental Associates, 60 contained very poorly drained soils.

Since it was not financially feasible to evaluate all 60 wetlands, it was necessary to limit the scope of the evaluation to wetlands that provide critical services to the town. The most important criterion chosen by the Conservation Commission was the ability of the wetlands to provide quality groundwater for private and public drinking water supplies. The Conservation Commission also considered the protection of significant wetland/water resource systems, the protection of tracts important for wildlife management, and public opinion, as determined by the 1992 Bow Master Plan survey results. They narrowed the list of 60 wetlands to 17 candidates

for possible designation as prime wetlands. Although the Conservation Commission strongly desired to designate all of these wetlands as prime, they were not able to evaluate all 60 wetlands due to funding constraints.

Eventually, eight wetlands were designated as prime wetlands. These wetlands include various segments of the Bow Bog Brook, White Brook/Turkey River, and Turkey River watersheds. Most were chosen in coordination with the SEA aquifer study for their value as groundwater recharge areas. In addition, wetlands were chosen for their ability to stabilize sediment, filter toxic chemicals, remove/transform nutrients, provide wildlife habitat, and ability to absorb floodwater. The table in **Appendix E** shows information about the prime wetlands designated in Bow. See the **Surface Water Resources Map** for more information and the locations of these wetlands.

Floodplains

Floodplains are areas of land bordering a river or stream that flood periodically. Floodplains are important for at two major reasons: 1) they carry floodwaters, and 2) they provide valuable wildlife habitat. By trapping sediments and reducing erosion, undeveloped floodplains play an important role in preventing pollution of rivers and streams. See the **Surface Water Resources Map** for the location of the floodplain in Bow.

As development occurs in an upstream watershed the runoff volume and rate of flow increase due to the larger areas of paved and other impervious surfaces (e.g. roofs, roads and driveways). Flooding can consequently become more frequent and floodwaters more damaging since they are moving faster. Preserving floodplains becomes increasingly important as uplands are developed, as does attention in local Ordinances to minimizing the amount of impervious surfaces.

Retaining a floodplain in its natural state, is the most cost-effective way to reduce flood damages, and has been found to be far less expensive than dams, channelization, and other structural methods. Undeveloped floodplains also trap sediments and pollutants and reduce erosion. Since protecting a floodplain helps to reduce water pollution, development within the floodplain leads to more rapid movement of pollutants into the stream channel, which degrades the quality of the water.

Recommendations – Water Resources

- Update the Water Resources Protection Plan (last updated in 1989) for the Town every ten years and review it annually to ensure that the recommendations and goals are being implemented.
- Adopt a Water Resources Management Plan pursuant to RSA 4-C:19 for the Town of Bow.
- Pursue a regional initiative for source-water protection that includes partnerships with towns adjacent to Bow, the Department of Environmental Services, and non-profit conservation organizations. Measures should also be created to ensure development within the source-water protection areas is conducted in such a way that protects the water resource.

- The Conservation Commission should initiate a public education campaign regarding the proper maintenance of septic systems, water conservation, and low-water lawn care methods.
- The Town should provide for comprehensive protection of shoreland through regulatory, educational, and voluntary efforts.
- The Town of Bow should annually update its ordinances and regulations to adequately address the issues of stormwater management, erosion, and sediment control to improve the quality of the Town's waterbodies to incorporate best management practices and technologies.
- Maintain the variety and large quantity of wetlands in Bow and ensure that wetlands retain their functional values. The Town should provide for comprehensive protection of the wetlands through regulatory, educational, and voluntary efforts.
- When evaluating development proposals that affect wetlands, the entire wetland complex should be considered instead of the particular acreage of wetland being impacted. This includes considering the extent of habitat fragmentation and isolation, the impacts on adjacent upland habitats, the effects of stormwater runoff, and the adequacy of buffer zones.
- Annually review the provisions of the Aquifer Protection District to ensure that requirements rely on best management practices and the newest technology.
- Expand the Aquifer Protection District to include areas that have the potential to become municipal water supplies.
- Stringently enforce the provisions of the Aquifer Protection District.
- Continue to require a complete analysis of the impact of new development and other large water users on current water resources.
- Research the designation of additional wetlands as Prime Wetlands.
- Create regulations that provide for wetlands mitigation.
- Create an option for developers to mitigate wetland impacts through a financial contribution to the town for conservation land purchases.

DAMS

There are currently five active structures listed for the Town of Bow in the New Hampshire Dam database maintained by the Department of Environmental Services Dam Bureau. According to RSA 482:2 II, a dam is any artificial barrier which impounds or diverts water, has a height of four feet or more or has a storage capacity of two acre-feet or more, or is located at the outlet of a great pond. Inactive dams are defined as dams that do not meet the legal definition of a dam. There are 18 inactive dams listed in Bow that do not meet the above definition and may be in ruins, breached, removed, or permitted and never built.

Every dam is categorized into one of four classifications, which are differentiated by the degree of potential damages that a failure of the dam is expected to cause. The classifications are designated as AA, A, B, and C. The AA rating signifies a non-hazardous structure while the C rating reflects a high hazard dam. As can be seen below, Bow has two AA dams, two A dams, and one C dam.

Active Dams in the Town of Bow

Name	Water body Approximate Location	Hazard Classification	Surface Area (acres)	Height of Dam (feet)
McKay Fish Pond Dam	Natural Swale/ Western Portion of Town, near Page Road	AA	0.75	6
Fire Pond	Natural Swale/ Logging Hill Road	AA	3.1	5
Bow Fire Pond Dam	Morgan Brook/ Logging Hill Road	A	3	6
Putney Meadow Pond Dam	TR Black Brook/ Southwestern Portion of Town, near town line	A	28	8
Garvin's Falls Hydroelectric Dam	Merrimack River, Near Garvin's Falls Road	C	250	33

Source: DES Water Division, Dam Bureau, 03/03

Recommendations - Dams

- The Town should request NHDES to provide education to land owners about dam safety.
- Bow should take part in the PSNH hydroelectric dam relicensing process to secure conservation and/or recreation benefits for the Town.

POTENTIAL SOURCES OF CONTAMINATION

Development of all types has the potential to contaminate surrounding natural resources, especially water resources. Many commercial and industrial enterprises use various chemicals in everyday operations, which if not properly disposed may pollute water supplies. Therefore, development should be avoided where groundwater recharge areas and aquifer areas exist, and correspondingly, development should proceed where the least potential for aquifer recharge exists if there are no other development concerns.

According to the NH Department of Environmental Services (2002), several potential sources of contamination exist in Bow. These include hazardous waste generators, underground storage tanks, aboveground storage tanks, and solid waste sites. The following chart lists the types of existing and potential sources of contamination that are located in Bow.

Potential Sources of Contamination	Locations
Solid Waste Site	5
Above Ground Storage Tanks	3
Underground Storage Tanks	28
Hazardous Waste Generators	131
Total	167

Source: NHDES, OneStop Master Site Information, 11/02

See the **Excavation Sites and Potential Contamination Sites Location Map** for more information and locations. Because of the high necessity for clean, safe, and available drinking water for the residents of the Town, there needs to be an awareness and emphasis placed on protecting this important resource.

Recommendation – Potential Sources of Contamination

- Review the existing allowed uses in the Commercial District, Industrial Districts, and the Business Development District to ensure that uses with contamination potential are limited to those specific Districts and that they are compatible with the surrounding natural resources.

FLORA AND FAUNA

Plants

Bow is located the Southern New England Coastal Hills and Plain Ecoregion. This includes the forest region referred to as the Transition Hardwoods – White Pine Region. Northern hardwoods including yellow and paper birches, beech, and sugar and red maples are the major species. Oaks and hickories are found on the drier sites. White pine is found on a range of sites from well-drained sandy sites to wetlands. Hemlock occurs on the cooler sites. Red maple, black ash and American elm can be found on poorly drained areas that are wetlands.

The Town of Bow has many areas of forested land that are managed for multiple uses. In the Walker Town Forest, a small but old black gum tree swamp was discovered. The black gum tree is a hardwood tree that may grow up to 75-80 feet tall and live beyond 400 years. These trees prefer the acid content of swamps and wetlands in which to grow. This is a rare species to be growing in Bow and should continue to be protected.

Bow is fortunate to have many water bodies located within its boundaries. In order to ensure that these bodies of water continue to provide recreation, wildlife, and scenic enjoyment, the spread of exotic plants must be controlled. Exotic species that are of most concern include purple loosestrife, *Phragmites*, and milfoil.

Purple loosestrife (*Lythrum salicaria*) was brought to New England as an ornamental plant in the early 1800's, and has since contributed to the degradation of wetland habitats across the United States. Easily identified by its attractive purple-spiked flowers that bloom in late July through August, each plant can produce millions of seeds, which are easily spread by wind or water. Stands of the species can reach thousands of acres in size and choke out native plants and reduce food sources for wildlife.

Phragmites australis, or common reed, is native to the United States, although a non-native strain may have been imported in the early 1900s. In the northeast, common reed is a tall wetland grass that reaches up to 15 feet in height and has a distinctive purplish-brown plume that appears in late July. It thrives in sunny wetland habitats and prefers fresh or brackish water. Stands of common reed are established through dispersal of seeds or pieces of underground stems called rhizomes. The plant grows very quickly and spreads rapidly over wide areas,

causing a decline in other types of marsh vegetation. Human caused disturbances, including nutrient loading, erosion, sedimentation, and other types of pollution enhance the spread of common reed.

Variable Milfoil (*Myriophyllum heterophyllum*) is a submerged aquatic plant with fine densely packed, feather-like leaves whorled around a main stem. It can grow up to 15 feet and may exhibit a three- to six-inch green spike-like flower above the waterline in July. A cross-section of the stem will reveal "pie-shaped" air chambers. Milfoil reproduces through fragmentation whereby plant fragments break off from the parent plant through wind or boat action, grow roots, and settle in a new location. It spreads rapidly, displaces beneficial native plant life, makes swimming difficult, and can devalue waterfront property. Variable Milfoil has been found in Turkey Pond in Concord, just downstream of Turee Pond. There are six native milfoil species present in the state that do not cause problems. Eurasian milfoil is another non-native milfoil found in New Hampshire, but it is less of a threat than variable milfoil due to New Hampshire's water chemistry.

Fish

There are various species of cold and warm-water fish that populate New Hampshire's rivers and lakes, including several species of trout, salmon, and bass. Other fish species include the pickerel, yellow perch, whitefish, and horned pout. Each species of fish has habitat requirements specific to the species. Turee Pond is a popular fishing spot in summer evenings.

The Merrimack River is a cold-water fishery, which provides habitat for at least 19 resident species, including eight species of sport and recreational importance. The New England River Protection and Energy Development Project ranked the Upper Merrimack River "of highest significance" as an anadromous fishery and "highly significant" as an inland fishery. The river is included in the Anadromous Salmon Restoration Program, a cooperative effort between federal and state agencies to recreate and maintain upstream access for anadromous fish. This is primarily carried out through construction of fish ladders.

Pollutants that are deposited into lakes and streams are consumed by fish and may bioaccumulate in their tissue. This bioaccumulation eventually impacts human health via the consumption of contaminated fish. Fish-eating birds, mammals, and reptiles have experienced a variety of adverse effects associated with all pollution.

In August 2001, the New Hampshire Department of Health and Human Services (DHHS) Office of Community and Public Health (OCPH) issued a statewide fish consumption advisory in response to new information about mercury and other pollutant contamination. The advisory was based on the test results that documented that most of the fish throughout New Hampshire had varying levels of mercury contamination. The largest contributors to mercury in the environment are emissions from coal-fired power plants, municipal waste combustors, and home heating systems.

Wildlife

The challenge of conserving enough habitats to support healthy native wildlife populations is complicated by the varying habitat requirements of the number of diverse species located in

Bow. Some species require less than an acre of undisturbed forest, while others need territories covering a hundred acres. In addition, many species require several different habitat types through the course of the year. The more habitat diversity within the Town, the more likely it will support a diverse and abundant wildlife population. The fourth most desirable community service that Community Survey respondents wanted expanded was that of “protecting wildlife habitat.”

The following table provides a sampling of the habitat requirements of several wildlife species that are present in Bow.

Habitat Requirements of Selected Wildlife Species

Species	Size of Territory	Habitat
Moose	25 - 100 km ²	Summers near water; winters in drier mixed-hardwood conifer forests
Black bear	15 to 50 km ²	Forest-dominated landscapes interspersed with wetlands
Red fox	15 – 20 km ²	Mosaic of forest, cropland, and pasture
Mink	2 – 3 miles or more	A variety of wetlands habitats, lakeshores, stream, and rivers, marshes. Log-strewn wetlands with abundant thicket cover and a dependable supply of food.
Veery (Migratory bird)	0.25 to 7.5 acres	Prefers thickets of early deciduous second growth and open woods with dense understory of ferns, shrubs, and saplings.
Wood frog	4 – 440 yd ² Average dispersal distance from natal pond more than 3,000 feet	Wooded areas with small ponds (vernal pools) for breeding.

Source: New England Wildlife- Habitat, Natural History and Distribution, 2001

A major threat to wildlife diversity is sprawling development patterns that cover the rural landscape, which cause habitat fragmentation through residential lawns and roads. Wildlife that are sensitive to human encroachment are restricted to these islands of undisturbed land and they may die out if an area becomes too small. The fragmentation of wildlife habitat may also result in a loss of native plants, a reduced breeding gene pool, a loss of natural predators, and an increase in animals' susceptibility to disease.

For optimum wildlife habitat, blocks of unfragmented land should be void of significant human activity or development. Unfragmented lands often encompass many habitat types and can also provide safe travel corridors and migratory pathways. Reducing the size of forest tracts affects many species, even if all other habitat features remain the same. Fragmentation of undisturbed habitats with roads represents a source of mortality and creates barriers to wildlife movement.

Corridors and greenways are typically used not only by people for recreation and transportation, but also by wildlife to travel from one habitat to another. Maintaining viable and undeveloped

corridors ultimately measures the biological success of the animals, particularly larger mammals within an area. The following corridors have been identified in Bow:

- A large riparian corridor is located along the Merrimack River. The presence of water and adjacent lands form the basis for a significant animal travel corridor.
- The Boston and Maine Railroad corridor follows the Merrimack River from Bow's southern Hooksett boundary to its northern Concord boundary. This old right-of-way provides a quiet but direct route for some animals.
- Other corridors bring utilities to Bow's households and businesses. Some of Bow's major utility corridors follow the Merrimack River and then cut southwest towards Dunbarton approximately one mile from the Bow-Hooksett border.

Other special, undisturbed lands are essential for the biological diversity of plants and animals. The more biodiversity found within an area, the more valuable and self-sustaining the community becomes from both ecological and economic perspectives. According to the 1998 Natural Cultural & Historical Resources Inventory, the following notable natural communities have been identified in Bow:

- Turee Pond and its surrounding bog provide a valuable ecosystem for many freshwater wetlands species including waterfowl.
- The Bow Bog watershed is a critical habitat for many animal and plant species including: moose, coyote, white tail deer, beaver, grouse, and other small game.

According to the Audubon Society of NH, a heron rookery was observed in August of 1994 in Bow. The location was a small wetland complex close to the Dunbarton town line. Three nests were observed at the site. No field checking of the nesting site has been conducted – it may or may not be in existence today. However, several wetlands in Bow potentially accommodate the species. Herons nest in wetlands with dead standing trees (snags) and often use sites previously created by beavers. Typically, herons feed by utilizing open shorelines – and actively use Turee Pond..

In the spring and summer of 2001 and 2002, Audubon staff conducted weekly surveys of several locations in Bow as part of a study on the effects of development on breeding bird populations and nesting areas. The birds detected at the specific locations range from species typical of highly developed areas to those of intact forests. The results of the survey are found in **Appendix F**.

Most of the birds detected during the Audubon surveys can be characterized as forest or edge species that have adapted well to human alteration of their habitat. Some forest species are equally abundant in both intact forest and suburban areas (Red-eyed Vireo, Eastern Wood Pewee), implying that the degree of fragmentation in the developed areas is not extensive enough to prevent their nesting at those sites. If there is enough intact forest in the general area, these species will also occur on the more developed portions because of their large home ranges. Other forest species remain relatively uncommon in suburban areas. Such species do occur in suburban areas, but a detailed look at the data reveals that they are primarily at the edges of

developments (i.e., in the intact forest) or in areas with larger lot sizes (and thus more intact forest within the development).

Two species found in heavily urbanized areas are the House Sparrow and Rock Dove, which were never detected, indicating that the sites were not “degraded enough” to support them. A third species, the European Starling, was very rare. The absence of these species, none of which is native to New Hampshire, is a sign that the environment has not been heavily impacted in our study areas. Note that all three species occur in other parts of the town where habitat conditions are more suitable for them.

Finally, there are some species with more specific habitat requirements that were recorded only sporadically, with no clear relation to broader habitat characteristics. Such birds are likely to be widely distributed across the town, but limited to their specific habitats. Their rarity at our study sites should not be taken as an indication of poor conditions at those sites.

The size of a species population is usually dependent on the amount and location of suitable habitat. Animal populations can often be manipulated by varying the amount of available habitat. However, unless a species is rare and endangered, one species should not be favored over another. Providing a variety of habitats and protecting them from development and negative environmental impacts will increase wildlife diversity in Bow. The Town should work to prevent the loss of wildlife habitat and manage properties for wildlife conservation.

Species of Special Concern

The Natural Heritage Bureau, in the NH Division of Resources and Economic Development’s Division of Forest and Lands, maintains a database of known rare plant populations, rare wildlife populations, and exemplary natural community occurrences. Exemplary natural communities are distinctive communities of forests, wetlands, grasslands, etc., that are found in few other places in New Hampshire, or are communities that are in good condition. Species of concern are those species listed as threatened or endangered under the New Hampshire Endangered Species Conservation Act of 1979 or under the New Hampshire Native Plant Protection Act of 1987.

The Natural Heritage Bureau has documented an exemplary natural community in Bow -- part of the Turee Pond wetlands complex as a poor level fen/bog. Only two such wetlands are documented in New Hampshire. A poor level fen/bog is a type of peat land. Groundwater typically “feeds” a fen; precipitation “feeds” a bog. Shrubs inhabit both types of wetlands. Fens have more sedges and heath shrubs. Both wetlands types are nutrient poor and very acidic.

Four outstanding animal species have been observed in Bow and were recorded in the Natural Heritage Bureau’s database. The Blanding’s turtle (*Emyodidea blandingii*), wood turtle (*Clemmys insculpta*), the eastern hognose snake (*Heterodon platirhinos*), and the bald eagle (*Haliaeetus leucocephalus*). In addition, the Brook Floater Mussel is documented in the Merrimack River upstream in Concord.

Listed/ Flag	Species Name	Habitat
F, T** S, E	Bald eagle (<i>Haliaeetus leucocephalus</i>)	Breeding – islands and shores of large lakes rivers, and bays. Winter roosting habitat, includes breeding habitat above, but ice-free areas created by tail waters of dams, rapids, power stations and tidal fluctuations are critical to providing feeding areas. During night and periods of inclement weather, eagles need undisturbed areas with large white pines for roosting. Priority conservation zones – shoreline of Merrimack River.
**	Blanding’s Turtle (<i>Emydoidea blandingii</i>)	Permanent dark shallow waters with abundant vegetation and soft muddy bottoms. Streams lined with thickets of alder, silky and red-osier dogwoods are good indicators of valuable habitat. May wander over land. Eggs laid April or May. Food – Crustaceans, crayfish, insects, invertebrates, and plants.
**	Wood Turtle (<i>Clemmys insculpta</i>)	Slow-moving rivers and streams with sandy, cobbled and gravelly substrates. Streams lined with thickets of alder, silky and red-osier dogwoods are good indicators of valuable habitat. The most terrestrial of NH’s turtles. Often forage in and around the edges of fields. Natural nest sites include gravel bars and eroded streambanks. Also nests in old gravel pits, along woodland roads and hayfield edges. During summer months, disperses to meadows and woods.
S, T**	Eastern Hognose Snake (<i>Heterodon platirhinos</i>)	Sandy soils open woodlands. May be sensitive to disturbance. Where sandy soils predominate, open fields, dry open pine or deciduous woods. Hibernates from late September to April under forest floor debris, stumps trash piles. Eggs laid June – July, in earth under or in pulpy wood of decaying logs. Food – prefers toads. A harmless snake.

F- Federal S- State T – Threatened E- Endangered

** - Flag indicates very high importance based on a combination of (1) how rare the species or community is and (2) how large or healthy its examples are in that town.

Source: Natural Heritage Inventory, 2004; Identifying and Protecting NH Significant Wildlife Habitat: A Guide for Towns and Conservation Groups, 2001; New England Wildlife – Habitat, Natural History, and Distribution, 2001

The Natural Heritage data (which is updated periodically) represent the current documented information for the location and status of species of concern and natural communities in New Hampshire, but all significant plant and animal species have not yet been documented since a comprehensive natural resources inventory of the Town has not been done.

Recommendations – Flora and Fauna

- The Planning Board should increase emphasis on and enforcement of the “Protection of Natural Features” section in the General Requirements section of the Subdivision and Site Plan Regulations.
- Encourage more property owners, including the Town, to manage their properties for wildlife habitat.

- Develop and implement a Bow Wildlife Habitat Protection Program using the document published by the Non-Game and Endangered Wildlife Program of the New Hampshire Fish and Game Department and the wildlife habitat assessment produced by the UNH Natural Resources students.
- Inform landowners, using town sources of information, about wildlife habitat conservation programs, such as the New Hampshire Coverts Project and the Wildlife Habitat Incentives Program (WHIP). Encourage the Conservation Commission to participate in these programs.
- Educate landowners as to the location of wildlife corridors and conservation and land maintenance techniques that they can employ to help preserve and protect these areas.
- The Town should, where possible, acquire conservation easements or purchase the land where species of concern exist. Special priority should be given to those corridors that connect currently protected parcels of land in the Town or abutting Towns.
- A public education campaign should be carried out and/or combined with other efforts to educate the public about the presence of endangered, threatened, and/or species of special concern located within the Town of Bow, and the environmental and societal benefits for preserving such species.
- Work with the New Hampshire Department of Environmental Services to do public education in Bow about milfoil, *Phragmites*, purple loosestrife, and other exotic species.

FORESTS

Forests serve a number of functions in both the community and the region, including protecting public water supplies and watersheds, serving as a source of renewable energy, providing lumber and other forest products, wildlife habitat, providing outdoor recreational opportunities, and contributing to the rural character of the community.

In the Town of Bow, there are both publicly and privately managed forests. The Town of Bow has an active Forest Management program that allows for the protection of habitat, the selective cutting of timber, and the conservation of open space. In the Town Forest system, recreational opportunities include hiking, wildlife observation, cross-country skiing, mountain biking, snowmobiling, and hunting. The “Protection of Town Forests” (475) and “Expansion of Town Forests” (297) are community services that Community Survey respondents wanted to see expanded.

The Bow Town Forest system contains 14 lots that total approximately 2,473 acres and are scattered throughout the Town. They range in size from 15 to 767 acres and are currently managed by the Bow Conservation Commission. Some of the lots contain wetlands, two are crossed by power lines, and one contains ball fields. Many are protected by conservation easements. In the 1990’s, the management focus of the Bow Conservation Commission changed from timber production to a more “multiple use” type program. All of the Town Forests are managed as a multiple-use resource where consideration is given to timber harvesting, recreational opportunities, wildlife habitat, watershed protection, education, and preservation.

Income from the timber sales was used to set up a Conservation Fund to help manage the forests and purchase other conservation land.

Landowners, often with the aid of professional foresters, manage the privately owned wood lots in Town. A Tree Farm is a privately owned forest managed to produce timber with added benefits of improved wildlife habitat, water quality, recreation, and scenic values. The National Tree Farm program recognizes a landowner for practicing forest management for timber, recreation, wildlife habitat, and watershed values. To qualify as a tree farm a landowner must dedicate at least 10 acres to growing and harvesting forest products, have a written plan for the future management of their forest, follow management recommendations prescribed by a licensed forester, and demonstrate a commitment to stewardship of their forest for multiple values. There are three lots in Bow enrolled in the National Tree Farm program that comprise 1,838 acres.

New Hampshire has a real estate tax and timber is considered to be real estate. Timber is taxed only at the time it is cut and at a rate that encourages the growing of timber. Timber on all land is taxable at 10% of the stumpage (standing timber value) at the time of cutting. Yearly timber tax totals have fluctuated over time, as can be seen in the table below. The tax collected goes into Bow's general fund.

Year	Timber Tax Collected
1998	\$ 31,504
1999	\$ 5,978
2000	\$ 12,734
2001	\$ 17,826
2002	\$ 14,035

Source: Bow Town Hall, 1/03

The list of town-owned forests and their acreage are provided in the table below and can be seen on the **Conservation Lands Map**.

Town Forest Lands

Town-Owned Forests	Acres
Bela Brook Town Forest	76
Bow Bog Town Forest	153
Hanson Park Town Forest	150
Heather Lane Town Forest	39
Hunter Drive Town Forest	16
Johnson Road Town Forest	203
Knox Road Town Forest	318
Morgan Town Forest	62
Nottingcook Forest	767
Page Road Town Forest	56
Private Tree farms	1,838
Robinson Road Town Forest	22
Turee Island Town Forest	96
Walker Town Forest	208
Total Acreage	4,004

Source: Open Space Trail System Plan, Town of Bow, New Hampshire
2000 Bow Town Forest Report; Bow Town Reports; Bow Build-Out Analysis

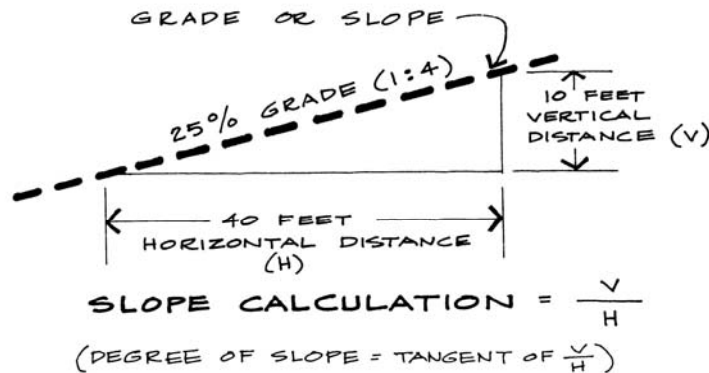
Recommendations - Forests

- The Town Forest Management Plan should be updated at least every ten years in order to assess the Plan's effectiveness and adjust the management to the changing demands on the forest resource. The public should be involved in the process to ensure that all concerns regarding the management of the Town Forests are addressed.
- The Conservation Commission should continue to notify abutters prior to the start of a timber harvest in Town Forests. The Selectmen's office should also be kept abreast of all planned activities in order to provide information to the public in a timely manner.
- Forest management information should be made available by the Town to private woodland owners to encourage long-term planning and consideration of all aspects of the forest ecosystem, including wildlife and watershed concerns. UNH Cooperative Extension for Merrimack County is an ideal source for forest management information.
- The Town should strive to develop high quality, healthy forest types, whose harvest will produce sufficient incomes to cover management expenses and allow the purchase of additional conservation lands.
- The Town should use its forests to provide residents with public land for outdoor recreational activities.
- The timber tax collected by the town should be dedicated for forest management, conservation, natural resources education, and land acquisition activities on behalf of the Town.

STEEP SLOPES AND SCENIC VIEWS

Steep Slopes

Slope is a very critical consideration in land use planning because it affects the capability and suitability of land to support development, as it relates to the site and the building, septic system and building design costs, and environmental impacts. Environmental impacts include such things as runoff, erosion, sedimentation, and pollution. Slope is the ratio of change in vertical elevation in relation to the change in horizontal distance, multiplied by 100 percent.



Source: The Illustrated Book of Development Definitions
Harvey S. Moskowitz and Carl G. Lindbloom, 1993

The percent of slope may indicate the potential for environmental problems. There are five slope classifications, which are presented below.

Slope Classification	Description
Flat (0-3%)	Easy accommodation of almost all types of land use
Gently Sloping (3-8%)	Suitable for many uses; are not prohibitive for development and make for excellent natural drainage conditions
Moderately Sloping (8-15%)	May be restrictive for certain land uses; low density residential development is feasible
Steep Slopes (15-25%)	Excavation and grading are almost always required; development not intensive in its coverage may be accommodated with limited environmental impact
Very Steep Slopes (Over 25%)	Subject to adverse environmental impacts and heavy construction costs; intensive use of land should be done cautiously

In Bow, the majority of land has a slope of less than 15%. There are, however, a few areas with steep slopes, as can be seen on the **Steep Slopes and Scenic Vistas Map**.

Scenic Views

The landscape of a community defines its cultural, natural, and historical heritage and thus provides the residents of a community with a sense of identity. Bow's identity is marked by the views of fields, water bodies, and the Merrimack River. Bow, with its hilly topography, offers numerous scenic views of rolling hills, ponds, and streams.

A scenic resource evaluation, from Vermont's "Mad River Resource Protection Plan," provides a list of key scenic attributes that transfer well to Bow. These key scenic attributes include:

Physical Features

- Hills and hillsides
- Rivers, ponds, streams, and wetlands
- Vegetation, greenery, foliage, and wildflowers
- Agricultural Lands
- Wildlife

Important Aspects of Views

- Diversity and contrast within a view, such as a patchwork of open and wooded land
- Location of open space adjacent to historic New England housing, hedgerows, and stonewalls, etc.
- Continuous views that "follow" you as you travel along the road or are deep views
- Lack of scattered development or other disturbances in views
- Vantage points – the point or area that provides access to the view

Bow has a diversity of scenic views and vistas, most of which are protected only by the willingness and desires of the landowners. No comprehensive inventory or analysis exists of Bow's scenic views and vistas. As more development occurs within the Town, the scenic views, and locations to observe such views, will become more endangered.

In the "1998 Natural, Cultural, and Historical Resources Inventory" and "2000 Open Space Trail System Plan," the following locations were identified as scenic roads and vistas:

- Allen Road passes through a wet, heavily forested area
- Brown Hill provides scenic hilltop views.
- The Greylore Pond area is a scenic open space that combines views of water and undeveloped land.
- Picked Hill is a rugged area with steep slopes and rocky soils. Scenic views of the White Mountains and the Concord area can be seen from the ridgeline and above.
- Putney Pond and meadows with the marshy and forested lands that surround it provide important wildlife habitats and scenic views (this area has been drained as a result of the breaching of the dam).
- The Wood Hill area provides scenic views of the White Mountains.
- Woodhill Hooksett Road passes through a variety of terrains, and provides a variety of pleasing scenery. When at high levels, scenic views of the valley and of mountains can be seen. When at low levels, the road passes alongside the Hornbeam Swamp area.

See the **Steep Slopes and Scenic Vistas Map** for the location of these scenic areas.

Recommendations – Steep Slopes and Scenic Vistas

- A comprehensive inventory and assessment of scenic areas in Bow should be undertaken. Those scenic views identified should be protected.
- The Planning Board should encourage developers to protect the naturally occurring steep slopes with slope easements.
- Review the current slope development standards to ensure the protection of the environment and safety in both the short and long term, as well as the aesthetics from both near and far observation points within the Town.

CONSERVATION LAND AND OPEN SPACE

Open Space

In its simplest definition, open space is land that has not been developed or converted to other uses. They include forests, fields, river corridors, wetlands, wildlife habitat, and greenway corridors, as well as agricultural lands and town parks. These are features that make Bow a special place to live.

Open space is a very important part of any community. Open land can be used for commercial, recreational, and relaxation activities. It provides aesthetic and scenic values, wildlife habitat, and helps to minimize urban sprawl. Recreational opportunities on open land include walking, hunting, fishing, biking, wildlife viewing, and photography, just to name a few. In addition, open land costs the town less than developed land. Analyses done for communities throughout New Hampshire, and the country, consistently show that open space is a net positive tax revenue generator, versus the alternative typical housing development, which creates a net cost to the community. Open space brings in more revenue to a town than it requires in services¹.

The Town of Bow has recently experienced tremendous growth in housing development. In fact, 67.5% of the Community Survey respondents felt that Bow is “growing too fast.” It is important to protect some open space areas to allow residents to relate to the desirable qualities that originally attracted them to the Town. One of the essential reasons to plan for open space is to set a course for the Town of coordinated development that maintains the Town's high quality of life. Many times decisions are made on land use without the benefit of a unifying plan to coordinate the actions. The result is haphazard development that disregards the Town's and/or region's unique characteristics and sense of place.

Greenways

Greenways are corridors of open space managed for conservation and recreational purposes, that may be permanently protected land. Greenways often follow natural land or water features, and link nature reserves, open space, farms and forest land, parks, cultural features, and historic sites with each other as well as with populated areas. Some greenways may be publicly owned, some

¹ Dollars and Sense of Open Space. Center for Land Conservation Assistance, 2001. Does Open Space Pay?. Philip A. Auger. UNH Cooperative Extension. Cost of Community Services Studies: Making the Case for Conservation. Julia Freedgood. American Farmland Trust 2002.

may be privately owned, and some are the result of public/private partnerships. In more developed areas, greenways can encompass natural or built features and can be managed primarily for resource conservation or recreation.

In more rural areas, greenways are natural corridors linking large unfragmented natural areas, preserving wildlife habitats and migration routes. Greenways serving as wildlife corridors can be virtually any type of traversable land, preferably of at least 200 feet in width. Common tracts of land that can be used as greenways include Class VI roads, railroad rights-of-way, and buffer areas along agricultural/forestry lands. Creating and maintaining a greenway system will help prevent those parcels of open space, which include forest, wetland, and agricultural lands, from becoming isolated islands, detached from one another and surrounded by development.

Conservation Lands

The Town owns several conservation parcels, all of which are managed by the Conservation Commission and afford various levels of conservation, preservation, and open space. The State of New Hampshire, the Town of Bow, as well as private organizations (such as Bow Open Spaces) own approximately 3,627 acres of conservation land in Bow. The following is a table of those known lands.

Conservation Lands	Ownership or Easement Held By	Acres
Bela Brook Town Forest	Town	76
Birchdale Road- Town Forest	Town	96
Bow School Town Forest	Town	105
Bow Bog Brook and watershed	Town	254
Bow Bog Town Forest	Town	153
Bow Bog watershed Lots	Town	181
Branch Londonderry Turnpike East Conservation Lot	Town	60
Branch Londonderry Turnpike West Conservation Lot	Town	190
Cilley State Forest	NH DRED	35
Clinton Street Conservation Land	Town	76
Hanson Park	NH F&G	171
Heather Lane Town Forest	Town	39
Hunter Drive Town Forest	Town	16
Johnson Road Town Forest	Town	203
Knox Road Town Forest	BOS	318
Meadowsend Timberland Easement	SPNHF	32
Morgan Town Forest	BOS	62
Nottingcook Forest	Town	767
Old Johnson Road Conservation Land	Town	10
Old School House Park	Town	1
Page Road Conservation Land, by Birchdale Road	Town	56
Pages Corner State Forest	NH DRED	88
Robinson Road/I-93 Town Forest	NH F&G	250
Robinson Road Town Forest	Town	22
Sargent Park	Town	2
Turee Island Town Forest	NH F&G	96
Turee Pond/White Rock Hill Road Conservation Land	Town	51
Turee Pond Easement and Boat Access	NH F& G	10
Walker Forest	Town	207
TOTAL		3,627

Source: 2000 Open Space Trail System Plan, Bow Town Reports
1998 Natural, Cultural, and Historical Resources Inventory of the Central NH Region

See the **Conservation Lands Map** for the location of these lands.

According to the Community Survey, 372 respondents favor “Expanding Town conservation lands,” 368 favor “Allocating money for open space purchase,” and 324 favor “Protecting open fields.”

Current Use Tax Program

Current Use is a property tax approach to encourage landowners to keep open space undeveloped. Land that is participating in the Current Use Program is taxed on its potential to generate income in its existing, or current use. This is a type of preferential tax program that is aimed at encouraging open space. The alternative taxing strategy would be to tax the land on its income producing potential at the most highly developed use that could take place on it, such as a housing development or commercial business venture. Landowners who have qualifying land must apply to the Town to participate in the Program. Lands which typically qualify for the Current Use Program include farm land, forest land, tree farms, certain wetlands, and other undeveloped areas over 10 acres in size.

See the table below for Current Use acreage for the Town of Bow for 2000, 2001 and 2002.

	2000	2001	2002
Farmland (Acres)	238	244	260
Forest Land (Acres)	3,759	3,919	4,005
Unproductive Land and Wetlands (Acres)	1,116	881	916
Acres Removed from Current Use during the year	23	69	131
Total Acres in Current Use	5,113	5,044	5,181
Percent of Land in Bow in Current Use	26.5	26.2	26.9

Source: Town Assessor, 12/02

When land that has been participating in this program is removed and is changed to a more developed use, a Land Use Change Tax is charged. The Land Use Change Tax is set at 10% of the assessed market value of the land after development. One-hundred percent of the proceeds from the Land Use Change Tax are dedicated to open space through the Conservation Commission. Currently, all of this funding is being used to pay off the bond used to purchase the Nottingcook Forest. The table below shows the Current Use Tax amount that has been assessed since 1999.

1999-2002 Land Use Change Tax Assessed

1999	\$54,280
2000	\$94,895
2001	\$95,270
2002	\$85,029

Source: 1999-2001 Town Reports, Town Assessor December 2002

Recommendations – Conservation Land and Open Space:

- There should be consistent signage for all town forests and Town-owned Conservation Land.
- Identify and prioritize potential parcels of land that the Town feels should be protected because of important cultural, ecological, historical, or recreational value.
- The funding required for land stewardship should be evaluated for each easement under consideration by the Conservation Commission and money should be set aside each year for this purpose.
- Identify existing and potential greenways that are in the Town, as well as those that are in abutting Towns that run along the Bow border for protection.
- Establish a program that encourages the donation of easements for agricultural lands, conservation lands, forestry lands, and open space lands.
- Investigate the use of Class VI roads and discontinued rail beds as greenway/trail/wildlife corridors that could be used to link existing open space and recreational lands.
- Consider allocating administrative and planning fees, which are paid to the Town by developers, for land acquisition for conservation purposes.

TRAILS

Trails create opportunities to access open land in the community and allow residents to get outdoors to access natural, scenic, and recreational areas. A multi-use trail is defined as any trail that is used by more than one user group, or for more than one trail activity. Trail-user groups include pedestrians, hikers, equestrians, mountain bikers, and snowmobilers, just to name a few. These trail user groups benefit from multi-use trails through exercise, recreation, and nature viewing.

According to the Master Plan Community Survey, the most desirable type of recreational opportunity for the Town to expand are “Walking trails on Town property.” The most popular types of trails to be expanded within Town are “Walking/hiking trails” (755) and “Snowmobile trails” (211).

The Town of Bow created an “Open Space Trail System Plan” in 2000 to focus on what needs to be accomplished in order to protect the open space in the community and to create a trail system that provides the opportunity to enjoy the Town’s open space. The Open Space Trail System Plan inventoried existing public lands, easements, rights-of-way, trails, determined where linkages to the lands and trails should be, and provided recommendations on how to obtain linkages and maintain a trail system. After the extensive inventorying and data collection process, a series of recommendations were made to help the Town retain its rural character, create a trail system, and encourage a greater sense of community. See the “2000 Open Space Trail System Plan” for more details.

Trails are either classified as official or unofficial trails. Official trails are those owned and maintained by the state, town, or other entity, such as a nonprofit environmental organization or school that are developed and maintained through an official agreement. Unofficial trails are

those trails that are not maintained by any entity but they are used by the public. A good example of an unofficial trail includes the use of the power line corridors or Class VI roads.

When asked how Bow should expand trails, survey respondents favored “Landowner permission” (642), “Town purchase of easement” (381), “Having a private organization purchase land” (322), “Town purchase of land” (290), “Subdivision requirements” (261), and the “Transfer of Development Rights” (178).

Heritage Trail

Planning for a regional Heritage Trail linking Massachusetts, New Hampshire, and Canada began in 1989. The Heritage Trail is to follow the Merrimack River from the Massachusetts border north to the Pemigewasset River and on through Franconia Notch and up the Connecticut River to the Canadian border.

“The vision for the Heritage Trail reflects the best of New Hampshire. Imagine a trail stretching across the State of New Hampshire from the Massachusetts border to the Canadian border, over two hundred miles long. A trail that runs along the rivers which form the cultural backbone of New Hampshire. A ribbon of land that tells the continuing story of the state’s history, natural resources, culture, and economy. A resource that will provide recreation, education, open space, and a sense of pride for generations to come.”

“The New Hampshire Trail Development Workbook,” 1991

In Bow, the Heritage Trail is proposed to follow along the bike path off of I-93 and I-89, travel down Valley Road, and turn onto Grandview Road. It then skips over to Garvin’s Falls Road, down Old Ferry Road to River Road, and continues to the Class VI portion of River Road to the Hooksett town line. Unfortunately, no substantial progress has been made to create this portion of the Heritage Trail in Bow.

The vision of the Trail was established by State and Federal agencies, yet it was stated “...success of the Heritage Trail depends on the interest and support of ...(communities along the trail corridor)...and the involvement of local citizens. To make the New Hampshire Heritage Trail a success, each municipality along the trail is responsible for the section of trail that runs through their community and for the linkage with its neighbors to the north and south. Though little of the Heritage Trail has been completed to date, the planning done so far provides a good starting point for local trail initiatives.

Snowmobiling

All of the legal motorized vehicle trails within Town are for winter snowmobiling use only, except where posted otherwise by private property owners. An extensive snowmobile network spans the northern to southern end of Town. These snowmobile trails are organized and maintained by the Bow Pioneers. The Bow Pioneers are a group of individuals who continue to work on recruiting new volunteers to help with the maintenance and signage of trails. In order to protect the interests and agreements of both the Bow Pioneers and the private landowners that have allowed snowmobile access, individuals must not use these trails during the summer

without explicit landowner permission. In addition, private property owners are encouraged to post their property for the uses that they allow.

Since the late 1980's, the Planning Board has been encouraging the donation of recreational easements to the Town or to the Bow Pioneers, when developers come forth with major subdivisions (subdivisions larger than three lots). The developer is encouraged to respect the integrity of existing trails and easements. If the subdivision infringes upon the use of a trail, then it must be relocated or money must be given to the Town in its place. These easements are granted both to protect open space and to preserve trail linkages.

Class A and B Trails

A Class VI road is one of the best types of rights-of-way to consider for an officially designated recreational trail system: there are no inherent liability concerns, the pathway has been established, and public access is allowed. Typically, Class VI Roads are public rights-of-way that are used for recreational purposes, for through travel, for driveway access, and for other uses, such as agricultural and forestry uses. The owners of the properties abutting the Class VI road are not liable for damages or injuries sustained to users of the road, although they may choose to maintain the road for access to their property.

In 1993, the State enacted RSA 231-A, which allows municipalities to designate Class V and VI roadways as either "Class A" or "Class B" trailways. With either designation, the roadways are established as municipal trails. This designation will create ownership and responsibility for the trail by the Town. Class A Trails allow abutting landowners continued use of the right-of-way for vehicular use to existing structures, timber, or agricultural operations, but any new building or development is prohibited. Class B Trails are more restrictive and give landowners no special rights pertaining to the trail. Essentially, landowners lose all rights and privileges associated with the trail right-of-way, except as those permitted by the trail designation. Because of this, the law prohibits the conversion of any right-of-way to Class B trail status, where the right-of-way is the sole access point to a parcel, without written consent of all abutting landowners.

Class A and B trails can be established at the annual Town Meeting by including a warrant article on the specific proposal. In most towns, the proposal needs a simple majority in order to pass. In addition, Class A and B trail status can be rescinded through a vote at the Town Meeting.

Trails that are located within Town forests and conservation lands should be maintained and expanded. Whether these trails are used for walking, bicycling, horseback riding, cross-country skiing, snowshoeing, or some other form of recreation, they help to form an important link between the natural environment and the built environment by allowing people to access and enjoy nature in a low-impact manner. There are also probably many "unofficial" trails throughout the Town that are used by the public. Designating these trails as official trails will aid in providing maintenance by establishing who is responsible for the management of the trails.

The **Trails Map** shows the existing and proposed trails throughout Town. The Town should take a proactive approach to officially creating a system that links all the Town's conservation and open space lands.

Recommendations - Trails

- Work with the Bow Pioneers to approach landowners for permission to develop more winter use trails in conjunction with the existing and potential trails opportunities.
- Work with Bow Pioneers to incorporate some of the existing winter snowmobile trails, as appropriate, into an overall network of trails for Bow.
- Continue to encourage maintenance of existing public trails by creating educational programs and providing support for interested individuals to do so.
- Create a cooperative trail creation and maintenance relationship with the Bow Pioneers, the school, Bow Open Spaces, Rotary Club, and other civic organizations.
- Work with the Planning Board, Conservation Commission, Bow Open Spaces, the Town, and with private landowners to link subdivisions with Town Forests and other open areas through trails.
- Publicize the public trails within Town by publishing a brochure, creating a trail-specific map series, and/or by holding special events.
- Obtain permission from appropriate parties for public, non-winter recreational uses of powerline corridors.
- Pursue measures that would encourage the development and public promotion of the Heritage Trail, including obtaining public access on the railroad and powerline corridors, the erection of signage, and acquiring the permission of private landowners where appropriate.
- Undertake an on-foot survey of all Class VI roads within Town to gauge their ability to sustain certain types of trails usage.
- Link the Town Forests to one another by using existing trails or rights-of-way, by seeking easements, or by obtaining landowner permission for a pathway.
- Develop, erect, and maintain parking and trailhead signage for all official trails and Town Forests, where feasible.
- Investigate the availability of grant money to expand and enhance the trail networks located in Bow.
- Establish a permanent Trails Committee, comprised of various interests within Town, in order to oversee the maintenance of any trails that the Town wants to establish and to begin initiating contact with landowners of existing and proposed trails.
- Enter into a working relationship with NH Department of Resources and Economic Development (DRED) representatives of Cilley State Forest and Pages Corner State Forest, which may provide for the linking of Town and State lands through trails.
- Develop a trail that leads from VanGer Drive to Walker Forest, using existing rights-of-way, in cooperation with abutting landowners
- Create a trail linkage from the Town-owned land off of Rosewood Drive to the Nottingcook Forest, with the permission of private landowners. Develop a trail in Nottingcook Forest from the Woods Roads trail in the eastern corner southeast to the edge of the Forest property.
- Create a looping bog walk trail, with a suspension bridge, on the Turee Island Lot off of Birchdale Road.
- Develop a trail from the Walker Forest woods road, down through the recreational easement following Brown Hill Road and onto Class VI Giles Road to the Dunbarton town line.

AIR RESOURCES

Air resources play a critical role in the health of the community. Air quality affects the quality of other natural resources, such as water, wildlife, and vegetation. In addition, air quality has a direct impact on the quality of human health. The air we breathe can become contaminated with pollutants from a variety of sources. Children, the elderly, and people suffering from heart or lung disease are especially at risk.

Air pollutants are emitted from a variety of sources. The major contributing sources include power plants, automobiles, and businesses. The human health effects of toxic air pollutants are as varied as the pollutants that cause them. In general, children are more sensitive to air pollution than healthy adults because they breathe 50 percent more air per pound of bodyweight than adults. At sufficient exposures (concentrations and durations), chronic health effects, such as lung disease and damage to the central nervous system, can result. Cancers have been linked to many toxic air pollutants. Other less measurable impacts include immunological, neurological, reproductive, developmental, and respiratory effects.

The New Hampshire Department of Environmental Services (DES) operates a network of air quality monitors throughout the state to measure levels of ozone, sulfur dioxide, nitrogen dioxide, carbon monoxide, and particulate matter, as well as other pollutants, in the outdoor (ambient) air. The Town of Bow is not a location for air quality monitoring; the closest location is Concord. However, there are 13 air stationary sources within Bow that are required to have an air permit to operate. These 13 include major point sources (PSNH power plant) and area sources (smaller stationary sources like a print shop).

Recommendations – Air Resources

- Evaluate how expanded infrastructure may impact growth, traffic congestion, and air quality in Bow.
- Increase public education on air quality issues and specific actions to help improve and maintain air quality in Bow. One way to do this is to encourage the development of public transit, park-and-rides, bicycle and pedestrian facilities to reduce the number of vehicles on the road.
- The Town should research using alternative forms of energy in its municipally owned buildings, as well as energy efficient design and products.
- Include “air quality impacts” in the Site Plan Regulation checklist.
- Encourage energy efficient design of new buildings through in the Site Plan Regulations for the Business Development District.

LAND CONSERVATION STRATEGIES

The following strategies could be employed to help meet the conservation recommendations that are listed throughout this Chapter.

Acquisition

Sometimes the best and simplest way to protect a key parcel of land is through outright acquisition and management. Acquisition may be through gifts or purchases and ensures that the property stays in the use that the donator prefers.

Bond Issue

The Town may agree to borrow money for a conservation project through a municipal bond issue.

Conservation Funds

Many towns have created separate conservation funds or open space acquisition funds specifically for the purpose of paying for land acquisition. Money for these funds may come from Town budget appropriations, land use change taxes, or proceeds from managing or selling Town property, just to name a few.

Appropriation from Town Budget - The Town can regularly set aside money for a conservation fund in their annual Town budgeting process. The Town should consider funding a capital reserve account, through the Capital Improvement Plan (CIP), to fund the acquisition of easements and conservation lands. These funds could also be used for match requirements when opportunities arise in which other agencies are funding most of the cost.

Land Use Change Tax - When a property that has been paying the lower Current Use Tax rate is removed from that program, the land use change tax penalty is paid to the Town that the property is located in. The penalty is 10% of the full market value of the land when it leaves the current use program. Bow puts all of this money directly into the conservation fund.

"Municipal Bill Round-Up" – A funding source for a variety of activities, is the use of a “round up” program for tax bills, utility bills, and registration fees. Under such a program, the taxpayer could voluntarily round a bill payment up to a designated amount above the actual bill and designate it to any of the desired programs listed.

Proceeds from Managing or Selling Surplus Town Property - Towns that have property or resources that they manage, often can provide income to the Town, as well as the Conservation Fund. This is frequently through timber harvest operations on mature forest land owned by the Town. The proceeds from the sale of surplus Town property can also be dedicated to the Conservation Fund. Currently, the Conservation Commission conducts timber sales in Town Forests as per the Forest Management Plan.

Cooperative Ventures with Private Organizations

When the interests of the Town to conserve open space match with the interests of a private organization, the potential for a cooperative partnership to protect land exists. This tactic will require some creative thinking and introductory discussions by Town officials with area organizations who have, or could develop, an interest in conserving open space.

Grants from Foundations

The Town would need to research available grants and develop proposals to seek funding to conserve a particular piece of property or type of resource within the Town. Funding could be sought from foundations at the local, state, regional, and national level.

Land and Community Heritage Investment Program (LCHIP)

This State fund is designed to assist communities that want to conserve outstanding natural, historic, and cultural resources. There will be the requirement that the Towns match the State money from this fund with a 50% match from other sources, some of which can be an "in kind" match, as well as funds from other sources.

Land and Water Conservation Fund

The Land and Water Conservation Fund is a federally funded program administered through the Department of Resources and Economic Department. Eligible projects must be outdoors and can include land acquisition for conservation, open space, or the development of an active recreation area, and the expansion or rehabilitation of existing areas. Approximately \$600,000 is available each year with a \$100,000 cap per project.

Land Trust

The Town should support non-profit land trusts such as Bow Open Spaces and Five Rivers Trust that accept and pursue property and easements for land of local concern.

Tax Deeds

When the Town acquires property because the owner has not paid all of the taxes on the property, the Town can keep and manage the land and include it as part of the Towns conservation plan.

Town Surplus Funds

The Town can apply funds, if they are available, that are left over from prior years budgets to fund conservation projects.

Conservation Easement

Conservation easements are restrictions that landowners voluntarily place upon their property that legally bind the present and future owners of that property, restricting their ability to use some of those rights in order to protect the natural features of the land. Each conservation easement is custom tailored to the interests of the landowner, the receiving entity and the unique characteristics of the property. The land can be sold or deeded by the original owner and subsequent owners, but the restrictions of the easement are binding on all future owners. Typically conservation easements prevent development of land uses such as construction,

subdivision and mining, but allow uses such as agriculture, forestry, wildlife habitat, scenic views, watershed protection and education. Conservation easements may or may not allow public access.

The conservation easement exists between a willing landowner and a qualified recipient, which can be the Town or State governments or various conservation organizations. Many public agencies and private organizations make these permanent agreements with landowners and oversee their compliance. Bow Open Spaces (BOS), is a non-profit local land protection organization created and run by a dedicated group of volunteers. BOS holds easements on many Town-owned lands. The public use of land with easements that are held by Bow Open Spaces are forestry and outdoor recreation. The Five Rivers Conservation Trust is another organization that will hold conservation easements.

Conservation Subdivision Design

Rather than filling all available space with similar sized houses centered on uniformly sized lots, this development strategy focuses the construction in a smaller portion of the total land being developed, and provides for permanent protection of the open space not used for construction. The land selected for permanent open space protection should be designed to fulfill the open space interests of the entire community. Bow currently allows Planned Open Space - Residential Development.

Environmental Science-Based Regulations

Environmental science-based land use regulations are based directly upon measurable characteristics of the land-base of the community, rather than on possibly arbitrary standards established. Regulations based on the characteristics of the land may reflect the actual ability of the land base to handle development and are often easier to defend against legal challenges than those arbitrarily created. An example of this technique includes soil-based lot zoning.

Landowner Education

A brochure should be developed that would provide information on the advantages to the landowner and to the community of conserving the land and the opportunities available for property owners to conserve the property via conservation easements or sale. The Conservation Commission could develop this brochure.

Mitigation

For the purposes of administering sensitive areas, mitigation includes rectifying the impact by repairing, rehabilitating, or restoring the affected environment; reducing or eliminating the impact over time by preservation and maintenance operations during the life of the action; and compensating for the impact by replacing or providing substitute resources or environments.

CONCLUSION

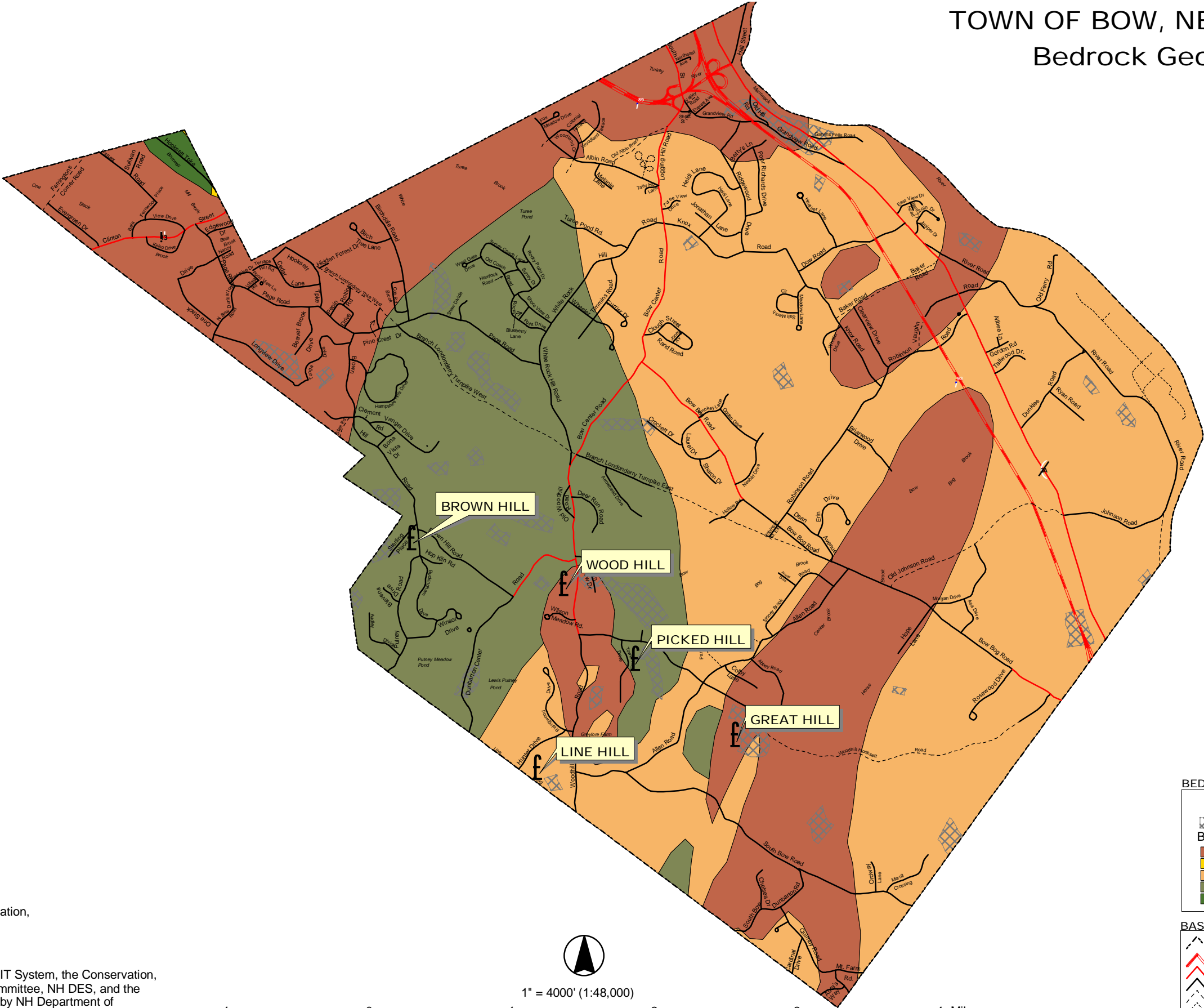
The primary focus of this Chapter was to identify the natural and man-made resources in Town, recognize the role they play in giving the Town of Bow its character, and decide what strategies would best maintain the character of the Town and ecology of the resources. Most of the Town's resources are interconnected and any change to one may have a significant impact on the others. As the population increases, demands on many of these resources will increase, some to the point of threatening the quality and quantity of the resource. It is the goal of this chapter to help develop a balance between development and resource protection within the Town.

There needs to be the recognition that many natural resources do not stop at the Town's boundaries and that a regional approach may be critical to their long-term protection. Some of our natural resources are considered renewable, such as forests, while others, like soil, are not. Appropriate measures need to be taken to prevent contamination, erosion, depletion, and large-scale depletion and misuse of Bow's natural resources.

The Town's existing open space consists of forests, fields, and wetlands and surface waters. Most of the dedicated conservation lands are carefully managed, though there are no management requirements for privately owned land other than what are found in the Current Use regulations. Most of the development pressure that is currently being felt by the Town is focused on privately owned open space. Because such lands are being targeted for development, it is important that the Town identify critical habitats, greenways, and corridors that should be protected through purchase, easements, or other means. These actions will help to reduce land fragmentation and help maintain the rural, cultural, and historic character of the Town that makes Bow the place it is today and the vision of what it wants to be tomorrow.

TOWN OF BOW, NEW HAMPSHIRE

Bedrock Geology Map



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Concord, NH 03301

phone (603) 226-6020
web www.cnhrpc.org



for the Bow Master Plan Conservation, Preservation,
and Open Space Chapter, September 2004.

Data sources:

1:24,000 source scale data from the NH GRANIT System, the Conservation,
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BEDROCK GEOLOGY LEGEND

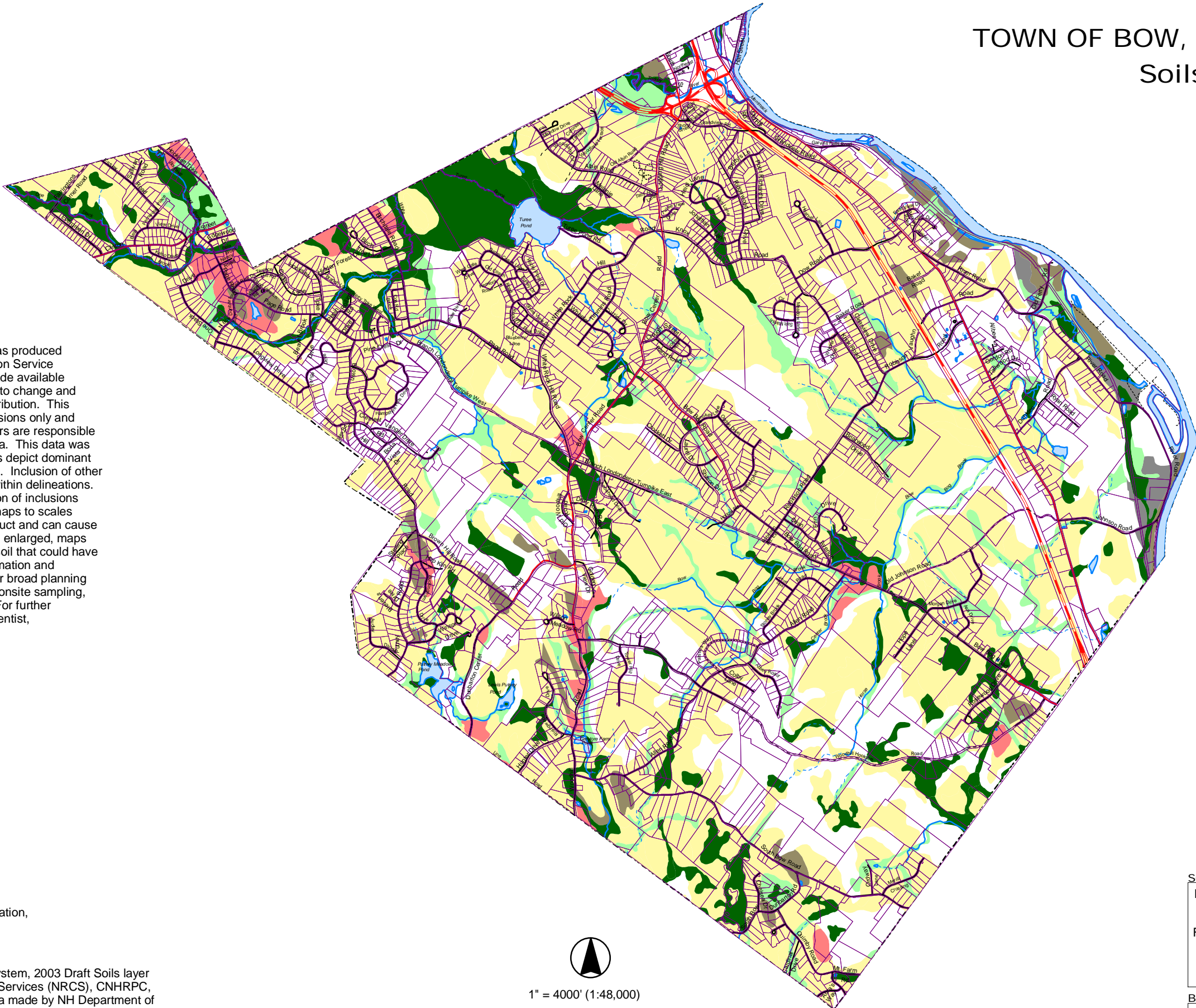
- Hill or Mountain
- Steep Slopes (>15%)
- Bedrock Geology**
- Concord Granite (Dc1m)
- Perry Mountain Formation (Sp)
- Rangeley Formation: lower part (Srl)
- Rangeley Formation: upper part (Sru)
- Small Falls Formation (Ssf)

BASE LEGEND

- Political Boundary
- Interstate Highways
- Class I & II Secondary State Highways
- Class V Town Maintained Roads
- Class VI Town Unmaintained Roads
- Other Roads (Private, Trails, etc)
- Rivers and Streams
- Intermittent Streams
- Water Bodies

TOWN OF BOW, NEW HAMPSHIRE

Soils Map



Disclaimer for Soil Information:

This Merrimack County Soil GIS coverage was produced by the USDA, Natural Resources Conservation Service (NRCS). It is a draft product and is being made available as a conditional interim release. It is subject to change and not finalized or deemed official for public distribution. This data is being distributed to Planning Commissions only and should not be distributed to others. Data users are responsible for obtaining the most current copy of the data. This data was compiled at a scale of 1:24,000. Delineations depict dominant soils occurring on the landscape at that scale. Inclusion of other soils too small to be delineated are present within delineations. There is no information on the specific location of inclusions within delineations. Enlargements of these maps to scales greater than 1:24,000 is a misuse of the product and can cause misunderstanding of the detail of mapping. If enlarged, maps do not show the small areas of constraining soil that could have been shown at a larger scale. This soil information and interpretations derived from it are intended for broad planning purposes only. For site specific information, onsite sampling, testing and detailed studies are necessary. For further information, contact the NRCS State Soil Scientist, Steve Hundley at (603)868-7581.

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1:24,000 source scale from the NH GRANIT system, 2003 Draft Soils layer produced by Natural Resources Conservation Services (NRCS), CNHRPC, and the Town of Bow. Corrections to base data made by NH Department of Transportation, the Town of Bow, and CNHRPC.

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SOILS LEGEND

Hydric Soil

- Very poorly drained (Hydric A)
- Poorly drained (Hydric B)

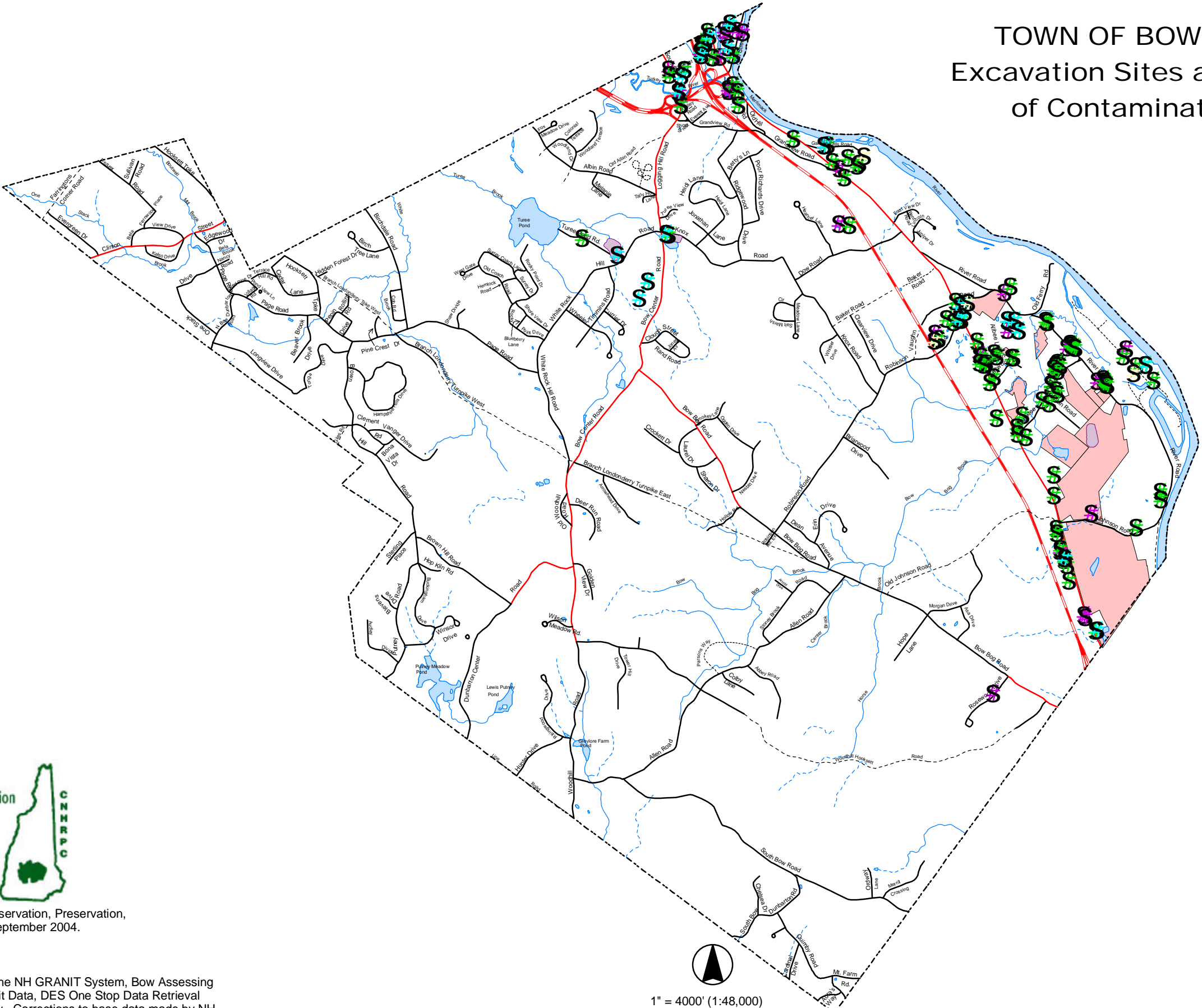
Farmland Soil

- All areas are prime farmland
- Farmland of local importance
- Farmland of statewide importance
- Prime farmland if protected from flooding

BASE LEGEND

- Parcels
- Political Boundary
- Rivers and Streams
- Intermittent Streams
- Water Bodies

TOWN OF BOW, NEW HAMPSHIRE
Excavation Sites and Potential Sources
of Contamination Location Map



Hazardous Sites Legend

S	Aboveground Storage Tank Facilities
U	Underground Storage Tank Facilities
1	Hazardous Waste Generators 1
2	Groundwater Hazards Inventory 2
3	Groundwater Hazards Inventory 3
Excavation Sites	Excavation Sites

NOTES

1. A producer or user of hazardous waste (this includes hazardous waste by-products)
2. A point specific potential or existing threat to groundwater quality (i.e. leaking oil tank)
3. An area specific potential or existing threat to groundwater quality (i.e. lagoon, landfill)

Base Legend

Political Boundary	Interstate Highways
Class I & II Secondary State Highways	Class V Town Maintained Roads
Class VI Town Unmaintained Roads	Other Roads (Private, Trails, etc)
Rivers and Streams	Intermittent Streams
Water Bodies	

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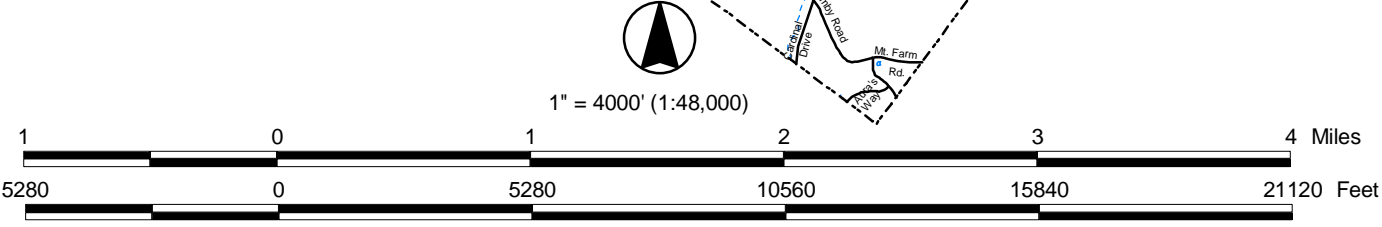
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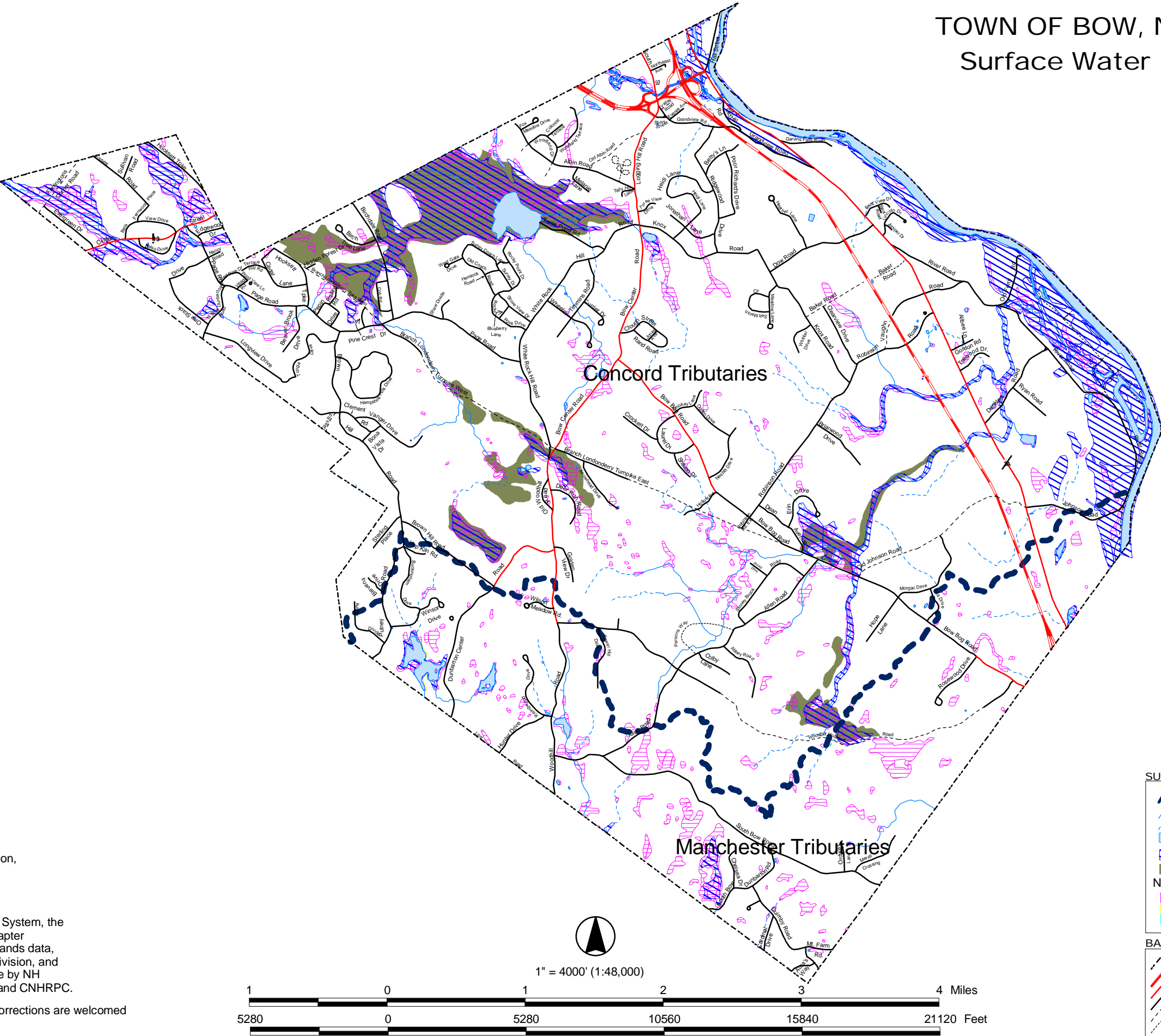
Data sources:
1:24,000 source scale from the NH GRANIT System, Bow Assessing
and Gravel Excavation Permit Data, DES One Stop Data Retrieval
Source, and the Town of Bow. Corrections to base data made by NH
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TOWN OF BOW, NEW HAMPSHIRE

Surface Water Resources Map



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Subcommittee, DES Wetlands Bureau prime wetlands data,
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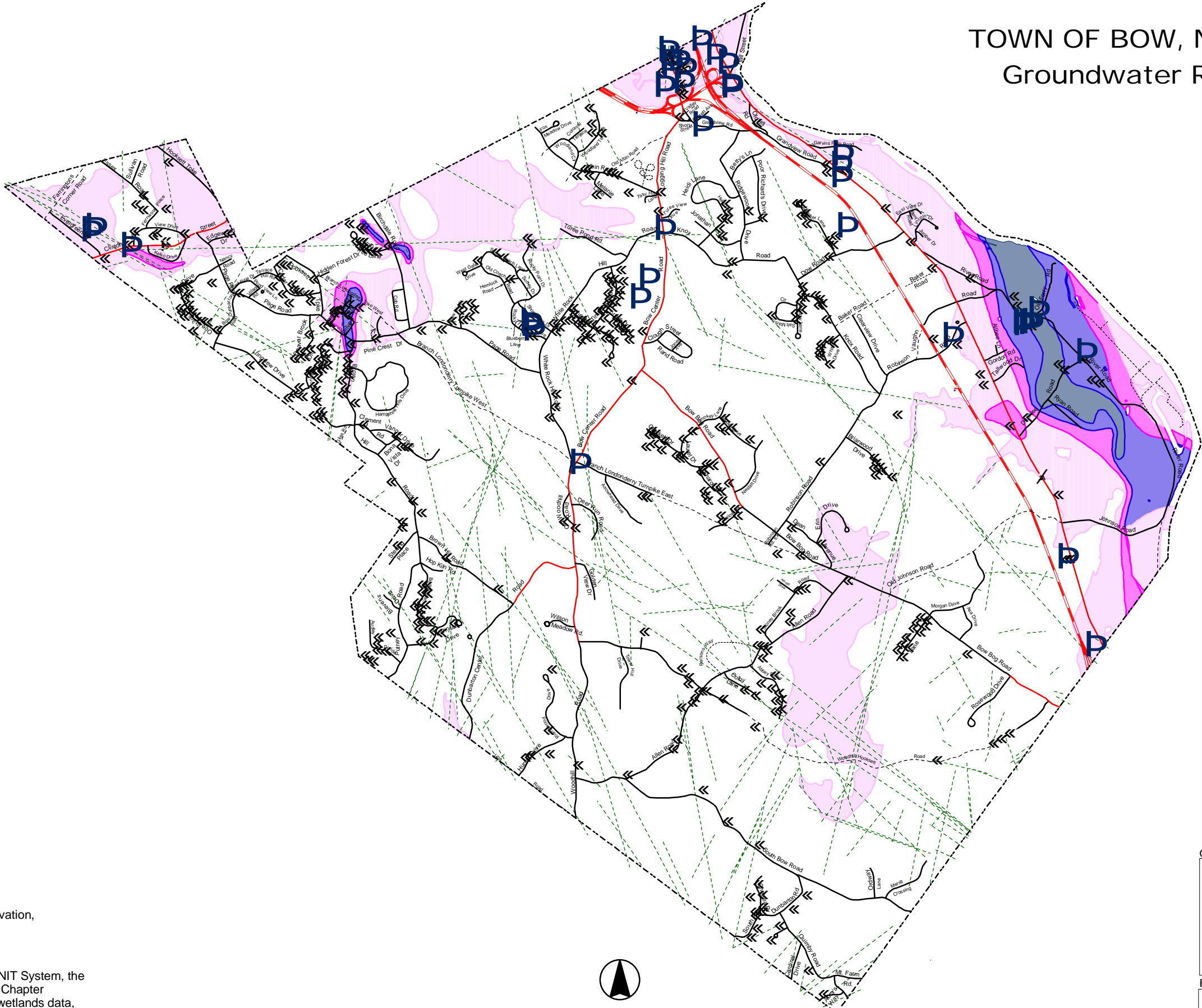
SURFACE WATER RESOURCES LEGEND

- Watershed Boundary
- Rivers and Streams
- Intermittent Streams
- Water Bodies
- 100-year Floodplain
- Prime Wetlands
- National Wetlands Inventory
 - Palustrine Wetlands
 - Lacustrine Wetlands
 - Riverine Wetlands

BASE LEGEND

- Political Boundary
- Interstate Highways
- Class I & II Secondary State Highways
- Class V Town Maintained Roads
- Class VI Town Unmaintained Roads
- Other Roads (Private, Trails, etc)

TOWN OF BOW, NEW HAMPSHIRE
Groundwater Resources Map



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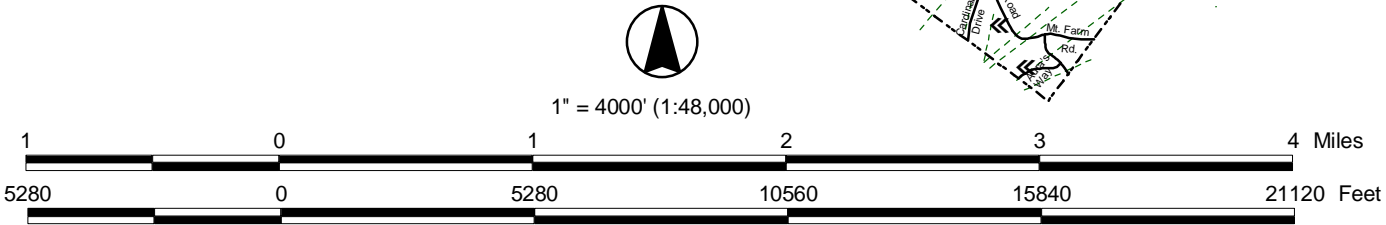


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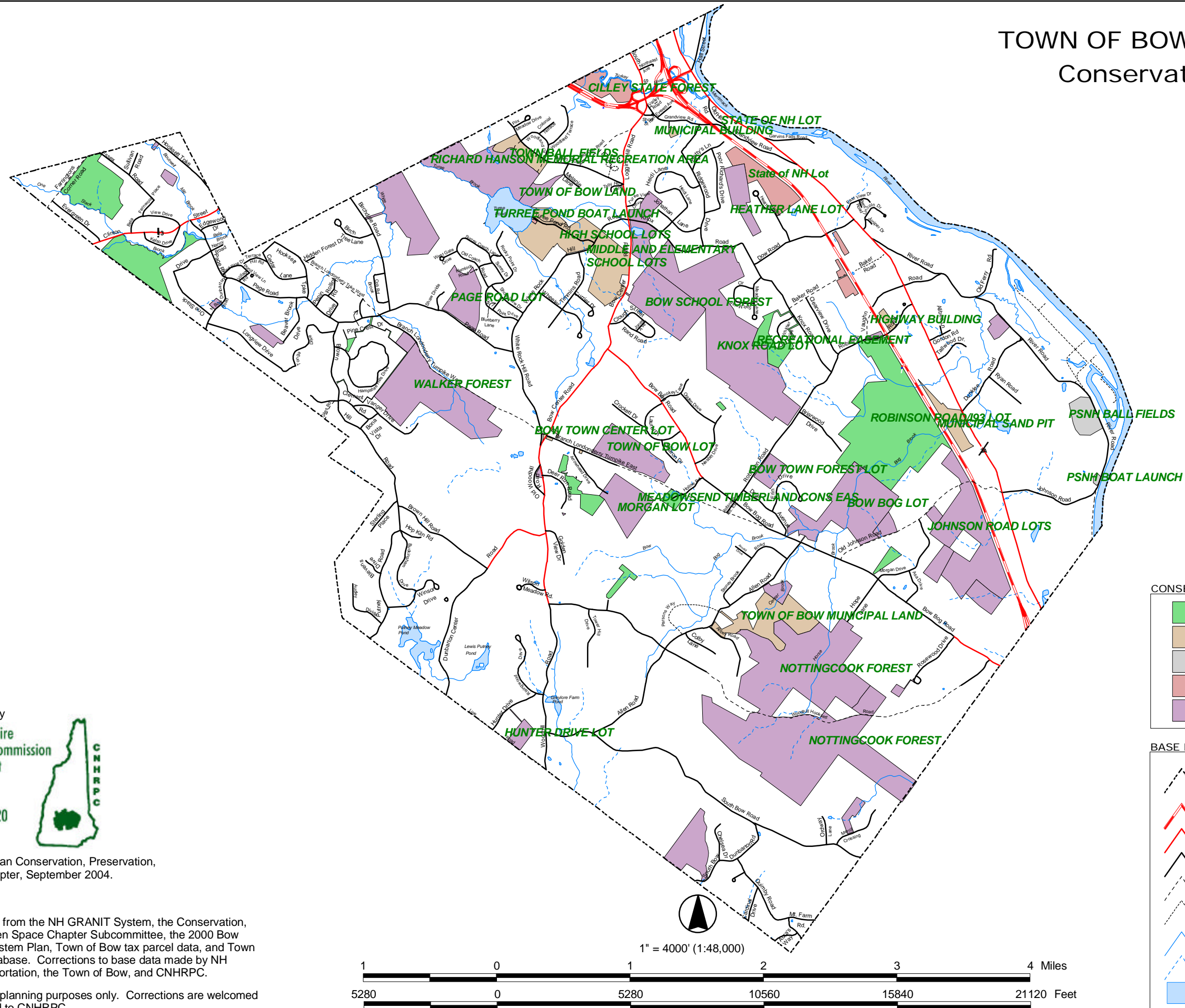
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- GROUNDWATER RESOURCES LEGEND**
- P** Public Water Supply
 - P** Private Well Installed, 1983-2002
 - Lineaments
 - Aquifer Transmissivity**
 - 0 - 1000 sq. ft. per day
 - 1000 - 2000 sq. ft. per day
 - 2000 - 4000 sq. ft. per day
 - over 4000 sq. ft. per day
- BASE LEGEND**
- Political Boundary
 - Interstate Highways
 - Class I & II Secondary State Highways
 - Class V Town Maintained Roads
 - Class VI Town Unmaintained Roads
 - Other Roads (Private, Trails, etc)

TOWN OF BOW, NEW HAMPSHIRE

Conservation Lands Map



CONSERVATION LANDS LEGEND

	Conservation Easement (16.39 %)
	Town Owned Land (10.52 %)
	PSNH Land (1.00 %)
	State Owned Land (3.24 %)
	Town Owned Conservation Land (68.85 %)

BASE LEGEND

	Political Boundary
	Interstate Highways
	Class I & II Secondary State Highways
	Class V Town Maintained Roads
	Class VI Town Unmaintained Roads
	Other Roads (Private, Trails, etc)
	Rivers and Streams
	Intermittent Streams
	Water Bodies

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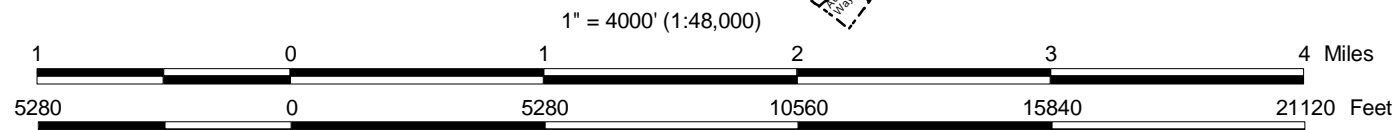


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Data sources:

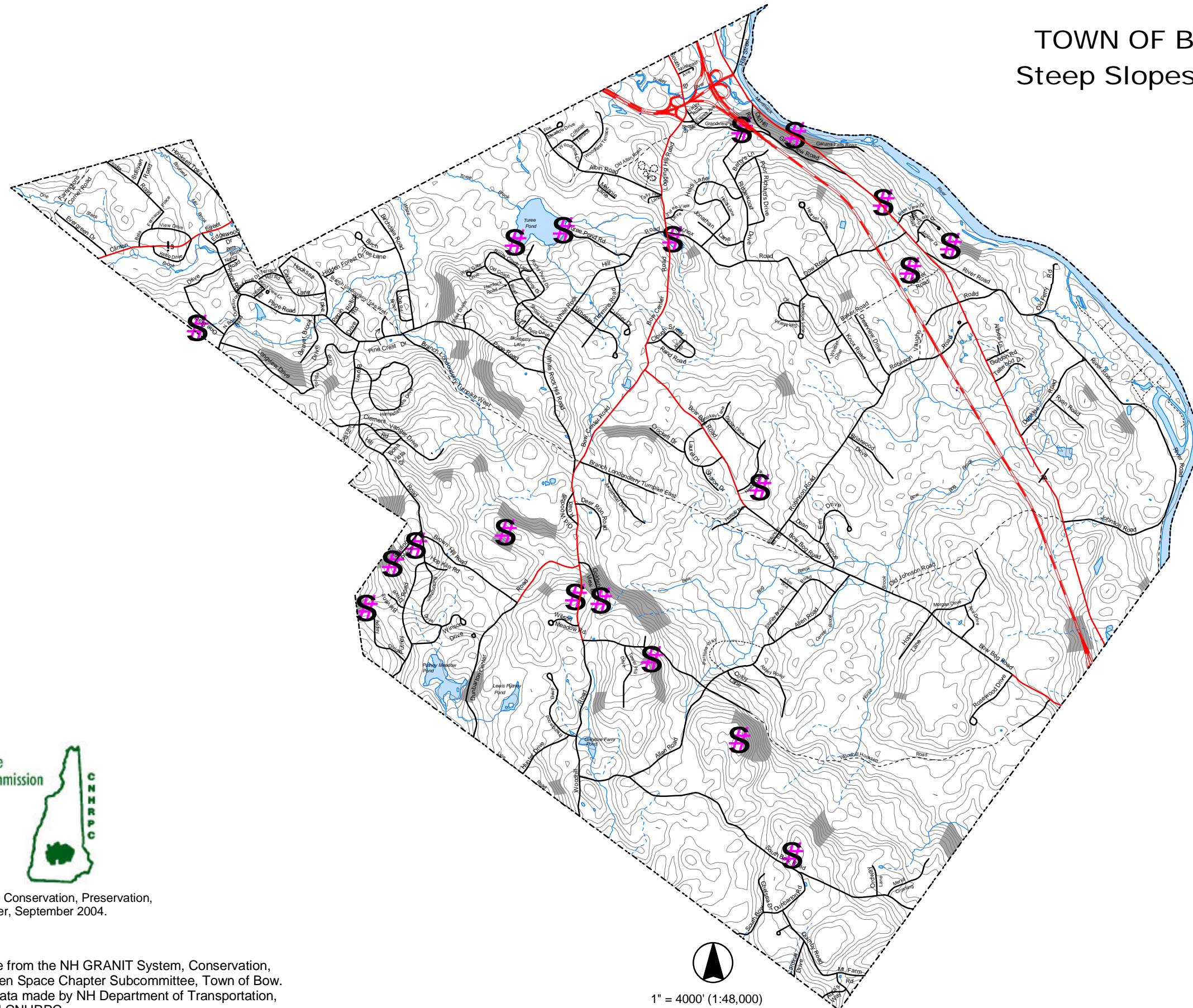
1:24,000 source scale from the NH GRANIT System, the Conservation,
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 Open Space Trails System Plan, Town of Bow tax parcel data, and Town
 of Bow assessors database. Corrections to base data made by NH
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TOWN OF BOW, NEW HAMPSHIRE

Steep Slopes and Scenic Vistas Map



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 Corrections to base data made by NH Department of Transportation,
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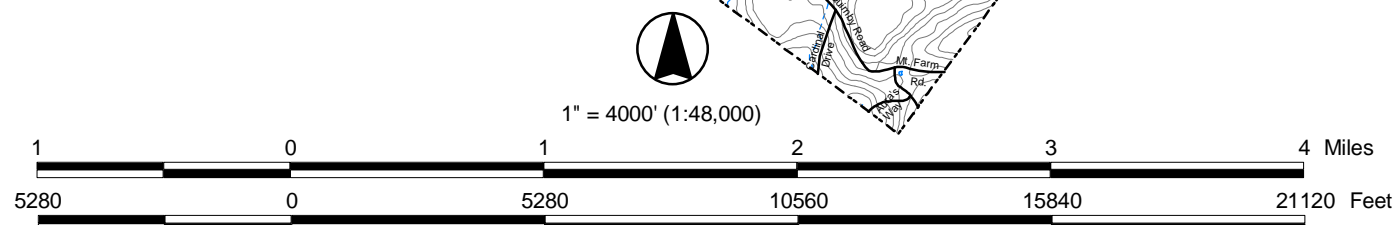
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LEGEND

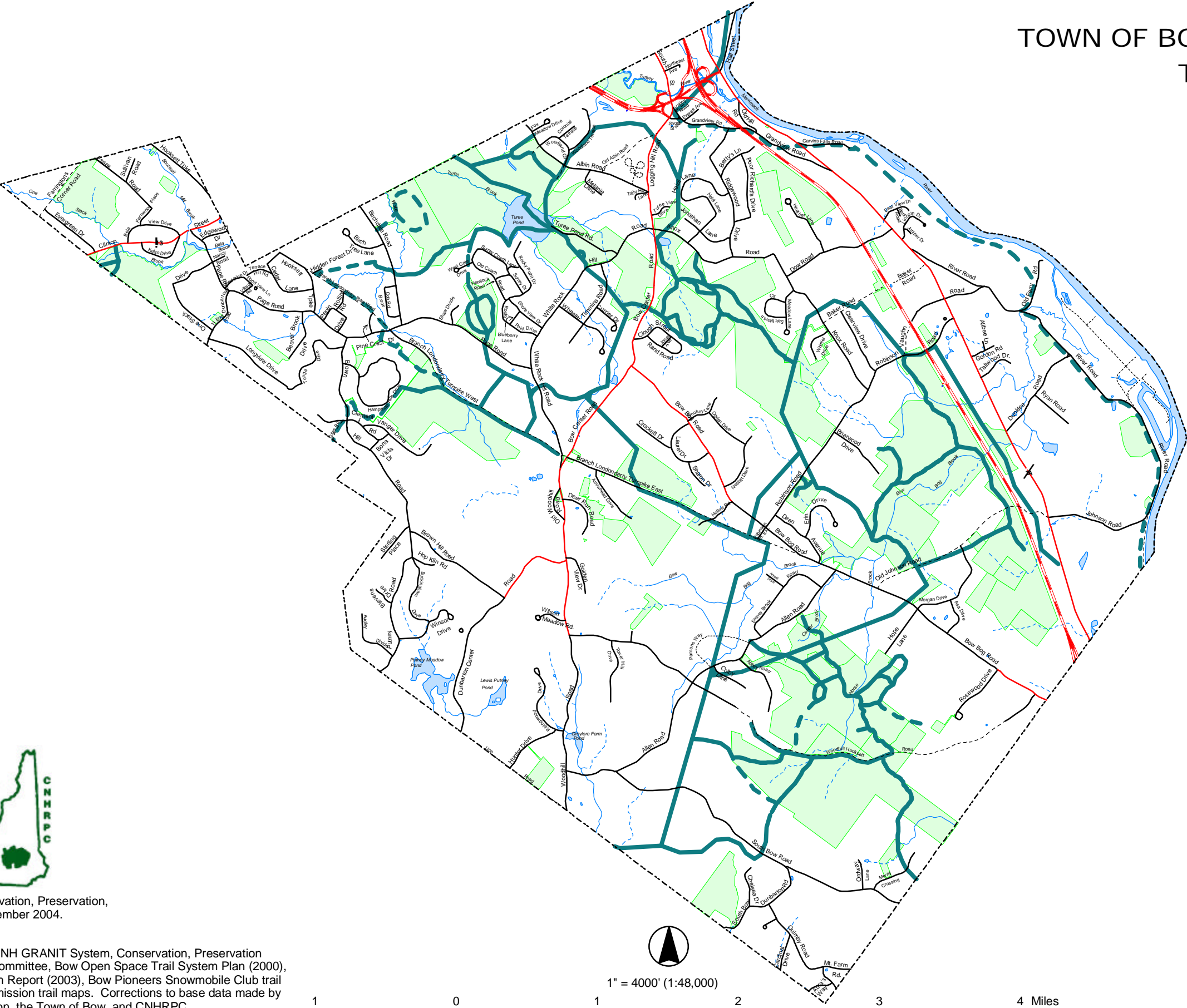
- Scenic Vista
- Topographic Contour, 20'
- Steep Slopes (>15%)

BASE LEGEND

- Political Boundary
- Interstate Highways
- Class I & II Secondary State Highways
- Class V Town Maintained Roads
- Class VI Town Unmaintained Roads
- Other Roads (Private, Trails, etc)
- Rivers and Streams
- Intermittent Streams
- Water Bodies



TOWN OF BOW, NEW HAMPSHIRE
Trails Map



TRAILS LEGEND

- Trail on Public Land
- Proposed Trail
- Conservation Land

NOTES

Some trails allow only specific uses and for others permission may be required.

Some trails may cross private land and permission may be required.

Trails are for planning purposes only.

BASE LEGEND

- Political Boundary
- Interstate Highways
- Class I & II Secondary State Highways
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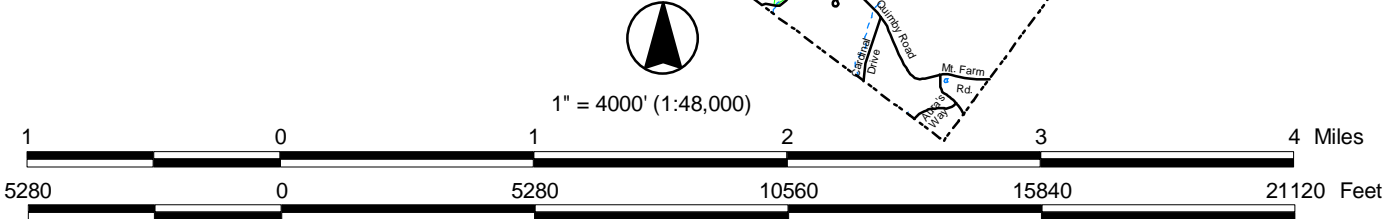
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Data sources:
1:24,000 source scale from the NH GRANIT System, Conservation, Preservation
and Open Space Chapter Subcommittee, Bow Open Space Trail System Plan (2000),
CNHRPC Regional Trail System Report (2003), Bow Pioneers Snowmobile Club trail
maps, Bow Conservation Commission trail maps. Corrections to base data made by
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CHAPTER VI COMMUNITY FACILITIES

INTRODUCTION

Historically, rural communities in New Hampshire have very few community services. In many cases, these services were limited to only a Town Hall and public school. However, as the population of New Hampshire increased, more services were added to meet the needs of the citizenry. Today, communities are expected to and in some instances are legally required to provide police and fire protection, as well as highway crews, waste disposal, recreational facilities, and professional staff to manage the daily operations of Town government.

Like other rural communities, the Town of Bow provides vital services to the citizenry. Fire and police protection ensure the safety of all residents. The school system provides the children of Bow with an adequate public education. The Department of Public Works maintains roads year-round, including snow removal during the winter months. The Recreation Department enhances quality of life by increasing opportunities to take part in classes and trips as well as maintaining access to recreational fields throughout Town. According to the Community Survey, 350 respondents felt that Town Services were a desirable feature of Bow.

The purpose of this Chapter is to inventory and assess current town facilities and programs, identify and assess the adequacy of existing equipment and future equipment needs, identify current and long-term staffing needs, and identify long-term facility and service needs based on the Current Land Use Build-Out Analysis. In order to provide community services in an efficient and effective manner, the Town must assess its current and future needs in order to anticipate future demands and services for the various Departments. Bow must also develop a mechanism to ensure coherence and consistency among all town and school district agencies. This mechanism can increase opportunities to plan efficient, attractive and long-lasting facilities. By having community facilities that are up-to-date, responsive to residents needs, and operating in the most effective and efficient manner, Bow will be able to retain its small-town essence while providing high-quality amenities to its residents and businesses.

HISTORY OF COMMUNITY FACILITIES IN BOW

At the time of the 1992 Master Plan, actively used town facilities included the Municipal Building on Grandview Road, the Community Bldg./Fire House/Coffin Building on Bow Center Rd, the Highway Garage and Landfill/Recycling/Transfer Station on White Rock Hill Rd, the Baker Free Library, and the Bow Elementary and Memorial Schools.

In the years since the 1992 Master Plan, community facilities have changed to accommodate the changing needs of the community. The list of actively used town owned facilities has grown to include the “Hews” building, which currently houses the Department of Public Works, the Bow Police, the Transfer station, and the Bow school bus parking lot. The Old Town Hall has been added as a functional meeting space, the landfill has been closed, and the old Highway Garage site reclaimed. The Bow High School has been added to the school roster, and the town is enjoying a new library space.

In 1994, Bow began preparations for building a high school. In September 1997, the Bow High School opened for its first year of operation. As a result of the site selection for what was to become the Bow High School, the town voted to close the landfill located adjacent to the proposed building site, and to relocate the Department of Public Works. At the Nov. 17, 1994 Special Town Meeting, funds were approved for the purchase of a building for sale by the Hews Corporation, as well as for landfill closure for the facility located on White Rock Hill Rd. The Department of Public Works and the Bow Police have subsequently been relocated to the “Hews” building. As the plans for the landfill closure progressed, Bow voters adopted curbside pickup as the preferred method of solid waste disposal at the Town Meeting of March 13, 1996. This necessitated the creation of a small transfer station for items that could not be accommodated by curbside pickup, which has also been located at the “Hews” building.

In 1994, the “Old Town Hall” was renovated through a combination of town funds, contributed funds and volunteer efforts, which brought the hall up to modern standards. It is today a widely used meeting space for general town use as well as municipal functions. In 1999, the town approved a major expansion and renovation of the Baker Free Library.

See the Table below for a list of all Town-Owned structures, what Department/Commission is housed there, and what the structures are used for.

Town-Owned Building	Department/Commission	Use
Old Town Hall		Meeting space for general town use and municipal functions.
Municipal Building	Town Manager Town Clerk/Tax Collector Deputy Town Clerk Assessing Technician Bookkeeper Administrative Assistant Planning Director and Planning Assistant Building Inspector Human Services Director	Town Offices and meeting space for the Planning Board, Board of Selectmen, Zoning Board of Adjustment, Historic District Commission, Budget Committee, Business Development Commission, and the Conservation Commission. There is a licensed childcare facility located in the building, run by the Parks and Recreation Department.
Fire House/ Community Building	Fire Department Recreation Department	Storage of rescue and fire equipment, and Recreation Department storage. Recreation Department programs, including Bow Young at Heart Club.
Coffin Building		Storage of rescue and fire equipment, meeting space for Fire Department trainings.
“Hews” building	Public Works Department Police Department	Garages used by Public Works and Police Department, School Department uses to service school buses. Transfer station and Bow school bus parking lot also onsite.
Baker Free Library	Library	Library and library program space.
Bow Bog Meeting House		Historic resource
Bow Center School		Historic resource
Elementary School	School	School, Recreation Department programs when space permits.
Memorial School	School	School, Recreation Department programs when space permits.
Bow High School	School	School
Building at Hanson Park		Recreation Department storage and snack bar run by the Recreation Department.
Building at Hanson Park		Storage for Bow Athletic Club.
Gazebo /Bandstand		Sometimes rented out for weddings.

CURRENT LAND USE BUILD-OUT ANALYSIS

The build-out analysis was able to determine the number of potential residential lots, as well as the amount of developable commercial and industrial acreage, within Bow under current land development regulations and within the natural constraints of the land. The build-out analysis is a process by which land use regulations and physical land constraints are analyzed to see how many lots/areas can be developed under those conditions until there is no more developable land remaining – the town would be “built-out.”

The build-out analysis helps identify Town-owned parcels of land that could potentially be used as sites for future community facilities. In addition, after looking at a built-out picture of the Town, it becomes easier to visualize potential land to consider for acquisition.

The results of the analysis provide an interesting and important look at the Town’s future if no changes are made to the Land Use Regulations. In the Residential, Rural, and Civic Zoning Districts, there is a potential for 1,975 lots in the full build-out and 1,727 lots when not including lots along difficult to improve Class VI roads. For commercial and industrial land development, there are 739 acres of developable land. See the Current Land Use Chapter for more information on the Build-Out Analysis.

FIRE DEPARTMENT

The Bow Fire Department was incorporated in 1946. This Department provides fire and emergency medical services to all residents and businesses in Bow. The Department also educates the public on fire prevention and CPR, life safety inspections, and has personnel who are specially trained in water rescue, high angle rescue, and dive rescues. A majority of respondents to the Bow Community Survey (71%) indicated that fire protection was good. In addition, 61.1% felt that the rescue squad was good, while 29.8% had no opinion.

Calls for Service

Calls for service include medical calls, motor vehicle accidents, fires, false alarms, and other service calls. Since 1992, the number of calls for service the Fire Department has responded to has increased by 190%. This increase is also demonstrated in the subsequent table.

Calls for Service* 1992 - 2002

Year	Total Calls for Service
1992	274
1993	276
1994	282
1995	343
1996	377
1997	499
1998	660
1999	660
2000	757
2001	683
2002	795

Source: Bow Town Reports

* Calls for service include medical calls, motor vehicle accidents, fires, false alarms, and other service calls

Response Time

Prompt response time is a critical when providing effective emergency services. Currently, the average response time, from the time the call is relayed from Dispatch to arrival on the scene, is approximately 8 minutes for general Fire Department calls. As response time to emergency calls increases, the likelihood of increased property damage or loss of life increases. It should remain a priority of the Fire Department to keep their response time as low as possible. The mutual aid agreement that the Fire Department belongs to helps to ensure that response times for different areas of town remain low.

In 2003, the National Fire Protection Association (NFPA) abandoned plans to adopt minimum national fire response time standards. One public sector interest organization said it is impossible for uniform standards to address the wide range of conditions that exist in the nation's diverse fire services. These include critical differences in local geography, the key factor in fire response times, as well huge variations in setting (rural and urban), staffing (paid and volunteer), and equipment.

Comparison with Other Communities

As compared with neighboring communities, the Fire Department has a proportionate volume of calls with a similar number of staff/volunteers. They also have an average cost per call and a relatively low number of calls per fire fighter staff/volunteers.

Cost per Call 2002

Town	Total Number of Calls for Service*	Total Budget Expended (Minus Revenue)	Cost Per Call
Bow	795	\$300,242	\$377.66
Allenstown	624	\$207,181	\$332.02
Concord	6,318	\$7,039,653**	\$1,114.22
Dunbarton	209	\$46,650	\$223.21
Hooksett	2,153	\$1,479,676**	\$687.26
Hopkinton	934	\$322,053	\$344.81
Pembroke	359	\$152,967	\$426.09

*Calls for service reflect all calls including fire, medical, and all other calls.

**Concord and Hooksett operate on a fiscal year budget. Figures are for the FY 2001, from 7/1/02 to 8/30/02.

Source: 2001 Town Reports, Town Fire Departments

Calls per Capita 2002

Town	2002 Population Estimates	Total Number of Calls for Service	Calls Per Person
Bow	7,345	795	0.11
Allenstown	4,990	624	0.13
Concord	41,380	6,318	0.15
Dunbarton	2,363	209	0.09
Hooksett	12,280	2,153	0.18
Hopkinton	5,524	934	0.17
Pembroke	7,125	359	0.05

Source: 2002 Town Reports, Town Fire Departments, 2002, 2003 OSP Population Projections

Calls per Fire Fighter Staff/Volunteers 2002

Town	Total Number of Calls for Service	Number of Paid Staff	Number of Volunteers/ On-call Personnel	Calls per Staff/ Volunteers/ On-call Personnel
Bow	795	2	35	21.49
Allenstown	624	2	25	23.11
Concord	6,318	115	5	52.65
Dunbarton	209	0	35	5.97
Hooksett	2,153	29	4	65.24
Hopkinton	934	5	35	23.35
Pembroke	359	0	45	7.98

Review of Facility Needs

The Fire Department is located at 2 Knox Road and was built in 1956. The facility has approximately 4,200 square feet of office, garage space, and vehicle bays. The current facility is inadequate to meet even the current, let alone the future needs of the Fire Department, for the following reasons:

- The facility is lacking sufficient office and training space
- There is no decontamination area for equipment and/or staff
- The types of equipment that the Department can buy and use are limited by the size of the current facility

Another facility utilized by the Fire Department is the Coffin Building. The Coffin Building was built by the Bow Rescue Squad in 1982 through donations and named for one of the founders of the squad. This two-story building contains two bays used for storage of rescue and fire equipment, including a boat and hazard mitigation vehicle. The upstairs contains a meeting area used for training.

The concerns listed above will impact the level of service that the Fire Department can provide as the Town develops and expands.

Review of Equipment Needs

The Fire Department currently has many pieces of equipment that they anticipate having to replace within in the next 15 years, including the following 10 items.

Fire Department Equipment Needs

Equipment	New or Replacement	Estimated Year to Replace	Est. Life of Equipment (years)	Estimated Cost to Replace
Rescue Vehicle	Replacement	2004	7	\$100,000
1 ton 4x4 Forestry Pickup	Replacement	2004	15	\$30,000
Quint – Pumper/Ladder	New	2005	20	\$400,000
Air Compressor	Replacement	2005	10	\$12,000
Rescue Equipment	Replacement	2008	10	\$22,500
Pumper	Replacement	2009	20	\$250,000
Monitor/Defibrillator	Replacement	2012	5	\$20,000
Tanker	Replacement	2013	20	\$150,000
Tanker	Replacement	2016	20	\$150,000
Pumper	Replacement	2021	20	\$250,000

Source: Bow Capital Improvements Plan, 2003

Review of Fire Department Staffing Needs

As of 2002, the Fire Department has two full time staff and 35 on-call staff. The two full-time staff, as well as most of the on-call staff have medical training as well as fire fighter training. At the current level of calls for service, there is a shortage of two full-time staff to adequately meet the level of demand. The staff needs are expected to grow as the Town becomes more developed.

Safety and efficiency are the two primary factors when trying to determine an appropriate level of staffing for a fire department. Unfortunately, no national or state standard has been developed for the staffing of paid or volunteer fire departments. However, in 1987, the National Fire Protection Association (NFPA) developed a recommended minimum staffing level of four to six fire fighters per Engine/Ladder Company. Because Bow is served mostly by volunteer staff, it is difficult to apply staffing standards in evaluating the needs of the department.

Recommendations- Fire Department

- Establish Impact Fees for Fire Protection Services.
- Investigate the feasibility, cost, and design for the development of a safety services building that would house the Fire Department and the Police Department. This will solve many of the facility concerns and inadequacies that these Departments are and will be facing as the Town grows. Include an analysis of what the current buildings could be used for if a new facility were to be built.
- Use the predictions made by the Build-Out Analysis to project future staffing, building, and equipment needs.
- Investigate the impacts that proposed large-scale developments might have on fire protection and emergency medical services.

POLICE DEPARTMENT

The Mission statement of the Police Department is to provide community orientated law enforcement designed to protect life, property and maintain order, while assuring fair and equal treatment for all. The Department actively participates in and conducts specialized programs such as: At Risk Programs, Community Service Programs, Neighborhood Watch, Operation Call In for seniors, and numerous other programs that involve the community. Results of the Bow Community Survey indicate that 69.8% of respondents think that police protection/enforcement is good. When asked to rate animal control, 31.5% said that it was good while 49.2% had no opinion.

The Bow Communications Center is also housed within the Bow Police Department. The Center dispatches for Allenstown, Bow, Dunbarton, Epsom, and Pembroke. The Center also works for the Bow Highway Department, Bow School District, and the Pembroke Highway Department in monitoring radios and making emergency calls.

Summary of Dispatch Center Activity, 1992-2002

	Bow	Dunbarton	Pembroke	Epsom	Allenstown
1992	25,583	3,311	15,006	NA	NA
1993	25,302	3,264	17,449	NA	NA
1994	22,379	5,671	15,673	NA	NA
1995	22,189	3,152	16,747	NA	NA
1996	24,680	3,442	16,578	NA	NA
1997	23,989	3,568	16,524	NA	NA
1998	16,056	4,046	14,647	NA	NA
1999	14,835	3,737	13,078	6,511	NA
2000	13,287	3,633	11,577	5,698	NA
2001	20,987	4,218	13,967	6,717	NA
2002	24,585	4,560	14,575	7,250	5,558

Source: Bow Police Department, 2003

From 1992 to 2002, the Police Department has had a wide range of activity level, which can be seen below.

Summary of Police Activity, 1992-2002

Year	Reportable Motor Vehicle Accidents*	Bow Dispatch Calls	Burglary	DWI	Total
1992	79	25,583	34	8	25,704
1993	70	25,302	17	12	25,401
1994	84	22,379	15	6	22,484
1995	94	22,189	6	10	22,299
1996	85	24,680	7	4	24,776
1997	73	23,989	19	2	24,083
1998	82	16,056	17	7	16,162
1999	86	14,835	18	3	14,942
2000	109	13,287	15	8	13,419
2001	109	20,987	5	7	21,108
2002	187	24,585	9	53	24,834

Source: Bow Town Reports, 1992-2002, Bow Police Department

*Accidents that totaled over \$1,000 in damage.

Comparison with Other Communities

One common technique used to measure the efficiency of a Police Department is cost per call of service. Calls for service are all calls received by the Police Department, and include everything from motor vehicle theft and medical assistance to noise complaints and false burglar alarm responses. Motor vehicle stops are also included in the calls for service. As compared to all abutting communities, Bow has the second lowest cost per call of service.

Police Department Cost per Calls for Service 2002

Town	Total Number of Calls For Service	Total Budget Expended	Cost Per Call
Bow	24,585	\$976,350	\$39.71
Allenstown	16,337	\$458,085	\$28.04
Concord	45,039	\$5,828,000*	\$129.40
Dunbarton	1,166	\$132,433	\$113.58
Hooksett	18,294	\$1,630,009*	\$89.10
Hopkinton	4,905	\$497,368	\$101.40
Pembroke	6,223	\$618,626	\$99.40

*Concord and Hooksett operate on a fiscal year budget. Figures are for FY 2001 from 7/1/01 to 6/30/02.

Source: 2002 Town Reports, Town Police Departments

Another technique used to compare the workload of the Department versus other communities is the number of calls for service per capita. The Bow Police Department has a rate of approximately 3.35 calls per person, which is the highest number of calls per person as compared to abutting communities.

Calls for Service per Capita, 2002

Town	2002 Population Estimates	Total Number of Calls for Service	Calls Per Person
Bow	7,345	24,585	3.35
Allenstown	4,990	16,337	3.27
Concord	41,380	45,039	1.09
Dunbarton	2,363	1,166	0.49
Hooksett	12,280	18,141	1.48
Hopkinton	5,524	4,905	0.89
Pembroke	7,125	6,223	0.87

Source: 2002 Town Reports, Town Police Departments, 2003 NHOSP Population Estimates

Calls for service per officer is also a common tool employed to measure the workload of police officers. For 2002, each Bow officer handled an average of 2,048 calls for service (full and part-time staff). This was the highest number of calls for service per officer when compared to abutting communities.

Calls for Service per Police Officer, 2002

Town	Total Number of Calls for Service	Full-Time Officers	Part-Time Officers	Calls Per Police Officer
Bow	24,585	10	2	2,048
Allenstown	16,337	8	1	1,815
Concord	45,039	79	0	570
Dunbarton	1,166	1	4	233
Hooksett	18,294	22	0	832
Hopkinton	4,905	7	2	545
Pembroke	6,223	9	0	69

Source: 2002 Town Reports, Town Police Departments

Regional Dispatch personnel are housed at the Bow Police Department. There are currently five full-time staff, one 80% staff, and two to three as-needed staff that answer phone calls for service for the Bow, Dunbarton, Epsom, Allenstown, and Pembroke Police Departments.

Existing Facilities

The Police Station is located at 12 Robinson Road. The building was constructed in 1985 and is approximately 24,000 square feet in size. This space is also utilized by the Highway Department and School Department. The Police Department uses 40 feet x 80 feet of the garage bays; the square footage of the office space is unknown. The facility is currently lacking an adequate impoundment facility, which could create a legal issue during a Police investigation, and a carport to store Department vehicles out of the inclement weather. There is also discussion about creating a sallyport, which is a secure area between the outside and the booking room where suspects can be unloaded from police vehicles under the watch of closed circuit cameras.

Review of Current and Future Equipment Needs

Most of the future equipment needs of the Department are based on a consistent replacement schedule, as can be seen below.

Police Department Equipment Replacement

Equipment	New or Replacement	Year to be Replaced	Estimated Life of Equipment	Estimated Cost to Replace
Antenna and Console Radio	Replacement	2005	7	\$123,000 (state grant may be available for the antenna)
4-Wheel Drive Utility	Replacement	2008	5	\$32,000

Source: 2003 Bow Capital Improvement Plan, Bow Police Department

Staffing Standards and Needs

The Bow Police Department currently has a mix of two2 part-time staff and 10 full-time staff. The current accepted staffing standard advises one officer per 1,000 in population, which does not include the staffing of the police Chief or the School Resource Offices (SRO).

As previously mentioned, the Bow Police Department is also the location for the regional Dispatch, which services the Police Departments in the Towns of Bow, Dunbarton, Epsom, Allenstown, and Pembroke. Dispatch also provides radio service for the Bow and Pembroke Highway Departments and the Bow School Department's buses. There are currently five full-time staff, one 80% staff, and two to three as-needed staff. Operation Call-In is run by the Dispatch staff, which provides local call-in service for elderly Bow residents.

Recommendations – Police Department

- Investigate the cost, engineering, and location for the creation of a sallyport for the safe transport and unloading of suspects from Police Department vehicles to the Police facility.
- Investigate the cost and location for the creation of an impoundment area for confiscated vehicles and material, which is too large to store inside the station.
- Investigate the cost, engineering, and location for the creation of a carport area for Police Department vehicles.
- Create a provision in the Personal Service Wireless Facilities Article (within the Zoning Ordinance) requiring cell tower companies to co-locate Police Department radio antennas on new facilities as a community service.
- Investigate the feasibility, cost, and design for the development of a safety services building that would house the Fire Department and the Police Department and solve many of the facility concerns and inadequacies that these Departments face as the town grows. Include an analysis of what the current buildings could be used for is a new facility were to be built.

DEPARTMENT OF PUBLIC WORKS

The role of the Bow Department of Public Works is to maintain town roadways and to make improvements that are necessary to provide safe and convenient travel. Maintenance duties of the Department include road grading, paving, snow removal, drainage improvements and other repairs, as they are needed. The Department purchases equipment as approved at Town Meeting and performs most repair and maintenance in-house at the Town garage. When asked to rate road maintenance, 58.1% of respondents said that it was good while 27.1% said fair. In addition, the majority of respondents (79%) were pleased with the department's snow removal.

Comparison with Other Communities

Compared to abutting communities, the Department of Public Works has a higher number of Town-owned miles of highway to maintain per employee. When we look at Highway Department expenditure per mile, the Department of Public Works is in the middle range when compared to abutting communities.

Comparison of Highway Department Costs

Town	Miles of Town-Owned Class V Roads, 2000 (Paved and Gravel)	Total Highway Expenditure 2000	Highway Dept. Expenditures Per Mile, 2000
Bow	76.638	\$837,411	\$10,926.84
Allenstown	20.158	\$511,546	\$25,376.82
Concord	67.417	\$1,674,808.52*	\$24,842.52
Dunbarton	35.493	\$343,417	\$9,675.63
Hooksett	45.435	\$568,642*	\$12,515.51
Hopkinton	78.066	\$688,055	\$8,813.76
Pembroke	44.633	\$492,574	\$11,036.10

Source: DOT 2000 Road Mileage Report, 2000 Town Reports, Town Highway Departments

*Concord and Hooksett operate on a fiscal year budget. Figures are for FY 2000 beginning 7/1/99-6/30/00

Comparison of Road Mileage Per Employee

Town	Miles of Town-Owned Class V Roads 2000 (Paved and Gravel)	Number of Highway Department Employees 2000 (Full-Time)	Number of Highway Department Employees 2000 (Part-Time)	Number of Class V Town-Owned Miles per Highway Department Employee
Bow	76.638	11	2	5.90
Allenstown	20.158	5	1	3.36
Concord	67.417	37	*13	1.35
Dunbarton	35.493	1	1	17.75
Hooksett	45.435	**20	0	2.27
Hopkinton	78.066	7	***7	5.58
Pembroke	44.633	12	2	3.19

Source: DOT 2000 Road Mileage Report, 2000 Town Reports, Town Highway Departments

*Some employees only worked during storms while others worked a 40-hour week for a period of time.

**In 2002, 4 employees in Hooksett also worked for the Parks and Recreation Department, but the number is unknown for the year 2000.

***The part-timers were on an on-call basis, and 3 were not called for service during that year.

Facility and Equipment Needs

The Department of Public Works facility is located at 12 Robinson Road and is approximately 24,000 square feet in size, which includes the office area, garages, and salt storage. The School Department uses 40'x80' of the garage bays for the servicing of their school buses, 40'x80' of the garage bays are used for the Police Department, and 220'x80' is used for the Public Works Department.

Inventory of Department of Public Works Equipment

Equipment	New or Replacement Equipment	Year to Replace	Estimated Life of Equipment (years)	Estimated Cost to Replace
Plow/Sand Truck	Replacement	2003	10	\$90,000
Plow/Sand Truck	Replacement	2004	10	\$95,000
Backhoe	Replacement	2004	12	\$90,000
Plow/Sand Truck	Replacement	2005	10	\$95,000
1-ton Pickup with plow	Replacement	2005	8	\$40,000
Plow/Sand Truck	Replacement	2006	10	\$95,000
Plow/Sand Truck	Replacement	2007	10	\$100,000
½ Ton Light Duty Pickup	Replacement	2007	5	\$23,000
Catchbasin Cleaner Trailer	New	2007	20	\$100,000
Plow/Sand Truck	Replacement	2008	10	\$100,000
Plow/Sand Truck	Replacement	2009	10	\$100,000
¾ Ton 4x4 Pickup with Plow	Replacement	2009	8	\$35,000
1 Ton 4x4 Pickup with Plow	Replacement	2009	8	\$42,000
Tractor with Brush Hog on Arm	Replacement	2012	10	\$80,000
Plow/Sand Truck	Replacement	2012	10	\$100,000
Chipper	Replacement	2012	20	\$17,000
Compressor	Replacement	2013	20	\$15,000
Loader	Replacement	2013	12	\$175,000
Grader	Replacement	2015	15	\$175,000

Source: 2003 Bow Capital Improvement Plan

Staffing Needs

The Highway Department currently has nine full-time employees and two part-time employees (one who works at the Transfer Station and one who takes care of the cemeteries). There are also seasonal employees that work in the summer months on the cemeteries. In May 2003, there were two full-time positions open. There are two mechanics employed at the Highway Department that provide maintenance for all of the highway and police department vehicles, the Parks and Recreation vehicles, the Building Inspector's vehicle, all cemetery equipment, and on the fire department's two pick-up trucks. Lastly, there is one person employed by the Parks and Recreation Department that aids the Highway Department with snow plowing during the winter months.

Once the current water and sewer projects are completed in Bow, more than likely there will be a need for staff to maintain and run these operations. It is anticipated that these departments will be part of the Department of Public Works and that future staffing will include 5 full-time staff, including a secretary that will work for the entire Department.

Recommendations – Highway Department

- Move the duties of the Town-owned cemeteries from the Building Inspector to the Department of Public Works once the Department has a full-time Administrative Assistant in place to help with the logistics and paperwork.
- Review the arrangement between the School Department, the Police Department, and the Department of Public Works to ensure that the sharing of garage bays is the most efficient use of space.
- Conduct a survey of all town roads to gather accurate information on the rights-of-way (ROW) for each road.
- The Town should annually set aside money for road maintenance, in addition to the funding that is received from the State.

SCHOOL DISTRICT

In 1945, Bow consolidated its student population at the Bow Mills School, the site of the current Municipal Building. Enrollment at that time was 116 students in grades 1-8, with high school students tuitioned to Concord. The school population has since grown to its current population of 1,800 students, which are taught in three buildings. As of the 2002-2003 enrollment, the elementary school and the middle school are both over capacity. A three-classroom addition for the middle school was approved by the March 2003 School District Meeting. Even with the addition, the school will be over capacity at its current programming levels. The high school is close to capacity, but has not yet exceeded its limit.

Results of the Community Survey show that 65.9% of respondents felt the school system was good, 16.8% felt it was fair, and 14.7% had no opinion. Only 2.7% of respondents felt the school system was poor.

Staffing Levels

School staffing levels rise and fall with the anticipated student population levels each year. The following show the current staffing levels of the Bow Elementary, Bow Memorial, and Bow High Schools.

Bow School District Personnel										
	BES			BMS		BHS		District		
	FT	PT		FT	PT	FT	PT	FT	PT	As needed
Superintendent								1		
Business Administrator								1		
Admin Assistant								1		
Bookkeeper								1		
SPED Director								1		
Technology coordinator								1		
Psychologist		1						1		
SPED Specialists										4
SPED secretary								1		
Social worker								1		
Athletic Director								1		
Food Service Director								1		
Transportation Coordinator								1		
Principal	1			1			1			
Asst. Principal	1			1			1			
Nurse	1			1	1		1			
Guidance	1			1			3			
School secretary/clerical asst.	2	1		2			2	1		
Guidance secretary							1			
Drug/Alcohol Counselor							1			
Media Specialist	1			1	1		2			
Technology assistant		1		1			2			
Gifted & Talented	1				1					
Reg. Classroom Teacher	27	2		29			44			
Specials Teacher	3	3		8			3			
Specialists	1						2			
Special Education Teacher	3			5			4			
Speech Assistant		1								
Spec. Ed Program Assistants	2	1		5			2			
Individual Student Aides	1	1		5			9			
Tutor/Therapist	3			1				1		
Title 1		1			1					
Grant Personnel	1									
Other Assistants	10	1		3			2			
Maintenance	5			2			8			
Food Service	5			5			7			
Totals	69	13		71	4		95	2	12	0 4

Source: 2003 Town Report; Bow School Department

Enrollment Figures

School Department needs, more than any other community facility, are dictated by the future population trends of a community. As the number of school-aged children rise and fall, staffing, facility, and operating projections need to be made and budgeted for. Because many of these expenses, such as an addition to a building, can take years to plan and finish, enrollment projections are vital to ensuring that adequate budgeting and planning are done.

School Capacity and Enrollment Figures, 1999-2002*

School	Capacity	1999	2000	2001	2002
Bow Elementary School	560	627	616	637	602
Bow Middle School	500	575	610	593	603
Bow High School	650	519	554	575	615

Source: NH Department of Education 2003

* Figures gathered October 1st of each year

Over the last 40-50 years, Bow has maintained a population consisting of 20-25% school-aged children. With this in mind, we can use this 20-25% figure to estimate the future school-age population growth using the results of the Current Build-Out Analysis.

Build-Out Analysis Results New Residential Lots		Average Household Size (2000)	Total Additional Population Estimate for Town	Additional School- Age Population Estimate 20%	Additional School- Age Population Estimate 25%
Full Build-Out	1,975	3.1	6,123	1,225	1,531
Without Class VI Road Development	1,727	3.1	5,354	1,071	1,339

Current Total Pop. 2002 Est.	Total Additional Pop. Estimate for Town	Total Pop. Est. at Build- Out	Current School- Age Pop.	Additional School- Age Pop. (20%)	Additional School- Age Pop. (25%)	Total School- Age Pop. Est. at Build- Out (20%)	Total School- Age Pop. Est. at Build- Out (25%)
7,345	6,123*	13,468	1,820	1,225*	1,531*	3,045	3,351
	5,354**	12,699		1,071**	1,339**	2,891	3,159

* Full Build-Out (1,975 lots)

** Build-out without Class VI Road development (1,727 lots)

Facility Needs

Using the above figures, the potential total school-age population in Bow could be from 2,891-3,331. The schools currently have 1,820 students and the buildings are operating above capacity. An additional 1,071-1,531 students, assuming 100 per grade and continued half-day kindergarten, would necessitate an additional 350 spaces at the Elementary School, an additional 400 at the middle school, and an additional 400 spaces at the high school. This could translate into another elementary, another middle, and an expansion of the high school to 1,050+ spaces.

According to the Community Survey results, if school expansion should become necessary 63.5% of respondents felt that the expansion of existing schools to a larger capacity should take place and 14.7% felt that adding small additional schools on the existing campus should take place.

Additional facilities need to be taken into consideration with the projected growth of the school-age population, including the availability and use of athletic fields and other auxiliary equipment and facilities.

Recommendations – School District

- If school expansion becomes necessary, investigate the possibility of expanding the existing facilities, using town-owned land, and/or purchasing land for the construction of new school buildings.
- Continue to coordinate the use of school facilities and resources with other town interests, including athletic fields.
- The School Board and Town should work together to proactively plan and pay for additional school facilities in a timely manner.

MUNICIPAL WASTEWATER AND WATER SYSTEMS

Municipal Wastewater Treatment

In 1984, the City of Concord and the Town of Bow negotiated and signed a joint sewer agreement. The agreement gave the Town the right to transport sewage via the Hall Street main to the Hall Street treatment facility and reserved almost 4% of the capacity of the plant to Bow (385,000 GPD – gallons per day). The Town agreed to make annual payments against the construction bonds for 20 years and pay annual costs for sewage treatment based on proportionate shares of the total flow and total operating costs. Those tied into the system pay a user fee to Bow for the service. See the Economic Development Chapter for more information.

Municipal Water

There is currently limited municipal water available in Bow. The existing water line is from the City of Concord down Hall Street in Bow and only services existing residential dwellings. See the Economic Development Chapter for more information.

Recommendations – Municipal Wastewater and Water Systems

- Extend municipal water service into the South Street, Hall Street, and Bow Junction areas.
- Ensure that the recommendations outlined in the 2003 study for the extension of Municipal water and sewer within Bow are reviewed annually to allow for updating and modification.
- Investigate the creation of a new municipal Department(s) to coordinate and facilitate the water and sewer services, allocating the responsibility to existing Departments/staff, and/or the outsourcing of these management activities to a private entity.

BAKER FREE LIBRARY

The library is located at 508 South Street on land donated in 1912 by Congressman Henry M. Baker, cousin of Mary Baker Eddy. In 1967, an addition was completed and in September 1999 the first floor of that addition was demolished to make way for the current addition and renovation of the original building. The \$1.225 million renovation expanded the library to its present 8,500 square feet. Most respondents to the Community Survey (74%) indicated that they felt Library services were good; 16.7% had no opinion.

The following table highlights the circulation of library materials by patron type and material type, as tracked by the computer system.

2002 Circulation by Patron Type	
Adult Circulation	37,017
Juvenile Circulation	26,299
Total Circulation	63,316
2002 Circulation by Material Type	
Printed Matter Circulation	53,620
Audio Circulation	9,111
Video Circulation	259
Total Circulation	63,316
Total of Registered Card Holder Patrons	
	4,311
Total # Registered Internet Users	
	500

Source: 2003 Baker Free Library Staff

In recent years, the volume and variety of materials the Library has to offer has increased significantly. The current collection that the Library holds can be seen below.

Summary of Library Collection, 2002

Categories	Number of Items
Books	33,600
Audio Books	1,337
Video Cassettes	326
CD's	988
Audio Cassettes	38
Total	36,589

Source: Baker Free Library 2003

The Library presents a variety of programs for both children and adults. Children's regularly scheduled programs include Active Listeners and Family Story Time. Active Listeners is intended for children under age three accompanied by an adult. It is a 30-minute interactive program, including simple finger plays, elementary flannel boards, very short books, and easy movement activities. Family Story Time is geared for children ages 2-6 with an adult and is a 30-45 minute program that includes stories, songs, finger plays, flannel boards, creative movement, and simple crafts. During the summer, the library also offers the Children's Summer Reading Program. For adult programs, the Library offers Booktalks, a monthly book discussion group on selected titles, art displays, and other programs of interest to the adult community.

The Library houses the collection of books donated by Henry Baker and makes the collection available to the public for viewing. Money was obtained a few years ago to restore the books and store them in a historically appropriate manner.

Library Survey

In 2002, the Library Trustees conducted an exit survey at the November general election, and over 500 responses were received. The results will help set goals during the 2004 fiscal year as well as help shape the Library's five-year plan.

Approximately 90% of the Library survey respondents said that they use the library, with twice monthly, monthly, and less often as the most frequent responses. Survey results show that patrons are pleased with Library services, with an overwhelming majority rating the material selection, information services, helpfulness of staff, and adult and children's programming as excellent or good. Survey results also indicate that most patrons use the Library primarily to borrow reading materials and find information. Children's programs, the book sale, and museum passes were also popular uses of the Library. Most patrons use the computer system to search the library catalog with other uses including research and internet access. Approximately 30% of patrons indicated that they do not use the computer system at all.

When asked what services would increase use of the Library, respondents said that they would like expanded hours. In addition, patrons would like to see DVDs added to the movie collection

as well as more books on CD. More adult and family/children programming and author books signings/readings would also increase Library patronage, according to the survey. Lastly, survey respondents would like to request material from other local library collections through the Baker Free Library's computer system.

Staffing Needs

Currently, Library staff includes a Library Director, a Children's Librarian, a Circulation Desk Assistant, three Library Assistants, a bookkeeper, and a custodian. In the future, the library plans to expand its hours to better meet the needs of the community. At that time, staffing needs would increase.

Facility Space and Equipment Needs

The Library was originally built in 1914 and the most recent addition was added in 2000. The building encompasses approximately 8,500 square feet. It also has an unfinished basement with available empty space that could potentially be used for expansion. When the addition was built, the Library projected that it would be adequate for the next 20 years.

In 2002, the entire computer system was replaced and updated. The library catalogue is on-line and material can be searched from computers on- and off-site.

Recommendations – Baker Free Library

- Review current hours of operation and look to expanding hours based on the Library survey responses received. Review staffing increases that would be required to accomplish this task and plan appropriately.
- Add a DVD movie selection and more books on CD to the circulation.
- Provide additional adult programs, such as music and art activities, author book signings and reading events, and topic seminars.
- Provide additional children's programs, such as a parent/child book club and more activities for older children.
- Allow patrons to access the circulation of other area libraries through the Baker Free Library.
- Investigate the cost and design associated with developing the downstairs space for programs and meeting space.

MUNICIPAL BUILDING OFFICES

The Municipal Building is located at 10 Grandview Road and was built in the 1900's as a schoolhouse. The Municipal Building houses the Town Manager, Town Clerk/Tax Collector, Deputy Town Clerk, Assessing Technician, Bookkeeper, Administrative Assistant, Planning Director and Planning Assistant, the Building Inspector, and Human Services Director. The Building also serves as meeting and storage space for the Planning Board, Board of Selectmen, Zoning Board of Adjustment, Historic District Commission, and Budget Committee, Business Development Commission, and the Conservation Commission. There is also a licensed childcare facility located in the building, which is a program run by the Parks and Recreation Department.

It is anticipated that the current facility is large enough in size to serve the needs of the Town for the next 10-15 years. However, there may be a need to relocate Departments, services, or Commissions/Board to other areas within Town to better utilize the existing space at the Municipal Building.

The Community Survey asked respondents to rate several services associated with the municipal building, including building code enforcement, business building code enforcement, planning regulation and administration, town administration, welfare, and zoning administration and enforcement. Approximately 32% of respondents thought building code enforcement was good, while 42.4% had no opinion. Similarly, 21.6% of respondents felt business building code enforcement was good, while 60.6% had no opinion. Approximately 19% of respondents said that planning regulation and enforcement was good, 21.4% said it was fair, and almost half had no opinion. Furthermore, 46.5% of respondents said the Town Administration was good and 26.3% said it was fair. Most respondents (82%) had no opinion about welfare. Lastly, 17.4% of respondents said that Zoning administration/enforcement is good, 16.8% said fair, and 58.9% had no opinion.

In the Spring of 1847, Bow voters decided to build a new town hall to replace the old one located on White Rock Hill. The new building was constructed on land given to the town, specifically for that purpose, by Colonel James Green, a former Selectman. The land is located at Bow Center near the intersection of Woodhill Road and Londonderry Branch Turnpike East.

Recommendations – Municipal Building Offices

- Research the need and cost for a Finance Director, Zoning Administrator, and an additional clerk/typist in the Town Clerk's office within the next five years.
- Create an on-site archival system and storage location for Town documents that is easily accessible and secure.
- Research the availability of moving the Historical Commission to another location within the Building or to a new building where their records, materials, and archives can be properly stored and displayed.
- If and when the Recreation Department has more space available to it, move the Child Care facility so that it will be housed with the Recreation Department.
- Re-examine the current user fee schedule for the use of municipal meeting space and structures to ensure that it is adequate, fair in its assessment, and covers the cost of on-going building maintenance.
- Evaluate the future distribution of municipal services that would be necessary as the Town approaches build-out and the necessity of increasing staffing levels/equipment/locations accordingly.
- Address the ADA (American Disability Act) accessibility issues and signage in and around the Municipal Building to ensure that the Town is serving all residents.
- Investigate the desirability and cost of using the Internet to provide services and information from the various departments located within the Municipal Building.

PARKS AND RECREATION DEPARTMENT

The Bow Parks and Recreation Department provides year-round programs of recreation and leisure to the youth and adults in the community. In 2002, the Department conducted over 150 programs, classes, special events, and bus trips for recreational outings. According to the Community Survey, 206 respondents felt that the existing Recreational Facilities were a desirable feature of Bow.

New children's programs added over the last two years include expanded archery for youths, parent-child golf, and soccer for three year olds. Expanded or new adult classes included scrapbooking, snowshoeing, painting classes, and ballroom and swing dance classes. Programs are promoted primarily through flyers and brochures passed out in the middle and elementary schools. Two hundred and forty Community Survey respondents wanted to see the operation of the Park and Recreation Facilities improved.

Currently, the Recreation Department is located in the Firehouse. Half of the building serves as the Recreation Department and half serves as the firehouse. In addition, there is one vehicle bay for Department equipment and maintenance. The majority of the Recreation Department programs take place in the gym, stage area, and auxiliary room of the Firehouse. Programs are also held in the elementary and middle school, space permitting.

The Town's major recreational assets include the Community Building, and Hanson and Sergeants Parks.

Staff and Equipment Needs

There are currently two full-time staff (a Director and a Groundskeeper) and two part-time staff (an Office Assistant and a Program Coordinator). The Department maintains the Town's parks, athletic fields, and recreational facilities. These include five baseball and soccer fields, three playgrounds, two field team practice areas, four parking lots, three access roads at two parks, Hanson and Sergeants Parks, the Rotary Park and Bandstand park, and the Town Ice Skating Pond. The following table shows the anticipated equipment needs by the Department over the next 10 years.

Equipment	New or Replacement	Year to Replace Equipment	Estimated Life of Equipment	Estimated Cost of Replacement
Ground Maintenance Equipment	New and Replacement	2007	7	\$12,000
4-Wheel Drive Tractor	Replacement	2009	10	\$30,000
¾ Ton 4-Wheel Drive Pick-up	Replacement	2010	10	\$26,000
Field Parking and Road Repairs	Replacement	2012	10	\$20,000

Source: 2003 Bow Capital Improvement Plan

Without new staff and facilities, the Parks and Recreation Department will not be able to add any new programs or offer services to additional Bow residents.

Recommendations – Parks and Recreation Department

- Evaluate the facilities needed for the current and future program needs and determine the best way to provide a facility that will meet those needs.
- Build athletic fields on part of a property off of Allen Road. This action was a warrant article voted on at Town meeting in 1999 and there was public support for it.
- In general the recreational fields within town are overused. The feasibility, cost, and time constraints of using all existing fields for both the Parks and Recreation Department and the school activities needs to be examined and coordinated.
- Examine the current user fee schedule for Department activities to ensure that they are adequate and assessed in a fair manner.
- Create an accounting system that assigns costs for all Department expenditures and tracks income by program area.
- Evaluate the need for expanding services as the Town approaches full Build-out and assess available Town property for services/fields/facility expansion.
- Create a plan for the expansion of the irrigation of Hanson Park fields that will not cause abutting property owners to have a decrease of well water pressure or supply.
- Investigate the feasibility of accepting Recreational Department program registrations and payments on-line.
- Explore the possibility if lighting some of the existing fields for nighttime use by town entities and/or renting the fields to raise revenue for other field expansion/maintenance activities.

SOLID WASTE DISPOSAL

Bow, like most towns in the central New Hampshire region, disposes of its trash at the Wheelabrator Incinerator in Penacook. In 2002, approximately 2,760 tons of household trash went to the incinerator, approximately the same amount as the year before. Based on a population of 7,138 people, trash per person was 773 pounds. This figure would have been lower if some of the recyclables had not been incinerated. Businesses located in Bow are required to contract out for the disposal of their waste at their own expense.

According to the Community Survey, 42.3% of respondents said that garbage collection is good and 34.3% said that it was fair.

There are two former landfills in Town. The older landfill, which dates back to pre-1955, is located near the community/fire station building. Very little is known about its operational history. The second landfill is located near the high school and operated from 1955 until 1997. A synthetic liner cap was used to close it in 1997. This landfill contains a very large number of tires that were cut up during its closure and also has a PCE groundwater contamination problem. The site also has some salt storage and petroleum contamination related to the close proximity of the former highway garage and transfer station.

The town must regularly maintain and monitor the landfill closed in 1997 for pollution control. At the Town Meeting of March 12, 2003, a trust fund was established to help residents remediate

drinking water pollution resulting from town activities (road salt, pollution related to landfill closures, etc.)

In 2003, the cost for disposal of trash at the incinerator is based on a rate of \$37.00/ton for trash. If Bow exceeds its Guaranteed Annual Tonnage (GAT), which is 6,150 tons, the cost increases to \$70.00/ton. The additional cost to dispose of solid wastes when the GAT is exceeded should be a significant incentive to continue recycling efforts.

Residents have curbside pick-up of solid waste and recycling, which is currently being provided by Waste Management. Paper pick up and mixed containers are picked up on alternate weeks. In addition, mixed recyclables have to be sorted prior to recycling, limiting the market for the recyclables to the BFI facility in Hooksett and Waste Management's Turnkey Facility in Rochester. Bow currently uses the BFI as its recycler. In 2002 tonnage delivered to BFI was approximately 538 tons, a drop of 11% from the previous year. The drop in the recycling rate was due primarily to issues with the waste hauler, which have since been addressed.

The table below highlights Bow's 2002 curbside recycling results.

2002 Bow Curbside Recycling Totals

Month	% Participating	Paper Tons	Commingled Tons
January	65.31%	32.27	16.62
February	65.67%	27.34	18.36
March	65.54%	32.89	9.69
April	66.15%	34.20	11.15
May	65.21%	26.61	17.83
June	65.67%	24.64	17.33
July	65.42%	36.98	15.74
August	65.42%	28.77	15.56
September	65.67%	22.13	13.72
October	65.31%	37.54	14.40
November	65.54%	35.28	12.07
December	65.66%	30.54	6.83
Total	65.55%	369.19	169.30

Source: 2002 Bow Town Report/Recycling & Solid Waste Committee Report

In addition to curbside recycling, residents can take other recyclables, which are not accepted as part of the curbside program, and bulky materials to the Transfer Station, which is located at the Department of Public Works facility. According to the Community Survey, over half of the respondents (54.7%) rate the recycling center as good while 21.7% said it was fair. The Transfer Station accepts appliances, scrap metal, and other items. According to the Community Survey responses, 13% would like to see curbside solid waste disposal, 8.9% would like to see individual drop-off at the transfer station, and 46.4% would like to see both options available. Three hundred and six survey respondents also wanted to see the creation of a mandatory recycling program developed.

It is not practical to place a full transfer station at the Public Works facility because of the impact it would have on the plow trucks, police, school buses, and public work vehicles and activities. Bow was unable to develop a consensus on siting a full transfer station after the former transfer station and landfill closed. Curbside pickup was initiated as an alternative to the development of a full-fledged transfer station.

At the transfer station, the total tonnage from the bulky containers in 2002 was 220 tons, which is about 2 tons less than was collected in 2001. The total cost of bulky container disposal was \$20,392.27, an increase of \$752.89 over 2001. Ultimately materials collected in the bulky containers went to the incinerator.

In 2002, the tonnage of scrap metal and appliances was 109.54 tons, a sharp decrease from the 142.59 tons in 2001. However, the expense has increased to \$693 due to falling scrap metal prices and increased de-gassing costs. The scrap metal and appliances are recycled by Advanced Recycling, which is located in Concord.

Approximately 700 gallons of used oil were collected at the Transfer Station in 2002. This was picked up and recycled at no charge by United Oil, formerly Total Waste Management. Approximately 300 propane tanks were recycled at the transfer station in 2002. These tanks were picked up at no charge to the Town of Bow. These were primarily home barbecue tanks with about two 2 or three percent being tanks of another size. The tanks go to Countryside Propane on Johnson Road in Bow.

Approximately 3,000 linear feet of fluorescent bulbs were recycled in 2002 at the transfer station. The first shipment of 1,440 linear feet went to Onyx Environmental Services in May at a cost of \$129.60 (about 11 cents per foot). Additional recycling efforts took place at the Fire Station, where Ni-Cad and small sealed lead rechargeable batteries were collected. A total of 50 pounds of batteries were recycled in 2002.

Every other year the Town participates in a regional household hazardous waste day in which residents can safely dispose of hazardous materials, such as paint, motor oil, and batteries. In 2003, the Recycling and Solid Waste Committee is planning a Household Hazardous Waste Day as well as a compost bin sale.

The Town maintains a year-round brush dump, except for the months of February and March, where residents can dispose of yard brush. Leaves and construction lumber are not accepted. The brush disposed of at the Town dump is burned.

Staffing and Equipment Needs

There is currently one part-time staff person that manages the transfer station and brush dump who is under the Department of Public Works. The curbside pick-up of solid waste and recycling is provided by a private contractor. The transfer station facility and brush dump are adequate for their current volume of use but would need to be expanded as the Town grows and/or the recycling program increases in size and/or volume.

Recommendations – Solid Waste Disposal

- Provide public education materials about the benefits of recycling, including the environmental, public health, and cost savings to the community.
- Research the costs and benefits of implementing a Pay-As-You-Throw (PAYT) solid waste and recycling collection system.
- Bow should investigate opportunities for low-cost ongoing paint collection and disposal, electronic equipment collection, and household hazardous waste collection in cooperation with abutting communities and the Department of Environmental Services.
- Evaluate the current solid waste disposal facilities/programs and their applicability, cost, and staffing needs at full build-out.
- Investigate the costs and benefits of Town-provided municipal waste collection and disposal service, instead of using a private contractor.
- Continue to put money into the existing expendable trust to address potential issues with the former town-owned landfills that are located within Town.

TOWN-OWNED CEMETERIES

There are three cemeteries in Bow that the Town maintains in some way. The Board of Selectmen plays the role of the Cemetery Trustees, making the policies and budgets that govern the Town-Owned Cemeteries. Results of the Community Survey indicated that 44.3% of respondents felt that cemetery care was good while 43.3% had no opinion. A listing of the cemeteries located in Bow can be seen below.

Town-Owned Cemeteries in Bow

Cemetery	Location	Size (acres)	# of Plots Remaining
Alexander Cemetery	River Road	11.2	182
Evans (North) Cemetery	White Rock Hill Road, by Turee Pond	10.5	585
Green Cemetery	Branch Londonderry Turnpike East	0.71	0

Source: Bow Historical Commission, 2002; Bow Building Inspector
1998 Natural, Cultural, and Historical Resources Inventory of the Central NH Region

The cost of a plot in the above-mentioned cemeteries is \$300 for a resident and \$600 for a non-resident. The Town is in the process of researching the suitability of the Marshall property, a 68.18 acres site, for the creation of a new Town Cemetery. At the 2003 March Town Meeting, voters created a Cemetery Development Capital Reserve Fund out of the existing cemetery related capital reserve funds in order to meet this need. One hundred and fifteen Community Survey Respondents wanted to see the Town expand the Town cemeteries.

The Evans (North) Cemetery has recently been resurveyed and the new layout enables the Town to provide family plots to those wishing to purchase them. Previously, there was no way to ensure that an entire family could be buried next to each other. This project solved that concern.

There are currently over 100 private trust funds that were established by the individual or family of those buried in one of the town-owned cemeteries for their care and maintenance. Unfortunately, the Town is not able to access the funds within these trust funds for their intended purpose and is instead forced to use town money for the maintenance and care of the cemeteries. The Town has established a Cemeteries Perpetual Care Fund and 50% of the sale of new plots has been dedicated to this purpose.

Recommendations - Cemeteries

- The Town Cemeteries should be mapped to show the locations of all occupied plots, the inscription on the gravestone, a picture of the gravestone, and all purchased but yet unoccupied plots.
- Digital pictures should be taken of all headstones to ensure that the information will be preserved and to create a record for maintenance purposes.
- Continue to fund and expand the “Cemeteries Perpetual Care Fund” for the perpetual care of all town-owned cemeteries. This fund should also include the interest of the private trust funds that have been set up by individuals for the care and maintenance of their plots.
- Consider creating a multi-use cemetery that would include the traditional cemetery uses, as well as open space, walking trails, and picnic areas.

COMMUNITY FACILITIES COMMITTEE

To help ensure the adequacy and suitability of community buildings and facilities in Bow, the Town should consider establishing a Community Facilities Committee that would replace the current Town Center Study Committee. This Committee would include representatives of the Board of Selectmen, the School Board, the Planning Board, the Budget Committee and other community representatives and town officials designated by the Board of Selectmen. This Committee would be responsible for reviewing and planning community facilities that are consistent with the overall needs of the Town of Bow.

The Committee would meet regularly to examine the public building and space needs of the community and to review all building proposals in Town. The Committee would also be responsible for planning facilities that could be efficiently built and operated. It would examine

the feasibility of planning future facilities that would meet the needs of several different public agencies. It also could, as appropriate, recommend funding for all or part of public buildings through the town's Capital Improvement Plan, which has been very successful in helping spread out the costs of major departmental expenditures over several years. Whenever feasible, the Committee would work to ensure the construction or acquisition of aesthetically attractive facilities that would contribute to Bow's sense of community pride.

Recommendations – Community Facilities Committee

- Dissolve the Town Center Study Committee and establish the Community Facilities Committee.
- Change the Committee with researching the need for and establishment of community facilities not currently located in town. These facilities should include a Post Office, River Park, public safety facility, etc.

IMPACT FEE ORDINANCE

The Planning Board and the Town have developed and adopted an Ordinance, methodology, and associated fees for the assessment of Impact Fees for the Bow School District. On the basis of this methodology, new and expanded residential development in Bow is assessed an Impact Fee that represents its proportional share of demand on the capacity of the School District. Any person who seeks a building permit for new or expanded development is required to pay an Impact Fee. The school Impact Fee can be waived for qualified elderly housing developments.

Recommendations – Impact Fee Ordinance

- The Town should look into establishing Impact Fees for the Fire Department and Police Department.

STRATEGIES TO MEET COMMUNITY FACILITIES NEEDS

The following is an inventory of alternative financing sources and strategies Bow could employ to help pay for needed staff, equipment, and facilities in various Departments. These suggestions should be reviewed by Department Heads and the Board of Selectmen as ways to meet the goals and recommendations outlined in this Chapter.

Bonds

Bonding is a popular method of raising revenue to construct or purchase town equipment and facilities. Though viable, the Town should avoid encumbering too much debt, as it can limit the ability of the Town to provide for future, unidentified needs. Bow has used bonds to pay for the acquisition of conservation land as well as for the development of municipal sewer system.

Capital Reserve Funds

Capital reserve funds are similar to savings accounts, as they allow the Town to contribute money to a specific account for the purpose of purchasing or defraying the cost of significant items such as school additions, highway equipment, fire trucks, and municipal buildings and

facilities. The Town of Bow has many capital reserve funds set up for various departments, including the Library, Fire Department, and the Police Department.

Community Development Block Grants

Depending on the location, social value, and functional use of a community facility, Community Development Block Grants (CDBG) can be a good source of financing. CDBG funds are allocated from the U.S. Department of Housing and Urban Development and, in New Hampshire, are administered by the Office of State Planning. Each year, communities across the state are invited to submit grant applications for funding of projects. Priority for funding is based on the income levels of a community and associated economic development need. In 2002, New Hampshire received over \$10.3 million in CDBG funds that, through the grant process, were allocated to communities across the State.

Grants-in-aid

New Hampshire communities are eligible for various grants in aid for financing school construction and improvements. Examples include:

- Foundation Aid to help schools provide minimum education
- Building Aid
- Area Vocational School Tuition and Transportation Aid
- Handicap Education Aid
- Sweepstakes Aid
- Nutrition Grants
- Driver Education

Growth Management

The purpose of this Ordinance is to regulate and control the timing of development in accordance with the objectives of both the Master Plan and the Capital Improvements Program, which were adopted by the Bow Planning Board. By having a Growth Management Ordinance in place, Town Departments are able to anticipate growth to occur in a more orderly and manageable way. This allows future capital needs planning and budgeting to happen in a proactive way, as opposed to reacting to large unanticipated growth in any certain year.

License and Permit Fees

Fees, such as building permits, zoning applications, and planning board subdivision and site plan fees are all examples of permit fees. Such fees are highly equitable and are successful for minimizing the burden on taxpayers for specific programs, such fees are currently collected by the Planning, Zoning, and Building Department.

Private Foundations / Trusts

For years, communities have been the beneficiaries of trusts and donations created by private citizens and foundations. The Town should actively solicit such resources for assistance regarding the development or expansion of recreational facilities and programs. The Library currently helped to fund its programs and facility/equipment purchases through these types of funding sources.

Sale of Surplus Town Property and Land

Sale of town owned property is another viable option for raising funds to pay for new community facilities. Parcels that should be liquidated include those that have no significant conservation or cultural value, or limited potential for future community facilities. The Town recently sold an old municipal excavation site to the Bow Economic Development Corporation for them to develop.

User Fees

During the 1980s, the concept of user fees for the funding of numerous public facilities and services were widely adopted throughout the nation. To help finance community facilities and programs, several communities in New Hampshire have adopted user fees. Examples of user fees in Bow include those for the Parks and Recreation Department and fees for use of Town facilities for meetings and events.

CONCLUSION

The provision of community services and facilities is one of the primary functions of government. As the population and demographics of Bow grow and change over time, it is important that the community make adjustments in its delivery of services to meet those changes. Trends for the future indicate that certain services will be provided on a regional basis, with multiple towns sharing the costs for equipment and staffing. Other services may in the near future become Internet-based, such as billing and payment of taxes.

The recommendations made in this Chapter address some of the changes that could potentially be made to community facilities to help maintain a high level of service. It is evident that each department in Bow is in need of additional staff, new or expanded facilities, or equipment upgrades. Although many of these requests have already been planned for, Bow needs to be proactive in its financing and planning to ensure that community services remain at their current level of quality and that the residents are not burdened with large tax increases to pay for such services all at once.

The build-out analysis provides an excellent tool for evaluating potential future needs based on the maximum development possible in Bow. We are more than halfway to full build-out based on our current Land Use regulations. Town Departments should make use of this information when planning for facility improvement and expansion, staffing and equipment.

Efficient community facilities and services that meet the needs of the public are important for maintaining and improving quality of life. Bow is a desirable community because of its small-town feel and numerous amenities. In the future, community facilities will continue to play a crucial role in Bow's ability to attract potential newcomers as well as retain current residents.

CHAPTER VII TRANSPORTATION

INTRODUCTION

A safe and efficient transportation network is an essential component for the development of a prosperous community. Over the past decade, development trends in Bow have been largely influenced by an expanding regional economic base and proximity to I-93 and I-89. It is likely that these will continue to play a major role in the future development of Bow and the central New Hampshire region.

Planning for future transportation needs should be carried out in a manner that not only accommodates anticipated future growth of the Town and local businesses, but will also help ensure that development will occur in a responsible manner. Sound and thoughtful transportation planning is an essential part of guiding both economic and residential development in order to preserve valued features of the community and achieve and enhance community goals.

The purpose of this Chapter is to provide an inventory and assessment of Bow's transportation network, detail sources of potential funding for projects, enhance alternative modes of transportation for the Town's population, and provide policy recommendations to improve the existing transportation network and achieve the community's transportation goals.

ROAD CLASSIFICATIONS

State Aid Highway Classification

The State Aid Highway Classification System is a system used to classify roadways in New Hampshire. This system was created under the requirement set forth by RSA 229-231, to determine the responsibility for the reconstruction and maintenance of roadways located in the State. This system is also used to determine the eligibility of roads for State funding. This classification system is broken into six categories (Class I through Class VI highways). See the **State Aid Highway Classification Map** for more details.

Class I, Trunk Line Highways

This classification consists of all existing and proposed highways on the primary state system, except all portions of such highways within the compact sections of communities, providing said sections are Class I highways. I-93 is an example of a Class I Highway.

Class II, State Aid Highways

This classification consists of all existing and proposed highways on the secondary state systems, except those in compact sections of cities and towns. All sections of these roadways must be improved to the satisfaction of the New Hampshire Department of Transportation (NHDOT) and are maintained and reconstructed by the State. The Town must maintain all unimproved sections of these roadways, where no state or federal moneys have been expended, until they are

improved to NHDOT satisfaction. All bridges maintained with state or federal funds shall be maintained by the State, while all other bridges shall be the responsibility of the municipality. Route 3A is an example of a Class II Highway.

Class III, Recreational Roads

This designation is assigned to all roads leading to, and within, state reservations designated by the New Hampshire Legislature. The NHDOT assumes all responsibility for construction and maintenance. Bow does not have any Class III Highways.

Class IV, Urban Highways

This designation is assigned to all highways within the compact areas of municipalities listed in RSA 229:5, V. The compact section of any city or town shall be the territory within such city or town where the frontage on any highway, in the opinion of the DOT Commissioner, is mainly occupied by dwellings or buildings where business is conducted, throughout the year. No highway reclassification from Class I or II to Class IV shall take effect until all rehabilitation needed to return the highway surface to reputable condition has been completed by the State. Bow does not have any Class IV Highways.

Class V, Rural Highways

This classification consists of all traveled highways that the town or city has the duty to maintain regularly. Brown Hill Road and Hunter Drive are examples of Class V Highways.

Class VI, Unmaintained Highways

Roads under this category consist of all other public ways, including highways subject to gates and bars, and highways not maintained by the Town in suitable condition for travel for more than five years. Giles Road and the unpaved sections of Woodhill Hooksett Road are examples of Class VI Highways.

The following table shows the breakdown of the six different classes of roads, by mileage, in the Town of Bow.

Bow Roadway Mileage by Classification

Road Classification	Description	Miles
Class I	Trunk Line Highway	9.1
Class II	State Aid Highway	13.1
Class III	Recreational Roads	0.0
Class IV	Urban Highways	0.0
Class V	Rural Highways	76.6
Class VI	Unmaintained Highways	8.0
Total		106.8

Source: 1998 NHDOT Report

Town of Bow Street Classifications

The Town of Bow has created three classifications of streets within its Land Subdivision Regulations, which are defined below.

Arterial Street (Class A)

An inter-community thoroughfare designed primarily for high volume traffic movement throughout the community and beyond. Examples of this type of street include Bow Center Road and South Street.

Collector Street (Class B)

A street providing a lower level of traffic service than an arterial street and which is designated to provide access between and among areas of the community. Examples of this type of street include Bow Bog Road and Page Road.

Local Street (Class C)

A residential street having the primary function of providing direct access to adjoining properties, such street not being designed to provide for traffic service between and among areas of the community. Class C streets shall not be built in areas with the potential of servicing more than fifty units or servicing any commercial facilities. Examples of this type of street include Timmins Drive and Heidi Lane.

TRAFFIC COUNTS

Since the 1980s, the NHDOT has conducted annual or semi-annual traffic counts on State roadways in an effort to gauge the use of roadways by hourly, daily, weekly, and monthly increments. Most major roads in the community are monitored on a staggered basis, generally in three-year increments. The Towns select which roads to have counts conducted on through the Selectmen, Department of Public Works Director, Planning Staff, and Police Department.

As of 2002, NHDOT and the Central New Hampshire Regional Planning Commission (CNHRPC) monitored traffic at 59 locations in Bow. See **Appendix G** for the average daily traffic counts for Bow roads from 1992-2002. The numbers in **Appendix G** represent a snapshot of the average weekday traffic from May to November on select roadways.

Regular monitoring of traffic is critical in the planning process, as accurate projections are required for logical transportation and land use planning. By utilizing this data the Town can identify corridors that may become impacted in the future by current development trends.

Recommendations – Traffic Counts

- Specific traffic counts should be conducted along Route 3A in order to assess increased business development activity on traffic volumes.
- Thought should be given to the locations of the traffic counts and time of the year chosen to conduct them in order to gather information which can be analyzed to develop trends in traffic volumes for roads within Town.

ACCIDENT LOCATIONS

A method of identifying where transportation improvements are needed is to analyze the location, frequency, and type of accidents that occur at various locations in the community. Accident data was reviewed and found to be lacking in location data and therefore, no specific correlation could be made. **Appendix H** shows the location and frequency of accidents reported to the Bow Police from January 1999 through February 2002.

Recommendations – Accident Locations

- Improve police accident reporting procedures to ensure that all motor vehicle accidents are reported with location specific information to better help assess transportation infrastructure needs in the future.
- The Police Chief, Fire Chief, and Director of Public Works should conduct annual reviews of accident locations and determine enhancements that could be made to improve safety. This list of enhancements should be submitted to the Town Highway Safety Committee, Planning Board, and Board of Selectmen for review, prioritization, and endorsement.

COMMUTING PATTERNS

According to the Community Survey results, 708 people felt that a desirable feature of Bow was its commuting distance for work. This is largely the result of Bow's central location within the central New Hampshire region, which provides its residents with a relatively small commuting time. More specifically, in 2000, the average commuting time for Bow residents was 25.3 minutes resulting in the top three employment destinations of Concord, Manchester, and Bedford.

Bow's central location is also attractive to a number of people living outside of Bow, with 2,839 residents traveling to the Town for work in 2000. Most of these 2,839 workers came from Concord, Manchester, and Pembroke respectively.

Understanding the commuting patterns of the labor force in the community can assist in planning roadway improvements that will make important travel routes more efficient, safe, and promote sound economic growth.

Recommendations – Commuting Patterns

- Local Streets (Class C) are not suited for commuter "through -traffic." The Town should work to minimize this traffic wherever viable alternatives can be provided.
- Traffic counts should be reviewed and analyzed to identify roads that have shown an increase in traffic over the years with additional traffic counts conducted yearly.
- A local and regional bicycle and pedestrian network should be developed that allows residents to access major points of interest in Town and abutting towns safely and efficiently.

I-93 IMPROVEMENTS

The New Hampshire Department of Transportation has set aside approximately \$76 million for I-93 improvements between the I-89 / I-93 Interchange and I-93 Exits 15 and 16. NHDOT is in the process of contracting with a consultant to conduct an in-depth study of the corridor to begin in the summer of 2003. Many of the ideas and findings of the Study completed by Concord 2020 two years ago will likely be incorporated and refined. The Study planned for 2003 will lay the groundwork for additional engineering studies to be completed in the future.

The construction project may include widening this portion of I-93, safety improvements at the exits, and improvements to the I-89 and I-393 interchanges with I-93. Specific information will not be known until the study is completed.

Recommendations - I-93 Improvements

- Bow should actively participate in the discussions concerning the widening of I-93.
- Actively encourage the retention of full Interstate access in the vicinity of I-89 Exit 1.
- Traffic speed on I-89 south should be reduced through increased traffic enforcement during the peak morning and evening commuting hours.

NEW HAMPSHIRE ROUTE 3A

A study of the Route 3A corridor, from the I-93 Exit 7 interchange in Manchester to the Bow/Concord town line, is in the beginning stages of the project. The purpose of the project is to perform a feasibility study and preparation of a conceptual plan for improvements to Route 3A. The study will look at broad transportation system needs and other factor that may influence the needs specific to the project area, and establish a range of practicable alternatives for future development. The study will examine issues affecting Route 3A from a traffic, safety, shoulder widening and intersection improvement perspective, as well as access management and transportation demand management.

Recommendations – New Hampshire Route 3A

- Bow should encourage the upgrading of Route 3A and the development of turning lanes in appropriate areas to promote safer and easier access along the corridor.
- Bow should actively encourage the development of a paved shoulder that can also be used for a bike lane.
- Bow should encourage the development of a second means of access from I-93 in the area of the Business Development District.

TOWN STREETS

How streets are designed, built, and maintained is a key part of well-planned, orderly growth. This affects the visual quality of communities, public safety, and quality of life for years to come. According to the Community Survey, 351 respondents felt that the “rural atmosphere” was the most desirable feature of Bow, with 870 listing it as a desirable feature.

Arterial Streets

The arterial street system includes the primary travel corridors linking major areas of the town to each other, as well as the regional highway network. Its primary function is to provide a high degree of mobility for concentrated heavier traffic flows, including truck traffic. Higher travel speeds may be appropriate. Direct access to abutting properties is a secondary function and should be minimized to the extent practical.

The current arterial street system consists of the following: Bow Center Road, Clinton Street (Route 13), Logging Hill Road, Route 3A, South Street, White Rock Hill Road (Logging Hill Road to Page Road section), and Woodhill Road. See the **Proposed Bow Street Classification Map** for the location of these roads.

Recommendations - Arterial Streets

- Re-designate the arterial street system to add the following: Page Road, Dunklee Road, and Bow Bog Road.
- Redefine Arterial Street (Class A) as follows: “An arterial street links major areas of the town to each other as well as the regional highway network. Its primary function is to provide a high degree of mobility for concentrated heavier traffic flows, including truck traffic. These streets reflect the higher end of posted speeds in town. Direct access to abutting properties is a secondary function and should be minimized to the extent practical.”
- Consider access management techniques to minimize the effect of abutting land access on the mobility of through traffic.
- Consider at least a four-inch pavement depth on reconstructed streets.
- Revise the town road standard for Arterial Streets (Class A) to include the following cross-sectional widths:
 - For posted speeds of 35 mph or greater, a minimum 32-foot paved width to include two 12-foot travel lanes, and two four-foot wide bicycle/safety shoulders delineated by white edge lines. For posted speeds of 30 mph, a minimum 30-foot paved width to include two 11-foot travel lanes, and two four-foot wide bicycle shoulders delineated by white edge lines. The narrower width of marked travel lanes is intended to suppress a tendency for vehicle speeds to increase as overall pavement width may increase.
 - The cross sectional width of Route 3A should be as recommended by the ongoing study of the corridor by the NHDOT. Four-foot paved shoulders should be included as a minimum to serve bicycle traffic.
- Increase widths of existing arterial streets to conform to the above cross sections in conjunction with programmed resurfacing or reconstruction projects.

- Investigate existing right-of-way and pavement widths to plan for the incremental expansion of a contiguous network of bicycle shoulders, with a priority given to the arterial street network.
- Install and maintain reflective pavement markings on all arterial streets to include double-yellow centerline and single white edge lines.
- Roadway widening for turning lanes, by-pass shoulders, and deceleration lanes should generally be limited to the highest speed arterials such as Route 3A and Clinton Street. Installation of such lanes on other arterials should be discouraged, unless a substantial need is determined, at a specific location, by a qualified engineering study.
- Consider installing a modern roundabout, rather than traffic signalization, to improve traffic operations at the Logging Hill Road/Knox Road/White Rock Hill Road intersection. A roundabout can: lower traffic speed in the town center area; reduce unnecessary delays to all traffic movements during the course of the day; provide for improved pedestrian crossing; substantially reduce accident potential, and be more in concert with maintaining the rural and neighborhood character of Bow. In lieu of a roundabout, multi-way stop sign control would be a possible traffic control measure, if and when the need for this measure arises.
- Traffic signalization should be discouraged on all town roadways except along Route 3A and Clinton Street.

Collector Streets

The collector street system is an intermediate network of streets that connects adjoining neighborhoods and function to distribute traffic between the arterial street system and the local street system. They provide mobility to through traffic as well as direct access to abutting residential or commercial properties. The level of mobility and travel speed is less than that of arterial streets, and more than that of local streets.

The current collector street system consists of the following: Allen Road, Bow Bog Road, Dow Road, Dunklee Road, Knox Road (from Logging Hill Road to Dow Road), Page Road, River Road (from Vaughn Road to Dunklee Road), Robinson Road, South Bow Road, and Vaughn Road (from Route 3A to River Road). See the **Proposed Bow Street Classification Map** for the location of these roads.

Recommendations - Collector Streets

- Re-designate the collector street system to add the following: Albin Road, Johnson Road, White Rock Hill Road (from Page Road to Bow Center Road), Brown Hill Road, Dunbarton Center Road, Birchdale Road, Grandview Road.
- Redefine Collector Street (Class B) as follows: “A collector connects adjoining neighborhoods and function to distribute traffic between the arterial street system and the local street system. It provides mobility to through traffic as well as direct access to abutting residential or commercial properties. The level of mobility and travel speed is less than that of an arterial street, and more than that of a local street.”
- Consider at least a four-inch pavement depth on reconstructed streets.
- Revise the town road standard for Collector Streets (Class B) to include a minimum 28-foot paved width to include two 10-foot travel lanes, and two four-foot wide bicycle shoulders delineated by white edge lines. The narrower width of marked travel lanes is intended to suppress a tendency for vehicle speeds to increase as overall pavement width may increase.
- Increase widths of existing collector streets to conform to the above cross sections in conjunction with programmed resurfacing or reconstruction projects.
- Install and maintain reflective pavement markings on all collector streets to include double-yellow centerline and single white edge lines.
- Consideration for roadway widening for turn lanes and deceleration lanes should be limited to intersections with arterial streets.

Local Streets

The local street system includes all Class V town highways not designated as arterial or collector streets. Their primary function is to permit direct access to abutting residential or commercial properties. These roads generally service neighborhoods, and offer the lowest level of vehicle mobility. Traffic speed is minimized, and service to through traffic is discouraged. See the **Proposed Bow Street Classification Map** for the location of this type of Town street.

Recommendations - Local Streets

- Redefine Local Street (Class C) as follows: “A local street is a Class V town highways not designated as arterial or collector streets. Its primary function is to permit direct access to abutting residential or commercial properties. A local street generally services neighborhoods, and offers the lowest level of vehicle mobility. Traffic speed is minimized and service to through traffic is discouraged.”
- Revise the town road standard for Local Streets (Class C) to include a minimum 26-foot paved width.
- Consider at least a four-inch pavement depth on new and reconstructed streets.
- Consider a 25 mph speed limit in residential neighborhoods.
- Consider traffic calming techniques, if appropriate, to minimize traffic speeds and discourage through traffic in neighborhoods.
- Pavement markings are not generally recommended for local streets unless a specific need is determined by a qualified engineering study.
- Discourage roadway widening for turn lanes and deceleration lanes.

Street Signing

Street signs provide information for roadway users. The type, application, and placement of street signage is subject to national standards established by the US Department of Transportation Federal Highway Administration. Street signs are generally classified as follows:

- | | |
|-------------------|--|
| Regulatory Signs: | Regulatory signs inform road users of selected traffic laws or regulations and indicate the applicability of legal requirements. Examples include: STOP, YIELD, Speed Limit, and DO NOT ENTER. |
| Warning Signs: | Warning signs call attention to unexpected conditions on or adjacent to a highway or street and to situations that might not be readily apparent to road users. These signs are usually yellow in color and included: STOP AHEAD, CURVE, MERGE, and PEDESTRIAN CROSSING |
| Guide Signs: | Guide signs are essential to direct road users along streets and highways, to inform them of intersecting routes, to direct them to cities, towns, villages, or other important destinations, to identify nearby rivers and streams, parks, forests, and historical sites, and generally to give such information as will help them along their way in the most simple and direct manner possible. Examples include: street names and route numbers. |

Recommendations - Street Signing

- Increase the size of street name signs to a standard eight-inch length for increased visibility and name recognition to passing traffic.
- The Director of Public Works should periodically inspect the nighttime reflectivity of traffic control signs. Key signs such as STOP signs should be prioritized for replacement when nighttime reflectivity becomes ineffective.
- Ensure that street signs are located at all intersections, are visible, and properly maintained.

SPECIAL TYPES OF ROADS

Private Roads

Private roads are roads that have been constructed but for various reasons, are not maintained by the Town or considered town-owned roads. There is currently no specific Town policy regarding private roads, their construction, or maintenance. Private roads can become Town-owned roads if a petition is submitted and the voters agree to accept the road at Town Meeting. There is no requirement for the private road to meet town road standards in order for voters to accept the road.

There are currently four private roads in Bow: Mary Baker Eddy Road, Holly Circle, Fiddlehead Road, and Windchimes Drive. These can also be seen in the **Designated Scenic Roads, Private Roads, Class V Gravel Roads, and Class VI Roads Location Map**.

Scenic Roads

In New Hampshire, communities have the ability to protect the character of specific scenic roads by enacting the provisions of RSA 231:157 at annual Town Meeting. Any Class IV, V, or VI highway can be designated a Scenic Road using the procedure in RSA 231:157. Ten people who are either Town voters, or who own land abutting the road (even though not voters) may petition the Town. The voters of the Town may, at any annual or special town meeting, by vote designate the road as a Scenic Road. A Town may rescind its designation of a Scenic Road using the same procedure.

The effect that Scenic Road designation has is to legally require a hearing, review, and written permission by the Planning Board before the Town, or a public utility, can remove (or agree to the removal of) stone walls, or can cut and remove trees with a circumference of 15 inches at 4 feet from the ground. However, the Planning Board approval can be bypassed, and only Selectmen permission is needed, if the Highway Agent wishes to cut trees that have been declared a "nuisance" under RSA 231:145-146, or which in the Highway Superintendent's opinion "pose an imminent threat." Moreover a public utility can cut the trees for the "prompt restoration of service" without anybody's permission (RSA 231:158, II). The Scenic Road law does not prohibit landowners from the cutting of trees or removal of stone walls (RSA 231:158, IV).

In recognition of the fact that State law itself is not very stringent, the New Hampshire Legislature added RSA 231:158, V, in 1991, which gives a town the broad power to impose scenic road regulations that are different from, or in addition to, those contained in the State law. These additional regulations could include giving protection to smaller trees or by inserting criteria for the Planning Board to use in deciding whether to grant permission. The Scenic Road law remains one of the few techniques available for the preservation of culturally important and scenic roads in New Hampshire.

The Town of Bow currently has three designated Scenic Roads: Woodhill Hooksett Road, Putney Road, and Branch Londonderry Turnpike. The locations of these roads can be seen on the **Designated Scenic Roads, Private Roads, Class V Gravel Roads, and Class VI Roads Location Map**.

Class V Gravel Roads

The Town of Bow has a mix of paved and gravel Class V roads on which to travel. This diversity allows Bow to retain its historic past while, to some extent, acknowledging growth and infrastructure needs. The following are the Class V roads in Bow that are gravel or are a mix of gravel and paved: Old Ferry Road, West Branch Londonderry Turnpike, and Woodhill Hooksett Road. The **Designated Scenic Roads, Private Roads, Class V Gravel Roads, and Class VI Roads Location Map** shows the location of the Town's gravel/paved roads and gravel roads.

Class VI Roads

Class VI roads are roads that are not maintained by the Town, may be subject to gates and bars, and are almost always gravel. A Class V road can become a Class VI road if the Town has not maintained it for five years or more. The following roads are designated, in part or entirely, as Class VI roads in Bow: Old Johnson Road, Farrington's Corner, Giles Road, Hop Kiln Road, Londonderry Turnpike, Woodhill Hooksett Road, Baker Road, and Vaughn Road. The **Designated Scenic Roads, Private Roads, Class V Gravel Roads, and Class VI Roads Location Map** shows the location of the Town's Class VI Roads.

The Town of Bow does not allow the subdivision of land on Class VI roads. The Town defers to RSA 674:41 regarding building on a Class VI road. Under RSA 674:41, I(c), for any lot whose street access (frontage) is on a Class VI road, the issue of whether any building can be erected on that lot is left up to the "local governing body" (Town Selectmen) who may, after "review and comment" by the Planning Board, vote to authorize building along that particular Class VI road, or portion thereof. Without such a vote, all building is prohibited. Even if the Board of Selectmen does vote to authorize building, the law states that the municipality does not become responsible for road maintenance or for any damages resulting from the road's use. The purpose of RSA 674:41, I(c) is to prevent scattered and premature development.

Across the State, many communities are beginning to look at Class VI roads as candidates for designation as Class A Trails because they have little or no development associated with them, are scenic, have no inherent liability concerns, public access is already allowed, and they serve to connect large areas of open space, conservation, and/or agricultural lands. In 1993, the State authorized RSA 231-A, which allows municipalities to designate Class V and VI roadways as either "Class A" trailways. With such a designation, the roadways are established as municipal trails. This designation will create ownership and responsibility for the trail by the town. Class A Trails allow abutting landowners continued use of the right-of-way for vehicular use to existing structures, timber, or agricultural operations, but any new building or development is prohibited. By reclassifying certain roadways that meet this criteria to Class A Trails, Bow could be taking a step in creating a community-wide system of trails.

For more information on the conversion of Class VI roads to Class A Trails, see the Conservation, Preservation, and Open Space Chapter of the Master Plan or the *Open Space Trail System Plan for the Town of Bow, New Hampshire, 2000*.

Recommendations – Special Types of Roads

- Bow should create a Private Roads Policy that would outline construction standards and maintenance requirements.
- All streets, regardless if they are public or private, should be built according to standards adopted by the Town, with flexibility allowed for certain cases.
- Identify for designation, as Class A Trails, some of the Class VI roads within Town by working with abutting landowners and the Conservation Commission. The identified Class VI roads should connect water bodies, open space, forest, conservation, existing trails and recreational areas, and/or agricultural land.
- The Town should follow-through with the recommendations outlined in the 2000 *Open Space Trail System Plan for the Town of Bow, New Hampshire*.

BRIDGE NETWORK

Bridges are a key component of the highway system, as they connect road segments across streams, lakes, rivers, and other roads. Bridges are the most expensive sections of roads and a lack of adequate bridges can create transportation bottlenecks within Town. The Town of Bow does not have a policy for the construction standards of new town-owned bridges. Currently, there are a total of 21 bridges in the Town of Bow.

The NHDOT maintains an inventory of all bridges in New Hampshire using Federal Sufficiency Ratings (FSR), a nationally accepted method for evaluating bridges. A FSR represents the relative effectiveness of a bridge as a modern day transportation facility. A FSR greater than 80 means that the bridge is in overall good condition. A bridge having an FSR between 50 and 80 is eligible for Federal Bridge Rehabilitation Funding. A bridge with an FSR less than 50 is eligible for either Federal Bridge Replacement or Rehabilitation Funding.

Functionally Obsolete (FO) refers to a bridge with substandard deck width, under clearance, approach roadway alignment, or inadequate waterway. Structurally Deficient (SD) refers to a bridge with one or more deteriorated components whose condition is critical enough to reduce the safe load carrying capacity of the bridge.

Appendix I provides more detailed information on the 21 bridges located in Bow. The Bridge Network, which encompasses Town-owned and State-owned bridges, is an important and necessary component of the comprehensive transportation infrastructure.

Recommendations - Bridge Network

- Bow should coordinate with NHDOT in the repair, replacement, and/or upgrading of bridges that have a FSR of less than 80, which means it is eligible, at least, for Federal Bridge Rehabilitation Funding.
- The Director of Public Works should periodically monitor the bridges in Town that are Town-owned and provide his findings to the Planning Board, Board of Selectmen, Town Manager, Highway Safety Committee, and NHDOT for their review.
- Bow should create a Bridge Policy that would outline design and construction standards for new and/or renovated bridges.

MULTI-MODAL INFRASTRUCTURE

A multi-modal transportation infrastructure would allow those people traveling within or through Bow the opportunity to do so in a mode other than a car. Multi-modal transportation can include options for passenger rail, bicycle, bus, pedestrians, and automobile travel. According to the results of the Community Survey, the creation and expansion of walking and bicycle lanes/areas are the second most popular recreational community service that residents would like to encourage. The **Multi-Modal Infrastructure Map** shows recommended areas within town that would benefit from crosswalks, sidewalks, bicycle lanes, and traffic calming measures. The existing rail line and Park and Ride facility are also depicted on the map.

Bicycle Infrastructure

Planning for a bicycle network requires a different approach from that of motorized transportation planning. Bicyclists have different needs from those of motorists, including wider shoulders, better traffic control at intersections, and stricter access management. Often, roadways are designed solely with motor vehicles in mind and Bow is no exception to this. There is currently one dedicated bike path in Bow, which is approximately 0.5-mile long, that parallels I-89 for a short distance from the I-93 intersection over Turkey River and connects to Valley Road and Route 3A.

There are two methods to creating a bicycle infrastructure within Town. The first method is to create a separate and dedicated bike path and the second method is to create a bike lane that is developed along the existing roadways. The second method is more cost effective, easier to construct and maintain, and expand in the future.

By creating a local bicycle infrastructure, members of the community have the ability to travel within Town for employment, shopping, and recreational purposes without driving. According to the Community Survey, bike paths (486 responses) were the second most popular type of recreational opportunity that respondents would like the Town of Bow to expand. The **Multi-Modal Infrastructure Map** shows the State and Regional bicycle networks, as well as the proposed local bicycle network here in Bow.

Pedestrian Infrastructure

Pedestrian facilities, such as paved sidewalks and gravel walking paths, are critical features for roadways with high volumes of traffic or high speeds. The primary purpose of sidewalks is to improve safety for pedestrians by separating them from the travel lanes of roadways. In addition to this, sidewalks can also serve as a source of recreation for residents, a non-motorized mode of travel, serve to beautify an area, or stimulate economic activity. The Town of Bow has generally chosen not to require the development of sidewalks in subdivisions in an effort to preserve the rural look of the Town. However, consideration of sidewalks may be appropriate at select, high-use areas. For example, attempts were made to secure funding to create a sidewalk from the Bow Memorial School to the Fire Station.

Where sidewalks are not present, pedestrian access commonly occurs along the outside edge of roadways. Where traffic volume or speeds are high, a striped shoulder increases the separation of pedestrian and vehicular traffic, improving pedestrian safety.

Reduced speed limits are one method of improving pedestrian safety and other non-motorized modes of travel. In both rural and urban areas, the minimum speed limit a town can impose is 25 miles per hour. Limits can be lowered at intersections (RSA 265:63, (a)) and in school zones (RSA 265:60, II (a)).

Crosswalks are a form of traffic control and therefore, must be approved by the regulating agency. Crosswalks located on State roads must be approved by NHDOT, while the Town is responsible for those located on Town-owned and -maintained roads. There is currently one crosswalk in Town located at the Bow Memorial School. The most appropriate locations for

crosswalks in Bow are at heavily traveled intersections where there are sidewalks and/or destinations generating substantial and regular pedestrian activity.

Many communities in the United States are now exploring ways to encourage pedestrians and other non-motorized modes of travel to safely share roads with motorized traffic. These measures, collectively called traffic calming, use the physical design of the roadway to prevent inappropriate automobile speeds. They are not intended for roads where the primary objective is to move traffic quickly through an area. Most often they are used in residential or downtown areas where residents see the road as part of their neighborhood and a place where walking, recreation, and social interaction can safely coexist with motorized traffic.

Traffic calming suggests road design techniques using active or physical controls, such as speed humps, speed tables, raised crosswalks, medians, and modern roundabouts, and passive controls, such as signs and traffic regulations, to reduce speeds. Traffic calming measures foster safer and quieter streets that are more hospitable to cyclists, pedestrians, and joggers and enhance neighborhood environments. The potential benefits of traffic calming include reduced traffic speeds, reduced traffic volumes by discouraging "cut-through" traffic on residential streets and often improved aesthetic quality of streets.

Railroad

There is one active rail line located in Bow, which is the Boston to Maine Railroad. This rail line is located along the Merrimack River and currently carries only freight, including coal, cement, and other industrial goods. Approximately six to eight inbound and outbound trips are made weekly along this route with four businesses utilizing the service. This line has the potential to expand to a passenger rail line in the future, with infrastructure modifications. With increased commercial and industrial development in the Business Development District, this rail line has the potential to attract new business, which will benefit the Town and the railroad company.

Park and Ride

The New Hampshire Park and Ride lots are centralized meeting places for use by commuters to park vehicles while participating in carpools or vanpools or using transit services. There is currently one Park and Ride location in Bow, south of I-89 on Route 3A. There are 60 parking spaces available to commuters. However, there are currently no public transit options or bicycle facilities available.

Public Transit

There is limited public transit service for those living or working in Bow. There is currently only public transit service provided once a week by Concord Area Transit (CAT) for those wishing to travel to Concord. In 2002, CAT provided no rides to Bow residents using weekly or demand response service to Concord. However, in 2003 following the opening of the White Rock senior housing, there have been an increasing number of calls for service from Bow to Concord. A study is now underway to determine if there is a demand for additional service on a daily or weekly schedule between Concord, Bow and abutting communities.

According to the Community Survey, 35.2% of respondents would support the extension of CAT service into Bow, 31.9% did not support the idea, and 32.8% were unsure or had no opinion.

Providing consistent and convenient public transit service allows those who are unable to drive, mostly the young and the elderly, their independence in carrying out day to day activities, as well as provide access to employment opportunities they otherwise would not have.

Salem to Concord Bike/Pedestrian Corridor

Completed in the spring of 2003, the Salem to Concord Bikeway Feasibility study, conducted by a consultant to the New Hampshire Department of Transportation (DOT), looks at alternative routes for a non-motorized trail connecting Salem and Concord. The study looks at abandoned rail corridors, the network of existing roads, and a path along I-93 as options for a continuous non-motorized multiuse path. Public involvement was extensive throughout the course of the study and included the formation of a Citizen's Advisory Committee (CAC). The CAC included members of 11 communities within the Salem-Concord corridor and participation from the Regional Planning Commissions. In addition, four public meetings were held to obtain feedback and suggestions on trail alternatives. Taking into account public feedback, the CAC selected a preferred route that combines the rail to trail alternative with the on-road alternative.

Each community within the Salem to Concord corridor was sent a copy of the Feasibility Study Report for review and input on their interest in implementing the trail. Community members in each town would be responsible for trail construction and maintenance. DOT estimates that 80% of the trail would be funded by federal funds while 20% would befall the town. Community interest will play a large role in determining whether or not the trail is developed within each Town. The Salem to Concord corridor could add to Bow's multi-modal infrastructure.

Recommendations – Multi-Modal Infrastructure

- Promote a bicycle and pedestrian route system to maximize transportation opportunities in and around Bow that would reduce the amount and necessity of automobile traffic.
- Bow should adopt and support the statewide and regional bicycle networks and take available steps to help implement them within Town.
- A local bicycle network should be developed that connects with the regional network and incorporates key locations within Town, such as the library, schools, existing trail system, and snowmobile network.
- Bow should research funding options for creating and maintaining a local bicycle network.
- Revise the standard cross section of arterial and collector streets to provide 4-foot wide paved shoulders for bicycle and pedestrian use, where sidewalks are not present.
- During the reconstruction or upgrading of a road, the Department of Public Works should consider widening, striping, and paving the shoulders of Town arterial and collector streets to accommodate bike lanes and foster pedestrian safety.
- Consider a 25 mph speed limit in residential neighborhoods.
- Look at creating a pedestrian loop around the schools, at the elderly housing complex, and from the Middle School, to the Fire Station, and to the High School.
- Bow should work with CAT to investigate the need and interest in creating regularly scheduled public transportation service into and within town.

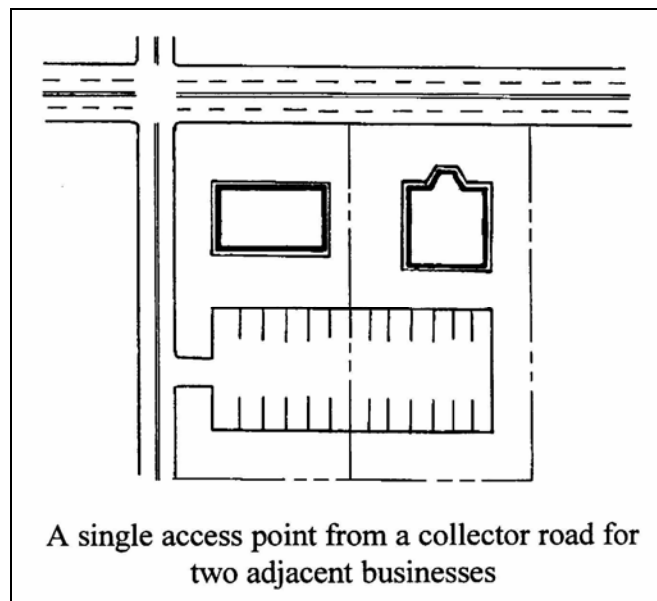
ACCESS MANAGEMENT

Access management has become an increasingly important issue for new developments in rural and suburban communities. Access management works to do the following:

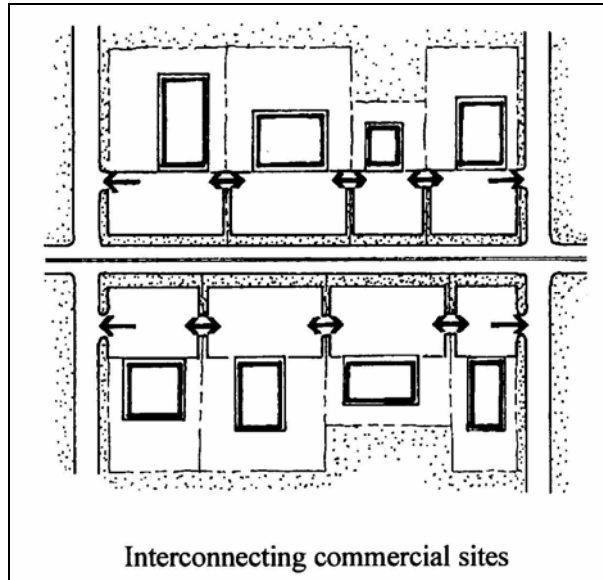
- 1) Limit the number of places vehicles are turning and entering the roadway
- 2) Reduce deceleration in travel lanes, thus promoting efficiency
- 3) Remove turning vehicles from travel lanes

By accomplishing these three major goals, access management prevents roadways from becoming snarled with congestion, thus helping to ensure roadways will meet transportation needs for years to come. The following guidelines are some examples of access management techniques.

SHARED ACCESS POINTS: All new site plans on heavily traveled roadways should have shared access points with abutting parcels. This will reduce the number of driveways (curb cuts) on major roadways, and improve traffic movement and safety conditions.



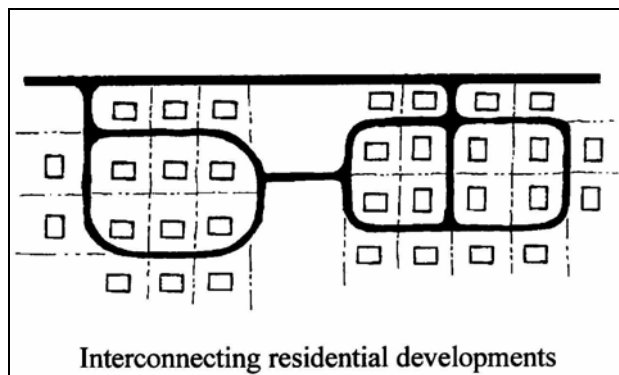
INTERCONNECT SITES: Developers should provide rights-of-way to connect commercial and multifamily sites, thus creating parallel access roads along major roadways, which will help to reduce congestion, and slow the need to expand highway capacity.



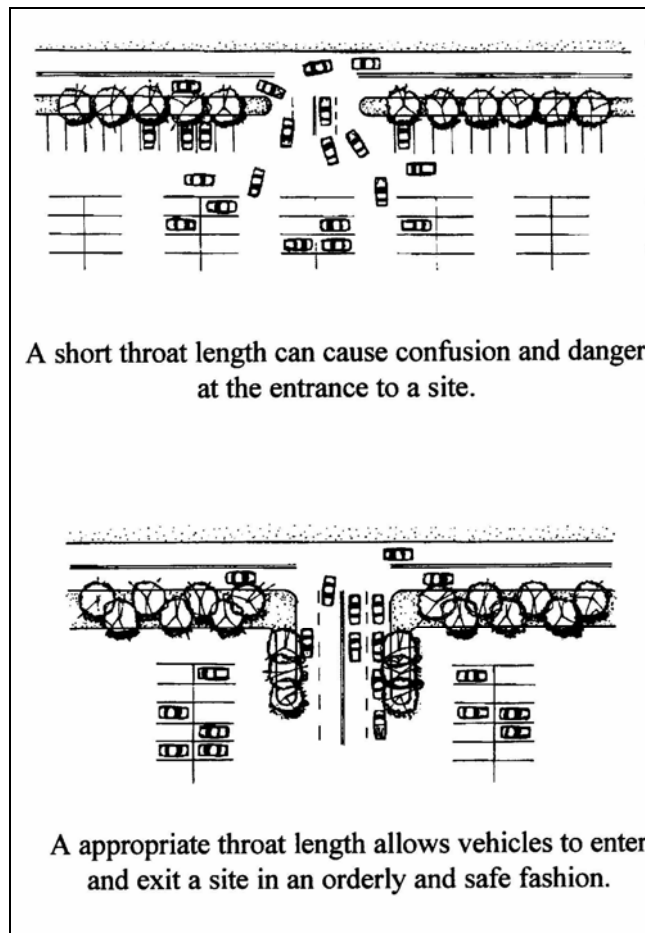
DISTANCE BETWEEN DRIVEWAYS: A minimum distance between commercial and multifamily driveways on major roadways should be set in order to better streamline turning movements and improve safety.

NUMBER OF DRIVEWAYS PER LOT: The Planning Board should limit the number of driveways for parcels fronting major collector or arterial roadways. Furthermore, continuous, undefined driveways should be prohibited, as such driveways often confuse drivers and contribute to accidents.

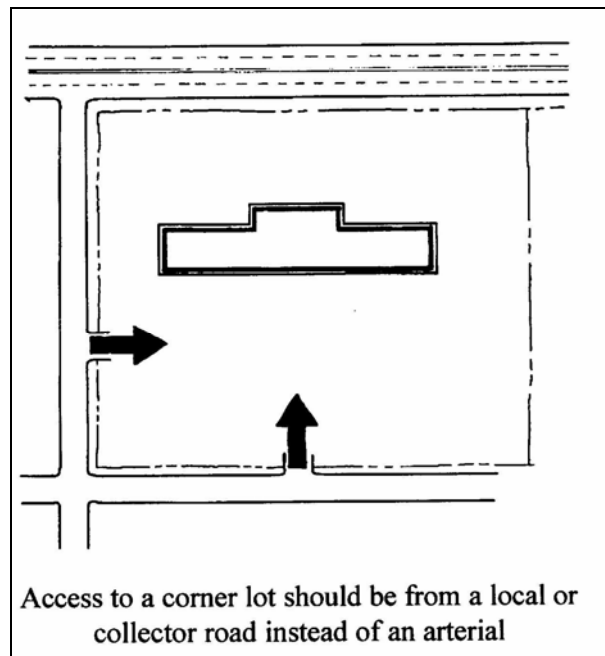
CONNECT ADJACENT ROADWAYS: Developers should design subdivisions to connect with other public roadways in other subdivisions.



MINIMUM DRIVEWAY THROAT LENGTHS: A minimum driveway throat length should be defined for commercial and large multifamily developments in order to help better define internal traffic movements at those sites.



CORNER LOT ACCESS POINTS: All corner lots fronting a major road should be accessed from the adjacent local or collector road, not the major roadway. Again, this will reduce congestion and improve safety.



The Bow Site Plan Regulations contain very few requirements pertaining to access management for commercial sites. Access management techniques need to be employed in order to alleviate traffic congestion and inefficient systems currently in place. Amending the Site Plan and Subdivision Regulations will allow a more efficient, safe, and cohesive transportation system to be developed.

Recommendation – Access Management

- The Planning Board should review and consider the adoption of the appropriate access management guidelines into the Site Plan regulations.

ROAD MANAGEMENT PLAN

The Bow Highway Department has a road management plan that it uses to help guide the activities of the Department and help plan for future activities. This plan is intended for use as a guide for major highway improvements. It may become necessary to change or modify the plan for certain projects. Damaging storms, budget restrictions, or unexpected situations can impact the timing of projects. Though projects in the plan are important, they may not always be accomplished.

According to the Community Survey, residents felt that road maintenance (85.2%) and snow removal (90.4%) were “good” and “fair” in their rating of municipal services. According to the Community Survey, respondents feel that the general condition of the roads in Bow is good (61.4%).

The process for developing the plan is as follows. All Town-owned and maintained roads were inventoried in a Roads Surface Management System (RSMS) in 2000, which was developed by the University of New Hampshire. This is an inventory of all road lengths, surface and drainage conditions, locations, traffic loads and counts, and topography. Winter maintenance of roads is also a good indicator of future projects, in that a road in good condition is easier to maintain under snow and ice conditions. The Highway Department monitors and updates this program annually to ensure that they are using the most reliable data in their decision-making process. Each year after Town Meeting, the proposed plan is submitted to the Town Manager who passes it on to the Highway Safety Committee. The Highway Safety Committee reviews the Plan, makes changes they feel are appropriate and submits the Plan to the Board of Selectmen. The Board of Selectmen review the Plan, make changes and then pass the Plan to the Department of Public Works for implementation.

The Highway Safety Committee is comprised of the Fire Chief, Police Chief, Department of Public Works Director, two residents, and a member of the Board of Selectmen. Their mission is to review road safety issues that are brought to their attention, review the road management plan, and to provide a forum for the public regarding road safety within Bow.

The financing of and planning for transportation maintenance and improvements can be difficult to accomplish in small communities with limited resources. Bow should use a variety of financing options to reduce the burden on taxpayers for the financing of local transportation maintenance and improvements.

Recommendations – Road Management Plan

- Bow should work with regional, state, and federal agencies and programs to prepare a comprehensive transportation plan that includes funding availability for the desired projects and programs.
- Encourage the utilization of appropriate methods to reduce the potential for road salt contamination of water resources, including: reduced salt usage, use of alternative deicing materials, and/or the development of roadside features to contain, redirect, and or treat street runoff.
- The Highway Safety Committee should be consulted when there is a subdivision application before the Planning Board, when the Town is considering upgrading a Class VI Road to a Class V Road, or when the Town is considering accepting a Private Road as a Town Road at Town Meeting.
- The Road Management Plan should be updated annually with a public hearing to gather input from residents and businesses in Bow.
- Survey and document the rights-of-way for town roads, as needed.
- Create an Impact Fee for roads to be assessed on new development within Bow to keep pace with development for the expansion and maintenance of the roads within Town.
- Create a plan for the maintenance and replacement of existing guardrails within Bow.
- Consider adopting requirements for streetlights to be installed in such a way as to reduce unnecessary glare and light pollution.

STATE TEN-YEAR TRANSPORTATION IMPROVEMENT PROGRAM

The Transportation Improvement Program (TIP) functions to link the statewide transportation planning process with that of the Central NH Regional Planning Commission (CNHRPC) region and local municipalities. The program enables the needs and desires of both small and large municipalities to be discussed in an open forum and then be brought, in a refined form, to the appropriate State and Federal agencies for funding consideration. The TIP process provides a vital link between municipalities, the region, and the state in the transportation planning process.

The TIP is a comprehensive program that involves municipalities, regional planning commissions, the NHDOT, the Governor's Advisory Council on Intermodal Transportation (GACIT), the New Hampshire Governor and Legislature, and the Federal government. The regional TIP culminates in a document that contains proposed transportation projects in the central New Hampshire region that are recommended for inclusion into the New Hampshire 10-year Statewide Transportation Improvement Program (TIP). The TIP process typically starts at the regional planning commission level, although it is beneficial if the process is first introduced at the municipal level. All regional planning commissions within New Hampshire prepare a TIP every two years based on input from local municipalities, NHDOT, and each planning commission's Transportation Advisory Committee (TAC). The NHDOT then takes the regional TIPs and incorporates the projects with the highest level of support into the 10-year TIP, adding its input and special projects. The 10-year TIP then becomes the transportation project guide for the upcoming years.

There are currently three projects affecting Bow in the Ten-Year Transportation Plan, which are described in the table below.

Project	Est. Construction/ Study Date	Estimated Cost
Route 3A Safety improvements including shoulder widening and intersection improvements from I-293 Exit 7 to I-89	2003-2015	\$10,700,000
Bridge rehabilitation over I-93 on Grandview Road	2005-2006	\$562,000
Widening of I-93 from I-89 to between Exits 15 and 16	2013-2015	\$76,000,000

Source: NHDOT Ten-Year Transportation Plan 2005-2016 Draft (1/6/03)

Recommendations – State 10-Year Transportation Improvement Program

- Bow should consider establishing a local committee to help solicit ideas and create proposals for the TIP in conjunction with the Planning Board, Selectmen, and Town Manager.

FUNDING STRATEGIES TO MEET TRANSPORTATION GOALS

Transportation, which includes bicycle lanes, bridges, trails, as well as roads, is a very important part of the community's infrastructure. The creation, maintenance, and improvements of these systems are necessary for Bow to meet the needs of its residents and provide a reliable transportation network. The Town should review the following strategies as potential opportunities to meet the transportation goals set out in this chapter of the Master Plan.

Transportation Equity Act for the 21st Century (TEA 21)

Enacted in June of 1998, this multi-billion dollar legislation authorizes the Federal Surface Transportation Programs for highways, highway safety, and transit for a six-year period (1998-2003). Essentially, this act served to reauthorize and expand ISTEA, which expired in 1997. TEA-21 is the parent legislation that funds a variety of transportation programs including the Congestion Mitigation and Air Quality (CMAQ) Improvement Program and the Transportation Enhancement (TE) Program (see description below).

Federal Aid Bridge Replacement Funds

These funds are available for the replacement or rehabilitation of town-owned bridges over 20 feet in length. Matching funds are required and applications for funding are processed through the NHDOT municipal highway engineer.

Highway Block Grants

Annually, the State apportions funds to all cities and towns for the construction and maintenance of Class IV and V roadways. Apportionment "A" funds comprise not less than 12% of the State Highway budget and are allocated based upon one-half the total road mileage and one-half the total population as the municipality bears to the state total. Apportionment "B" funds are allocated in the sum of \$117 per mile of Class V road in the community. Block grant payment schedules are as follows: 30% in July, 30% in October, 20% in January, and 20% in April. Any unused funds may be carried over to the next fiscal year. Bow received approximately \$162,300 of highway block grant money in 2002.

Transportation Enhancement Funds (TE)

The Transportation Enhancements Program (TE) is another viable source for improving roads in communities. Funding for the TE program is slightly more than \$3 million annually. These funds are provided in an 80/20 match, with the State paying for the majority of the project cost. Typical examples of projects eligible for TE funds include:

- Facilities for bicyclists and pedestrians;
- Safety and education activities for bicyclists and pedestrians;
- Scenic or historic highway programs;
- Landscaping and other scenic beautification;
- Rehabilitation and operation of historic transportation buildings, structures, and facilities;
- Preservation of abandoned railway corridors;
- Establishment of transportation museums.

State Bridge Aid

This program helps to supplement the cost to communities of bridge construction on Class II and V roads in the State. Funds are allocated by NHDOT in the order in which applications for assistance are received. The amount of aid a community may receive is based upon equalized assessed valuation and varies from two-thirds to seven-eighths of the total cost of the project.

Town Bridge Aid

Like the State Bridge Aid program, this program also helps communities construct or reconstruct bridges on Class V roads. The amount of aid is also based upon equalized assessed valuation and ranges from one-half to seven-eighths of the total cost of the project. All bridges constructed with these funds must be designed to support a load of at least 15 tons. As mandated by State law, all bridges constructed with these funds on Class II roads must be maintained by the State, while the Town must maintain all bridges constructed on Class V roads. Any community that fails to maintain bridges installed under this program shall be forced to pay the entire cost of maintenance plus 10% to the State Treasurer.

Local Option Fee for Transportation Improvements

New Hampshire RSA 261:153 VI (a) grants municipalities the ability to institute a surcharge on all motor vehicle registrations, through a vote at Town Meeting, for the purpose of funding the construction or reconstruction of roads, bridges, public parking areas, sidewalks, and bicycle paths. Funds generated under this law may also be used as matching funds for state or federal projects. The maximum amount of the surcharge permitted by law is \$5, with \$.50 reserved for administering the program. Based upon the approximate number of motor vehicles registered in Bow in 2002 (25,500 vehicles), this could yield \$114,750 annually in additional funding for transportation improvements without increasing property taxes. This would not apply to off-road vehicles, motorcycles, or antique automobiles.

Impact Fees

Authorized by RSA 674:21, communities can adopt impact fee programs to offset the cost of expanding services and facilities that communities must absorb when a new home or commercial unit is constructed in town. Unlike exactions, impact fees are uniform fees administered by the building inspector and are collected for general impacts of the development, as opposed to exaction which are administered by the planning board and are collected for specific impacts unique to new site plans or subdivisions on Town roads. The amount of an impact fee is developed through a series of calculations. Impact fees are charged to new homes or commercial structures at the time a building permit is issued. State law also stipulates that all impact fees collected by a community must be used within 6 years from the date they were collected, or else they must be refunded to the current property owners of the structure for which the fee was initially collected.

Capital Reserve Funds

This is a popular method to set money aside for future road improvements. RSA 35-V mandates that such accounts must be created by a warrant article at town meeting. The same warrant article should also stipulate how much money will be appropriated to open the fund, as well as identify what Town entity will be the agent to expend the funds. Once established, communities

typically appropriate more funds annually to replenish the fund or be saved and thus earn interest that will be put towards large projects or expenditures in the future.

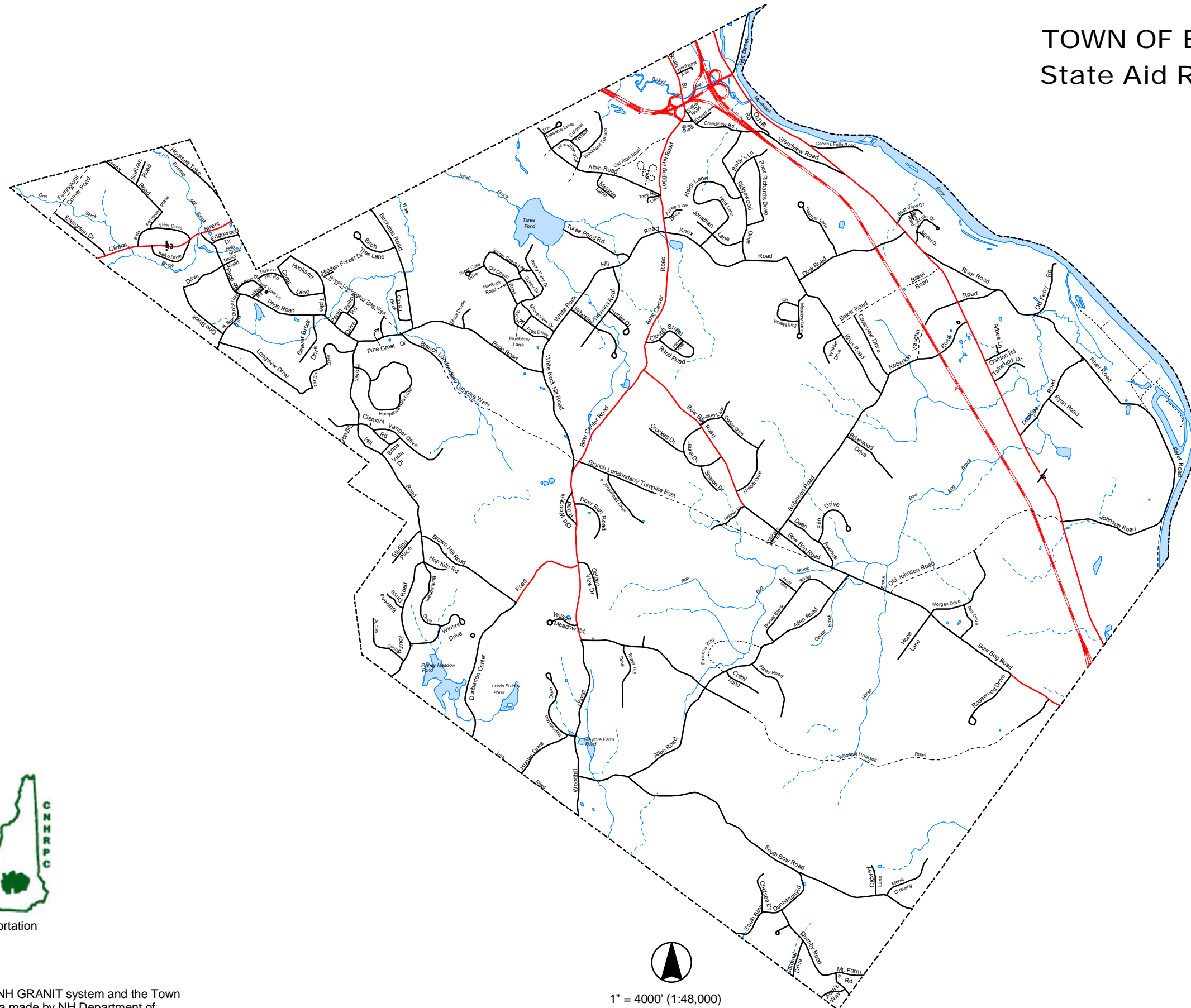
CONCLUSION

Bearing in mind the commitment to the preservation of the character of Bow and the disruption to the quality of life that comes from increased vehicle traffic, this Chapter supports a principle that maximizes incentives for the use of best practices in road design and pedestrian/bicycle infrastructure. Recommended improvements are geared towards using or enhancing existing roadway infrastructure to their full potential, rather than building new facilities. This results in improvements that are cost effective, less invasive to the environment, and more acceptable to the community.

The overall goal of the Chapter is to maintain a convenient and efficient transportation network to allow the safe transfer of goods and people throughout Bow, while protecting the aesthetic and scenic qualities of roads within Town. The thrust of the work in the Transportation Chapter is an attempt to articulate a vision and a means by which that vision can be achieved for the Town.

TOWN OF BOW, NEW HAMPSHIRE

State Aid Road Classification Map



This map produced by
**Central New Hampshire
 Regional Planning Commission**
 28 Commercial Street
 Concord, NH 03301

phone (603) 226-6020
 web www.cnhrpc.org

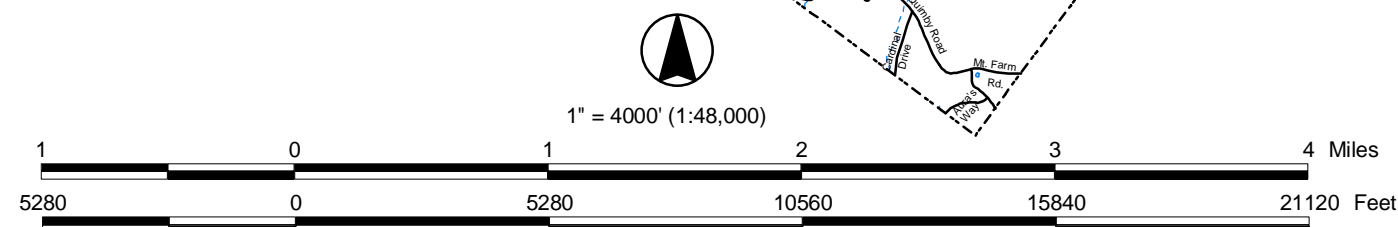


for the Bow Master Plan Transportation
 Chapter, September 2004.

Data sources:

1:24,000 source scale from the NH GRANIT system and the Town of Bow. Corrections to base data made by NH Department of Transportation, the Town of Bow, and CNHRPC.

This map intended for planning purposes only. Corrections are welcomed and should be directed to CNHRPC.

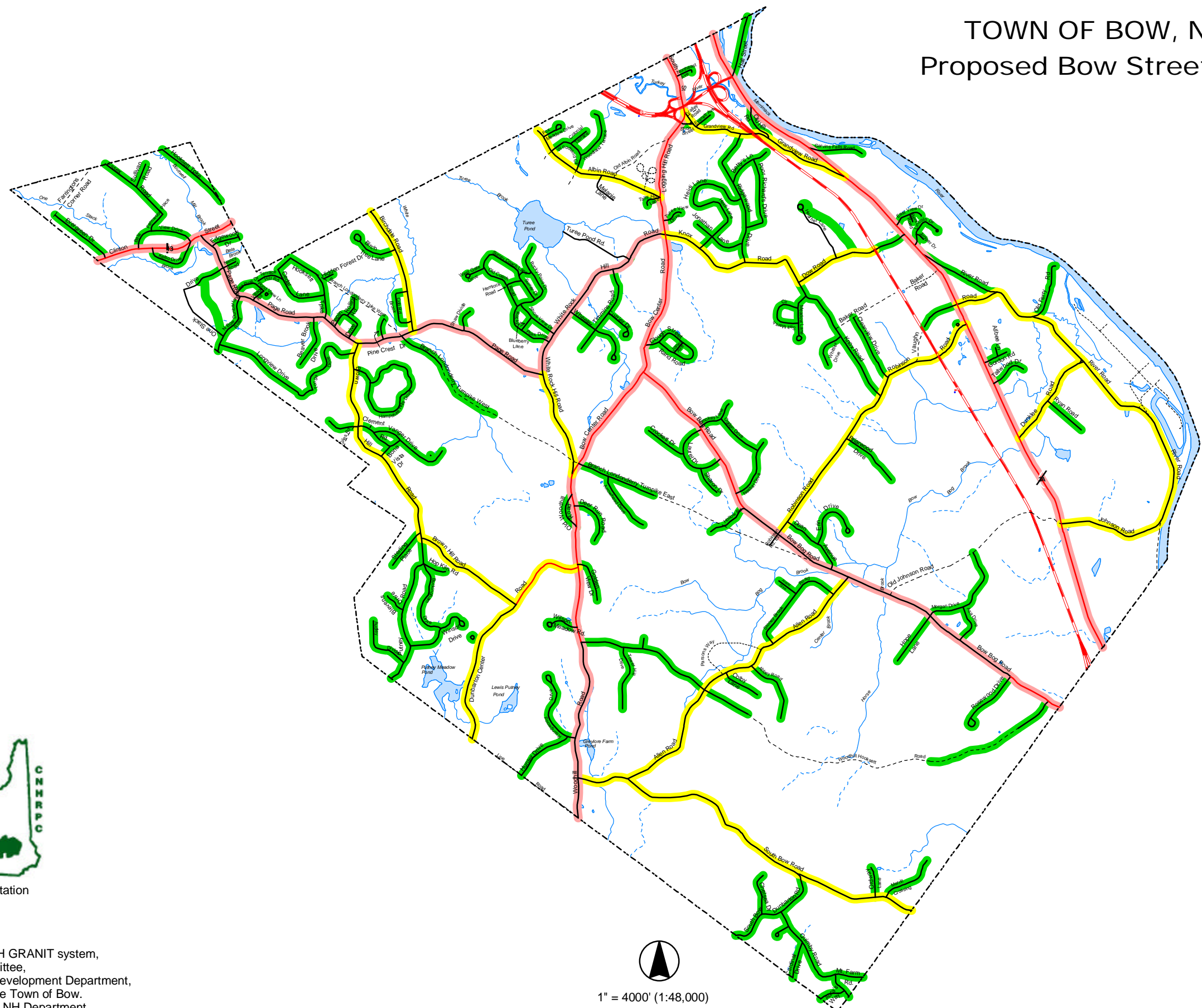


BASE LEGEND

- Political Boundary
- Interstate Highways
- Class I & II Secondary State Highways
- Class V Town Maintained Roads
- Class VI Town Unmaintained Roads
- Other Roads (Private, Trails, etc)
- Rivers and Streams
- Intermittent Streams
- Water Bodies

TOWN OF BOW, NEW HAMPSHIRE

Proposed Bow Street Classification Map



CLASSIFICATION LEGEND

Town of Bow Proposed Types of Streets

- Arterial Street (Class A)
- Collector Street (Class B)
- Local Street (Class C)

Note: Designation of roads determined by the 1992 Bow Master Plan

BASE LEGEND

- Political Boundary
- Interstate Highways
- Class I & II Secondary State Highways
- Class V Town Maintained Roads
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- Other Roads (Private, Trails, etc)
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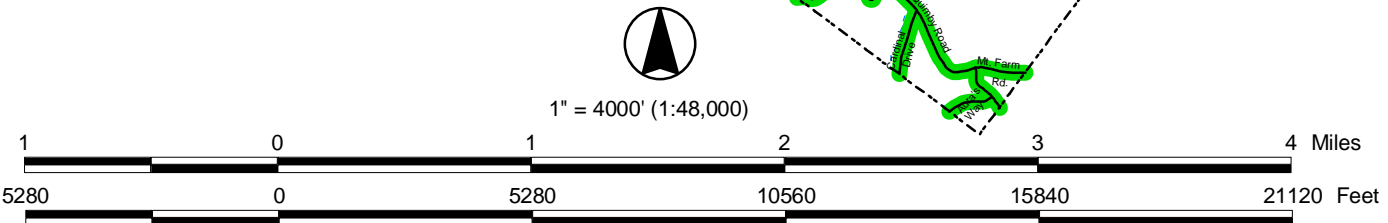
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Chapter, September 2004.

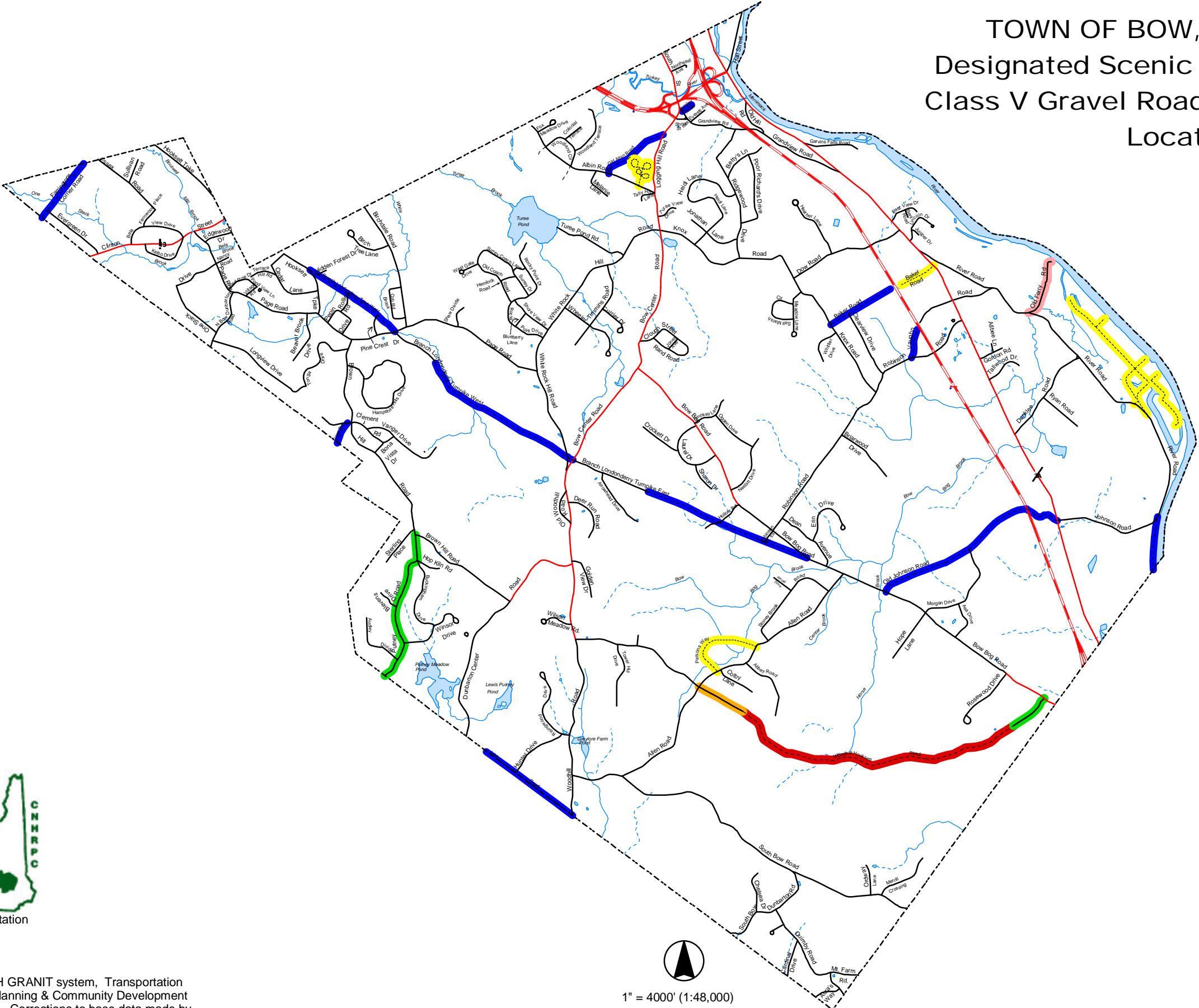
Data sources:

1:24,000 source scale from the NH GRANIT system,
Transportation Chapter Subcommittee,
the Bow Planning & Community Development Department,
the 1992 Bow Master Plan, and the Town of Bow.
Corrections to base data made by NH Department
of Transportation, the Town of Bow, and CNHRPC.

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TOWN OF BOW, NEW HAMPSHIRE
Designated Scenic Roads, Private Roads,
Class V Gravel Roads, and Class VI Roads
Location Map



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28 Commercial Street
Concord, NH 03301

phone (603) 226-6020
web www.cnhrpc.org



for the Bow Master Plan Transportation
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TRANSPORTATION LEGEND

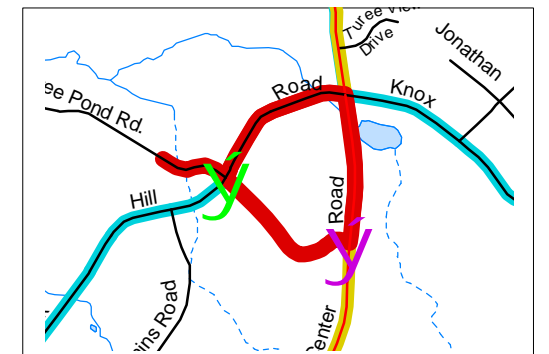
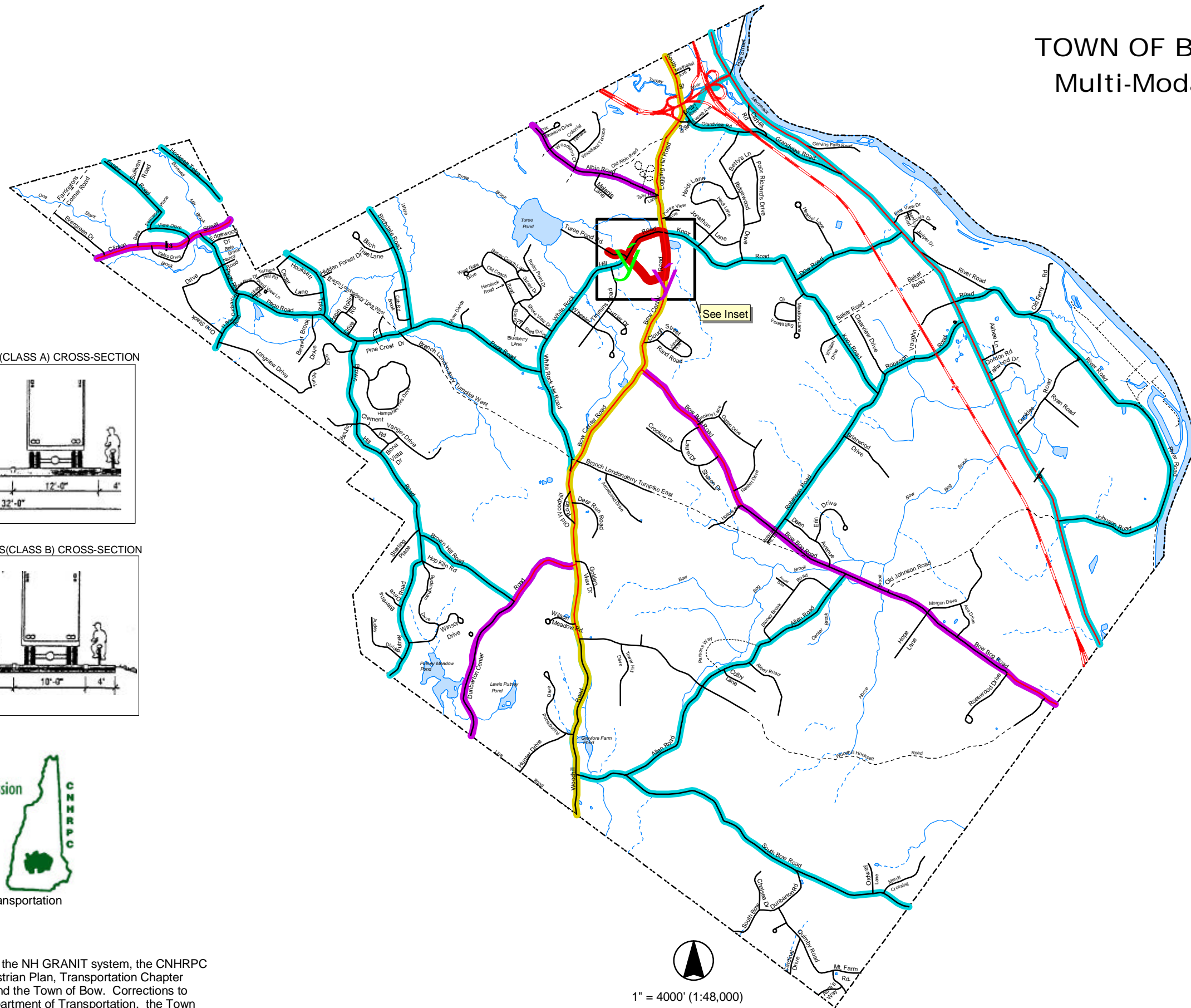
- Private Roads
- Designated Scenic Roads
- Class V Gravel Roads
- Class VI Roads
- Class V Gravel Designated Scenic Roads
- Class VI Designated Scenic Roads

BASE LEGEND

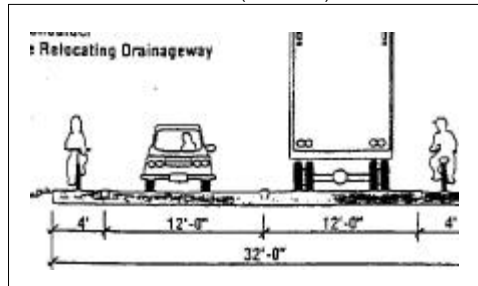
- Political Boundary
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TOWN OF BOW, NEW HAMPSHIRE

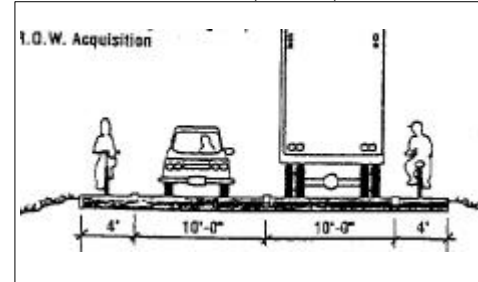
Multi-Modal Infrastructure Map



TOWN ARTERIAL ROADS (CLASS A) CROSS-SECTION



TOWN COLLECTOR ROADS (CLASS B) CROSS-SECTION



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for the Bow Master Plan Transportation
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1:24,000 source scale from the NH GRANIT system, the CNHRPC
 Regional Bicycle and Pedestrian Plan, Transportation Chapter
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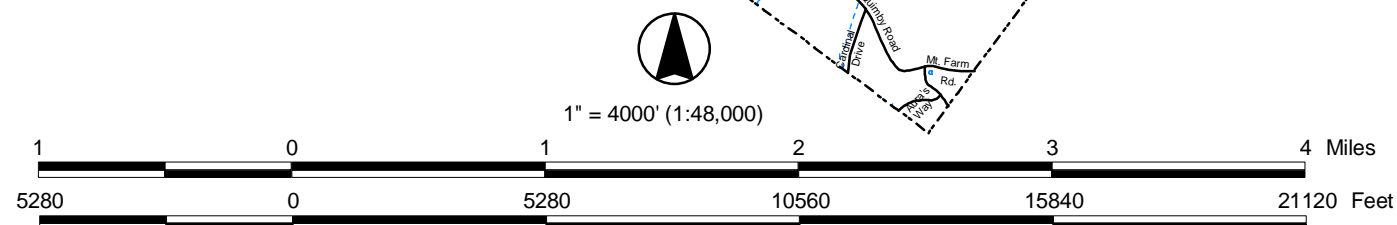
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BICYCLE AND PEDESTRIAN FACILITY LEGEND

- State Bicycle Routes
- CNHRPC Bicycle and Pedestrian Routes
- Local Bicycle and Pedestrian Routes
- Existing Crosswalk
- Proposed Crosswalk
- Proposed Local Pedestrian Route

BASE LEGEND

- Political Boundary
- Interstate Highways
- Class I & II Secondary State Highways
- Class V Town Maintained Roads
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CHAPTER VIII HOUSING

INTRODUCTION

The Housing Chapter is intended to identify the current supply of housing in Bow and the way this inventory has evolved as the community has grown. The Chapter considers the town's development in the context of its ability to retain as much of its rural character as possible, while providing housing opportunities for families, individuals at different stages of their lives, and people at different income levels. This Chapter also considers how a more diverse housing stock will support commercial and industrial development that will help stabilize the Town's tax base and will ensure a balanced community with residents from many walks of life. The premise is that a vibrant community should include housing for young families, single residents, empty nesters and elderly citizens with housing available for people who provide basic community services from all walks of life.

Central New Hampshire's strong economic growth over the last decade created many benefits for a lot of people, but it also generated a demand for housing that the marketplace has been unable to meet. The results are rising home prices, record low vacancy rates and higher rents – a housing market that presents an affordability challenge for many citizens, a barrier to labor force development and a grave challenge to continued economic growth and vitality.

Our housing crisis is a product of our economic success during the last decade. Unless we allow our housing markets to keep pace with economic growth, we will kill the economic engine we are relying on to continue that success in this decade.¹

The Chapter's goal is to identify strategies that can maintain and enhance the current quality of Bow's housing and encourage a variety of housing types consistent with different personal needs, income, and stages of life. In addition to providing homes for growing families, Bow also should have housing appropriate for younger and older individuals who may now find their housing choices limited. Encouraging long-term residency is important to our community history and spirit. For example, children should be able to live in the community in which they grew up, and the elderly should be able to remain here. Those housing goals should be consistent with the Town's economic development objectives.

¹ "Reducing Regulatory Barriers to Workforce Housing in New Hampshire" Report of the Legislative Commission established by Chapter 262 of the Laws of 2001. November 1, 2002.

HOUSING DATA²

1970-2000 Housing Units

By understanding past housing trends, Bow can better predict future housing growth and needs. Since 1970, the rate of construction of new housing in Bow has been increasing. Bow has averaged 55 units per year in the 1970's, 58 units per year in the 1980's, and 47 units per year in the 1990's. Since 1970, the total number of housing units has increased by over 218%. See the table below for these comparisons.

Number of Housing Units, 1970 - 2000

Town	1970 Housing Units	1980 Housing Units	% Change 1970- 1980	1990 Housing Units	% Change 1980- 1990	2000 Housing Units	% Change 1990- 2000	% Change 1970- 2000
Bow	731	1,282	75.4%	1,860	45.1%	2,330	25.3%	218.7%
Allenstown	831	1,591	91.5%	1,868	17.4%	1,964	5.1%	136.3%
Concord	9,475	12,081	27.5%	15,697	30.0%	16,881	7.5%	78.2%
Dunbarton	302	421	39.4%	685	62.7%	858	25.3%	184.1%
Hooksett	1,683	2,492	48.1%	3,484	39.8%	4,307	23.6%	155.9%
Hopkinton	1,031	1,396	35.4%	1,924	37.8%	2,210	14.9%	114.4%
Pembroke	1,383	1,786	29.1%	2,536	42.0%	2,734	7.8%	97.7%

Source: 1970-2000 Censuses

Housing Stock Types

A well-balanced housing stock is important for all communities. A diversified housing stock provides for housing opportunities for all members of the community at various income levels and stages of life. The figures below were compiled using 2000 Census figures. As of 2000, Bow's housing stock was comprised of 99.2% single-family housing units, 0.25% manufactured housing units, and 0.52% multifamily housing units, which can be seen below.

Housing Types for Bow and Abutting Communities, 2000

Town	Total Units of Housing	# Single- Family Units	Single Family Units as % of Total	# Manuf. Housing Units	Manuf. Housing Units as % of Total	# Multi- Family Units	Multi- Family Units as % of Total
Bow	2,330	2,312	99.2%	6	0.25%	12	0.52%
Allenstown	1,962	871	44.4%	626	31.9%	465	23.7%
Concord	16,881	7,536	44.6%	1,067	6.3%	8,278	49%
Dunbarton	858	816	95.1%	16	1.9%	26	3%
Hooksett	4,307	3,072	71.3%	266	6.2%	969	22.5%
Hopkinton	2,210	1,873	84.8%	123	5.6%	179	8.1%
Pembroke	2,734	1,710	62.5%	146	5.3%	878	32.1%

Source: 2000 Census

² For more data on population, income, and land development patterns in Bow, see the Demographics Chapter and/or the Current Land Use Chapter.

Since 1990, an average of 54 building permits for new homes have been issued each year in Bow, with a majority of them for single-family residences.

Bow Building Permits Issued, 1992-2002

Year	Single-Family Housing Building Permits	Multi-Family Housing Building Permits	Manuf. Housing Building Permits	Total Building Permits Issued
1992	37	0	0	37
1993	47	0	0	47
1994	49	0	0	49
1995	65	0	0	65
1996	91	0	0	91
1997	54	0	0	54
1998	42	0	0	42
1999	31	1	0	32
2000	34	0	0	34
2001	30	1	0	31
2002	57	0	0	57*

Source: New Hampshire Office of State Planning, Bow Town Reports, and Town of Bow Assessor Database

* 1 building permit was issued for 73 units of multi-family housing

Owner-Occupied and Renter-Occupied Information

Knowing what percentage of the occupied housing units in a community are owner-occupied and which ones are renter-occupied helps to create a picture of the types of housing options available. As can be seen below, Bow has 95.3% of its occupied housing units owner-occupied and 4.7% renter-occupied, in 2000.

Occupied Housing Units, 1990-2000

Towns	1990			2000		
	Total Occupied Units	Owner-Occupied (%)	Renter-Occupied (%)	Total Occupied Units	Owner-Occupied (%)	Renter-Occupied (%)
Bow	1,813	1,739 (95.9)	74 (4.1)	2,304	2,195 (95.3)	109 (4.7)
Allenstown	1,797	1,331 (74.1)	466 (25.9)	1,902	1,356 (71.3)	546 (28.7)
Concord	14,222	7,443 (52.3)	6,779 (47.7)	16,281	8,373 (51.4)	7,908 (48.6)
Dunbarton	642	568 (88.5)	74 (11.5)	814	729 (89.6)	85 (10.4)
Hooksett	3,253	2,551 (78.4)	702 (12.6)	4,147	3,304 (79.7)	843 (20.3)
Hopkinton	1,759	1,525 (86.7)	234 (13.3)	2,084	1,799 (86.3)	285 (13.7)
Pembroke	2,408	1,645 (68.3)	763 (31.7)	2,661	1,807 (67.9)	854 (32.1)

Source: 1990 and 2000 Census

Household Size

The average household size in a community is an indicator of how the population is arranged. Bow had an owner-occupied and renter-occupied average household size of 3.0 and 2.8, respectively, in 1990. This increased slightly in 2000, where there was an owner-occupied average household size of 3.1 and a renter-occupied average household size of 2.9, as can be seen below.

Average Household Size, 1990-2000

Town	1990		2000	
	Owner-Occupied Avg. Household Size	Renter-Occupied Avg. Household Size	Owner-Occupied Avg. Household Size	Renter-Occupied Avg. Household Size
Bow	3.0	2.8	3.1	2.9
Allenstown	2.8	2.2	2.8	2.0
Concord	2.8	1.9	2.6	2.0
Dunbarton	2.7	2.9	2.8	2.6
Hooksett	2.8	2.4	2.7	2.3
Hopkinton	2.8	2.3	2.7	1.9
Pembroke	3.0	2.1	2.8	2.2

Source: 1990 and 2000 Census

Age of Homeowners

As of 2000, the largest percentage of homeowners in Bow (32.5%) was 45-64 years of age. See the table below for a comparison of homeownership trends between Bow and abutting communities.

Age of Homeowners, 2000

Town	% of Homeowners 34 Years Old or Younger	% of Homeowners 35-44 Years Old	% of Homeowners 45-64 Years Old	% of Homeowners Over 65 Years Old
Bow	21.25%	26.41%	32.51%	19.83%
Allenstown	7.64%	32.26%	46.27%	13.83%
Concord	23.44%	23.56%	31.83%	21.18%
Dunbarton	14.23%	33.7%	39.13%	12.9%
Hooksett	17.59%	29.44%	37.00%	15.97%
Hopkinton	10.51%	22.94%	44.91%	21.64%
Pembroke	18.98%	28.53%	35.87%	16.62%

Source: 2000 Census

Age of Housing Stock

The largest percentage (28.6%) of the housing stock in Bow was constructed during the period of 1980-1989, which is more recent than housing in most of Bow's abutting communities.

Summary of Age of Housing Stock for Bow and Abutting Communities

Towns	Year Housing Built						Total Housing Units, 2000
	1939 or earlier	1940-1959	1960-1969	1970-1979	1980-1989	1990-2000	
Bow	173	164	367	549	666	411	2,330
	7.4%	7.0%	15.8%	23.6%	28.6%	17.7%	100
Allenstown	259	196	258	596	338	315	1,962
	13.2%	10.0%	13.1%	30.4%	17.2%	16.0%	100
Concord	5,934	1,945	1,606	2385	3,529	1,482	16,881
	35.2%	11.5%	9.5%	14.1%	20.9%	8.8%	100
Dunbarton	174	99	61	138	163	223	858
	20.3%	11.5%	7.1%	16.1%	19.0%	26.1%	100
Hooksett	496	455	520	790	1232	814	4,307
	11.5%	10.6%	12.1%	18.3%	28.6%	18.8%	100
Hopkinton	572	228	209	343	465	393	2,210
	25.9%	10.3%	9.5%	15.5%	20.0%	17.7%	100
Pembroke	860	203	260	521	638	150	2,734
	31.5%	11.2%	9.5%	19.1%	23.3%	5.5%	100

Source: 2000 Census

Housing Size

The size of the housing units in a municipality is one measure of the quality of life, wealth of its residents, and diversity of residents within the community. The Census defines rooms in a housing unit as: "living rooms, dining rooms, kitchens, bedrooms, finished recreation rooms, enclosed porches suitable for year-round use, and lodger's rooms." In 2000, the largest percentage of homes in Bow (28.1%) had 7 rooms, which is higher than abutting communities. Bow also had the highest percentage of 9+ room housing (23%) as compared to abutting communities.

Median Home Size in Bow and Abutting Communities, 2000

Towns	# 1-Room Housing Units (%)	# 2-Room Housing Units (%)	# 3-Room Housing Units (%)	# 4-Room Housing Units (%)	# 5-Room Housing Units (%)	# 6-Room Housing Units (%)	# 7-Room Housing Units (%)	# 8-Room Housing Units (%)	# 9+Room Housing Units (%)
Bow	--	6 (0.3)	10 (0.4)	77 (3.3)	189 (8.1)	415 (17.8)	655 (28.1)	443 (19.0)	535 (23.0)
Allenstown	--	73 (3.7)	162 (8.3)	419 (21.4)	634 (32.3)	336 (17.1)	197 (10.0)	51 (2.6)	90 (4.6)
Concord	310 (1.8)	595 (3.5)	2,216 (13.1)	3,896 (23.1)	3,134 (18.6)	2,648 (15.7)	1,960 (11.6)	1,066 (6.3)	1,056 (6.3)
Dunbarton	3 (0.3)	8 (.9)	23 (2.7)	80 (9.3)	136 (15.9)	221 (25.8)	186 (21.7)	109 (12.7)	92 (10.7)
Hooksett	17 (0.4)	111 (2.6)	209 (4.9)	632 (14.7)	934 (21.7)	966 (22.4)	789 (18.3)	503 (11.7)	146 (3.4)
Hopkinton	--	29 (1.3)	93 (4.2)	163 (7.4)	335 (15.2)	550 (24.9)	355 (16.1)	298 (13.5)	387 (17.5)
Pembroke	8 (.3)	95 (3.5)	285 (10.4)	391 (14.3)	535 (19.6)	429 (15.7)	433 (15.8)	275 (10.1)	283 (10.4)

Source: 2000 Census

The average square footage of new homes in Bow has actually been decreasing since 1999, as can be seen in the table below.

Size of New Homes in Bow, 1999-2002

Year Built	Number of New Homes Built	Average Living Area*	Average Gross Area*
1999	36	3,097 sq. ft.	6,468 sq. ft.
2000	28	2,974 sq. ft.	5,965 sq. ft.
2001	35	2,771 sq. ft.	5,477 sq. ft.
2002	NA	NA	NA

Source: Bow Assessor Database, May 2003

* Average Living Area does not include decks, garages, basements, attics, or porches.

Average Gross Area does include these figures in the calculation

Vacancy Rates

Vacancy rates are important to monitor, as they reflect the amount of choice available to those seeking housing. One can use vacancy rates to gauge how the housing supply (available units) and demand (number of prospective renters or owners) match up – in other words, the availability of housing for people needing it. A very high vacancy rate can be disastrous for housing sellers and providers, as it may indicate a glut in the market, thus resulting in deflated housing prices. On the other hand, a very low vacancy rate can indicate an inadequate amount of housing available in the market, inflated housing prices, and the need to develop more housing opportunities.

Merrimack County has had a vacancy rate under 2% since 1996. For rental units, a vacancy rate below 2% is considered negligible, accounting for natural turnover in the units. Since 2000, both rental and home ownership vacancy rates were below 1% in Merrimack County.

According to the 2000 Census, there were no vacant rental units in Bow and 0.4% of owner-occupied units were vacant, as can be seen below. These figures are much lower than abutting communities and the State.

Vacancy Rates for Bow and Abutting Communities

Town	1990 Owner- Occupied Vacancy Rate	2000 Owner- Occupied Vacancy Rate	1990 Renter- Occupied Vacancy Rate	2000 Renter- Occupied Vacancy Rate
Bow	1.5%	0.4%	3.9%	-
Allenstown	3.4%	0.5%	6.7%	1.1%
Concord	2.7%	0.8%	12.8%	2.9%
Dunbarton	1.9%	0.4%	11.9%	1.2%
Hooksett	2.7%	1.2%	15.5%	4.4%
Hopkinton	1.5%	1.0%	1.1%	2.4%
Pembroke	1.1%	0.6%	6.2%	1.0%

Source: 1990 and 2000 Census

Vacancy rates are constantly changing and the information presented above should be viewed as a snapshot of the conditions at the time the data were collected. Vacancy rates are influenced by a variety of factors, including the economy, land use regulations, and rate of new growth in the community and region as a whole.

Trends in the Cost of Housing

Since 1980, the cost of housing in the central New Hampshire region has increased significantly. This increase can be attributed to numerous factors, including market demand, interest rates, property tax rates, quality of community facilities, and location.

Since 1980, the median value for homes in Bow has increased dramatically. Over the period of 1980 to 2000, the median home value in Bow increased 164% from \$64,100 to \$169,400, as reported by the Census. This increase was in the middle range as compared to abutting communities.

Comparison of Median Home Value* 1980-2000

Town	1980 Median Home Value	1990 Median Home Value	% Change in Median Home Value 1980-1990	2000 Median Home Value	% Change in Median Home Value 1990-2000	% Change in Median Home Value 1980-2000
Bow	\$64,100	\$164,900	157.3%	\$169,400	2.7%	164.3%
Allenstown	\$42,000	\$104,100	147.9%	\$97,900	-5.6%	133.1%
Concord	\$43,200	\$112,400	164.8%	\$112,300	-0.09%	160.0%
Dunbarton	\$46,300	\$134,100	189.6%	\$148,300	10.6%	220.3%
Hooksett	\$49,400	\$128,400	159.9%	\$135,700	5.7%	174.7%
Hopkinton	\$59,600	\$149,000	150.0%	\$146,400	-1.7%	145.6%
Pembroke	\$46,600	\$120,000	157.5%	\$112,500	-6.3%	141.4%

Source: 1980-2000 Censuses

* Value is the respondent's estimate of how much the property would sell for if it were for sale.

In 2002, the median new single-family home price in New Hampshire was \$258,598 and the median existing home price was \$177,933. The table below contains a sample of home sales, both new homes and existing homes, from January 2000 through December 2002, in Bow.

Bow Home Sales*, January 1999 – December 2002

	1-Bedroom House	2-Bedroom House	3-Bedroom House	4-Bedroom House	5+ Bedroom House
1999					
Avg. Lot Size (sq. ft.)	75,141	59,288	90,886	119,969	130,244
Average Selling Price	\$105,000	\$103,544	\$178,061	\$199,691	\$379,650
Sample Size	2	9	65	39	2
2000					
Avg. Lot Size (sq.ft.)	0	129,112	96,514	167,838	87,120
Average Selling Price	0	\$142,860	\$197,195	\$281,002	\$376,875
Sample Size	0	15	53	39	1
2001					
Avg. Lot Size (sq. ft.)	0	95,977	90,298	126,193	45,738
Average Selling Price	0	\$163,611	\$215,520	\$310,294	\$251,000
Sample Size	0	9	42	44	1
2002					
Avg. Lot Size (sq.ft.)	0	202,237	97,485	159,641	88,427
Average Selling Price	0	\$182,900	\$233,484	\$363,794	\$518,000
Sample Size	0	6	69	44	2

* Only home sales that used a Realtor are reflected in the table above. 1 acre = 43,560 sq.ft.

* Includes both new home construction and existing home sales.

Source: Kathleen Gallagher Family Realty, May 2003

The price of rental housing has also increased significantly since 1992. In Merrimack County, the median rent for a two-bedroom apartment has increased from \$587 per month in 1992, to \$868 per month in 2002. This is an increase of 47.9% over ten years.

From 1980 to 1990, the cost of rent in Bow increased an average of \$350, or 147.1%, and from 1990 to 2000 it increased by an average of \$132 or 22.4%. Rental figures for Merrimack County, the Town of Bow, and abutting communities can be seen below.

Median Rent for a Two-Bedroom Unit in Merrimack County, 1992-2002

Year	Median Rent
1992	\$ 587
1993	\$ 660
1994	\$ 632
1995	\$ 616
1996	\$ 663
1997	\$ 669
1998	\$ 718
1999	\$ 748
2000	\$ 814
2001	\$ 832
2002	\$ 868

Source: NH Housing Finance Authority 1992-2002 Rental Cost Survey

Median Rent 1980 – 2000 for Bow and Abutting Communities

Town	1980 Median Rent	1990 Median Rent	2000 Median Rent	% Increase 1980-1990 Median Rent	% Increase 1990-2000 Median Rent	% Increase 1980-2000 Median Rent
Bow	\$238	\$588	\$720	147.1%	22.4%	202.5%
Allentown	\$228	\$488	\$597	114.0%	22.3%	161.8%
Concord	\$253	\$486	\$647	92.1%	33.1%	155.7%
Dunbarton	\$244	\$695	\$709	184.8%	2.0%	190.6%
Hooksett	\$261	\$547	\$643	109.6%	17.6%	146.4%
Hopkinton	\$212	\$501	\$621	136.3%	24.0%	192.9%
Pembroke	\$240	\$435	\$562	81.3%	29.2%	134.6%

Source: 1980-2000 Censuses

Housing Density

The density of housing is often employed as a measure of rural character. As of 2000, Bow contained 82.6 housing units per square mile. This represents an increase of 25.2% since 1990, as can be seen below. The housing density for Merrimack County is 58.9 dwelling units per square mile, using 2000 Census figures.

Changes in Housing Density for Bow and Abutting Communities, 1990-2000

Town	Land Area (Sq. Mi.)	# of Housing Units 1990	Housing Units/ Sq. Mi. 1990	# of Housing Units 2000	Housing Units/ Sq. Mi. 2000	% Change # of Housing Units/Sq. Mi. 1990-2000
Bow	28.2	1,860	66.0	2,330	82.6	25.2 %
Allenstown	20.5	1868	91.1	1,962	95.7	5.0 %
Concord	64.0	15,697	245.3	16,881	263.8	7.5 %
Dunbarton	30.8	685	22.2	858	27.9	25.7 %
Hooksett	36.2	3,484	96.2	4,307	119	23.7 %
Hopkinton	43.3	1,924	44.4	2,210	51.0	14.9 %
Pembroke	22.6	2,536	112.2	2,734	121.0	7.8 %

Source: 2000 Census, NH OSP

These densities should be viewed as an estimate because the land area figures include land that would not be considered as “suitable land” for building. This unavailable land can include wetlands, steep slopes, the flood plains, conservation land, and roads in the final land area figure.

TYPES OF HOUSING

Duplex/Multi-Family Housing

Duplexes and multifamily housing are developments that consist of housing at a greater density than most other developments. Duplexes are two single-family housing units that are attached by a common wall or ceiling/floor. Typically, multifamily housing consists of apartments, town houses, and/or condominiums and are developed in locations with access to municipal water and/or public or community sewer/septic systems.

According to the Master Plan Community Survey, when residents were asked, “What types of housing should Bow encourage?,” 515 respondents answered “Townhouse/condo,” 477 respondents answered “Duplex,” and 182 respondents answered “Multi-family housing with 3-4 units.”

Currently, duplexes are an allowed use in the Rural Zone and the Residential Zone while multi-family housing is allowed by Special Exception in those two Zoning Districts. The housing units cannot be more than two-stories high and are required to have two buildable acres for the first unit and a half acre for each additional unit.

These types of housing can be built as market-rate housing, affordable housing, elderly housing, or housing for those with special needs. Duplexes and multi-family housing are typically looked

at as “starter homes” for young people and homes for older individuals to transition into once they no longer want to or can afford to maintain a larger home. Only a small percentage - 0.52% according to the 2000 Census - of Bow’s housing stock is multi-family housing.

Recommendations – Duplex/Multi-Family Housing

- Require specific regulations that cover landscaping, buffers, pedestrian facilities, architectural façade, and lighting for duplex and multi-family housing.
- When applying the Growth Management Ordinance to duplex and multi-family housing, 10 dwelling units shall be allotted per year for the phasing of such developments, while still maintaining the Growth Management Ordinance limits.
- Establish a goal of 20% of Bow’s new housing units over the next 10 years to be multi-family, which could include affordable and market-rate housing that may or may not be age-restricted. Annually evaluate the progress and update regulations and ordinances accordingly.
- Create a new Overlay Zoning District – Multi-Family (MF) District – that allows the development of Multi-Family housing by right with municipal water and sewer. The recommended Overlay District would include the areas bounded on the north by Dow Road (assuming that Dow Road extends to the Merrimack River); easterly by the Merrimack River; southerly by a line along Robinson Road, (assuming that Robinson Road extends to the River); and westerly along I-93, as well as the Residentially Zoned areas east of the I-93 and west of the Merrimack River. The lot size would be of a greater density (4,000 sqft per dwelling unit) with significant buffers and recreational space requirements.

Manufactured Housing

In an effort to provide for more affordable housing options, the NH Legislature has acted to increase opportunities for the siting of manufactured homes in New Hampshire municipalities. RSA 674:32 requires municipalities to provide “reasonable opportunities” for the siting of manufactured housing and prohibits the complete exclusion of manufactured housing from a municipality.

Manufactured housing is defined as:

“...any structure, transportable in one or more sections, which, in the traveling mode, is 8 body feet or more in width and 40 body feet or more in length, or when erected on site, is 320 square feet or more, and which is built on a permanent chassis and designed to be used as a dwelling with or without a permanent foundation when connected to required utilities, which include plumbing, heating and electrical heating systems contained therein.” (RSA 674:31)

Presite built housing is defined as:

“... any structure designed primarily for residential occupancy which is wholly or in substantial part made, fabricated, formed or assembled in offsite manufacturing facilities in conformance with the US Department of Housing and Urban Development minimum property standards and local building codes, for installation, or assembly and installation, on the build site.” (RSA 674:31-a)

This section in the Master Plan refers to manufactured housing, not presite built housing.

Municipalities have several options regarding the siting of manufactured housing within their community. They can choose to allow manufactured homes on individual lots “in most, but not necessarily all” Districts zoned for residential use. They can also permit manufactured housing parks or manufactured housing subdivisions. If the latter options are chosen, the parks or subdivisions must be permitted “in most, but not necessarily all” Districts zoned for residential use in the town. Municipalities may also permit all three manufactured home options: individual lots, manufactured home parks, and manufactured home subdivisions.

Manufactured homes permitted on individual lots must comply with the same lot size, frontage requirements and space limitations as conventional single-family housing in the same District, and special exceptions or special permits cannot be required of manufactured homes located on individual lots or subdivisions unless required for single-family homes. The provisions of the statute that prohibit treating manufactured homes differently from conventional single-family homes in the same District are important to keep in mind in the context of affordable housing.

Towns that permit manufactured housing parks “shall afford reasonable opportunities” for the parks development and expansion. Therefore, lot size, density requirements, and areas for such parks must be reasonable.

The Bow Zoning Ordinance does not allow for the placement of manufactured homes on individual lots in any of the Residential Zoning Districts. Manufactured Housing Subdivisions are allowed in the Rural District, with the provision that the subdivision meets all of the same requirements as “stick-built” housing subdivisions. Manufactured Housing Parks are allowed as a Conditional Use in the Rural District, with a five- acre minimum lot size and a requirement that each home have a gross area of three-quarters of an acre. The Town of Bow is in compliance with RSA 674:32.

Manufactured Housing Cooperatives are becoming the preferred method of manufactured housing park structures here in New Hampshire. Cooperatives give residents control over their own housing situation and allow residents to function in a decision-making capacity. While there are a range of approaches being used around the country, two main objectives underlie New Hampshire’s cooperative financing and ownership structure: (1) to maximize the degree of resident control, and (2) to make membership accessible to all families, regardless of income.

Recommendations – Manufactured Housing

- Review the current Manufactured Housing Zoning provisions to ensure that they are adequate and afford real opportunity to develop such housing options in Bow.
- Work with the New Hampshire Community Loan Fund, State agencies, and non-profit organizations to ensure that any proposed manufactured housing parks and subdivisions use best management practices in their construction and development.
- Encourage, through Zoning and Subdivision Regulations, the creation of Planned Open Space Residential Development (POS-RD) for manufactured housing subdivisions that allow increases in overall housing density while retaining open space.

Elderly Housing

Designated elderly housing is restricted to residents above a certain age, which can be anywhere from 55-65 years old and older. These types of development usually do not allow children or grandchildren to live within the developments but do make concessions for those with spouses or partners who are younger than the minimum age requirement. Elderly housing can be comprised of single-family homes, condos, townhouses, apartments, and manufactured housing, as well as being market-rate or affordable (subsidized) in purchase price or rent.

According to the Master Plan Community Survey, 720 of the respondents felt that “Elderly Housing” should be encouraged in Bow. This was the second highest response to this question, with single-family housing being the most favored response.

In most cases, Elderly Housing Ordinances provide for a far higher density than allowed in other Residential Zones and contain a separate set of regulations and restrictions than those found for other types of residential development. Some of the types of regulations include a provision for on-site recreational and community facilities, open space and walking trails, and on-site medical and management staff. Many times, when an elderly housing facility is developed by a non-profit entity, the town will negotiate a payment in lieu of taxes so that any increase in community services due to the development is not solely the responsibility of the town.

Elderly housing Zoning Districts could be a way that communities address the need for specialized housing without allowing general multi-family housing. These usually take the form of Overlay Zoning Districts, which means that the Elderly Housing Zoning District is in effect only in areas where elderly housing is being proposed. In a few communities, specific areas have been zoned for elderly housing, as is the case in Bow.

Elderly housing is a permitted use in the Rural, Residential, and Civic Zoning Districts. These new developments have no minimum required acreage per unit if they are on municipal sewer and have a half-acre minimum requirement per unit if they are on septic systems. All other dimensional requirements of the Districts apply to these developments. Elderly housing developments are currently exempt from the provisions of the Growth Management Ordinance and can petition for a waiver from the School Impact Fee.

By encouraging the development of elderly housing in town, Bow will be able to retain and attract residents within the community who, for a variety of reasons, may be looking for a different type of housing arrangement than they are currently in. These types of developments help to create a housing option for those in their later years who do not wish to or cannot afford to maintain a larger home.

Recommendations – Elderly Housing

- It is felt that the current “one-size-fits-all” dimensional requirements (setbacks, lot sizes, etc.) for Elderly Housing are not in the best interest of the Town. It is recommended that the Town review and revise the lot size/density regulations and create a tiered system for the allocation of the dimensional requirements benefits.
- Create Impact Fees for Emergency Services provided by the Town to be assessed on Elderly Housing developments.

- Amend the Town definitions for Elderly Housing so that they are comprised of two different sections – (1) elderly housing that is intended and solely occupied by persons 62 years of age and older and (2) elderly housing that is intended and operated for occupancy by at least one person 55 years or older (as per RSA 354-A:15).
- Amend the Zoning Ordinance to require elderly housing developments to be restricted as such for 99 years.

Accessory/In-Law Apartments

An accessory housing unit (apartment) is generally defined as a small additional housing unit located within what is otherwise a single-family home. Accessory apartments are increasingly allowed in single-family zoning districts as a means of providing inexpensive housing, usually for older or younger single relatives of the resident of the home. Because such units are frequently intended for related individuals, they are sometimes known as “in-law apartments”.

According to the Master Plan Community Survey, 538 respondents felt that the development of “in-law apartments” should be encouraged.

Bow allows one accessory dwelling unit per lot, as a Permitted Use in the Commercial District and Special Exception Uses in the Rural, Residential, Limited Industrial, General Industrial, and Civic Districts. The accessory unit may not exceed 800 square feet gross floor area and is limited in its occupancy to those related by blood, marriage, or adoption to the owner of the primary residence.

Accessory dwelling units provide a housing alternative that can serve a wide range of needs. For the elderly, an accessory apartment can allow the individual to maintain a degree of independence while still receiving the support of family members. The same is true for younger family members. Where student housing is scarce, accessory dwelling units can provide a housing alternative within a family setting. For older or younger homeowners, the modest rent income may make home ownership a possibility that would otherwise not exist. Provisions restricting the size of the units, its entrance, and other restrictions keep the unit from being rented as a traditional apartment thus maintaining the single-family character of the area. Furthermore, because such units are not separated from the principal residence, they can readily be reincorporated into the main dwelling.

Recommendations – Accessory/In-Law Apartments

- Revise the Zoning Ordinance to expand and provide for opportunities for the development of accessory housing within Town.

AFFORDABLE HOUSING

For a healthy, sustainable community, a variety of housing types should be available and encouraged. This variety should be evident in the housing type (single-family house, multi-family, condominium, or duplex) and occupancy (owner or renter). Additionally, housing should vary based on size and cost. Ensuring such a varied housing supply will ensure residents can participate in and contribute to our community regardless of their stages of life (for example, a new family or elderly) or income level.

Affordable housing is just that – what a family can afford. The current standard states housing should cost no more than 30% of a family's gross income, leaving the remaining income to cover food, clothing, transportation, child care, medical care, etc. To be within the 30% criteria, a homeowner with an income of \$48,000/year (\$26/hour) could afford mortgage, taxes, and utility payments of \$1,200/month. A renter with an income of \$34,700/year (\$19/hour) can afford rent payments of \$868/month, which is the median cost of a two-bedroom unit in Merrimack County in 2002. An estimated 30% of all New Hampshire households (renter and owner) paid more than 30% of their income for housing in 2000.

Affordable housing can be single-family homes, duplexes, condos, townhouses, apartments, manufactured housing, elderly housing and/or special needs housing. There is no one "type" of housing that constitutes affordable housing, and all people hope for affordable housing given their income.

Affordable housing can be developed using five methods.

- 1) Subsidize the development. Here subsidies and grants are used to pay development costs, requiring less payment from the renter/homeowner.
- 2) Subsidize the renter/owner. Grants (such as down payment assistance for homeowners), subsidies or rent vouchers reduce what a renter/owners pays for the housing usually because of the resident's limited income or other circumstances.
- 3) Reduce development costs through town regulations. Planning and zoning requirements have a significant impact on development costs and thus housing costs. For example, more housing units per acre reduces costs; less housing units per acre increases costs. Thus, towns can encourage (or discourage) affordable housing through town land-use regulations or by allowing incentives to developers that agree to build housing affordable to certain income levels. For example, regulations could allow smaller lots, reduced setbacks, lower impact fees or relief from other regulatory controls that drive up costs making certain housing developments cost prohibitive.
- 4) A developer can create a development with a mix of affordable and market-rate units mixed throughout with the price from the market-rate development offsetting the costs of providing affordable housing. In this scenario, the market-rate and affordable housing units can look exactly the same and be mixed throughout the development.

- 5) Combining methods. Because development costs are so high, as compared to incomes, often a developer must use a combination of these methods.

Affordable housing is an issue that is considered and worked on by all levels of government and housing developers both for-profit and non-profit. The Federal government promotes affordable housing through various programs administered by the Department of Housing and Urban Development. State government promotes affordable housing through the passage of several laws requiring communities to permit affordable housing and through periodic funding. Furthermore, New Hampshire has also created several Commissions and Departments, such as the New Hampshire Housing Finance Authority, to examine and foster the development of affordable housing opportunities. Ultimately, housing must be built in a local community, and thus, communities must ensure their regulations, procedures and support exist for a varied housing supply.

State and Local Regulations

The New Hampshire Legislature has promoted the need for communities to develop affordable housing through the creation of RSA 674:2,III; RSA 672:1, III-e; and RSA 674:32.

NH RSA 674:2, III, requires communities preparing Master Plans to include an analysis regarding the existing and anticipated affordable housing needs of the community. This portion of the Master Plan is to be based on the most recent regional housing needs assessment, as prepared by all Regional Planning Commissions, in addition to other pertinent data.

NH RSA 672:1, IIIe, specifies the purpose and benefit of local land use regulations and zoning. This section states:

“All citizens of the state benefit from a balanced supply of housing which is affordable to persons and families of low and moderate income. Establishment of housing which is decent, safe, sanitary, and affordable to low and moderate income persons and families is in the best interests of each community and the state of New Hampshire, and serves a vital public need. Opportunity for development of such housing, including so-called cluster development and the development of multi-family structures, should not be prohibited or discouraged by use of municipal planning and zoning powers or by unreasonable interpretation of such powers.”

Lastly, NH RSA 674:32, bars the regulatory prohibition of manufactured housing and sets specific standards for the location of such housing in all municipalities. This is discussed in more detail in the Manufactured Housing section of this Chapter.

Bow’s Theoretical Fair Share of the Regional Affordable Housing Stock

As a result of the growing concern over access to affordable housing, all Regional Planning Commissions in New Hampshire have been charged by the Office of State Planning to develop affordable housing needs assessments for each community within their region, every five years.

Because of the lack of 2000 Census data when the *Affordable Housing Needs Assessment* report was written (2000), CNHRPC determined that it would be more appropriate to develop estimates

based upon a variety of data, rather than base the report on 1990 Census data. The New Hampshire Office of State Planning, the New Hampshire Department of Employment Security, and the New Hampshire Department of Revenue Administration provided the vast majority of the data utilized in the preparation of this assessment. The *Affordable Housing Needs Assessment* report is scheduled to be redone in 2005 for the central New Hampshire region.

The analysis conducted in this report utilizes the following formulas and definitions.

Estimated Number of Households at 80% of Median Income in 1998

The Department of Housing and Urban Development defines low to moderate-income households as those that earn 80% or less of the community's median income. To better estimate the number of low to moderate-income households in the central New Hampshire region, a proportion using 1990 census data and 1998 estimated population was developed.

$$\begin{array}{rcl}
 \text{Formula} = & \frac{\text{1990 Households @ 80\% of Median Income}}{\text{1990 Community Population}} & \times \frac{\text{X}}{\text{1998 NHOSP Est. Community Pop.}} \\
 \\
 \text{Bow Formula} = & \frac{387}{5,500} & \times \frac{458}{6,503}
 \end{array}$$

Averaged Result

The "averaged result" factors the community's share of the regional population, the community's share of the regional job base, the community's share of the regional income (wages paid), and the community's share of the region's total assessed property values. These figures are considered generation and capacity factors for affordable housing. These figures are added together and then averaged into a single figure for purposes of determining theoretical need.

$$\text{Formula} = (\text{Community's Share of Regional Population}) + (\text{Community's Share of Regional Employment}) + (\text{Community's Share of Total Regional Wages Paid}) + (\text{Community's Share of Regional Assessed Value}) / 4$$

$$\text{Bow Formula} = (6.3\%) + (5.3\%) + (8.1\%) + (11.4\%) / 4 = 7.8\%$$

Theoretical Community Share of Affordable Housing for CNHRPC Region

This figure uses the variables of the “averaged result” and the total number of low to moderate-income families, and generates a figure that explains how many affordable housing units a community should theoretically provide based upon generation and capacity figures existing in the community.

Formula = (Averaged Result for community) X (13,770*)

Bow Formula = (7.8%) x 13,770

*Note that 13,770 is the most recent estimate of the number of low to moderated income households in the Central New Hampshire Region.

Total Credits (a.k.a. the number of affordable housing units existing in the community)

Total Credits accounts for all housing in each community which is suspected to be affordable. The formula is dependent upon the assumption that all manufactured and multifamily housing units in a community are affordable.

Formula =

$$(2 \times \text{Number of Multifamily and Manufactured Housing Units in Community}) + (\text{Estimated Number of Households at 80\% of Community Median Income}) / 3$$

Bow Formula = $(2 \times 35) + (458) / 3 = 176$

Future Planning Goal

This figure indicates how many affordable housing units a community should strive to develop in the near future to meet its theoretical share.

Formula = (Theoretical Share) – (Total Affordable Housing Credits)

Bow Formula = $(1,072) - (176) = 896$

Based on the affordable housing need assessment conducted by CNHRPC in 2000, Bow had less than its theoretical fair share of the affordable housing base for the central New Hampshire region. The formula used by CNHRPC indicated that Bow contained approximately 176 units of affordable housing, which was less than its theoretical fair share of 1,072 units. This formula is based on the assumption that all multi-family and manufactured homes in the region should be considered affordable housing, which is not always the case. The table below compares Bow’s affordable housing stock and future goals to all other communities in the central New Hampshire region.

Summary of 2000 Affordable Housing Needs for the Central New Hampshire Region

Town	Theoretical Community Share of Regional Affordable Housing Stock	Total # of Existing Affordable Housing Units *	Future Planning Goal (# of Units Community Should Develop)
Allenstown	392	1,054	0
Boscawen	308	490	0
Bow	1,072	176	896
Bradford	171	147	24
Canterbury	225	75	150
Chichester	236	149	87
Concord	6,150	8,849	0
Deering	167	192	0
Dunbarton	245	103	142
Epsom	415	448	0
Henniker	493	557	0
Hillsborough	563	648	0
Hopkinton	806	416	390
Loudon	502	402	100
Pembroke	735	996	0
Pittsfield	374	772	0
Salisbury	122	69	54
Sutton	190	107	83
Warner	310	317	0
Webster	158	87	71

Source: CNHRPC *Affordable Housing Needs Assessment*, May 2000

* Assumption that all manufactured housing and multi-family housing units are affordable

Since this analysis was conducted, Bow has approved the development of 222 multifamily housing units for elderly residents. These new units reduce the future planning goal to 674 for Bow.

In the Zoning Ordinance, Bow currently exempts elderly housing from Impact Fees and all types of affordable housing from the Growth Management Ordinance. There are no provisions for waiving land development requirements for affordable housing in the Zoning or Subdivision Regulations.

In order for Bow to have a thriving economic and residential base, there needs to be a diversity of housing that is adequate to meet the needs of the current and future population.

Recommendations – Affordable Housing

- Review and revise the current Zoning Ordinances and Subdivision Regulations to encourage the development of affordable housing in appropriate areas within town.
- Create a goal of reaching the future planning goal figure (674) to meet the regional share of affordable housing stock (1,072 total units). Annually review the progress made to date and revise the Town's regulations and ordinances accordingly.
- Provide regulatory incentives, such as increases in density or waiving requirements of the Impact Fee and Growth Management Ordinances, to developers to build affordable housing in the community.
- Research the development of Employer Assisted Housing - with the Town of Bow as the employer - that would benefit and be made available only to municipal employees (teachers, police officers, Highway Department, etc.).
- Consider donating appropriate town-owned land to nonprofit housing organizations for the development of affordable housing within Bow.
- Bow should conduct an analysis of its current housing stock, using local information, to track the number of theoretical affordable housing units located within the community. This data should be provided to CNHRPC to assist in its updated regional assessment.
- Encourage the development of affordable housing POS-RD through the Town acquisition of the open space land from the developer and placing it in permanent conservation.

PLANNED OPEN SPACE RESIDENTIAL DEVELOPMENT (POS-RD)

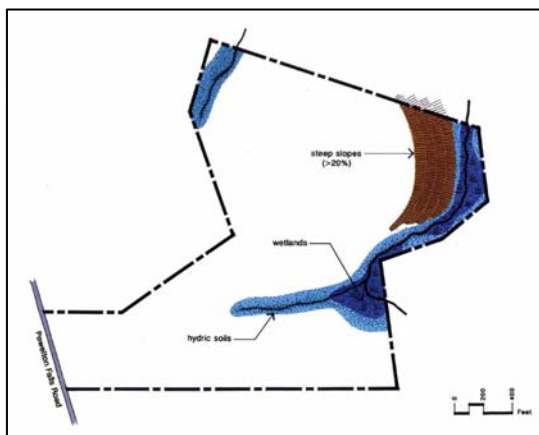
An answer to the sprawling landform created under conventional subdivisions is a new approach to subdivision design for rural areas, as outlined in the book entitled *Conservation Design for Subdivisions: A Practical Guide to Creating Open Space Networks*, by Randall Arendt (Island Press, 1996). Most practitioners call this type of development Conservation Subdivision Design.

Bow's current regulations do not reflect the Town's desire to preserve its rural character and open space. According to the Master Plan Community Survey, 664 respondents wanted to see this type of residential housing encouraged in Bow.

The following figures (used for example only) shows graphics from Arendt's book depicting the typical scenario for the development of a parcel under the conservation development design process. In its most basic form, the conservation development process can be broken into six logical steps, which are not the steps taken for a conventional subdivision. The six steps are as follows:



1) Create a "yield plan" for the site that assesses the number of viable building lots on the site under a conventional subdivision design. This plan establishes the minimum density for the conservation development design. Although a yield plan is conceptual, it must be consistent with Town ordinances and regulations already in place.

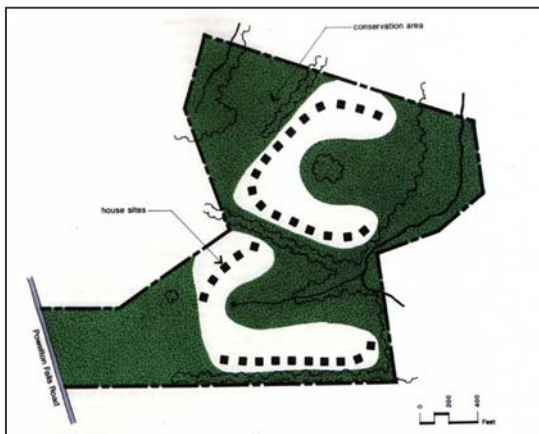


2) Prepare a conservation site analysis plan that identifies prominent open spaces and important natural features broken out into primary and secondary conservation areas. Primary conservation areas are those resources for which development should be excluded almost without exception, such as steep slopes and wetlands. Secondary conservation areas are those that should not be developed such as views, notable trees and landscape features, if at all possible.

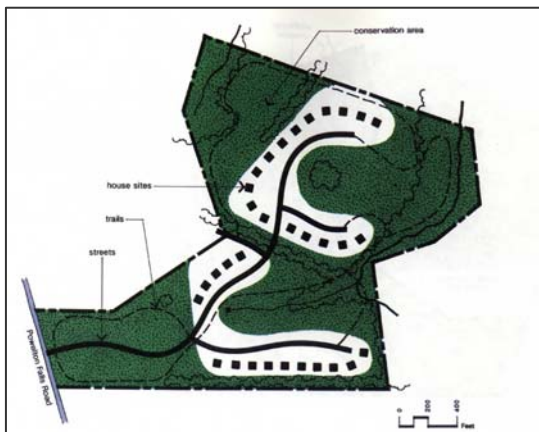




3) After evaluating the primary and secondary conservation areas, locate the portions of the site most suitable for development.



4) Locate dwelling unit sites using innovative arrangements to maximize views of open space and resources.



5) Locate and design the roadway and pedestrian travel ways. Maximize the protection of viewsheds and natural terrain in the design. Locate septic fields.



6) Delineate lot lines.

(Note: These graphics are to be used as examples only)

Primary conservation areas may include wetlands, steep slopes, aquifer recharge zones, and floodplains. Secondary conservation areas may include stonewalls, viewsheds, prominent vegetation, prominent landforms, prime agricultural soils, historic sites and features, archeological sites, and communities and species identified in the Natural Heritage Inventory. The natural areas set aside should include recreational areas, for both unstructured activities (walking trails) and organized activities (soccer fields), as an amenity for the neighborhood.

To help ensure successful conservation subdivision designs, the following provisions should be included in the Ordinance:

1. Clearly state the goals and objectives of the regulation.
2. Clearly explain how much of the unbuildable land can be used towards the minimum open space requirement.
3. Require that the conservation land have good access and be well marked.
4. Provide performance standards to ensure a quality development.
5. Ensure workable tax collection on common land.
6. Secure developer and builder follow-through on plan commitments.
7. Clarify application requirements to encourage more desirable plans and avoid unnecessary costs for the developer.

Under this approach, increased residential density can be achieved while maintaining open space and the look of a rural community. This type of development is also beneficial in encouraging affordable housing and elderly housing development. The town regulations currently do not allow for housing density above what would be allowed under a conventional subdivision. Nor do the regulations specifically encourage these developments to be anything other than market-rate single-family detached housing units.

POS-RD development is currently only a Permitted Use in the RU and R Districts and does not allow an increase in the housing density. In order to preserve significant cultural, scenic, and natural features, as well as rural Town and neighborhood character, the Open Space Residential Development zoning ordinance should be revised.

Recommendations – Planned Open Space–Residential Development

- Employ all possible measures to create open space that is protected in perpetuity through conservation easements, an association of all the homeowners, or by deeding the land to the Town or to a conservation organization. Land should be deeded to the Town when the open space land abuts Town-owned land.
- Ensure that the open space is usable for the desired use, such as farming, recreation, and/or wildlife habitat.
- Allow more flexibility in the minimum lot size, lot frontage and the side, and front setbacks while maintaining the undisturbed buffer around the development.
- Review the density requirements and allow an increase in density as an incentive for developers to use Planned Open Space Residential Development. One way to do this is to consider creating a sliding scale for lot density in exchange for more open space.
- Review and revise the current minimum lot size requirements to encourage this type of development.
- The Regulations should allow for duplex housing for elderly and affordable housing units if they have adequate septic and/or sewer capacity.
- Consider allowing a portion of the required open space to be “off-site” on a lot that is not contiguous to the residential development, provided the proposed non-contiguous open-space lot abuts Town-owned property and/or natural areas of importance.

RESIDENTIAL ZONING DISTRICTS

There are three primary residential Zoning Districts, the Rural District (RU), the Residential District (R), and the Civic District (CV), within the Town of Bow.

Rural District (RU)

The Rural District is designed to accommodate a range of residential uses at low density in a rural environment where sewer service is not available or anticipated. Agriculture, forestry, recreation, and other low intensity uses are permissible in the RU District.

The following are Permitted Uses in the Rural District: single-family residential; duplex or two-family residential; housing for the elderly; manufactured housing subdivision; and planned open space residential development. The following are residential Permitted Use, requiring a Special Exception³, in the Rural District: multi-family housing; boarding or rooming houses; residential care facility. The development of a manufactured housing park is a Permitted Use requiring a Conditional Use Permit⁴, in the Rural District.

³ Special Exception – A use that may be approved by the Zoning Board of Adjustment in districts where the use is specifically authorized by the Ordinance, and where the Zoning Board of Adjustment finds that such use can be developed in accordance with the provisions of Article 13. “Appeals to the Zoning Board of Adjustment” of the Bow Zoning Ordinance.

⁴ Conditional Use Permit – The Planning Board has the authority to administer or grant such permits.

The minimum lot size for the Rural District is 2 buildable acres⁵ with a minimum lot frontage of 200 feet. The minimum setback yard requirements are as follows: 35 feet for the front yard and 20 feet for both the rear and side yards. The maximum lot coverage cannot exceed 30%. The maximum number of stories allowed is 2 ½ (35 feet).

Residential District (R)

The Residential District is designed to accommodate a range of residential uses at low densities in areas where sewer service is available or the extension of such is anticipated at some future time.

The following are Permitted Uses in the Residential District: single family residential, duplex or two-family residential, housing for the elderly, and planned open space residential development. The following are Permitted Uses, requiring a Special Exception, in the Residential District: multi-family residential, boarding or rooming house, and residential care facility.

The minimum lot size for the Residential District is 2 buildable acres with a minimum lot frontage of 200 feet. The minimum setback yard requirements are as follows: 35 feet for the front yard and 20 feet for both the rear and side yards. The maximum lot coverage cannot exceed 30%. The maximum number of stories allowed is 2 ½ (35 feet).

Civic District (CV)

The Civic District is intended to define a town center which will accommodate institutional office uses together with small retail and service uses in an area where sewer service is available or the extension of such is anticipated at some future time.

The following are Permitted Uses in the Civic District: housing for the elderly and residential care facility. The minimum lot size for the Civic District is 1 buildable acre with a minimum lot frontage of 200 feet. The minimum setback yard requirements are as follows: 35 feet for the front yard and 20 feet for both the rear and side yards. The maximum lot coverage cannot exceed 60%. The maximum number of stories allowed is 3 (40 feet).

Recommendations – Residential Zoning Districts

- Create a new Multi-Family Housing (MF) Overlay Zoning District, as was described in the Duplex/Multi-Family Housing section of this Chapter.

⁵ Buildable land includes the total land area of a lot except: (1) land lying with slopes in excess of 33% or ledge which is exposed or lying within four feet of the soil surface; (2) wetlands; (3) land which is subject to an easement or right-of-way of a third party; (4) land necessary for the protection of aquifers which may serve as future sources of drinking water for the town; (5) land of such character that it cannot be safely used for building purposes because of danger to health or peril from fire, flood or other hazard or the use of which would tend to increase the danger to health, life or property or aggravate the flood hazard; (6) land subject to periodic flooding, poor drainage or other hazardous conditions; (7) land with unsuitable soil or inadequate capacity for individual sanitary sewerage disposal systems unless improvements will be connected to a common sewer system; or (8) land included in the Floodplain District or shown to be bog, marsh, swamp area, area of high water table or any similar situation.

GROWTH MANAGEMENT ORDINANCE

The purpose of the Growth Management Ordinance is to regulate and control the timing of residential development in accordance with the objectives of both the Master Plan and the Capital Improvements Program, which are adopted by the Bow Planning Board. The number of building permits for new residential dwelling units, that are issued in a calendar year by the Town of Bow, is limited to an amount that is two percent of the total dwelling units existent in Bow as of December 31st of the prior year.

The Town issues building permits for new dwelling units on a “first come-first served basis,” with the following conditions: 25% of the permits issued shall be awarded to landowners whose building is intended to be their primary residence; no single entity shall be awarded more than five permits during a calendar year, however the Planning Board may approve the issuance of additional permits if the applicant has proposed measures that will mitigate the impact of additional lots; and affordable housing and elderly housing shall be exempt from the provisions of the Growth Management Ordinance. If at the end of the year there is a surplus of un-issued building permits for new dwelling units, the surplus shall be carried over one year.

Recommendations – Growth Management Ordinance

- The Town should exempt all subsidized, affordable housing developments and all market-rate elderly housing (62 years and above) from the provisions of the Growth Management Ordinance, but should require market-rate elderly housing (55 years and above) developments to be subject to the provisions of the Ordinance.

IMPACT FEE ORDINANCE

A municipal impact fee represents a one-time, up-front charge on a new development to pay for future public capital costs serving the new development, or to recover past expenditures in capacity to accommodate that development. Impact fees are most commonly used in New Hampshire for the funding of schools, roads, and recreational facilities. However, impact fees are also being used for fire protection, police department, library, solid waste, water and sewer, and municipal administrative facilities.

The Planning Board has developed and the Town has adopted an Ordinance, methodology, and fees for the assessment of Impact Fees for the Bow School District. On the basis of this methodology, new and expanded residential development in Bow is assessed an Impact Fee that represents its proportional share of demand on the capacity of the School District. Any person who seeks a building permit for new or expanded development is required to pay an Impact Fee. The school Impact Fee can be waived for qualified elderly housing developments.

The amount of any assessed Impact Fee should be a proportional share of the municipal capital improvement costs, which are related to the capital needs created by the new development. The Impact Fees must not be spent on upgrading, replacing, or maintaining existing facilities and services, which already exist prior to any new development. The Town has six years in which to

spend the collected Fee. If it is not used within that period of time the money must be returned to the property owner.

By having an Impact Fee ordinance and assessing these fees on new development, Bow is ensuring that the increase in development and population utilizing Town services is being paid for by the associated development.

Recommendations – Impact Fee Ordinance

- The Town should automatically exempt all subsidized, affordable elderly housing (62 years and above) from the requirements of the School Impact Fee. All other types of subsidized, affordable housing, as well as market-rate elderly housing can request a waiver from some or all of the School Impact Fee.

RESOURCES TO MEET HOUSING NEEDS

The following programs, organizations, and funding sources are resources that Bow can use to meet some of the recommendations outlined in the Chapter.

Community Development Block Grants (CDBG)

Administered by the Department of Resources and Economic Development, the New Hampshire CDBG Program receives several million dollars annually, which communities may compete for to finance affordable housing projects, including rehabilitation of affordable housing units, or expansion of infrastructure to serve affordable housing units. Since its inception in 1983 in New Hampshire, the CDBG program has renovated or purchased over 8,500 dwelling units in New Hampshire.

Common CDBG projects include:

- Acquisition and rehabilitation of properties through Housing Trusts;
- Single family housing rehabilitation loans and grants;
- Loans and grants for landlords that provide decent, safe, and sanitary affordable housing to low to moderate-income renters; and
- The acquisition and rehabilitation of structures to provide alternative living environments, such as elderly homes, group homes, and boarding houses.
- Expansion of water and sewer infrastructure to benefit existing and/or proposed housing developments.

Communities that apply for CDBG funds are required to have a properly adopted Community Housing Plan. Such a plan must be adopted by the Selectmen or Town / City Council at a properly noticed public hearing, and is considered valid for three years by the CDBG program.

Concord Area Trust for Community Housing (CATCH)

The Concord Area Trust for Community Housing is an independent, non-profit organization dedicated to creating and preserving affordable housing, and to helping renters become owners throughout Merrimack County. CATCH helps communities by increasing the housing stock within a community, educating and supporting residents looking to buy their first home, and

maintaining the properties they already own. CATCH accomplishes these goals through the initiative and dedication of local members and volunteers.

U.S. Department of Housing and Urban Development (HUD)

The federal Department of Housing and Urban Development (HUD) has been fostering affordable housing in many of the nation's communities since its inception in 1965. HUD administers numerous programs to provide housing for low to moderate-income families.

Popular rental assistance programs include:

- Section 8 Housing: Program whereby private landlords enter into a contract with the federal government where, in exchange for providing sub-market rent to low to moderate-income families, the landlord receives a government subsidy.
- Public Housing: Program in which the federal government provides resources for the operation of housing units owned and operated by a local, state, or federal entities.
- Subsidized Private Housing: Program in which housing units are owned and operated by a private entity, but are partially funded with public resources to reduce rent. This is similar to the Section 8 Housing program.
- HOME Grant Program: A program created to provide local and state entities with start-up money to develop affordable housing projects.

HUD also administers several popular home-ownership programs for low to moderate-income families.

Housing Development Trust

The Housing Development Trust is a broad-based funding program that provides funding for either owner-occupied or rental housing to benefit lower-income households. The program is intended to support projects that could be financed through conventional means. Funds are to be targeted to very low-income groups and the NH Housing Finance Authority gives priority to projects meeting the following standards:

- 1) Projects containing the highest percentage of housing units affordable to very low-income people.
- 2) Projects based on the longest commitment to very low-income people.
- 3) Projects addressing demonstrated housing needs.
- 4) Projects containing the highest possible proportion of units available for families with children.

In addition to the criteria outlined above, the following types of projects are eligible for funding:

- a) Multi-family limited equity cooperatives
- b) Manufactured housing cooperatives
- c) Group homes for the disabled
- d) Multi-family rental
- e) Transitional housing for the homeless
- f) Emergency shelters
- g) Elderly congregate care

New Hampshire Community Development Finance Authority

The Community Development Finance Authority (CDFA) is also an important public source for the purchase and/or rehabilitation of low to moderate-income housing. CDFA provides funds by “pooling” money from various banks and lending institutions to provide grants or very low interest loans to groups developing affordable housing. In addition to this source, CDFA has the unique ability to grant tax credits to private developers who provide properties for rehabilitation into low to moderate-income housing.

New Hampshire Community Loan Fund

Founded in 1983, this organization helps connect low-income households with lending institutions willing to invest in housing projects to serve low-income housing opportunities. There are four types of housing programs that the Community Loan Fund administers.

- 1) Community Housing Program provides loans and technical assistance help local non-profit, community-based organizations to purchase, renovate and build affordable housing, usually rental.
- 2) The Home of Your Own/Single Family Special Initiative provides loans and technical assistance help individuals with developmental disabilities (or families with a child with a developmental disability), families recovering from homelessness and others to buy their own homes.
- 3) The Special Needs Housing provides loans and technical assistance help nonprofit community-based organizations to purchase, renovate and build affordable housing (usually rental) for people who have special needs, such as elderly people, people with mental illness or people with HIV.
- 4) The NHCLF helps homeowners in manufactured housing parks in New Hampshire through the process of cooperative conversion. The NHCLF helps homeowners organize as a cooperative and establish a board of directors and committees. The NHCLF also helps arrange financing and/or lends funds to the cooperative for predevelopment work, deposit financing, purchase and rehab resources and/or lends funds to make improvements following ownership. Finally, the NHCLF provides ongoing technical support and leadership training to cooperatively owned parks.

New Hampshire Housing Finance Authority

Created in 1981 by the State Legislature, the New Hampshire Housing Finance Authority (NHHFA) is a nonprofit entity committed to developing affordable housing opportunities in New Hampshire. NHHFA is funded through the sale of tax-exempt bonds. The authority has created several multifamily housing development programs, which provide investors with incentives such as tax credits, deferred mortgage payments, low interest loans, and grants.

Plan NH

Plan NH is a non-profit corporation whose members are concerned with the appearance of our communities. They may be designers, planners, builders, architects or others involved in the development process. The common thread linking these people is their concern with the quality of our structures and the communities they create. Plan NH annually sponsors three design charrettes, which create opportunities for its members to shape the built environment around our state while assisting communities with solutions to everyday planning problems.

Public Land/Affordable Rental Housing Program

The Public Land/Affordable Housing Rental Program is a State program passed by the General Court in 1986. The program allows surplus public land to be leased at no consideration to the NH Housing Finance Authority for the development of low-income housing. The intent of the program is to remove the land cost of development to allow for the construction of low-income housing that can be economically feasible. The NH Housing Finance Authority will self-finance, construct, and manage the housing. The greatest limitation facing the program is the availability of appropriately zoned surplus lands at the local level.

Single-Family Mortgage Program

The Single-Family Mortgage Program is by far the most significant State housing program. The program provides low-interest loans for first-time homebuyers within the established housing price and income guidelines. NH Housing Finance Authority finances the program through the issuance of tax-exempt bonds. In general, a first-time homebuyer applies for a NH Housing Finance Authority loan through a conventional mortgage institution. If the applicant, as well as the home qualifies, the NH Housing Finance Authority takes over the mortgage from the lending institution. The program provides assistance to a large number of first-time homebuyers; however, the limits placed on purchase prices together with stringent income guidelines exclude nearly all families below the median income level.

U.S. Department of Agriculture – Rural Housing Service (RHS)

Like HUD, the U.S. Department of Agriculture (USDA) also has affordable housing programs for low to moderate-income families located in rural communities. Each year the USDA helps 65,000 low to moderate-income families find decent affordable housing. Popular affordable housing programs that the USDA administers include:

- Home ownership loans which require no down payment and have below-market interest rates;
- Self Help Housing Programs where USDA provides materials to families who build their own homes while working with other families;
- Rural Rental Housing Loans which assist developers financing low to moderate-income rental housing;
- Farm Labor Housing Loans for the repair or construction of farm worker housing;
- Housing Preservation Grants
- Housing Subsidies; and,
- Community Facilities Loans, Grants, or Loan Guarantees.

CONCLUSION

Evidenced by the Town's Community Survey feedback, maintaining the rural character of Bow, while providing for a safe and sanitary environment, is paramount to future housing plans. With attention towards providing safe housing, Bow can better meet its vision of providing housing for all income levels and population strata, while maintaining the character of the community through the development of a Multi-Family Housing Overlay Zoning District, increased emphasis on the development of affordable and market-rate elderly housing, and revised dimensional requirements for new development. This continued sensitivity regarding affordable housing objectives and housing needs for our aging population, coupled with our desire to balance the costs of growth, shall serve as the premise for sound, long-term housing plans. The recommendations in this chapter, which are primarily based on our findings, reflect a desire to keep Bow as rural as possible.

CHAPTER IX

ECONOMIC DEVELOPMENT

INTRODUCTION

The purpose of this Chapter is to delineate the elements that make up the economic life of the Town of Bow and to consider how various elements should be managed to best achieve the type of community the citizens desire. The Master Plan Community Survey indicated that the citizens wish to retain the rural atmosphere and “high quality of life” of the Town and that growth within the Town must be managed to encourage desirable industrial and commercial activities in properly zoned areas.

The need to maintain flourishing workplaces is of great importance to many communities throughout New Hampshire. A sustainable community includes a variety of businesses, industries, and institutions, which are environmentally sound and financially viable. Businesses need to provide reasonable wages and benefits to workers and provide those workers with opportunities to develop their skills through training, education, and other forms of assistance to prepare for the community’s future needs. Government, business, and public service organizations are all important in attracting new investment and in developing new businesses that suit the character of the community.

ECONOMIC DEVELOPMENT FIGURES

Labor Force, Employment, and Unemployment

The labor force of a community is defined as the number of people who are over the age of 16, regardless of their employment status. In 1992, the estimated population of Bow was 5,586, with a labor force of 3,330, constituting 59.6% of the population. In 2002, the estimated population of Bow was 7,345, with a labor force of 4,560, which is approximately 62.1% of the population.

As can be seen below, the changes in labor force, employment, and the unemployment rate for Bow are more positive than the surrounding communities, county, or the state.

1992-2002 Labor Force, Employment, and Unemployment Figures

Bow	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
Labor Force	3,330	3,460	3,760	3,840	3,800	3,930	4,120	4,150	4,310	4,480	4,560
Employment	3,200	3,350	3,690	3,780	3,730	4,860	4,040	4,080	4,240	4,380	4,440
% Unemployment	3.8	3.1	2.0	1.6	1.9	2.0	1.9	1.6	1.8	2.3	2.6
Allenstown	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
Labor Force	2,510	2,500	2,480	2,540	2,480	2,610	2,620	2,660	2,740	2,820	2,860
Employment	2,280	2,330	2,360	2,420	2,370	2,530	2,540	2,590	2,670	2,730	2,740
% Unemployment	9.2	6.8	4.9	4.5	4.7	3.0	3.2	2.8	2.6	3.0	4.3
Concord	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
Labor Force	19,180	19,350	20,480	20,900	20,630	20,930	21,370	21,500	22,330	23,160	23,580
Employment	17,940	18,450	19,820	20,340	20,060	20,420	20,880	21,080	21,870	22,600	22,950
% Unemployment	6.5	4.7	3.2	2.7	2.8	2.4	2.3	2.0	2.1	2.4	2.7
Dunbarton	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
Labor Force	1,030	900	890	890	890	1,220	1,300	1,320	1,360	1,420	1,440
Employment	990	860	850	870	860	1,190	1,270	1,280	1,330	1,380	1,400
% Unemployment	4.5	4.8	4.3	2.1	3.6	1.7	2.1	2.5	2.4	2.9	3.1
Hooksett	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
Labor Force	5,030	5,170	5,160	5,310	5,140	5,330	5,460	5,560	5,760	5,920	5,990
Employment	4,670	4,880	4,960	5,080	4,970	5,190	5,330	5,430	5,610	5,730	5,740
% Unemployment	7.2	5.6	4.0	4.2	3.3	2.7	2.4	2.3	2.7	3.2	4.1
Hopkinton	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
Labor Force	2,557	2,626	2,842	2,895	2,869	2,818	2,911	2,979	3,075	3,057	3,220
Employment	2,445	2,546	2,772	2,844	2,805	2,774	2,847	2,911	2,997	2,988	3,130
% Unemployment	4.4	3.0	2.5	1.8	2.2	1.6	2.2	2.3	2.5	2.3	2.9
Pembroke	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
Labor Force	4,130	4,190	4,340	4,400	4,350	4,190	4,270	4,310	4,470	4,630	4,720
Employment	3,790	3,940	4,170	4,280	4,220	4,080	4,160	4,200	4,360	4,515	4,580
% Unemployment	8.1	6.1	3.8	2.5	2.9	2.6	2.4	2.3	2.5	2.6	3.1
Merrimack Cnty	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
Labor Force	65,731	66,259	69,934	71,381	70,573	71,744	73,423	74,038	76,669	77,072	80,710
Employment	61,560	63,027	67,622	69,393	68,445	69,920	71,684	72,471	74,895	75,019	78,190
% Unemployment	6.3	4.9	3.3	2.8	3.0	2.5	2.4	2.1	2.3	2.7	3.1
State of NH	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
Labor Force	610,412	615,967	623,868	634,001	623,783	645,555	652,922	668,096	685,511	688,657	705,630
Employment	564,565	575,418	595,102	608,783	597,868	625,386	633,949	649,969	666,320	664,293	672,360
% Unemployment	7.5	6.6	4.6	4.0	4.2	3.1	2.9	2.7	2.8	3.5	4.7

Source: NH Department of Employment Security, 2003

Occupations

The chart below outlines what types of occupations the residents of Bow were engaged in during 2000. The numbers below do not necessarily represent the types of occupations available in the Town of Bow, but those occupations of Bow residents. In 2000, the highest percentage of the Bow work force was employed in Management, Professional, and Related Occupations, while the lowest percentage of people was employed in the Farming, Fishing, and Forestry Occupations.

Occupations of Employed Bow Residents, 2000

	Number Employed 2000	Percent Employed 2000
Management, professional, and related occupations	1,921	51.7%
Service occupations	259	7.0%
Sales and office occupations	1,028	27.7%
Farming, fishing, and forestry occupations	21	0.6%
Construction, extraction, and maintenance occupations	212	5.7%
Production, transportation, and material moving occupations	276	7.4%
Total Employed Persons over 16 years of age	3,717	100%

Sources: 2000 Census

These results are comparable to the information gathered through the Master Plan Community Survey, which showed that 280 people were employed in the Professional field, 223 people were employed in the Health Care field, and 159 people were employed by the Government.

Education Levels of Residents

Of the total population living in Bow in 2000 that were 25 years old and older, 94.6% of Bow residents had a high school degree or higher and 45.4% had an bachelors degree or higher. For more detail regarding the educational levels of Bow residents and those of abutting communities, please refer to the table below.

Educational Levels of Persons 25 Years and Older, 2000

	Bow	Allenstown	Concord	Dunbarton	Hooksett	Hopkinton	Pembroke	State
Less than HS Diploma	248 (5.5%)	646 (20.2%)	3185 (11.4%)	86 (5.6%)	856 (11.4%)	178 (4.8%)	583 (12.9%)	103,754 (12.6%)
HS Diploma	945 (20.7%)	1283 (40.1%)	7845 (28.1%)	385 (24.9%)	2182 (29.2%)	775 (20.7%)	1562 (34.5%)	247,723 (30.1%)
Some College	873 (19.2%)	755 (23.6%)	6151 (22.0%)	335 (21.7%)	1390 (18.6)	684 (18.3%)	933 (20.6%)	164,634 (20.0%)
Associate's Degree	420 (9.2%)	207 (6.5%)	2182 (7.8%)	152 (9.8%)	858 (11.5%)	342 (9.2%)	481 (10.6%)	71,772 (8.7%)
Bachelor's Degree	1378 (30.2%)	219 (6.8)	5090 (18.2%)	372 (24.1%)	1520 (20.3%)	1,008 (27.0%)	689 (15.2%)	153,87 (18.7%)
Graduate / Professional Degree	692 (15.2%)	92 (2.9%)	3487 (12.5%)	215 (13.9%)	678 (9.1%)	749 (20.0%)	275 (6.1%)	82,230 (10.0%)
% of Pop. with HS Degree or Higher	94.6%	79.8%	88.6%	94.4%	88.6%	95.2%	87.1%	87.4%
% of Pop. with Bachelor's Degree or Higher	45.4%	9.7%	30.7%	38.0%	29.4%	47.0%	21.3%	28.7%

Source: 2000 Census

The Community Survey results had the following highest educational level achievement breakdowns for those answering the survey: 98 had less than a high school diploma, 311 had a high school degree, 302 had some college, 211 had an Associate's degree, 396 had a Bachelor's degree, and 429 had a Graduate/Professional degree.

Commuting Patterns of Residents

The table below shows that most employed residents of Bow, work outside of the Town of Bow. This is highlighted by the fact that 78% of the jobs in Bow were occupied by a non-resident in 1990 and 84% in 2000.

Bow Residents' Commuting Patterns, 1990-2000

	1990	2000
Number of Bow Residents Employed	2,778	3,717
Total Number of Jobs in Bow	2,403	3,372
Number of Bow Residents Employed in Bow	364	751
Number of Bow Residents Commuting to Another Town for Employment	2,414	2,966
Where Bow Residents Commute to for Employment (Top 3 Locations)	Concord	Concord
	Manchester	Manchester
	Hooksett	Bedford
Number of Nonresidents Commuting Into Bow for Employment	1,878	2,839
Origin of Nonresidents that Commute into Bow for Employment (Top 3 Locations)	Concord	Concord
	Manchester	Manchester
	Hooksett	Pembroke

Source: 1990 and 2000 Census

This assessment is also consistent with the findings from the Community Survey, which highlight that the top three commutes to work for Bow residents include Concord (495), Bow (252), and Manchester (198) for full-time employment and Concord (140), Bow (66), and Other New Hampshire Towns (48) for part-time employment.

BOW EMPLOYERS

Understanding historic trends in the local economic base can help the community better develop sound economic development strategies for the future. One key trend is the change in size and type of the local employment base. Local employment data (i.e., the number and types of jobs in community) are collected by various government agencies, including the Census Bureau and the New Hampshire Office of Employment Security. Using a classification system, the number of employment positions for each business in the community can be identified and tracked over time.

From 1992-2000, there has been a general increase in the number of Bow-based employers, number of employees, and wages in all employment categories. Private Services has seen the largest increase in the number of employers (45) and Private Wholesale has seen the largest increase in the number of employees (117). Overall, the average weekly wage for all employment sectors has increased. For more detail, please refer to the table below.

Trends in the Bow Employment Base, 1992-2000

	1992	1993	1994	1995	1996	1997	1998	1999	2000
Private Finance, Insurance, and Real Estate									
# Employers	0	0	0	0	0	0	0	9	11
# Employees	0	0	0	0	0	0	0	38	35
Avg. Wk Wage \$	0	0	0	0	0	0	0	800	1126
Private Services									
# Employers	36	42	54	60	62	74	81	73	81
# Employees	237	266	314	266	281	326	370	350	334
Avg. Wk Wage \$	511	495	457	434	490	487	453	473	574
Private Transportation and Public Utilities									
# Employers	5	3	0	0	4	5	0	0	4
# Employees	22	13	0	0	11	14	0	0	10
Avg. Wk Wage \$	415	602	0	0	1333	1063	0	0	1558
Private Agriculture									
# Employers	0	3	3	4	4	4	5	5	5
# Employees	0	10	11	11	14	13	15	14	13
Avg. Wk Wage \$	0	192	184	233	226	256	326	334	307
Private Construction									
# Employers	29	27	28	31	17	33	18	21	20
# Employees	285	296	305	345	161	418	223	245	260
Avg. Wk Wage \$	548	597	574	638	621	735	656	706	827
Private Retail Trade									
# Employers	7	12	10	12	15	12	13	9	9
# Employees	193	252	225	343	353	449	414	208	279
Avg. Wk Wage \$	495	577	593	340	404	468	493	978	994
Private Manufacturing									
# Employers	4	4	7	6	5	6	5	5	4
# Employees	37	37	75	102	99	101	102	110	120
Avg. Wk Wage \$	511	475	520	516	475	446	513	508	511
Private Wholesale									
# Employers	15	16	18	19	25	23	27	30	31
# Employees	74	89	110	132	171	150	146	175	191
Avg. Wk Wage \$	530	532	552	587	655	700	766	786	803
Public Administration									
# Employers	5	5	6	6	6	4	4	2	3
# Employees	150	188	189	203	201	171	194	147	204
Avg. Wk Wage \$	563	541	543	517	576	613	567	528	486

Source: NH Department of Employment Security, 2003

Bow Businesses

Bow is home to many large and small businesses. There are light and heavy manufacturing operations within town, including several large heavy road construction companies, trucking companies, cement supply and mixing facilities, sand and gravel mining operations, truck and heavy equipment service facilities, welding and fabrication, auto and industrial salvage, coffee processing, and several light and heavy building/construction companies. There are also professional businesses, such as public athletic support and gymnastics facilities, high tech

design and manufacturing, banks and lending institutions, insurance companies, development companies/corporations, and home businesses. Service businesses include truck stops, gas stations, several auto and truck dealerships/service facilities, auto repair/service facilities, convenience stores, restaurants, hotels, specialty tool distributors, gunsmiths and firearms sales, tire distribution/sales, retail sales, printing/packaging, printers, and public storage facilities. The following are some examples of the types of businesses located in Bow.

Grappone Auto Junction

This consists of several auto dealerships for automobiles and trucks. It is considered one of the largest auto dealerships in New Hampshire that sells new and used vehicles, along with providing customers with maintenance service and auto body repair. In all, Grappone Auto Junction employs over 300 people.

Public Service of New Hampshire's coal-fired electric power-generating facility

It has the capacity to generate 475 megawatts of power to service the Northeast USA. It employs 100 people. There is also a newly opened supply storage warehouse and distribution center on its property.

Universal Packaging Corporation

With its headquarters in Bow, UPC manufactures printed cardboard box containers for product manufacturers all over the country. Established in 1961, Universal Packaging employs 250 people.

Pitco Frialator

Manufactures food fryers for distribution to fast food establishments all over the world. Pitco was established in 1925, and it employs over 200 people.

Sara Lee

Roasts, packages, and distributes coffee from its Bow production facility. For the local consumer, a small retail store is operated in conjunction with the manufacturing facility; this store offers coffee and specialty items. Superior Coffee was established in 1952 and employs 82 people.

Structures Unlimited

This company operates several facilities that produce skylight systems for use in offices, schools, and other businesses nationwide. The Bow plant was established in 1968 and employs 75 people.

Blue Seal Feeds

With its manufacturing and distribution facility located in Bow, Blue Seal produces a variety of feed products for dogs, cats, livestock, etc. It was established in 1886 and employs 50 people.

Bow Mills Bank and Trust

This lending institution was formed by a group of local businessmen and residents to serve the Bow and surrounding communities.

Bovie Screen Process

Manufactures screen-printed products for use locally as well as nationally. Most of its work is custom designed and printed. The company was established in 1950 and employs over 40 people.

Wage Comparisons

To gain a better understanding of the types and quality of the jobs located in Bow, wages paid by employers in Bow can be compared to those in the surrounding communities. Although the figures below show average annual weekly wages for people who work within the Town of Bow, they do not represent the average weekly wage of a Bow resident (Bow resident income levels can be seen in the Demographics Chapter). As can be seen below, Bow is in the higher range for Private Industry and the lower range for Government weekly wages, as compared to abutting communities.

Average Annual Weekly Wage - Private Industries and Government, 2000

	Bow	Allenstown	Concord	Dunbarton	Hooksett	Hopkinton	Pembroke
Private Industries							
# Employers	224	50	1788	73	404	98	147
# Employees	2,908	400	28,141	164	6,264	769	1,505
Avg. Weekly Wage \$	788	482	611	860	757	618	594
Government							
# Employers	7	6	270	2	21	8	10
# Employees	464	149	11,272	55	492	271	401
Avg. Weekly Wage \$	469	451	674	345	666	616	707

Source: NH Department of Employment Security, 2003

PROPERTY VALUE AND TAX CHARACTERISTICS

An examination of the property values and tax rate can help gauge the economic attractiveness of a community to businesses. Much of the commercial and industrial land and buildings within Bow are of a rather high value, which benefits the tax base. See the tables below for more information.

2002 Assessed Valuation

Commercial and Industrial	
Assessed Value of Buildings	\$59,330,925
Assessed Value of Land	\$21,812,275
Public Utilities	
Electric	\$208,538,100
Natural Gas	\$2,184,300
Other	\$11,200

Source: Department of Revenue Administration 2003

In 2002, Bow raised \$18,210,492 through property taxes, which includes property taxes from residential, commercial, industrial, and public utilities.

Breakdown of Bow Tax Rates, 1998-2002

Year	Municipal Tax	Local Education Tax	State Education Tax	County Tax	Total Tax	Assessment Ratio	Full Value Tax**
1998	4.33	18.52		1.82	24.67	85	20.97
1999	4.25	10.54	7.81	1.80	24.40	77	18.79
2000	2.78	12.21	7.47	2.23	24.69	72	17.78
2001	4.75	13.53	8.27	2.54	29.09	62	18.04
2002*	4.72	10.84	5.49	2.10	23.15	89	20.60

Source: NH Division of Revenue Administration, 2003

* Revaluation was conducted ** Estimated figures

Tax Rates of Bow and Abutting Communities, 2002

Town	Total Tax Rate	Equalization Ratio	Full Value Tax Rate*
Bow	23.15	89	20.60
Allenstown	24.06	92	22.14
Concord	29.15 (Merr Val)	83	24.19
	26.40 (Union)		21.91
Dunbarton	24.78	69	17.10
Hooksett	25.20	66	16.63
Hopkinton	27.59	80	22.07
Pembroke	40.32	61	24.60

Source: NH Department of Revenue Administration, 2003

* Estimated Figures

Equalized valuation, or equalization, is an adjustment of the town's local assessed values, either upward or downward, in order to approximate the full value of the town's property. This process is due to an imbalance caused by varying local assessment levels. Adjusting these values among towns is the only way for statewide consistency. The total value of all property in town is adjusted based upon the comparison of recent property sales with local property assessments. Once property values have been equalized, public taxes and state revenues shared by towns and cities may be fairly apportioned among them. This includes state education and county taxes.

As generated statistics, equalization ratios are computed using properties that have been sold during the period: the sales prices of the properties are compared to the values listed on the assessment cards. The median ratio in a listing of properties is selected to represent the equalization ratio in a town because it gives equal weight to all properties regardless of the selling price. The ratio can help the town judge when a revaluation should be conducted and allow Bow to compare itself to abutting communities. The full value tax rate is the equalized tax rate for a town.

The state school tax rate is the town's share of the statewide cost for an adequate education. Each town is responsible for raising a set amount, as determined by the state, for the statewide cost of an adequate education. Other factors, which influence the difference in tax rates, include exemptions to the elderly and any new construction which has taken place in the past year.

LAND AVAILABILITY AND CURRENT ZONING

Land Availability

The existing land use pattern in Bow is typical of many communities in New Hampshire; commercial land uses are located along heavily traveled regional roadways while the majority of residential development is located in the back lands of the community. Please see the **Current Commercial/Industrial Land Use Map** for more detailed information. The following table is a summary of the current composition of how land is being used in Bow in the Commercial/Industrial area.

**Summary of Acreage Developed by Land Use Category
For Commercial/Industrial Area**

Category	Acres*	Percent of Total Land
Commercial Lands	291.3	4.0%
Industrial Lands	465.5	6.2%
Public / Institutional Lands	92.5	1.2%
Residential Lands	2,248.3	30.1%
Utility Land	442.0	5.9%
Conservation Lands	2,061.0	27.6%
Undeveloped Land	1,858.9	25.0%
Total	7,459.5	100%

Source: CNHRPC Geographic Information System (GIS), 2003

* Estimates based on GIS mapping for 2004 Master Plan

Commercial Lands

These land uses occupy approximately 4% of Bow's land area in the Commercial/Industrial Area of Town. Commercial uses involve the sale or trade of goods and services, which can include restaurants, convenience stores, warehouses, as well as gas stations.

Industrial Lands

These uses occupy slightly more than 6% of the community's land area in the Commercial/Industrial Areas of Town. Industrial uses can be thought of as any land use where raw materials are processed, modified, or assembled to create a finished or value added product. Industrial uses can include the excavation of materials and lands classified as utilities.

Current Zoning Districts

The power to regulate private property is one of the most important powers allocated to local government. Used properly, zoning can be a powerful tool to improve the aesthetics of a community, protect the natural environment, and enhance the quality of life. Used improperly, zoning can serve special interests, diminish the natural environment, and increase disparities between socioeconomic classes.

Today, Bow relies on eight primary Zoning Districts to regulate land use within the community. The following is a summary of the six economic development related Zoning Districts. For more information on these Zoning Districts, please refer to the Current Land Use Chapter. The location of these Districts can also be seen on the **Current Commercial/Industrial Zoning Map**.

Civic District (CV)

The Civic District is intended to define a town center, which will accommodate institutional office uses together with small retail and service uses in an area where sewer service is available or the extension of such is anticipated at some future time.

Institutional District (IN)

The Institutional District is designed to accommodate office and institutional uses in an area where sewer service is available.

Commercial District (C)

The Commercial District is designed to allow a broad range of commercial uses including retail, service, offices, restaurants, recreational, institutional, and transportation-related uses in areas along arterial roads where sewer service is available or the extension of such is anticipated at some future time.

Limited Industrial District (I-1)

The Limited Industrial District is intended to accommodate office and industrial uses in areas where sewer service is available or the extension of such is anticipated at some future time.

General Industrial District (I-2)

The General Industrial District is designed to include offices and industrial uses, and some limited commercial uses, in an area in which the extension of sewer service is anticipated at some future time.

Business Development District (BD)

The purpose of the Business Development District is to attract high-value, environmentally acceptable commercial, industrial, recreational, and institutional uses to the District; to encourage diversity in the community tax base through appropriate flexibility in land use and land use development; to optimize financial return on public infrastructure investments and expenditures including municipal sewer, municipal water supply, and public highways; to minimize adverse traffic impacts on Route 3A, future interstate highway interchanges, and surrounding local streets and roadways; and to preserve valuable historical, cultural, and natural features within the District and to minimize adverse environmental impacts to water and air, while reducing light and noise pollution, flooding, clear cutting of vegetation, and the blocking of scenic views.

The following is a list of all of the Zoning Districts in Bow and the approximate area of land located in each.

Acreage in Each Zoning District

Zoning District	Acres*	Percent of Total Land Area
Residential (R)	1,547.1	20.7%
Rural (RU)	3,235.2	43.4%
Civic (CV)	262.9	3.5%
Institutional (IN)	732.5	9.8%
Commercial (C)	747.9	10.0%
Limited Industrial ((I-1)	90.4	1.2%
General Industrial (I-2)	66.9	0.9%
Business Development District (BD)	777.3	10.4%
Total	7,460.2	100%

Source: CNHRPC Geographic Information System (GIS), 2003

* Estimates based on GIS maps for 2003 Master Plan

Current Build-Out Analysis

A Build-Out Analysis is an analysis of future land build-out based upon current Zoning Ordinance and Land Use Regulations. The goal of the project was to determine the number of potential residential lots, as well as the amount of developable commercial and industrial acreage within Bow under current land development regulations and within the natural constraints of the land. Hence, a build-out analysis is a process by which land use regulations and physical land constraints are analyzed to see how many lots/areas can be developed under those conditions until there is no more developable land remaining – the town would be “built-out.”

For the commercial/industrial areas, the majority of the developable acreage can be found in the Business Development District and the General Industrial Zones, as can be seen on the table below.

Existing Zoning District	Existing Lots		Build-Out Analysis
	Have a Building on Lot	Total	Commercial/Industrial Acres (Est.)
Commercial (C)	57	78	73.5
Limited Industrial (I-1)	21	26	16.5
General Industrial (I-2)	71	113	275.2
Institutional (I)	17	19	26.9
Business Development District (BDD)	33	50	347.2
Total	199	286	739.3

Source: 2002 Bow Build-Out Analysis, CNHRPC

See the **Current Commercial/Industrial Build-Out Analysis Map** for the location of these areas. For more information on the Current Build-Out Analysis, please see the Current Land Use Chapter of the Bow Master Plan.

ECONOMIC DEVELOPMENT PLAN

In 2000 the Economic Development Strategy was completed by RKG, under the direction of the Bow Business Development Commission. The primary focus of the study was an area that encompasses Bow's existing nonresidential Zoning Districts. The "Route 3A Study Area" is located primarily to the east of Interstates 93 and 89, with additional limited areas recommended by the consultants to be included off Dow, Knox, Bow Center Roads, and the area west of I-93 in the vicinity of Old Johnson Road.

The underlying purpose of this study was to propose a strategy that serves to broaden Bow's nonresidential tax base and maintain the long-term fiscal stability of the Town. The project scope also included a review of options for extending water and sewer to portions of the Study Area that are not currently served by municipal utilities. Finally, the study scope included limited site investigations of two locations for the possible future development of an industrial/business park.

Below is a summary of the recommended economic development strategy for the Town of Bow.

- Bow's projected fiscal future, assuming a status quo approach to economic development policy, does not necessarily present a "crisis" scenario in terms of future property tax impacts on homeowners. However, looming uncertainties could cause forecasted conditions to deteriorate. A more proactive economic development strategy could help to cushion the impact of unforeseen events and provide resources to expand services as the Town's population increases.
- A continuation of recent nonresidential development patterns in Bow (in the range of 40,000 to 45,000 square feet (SF) per year with average assessed values of \$33 to \$35 per SF) will have a negligible impact on the Town's future fiscal condition. Substantial

increases to both the annual amount and average unit value of new development will be needed to generate a significant positive fiscal impact on the Town.

- The types of employers that are growing in the “new economy” increasingly demand facilities that provide office and flex space for R&D, testing, assembly or back office operations. Marketable locations must provide good transportation access, ample on-site parking, high-speed telecommunications, on-site amenities and services (such as child care) in order to effectively compete for these types of users. There is no existing development in Bow which offers flexible sites, amenities, access and architectural protections in a controlled “park” setting. Opportunities to locate a large scale, high quality industrial, office/R&D or business park within the Study Area, are also limited.
- There is a large inventory of approximately 450 acres located on the western side of I-93, between Bow Bog Road and the highway corridor. The site could be ideal for the development of a high quality industrial/office/business park if adequate access were provided.
- The Town’s ability to attract a large-scale business park development (or larger users to individual parcels) will be constrained by the absence of water or sewer infrastructure. While extending infrastructure throughout the Study Area may be unrealistic, financially feasible alternatives to service portions of the area may be available. The largest inventory of remaining vacant land is located in the southern portion of the Study Area near the Hooksett Town line.
- Some existing businesses and property owners located along the above corridors are facing significant cost issues with respect to providing adequate fire suppression and/or waste disposal with on-site systems. Many of these businesses could receive substantial annual insurance costs savings if they were connected to a public water supply and/or sewage treatment system.
- The extension of water and wastewater infrastructure within the Study Area may take several years to accomplish. Action may be needed to preserve these potential long-range fiscal benefits by making it more difficult to introduce incompatible uses within or near high priority sites.
- Bow has also purchased sewer capacity from the City of Concord and has extended a line along Logging Hill and Bow Center Roads to the High School. Opportunities exist to create a new nonresidential zone in the vicinity of this line, or increase the amount of private development allowed within the Civic Zone.
- Bow retains a substantial residential land inventory that is physically capable of supporting another 1,700 to 2,300 single-family homes. New residential development has consistently averaged between 50 and 60 new dwelling units per year. As long as these growth patterns continue, it will be difficult to maintain fiscal stability through economic development activities alone. Ultimately, it would be valuable to incorporate a residential growth strategy as part of an overall fiscal management plan for the Town.

The Economic Development Study and accompanying strategy mirrors the thoughts of the residents. According to the Community Survey, 78.4% of the respondents felt that Bow should try to encourage commercial/industrial growth. As well, the types of businesses that residents thought Bow should encourage are Professional Offices (791), Restaurants (579), Manufacturing (553), Grocery Stores (551), Retail Shops (486), Warehouse Facilities (400), Banks (360), and Hotels, Motels, and Inns (346).

Recommendations – Economic Development Plan

- Attract a greater diversity of employers and higher valued economic development to Bow.
- Promote the Economic Development Plan through public education activities such as regular articles in the Bow Times and an updated and maintained section on the Town web page.
- Annually review the progress made on the Economic Development Plan and alter the recommendations and implementation timeline accordingly.
- The Bow Business Development Commission and the Bow Economic Development Corporation should identify critical parcels for future business development and look for funding to purchase such parcels.
- Establish a Capital Reserve Fund within the CIP for commercial/industrial land purchases by the Bow Economic Development Corporation.
- Research the creation of a Transfer of Development Rights (TDR) Ordinance to give developers the ability to “swap” development rights from one parcel of land to another.
- Extend/Improve water, sewer, and road infrastructure into portions of the Municipal Water and Sewer Study Area that can financially support operating costs and/or create new economic development opportunities
- Preserve Bow’s long-term fiscal stability through tax base preservation, expansion, diversification, and residential growth management.
- Establish a Capital Reserve Fund within the CIP for improvement of roads critical to commercial and industrial land development.

FUTURE ZONING

Preservation of the community's character, while providing opportunities for the expansion of the commercial and industrial tax base is important for the future of Bow. The following section can serve as a general guide to assist the community in thinking about the various zoning changes that could be made in Bow to promote a more viable economic development strategy through sound land use.

Zoning Districts

Currently, the Town of Bow has six Zoning Districts that allow commercial and industrial development as a Permitted Use. These districts include the Commercial District, the Limited Industrial District, the General Industrial District, the Civic District, the Institutional District, and the Business Development District. These six districts all have varying dimensional

requirements, permitted uses, and special provisions for developing within them. See the Current Land Use Chapter for more information.

The creation of Zoning District boundaries, uses, and other requirements is an ongoing process that takes into account changing economic times, technology, political forces, and changes in land use planning trends and practices. In an effort to ensure that Bow stays current with these various changes and provides public service to its residents, a **Proposed Commercial/Industrial Zoning Map** has been developed that recommends changes to the six Zoning District boundaries. The proposed changes are to be viewed as part of a long-term strategy for encouraging economic development in Bow and are in accordance with the numerous studies and reports that have predated this Master Plan.

Special Development Standards

Radio/TV Tower or Antenna and Personal Wireless Service Facility (PWSF)

The purpose of this Ordinance is to set guidelines for the location, process, and approval of new or expanded radio, TV Tower, and Personal Wireless Service Facilities (PWSF). These types of uses are allowed by Special Exception in the Commercial, Limited Industrial, General Industrial, and Business Development Districts. There are currently no specific requirements for where these facilities should be sited except what is in the state law and the general Site Plan Regulations.

Laboratory and Research Centers, Corporate Office Headquarters, or Data Processing Centers in the “R” and “RU” Districts

The purpose of this Ordinance is to establish standards for the development of laboratory and research centers, corporate office headquarters, and/or data processing centers in the Rural and Residential Zoning Districts. If this type of development is to occur in the residential areas of Bow, it is best suited as a Home Occupation or Cottage Industry and not a principal use. This type of development is best suited for the Business Development District.

Excavation of Earth Materials

The purpose of this Ordinance is to regulate the excavation of earthen materials through the setting of operational standards and reclamation standards for each site. Large deposits of sand and gravel can be valuable sources of construction materials. Because of their permeability (the ability to allow water to flow through), sand and gravel deposits also tend to be good sites for water supply wells and are very vulnerable to contamination. Therefore, special attention should be given to regulating land uses over sand and gravel deposits.

A Special Exception is required for the removal and excavation of earth materials in the Rural, Limited Industrial, General Industrial, and Business Development Districts. A Conditional Use Permit is required for the minor/predevelopment excavation on earth materials in all Zoning Districts if the material excavated is less than 2,000 cubic yards.

Industrial and Utility Uses

The purpose of this Ordinance is to specify the uses, fuel storage, and performance requirement for industrial and utility uses.

Campgrounds

The purpose of this Ordinance is to provide lodging to itinerant or temporary visitors. Recreational vehicles, travel trailers, or tents can remain on any campground site for up to 90 days. Campgrounds are allowed by Special Exception in the Rural, Commercial, and Industrial Districts. There are currently no specific regulations for the design, layout, amenities, or establishment of a campground outlined in the Zoning Ordinance.

Planned Business Subdivision

The purpose of this Ordinance is to facilitate the development of planned business subdivisions through innovative zoning and land use regulations. The subdivision is to benefit the Town through creative design, higher utilization of business development properties, increased diversity of desired services, reduced public service costs, improved aesthetics, reduced environmental impacts, and greater taxable land value.

This Ordinance needs to have more specificity included in it in order to attract business and developers to initiate such a development as well as to provide guidance to the Planning Board on how to review and approve such a development.

Wetlands Conservation District

The purpose of the Wetlands Conservation District is to protect and regulate the use of wetlands and wetland buffer areas in the Town of Bow. With development, there is always the potential that impacts to wetlands or buffers may occur. Because of the vital role that wetlands play in animal habitat, water quality, and open space it is important that any impacts to them are adequately mitigated.

Recommendations – Special Development Standards

- Review the areas that are currently zoned for commercial/industrial development to ensure that they are adequate and appropriate for that type of use. Assess whether there are areas that should be zoned for commercial and/or industrial development that are not currently zoned that way.
- Annually review the provisions of the Business Development District to ensure that the spirit and intent of the Ordinance are being followed and implemented.
- Rezone lots 11, 24, and 88 in Block 1 to a non-residential District because of their proximity to the Interstate 89 and future sewer service.
- Review the table of uses for the Commercial, Civic, Institutional, Business Development, Limited Industrial, and General Industrial District to ensure that the permitted uses are compatible with the goal of the Zone and other uses allowed in the District.
- Create a more detailed Radio/TV Tower or Antenna and Personal Wireless Service Facility (PWSF) Ordinance that outlines
 - Screening standards
 - Height restrictions to be measured from/by the average tree canopy of the site
 - Provisions for co-location on existing towers and locations within existing structures
 - Camouflage/Stealth Design
 - The removal of towers if they become inactive or unsafe

- Requirement that cell tower companies co-locate Police Department radio antennas on new facilities as a community service
- Require that the performance requirements (noise, smell, etc.) for industrial and utility uses be measured at the property line, not the District boundaries, to ensure that the use will not have a negative impact on abutting properties.
- Annually review the Site Plan Regulations to ensure that best management practices are being followed for the handling and storage of hazardous materials at industrial and utility uses.
- Excavation of earth materials should not be allowed on or adjacent to lands that are being used/could be used for public drinking water supplies.
- Laboratory and Research Centers, Corporate Office Headquarters, or Data Processing Centers should not be allowed in the Rural and Residential Districts and this provision should be removed from the Zoning Ordinance.
- The Town should look to acquire easements at current excavation sites after reclamation takes place, which can serve as recreational areas and/or provide river access for residents.
- Review the Excavation of Earth Materials Ordinance annually to ensure best management practices and technologies are incorporated.
- Any reuse of the sand and gravel pits located within the Town should be evaluated as to the appropriateness for the proposed activity, and best management practices should be used to prevent contamination of subsurface water bodies, as well as adjacent streams, ponds, rivers, and/or wetlands.
- Revise the Excavation of Earth Material Ordinance to allow a Conditional Use Permit to be issued for up to 20,000 cubic yards in the Limited Industrial, General Industrial, Commercial, and Business Development Districts.
- Create specific requirements for the establishment of a campground in Bow, including the amenities, recreational opportunities, infrastructure, and policies that must be put in place.
- Campgrounds should be allowed only by Special Exception in the Rural District.
- Create specific design requirements, performance standards, and incentives for Planned Business Subdivisions in order to make the option more appealing to businesses and developers.
- Include a provision in the Planned Business Subdivision Regulation Ordinance, which states that development must be designed with the intent of a planned open space along with the protection and preservation of the natural environment.

SITE PLAN REGULATIONS

Commercial and industrial development has significant impacts on a community. The existing Zoning and Site Plan Review regulations contain some performance standards related to the aesthetic or environmental impact of commercial and industrial developments. Such performance standards should be annually reviewed and updated by the Town as a way to retain the desirable qualities of Bow.

Non-residential Site Plan Activity

From 1992-2002, there were 103 site plans approved by the Town of Bow. These approved site plans included a change of use from a commercial or industrial use to another, as well as approvals for new commercial or industrial operations. The table below shows the comparison to abutting communities.

Number of Site Plans Approved, 1992-2002*

	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	Total
Bow	4	5	2	3	1	17	6	7	33	15	10	103
Concord	26	19	32	28	15	34	42	43	40	62	36	377
Dunbarton	1	2	4	3	1	0	0	0	1	0	0	12
Hooksett	NA	NA	36	18	39	24	29	20	37	27	22	252
Hopkinton	9	13	15	7	14	18	8	7	3	8	16	118
Pembroke	3	3	7	8	3	5	9	12	13	5	13	81

Source: Annual Town Reports, CNHRPC Development Trends Report, and Town Staff, 2003

* The minimum requirements to invoke Site Plan Review and the standards for Site Plan Review vary widely between Towns. Therefore, comparisons between towns are limited.

Site Plan Requirements

The following items are requirements that many towns include in their Site Plan Review requirements for commercial and industrial developments. These types of requirements are important to help ensure that new commercial and industrial developments complement the characteristics and qualities that the town cherishes and wishes to maintain.

Bow should consider adopting the following provisions for off-street parking requirements, access management, and pedestrian infrastructure for all developments proposed for the Business Development, Commercial, Limited Industrial, General Industrial, and Institutional Districts.

Off-Street Parking Requirements

Parking requirements impact a community in numerous ways, including pedestrian and driver safety, visual appeal, aesthetics of building design, and environmental impacts. Bow should encourage parking that will enhance economic vitality, personal mobility, and convenience while reducing costs, inconvenience, and environmental degradation.

Access Management

Access management has become an important issue for new developments in rural and suburban communities. Access management works to do the following:

- 1) Limit the number of places vehicles are turning and entering the roadway
- 2) Reduce deceleration in travel lanes, thus promoting efficiency
- 3) Remove turning vehicles from travel lanes

By accomplishing these three major goals, access management prevents roadways from becoming snarled with congestion, thus helping to ensure roadways will meet transportation needs for years to come. See the Transportation Chapter for more information in this subject.

Pedestrian and Bicycle Infrastructure

Pedestrian and bicycle facilities, such as paved sidewalks, gravel walking paths, and bike lanes, are critical features for roadways with high volumes of traffic, high speeds, or areas with large numbers of people/businesses. The primary purpose of sidewalks is to improve safety for pedestrians by separating them from the travel lanes of roadways. The same is true of bike lanes/paths. In addition to this, sidewalks, walking paths and bike lanes can also serve as a source of recreation, a non-motorized mode of travel, a way to beautify an area, and/or to stimulate economic activity. For more information on this subject, see the Transportation Chapter

Recommendations – Site Plan Regulations

- Encourage the use of alternative pavement materials other than asphalt and concrete for parking areas, where appropriate. These materials could include brick, crushed stone, pea stone, stamped concrete, cobblestone, and other similar materials. Allowing the use of such materials will preserve the rural character of the community and add to the aesthetic appeal of smaller commercial developments.
- Consider adopting provisions that would allow for shared parking between separate lots. Such a requirement would allow the Planning Board, when feasible, to reduce parking requirements for each lot, provided that the peak parking demand of each land use does not occur during the same time periods.
- To reduce congestion of streets and minimize traffic safety hazards, consider requiring developments, at time of Site Plan Review, to provide rights-of-way to abutting parcels for the future interconnection of sites.
- Annually review the aesthetic design standards, contained within the Business Development District, to ensure the standards are producing the intended results when applied to non-residential development, and revise the standards as necessary.
- Create a comprehensive access management plan for the commercial/industrial areas of Town and incorporate the plan into the Site Plan Regulations
- Create a comprehensive pedestrian and bicycle facility plan for the commercial/industrial areas of Town and incorporate the plan into the Site Plan Regulations.

HOME BUSINESSES

A growing and often unseen part of the local economy is home businesses. Having home businesses and occupations located in Town helps to ensure that those who live in Bow have the opportunity to work in the community and contribute to the local economy as a resident and as a business owner.

Bow has three categories for those who wish to create a home business in town – home occupations, cottage industries, and home-based day care.

Home Occupations

A Home Occupation is defined as a commercial activity that is conducted by a person entirely within a dwelling unit on the same lot where the person resides. It needs to be of a nature that

does not require the employment of non-family members, the use of on-site advertising, frequent customer travel to the site, the on-site storage of heavy equipment, or other exterior evidence of business use, which differentiates the appearance of the property from that of other dwellings used exclusively as residences. Home Occupations are permitted in all Zoning Districts except the Business Development District and are not reviewed or tracked by the Town.

Cottage Industry

A Cottage Industry is a type of home occupation that is conducted within a dwelling unit or its accessory structures, in which a resident proprietor engages in an on-site business. The nature of the business may involve non-family employees, may require frequent customer traffic, exterior advertising or business identification signs, shipping and delivery of manufactured, assembled or repaired products, and/or an exterior appearance which otherwise deviates from that of other dwellings used exclusively as residences. Cottage Industries are permitted in the Commercial, Limited Industrial, General Industrial, Civic, and Institutional Districts. They are permitted by Special Exception in the Rural and Residential Districts and thus, are reviewed by the Zoning Board of Adjustment and recorded as a business.

Home-Based Day Care

Home-Based Day Care means child care services in accordance with RSA 672:1 V-a, which limits providers to six full-time preschool children and three part-time school-age children, including the children domiciled at the home. Home-Based Day Care is permitted in all Zoning Districts except the Business Development District.

The ability to have local ownership of business is important to the economic health of a community. The more often money circulates within the community before leaving, the more the community benefits. Locally controlled businesses allow employees to have a voice in the decisions that affect them and encourage them to work, shop, and live all in one community.

Recommendations – Home Businesses

- Continue to evaluate and update the definitions and criteria for establishing a home business.
- Adopt into the Site Plan Regulations the requirement that Cottage Industries need a Special Exception, as well as Site Plan approval.
- The Town should keep track of existing Home Occupation, Cottage Industry, and Home-Based Day Care businesses in town, to the best of their ability, and encourage those proprietors to take part in the economic development activities of the Bow Business Development Commission.

COMMUNITY SUPPORT SERVICES AND INFRASTRUCTURE CHARACTERISTICS

The type and availability of community support services and infrastructure can have a major effect on the development and economic health of Bow. Bow already has many amenities located in a highly concentrated and easily accessible environment. From the location of electric power and sewer lines necessary to supply industrial users, to the availability of quality schools and a convenient location to support workers, the issues discussed below are important to Bow's residents and commercial enterprises.

Roads and Highways

A safe and efficient transportation network is an essential component for the development of a prosperous community. Over the past several years, development trends in Bow have been largely influenced by the location of I-89, I-93, and Route 3A. It is likely that these will continue to play a major role in the future development of Bow and the central New Hampshire region. See the Transportation Chapter for more information on this topic.

Railroads

There is one active rail line located in Bow, which is the Boston and Maine Railroad. This rail line is located along the Merrimack River and currently carries only freight, including coal, cement, and other industrial goods. Approximately six to eight inbound and outbound trips are made weekly along this route with four businesses utilizing the service.

This line has the potential to expand to a passenger rail line in the future, with infrastructure modifications. One such modification would be to upgrade the four crossings that currently exist to ensure motorist, pedestrian, and railroad safety. With increased commercial and industrial development in the Business Development District, this rail line has the potential to attract new business, which will benefit the Town and the railroad company. The location of the railroad line is noted on the **Community Support Services and Infrastructure Characteristics Map**.

Bus Transit

There is currently no regularly scheduled bus service to or from Bow at this time. The nearest place to access this type of bus transportation is in Concord or Manchester. However, Concord Area Transit (CAT) provides Bow residents with door-to-door bus service one day a week by appointment. CAT is currently exploring the issue of expanding service into Bow on a more frequent schedule.

Airports

Commercial service is available via the Manchester Airport. General aviation services are also available via the Concord Airport.

Electric Power

The Public Service Company of New Hampshire (PSNH) and Concord Electric (Unitil) provide electric service to the town. One of the three PSNH fossil fuel fired power plants in the state is located in Bow. The plant began commercial operation in 1968 and supplies 189,000 residential, commercial and industrial customers in the state.

PSNH also operates nine hydroelectric facilities in New Hampshire, one of which is located at Garvin's Falls in Bow. Currently, PSNH is in the process of re-licensing three hydroelectric dams on the Merrimack River.

The location of the power plant and hydroelectric dam are noted on the **Community Support Services and Infrastructure Characteristics Map**.

Natural Gas

Keyspan provides natural gas in Bow; however, there is limited coverage within Town. More than half of the Town will have the ability to tie into the natural gas lines by the end of 2003 since Keyspan is in the process of expanding its service. The areas Keyspan will be servicing can be seen on the **Community Support Services and Infrastructure Characteristics Map**.

Telephone

There are two telephone companies or Incumbent Local Exchange Carriers (ILECs) that operate in Bow -- the Dunbarton Telephone Company and Verizon.

Wireless Telecommunication

There are two wireless telecommunications towers located in Bow. The locations are noted on the **Community Support Services and Infrastructure Characteristics Map**.

By Federal law, a community cannot prohibit the introduction of cell towers within the town. However, as in many communities, the location and ultimate design of wireless telecommunications towers can be restricted. The Town must weigh the needs of the business and public that use wireless communications devices to an ever-increasing degree against those of local residents who do not wish to see the Town's hills and vistas marred by numerous towers.

The Town has worked to address these compelling desires through the adoption and use of the Personal Wireless Service Facilities Ordinance. See the Current Land Use Chapter for more information on this Zoning Ordinance.

Cable

Comcast is the cable service provider in Bow and provides cable television and Broadband Internet service. The current cable franchise agreement was signed in June 16, 1994 and is a 15-year agreement (expires June 16, 2009). The current agreement states that all municipal buildings will be connected to cable service and that 18 months after the agreement went into effect every existing residential structure on a public street will have cable available to it. However, the cable will be provided, without extra charge, only to those residential homes within 300 feet of an existing drop line. If a home is more than 300 feet from the drop line the extra cost is born by the individual. There is no mention of providing service to businesses, regardless of their location.

Internet

The availability of fast, inexpensive Internet access is often spotty in smaller New Hampshire communities. Fortunately, the Town of Bow is an exception. Bow residents and business have access through Comcast in its service areas, as well as the traditional dial-up connections.

Municipal Wastewater Treatment

In 1984, the City of Concord and the Town of Bow negotiated and signed a joint sewer agreement. The agreement gave the Town the right to transport sewage via the Hall Street main to the Hall Street treatment facility and reserved almost 4% of the plant's capacity for Bow (385,000 gallons per day - GPD). The Town agreed to make annual payments against the construction bonds for 20 years and pay annual costs for sewage treatment based on proportionate shares of the total flow and total operating costs. Those tied into the system pay a user fee to Bow for the service.

Bow completed a study in the summer of 2003, which looked at future wastewater infrastructure for the Route 3A area of Town. This study outlined the areas where wastewater might be needed in the future, the infrastructure requirements, and the associated costs and timeline to implement. In order to accomplish this infrastructure expansion, Bow is looking to negotiate an increase in the amount of reserved capacity from 385,000 to 785,000 GPD.

The area covered by the current system and proposed municipal wastewater treatment can be seen on the **Community Support Services and Infrastructure Characteristics Map**.

Municipal Water

There is currently limited municipal water available in Bow. The existing water line is from the City of Concord down Hall Street in Bow and only services existing residential dwellings. Bow just had a study completed in the summer of 2003 that looked at future water infrastructure for the Route 3A area of Town. This study outlined the areas where water might be needed in the future, the infrastructure requirements, and the associated costs and timeline to implement.

The area covered by the current and proposed municipal water system can be seen on the **Community Support Services and Infrastructure Characteristics Map**.

Emergency Services

The Fire Department and Rescue Squad provide fire and emergency medical services to all residents and businesses in Bow. In addition, they also educate the public on fire prevention and CPR and conduct life safety inspections.

The Police Department actively participates in and conducts specialized programs such as: At Risk Programs, Community Service Programs, Neighborhood Watch, Operation Call In for seniors, and numerous other programs that involve the community. The Bow Communications Center is also housed within the Bow Police Department. The Center dispatches for Allenstown, Bow, Dunbarton, Epsom, and Pembroke. The Center also works for the Bow Highway Department, Bow School District, and the Pembroke Highway Department in monitoring radios and making emergency calls out.

See the **Community Support Services and Infrastructure Characteristics Map** for the locations of these facilities. See the Community Facilities Chapter for more information in this topic.

Bow Schools

Based on 2002 enrollment data, student population in the three Bow schools is approximately 1,800. As of the 2002-2003 enrollment, the elementary school and the middle school are both

over capacity. A three-classroom addition for the middle school was approved by the March 2003 School District Meeting. Even with the addition, the school will be over capacity at its current programming levels. The high school is close to capacity.

See the **Community Support Services and Infrastructure Characteristics Map** for the locations of these facilities. See the Community Facilities Chapter for more information on this topic.

Higher Education

College of Lifelong Learning

Located in Bow is one of the offices for the College of Lifelong Learning (CLL), which specializes in teaching adults. In 1972, the Trustees of the University System of New Hampshire established a college specifically for adults, with courses offered across the state in the communities where our state's residents live and work. Today, CLL serves over 4,000 adults each year. CLL offers certificates, associate and bachelor's degrees, and graduate degrees through Plymouth State University. The courses are available in the evenings, on weekends, during the day and even online.

New Hampshire Technical Institute

The New Hampshire Technical Institute, located in Concord, is a public community college serving students, businesses, and the community by providing excellent academic, technical, and professional education. Academic offerings have grown to over 50 associate degree, diploma, and certificate programs.

Franklin Pierce College

Franklin Pierce is a four-year college with its main campus located in Rindge, New Hampshire. The College also operates six centers for Graduate & Professional Studies located in Concord, Keene, Lebanon, Nashua, Portsmouth and Salem. These centers enroll over 3,000 students per year. Franklin Pierce College's curriculum is a blend of traditional liberal arts, pre-professional study, and teacher preparation programs.

Franklin Pierce Law Center

Franklin Pierce Law Center is a small, independent private school located in Concord, offers degrees in law, and is one of the foremost centers involved in intellectual property law.

UNH Manchester

The University of New Hampshire at Manchester was established in 1985 as the sixth college of the University of New Hampshire to provide access to public higher education for people who live and work in the greater Merrimack Valley Region of New Hampshire. UNH Manchester fulfills this mission by offering selected liberal arts and professional degree programs at the associate, baccalaureate, and graduate levels with special emphasis on programs that address urban issues.

The University Center, located in Manchester's historic mill yard, is a fitting setting for the University's urban college. The 75,000 square foot facility, formerly the Amoskeag Manufacturing Company's machine shop built in 1880, recently completed an exciting

transformation that includes tripling the size of the library, creation of multimedia classrooms, new microbiology, psychology, and media labs and a radio studio.

Housing

The type of housing within a community is an important indicator of the quality of life within the community. Bow has a limited variety of housing types, which includes a large number of single family and some recently constructed elderly housing. As new and expanded businesses locate in Bow, housing opportunities should be expanded proportionally.

Based on a survey completed in 2002 by the NH Business and Industry Association, the availability of housing is often considered by businesses that are thinking about locating or expanding to a new location. See the Housing Chapter for more information on this topic.

Childcare

Childcare is an economic development issue that oftentimes is overlooked by businesses and town government. Not only are childcare facilities businesses, but they also provide a necessary service for parents in the workforce. Bow has six licensed child-care providers, which can care for a total of approximately 190 children at a given time. See the **Community Support Services and Infrastructure Characteristics Map** for the locations of these providers.

These community support services and infrastructure characteristics mentioned can help to encourage economic development within the community. These services benefit the businesses, as well as the residents within the community.

Recommendations – Community Support Services and Infrastructure Characteristics

- Work with the Towns of Pembroke and Hooksett, the City of Concord, and the NH Department of Transportation on improvements to the regional transportation system to promote economic development in the region. Of particular priority are new and expanded connections among I-89, I-93, Route 3A, and Route 106.
- Ensure that Bow is represented on and actively participates in the study committee for the I-93 expansion.
- Improve the road system serving business development areas, particularly areas to be served by municipal water and sewer.
- Work with representatives from the Boston and Maine Railroad line to ensure that increased development in the Business Development, Commercial, and Industrial Districts will be mutually beneficial for both the town and railroad.
- Upgrade the four railroad crossings to ensure pedestrian, bicyclist, motorist, and railroad safety, if necessary, within the Business Development, Commercial, and Industrial Districts.
- Promote the continued and/or expanded generation of electricity in Bow.
- Extend municipal water service into the South Street, Hall Street, and Bow Junction Commercial/Industrial areas.
- Ensure that the current Fire, Police, and Rescue equipment and facilities are taken into consideration when an expansion of or proposal for a new commercial or industrial facility is proposed.

- Research the development of a Housing Linkage Ordinance and/or a Childcare Linkage Ordinance, which would require commercial and industrial developments of a certain size and/or workforce to contribute land and/or money for the development of affordable housing and/or provide space and/or money for the development/expansion of child care facilities within Bow.
- Support the development of expanded public transportation service within Town.
- When renegotiating the cable franchise agreement, include a requirement that cable service be provided to all structures along every public street.
- When renegotiating the cable franchise agreement include a requirement that a community access channel be established that can host a community bulletin board, emergency public announcements, and broadcast public meetings.

PLANNING PROCESS AND PROCEDURES

No matter how well written the Zoning and Site Plan Regulations are, they are useless if there are not effective, efficient, and responsive planning processes and procedures in place for developers and businesses to follow. This process starts well before an application is before the Planning Board, which by then months and sometimes years of work have gone into the proposal. In fact, the process starts when a developer or business is looking for a location for a new or expanded business and does not end even after the development has been completed and the business is up and running.

The Town of Bow has full-time planning, economic development, and building code staff, as well as a Business Development Commission and Economic Development Corporation to assist in the planning process and procedures. According to the Community Survey, the Business Building Code Enforcement was rated the following way by respondents: 21.6% good, 14.6% fair, 3.2% poor, and 60.6% NA; and the Planning Regulation Administration (Planning Process in Bow) was rated the following way by respondents: 18.9% good, 21.4% fair, 11.1% poor, and 48.6% NA.

Since these processes and procedures are usually the first time an individual or business has any contact with the Town of Bow, this interaction should be positive, helpful, effective, and thus beneficial to both parties.

Recommendations – Planning Process and Procedures

- The town should work proactively with landowners on economic development plans to help preserve parcels for future development, where appropriate, and work to assemble small parcels where aggregation would result in more advantageous development.
- Enforcement of current Zoning and Site Plan Regulations needs to be made a priority to ensure that quality economic development locates and remains in Bow.
- A packet of information to be given to potential businesses and developers should be created that explains the land development regulations, the Planning Board and Zoning Board meeting schedules, a checklist of requirements for Site Plan

- applications, important dates for submission to the Boards, building permit information, and contact information for Town Departments and Staff.
- An annual in-person survey should be distributed to local businesses to gather feedback and recommendations on how to improve the business development within Town.
 - The Planning Board should hold meetings twice a month, instead of the current once a month, to facilitate a more expedited process for applicants and make the Planning Board meetings more manageable.
 - The Town web site should be used as a resource and thus, kept as up to date as possible with meeting agendas and minutes for all town departments and commissions, regulations, permits, fee schedules, and contact information for department and commissions.
 - The Town should ensure that the staffing levels are adequate to ensure that all of the necessary planning, zoning, economic development activities, and enforcement activities are being taken care of in a timely manner. If this is found not to be the case, the shifting of job responsibilities of current staff, the outsourcing of services, or the hiring of new staff needs to be considered.

STRATEGIES TO PROMOTE ECONOMIC DEVELOPMENT

Bow Business Development Commission (BBDC)

The Business Development Commission was formally established in 1978 at Town Meeting. The purpose of the Commission is (1) to advise the Board of Selectmen on issues affecting economic development and (2) to establish a process for long-range economic development.

The BBDC has been working to implement the Economic Development Plan and Implementation Strategy, make recommendations to the Board of Selectmen, Planning Board, and Zoning Board of Adjustment on issues affecting business development. They have also taken the lead on the development of the proposed water and wastewater systems serving the economic areas of town.

Bow Economic Development Corporation (BEDC)

The BEDC is a not-for-profit corporation formed in September 2002. The Corporation was established to promote and develop the growth, prosperity, and general welfare of the Town of Bow and the surrounding region, to prepare the workforce of the future through better education, to reduce unemployment and underemployment, to increase opportunities for employment of low-income residents, and to encourage citizen participation in community improvements and development programs. The BEDC hopes to do this through (1) providing and assisting others in providing industrial, commercial, manufacturing, warehouse, recreational, residential, and other beneficial facilities; (2) cooperating with schools in School-to-Work and similar academic programs; and (3) participating in educational and other programs sponsored by the New Hampshire Job Training Council.

Capital Regional Development Council (CRDC)

CRDC is a non-profit organization that has been promoting economic development for the past 45 years. The organization serves Merrimack, Belknap, Grafton and Sullivan counties. The mission of CRDC is to create new and permanent jobs, enhance personal income of workers, and expand community tax bases through private investment. CRCD meets these goals through the development of land and the administration of various business loan programs, including the Small Business Administration (SBA) 504 debenture loan program.

Community Development Block Grants (CDBG)

CDBG funds are a valuable resource available for funding a variety of public needs. In addition to funding affordable housing programs and community centers, CDBG funds can also be used for economic development purposes, such as the expansion of public waterlines. For 2002, there was approximately \$4.5 million dollars available in CDBG funds that, through the grant process, were allocated to communities across the State.

Community Development Finance Authority (CDFA)

The Community Development Finance Authority (CDFA) was established by legislation (RSA 162-L) in 1983 to address the issues of affordable housing and economic opportunity for low and moderate-income New Hampshire residents. The Authority provides financial and technical assistance to community development corporations, worker cooperatives, and certain municipal entities. The Authority is unable to assist a for-profit business directly, but can work with a nonprofit partner.

CDFA administers numerous programs. One such program is the Economic Development Ventures Fund. This fund is to be used to support unique opportunities that may appear from time-to-time. For example, the fund may be used to cover a short-term funding gap in the event that access by a nonprofit community development organization to other public funding is delayed. The fund may also be used as a source for equity investment in a cooperative venture or non-profit business opportunity. Terms and conditions of the funding are determined on a case-by-case basis. Funding levels of this program will be determined on an annual basis.

CDFA finances major community development projects primarily with the Community Development Investment Program. The Community Development Investment Program enables New Hampshire's businesses to donate funds or property, either in lump sum payments or pledged over a predetermined period, to fund economic development and housing projects throughout the state. Contributions made by these business donors entitle donors to a 75% state tax credit when the tax returns are filed with the New Hampshire Department of Revenue Administration. For example, a donor making a \$10,000 cash donation to CDFA on behalf of an approved project will receive a tax credit for \$7,500. This credit may be applied directly on a dollar-for-dollar basis against the following state business taxes: (1) Business Profits Taxes imposed by RSA 77-A, (2) Insurance Premium Taxes imposed by RSA 400-A, and (3) Business Enterprise Taxes imposed by RSA 77-E.

Tax Increment Financing (TIF)

Tax increment financing (TIF) is an innovative tool that uses tax revenue from new developments, within certain designated areas of communities, to pay for new infrastructure to serve those new businesses, business expansions, and affordable housing projects.

TIF is a planning concept that was created in the 1970's and has been widely adopted by several states in the nation. The State of New Hampshire granted municipalities the authority to create tax increment finance districts in 1979, with passage of RSA 162-K: 1-15. Currently, nine (9) communities in State of New Hampshire have implemented tax increment finance districts. The most successful districts are located in the cities of Keene and Concord. At the 2002 Town Meeting, Bow gave itself the authority to create a TIF District, which is the first of many steps that need to be taken before a District can come to fruition.

There are numerous legal and planning issues to consider when implementing tax increment finance districts. In New Hampshire, communities must adopt a TIF plan and development program to ensure that the community has a clear focus on what the TIF will accomplish. There are several legal considerations that communities must adhere to when instituting a tax increment finance district. These requirements are mandated by NH RSA 162-K: 1-15.

Also, before adopting a TIF, communities must establish the geographic boundaries of the proposed TIF district. In conjunction with this step, NH RSA 162-K:6 requires that a development program be created for the proposed area. This program must contain "a complete statement as to the public facilities to be constructed within the district, the open space to be created, the environmental controls to be applied, the proposed reuse of private property, and the proposed operations of the district after the capital improvements within the district have been completed (RSA 162-K:6)."

Furthermore, state law requires that the development program "provide for carrying out the relocation of persons, families, businesses concerns, and others displaced by the project, pursuant to a relocation plan, including the method for relocation of residents in decent, safe, and sanitary dwelling accommodations, and reasonable moving costs, determined to be feasible by the municipality (RSA 162-K:6)." Essentially, the program development is a master plan for the area to consider the broad social, environmental, and fiscal impacts of a proposed TIF.

The second major requirement of TIF enabling legislation is that communities must have a TIF Plan. Mandated by RSA 162-K:9, the plan must contain the following: "costs of development programs, sources of revenue to finance those costs including estimates of tax increments, amount of bonded indebtedness to be incurred, and the duration of the program's existence (RSA 162-K:9)." The plan must also contain "a statement of estimated impact of tax increment financing on the assessed values of all taxing Jurisdictions in which the district is located (RSA 162-K:9)." Prior to the adoption of this plan, State law requires that the County Commissioners and School Board or District be afforded the opportunity to meet with the governing body to voice concerns and understand how the tax burden will be shifted to maintain the revenue stream (RSA 162-K:1-15).

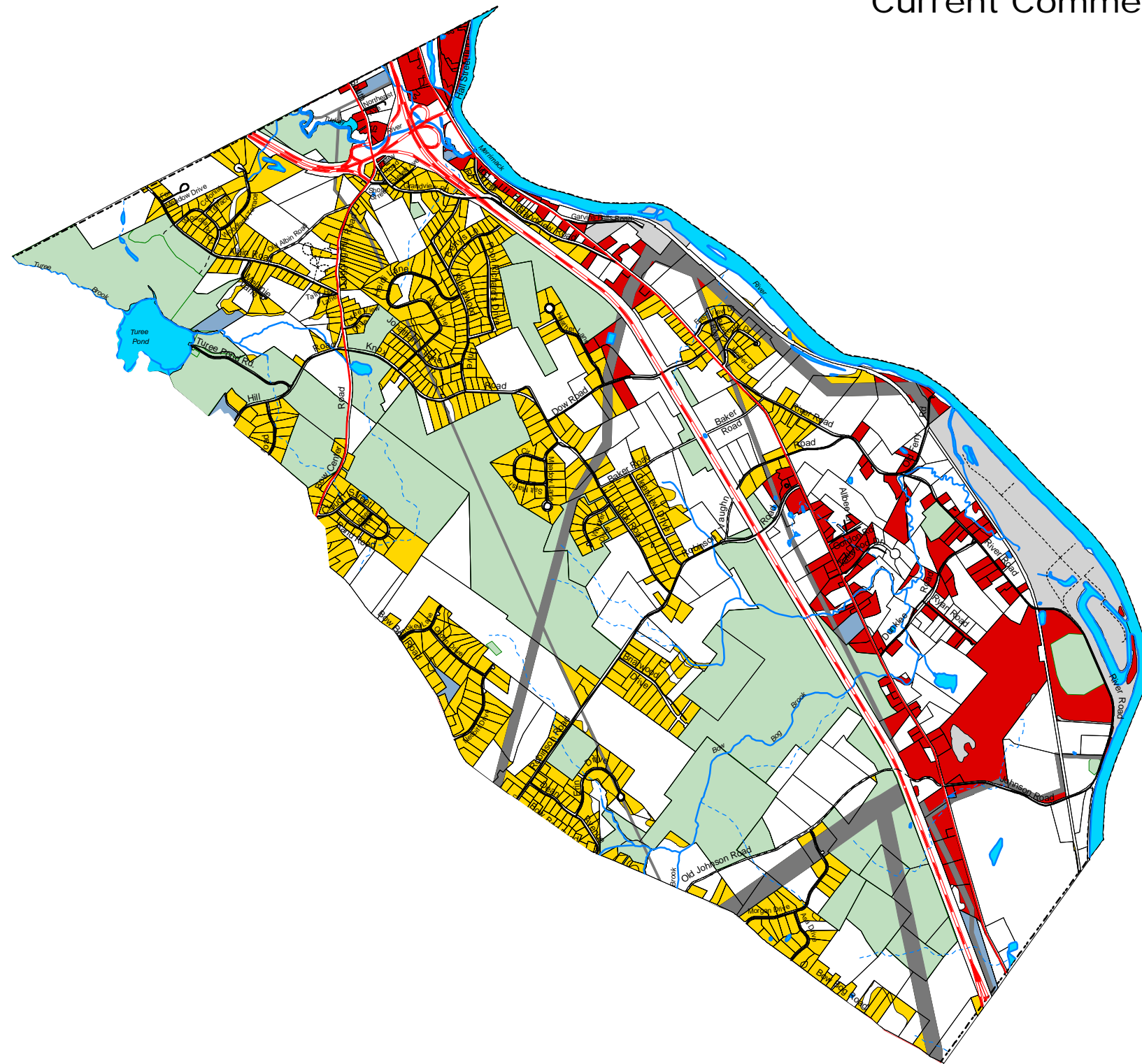
Tax increment financing is attractive to communities, as it can provide incentives for economic development in the community, without taking resources away from other projects and community needs. However, TIF is legally complex and requires the assistance from legal, planning, and financial experts to make it successful.

CONCLUSION

Although the economy of Bow is healthy, it is heavily dependent on a single business for most of its non-residential tax base (PSNH Merrimack Station power plant). Because of this dependence, it is necessary for the Town to diversify its commercial and industrial base in order to maintain long-term fiscal stability, which will create a more healthy economy. Bow desires to maintain and develop an economic base that complements the community character of the Town and builds upon its transportation, natural resource, and community infrastructure strengths. Residents want to encourage well designed, aesthetically pleasing commercial and industrial developments. Businesses that are environmentally sound and financially viable, with reasonable wages and benefits, help to stabilize the community and should continue to form an important piece of Bow's economic base.

TOWN OF BOW, NEW HAMPSHIRE

Current Commercial/Industrial Land Use Map



This map produced by
**Central New Hampshire
 Regional Planning Commission**
 28 Commercial Street
 Concord, NH 03301

phone (603) 226-6020
 web www.cnhrpc.org

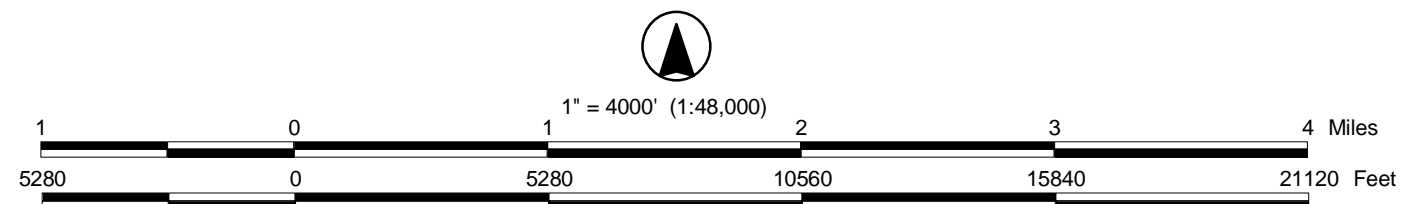


for the Bow Master Plan Economic Development
 Chapter, September 2004.

Data sources:

1:24,000 source scale from the NH GRANIT system, Town of Bow
 Build-Out Analysis, Town of Bow Digital Tax Parcel data, and the
 Town of Bow. Corrections to base data made by NH Department
 of Transportation, the Town of Bow, Master Plan Committee, and
 CNHRPC.

This map intended for planning purposes only. Corrections are welcomed
 and should be directed to CNHRPC.



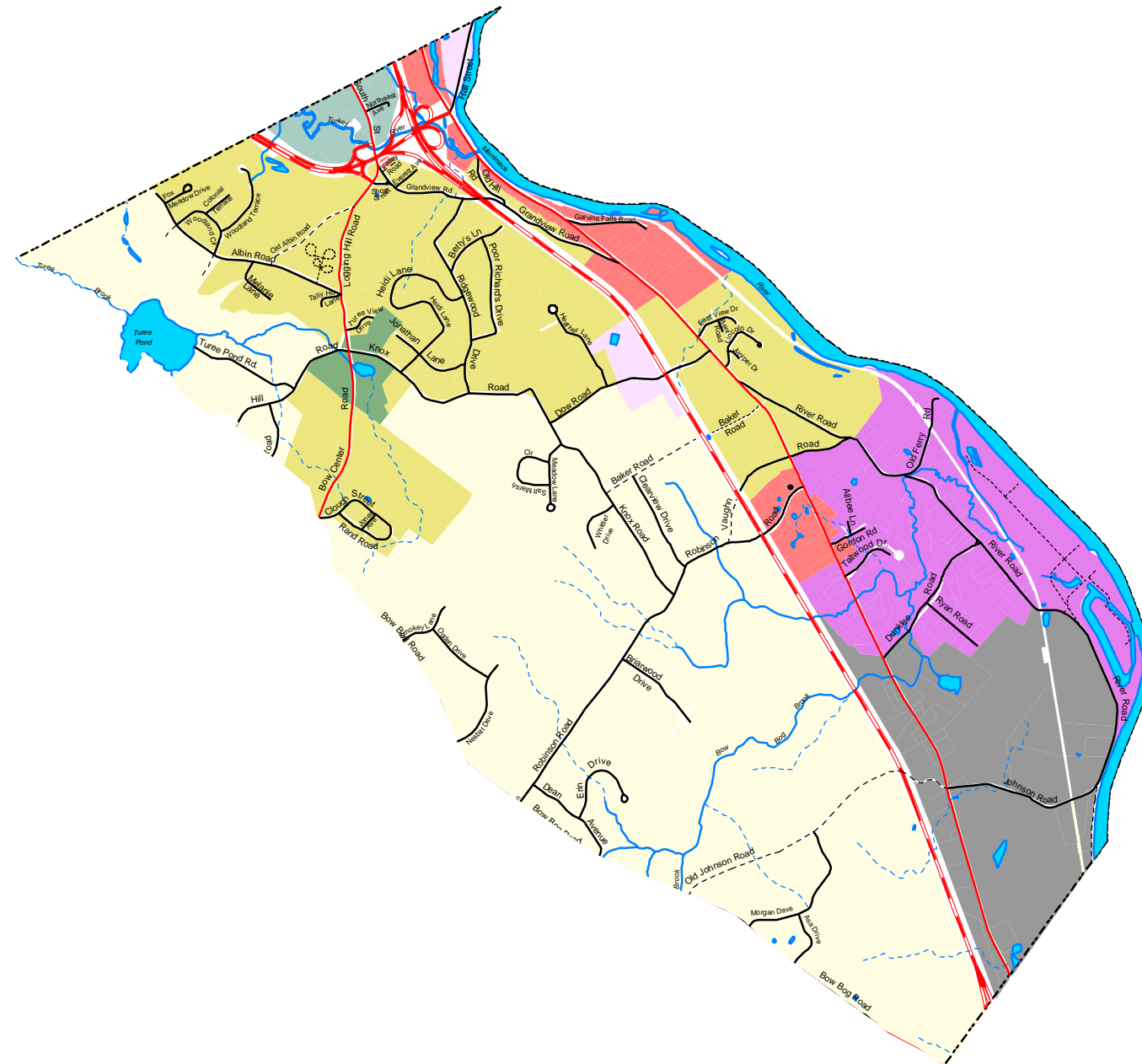
CURRENT LAND USE LEGEND

- Residential Parcels
- Commercial / Industrial Parcels
- Institutional Parcels
- Utility Parcels
- Conservation Lands
- Undeveloped Land

BASE LEGEND

- Interstate Highways
- Class I & II Secondary State Highways
- Class V Town Maintained Roads
- Class VI Town Unmaintained Roads
- Other Roads (Private, Trails, etc)
- Political Boundary
- Rivers and Streams
- Intermittent Streams
- Water Bodies
- Utility Easement

TOWN OF BOW, NEW HAMPSHIRE
Current Commercial/Industrial Zoning Map



This map produced by
Central New Hampshire
Regional Planning Commission
28 Commercial Street
Concord, NH 03301

phone (603) 226-6020
web www.cnhrpc.org

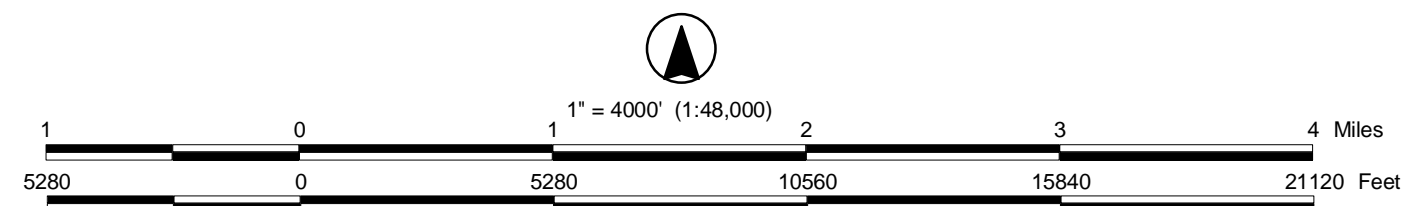


for the Bow Master Plan Economic Development Chapter, September 2004.

Data Sources:

Town of Bow Assessor's database, the Town of Bow digital tax parcel data, and CNHRPC. Corrections to the base data map made by the Town of Bow and CNHRPC.

This map intended for planning purposes only. Corrections are welcomed and should be directed to CNHRPC.



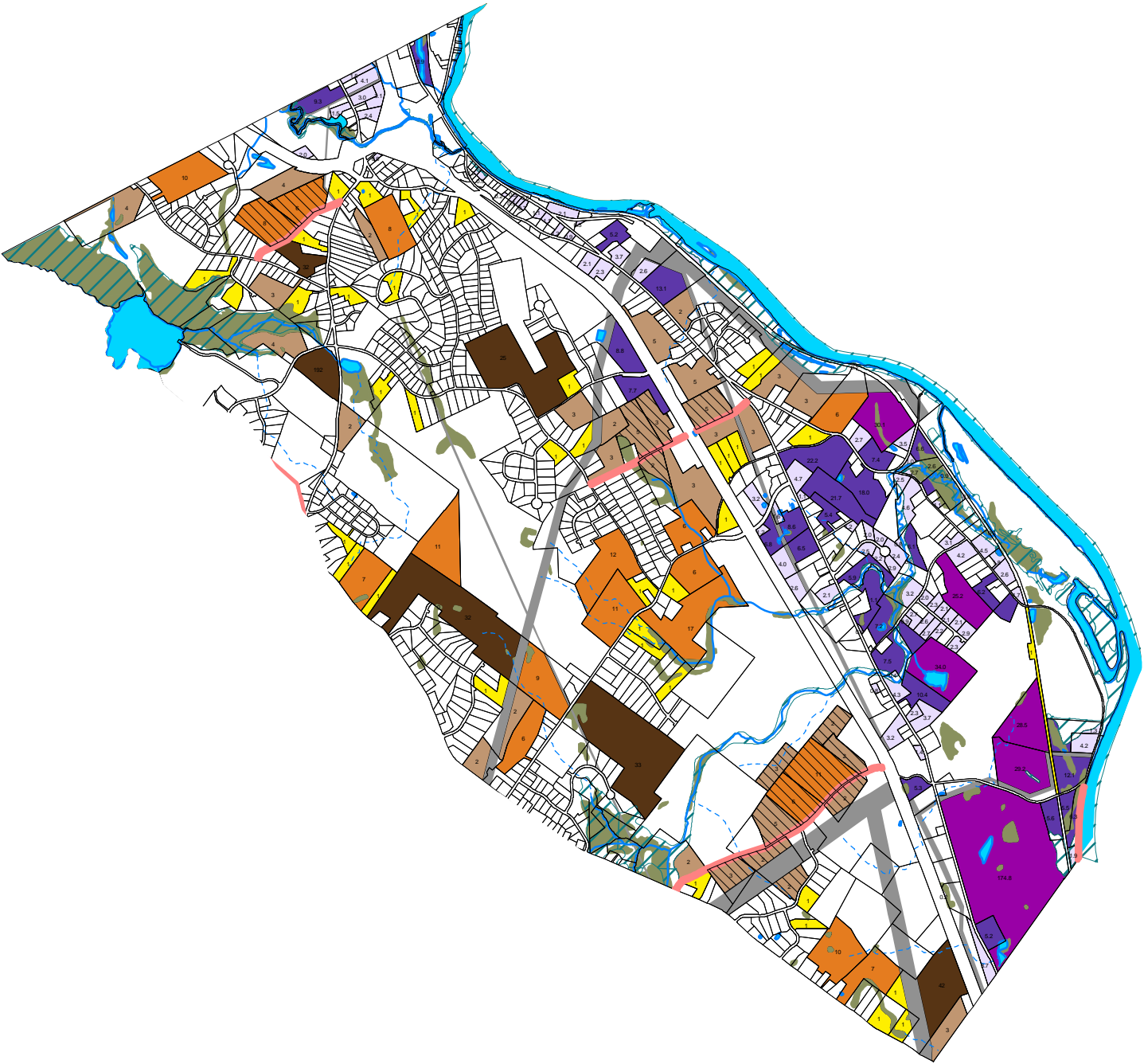
ZONING LEGEND

- Rural District
- Commercial District
- Civic District
- Limited Industrial District
- General Industrial District
- Institutional District
- Residential District
- Business Development District

BASE LEGEND

- | | |
|--|---------------------------------------|
| | Interstate Highways |
| | Class I & II Secondary State Highways |
| | Class V Town Maintained Roads |
| | Class VI Town Unmaintained Roads |
| | Other Roads (Private, Trails, etc) |
| | Political Boundary |
| | Rivers and Streams |
| | Intermittent Streams |
| | Water Bodies |

TOWN OF BOW, NEW HAMPSHIRE
Current Commercial/Industrial Build-Out
Analysis Map



This map produced by

Central New Hampshire
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28 Commercial Street
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phone (603) 226-6020
web www.cnhrpc.org

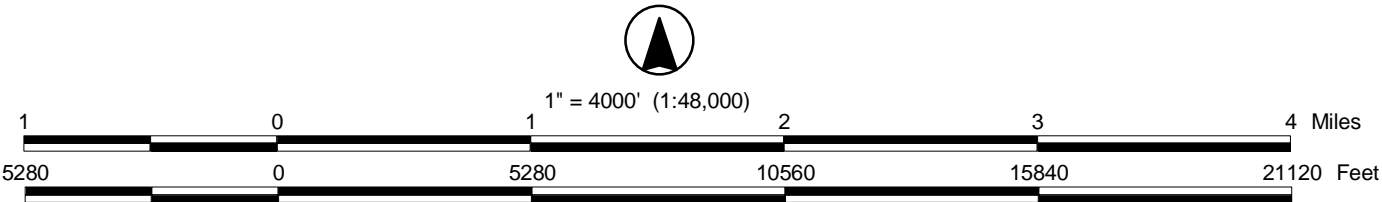


for the Bow Master Plan Economic Development
Chapter, September 2004.

Data sources:

1:24,000 source scale from the NH GRANIT system, Town of
Bow Build-Out Analysis, Town of Bow Digitized Tax Parcel
Data, and the Town of Bow. Corrections to base data made
by NH Department of Transportation, the Town of Bow,
Master Plan Committee, and CNHRPC.

This map intended for planning purposes only. Corrections are welcomed
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BUILD-OUT PARCELS LEGEND*

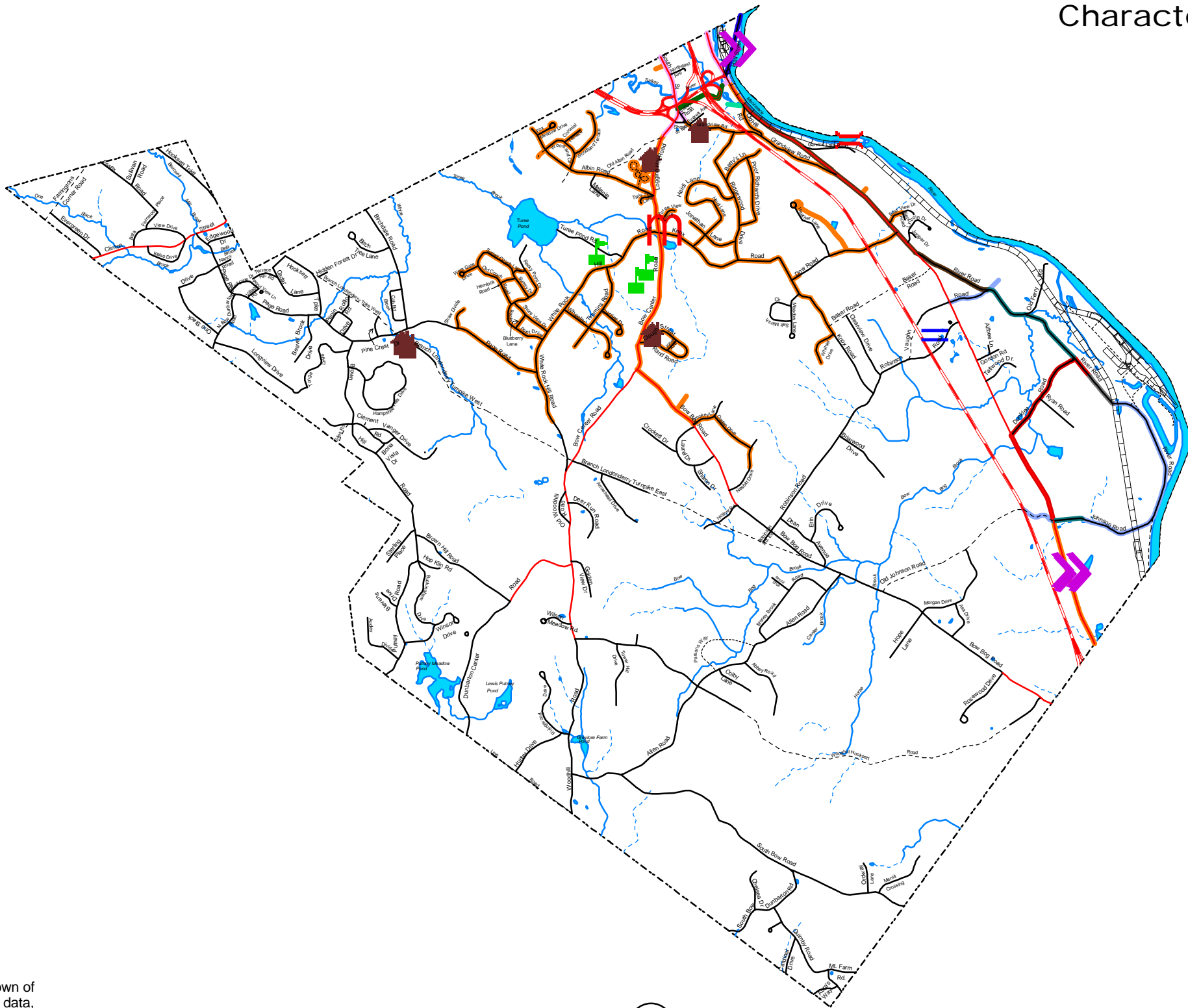
Potential Residential Lots (1,727 total lots)	
	1 lot (179 total lots)
	2-5 lots (282 total lots)
	6-20 lots (765 total lots)
	21 or more lots (301 total lots)
	Class VI roads not likely to be improved in the next 10 years
	Lots adjacent to difficult to improve class VI roads (248 total lots)
Potential Developable Commercial / Industrial Acreage (739.3 total acres)	
	0.1 - 5 acres
	5.1 - 25.0 acres
	25.1 acres or more

* Analysis is based on current land development regulations.

BASE LEGEND

	Rivers and Streams
	Intermittent Streams
	Water
	Floodplain
	Wetlands
	Utility Easements

TOWN OF BOW, NEW HAMPSHIRE
Community Support Services and Infrastructure
Characteristic Map



COMMUNITY SERVICE & INFRASTRUCTURE LEGEND

- Communications Tower
- Hydroelectric Dam
- School
- Child Care Facility
- PSNH Power Plant
- Police Department
- Fire Department
- Railroad Line

WATER AND SEWER LINES

- Existing Sewer
- Gas Lines
- Gas & Existing Sewer
- Gas & Existing Water
- Gas & Proposed Sewer
- Gas & Proposed Water
- Proposed Sewer
- Proposed Water
- Proposed Water & Proposed Sewer
- Gas, Proposed Sewer, & Proposed Water

BASE LEGEND

- Political Boundary
- Interstate Highways
- Class I & II Secondary State Highways
- Class V Town Maintained Roads
- Class VI Town Unmaintained Roads
- Other Roads (Private, Trails, etc)
- Rivers and Streams
- Intermittent Streams
- Water Bodies

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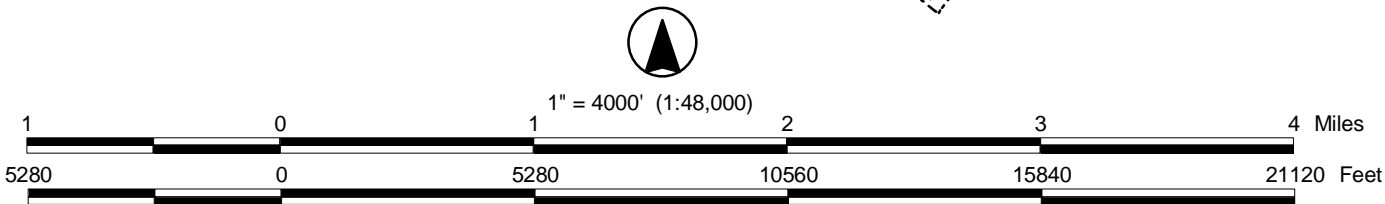
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for the Bow Master Plan Economic Development
Chapter, September 2004.

Data sources:

1:24,000 source scale from the NH GRANIT system, Town of Bow Build-Out Analysis, Town of Bow Digital Tax Parcel data, Child Care Resources and Referral, and the Town of Bow. Corrections to base data made by NH Department of Transportation, the Town of Bow, Master Plan Committee and CNHRPC.

This map intended for planning purposes only. Corrections are welcomed and should be directed to CNHRPC.



CHAPTER X FUTURE LAND USE

INTRODUCTION

Since its incorporation, Bow has evolved from a farming community to residential community. In the process, the Town has occupied and developed much of its land. As Bow considers the planning of future land use, thought must be given to how the land is currently being used in order to find the best way to compromise between existing uses and desirable future outcomes.

VISION FOR FUTURE LAND USE

Currently, the Town is involved in pursuing water and sewer implementation for the Route 3A corridor through Bow. This activity is consistent with recent Town meeting decisions which recognized that the total tax base has not kept pace with significant residential growth and the results of an overdue property revaluation. Over the next 10 years, most of the future land use changes can logically be expected to occur in the Route 3A corridor. This is also the area of concern for the aquifer and impacts, both positive and negative, to the Merrimack River. While the remainder of the Town will not be ignored, it seems appropriate that the major focus of this version of the Master Plan should be on this most active and potentially volatile and fast moving portion of Town.

As Bow moves into the 21st century, the following goals can serve as a starting point for discussions on zoning changes, land development regulations, and actions taken by the town on the issues of land conservation, business development, and community facilities expansion.

- 1) Encourage a slower growth rate in the residential sector, and also more immediate, high-grade commercial growth.
- 2) Preserve and increase the acreage of conservation lands in Bow and yet encourage the most productive kinds of commercial development.
- 3) Solve the conflicts between the locations of our natural resources and our commercial districts.
- 4) Locate the expansion of existing municipal services to better meet the needs of the residents.
- 5) Promote housing options in town that are different than single-family homes on two-acre lots.

REGULATORY RECOMMENDATIONS

The following information and recommendations have been identified in other chapters within the Master Plan and have been included here because of their potential impact on the future land use development of the Town. Many of the recommendations were taken directly out of the Chapters while others have been expanded upon through the collaboration with the Future Land Use Chapter Subcommittee. These recommendations specifically focus on regulatory controls and changes that the Town can implement to meet the future land use vision.

Zoning Districts

The power to regulate private property is one of the most important powers allocated to local government. The following are the current Zoning Districts that are felt to be in need of updating in terms of their boundaries. See the Current Land Use Chapter for more complete information on these Zoning Districts and the **Existing Zoning Map** in the Current Land Use Chapter and the **Proposed Commercial/Industrial Zoning Map** in the Economic Development Chapter for the current and proposed District boundaries. See the Build-Out section of this Chapter for more information on how these proposed zoning changes could impact the Town.

Commercial District (C)

The Commercial District is designed to allow a broad range of commercial uses including retail, service, offices, restaurants, recreational, institutional, and transportation-related uses in areas along arterial roads where sewer service is available or the extension of such is anticipated at some future time.

General Industrial District (I-2)

The General Industrial District is designed to include offices and industrial uses, and some limited commercial uses, in an area in which the extension of sewer service is anticipated at some future time.

Business Development District (BD)

The purpose of the Business Development District is to attract high-value, environmentally responsible commercial, industrial, recreational, and institutional uses to the District; to encourage diversity in the community tax base through appropriate flexibility in land use and land use development; to optimize financial return on public infrastructure investments and expenditures, including municipal sewer, municipal water supply, and public highways; to minimize adverse traffic impacts on Route 3A, future interstate highway interchanges, and surrounding local streets and roadways; and to preserve valuable historical, cultural, and natural features within the District and to minimize adverse environmental impacts to water and air, while reducing light and noise pollution, flooding, clear cutting of vegetation, and the blocking of scenic views.

One potential area to be considered for future rezoning to the Business Development District is the Phase II water and sewer study area west of I-93, which is currently zoned Rural, if appropriate access to Route 3A and/or I-93 is given. More information on the future recommendation can be seen in the Build-Out Analysis – Future Land Use section of this Chapter.

Recommendations - Zoning Districts

- Rezone the General Industrial District to Business Development District.
- Rezone limited sections of the Residential District to the Commercial District in the vicinity of Old Albin Road and Logging Hill Road.

Overlay Zoning Districts

Overlay Districts are superimposed upon the regular Zoning Districts so that the regulations pertaining to the Overlay Districts shall be *in addition* to the regulations of the regular Districts. The land within the town may be used if and to the extent that such use is permitted in the applicable regular and Overlay Districts. See the Build-Out section of this Chapter for more information on how these proposed zoning changes could impact the town.

Aquifer Protection District

The Aquifer Protection District was established to preserve and maintain the existing and potential groundwater supplies, aquifers, and groundwater recharge areas of the Town, and protect them from adverse development or land-use practices; to preserve and protect sources of drinking water supply for the public health and safety; and to conserve natural resources.

According to the Master Plan survey, 675 respondents felt the town should protect ground and surface water. As more and more development occurs within Bow, it is important that the current aquifer be maintained and protected from incompatible uses. Currently, the District does not cover all known stratified drift aquifers in Town and should be expanded to do so. See the **Proposed Aquifer Protection Overlay District Map** for more information.

Multi-Family District

A Multi-Family (MF) Overlay District should be developed that allows the development of Multi-Family housing “By Right” if it is connected to municipal water and sewer. The recommended Overlay District can be seen on the **Proposed Multi-Family Overlay District Zoning Map** and comprises approximately 356 acres, approximately 166 acres of which are built-out. The lot size would be of a greater density (4,000 square feet per dwelling unit) with significant buffers and recreational space requirements. See the Housing Chapter for more information.

Recommendations - Overlay Zoning Districts

- Expand the Aquifer Protection Overlay District to include those known areas where aquifers exist that are currently unprotected. See the Proposed Aquifer Protection Overlay District Map.
- Develop and adopt the proposed Multi-Family Overlay District.

Special Development Standards

The following regulations are specific standards that are set out to help guide development within Bow.

Laboratory and Research Centers, Corporate Office Headquarters, or Data Processing Centers

The purpose of this Ordinance is to establish standards for the development of laboratory and research centers, corporate office headquarters, and/or data processing centers in the Rural and Residential Zoning Districts.

Excavation of Earth Materials

The purpose of this Ordinance is to regulate the excavation of earthen materials through the setting of operational and reclamation standards for each site.

Recommendations - Special Development Standards

- Excavation of earth materials should not be allowed on lands that have been identified as recharge areas for public drinking water supplies.
- Research standards that would establish the maximum depth, relative to street and groundwater resources, to which excavation operations would be allowed to operate .
- Laboratory and Research Centers, Corporate Office Headquarters, or Data Processing Centers should not be allowed in the Rural and Residential Districts and this provision should be removed from the Zoning Ordinance.
- The Town should look to acquire easements at current excavation sites after reclamation takes place, which can serve as recreational areas and/or provide river access for residents.

Other Zoning Ordinance Provisions

In addition to specific Zoning Districts, Towns can adopt numerous other Land Use Regulations that influence and help shape the land use patterns in Town. Some of these Zoning Ordinances are specific to a District, while others can be applied to the entire Town, when certain criteria are met. The following is a summary of these other Zoning Ordinance provisions.

Growth Management Ordinance

The purpose of this Ordinance is to regulate and control the timing of development in accordance with the objectives of both the Master Plan and the Capital Improvements Program, which are adopted by the Bow Planning Board. The number of building permits for new dwelling units that are issued in a calendar year by the Town of Bow is limited to an amount that is two percent of the total dwelling units in Bow as of December 31st of the prior year.

The Town issues building permits for new dwelling units on a “first come-first served basis,” with the following conditions: 25% of the permits issued shall be awarded to landowners whose building is intended to be their primary residence; no single entity shall be awarded more than five permits during a calendar year, however the Planning Board may approve the issuance of additional permits if the applicant has proposed measures that will mitigate the impact of additional lots; and Affordable Housing and qualified elderly housing shall be exempt from the provisions of the Growth Management Ordinance. If at the end of the year there is a surplus of un-issued building permits for new dwelling units, the surplus shall be carried over one year.

According to the Master Plan Community Survey, 67.5% of the respondents feel that Bow is growing too fast when asked to characterize the rate of residential growth.

Impact Fee Ordinance

The Planning Board has developed and the Town has adopted a methodology and fees for the assessment of impact fees for the Bow School District. On the basis of this methodology, new and expanded residential development (bedrooms) in Bow is assessed an impact fee that represents its proportional share of demand on the capacity of the School District. Any person

who seeks a building permit for new or expanded development is required to pay an impact fee. The school impact fee can be waived for qualified elderly housing developments.

Transfer of Development Rights

Transfer of development rights (TDR) programs are designed to use market forces to transfer development from one area (the sending area) to another (the receiving area), thereby permanently preserving open space in the sending area. TDR programs allow a community to preserve open space in the sending area without imposing significant financial loss on the private landowner by increasing the development ability in the receiving area.

To implement a TDR program a town must add a section to its Zoning Ordinance that defines the program. For a basic TDR program, the Zoning Ordinance should describe the procedures for transferring development rights, define who is eligible to participate, specify the administrative procedures, define how TDRs will be allocated to “sending” areas and using “receiving” areas, and assign responsibility for overseeing and implementing the program.

In addition, the Planning Board might identify specific “sending” and “receiving” areas and may simultaneously change the zoning in the receiving areas to create an incentive for developers to purchase and apply TDRs.

Recommendations - Other Zoning Ordinance Provisions

- Research the creation and adoption of a Transfer of Development Rights Ordinance.
- Develop Impact Fees for other municipal services, especially for an expanded transportation infrastructure.

Subdivision Regulations

Planned Open Space Residential Development (POS-RD)

The purpose of the POS-RD is to conserve open space at the same time as allowing residential development to happen. In the Community Survey, 664 respondents felt that open space developments were a type of housing they would like to see encouraged. POS-RD developments are currently only a Permitted Use in the RU and R Districts and do not allow for housing density above what would be allowed under a conventional subdivision. Nor do the regulations specifically encourage these developments to be anything other than market-rate, single-family detached housing units. In order to preserve significant cultural, scenic, and natural features, as well as rural Town and neighborhood character, the Open Space Residential Development Zoning Ordinance needs to be revised.

Soil-Based Lot Zoning

Environmental science-based land use regulations depend on measurable characteristics of the land-base of the community, rather than on possibly arbitrary standards established. Regulations based on the characteristics of the land may reflect the actual ability of the land base to handle development and are often easier to defend against legal challenges than those arbitrarily created. An example of this technique includes soil-based lot zoning, which would allow the size of a residential lot to be directly related to the ability of the soil to handle well and septic usage. Unlike the current two-acre lot sizing requirement in Bow, which does not relate to the specific

soil under which a development is planned, soil-based lot sizing would allow for more precise land development to occur by relating the lot size to the soil type.

Recommendations - Subdivision Regulations

- Change the POS-RD name to Conservation Subdivision to create a more understandable picture of the purpose and intent of the ordinance.
- Adopt a provision in the Subdivision regulations that requires all subdivisions over 20 acres in size to be proposed as a POS-RD in the Rural and Residential Zoning Districts.
- Create a provision for all POS-RDs to have homeowner associations to manage and enforce the provisions for the common open space. Require Town Counsel to review all association and deed language for POS-RD developments.
- Employ all possible measures to create open space through POS-RD that is protected in perpetuity through conservation easements, an association of all the homeowners, or by deeding the land to the Town or to a conservation organization. Land should be deeded to the Town when the open space land abuts Town-owned land.
- Ensure that the POS-RD open space is usable for the desired use, such as farming, recreation, and/or wildlife habitat.
- Allow more flexibility in the minimum lot size, lot frontage and the side and front setbacks while maintaining the undisturbed buffer around the POS-RD development.
- Review the density requirements and allow an increase in density as an incentive for developers to use Planned Open Space Residential Development. One way to do this is to consider creating a sliding scale for lot density in exchange for more open space.
- The POS-RD Regulations should allow for multiple housing units if they have adequate septic and/or sewer capacity.
- Consider allowing a portion of the required POS-RD open space to be “off-site” on a lot that is not contiguous to the residential development, provided the proposed non-contiguous open-space lot abuts Town-owned property and/or natural areas of importance.
- Consider including soil-based lot sizing requirements in the Zoning Ordinance, as outlined in the 1997 Rockingham County Conservation District "Ad-Hoc Soil Based Lot Sizing Study,” as amended, to ensure that development is compatible with the soil on which it is built.

NON-REGULATORY RECOMMENDATIONS

The following information and recommendations have been identified in other chapters within the Master Plan and have been included here because of their potential impact on the future land use development of the Town. Many of the recommendations were taken directly out of the Chapters while others have been expanded upon through collaboration with the Future Land Use Chapter Subcommittee. These recommendations specifically focus on non-regulatory ideas, recommendations, strategies, and changes that the Town can implement to meet the future land use vision.

The focus of this section was placed on Community Facilities, Conservation, Preservation, and Open Space, and Economic Development because of their interconnectedness and the rising importance of each of them in the Town of Bow.

Community Facilities

In order to provide services in an efficient and effective manner to meet the needs of the community, the Town must assess its current and future needs in order to anticipate future demands and services for the various Departments. Bow also must ensure that it has a mechanism to ensure coherence and consistency among all town and school district agencies. This mechanism can increase opportunities to plan efficient, attractive and long-lasting facilities. By having community facilities that are up-to-date, responsive to residents needs, and operating in the most effective and efficient manner, Bow will be able to retain its small-town essence while providing high-quality amenities to its residents and businesses.

Recommendations - Community Facilities

- Each Town Department, with particular emphasis on the Fire, Police, School, Recreation, and Public Works Departments, should create a strategic facility plan that covers the next 5 to 10 years and identifies specific future needs.
- Identify land for possible community facility expansion and secure the “Right of First Refusal” on those pieces of property.
- Review the predictions made by the Build-Out Analysis, and project future staffing, building, and equipment needs accordingly for all municipal departments/services.

Conservation, Preservation, and Open Space

All of the Town's resources, whether they are natural or man-made, are interconnected and any change to one can and will have a significant impact on the others. As the population increases, demands on many of these resources will increase, some to the point of threatening the quality and quantity of the resource. The goal is to help develop a balance between development and resource protection within the Town.

When asked to choose the desirable features of Bow, the Community Survey respondents felt that the rural atmosphere (870 responses) and conservation of natural resources (400 responses) were desirable.

The Town's existing open space consists mainly of forests, fields, and wetlands. Most of the dedicated conservation lands are carefully managed and development pressure that is currently being felt by the Town is focused on privately owned open space. Because such lands are being targeted for development, it is important that the Town identify critical habitats, greenways, and corridors that should be protected through purchase, easements, or other means. These actions will help to reduce land fragmentation and help maintain the rural, cultural, and historic character of the Town that makes Bow the place it is today and the vision of what it wants to be tomorrow.

Recommendations - Conservation, Preservation, and Open Space

- A methodology needs to be created that can be used to proactively identify desirable pieces of land for conservation purposes. Once these pieces of land have been identified, the Town should secure the “Right of First Refusal” with the property owners for the land itself or a conservation easement.
- Funds should annually be put in the CIP for conservation land purchase, in addition to the Land Use Change tax money.

- The Town should acquire easements and/or land for the development of a continuous trail network throughout Town.
- Consider proposing Class VI roads to be converted to Class A or B Trails, which would aid in the development of a trail network and control development along Class VI roads.
- The Town of Bow should secure land along the Merrimack River to provide access for fishing, swimming, boating, and other activities.

Economic Development

Although the economy of Bow is healthy, it is heavily dependent on a single business for most of its non-residential tax base (PSNH Merrimack Station power plant). Because of this dependence, it is necessary for the Town to diversify its commercial and industrial base in order to maintain long-term fiscal stability, which will create a more healthy economy. More than 78% of Community Survey respondents said that they felt Bow should encourage commercial and industrial growth. The types of businesses respondents wanted to see developed/expanded in town included professional offices (791 respondents), restaurants (579 respondents), manufacturing (553 respondents), and grocery stores (551 respondents).

Bow desires to develop and maintain an economic base that complements the community character of the Town and builds upon its transportation, natural resource, and community infrastructure strengths. Businesses that are environmentally sound and financially viable, with reasonable wages and benefits, help to stabilize the community and should continue to form an important piece of Bow's economic base.

Recommendations - Economic Development

- A methodology needs to be created that will identify land, based on a set of criteria, to be marketed by the Bow Economic Development Corporation for new and expanded commercial and industrial development. Once these parcels have been identified, the Town should enter into a "Right of First Refusal" agreement with the landowner.
- The Town should continue researching and marketing the development of municipal water and sewer along the Route 3A corridor to attract economically viable businesses to locate and/or expand in that area of town.

BUILD-OUT ANALYSIS – FUTURE LAND USE

As an element of the Future Land Use planning process, the Planning Board sought the development of three build-out scenarios to assist in the preparation of future land use goals. The scenarios include:

- (1) The determination of the number of potential residential lots, as well as the amount of developable commercial and industrial acreage under current zoning (2003).
- (2) An analysis of the impact on the number of potential residential lots in Bow if all lots of 20 acres or more were to be developed as if they were POS-RD subdivisions, with a 20% residential density bonus.
- (3) An analysis of the impact on the available commercial/industrial acreage if the Business Development District was to be extended to include a number of parcels to the west of I-93. This scenario makes a few assumptions beyond the change in zoning. The first is that the Town of Bow would take the newly rezoned land, most of which is under a conservation easement, by eminent domain and replace this lost acreage of conservation land in other areas throughout the town.

The first build-out scenario was prepared at the beginning of the Master Plan process and presented at the May 18, 2002 Community Visioning Session. The subsequent alternative build-out analyses were defined by the Planning Board and completed as a section of the Future Land Use Chapter.

The Build-Out Process

The Town entered into an agreement during Summer 2001 with Cartographic Associates, Inc. to develop digital parcel maps. While the main emphasis of the project was to prepare individual tax maps, a composite tax map of the entire community also was created. Following the completion of these maps, the first step in the build-out analysis was to join the maps together with the Town's assessors database. This database contains information related to land use, zoning, and specific information on buildings located on individual pieces of land. All of this data was necessary to complete the analysis.

In addition to the parcel information, other data used in the analysis include the National Wetlands Inventory, Federal Emergency Management Agency (FEMA) Flood Insurance Rate Maps that delineate the 100-year floodplain, utility easements as found in the tax maps, information related to conservation lands from Town and Planning Commission files, and 1998 digital orthoquad (DOQ) aerial photos.

After all the local data were linked to the digital map, maps were produced that portrayed zoning and existing land use to the parcel level. See the **Current Zoning Map** and the **Current Land Use Map** in the Current Land Use Chapter for more information.

Next, an initial review of "built-out" parcels was produced using lot size and underlying zoning. A better way to describe this analysis would be that parcels that cannot be further subdivided

according to existing zoning were identified. See the **Built-Out Map** in the Current Land Use Chapter for more information.

With those initial results, areas that are unlikely to be developed due to their ownership or use were classified as “built-out.” Such areas included town-owned lands, schools, Page’s Corner State Forest, Merrimack Station power plant and adjacent lands, as well as larger wetlands, areas in the 100-year floodplain, and utility easements.

After identifying the built-out lands, the next step was to estimate the number of potential single-family residential lots in the Residential, Rural and Civic Zoning Districts and the developable commercial/industrial acreage in the Limited Industrial, General Industrial, Commercial, Institutional and Business Development Districts. Several assumptions were developed to complete these calculations. First, all built-out parcels were taken out of the analysis. Following this step, all parcels or sections of parcels not constrained by identified wetlands, 100-year floodplain (for residential lots) and utility easements were identified. This generated a base land area in which to work with.

As the minimum lot size in a particular zone determines the number of potential single-family residential lots and commercial/industrial acreage that can be developed, a simple calculation was performed to determine the gross developable area by parcel. For areas in the commercial and industrial zones, the calculated developable area was then checked against current land use and those parcels that are effectively built-out.

For all lots in residential zones with developable area of five acres or more, this number was then multiplied by a factor of 0.75 to give the estimate a measure of reality, as it would be expected that design issues and required rights-of-way in a larger subdivision will often result in fewer lots created than the total acreage would imply. This factor was based upon a review of the last ten major subdivisions in Bow. The number was not factored in for smaller lots as there are fewer design issues in minor subdivisions as well as the ability of a landowner to have multiple principal uses on a single lot (Article 5.10 of the Zoning Ordinance). Finally, the number of potential residential lots was reduced by one if a residence already exists on that lot.

Results of Build-Out Analysis – Scenario 1

Following the completion of the initial estimates of future single-family residential lots and commercial/industrial acreage, the results were presented to the Planning Board and a review was undertaken by representatives of the Planning Board, Board of Selectmen, and Town staff.

During this review, the larger areas of developable land were reviewed on a lot by lot basis and the initial results compared with past subdivision proposals or local information regarding constraints, such as steep slopes or access problems. Several estimates were modified during this review, but only based upon specific knowledge of the parcel in question. Otherwise, the estimates remained the same.

In addition, a number of Class VI roads that are considered unlikely to be improved in the near future were identified to allow for both a short-term (next 10 years) and full build-out analysis to be completed. Lots with sole access to these roads were then highlighted.

The results of the analysis provide an interesting and important look at the Town's future. In the Residential Zoning Districts, there is a potential for 1,975 additional lots in the full build-out and 1,727 additional lots when not including lots along difficult to improve Class VI roads. For commercial and industrial land development, the majority of developable acreage can be found in the Business Development District and the General Industrial zones. See the table below and the **Current Land Use Build-Out Analysis Map** in the Current Land Use Chapter for more information.

Zoning District	Existing Lots		Build-Out Analysis 1		
			Residential Lots*		Commercial / Industrial Acres
	Lots w/Bldgs.	Total	Full Build-Out	Without Certain Class VI Road Improvements **	
Residential	754	829	164	145	
Rural	1,626	1,888	1,619	1,390	
Commercial	57	78			73.5
Limited industrial (I-1)	21	26			16.5
General Industrial (I-2)	71	113			275.2
Institutional	17	19			26.9
Civic	4	5	192	192	
Business Dev. District	33	50			347.2
Total	2,583	3,008	1,975	1,727	739.3

*Only looks at single-family residential units. Does not take into account multi-family developments

** Identified as Class VI Roads not likely to be improved in next ten years

Results of Alternative Scenarios

As described above, the Planning Board outlined two alternative build-out scenarios for analysis during the master plan development process. The first alternative scenario sought to identify all lots in excess of 20 acres throughout the Town and treat all potential subdivisions within these lots as Planned Open Space Residential Development (POS-RD) subdivisions with a corresponding 20% density bonus.

This scenario results in an addition of 219 residential lots to the full build-out potential of 1,975 lots, for an overall figure of 2,194 total residential lots. When taking into account lots along difficult to improve Class VI roads, there would be an additional 183 residential lots to the full build-out analysis of 1,727 lots, for an overall figure of 1,910 total residential lots. Also, through this scenario approximately 4,900 acres would be conserved through the POS-RD requirements for open space. The results can be seen in the table below as well as on the **Future Land Use Build-Out Analysis Map - Scenario 2**.

Zoning District	Existing Lots		Buildout Scenario 2 Residential Lots*					
			Full Build-Out			Residential Lots w/o Certain Class VI Road Improvements**		
	Lots w/Bldgs.	Total	Potential Lots	Additional Lots Due to POS-RD Designation	Total	Potential Lots	Additional Lots Due to POS-RD Designation	Total
Residential	754	829	164	11	175	145	9	154
Rural	1,626	1,888	1,619	208	1,827	1,390	174	1,564
Commercial	57	78						
Limited industrial (I-1)	21	26						
General Industrial (I-2)	71	113						
Institutional	17	19						
Civic	4	5	192	0	192	192	0	192
Business Dev. District	33	50						
Total	2,583	3,008	1,975	219	2,194	1,727	183	1,910

*Only looks at single-family residential units. Does not take into account multi-family developments

** Identified as Class VI Roads not likely to be improved in next ten years

The third alternative is more complex. It involves the expansion of the Business Development District (BDD) to the area of the Phase II water and sewer study area to the west of I-93 (along either side of Old Johnson Road). As a number of these parcels in the expanded BDD area are protected by permanent conservation easement, the scenario presented includes a “trade of conservation land” from the expanded BDD area to the rest of the town. The conservation land to be identified throughout the town will be twice the acreage of that land proposed to be removed from conservation in the expanded BDD area and includes land that is on or adjacent to existing conservation land, aquifers, floodplains, and/or prime wetlands. In effect, twice the acreage from throughout Town, which will largely come from residentially zoned areas, is proposed to offset the transfer of the parcels to commercial/industrial use.

To begin, the transfer of the parcels to the west of I-93 to Business Development District results in an additional 332 acres of commercial/industrial land. From a base of approximately 740 acres as identified in Scenario 1, this increase is significant. Under this scenario, there would be approximately 1,072 acres of commercial/industrial land available in the Town of Bow. Furthermore, this scenario would lower the overall potential residential build-out by 183 lots with the elimination of potential residential uses in both the expanded Business Development District and the newly conserved parcels throughout the Town. Since there would only be a loss of 7 residential lots without certain Class VI road improvements, this calculation was not carried out any further under this scenario. The analysis results can be seen on the table below and on the **Future Land Use Build-Out Analysis Map – Scenario 3**.

Zoning District	Existing Lots		Build-Out Analysis 3		
			Residential Lots*		Commercial / Industrial Acres
	Lots w/Bldgs.	Total	Full Build-Out	Potential Residential Lots in Scenario 3	
Residential	754	829	164	164	0
Rural	1,626	1,888	1,619	1,436	332.6 **
Commercial	57	78			73.5
Limited industrial (I-1)	21	26			16.5
General Industrial (I-2)	71	113			275.2
Institutional	17	19			26.9
Civic	4	5	192	192	0
Business Dev. District	33	50			347.2
Total	2,583	3,008	1,975	1,792	1,071.9

*Only looks at single-family residential units. Does not take into account multi-family developments

** Area of proposed expansion of BDD District in existing Rural District

STRATEGIES TO MEET FUTURE LAND USE GOALS

The following strategies could be employed to help meet the future land use recommendations that are listed throughout this Chapter.

Acquisition

Sometimes the best and simplest way to protect a key parcel of land is through outright acquisition and management. Acquisition may be through gifts or purchases and ensures that the property stays in the use that the donor prefers. For more information on different methods of acquisition, see the Conservation, Preservation, and Open Space Chapter.

Bonds

Bonding is a popular method of raising revenue to construct or purchase town equipment and facilities. Though viable, the Town should avoid encumbering too much debt, as it can limit the ability of the Town to provide for future, unidentified needs. Bow has used bonds to pay for acquiring conservation land as well as for the development of municipal sewer system.

Bow Business Development Commission (BBDC)

The Business Development Commission was formally established in 1978 at Town Meeting. The purpose of the Commission is (1) to advise the Board of Selectmen on issues affecting economic development and (2) to establish a process for long-range economic development.

The BBDC has been working to implement the Economic Development Plan and Implementation Strategy, make recommendations to the Board of Selectmen, Planning Board, and Zoning Board of Adjustment on issues affecting business development. They have also taken the lead on the development of the proposed water and wastewater systems serving the economic areas of town.

Bow Economic Development Corporation (BEDC)

The BEDC is a not-for-profit corporation formed in September 2002. The Corporation was established to promote and develop the growth, prosperity, and general welfare of the Town of Bow and the surrounding region, to prepare the workforce of the future through better education, to reduce unemployment and underemployment, to increase opportunities for employment of low-income residents, and to encourage citizen participation in community improvements and development programs. The BEDC hopes to do this through (1) providing and assisting others in providing industrial, commercial, manufacturing, warehouse, recreational, residential, and other beneficial facilities; (2) cooperating with schools in School-to-Work and similar academic programs; and (3) participating in educational and other programs sponsored by the New Hampshire Job Training Council.

Capital Reserve Funds

Capital reserve funds are similar to savings accounts, as they allow the Town to contribute money to a specific account for the purpose of purchasing or defraying the cost of significant items such as school additions, highway equipment, fire trucks, and municipal buildings and facilities. The Town of Bow has many capital reserve funds set up for various departments, including the Library, Fire Department, and the Police Department. Capital reserve funds can also be established for the purchase of land for conservation.

Capital Regional Development Council (CRDC)

CRDC is a non-profit organization that has been promoting economic development for the past 45 years. The organization serves Merrimack, Belknap, Grafton and Sullivan counties. The mission of CRDC is to create new and permanent jobs, enhance personal income of workers, and expand community tax bases through private investment. CRDC meets these goals through the developing land and the administration of various business loan programs, including the Small Business Administration (SBA) 504 debenture loan program.

Community Development Block Grants (CDBG)

CDBG funds are a valuable resource available for funding a variety of public needs. In addition to funding affordable housing programs and community centers, CDBG funds can also be used for economic development purposes, such as the expansion of public waterlines. For 2002, there was approximately \$4.5 million available in CDBG funds that, through the grant process, were allocated to communities across the State.

Community Development Finance Authority (CDFA)

The Community Development Finance Authority (CDFA) was established by legislation (RSA 162-L) in 1983 to address the issues of affordable housing and economic opportunity for low and moderate income New Hampshire residents. The Authority provides financial and technical assistance to community development corporations, worker cooperatives, and certain municipal entities. The Authority is unable to assist a for-profit business directly, but can work with a nonprofit partner.

CDFA administers numerous programs. One such program is the Economic Development Ventures Fund. This fund is to be used to support unique opportunities that may appear from time-to-time. For example, the fund may be used to cover a short-term funding gap in the event that access by a nonprofit community development organization to other public funding is delayed. The fund may also be used as a source for equity investment in a cooperative venture or nonprofit business opportunity. Terms and conditions of the funding are determined on a case-by-case basis. Funding levels of this program will be determined on an annual basis.

CDFA finances major community development projects primarily with the Community Development Investment Program. The Community Development Investment Program enables New Hampshire's businesses to donate funds or property, either in lump sum payments or pledged over a predetermined period, to fund economic development and housing projects throughout the state. Contributions made by these business donors entitle donors to a 75% state tax credit when the tax returns are filed with the New Hampshire Department of Revenue Administration. For example, a donor making a \$10,000 cash donation to CDFA on behalf of an approved project will receive a tax credit for \$7,500. This credit may be applied directly on a dollar-for-dollar basis against the following state business taxes: (1) Business Profits Taxes imposed by RSA 77-A, (2) Insurance Premium Taxes imposed by RSA 400-A, and (3) Business Enterprise Taxes Imposed by RSA 77-E.

Conservation Easement

Conservation easements are restrictions that landowners voluntarily place upon their property that legally bind the present and future owners of that property, restricting their ability to use some of those rights in order to protect the natural features of the land. Each conservation easement is custom tailored to the interests of the landowner, the receiving entity and the unique characteristics of the property. The land can be sold or deeded by the original owner and subsequent owners, but the restrictions of the easement are binding on all future owners. Typically conservation easements prevent development of land uses such as construction, subdivision and mining, but allow uses such as agriculture, forestry, wildlife habitat, scenic views, watershed protection and education. Conservation easements may or may not allow public access.

The conservation easement requires a willing landowner and a qualified recipient, which can be the Town or State governments or various conservation organizations. Many public agencies and private organizations make these permanent agreements with landowners and oversee their compliance. Bow Open Spaces (BOS) is a non-profit local land protection organization created and run by a dedicated group of volunteers. BOS holds easements on many Town-owned lands. The public use of land with easements that are held by Bow Open Spaces are forestry and

outdoor recreation. Five Rivers Conservation Trust is another organization that will hold conservation easements in the central New Hampshire region.

Mitigation

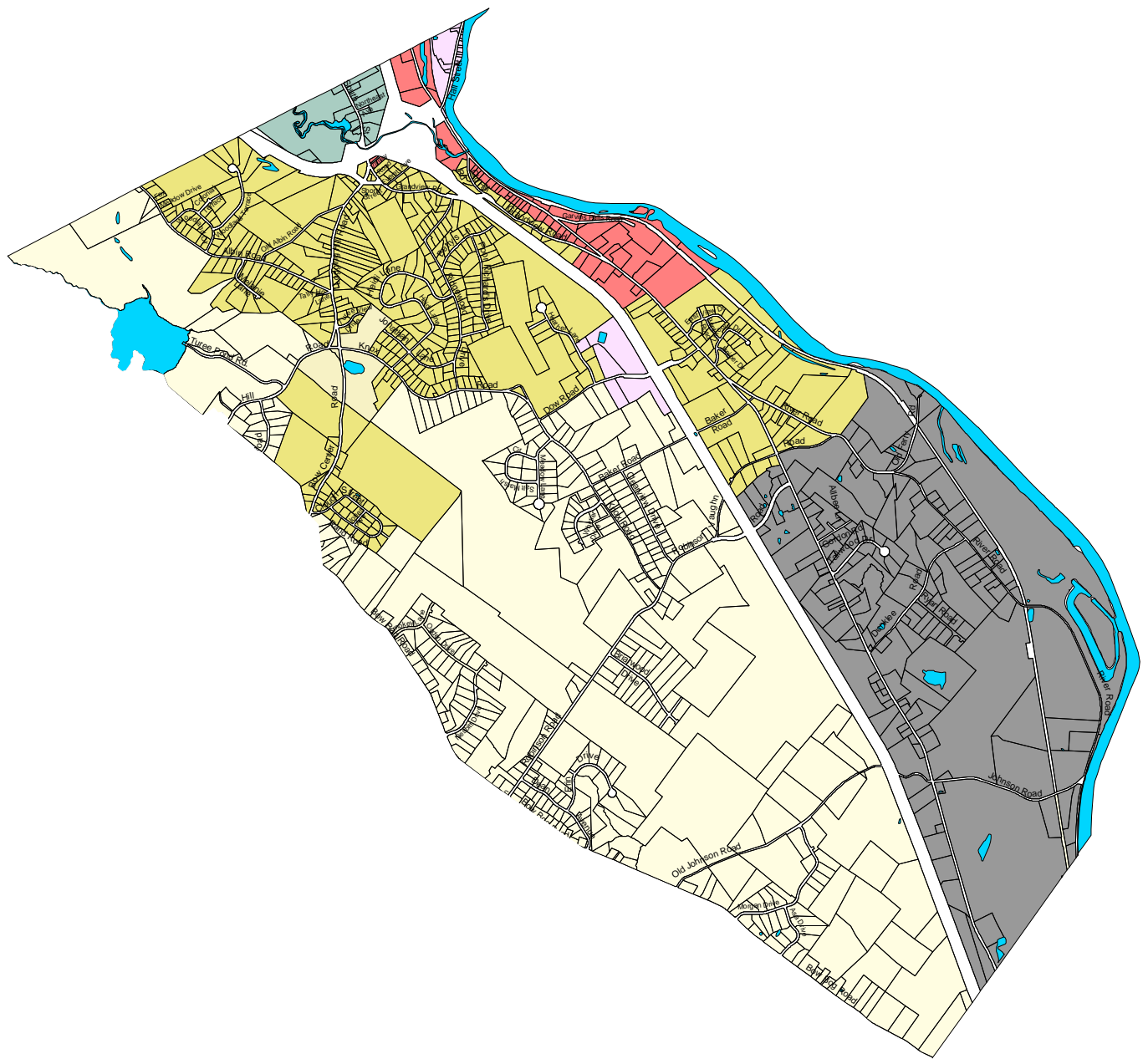
For the purposes of administering sensitive areas, mitigation includes rectifying the impact by repairing, rehabilitating, or restoring the affected environment; reducing or eliminating the impact over time by preservation and maintenance operations during the life of the action; and compensating for the impact by replacing or providing substitute resources or environments.

CONCLUSION

Bow needs to be proactive in its financing and planning to ensure that community services remain at their current level of quality and that the residents are not burdened with large tax increases to pay for such services all at once. The build-out analysis provides an excellent tool for evaluating potential future needs based on the maximum development possible in Bow. We are more than halfway to full build-out based on our current Land Use regulations. Town Departments should make use of this information when planning for future staffing and equipment needs. In addition, Town Departments should make use of this information when planning for future improvements or expansions to community facilities.

TOWN OF BOW, NEW HAMPSHIRE

Proposed Commercial/Industrial Zoning Map



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 Concord, NH 03301
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 web www.cnhrpc.org

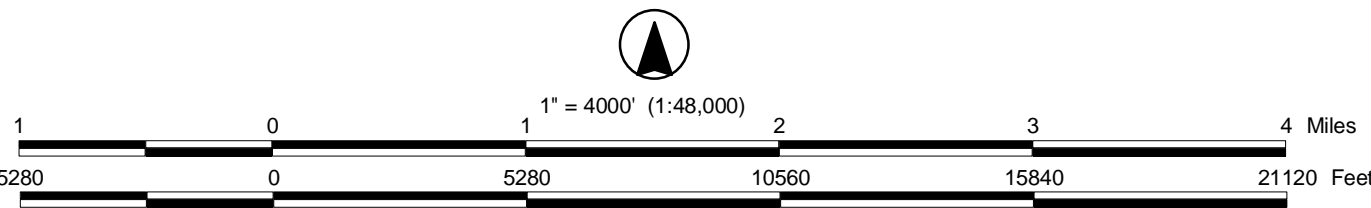


for the Bow Master Plan Economic Development
 Chapter, September 2004.

Data Sources:

Town of Bow Assessor's database, the Town of Bow digital tax parcel data, and CNHRPC. Corrections to the base data map made by the Town of Bow and CNHRPC.

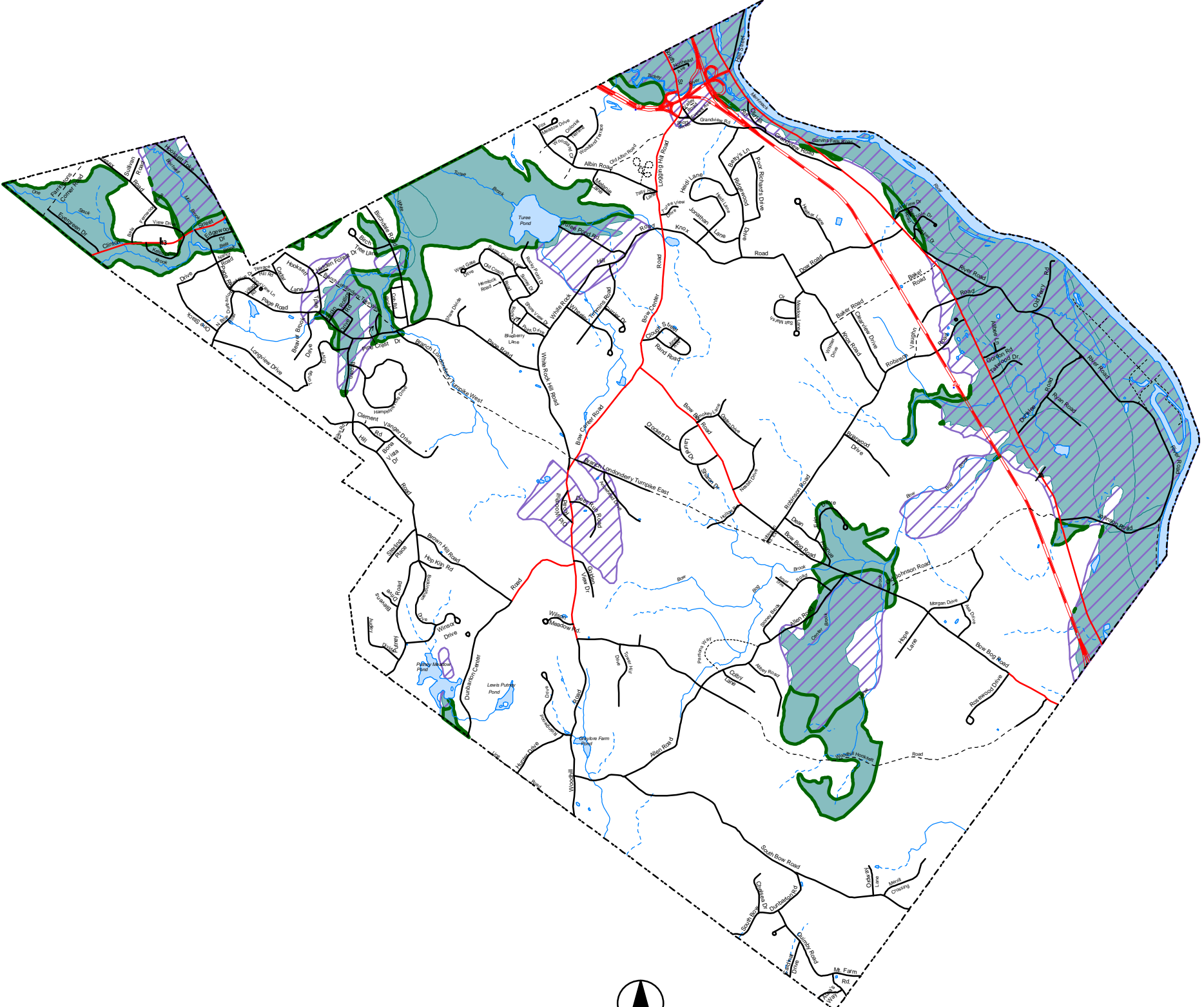
This map intended for planning purposes only. Corrections are welcomed and should be directed to CNHRPC.



- ZONING LEGEND**
- Rural District
 - Commercial District
 - Civic District
 - Limited Industrial District
 - Institutional District
 - Residential District
 - Business Development District
- BASE LEGEND**
- Interstate Highways
 - Class I & II Secondary State Highways
 - Class V Town Maintained Roads
 - Class VI Town Unmaintained Roads
 - Other Roads (Private, Trails, etc)
 - Political Boundary
 - Rivers and Streams
 - Intermittent Streams
 - Water Bodies

TOWN OF BOW, NEW HAMPSHIRE

Proposed Aquifer Protection Overlay District Map



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 web www.cnhrpc.org



for the Bow Master Plan Future Land Use
 Chapter, September 2004.

Data sources:

1:24,000 source scale from the NH GRANIT System, CNHRPC,
 and the Town of Bow. Corrections to base data made by NH
 Department of Transportation, the Town of Bow, and CNHRPC.

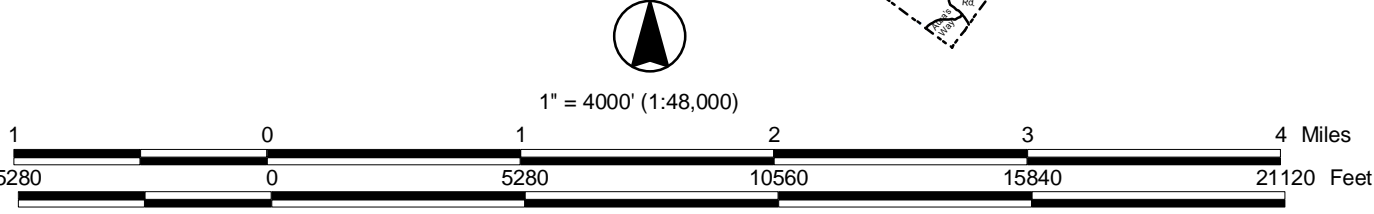
This map intended for planning purposes only. Corrections are welcomed
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LEGEND

- Existing Aquifer Protection Overlay District
- Proposed Aquifer Protection Overlay District
- Stratified Drift Aquifer

BASE LEGEND

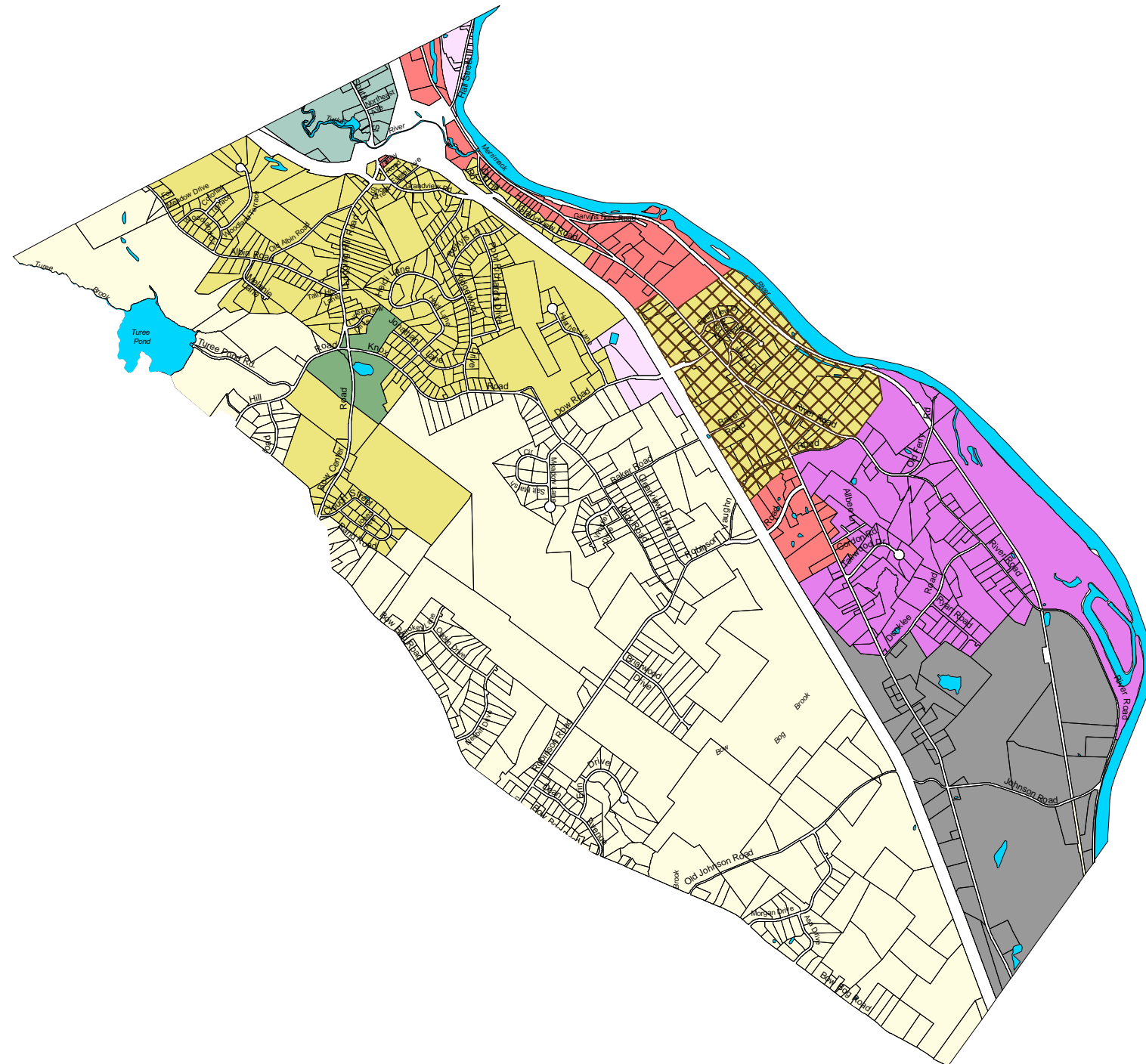
- Political Boundary
- Interstate Highways
- Class I & II Secondary State Highways
- Class V Town Maintained Roads
- Class VI Town Unmaintained Roads
- Other Roads (Private, Trails, etc)
- Rivers and Streams
- Intermittent Streams
- Water Bodies



TOWN OF BOW, NEW HAMPSHIRE

Proposed Multi-Family Overlay District

Zoning Map



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 Chapter, September 2004.

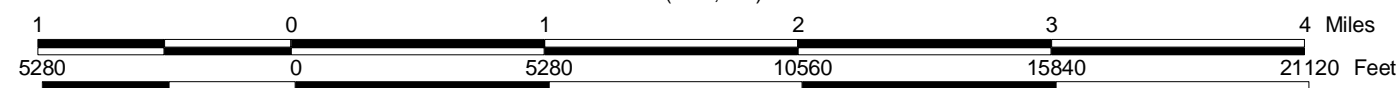
Data sources:

1:24,000 source scale from the NH GRANIT system, Town of Bow Build-Out Analysis, Town of Bow Digitized Tax Parcel Data, and the Town of Bow, Housing Chapter of the 2003 Master Plan, Corrections to base data made by NH Department of Transportation, the Town of Bow, and CNHRPC.

This map intended for planning purposes only. Corrections are welcomed and should be directed to CNHRPC.



1" = 4000' (1:48,000)



LEGEND

- Proposed Multi-Family Housing Overlay District (356 Total Acres)
- Current Zoning**
 - Rural District
 - Residential District
 - Commercial District
 - Limited Industrial District
 - General Industrial District
 - Institutional District
 - Business Development District
 - Civic District

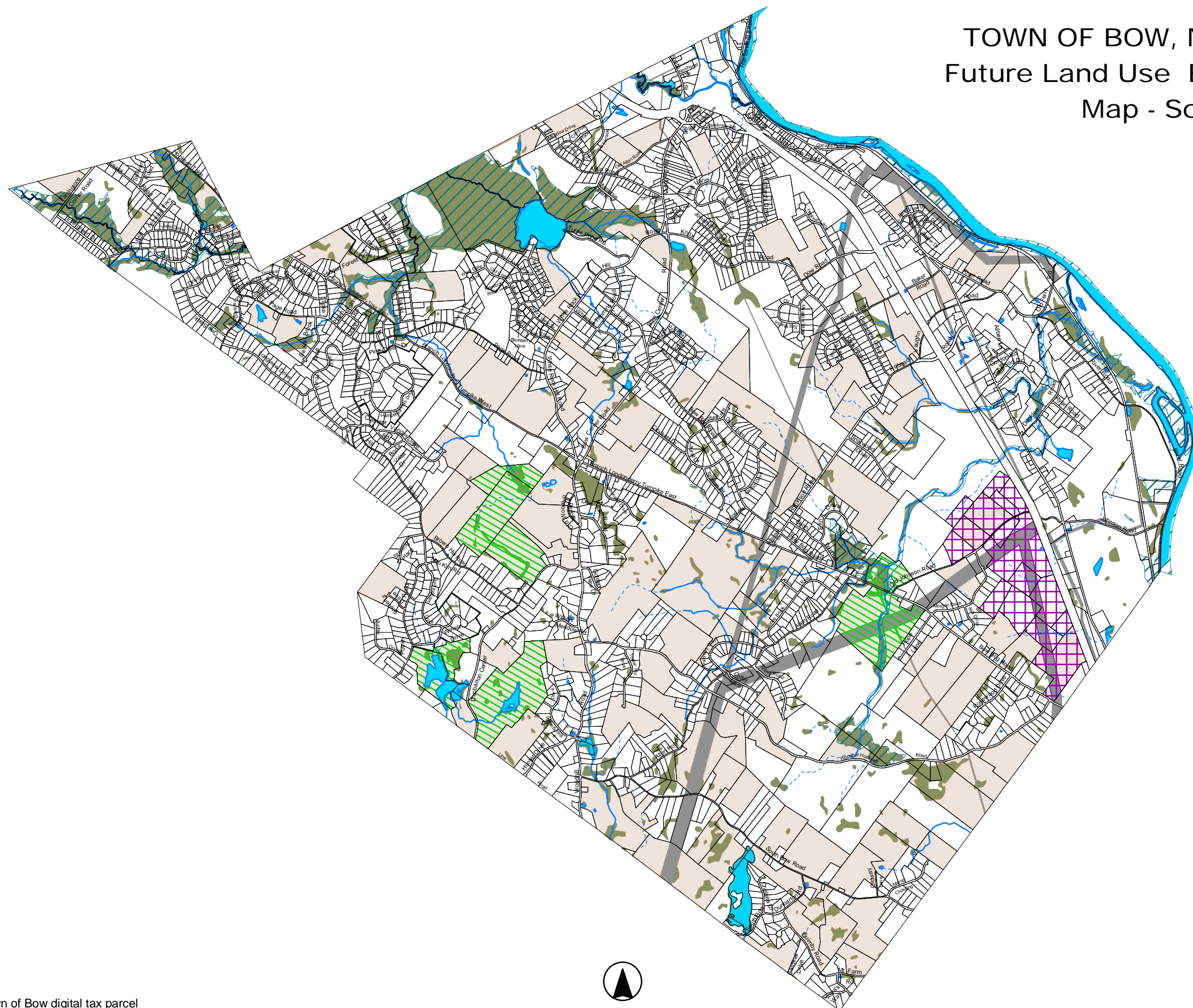
BASE LEGEND

- Parcels
- Water

TOWN OF BOW, NEW HAMPSHIRE

Future Land Use Build-Out Analysis

Map - Scenario 2



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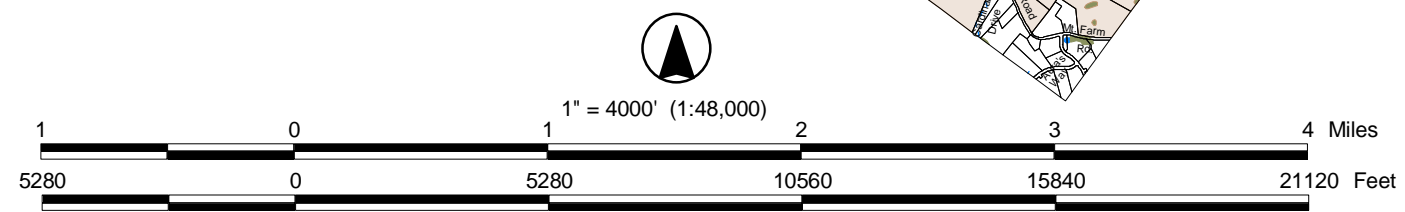


for the Bow Master Plan Current Land Use
 Chapter, September 2004.

Data Sources:

Town of Bow Assessor's database, the Town of Bow digital tax parcel data, and CNHRPC. Corrections to the base data map made by the Town of Bow and CNHRPC.

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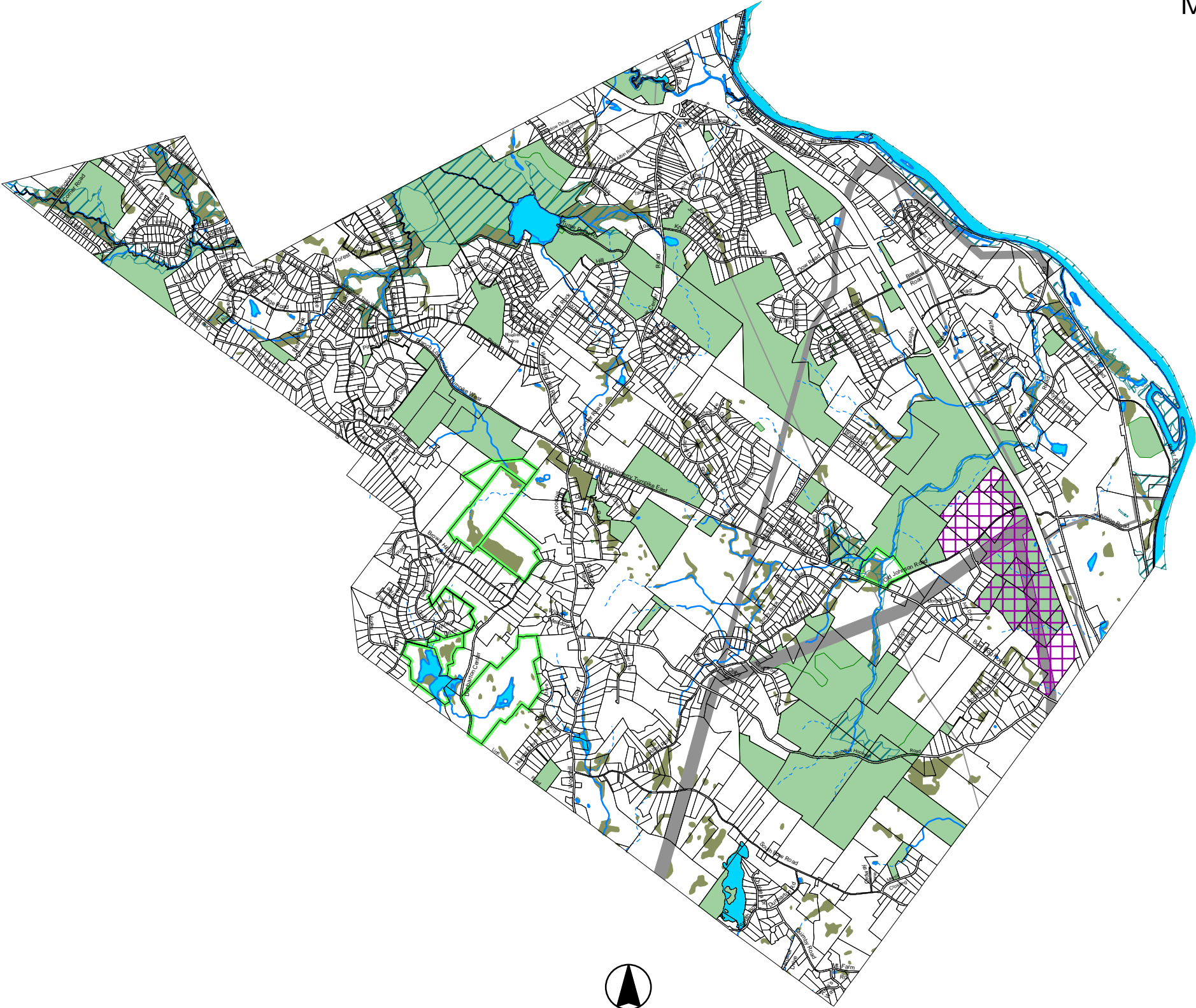


- BUILD-OUT PARCELS LEGEND**
- Lots Greater Than 20 Acres Proposed for POS-RD Designation
 - Proposed Business Development
 - District Expansion
 - Parcels Proposed for Permanent Protection
- BASE LEGEND**
- Rivers and Streams
 - Intermittent Streams
 - Water
 - Floodplain
 - Wetlands
 - Utility Easements

TOWN OF BOW, NEW HAMPSHIRE

Future Land Use Build-Out Analysis

Map - Scenario 3



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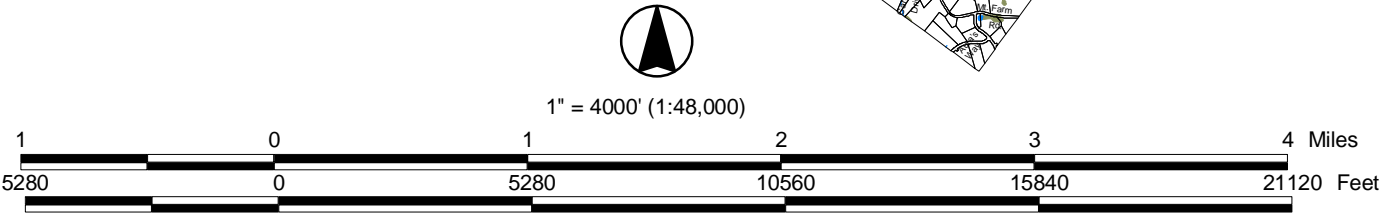


for the Bow Master Plan Future Land Use
 Chapter, September 2004.

Data Sources:

Town of Bow Assessor's database, the Town of
 Bow digital parcel data, and CNHRPC. Corrections
 to the base data map made by the Town of Bow,
 Planning Department, and CNHRPC.

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BUILD-OUT PARCELS LEGEND

Parcels Proposed for Permanent Protection (437 Total Acres)

Conservation Land (3,909 Total Acres)

Proposed BDD Expansion (417 Total Acres)

BASE LEGEND

Rivers and Streams

Intermittent Streams

Water

Floodplain

Wetlands

Utility Easements

CHAPTER XI

REGIONAL CONCERNS

INTRODUCTION

While the Bow Master Plan focuses on concerns within the Town or within the control of the Town, some emphasis should be given to the outside influences that have an impact on the community. Many of the topics addressed in the other Chapters of the Master Plan are affected by actions beyond the confines of Bow, whether it be groundwater protection, air quality, population and housing growth, or an increase in demand on transportation infrastructure. New Hampshire is changing rapidly as the region faces development pressure and growth. This Chapter acknowledges that this development pressure does not occur in isolation. Bow's involvement in regional activities will help the community better place itself in a larger context and participate in activities that will benefit the Town, as well as the region as a whole.

REGIONAL CONCERNS

There are a number of areas that have an influence on Bow, which the community has little control over. In turn, there are a number of areas that Bow does control and that have an impact on abutting communities. This section highlights the primary areas that Bow should be concerned about and offers suggestions on how the Town can get involved. An awareness of these issues will help to ensure that Bow does not get caught off guard by the actions of another Town, as well as helping Bow be a good neighbor to its abutting communities.

Aquifer Protection and Drinking Water Supplies

On the Community Survey, when asked what community services and facilities should be developed or improved, 675 respondents said that they would like to see the protection of ground water and surface water. During the Visioning Session, participants were also concerned about the impacts of road salting on water quality and the issue of aquifers crossing town boundaries.

Bow's stratified drift aquifer, located adjacent to the Merrimack River, is considered one of the largest and most productive stratified-drift aquifers in the south-central area, according to studies by the United States Geological Survey (USGS). The aquifer underlies many residences as well as commercial and industrial businesses. The 3.4-square mile aquifer extends southward from the confluence of the Soucook and Merrimack Rivers into Bow immediately north of the PSNH coal-fired power plant. The coarse-grained deposits are bordered to the east and the west by younger, fine-grained lake-bottom deposits associated with glacial Lake Hooksett, which was formed by glacial meltwaters.

Bow depends almost entirely on groundwater for its water supply. The majority of private water supplies are from drilled wells in the bedrock. Many studies have been conducted to determine potential sources for a municipal groundwater supply. The Bow aquifer has great potential for development as a municipal water supply. In fact, the 1995 US Geological Survey study found that six square miles of Bow, or 22% of the Town, are underlain by stratified drift aquifers.

Two major concerns arise when considering aquifer protection. The first concern is the impact that water demand from multiple communities will have on available water in the aquifers. The second concern is the potential for contamination.

For more information on aquifer protection and drinking water supplies, please see the Conservation, Preservation, and Open Space Chapter.

Recommendations - Aquifer Protection and Drinking Water Supplies

- Periodically update the provisions of the Aquifer Protection District to incorporate improvements to best management practices and available technology to ensure that permitting requirements are the most up-to-date.
- Stringently enforce the provisions of the Aquifer Protection District.
- Expand the Aquifer Protection District to include areas that have the potential to become municipal water supplies.
- Initiate a regional study to determine the effects of potential contaminants on the water quality of the Aquifer and other community water supplies.
- Evaluate best management practices that would protect the Aquifer while allowing compatible industrial uses.

Merrimack River and Watershed

A watershed is the geographic area of land where water flows downhill to a particular body of water. A watershed is the entire area of land that drains into the water. The Merrimack River begins at the confluence of the Pemigewasset and Winnepesaukee Rivers and flows for approximately 30 miles through the communities of Franklin, Northfield, Boscawen, Canterbury, and Concord, to Garvin's Falls in Bow. This segment is part of the larger Merrimack River system, which drains a 5,014 square mile watershed extending 116 miles from the White Mountain region to east-central Massachusetts, where it empties into the Atlantic Ocean. About 80% of the land in the Upper Merrimack River Watershed is privately owned and remains undeveloped forest, farm, or wetland.

The Merrimack River has a Class B designation. This classification does not actually address water quality conditions, but rather designates what quality of water the water body should support. Class B means the water is swimmable, fishable, and drinkable with treatment. In general, designation allows regulators to focus resources on monitoring a water body to assure that it meets its designated uses.

Throughout the late 19th and much of the 20th century, direct discharges from industry as well as untreated sewage polluted the Merrimack River, making it more of a running sewer than a river. With the passage of the Clean Water Act of 1972, the river got a much-needed reprieve from point source pollution. However, nonpoint source pollution continues to threaten water quality in the Upper Merrimack. Nonpoint source pollution comes from many land-based activities. This type of pollution is commonly called "runoff." This type of pollution may come from a variety of different sources and is often difficult to trace. In fact, some types of pollutants commonly found in runoff not only degrade the quality of water within the water body, but may also accumulate within the bodies of aquatic organisms living within the body of water. Therefore, development within close proximity to the river poses a severe threat to water quality

from nonpoint source pollution. Sand, salt, metals, grease, and fluids leaking from automobiles enter the Merrimack River in the form of urban run-off when it rains. Other sources of nonpoint pollution are chemical and nutrient loading from poor agricultural practices and yard fertilizers, erosion from poor construction practices, and failed septic systems. This type of pollution doesn't come from one particular town. In fact, all towns in the Merrimack River watershed contribute nonpoint source pollution to the river, which makes it a regional concern.

Stormwater is one of the leading causes of water pollution nationally, and urban run-off is the top category of nonpoint source pollution in the *New Hampshire Nonpoint Source Management Plan*. The Environmental Protection Agency, under the Clean Water Act, has implemented the National Pollution Discharge Elimination System (NPDES), which regulates storm water. Starting in March 2003, NPDES requires municipalities and developers to comply with stormwater management program. These new requirements of NPDES are the second round of stormwater rules implemented by the EPA.

In Bow, the NPDES Phase II program regulates stormwater discharges associated with small construction activity (of one acre or more) and municipally owned industrial activities, such as transfer stations. The Construction General Permit (CGP) now covers both the large construction sites greater than five acres as well as stormwater associated with small construction activity, which includes construction sites from one to five acre (or smaller than one acre if part of a larger "common plan of development or sale" that totals one acre). This construction permit contains conditions to protect endangered species and historic properties and requires the owner and operator of the construction site to, among other things, develop and implement a stormwater pollution prevention plan.

Bow's municipally owned facilities that need permit coverage include sand and gravel pits, recycling centers, school bus maintenance, and publicly owned treatment facilities that have a pretreatment program or that fall with specific design flow parameters. It is important to note that municipally owned power plants, airports, and uncontrolled sanitary landfills were regulated under NPDES Phase I.

For more information on the Merrimack River Watershed, please see the Conservation, Preservation, and Open Space Chapter of the Master Plan.

Rivers Management and Protection Program

The New Hampshire Rivers Management and Protection Program was established in 1988 with the passage of RSA 483 to recognize and designate rivers to be protected for their outstanding natural and cultural resources. The New Hampshire Department of Environmental Services (DES) administers this program.

The Merrimack River was one of the first rivers to achieve designation in 1990 (the designation extends from Bow's north boundary south to Garvin's Falls). After designation, a management plan is developed with the goal of protecting the river. The plan is developed and implemented by a volunteer local river advisory committee that also coordinates activities affecting the river on a regional basis. For over ten years, the Upper Merrimack River Local Advisory Committee (UMRLAC) has been active in a variety of studies and planning activities in the Upper

Merrimack River Watershed. The UMLAC is comprised of representatives from the six communities of Boscawen, Bow, Canterbury, Concord, Franklin, and Northfield.

One major activity of the UMLAC is the Upper Merrimack Monitoring Program (UMMP), which is a volunteer water quality assessment program. This program was established in 1995 to monitor the health of the Merrimack River and its tributaries. Eleven sites from Franklin to Bow are monitored for *E. coli* bacteria and benthic macroinvertebrates. *E. coli* counts, in particular, are low during dry weather, but increase during rain events, as runoff from nonpoint source pollution, including septic systems, occurs. Pollution intolerant macroinvertebrates, which indicate good water quality, have been found at each of the 11 sites. However, the total number diminishes from Franklin to Bow with water quality the poorest at the sites within Concord and Bow. The site in Bow has been rated as “fair” by the UMLAC habitat assessment, most likely attributable to the more lake-like environment behind the dam.

Relicensing of Garvin’s Falls Hydroelectric Dam

The Public Service Company of New Hampshire (PSNH) is in the process of renewing its operating license for the Merrimack River Hydroelectric Project. The term of a license is 30 to 50 years. PSNH submitted its application to the Federal Energy Regulatory Commission in December 2003. Three dams are included in the renewal application: Garvin’s Falls, Hooksett Falls, and Amoskeag Falls.

The Garvin’s Falls dam and facilities in Bow consists of an 18-foot-high, 550-foot-long concrete and granite gravity dam creating an 8-mile-long reservoir, and includes two powerhouses, each containing two generating units for a total installed capacity of 12,300 kW.

Recommendations - Merrimack River and Watershed

- Work with local and regional land trusts to establish conservation easements on undeveloped land along the Merrimack River.
- Consideration of watershed effects should be made when developing land throughout the town of Bow. Strong efforts need to be made to protect and manage those lands closest to the Merrimack River. This will help decrease the potential contaminants that may reach surface waters and groundwater.
- Encourage septic system maintenance by providing information on septic systems in public places throughout Town, such as the Municipal Building and Library.
- Continue active participation in the UMLAC, which addresses the Merrimack River and watershed on a regional level.
- Work with adjacent towns to protect significant watershed corridors, such as the Merrimack River corridor and Turkey River corridor.
- Bow should take part in the PSNH hydroelectric dam relicensing process to secure conservation and/or recreation benefits for the Town.

Open Space/Conservation Land

On the Community Survey, 475 respondents indicated that they would like to see Town forests protected and 372 said they would like to see town conservation lands expanded. Additionally, 368 of respondents think the town should allocate money toward open space purchase and protection. Also, the protection of open fields received 324 responses while the expansion of Town forests received 297.

In its simplest definition, open space is land that has not been developed or converted to other uses. It includes forests, fields, river corridors, wetlands, wildlife habitat, and greenway corridors, as well as agricultural lands and town parks. These are features that make Bow a special place to live.

Open space is a very important part of any community. It provides aesthetic and scenic values, wildlife habitat, recreational opportunities, and helps to minimize urban sprawl. Recreational opportunities on open land include walking, hunting, fishing, biking, wildlife viewing, and photography, just to name a few. It is important to understand that open land will not remain open in perpetuity unless protected. Open land can also be used for future commercial and residential development, as well as the location of future community facilities.

The Town of Bow and its abutting communities have recently experienced tremendous growth in housing development. It is important to protect some open space areas, which allow residents to relate to the desirable qualities that originally attracted them to the Town. One of the essential reasons to plan for open space is to set a course of coordinated development for the Town that maintains the Town's high quality of life. Many times decisions are made on land use without the benefit of a unifying plan to coordinate the actions. The result is haphazard development that disregards the Town's and/or region's unique characteristics and sense of place.

The Town owns several conservation parcels, all of which are managed by the Conservation Commission and afford various levels of conservation, preservation, and open space. The State of New Hampshire, the Town of Bow, as well as private organizations (such as Bow Open Spaces) own/manage approximately 3,627 acres of conservation land in Bow.

For more information on open space and conservation land, see the Conservation, Preservation, and Open Space Chapter of the Master Plan.

Regional Environmental Planning Program (REPP)

The Regional Environmental Planning Program was created within the Department of Environmental Services (DES) in recognition of the value of regional planning commissions in addressing environmental issues in New Hampshire. Each Regional Planning Commission is provided \$25,000 annually for environmental planning work. DES staff meets quarterly with the nine RPC Directors to develop program priorities and assess progress. Land conservation was identified as a priority issue when the REPP began in 1998.

Under the REPP, the Central New Hampshire Regional Planning Commission (CNHRPC) has created the Regional Resource Conservation Committee (R2C2) to help identify and address natural resource issues that face the central New Hampshire region. Within the R2C2 are the

Conservation Commission, Planning Board, and Board of Selectmen members. As of summer, 2003, nine of the 20 eligible towns actively participate in quarterly meetings that alternate between guest speaker and peer led group discussions. Past topics have included Smart Growth, enforcement of wetlands regulations, and how to raise money to purchase conservation land. Members of the R2C2 share ideas and experiences that aid other representatives who are dealing with similar issues and concerns.

Several other regional activities related to open space and land conservation have been made available through the REPP. The Bow Open Space Trail System Plan was done by the CNHRPC through the REPP.

Recommendations - Open Space/Conservation Land

- The Town should continue to actively participate in the Regional Resource Conservation Committee (R2C2), which addresses conservation issues on a regional level.
- The Bow Conservation Commission should ask area land trusts to provide technical assistance when contacting landowners and drafting easement documents within Bow, and also to provide assistance when working with towns abutting Bow. Partnering with any of the abutting communities to preserve a strategic parcel of land will result in a sharing of the tasks involved and will enhance relations between the towns.

Trails

Trails create opportunities to access open land in the community and allow residents to get outdoors to access natural, scenic, and recreational areas. A multi-use trail is defined as any trail that is used by more than one user group, or for more than one trail activity. Trail-user groups include pedestrians, hikers, equestrians, mountain bikers, and snowmobilers, just to name a few. These trail user groups benefit from multi-use trails through exercise, recreation, and nature viewing.

Heritage Trail

Planning for a regional Heritage Trail linking Massachusetts, New Hampshire, and Canada began in 1989. The Heritage Trail is to follow the Merrimack River from the Massachusetts border north to the Pemigewasset River and on through Franconia Notch and up the Connecticut River to the Canadian border.

The vision of the Trail was established by State and Federal agencies, yet it was stated that "...success of the Heritage Trail depends on the interest and support of ...(communities along the trail corridor)...and the involvement of local citizens." To make the New Hampshire Heritage Trail a success, each municipality along the trail is responsible for the section of trail that runs through its community and for the linkage with its neighbors to the north and south. Though little of the Heritage Trail has been completed to date, the planning done so far provides a good starting point for local trail initiatives.

Salem to Concord Bike/Pedestrian Corridor

Completed in the spring of 2003, the Salem to Concord Bikeway Feasibility study, conducted by a consultant to the New Hampshire Department of Transportation (DOT), looks at alternative

routes for a non-motorized trail connecting Salem and Concord. The study looks at abandoned rail corridors, the network of existing roads, and a path along I-93 as options for a continuous non-motorized multiuse path. Public involvement was extensive throughout the course of the study and included the formation of a Citizen's Advisory Committee (CAC). The CAC included members of eleven communities within the Salem-Concord corridor and participation from the Regional Planning Commissions. In addition, four public meetings were held to obtain feedback and suggestions on trail alternatives. Taking into account public feedback, the CAC selected a preferred route that combines the rail to trail alternative with the on-road alternative.

Each community within the Salem to Concord corridor was sent a copy of the Feasibility Study Report for review and input on interest level in implementing the trail. Community members in each town would be responsible for trail construction and maintenance. The DOT estimates that 80% of the trail would be funded by federal funds while 20% would befall the town. Community interest will play a large role in determining whether or not the trail is developed within each Town.

Snowmobiling

All of the legal motorized vehicle trails within Town are for winter Snowmobiling use only, except where posted otherwise by private property owners. An extensive snowmobile network spans the northern to southern end of Town. These snowmobile trails are organized and maintained by the Bow Pioneers Snowmobile Club. The Bow Pioneers continue to work on recruiting new volunteers to help with the maintenance and signage of trails. In order to protect the interests and agreements of both the Bow Pioneers and the private landowners that have allowed snowmobile access, individuals must not use these trails during the summer without explicit landowner permission. In addition, private property owners are encouraged to post their property for the uses that they allow.

Since the late 1980's, the Planning Board has been encouraging the donation of recreational easements to the Town when developers propose major subdivisions (subdivisions larger than three lots). The developer is encouraged to respect the integrity of existing trails and easements. If the subdivision infringes upon the use of a trail, then the trail must be relocated or money donated to the Town for other recreational purposes. These easements are granted both to protect open space and to preserve trail linkages.

Regional Bicycle and Pedestrian Plan

The Central Regional Planning Commission's goal in designing a Regional Bicycle and Pedestrian Plan was to help promote a safe and useful bicycle/pedestrian network that encourages intermodal transportation along designated routes in the Region. The Regional Plan was intended to supplement the New Hampshire Statewide Bicycle and Pedestrian Plan. The Statewide Plan identified other suitable road networks to serve intra-regional bicycle travel. While the statewide system hopes to connect cities, towns, and major tourist destinations, the regional system looks to ultimately connect towns to each other and to the statewide system.

For more information on Trails, see the Conservation, Preservation, and Open Space Chapter of the Master Plan.

Recommendations - Trails

- Create trail systems through existing conservation lands and connect to trail systems in adjoining towns, including the Heritage Trail and Salem to Concord bike/pedestrian corridor. Measures could include obtaining public access on railroad and powerline corridors, putting up signage, and acquiring the permission of private landowners where appropriate. The availability of grant money to expand and enhance these trails should also be investigated. Work with abutting communities when appropriate.
- Enter into a working relationship with representatives from the New Hampshire Department of Resources and Economic Development from Cilley State Forest and Pages Corner State Forest, both state owned forests located in Bow, to potentially link Town and State lands through trails.
- Update the Regional Bicycle Plan in cooperation with the Regional Planning Commission and neighboring municipalities.

Air Quality

Air resources play a critical role in the health of both Bow and surrounding communities. Air quality affects the quality of other natural resources, such as water, wildlife, and vegetation. In addition, air quality has a direct impact on the quality of human health. The air we breathe can become contaminated with pollutants from a variety of sources. Children, the elderly, and people suffering from heart or lung disease are especially at risk.

During the Visioning Session, participants voiced concerns about the potential air quality impacts from Bow School District buses and the PSNH power plant. Another concern voiced was that improperly disposed of household hazardous waste ends up being burned at the Wheelabrator Incinerator in Penacook, creating air pollution on a regional level.

The New Hampshire Department of Environmental Services (DES) operates a network of air quality monitors throughout the state to measure levels of ozone, sulfur dioxide, nitrogen dioxide, carbon monoxide, and particulate matter, as well as other pollutants, in the outdoor (ambient) air. The Town of Bow is not a location for air quality monitoring; the closest location is Concord. However, there are thirteen air stationary sources within Bow that are required to have an air permit to operate.

Public Service of New Hampshire Coal-Fired Power Plant

The power plant in Bow is one of three power plants owned by the Public Service of New Hampshire (PSNH). The plant began commercial operation in 1968. It supplies 189,000 residential, commercial and industrial customers with power and is PSNH's primary source of electricity for the State.

The electricity that is produced at this power plant is generated by two coal-fired generators. Current emission standards are not applied to the state's "grandfathered" plants, which are those built before federal emission standards took effect in the 1970s and are exempt from some of those rules. The PSNH plant in Bow is one of three grandfathered coal-fired plants in New Hampshire. However, PSNH has taken several proactive steps to reduce its pollution emissions.

Recent concerns from residents in abutting communities about respiratory health have driven the New Hampshire Department of Health and Human Services (NH DHHS) to perform a study that monitors air quality in Allenstown and Pembroke. The results of the year-long study show that the air quality in Allenstown and Pembroke does not pose a health risk to residents.

Investigators monitored the air near Suncook Village for the presence of two pollutants that are the leading environmental contributors to respiratory illness: sulfur dioxide and particulate matter. Most of the time, the researchers found that levels of both pollutants were below the limits that the federal government deemed safe for human health. The Draft Report was available for public comment in the fall of 2003 and a final report was released in May 2004.

School Bus Idling

In 2002, the NH Department of Environmental Services (DES) and New Hampshire School Transportation Association (NHSTA) launched a voluntary initiative to protect school children and bus drivers from excessive exposure to diesel exhaust emissions from school buses. Excessive exposure to diesel exhaust can adversely impact human health.

An important first step of the DES-NHSTA voluntary initiative was to encourage school bus fleet managers and drivers throughout the state to implement policies and practices to reduce school bus engine idling time. More than 25 different fleets have officially adopted anti-idling policies, including the Town of Bow.

Air knows no boundaries, making it a truly regional issue. It is unrealistic to address all of the issues surrounding air quality. The following recommendations recognize some actions that the Town could take to improve air quality.

Recommendations – Air Quality

- Promote energy conservation measures in new private developments through tax incentives.
- Encourage community design that supports alternatives to automobiles for transportation, such as sidewalks, bike lanes, and denser developments.
- Continue to participate in and enforce the anti-idling policy for school buses.
- Adopt an Energy Conservation Code as one of the building codes enforced in Bow.
- Ensure that all necessary steps have been taken in municipal buildings to reduce energy use.
- Purchase the most fuel-efficient vehicles possible when buying municipal vehicles.

Municipal Water and Sewer

There is currently limited municipal water available in Bow. The existing water line extends from the City of Concord down Hall Street in Bow and only services existing residential dwellings. As part of its examination of the development of Route 3A, the Bow Business Development Commission wanted to determine what water supplies could be developed for commercial uses. In 2001, the Town conducted a study to examine the potential for development of the sand and gravel aquifers in the Route 3A Study Area as an independent water supply for the Town of Bow. The study concluded that the Bow Aquifer, particularly in the area north of Old Ferry Road, has very high potential as a water supply.

In 1984, the City of Concord and the Town of Bow negotiated and signed a joint sewer agreement. The agreement gave the Town the right to transport sewage via the Hall Street main to the Hall Street treatment facility and reserved almost 4% of the capacity of the plant 385,000 gallons per day (GPD) to Bow. The Town agreed to make annual payments against the construction bonds for 20 years and pay annual costs for sewage treatment based on proportionate shares of the total flow and total operating costs. Those tied into the system pay a user fee to Bow for the service.

Bow recently completed a study in the summer of 2003 that looked at future wastewater infrastructure for the Route 3A area of Town. This study outlined the areas where wastewater might be needed in the future, the infrastructure requirements, and the associated costs and timeline to implement. In order to accomplish this infrastructure expansion, Bow is looking to renegotiate the amount of reserved capacity from 385,000 to 785,000 GPD. For more information, please refer to the Economic Development Chapter.

Recommendations - Municipal Water and Sewer

- Work with the City of Concord to negotiate a higher amount of reserved capacity at the sewer facility in Concord.
- Continue to investigate connections with municipal water systems in abutting communities.

Solid Waste

Bow, like most towns in the central New Hampshire region, disposes its trash at the Wheelabrator Incinerator in Penacook. Residents have curbside pick-up of solid waste and recycling, which is currently being provided by Waste Management (solid waste) and BFI recycling.

Household hazardous waste should be disposed of in a safe location and does not belong in the Incinerator. Currently, residents can drop off batteries at the Fire Station and used oil and propane tanks at the Transfer Station. Every other year, the Town participates in a regional household hazardous waste day in which residents can safely dispose of hazardous materials, such as paint, motor oil, and batteries. In 2003, the Recycling and Solid Waste Committee held a Household Hazardous Waste Day, as well as a compost bin sale.

For more information on solid waste, please refer to the Community Facilities Chapter of the Master Plan.

Recommendations – Solid Waste

- Help keep household hazardous waste out of the Wheelabrator Incinerator in Penacook by holding household hazardous waste days annually.
- Bow should investigate opportunities for low-cost ongoing paint collection and disposal, electronic equipment collection, household hazardous waste collection, including household battery disposal, in cooperation with abutting communities and the Department of Environmental Services.
- Evaluate the current solid waste disposal facilities/programs and their applicability, cost, and staffing needs if the town were to be fully built-out.

Sprawl and Smart Growth

Sprawl has become an increasing problem in many of the communities throughout New Hampshire. As population increases, the amount of land being developed increases. Often this development has been spread out throughout the landscape. The end result is often a greater reliance on automobiles, a loss of open space, and increased costs to the taxpayers through infrastructure extensions (police and fire service, road maintenance, utilities, etc).

Smart growth is a method of combating sprawl, which involves thoughtful and thorough planning for future growth. This includes decreasing lot size and setback requirements, encouraging mixed-use land development, and restricting the development of open space and farmlands. Few areas of mixed-use exist in Bow, resulting in an increased need for automotive transportation. Growth from southern and eastern New Hampshire is moving to the Central Region, and Bow will be affected by the transportation and development patterns generated in Hooksett, Manchester, Concord, and the seacoast.

Residential growth in Bow increased 30% between 1990 and 2000 and 80% of the land is zoned for residential development. Bow's attractiveness for more residential development includes a short commuting time to both Manchester and Concord, both of which are major employment centers. The town is zoned 80% residential. Whenever large tracts of land are sold, no matter the location in Town, it is usually developed very quickly.

Recommendations - Sprawl and Smart Growth

- Effort should be made to develop, for commercial and industrial uses, those areas that are served and/or plan to be served by water and/or sewer lines.
- Revise the Planned Open Space Residential Development Ordinance to encourage this type of neighborhood development.
- Consider revising the minimum lot size and setback requirements to encourage creation of denser developments, contingent upon further land preservation and available sewer and water connections.

Commercial and Industrial Growth

According to the Community Survey Results, 78.4 % of survey respondents would like Bow to encourage commercial/industrial growth. About 62 % said that they would like to see this growth occur in the area designated as B on the map given out with the survey. Area B encompasses Route 3A through Bow and contains land area between River Road and Route 3A. When asked what types of commercial/industrial businesses they would like to see developed, the top four responses were professional offices, restaurants, manufacturing facilities, and grocery stores. The four least popular responses (besides none, no opinion, and other) were motor vehicle sales, gasoline sales, motor vehicle service/repairs, and mini-storage.

Commercial and industrial growth is centered on Route 3A. As commercial development in Manchester increases, commercial developers are looking to expand into Hooksett and Bow. Bow's close proximity to I-93 and I-89 make it an appealing location to developers and businesses, as long as the necessary infrastructure is available.

Many truckers drive through Bow on Route 3A on their way to points southward on I-93. Going through Bow allows truckers to avoid the Hooksett toll. Also, there are two truck stops in Bow, one on the Bow/Concord line and one on the south end of Route 3A. In addition, some businesses that cater to truckers have developed along the truck route. The New Hampshire Department of Transportation (NHDOT) is in the process of an in-depth study on the Bow-Concord I-93 corridor, to look at the needs of the communities along the corridor.

Recommendations - Commercial and Industrial Growth

- Continue participation in the Bow/Concord I-93 Transportation Study in cooperation with the towns of Pembroke and Hooksett, the City of Concord, and the NH Department of Transportation on improvements to the regional transportation system that could promote economic development in the region. Of particular interest are connections between I-89, I-93, Route 3A, and Route 106.

New Hampshire Route 3A Improvements

A study has begun on the Route 3A corridor from the I-93 Exit 7 interchange in Manchester to the Bow/Concord town line. The purpose of the project is to perform a feasibility study and prepare a conceptual plan for improvements to Route 3A. The study will look at broad transportation system needs and other factors that may influence the project area, and establish a range of practicable alternatives for future development. The study will examine issues affecting Route 3A from a traffic, safety, shoulder widening and intersection improvement perspective, as well as access management and transportation demand management.

Recommendations - Route 3A Improvements

- Bow should encourage the upgrading of Route 3A and the development of turning lanes in appropriate areas to promote safety and easier access along the corridor.
- Bow should actively encourage the development of a paved shoulder that can also be used for a bike lane.
- Bow should encourage the development of a second means of access from I-93 in the area of the Business Development District.

I-93/I-89 Improvements

Bow Visioning Session participants said that merging onto I-89 South is presently unsafe. Some were also concerned that the proposed Northwest bypass in Concord will impact housing and growth in Bow.

New Hampshire Department of Transportation (NHDOT) is in the process of an in-depth study of the Bow-Concord I-93 corridor. To address the needs of the communities along the corridor, a Citizen Advisory Task Force has been developed by NHDOT. The first meeting was held on September 17, 2003, and will meet every two to three months through the end of 2004. Participants include representatives from Bow, Concord, Pembroke, Concord 20/20 and the Central NH Regional Planning Commission. Improvements to the Bow-Concord I-93 corridor that are being considered by the task force include I-93 widened to six lanes, an I-93 westward alignment shift, grade reversal of exit 14, reconfiguration of exits 14 and 15, among others.

The first phase of the project will conclude with a purpose and needs statement and a reasonable range of alternatives for further study, environmental analysis, and consideration, which will lay the groundwork for further engineering studies. A primary task of the first phase is to construct a traffic model for use in projecting future traffic and evaluating alternatives. Many of the ideas and findings of the study completed by Concord 20/20 two years ago will likely be incorporated and refined.

The second phase would proceed through the National Environmental Protection Act process and conclude with the recommended alternatives. The third phase would involve final design.

The plans to widen approximately 20 miles of I-93 from the Massachusetts border to Manchester have potential impacts on growth and development in Bow. The two existing lanes in each direction will be widened to four, increasing highway capacity to alleviate traffic congestion. Some projectionists estimate an additional 40,000 people will locate to southern New Hampshire as a result, threatening farms, forests, wetlands, open space, and air quality in southern New Hampshire. Although Bow is not one of the five towns directly affected by the I-93 widening, it could experience secondary impacts, such as an increase in population, air quality impacts, and more demands on open land.

Recommendations - I-93/I-89 Improvements

- Actively encourage the retention of full Interstate access in the vicinity off of I-89 Exit 1.
- Traffic speed on I-89 south should be reduced through increased traffic enforcement during the peak morning and evening commuting hours.
- Improve the on-ramp of the I-89/I-93 North/South interchange to make it safer.
- Bow should maintain good communications with Pembroke, Hooksett, and Concord to look at creating an interchange that would cross over the river from I-89 to Route 106 in order to benefit all communities.
- Bow should actively participate in the discussions concerning the widening of I-93.
- Bow should evaluate the potential impacts the widening of I-93 and proposed Northwest bypass in Concord will have in Town, and work to address these concerns before the widening occurs.
- Cooperate with Concord, Loudon, Pembroke, and Hooksett on incorporating economic development issues into the Bow-Concord I-93 study.

Concord Area Transit (CAT)

According to the Community Survey results, 35.2% of respondents would support an extension of Concord Area Transit while 21.9% would not support such a service. Approximately 18% were unsure.

The Central NH Regional Planning Commission (CNHRPC) and Concord Area Transit (CAT) have completed a study of the feasibility of expanding CAT service into Bow and other surrounding communities. It is envisioned that this study, in conjunction with the earlier survey results, will emphasize the demand for enhanced transit service in central New Hampshire, thus supporting future requests for federal assistance for route expansion.

Recommendations - Concord Area Transit (CAT)

- Work with CAT to provide public transportation for residents in Bow.
- The Town should familiarize itself with state and federal transportation funding programs available to small communities in the event that the CAT expansion goes forward.

Affordable Housing

As a result of the growing concern over access to affordable housing, all Regional Planning Commissions in New Hampshire have been requested by the Office of State Planning to develop affordable housing needs assessments for each community within their region every five years.

Because of the lack of 2000 Census data when the *Affordable Housing Needs Assessment* report was written (2000), CNHRPC determined that it would be more appropriate to develop estimates based upon a variety of data, rather than base the report on 1990 Census data. The vast majority of the data utilized in the preparation of this assessment was provided by the New Hampshire Office of State Planning, the New Hampshire Department of Employment Security, and the New Hampshire Department of Revenue Administration. The *Affordable Housing Needs Assessment* report is scheduled to be redone in 2005 for the central New Hampshire region.

Based on the affordable housing need assessment conducted by CNHRPC in 2000, Bow had less than its theoretical fair share of the affordable housing base for the central New Hampshire region. The formula used by CNHRPC indicated that Bow contained approximately 176 units of affordable housing, which was less than its theoretical fair share of 1,072 units. This formula is based on the assumption that all multi-family and manufactured homes in the region should be considered affordable housing, which is not always the case. See the Housing Chapter for more information.

Child Care

Research indicates that early care and education have long-lasting effects on how children learn, develop, cope with stress, and handle their emotions as they grow up. High-quality child care programs provide a safe and nurturing learning environment for infants and children. A curriculum based program, well-trained staff, small group sizes, staff-to-child ratios that are appropriate for the age group receiving care, healthy environments that have been designed for children, and an ability to provide a continuity of care and establish relationships with families are all characteristics of high-quality child programming.

Child care is an economic development issue often overlooked by businesses and town government. Public investment in early childhood programs can make for a strong economic policy. A study by the Rand Corporation estimated that taxpayers can reap a benefit of over seven dollars for every dollar spent on high quality child care and education. Not only are child care facilities businesses, but they also provide a necessary service in order for parents to remain in the workforce.

The number of family or agency child care opportunities licensed by the New Hampshire Department of Health and Human Services is 1,155. A license is required for family child care home providers if the provider cares for four or more children other than his or her own. Any

center-based program caring for one or more children must be licensed. Licensed child care centers demonstrate an ability to focus on the health and safety of children and also ensure minimal standards for caregiver qualifications, staff-to-child ratios, and group size. However, licensing is only one measure of the level of care and education that children can receive.

The availability of child care differs among labor markets. Lebanon, Pelham, Manchester, and Nashua labor market areas have above-average availability of licensed child care. Berlin, Claremont, Colebrook, Keene, Lancaster, Salem-Derry, Littleton, and Plymouth, have below average capacity.

The town of Bow has six licensed child-care providers/facilities, which can care for a total of approximately 190 children at any given time. Of those Community Survey respondents whose children were cared for outside of the home, 39.2% indicated that their children were cared for in Concord, 31.4% in Bow, and 7.8% in Hooksett.

Recommendations - Child Care

- Conduct an assessment of whether current child care resources meet the community's needs for child care.
- Research the development of a Child Care Linkage Ordinance, which would require commercial and industrial developments of a certain size and/or workforce to provide space and/or money for the development/expansion of child care facilities within Bow.

REGIONAL MASTER PLAN

The Regional Master Plan is intended to guide land use in the central New Hampshire region. Currently, the elements of the Regional Master Plan are outdated. Adopted elements of the Plan include Goals and Objectives (1989), the Housing Element (1992), Affordable Housing (2000), the Land Use Element (1991), and the Transportation Element (1994). As of 2003, the Regional Master Plan is in the process of being updated. The Open Space Element, Land Use Element, and Natural Features Element are in various draft stages. Plans to begin an update to the Transportation Element are underway. Within the next few years, pending funding, the Regional Master Plan will be brought to the Full Commission for adoption.

Housing

The housing element looks at housing distribution patterns, costs, and household income. The major goal of the Housing Element is to provide for a diverse housing supply throughout the region that meets the needs of current residents, as well as future residents of the region. Objectives include developing useful methods for municipalities to provide their fair share of affordable housing, encouraging cluster development, and promoting mixed residential use.

In addition to the housing element, the Regional Master Plan also includes a section on Affordable Housing. State law (RSA 36:47 II) requires New Hampshire community master plans to address their regional fair share of affordable housing needs. To assist the communities in determining the magnitude of the regional affordable housing needs, the regional planning

commissions are required by the Office of Statewide Planning to prepare an updated regional housing assessment every five years.

CNHRPC conducted an updated housing assessment in the year 2000 for each town in the central New Hampshire region. Because of the lack of 2000 Census data when the *Affordable Housing Needs Assessment* report was written (2000), CNHRPC determined that it would be more appropriate to develop estimates based upon a variety of data, rather than base the report on 1990 Census data. See the Housing Chapter of the Master Plan for information on the results of the Housing Needs Assessment.

Land Use Element

In 1991, the goals of the Regional Land Use Element in the Regional Master Plan were to coordinate local land use planning and regulations so that local planning efforts are enhanced, inter-community conflicts are minimized and regional growth is managed in the public interest. Other goals include providing a diverse housing supply, promoting economical and practical management of public utilities, supporting a water resource management protection plan as well supporting cooperative efforts on conservation, protection, and sound management of natural resources and historic sites.

The draft update to the Regional Land Use Element (2002) identifies many factors that affect land use within the central New Hampshire region. Some of the factors addressed are open space, transportation, and housing. The need to incorporate the goals from all of the elements in the Regional Master Plan will be essential in providing the most comprehensive approach to managing land use within the region. Land is a valuable resource, and as the population continues to grow, more land is being developed. The goals of the Land Use Element are designed to maximize present development potential, while maximizing the available land for future development.

Transportation Element

The Regional Transportation Plan establishes the direction for transportation services and facilities in central New Hampshire for 20 years. The goals of the 1994 Transportation Element include the following: to encourage the intergovernmental cooperation and coordination on transportation issues, to maintain and enhance the safety of the traveling public, to develop a plan for coordinating public transportation in the region, to develop and enhance the ability of municipalities to do effective local transportation planning, to improve the municipal and regional capacity to fund transportation system improvements, and to promote economic development, tourism, and energy efficiency through the transportation planning process.

According to the Transportation Element, without intervention, the future land use of the region will differ from current patterns. Based on the existing land use pattern and existing zoning, commercial development will continue to consume frontage along the major transportation routes in the eastern part of the region, and low density residential development, without water or sewer service, will consume most of the land. In addition, some expansion of growth centers, where adequate utilities are available, will occur and villages will lose their distinction as town centers as development becomes more scattered.

Open Space Element

The draft Regional Open Space Element (2002) in the Regional Master Plan was developed to identify open space within the central New Hampshire region and to provide information on the benefits of open space.

To address future growth and development, it is important that a coordinated effort to protect valuable, regionally significant open space areas occurs in the near future. This effort would be best realized if municipalities worked across municipal boundaries to identify the conservation intentions of their neighbors. Since natural resources, such as a forest or a river, typically cross municipal borders, addressing natural resources at the regional scale will result in less habitat and forestry fragmentation than if considered on a town-by-town or parcel-by-parcel basis. This element of the Regional Master Plan is intended as a tool to guide these efforts.

Natural Features Element

Natural features play an important role in the historical, cultural, and economic development of the region. Topography and water resources greatly affect the type and location of development that a given parcel of land is able to support. In addition, the types of resources found in a given area influence the types of economic activities that occur in that area. As people have become more aware of the importance and benefits of preserving the natural resources that surround them, the need to identify these resources is more prevalent.

The draft Regional Natural Features Chapter (2003) in the Regional Master Plan identifies the many natural features found within the central New Hampshire region and addresses land, water, and air quality issues. The objectives are to identify the natural features of the region, track changes in natural resource use, and provide a tool for management of the region's natural features.

RESOURCES TO MEET REGIONAL CONCERNS

Central NH Regional Planning Commission

The Central NH Regional Planning Commission (CNHRPC) currently serves 20 voluntary communities within the Concord area. Membership to the CNHRPC provides access to free or low cost planning services such as Master Plan development, development review assistance, traffic counts, zoning ordinance revision, educational workshops, geographic information system mapping, information on latest available programs, grant projects, and statistical data.

Transportation Advisory Committee

The Transportation Advisory Committee (TAC) is an advisory committee of the CNHRPC, which is comprised of local appointed representatives from communities within the region as well as members from other local, state, and federal agencies. The official purposes of TAC are to provide technical advice and policy recommendations regarding transportation planning issues. The TAC organizes and recommends projects for the Regional Transportation Improvement Program, the State Transportation Improvement Program, and ranks Transportation Enhancement and Congestion Mitigation-Air Quality grant applications for funding.

NH Office of Energy and Planning

The Office of Energy and Planning (NH OEP), formerly known as the Office of State Planning, is based in Concord and is legislatively required to plan for the orderly development of the state and the wise management of the state's resources; compile, analyze, and disseminate data, information, and research services to advance the welfare of the state; encourage and assist planning, growth management, and development activities of cities and towns; administer select Federal and State grant-in-aid programs; and participate and advise in matters of land use planning regarding lake and river management programs. The Office of Energy and Planning typically does most of its work with communities through various regional planning commissions.

NH Department of Resources and Economic Development

The Department of Resources and Economic Development consists of four divisions: Forest and Lands, Parks and Recreation, Travel and Tourism Development, and Economic Development. The Division of Forests and Lands protects and promotes the values provided by trees, forests and natural resources (and includes the Natural Heritage Bureau) while Parks and Recreation aims to protect historic and natural resources. Promoting New Hampshire as a travel destination is the mission of Travel and Tourism Development. Similarly, Economic Development promotes businesses and the expansion of existing businesses.

NH Department of Environmental Services

The goals of the NH Department of Environmental Services (DES) are to protect and promote wise management of the state's environment. The department's responsibilities include ensuring high levels of water quality for water supplies, regulating the emissions of air pollutants, fostering the proper management of municipal and industrial waste, and managing water resources for future generations.

U.S. Environmental Protection Agency, Region I

The goal of the Environmental Protection Agency Region I is to protect human health and safeguard the natural environment where people live, learn, and work in the six New England states: Connecticut, Massachusetts, Maine, New Hampshire, Rhode Island, and Vermont. One way to help accomplish this goal is to ensure that communities have access to accurate information sufficient to effectively participate in managing human health and environmental risks. This federal agency is a resource for information on environmental regulation, resource protection, and human health protection.

New Hampshire Municipal Association

The NH Municipal Association (NHMA) was formed over 50 years ago by a group of concerned local officials who felt that by pooling resources and concerns, New Hampshire communities could better work together with a common voice. Today, NHMA represents 233 of the 234 Granite State communities and offers legal and technical assistance, legislative representation, training, workshops, and personnel services.

Concord Area Trust for Community Housing

Since 1989, the Concord Area Trust for Community Housing (CATCH) has been helping families to become homeowners or find a stable, affordable apartment in the Concord area. Its mission seeks to increase the supply of affordable apartments, searching beyond city limits to expand housing choices, educating and empowering families to take control of their finances, and nurturing neighborhoods through quality local management. To date, 142 dwellings have been built or rehabilitated and 350 people have gained access to decent and affordable housing.

Five Rivers Conservation Trust

The Five Rivers Conservation Trust is a land trust named for the area defined by the confluence of the Blackwater, Contoocook, Merrimack, Soucook and Warner River drainages. The Five Rivers Conservation Trust works to protect productive farms and forestlands, wetlands, special natural communities, and wildlife habitats. Through land protection, the trust is helping the region by providing recreational opportunities, including the Heritage Trail, maintaining clean water supplies, limiting sprawl and preserving biodiversity. Formerly known as the Concord Conservation Trust, since 1988, 400 acres of private land have been protected in perpetuity through conservation easements.

Concord 20/20

Concord 20/20 is an organization that addresses future growth in the city of Concord and could potentially serve as a resource for other communities. Some of the goals of Concord 20/20 are to enhance the existing trail system, create key river connections, preserve open space in new development, create pedestrian-friendly village centers, and connect the villages to each other, to open space, and to downtown through trails, paths, and bicycle lanes.

Upper Merrimack River Local Advisory Committee

The Upper Merrimack River Local Advisory Committee (UMRLAC) is a volunteer group established under the Rivers Management and Protection Program. This group has been active in a variety of studies and planning activities in the Upper Merrimack River Watershed, including water quality sampling and habitat assessments of 11 sites from Franklin to Bow.

Livable Walkable Communities

Livable Walkable Communities is a program that is organized by NH Celebrates Wellness, a non-profit organization dedicated to improving the health and well being of the people of New Hampshire. Livable, Walkable Communities are places where people of all ages and abilities can easily enjoy walking, and bicycling both as a means to of travel and for recreation. NH Celebrates Wellness has developed a toolkit to assist communities in visioning, engaging, assessing, planning, linking with resources, and implementing livable/walkable communities.

CONCLUSION

The opportunities presented in this Chapter offer Bow a chance to join with other Towns to develop a project or produce a legacy. Regionally, towns may accomplish together what they could not accomplish alone because of funding, increased resources, or because of the sheer size of the goal.

Although Bow is faced with many internal issues and concerns, there are other issues that will affect the Town from the outside. Many different regional influences, from transportation growth to environmental threats to population and housing influxes, will exert degrees of pressure on Bow. Bow needs to be adequately prepared to handle these exterior demands through involvement in regional processes, therefore being in a better position to respond positively to forthcoming pressures or problems. Establishing a relationship with regional groups and abutting communities will ensure that communication lines are open and that Bow finds itself in the best position to handle each demand that comes its way.

CHAPTER XII IMPLEMENTATION

In the 2002 New Hampshire legislative session, the statutes relative to Master Plans, RSA 674:2-3, were rewritten to reflect the need for closer coordination among municipal Master Plan elements and for coordination of local, regional and state projects and processes. The new statute recommends having an Implementation Chapter, which the Planning Board has decided to include into its 2004 Master Plan.

This chapter reprises all of the recommendations contained in the other chapters of the Plan and groups them by type--regulatory or non-regulatory -- and by responsible boards, commissions, committees, etc. including the year in which the work should be complete. The recommendations are diverse and pose a challenge to the responsible entity to reach fruition.

A master plan is not a sequence of rigid, tightly organized steps guaranteed to produce a specific result; rather it is both a reference and policy document which should be the most complete source of information about current conditions and trends within the community. Accordingly, this Master Plan is a compendium of facts, goals, and recommendations to be adopted by the Planning Board. It suggests multiple paths forward and the people of Bow will have to keep choosing which path to take at each town meeting, at each planning board meeting, at each meeting of the library trustees, and so on.

Any changes to zoning ordinances or recommendations to buy or sell land will require explicit votes of the town. Many changes will be carried out by various town boards and will require the public hearing and review process as well. Some of the changes will be implemented at the household level, as residents decide whether to protect their wetlands buffers, whether to plant native species, whether to recycle more, and so on.

Some examples of recommendations in several chapters are as follows:

ECONOMIC DEVELOPMENT

The Plan proposes to continue the town's recent efforts to expand commercial and industrial activities in the southern area of town, east of NH Route 3A. The Plan expects water and sewer development and other regulatory changes to encourage high quality development and, therefore, a higher tax base.

HOUSING

The Plan leaves in place the town's basic zoning map, which allows 2-acre lots across most of town. To mitigate the impact of more housing, the Plan proposes that all larger developments conform to "conservation subdivision" guidelines which would protect more of the natural buffer around the new homes and encourage the houses to be built in more compact groupings. The Plan also calls on the town to develop and adopt a system of transferable development rights which would allow for denser development in exchange for preserving much larger lots, in particular, such lots that would help the town achieve the conservation and preservation goals identified in this document.

The Plan makes other recommendations to encourage the availability of more diverse types of housing in Bow. One recommendation would allow homeowners to add accessory apartments to their homes; another would make it easier for multi-family homes to be built in areas with water and sewer; another would encourage continued development of housing for older residents. The goal of these recommendations is to ensure that people of all incomes and ages can find a place in Bow.

TRANSPORTATION

The Plan recognizes that Bow is a town that evolved primarily for automobiles. The Plan lays out a schedule to revise town road standards based on posted speed, to minimize pavement widths, and to add bike lanes. New road construction would generally continue as it has over the last decade as developers provide access to lots in new subdivisions.

CONSERVATION, PRESERVATION, and OPEN SPACE

The Plan includes recommendations to create a park with expanded access to the Merrimack River and to maintain and expand the network of trails throughout town. It lays out a series of steps intended to protect ground water, habitat, and overall environmental quality.

FUTURE LAND USE

The purpose of this chapter is to help make the document more user-friendly for the citizens of Bow and, hopefully, to provide a good starting place for the next effort to update the Master Plan.

PRIORITIZED RECOMMENDATIONS

ZONING, SITE PLAN, AND SUBDIVISION REGULATIONS

The recommendations listed below are specifically for changes/additions to the Zoning, Site Plan, and/or Subdivision Regulations. The recommendations are broken down and prioritized by the timeframe in which they are to be accomplished. The recommendations are further prioritized by their desirability, as determined by the Community Survey, Visioning Session, and Subcommittee responses, as well their associated costs.

The timeframe in which the categories were broken down are “To be completed by March 2005 or sooner,” “To be completed by March 2007 or sooner,” “To be completed by March 2009 or sooner,” “To be completed by March 2011 or sooner,” and “On-going recommendations.”

Each recommendation is coded as to its projected cost to the Town, with \$ indicating little to no cost (\$0.00 - \$50,000), \$\$ moderate cost (\$50,000-\$250,000), and \$\$\$ indicating a higher cost (\$250,000 +) to the Town to carry out the recommendation.

For Zoning, Site Plan, and Subdivision Regulations, the Planning Board is the responsible party for implementation. However, that does not preclude other groups or individuals from taking responsibility for initiating the implementation of these recommendations.

The recommendations were categorized based on realistic expectations and input from Subcommittee, Steering Committee, and Planning Board meetings. ***The timeframes are flexible and can be adjusted depending on town priorities, cost, Committee and Board preferences, and other outside circumstances.***

On-going recommendations

- 1) Enforcement of current Zoning and Site Plan Regulations needs to be made a priority to ensure that quality economic development locates and remains in Bow. \$
- 2) Water Resource Protection
 - Stringently enforce the provisions of the Aquifer Protection District. \$
 - Consideration of watershed effects should be made when developing land throughout the town of Bow. Strong efforts need to be made to protect and manage those lands closest to the Merrimack River. This will help decrease the potential contaminants that may reach surface waters and groundwater. \$
 - When evaluating development proposals that affect wetlands, the entire wetland complex should be considered instead of the particular acreage of wetland being impacted. This includes considering the extent of habitat fragmentation and isolation, the impacts on adjacent upland habitats, the effects of stormwater runoff, and the availability of buffer zones. \$
 - The Town should provide for comprehensive protection of shoreland through regulatory, educational, and voluntary efforts. \$
 - Continue to require a complete analysis of the impact of new development and other large water users on current water resources. \$
 - Annually review the provisions of the Aquifer Protection District to ensure that requirements rely on best management practices and the newest technology. \$
- 3) Ensure that the current Fire, Police, and Rescue equipment and facilities are taken into consideration when an expansion of or proposal for a new commercial or industrial facility is proposed. \$
- 4) Transportation
 - Encourage community design that supports alternatives to automobiles for transportation, such as sidewalks, bike lanes, and denser developments. \$
 - To reduce congestion of streets and minimize traffic safety hazards, consider requiring developments, at time of Site Plan Review, to provide rights-of-way to abutting parcels for the future interconnection of sites. \$
 - The Highway Safety Committee should be consulted when there is a subdivision application before the Planning Board, when the Town is considering upgrading a Class VI Road to a Class V Road, or when the Town is considering accepting a Private Road as a Town Road at Town Meeting. \$

- 5) The Planning Board should increase emphasis on and enforcement of the “Protection of Natural Features” section in the General Requirements section of the Subdivision and Site Plan Regulations. \$
- 6) Work with the Planning Board, Conservation Commission, Bow Open Spaces, the Town, and with private landowners to link subdivisions with Town Forests and other open areas through trails. \$
- 7) Excavation
 - Any reuse of the sand and gravel pits located within the Town should be evaluated as to the appropriateness for the proposed activity, and best management practices should be used to prevent contamination of subsurface water bodies, as well as adjacent streams, ponds, rivers, and/or wetlands. \$
 - Review the Excavation of Earth Materials Ordinance annually to ensure best management practices and technologies are incorporated. \$
 - Research standards that would establish the maximum depth, relative to street and groundwater resources, that excavation operations would be allowed to operate at. \$
- 8) The Town of Bow should annually update its Ordinances and Regulations to adequately address the issues of stormwater management, erosion, and sediment control to improve the quality of the Town's waterbodies to incorporate best management practices and technologies. \$
- 9) Business Development District
 - Annually review the provisions of the Business Development District to ensure that the spirit and intent of the Ordinance are being followed and implemented. \$
 - Annually review the aesthetic design standards, contained within the Business Development District, to ensure the standards are producing the intended results when applied to non-residential development, and revise the standards as necessary. \$
- 10) Annually review the Site Plan Regulations to ensure that best management practices are being followed for the handling and storage of hazardous materials at industrial and utility uses. \$
- 11) The Planning Board should encourage developers to protect the naturally occurring steep slopes with slope easements. \$
- 12) Ensure that the historic importance of established cemeteries are taken into consideration when any type of development is proposed that may impact the cemeteries and that appropriate precautions are taken, such as the establishment of buffers. \$

13) Continue to evaluate and update the definitions and criteria for establishing a home business. \$

14) Housing Stock

- Bow should conduct an analysis of its current housing stock, using local information, to track the number of theoretical affordable housing units located within the community. This data should be provided to CNHRPC to assist in their updated regional assessment. \$
- Create a goal of reaching the future planning figure (674 units) to meet the regional share of affordable housing stock (1,070 total units). Annually review the progress made to date and revise the Towns regulations and Ordinances accordingly. \$

To be completed by March 2005 or sooner

- 1) Expand the Aquifer Protection Overlay District to include those known areas where aquifers exist that are currently unprotected or areas that have the potential to become municipal water supplies. See the Proposed Aquifer Protection Overlay District Map. \$
- 2) Excavation of Earth Material Ordinance
 - Revise the Excavation of Earth Material Ordinance to allow a Conditional Use Permit to be issued for up to 20,000 cubic yards in the Limited Industrial, General Industrial, Commercial, and Business Development Districts. \$
 - Excavation of earth materials should not be allowed on or adjacent to lands that are being used/could be used for public drinking water supplies. \$
- 3) Rezone lots 11, 24, and 88 in Block 1 to a non-residential District because of their proximity to Interstate 89 and future sewer service. See the proposed Economic Development Zoning Map. \$
- 4) Create a more detailed Radio/TV Tower or Antenna and Personal Wireless Service Facility (PWSF) Ordinance that outlines
 - Screening standards
 - Height restrictions to be measured from/by the average tree canopy of the site
 - Provisions for co-location on existing towers and locations within existing structures
 - Camouflage/Stealth Design
 - The removal of towers if they become inactive or unsafe
 - Requirement that cell tower companies co-locate Police Department radio antennas on new facilities as a community service. \$
- 5) The Town should exempt all subsidized, affordable housing developments and all market-rate elderly housing (62 years and above) from the requirements of the Growth Management Ordinance but should require market-rate elderly housing (55 years and above) developments be subject to the provisions of the Ordinance. \$
- 6) The Town should automatically exempt all subsidized, affordable elderly housing (62 years and above) from the requirements of the School Impact Fee. All other types of subsidized, affordable housing, as well as market-rate elderly housing can request a waiver from some or all of the School Impact Fee. \$

7) Planned Open Space Residential Development (POS-RD)/Conservation Subdivision

- Change the POS-RD name to Conservation Subdivision to create a more understandable picture of what the purpose and intent of the ordinance is. \$
- Review the density requirements and allow an increase in density as an incentive for developers to use Planned Open Space Residential Development. One way to do this is to consider creating a sliding scale for lot density in exchange for more open space. \$
- Employ all possible measures to create open space that is protected in perpetuity through conservation easements, an association of all the home owners, or by deeding the land to the Town or to a conservation organization. Land should be deeded to the Town when the open space land abuts Town-owned land. \$
- Create a provision for all POS-RDs to have homeowner associations to manage and enforce the provisions for the common open space. Require Town Counsel to review all association and deed language for POS-RD developments. \$
- Allow more flexibility in the minimum lot size, lot frontage and the side, and front setbacks while maintaining the undisturbed buffer around the Conservation Subdivision. \$
- The POS-RD Regulations should allow for multiple housing units if they have adequate septic and/or sewer capacity. \$
- Consider allowing a portion of the required POS-RD open space to be “off-site” on a lot that is not contiguous to the residential development, provided the proposed non-contiguous open-space lot abuts Town-owned property and/or natural areas of importance. \$
- Adopt a provision in the Subdivision regulations that requires all subdivisions over 20 acres in size to be proposed as a POS-RD in the Rural and Residential Zoning Districts. \$
- Ensure that the open space is usable for the desired use, such as farming, recreation, and/or wildlife habitat. \$
- Encourage, through Zoning and Subdivision Regulations, the creation of Planned Open Space Residential Development (POS-RD) for manufactured housing subdivisions that allow increases in overall housing density while retaining open space. \$

8) Arterial Street (Class A)

- Redefine Arterial Street (Class A) as follows: “An arterial street links major areas of the town to each other as well as the regional highway network. Its primary function is to provide a high degree of mobility for concentrated heavier traffic flows, including truck traffic. These streets reflect the higher end of posted speeds in town. Direct access to abutting properties is a secondary function and should be minimized to the extent practical.” \$
- Revise the town road standard for Arterial Streets (Class A) to include the following cross-sectional widths: \$
 - For posted speeds of 35 mph or greater, a minimum 32-foot paved width to include two 12-foot travel lanes, and two 4-foot wide bicycle/safety shoulders delineated by white edge lines. The narrower width of marked travel lanes is intended to suppress a tendency for vehicle speeds to increase as overall pavement width may increase.
 - For posted speeds of 30 mph, a minimum 30-foot paved width to include two 11-foot travel lanes, and two 4-foot wide bicycle shoulders delineated by white edge lines. The narrower width of marked travel lanes is intended to suppress a tendency for vehicle speeds to increase as overall pavement width may increase.
 - The cross sectional width of NH Route 3A should be as recommended by the ongoing study of the corridor by the New Hampshire Department of Transportation. Four-foot paved shoulders should be included as a minimum to serve bicycle traffic.
- Re-designate the arterial street system to add the following: Page Road, Dunklee Road, and Bow Bog Road. \$
- Consider at least a four-inch pavement depth on reconstructed arterial streets. \$
- Revise the standard cross section of arterial streets to provide 4 foot wide paved shoulders for bicycle and pedestrian use, where sidewalks are not present. \$
- Increase widths of existing arterial streets to conform with the proposed cross sections in conjunction with programmed resurfacing or reconstruction projects. \$\$\$
- Install and maintain reflective pavement markings on all arterial streets to include double-yellow centerline and single white edge lines. \$\$

9) Collector Streets (Class B)

- Redefine Collector Street (Class B) as follows: “A collector connects adjoining neighborhoods and function to distribute traffic between the arterial street system and the local street system. It provides mobility to through traffic as well as direct access to abutting residential or commercial properties. The level of mobility and travel speed is less than that of an arterial street, and more than that of a local street.” \$
- Revise the town road standard for Collector Streets (Class B) to include a minimum 28 foot paved width to include two 10 foot travel lanes, and two 4-foot wide bicycle shoulders delineated by white edge lines. The narrower width of marked travel lanes is intended to suppress a tendency for vehicle speeds to increase as overall pavement width may increase. \$
- Re-designate the collector street system to add the following: Albin Road, Johnson Road, White Rock Hill Road (from Page Road to Bow Center Road), Brown Hill Road, Dunbarton Center Road, Birchdale Road, Grandview Road. \$
- Consider at least a four-inch pavement depth on reconstructed Collector streets. \$
- Revise the standard cross section of collector streets to provide 4 foot wide paved shoulders for bicycle and pedestrian use, where sidewalks are not present. \$
- Increase widths of existing collector streets to conform with the proposed cross sections in conjunction with programmed resurfacing or reconstruction projects. \$\$\$
- Install and maintain reflective pavement markings on all collector streets to include double-yellow centerline and single white edge lines. \$\$

10) Local Streets (Class C)

- Redefine Local Street (Class C) as follows: “A local street is a Class V town highway not designated as arterial or collector street. Its primary function is to permit direct access to abutting residential or commercial properties. A local street generally services neighborhoods, and offers the lowest level of vehicle mobility. Traffic speed is minimized, and service to through traffic is discouraged.” \$
- Revise the town road standard for Local Streets (Class C) to include a minimum 26 foot paved width. \$
- Consider at least a four-inch pavement depth on new and reconstructed Local streets. \$
- Local Streets (Class C) are not suited for commuter “through-traffic. Work to minimize this traffic wherever viable alternatives can be provided. \$

11) Wetlands

- Create regulations that allow for wetlands mitigation. \$
- Create an option for development to mitigate wetland impacts through a financial contribution to the town for conservation land purchases. \$
- Research the designation of additional wetlands as Prime Wetlands. \$

12) Review the areas that are currently zoned for commercial/industrial development to ensure that they are adequate and appropriate for that type of use. Assess whether there are areas that should be zoned for commercial and/or industrial development that are not currently zoned that way.

13) Require that the performance requirements (noise, smell, etc.) for industrial and utility uses be measured at the property line, not the District boundaries, to ensure that the use will not have a negative impact on abutting properties. \$

14) Review the current Manufactured Housing Zoning provisions to ensure that they are adequate and afford real opportunity to develop such housing options in Bow. \$

15) Adopt into the Site Plan Regulations the requirement that Cottage Industries need a Special Exception, as well as Site Plan approval. \$

16) Campgrounds should only be allowed by Special Exception in the Rural District. \$

17) Laboratory and Research Centers, Corporate Office Headquarters, or Data Processing Centers should not be allowed in the Rural and Residential Districts and this provision should be removed from the Zoning Ordinance. \$

To be completed by March 2007 or sooner

- 1) The Town should look into establishing Impact Fees for the Fire Department and Police Department. \$
- 2) Elderly Housing
 - Amend the Town definitions for Elderly Housing so that they are comprised of two different sections – (1) elderly housing that is intended and solely occupied by persons 62 years of age and older and (2) elderly housing that is intended and operated for occupancy by at least one person 55 years or older (as per RSA 354-A:15) \$
 - It is felt that the current “one-size-fits-all” dimensional requirements (setbacks, lot sizes, etc.) for Elderly Housing are not in the best interest of the Town. It is recommended that the Town review and revise the lot size/density regulations and create a tiered system for the allocation of the dimensional requirements benefits. \$
 - Amend the Zoning Ordinance to require elderly housing developments to be restricted to elderly housing for 99 years. \$
 - Create Impact Fees for Emergency Services provided by the Town to be assessed on Elderly Housing developments. \$
- 3) Research the creation of a Transfer of Development Rights (TDR) Ordinance to allow developers the ability to “swap” development rights from one parcel of land to another. \$
- 4) When applying the Growth Management Ordinance to duplex and multi-family housing, 10 dwelling units shall be allotted per year for the phasing of such developments, while still maintaining the Growth Management Ordinance limits. \$
- 5) Commercial/Industrial Rezoning
 - Rezone the General Industrial District to Business Development District. \$
 - Rezone limited sections of the Residential District to the Commercial District in the vicinity of Old Albin Road and Logging Hill Road. \$
- 6) Provide regulatory incentives, such as increases in density or waiving requirements of the Impact Fee and Growth Management Ordinances, to developers to build affordable housing in the community. \$
- 7) Create a comprehensive access management plan for the commercial/industrial areas of Town and incorporate the plan into the Site Plan Regulations \$

- 8) Consider adopting provisions that would allow for shared parking between separate lots. Such a requirement would allow the Planning Board, when feasible, to reduce parking requirements for each lot, provided that the peak parking demand of each land use does not occur during the same time periods. \$
- 9) Planned Business Subdivisions
 - Create specific design requirements, performance standards, and incentives for Planned Business Subdivisions in order to make the option more appealing to businesses and developers. \$
 - Include a provision in the Planned Business Subdivision Regulation Ordinance, which states that development must be designed with the intent of being a planned open space development and must also protect and preserve the natural environment. \$
- 10) Revise the Zoning Ordinance to expand and provide for opportunities for the development of accessory housing within Town. \$
- 11) Bow should create a Private Roads Policy that would outline construction standards and maintenance requirements. \$
- 12) Require specific regulations that cover landscaping, buffers, pedestrian facilities, architectural façade, and lighting for duplex and multi-family housing. \$
- 13) Consider adopting requirements for streetlights to be installed in such a way as to reduce unnecessary glare and light pollution. \$
- 14) Encourage the use of alternative pavement materials other than asphalt and concrete for parking areas, where appropriate. These materials could include brick, crushed stone, pea stone, stamped concrete, cobblestone, and other similar materials. Allowing the use of such materials will preserve the rural character of the community and add to the aesthetic appeal of smaller commercial developments. \$
- 15) Review and revise the current Zoning Ordinances and Subdivision Regulations to encourage the development of affordable housing in appropriate areas within town. \$
- 16) Create a new Overlay Zoning District – Multi-Family (MF) District – that allows the development of Multi-Family housing by right with municipal water and sewer. The recommended Overlay District would include the areas bounded on the north by Dow Road, assuming that Dow Road extends to the Merrimack River; easterly by the Merrimack River; southerly by a line along Robinson Road, assuming that Robinson Road extends to the River; and westerly along I-93, as well as the Residentially Zoned areas east of the I-93 and west of the Merrimack River. The lot size would be of a greater density (4,000 sqft per dwelling unit) with significant buffers and recreational space requirements. \$

- 17) Create specific requirements for the establishment of a campground in Bow, including the amenities, recreational opportunities, infrastructure, and policies that must be put in place. \$
- 18) Bow should create a Bridge Policy that would outline design and construction standards for new and/or renovated bridges. \$

To be completed by March 2009 or sooner

- 1) Review the current slope development standards to ensure the protection of the environment and safety in both the short and long term, as well as the aesthetics from both near and far observation points within the Town. \$
- 2) Create a comprehensive pedestrian and bicycle facility plan for the commercial/industrial areas of Town and incorporate the plan into the Site Plan Regulations. \$
- 3) Research the development of a Housing Linkage Ordinance and/or a Child Care Linkage Ordinance, which would require commercial and industrial developments of a certain size and/or workforce to contribute land and/or money for the development of affordable housing and/or provide space and/or money for the development/expansion of child care facilities within Bow. \$

To be completed by March 2011 or sooner

- 1) Include “air quality impacts” in the Site Plan Regulation checklist. \$
- 2) Encourage energy efficient design of new buildings in the Site Plan Regulations for the Business Development District. \$
- 3) Soil/Bedrock
 - Through the Subdivision and Site Plan Review Regulations, require new developments to submit site specific soil data to ensure that new developments have adequate carrying capacity for such proposed uses. Site specific data submittals should be consistent with "Requirements for Soils and Wetlands Data in Subdivision and Site Plan Review Regulations" prepared by the New Hampshire Office of State Planning in 1999. \$
 - Require, through the Subdivision Regulations and/or Site Plan Regulations a complete analysis of the impact on the bedrock resources when a major subdivision or large scale development proposes to use or alter the natural bedrock structure to ensure that the water resources within the bedrock will not be adversely affected. \$
 - Consider including soil based lot sizing requirements into the Zoning Ordinance, as outlined in the 1997 Rockingham County Conservation District "Ad-Hoc Soil Based Lot Sizing Study,” as amended, to ensure that development is compatible with the soil being built on. \$
- 4) Research the development of Employer Assisted Housing - with the Town of Bow as the employer - that would benefit and be made available only to municipal employees (teachers, police officers, Highway Department, etc.). \$\$

PRIORITIZED RECOMMENDATIONS – NON-REGULATORY

The recommendations are broken down and prioritized by the timeframe in which they are to be accomplished. The recommendations are further prioritized by their desirability, as determined by the Community Survey, Visioning Session, and Subcommittee responses, as well their associated costs.

The timeframe in which the categories were broken down into are “To be completed by March 2005 or sooner,” “To be completed by March 2007 or sooner,” “To be completed by March 2009 or sooner,” “To be completed by March 2011 or sooner,” and “On-going recommendations.”

Each recommendation is coded as to its projected cost to the Town, with \$ indicating little to no cost (\$0.00 - \$50,000), \$\$ moderate cost (50,000-250,000), and \$\$\$ indicating a higher cost (\$250,000 +) to the Town to carry out the recommendation.

For each recommendation, a responsible party/parties have been identified to initiate/implement the recommendation listed, with the responsible party being the first entity listed. This does not mean that other committees, organizations, boards, and/or individuals can not take the lead if they so desire.

The recommendations were categorized based on realistic expectations and input from the Subcommittee, Steering Committee, and Planning Board meetings. ***The timeframes are flexible and can be adjusted depending on town priorities, cost, Committee and Board preferences, and other outside circumstances.***

BAKER FREE LIBRARY

To be completed by March 2005 or sooner

- 1) Review current hours of operation and look to expanding hours based on the Library survey responses received. Review staffing increases that would be required to accomplish this task and plan appropriately. **\$ Library**
- 2) Provide additional adult programs, such as music and art activities, author book signings and reading events, and topic seminars. **\$ Library**
- 3) Provide additional children's programs, such as a parent/child book club and more activities for older children. **\$ Library**
- 4) Add a DVD movie selection and more books on CD to the Library circulation. **\$ Library**
- 5) Allow patrons to access the Library circulation of other area libraries through the Baker Free Library. **\$ Library**

To be completed by March 2007 or sooner

- 1) Investigate the cost and design associated with developing the downstairs space for programs and meeting space. **\$ Library**

BOARD OF SELECTMEN

On-Going Recommendations

- 1) Evaluate the future distribution of services that would be necessary as the Town approaches build-out and the necessity of increasing staffing levels/equipment/locations accordingly. **\$ Board of Selectmen**
- 2) Extend/Improve water, sewer, and road infrastructure into portions of the Municipal Water and Sewer Study Area that can financially support operating costs and/or create new economic development opportunities. **\$\$\$ Board of Selectmen, Bow Economic Development Corporation, Bow Business Development Commission**
- 3) Work with the City of Concord to negotiate a higher amount of reserved capacity at the sewer facility in Concord. **\$ Board of Selectmen**
- 4) Extend municipal water service into the South Street, Hall Street, and Bow Junction areas. **\$\$\$ Board of Selectmen**
- 5) Ensure that the recommendations outlined in the 2003 study for the extension of Municipal water and sewer within Bow are annually reviewed to allow for updating and modification to be made. **\$ Board of Selectmen, Economic Development Corporation, Business Development Commission**
- 6) Work with representatives from the Boston and Maine Railroad line to ensure that increased development in the Business Development, Commercial, and Industrial Districts will be mutually beneficial for both the town and railroad. **\$ Board of Selectmen, Business Development Commission, Economic Development Corporation**
- 7) The Town of Bow should secure land along the Merrimack River to provide access for fishing, swimming, boating, and other activities. **\$\$\$ Board of Selectmen, Conservation Commission, Bow Open Spaces**
- 8) Work with the Towns of Pembroke and Hooksett, the City of Concord, and the NH Department of Transportation on improvements to the regional transportation system to promote economic development in the region. Of particular priority are new and expanded connections among I-89, I-93, NH 3A, and NH 106. **\$ Board of Selectmen**
- 9) Bow should encourage the development of a second means of access from I-93 in the area of the Business Development District. **\$Board of Selectmen, Business Development Commission**
- 10) Improve the on-ramp of the I-89/I-93 North/South interchange to make it safer. **\$ Board of Selectmen**

- 11) Bow should evaluate the potential impacts the widening of I-93 and proposed Northwest bypass in Concord will have in Town, and work to address these concerns before the widening occurs. **\$ Board of Selectmen**
- 12) Cooperate with Concord, Loudon, Pembroke, and Hooksett on incorporating economic development issues into the Bow-Concord I-93 study. **\$ Board of Selectmen**
- 13) Ensure that Bow is represented on and actively participates in the study committee for the I-93 expansion. **\$ Board of Selectmen**
- 14) Actively encourage the retention of full Interstate access in the vicinity of I-89 Exit 1. **\$ Board of Selectmen**
- 15) Consider a 25 mph speed limit in residential neighborhoods. **\$ Board of Selectmen, Public Works Department**
- 16) Consider traffic calming techniques, if appropriate, to minimize traffic speeds and discourage through traffic in neighborhoods. **\$ Board of Selectmen, Public Works Department**
- 17) Review the arrangement between the School Board, the Police Department, and the Department of Public Works to ensure that the sharing of garage bays is the most efficient use of space. **\$ Board of Selectmen, School Board, Police Department, Public Works Department**
- 18) The Town should ensure that the staffing levels are adequate to ensure that all of the necessary planning, zoning, economic development activities, and enforcement activities are being taken care of in a timely manner. If this is found not to be the case, the shifting of job responsibilities of current staff, the outsourcing of services, or the hiring of new staff needs to be considered. **\$\$ Board of Selectmen**
- 19) Consider proposing Class VI roads to be converted to Class A or B Trails, which would aid in the development of a trail network and control development along Class VI roads. **\$ Board of Selectmen, Planning Board**
- 20) Continue to put money into the existing expendable trust to address potential issues with the former town-owned landfills that are located within Town. **\$\$ Board of Selectmen**
- 21) The Town should familiarize itself with state and federal transportation funding programs available to small communities in the event that the CAT expansion goes forward. **\$ Board of Selectmen**
- 22) Bow should work with CAT to investigate the need and interest in creating regularly scheduled public transportation service into and within town. **\$ Board of Selectmen**

- 23) The Town web site should be used as a resource and thus, kept as up to date as possible with meeting agendas and minutes for all town departments and commissions, regulations, permits, fee schedules, and contact information for department and commissions. **\$ Board of Selectmen**
- 24) Continue to fund and expand the “Cemeteries Perpetual Care Fund” for the perpetual care of all town-owned cemeteries. This fund should also include the interest of the private trust funds that have been set up by individuals for the care and maintenance of their plots. **\$\$ Board of Selectmen, Cemetery Trustees**
- 25) Support the development of expanded public transportation service within Town. **\$ Board of Selectmen**
- 26) Work with cultural organizations to explore ways to meet the needs of residents not currently being served. **\$ Board of Selectmen**
- 27) If and when the Recreation Department has more space available to it, move the Child Care facility so that it will be housed with the Recreation Department. **\$\$ Board of Selectmen, Recreation Department**
- 28) Work with cultural organizations to locate presentation and display spaces within the Town to highlight their work and/or programs. **\$ Board of Selectmen, Library**
- 29) Ensure that all necessary steps have been taken in municipal buildings to reduce energy use. **\$ Board of Selectmen, School Board**
- 30) Purchase the most fuel-efficient vehicles possible when buying municipal vehicles. **\$ Board of Selectmen**
- 31) Promote the continued and/or expanded generation of electricity in Bow. **\$ Board of Selectmen**
- 32) Research using alternative forms of energy in its municipally-owned buildings, as well as energy efficient design and products. **\$ Board of Selectmen, School Board**
- 33) Conduct an assessment of whether current child care resources meet the community’s needs for child care. **\$ Board of Selectmen**

To be completed by March 2005 or sooner

- 1) Each Town Department, with particular emphasis on the Fire, Police, School, Recreation, and Public Works Departments, should create a strategic facility plan that covers the next 5-10 years and identifies specific future needs. **\$ Board of Selectmen, Fire Department, Police Department, School Department, Public Works Department, Recreation Department**

- 2) Traffic speed on I-89 south should be reduced through increased traffic enforcement during the peak AM and PM commuting hours. **\$ Board of Selectmen**
- 3) Consider installing a modern roundabout, rather than traffic signalization, to improve traffic operations at the Logging Hill Road/Knox Road/White Rock Hill Road intersection. A roundabout can: lower traffic speed in the town center area; reduce unnecessary delays to all traffic movements during the course of the day; provide for improved pedestrian crossing; substantially reduce accident potential, and be more in concert with maintaining the rural and neighborhood character of Bow. In lieu of a roundabout, multi-way stop sign control would be a possible traffic control measure, if and when the need for this measure arises. **\$\$\$ Board of Selectmen, Public Works Department,**
- 4) Consider establishing a local committee to help solicit ideas and create proposals for the Transportation Improvement Program (TIP) in conjunction with the Planning Board, Selectmen, and Town Administrator. **\$ Board of Selectmen , Planning Board, Public Works Department**
- 5) Establish a permanent Trails Committee, comprised of various interests within Town, in order to oversee the maintenance of any trails that the Town wants to establish and to begin initiating contact with landowners of existing and proposed trails. **\$ Board of Selectmen, Conservation Commission, Bow Pioneers, Planning Board**
- 6) Enter into a working relationship with NH Department of Resources and Economic Development (DRED) representatives of Cilley State Forest and Pages Corner State Forest, which may provide for the linking of Town and State lands through trails. **\$ Board of Selectmen, Trails Committee, Conservation Commission, Bow Pioneers**
- 7) Bow should take part in the PSNH hydroelectric dam re-licensing process to secure conservation and/or recreation benefits for the Town. **\$ Board of Selectmen, Conservation Commission, Planning Board**
- 8) Address the ADA accessibility issues and signage in and around the Municipal Building to ensure that the Town is serving all residents. **\$ Board of Selectmen**
- 9) Re-examine the current user fee schedule for the use of municipal meeting space and structures to ensure that it is adequate, fair in its assessment, and covers the cost of on-going building maintenance. **\$ Board of Selectmen, Budget Committee**
- 10) Create specific roles for the Historical Commission that relates to the education, maintenance, and preservation of historical resources within town. **\$ Board of Selectmen, Historical Commission**
- 11) Dissolve the Town Center Study Committee and establish the Municipal Facilities Committee. **\$ Board of Selectmen**

- 12) Charge the Committee with researching the need for and establishment of municipal facilities not currently located in town. These facilities could include a Post Office, River Park, public safety facility, etc. **\$ Board of Selectmen**

To be completed by March 2007 or sooner

- 1) Identify land for possible community facility expansion and secure the “Right of First Refusal” on those pieces of property. **\$\$ Board of Selectmen, School Board, all town departments**
- 2) Bow should encourage the upgrading of Route 3A and the development of turning lanes in appropriate areas to promote safety and easier access along the corridor. **\$ Board of Selectmen**
- 3) Bow should actively encourage the development of a paved shoulder on Route 3A that can also be used for a bike lane. **\$ Board of Selectmen**
- 4) Pursue measures that would encourage the development and public promotion of the Heritage Trail, including obtaining public access on the railroad and power line corridors, the erection of signage, and acquiring the permission of private landowners where appropriate. **\$\$ Board of Selectmen, Conservation Commission, Planning Board**
- 5) Look at creating a pedestrian loop around the schools, at the elderly housing complex, and from the Middle School, to the Fire Station, and to the High School. **\$\$\$ Board of Selectmen, Public Works Department, School Department**
- 6) Bow should work with regional, state, and federal agencies and programs to prepare a comprehensive transportation plan that includes funding availability for the desired projects and programs. **\$ Board of Selectmen, Public Works Department**
- 7) The timber tax collected by the town should be dedicated for forest management, conservation, natural resources education, and land acquisition activities on behalf of the Town. **\$ Board of Selectmen, Conservation Commission**
- 8) Consider allocating administrative and planning fees, which are paid to the Town by developers, for land acquisition for conservation purposes. **\$ Board of Selectmen, Planning Board, Conservation Commission**
- 9) Create an on-site archival system and storage location for Town documents that is easily accessible and secure. **\$\$ Board of Selectmen**
- 10) Move the duties of the Town-owned cemeteries from the Building Inspector to the Department of Public Works once the Department has a full-time Administrative Assistant in place to help with the logistics and paperwork. **\$ Board of Selectmen**

- 11) The Town-Cemeteries should be mapped to show the locations of all occupied plots, the inscription on the gravestone, a picture of the gravestone, and all purchased but yet unoccupied plots. **\$\$ Board of Selectmen**
- 12) Digital pictures should be taken of all headstones to ensure that the information will be preserved and to create a record for maintenance purposes. **\$ Board of Selectmen, Historical Commission**
- 13) Investigate the desirability and cost of using the Internet to provide services and information from the various departments located within the Municipal Building. **\$ Board of Selectmen**
- 14) Investigate the creation of a new municipal Department(s) to coordinate and facilitate the water and sewer services, allocating the responsibility to existing Departments/staff, and/or the outsourcing of these management activities to a private entity. **\$ Board of Selectmen**
- 15) Research the availability of moving the Historical Commission to another location within the Building or to a new building where their records, materials, and archives can be properly stored and displayed. **\$ Board of Selectmen, Historical Commission**
- 16) Research the need and cost for a Finance Director, Zoning Administrator, and an additional clerk/typist in the Town Clerk's office within the next five years. **\$ Board of Selectmen**
- 17) Work with CAT to provide public transportation for residents in Bow. **\$ Board of Selectmen**
- 18) Promote energy conservation measures in new private developments through tax incentives. **\$ Board of Selectmen**

To be completed by March 2009 or sooner

- 1) Investigate the feasibility, cost, and design for the development of a safety services building that would house the Fire Department and the Police Department and solve many of the facility concerns and inadequacies that these Departments are and will be facing as the Town grows. Include an analysis of what the current buildings could be used for if a new facility were to be built. **\$ Board of Selectmen , Fire Department, Police Department**
- 2) Bow should research funding options for creating and maintaining a local bicycle network. **\$ Board of Selectmen, Public Works Department**
- 3) Consider creating a multi-use cemetery that would include the traditional cemetery uses, as well as open space, walking trails, and picnic areas. **\$\$ Board of Selectmen, Conservation Commission**

To be completed by March 2011 or sooner

- 1) When renegotiating the cable franchise agreement, include a requirement that cable service be provided to all structures along every public street. **\$ Board of Selectmen**
- 2) When renegotiating the cable franchise agreement include a requirement that a community access channel be established that can host a community bulletin board, emergency public announcements, and broadcast public meetings. **\$ Board of Selectmen**

BOW BUSINESS DEVELOPMENT COMMISSION

On-Going Recommendations

- 1) The Town should continue researching and marketing the development of municipal water and sewer along the NH 3A corridor to attract economically viable businesses to locate and/or expand in that area of town. **\$\$ Business Development Commission, Economic Development Corporation**
- 2) Annually review the progress made on the Economic Development Plan and alter the recommendations and implementation timeline accordingly. **\$ Business Development Commission, Economic Development Corporation**
- 3) The Bow Business Development Commission and the Bow Economic Development Corporation should identify critical parcels for future business development and look for funding to purchase such parcels. **\$\$ Business Development Commission, Economic Development Corporation**
- 4) The town should work proactively with landowners on economic development plans to help preserve parcels for future development, where appropriate, and work to assemble small parcels where aggregation would result in more advantageous development. **\$\$ Business Development Commission, Economic Development Corporation**
- 5) An annual in-person survey should be distributed to local businesses to gather feedback and recommendations on how to improve the business development within Town. **\$ Business Development Commission , Economic Development Corporation**
- 6) The Town should keep track of existing, Cottage Industry, and Home Based Day Care businesses in town, to the best of their ability, and encourage those proprietors to take part in the economic development activities of the Bow Business Development Commission. **\$ Business Development Commission, Board of Selectmen**
- 7) Promote the Economic Development Plan through public education activities such as regular articles in the Bow Times and an updated and maintained section on the Town web page. **\$ Business Development Commission, Economic Development Corporation**
- 8) Attract a greater diversity of employers and higher valued economic development to Bow. **\$ Business Development Commission, Economic Development Corporation**
- 9) Preserve Bow's long-term fiscal stability through tax base preservation, expansion, diversification, and residential growth management. **\$ Business Development Commission, Economic Development Corporation, Planning Board, Board of Selectmen**

To be completed by March 2007 or sooner

- 1) A methodology needs to be created that will identify land, based on a set of criteria, to be marketed by the Bow Economic Development Corporation for new and expanded commercial and industrial development. Once these parcels have been identified, the Town should enter into a “Right of First Refusal” agreement with the landowner. **\$\$ Bow Business Development Commission , Bow Economic Development Corporation, Budget Committee, Conservation Commission**

BUDGET COMMITTEE

On-Going Recommendations

- 1) The Town should put aside funding each year for the purchase of additional historic resources, sites, and structures that may become available. **\$ Budget Committee, Historical Commission**

To be completed by March 2005 or sooner

- 1) The Town should annually set aside money for road maintenance, in addition to the funding that is received from the State. **\$\$ Budget Committee, Board of Selectmen, Public Works Department**
- 2) Establish a Capital Reserve Fund within the CIP for improvement of roads critical to commercial and industrial land development. **\$ Budget Committee, CIP Committee**
- 3) Establish a Capital Reserve Fund within the CIP for commercial/industrial land purchases by the Bow Economic Development Corporation. **\$ Budget Committee, CIP Committee**
- 4) Create a permanent funding source for the repair and maintenance of headstones and historic cemeteries located in town. **\$\$ Budget Committee, Bow Historical Commission**
- 5) Create a permanent source of funding for the Historical Commission to preserve, protect, display, and educate residents about Bow's history. **\$ Budget Committee, Historical Commission**

CONSERVATION COMMISSION

On-Going Recommendations

- 1) Work with adjacent towns to protect significant watershed corridors, such as the Merrimack River corridor and Turkey River corridor. **\$ Conservation Commission**
- 2) Work with local and regional land trusts to establish conservation easements on undeveloped land along the Merrimack River. **\$ Conservation Commission, Bow Open Spaces, Board of Selectmen, Five Rivers Conservation Trust**
- 3) Continue active participation in the UMLAC, which addresses the Merrimack River and watershed on a regional level. **\$ Conservation Commission**
- 4) The Town should follow-through with the recommendations outlined in the 2000 *Open Space Trail System Plan for the Town of Bow, New Hampshire*. **\$\$\$ Conservation Commission, Bow Pioneers, Board of Selectmen**
- 5) The Town should, where possible, acquire conservation easements or purchase the land where species or concern exist. Special priority should be given to those corridors that connect currently protected parcels of land in the Town or abutting Towns. **\$\$\$ Conservation Commission, Bow Open Spaces**
- 6) The Town should look to acquire easements at current excavation sites after reclamation takes place, which can serve as recreational areas and/or provide river access for residents. **\$\$\$ Conservation Commission, Bow Open Spaces**
- 7) Annually fund conservation land purchase through the CIP, in addition to the Land Use Change tax money. **\$\$\$ Conservation Commission, Budget Committee, Conservation Commission, Planning Board**
- 8) The funding required for land stewardship should be evaluated for each easement under consideration by the Conservation Commission and money should be set aside each year for this purpose. **\$ Conservation Commission, Bow Open Spaces**
- 9) The Bow Conservation Commission should ask area land trusts to provide technical assistance when contacting landowners and the drafting of easement documents within Bow, and also to provide assistance when working with towns abutting Bow. Partnering with any of the abutting communities to preserve a strategic parcel of land will result in a sharing of the tasks involved and will enhance relations between the towns. **\$ Conservation Commission**
- 10) Maintain the variety and large quantity of wetlands in Bow and ensure that wetlands retain their functional values. The Town should provide for comprehensive protection of the wetlands through regulatory, educational, and voluntary efforts. **\$ Conservation Commission**

- 11) Any reuse of the sand and gravel pits located within the Town should be evaluated as to the appropriateness for the proposed activity, and best management practices should be used to prevent contamination of subsurface water bodies, as well as adjacent streams, ponds, rivers, and/or wetlands. **\$ Conservation Commission, Planning Board, Board of Selectmen**
- 12) Encourage more property owners, including the Town, to manage their properties for wildlife habitat. **\$ Conservation Commission**
- 13) Develop and implement a Bow Wildlife Habitat Protection Program using the document published by the Non-Game and Endangered Wildlife Program of the New Hampshire Fish and Game Department and the wildlife habitat assessment produced by the UNH Natural Resources students. **\$ Conservation Commission**
- 14) Inform landowners, using Town sources of information, about wildlife habitat conservation programs, such as the New Hampshire Coverts Project and the Wildlife Habitat Incentives Program (WHIP). Encourage the Conservation Commission to participate in these programs. **\$ Conservation Commission**
- 15) Educate landowners as to the location of wildlife corridors and conservation land and maintenance techniques that they can employ to help preserve and protect these areas. **\$ Conservation Commission**
- 16) A public education campaign should be carried out and/or combined with other efforts as to the presence of endangered, threatened, and/or species of special concern located within the Town of Bow, and the environmental and societal benefits of such species. **\$ Conservation Commission**
- 17) Provide for comprehensive protection of shoreland through educational and voluntary efforts. **\$ Conservation Commission**
- 18) Evaluate how expanded infrastructure may impact growth, traffic congestion, and air quality in Bow. **\$ Conservation Commission, Planning Board**
- 19) Forest management information should be made available by the Town to private woodland owners to encourage long-term planning and consideration of all aspects of the forest ecosystem, including wildlife and watershed concerns. UNH Cooperative Extension for Merrimack County is an ideal source for forest management information. **\$ Conservation Commission**
- 20) The Conservation Commission should continue to notify abutters prior to the start of a timber harvest in Town Forests. The Selectmen's office and Police Department should also be kept abreast of all planned activities in order to provide information to the public in a timely manner. **\$ Conservation Commission**

- 21) The Town should strive to develop high quality, healthy forest types, whose harvest will produce sufficient incomes to cover management expenses and allow the purchase of additional conservation lands. **\$ Conservation Commission**
- 22) Work with the New Hampshire Department of Environmental Services to do public education in Bow about milfoil, *Phragmites*, purple loosestrife, and other exotic species. **\$ Conservation Commission**
- 23) The Town should request NHDES to provide education to land owners about dam safety. **\$ Conservation Commission**
- 24) The Town should continue to actively participate in the Regional Resource Conservation Committee (R2C2), which addresses conservation issues on a regional level. **\$ Conservation Commission**
- 25) Encourage septic system maintenance by providing information on septic systems in public places throughout Town, such as the Municipal Building and Library. **\$ Conservation Commission**
- 26) Increase public education on air quality issues and specific actions to help improve and maintain air quality in Bow. One way to do this is to encourage the development of public transit, park-and-rides, bicycle and pedestrian facilities to reduce the number of vehicles on the road. **\$ Conservation Commission**

To be completed by March 2005 or sooner

- 1) There should be consistent signage for all town forests and Town-owned Conservation Land. **\$ Conservation Commission, Bow Open Spaces**

To be completed by March 2007 or sooner

- 1) A methodology needs to be created that can be used to proactively identify desirable pieces of land for conservation purposes. Once these pieces of land have been identified, the Town should secure the “Right of First Refusal” with the property owners for the land itself or a conservation easement. **\$\$ Conservation Commission, Bow Open Spaces, Board of Selectmen, Budget Committee**
- 2) Establish a program that encourages the donation of easements for agricultural lands, conservation lands, forestry lands, and open space lands. **\$ Conservation Commission, Bow Open Spaces**
- 3) Identify existing and potential greenways that are in the Town, as well as those that are in abutting Towns that run along the Bow border for protection. **\$ Conservation Commission**

- 4) The Conservation Commission should initiate a public education campaign regarding the proper maintenance of septic systems, water conservation, and low-water lawn care methods. **\$ Conservation Commission**

To be completed by March 2009 or sooner

- 1) Update the Water Resources Protection Plan (1989 last updated) for the Town every ten years and review it annually to ensure that the recommendations and goals are being implemented. **\$ Conservation Commission**
- 2) Adopt a Water Resources Management Plan pursuant to RSA 4-C:19 for the Town of Bow. **\$ Conservation Commission, Planning Board**
- 3) Pursue a regional initiative for source-water protection that includes partnerships with towns adjacent to Bow, the Department of Environmental Services, and non-profit conservation organizations. Measures should also be created to ensure development within the source-water protection areas is conducted in such a way that protects the water resource. **\$ Conservation Commission, Planning Board**

To be completed by March 2011 or sooner

- 1) The Town Forest Management Plan should be updated at least every ten years in order to assess the Plan's effectiveness and adjust the management to the changing demands on the forest resource. The public should be involved in the process to ensure that all concerns regarding the management of the Town Forests are addressed. **\$ Conservation Commission**
- 2) Initiate a regional study to determine the effects of potential contaminants on the water quality of the Aquifer and other community water supplies. **\$\$ Conservation Commission**
- 3) A comprehensive inventory and assessment of scenic areas in Bow should be undertaken. Those scenic views identified should be protected. **\$ Conservation Commission**

HISTORICAL COMMISSION

On-Going Recommendations

- 1) The Historical Commission should investigate the designation and placement of additional State and Local Historic Markers at sites within Town. **\$ Historical Commission**
- 2) Establish a permanent source of funding for the maintenance of the existing, and the establishment of new, State and Local Historic Markers, as well as the printing and distribution of material about the Markers. **\$ Historical Commission, Budget Committee, Board of Selectmen**
- 3) The Historical Commission should increase education about the importance of historic buildings through the use of historic photographs and brochures to be displayed at the various historic buildings and in other public places. **\$ Historical Commission**
- 4) The Historical Commission should increase public education regarding the location and significance of State and Local Historic Markers in Bow. **\$ Historical Commission**
- 5) Ensure that important archeological artifacts are preserved using best management practices and accepted standards. **\$\$Historical Commission, Board of Selectmen**
- 6) Encourage the use of the town-owned historic building for the education and display of historical resources, i.e. maps, documents, books, artifacts, etc. that can be accessible to the public for their use and research. **\$ Historical Commission, Board of Selectmen**
- 7) Support the preservation of archeological resources in Bow by private, non-profit, and/or municipal entities. **\$ Historical Commission**
- 8) Support individuals and businesses that may want to purchase historic structures by making architectural and historical resource materials available to them. By providing these materials to property owners whom are interested in acquiring historic structures, you are helping them understand the structures historic and long-range value to the Town and the importance of its preservation. **\$ Historical Commission**
- 9) Support individuals and organizations that are proposing sites in Town to be placed on the National Register or the New Hampshire State Register of Historic Places by providing applicable information and resources. **\$ Historical Commission**

To be completed by March 2005 or sooner

- 1) Increase focus on maintenance and repairs at the existing town-owned historic buildings in the Capital Improvements Program (CIP), such as: Bow Meeting House – roof repairs and a structural assessment; Center School – reglaze windows, paint exterior of building, fix threshold; Town Pound – rebuild; Green Cemetery – fence post restoration. **\$\$\$ Bow Historical Commission, Budget Committee, CIP Committee**

- 2) The oversight of alterations to and the preservation and care of the historic cemeteries located in Bow should belong to the Bow Historical Commission. **\$ Bow Historical Commission, Board of Selectmen**
- 3) The Bow Historical Commission should have oversight of the maintenance, preservation, replacement, and expansion of the Local Historic Markers in Bow. **\$ Bow Historical Commission, Board of Selectmen**
- 4) Create a standard format for Local Historic Markers so that they are easily identifiable. **\$ Bow Historical Commission**
- 5) Educate the public about the Town's railroad history by republishing and displaying historic maps and pictures. **\$ Bow Historical Commission**

To be completed by March 2007 or sooner

- 1) Create a management plan for all town-owned historic buildings that includes scheduled maintenance and rehabilitation, proposed uses, and funding sources for the preservation of these buildings. **\$ Historical Commission, Board of Selectmen**
- 2) Ensure that historical information located in town – books, papers, artifacts, etc. – are stored using the best preservation and conservation practices, are properly catalogued and accounted for and are accessible to the public, where feasible. **\$\$ Historical Commission, Board of Selectmen**
- 3) Apply for National Register and/or New Hampshire State Register designation for the Old Schoolhouse, Mary Baker Eddy Birthplace, Town Pound, Bow Center, Green Cemetery, Bow Bog Meeting House, Town Hall, and/or Crossroads Community Church, as well as others. **\$ Historical Commission, Board of Selectmen**
- 4) Create a map of the local historic sites, with information about each one that can be used for self-guided tours. **\$ Historical Commission**
- 5) Conduct a detailed inventory of all historic cemeteries in Town, which include photos of the headstones, a map of each cemetery with the layout, a copy of what each headstone says, and an assessment of the condition of each headstone at the time of inventory. **\$ Historical Commission**
- 6) Create a database of all information available on the Town's history that is held by various organizations and Departments, both within the Town and at other State locations, and make the database available to the public. **\$ Historical Commission**

PLANNING BOARD

On-Going Recommendations

- 1) Review the predictions made by the Build-Out Analysis, and project future staffing, buildings, and equipment needs accordingly for all municipal departments/services. \$ **Planning Board, Board of Selectmen**
- 2) Roadway widening for turning lanes, by-pass shoulders, and deceleration lanes should generally be limited to the highest speed arterials such as NH Route 3A and Clinton Street. Installation of such lanes on other arterials should be discouraged, unless a substantial need is determined, at a specific location, by a qualified engineering study. \$ **Planning Board, Public Works Department**
- 3) Establish a goal of 20% of Bow's new housing units over the next 10 years to be multi-family, which could include affordable and market-rate housing that may or may not be age-restricted. Annually evaluate the progress and update regulations and Ordinances accordingly. \$ **Planning Board**
- 4) Work with the New Hampshire Community Loan Fund, State agencies, and non-profit organizations to ensure that any proposed manufactured housing parks and subdivisions use Best Management Practices. \$ **Planning Board**
- 5) Encourage the development of affordable housing POS-RD through the Town acquisition of the open space land from the developer and placing it in permanent conservation. \$\$ **Planning Board, Conservation Commission, Bow Open Spaces**
- 6) Consider donating appropriate town-owned land to nonprofit housing organizations for the development of affordable housing within Bow. \$ **Planning Board, Board of Selectmen**
- 7) The local bicycle network should be developed that connects with the regional network and incorporates key locations within Town, such as the library, schools, existing trail system, and snowmobile network. \$\$ **Planning Board, Public Works Department, Trail Committee**

To be completed by March 2005 or sooner

- 1) A packet of information to be given to potential businesses and developers should be created that explains the land development regulations, the Planning Board and Zoning Board meeting schedules, a checklist of requirements for Site Plan applications, important dates for submission to the Boards, building permit information, and contact information for Town Departments and Staff. **\$ Planning Board, Business Development Commission**
- 2) The Planning Board should hold meetings twice a month, instead of the current once a month meeting, to facilitate a more expedited process for applicants and make the Planning Board meetings more manageable. **\$ Planning Board**

To be completed by March 2007 or sooner

- 1) Adopt an Energy Conservation Code as one of the building codes enforced in Bow. **\$ Planning Board**

To be completed by March 2009 or sooner

- 1) Bow should adopt and support the statewide and regional bicycle networks and take available steps to help implement them within Town. **\$\$ Planning Board, Public Works Department**

POLICE DEPARTMENT

On-Going Recommendations

- 1) The Police Chief, Fire Chief, and Director of Public Works should annually review accident locations and determine enhancements that could be made to improve safety. This list of enhancements should be submitted to the Town Highway Safety Committee, Planning Board, and Board of Selectmen for review, prioritization, and endorsement. **\$ Police, Fire, and Public Works Department, Highway Safety Committee**

To be completed by March 2005 or sooner

- 1) Improve police accident reporting procedures to ensure that all motor vehicle accidents are reported with location specific information to better help assess transportation infrastructure needs in the future. **\$ Police Department**

To be completed by March 2007 or sooner

- 1) Investigate the cost and location for the creation of an impoundment area for confiscated vehicles and material, which is too large to store inside the station. **\$ Police Department**
- 2) Investigate the cost, engineering, and location for the creation of a sallyport for the safe transport and unloading of suspects from Police Department vehicles to the Police facility. **\$ Police Department**
- 3) Investigate the cost, engineering, and location for the creation of a car port area for Police Department vehicles. **\$ Police Department**

PUBLIC WORKS DEPARTMENT

On-Going Recommendations

- 1) Upgrade the four railroad crossings to ensure pedestrian, bicyclist, motorist, and railroad safety, if necessary, within the Business Development, Commercial, and Industrial Districts. **\$\$ Public Works Department, Board of Selectmen**
- 2) Ensure that street signs are located at all intersections, are visible, and are properly maintained. **\$\$ Public Works Department**
- 3) The Director of Public Works should periodically inspect the nighttime reflectivity of traffic control signs. Key signs such as STOP signs should be prioritized for replacement when nighttime reflectivity becomes ineffective. **\$ Department of Public Works**
- 4) Traffic signalization should be discouraged on all town roadways except along NH Route 3A and Clinton Street. **\$ Public Works Department, Board of Selectmen**
- 5) Consideration for roadway widening for turn lanes and deceleration lanes should be limited to intersections with arterial streets. **\$ Public Works Department, Planning Board**
- 6) During the reconstruction or upgrading of a road, the Department of Public Works should consider widening, striping, and paving the shoulders of Town arterial and collector streets to accommodate bike lanes and foster pedestrian safety. **\$\$ Public Works Department**
- 7) All streets, regardless if they are public or private, should be built according to standards adopted by the Town, with flexibility allowed for certain cases. **\$\$ Public Works Department, Planning Board**
- 8) Traffic counts should be reviewed and analyzed to identify roads that have shown an increase in traffic over the years with additional traffic counts conducted yearly. **\$ Public Works Department, Planning Board, Board of Selectmen**
- 9) Specific traffic counts should be done along NH 3A in order to assess increased business development activity on traffic volumes. **\$ Public Works Department, Board of Selectmen, Planning Board**
- 10) Thought should be given to the locations of the traffic counts and time of the year chosen to conduct them each year in order to gather information which can be analyzed to develop trends in traffic volumes for roads within Town. **\$ Public Works Department, Board of Selectmen, Planning Board**

- 11) The Director of Public Works should periodically monitor the bridges in Town that are Town-owned and provide findings to the Planning Board, Board of Selectmen, Town Manager, Highway Safety Committee, and NHDOT for their review. **\$ Public Works Department**
- 12) Bow should coordinate with NHDOT in the repair, replacement, and/or upgrading of bridges that have a Federal Sufficiency Rating (FSR) of less than 80. **\$\$ Public Works Department**

To be completed by March 2005 or sooner

- 1) The Road Management Plan should be updated annually with a public hearing to gather input from residents and businesses in Bow. **\$ Public Works Department**

To be completed by March 2007 or sooner

- 1) Survey and document the ROW for town roads, as needed. **\$ Public Works Department**
- 2) Encourage the utilization of appropriate methods to reduce the potential for road salt contamination of water resources, including: reduced salt usage, use of alternative deicing materials, and/or the development of roadside features to contain, redirect, and or treat street runoff. **\$\$ Public Works Department**
- 3) Create a plan for the maintenance and replacement of existing guardrails within Bow. **\$ Public Works Department**

To be completed by March 2011 or sooner

- 1) Improve the road system serving business development areas, particularly areas to be served by municipal water and sewer. **\$\$\$ Public Works Department**
- 2) Increase the size of street name signs to a standard eight-inch height for increased visibility and name recognition to passing traffic. **\$\$ Public Works Department**
- 3) Investigate existing right-of-way and pavement widths to plan for the incremental expansion of a contiguous network of bicycle shoulders, with a priority given to the arterial street network. **\$ Public Works Department**
- 4) A local and regional bicycle and pedestrian network should be developed that allows residents to access major points of interest in Town and abutting towns safely and efficiently. **\$\$\$ Public Works Department, Planning Board, Board of Selectmen**

RECREATION DEPARTMENT

On-Going Recommendations

- 1) Evaluate the facilities needed for the current and future program needs and determine the best way to provide a facility that will meet those needs. **\$ Recreation Department**
- 2) Evaluate the need for expanding services as the Town approaches full Build-out and assess available Town property for services/fields/facility expansion. **\$ Recreation Department**

To be completed by March 2005 or sooner

- 1) Create an accounting system that assigns costs for all Department expenditures and tracks income by program area. **\$ Recreation Department, Budget Committee**
- 2) Create a plan for the expansion of the irrigation of Hanson Park fields that will not cause abutting property owners to have a decrease of well water pressure or supply. **\$ Recreation Department**
- 3) Examine the current user fee schedule for Department activities to ensure that they are adequate and assessed in a fair manner. **\$ Recreation Department**

To be completed by March 2007 or sooner

- 1) Build athletic fields on part of a property off of Allen Road. A warrant article for little league fields was voted on at Town meeting in 1999 and there was public support for it. **\$\$\$ Recreation Department**
- 2) Explore the possibility of lighting some of the existing fields for night-time use by town entities and/or renting the fields to raise revenue for other field expansion/maintenance activities. **\$ Recreation Department, School Department, Board of Selectmen**
- 3) Investigate the feasibility of accepting Recreation Department program registrations and payments on-line. **\$ Recreation Department**

RECYCLING COMMITTEE

On-Going Recommendations

- 1) Help keep household hazardous waste out of the Wheelabrator Incinerator in Penacook by holding household hazardous waste days annually. **\$ Recycling Department, Board of Selectmen**
- 2) Provide public education materials about the benefits of recycling, including the environmental, public health, and cost savings to the community. **\$ Recycling Committee**

To be completed by March 2005 or sooner

- 1) Bow should investigate opportunities for low-cost ongoing paint collection and disposal, electronic equipment collection, and household hazardous waste collection in cooperation with abutting communities and the Department of Environmental Services. **\$ Recycling Committee, NH DES**
- 2) Investigate the costs and benefits of the Town providing the municipal waste collection and disposal service for residential households, instead of using a private contractor. **\$ Recycling Committee, Board of Selectmen**
- 3) Research the costs and benefits of implementing a Pay-As-You-Throw (PAYT) solid waste and recycling collection system. **\$ Recycling Committee**

SCHOOL BOARD

On-Going Recommendations

- 1) If school expansion becomes necessary, investigate the possibility of expanding the existing facilities, using existing town-owned land, and/or purchasing new land for the construction of new school buildings. **\$\$\$ School Board, Board of Selectmen**
- 2) The School Board and Board of Selectmen should work together to proactively plan and pay for additional school facilities in a timely manner. **\$ School Board, Board of Selectmen**
- 3) Continue to coordinate the use of school facilities and resources with other town interests, including athletic fields. **\$ School Board**
- 4) In general, the recreational fields within town are overused. The feasibility, cost, and time constraints on the use of all existing fields for the Parks and Recreation Department and school activities needs to be examined and coordinated. **\$ School Board, Parks and Recreation Commission**
- 5) Continue to participate in and enforce the anti-idling policy for school buses. **\$ School Board, Police Department**

TRAILS COMMITTEE

On-Going Recommendations

- 1) The Town should acquire easements and/or land for the development of a continuous trail network throughout Town. **\$\$\$ Trails Committee**
- 2) Investigate the availability of grant money to expand and enhance the trail networks located in Bow. **\$ Trails Committee, Conservation Commission, Bow Pioneers**
- 3) Develop, erect, and maintain parking and trailhead signage for all official trails and Town Forests in town, where feasible. **\$\$ Trails Committee, Conservation Commission, Public Works Department**
- 4) Link the Town Forests to one another by using existing trails or rights-of-way, by seeking easements, or by obtaining landowner permission for a pathway. **\$\$\$ Trails Committee, Conservation Commission, Bow Open Spaces**
- 5) Work with the Bow Pioneers to approach landowners for permission to develop more winter use trails in conjunction with the existing and potential trails opportunities. **\$ Trails Committee, Conservation Commission**
- 6) Work with Bow Pioneers to incorporate some of the existing winter snowmobile trails, as appropriate, into an overall trails network for Bow. **\$ Trails Committee, Conservation Commission**
- 7) Update the Regional Bicycle Plan in cooperation with the Regional Planning Commission and neighboring municipalities. **\$ Trails Committee**
- 8) Continue to encourage maintenance of existing public trails by creating educational programs and providing support for interested individuals to do so. **\$ Trails Committee, Conservation Commission, Trails Committee, Bow Pioneers**

To be completed by March 2007 or sooner

- 1) Publicize the public trails within Town by publishing a brochure, creating a trail-specific map series, and/or by holding special events. **\$ Trails Committee, Conservation Commission, Bow Pioneers**
- 2) Create a cooperative trail creation and maintenance relationship with the Bow Pioneers, the school, Bow Open Spaces, Rotary Club, and other civic organizations. **\$ Trail Committee, Conservation Commission**
- 3) Undertake an on-foot survey of all Class VI roads within Town to gauge their ability to sustain certain types of trails usage. **\$ Trails Committee, Conservation Commission**

- 4) Investigate the use of Class VI roads and discontinued rail beds as greenway/trail/wildlife corridors that could be used to link existing open space and recreational lands. **\$ Trails Committee, Conservation Commission**
- 5) Obtain permission from appropriate parties for public, non-winter recreational uses of powerline corridors. **\$ Trails Committee, Conservation Commission, Board of Selectmen**

To be completed by March 2011 or sooner

- 1) Develop a trail that leads from VanGer Drive to Walker Forest, using existing rights-of-way, in cooperation with abutting landowners **\$\$ Trails Committee, Conservation Commission**
- 2) Create a trail linkage from the Town-owned land off of Rosewood Drive to the Nottingcook Forest, with the permission of private landowners. Develop a trail in Nottingcook Forest from the Woods Roads trail in the eastern corner southeast to the edge of the Forest property. **\$\$ Trails Committee, Conservation Commission**
- 3) Create a looping bog walk trail, with a suspension bridge, on the Turee Island Lot off of Birchdale Road. **\$\$ Trails Committee, Conservation Commission**
- 4) Develop a trail from the Walker Forest woods road, down through the recreational easement following Brown Hill Road and onto Class VI Giles Road to the Dunbarton town line. **\$\$ Trails Committee, Conservation Commission**

APPENDIX A

**PROGRESS TOWARD IMPLEMENTING
GOALS AND OBJECTIVES OF THE
1992 BOW MASTER PLAN**

PROGRESS TOWARD IMPLEMENTING GOALS AND OBJECTIVES OF THE 1992 BOW MASTER PLAN

Below are the goals and objectives statements from the 1992 Bow Master Plan. The statements in *italics* are a summary of progress made by the Town toward implementing each of the goals and objectives.

Goal I. Commercial and Industrial Development

The development of businesses in the commercial and industrial zones should be encouraged in order to broaden the Town's tax base and provide for additional employment opportunities. It is important that this development be accomplished while preserving the Town's character.

The Business Development Commission received funding and prepared the Town of Bow Economic Development Strategy (2000). The strategy called for infrastructure improvements for transportation, water, and waste-water. The Town created an business development area road improvement capital reserve fund with annual \$100,000 deposits. A water and waste-water plan was prepared and the 2002 Town Meeting authorized \$12,500,000 in bonds for a municipal water system and waste-water collection and transport system.

Objectives:

- A. Study the feasibility of Town-developed commercial or industrial parks. Consider land currently owned by the Town for development of such parks.

The 2002 Town Meeting authorized the use of the exhausted Town sandpit on 3-A to be used for a business park.

- B. Determine whether additional areas need to be zoned for commercial, industrial, or retail development along the interstate (I-93 and I-89) corridors.

The Economic Development Strategy identified areas to be considered for business development. The 2001 Town Meeting created the Business Development District in the area east of I-93 north from the Hooksett town line.

- C. Discourage mixed use in the commercial and industrial zones.

The comprehensive rezoning of 1998 eliminated principal residential uses in most non-residential zones.

- D. Provide adequate funding for infrastructure improvements needed to foster business development. Any business development related infrastructure improvements should only be completed if the construction and maintenance costs can be supported over the long term by the businesses benefiting from these improvements.

See the general statement above.

- E. Include among infrastructure improvements an expanded sewer system and a water system to service the business zones.

See the general statement above.

- F. Maintain necessary land use regulations to encourage business development without compromising environmental and safety requirements.

See Business Development District under B. above.

- G. Require future development in commercial, industrial, and retail zones that construction of buildings and landscaping enhance the aesthetic quality of the property and complement the Town's desired character.

In 2001, the Planning Board adopted aesthetic standards for all non-residential development.

- H. Determine whether tax incentives are needed to promote business development.

Enabling legislation does not exist to provide tax incentives.

- I. Determine the need for and location of a fire substation in the vicinity of Robinson Road/Route 3A to provide the business zones with adequate fire protection.

The Fire Department currently plans to serve the Town from one central fire station.

- J. Provide the Business Development Commission with adequate financing and support.

Since 1997, the BDC has had staff support and has received funding for the economic development strategy and for the water and waste-water plan.

Goal II. Rural and Historical Character

The Town should preserve its rural and historical characteristics.

Objectives:

- A. Protect the Town's historical characteristics through land use regulations. (This could be accomplished by establishing an historic overlay zone, using easements, purchasing development rights, or a combination of the above.)

No specific projects. The Historic Commission has been documenting historic resources.

- B. Develop and incorporate aesthetic guidelines into the land use regulations for new residential developments.

No specific regulations have been developed.

- C. Provide the Historical Commission with adequate financing for preservation of historic sites, including but not limited to, the Old Town Hall and Old School House, Bow Bog Meeting House, Baker Free Library, and also encourage the preservation of other historical sites such as the Mary Baker Eddy birthplace.

Separate budgets are in place for specific facilities. The Baker Free Library recently underwent a \$1,250,000 renovation and addition. The Bow Bog Meeting House also recently had repair work done.

- D. Maintain and protect the Town's scenic roads.

Tree removal and projects affecting stone walls are regulated by the Planning Board on all or portions of Branch-Londonderry Turnpike, Putney Road, and Woodhill-Hooksett Road.

Goal III. Real Estate Development Impact Fees

The town should ensure that developers of new real estate developments bear their fair share of costs related to expanded town facilities, infrastructure, and services necessitated by the development.

The 2001 Town Meeting adopted an impact fee ordinance which authorizes the Planning Board to impose proportionate development impact fees.

Objectives:

- A. Continue to review the impact of large real estate developments to determine additional cost of town-related services.

Large real estate developments are routinely assessed site specific impact fees.

- B. Assess developers an impact fee based on the related increase in the cost of town facilities, infrastructure, and services.

The impact fee ordinance includes a school impact fee for all new residential development. No other town-wide impact fees (e.g. fire, library, police, roads, municipal buildings, etc) have been adopted.

Goal IV. Open and Recreational Space

Sufficient open and recreational space should be preserved from future development. In addition, the quality of this space should be protected from any potential environmental risk.

The Town currently owns approximately 3,000 acres of open space (up from 1,133 acres in 1992). Major residential developments (more than 2 lots) are required to contribute to recreational projects.

Objectives:

- A. Define what is sufficient open and recreational space.

No specific project

- B. Provide the Conservation Commission with adequate funding to purchase environmentally sensitive properties, recreational land along the Merrimack River, and to increase the amount of protected open space. Coordinate this funding with the Capital Improvements Plan.

100% of the proceeds from the land use change tax are dedicated to open space. Currently, this funding is dedicated to paying off the bond used to purchase the Nottingcook Forest. Once bonding is satisfied, proceeds can be coordinated with the CIP.

- C. Provide the Conservation Commission with funding necessary to maintain Town-owned conservation land.

Proceeds from timber harvests on town owned land are used for timber management and planning.

- D. Provide the Parks and Recreation Commission and Department with adequate funding to maintain its existing parks and recreation facilities, both indoor and outdoor.

The Recreation Commission and Department offer extensive programs and receives funding to maintain its facilities.

- E. Provide the Parks and Recreation Commission and Department with funding necessary to acquire and develop new parks including indoor and outdoor public recreation facilities. Coordinate this funding with the Capital Improvements Plan.

All major residential developments are required to contribute to the recreational facilities of the town. Multi use and little league ballfields are proposed for the newly acquired land off of Allen Road.

- F. Require that new developments provide for continued use of any recreational trail system located on the property. Protect such trails through the use of recreational easements.

Existing recreational trails are routinely protected during the review process for residential development. Easements are encouraged

- G. Expand bicycle and nature/walking trails. Consider expansion of these trails on town-owned land.

Nature trails have been developed through the Town Pond/School Forest and the Nottingcook Forest.

- H. Require that conservation easements, where necessary, complement the efforts of the planned Heritage Trail (statewide walking trail system along the Merrimack River).

Efforts were made to obtain easements along the proposed trail but they were not very successful. There are some landowners who gave permission to create the trail but no official easements have been acquired. Efforts are underway to evaluate the continuation of the trail through Bow

- I. Provide improved access to the Merrimack River and Turee Pond for recreational use. Coordinate this effort with adjacent communities, state, and federal agencies.

A parcel was acquired in 2002 by the Town for access to the Merrimack River. The boat ramp on Turee Pond has been improved. PSNH provides Merrimack river access at Garvins Falls and south of Merrimack Station.

Goal V. Water Resources

The Town should protect and preserve its water resources. Water resources are an important asset of the community. The wetlands and aquifer ordinances should be enforced.

The Aquifer Protection District was extended to the major groundwater resources east of NH Route 3-A. The Wetlands Conservation and Aquifer Protection Ordinances have been amended to increase protection of water resources, however they are not as effective as they could be in protecting water resources. Since 1997, the enforcement of both ordinances has been broadened through increased oversight by the Planning Board during development review.

Objectives:

- A. Extend sewer service where it is economically and physically feasible to environmentally sensitive areas.

Phase III (Everett Ave., White Rock Hill Rd., Turee View Rd., and Logging Hill Rd.) of the sewer provides service to the three schools and the community building. New development in the area is required to connect to the sewer.

- B. Review the table of uses in the zoning ordinance for compatibility of the zoned land use with the availability and quality of the water resources.

Specific land uses are prohibited or regulated in the Aquifer Protection and Wetland Conservation Districts. INCLUDE INFO AFTER 2003 TOWN MEETING

Goal VI. Residential Housing

The Town should have adequate housing for all income levels. The location and development of different types of housing units should take into account soil conditions for septic systems or access to public sewer and water services. Residential development plans should provide for the protection of open space and preservation of the Town's character.

Objectives:

- A. Review the two-acre minimum lot size requirement for single family housing. Soil conditions, municipal sewer and water service, and the latest technology in on-site septic systems and wells should be considered in setting rational minimum lot size requirements.

No specific changes have been implemented.

- B. Consider defining a service area for municipal sewer and water services for residential development.

Municipal sewer has been extended into the Town Center area. A failed attempt was made to extend Concord water into the South Street and Bow Junction area. A Bow municipal water system is under development.

- C. Establish zoning for multi-family housing developments. The zoning should provide for the development of low-income and elderly housing. The location of multi-family zoning should be directed in part by future municipal sewer and water service plans, and in their absence, the latest technology in on-site septic systems and wells.

Provisions for the development of multi-family housing (allowed by special exception in residential zone districts) are contained in Section 7.05 of the Zoning Ordinance. Recent zoning revisions have facilitated the development of about 250 elderly housing units, 192 of which should be affordable to moderate income persons and couples.

Bona fide, permanently affordable housing and elderly housing are exempt from the growth management ordinance.

- D. Allow cluster developments in multi-family zones or by special exception in residential zones. Cluster development regulations should specify the maximum density and minimum acreage for such a development plus storage facilities, setbacks, and visual barrier requirements.

Provisions for planned open space - residential developments are in place for single family development.

- E. Allow manufactured housing in multi-family zones. For manufactured housing parks, regulations should specify the maximum density and minimum acreage for the park in addition to storage facilities, setbacks, and visual barrier requirements.

No multi-family zone has been established. Manufactured housing parks and subdivisions are permitted in the Rural zone.

Goal VII. Transportation Systems

The road systems should provide for the safe and efficient flow of traffic throughout the Town. The Town's transportation plan should be maintained in coordination with regional transportation plans.

The Town participates in the regional transportation improvement program.

Objectives:

- A. Sustain the road service plan using Road Surface Management System (RSMS) and incorporate the Highway Safety Committee's recommendations into the annual Capital Improvements Plan.

The town RSMS was updated in 2000. The annual budget for paving and rehabilitation of town roads was recently increased to \$250,000.

- B. Develop guidelines for a controlled access policy for arterial roads under the Town's jurisdiction.

No specific project has been undertaken.

- C. Initiate discussions with Hooksett and the New Hampshire Department of Transportation to fund a joint study on traffic safety concerns due to new and expanded development along Route 3A in Bow and Hooksett. Access roads onto Route 3A and to and from I-93 should be included in this study.

NHDOT prepared a recommended program for improvements to Route 3-A, which is funded in the state Ten Year Plan. The 2002 Town Meeting appropriated \$175,000 for matching funds to design the upgrade to the Bow section of 3-A. The Planning Board has collected impact fees and other contributions to design and construct intersections improvements at Dunklee and Johnson Roads.

- D. Provide the Highway Safety Committee with funding and support to implement these objectives.

The Highway Safety Committee does not currently have a budget line.

Goal VIII. Recycling

Recycling is an important environmental issue to the residents of Bow. These efforts should be expanded to improve the environment.

A curb-side recycling program for household containers and paper was implemented when the Town landfill was closed. The Town has a brush dump on Allen Road and leaves may be taken to Lewis Farm on Silk Farm Road in Concord (Albin Road on the Bow side of the Town line).

Objectives

- A. Continue to maintain the recycling bins at the transfer station.

Recycling containers are maintained at the Public Works Building on Robinson Road. Scrap metal, used motor oil, furniture, household appliances, fluorescent bulbs, and propane tanks may be dropped off.

- B. Consider a mandatory recycling program.

Goal IX. Town Services

Town services should be maintained at levels consistent with those presently provided. The Town services include road maintenance, fire protection, law enforcement, recreation programs, Baker Free Library, snow removal, rescue squad, parks and recreation facilities, transfer station, and cemeteries.

Objectives:

- A. Consider funding recreational programs and facilities through user fees.

User fees provide a substantial portion of recreation program funding.

- B. Manage the various departments effectively to promote efficient use of Town funds.

The Town has operated under the town manager form of government for 12 years.

Goal X. Town Center

Establish a Town Center to provide a central location for town civic activities including municipal offices, schools, fire station, post office, an all purpose community building, and a leisure park. Planning of the Town Center should have a pedestrian orientation and incorporate aesthetics that complement the Town's colonial characteristics.

*A town center plan was prepared and adopted by the Planning Board.
Plans for sidewalks in the town center area are being implemented
through development impact fees.*

Objectives:

- A. Formulate a long-range plan to establish a Town Center. The plan should incorporate existing town owned lands where possible.

See general statement above.

- B. Establish a Town Center overlay zone to implement Objective A.

The Civic Zone district is intended to encourage compatible development.

- C. Coordinate funding for development of a Town Center with the Capital Improvements Plan.

Town Center funding was in the capital improvements plan until 2000.

- D. Provide funding to upgrade the present community building to complement the Town's character.

The roof of the community building was recently repaired. The town center plan calls for a new community building to be constructed across Knox Road on the Town Center site.

Goal XI. Community Planning

The Town should provide for a sound and well-coordinated community planning process.

Objectives:

- A. Review and update all elements of the Master Plan at regular intervals. The Goals and Objectives Statement, statistical information, and projections should be reviewed on a five-year cycle.

The 2003 master plan update is the first comprehensive planning project in 10 years, although the town center plan and the economic development strategy were major planning projects.

- B. Incorporate additional detailed and supplemental plans as part of the Master Plan as directed by the Planning Board.

See Open Space Trail System Plan and Town Center Plan.

- C. Investigate innovative approaches to residential and non-residential development. Make appropriate provisions in the land use regulations to accomplish the goals and objectives of the Master Plan.

In 1998 a comprehensive revision to the zoning ordinance was adopted. Provisions for Planning Open Space - Residential Development and Planned Business Subdivisions have been added to the zoning ordinance and the Business Development District was created from a portion of the General Industrial District. The Planning Board has an annual review process to address needs for zoning updates.

Goal XII. Communication And Cooperation Within Town Government

Town government should support and promote communication and cooperation among the various boards, committees, and commissions.

Objectives:

- A. Develop a system to provide for effective communication within Town government.

All boards and commissions are responsible for soliciting comments from affected town officials. The Planning Board and Zoning Board of Adjustment have established routine processes to solicit such comments.

- B. Maintain an effective level of cooperation among town government organizations. Decisions that affect other boards, commissions, or committees should be reviewed with the affected organizations.

See comment under A. above.

- C. Establish and maintain an historical list of all town related studies.

The 2003 master will include a summary of town studies.

- D. Establish and maintain a library containing the reports of all town related studies.

The consolidation of the offices of Building, Assessing, Planning, and Economic Development has brought many of the reports into one area.

APPENDIX B

DOCUMENT REVIEW
RELEVANT REPORTS/STUDIES

CONSERVATION, PRESERVATION AND OPEN SPACE RELEVANT REPORTS/STUDIES

2002 Significant Wildlife Habitat in the Town of Bow, NH

The report, prepared by University of New Hampshire natural resources students in the NR775 Senior Project class, identifies significant wildlife habitat in Bow. A significant habitat is one that supports rare species, represents a small percentage of the landscape, provides an abundance of food or other resources, provides a buffers for wildlife against the effect of development, and supports several types of habitats.

To show the significant habitats, a series of maps were created using GIS (geographic information systems). The maps show habitats of rare species, unfragmented lands, riparian and large wetlands, and open lands. The methodologies used were those from *Identifying and Protecting Significant Wildlife Habitat: A Guide for Towns and Conservation Groups*.

Along with the maps, lists of potential wildlife species specific to the different habitat types were prepared using the NEWILD computer program.

2002 Tow of Bow Water Investigation Study at Old Ferry Road

This study was to evaluate the potential for the development of a municipal water supply for the Town of Bow. More specifically, it was to look at municipal water availability for the Route 3A Study Area. The development of this Area is contingent upon providing water and sewer facilities. This investigation carefully considered geologic and seismic data, aquifer characteristics, historical and current groundwater quality data, the presence of existing and potential sources of groundwater contamination, and current and former land use activities within the study area that could have an impact on groundwater quality.

In summary, the data collected indicate that the Bow Aquifer (particularly in the area north of Old Ferry Road) has a very high potential for development as a municipal water supply system. It was recommended that the Town take action to secure or, at the very least, adopt some form of land use control to protect the major potential groundwater resources present in the undeveloped areas north and in the vicinity of Old Ferry Road.

2000 Open Space Trail System Plan

The purpose of creating such a Plan is to focus on what needs to be accomplished in order to protect the open space in a community and to create a trail system, which gives residents and visitors alike the opportunity to enjoy and further appreciate the Town's open space.

The Open Space Trail System Plan has three goals to accomplish:

- 1) Inventory existing public lands, easements, right-of-way, and trails;
- 2) Determine where linkages to the lands and trails should be; and
- 3) Provide recommendations on how to obtain linkages and maintain a trail system.

By using a Town's tax maps and associated tax assessor's index, information can be collected on many protected (private and public) properties. Such information about properties would include:

- Conservation land easements and permanently protected lands in the Town;
- Public or private parcels, such as those owned by utility companies, that could potentially be available for public use with landowner permission;
- Parcels such as those that encompass former railroad rights-of-way and utility line easements and those that abut Class VI roads;
- Parcels that have existing non-motorized and motorized trails.

Five maps accompany Bow's Plan. The Base Map shows the names and classifications of all of the roads in Town plus its streams and ponds, while the Topographic Map shows 20-foot contour lines. The Public Lands, Easements, and Rights-of-Way Map shows where the Town-owned land is located as well as other public lands, and the Existing Trail System Map shows where the official and unofficial trails are located within the Town. The last map, the Proposed Open Space Trail System Map, is the culmination of the research and recommendations of this Plan. It depicts existing and proposed trails, trail linkages, and existing conservation and public lands.

After the extensive inventory and data collection process, a series of General Recommendations are made to help the Town retain its rural character, to create a trail system, to encourage a greater sense of community, and to enlarge its undeveloped open space landscape. In addition, specific Recommendations were made based upon the identified opportunities within Town. The opportunities included the wide array of private trails within Town, new trails on existing conservation land, and specific areas to encourage protection from development. In order to assist the Town with meeting these Recommendations of the Plan, comprehensive sections on implementing the Recommendations can also be included.

The following are specific recommendations from the Open Space Trail System Plan:

- Establish a permanent Trails Committee, comprised of various interests within Town, in order to oversee the maintenance of any trails that the Town wants to establish and to begin initiating contact with landowners of existing and proposed trails.
- Adopt this Open Space Trail System Plan as a sub-element of the updated Master Plan.
- Continue to encourage maintenance of existing public trails by creating educational programs and providing support for interested individuals and families.
- Work with the Bow Pioneers Snowmobile Club to learn how to approach landowners and to enter into a cooperative trail creation and maintenance relationship.
- Work with the Planning Board, Conservation Commission, Bow Open Spaces, the Town, and with private landowners to link subdivisions with Town Forests and other open areas.
- Educate the landowners of parcels under current use, particularly owners of those parcels without buildings on them, of the benefits of conservation easements.
- Enter into a working relationship with representatives of Cilley State Forest and Pages Corner State Forest, which may provide for the linking of Town and State lands.
- Pursue appropriate Town-owned parcels as permanent Town Forests or Town Parks through Town Meeting.

- Gain public support by holding a series of public education sessions about land protection, stewardship, what the Conservation Commission, Trails Committee, and Bow Open Spaces do, and about this Open Space Trail System Plan. Alternatives include writing a series of news articles, writing and distributing flyers, or holding one-on-one meetings with landowners.
- Pursue grant funds to help meet the recommendations of this Plan.
- Publicize the public trails within Town by publishing a brochure, creating a trail-specific map series, or by holding special events.
- Review the Zoning Ordinance, Subdivision, and Site Plan Review Regulations to design appropriate amendments in support of these Recommendations.
- Work with the Board of Selectmen to ensure that future recreational easements included as part of new developments are properly recorded.
- Designate any trail, which the Town wants to promote as a “Town” trail as a Class A, or Class B trail.
- Encourage Concord and Hooksett, to the north and south of Bow, to develop their sections of the Heritage Trail.
- Obtain permission from appropriate parties for public, non-winter recreational uses of power line corridors.
- Utilize the power line corridors to connect the Town Forests and the existing trails network after obtaining permission from appropriate parties.
- Develop a trail that leads from VanGer Drive to Walker Forest, using existing rights-of-way, in cooperation with abutting landowners.
- Create a trail linkage from the Town-owned land off of Rosewood Drive to the Nottingcook Forest with the permission of private landowners.
- Create a trail network from Nottingcook Forest that links up with the snowmobile trail along the power line corridor.
- Pursue measures that would encourage the development and public promotion of the Heritage Trail, including obtaining public access on the railroad and power line corridors, the erection of signage, and acquiring the permission of private landowners where appropriate.
- Encourage Town ownership of the PSNH boat ramp and surrounding land to secure permanent public access to the Merrimack River.
- Seek permission from appropriate parties to use the railroad access road for public access to the Merrimack River.
- Create a looping bog walk trail, with a suspension bridge, on the Turee Island Lot off of Birchdale Road.
- Develop a new looping trail around the Page Road Town Forest, then leading to the Village Shore Estates subdivision, Bow High School, and the School Forest using, in part, the existing snowmobile trail.
- Develop a trail from the Walker Forest woods road, down through the recreational easement following Brown Hill Road and onto Class VI Giles Road to the Dunbarton town line.
- Develop a trail in Nottingcook Forest from the woods roads trail in the eastern corner southeast to the edge of the Forest property.
- Develop a trail in Nottingcook Forest south of Woodhill Hooksett Road to facilitate future snowmobile trails.

- Work with the Bow Pioneers to approach landowners for permission to develop more winter use trails in conjunction with the existing and potential trails opportunities.
- Work with Bow Pioneers to incorporate some of the existing winter snowmobile trails, as appropriate, into an overall trails network for Bow.
- Encourage the formation of an Off-Highway Recreational Vehicle (OHRV) club, incorporated with the Attorney General's Office, and obtain appropriate landowner permission should there be interest in motorized wheeled recreational vehicle use in Bow.
- Investigate Cilley State Forest and its borders in Concord to determine its suitability for trails, and if appropriate, investigate the possibility of using the Grist Mill Restaurant parking lot for parking and/or access.
- Undertake an on-foot survey of all Class VI roads within Town to gauge their ability to sustain certain types of trails usage.
- Identify for designation as Class A or Class B trails some of the Class VI roads within Town by working with abutting landowners.
- Work with abutting landowners to share maintenance and monitoring duties of the trails or Class VI roads being used as trails.
- Thoroughly research the status of the discontinued roads within Town.
- Where appropriate and after research has been conducted, use select discontinued roads within Town as linkages to other trails or public lands.
- Promote the Scenic Roads in town as an asset and work to incorporate them into the trails network.
- Conduct research to ascertain if any of the Class VI roads have been voted at Town Meeting as permanently discontinued.
- Assess Pages Corners State Forest to determine its suitability for trails.
- Continue to map parcels that have easements held by the Society for the Protection of New Hampshire Forests (SPNHF) and by other non-local easement holders.
- Erect a sign indicating the existence of the Class VI road/trail that leads from the Class VI segment of West Branch Londonderry Turnpike to Page Road.
- Allow parking for recreational uses adjacent to the Town Forests, and erect signage that indicates parking where is permitted.
- Link the Town Forests to one another by using existing trails or rights-of-way, by seeking easements, or by obtaining landowner permission for a pathway.
- Make the Town Forests accessible to neighborhoods by procuring rights-of-way or recreational easements, or by obtaining landowner permission.
- Link the Town Forests to nearest available roads to maximize public accessibility.

1998 Natural, Cultural, and Historical Resources Inventory of the Central NH Region

This first project funded through the new Regional Environmental Program (REPP), a partnership between the NH Department of Environmental Services and the regional planning commissions, yielded a wealth of information on the natural and historical resources within the Region. The document is an update to the 1974 Natural Resources Inventory of the Central NH Region, which examined physical natural features. Surveys were mailed to public officials in each town, and responses about priorities and current projects were added to the document.

Information collected for each town, including for Bow, includes population, housing units, water resources data, conservation lands, geologic resources data, historical markers and cemeteries. These municipal inventories were given to local Conservation Commissions and Historical Societies for review and comment before the Regional document was compiled.

The Inventory is used as a basis for Conservation and Historical Chapters in the Master Plans for many communities. In addition, many of the features identified in the Inventory are available in a Geographic Information System (GIS) format for mapping purposes.

1998 FEMA Flood Insurance Study

This Flood Insurance Study (FIS) revises and updates a previous FIS/Flood Insurance Rate Map (FIRM) for the Town of Bow. This information was developed to enable the Town to update existing floodplain regulations as part of the Regular Phase of the National Flood Insurance Program (NFIP). Local and regional planners will use the information to further promote sound land use and floodplain development.

The data generated through this report was used to update the floodplain overlay district in Bow's zoning ordinance.

1997 Timber Cruise and Forest Management Plan of the Bow Town Forest System

As of 1997, the Bow Town Forest System contained 13 lots that totaled approximately 1,700 acres. Goals and Objectives for the Town Forest System at that time included:

- Provide enough undeveloped open space to help the Town maintain its rural character;
- Develop high quality healthy forest types for forest management income;
- Provide variety of productive habitats for wildlife species;
- Provide residents with public land for outdoor recreational activities;
- Provide areas for environmental awareness and education; and
- Protect cultural or historical features.

The document contains a detailed description and map of each lot. These details provide the information needed for proper forest management practices, to obtain the optimum timber yield while preserving the special features, of each individual lot.

1997 USGS Geohydrology and Water Quality of Stratified-Drift Aquifers in the Upper Merrimack River Basin, South-Central New Hampshire

This report described the characteristics of the stratified drift aquifers in the Upper Merrimack River Basin, provided estimates of water availability, and described the water quality. The report details the largest and most productive aquifers in the Basin.

In Bow, the "Bow Aquifer" flows south from the confluence of the Merrimack and Soucook Rivers. Other aquifers underlie the Turee Pond area and the Meadows wetlands. A detailed map accompanies the report, and the data are available in GIS format for local mapping. One report of a series, this document alone does not inventory all the aquifers found within Bow.

1989 Bow Wetland Study and Prime Wetlands: A User's Guide

The purposes of this Study were to inventory, map and classify all of the wetlands within the Town greater than one acre in size, evaluate those wetlands that might be designated as “prime” based on their function and classification, and create a “prime” wetlands map. Relevant data about the wetlands was collected through fieldwork in conjunction with the Soil Conservation Service Map of 1965 and was mapped to 1 inch = 1,000 feet, the scale of the Bow Tax Map.

In order to determine which wetlands were potentially “prime” (in accordance with the NH Administrative Rules Chapter Wt 700), the Conservation Commission set as criteria the integrity of the wetland, the extent and nature of development in the watershed, the unique qualities of the wetland, the protection of significant resource systems and wildlife habitat, public opinion, and consolidation of protection for wetlands on/adjacent to town-owned parcels. From a list of 60 wetlands inventoried, eight were selected for recommended designation as “prime”. They are generally located around the Bow Bog Brook, White Brook/Turkey River, and Turee Pond areas.

The Study recommended that an active management plan be produced for each of the eight prime wetlands.

1989 Water Resource Management and Protection Plan

This Plan involved conducting inventories of the watersheds, aquifers, threats to water resources, and the water and sewer infrastructure in Bow. The goals of the Water Resource Management and Protection Plan were to establish a basis for an aquifer conservation zoning district and to provide support for a number of water protection measures.

Non-Regulatory recommendations includes:

- Develop educational and informational programs for the public;
- Coordinate with other towns regarding the use of the Merrimack River;
- Hold household hazardous waste collections; and
- Purchase wetlands and recharge areas for aquifer protection.

Regulatory recommendations included:

- Regulate the land use activities above the stratified drift aquifers;
 - Provide for greater density in areas served by town sewer in the zoning ordinance;
- and

Protect poorly drained or very poorly drained soils from encroachment through zoning.

1987 Aquifer Evaluation Investigation and Development of Groundwater Protection Program

A more comprehensive investigation than what was undertaken for the 1982 Water Resources Study, this document reports the results and recommendations of a scientific hydrogeologic survey of Bow in 1987. The investigation was completed to identify potentially favorable aquifers in Bow that could serve as municipal water supplies and to propose a technically defensible groundwater protection ordinance. Detailed maps were created of the aquifers and of potential contamination sources.

Phases in the process included unconsolidated aquifer delineation, bedrock aquifer delineation, aquifer ranking, and creating exploratory procedures for the highest-potential aquifer areas.

Recommendations of the survey included:

- A public water supply system should be developed to serve the entire Town;
- Future well sites should be located and land secured immediately;
- Unconsolidated aquifers (stratified drift) should be prioritized over bedrock aquifers; and
- The Town should establish a groundwater protection overlay zone.

1982 Water Resources Study

The historical reliance on private wells and water supplies became of concern when concentrated land uses and population growth continued after the 1970s. With a (then) population of just over 4,000 people, the Town believed that a municipal water supply should be sought and secured for future consumption. Test wells were drilled for sampling and analysis and sources of potential contamination were located.

Conclusions of the Study included:

- A major aquifer exists. With a high gravel well located between the Merrimack River and I-93, it could serve as a municipal water supply;
- Many bedrock fractures are found in Bow, with a concentration in the southeastern area;
- Six major drainage basins are found, with Bow Bog Brook Basin the primary;
- Most potential sources of groundwater pollution are found between the Merrimack River and I-93 and consist of stored materials and “dumps”; and
- Very few surface discharges of sewage or industrial waste were found.

Based on these conclusions, it was recommended that a test well program be performed to delineate and monitor the aquifer, that the Town adopts land use controls to protect the aquifer, and that the Town perform groundwater monitoring in areas of potential contamination.

HISTORICAL AND CULTURAL RESOURCES RELEVANT REPORTS/STUDIES

1998 Natural, Cultural, and Historical Resources Inventory of the Central NH Region

This first project funded through the new Regional Environmental Program (REPP), a partnership between the NH Department of Environmental Services and the regional planning commissions, yielded a wealth of information on the natural and historical resources within the Region. The document is an update to the 1974 Natural Resources Inventory of the Central NH Region, which examined physical natural features. Surveys were mailed to public officials in each town, and responses about priorities and current projects were added to the document.

Information collected for each town, including for Bow, includes population, housing units, water resources data, conservation lands, geologic resources data, historical markers and cemeteries. These municipal inventories were given to local Conservation Commissions and Historical Societies for review and comment before the Regional document was compiled.

The Inventory is used as a basis for Conservation and Historical Chapters in the Master Plans for many communities. In addition, many of the features identified in the Inventory are available in a Geographic Information System (GIS) format for mapping purposes.

POPULATION AND ECONOMICS RELEVANT REPORTS/STUDIES

2002 Water and Sewer Business Plan

This memorandum provides a summary of key findings relevant to the creation of a Business Plan for Water and Sewer Services in the Route 3A Corridor. Interviews were conducted with current commercial/industrial businesses in the area to assess their level of interest in the service. A financial analysis was conducted to determine the cost of such facilities, the amount of revenue needed to make it viable, and policy decisions that would be necessary to be successful.

As a result of the analysis, three conclusions could be reached:

- 1) Mandatory tie-ins are considered an absolute necessity to make the project a success
- 2) Rate premiums of 25% will not make the system profitable without a significant high demand user
- 3) Finding an “anchor tenant”/significant user for the system is critical.

2002 Tow of Bow Water Investigation Study at Old Ferry Road

See the Conservation, Preservation, and Open Space Relevant Reports/Studies

2001 Water and Wastewater System Study for the Town of Bow, New Hampshire

The purpose of this report was to conduct a Water & Wastewater System Feasibility Study for the Route 3A Study Area. The Study Area is generally defined as a portion of land located primarily to the east of I-93 and I-89, with additional limited area located off Dow, Knox, and Bow Center Roads.

Based in the development potential of the entire Route 3A Study Area, a 20-year water and wastewater demand of 400,000 gallons per day were projected. There are 2 economically viable options for providing water service to the Study Area and 3 options for providing sewer service. Water can be supplied via an interconnection to the Hooksett Village Water Precinct or through the development of high capacity municipal well located within Bow. Wastewater service is available via interconnections to either the City of Concord or the Hooksett Sewer Commission, or by developing a wastewater treatment plant within Bow.

2000 Town of Bow Economic Development Strategy: Final Report

The underlying purpose of the study was to propose a strategy that serves to broaden Bow’s non-residential tax base and maintain the long-term fiscal stability of the Town. The Route 3A Study Area is located primarily to the east of Interstates 93 and 89, with additional limited areas located off Dow, Knox, and Bow Center Roads. Implicit in this broad objective was the desire to forecast and understand likely future fiscal conditions in Bow, with and without a proactive economic development strategy. The project scope also included a review of options for extending water and sewer infrastructure to portions of the Study Area that are not currently serviced by municipal utilities. Although it was beyond the scope of this project to prepare a facilities plan for water and sewer, the report does provide a preliminary financial screening of alternatives and recommends how to proceed. Finally, the study scope included limited site investigations of two locations, for the possible future development of an industrial/business

park. The preliminary objective of these investigations was to determine whether the Town should develop either location as a component of its economic development strategy.

Based upon the findings of the Report, four objectives were recommended, which are:

- 1) Extend/improve water, sewer and road infrastructure into portions of the study area that can financially support operating costs and/or create new economic development opportunities.
- 2) Attract a greater variety of employers and higher valued development to Bow.
- 3) Increase the average value of existing nonresidential development and partially built-out portions of the study area.
- 4) Preserve Bow's long-term fiscal stability through tax base preservation, expansion, diversification and growth management.

1978 Facility Plan for Wastewater Collection and Disposal

This study is intended to update the 1972 Preliminary Report of Wastewater Collection and Treatment so as to comply with the Federal Water Pollution Control Act amendments of 1972.

1972 Preliminary Report of Wastewater Collection and Treatment

The purpose of this report was to provide engineering recommendations, preliminary design, and cost estimates for the Town of Bow concerning the most suitable and economical means of sewerage and wastewater disposal, as required at present and anticipated future.

The study included a Detailed Study Area and a General Study Area. The Detailed Study Area consisted of the northeast corner of town (Bow Mills-Bow Junction), bounded generally by the Merrimack River on the east; the limits of the immediate drainage area on the south and west; and the town boundary on the north. The General Study Area consisted of the remainder of the town.

The report recommended developing a municipal sewer system in the more densely developed areas of Town, with an eye toward areas of potential growth. The report suggests that Bow share sewerage treatment capacity with the City of Concord, as it was rebuilding its facility at this time, and encouraged cooperation and agreements for such immediately.

HOUSING RELEVANT REPORTS/STUDIES

Regional Housing Needs Assessment

Affordable housing is an issue that is considered and worked on by all levels of government. The Federal government has long been promoting affordable housing through various programs administered by the Department of Housing and Urban Development. State government has promoted affordable housing through the passage of several laws requiring communities to provide affordable housing. Furthermore, New Hampshire has also created several commissions and Departments, such as the New Hampshire Housing Finance Authority, to examine and foster the development of affordable housing opportunities.

Affordable housing is just that – what a family can afford. The current standard states that housing should cost no more than 30% of a family's income in order for there to be enough money for food, clothing, transportation, child care, medical care, etc. A homeowner with a mortgage and taxes of \$1,200/month needs an annual income of \$48,000 (\$23/hour), while a renter with rent of \$832/month (the median cost of a two-bedroom unit in 2001) needs an income of \$33,280 (\$17.53/hour) to remain below the 30% threshold. An estimated 30% of all households (renter and owner) in New Hampshire paid more than 30% of their income for housing in 2000.

State and Local Regulations

The New Hampshire Legislature has promoted the need for communities to develop affordable housing through the creation of NH RSA 674:2,III; RSA 672:1, IIIe; and RSA 674:32.

NH RSA 674:2, III, requires communities preparing Master Plans to include an analysis regarding the existing and anticipated affordable housing needs of the community. This portion of the Master Plan is to be based on the most recent regional housing need assessments, as prepared by all Regional Planning Commissions, in addition to other pertinent data.

NH RSA 672:1, IIIe, specifies the purpose and benefit of local land use regulations and zoning. This section states:

All citizens of the state benefit from a balanced supply of housing which is affordable to persons and families of low and moderate income. Establishment of housing which is decent, safe, sanitary, and affordable to low and moderate income persons and families is in the best interests of each community and the state of New Hampshire, and serves a vital public need. Opportunity for development of such housing, including so-called cluster development and the development of multi-family structures, should not be prohibited or discouraged by use of municipal planning and zoning powers or by unreasonable interpretation of such powers.

Lastly, NH RSA 674:32, bars the regulatory prohibition of manufactured housing and sets specific standards for the location of such housing in all municipalities. This is discussed in more detail in the Manufactured Housing section of this Chapter.

Bow's Theoretical Fair Share of the Regional Affordable Housing Stock

As a result of the growing concern over access to affordable housing, all Regional Planning Commissions in New Hampshire have been charged by the Office of State Planning to develop affordable housing needs assessments for each community, within their region, every five years.

Because of the lack of 2000 Census data when the *Affordable Housing Needs Assessment* report was written, CNHRPC determined that it would be more appropriate to develop estimates based upon a variety of reliable data, rather than base the report on 1990 Census data. The New Hampshire Office of State Planning, the New Hampshire Department of Employment Security, and the New Hampshire Department of Revenue Administration provided the vast majority of the data utilized in the preparation of this assessment.

The analysis conducted in this report utilizes the following formulas and definitions.

Estimated Number of Households at 80% of Median Income

The U.S. Department of Housing and Urban Development defines low to moderate-income households as those that earn 80% or less of the community's median income. To better estimate the number of low to moderate-income households in the central New Hampshire region, a proportion using 1990 census data and 1998 estimated population was developed.

$$\begin{array}{rcccl} \text{Formula} = & \text{1990 Households @ 80\% of} & & & \\ & \text{Median Income} & \times & & \text{X} \\ & \text{-----} & & & \text{-----} \\ & \text{1990 Community Population} & & & \text{1998 NHOSP Est.} \\ & & & & \text{Community Population} \end{array}$$

Averaged Result

The "averaged result" factors the community's share of the regional population, the community's share of the regional job base, the community's share of the regional income (wages paid), and the community's share of the region's total assessed property values. These figures are considered generation and capacity factors for affordable housing. These figures are added together and then averaged into a single figure for purposes of determining theoretical need.

$$\begin{array}{rcl} \text{Formula} = & \text{(Community Share of Regional Population + Community Share of} \\ & \text{Regional Employment + Community Share of Total Regional Wages} \\ & \text{Paid + Community Share of Regional Assessed Value)} \\ & \text{-----} \\ & 4 \end{array}$$

Theoretical Community Share of Affordable Housing for CNHRPC Region

This figure uses the variables of the “averaged result” and the total number of low to moderate-income families, and generates a figure that explains how many affordable housing units a community should theoretically provide based upon generation and capacity figures existing in the community.

$$\text{Formula} = (\text{Averaged Result for community}) \times (13,770^*)$$

*Note that 13,770 is the most recent estimate of the number of low to moderated income households in the Central New Hampshire Region.

Total Credits (a.k.a. the number of affordable housing units existing in the community)

Total Credits accounts for all housing in each community, which is suspected to be affordable. The formula is dependent upon the assumption that all manufactured and multifamily housing units are affordable.

$$\text{Formula} = \frac{(2 \times \text{Number of Multifamily and Manufactured Housing in Community}) + (\text{Estimated Number of Households at 80\% of Community's Median Income})}{3}$$

Future Planning Goal

This figure indicates how many affordable housing units a community should strive to develop in the near future to meet its theoretical share.

$$\text{Formula} = (\text{Theoretical Share}) - (\text{Total Affordable Housing Credits})$$

Based on the affordable housing need assessment conducted by CNHRPC, Bow currently has less than its theoretical fair share of the affordable housing base for the central New Hampshire region. The formula used by CNHRPC indicates that Bow contains approximately 176 units of affordable housing, which is less than its theoretical fair share of 1,072 units. The table below compares Bow’s affordable housing stock and future goals to all other communities in the central New Hampshire region.

Summary of Affordable Housing Needs for the Central New Hampshire Region

Town	Theoretical Community Share of Regional Affordable Housing Stock	Number of Existing Affordable Housing Units	Future Planning Goal (Number of Units Community Should Develop)
Allenstown	392	1,054	0
Boscawen	308	490	0
Bow	1,072	176	896
Bradford	171	147	24
Canterbury	225	75	150
Chichester	236	149	87
Concord	6,150	8,849	0
Deering	167	192	0
Dunbarton	245	103	142
Epsom	415	448	0
Henniker	493	557	0
Hillsborough	563	648	0
Hopkinton	806	416	390
Loudon	502	402	100
Pembroke	735	996	0
Pittsfield	374	772	0
Salisbury	122	69	54
Sutton	190	107	83
Warner	310	317	0
Webster	158	87	71

Source: CNHRPC *Affordable Housing Needs Assessment*, May 2000

COMMUNITY FACILITIES/SCHOOLS RELEVANT REPORTS/STUDIES

2000 School Impact Fee – Final Report

The objective of the report was to prepare a methodology to calculate a proportionate impact fee for public school facilities to be assessed on new residential development in Bow. The implementation of this methodology or fee may be done only with the adoption of an impact fee ordinance. Impact fees are assessments that are implemented primarily to ensure that adequate public facilities remain available to accommodate new growth and to obtain more of the revenues needed for such facilities at the time new development takes place.

1997-2001 Traffic Count Information

As development continues to increase so will traffic volumes. Bow has experienced a large amount of growth in the recent past and as such traffic counts in most locations have increased. Both the Central NH Regional Planning Commission and the NH Department of Transportation have completed many counts in Bow over the years. Some highlights of counts that were completed in the past and more recently illustrate the growth in traffic. The traffic on Logging Hill Road just north of White Rock Hill Road increased from 6,700 in 1998 to 7,846 in 2001. During the same time, traffic on White Rock Hill Road increased from 2,061 to 3,281. Traffic on I-89 has also increased greatly in recent years. At a location between Exit 1 and Exit 2, traffic grew from 29,000 in 1995 to 36,000 in 2000.

TRANSPORTATION RELEVANT REPORTS/STUDIES

2000 Inventory and Assessment of Road Surfaces for Bow, New Hampshire

A road survey and analysis was done using a surface management system (RSMS) for all of the roads in Bow. The steps in RSMS are:

- 1) Inventory the road system, dividing the road into sections
- 2) Determine and document the condition of each road
- 3) Prioritize maintenance and repair requirements
- 4) Choose maintenance or repair methods appropriate to each condition category
- 5) Determine unit costs of these maintenance and repair methods
- 6) Select a maintenance or repair method for each road section
- 7) Establish long-range work and budget plans

Forty-three percent of Bow's paved roads were in need of rehabilitation or reconstruction. Twenty-one percent of other paved and aggregate roads required routine and preventative maintenance, which needed to be done before they deteriorate into poor conditions.

The recommendation given to implement the results of the Road Surface Management System is for the Town budget to be separated into an operations road maintenance account for routine and preventative maintenance and a capital improvements account for rehabilitation and reconstruction.

1997-2001 Traffic Count Information

See the Community Facilities/Schools Relevant Reports/Studies.

Regional Transportation Model

The Central NH Regional Planning Commission is currently updating the Regional Transportation Model. This update will incorporate Census 2000 information and more current and better employment data. Part of this update is also to expand the model geography to include all of Bow and other communities adjacent to Concord. The upcoming Bow-Concord I-93 Improvements project will utilize this model and forecast transportation patterns to sometime around 2030. Other projects that the model has been used on include I-393 construction modeling, the Loudon Road Corridor Study, and the Phase II Northwest Bypass (Pleasant Street to Clinton Street Connector) project.

A transportation model is a tool for examining how traffic moves around an area and more interestingly, how those traffic patterns may be affected by changes to the transportation network. For example, how would the addition of an I-93 Exit between I-89 and the Hooksett Tolls affect traffic patterns? A good Transportation Model would be capable of illustrating how this complex change to the transportation system would affect how people move around Bow. The model would output where traffic would increase or decrease because of this change.

A transportation model is a computer program and just like any program, it is only as good as the inputs and the program itself. Transportation models have been around for a long time and are all based on some common mathematical equations for distributing traffic. Because of this, it is the inputs that really affect how well a transportation model functions. These inputs include employment, average incomes, households, speed limits, stop signs, traffic signals, other road characteristics, survey data, and much more. As part of the model update being completed now, all of these inputs will be refined and updated.

In the model, each community is divided into a series of larger areas called traffic analysis zones. For example in the CNHRPC model, Bow has been initially divided into 14 different zones. A community that is less densely populated, Webster for example, is divided into only four zones. Using these zones and the employment and housing information for them, the model assigns trips to links (roads) from one zone to another. For zones that have a large household population and little employment, the model will assign most trips leaving the zone in the morning, to go to work, and more entering the zone in the evening, returning home from work. The model also assigns trips from places of work to other places of work. This is the major reason why employment is divided into commercial and non-commercial. The model will assign more trips from non-commercial employment bases to commercial employment bases during the lunch hour and after work for errands. Finally, the model also considers congestion by assigning trips in consecutive iterations. During the first iteration all trips may be assigned based primarily on the shortest distance route. For the second iteration, the model begins to account for congestion. If one route is near capacity then the model will shift vehicle to an alternative route that is less congested and thus faster.

The bottom line is that a transportation model is only a tool for better understanding how changes to the transportation system affect the choices people make to move around a region. The model will never predict these choices with complete accuracy, but even without that level of accuracy, models offer the only reasonable way to explore such nuances of complex transportation systems.

10-Year Transportation Plan

The NH 10-Year Transportation Improvement Program is the NH DOT's plan for all road improvements for the next ten years. The 10 Year Plan is updated every two years through a process that begins at the regional planning commission level. Projects located in Bow and adjacent areas in the latest version of the 10 Year Plan include:

Location	Project	Cost	Year
Bow – Concord	I-93 Improvements	\$72,000,000	2010
Bow	Grandview Road-Bridge over I-93	\$500,000	2004
Bow/ Manchester	Rte 3A improvements	\$10,700,000	2010
Bow	Reconstruct Rail Road Crossing at Hall St	\$230,000	2004
Allenstown/Pembroke	US 3 Bridge Reconstruction	\$3,000,000	2006
Concord	Feasibility Study of I-393 Exit 2 ½	\$400,000	2005 (Study)
Hooksett	Pine Street over I-93	\$500,000	2004
Hooksett	Rehabilitate I-93 Rest Area	\$8,500,000	2012

Regional Bicycle and Pedestrian Plan

The Regional Planning Commission's goal in designing a Regional Bicycle and Pedestrian Plan was to help promote a safe and useful bicycle/pedestrian network that encourages intermodal transportation along designated routes in the region. The Regional Plan was intended to supplement the New Hampshire Statewide Bicycle and Pedestrian Plan. The Statewide Plan was developed to serve bicycle travel desires to major inter-regional destinations. The Regional Plan identified other suitable road networks to serve intra-regional bicycle travel. Whereas the statewide system hopes to connect cities, towns, and major tourist destinations, the regional system looks to ultimately connect towns to each other and to the statewide system. The goals of the Regional Bicycle and Pedestrian Plan include:

- ❖ Encourage the planning and development of a safe and accessible regional bicycle/pedestrian route system for recreational and commuting purposes.
- ❖ Establish a continuous, coordinated, non-motorized transportation network that will increase the incidence of bicycling and walking.
- ❖ Reduce the number of bicycle and pedestrian accidents, injuries, and fatalities, particularly those that involve motorists.
- ❖ Create a traveling environment in which bicycling and walking are attractive alternatives.
- ❖ Promote public awareness and acceptance of bicycling and walking as a transportation mode for all destination-oriented trip purposes.
- ❖ Encourage organizations with the appropriate interests/authority to improve traffic safety.
- ❖ Integrate the consideration of the needs of pedestrians and bicyclists with other travel modes into the regular routines and programs of all agencies involved in the transportation planning process.
- ❖ Recommend the development of a system that promotes the use of non-motorized modes of transportation that do not pollute the environment.
- ❖ Help communities in the planning, implementation, and evaluation of local bicycle and pedestrian plans and projects.

EXISTING AND FUTURE LAND USE RELEVANT REPORTS/STUDIES

1998 FEMA Flood Insurance Study

See Conservation, Preservation, and Open Space Relevant Reports/Studies

2000 Town of Bow Economic Development Strategy: Final Report

See Population and Economics Relevant Reports/Studies

2002 Town of Bow Water Investigation Study at Old Ferry Road

See Conservation, Preservation, and Open Space Relevant Reports/Studies

REGIONAL CONCERNS RELEVANT REPORTS/STUDIES

Concord 2020

Concord 2020 addresses the questions, “How much growth?” and “What type of growth do we want to see in Concord in 2020?”

The vision of concentrated development and protected open space was the result of an extensive public outreach and participation process that engaged residents, business people, city and state officials, and the development community in a meaningful dialogue to arrive at a vision that can enhance quality of life, manage growth and is feasible. Five Vision Principles emerged from this planning process and these Principles will guide decision-making in the city for the coming years. These principles are:

- 1) A vibrant, livable downtown
- 2) Neighborhoods served by walkable villages
- 3) Preservation and access to the natural environment
- 4) Economic vitality
- 5) Transportation that serves the community

These Vision Principles are the backbone of a plan that encourages a regional and national understanding that Concord is a place of choice to live, work, and invest. In addition, it is intended to present Concord as a model for the evolution of a historic city into a 21st Century community that retains its historic and natural character while embracing new opportunities.

10-Year Transportation Plan

See Transportation Relevant Reports/Studies

Regional Housing Needs Assessment

See Housing Relevant Reports/Studies

1997-2001 Traffic Count Information

See Transportation Relevant Reports/Studies

Regional Transportation Model

See Transportation Relevant Reports/Studies

Regional Bicycle and Pedestrian Plan

See Transportation Relevant Reports/Studies

APPENDIX C

COMMUNITY VISIONING SESSION RESULTS

COMMUNITY FACILITIES/SCHOOLS CHAPTER BREAK-OUT SESSIONS SUMMARY

Strengths

- ❖ Road Agent (Chum).
- ❖ School system quality.
- ❖ Capital Improvements Program has stabilized the Tax Rate with planning for schools.
- ❖ Library.
- ❖ Social infrastructure- volunteers.
- ❖ Passage of a water and sewer plan.
- ❖ Recycling and hazardous waste programs in place.
- ❖ Recreation program.
- ❖ Town open lands (recreation opportunities).
- ❖ Police and Fire Services. Emergency volunteers.
- ❖ Growth of Selectboard to five.
- ❖ Great new Town Manager.
- ❖ Cemeteries being revised.
- ❖ Recycling and Solid waste Committee has worked out a contract for curb-side pick-up, promoted recycling in schools and town buildings, and held three Hazardous Waste Days.

Weaknesses

- ❖ Location of the Police/Fire Station. Police need better signs.
- ❖ Community Center needs update.
- ❖ No Town Center.
- ❖ No Teen Center or Senior Center.
- ❖ School overcrowding and lack of facilities. School quality of food service.
- ❖ Poor tree/shrub removal.
- ❖ Roads: 93 interchange for Bow. Pedestrian safety at the Town Center, Rte.3-A.
- ❖ Split road maintenance with Concord.
- ❖ Relations with Concord.
- ❖ No Town Dump.
- ❖ Lack of planned space for additional cemeteries and increased fees.

Threats

- ❖ PSNH/Unitil closure
- ❖ Water/Sewer.
- ❖ Destruction of historic values.
- ❖ Traffic.
- ❖ Expanding tax rate.
- ❖ Expanding population and residential development.
- ❖ Rate of growth-facilities can't keep up.
- ❖ Water quality/quantity in certain areas of town.
- ❖ Seniors can't afford to stay in town.

Opportunities

- ❖ Route 3A improvement.
- ❖ Expand school capital improvement.
- ❖ Identify historic resources and preserve historic values.
- ❖ Traffic planning.
- ❖ Multi-library/multi-town library card.
- ❖ Improve inter-community relations with neighboring towns.
- ❖ Future Business Development due to water/sewer development.
- ❖ Extend recycling to business.
- ❖ Increase recycling both at the transfer station and at the curbside. Place recycling bins at the ball fields and parks in town. More publicity on recycling.
- ❖ Pay-As-You-Go curbside program.

Vision for the Future - 5-10 years

- ❖ Create new cemeteries.
- ❖ Establish a small grocery store and drugstore.
- ❖ Solve school overcrowding.
- ❖ Establishment of a Town Center with Teen Center and Senior Center.
- ❖ Establishment of Town transfer station with a swap shop.
- ❖ Develop a multi-town library card.
- ❖ Improve roads with sidewalks and bike paths.
- ❖ Use of school facilities during the day by the Town.
- ❖ Develop strategies to reduce traffic speeds.
- ❖ Establish commercial development.
- ❖ Increase the variety of items we recycle and reuse.

Vision for the Future - 10-20 years

- ❖ Develop a Town Center.
- ❖ Develop Regional schools.

Vision for the Future - 25 Years

- ❖ The establishment of a Town-wide water supply.
- ❖ Establishment of two fire stations in separate locations.
- ❖ Create connections on open spaces/trails.

LAND USE CHAPTER BREAK-OUT SESSIONS SUMMARY

Issues

- ❖ Doubling the population is an issue. For instance, this would be a major impact to traffic as traffic would increase.
- ❖ Where is the rural character?
- ❖ What is the definition of rural character? It is defined as open fields, including agricultural fields as well as wooded lots and ponds. It is also defined as trees, open, undeveloped land, fields and woods. It also includes wildlife such as moose and birds. Rural character has limited commercial development/retail; there is no Wal-Mart, McDonald's, etc. There is limited traffic and transportation.
- ❖ Mix of land uses. Mix of housing options.
- ❖ Thirty years ago there were fields and wood lots, dirt roads, farms, and little to no industry. Today there are house lots, paved roads, and industrial/commercial zones.
- ❖ Exploit tax base on commercial?
- ❖ Minimum acreage per lot? Keep? Increase? Set up a 2-acre section and a 5-acre section.
- ❖ Affordability
- ❖ Cluster with POS-RD could create more affordable housing. This would also increase density.
- ❖ Transfer of development rights.
- ❖ Growth

Weaknesses

- ❖ Loosing rural character.
- ❖ No center for services.
- ❖ Lack of Commercial/Industrial. Need more for tax base and this would not increase school enrollment.
- ❖ Traffic on Route 3A. Route 3A is inadequate.
- ❖ Water/sewer.
- ❖ Taxes on the rise. Tax base drives lack of diversity in housing.
- ❖ Large lots are privately owned and unprotected. They could be developed.
- ❖ Lack of clear marking of Town owned land and trails. Who will get to use them? Just residents or others from outside the community.

Strengths

- ❖ Mix of land uses
- ❖ Clustered. Open land in backyard. Country living.
- ❖ Taxes
- ❖ Town owned "green" space and recreational trails.
- ❖ Unique two sections: 3A is industrial and helps tax base while the rest is residential.
- ❖ Close proximity to capital. Has municipal services. Proximity to the highway (this is a threat for some).
- ❖ Current Land Use: land use tax and timber tax.
- ❖ Wildlife habitat protected.

Opportunities

- ❖ Water/sewer- start with industrial area and increase density.
- ❖ Create a Town Center. Town Center would be a combination of office, government, and retail. It would also include a post office. Possibility on Rte 3A or more centrally located (maybe on 17 acre site by the fire station).
- ❖ Develop buildings/support services with the elderly community.
- ❖ Build an appropriately sized grocery store. Build a country store for milk and other commodities.
- ❖ Work with CAT to establish public transportation.
- ❖ Provide public access to the river.
- ❖ Develop higher quality Community Development close to I-89/93.
- ❖ Percent of Town owned land to total land is 15-25%; increase percentage?
- ❖ Appropriate future densities: walk/ride a bike, open land.
- ❖ Traditional versus cluster subdivisions.
- ❖ What is maximum percent of growth that Bow can sustain?
- ❖ Commercial/Industrial development.
- ❖ Cost of providing water/sewer on Rte 3A. Cost Benefit Analysis. Build it and they will come.
- ❖ Widen Rte 3A. Should rezone 3A to all Commercial (need to be specific: office, industrial, retail).

POPULATION AND ECONOMICS CHAPTER BREAK-OUT SESSIONS SUMMARY

Issues

- ❖ The issue of empty-nesters selling to families with school children.
- ❖ Agriculture is a business. Despite changes we will need agriculture even if only to grow landscaping materials.
- ❖ Changes in development of business property.

Opportunities

- ❖ Influence the type of development that is attracted to town.
- ❖ Develop Growth Management Ordinances. Analyze impacts of ordinances.
- ❖ Market to target industries.
- ❖ Land conversion has an economic impact. It results in a huge increase in property value, but a huge loss in the natural values such as wetlands, wildlife, and natural systems. Should explore ways to “charge” for negative ecological impacts.
- ❖ Need solid independent credible projections.
- ❖ Need for Census comparisons of 1990-2000 per capita and household/family income, family/household size and age distribution.
- ❖ Explain information on data sheets more effectively.

Considerations

- ❖ Diversification of housing: Who can we attract? Young working people are more attracted to urban areas with nightlife. Can we attract empty nesters? Can we attract the workforce/working class? Currently, Bow is a family orientated town.
- ❖ Should we match the business we attract to the people who reside in town?
- ❖ How does the type of business we attract affect the type of housing we build?
- ❖ What should we do first – economic development or affordable housing? Need an economic base.
- ❖ If statewide tax structure changes from property tax toward income tax, how would that change the demographics of the residents Bow attracts?
- ❖ Consider the indirect impacts of widening I-93 to three lanes in Bow.

HISTORICAL AND CULTURAL RESOURCES BREAK-OUT SESSIONS SUMMARY

Strengths

- ❖ Excellent Park and Recreation Department.
- ❖ Nottingcook Forest.
- ❖ Recreational trails.
- ❖ Merrimack River.
- ❖ Two Active Churches.
- ❖ Gazebo/Town Center.
- ❖ Historic Town Center.
- ❖ Old Town Hall, Old Baptist Church, Bow Bog Meetinghouse, Mary Baker Eddy Birthplace, Library (Offers Passes to Museums, Story Hour, Young Artists), Municipal Building (old school from 1920s).
- ❖ Marker of Meetinghouse at White Rock Hill Road.
- ❖ Jackson state marker at Park and Ride.
- ❖ 3 Mill sites near Grist Mill have signage (sign on 3A).
- ❖ Historical sign at Noyes Crossing.
- ❖ Boat ramp on River Road.
- ❖ Pilings from old railroad.
- ❖ Historical Society and their efforts for preserving old documents/artifacts.
- ❖ Building preservation.
- ❖ Town willing to support (money for) historical site preservation.
- ❖ Organizations: Young at Heart Club Ladies Auxiliary, Strong Scouting Program, Rotary/Men's Club Very Active.

Weaknesses

- ❖ Development of historical sites.
- ❖ Ignorance of town's historical sites.
- ❖ Historic sites not visited or open to public.
- ❖ No display/public use of historical documents.
- ❖ Historical artifacts not inventoried or consolidated in one place (where are they located?)
- ❖ Loss of Henry Baker's house due to development.
- ❖ Lack of ability to control the fate of historic structures and places.
- ❖ Most after school activities Centered on Sports.
- ❖ No Old Home Days, carnivals, or other events.
- ❖ Elderly people in the new complex have no access to the proposed Town Center.

Threats

- ❖ Development in general.
- ❖ Development of historically significant land.
- ❖ Documents are being destroyed and lost.
- ❖ Predatory antique dealers.
- ❖ Loss of control of artifacts; no inventory of artifacts.
- ❖ Upgrade of Class VI Roads (including the Branch Londonderry Tpke).
- ❖ In order to develop a Town Center, will have to convince the Town residents that there is a need to develop commercial enterprises in the Town Center.

Opportunities

- ❖ Inventory artifacts.
- ❖ Donation of town Related Artifacts. Inventory cemeteries.
- ❖ Town control of cemeteries. Upkeep of old cemeteries.
- ❖ Increased access to Historic Sites.
- ❖ Consistent signage of historic sites.
- ❖ Public education.
- ❖ High school/Community Service Projects.
- ❖ Preserve old barns.
- ❖ Rebuild Putney Meadow dam.
- ❖ Establish a public park at the Suncook Valley Railway site if the I-89 Extension to Rte 106 is completed.
- ❖ Develop a Town Center Plan.
- ❖ Create a sidewalk from the elderly housing development to the Town Center.
- ❖ Protect land through easements.

HOUSING CHAPTER BREAK-OUT SESSIONS SUMMARY

Strengths

- ❖ Low density.
- ❖ Lot size, lot size allows for privacy.
- ❖ Nice looking, well-maintained homes.
- ❖ Housing that conforms to zoning.
- ❖ Starting to diversify.
- ❖ Homes are diverse in cost and type.
- ❖ New large homes almost always equal tax impact.

Weaknesses

- ❖ Lack of a common understanding of what Town should be. Lack of a common vision of how much growth should occur in Town.
- ❖ Large lot requirements for houses- development is so spread-out that there are few true neighborhoods. People have less contact with neighbors and have to drive to see friends.
- ❖ New Development not consistent with surrounding homes. Out of scale homes.
- ❖ Cost is an increasing barrier to affordable/workforce housing.
- ❖ Lot price is influencing the type of new housing built. Raising cost is resulting in a loss of diversity.
- ❖ The strife and division that exists in town due to lack of economic diversity.
- ❖ Impact fees have the unintended consequence of encouraging large homes. To make money and pay the fee, the developer has to build a large house.
- ❖ Land available in town is becoming increasingly difficult to develop/build on.
- ❖ Cluster development, conservation subdivision design.
- ❖ Taxes.
- ❖ Codes and enforcement need to be updated.

Threats

- ❖ Not planning ahead, ad hoc, reactionary.
- ❖ No common vision.
- ❖ Taxes.
- ❖ New versus old residents and high-income versus moderate income residents.
- ❖ Demand on community services due to housing.
- ❖ Built-out and the use of land.

Opportunities

- ❖ Balance between needs versus wants.
- ❖ Balance of housing types for social and economic groups. Attract people of all income levels.
- ❖ Duplex and multi-family housing.
- ❖ Build quality homes in town.
- ❖ Smaller homes on smaller lots.
- ❖ Housing growth should commensurate with community facility.
- ❖ Imposing impact fees: recreation and schools.
- ❖ Relieve impact fees when housing serves low to moderate income people.
- ❖ Money to go to town services.
- ❖ Conservation Subdivision design.
- ❖ When water and sewer is extended, zoning should ensure that some moderately priced homes or apartments are built.
- ❖ Density Bonuses for developers who include affordable units in their development.
- ❖ Transfer of development rights.
- ❖ Donation of land.
- ❖ Create 5-acre zoning in some parts of town.
- ❖ Tax break for seniors.

10-year Vision

- ❖ The establishment of well-planned housing development.
- ❖ The protection of open space, including the protection of open fields.
- ❖ Increased conservation requirements and protection on development.
- ❖ Build a wall to stop new development.
- ❖ The development of affordable market-based, workforce housing. More affordable homes.
- ❖ The development of affordable senior housing.
- ❖ The development of true neighborhoods.
- ❖ The creation of more diverse lot sizes. Half an acre to one acre for starter homes/elderly housing and two to five acres for large homes. Currently the majority of lots are for large homes.
- ❖ More single family detached homes.
- ❖ The establishment of a Town Committee to look at what can be done to ensure housing is available for all income levels.

NATURAL FEATURES BREAK-OUT SESSIONS SUMMARY

Strengths

- ❖ Current subdivision regulations allow trails to remain during subdivisions.

Weaknesses

- ❖ Laws don't always protect environmentally sensitive areas.
- ❖ Current loopholes allow developers to develop essentially where they want.

Concerns

- ❖ Increased lot sizes often just create more lawns, which do not enhance rural character.
- ❖ Lawns and fertilizers are a concern to water supplies.
- ❖ Increased development negatively impacts water quality.

Opportunities

- ❖ Identify lands of value for their function and importance in the environment, and identify lands with significance to wildlife.
- ❖ Determine what constraints natural resources impose on certain uses. Determine how to work with existing natural resources.
- ❖ Determine which resources should be protected. Protect parcels of land with steep slopes, floodplains, erosion concerns, and other environmentally sensitive areas from development.
- ❖ Protect trails from discontinuation.
- ❖ Use a variety of tools to create open lands. Buy open land to preserve it. Encourage Cluster Development to enhance open space. This open space will preserve more wildlife habitat and land for recreation. Put more permanent conservation easements on Town Land to protect it from development.
- ❖ Connect open lands.
- ❖ Develop more stringent laws to protect environmentally sensitive areas. Control loopholes that allow developers to essentially build where they want.
- ❖ Get more input from town residents on how town land is used or will be used. Work closely with the Zoning Board.
- ❖ Preserve and protect bodies of water, especially Turee Pond, which is a potential water source for the Town.
- ❖ The Town should investigate and explore the possibility of a municipal water supply.
- ❖ Consider purchasing sensitive areas along the Merrimack River for preservation. These areas may not be a good spot for recreational uses because they provide valuable wildlife habitat, including bald eagle habitat.
- ❖ Encourage a pay as you throw policy.
- ❖ Encourage composting, and educate residents about composting.

Vision for the Future

- ❖ The protection of wetlands and forests. The preservation of habitat for wildlife.
- ❖ The preservation of enough land so that Bow retains its current character and so that people will be able to enjoy natural areas. The preservation of rural character.
- ❖ Good representation throughout the community of protected lands.
- ❖ Open lands that are available and accessible for recreation, including the establishment of parks and trails.
- ❖ The development of informational literature explaining to residents where town land is and how to access and use it.
- ❖ The development, maintenance, and promotion of trails in town. More maps and signs should be posted to inform users of trail difficulty and length. The establishment of well-marked walking/skiing trails in town.
- ❖ Stop development, including cluster developments.
- ❖ Slow down development. Limit new development to avoid the impacts of a larger influx of people. Keeping land open preserves rural character and keeps the tax rate down. Open land is cheaper for the town than developed land.
- ❖ The development of a Town Center.
- ❖ The establishment of a Town Composting Plan.

REGIONAL CONCERNS CHAPTER BREAK-OUT SESSIONS SUMMARY

Concerns

- ❖ Appearance of Bow as being stuck-up.
- ❖ Attitudes of people outside of Bow regarding business (Bow has business?)
- ❖ Clinton Street: the main collector from Bow to Concord. What is its capacity?
- ❖ The impact of the proposed Northwest bypass in Concord: If built, will it impact housing and growth in Bow?
- ❖ Regional development is regularly collected towards roads that go to Concord.
- ❖ Speed limit variations.
- ❖ Getting onto 89 South is presently unsafe.
- ❖ Concerns for developing River Road with business.
- ❖ Water- Will our aquifer in Bow go into other parts of the region? How is road salting affecting our water quality?
- ❖ Air quality- responsibility for PSNH Bow Power Plant? Buses for Bow School District pollute the air.
- ❖ Problems with trying to cooperate in developing a Regional Trail System.
- ❖ Not enough pool capacity in the region. No pool for High School sports.

Opportunities

- ❖ Provide transportation from Bow to Regional hub (Concord) with buses and trains. Cooperate with CAT and provide public transportation. Train transportation in Bow. (from Nashua?)
- ❖ Establish places for people to eat and have lunch on Route 3A Business/Commercial area.
- ❖ Establish a Crecenti's Market in Bow.
- ❖ Establish a market in a common business area.
- ❖ Develop office parks to increase office buildings in Bow.
- ❖ Improve Business Tax Base.
- ❖ Expand or provide a new and improved Post Office.
- ❖ Improve the on-ramp providing access to 89 south to make it safer.
- ❖ Improve Regional Bicycle Plan.
- ❖ Lessen impact of pollution originating from Bow School buses.
- ❖ Establish a regional sewer system. Bow to Concord or Bow to Hooksett.
- ❖ Establish a legal requirement that Concord must give Bow further sewer capacity.
- ❖ Participate in the Heritage Trail System in Bow. Re-orient the Heritage Trail through Bow Conservation Lands.
- ❖ Create an alternative trail system through conservation lands and connect to trail systems in adjoining Towns.
- ❖ Establish a regional pool for High School sports. This pool could be shared by Hooksett-Bow-Dunbarton-Concord.

TRANSPORTATION CHAPTER BREAK-OUT SESSIONS SUMMARY

Key Issues

- ❖ NH 3A- Economic importance, safety concerns, access issues.
- ❖ I-89 Exit 1- this is a key link for interstate access.
- ❖ White Rock, Knox, Logging Hill, Bow Center Intersections.

Strengths

- ❖ Interstate access.
- ❖ NH 3A Access.
- ❖ North/south link

Weaknesses

- ❖ I-89 Exit 1- safety issues.
- ❖ Access to NH 3A- safety issues.
- ❖ No secondary access to High School.
- ❖ Speeds (Brown Hill Road as an example).

Opportunities

- ❖ Improve facilities around “Town Center” (White Rock/Knox).
- ❖ Review road standards by functional class.
- ❖ Review maintenance agreements for roads that cross municipal boundaries.
- ❖ Encourage the calming of traffic in the Village Center (Village Center includes the High School and the Logging/Knox Intersections).
- ❖ Provide shoulders for bikes/peds.
- ❖ Develop bike/ped connectivity on and off road.
- ❖ Establish bike/trail improvements as part of I-93 project.
- ❖ Provide trail connections to river.
- ❖ Connect local trails to Heritage Trail.
- ❖ Provide transit connections (CAT).

APPENDIX D

**2004 BOW MASTER PLAN
COMMUNITY SURVEY RESULTS**

2004 BOW MASTER PLAN COMMUNITY SURVEY RESULTS

3,321 Surveys sent out

- **2,598 residents**
- **723 non-residents**

1,127 surveys returned

- **1,013 mail**
- **114 web/drop-off at Municipal Building**

34% response rate

Are you a:	#	%
Business	24	2.1%
Legal resident of another state	7	0.6%
Legal resident of another NH city/town	17	1.5%
Legal resident of the Town of Bow	1,058	93.9%
NA	21	1.9%
Total	1,127	100%

Part 1 – Base Data Statistics

1. What general area do you consider yourself a resident of?

Map Area	#	%
A	147	13.9%
B	36	3.4%
C	194	18.3%
D	129	12.2%
E	234	22.1%
F	136	12.9%
G	161	15.2%
NA	21	2.0%
Total	1,058	100%

2. Do you reside in Bow:

	#	%
Year-Round	1,046	98.9%
Seasonally	10	0.9%
NA	2	0.2%
Total	1,058	100%

3. How long have you lived in Bow?

Time	#	%
Less than 5 years	202	19.1%
5-10 years	190	18.0%
11-20 years	238	22.5%
Over 20 years	287	27.1%
NA	141	13.2%
Total	1,058	100%

4. How much longer do you plan on living in Bow?

Time	#	%
Less than 5 years	86	8.1%
5-10 years	188	17.8%
11-20 years	262	24.8%
Over 20 years	343	32.4%
NA	179	17.0%
Total	1,058	100%

5. What type of housing do you live in?

Type of Home	#	%
Single family home, on less than 1 acre	56	5.3%
Single family home, on 1-5 acres	869	82.1%
Single family home, on 5+ acres	111	10.5%
Multi-family/apartment	5	0.5%
Two-family home	6	0.6%
Other	4	0.4%
NA	7	0.7%
Total	1,058	100%

6. Are you a:

	#	%
Homeowner	1,044	98.7%
Renter	5	0.5%
Other	2	0.2%
NA	7	0.8%
Total	1,058	100%

7. How many individuals are in your household?

Individuals	#	%
one	76	7.2%
two	372	35.2%
three	162	15.3%
four	290	27.4%
five	103	9.7%
six	41	3.9%
seven	7	0.7%
eight	2	0.2%
nine	1	0.1%
eleven	1	0.1%
NA	1	0.1%
total households	1,058	100%
total population	3,321	-

8. Please indicate the number of children for each age group in your household.

Number of Children	Number of children under the age of 5 years old in Bow households	Number of children 5-10 years old in Bow households	Number of children 11-13 years old in Bow households	Number of children 14-17 years old in Bow households
One	96	137	165	165
Two	39	91	23	63
Three	3	11	0	4
Four	0	1	0	0
Total Households	138	240	188	232
Total Children	183	356	211	303

9. If your children are cared for outside of your home, what town are they cared for in?

Town	#	%
Bow	16	31.4
Bow/Concord	3	5.9%
Chichester	2	4.0%
Concord	20	39.2%
Contoocook	1	2.0%
Goffstown	1	2.0%
Hooksett	4	7.8%
Manchester	3	5.9%
Pembroke	2	4.0%
Total Households	51	100%

**10. How many children (pre-K through grade 12) attend school in Bow in your household?
What are their ages?**

# of Children	# of Households	% of Households
one	170	40.3%
two	184	43.6%
three	52	12.3%
four	12	2.8%
five	3	0.7%
six	1	0.2%
total households with children in Bow school system	422	100%
total children in Bow school system	763	-

What are their ages?	#	%
Two	4	0.5%
Three	4	0.5%
Four	22	2.9%
Five	13	1.7%
Six	50	6.6%
Seven	50	6.6%
Eight	44	5.8%
Nine	72	9.4%
Ten	62	8.1%
Eleven	59	7.7%
Twelve	69	9.0%
Thirteen	55	7.2%
Fourteen	69	9.0%
Fifteen	62	8.1%
Sixteen	56	7.3%
Seventeen	63	8.3
Eighteen	5	0.7%
Nineteen	1	0.1%
NA	3	0.4%
Total Children	763	100%

11. How many children (pre-K through grade 12) attend school outside of Bow in your household? What are their ages?

# of households	# of Children	% of Households
One	51	68.9%
Two	16	21.6%
Three	5	6.8%
Four	2	2.7%
Total households with children not in Bow school system	74	100%
Total children not in Bow school system	106	-

Ages	#	%
Two	1	0.9%
Three	6	5.7%
Four	8	7.5%
Five	11	10.4%
Six	6	5.7%
Seven	2	1.9%
Eight	2	1.9%
Nine	10	9.4%
Ten	9	8.5%
Eleven	4	3.8%
Twelve	4	3.8%
Thirteen	12	11.3%
Fourteen	4	3.8%
Fifteen	5	4.7%
Sixteen	5	4.7%
Seventeen	10	9.4%
Eighteen	4	3.8%
Nineteen	3	2.8%
Total	106	100%

12. Please indicate the number of adults in your household for each age group.

Number of Adults	18-25 years old.	26-35 years old	36-49 years old	50-64 years old	65-79 years old	80 years old and older
1	85	72	179	152	99	31
2	46	68	369	209	84	2
3	4	0	3	0	0	0
4	25	0	0	0	0	0
Total Households	160	140	551	361	183	33
Total Population	289	208	926	570	267	37

13. Please indicate the number of employed persons (16 years old and older) in your household.

Total number of employed persons (16 years old and older) – 1,289

Total number of households responding – 1,127

Full-Time			Part-Time	
Where Employed	# Employed		Where Employed	# Employed
Concord	495		Concord	140
Bow	252		Bow	66
Manchester	198		Other NH Towns	48
Other NH Towns	76		Manchester	31
Hooksette	36		New Hampshire	18
Massachusetts	30		Hooksette	9
New Hampshire	29		Other States	7
Merrimack	17		New England	4
Bedford	14		Other	2
Goffstown	12			
Amherst	12			
Pembroke	11			
Hopkinton	11			
Derry	10			
Other States	4			

14. Please indicate the type of employment and number of people employed in your household for each person 16 years old and older.

Type of Employment	# of People employed
Professional	280
Health Care	223
Retired	191
Government	159
Education	157
Self-Employed	157
Other	156
Retail	97
Manufacturing	89
Finance	86
Computers/Hi-Tech	80
Construction	57
Non-Profit	32
Unemployed	21
Real Estate	18
Agriculture/Forestry	2

15. Please indicate the highest level of education for each adult and number of adults (18 years old and older) in your household.

Level of Education	# of Adults
High school or less	98
High School graduate/GED	311
Certificate Program	76
College (no degree)	302
Associate's Degree	211
Bachelor's Degree	396
Master's Degree	312
Doctorate Degree	117

Part 2 – Landowner/Business/Household Survey

16. What do you consider the desirable features of the Town of Bow? (Select 6 and number then in order of importance, 1 being the highest and 6 the lowest).

Feature	1	2	3	4	5	6	Total
Rural atmosphere	351	167	121	95	85	51	870
Location	197	201	172	131	88	70	859
Educational system	270	164	95	68	64	66	727
Commuting distance	44	123	145	147	116	83	708
Tax rate	84	117	100	99	76	90	566
Residential neighborhoods	35	67	110	110	101	87	510
People/community spirit	27	71	72	77	99	103	449
Conservation of natural resources	19	45	67	74	87	108	400
Town services	8	23	54	83	80	102	350
Recreational facilities	4	11	24	42	66	59	206
Historical character	1	12	21	24	45	47	161
Employment opportunities	1	4	7	8	7	18	45
Other	6	2	0	1	4	11	24

17. What types of housing would you like to see the Town of Bow encourage? (Select 6 and number then in order of importance, 1 being the highest and 6 the lowest).

Housing Type	1	2	3	4	5	6	Total
Single-family	670	120	47	38	24	33	921
Elderly housing	125	217	196	111	44	27	720
Conservation Subdivision (homes are on small lots with remaining land as protected open space)	110	196	137	109	69	43	664
In-law apartments	16	124	153	111	84	50	538
Townhouse/Condos	43	90	104	113	93	72	515
Two-family (duplex)	14	80	77	83	121	102	477
Multi-family (3-4 units)	10	9	18	25	46	74	182
Manufactured housing on individual lots (incl. modular and mobile homes)	4	15	29	35	36	54	173
Manufactured housing in parks (incl. Modular and mobile homes)	1	5	12	19	18	44	99
Multi-family (5+ units)	5	9	8	10	13	43	88
Other	34	6	2	7	6	11	66

18. In your opinion, which statement best characterized Bow's rate of residential growth?

	#	%
Bow is growing too slowly	8	0.7%
Bow is growing at an appropriate rate	270	24.0%
Bow is growing too fast	761	67.5%
No opinion/NA	88	7.8%
Total responses	1,127	100%

19. Should Bow try to encourage commercial/industrial (non-residential) growth?

	#	%
Yes	884	78.4%
No	104	9.2%
Unsure	96	8.5%
No opinion/NA	43	3.8%
Total responses	1,127	100%

20. Please refer to the map and indicate where this growth should occur.

Map Area	#	%
A	236	20.9%
B	726	61.5%
C	57	4.8%
D	41	3.5%
E	31	2.6%
F	72	6.1%
G	17	1.4%
Total Answers	1,180	100%

21. What types of commercial/industrial business should Bow encourage? (Please check all that apply)

Type	#
Professional offices	791
Restaurants	579
Manufacturing	553
Grocery stores	551
Warehouse facilities	400
Retail shops	486
Banks	360
Hotels, motels, inns	346
Mini-storage	153
Motor vehicle service/repairs	148
Gasoline sales	132
Motor vehicle sales	108
Other	91
No opinion	51
None	39

22. Should recreational opportunities be:

	#	%
Increased	350	31.1%
Decreased	12	1.1%
Stay the same	508	45.1%
No opinion/NA	257	22.8%
Total responses	1,127	100%

**23. What types of recreational opportunities would you like the Town of Bow to expand?
(Please check all that apply)**

Opportunities	#
Walking trails on Town property	549
Bike paths	486
Merrimack River Access	386
Community use of school fields	310
Outdoor swimming pool	302
Access to water bodies	298
Indoor swimming pool	215
Golf Course	187
New Town Recreation Center	164
Fishing	163
Town Recreational Department Programs	161
Bow Athletic Club Youth Sports programs	147
Ice Rink	141
Skateboard Park	127
Soccer fields	101
Archery Range	91
Hunting	89
Baseball fields	85
Outdoor shooting range	84
Lacrosse fields	77
Other	76
Indoor shooting range	75
Tennis courts	70
Basketball courts	61
Volleyball courts	34

24. Please indicate which community services and facilities you would like the Town to develop and/or improve. (Please check all that apply)

Service/Facility	#
Protection of ground and surface water	675
Expanding bicycle and nature/walking trails	603
Protection of wetlands	521
Protection of wildlife habitat	501
Protection of Town forests	475
Preservation of historic sites and buildings	407
Creation of Town Center	378
Expansion of Town conservation lands	372
Allocate money for open space purchase/protection	368
Protection of open fields	324
Creation of a mandatory recycling program	306
Expansion of Town forests	297
Paramedic services	268
Operation of parks and recreational facilities	240
After-school programs	229
Expansion of Town Cemetery	115
Additional fire sub-station	112

25. What types of trails should Bow encourage to be developed/expanded within Town? (Please check all that apply)

	#
Walking/hiking trails	755
Walking and bike lanes along existing roadways	663
Snowmobile trails	211
ATV	106
None	86
No opinion	72
Other	30

26. If Bow were to expand trails, how should this be done? (Please check all that apply)

	#
Landowner permission to use land	642
Town purchase of easement	381
Private organization purchase of land/easements	322
Town purchase land	290
Subdivision requirements	261
Transfer of development rights	178
Other	37

27. Do you feel a new community building should be built in Bow?

	#	%
Yes	256	22.7%
No	526	46.7%
Unsure	224	19.9%
No opinion/NA	121	10.7%
Total Responses	1,127	100%

28. If school expansion becomes necessary, how should this expansion take place?

	#	%
Expansion of existing schools to larger capacity	716	63.5%
Small additional schools on the existing campus	166	14.7%
Small neighborhood schools in other locations	68	6.0%
Other	106	9.4%
NA	71	6.3%
Total responses	1,127	100%

29. Should additional community facilities (community building, athletic fields, etc.) be included or co-located with future school building projects?

	#	%
Yes	379	33.6%
No	363	32.2%
Unsure	288	25.5%
NA	97	8.6%
Total responses	1,127	100%

30. Should the Town identify appropriate properties for future town services including police, fire, schools, etc. and take steps to procure those properties (if not currently owned by the Town)?

	#	%
Yes	565	50.1%
No	244	21.7%
Unsure	228	20.2%
NA	90	8.0%
Total responses	1,127	100%

31. What type of water system do you have?

	#	%
Dug well	72	6.4%
Drilled well	936	83.1%
Water system	61	5.4%
Unknown	20	1.8%
NA	38	3.4%
Total Responses	1,127	100%

32. Have you ever had your well water tested?

	#	%
Yes	959	85.1%
No	24	2.1%
Unsure	0	0.0%
NA	144	12.7%
Total responses	1,127	100%

33. Has your well ever been contaminated?

	#	%
Yes	177	15.7%
No	737	65.4%
Unsure	141	12.5%
NA	72	6.4%
Total responses	1,127	100%

34. Has your well water supply ever been inadequate in quantity?

	#	%
Yes	137	12.2%
No	867	76.9%
Unsure	52	4.6%
NA	71	6.3%
Total responses	1,127	100%

35. Should the following services be:

Services	Increased	Stay the same	No opinion/NA	Total
Town Sewer	404	364	359	1,127
	35.8%	32.2%	31.9%	100%
Town Drinking Water Supply	348	387	392	1,127
	30.9%	34.3%	34.7%	100%
Natural Gas	242	355	530	1,127
	21.5%	31.5%	47.0%	100%

Town Sewer increased in what sections of Town	Map Area	#
	A	171
	B	190
	C	61
	D	63
	E	31
	F	16
	G	10
	All	33
Town Drinking Water Supply increased in what sections of Town	Map Area	#
	A	134
	B	184
	C	60
	D	61
	E	33
	F	17
	G	10
	All	36
Natural Gas increased in what sections of Town	Map Area	#
	A	89
	B	111
	C	51
	D	46
	E	36
	F	20
	G	20
	All	38

36. In order to help Town officials better direct their efforts, please rate the following municipal services.

Town Services	Good	Fair	Poor	No Opinion/ NA
Animal control	355	153	64	555
	31.5%	13.6%	5.7%	49.2%
Budget Committee	305	317	115	390
	27.1%	28.1%	10.2%	34.6%
Building code enforcement	359	227	63	478
	31.8%	20.1%	5.6%	42.4%
Business building code enforcement	243	165	36	683
	21.6%	14.6%	3.2%	60.6%
Business Development Commission	174	250	138	565
	15.4	22.2%	12.2%	50.1%
Cemetery care	499	123	16	489
	44.3%	10.9%	1.4%	43.3%
Fire protection	800	105	7	215
	71%	9.3%	0.6%	19.0%
Health regulations and enforcement	255	136	10	726
	22.6%	12.1%	0.9%	64.4%
Historic preservation	466	208	29	424
	41.3%	18.5%	2.6%	37.6%
Library	834	90	15	188
	74.0%	8.0%	1.3%	16.7%
Natural resources conservation	422	265	40	400
	37.4%	23.5%	3.5%	35.5%
Parks and recreation	664	212	34	217
	58.9%	18.8%	3.0%	19.3%
Planning regulation administration	213	242	124	548
	18.9%	21.4%	11.0%	48.6%
Police protection/enforcement	787	155	43	142
	69.8%	13.8%	3.8%	12.6%
Rescue Squad	689	93	9	336
	61.1%	8.2%	0.8%	29.8%
Road maintenance	655	305	75	92
	58.1%	27.1%	6.7%	8.1%
Senior Center	120	91	72	844
	10.6%	8.1%	6.3%	74.9%
School system	742	189	30	166
	65.9%	16.8%	2.7%	14.7%
Snow Removal	890	128	9	100
	79.0%	11.4%	0.8%	8.9%

Town Services	Good	Fair	Poor	No Opinion/ NA
Recycling/Transfer Center	617	245	64	201
	54.7%	21.7%	5.7%	17.8%
Town Administration	524	296	41	266
	46.5%	26.3%	3.6%	23.6%
Garbage Collection	477	387	154	109
	42.3%	34.3%	13.7%	9.7%
Welfare	132	61	10	924
	11.7%	5.4%	0.9%	82.0%
Zoning administration/enforcement	196	189	78	664
	17.4%	16.8%	6.9%	58.9%
Other	13	8	49	-

37. Should the town develop varying lot sizes for residential development (currently all residential lots in Town require 2 acres)?

	#	%
Yes	269	23.9%
No	645	57.2%
Unsure	127	11.3%
No opinion/NA	86	7.6%
Total responses	1,127	100%

38. If yes, what size (acres) should the residential lots be and in what areas of town (please refer to the map)?

All Map Areas	33 responses	less than 1 acre (1); 1 acres (16); 1-1.5 acres (1); 1.5+ acres (1); 1-5 acres (1); 2+ acres (1); 2-5 acres (1); 4 acres (2); 4+ acres (1); 5 acres (5)
Map Area A	34 responses	half an acre (6); .5 –1 acre (1); 1 acre (13); 1+ acres (1); 1-2 acres (2); 1-3 acres (1); 2 acres (3)
Map Area B	31 responses	25 acre (1); .5 acres (5); 1 acre (13); 1-1.5 acres (1); 1+ acres (1); 1-3 acres (1); 2 acres (2); 5 acres (1)
Map Area C	34 responses	5 acre (1); 1 acre (11); 1-1.5 acres (1); 1+ acres (1); 2 acres (3); 2+ acres (1); 3 acres (2); 3.5 acres (1); 3-5 acres (1); 4 acres (1); 5 acres (7); 6 acres (1)
Map Area D	23 responses	5 acre (2); 1 acre (7); 1+ acres (1); 1-1.5 acres (1); 2 acres (1); 1-2 acres (1); 3 acres (1); 3-5 acres (1); 4 acres (1); 5 acres (5)
Map Area E	17 responses	1 acre (4); 1-1.5 acres (1); 3 acres (2); 3-5 acres (1); 5 acres (8)
Map Area F	38 responses	25 acre (1); .5 acre (1); 1 acre (9); 1-1.5 acres (1); 1-2 acres (1); less than 2 acres (1); 2 acres (2); 2+ acres (2); 2.5 acres (1); 3 acres (2); 3-4 acres (1); 3-5 acres (2); 5 acres (12); 5-10 acres (1);
Map Area G	33 responses	.5-1 acre (1); 1 or less (2); 1 acre (1); 1-1.5 acres (1); 2 acres (2); 2+ acres (1); 2.5 acres (1); 3 acres (6); 3-5 acres (2); 3-4 acres (1); 5 acres (11);

39. What type of trash disposal services would you like to see the Town provide?

	#	%
Curbside	146	13.0%
Individual drop-off at the Transfer Station	100	8.9%
Both	523	46.4%
No opinion/NA	88	7.8%
Total responses	1,127	100%

40. In your opinion, what is the general condition of the roads you travel on in Bow?

	#	%
Good	692	61.4%
Fair	358	31.8%
Poor	44	3.9%
No opinion/NA	33	2.9%
Total responses	1,127	100%

41. Would you support an extension of the Concord Area Transit bus service into Bow?

	#	%
Yes	397	35.2%
No	360	31.9%
Unsure	205	18.2%
No opinion/NA	165	14.6%
Total responses	1,127	100%

42. What types of Town services would you like to conduct over the web? Please check all that apply.

Services	#
Pay taxes	321
Renew auto registration	597
Pay license fees	473
Other	35

43. Thank you for your participation. Please comment on any other issues you believe are important to the Town of Bow that should be addressed in the Master Plan.

Locate and develop business in our town, right now the tax burden is on the homeowners. Bring in business on 3A and where our sewer project is proposed. Use the \$16 million high school if the community building is not good enough. why did we buy Peter Tigh
We are amazed by the lack of indoor swimming facilities in this part of the state. While some may view an indoor swimming pool as a luxury, having one adjacent to one of the schools would provide a real service by allowing the schools to require that kid
FOUR PEOPLE LIVE IN BOW DURING THE SUMMER
When permitted low cost housing is to be built you must ensure the purchase price matches the term low cost housing (not to exceed 100K).
the town could try to stop using "new" as their only avenue of "fixing" problems. Proper upkeep of existing areas could save the town money.
We need a new police chief.
Thank you for the opportunity!
Too many large ugly building projects that are ruining the look and feel of Bow like that monster across from the fire station.
This was a lot of work. Good job. I hope it helps.
Tree/brush trimming along roads not well maintained. Difficult to see signs, oncoming vehicles if three are curves/hills.
one family homes are too large and too crowded in the active adult community on Albin Road by Logging Hill.
Tax relief for the senior citizens on property taxes. The town managers should get the school board and the school budget under control.
question #41 - THE BUS SHOULD COME TO THE NEW ELDERLY HOUSING UNITS
Stop chopping down all the trees. Bow is beautiful lets leave it that way.
Want to see the rec. department do more team sports for kids under 5 on the weekends.
This survey is very light on the biggest need in Bow. That is we need a huge effort to recruit businesses to aid in the reduction of the future tax burden. I see no effort to promote business/industrial development in Town. Let us get on with it!!

The town center should be pursued. A brochure and map of historic sites should be available. Signs explaining significance of historic sites should be located at each site. We need a post office.
Eliminate hunting in the town forests so that residents can travel these areas year round without fear of accident. Allow animal control by the town/state Fish and Game with controlled hunting to limit population but cease allowing open hunting on these
Widen the roads and make walking/bike lanes so that drivers and pedestrians can both feel conditions are safe. Put in a traffic light at fire house before someone gets killed at the intersection. Survey questions are great -- glad we are asked these questions
Stop making schools so attractive that everyone wants to live in Bow
next time put in a map the normal person can read.
ALLOW LARGER CLASS SIZES TO REDUCE NEED FOR EXTRA ROOMS. CURRENT BUILDINGS FOR ELDERLY (IN PROGRESS) ARE TOO EXPENSIVE AND PLACEMENT OVER ROAD FROM COMMUNITY CENTER IS VER POOR CHOICE. THIS SHOULD HAVE BEEN A TOWN CENTER/SHOPPING AREA. MASSIVE COMMERCIAL
I was not aware of the 2 acre minimum requirements in question 37. My lot is only 1.2 acres and neighbor is 1 acre. How could this be possible?
The town of Bow must increase the tax base while limiting impact on expenditures. In my opinion we must encourage industry to survive. We cannot place the tax burden on the homeowner.
There is way too much development - it seems out of control. In my opinion - the only thing this town is concerned with is the school system. We will be moving in the spring because were sick of it. There are a lot of other people who live here that would
Great idea thanks
Enforce no motor vehicles except snowmobiles in Town Forests. Develop maps and signs for trails.
Have not resided in community long enough to comment
Keep residential taxes low
In order to have and retain highly competent teachers it is absolutely essential that Bow increases its teachers pay scale. Bow is one of the top scoring schools districts in our state and this is due to great teaching.
Trash pick up during holiday weeks is atrocious. No one knows when they are going to come by and pick up trash meanwhile animals keep getting into it and it is all over the place.

Preserve water sources for future public water. Increase open space - too much development guard against abandoned development. For example the Sr. apartment building across from the fire station"
Drinking water is one of the most important issues for Bow. Sewer would allow smaller plots and more economic development. Rural character is ver desirable but economic development in 3A corridor is essential for keeping taxes reasonable.
Garbage collection was bad until threatened to fire them it has been better since.
?#19 - "on Rte 3-A only. Bonds necessary for school improvements & renovations"
I think the businesses in Bow should be running legally with all the necessary permits. Make lot sizes 5,000 sq.ft in the residential districts.
revisit environmental impact on removal of Putney Pond (short term and long term)
Please find a way to build a new school and make space for the 200+ students beyond the elementary and middle school capacity. Please find a way to let the teachers know that the community supports their efforts.
I support developing varying lot sizes for residential development provided a viable portion of the development is set aside for conservation.
There are enough playing fields in Bow. When something is built relating to schools it should be on campus of existing school. These greedy out-of-staters have moved to Bow and changed the whole community spirit of years ago; the whole town especially t
A sidewalk up Logging Hill Road so kids can walk to school.
1. The review of future cluster developments and planning should be more rigorous. Recent development have not stayed within the parameters. 2. The school needs an additional elementary school and additions to the middle and high school."
I particularly feel protection of open space and forests is necessary to preserve our rural atmosphere as is limiting growth.
Use of high school fields for BAC, little feet will not harm the fields and when the fields were built they were built for townspeople
Aesthetics- would like to see more attention to ensuring that things in town are attractive and pleasing to the eye. To me the industrial area between Route 3A and the river is like a 3rd world country. I was appalled by what I saw there because it look
The High School has too many toys for the students. The purchase of bikes was unneeded-snowshoes and other sporting equipment that could be easily stolen.

Town needs a recreation center with tennis racquetball pool etc.
Property taxes have become confiscator in Bow. The system is totally socialist and is forcing the people who are carrying the burden to move.
Industrial development would take advantage of location near I-93 and I-89. Additional athletic fields, open space/conservation.
The residents of Bow need more convenient access to retail shopping - like grocery, dry cleaner and convenience stores
1. The Town should be involved with the dam re-licensing process and secure river access; boat portage and conservation land as part of the re-licensing process. 2. The Planning Board should have a more thoughtful approach to ensuring adequate water supply
Trail easements are needed to keep existing trails. It will only take the loss of one small part of the trail system to cause a total collapse.
Discussion on becoming part of the river walk program that Hooksett is looking into. Bedford and Manchester already part of.
Increasing our industrial tax base. Natural gas to Industrial area (River Road). Way too much truck traffic on Route 3A avoiding the toll.
Though only a resident of Bow for a 2 years I reviewed Bow for many years before moving here from Hooksett and am distressed that the basic Residential growth policies of minimum 2 acre lot sizes have been able to be over ruled for such large developments
I would like Bow to remain rural. Development does not have to include burgeoning industrial growth. Maintaining lot sizes of 2 acres to maintain the rural atmosphere.
Too much growth too fast. Don't rush into building new schools. The curve will flatten out. I shouldn't be forced to sell my house because new residents are driving taxes up.
Bow got its reputation from low taxes and an excellent school system. I am willing to pay higher taxes for good schools but it seems we are losing both the low tax rate and the good schools (due to overcrowding). Bow needs to continue its commitment to
Thank you for considering resident opinions.
Retired low to middle income residents cannot afford taxes so they move out of town and are replaced with younger families with children who increase town costs. Search for a way to decrease this problem and encourage senior citizens to remain homeowners.
Education schools - The schools are the most important part of our community. Yet this survey gives them very little attention. Only # 28 deals directly with schools and then in a negative manner

Please do not forget the long time residents that do not make these big salaries. Taxes and increased spending on unnecessary recreation items in the schools (mountain bikes etc) are running the older people out of their hometown and homes. Most elderly
Protect and preserve land to maintain rural quality of life and recreational opportunities. Bows population has become less diverse over the 28 years I have lived here. Seeing 50 percent of high school students drive high end cars and seeing 300000 plus h
The map was illegible. Roadside trash/litter pickup, low income housing, noise control.
Other than trying to enforce a red Chinese-style 1 child per family policy, we should really try to restrict residential development because of the enormous impact population growth has had on the schools. Also - open the high school more to be used as a
Thank you for asking, but the town is in out of control. We are running the town of Bow with amateurs. We discourage people who do not have a rested interest, from running. Just go to a school board, planning board, zoning board, and sometimes a select
I am very unsure of what our police department does. Living here as long as I have it is rare that I see a cop while driving through town. It is even rarer that I see one on my street. Cars travel up to 50 on my road which is a 30 zone. Our loop is a
MANDATORY recycling - enforce recycling on a pay fee (for not recycling) - amazed @ the number of residents that do not recycle and utilize their containers for other purposes. We also have a difficult time accepting the townhouse development on Bow Bog R
Would like a town owned outdoor pool for residents
We think the Town should be very careful about the population growth until we can get the school-crowding situation under control. Transfer Station and Library need to expand hours. Parks & Rec. - no program for kids with 2 working parents Community Build
It is ridicules to have a police cruiser siting on White Rock Hill Rd just watching high school traffic jam up when they could be earning their money by directing traffic so we could all go to work or school on time. We need a light at the fire station
Developing a town center would help solidify a community spirit. It must be done now before the town grows and space becomes an issue. A town square is a towns identity.
I think towns that we have visited that encourage bike paths and maintain them have a great quality about them and encourage family and visitors to enjoy a part of the towns that would otherwise be overlooked. We tend to take care of better and appreciate
Would like to have quiet walking/biking trails off the main roads. We should prevent excess commercialization and avoid expansion of housing which would take away from the historic/rural character of Bow.

stop pushing schools that will be empty monoliths in 10 years. Start encouraging business. Expand the water as voted. Get moving to find environmental friendly business. Stop the used car look on Rt. 3A."
Police Fire and Rescue very good, but we live on opposite end of town and response time seemed very long.
We love Bow. There are minimal things that could be improved.
The Tax Rate and out of control real estate prices are driving out long term residents. There should be a tax relief program for residents who are low income and have resided in the town for a set minimum of years(IE 10 Yrs).I and others like me can't afford
I would like to see a small communion area on Logging Hill or White Rock Hill with a bakery/coffee shop dry cleaner card shop etc.
As for extension of Concord Area Transit I have no information as to what that would mean.
I think development in this town should be slowed down, possibly by increasing lot size to a minimum of 5 acres. If steps had been taken 10 years ago to slow the growth in town, I don't think we would have the problems with overcrowded schools and escalate
It has been disappointing as parents of a student to see that we still have not come to any resolution about our school space problem. I hope you receive many surveys that help with the planning for the upcoming year and I thank you for taking the time t
Attracting new industrial / commercial development to offset and increase tax base and utilizing the existing rail service to attract new development including commuter rail service
I believe we should stop the building of houses until the school situation is corrected.
The library is excellent!
There are two outstanding features in Bow, one, the library is excellent both in quality of materials and staff!! I believe that Bow High School is not the taj mahal that people would like to say it is. It is an excellent school and we should be proud of
?#36 "EXCESSIVE" police protection and school system ?#38 varying lot sizes 1/2 - 3 acres on scientific data not a number pulled from a hat. Taxes have more than doubled since we have been in town. The schools are out of control - not die to the number
I really would not like to see the schools to get any bigger. They are already too crowded.
I am very concerned about the speed of traffic on Rt. 13/Clinton Street specifically intersections of Page Rd. and Clinton and also Belaview Dr. and Clinton. Speed is not enforced in these areas and makes it very difficult and dangerous to pull out into

Survey is to Long. I would rather fill out more focused smaller survey more of them if needed.
School system is as good or bad as any in NH. Town center is a disgrace. Hire more police/fire personnel.
Expand the fire protection. police and rescue
COMMERCIAL/INDUSTRIAL GROWTH SHOULD OCCUR AROUND ROUTE 3-A WHAT ABOUT HISTORIC CEMETERIES? WE WOULD LIKE A 1 TIME A YEAR PICK-UP OF TRASH LIKE FURNITURE AND OTHER LARGE STUFF LIKE THEY DO IN CONCORD - SPRING CLEAN UP TYPE OF THING"
Slow growth to prevent schools from being expanded. Taxes have become too high. We need to revisit building permits. Seniors can barely pay taxes. "
Varying lot sizes should only be allowed in conservation subdivision
I believe in CONTROLLED growth! Bow is fast losing its rural atmosphere. Few animals left
growth based on ability to pay for schools. More impact fees. Developers should pay more."
#39 - Keep Trash disposal as is - very good now.
School crowding issues. Development of town center (small scale) keeping with the rural atmosphere of the town.
Need sidewalks on Bow Center Road and White Rock between the schools and the fire station.
Police budget is too fat. Reduce headcount in department as well as capital items. Use state police for 3rd shift. Greatest single mistake Bow made was to allow multi-family housing. There goes the neighborhood.
Young man who assessed property dressed like a slob. Came without a notice School buses holding up traffic by dropping kids off at individual stops. They need to be dropped off at a centralized location. Need a speed limit sign on Woodhill Hooksett Road
Town needs a center with small retail stores. Town green.
1. A Tow center with shops should be established - we really need a small grocery store/bakery/post office/bookstore etc. 2. Schools have to be second to the well being of the town - we are a childless couple and feel this town is obsessed with its chi
?#4 How long do you plan on living in Bow? "Unknown due to our age"

Limit building permits Increase minimum lot size use modular construction to expand current school buildings"
I would like to see stone dust like-trails or walkways connecting the schools and community building
We should be looking into building town houses and condos for the future.
Thank you to all of the many volunteers that keep this town going. And thank you to our unsung heroes: police fire and town employees.
There are a few residents without children. Education is not everybody's top priority.
If sewer services are provided then residential lots can be provided on .5 acre. I have been trained on road management and I see room for lots of improvement - it will cost money.
Schools need to have space issues addressed!
?#35 re: Services: Can't read map - writing too small"
We believe for the best future for Bow the school system must continue to expand, and improve its curricula. the better the schools the better the community and economy. Please continue to press for expansion. Thank you!
The protection of recreational trails should be made mandatory for any residential or business subdivision or development.
Please try to leave this nice community alone
Please keep Bow a 'small town'. My family and I have lived in large cities and medium sized towns. Commercial development and overuse of open space is not the key to the town's future. Conservation and curbs on housing starts is a better solution."
The Town needs to insist that the State of NH Highway Dept. upgrade and maintain state roads. (Bow Bog Rd)
I think you have to be careful with how you spend the tax payers money! There seems to be a greater division between the low/middle income families and the wealthier families who live in Bow. Bow was not like this 15-20 years ago. Time does change thin
Would really like to see industrial development in zone B. Need to give initial tax incentives but long-term impact would be beneficial to tax base. Would also like to see retail development in zone A B or C.
Curbside trash pick up times are inconsistent. List them in the paper. The town hall should be open late at least one night a week. The people who plow do an excellent job. "

The town needs a post office
Property taxes are too high. The town of Bow needs to develop its commercial and industrial.
Town should rent out school auditorium for presentations.
Need to do roadside clean up as trash gets spread all over with current program. Dirt roads need more frequent grading.
I think the town should develop a district for multifamily housing and eliminate the special exception for allowing such development in a rural zone. The rural zone should be just that rural, not "city" type housing. I would also like to see the town make
Neighborhoods should be more homogenous.
When men meet having no business one will communicate a spark of discontent engendering a flame that consumes both a particular and general happiness - Thomas Jefferson The best thing your committee could do is DISBAND and stop harming our community and it
Bring Bow back to when the town cared for their older residents that have been here for 40-50 years
Significantly limit growth of subdivisions
Freeze building permits for 1 to 2 years and then minimize those issues thereafter Require all new buildings make a substantial contribution to the town of Bow for services particularly schools and fire department
?#4 How much longer do you plan on living in Bow? "Depends on Taxes"
Lot sizes should vary to accommodate cluster type devilmnt. Less acreage for cluster and areas with town water or sewer.
Less government control - zoning board planning board building codes. Remember live free or die.
I am reluctant to support new community facilities because of the impact on property taxes. Ask me the question again after we move to a less regressive form of taxation.
thanks
I would like to see the school athletic fields open for all to use. Not just the high school.
This is a wonderful community! A pizza shop or sandwich/ice cream shop, open evenings especially on weekends would give our teens a local business to patronize

Concerned about the push to have elderly housing in a town with no commercial services. Where and how will these people cope when they cannot drive themselves. No public transportation and no grocery store services within walking distance and no sidewalk
There should be a concerted effort to attract new businesses - large - to provide a larger tax base for the lowering, or maintaining of the present tax rate.
Bow needs a town center with a small grocery store a post office cafe and small shops develop interstates 89 and 93."
I feel That the continued building of trophy homes by greedy developers will eventually drive the elderly and retired folks (who contribute the most and demand the least in service) out of Bow destroying its character and making on more "yuppieville." A
Be sure to address the after school needs of middle school kids and teens. They need a place to socialize have fun and stay out of trouble
there ARE TOO MANY SPEEDERS IN RESIDENTIAL NEIGHBORHOODS. IT IS DANGEROUS TO WALK OR RIDE A BICYCLE. WE NEED MORE ENFORCEMENT OF CURRENT SPEED LIMITS.
Would love to see a downtown created-i.e. a Main street with grocery store pharmacy bank some place for our young people to go like a pizza/arcade. Nice survey. Thanks.
Although some of the questions made me chuckle #41 is the creation of a real comedian. The town of Bow could not fill a bus to Concord if we paid the riders ten dollars each way. I have never seen a CAT bus with more than 1 person in it since the CAT se
What we have learned from the 1992 master plan? Why cannot we do a better job of controlling growth so that we do not have to worry about building new schools every year? Why did it cost us \$8 million more than the town of Barnstead to build a high school
Are local law enforcement is excellent. our public works and rec. department are great too.
We need to make our town affordable for elderly people and young people "starting out". We need a larger (and broader) business base.
To many people moving to Bow and wanting to make it a city with all of the services a city has.
1. Maintain rural environment and keep taxes under control. 2. Put basic education back in the schools; dispense with the glitz. 3. Support a growth based industry not service-based industry. 4. Foster and encourage traditional NH outdoor recreation.

In some ways, its too late, but we blew it by not finding a way to make developments more dense with open land around. Houses are far apart, making kids more apt to take to cars to visit friends than walk. Village Shore model was best.
Need a central shopping center that includes a flagship grocery store that is easily reached by the majority of Bow residents. Need to straighten and widen roads that provide major access to residents such as Logging Hill Road.
Have only been a resident for 2 years.
I tried to do this online but was denied access even before I could enter the code.
Slow residential development. Add only one or two grocery stores and a few small professional buildings
Would like to see sidewalks required in all new housing developments so that children have a safe place to ride toys and roller skate parents can wheel strollers to encourage more walking to allow children to safely walk to central locations for school bus
We should add onto school building vs new. Rehab the inside of the community building now.
QUES #24: CREATION OF TOWN CENTER WHERE THE FIRE HOUSE/COMMUNITY BUILDING TOWN POND; PROTECTION/PRESERVATION - CORNER OF WHITE ROCK HILL KNOX AND WOODHILL ROADS QUES #27 - WHAT'S WRONG WITH THE EXISTING ONE (COMMUNITY BLDG)? IT SEEMS UNWISE TO HAVE ALL T
Slow down building. We have lost our small town appeal. Police and Highway Departments are out of control!
The Master Plan needs to be much bolder than this survey suggests. The build-out analysis shows Bow becoming a uniform suburb with no rural character- and probably very little diversity in housing choices and prices. The plan should encourage a denser a
A. Enforcement of setbacks and green area requirements in business zone. B. Seek diverse new businesses (other than car sales) C. Additional small parks throughout each map area. D. Safe marked and maintained trails.
Town sewer should be extended to cover all housing on 1 acre lots. We would benefit from a new community center with swimming pool tennis etc.
I love the way my taxes went up last year and you guys sent out the tax assessors. I cant wait to see the December tax bill. Seems like my taxes should go down with all these people moving to Bow (more revenue). My family has been living in Bow dating

Control of growth is of paramount concern. Need to expand conservation land and Town forests. If we keep expanding the school system we only accelerate continued growth and will never catch up while escalating the tax rate."
Developing Bicycle Paths along Town Center Road and Logging Hill rd, I find it dangerous and vehicles are impatient. Finding a safe adequate place to ride on the side of the Road is becoming a problem and poses a threat while riding a bike
School expansion already necessary.
better enforcement of speed limit on 89S
slow taxes increasing
Please lets conserve our land. We do not need to build on every piece on open space. There is too much building going on in the town - especially this summer. We should have a 5 acre minimum lot size.
Currently many residents are paying \$60 or so to join the Concord pools. Maybe a question of this survey should have been how many people pay for those services and more importantly how many would pay Bow for those services.
At the beginning of every meeting you must stand up and do a snow dance for the snow gods so we have a lot of snow for recreation.
I have lived in Bow for 3.5 years and have been very disappointed with the lack of support from the town given to the school system. It's shameful!
Bow is a wonderful town to live in.
Multi-family units should not be build in rural areas
Hiring and firing of employees.
contractor built streets fall apart too quickly. Town ends up with the repairs.
Steps must be taken to insure that land earmarked to commercial development for the purpose of raising the tax base is redistributed to high value developments.
The bandstand and maintenance was/is the best thing that the present administration has promoted.
We need to preserve and maintain what we have, get a jump on our future necessities, but not bankrupt ourselves in the process. The town needs to join with the school district to solve space needs. Any commercial development in the town center/crossroads

Excellent survey! Thank You!
Would members of the planning board or steering committee welcome earsplitting noise emanating from town facilities in their backyards?
Preserve Bow's small town feel. Limit sprawl like that in southern NH
Sargent Park is not being taken care of correctly. It needs to be brought up to safety codes for all ages, and it needs to be cleaned.
We really favor the Town Center Concept and preserving open space/ park area around the Merrimack. Commercial, but please no Loudon road. Bow should be prepared for influx of people with widening of 93. Thank you for this opportunity
wonderful survey
Careful long term planning encouraging appropriate business & industrial activity with systematic/timely coordination of appropriate infrastructure - to include analysis of financing needs
Not necessary to conduct Town services over the web. Current trash disposal system adequate.
Some industry in area B might assist with taxes therefore helping with additions/renovations to schools.
Bow used to be a friendly town to live in and it used to be fun to participate in town activities. Now the young and rich have taken over and I believe they even look down on the older community here and are teaching their children little respect by the
Town growth has been too fast!
need traffic control
Additional hours for transfer station. Caution lights at Bow center/Bow Bog Road and Logging Hill Road (esp. during school hours).
Do not show partiality on permits.
Trash collectors should be sure to pick up trash flying from their trucks. It is all over the area.
The build-out of the town and how this might impact town services.
Town is growing to fast!
Hiking trails and bike paths connecting the entire town to Concord not next to roads but separate ways! Protecting popular areas bikes over cars! Crossing walk high school to tennis courts with sign cars must yield to pedestrians.

Proud to live in this town... it is a great place to raise a family.
Intersections of Knox & Route 3A with Robinson Road are very dangerous due to restricted view(signs, trees, curvature of road, vehicles parked), bad road(base of RR).To turn off 3A is a hazard as fast moving vehicles coming from behind or trying to go by
Expansion of sewer and water is critical to future - density makes individual systems subject to contamination eventually. Tying into business development as we are doing is the right way to go. Adamantly opposed to expanding trails for ATVs and snowmobile
Because Bow has no center you do not meet neighbors. A post office and maybe small commercial area would be of some help.
Schools are crowded. Lot sizes could vary but areas involved would likely be smaller than ones on the map. I'd like to see an increase in recreational opportunities such as a town pool shared with the high school.
Creative solutions to school budgets instead of spending more money. Money does not equal intelligence! Keeping property taxes reasonable.
It seems to that you do not want Bow to stay a peaceful town you want to be like Concord and to me that just plain sucks.
LIMIT DEVELOPMENT expand schools
We need traffic lights at the intersections of Knox and Logging Hill Road and White Rock Hill Road badly!
Need a place for teen activities. Need a centralized commercial area for coffee shops and small stores."
Good job. Thank you.
We love this town but please understand that we don't always need the best of the best. Lets keep it real...because the money can run out!!! School board needs to listen to the towns people, and stop building more buildings!
Each year we should have an old home day like all the other towns around here each year like Dunbarton Hopkinton Loudon Chichester and many others.
I-93 exit and development of office park
I think the school needs to look into before and after school care for kids.

Loud trucks on Logging Hill Road
We have been concerned about how fast the rescue squad and the fire department could be at our home if needed. After the high school mess and expense we are grumpy about the grandiose ideas that have been put forth about the elementary school needs. We f
Paint yellow line down center of road of: South Bow Dunbarton Road. Also how about a shorter street name? This one is ridiculous. You forgot us! I do not want to hear the lack of money excuse.
Would love to see recycling become mandatory only if we can recycle glass plastic cardboard and paper every week together. The schedule can be quite confusing to date. We are capable enough to separate each type of recyclable material into separate containers
I do not want any more building or a new school. If the residents from MA want a new school, let them pay for it.
We need sidewalks.
The Bow Planning Board and Business Development Committee need to work more effectively together
no multi-unit development in rural zones
The town of Bow needs to aggressively manage water use by residential as well as commercial users. Automatic lawn sprinklers use and lawn watering should be banned in times of drought. Many new homes on Brown Hill Road and Buckingham Drive run sprinkler
Too many subdivisions and new homes being put in. Town services have always been good.
Go cluster housing - patch lots together for open space trails etc.
I feel very strongly that we need to stop building houses in Bow. It has become very clear at least to me that this town does not support spending future \$ on schools etc to support a larger population. I also feel very strongly the need to conserve our
Many of the questions didn't estimate the cost to the town and our property tax bill. These factors could effect many of the provided answers. Be fiscally responsible. Do not increase spending unless you increase revenues first.
Keep Bow zoned residential except for section B
With growth we are taking away the beauty and quietness we moved here for. We need full time fire men and rescue squad people. Takes to long for volunteers to respond. I cannot stress enough how bad we need full time fire personal and rescue. Our town
We are new to town, having just moved in August from out of state, so I answered to the best of my

ability with the services I've experienced.
CONTINUATION OF ACQUIRING EASEMENTS FROM DEVELOPERS IN ORDER TO KEEP RECREATIONAL TRAILS OPEN. EXPANSION OF THIS PROCESS IF DEEMED APPROPRIATE AND NECESSARY.
the new police department creates poor will with its residents. over anal at high school with parking, way too strict with ticketing/fines without warning on our town back roads.
School - we need more classroom space now.
?#36 Senior Center - "We don't have one" Very good survey.
I believe the biggest issues are to slow down residential growth and to work on senior citizen housing that is affordable.
Good job! We love living in Bow but would love to see school overcrowding handled.
Thank you to the committee for your hard work!!!
It would be helpful to new residents if there were a "Welcome Wagon" or similar organization. Newcomers have so many questions. Thanks!
QUESTION #17 COMMENT: I really only want #1 (single family homes) but if I have to pick 6, I put them in order of least bad. I like the character of our Town. Part of this character is single family housing that's why I live here. I don't want to see a
I think we should have a Town center with a small store like Southern market or the Drug store in Henniker.
Establish a senior center to include providing meals and transportation. Follow through on the town center plan adapted several years ago. Hire a professional web site person to manage the town site. Adapt a representative form of town meeting
Excess spending and allocation of money . Too many houses being built. Taxes are too high.
Great job!
Bow needs to actively seek manufacturing. Give tax breaks in early stage to get them in town. Without industry - Bow should limit growth!!
School bus transportation should be willing to go into new neighborhoods not only for elementary age school children but also for children in the middle school.
Reference to CAT - Seniors/handicapped need this along with others. Transportation a great concern for elderly in remote areas.

We appreciate the good job done. Not easy in a changing town like Bow! Too many "new" people.
Speeding down our road is a problem. Town Administration could be friendlier.
When the town dump was closed to provide land for the larger school we were promised a new town dump. A new town dump should be of primary concern. Bow needs a town dump.
We must promote commercial development if we are to sustain this type of residential growth. We must provide town services such as sewer water and gas to these areas!
We still don't seem to be doing our share for low income housing. Concord must do it all. What can we do?
Need affordable housing for senior citizens of Bow.
The town transfer station should be open more than 6 hours a week.
The 2 most important issues in my humble opinion for Bows viability are expansion of the tax paying business base and the creation of a Town center.
Investigate town center concept. Village setting with stores town square
LIVE ON THE BORDER OF AREA A AND C. Loved the summer concert series on the ""commons or bandstand (whatever it is called). Wish we had more cultural activities especially during the long winters. I would also have liked a place for my teens to go - a co
Repave road increase, they are poor for our town. New community center building, current one ugly and poor condition.
a town center with shops, restaurants, church and community center in one area
Much of this community is very steep rocky or swampy. Based upon immediate geographical conditions some parts of Bow may justify lot sizes in excess of the current 2 acre requirements. The school system is too excessive and expansive."
Myself I think if some people want certain things (like swimming pool) that they should have to pay for them and not expect everyone in town to pay for them. The older towns people do not get pay raises and are on a fixed income and cannot afford all those things
Need traffic light at community center building this area is congested and can be dangerous especially during school and morning rush hour.
survey a little too long

Find a way to lower property taxes
ATV use has been limited while registration fees rise. Ownership of ATVs in Bow has grown extensively - more so than snowmobiles due to weather patterns. The town needs to allow more use of ATVs and fine heavily the 1 percent that is causing problems.
As a general statement the roads are good for driving but poor for walking/biking. There is no edge to walk or run on. And traffic is busy and it will get worse.
I am not happy about the apartment building being built in the middle of 2 schools. I took away from our country style of living here in Bow.
?#19 - if (commercial/industrial growth)area A and southern B
Your map is a joke. Who do you expect to be able to read it?
School board is out of control. No expansion of the school system. We should send the kids to Concord High."
Wetlands issues regarding development should be more closely evaluated. Specifically Fox Meadow Drive was approved for more lots than reasonable considering the wetlands and poorly drained soils.
Solving the school crowding situation without more upheaval at school district meetings
I feel low income elderly housing should be a priority. Not housing for wealthy retirees. They have other options. I want a place to move to when I am retired 20 plus years Try to bring the varying segments of town together. Brand concerts were a great idea
1. New public safety complex with police fire and town offices. 2. Solve school building issues. 3. Provide for emergency shelter capability for natural disasters."
We really need a centrally located upscale shopping plaza with necessities (restaurant but not a chain). I think not having "junk" food ie pizza and "quickmart" near the high school is a very poor idea. Teenagers eat and have extracurricular activities.
3A is a used car and sandpit major eyesore including vehicles on public and private property. Strict enforcement of traffic controls on 3A to discourage truck traffic.
Curb the housing building. I though we voted on this issue a few years ago and there was a limit!!! The town is growing too fast!!!
Enforce regulations concerning operating a business with trucks and heavy equipment on a residential cul-de-sac where small children play.
Do nothing about the schools until the state can resolve its own impasse! We do recall the park barrel high school vividly!

It is vital to protect the rural character of Bow and whenever possible secure conservation acreage. We need to address the over crowding in the schools because Bow has always had such a high level of education. We need to remember our senior citizens o
QUES#27 - SECURE "THE AUDLEY" DWELLING OVERLOOKING THE POND - PERFECT FOR TOWN FUNCTIONS AND WEDDINGS ETC
We must have expansion of the schools. We need a town center with a small park cafe's small market. Move the fire station - rebuild community center - put small shopping site on land where bandstand is. Move bandstand to a new park area with the new community building
Increase overall tax base in Business Corridors. Continue to fund education. Maintain Bow's excellent school system because it is critical to the community. Also consider going regional with Dunbarton. Upgrade rescue squad to include full time paramedic
No town services over the web- not everyone has a computer.
I grew up in Bow and moved away after high school and returned 3 years ago.
Increase speed limits on mature arteries such as - Bow Bog - Johnson - Lugging Hill - Page etc - (35-40) and be consistent. 30 is too low.
OPEN THE TRANSFER STATION FOR MORE HOURS AND ESTABLISH A SWAP SHOP AREA FOR REUSABLE ITEMS. THERE IS TOO MUCH SAND PUT ON THE ROADS AND THE TRUCKS COME BY TO OFTEN.
Higher impact fees on residential building. Put controls on school board and spending. Clean up route 3A. 5 acre house lots. Police need to dress in uniform when on off duty assignments. Enforce the building code for businesses on 3A. Increase the tax bas
Bow has been a disappointment to us. We moved here in 1991 and it was fabulous. The size of the homes and the attitude of the people are disgusting. There is no backbone in the administration and in particular in the planning board. Communication to t
surly and sour employees not needed arrogant board members not appreciated"
Slow growth of housing. School population growing too fast. I'm a senior citizen and would like to live out my life at home. Perhaps a little tax relief otherwise MY house WILL add up to 4 more children to your town population. I feel water and sewer
The current expenses on town buildings do not take into account the limited income of retired and elderly taxpayers. If high income families want these things in town they should pay a larger share to fund them. Elderly and retired people living in Bow

We would like a Roman Catholic Church in Bow
Change zoning to allow convenience store near fire station. Change zoning to allow commercial developments near 89 over pass.
reinforcement of existing small businesses
The Town children currently have no choice but to move away once grown. We spend a fortune giving a top shelf education to future residents of Concord and Manchester. Let's get some affordable housing in town. Also why is this so called affordable elderly
The police department needs to do a better job at patrolling the roads for speeders. There will come a day when we will pull out of our driveways and were killed because of some idiot speeding.
Would not use town services over the web. Mail and in person is OK.
Stop building a new homes until school crowding issue is resolved.
Need more effective school board and planning board.
The school crowding issue needs to be resolved. No more crazy school board meetings.
BORN HERE 9/8/10 AND WILL LIVE HERE TILL I DIE - WILL BE BURIED IN ALEXANDER CEMETERY. REMEMBER, BOW IS A SMALL TOWN. TAX PAYING CITIZENS CANNOT PAY THE TAXES FOR THE COST OF ALL THE RESIDENTS' WANT FOR THEIR LIVING AND SCHOOLS. THE TOWN IS SUPPOSE TO P
We need to expand the elementary school right away. A new town recreation center with a pool could be combined with this construction.
Bow needs to limit growth. There are too many single family homes being built. Not a good town for low income home owners or for senior citizens on a fixed income."
I think its an excellent idea to have these surveys- I hope people that use them will rally take into consideration some of the thoughts.
Need summer mowing of the roads - overgrowth of trees consuming roads.
I think Bow is being over developed - to the detriment of the quality of life here its services and its tax rate...I do not think that further residential development should be sought or encouraged rather it should be discouraged.
Private money such as was used to build the useless bandstand should be somehow earmarked for schools and other community services. Think of what else that money could have been used for - new HVAC system at the middle school?

All multi-family units must have town water and sewer. No commercial sale of our groundwater.
I really don't believe a new elementary school is needed as I believe the school population will even out if not decrease. If we do build, how about community volunteer building such as successfully occurred in Dunbarton.
Concern over school growth and my ability to afford living in Bow.
Re: #25 - Do not mix ATV w/ snowmobile trails. Re: #28 - Prefer lower cost modular addition(s). Re: #37/38 - Recommend 5 acre zoning in the Rural (RU) District. Re: #41 - ""Support"" ? - CAT Service in Bow - Yes if no cost to the Town. Utilize it myself
Bow must take steps now to limit growth and spending. People without children in the school system are leaving in droves while their vacancies are being filled by people with school aged children. Open land is being gobbled up at an alarming rate. The
Increase recycling
Future school enrollment: the town should NOT try to stay ahead of the projected growth rate. For the time being we should take a "wait and see" approach and build only what is necessary. We already have too many families who have moved to Bow "because
Planning Board allows too many special exception. Town engineer (Provan & Lorber) are ineffective poor quality engineering and construction inspection. Certain construction firms should not be allowed to build roadways in developments. Development road
I would like to see community support for a PopWarner program in Bow. Currently children have to go to the Concord PopWarner team to play. Additionally football programs for children are becoming limited due to lack of field access. Support for a football
Bike paths and sidewalks on Logging Hill Road especially between the schools and recreation center schools are overcrowded need a teen center. Pizza movies bowling."
Small business and town center especially a place for teens. There is nothing for teens to do and no where for them to go. As town grows access to roads that dump into Clinton Street will become harder. Bike trails would be great.
I believe it is very important to keep Bow a small community and limit growth to keep a rural atmosphere.
Brush Disposal Area
As you compile your information and make up your plan, I only ask that when putting it together, consider that our town needs to be a place for middle income families and a place where residents who have lived her all their lives can live out their remaining years

WOULD REALLY LIKE TO SEE BOW GET ITS OWN POST OFFICE. FIRE DEPARTMENT NEEDS A NEW BUILDING"
Reference #21 - B - except for professional offices and banks.
VARY LOT Sizes IF SERVICES ALLOW IT AND FOR CLUSTER HOUSING
With the addition of two "senior" oriented development would it not be wise for the town to encourage a pharmacy to open for business here? Most seniors require some medication not to mention the rest of the population. I urge you to consider the needs
It is crucial that we plan and set aside land for a town center and surrounding retail space. I am not sure we will ever recover the loss of the land across from the fire station(elderly development) as it was the ideal spot for a town center/retail space
Concerning road care I have seen the need for a brush hog attachment for clearing brush and small trees near intersections.
Want to see a town center. coffee shops. shopping plaza. restaurants. and generalized gathering area.
Town has lost its rural character. Only concerned with new residents
Increase participation with school district re: facilities. Acre zoning - 3 acres in some area and cluster zoning in others.
In order for Bow to maintain a high quality of education without an extreme tax burden Bow MUST encourage and secure another large industry NOT additional single family residences build with no concern for how they affect the tax rate. One formula could
Biggest concern increasing tax base by drawing in new businesses along 3A or other appropriate places.
Keep Fire, Rescue Squad, Police, nearby schools
Reduce Local and State property taxes for fixed income Seniors (65 and over) to 1990 level. Until then we will not gain wholehearted support for implementing the above school and town improvements. Those seniors cannot pay the resulting tax increase as we
A small town controlled town center/retail would help. From many parts in Bow its a 20 minute drive for a gallon of milk! Perhaps by the original school off Logging Hill Road.
Would like to see an alternate truck route or exit for trucks going on and off the highway from route 3A.

Hall Street and the few remaining houses that are on the riverside. I know that the issue of erosion is being addressed and we residents on Hall street thank you.
I would like to stay in Bow after my children have graduated from college. I would like to find a small house on 1 acre which is very difficult to find.
Get out of cemetery business or at least charge more or some ability to pay for ____
Bow has grown too fast. It is now not the rural town it was 50 years ago when we settled here. Do not like it but will not move.
The map provided was very difficult to read - print excessively small
Remind the school employees that they work for the town.
adequate schooling looking at future class size without bias are classes getting smaller
Transfer station open during the week (Wednesday). Another fire station.
We still have a good town and I for one would like to keep it that way. The people that want all these services should have to pay not me. Make sure no one on the Planning Board and Zoning Board are contractors or have a conflict of interest.
Schools; The school board should be more considerate with the taxpayers money; and more responsible with the budget. They should work for town taxpayer not for themselves and their own interests. Let us keep Bow a small rural town. If people move here
Reference 38: where ever any type of multiple housing will be allowed. Provide multiple family housing along sewer/water areas. Encourage the Bow Historical Commission to become a Bow Historical Society entity.
Bow has been my home for 50 years but many changes that have taken place are undesirable. I don't think the town should be encouraging any type of new housing. The school should not be expanded... this will slow the rapid movement into Bow.
In my opinion there are two things this town lacks 1. There is no center of town. We lack identity! No place to go have coffee no country store no post office no common meeting areas. We have no charm but we have great schools! 2. We lack commercial/
A real transfer station that takes all our trash that is not recycled all of our wood steel and other unwanted materials.
Community swimming pool with member bonds like Copoco in Concord but more inclusive like a Town Only Pool. Could this be incorporated with Field House Sports Area? Recycle paper AND

plastic each week."
Please leave Bow a small country town without lots of businesses or multi-families which are rented out to irresponsible families (usually) by slumlords who won't upkeep for higher profit margins. Bow is quaint and prosperous and should stay that way wit
Reference # 31-Pounded Well.
Expand Bow elementary and Middle School.
Until some reform of school funding occurs, residential growth in Bow puts us at financial risk. Even if reform does occur, residential growth is only beneficial to developers and mayor landowners.
Special thanks to the zoning team for listening! Would like to be more informed by the Town of upcoming zoning special requests that affect us. We only found out because neighbors knew what was going on. "
Many questions are marked with no opinion because of lack of information or knowledge of the area.
Purchase/preserve farm and maintain it as a farm. Purchase as much land as possible for conservation and bond it for as long as possible. Do it now or opportunity will be lost. Co-develop town center using long term leases where structures ultimately a
waster and sewer for White Rock Hill Road area including Village Shore Estates (about 100-homes in 1-acre lot subdivision). Community water well for Village Shore Estates is approaching its useful service life.
Lot sizes should be based on the technical standards provided under state regulations and law. We should be preserving open space. Promote and encourage open space development. Give developers incentives to provide this type of development. At the pre
Control the rapid growth!
Build new schools, renovate old ones. Get rid of town meetings.
Stop development.
The reason people move to Bow are quickly being taken away.
The town planners need to pay close attention to developing neighborhoods and life sustaining resources. I shouldn't have to travel to Concord for groceries gas and basic necessities. The Bow Mobile is abusing its monopoly with its prices. Our children
You cannot get to this survey via your directions of www.bowmasterplan.net/survey . You can however get to it by way of www.bowmasterplan.net

Bow is a bed and breakfast community and its residents like to bike and walk along the streets therefore we need to provide a safer environment by providing sidewalks or wider shoulders for these activities.
The town of Bow really needs more commercial and industrial growth to help offset the rise in residential real estate taxes. Industry is also needed for better paying jobs and the commercial is needed to help serve the public. This should all be kept in
Planning Board let Windchimes development "slip through the cracks" on issues. Volunteers on the Boards need to do their homework more carefully.
Need to develop commercial properties, and get the school board to act realistically and affordable, we need to provide a full sized Ford education NOT a Lincoln/Mercedes Benz education. Also the school needs to better share its fields etc.
Unfortunately, I could not answer accurately questions related to maps. If any services/businesses are added, they should not be in residential areas. No eminent domain! Also, our growth needs to be curbed. We need to deal with the school issue...we s
The town seems to do a very good job at Capital Improvement Planning by budgeting and appropriating monies for these future needs. It would be refreshing to see this same approach for long term Master Planning on the school side and business development
1. Waste management is always a day late - for years. I would prefer to recycle and take trash on my own. 2. Bow should maintain a two acre minimum."
overhaul the administration at bow high school and test all teachers in their subjects. I have found that there teaching seems to be inadequate and at times unprofessional.
Water, protection of aquifer should be a priority. Gas additive MTBE is a serious threat to us all and our gov't is doing nothing about the problem. Just a small spill from filling the lawn mower can cause a problem. all lots should be big enough to s
Bow is missing a rec. facility/town park that includes a pool, playground, picnic tables, etc. To encourage family time and community spirit.
I moved to Bow in 1975 when I was 10 years old and lived here until after college in 1987. I moved back here in 1999. Bow has improved tremendously since my days at Bow Memorial in 1975-1980. I feel that there is a great sense of community as a result
Need to try to increase commercial tax base. Do not need to encourage growth or multiple unit housing. Need to provide adequate space in schools. Need to improve access to athletic fields.
Curbside trash pickup causes litter alongside of roads. The pickup is delayed some weeks causing it

to blow all over the streets. We should have the company go along the roadsides before the snow flies and pick it all up.
GET SOME BUSINESSES HERE!
Few services in Bow for hospital care shut-in care and the elderly
once or twice a year have garbage collection pick up large items such as tables and chairs.
I did not receive a survey in the mail.
I believe the current school overcrowding issue was indirectly caused by the school board by their building a taj mahal high school which drew large number of families with more children. these people came from great distances (ohio, California)
all lots should be a minimum of 2 acres. businesses pay taxes but are not afforded privilege of disposing of clean waste from office and bathroom."
RE #38: Cluster w/conservation area instead of chopping the whole town up
Impact fees for development seem extremely high compared to other towns in NH. It would appear Bow is close to illegal in the amount of means of the fee. This should be reviewed before the town is sued.
I think expansion of schools is a priority
we bought in bow because of the small town community feel of it would be a shame to ruin that by over development
Water and sewer service along 3A. Rezoning of residential district or provide an overlay district to allow flexible business and industrial development. Route 3A has too much traffic and is too valuable to the town for continued residential development.
I love the "country traits" that Bow possesses. Its charm and independent sources are what keep it "country" "rural atmosphere" We want to develop Bow but keep its atmosphere the same.
I am just a landowner in Bow therefore I cannot be of much help in this survey.
Would support Concord Area Transit bus service for the elderly. Question number 30 is a two part question. The Town should identify appropriate properties for future town services, but should not take steps to procure those properties. The Town needs t
need better control of the school board school administration, teachers union and school budgets. enforce route 3 codes for business construction. police officers should be in full uniform at all times when on duty including construction school duty and t
I feel biking/ walking lanes on major roads are important.

The attitude of the new police force is very "local unfriendly"
winter sand on the roads in spring/summer is a bike hazard
There is no way to dispose of large trash if you do not have a truck () man in the house without great cool!!
bigger isn't better the beauty of bow is the quiet clean streets and the pride in home ownership. I like to just come home. when I need a break I travel somewhere else. I think expansion in bow is totally wrong."
I could not read map as print not legible so were unable to answer any questions referring to map
The major consideration in my opinion is to avoid over-regulation and interference with individual rights and opportunities. Too many municipalities get involved in areas where they do not belong. Avoid creating services for the few paid for by the many
Thank you. Bow is a great town. Excellent schools. Town is blessed with lots of people who give of their time with no thanks. Cannot believe the heat the school board takes for doing great things for our kids."

APPENDIX E

BOW PRIME WETLANDS

BOW PRIME WETLANDS

Prime Wetland	Size of Prime Wetland	Prime Wetland Watershed	Location of Prime Wetland	Importance of Prime Wetland
Great Meadow Swamp (Wetland 32)	52 acres	Bow Bog Brook Watershed	Headwaters of Bow Bog Brook and Horse Brook Watersheds	Secondary recharge area for the Center Brook aquifer; high functional rating for the breeding, migration, and wintering of wetland dependent birds
Wetland 34	28 acres	Bow Bog Brook Watershed	Along Horse Brook, downstream of Great Meadow Swamp	Protection of the quality of surface and groundwater entering the primary recharge area
Wetland 35	110 acres	Bow Bog Brook Watershed	Along Bow Bog Brook, between Bow Bog Road and I-93	Located in the primary and secondary recharge zone for the Bow Bog Brook upstream aquifer exploration area; acts as a buffer zone for a significant portion of Bow Bog Brook; portions of this wetland are located within one of the Bow Town Forests; part of an area actively managed for wildlife
Wetland 43		White Brook/Turkey River Watershed	Headwaters of White Rock Brook Watershed and Turkey River Watershed	White Rock Brook is considered a highly scenic stream
Wetland 44		White Brook/Turkey River Watershed	Upstream of scenic portion of White Rock Brook	Protects White Rock Brook; located in the secondary recharge zone of the White Rock Brook aquifer exploration area

Wetland 45	103 acres	Turkey River/White Rock Brook Watershed	Headwaters of the White Rock Brook and Turkey River watersheds	Exhibits a wide diversity of vegetation types; located in a significant deposit of sands and gravel conducive to recharge of groundwater
Wetland 55	149 acres	Turkey River/White Rock Brook Watershed	Abuts Turee Pond and Wetland 56	Located in the primary recharge area of the White Brook aquifer exploration area
Wetland 56	410 acres	Turkey River/White Rock Brook Watershed	Surrounds and includes Turee Pond	Unique, large floating, natural bog and pond; offers environment; educational and recreational opportunities

Source: New England Environmental Associates, Inc.
Bow Wetland Study and Prime Wetlands: A User's Guide. December 1989

APPENDIX F

BIRDS OBSERVED IN BOW
AUDUBON SOCIETY OF NEW HAMPSHIRE
URBAN BIRD PROJECT

BIRDS OBSERVED IN BOW
AUDUBON SOCIETY OF NEW HAMPSHIRE'S
URBAN BIRD PROJECT

In the spring and summer of 2001 and 2002, Audubon staff conducted weekly surveys of several locations in Bow as part of a study on the effects of development on breeding bird populations and nesting success. A single site was surveyed in 2001, and included the area between Heidi Lane and Poor Richard's Lane. In 2002 the Heidi Lane site (HL in table) was surveyed again, and three additional sites were established. These were the residential area known as Village Shore Estates (VSE) and two parcels of town forest: one along Robinson Road (RR) and one along Page Road (PR).

In the accompanying table I present information on all species recorded at these sites during the study. The letters in the table refer to both the breeding status and relative abundance of each species detected during the breeding season (roughly mid-May through early August), and are explained below. Please note that data for the 2002 season are provisional, but do likely represent broad patterns of distribution and abundance.

- M This species was most likely only a migrant at the site. There was no clear evidence that individuals were resident, much less that they attempted to nest.
- X This species was recorded only a few times, and is considered peripheral to the site. It likely breeds in nearby areas, but only uses the site occasionally.
- U This species is regular at the site, but uncommon. This translates to only one or two territorial pairs. It probably breeds, but may not do so every year, and also might spend a significant portion of its time off-site.
- C A common species that almost certainly breeds at the site. This means there are three to five territorial pairs present.
- A An abundant species, represented by six or more territorial pairs.

Habitat preferences are given for each species, and can be interpreted as follows:

Forest – Can be either coniferous or deciduous, species’ preferences for one or the other type are not listed in the table.

Larger forest blocks – These species are considered area sensitive, and usually do not nest in forests smaller than a certain size (varied by species). They tend to occur primarily in unfragmented habitats or where development has left a relatively large area of forest intact.

Forested Wetlands – These are forests with some standing water at least in the early part of the breeding season. Species of forested wetlands can also sometimes be found in adjacent areas of upland forest or relatively unfragmented suburban areas.

Edges – These are areas of transition between forests and open spaces (either fields, marshes, or developed areas).

Shrubby areas – Extensive patches dominated by low shrubs. Sometimes occur under a forest canopy.

Old Fields – Open areas that are in the process of regrowing into forest. Usually more open than the previous habitat.

Suburbs – This habitat is usually a forest that has been carved up into numerous house lots. As lot size increases, more and more of the original forest tends to remain unaltered, allowing for the presence of birds more typical of unaltered habitats.

Urban areas – These are developed areas where either lot sizes are very small or where almost no original vegetation remains. They are dominated by buildings and impervious surfaces.

Species	HL 2001	HL 2002	VSE 2002	RR 2002	PR 2002	Habitat Preferences
Red-shouldered Hawk		X	U	X		Forested wetlands
Broad-winged Hawk	X	U	U	X	U	Larger forest blocks
Red-tailed Hawk		X	X			Edges, old fields
Mourning Dove	U	C	U	X	X	Edges, suburbs, urban areas
Barred Owl			X			Larger forest blocks
Chimney Swift		X				Forests, urban areas
Ruby-throated Hummingbird	X	X	X			Forests, suburbs
Red-bellied Woodpecker			U			Forests, suburbs
Yellow-bellied Sapsucker			M		X	Larger forest blocks
Downy Woodpecker	U	C	C	X	U	Forests, suburbs
Hairy Woodpecker	C	C	U	X	U	Forests, suburbs
Pileated Woodpecker	U	X	X	X	U	Larger forest blocks
Northern Flicker		X	U	X		Forests, suburbs
Eastern Wood-Pewee	U	U	X	X	U	Larger forest blocks
Eastern Phoebe	C	C	C	X	U	Edges, suburbs
Great Crested Flycatcher	U	U	X	U		Forested wetlands
Eastern Kingbird		X	X			Edges, open areas
Blue-headed Vireo	X	U	M	X	X	Larger forest blocks
Red-eyed Vireo	C	A	C	U	C	Larger forest blocks
Blue Jay	C	A	C	U	U	Forests, suburbs
American Crow	U	C	U	X	U	Forests, suburbs
Tree Swallow	U	X				Edges, open areas
Black-capped Chickadee	A	A	A	C	C	Forests, suburbs
Tufted Titmouse	A	A	A	U	U	Forests, suburbs
Red-breasted Nuthatch		X		X		Forests
White-breasted Nuthatch	C	C	C	U	U	Forests, suburbs
Brown Creeper	X	X	X	X	X	Larger forest blocks
Winter Wren		X		U		Larger forest blocks
Blue-gray Gnatcatcher					M	Forests
Veery		X	U	U		Larger forest blocks
Hermit Thrush		U	M	U	U	Larger forest blocks
Wood Thrush	U	X	X			Larger forest blocks
American Robin	A	A	A	X	X	Edges, suburbs
Gray Catbird	U	C	U			Edges
European Starling		X				Suburbs, urban areas
Cedar Waxwing	X	X	X			Edges, suburbs
Black-throated Blue Warbler			X	X	U	Larger forest blocks
Yellow-rumped Warbler	X	X	X			Forests
Black-throated Green Warbler	U	X	X	U	U	Larger forest blocks
Pine Warbler	X	X	U	U	U	Forests, suburbs
Black-and-white Warbler	X	X	U	U	M	Forests, edges
American Redstart		X		X	X	Forests, edges

Species	HL 2001	HL 2002	VSE 2002	RR 2002	PR 2002	Habitat Preferences
Ovenbird	X	X	X	U	U	Larger forest blocks
Northern Waterthrush		M	X	X		Forested wetlands
Louisiana Waterthrush		X				Forested streams
Common Yellowthroat	X	X	X			Edges, old fields
Scarlet Tanager	U	X	X	X	X	Larger forest blocks
Eastern Towhee				X		Shrubby areas
Chipping Sparrow	A	A	A			Edges, suburbs
Song Sparrow		X	X			Edges, suburbs
Northern Cardinal	U	C	U	X		Edges, suburbs
Rose-breasted Grosbeak		X	X		M	Edges, old fields
Common Grackle		X	U			Edges, old fields
Brown-headed Cowbird	C	C	U	X		Edges, old fields
Baltimore Oriole	X	X	M			Forests, edges, suburbs
Purple Finch		M				Forests
House Finch	X	U	X			Suburbs, urban areas
American Goldfinch	X	X	X			Edges, old fields

Source: Audubon Society of New Hampshire, 2002

APPENDIX G

AVERAGE DAILY TRAFFIC COUNTS
BOW ROADS, 1992-2002

AVERAGE DAILY TRAFFIC COUNTS FOR BOW ROADS, 1992-2002

Road	Location	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
I-89	Exit NH 3A & I-93 (NB-SB)	-	-	5100	4900	7700	6000	5900	5600	-	-	-
I-89	West of I-93 (NB-SB)	-	17000	19000	17000	20000	23000	22000	23000	-	-	-
I-89	South Street Bridge W. of I-93 (NB-SB)	30000	31000	39000	32000	34000	32000	38000	-	-	-	-
I-89 Ramp	F & G Over Turkey River	3600	-	-	-	4400	-	-	-	-	-	-
I-89	Concord TL Exit 1-2 (SB-NB)	-	-	-	29000	31000	32000	33000	34000	36000	-	-
NH 3A	South of Grandview Rd.	-	-	-	11000	11000	-	-	-	12000	-	-
NH 3A*	S. of Robinson Rd.	-	-	-	-	-	-	-	8290	8495	8376	-
Albin Rd.	At Concord City Line	603	-	-	560	-	-	-	-	-	752	-
Allen Rd	Bow Bog to Stony Brook	-	-	-	710	-	-	-	-	-	-	-
Allen Rd	S. of Stony Brook Rd.	-	-	-	-	-	-	-	-	664	-	-
Birtchdale Rd.	Over White Brook	630	-	-	-	-	-	-	-	440	-	943
Bow Bog Rd.	E. of Bow Center Rd.	-	1779	-	-	-	-	-	-	-	1734	-
Bow Center Rd	At Knox / White Rock / Logging Hill	-	-	-	-	-	-	-	-	-	5494	-
Branch L. Tpk.	Bow Center to Arrow Head	-	-	-	-	-	227	-	-	-	-	-
Brown Hill Rd.	Page Rd. to Tonga Drive	-	-	-	-	835	-	-	-	-	-	-
Brown Hill Rd.	S. of Page	-	810	-	-	-	-	-	-	1049	-	-
Brown Hill Rd.	N. of Putney Hill Rd.	-	332	-	-	-	-	-	-	-	-	-
Dow Rd.	At NH 3A	-	-	-	-	-	-	-	811	-	639	-
Dunbarton Center Rd.	Southwest of Hooksett Rd.	-	-	-	-	1100	-	-	-	-	-	1449
Dunklee Rd.	Over Bow Bog Brook	-	-	-	-	-	1100	1500	-	-	1053	-
Dunklee Rd.	East of NH 3A	-	921	-	-	904	-	1422	-	-	-	-
Grandview Rd.	Over I-93	-	-	-	-	-	-	-	-	-	1073	-

Road	Location	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
Grandview Rd.	I-93 Overpass	950	-	-	-	1200	1000	-	866	1100	-	-
Grandview Rd.	East of Town Offices	-	-	-	-	-	-	-	-	-	1375	-
Hall St.	By Blue Seal Feeds	-	-	-	-	5370	-	-	-	-	-	-
Hall St.	Concord TL	-	-	-	-	4100	-	-	-	5000	-	5261
Johnson Rd.	East of 3A	-	-	-	-	979	1340	495	727	-	803	-
Knox Rd.	At Robinson Rd.	-	-	-	-	287	-	389	-	-	-	-
Knox Rd.	At 4-way Intersect	-	-	-	-	-	-	1193	-	-	1696	-
Knox Rd.	Between Dow and Heidi Ln	-	-	-	660	-	-	-	-	-	-	-
Knox Rd.	E. of Bow Center Rd.	-	1294	-	-	-	-	-	-	-	-	-
Knox Rd.	Bow Center to Heidi Lane	-	-	-	-	-	1170	-	-	-	-	-
Logging Hill Rd.	at 4-way intersect	-	-	-	-	-	-	5580	-	-	-	-
Logging Hill Rd.	North of White Rock Hill Rd.	-	-	-	-	6700	-	-	6700	-	7846	8327
North Bow Dunbarton Rd	At Town Line	-	-	-	-	-	-	-	-	-	242	-
Page Rd.	Over Bela Brook	910	-	-	-	1000	-	-	-	570	-	1214
Page Rd.	West of White Rock Hill Rd	-	-	-	-	-	-	-	-	-	1334	-
River Rd.	B&M Rail Road Bridge	490	-	-	-	570	-	-	-	480	-	737
River Rd.	Off 3A	-	-	-	-	2026	-	-	1607	-	1624	-
River Rd.	Between Vaughn and 3A	-	-	-	1400	-	-	-	-	-	-	-
River Rd.	East of NH 3A	-	1535	-	-	-	-	-	-	-	-	-
River Rd.	At Dunklee	-	-	-	-	-	863	-	-	-	-	-
Robinson Rd.	SW of Knox Rd.	-	-	-	-	528	-	662	735	-	-	-
Robinson Rd.	West of DPW	-	-	-	-	-	-	892	-	-	-	-
Robinson Rd.	Between Knox and I-93	-	-	-	670	-	662	-	-	-	-	-
Robinson Rd.	West of NH 3A	-	839	-	-	-	-	-	1047	-	1016	-
South St.	Turkey River Bridge	6800	-	-	7200	7700	-	8000	-	-	-	-

Road	Location	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
South St.	North of Grandview Rd.	-	-	-	7200	-	-	-	-	-	-	-
South Bow Rd.	At Woodhill Road	-	-	-	-	-	-	-	-	748	-	-
Vaughn Rd.	East of 3A	-	-	-	-	278	-	-	-	-	-	-
White Rock Hill	Timmins to Bow Center	-	-	-	2200	-	-	-	-	-	-	-
White Rock Hill	W. of Bow Center Rd.	-	-	-	-	-	-	2061	-	-	3281	-
Woodhill Rd.	South of Hooksett Rd.	960	-	-	1200	-	-	1300	-	1597	-	-

Source: CNHRPC 2002 Traffic Count Database

* Permanent traffic counter location

APPENDIX H

TOWN OF BOW REPORTED ACCIDENT LOCATIONS JANUARY 1, 1999 – FEBRUARY 18, 2003

**TOWN OF BOW REPORTED ACCIDENT LOCATIONS
JANUARY 1, 1999 – FEBRUARY 18, 2003**

Accident Location	Number of Reported Accidents
Albin Road	2
Allen Road	1
Birch Tree Lane	1
Birchdale Road	2
Bow Bog Road	8
Bow Center Road	16
Bow Junction	1
Brown Hill Road	6
Clinton Street	15
Clement Road	1
Colby Lane	1
Dow Road	1
Dunbarton Center Road	4
Dunkley Road	2
Ferry Road	2
Grandview Road	4
I-89	3
Hall Street	5
Heidi Lane	1
Hooksett Turnpike	2
Knox Road	4
Logging Hill Road	9
North Bow Dunbarton Road	2
Old Hill Road	1
Page Road	15
Poor Richards Drive	1
Putney Road	1
Ridgewood Drive	1
River Road	4
Robinson Road	8
Route 3A	64
Sharon Drive	1
Shore View Drive	2
South Bow Road	3
South Street	9
Tallwood Drive	3
Tally Ho Lane	1
White Rock Hill Road	36
Woodhill Road	6
Woodhill Hooksett Road	7

Source: Bow Police Department, February 2003

APPENDIX I

BOW BRIDGE NETWORK

BOW BRIDGE NETWORK

Bridge	Feature Crossed	FSR	Obsolete or Structurally Deficient	Year Built	Owner
NH 13	W BR Bela Brook	71.0		1940	State
NH 13	E BR Bela Brook	54.1		1911	State
Page Road	Bela Brook	85.8		1950	Town
Birchdale Road	White Brook	85.8		1950	Town
I-89 (Ramp F)	Turkey River	99.0		1959	State
I-89	South Street	83.0		1959	State
South Street	Turkey River	94.6		1911	State
I-93, Fee TPK SB	I-89, Turkey River	32.7	SD	1980	State
I-89 (Ramp A)	Turkey River	95.0		1959	State
I-89 (Ramp D)	Turkey River	98.0		1987	State
Grandview Road	I-93, Fee TPK	94.9		1978	State
Grandview Road	I-93, Fee TPK	00.0		1978	State
I-93, Fee TPK NB	I-89, Turkey River	66.8	SD	1980	State
I-93 NB On Ramp	I-89, Turkey River	69.1	SD	1978	State
NH 3A	Turkey River	29.8	SD	2000	State
I-93, Fee TPK	Dow Road	66.0	FO	1957	State
I-93, Fee TPK	Robinson Road	81.0	FO	1957	State
NH 3A	Bow Bog Brook	93.2		1934	State
Dunklee Road	Bow Bog Brook	69.7		1950	Town
River Road	Bow Bog Brook	96.9		1950	Town
River Road	B&M RR	95.4		1989	Town

Source: NHDOT Mini Bridge List, 1997

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<http://pubs.usgs.gov/of/2003/of03-225/of03-225.pdf>

