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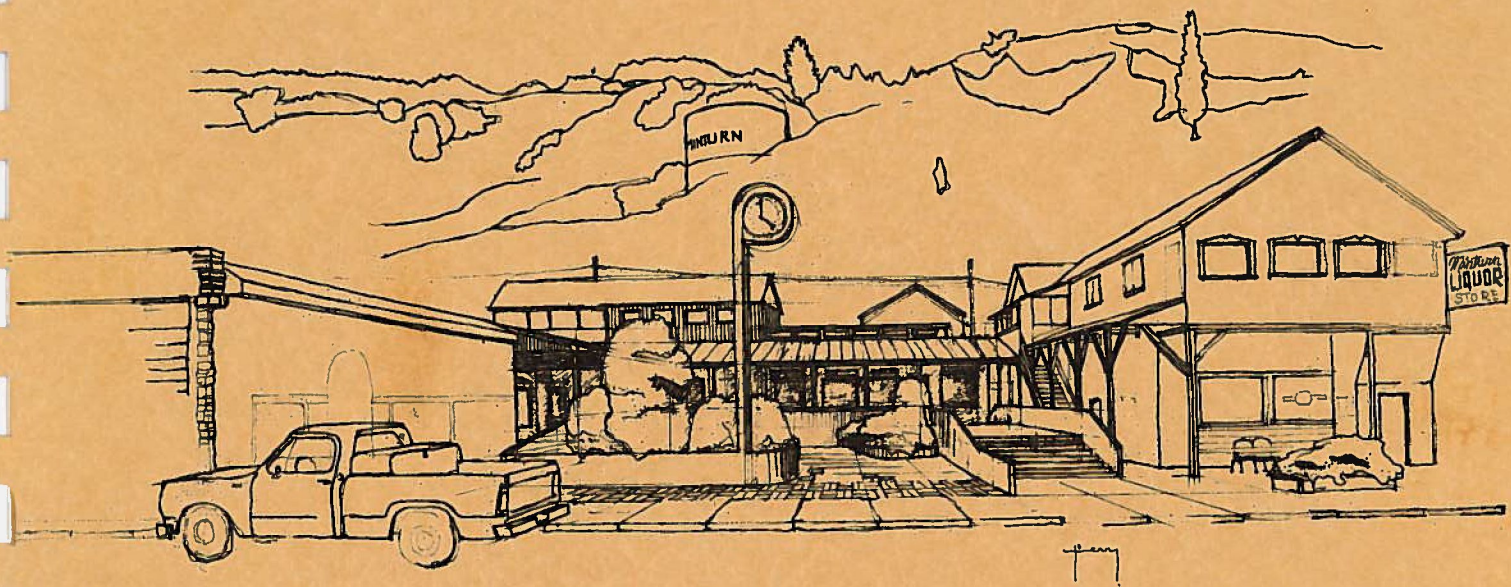
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AVENUE -

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# MINTURN VALLEY COMPREHENSIVE PLAN

MINTURN VALLEY COMPREHENSIVE PLAN

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This project was developed by students from the University of Colorado, Department of Environmental Design, and was financially aided by the Towns of Minturn and Vail and Vail Associates.

# Town of Minturn

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Box 381  
Minturn, Colorado 81645

May 6, 1975

TO: Honorable Mayor and Board of Trustees

Gentlemen:

The following comprehensive plan is respectfully submitted for your review and approval.

This document is a comprehensive approach toward identifying goals and future policies for the community as stated by the citizens in a series of public meetings and discussions. Areas that were studied include: Economic and Fiscal Programs; Population; Housing; Environmental Concerns; Community Facility Needs; Recreational Needs; and Land Use Needs and related problems.

The document also addresses itself toward setting forth recommendations which, if implemented in partial if not in total, should provide a basic framework for the future growth of the Minturn Valley.

On behalf of the Town of Minturn, I would like to express sincere thanks and appreciation to the University of Colorado, Department of Environmental Design, Urban and Regional Planning - Community Development, under the directorship of William Lamont and Robert Utzinger, for their cooperation in this project. I also would like to express special thanks and sincere appreciation to the students, Robert Goddard, Lowell Mitchem, Jean Mestres, Tony Gengaro and Terry Palmiter for their devotion, dedication and efforts toward the successful completion of this project.

I would recommend that this project serve as a model for other small communities like Minturn in identifying how the vast talents which are available at local colleges and universities can be utilized. This untapped resource assists underfinanced communities complete necessary studies, as well as providing interested students needed real life experiences in their respective fields.

Finally, this Board should be commended for your support of this project. It indicates a progressive attitude toward reaching solutions to the various problems and challenges facing the Minturn Valley.

Sincerely,



Robert Manzanares  
Town Manager

RM:rjr

## ACKNOWLEDGEMENTS

We would like to take this opportunity to thank some of the people who aided us in the development of this plan:

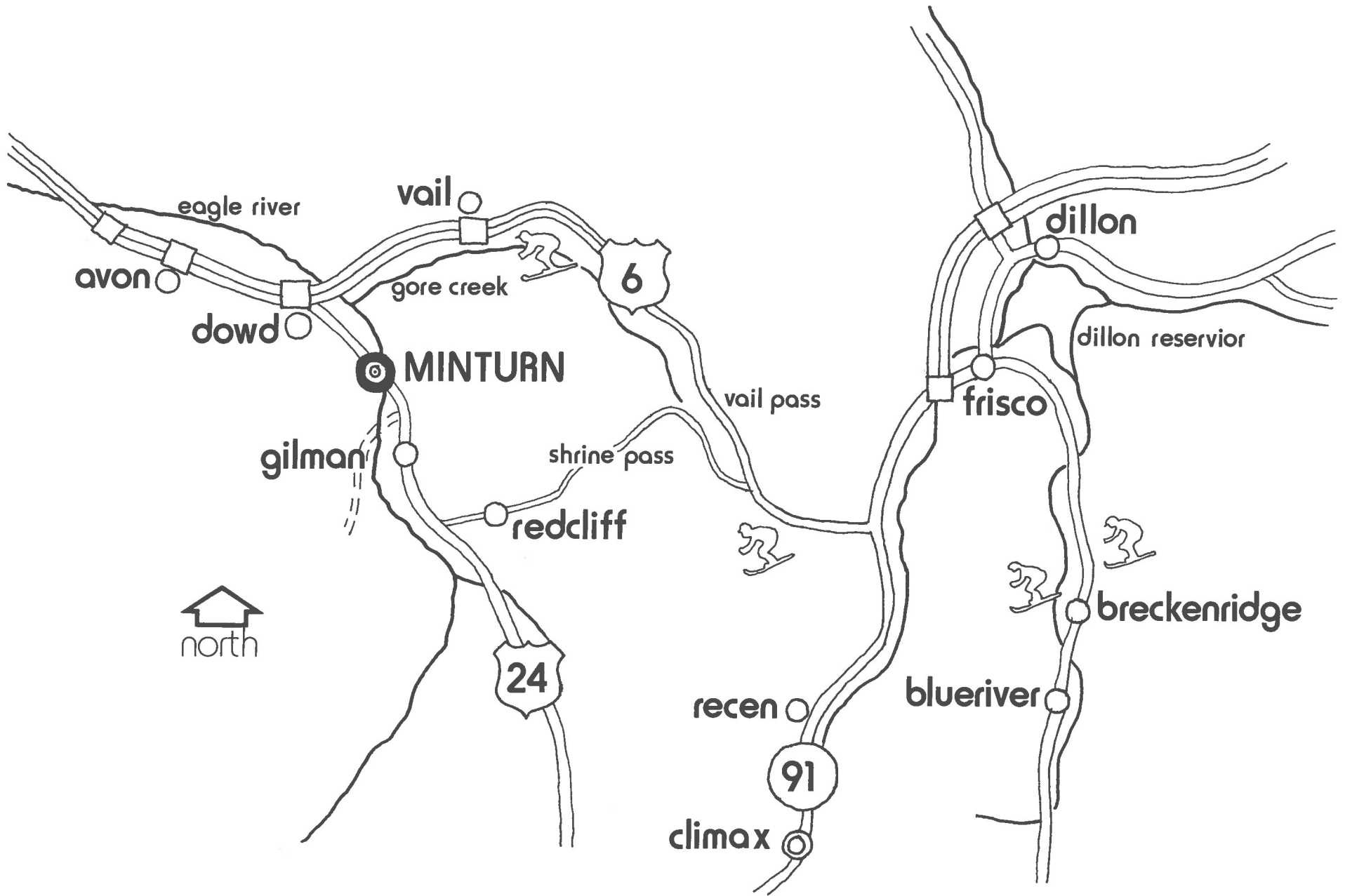
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David Mott, Vail Associates Planning  
The Minturn Board of Trustees  
James Carson, U.S. Forest Service  
Michael Blair, Eagle County Planner  
James Kent, FUND  
William Lamont, Department of Environmental Design, C.U.  
Robert Utzinger, Department of Environmental Design, C.U.  
Engineering Firm of Ketchum, Konkell, Barrett, Nickel & Austin  
Ruth Marietta, Town Clerk

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# INTRODUCTION





The overall goal of the comprehensive planning process is to systematically deal, in a constructive manner, with the evergrowing problems that face the Town of Minturn today and in the future. This goal can often be overlooked in the actual day-to-day execution of public policy at all levels of government. Public policy continues to deal with these problems individually and separately, often at great expense to all. But the final result is that the environment and the economy suffer and in turn the people are not guaranteed the utmost opportunity for personal initiative and fulfillment of their ambitions.

Planning is not the final answer to this dilemma, but it has been proven to be an effective tool that should be used to improve the present situation. This plan has been developed through a planning process that calls upon the public to ask the question: Is our development headed in the best possible direction or can it be improved? Citizen participation has played a vital part in the formulation of this plan.

The planning group started the process by giving the literature concerning the Minturn Valley a general review and then combining this information with our basic preliminary surveys of the Valley to form some tentative goals and policies. These tentative goals and policies were updated and improved through a series of meetings with the Board of Trustees of Minturn and the general public. Taking the updated goals and policies, the planning group was able to develop alternatives and recommendations for Minturn and the Valley. The alternatives and recommendations were updated through the public meeting process to their present form. The last phase of the planning process was the task of synthesizing and editing all of the information that was gathered throughout the entire process into the following planning document.

This plan, by its very nature, will have conflicts that will develop between different factions within the Town and the Valley. However, the planning group believes these conflicts are a necessary part of the democratic planning process. This plan puts the desired ends and alternative means on public record and leaves the task of deciding the final priorities and forms of implementation in the hands of the Minturn Board of Trustees.

This plan is the single most important guide to evaluate the future actions that will affect the Valley's social, physical and economic development. The day-to-day decisions that Minturn's public officials are being required to make concerning land use, public facilities, capital improvements, subdivisions and the daily business of government will be made easier by reference to the desires of the Valley articulated by this plan.

The plan also provides a guide to citizens and potential developers, as well, to assist them in making the proper decisions concerning Minturn's future growth.

In order for the Minturn Valley to maintain a dynamic profile in the future, this planning process will have to be repeated again in the upcoming years. Actually, the planning process never ends--it is continually improving and purging itself of the weaknesses that avail themselves of the confusion found in a great many of our country's towns today.

# SUMMARY

### Economic Section Recommendations

- 1) In general, due to the gradual decline in mining operations, the residents of Minturn and the Valley are going to have to look towards the regional tourist industry for employment.
- 2) The Town of Minturn will have to continue to seek out alternative revenue sources in the future.
- 3) The Town of Minturn should develop an annexation policy that will effect an efficient unification of the Valley's populace and resources for the maximum benefit of all.
- 4) The Town of Minturn should investigate the possibility of joining one of the present recreation districts within the region.
- 5) The Town of Minturn should start planning for the following capital improvements programs:
  - a) A systematic street improvement program
  - b) A systematic water system improvement program
  - c) A systematic bike path program
  - d) A parks and recreation improvement program
  - e) A storm drainage system

### Housing Section Recommendations

- 1) The Town of Minturn should contract with Eagle County for the use of their building code and inspector.
- 2) As an alternative to mobile homes, modular housing should be encouraged.
- 3) The Town of Minturn should encourage the development of a mobile home park to handle the present and future demand within the corporate limits.

### Parks, Recreation and Open Space Recommendations

- 1) The Minturn Elementary School should be converted into a community center, including sports, leisure and public activities, as well as a library and town hall.

- 2) The area in front of the elementary school should be developed as a mini-park.
- 3) The area near the Forest Service facilities, in South Minturn, should be developed by the town for a community park.
- 4) The Eagle River flood plain should be developed into a green-belt area.
- 5) A neighborhood park located northwest of Foster Lumber Yard on the Eagle River should be developed.
- 6) Initiate a land acquisition program for parks and open spaces.
- 7) Minturn should investigate the possibilities of locating and developing a small locally oriented ski area at Meadow Mountain.
- 8) Any remaining useable land abutting the Town of Minturn's playing field should be acquired as a permanent addition to the existing facility.

#### Circulation Recommendations

- 1) The Town of Minturn should undertake a program of street identification by a professional survey firm as the first step of the overall street improvement program.
- 2) U.S. Highway 24 should be moved to the east bank of the Eagle River.
- 3) A two-lane bridge should be constructed as an extension of Main Street for unrestrictive access to the railroad and Taylor additions.
- 4) A curb and gutter program should be extended to the whole community in an effort to provide storm drainage and establish parking lanes.
- 5) A comprehensive system of hiker-biker paths should be developed throughout Minturn to ensure the safety of Minturn's children.
- 6) All large traffic-generating businesses should provide a proposal to the town for adequate parking facilities.
- 7) The Town of Minturn should investigate the possibilities of developing a regional bus system between Vail and Redcliff.

### Landuse Recommendations

- 1) Clustering of future commercial developments should take place in the following areas: Super Foods - Bank area, Gambles - liquor store area and around the Phillips 66 station area, and the railroad annexation area.
- 2) All future commercial developments should supply adequate off street parking.
- 3) The west bank of the Eagle River in the railroad annexation should only be used for warehousing and other compatible uses.
- 4) Major retail commercial establishments should be located in the commercial focal points already existing.
- 5) A low intensity commercial-light industrial park should be considered for the area between the railroad facilities and the river. A light industrial park south of Battle Mountain High School can be considered as an alternative to a light industrial park in the railroad annexation only if Route 24 is moved to the east bank of the Eagle River.
- 6) No polluting commercial or industrial uses should be developed north of Minturn.
- 7) All commercial and light industrial proposals should be accompanied by a statement of impact on surrounding land uses, transportation patterns, local economy, local taxing and demands on services.
- 8) The town of Minturn should adopt design criteria and performance standards that will facilitate environmentally compatible developments.
- 9) The town of Minturn should only zone land for light industrial and commercial purposes when the need has been demonstrated by the developer.
- 10) The town should develop design criteria that increases the compatibility of light-industrial and commercial areas with residential land uses, i.e., buffer areas, landscaping, light, noise and sign controls.
- 11) Identify and encourage presentation of any historical sites and buildings in the Minturn area.

- 12) The town should look into the possibilities of providing public access to the National Forest lands to the west of the town.
- 13) Residential-implementation regulations and programs will be geared to improving present structures where most needed and encouraging the implementation and application of the design recommendations where new structures replace those phased out.
- 14) The Minturn Board of Trustees should develop an administrative body that will review and enforce land use regulations and policies.
- 15) The Town of Minturn should institute an "Interim Development Controls Ordinance" to hold off the present development pressures until a formal review body can be set up.

#### Community Facilities Recommendations

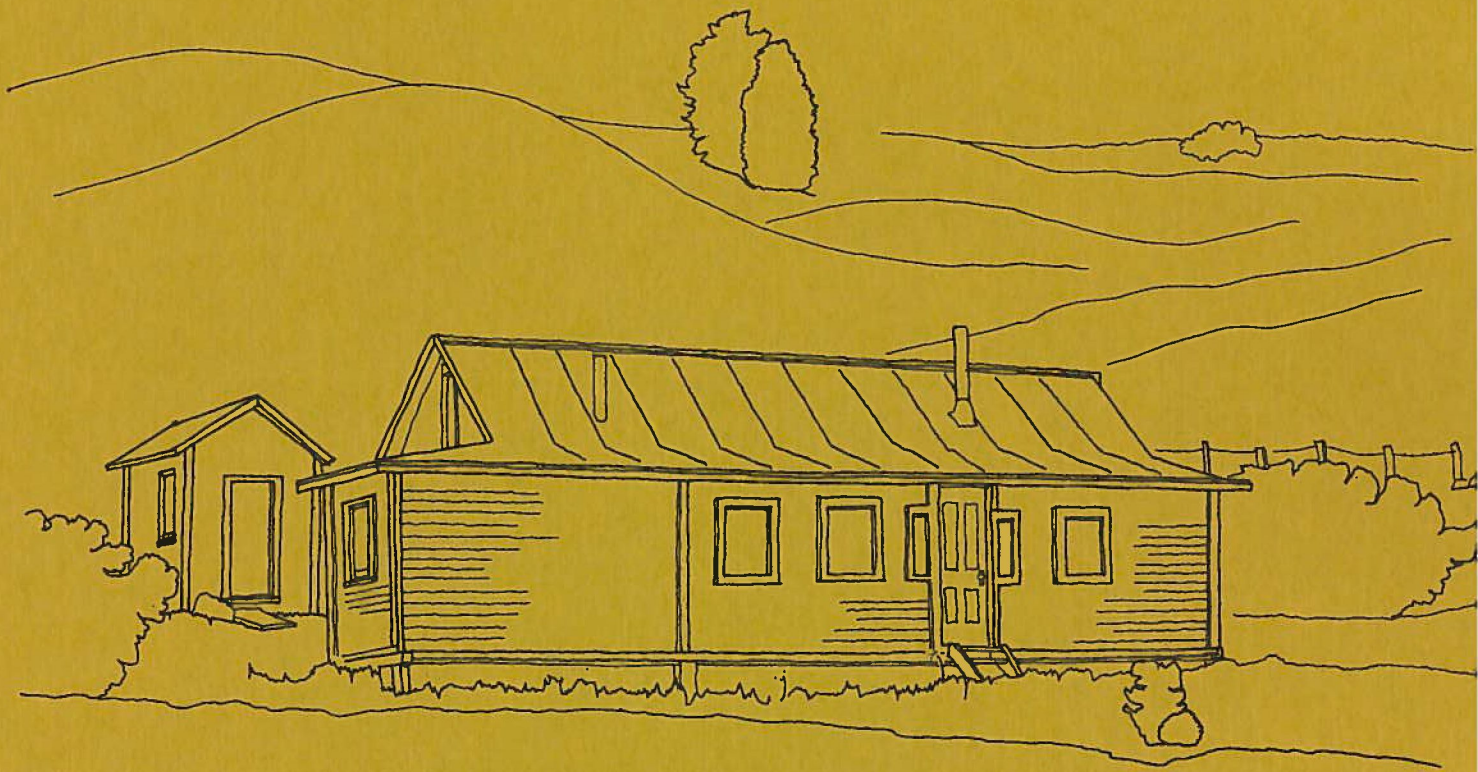
- 1) Minturn should require developers to contribute proportionally toward projected facility needs for any future developments they may undertake.
- 2) The town should encourage the installation of underground power and telephone lines, especially in any future development.
- 3) The town should concentrate on a contiguous development pattern for construction and maintenance of public facilities and utilities to insure maximum economic utility of capital funds in any future Valley development.
- 4) The town should retain a municipal land reserve adequate enough to provide land for any foreseeable public uses.
- 5) Additional water sources, treatment facilities, fire protection and adequate storage will be required in the next few years to meet the projected growth of the Valley.
- 6) Develop a systematic maintenance program for all the public facilities within the Minturn Valley.
- 7) The Town of Minturn should improve the level of cooperation with the school district to insure the proper location and maintenance of physical facilities (new school, pool facilities, Maloit Park).

- 8) The Town of Minturn should work with the school district in the development of an adult continuing education program for the Valley area.
- 9) The North Railroad Annexation road bridge running to Dowd Junction from Taylor's Addition, as well as the road, should be rebuilt to improve future access to the Taylor Addition and the commercial/industrial area in the Railroad Annexation.

#### Environment Recommendations

- 1) The town should conduct a study of present noise levels in the Minturn Valley.
- 2) From the results of such a study, the town should develop noise level standards and apply these standards when reviewing future development proposals.
- 3) Any future development which could reasonably be perceived as encroaching upon the Elk winter range and the big game migration routes should be discouraged.
- 4) No future development should occur within the flood plain.
- 5) Felled trees and other debris should be periodically removed from the Eagle River.
- 6) The findings of the U.S. Conservation Service soil study to be conducted during the summer of 1975 should be reviewed and incorporated into the Minturn Plan.
- 7) No development should take place along the east slope of the Minturn Valley across from Meadow Mountain due to the geologically unstable rock formations in that area. Much of the Meadow Mountain area also has geological hazards that should be taken into consideration during the early design and site location planning.





HISTORY

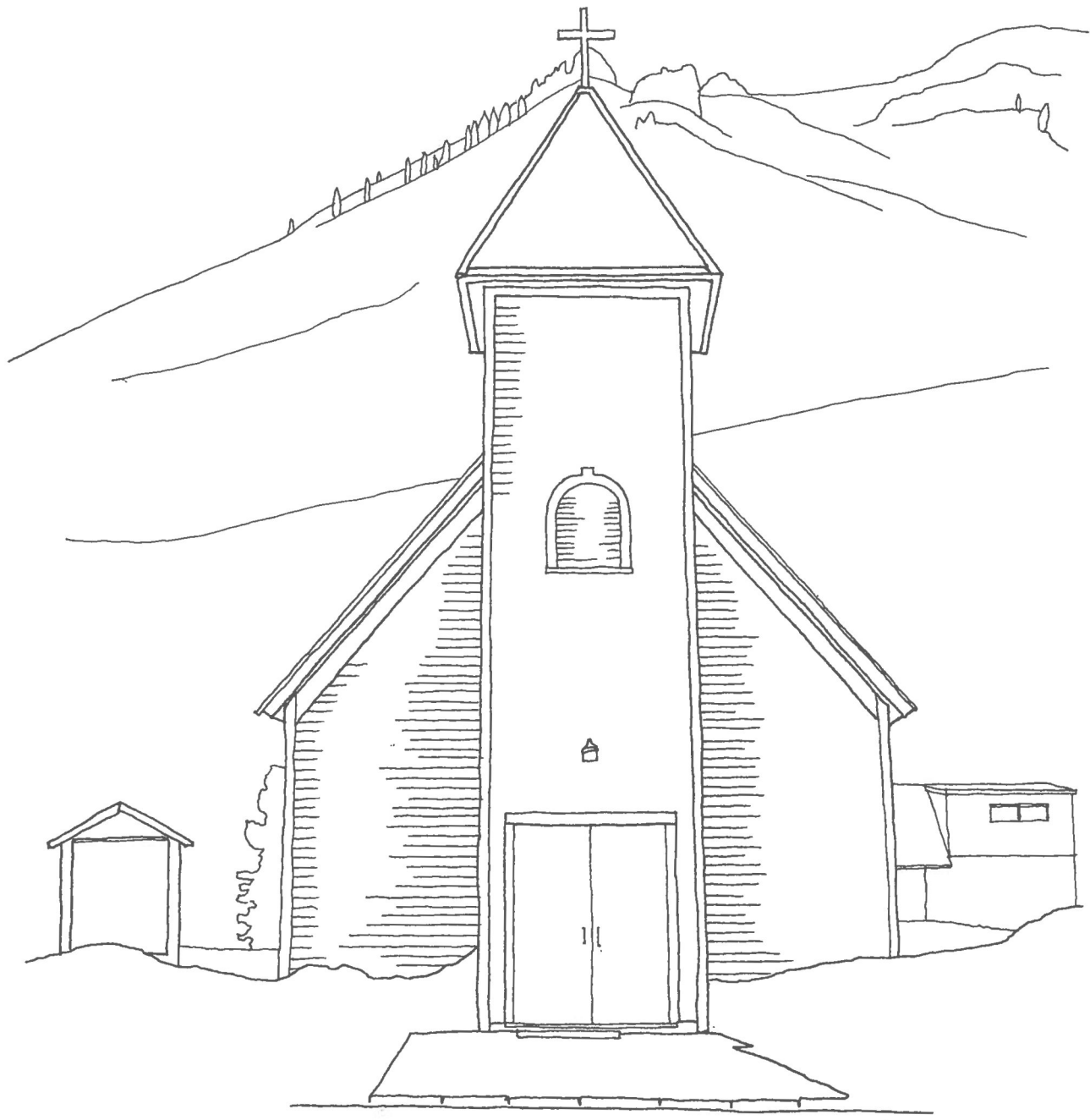
In 1881, the Minturn Valley received its first permanent residence, Mr. Talamage, who single-handedly built a small pioneer cabin. He was soon joined by William Booco who built a cabin the following year and staked out the land upon which the Town of Minturn was to be located. Other earlier settlers included Peter Nelson and John Kolnig (whose cabin remains can still be seen near the cemetery).

While the first residents were erecting their cabins, the Denver and Rio Grande Railroad (D&RG) was busily stretching tracks west of Leadville to Red Cliff. Struggling to compete with the Colorado Midland Railroad's line from Colorado Springs to Aspen, the D&RG further extended tracks around Battle Mountain (named for an 1849 skirmish between the Utes and the Arapahoe Indians), through Minturn, and west to Gypsum. The D&RG established a depot and switching station at Minturn. The railroad line was opened for operation on June 1, 1887.

There are two theories on how Minturn got its name. According to one old source, the name originally was two words, "Men" and "Turn". It was believed that this was the English translation of the Indian name for the area. The area was called "Men Turn" because for many winters it was the point where white adventurers turned back for home. The second theory on the origin of the name Minturn is more likely. In 1886, Robert Browne Minturn was vice president of the D&RG. As a tribute to his role in securing financing for the construction of the railroad, the new emerging town was named "Minturn" in 1887.

From its humble beginnings in the 1880's, Minturn grew to a population of 400 people in 1900. Mining, ranching, and lumbering became important industries in the area. The Town of Minturn was incorporated in 1904. With incorporation, the town began making many improvements to make life more enjoyable for its citizens. In 1905, the school building (still in existence) was erected. In 1913, the town abandoned most of its old wells and laid the present waterline from Cross Creek to Minturn. The sidewalks were first laid in 1917. Electricity was extended by Public Service in 1924.

Between 1900 and 1930, the population stabilized to around 400 people. Due to expansion in the mining industry, the population jumped to 596 in 1940. It dropped back down to 509 in 1950. Since then, however, population growth has been constant.



47.

POPULATION

The present population analysis is based on the following sources of information: the U.S. Census, the Social/Cultural Impact Study conducted by F.U.N.D. and the Water Resources Report prepared by Wright Water Engineers, Inc.

### Characteristics of the Population

The present population is for the most part deeply rooted with historical, spiritual and economic ties to the Minturn Valley. The first settlers moved to the Valley in the 1880's due to the development of the mining, lumbering, and railroad industries. Early populations developed the sheep and cattle ranching in the Valley as a supplement to the industrial base.

The strong mining industry provided jobs for the large numbers of Spanish Americans who came to the area. The mining companies actively recruited employees from mountain villages in northern New Mexico to come to the Minturn Valley mines.

Historically, a growing tradition of cooperative bi-culturalism, among the Spanish American families and the Anglo American families, has emerged. A natural social system soon developed based on family relationships, interactions and trust in each other. This led to self-controls and self-governing disciplines that formed an efficient and productive Valley social system.

Presently, approximately 60% of the population in the Valley are Spanish Americans; the remaining 40% are Anglo Americans. Spiritually, both segments of the population have a strong leaning towards the family as the root of their social structure. Economically, the population seems to be heavily oriented towards the work ethic and towards a high regard for land ownership. These are qualities that are found in many rural mountain communities of this nature in Colorado today.

### Population Density and Distribution

Throughout the Valley, there exists a moderate density pattern which follows a linear distribution along the valley floor. The Town of Minturn is generally characterized by medium population densities, except where mobile home courts occur. South Minturn follows basically the same density distribution, which gradually diminishes as one goes south past the Ranger Station. From Minturn towards Dowd Junction, population densities are generally sparse. The one exception to the linear distribution of population densities is in the Taylor's Addition, which has a medium density pattern. However, the Taylor Addition also runs in a linear pattern along the base of the Lion's Head, roughly parallel to the railroad facilities.

### Population Trends

Due in large measure to the growth of the recreation industry in the region, Eagle County's population grew from 4,677 in 1960 to 7,498 in 1970. Much of this population growth has taken place in the Gore Creek-upper Eagle Valley area. This area has experienced a 72% population increase from 1960 to 1970.

The Town of Minturn, between 1960 and 1970, grew at a rate of 6.6% from a population of 662 to 706. Since the 1970 Census, Minturn has grown from a population of 706 to approximately 965 people. In recent years, the nature of the population change in Minturn has been low in natural growth and high in migration.

The Minturn water system presently serves approximately 450 housing units within the Valley. This represents a population of approximately 1,500 people in the Minturn Valley. Using these figures, a recent demographic projection was made by the firm of Nelson, Haley, Patterson and Quirk, Inc., suggesting that Minturn's population will double by the year 2000. Viewing the population change between 1970 and the present, it would appear that this forecast may be a very conservative one at best. In any case, the Town should prepare for a continued population influx in the coming years.

The growing recreational industry has produced an effective tool for the disruption of Minturn's once stable social system. The large number of transient laborers has caused a major change in the population character in recent years in Minturn. This character change has disrupted the family relationships, interactions and trust that governed the self-controls and disciplines that were in operation in Minturn prior to the tourist industry boom.

Survival of the traditional community social system seems questionable at the present. However, the residents can have a powerful effect on the future social environment of the Valley by joining together and strengthening the informal and formal political structures that exist within the community. These socio-political structures will be able to influence the future of the Valley's development in the way the community desires through the use of the planning and zoning tools outlined in this plan.

ECONOMICS

Since 1960, the Eagle Valley has undergone a rapid and major change in its economic structure. These changes can be attributed mainly to the expansion of the resort industry. This section of the plan will analyze these changes and make recommendations for community action.

### Analysis

Up through the 1950's the Minturn area's main impetus for economic growth was based on the export of the raw materials from its extractive industries. After the early boom period in the upper Eagle Valley, mining continued to occupy a substantial though increasingly less important role in the regional economy.

In assessing the current position of the area's economy, based on the population and employment trends outlined in this section, it is important to stop and ask: where is it headed? what effects will Minturn's fiscal policies produce? how can the situation be improved?

In some economic sectors within the community, conditions are improving, while in others they are not. There are very clearly some absolute indications of decline in certain sectors. Strong, pervasive economic forces (Vail), are pushing down those activities which have traditionally been the basic support of the area's wealth.

It appears that major structural changes are occurring within the economy (change from extractive base to tourist-oriented base). During this transition period, Minturn must plan for and aid the local economy wherever possible.

The decline of mining jobs seems to be an economic fact of life, which must be accepted. Unless the persons who hold jobs in this industry can be re-trained for the kind of opportunities which may open up in the area (Vail, Beaver Creek, tourist services), they will be forced to move elsewhere. Many of the youth will undoubtedly leave as well as some of the older workers who may lose their jobs in the mines. The community will be faced with an ever increasing amount of in migration of tourist-oriented employees for resort-oriented activities.

Another inevitable change that will be experienced by the Minturn Valley is an increase in the number of tourists. This change can potentially have both positive and negative effects on the community. On the positive side, the influx of tourist dollars will bring new income for the local residents. On the negative side, the increase in tourism, unless adequately planned for, may produce uncoordinated, overcrowded and costly conditions in the Valley.

Presently there is a bill before the State Legislature which would levy



a basic 6% extractive mineral tax. If this bill becomes law the present mining operations may be forced to shut down. This would be due to the massive increase in costs in an already marginal operation.

The consequences of these changes are fairly direct. Certain groups of the population will grow and prosper while others will experience tremendous personal costs arising out of these structural changes in the Valley economy.

There are other less tangible effects, however. These include the socio-psychological changes which to some extent will be felt by most of the Valley residents at one time or another. Until the mid-sixties the Valley economy only had to serve itself for the most part, excluding the exports of the mining industry, but the new trends are showing that the Valley, Minturn in particular, will now have to serve both the Valley and other parts of the country. This service will directly provide people from other parts of the country with opportunities for recreation and tourist-related activities.

To no small extent, the attitudes and skills required to perform these two types of economic functions are deeply different from the traditional ones found in the Valley.

The economic climate will depend upon the ability of the Town of Minturn's civic leaders to mobilize the community attitudes for progressive economic planning for the future which will facilitate a coordinated change in the Valley economic structure.

The climate, scenery and natural amenities of the Minturn area constitute one of the Valley's most favorable assets for future economic growth. The Minturn Valley is a pleasant place in which to live and work, thus constituting a strong drawing effect not only for certain types of industries, but also for people who want to escape the tourist orientation of the nearby resort communities.

The Minturn Valley water resources will prove to be one of the major drawbacks to this attracting force. Disputes over the uses of water are likely to increase as the demand grows with future population growth. The Town will have to deal with the financial drain that the improvement of the present water system will produce.

The median income of Eagle County residents in 1970 was \$8,637. The median income for Spanish Americans was \$8,356. However, the per capita income for the county as a whole was \$3,028, compared to a per capita income of \$1,921 for Spanish Americans. This low per capita income for the Spanish American segment of the population reflects the fact that often more than one person works within a given extended family in this segment of the population.

The following table illustrates the changes in the county employment trends over the last 30 years. Although these figures are not specifically derived for Minturn, the comparison between the various sources of employment is very useful in developing an understanding of the Valley's economic structure.

Eagle County Employment Characteristics, 1950-1970.

Employment Category	1950		1960		1970	
	Jobs	% of Total	Jobs	% of Total	Jobs	% of Total
Agriculture	462	27.5	253	15.2	227	7.4
Mining	370	22.1	447	26.8	361	11.8
Construction	80	4.8	93	5.6	443	14.5
Manufacturing	72	4.3	68	4.1	82	2.7
Transportation, Communication, Utilities	192	11.4	166	9.3	215	7.0
Wholesale	10	.6	18	1.1	16	.5
Retail	191	11.4	230	13.8	551	18.1
Services	295	17.6	326	19.6	1,155	37.9
TOTAL EMPLOYED	1,678	100.0	1,665	100.0	3,050	100.0

Source: U.S. Census, 1970.

The Town of Minturn had expenditures totalling \$109,500 as of December 31, 1974 and a general fund balance of \$16,100. The long-term debt is \$400,202, which gives Minturn a value of debt per person of \$414.72. This long-term debt is made up of bond issues with a principal of \$244,000 and interest of \$156,202. The assessed valuation for the Town in 1973 was \$523,710. The estimated assessed valuation for Minturn in 1974 was \$627,610. The property tax mill levy is 39.37 mills.

Municipal revenues are derived from the following sources: property tax, sales tax, water users charge, franchise tax and miscellaneous revenues derived from court fines, dog licenses, liquor licenses, etc. Minturn also receives approximately \$4,000 annually from Federal Revenue Sharing as well as various State grants and aid.

Municipal expenditures can be broken down into three major categories: general governmental functions, public safety, and public works. The major expenditures are in the general governmental functions and public safety categories. However, the water system will prove to be a major expenditure in the 1974-75 fiscal year with the new system improvements. The solid waste removal operation has been running on a break-even basis.

The Town of Minturn applied for Federal grants from the Housing and Urban Development Agency in the amount of \$300,000. The grant aid was requested to continue improvements in the water supply and treatment system, improvements to the town recreation facilities and improvements to the proposed community center (the Minturn Elementary School). The town also applied for a grant from the Northwest Council of Governments for communications equipment for the Police Department.

The HUD grant request was turned down. This means that the town will have to raise the necessary capital to undertake the conversion of the elementary school to a community center on its own.

#### Socio-Economic Policies

1. In general, due to the gradual decline in mining operations, the residents of Minturn and the Valley are going to have to look towards the regional tourist industry for employment.
2. A systematic plan for insuring employee housing should be developed before Vail Associates undertakes any expansion of present facilities.
3. The Minturn community should develop some form of socio-economic growth policy for the Valley regarding its educational, social services and health and medical needs.

4. Small single owner businesses should be encouraged in the Minturn area.
5. Vail Associates should look to the Minturn Valley area in the recruitment of a skilled labor force rather than the Denver area.

Job training programs and availability of Federal funds for such training should be considered as part of any major new developments.

6. The Town of Minturn should develop an annexation policy that will effect an efficient unification of the Valley's populace and resources for the maximum benefit of all.
7. Develop economic policies to anticipate new recreational developments along the I-70 corridor and their impacts.
8. The Minturn town government should continue to improve the communications between the governmental and economic power structures, the people and other levels of government: county, regional, state and federal.

The Town of Minturn will have to continue to seek out alternative revenue sources in the future. The traditional methods of municipal financing that have been used in the past are: Municipal Bonding, Special Improvement Districts, Federal Grants, State Grants, Property Tax, Sales Tax and miscellaneous revenues. However, the majority of these methods are being utilized to their fullest capacity for the present time. With the exception of possibly raising the percentage sales tax, these traditional sources have been exhausted to a point where it would be advantageous to seek new alternative sources of municipal revenue.

The town is presently involved in a legal controversy concerning the recently instituted occupations tax. If the courts rule in the town's favor, considerable revenues can be expected from this tax.

Taking the above financial analysis into consideration, the town should exercise restraint in any future annexation programs. This restraint should entail careful planning to guarantee that the town does not acquire costly improvement programs in the areas of public works and community facilities without receiving a reasonably fair return in revenue from the area in question.

The Town of Minturn should attempt to develop some form of job training program to help improve the opportunities of the Valley labor force. The

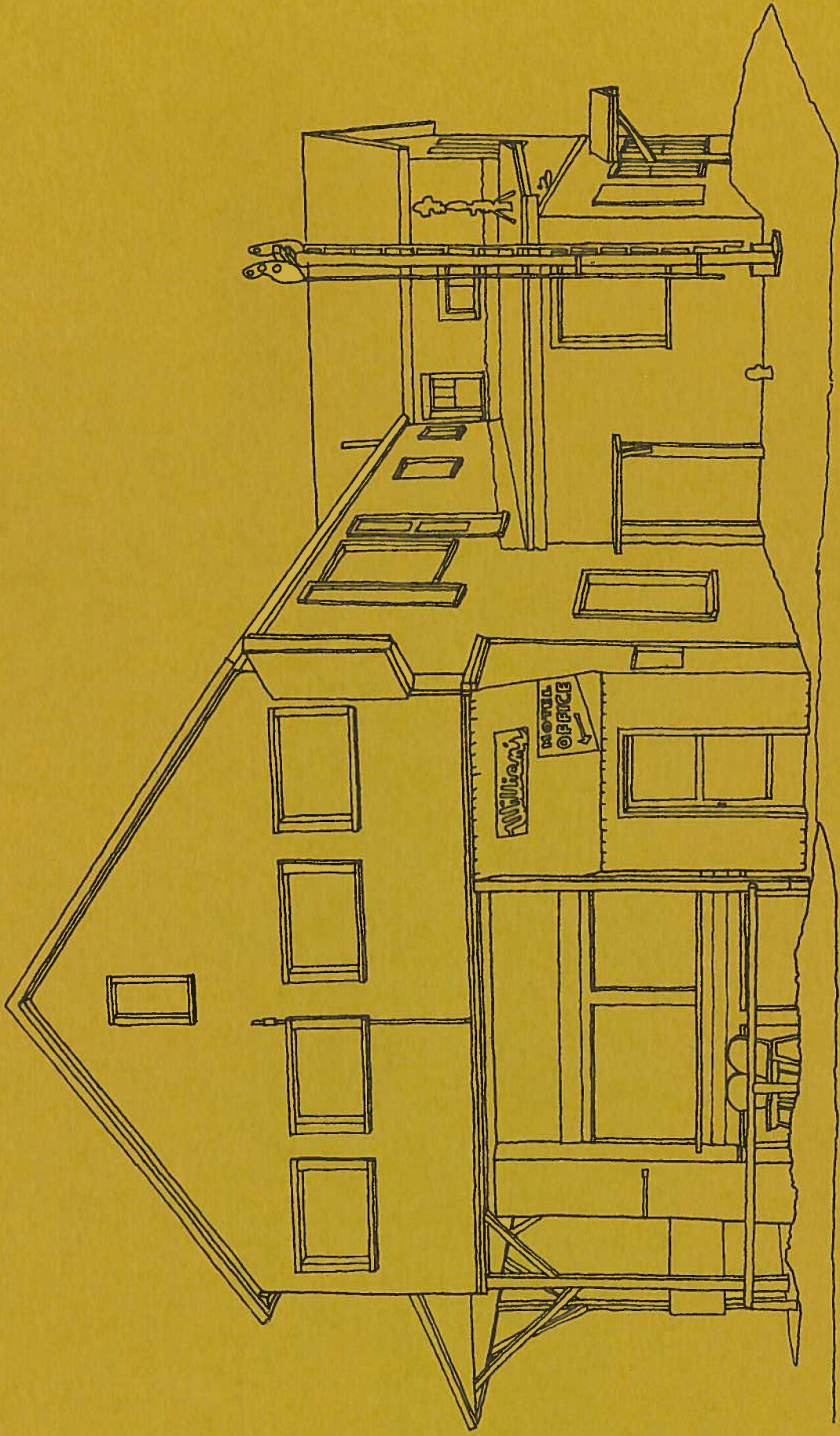
funding for these programs would more than likely have to come from the Federal Government in the form of a grant.

Minturn should stress its central location in the Upper Eagle Valley concerning the request for a grant of this nature.

The Town of Minturn should also start planning for the following capital improvements:

1. Develop a systematic street improvements program.
  - a. Taylor's Addition improvements (railroad crossing).
  - b. North Railroad Annexation Bridge improvement.
  - c. Railroad Annexation road from Taylor's Addition to the north bridge improvements.
2. Improve water system.
  - a. Wells.
  - b. Taylor's Addition lines.
  - c. School hook-up.
  - d. General fire protection.
3. Develop a systematic bike path development program.
4. Develop a systematic parks and recreation improvement program.
  - a. Develop the proposed elementary school (community center) mini-park.
  - b. The Town of Minturn should continue to work with the School District concerning the development and maintenance of park and recreation facilities within the Valley (Maloit Park).
  - c. A neighborhood park by Foster's Lumber Yard should be developed.
  - d. Develop a new Community and Civic Center in the old elementary school (library included).
5. Develop a public mobile home park for summer and winter tourist uses.

6. Develop a town landscaping program.
7. Develop a storm drainage system in conjunction with a street improvement program.
8. Develop tennis courts in the area of the present baseball field.
9. The Town of Minturn should investigate the possibility of joining one of the present recreation districts within the region.
10. The town should develop municipal facilities and service policies that would be mutually beneficial for the town and any potential developer in the Meadow Mountain area.
11. Outline available County, State and Federal assistance programs as they relate to the recommended capital improvements and acquisition programs described in the Recreation section.



LAND USE



The Land Use Policies for the Minturn Valley should emphasize the preservation of the quality, uniqueness, and the continuation of the liveable family atmosphere that has been found in the Valley in the past. The policies should also offer a flexible framework for guiding growth. Land use regulations can be formulated as implementation tools for the overall goals and objectives of the Minturn Valley.

The Land Use Policies are not detailed in the drawing of precise boundaries but represent principal uses which are general in scope and whose pattern is symbolized. Subsequently land use regulations will be developed for defined policy areas.

## EXISTING LAND USE

### Methodology

In December 1974, a land use survey was undertaken in the Minturn Valley. All of the data and information gathered on existing land use was obtained through field investigation with supplemental information derived from Eagle County and private surveyor maps, aerial photos, Vail Associates planning maps, Eagle County assessors records and Minturn public records.

The land use survey entailed observing, recording and analyzing the information relating to location, amount and type of land use on all properties in the Minturn Valley.

### Standards: Land Use Categories and Definitions

The land use categories as delineated on the land use map are indicative of actual land uses in the Minturn Valley.

The following are definitions and land uses for each of the designated categories:

Residential: Low density: 0 - 3 dwelling units per acre.  
Medium density: 4 - 7 dwelling units per acre.  
High density: 8 plus dwelling units per acre.

Mobile Home: A movable housing unit that is not on a fixed foundation.

Single-family residence: A building containing only one dwelling unit.

Multiple-family: A building containing two or more dwelling units.

Commercial: Includes all types of retail and wholesale establishments servicing the needs of the community.

Industrial: Includes industrial-related uses.

Public-Semi-public: Includes public and semi-public buildings such as schools, municipal services, churches, public utilities, and public areas such as parks.

Open space: Includes the Eagle River and its banks, and other vacant land surrounding the Valley.

Vacant: Includes parcels not noted in the above categories, not containing development or improvements.

### Analysis

An Existing Land Use map for the Minturn Valley was completed in December, 1974.

As can be seen on the map, Minturn has developed in a linear fashion paralleling the Eagle River and State Highway 24 which bisects the town. Growth has been precluded on both sides of the town because of the steep mountain slopes and because the majority of the land bordering the town is in private ownership, which has not been economically viable for the developer.

The town functions primarily as a residential entity with strong community ties. The highway, which is the main street, is spotted with limited retail uses servicing the basic needs of area residents. With the recent annexation of the Denver and Rio Grande Railroad property, a strong magnet exists at the town's north end for new development. The southern end of Minturn, beyond the corporate limits, contains many mobile homes along the highway interspersed with limited commercial uses. This is also an attraction for new growth, as the town itself is essentially developed to its boundaries.

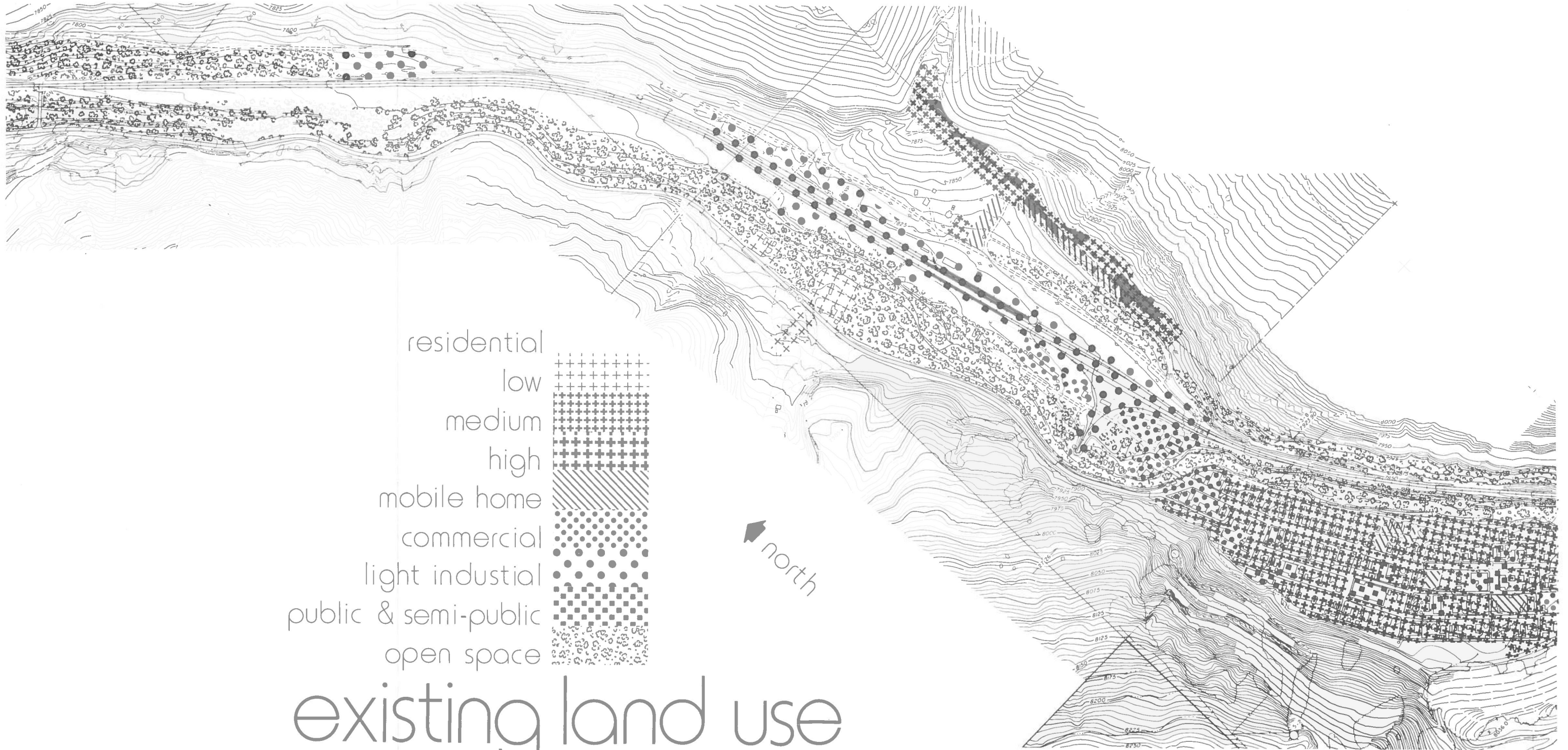
Single-family residential uses take up a majority of Minturn's land with 253 units. Multiple-family housing is at a lower level with 21 units with apartments numbering 3. Mobile homes are listed at 156 units comprising approximately 36% of the total dwelling units in the entire Valley.

Residential areas flank, in close proximity, both sides of Highway 24, as do the retail stores and services. Mobile homes are clustered in various parcels in the town itself and predominate the landscape beyond the corporate limits. The prevailing coverage of land by residences throughout the town is medium density of 4 - 7 dwelling units per acre.

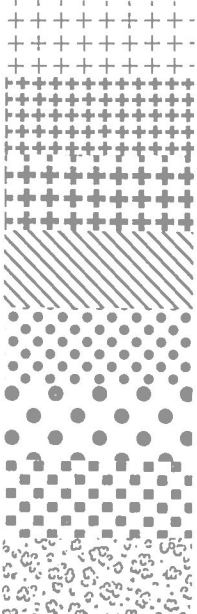
Of interest is the ratio of rental to ownership properties of almost 50% rental which is indicative of an increasing transient population.

The next largest acreage category is the light industrial sector containing Porto Concrete Mix, Foster Lumber Yard, Mountain Mobile batch plant and the railroad facilities. The businesses and the railroad's service area are located in the center of the tract. Thus the "open space" acts as a sufficient physical buffer between the activity and the town at the present time.

Some impacts already exist due to the industrial uses. Further development in this area of light commercial or industrial must of necessity be especially conscientious of the impacts on the air, water and wildlife ranges on the upper Northeast slopes.



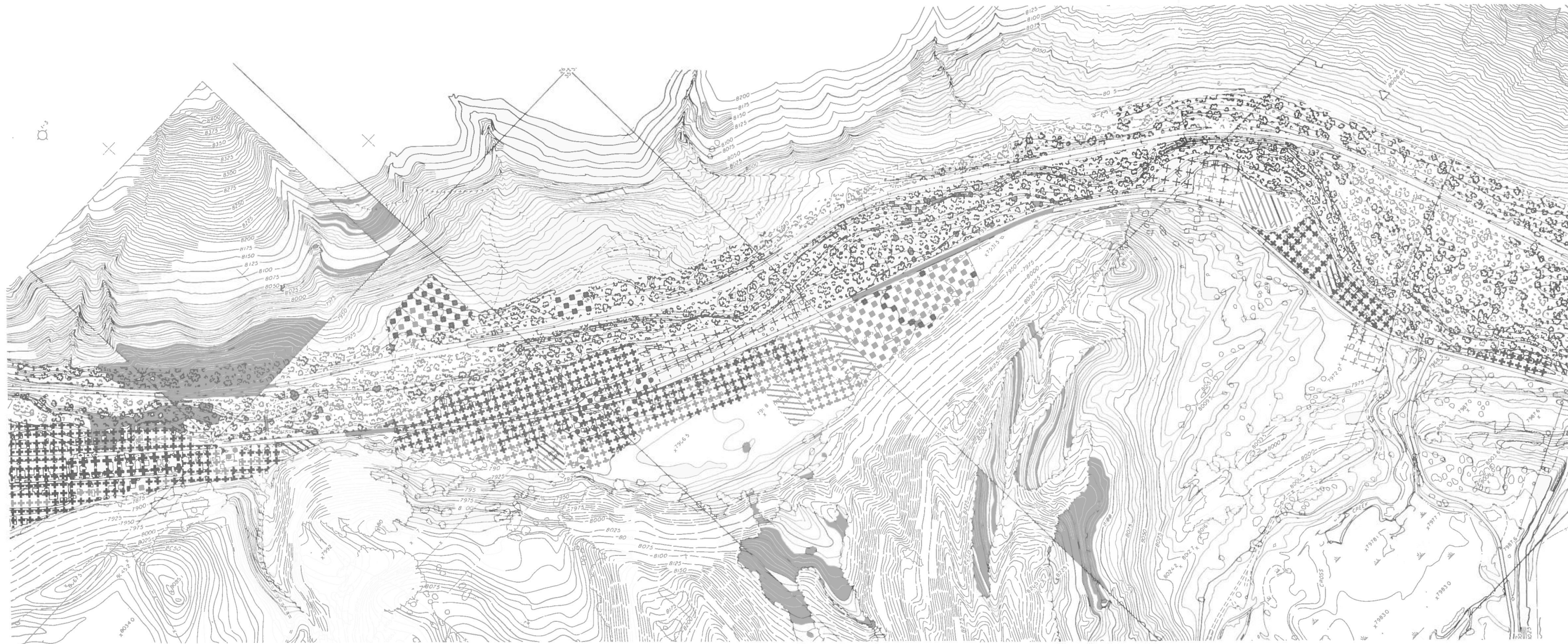
residential  
low  
medium  
high  
mobile home  
commercial  
light industrial  
public & semi-public  
open space



north

# existing land use

# minturn valley comprehensive plan



LAND USE INVENTORY

Minturn Valley

December 1974

RESIDENTIAL

Type	No. Structures
Single-family	253
Multi-family	21
Apartments	3
Mobile Homes	156
TOTAL	433
Rental Units <sup>1</sup>	
Minturn	111
Minturn, South	111
TOTAL	222

Approximately 30% of the conventional housing units are in "poor condition"<sup>2</sup>

COMMERCIAL TOTAL 27

Gambles  
 Carter Clothing  
 Minturn Laundramat  
 Minturn Self-Service Cleaners  
 Alpine Glass & Mirror Shop  
 Piney Linen Co.  
 Eagle Valley Bank  
 Minturn Theater  
 Vail Intermountain Vending  
 Super Foods  
 R.E.A.  
 Williams Motel  
 Minturn Liquor  
 Whistle Stop Inn  
 The Butcher's Block Inc.  
 Wrong Side of the Tracks  
 Gus's Motel  
 Hoaglund Garage  
 Stout 66 Gas Service  
 Minturn Standard (not in service)  
 Minturn Self-Service Gas Station  
 The Office Bar  
 Fox Ski Shop  
 Foster Lumber Yard  
 Meadow Mountain Stables  
 Jade Tree Plant & Flower Shop  
 McMillan Paint & Decorating Supply Co.

INDUSTRIAL TOTAL 4

Denver and Rio Grande  
 Facilities  
 Warehouse (future)  
 Porto Mix Concrete Co.  
 Mountain Mobile Mix

PUBLIC-SEMI-PUBLIC TOTAL 12

Minturn Elem. School  
 Battle Mountain H.S.  
 Town Hall, Fire  
 St. Patrick's Church  
 Presbyterian Church  
 Assembly of God Church  
 Masonic Hall  
 Mountain Bell  
 Minturn Cemetery Assoc.  
 U.S.F.S. Ranger Station  
 U.S. Post Office  
 Minturn Recreation Area

<sup>1</sup>Source: Water & Garbage Collection Data  
 Town of Minturn  
 Second Quarter 1975  
 This list does not include  
 Taylor's Addition

<sup>2</sup>George E. Brown  
 Housing Study, ROMCOE

EXISTING RESIDENTIAL LAND USE  
 Dwelling Units Per Acre (Density)<sup>1</sup>  
 Minturn Valley  
 December 1974

AREA	RESIDENTIAL LAND USE TOTAL ACRES	DENSITY	TOTAL ACRES	NO. STRUCTURES	AVER.D.U./ACR
Valley	93.04	Low:	14.81	23	1.55
		Medium:	71.92	338	4.70
		High:	6.31	72	11.57
		TOTAL:		433	4.65
North of Minturn Taylor's Addition Railroad Mobile Homes	14.47	Low:	5.97	11	1.84
		Medium:	6.8	35	5.15
		High:	1.7	8	4.65
Minturn Proper	40.08	Low:	none		
		Medium:	38.4	195	5.08
		High:	1.68	18	10.74
				213	5.31
South Minturn	38.47	Low:	8.84	12	1.36
		Medium:	24.95	100	4.01
		High:	4.63	54	11.66
				166	4.32

Density:

Low 0 - 3 Dwelling units per acre  
 Medium 4 - 7 Dwelling units per acre  
 High 8 plus Dwelling units per acre

<sup>1</sup>Approximated

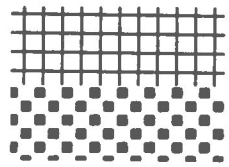
Future land needs will be largely determined by population increase, additional commercial uses and light industrial developments. Annexation policies will play an important role in the control of growth in the areas north and south of Minturn.

#### Development Policies

- A. Future land development should occur in an orderly fashion consistent with the present character of the Minturn area.
- B. Development should proceed in a logical pattern with Minturn as the center.
- C. The majority of Minturn's land should be used for residential and related purposes.
- D. Minturn should develop policies concerning the types of density patterns the community desires:
  1. Density and character of individual developments should be coordinated on a neighborhood basis as well as from a town perspective.
  2. The future density of residential development, including mobile homes, should be such that they will not detract from the character of the community.
  3. Multiple-family housing units should only be developed in locations that will be in harmony with the surrounding neighborhoods.
  4. No high density multiple-family housing units should be developed in the Minturn Valley.
  5. Limited commercial developments can be integrated into the residential areas of the community in a manner that will not destroy the present character of Minturn.
- E. Policies concerning the location of a future mobile home park in the Minturn Valley should be developed.
- F. Avoid intense land uses along Highway 24 which would create strip development.
- G. Encourage clustering of commercial developments to facilitate

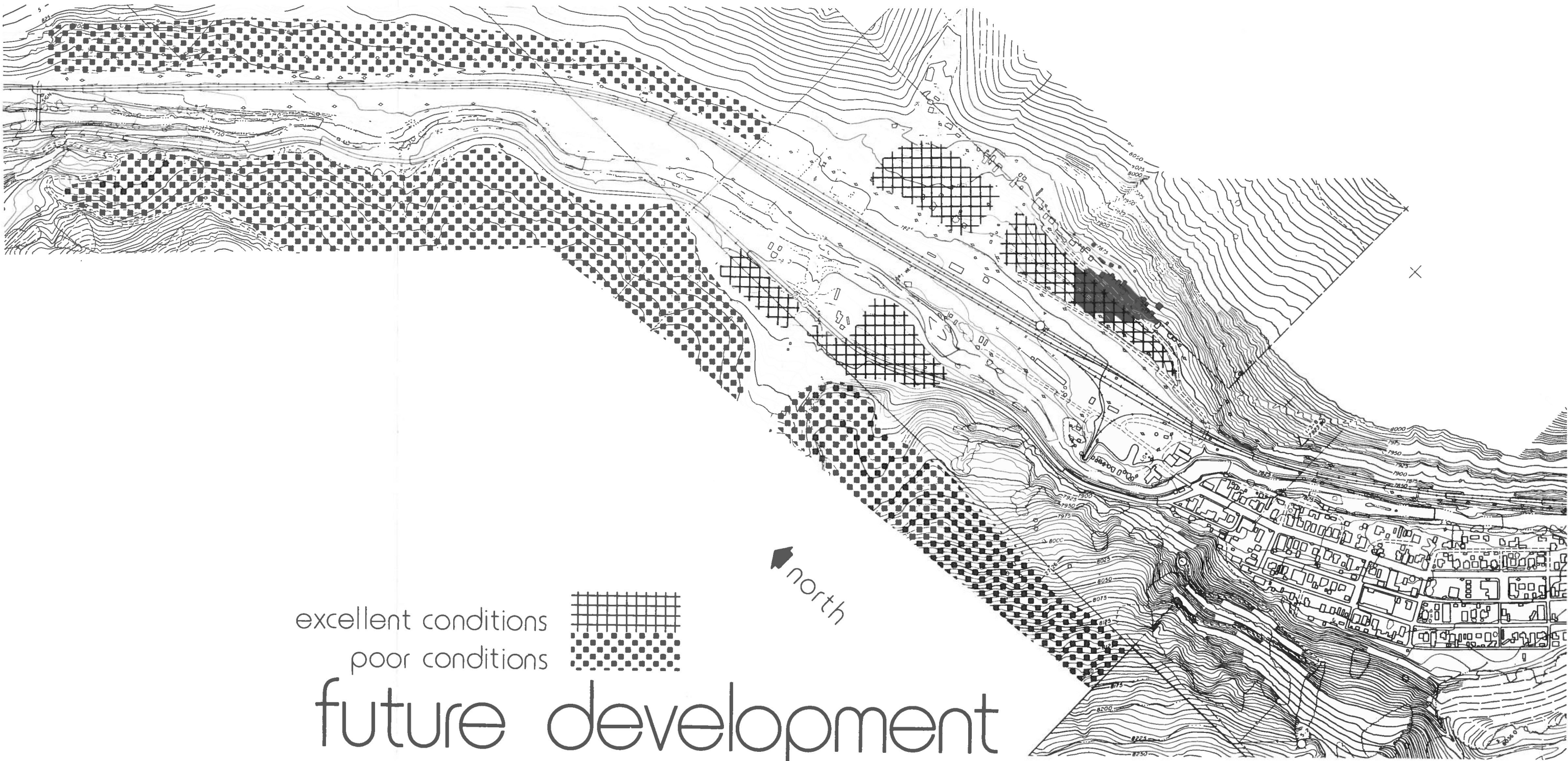


excellent conditions  
poor conditions

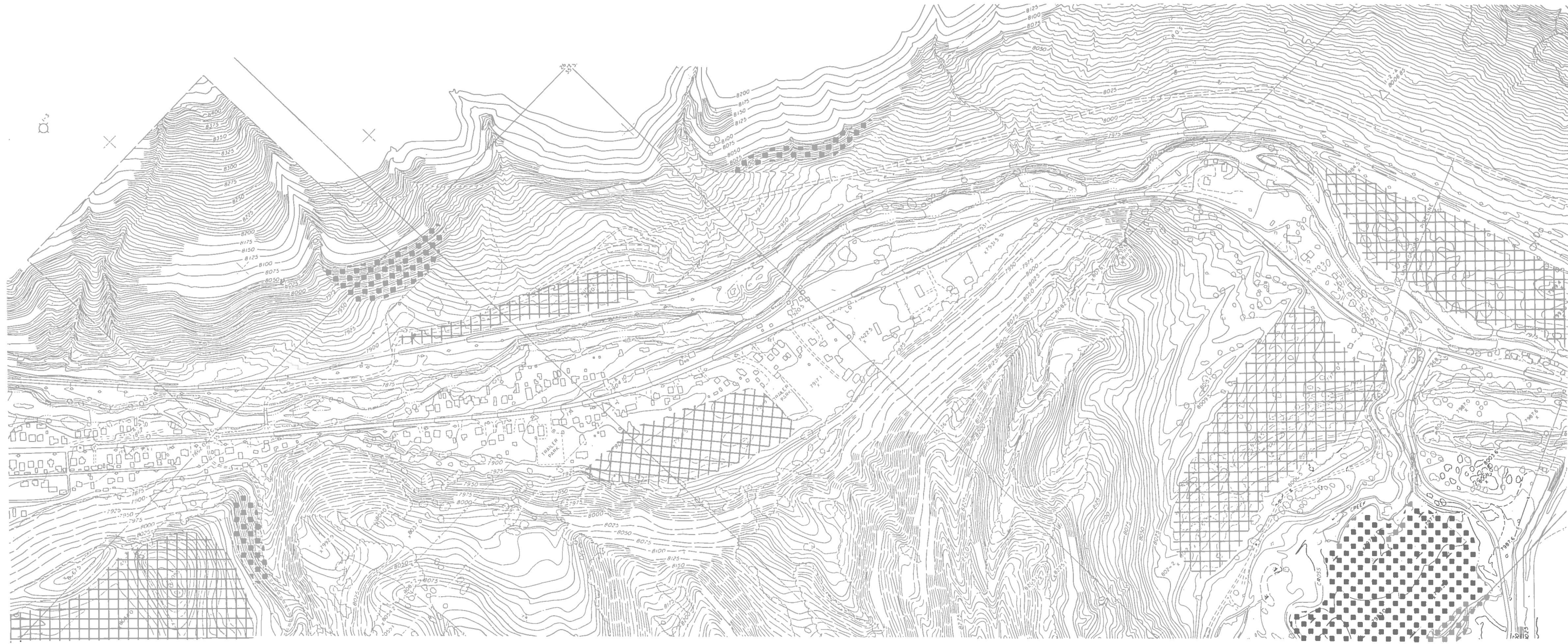


↑ north

future development



# minturn valley comprehensive plan





minturn valley growth sequence

pedestrian traffic. Also encourage controlled access to Highway 24 instead of continuous curb cuts.

- H. Encourage light industry to locate in Minturn using the railroad and highway for transportation purposes.
- I. No development should take place unless the town or the county can supply the necessary municipal facilities, i.e., water, sewer, fire, police, etc.
- J. No development should take place in natural hazard areas such as the flood plain or extreme slopes.
- K. Maintain a public easement on the river for any future developments.
- L. Preserve the natural characteristics of the Valley.
- M. Develop a joint regional public recreational site for the residents of the Town of Minturn and the surrounding area.
- N. Expand the present cemetery site in Minturn.
- O. Future land use controls should treat the Valley as a whole regardless of whether the area is in or out of the town. Town and county cooperation should be sought to assure this. Regulations should be consistent both in and out of the Town to implement the plan.
- P. Develop land use policies for the Valley before offsite recreational developments begin.
- Q. The Town of Minturn should develop an annexation policy that will facilitate an efficient and economic municipal structure for the whole Valley.

#### Land Use Recommendations for Commercial and Light Industry

- 1. Clustering of future commercial developments should take place in the following areas: Super Foods - Bank area, Gambles - liquor store area and around the Phillips 66 station area, and the railroad annexation area.
- 2. All future commercial developments should supply adequate off street parking.
- 3. The west bank of the Eagle River in the railroad annexation should only be used for warehousing and other compatible uses.

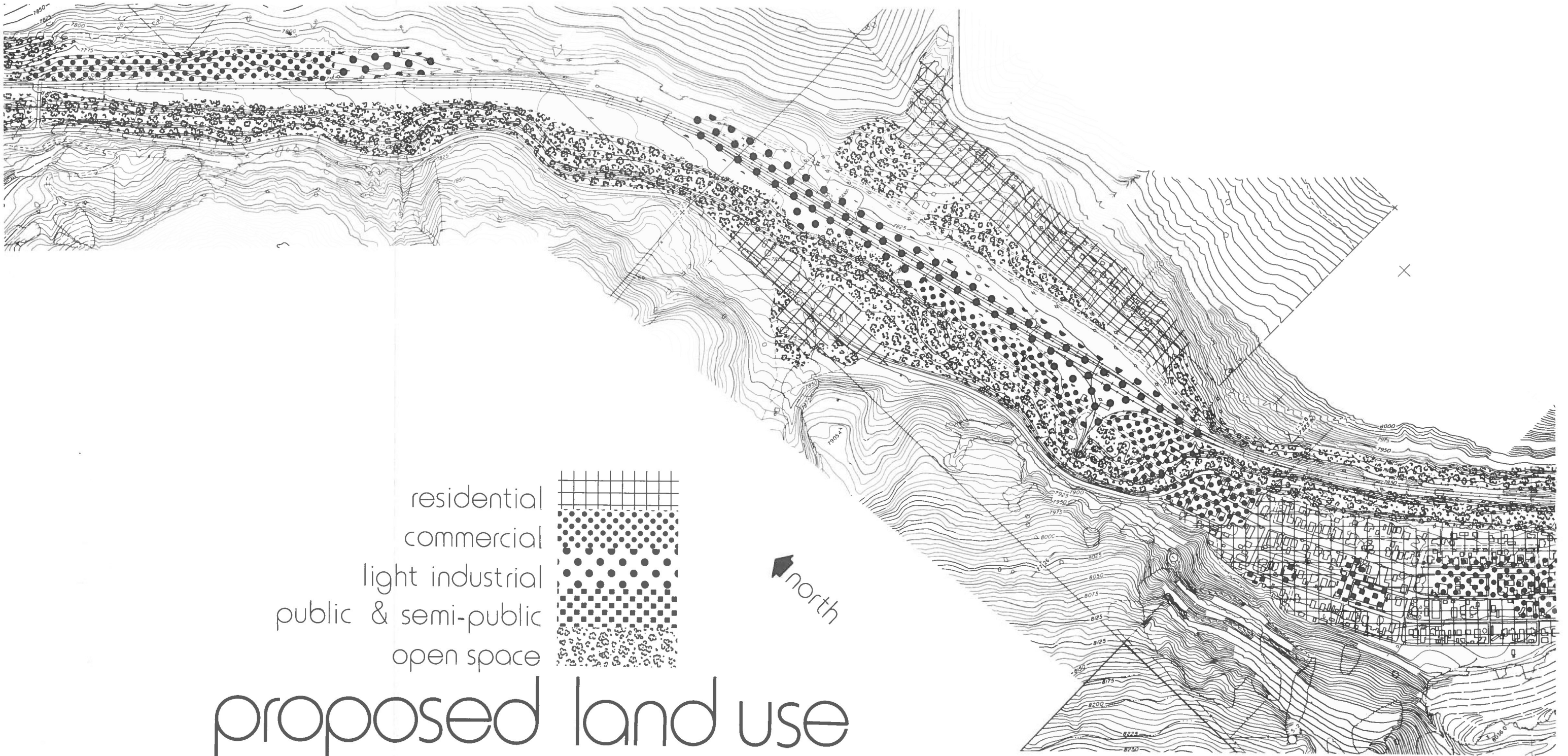


neighborhood  
commercial centers

4. Major retail commercial establishments should be located in the commercial focal points already existing.
5. A low intensity commercial-light industrial park should be considered for the area between the railroad facilities and the river. A light industrial park south of Battle Mountain High School can be considered as an alternative to a light industrial park in the railroad annexation only if Route 24 is moved to the east bank of the Eagle River.
6. No polluting commercial or industrial uses should be developed north of Minturn.
7. All commercial and light industrial proposals should be accompanied by a statement of impact on surrounding land uses, transportation patterns, local economy, local taxing and demands on services.
8. The town should promote tourist-oriented businesses in order to take advantage of tourism in the area. Such businesses might include museums, curio shops, outdoor recreation supply shops, and mountain guide services and camper and trailer facilities.
9. The Town of Minturn should adopt design criteria and performance standards that will facilitate environmentally compatible developments.
10. The Town of Minturn should only zone land for light industrial and commercial purposes when the need has been demonstrated by the developer.
11. Promote greater access to the railroad annexation by design and construction of a two-lane bridge from Highway 24 at both the north and south ends with room for a pedestrian walkway.
12. The town should develop design criteria that increase the compatibility of light industrial and commercial areas with residential land uses, i.e., buffer areas, landscaping, light, noise and sign controls.
13. Identify and encourage presentation of any historical sites and buildings in the Minturn area.
14. The town should look into the possibilities of providing public access to the National Forest lands to the west of the town.

#### Land Use Policy

1. It is recommended that given the character of land uses in particular areas, flexible land use controls should be exercised in these areas consistent with the goals and policies of the community.

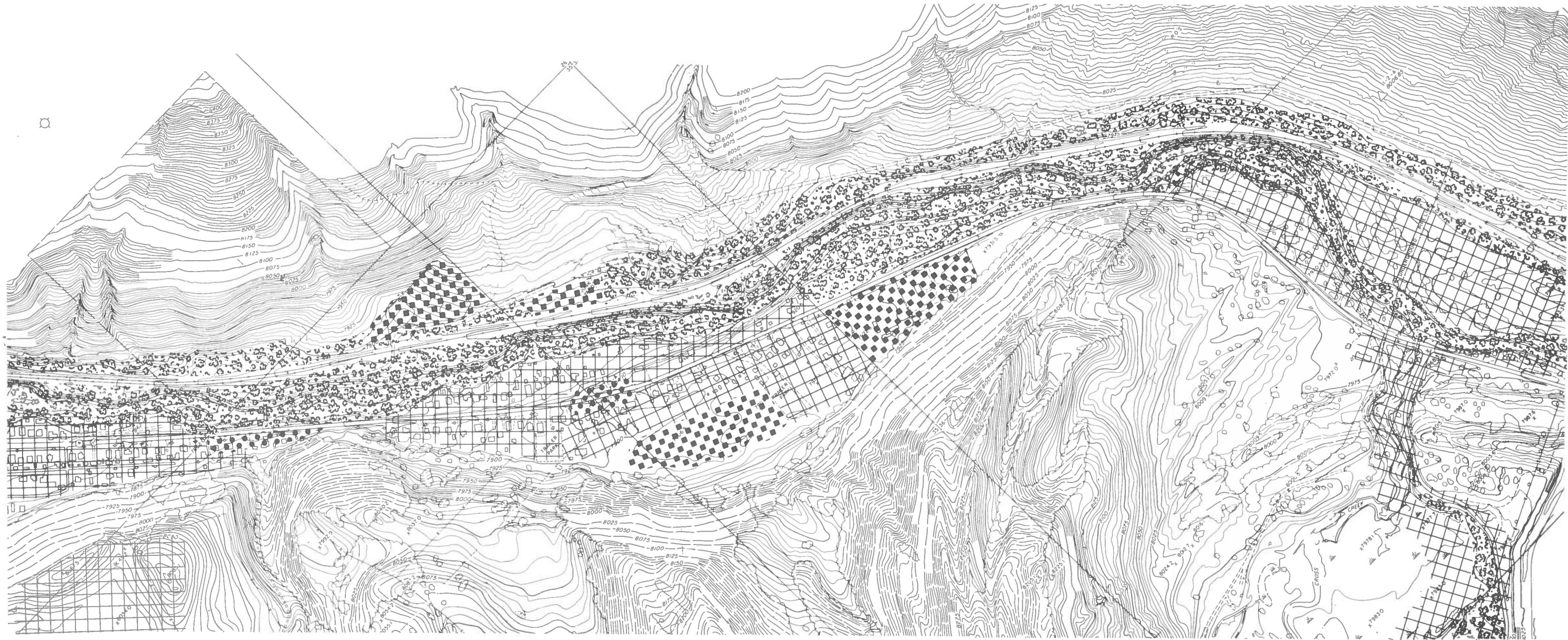


residential  
commercial  
light industrial  
public & semi-public  
open space

proposed land use



# minturn valley compresive plan







- a. The land use character in Minturn Proper is well established. Therefore flexible land use controls should be exercised in this area consistent with the goals and policies of the community.
  - b. The newly annexed area of the Denver and Rio Grande Railroad is partially developed with light industry and commercial uses, which appear to be consistent with the goals and policies of the community.
    - 1) Subdivision regulations should be developed in a manner that will be consistent with the goals and policies of the community.
    - 2) Applicable standards regarding height, density, intensity of use, and nuisance levels (odor, noise, particle emission, etc.) should be developed.
  - c. The Eagle River and its adjacent banks should be subject to flood plain controls.
    - 1) The land uses in this area should be encouraged for recreation: walks, trails, bike paths, picnic facilities. Avoid development which would encroach on the natural green spaces and the river, which acts as a buffer between the railroad tracks and the town.
    - 2) Stream setbacks of 30' should be established in accordance with county regulations.
2. The following should be considered for their Valley-wide impacts:
- a. Developable areas should be assessed for the following constraints and impacts: slope, hydrology (flood plain), geologic hazards, aesthetics, air quality, views, and water quality.
  - b. Minturn land use regulations should be developed and administered within the context of present Eagle County regulations which relate to Minturn.
3. Administration
- a. The Minturn Board of Trustees should develop an administrative body that will review and enforce land use regulations and policies. Such a body should include residents of the Minturn area, both inside and outside the town itself.
  - b. The Town of Minturn should seek the county's aid in developing a

An aerial site plan of a mobile home park and commercial center. The plan shows a central road with a dashed center line. To the left of the road is a 'mobile home village' containing numerous mobile home units, some with porches, and several larger buildings. To the right of the road is a 'neighborhood commercial center' featuring various commercial buildings, including a gas station, and a parking lot. The entire site is landscaped with numerous trees and shrubs. The drawing is in black and white with some grey shading for trees and landscaping.

**mobile home  
village**

**neighborhood commercial  
center**

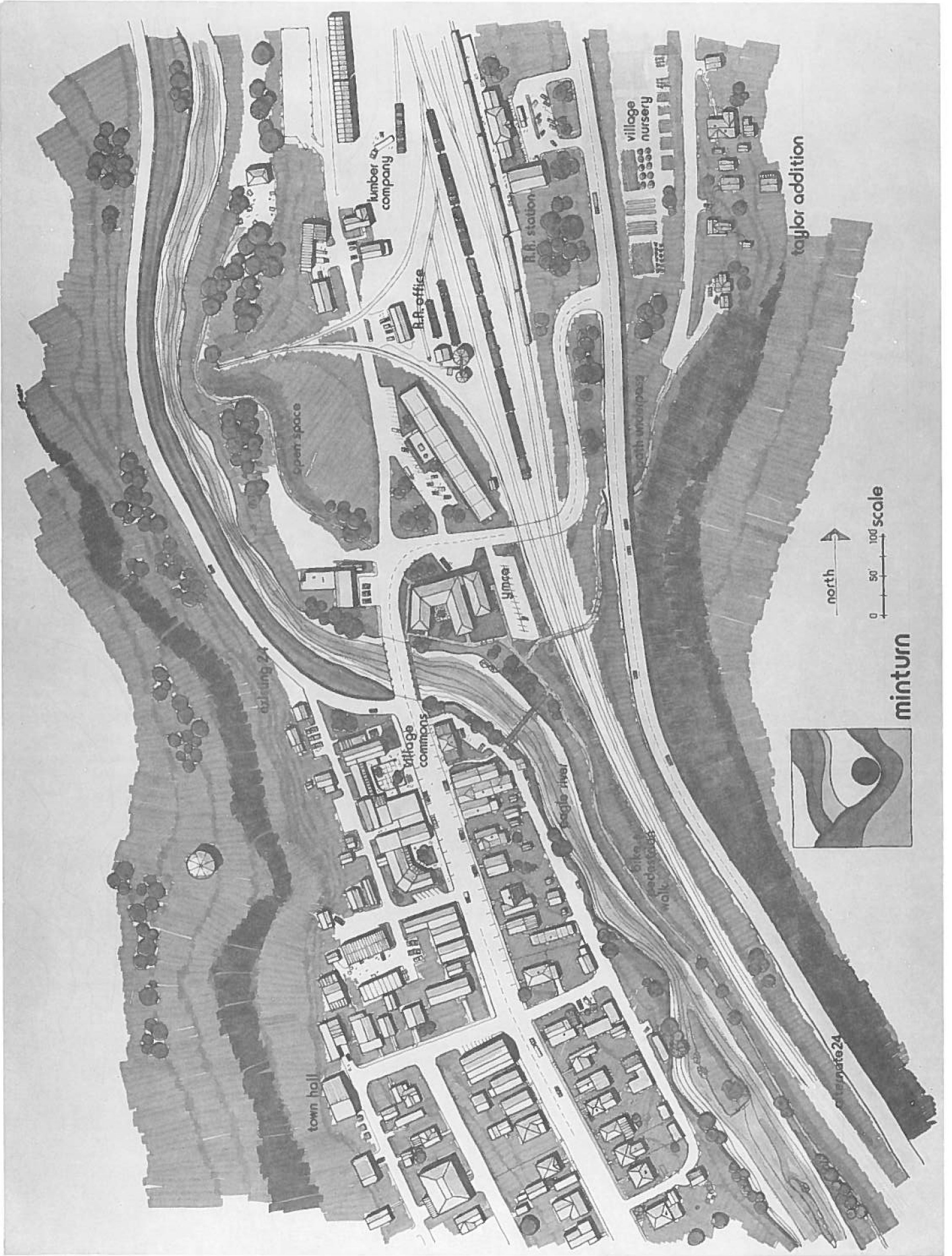
housing code and in contracting a building inspector.

- c. It is recommended that the town pass an "Interim Development Controls Ordinance," if the Council feels that development pressures cannot be held off until the adoption of the Minturn Comprehensive Plan.
4. The following land use controls might possibly be used in the Minturn Valley:
  - a. Planned Unit Development controls
  - b. Subdivision controls
  - c. Conventional zoning
  - d. Impact zoning
  - e. Transfer Development Rights

One of the cheapest and most precious attributes in the Minturn Valley is its natural beauty. Several citizens have pointed out that, among the reasons why they chose to live in the Minturn Valley, aesthetics is an important consideration. The primary scenic areas in and around Minturn include the Eagle River and its tributaries, the surrounding forest lands, and the view of the mountains rising up from the Valley (such as Battle Mountain and Lion's Head).

#### Recommendations for Scenic Areas

1. Any development near the Eagle River and its tributaries should not detract from its natural beauty (30' setback).
2. The heights of any future buildings in the Valley should not block the view of the mountains.
3. A citizen's group should be organized for the purpose of identifying all aesthetic qualities within the Valley and recommend steps and procedures to preserve these areas.



town hall

village commons

yinger

R.R. office

R.R. station

lumber company

village nursery

taylor addition

open space

path underpass

Scapple River

bike paths/stairs walk

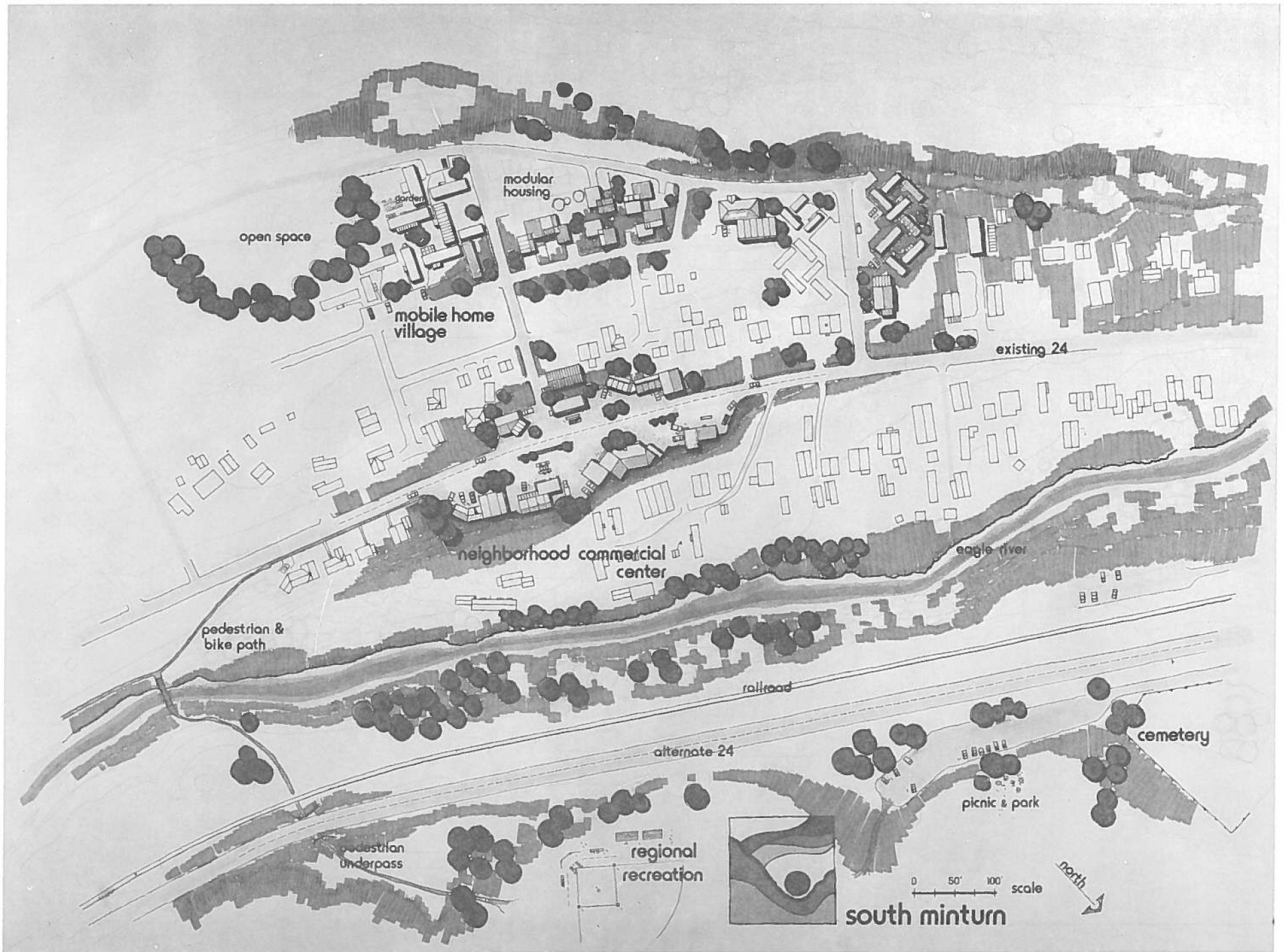
bridge

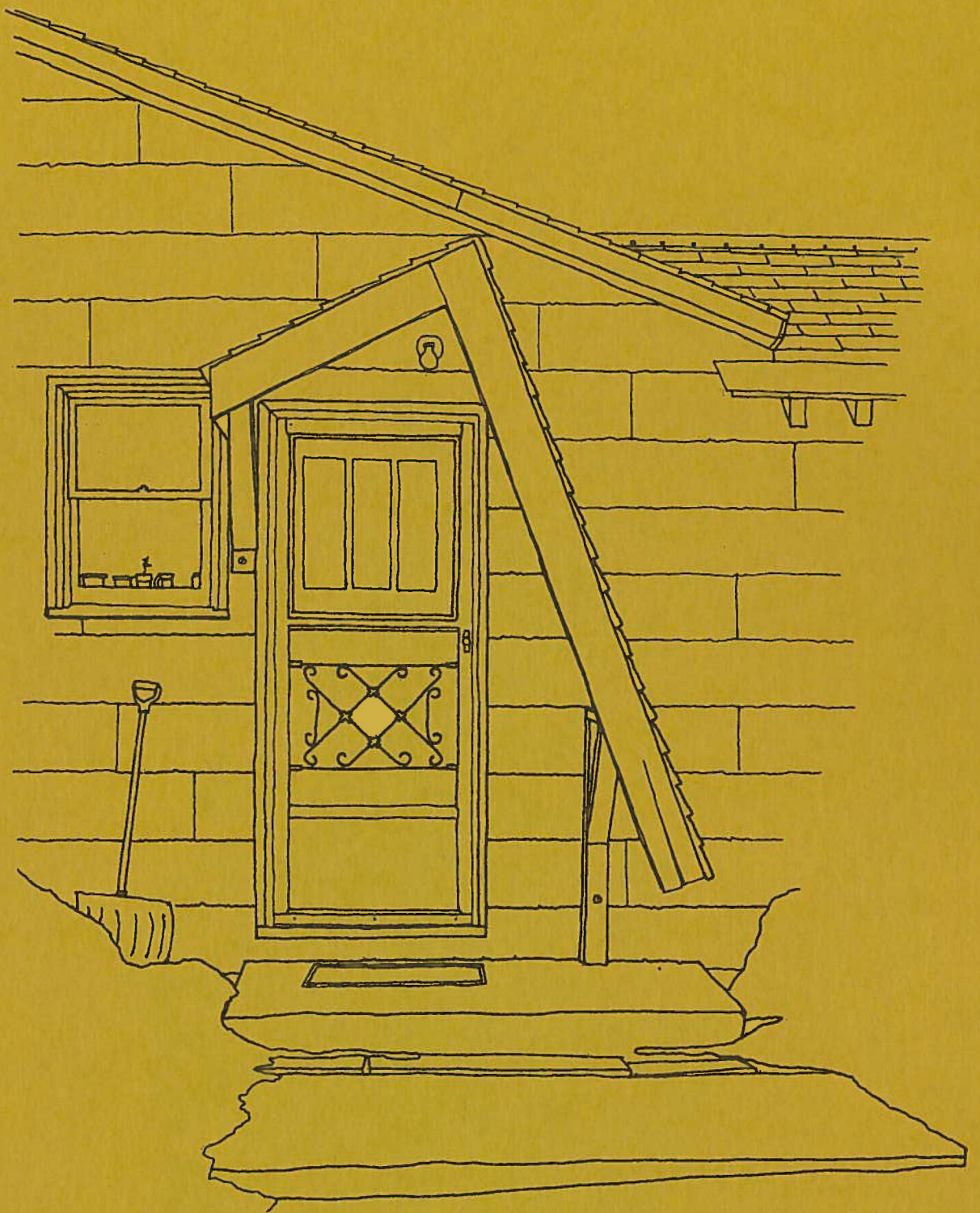


0 50' 100' scale

minturn







HOUSING

During the last fifteen to twenty years, housing has become an increasing concern within the Minturn Valley. This growing concern has been the result of four major interacting forces. First, the Minturn Valley is physically constricted with only limited open space for development. Second, land speculation is inhibiting real estate activity. Third, most of the conventional homes in Minturn were built before 1940 and many of them reflect the natural wear and tear which comes with age. Finally, the economics of housing has made it increasingly difficult for working families to realize the historic ideal of owning their own single-family dwelling on their own lot.

The economics of housing is probably the most dominant force determining housing conditions in the area. The general guideline, as defined by leading institutions, which a family can afford to devote to housing is 22 percent of gross family income. In 1970, the largest family income group (32% of total population) within Eagle County earned from 5,000 to \$7,999. Applying the general guideline to this group, the amount that these families can afford to devote to housing is only \$92 to \$147 per month for rent or mortgage payments. In 1970, the average rent for conventional single-family dwellings in Eagle County was \$225-\$250 per month. The average monthly payments for a new single-wide mobile home (costing \$9,000 at 7% add-on interest and 10% down) was \$127.50.

The result of the climbing cost of housing is reflected in the fact that in 1960 a total of only 20 mobile homes were in Eagle County. There are approximately 156 mobile homes present within the Minturn Valley today. Mobile homes presently account for 36% of all the housing in the Minturn Valley. In addition, rental housing as opposed to owner-occupied housing has been increasing steadily. An examination of the Minturn water users records reveals that currently there are approximately 222 rental units in the Valley (excluding Taylor Addition).

In 1972, a study of conventional housing conditions in the Minturn area was conducted for the Colorado Division of Planning by Gerald E. Brown. The information is based on records kept by the County Assessor. Those dwellings which were indicated as being in "poor" condition were designated as having significant structural and mechanical problems which would necessitate major repairs in order to provide adequate housing. The results of the study showed 94 housing dwellings to be in "poor" condition. This constitutes approximately 1/3 of all conventional housing units in the Valley.

Condition of Conventional Housing in Minturn

	Condition	
	Good	Poor
Minturn	183-66%	94-34%

Source: Housing-Eagle County 1972  
By Gerald E. Brown  
Community Planner





Age of Housing-Minturn Area

<u>Years</u>	<u>Structures Built</u>
1870-1899.....	9
1900-1909.....	31
1910-1919.....	16
1920-1929.....	36
1930-1939.....	63
1940-1949.....	74
1950-1959.....	35
1960-1969.....	13

Based on Gerald E. Brown's Study

Objective

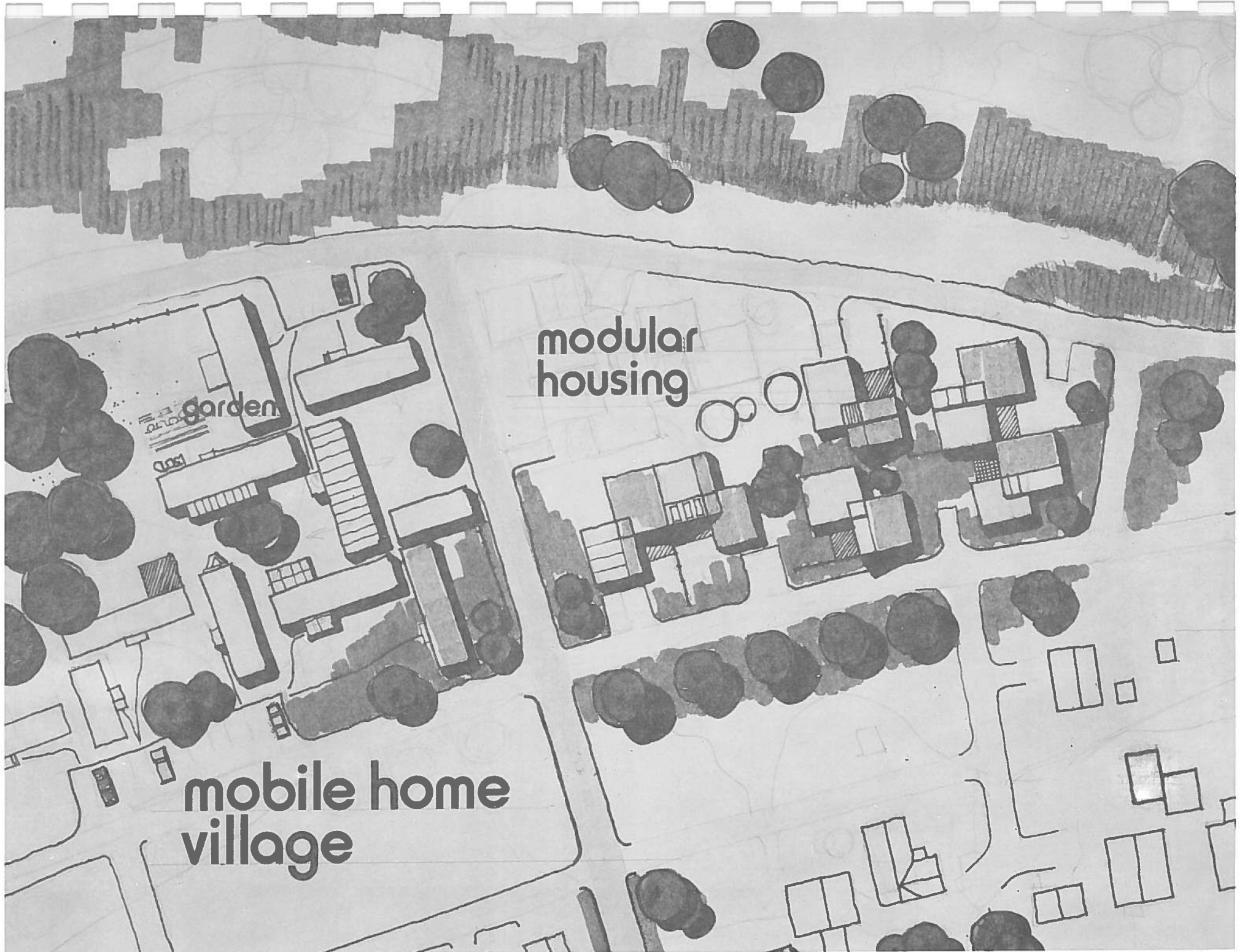
1. Every citizen within the Minturn Valley should be able to enjoy a decent home and suitable living environment.

Goals

1. Any future development of housing should not overlook the need for low cost housing.
2. Due to the present housing shortage, vacant land should be encouraged to be developed and abandoned structures rehabilitated for use.
3. A program which establishes minimum standards for the placement of structures on the site should be developed.
4. Any future building whether commercial or residential should be controlled by a building code.

Alternatives

1. The Town of Minturn should contract with Eagle County for the use of their building code and inspector.
2. As an alternative to mobile homes, modular housing should be encouraged.
3. The Town of Minturn should encourage the development of a mobile home park to handle the present and future demand within the corporate limits.



garden

modular  
housing

mobile home  
village

COMMUNITY FACILITIES

The objective of this section of the plan is to provide a framework of criteria, future needs and recommendations that will enable the Town of Minturn to provide a system of public facilities and services, such that each citizen will be afforded the highest and best possible assurance of social, economic, physical and mental well-being.

#### Municipal Facilities Policies

1. Develop a program of systematic street improvements.
2. Minturn should expand and develop parks, recreation and open space facilities so that all the people have ample recreational opportunities.
3. Improve the present water system.
4. Develop utility extension policies for future areas under consideration for annexation by Minturn including who pays, when extended, and keeping the supply in balance with demand.
5. The Volunteer Fire Department should continue to provide fire protection and fire prevention services while working to achieve the best possible service rating.

#### Public Facilities Recommendations

1. Minturn should require developers to contribute proportionally toward projected facility needs for any future developments they may undertake.
2. The town should encourage the installation of underground power and telephone lines, especially in any future development.
3. The town should develop a community center in the old elementary school.
4. The town should concentrate on a contiguous development pattern for construction and maintenance of public facilities and utilities to insure maximum economic utility of capital funds in any future Valley development.
5. The town should retain a municipal land reserve adequate enough to provide land for any foreseeable public uses.
6. Taylor's Addition could provide an additional site for possible water storage facilities; acquisition of a possible site should

be studied.

7. Town offices should be relocated in the proposed community center.
8. Additional water sources, treatment facilities, fire protection and adequate storage will be required in the next few years to meet the projected growth of the Valley.
9. Develop a systematic maintenance program for all the public facilities within the Minturn Valley.
10. The town should develop a landscaping program.
11. The town should develop storm drainage systems where needed, particularly in the central core area.
12. The Town of Minturn should improve the level of cooperation with the school district to insure the proper location and maintenance of physical facilities (new school, pool facilities, Maloit Park).
13. The Town of Minturn should work with the school district in the development of an adult continuing education program for the Valley area.
14. The town should develop a library in the proposed community center.
15. The North Railroad Annexation road bridge running to Dowd Junction from Taylor's Addition as well as the road should be rebuilt to improve future access to the Taylor Addition and the commercial/industrial area in the Railroad Annexation.
16. The town should develop a neighborhood park by Foster Lumber Yard and the Eagle River, as well as the development of some tennis court facilities adjacent to the present baseball field. A bike path network connecting various recreational uses should be investigated by the town.

#### Inventories

The following inventory describes the present facilities and personnel:

##### Police Department

1. 3 full-time officers

2. 2 patrol cars
3. general operating supplies and equipment

#### Volunteer Fire Department

1. 3 pumper trucks
2. 1 ambulance
3. volunteer staff
4. firehouse

#### General Government Operations

1. 1 Town Clerk-Treasurer
2. Mayor and Board of Trustees (6)
3. 1 part-time Town Manager
4. Town Hall and Office

#### Minturn Water System

1. Presently serves about 1,500 people  
446 DU
  - 1) 55 mobile homes
  - 2) 12 apartments
2. transmission lines
3. fire protection

#### Town Street Network



Public Works

1. 2 snowplows
2. 1 trash compactor
3. 1 four-wheel pick-up

PARKS, RECREATION  
& OPEN SPACE

At the present time, recreational facilities in Minturn and the Valley are extremely limited. Minturn's only existing park facility covers only seven acres. Maloit Park is also located in the Valley but this area is controlled by the school district and public use is limited.

The park and recreation endeavor in the Minturn Valley should be primarily oriented to providing needed facilities for the local residents, although due to the lack of facilities in the region, non-residents must be considered. It is the intent of this section of the plan to determine the desires and needs for park and recreation facilities, to review existing facilities, establish goals and make recommendations concerning the provision of facilities to accommodate existing and future needs.

#### Objectives of Minturn's Park, Recreation and Open Space Plan

It is the intent of the park, recreation and open space plan to provide facilities to satisfy the expressed needs of the community.

To meet this goal the following objectives are:

1. To provide a high quality program of parks, recreation and open space at an economical cost to the taxpayers.
2. To provide a park, recreation and open space program throughout the Minturn Valley, which is responsive to specific needs of all its residents.
3. To plan and provide a park, recreation and open space program which is coordinated with other local and regional recreation districts.
4. To provide a high quality, year 'round recreation program, physical and cultural, for all citizens of all ages within the Valley.
5. To foster the development of desirable attitudes and activities.

To achieve the above goals, Minturn should utilize the following planning principles:

1. To acquire land for future use prior to actual need, in order to obtain it at the lowest cost.
2. To encourage donation of land useable for parks, recreation



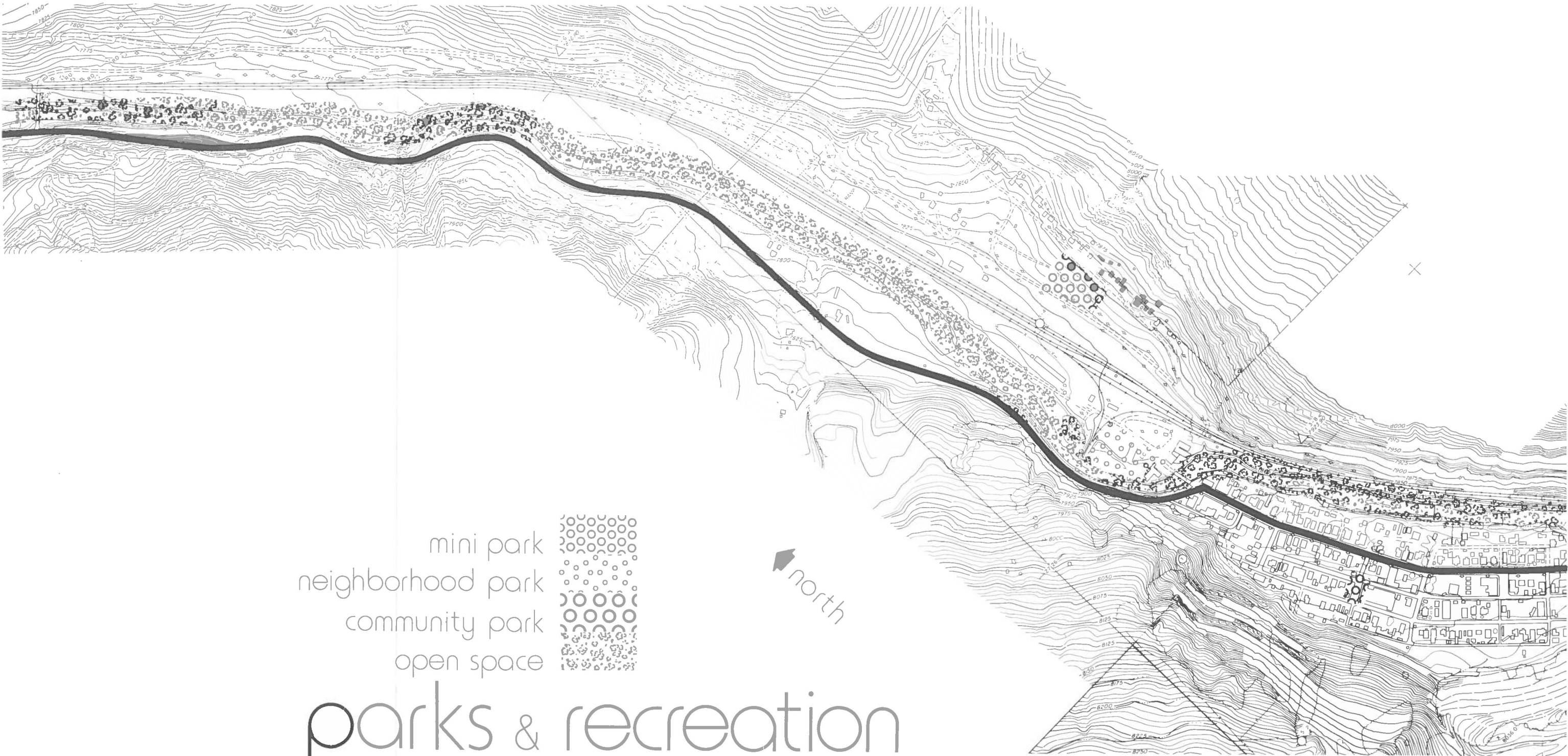
and open space purposes by land developers, private citizens and others.

3. To work with other governmental entities to provide for joint planning, use and financing of facilities and programs where appropriate.
4. To continue the citizen participation in order to assess the desires and needs of Minturn residents.
5. To prepare general development plans for each park site prior to implementation.

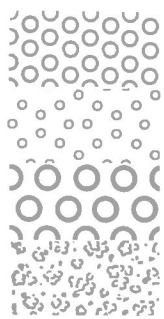
#### Recommendations

Of great importance to the scope of this report is the service of the day-to-day recreational needs of the people living in the Minturn Valley. Convenient and easily accessible recreation facilities, which provide for a variety of outdoor activities for the whole community are essential to a well-balanced park and recreation system. The following recommendations propose the establishment of such a system.

1. The Minturn Elementary School should be converted into a community center, including sports, leisure and public activities as well as a library and town hall.
2. The area in front of Minturn Elementary School should be developed as a mini-park.
3. Minturn should work with the school district in future development of Maloit Park.
4. The area near the Forest Service facilities, in south Minturn, should be purchased and developed by the town for a community park.
5. A mini-park abutting Taylor's Addition within the railroad subdivision annexed area should be planned.
6. The Eagle River flood plain should be developed into a "green belt" area.
7. A neighborhood park located northwest of Foster Lumber Yard on the Eagle River should be developed.

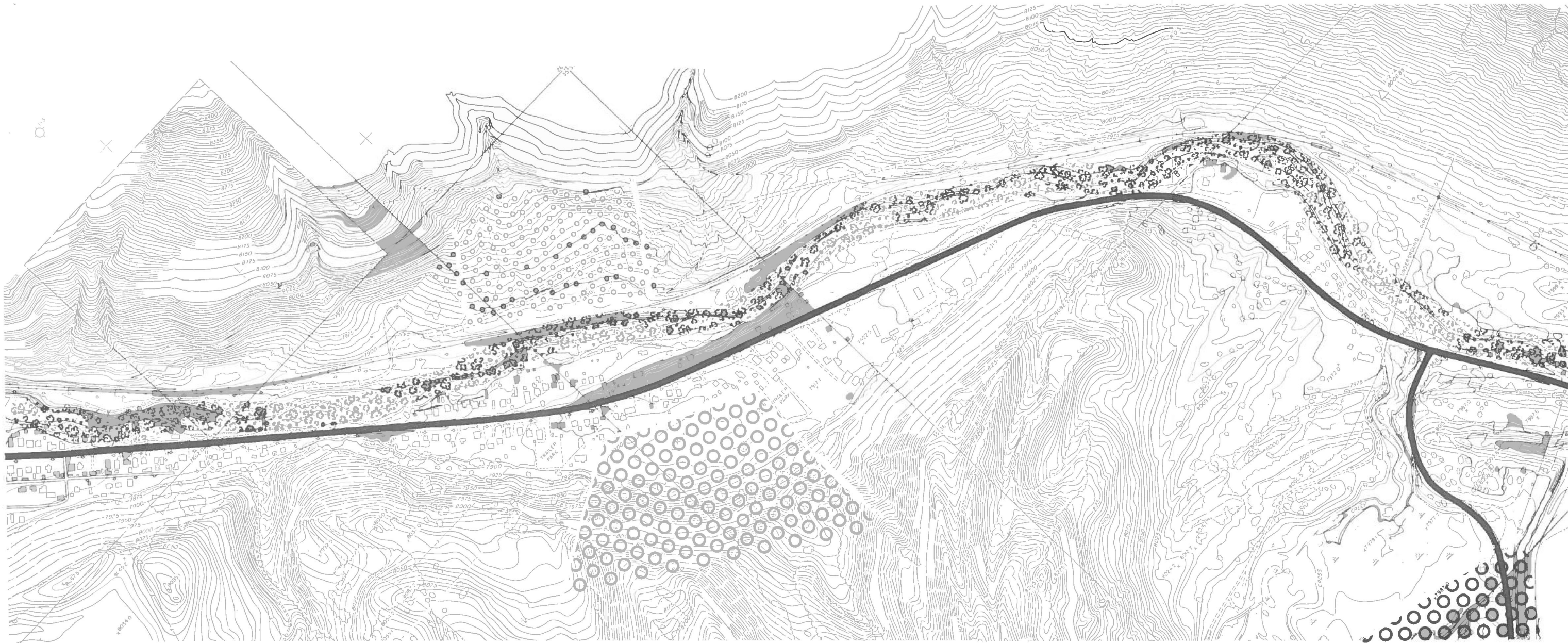


mini park  
neighborhood park  
community park  
open space



# parks & recreation

# minturn valley comprehensive plan



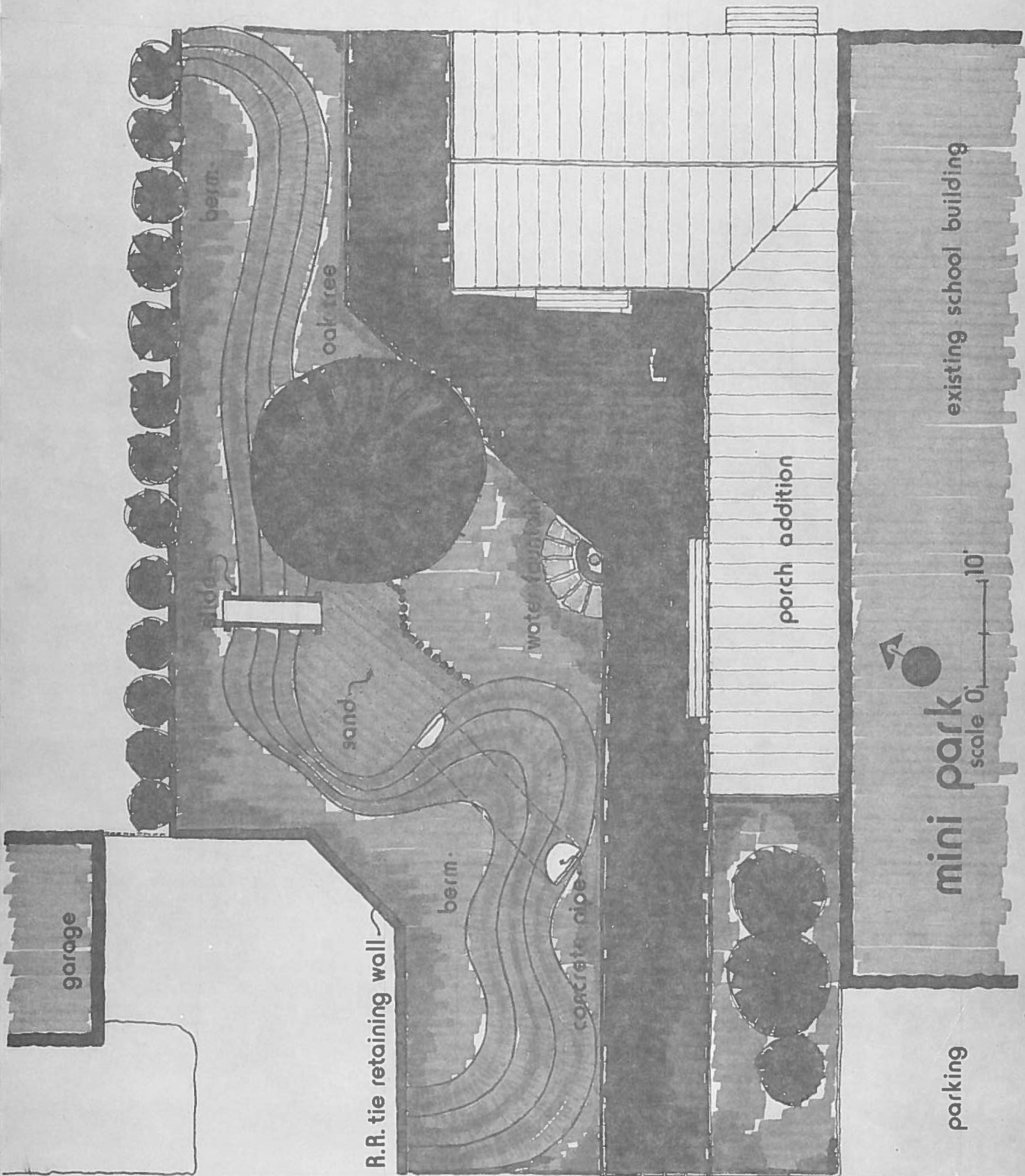
8. Any remaining useable land abutting the Town of Minturn's playing field should be acquired as a permanent addition to the existing facility.
9. Initiate a land acquisition program for parks and open spaces within the Valley.
10. Minturn should investigate the possibilities of locating and developing a small locally-oriented ski area at Meadow Mountain.

#### Description of Park, Recreation and Open Space Areas

1. Neighborhood Parks: These shall be designed to service specific areas or sections of Minturn. These parks are proposed to be located generally near the center of neighborhood units. A neighborhood unit shall be defined by its location standard. It is also proposed that the minimum size for a neighborhood park be four acres. However, the exact size can be equated to the population to be served as per the proposed standards. Neighborhood parks shall contain play lots, play areas, court areas, shelter areas, picnic tables, benches, walkways, turf and trees.
2. Community Park: It is proposed that one major community park facility should serve the Minturn Valley and be a minimum of twenty acres in area. A community park should be the primary open space in the community and provide for a variety of recreational needs. A community park should contain general facilities, open play areas, courts, a large shelter, picnic area, playlot, outdoor theatre, access to large natural areas and walkways, and most importantly, parking.
3. Open Space: An essential element of the park system which is provided for by "green belts." These are used as connections between various park and recreation facilities. The linear character of these belts makes them useful for effective physical definition to areas of the community.
4. Playfields: These should be established to serve the present and high demand for them. Due to the lack of playfields in the area, Minturn's real need is much greater. The need to work with other communities in the area cannot be over emphasized. These areas should include ball fields, open



boulder street



pine street

garage

berm

oak tree

sand

water fountain

berm

concrete pipe

porch addition

existing school building

mini park  
scale 0' 10'

parking

space, picnic areas, track areas and bathrooms. (Good portable bathroom units can serve initially.)

It must be recognized that the proposals included herein provide for a long-term program of development. Acquisition and development of the proposed facilities must be carried out in a rational and reasonable manner. Equal attention must be given to land acquisition for future development, as well as current development.

Due to the lack of park facilities in already developed areas, it is recommended that immediate attention be given to provision of park and recreation facilities in these areas. Relative to land acquisition for park and recreation facilities in undeveloped areas of the Minturn Valley (specifically Railroad Annex, King's Ranch, and Cross Creek areas), it is recommended that a park dedication policy be established which shall provide for the dedication of land or money in lieu of land by subdividers or developers.

The financial burden of the above recommendations makes the need for a Regional Recreation District of which Minturn would be a member a number one priority before any future attempts to implement them are undertaken.

CIRCULATION

The circulation pattern in and around Minturn, in many cases, determines the probable use of land and is therefore of primary importance as related to the various elements of the plan. The total street system must be designed to serve the traffic needs among the various proposed land uses.

Minturn's proposed traffic system must reflect existing as well as future land use. Based on analysis of existing land use and current traffic patterns, together with proposed land use, recommendations have been made as to current requirements and inadequacies of Minturn's present circulation systems.

The goal of Minturn's circulation plan is to provide for a system of major and minor streets that will make for the safe and efficient transportation of goods, services and residents.

#### Circulation Objectives for Minturn

1. Minturn should maintain its present street system and improve it as necessitated by future growth within the Valley.
2. Minturn should develop design standards that are in harmony with good engineering practices and the community's resources.

To achieve the above goals and objectives, Minturn should utilize the following planning principles:

1. Priorities for construction of major street improvements should be established to make proper use of existing facilities and to gain maximum benefit by coordination of local county and state funds.
2. Land use objectives will determine the location of major streets.
3. Major streets should provide the most efficient and direct routes for traffic traveling through Minturn.
4. The street system should be coordinated with parks, schools and public buildings to assure reasonable access for Minturn's residents.
5. Pedestrian ways should be developed between businesses and parking areas and between schools, parks and residential sections.
6. Visual aspects of location and design along major streets should be improved, not only from the point of view of the user, but

also from the point of view of residents who live and work in adjacent areas.

## Standards

### Definition of Street Classification

Minturn's street system is composed of several classes of streets which are classified on the basis of traffic volume and specific functions.

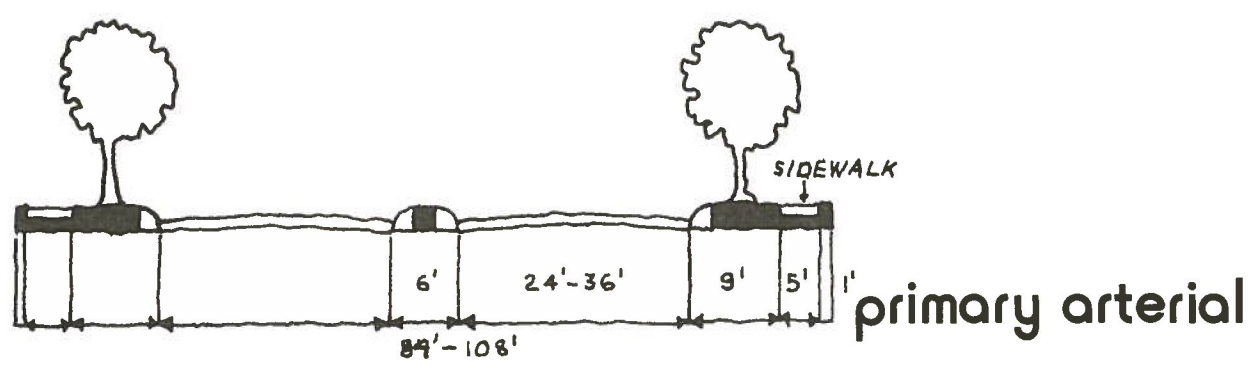
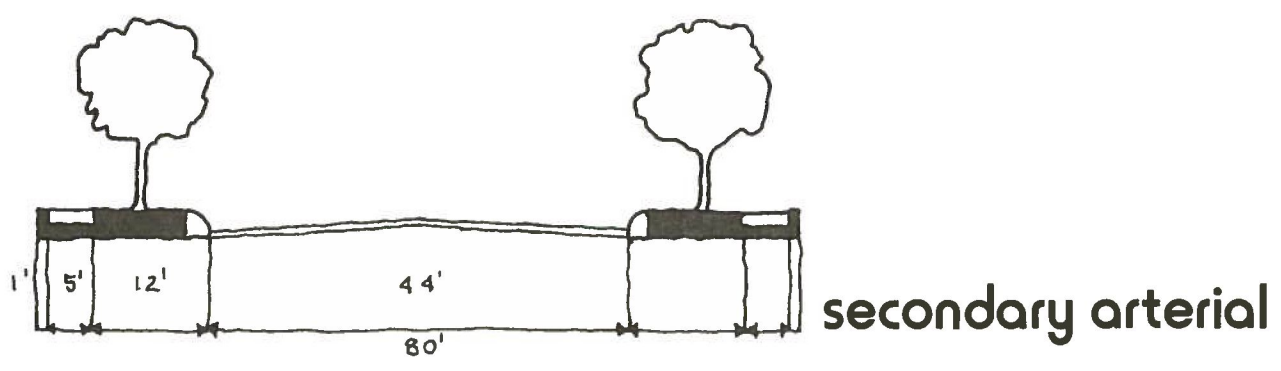
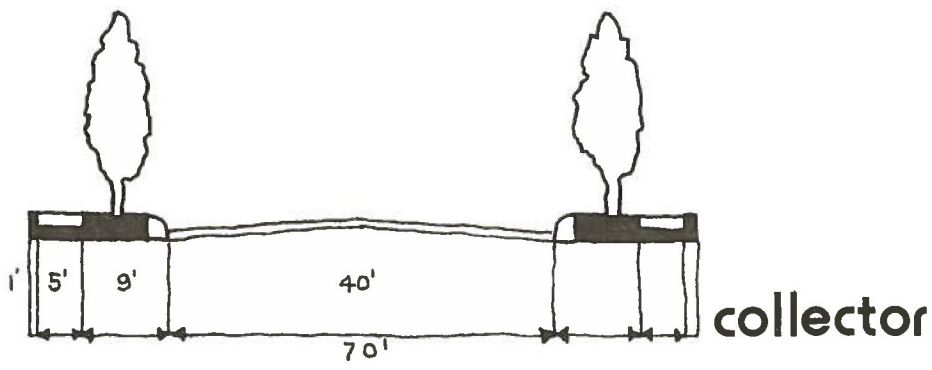
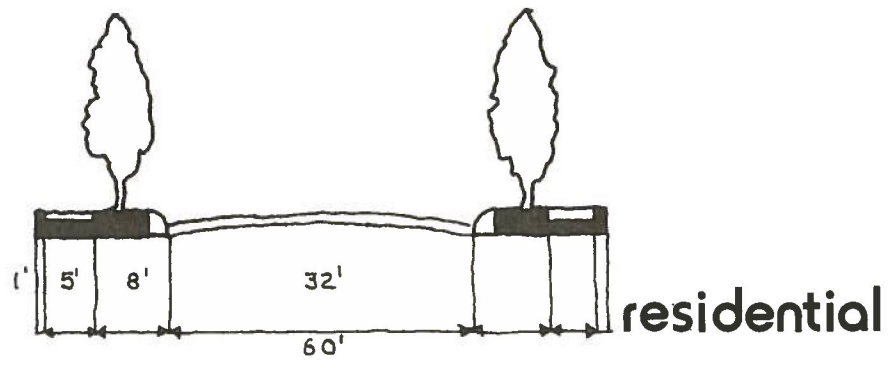
1. Primary Arterial: A high capacity street for through traffic between areas and across town traffic.
2. Secondary Arterial: A street for the movements between areas of the community, as inter-connection between neighborhood units and between primary arterials, and for providing access to large traffic generators.
3. Collector Streets: Streets providing for the feeding of traffic from minor residential streets within the neighborhood units to secondary or primary arterials.
4. Minor Residential Streets: Low capacity streets feeding collector streets.

### Theory Behind Circulation Standards

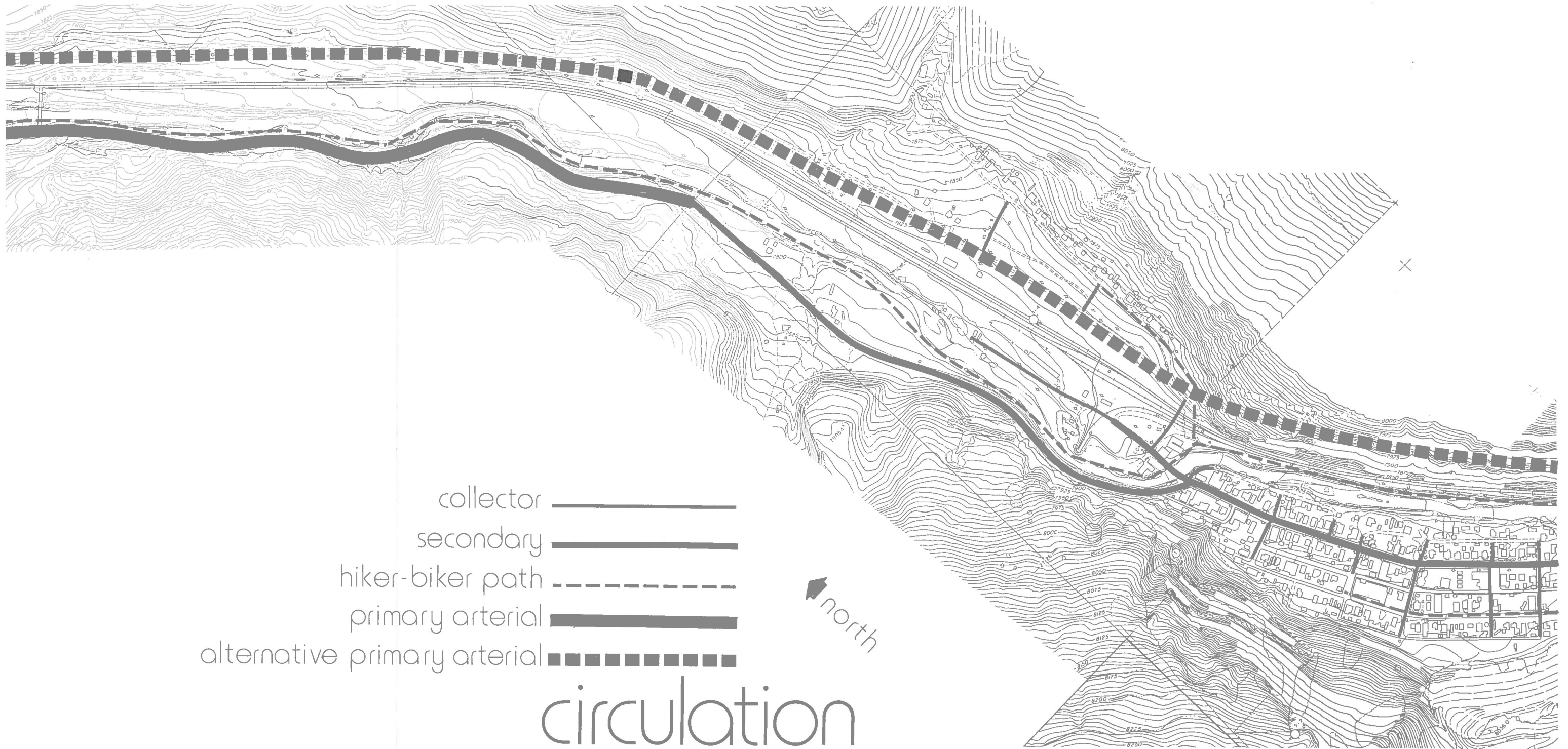
Streets perform two major roles: circulation of vehicles and access to property. With classification, these roles have different degrees of importance. Minor streets are primarily used to provide access; primary arterials are essential for circulation; secondary arterials are more concerned with circulation than with access.

Interaction between land use and street development must be recognized, and the type, size and character of streets should be established in terms of their specific functions. Streets must reflect an efficient method of moving traffic from point to point, yet allow for maximum development of land and a minimum amount of acreage utilized in streets. Land uses, for which streets provide access, vary greatly in terms of the traffic that they generate. This, in turn, varies traffic volume, and determines secondary land use activities along the street, all of which affects the design standards for a particular street.

It is the intent of these standards, therefore, to provide general criteria for Minturn's streets. Minturn's existing roads do not meet these standards.



**cross-section minimum standards**

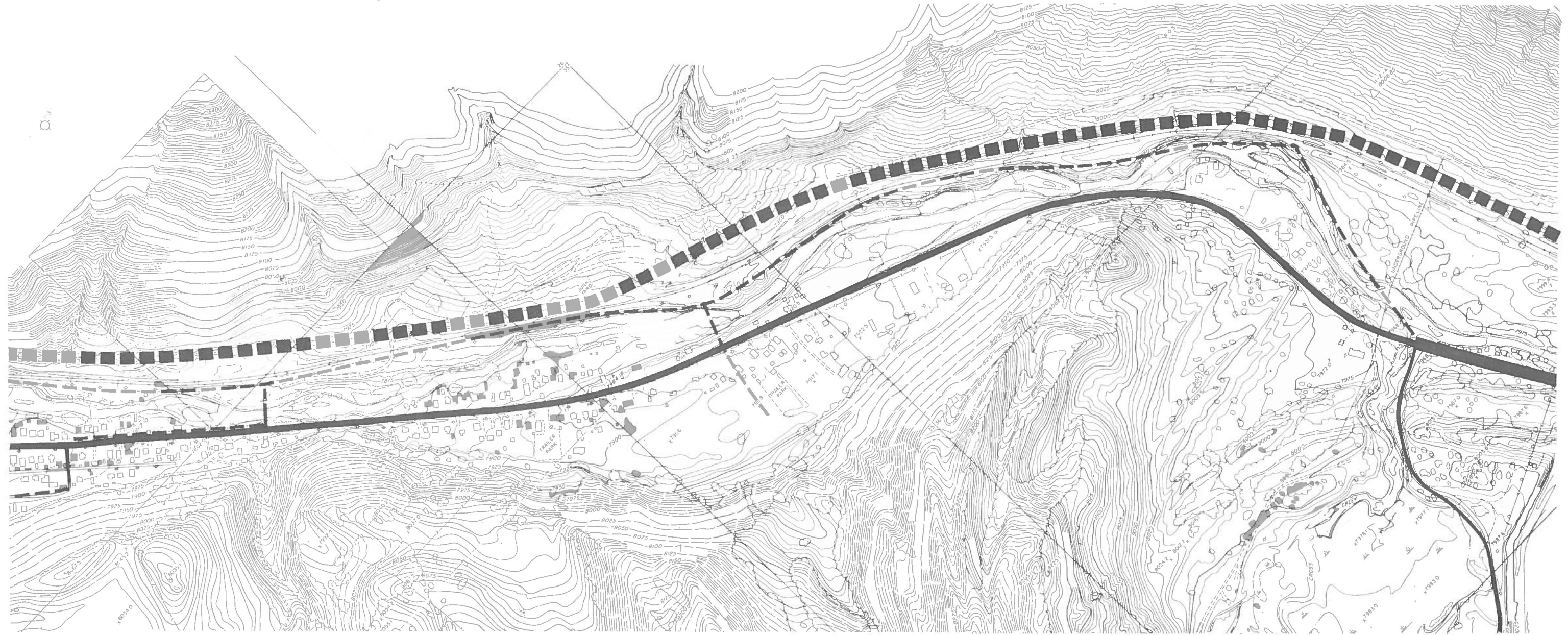


- collector 
- secondary 
- hiker-biker path 
- primary arterial 
- alternative primary arterial 

↑ north

# circulation

# minturn valley comprehensive plan





However, it is felt that the establishment of high standards will favorably affect new development and could serve as a guide to effecting improvements to the existing street system.

### Recommendations

Geographically, the Town of Minturn has developed linearly with the Valley walls to the east and west as effective natural barriers to expansion in those directions. Therefore, as indicated in the future land use plan, expansion of Minturn is expected to extend north and south of the existing area of development. This assumption, as well as existing conditions, objectives, principles and standards, provide the premises upon which these circulation pattern recommendations are proposed.

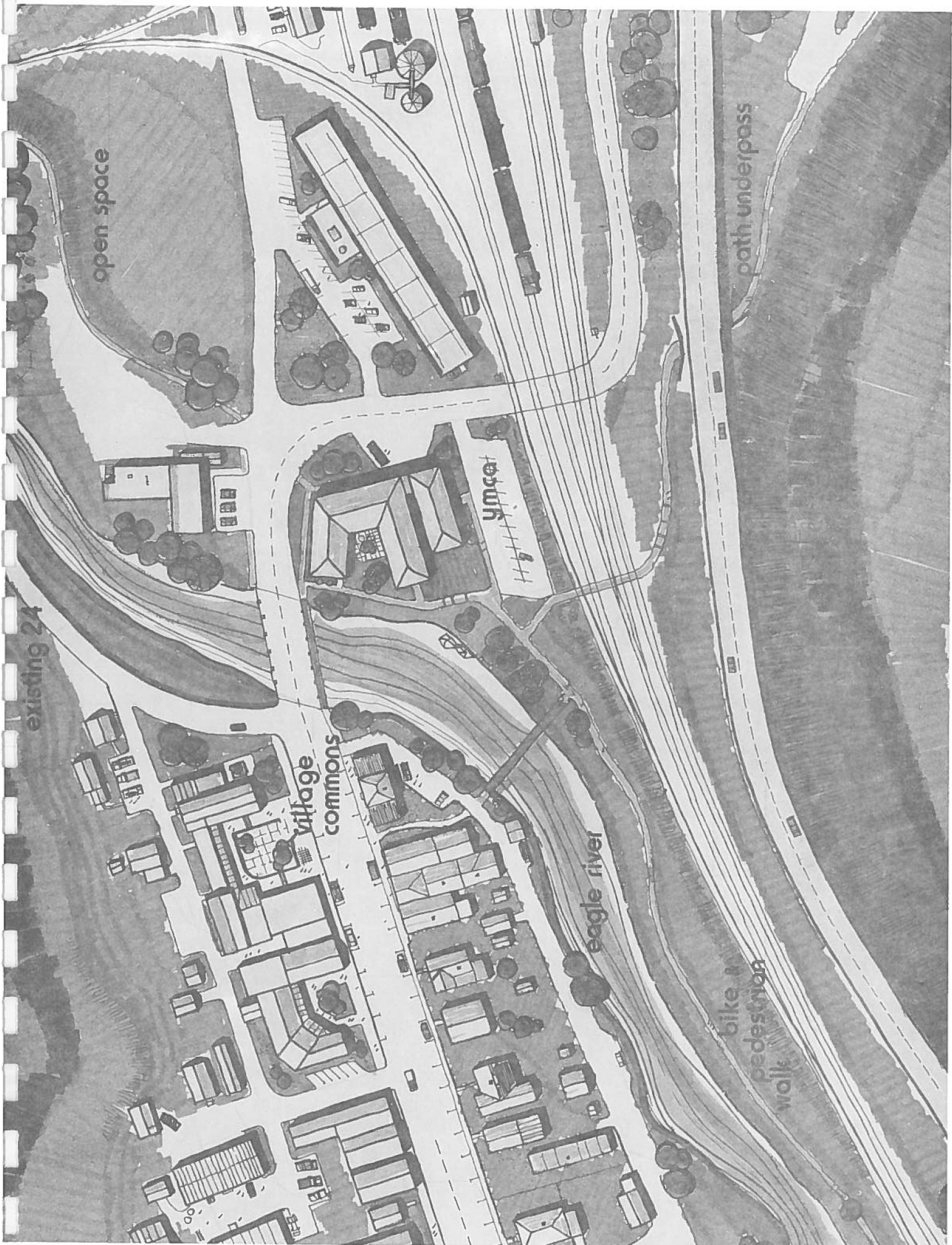
Another factor which has a strong influence upon circulation development in Minturn is the recommended alternative routing of U.S. Highway 24 on to the east bank of the Eagle River. Any proposal for the rerouting and its interchanges will have a great impact upon the safety and well-being of the community. Although it is not anticipated that the rerouting would be feasible in the immediate future, it is felt that the anticipated growth of Minturn will justify the rerouting within the next 10 to 15 years.

Based upon existing conditions, goals, objectives, principles and standards, the following comments and recommendations are proposed:

1. Minturn should undertake a program of street identification by a professional survey firm as the first step of the over-all street improvement program.
2. Main Street should be expanded to meet minimum standards for a secondary arterial and a program of landscaping should be considered.
3. U.S. Highway 24 should be moved to the east bank of the Eagle River.
4. A two-lane bridge should be constructed as an extension of Main Street for unrestrictive access to the railroad and Taylor additions.
5. A curb and gutter program should be extended to the whole community in an effort to provide storm drainage and establish parking lanes.
6. The city should contract with a local area resident for proper

and nimble snow removal on collector and minor streets in the winter months.

7. A comprehensive system of hiker-biker paths should be developed throughout Minturn to ensure the safety of Minturn's children.
8. All large traffic-generating businesses should provide a proposal to the town for adequate parking facilities.
9. All street improvements should be scheduled to reduce traffic congestion and be coordinated with any utilities improvement program.
10. Minturn should outline available county, state and federal assistance programs prior to the initiation of all improvements.
11. The Town of Minturn should investigate the possibilities of developing a regional bus system between Vail and Redcliff.



open space

existing 24

village commons

yınca

eagle river

bike & pedestrian walk

path underpass

ENVIRONMENT

## Geology and Soils

The most prominent geological formations along the floor of the Minturn Valley include alluvium, colluvium, and glacial drift. These formations are a conglomerate of compressed sand, silt, clay and gravel. They are the result of a combination of water, wind and ice sediment deposits left to settle over many years. Above the Valley, the geological formations include the Minturn Formation, the Belden Formation, and the Leadville Limestone (or Dolomite) Formation. The Minturn Formation comprises interbedded sandstone, conglomerate, and shale, with a few limestone beds, commonly gypsiferous with interbeds of shaly gypsum, generally moderately well cemented and consolidated, thin- to thick-bedded massively jointed, and crops out only locally. The Belden Formation is interbedded gray to black shale, thin-bedded limestone and sandstone. The Leadville Formation consists mainly of dolomite. It is locally highly silicified, dark gray, finely crystalline, thick to massively bedded, and commonly closely jointed.

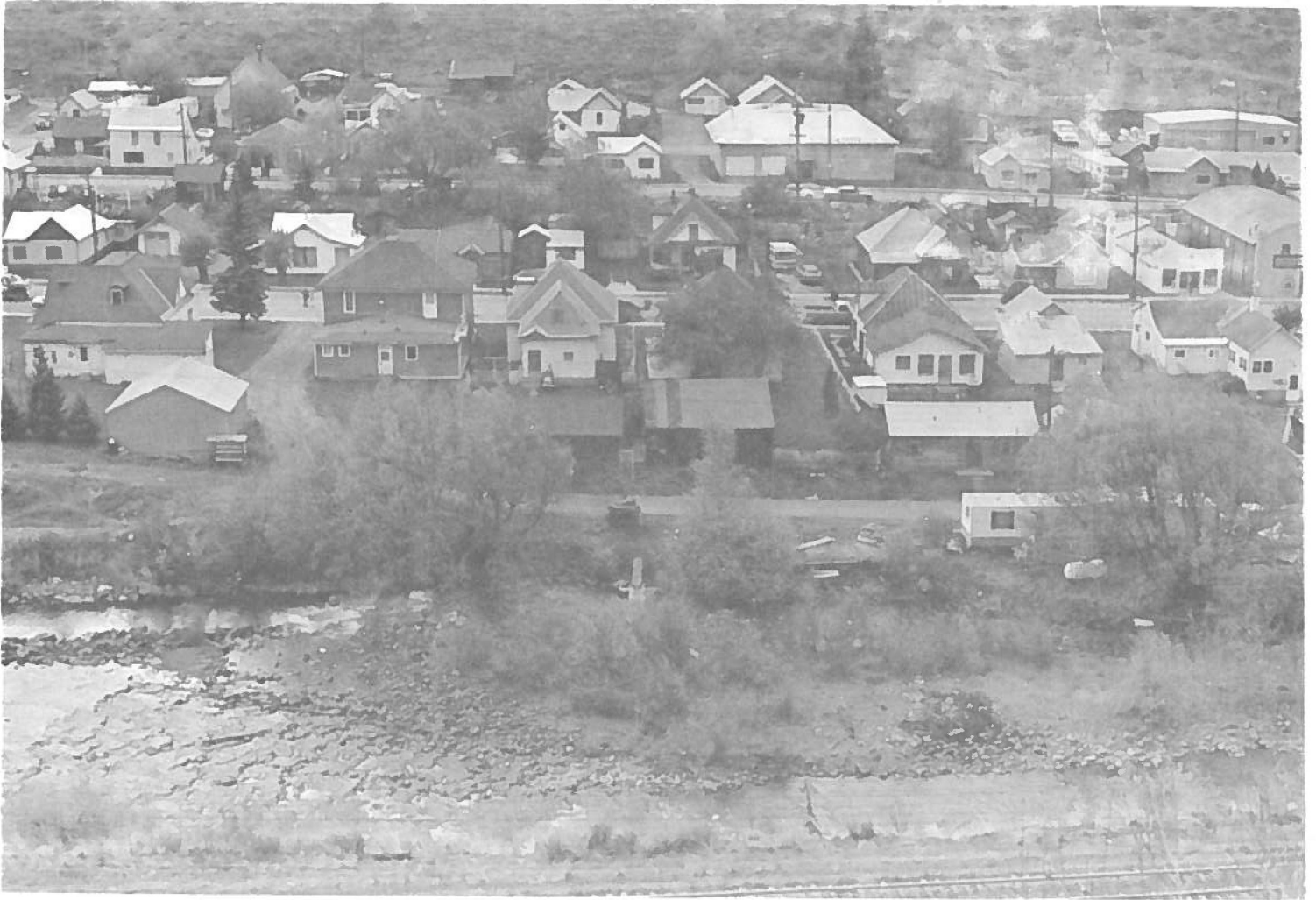
The Eagle County Master Plan has rated the soils in the Minturn Valley as good for community development. The soil types are an association of mostly haploborolls, argiborolls, and eutroborolls. Natural limitations are few in this type of association, for these soils are suitable for horticulture. In the coming summer, the U.S. Conservation Service will be conducting a more detailed soil study in the area.

## Recommendations

1. The findings of the U.S. Conservation Service soil study to be conducted during the summer of 1975 should be reviewed and incorporated into the Minturn Plan.
2. No development should take place along the east slope of the Minturn Valley across from Meadow Mountain due to the geologically unstable rock formations in that area. Much of the Meadow Mountain area also has geological hazards that should be taken into consideration during the early design and site location planning.

## Air Quality

Presently there is very little statistical information concerning mountain air pollution levels in Colorado. However, a study in the Grand Junction area has revealed that temperature inversions occur about 80% of the time. Measurements at Beaver Creek indicate that the average inversion bases occur at an elevation from 150 feet to 300 feet above the Valley floor.



These temperature inversions are especially harmful when they capture pollutants and fugitive particles in a box-like area such as in the Minturn or Vail Valleys. Auto emissions are much greater in mountain regions due to a general loss of the combustion engine's efficiency with increased altitude. The inversion problem is especially noticeable during the winter ski season, when the I-70 corridor has its peak uses and due to the increased use of wood burning fireplaces.

An air quality problem prevalent during the summer months is dust created by the batch plants and by vehicular traffic traveling over the gravel and dirty roads in the Railroad annexation. The prevailing winds carry this dust up the Valley to the heart of Minturn causing an unhealthy nuisance.

A graduate student at Colorado State University is presently developing his Master's thesis on the air pollution problems in Eagle County. This study should be reviewed when it is finally available to the public.

#### Water Quality

The express intent of Colorado's Water Quality Control Act is an obligation to protect the quality of Colorado's water.

The Eagle River from its source to the confluence of the Colorado River is classified as B1. (See Appendix for specific standards for the B1 classification.) Measurements at the Eagle River at Avon indicate:

There is evidence that pollutants are entering the Eagle River via uses in the railroad annexation area. Monitoring of pollution levels is necessary in the location as well as in the mining operations area.

Monitoring the Eagle River for its quality as it flows through Minturn would also protect wildlife processes. Minturn could work in conjunction with Eagle County in these procedures. The Colorado Division of Wildlife has also set forth standards for rating features of a stream/river relating to its potential for supporting fish, shore life and its aesthetic factors for particular locations along streams or rivers.

#### Flood Plain

Within the past twenty years, floods in Colorado have resulted in the loss of forty lives and property damages extending into billions of dollars. Traditionally, flood damages occur overwhelmingly in areas where the potential flood hazard was apparent or should have reasonably been assumed to exist. In an attempt to reduce needless loss of life and property, a flood plain study was



high water level   
flood plain 

↑ north



# minturn valley comprehensive plan



made by the engineering firm of Ketchum, Konkel, Barrett, Nickel, & Austin for the Minturn Comprehensive Plan.

The flood plain shown on the following page reflects the Eagle River high water level from Cross Creek to Dowd Junction. This level is usually referred to as either the 100-year flood plain or the intermediate regional flood plain. Based on past high water level records of the amount of water flowing into the Eagle River, the 100-year flood plain designates the area with which a flood may be reasonably expected to occur. It does not, however, predict when such a flood will occur. It also falls far below the maximum possible flood (which may occur on the average of once in a thousand years), yet considerably above the level for lesser floods (which may occur on the average of every twenty years).

As indicated on the flood plain map, the width of the 100-year flood plain varies from a distance of fifty feet to a distance of two hundred fifty feet. Where trees have fallen into or next to the Eagle River, the actual flood plain may extend beyond the distance shown on the flood plain map. Fallen trees and other debris can serve as a miniature dam during a flood and result in an expansion of the high water mark.

#### Recommendations

1. No future development should occur within the flood plain.
2. Felled trees and other debris should be periodically removed from the Eagle River.

#### Wildlife

The geographical and ecological conditions in and around the Minturn Valley provide an environment yielding an abundance of food, water, cover, and space to support a large variety of natural wildlife. In fact, almost every species of wildlife native to Colorado may be found roaming in or near the Minturn area.

The Eagle County Planning Commission has identified the area to the east of the Eagle River as a major seasonal migration route for big game animals, especially Elk and Mule Deer. The area from Dowd Junction to Red Cliff serves as the winter range for a herd of Elk. Other big game and prominent animals in the Minturn area include:

#### Birds

Peregrine Falcon (south of Minturn)  
Bald Eagle (nests near Dowd's Junction, Lion's  
Head and Cross Creek areas)

Band-tailed Pigeon (throughout area)  
Blue-Grouse (throughout area)  
Duck (throughout area)

#### Big Game Mammals

Red Fox\*  
Black Bear\*  
Mt. Lion\*  
Bob Cat\*  
Beaver (Cross Creek, Two Elks, Grouse Creek, and  
Eagle River)  
Mountain Goat (winter range for hermit goat south  
of Minturn)

\*occasional occurrence only

#### Trout

Brown (all streams and rivers)  
Brook (all streams and rivers)  
Rainbow (all streams and rivers)  
Cutthroat (more common upstream from Minturn)

Source: Colorado Division of Wildlife

#### Recommendation

1. Any future development which could reasonably be perceived as encroaching upon the Elk winter range and the big game migration routes should be discouraged.

#### Noise

Because the Minturn Valley is surrounded on both sides by sharply rising slopes, any significant level of noise tends to be trapped within the Valley and reverberated against the Valley walls. The result is a "boom effect." Noises which would dissipate quickly in a large Valley or on the plains become prolonged and ominous. The major sources of noise in the Minturn Valley are caused by the railroad operation, the batch plants, and by truck traffic.

There has not yet been any study done to determine the present level of

noise in the Minturn Valley. The following table gives some idea of the various noise levels in decibels. A decibel is a measure of air pressure generated by sound. The lowest level, one decibel, reflects the level of sound required for any noise to be perceptible to the human ear. The decibel scale is not arithmetic but logarithmic.

Noise Levels

Threshold of hearing.....	1
Normal breathing.....	10
Leaves rustling in breeze.....	20
Whispering.....	30
Quiet office.....	40
Homes.....	45
Quiet restaurant.....	50
Conversation.....	60
Automobile.....	70
Food blender.....	80
Niagara Falls at base.....	90
Heavy automobile traffic, or jet aircraft passing overhead.....	100
Jet aircraft taking off, or machine gun at close range.....	120

Recommendations

1. The town should conduct a study of present noise levels in the Minturn Valley.
2. From the results of such a study, the town should develop noise level standards and apply these standards when reviewing future development proposals.

IMPLEMENTATION

### Intergovernmental Policies

1. The Town of Minturn should improve its communications with the Northwest Council of Governments to facilitate the maximum benefit that can be arrived at from this relationship.
2. The Town of Minturn should continue to improve its working relationship with Eagle County government officials.
3. The Town of Minturn should cooperate with all special districts within the Valley in the provision of services for the Valley residents.
4. The Town of Minturn should improve its communications with the school district to insure the most efficient use of funds and resources in the district's schools within the Valley.
5. The Town of Minturn should continue to maintain a working relationship with other towns in the area.

### Regulation Policies

1. The Town of Minturn should develop subdivision regulations.
2. The Town of Minturn should develop a comprehensive Zoning Ordinance.
3. The Town of Minturn should adopt the County's Building and Housing Codes.
4. The Town of Minturn should adopt a comprehensive Flood Plain Ordinance.
5. The Town of Minturn should develop a sign code.

### Annexation Policies

1. The Town of Minturn should develop utility extension policies.
2. The town should develop a Valley annexation policy.

Fiscal Policies

1. The Town of Minturn should develop a Capital Improvements Program.
2. The Town of Minturn should investigate alternative sources of revenue.
3. Development fees should be levied for the following: subdivision plats, utility hookups, building permits, etc.
4. The Town of Minturn should develop a site value tax system.

APPENDIX



## Standards - Recreation

The following are reasonable minimum standards for the development of a recreation system for Minturn and the Valley. They reflect nationally accepted standards which have been modified to reflect the Minturn situation. It should be recognized that the quantity and space requirements of parks and recreation facilities as stipulated are not uniformly applicable to the detailed design of recreation facilities, especially in view of the diversity and variation between Minturn's existing areas. However, the following general standards do function as guides in the development of park and recreation facilities for Minturn. The ultimate design determinations shall be based on the particular needs of those to be served, the location and availability of land and the general circumstances and physical character of the area involved.

### Recommended Recreational Standards

<u>Type of Park</u>	<u>Age Group</u>	<u>Size</u>	<u>Location</u>	<u>Features</u>
Mini (playlot)	Pre-School	5,000 sq. ft.	Interior of city block	Fence, shade, play apparatus, benches, paved area.
Neighborhood	6-14 yrs. primarily, also family	1 acre per 800 pop. (min. 4 acres)	Center of neighborhood 1/2 mile ser. radius	Playlot, play apparatus, play fields, game courts, shade, shelter, turf.
Playfields	All	1 acre per 800 pop. (min. 10 acres)	Accessible area 1.5 mi. service radius	Sport field for men and women, game area, open space, picnic and tract areas, restrooms.
Community	All	3.5 acre per 1000 pop. (min. 20 acres)	Center of community 2.0 mi. service radius	General recreation facilities, open play areas, courts, larger shelters, picnic area, play lot, outdoor theatre, access to large natural areas and walkways.
Natural open space (greenbelts)	All	Varies	On areas suitable or desirable to leave in its natural state.	Picnicing, path hiker-biker, and fishing.

## Specific Standards for the Minturn Valley

### Primary Arterials

1. No direct residential access should be allowed.
2. Commercial, industrial and other non-residential land use may have access at reasonable intervals and must provide reasonable space to accommodate incoming and outgoing traffic.
3. Primary arterials should be designed to pass around rather than through residential neighborhoods.
4. A typical cross section for primary arterial streets should provide at least 100 ft. for right-of-way.

### Secondary Arterials

1. Streets are generally spaced 1/4 to 3/4 mile apart.
2. Non-residential uses with high traffic-generating characteristics should be on secondary arterials (i.e., gas station, restaurants).
3. Residences should not face on to these streets.
4. Collectors and minor residential streets may intersect with secondary arterials as required, but preferably at no less than 400-ft. intervals.
5. A typical cross section should provide for parallel parking on both sides and provide for at least two moving lanes of traffic.

### Collector Streets

1. Spacing shall be required to appropriately serve the neighborhood.
2. Residents, schools, parks and certain non-intense social services may face collector streets.
3. Minor residential streets may intersect collectors as required but preferably not less than every 300 ft.
4. A typical cross section should provide for two moving lanes of traffic with parking on one side.

### Minor Residential Streets

1. Intersections of residential streets with collector streets should be at least 300 feet apart.
2. Minor streets should be laid out in a clear and orderly pattern so that persons unfamiliar with the neighborhood can find their way about.
3. A typical cross section should provide for two moving lanes and parking on at least one side.

Design Standards

Minor Residential Streets

<u>Elements</u>	<u>Parking One Side</u>	<u>Parking Two Sides</u>
Right of Way (ft)	60	66
Roadway Width (ft)	32	36
Boarder Area Width (ft)	14	15
Design Speed	20	20
Grade (max.%rec.)	6	6
Sidewalk Width (ft)	5	5
Capacity (vehicles/hr)	300	450

Major Arterials Streets

<u>Elements</u>	<u>Collector</u>	<u>Secondary Arterial</u>	<u>Primary Arterial</u>
Right of Way (ft)	70	80	100-120
Roadway Width (ft)	40	44	48-72
Boarder Area Width (ft)	12-15	12-18	12-20
Design Speed	25	30	40
Grade (max.%rec.)	5	4	3
Sidewalk Width (ft)	5	5	5
Capacity (vehicles/hr)	500	900	1600-2000

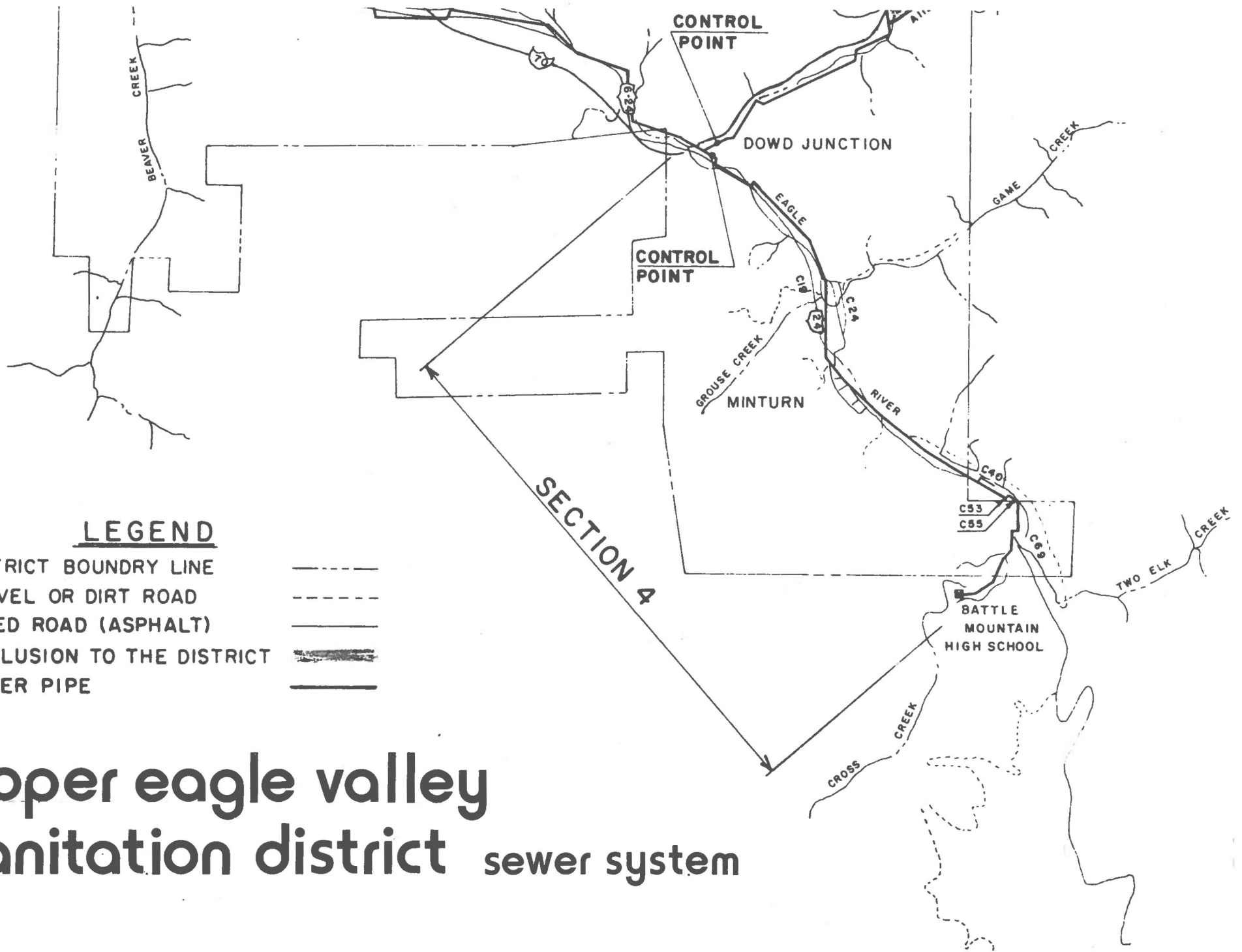
Effective: June 19, 1974

Water Quality Standards Summary

STANDARD	CLASS			
	A <sub>1</sub>	A <sub>2</sub>	B <sub>1</sub>	B <sub>2</sub>
Settleable Solids	Free From	Free From	Free From	Free From
Floating Solids	Free From	Free From	Free From	Free From
Taste, Odor, Color	Free From	Free From	Free From	Free From
Toxic Materials	Free From	Free From	Free From	Free From
Oil and Grease	Cause a film or other discoloration	Cause a film or other discoloration	Cause a film or other discoloration	Cause a film or other discoloration
Radioactive Material	Drinking Water Standards	Drinking Water Standards	Drinking Water Standards	Drinking Water Standards
Fecal Coliform Bacteria	Geometric Mean of <200/100ml from five samples in 30-day per.	Geometric Mean of <200/100ml from five samples in 30-day per.	Geometric Mean of <1000/100ml from five samples in 30-day per.	Geometric Mean of <1000/100ml from five samples in 30-day per.
Turbidity	No increase of more than 10 J.T.U.	No increase of more than 10 J.T.U.	No increase of more than 10 J.T.U.	No increase of more than 10 J.T.U.
Dissolved Oxygen	6 mg/l minimum	5 mg/l minimum	6 mg/l minimum	5 mg/l minimum
pH	6.5 - 8.5	6.5 - 8.5	6.0 - 9.0	6.0 - 9.0
Temperature	Maximum 68°F. Maximum Change 2°F.	Maximum 90°F. Maximum Change: Streams - 5°F. Lakes - 3°F.	Maximum 68°F. Maximum Change 2°F.	Maximum 90°F. Maximum Change: Streams - 5°F. Lakes - 3°F.
Fecal Streptococcus	Monthly average of <20/100ml from five samples in 30-day per.	Monthly average of <20/100ml from five samples in 30-day per.	----	----

Water Quality Analysis, Eagle River at Avon.

DATE	TEMPERATURE (°F)	pH (Std. Units)	DISSOLVED OXYGEN (mg/L)	CONDUCTIVITY (microhms)	TURBIDITY (Jackson Units)	TOTAL HARD- NESS (mg/L)	TOTAL DISSOLVED SOLIDS (mg/L)	SUSPENDED SOLIDS (mg/L)	FECAL COLLI- FORM (per 100 ml)	TOTAL COLLI- FORM (per 100 ml)	BOD (mg/L)
1/16/70	32	7.6	9.5	359	4.5	179	206	---	---	---	9.0
2/5/70	32	7.4	9.9	1289	3.9	272	729	---	130	920	2.2
3/12/70	34	8.0	6.4	424	8.8	202	262	---	790	2300	0.2
4/10/70	38	7.6	---	1010	39.0	231	603	---	---	---	1.4
5/15/70	40	9.1	6.4	169	14.7	72	118	---	---	---	---
6/18/70	52	7.4	6.6	145	---	---	114	---	330	1300	---
7/9/70	52	7.6	---	149	---	---	---	11	0	72400	3.0
8/13/70	48	7.8	8.7	315	1.5	155	257	---	230	1720	---
10/1/70	50	8.4	6.1	256	---	---	169	14	300	3000	0.8
10/22/70	32	7.5	9.8	231	3.9	105	---	---	3000	30000	---
11/20/70	32	7.3	10.2	300	---	---	198	---	3000	3000	---
12/2/70	32	8.2	8.0	334	---	---	220	---	3000	3000	---
1/14/71	32	7.4	9.5	863	8.1	255	---	10	300	3000	2.0
2/4/71	32	8.3	9.5	374	---	---	240	---	300	3000	---
8/12/71	58	8.5	7.0	294	2.4	137	173	5	38	240	0.4
10/8/71	46	8.7	7.3	329	---	---	---	---	240	240	---
11/1/71	32	7.4	---	302	4.1	148	204	---	15	240	---
12/3/71	32	8.3	---	350	3.8	---	233	5	21	220	2.0
1/27/72	32	8.5	---	320	---	186	---	---	12.2	220	---
3/9/72	32	8.7	13.4	275	---	---	260	---	2.2	38	---
4/12/72	36	8.4	12.2	185	27.0	97	---	---	---	---	---
5/16/72	41	8.4	9.8	150	9.5	---	105	24	38	38	0.9
6/8/72	48	8.4	8.7	91	---	48	---	---	22	22	---
7/20/72	54	---	10.1	---	---	---	---	---	38	240	---

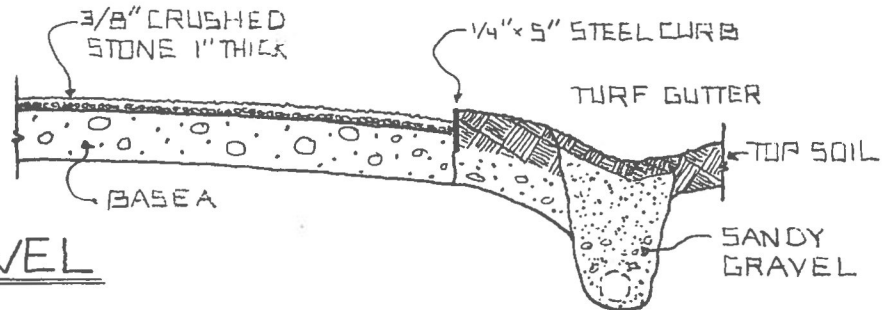


**LEGEND**

- DISTRICT BOUNDARY LINE
- GRAVEL OR DIRT ROAD
- PAVED ROAD (ASPHALT)
- EXCLUSION TO THE DISTRICT
- SEWER PIPE

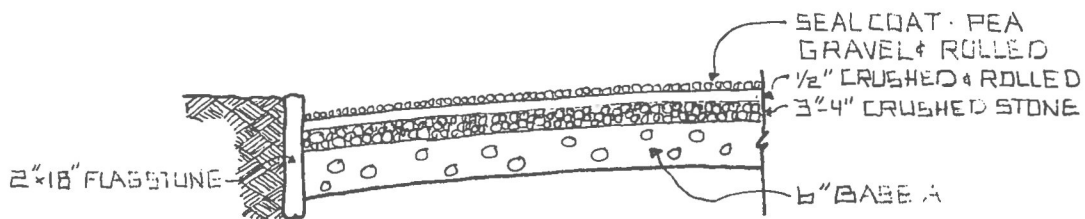
**upper eagle valley  
sanitation district sewer system**

# driveways



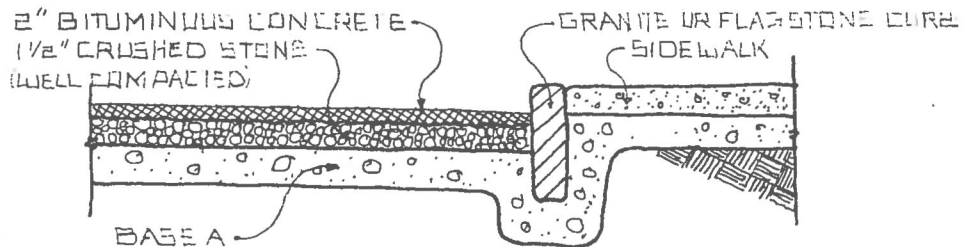
## GRAVEL

USE CALCIUM CHLORIDE OR TWO COATS OF OIL ON BANK-RUN GRAVEL. TWO 6" COURSES FOR BASE FOR HEAVY TRAFFIC.



## PENETRATION ASPHALT

DRIVEWAY WIDTHS RANGE FROM 9" TO 12' FOR SINGLE LANE, 15' TO 18' FOR DOUBLE LANE. DRAINAGE IS ESSENTIAL.



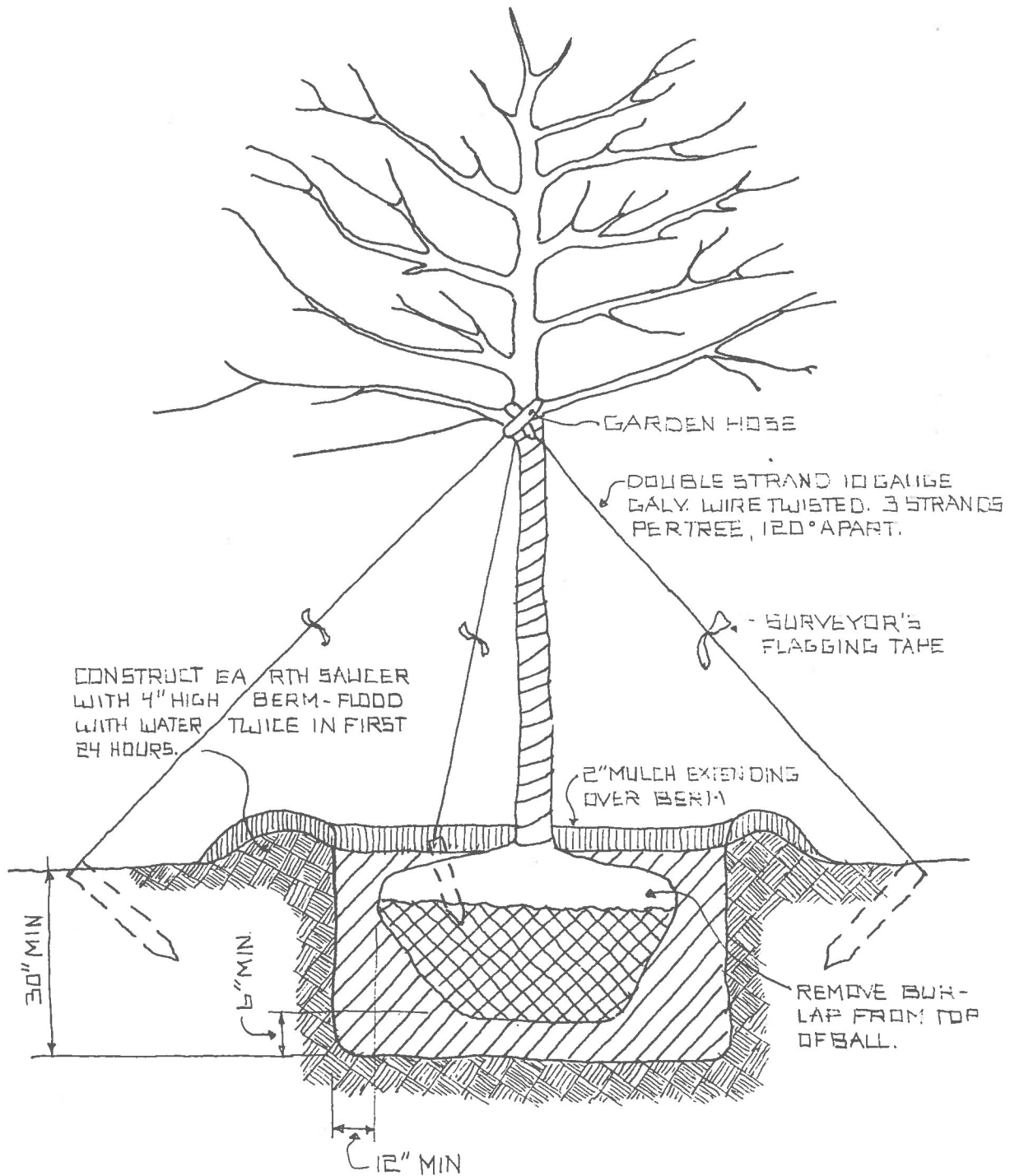
## BLACK TOP

BASES MUST BE WELL COMPACTED AND WELL DRAINED. HEAVY TRUCK TRAFFIC NECESSITATES A HEAVIER BASE.

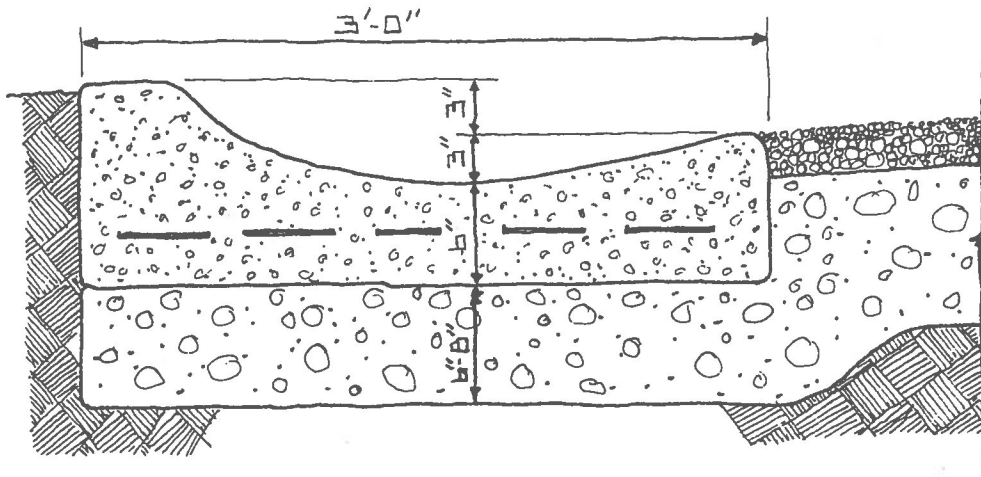


# planting

PLANTING AND GUYING DETAILS FOR MINOR TREES 1½" CALIBER AND SMALLER, BALLED AND BURLAPPED.

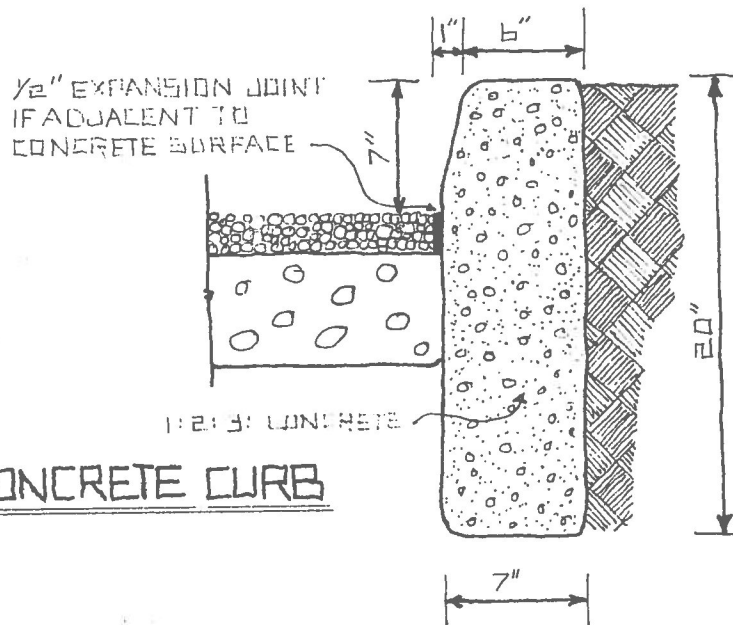


# curbs / gutters



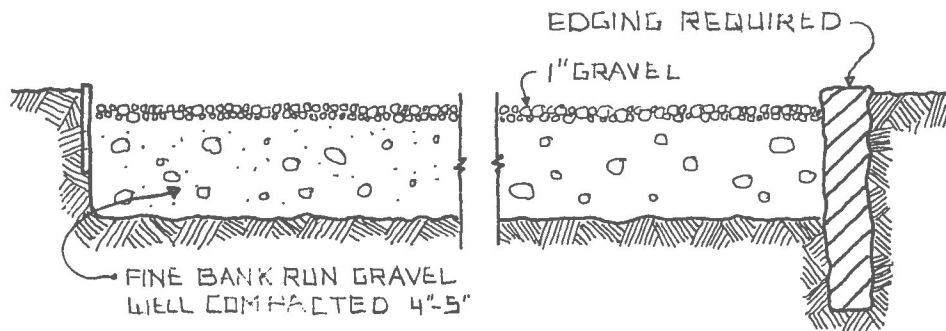
## PRECAST CONCRETE GUTTER

MAY BE FORMED AND POURED LOCALLY.



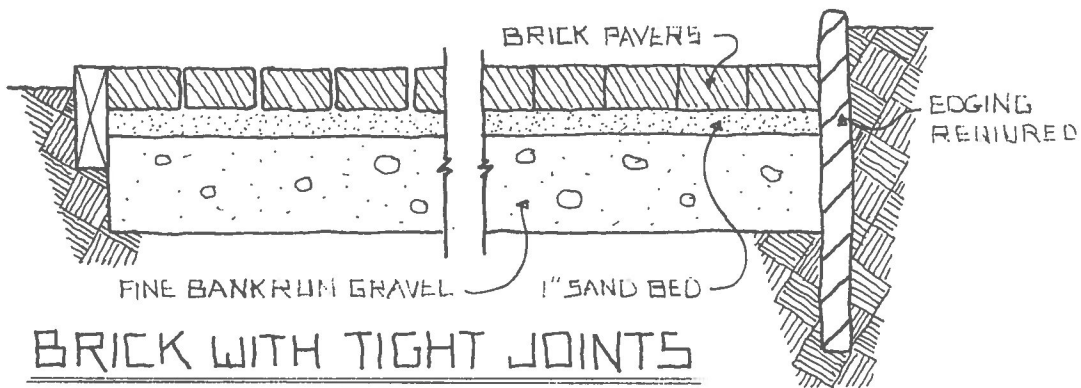
## PRECAST CONCRETE CURB

# walks / steps



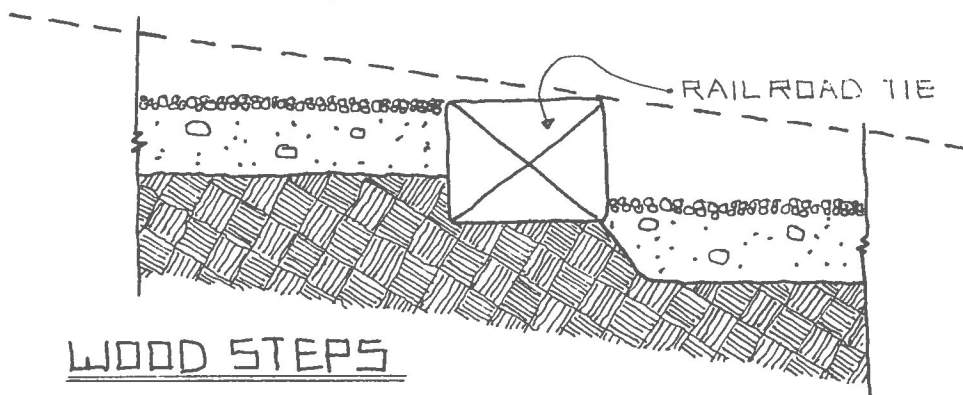
## GRAVEL

EDGING MAY BE 1" OR THICKER FLAGSTONE OR  $\frac{3}{16}$ " x 5" METAL, GRANITE, OR PRECAST CONCRETE.



## BRICK WITH TIGHT JOINTS

EDGING MAY BE 1" x 8" REDWOOD,  $\frac{1}{2}$ " x 18" FLAGSTONE, OR  $\frac{1}{4}$ " x 5" METAL.



## WOOD STEPS

RISER-RAILROAD TIE TREADS-TIES OR CRUSHED GRAVEL, 4" RISE, 16" x 40" x 4" TREAD.

