

**MASTER
PLAN**

**CORRALES
NEW MEXICO**

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LA Planning - CUG Area

MASTER PLAN FOR CORRALES, NEW MEXICO

PREPARED FOR: THE VILLAGE OF CORRALES, NEW MEXICO

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INTRODUCTION

The general purpose of a Master Plan is to guide a coordinated and harmonious development of the municipality and ex-territorial zone, in accordance with existing conditions and probable future growth, to promote the health, safety, and general welfare of the community. As the first phase of the planning process, this report attempts to complete several tasks:

- provide the Village with base mapping and studies of major trends in population, housing, and land use
- develop policies in the critical areas of open space/recreation, utilities/flood control, and roads/transportation
- develop a land use strategy which unifies policies in all areas into a plan for the physical development of the Village

As the first comprehensive planning effort undertaken for the Village of Corrales, the planning consultants have felt that the character of the planning process is as important as the final product. The consultants have been guided by the following principles:

- a) There are no predetermined solutions. The planning process should proceed from a statement of goals to establishing of facts and then to recommendations.

- b) The planning process should develop materials that provide secondary benefits. In this regard, the consultants have provided base mapping and data gathering which can assist the Village in its everyday business. (e.g., road maps for the fire department)
- c) The consultants feel that citizen participation is the prime principle of the planning process. They have attempted to provide an outlet for the diverse viewpoints of Corralesños. It is important to emphasize citizen participation in evolving a plan which the citizens can fully understand and support. By stressing the involvement of citizens, the consultants tried to publicize vital planning issues and develop a consensus around solutions.

The consultants worked closely with the Village Mayor, Clerk, Planning and Zoning Commission and the Corrales Planning Task Force. The task force, made up of thirty-five interested citizens, was broken into subcommittees which made policies and recommendations to the full task force; guiding policies were first formulated with the Land Use Subcommittee.

The first objective of the citizen task force was to survey public opinion and attitudes through a Citizen Planning Questionnaire. Four hundred and fifty heads of households in Corrales representing

1575 or approximately 45% of the total population of the Village returned their questionnaires. The results of the survey prescribed firm goals to guide the planning process and set a direction for the future of Corrales. The primary goal was to retain the character of the Village. The concern was that Corrales was becoming a high income bedroom suburb of commuters with few farms, orchards, and open spaces. The impending loss of the rural character of Corrales to development was the greatest concern of the residents. Two other major goals which came out of the questionnaire and interviews with many groups within the community were:

- a) Village government should take action to control the future density of development, while at the same time protecting the right of each landowner to sell or retain his property.
- b) The Village should improve the existing services--fire, police, planning, road maintenance, parks and recreation--to insure the health, safety and welfare of the community with the minimum possible intrusion into the affairs of the residents.

The planning process was based on these three goals and this report will hopefully translate these goals into workable policies and recommendations for the future of Corrales.

HISTORY 1



1.1 Early History and Evolution of Corrales:

Settlement in Corrales has flowed from two major factors: the soil and the river. Down through history, the rock barranca to the North has swung the course of the Rio Grande to the East, opening up and protecting a wide fertile crescent of valley land on the western bank of the river.

The early Spanish conquistadores and, according to some reports, the early Pueblo Indians, were attracted to this area because of its potential for the irrigation and cultivation of crops. Acequias or irrigation ditches were cut into the banks of the river at the barranca to water the land and produce a secure livelihood. This combination of climate, water and land has attracted many different groups of people--Indian, Spanish, Italian, French and Anglo--who have, in turn, created unique traditions of living on the land.

The remains of the first inhabitants, the Pueblo Indians, have been discovered throughout the Corrales area. Pueblos were established hundreds of years before the arrival of Coronado in 1540, who found nineteen occupied pueblos perched on the sand hills to the west of the Rio Grande. After Captain Juan Oñate had established the

first colonists at San Gabriel in 1596, some of these families traveled south to what is now Corrales. By 1630, it was reported that 200 people were settled in the Corrales area--more than in old Albuquerque; however, these families were driven out in the Indian revolt of 1680. In 1692-93, De Vargas returned with 170 families and regained the land of the Rio Grande from the Indians.

"On January 12, 1710, the Alameda Grant, including Corrales, was given to Francisco Monte y Vigil. Two years later, he sold the grant to Captain Juan Gonzales, whose linear descendants still live in the valley. In time, the tract became three large ranches. The first, approaching from the South, was retained by Captain Juan and the lower or Southern end of it is still known as Rancho Abajo. The second or middle section was named for Salvatore Martinez who is said to have purchased his section from Captain Juan for 250 cows on July 18, 1712. The third section was known as Montoya's and extended North to the Montoya Arroyo; this area was the center of old Corrales." (from Los Corrales de Alameda--A Brief History)

The lands of the grant extended from the "Rio del Norte de la seja del Rio Puerco." In the lowlands, settlers cultivated fruit, vegetables, chiles and vineyards while grazing sheep, cattle and horses in the commonly held sand hills. The

inhabitants of Corrales were totally dependent on the Acequia Madre de Montoyas for their livelihood, and the community's first social organization developed around the yearly operation of the irrigation system. An elected foreman controlled the compuertas and kept records that every family had worked to clear the ditch or had paid a fee of \$1.50. When water was scarce, it was the majordomo's responsibility to make the difficult decisions about who would receive irrigation water. In the 1700's and early 1800's the community was made up of several palzeons or grouping of houses around a plaza. Inhabitants shared a central well and were afforded protection from Indians. The palzeons along the river had corrals made of poles, from which the name of the Village originated. There were also corrals for cavalry stationed during the Spanish and Mexican Territorial periods and by the United States after its occupation.

Much of the early history of the Village of Corrales was punctuated by devastating floods; historical information indicates that damaging floods occurred on an average of one every fifteen years. In 1854, the Rio Grande River

flooded and destroyed the existing church, which was later rebuilt on higher ground by 1865. The worst recorded flood was in 1904 and most of the damage resulted from the flooding of the two northernmost arroyos. This flood destroyed 90 homes in the Los Montoyas area and wiped out farms west of the Acequia Madre. The water remained for weeks and the memory of this destructive flood was imprinted in the minds of the early settlers. Due to changes in the weather, flooding of the River, and the rising water table of the Rio Grande, many changes occurred in farming patterns through the early 1900's. Vineyards gave way to orchards and field crops; and the fertility of the land rapidly declined as a result of poor drainage and a build up of alkalis in the soil. The Conservancy District was founded in 1929 and levees and new ditches were constructed in the '30's to meet the problem.

The Village was isolated socially from other communities by the Rio Grande, but relied on Albuquerque and Bernalillo for commercial and educational services. One long-time resident of the Village, Miguel Griego, recalls crossing the river in wagons to reach Albuquerque, where

he went to Menaul School to learn English. An active social life took place within the Village; it consisted of cards and wine on Saturday nights, dances on tablados, corridas de gallo, rodeos at the Thompson ranch, and horse races on May 15th. Corrales is one of New Mexico's oldest communities with a colorful and diverse past.

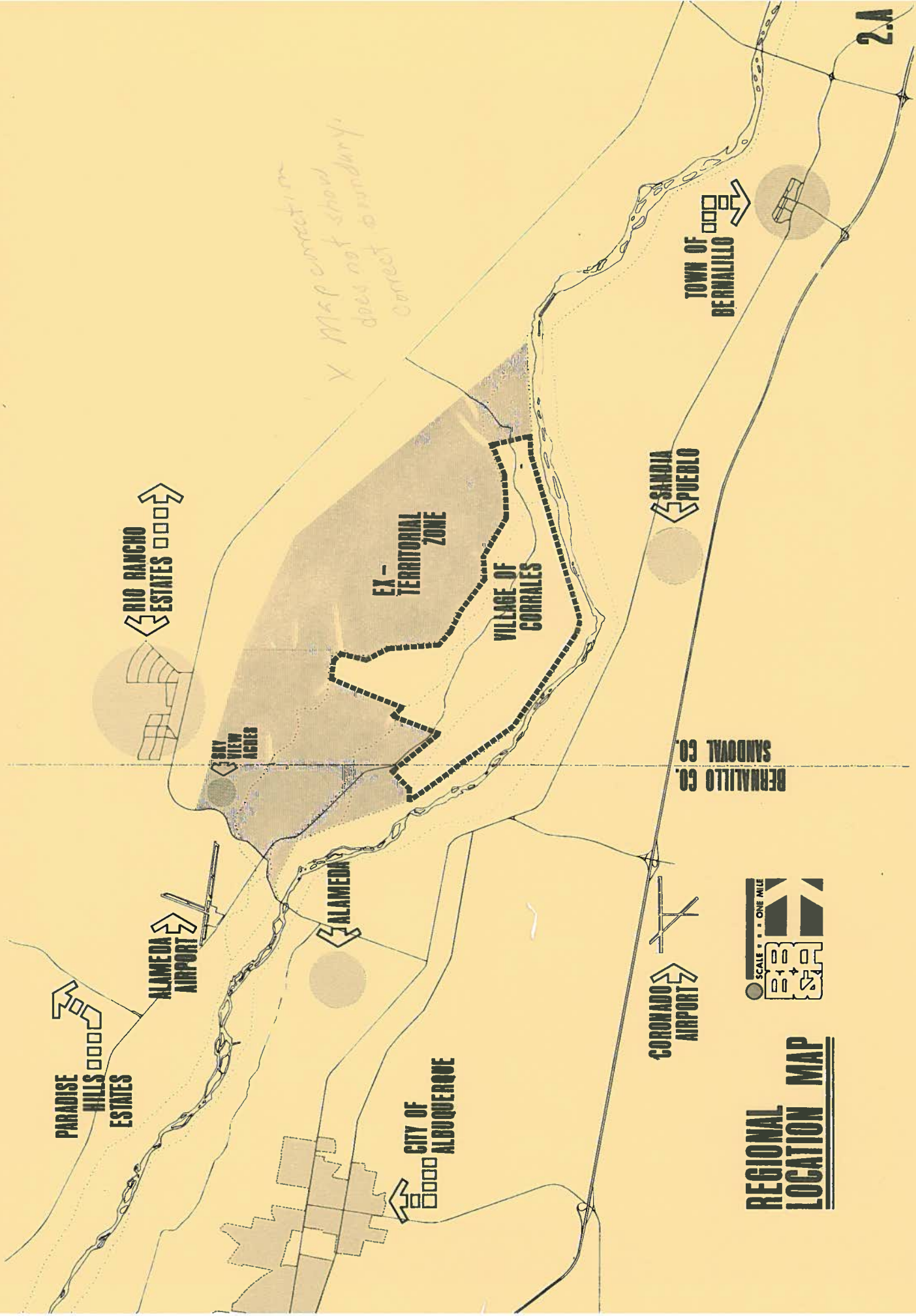
1.2 Recent Evolution of the Village: The isolation of the Village from other population centers continued through the 1930's and up until World War II. A sandy road, full of ruts, ran through town to a bridge which was built in 1912. By 1935 the community had three telephones; electricity was brought to Corrales in 1941. Village residents were governed by the Sandoval County Commission and were insulated from the pressures for growth and land development in Albuquerque. The 7th Day Adventists began buying land for the Academy in 1940, yet residents felt the price per acre would never go over \$500.00. The trend to land development and population growth began with the first paved road in 1946, which opened up the Village to Albuquerque. Population of the Village increased rapidly through the early 50's and the trend from a rural farming village to an artist colony and finally to a suburban bedroom

community was established. A community council was organized in 1952 to meet the problems of the Village and this led to the creation of the Corrales Volunteer Fire Department in 1953. The Council and residents began to develop the services (garbage, library) which were needed in the community and to fight together against the tide of unchecked development. A prison farm for Albuquerque was turned away, as well as the strip annexation of Bernalillo County by the City of Albuquerque. As the problems of growth and development began to confront the Village in the 1960's, due to the phenomenal development of metropolitan Albuquerque, a movement for the incorporation of the Corrales area was initiated by citizens. After one unsuccessful attempt at incorporation, the Village residents passed an incorporation ordinance and elected a Village Mayor and Council in 1971.

The movement towards a Village organization and structured government was aimed to meet the need for increased services and control over development. Land Use Zoning and subdivision ordinances were administered by the Planning and Zoning Commission and the Village Council administered programs in Refuge, Police Protection, recreation

and in many other areas of Village life. The goal of the Village government to date has been to organize and deliver needed services and administration to the Village, while preserving an unstructured rural atmosphere and the traditional character of Corrales' blend of culture, land and water.

REGIONAL INFLUENCES & TRENDS 2



2.A

**REGIONAL
LOCATION MAP**



**CORONADO
AIRPORT**

**SANDIA
PUEBLO**

**BERNALILLO CO.
SANDOVAL CO.**

**TOWN OF
BERNALILLO**

**VILLAGE OF
CORRALES**

**EX-
TERRITORIAL
ZONE**

**CITY OF
ALBUQUERQUE**

ALAMEDA

**ALAMEDA
AIRPORT**

**SKY
VIEW
ACRES**

**RIO RANCHO
ESTATES**

**PARADISE
HILLS
ESTATES**

2.2 Introduction: The incorporated municipality of Corrales (as shown by the heavy dotted line in Map 2.A) extends south across the Bernalillo/Sandoval County line. The Village is allowed by State Statute an ex-territorial planning and zoning jurisdiction which can extend three miles from the boundary of the municipality. The Village Planning and Zoning Board has chosen to apply its planning authority only in the ex-territorial area West and North to the Thompson Fence and South to the Bernalillo/Sandoval County line. The planning and zoning authority of the Village cannot be legally applied to the lands of the Sandia Pueblo. The area which is the subject of this planning report includes the incorporated Village and an ex-territorial area south to Route 528 and west and north to the Thompson fence.

Traditionally, the Village was physically and socially isolated from neighboring settlements; however, developments within the mid-Rio Grande Valley region now have a strong influence on all

aspects of Village life. Formerly, residents had to travel to towns on the East side of the river to obtain commercial, educational and administrative services. Throughout its history, the Village maintained stronger ties with the town of Bernalillo, than with the City of Albuquerque; yet this changed after World War II. In the 1950's and 60's, Corrales' relationship to the larger region began to radically change. A large group of new residents, employed in Albuquerque, moved to the Village and commuted to and from the Village. The isolation of the Village was broken, as a majority of its residents now maintained close daily ties with surrounding communities. Settlements around the Village have now begun to grow rapidly, and the Village presently finds itself in the center of a ring of expanding population centers. This section will first describe these surrounding communities and then discuss the influences of these communities on the Village.

2.3 Albuquerque: This sprawling city of 275,000 people located in the center of Bernalillo County maintains the most prominent sphere of influence throughout the region and on Corrales. With one-fourth of the State's population, Albuquerque is

a center for commerce, government, transportation, medical facilities, entertainment and culture. Employment in government, trade and services accounts for nearly 75% of all employment in Albuquerque. This narrow economic base began to change in the early seventies, as there has been substantial progress in the attraction of new industry to the area; as well as sizeable increases in all sectors of employment. Manufacturing industries such as: Singer-Friden, GTE Lenkurt, Amerall Esna-Elastimold Division, Amity Leather and Levi Strauss have all been established in the early seventies, and have contributed significantly to dramatic upward trends for employment and in-migration to the area. This boom period has departed from the uniform growth trend of the sixties. The long range potential for growth in Albuquerque is felt to be quite substantial. New Mexico and Albuquerque had sufficient existing energy resources and available land to make it attractive for new industry. Civic organizations, such as Albuquerque Industrial Development Service and Industrial Foundation of Albuquerque continue to attract new industries to the region.

A building boom accompanied the general economic upturn of the early seventies. The largest increase

came in multi-family housing units. Builders were forced to intensify their developments, as the seemingly abundant supply of prime land began to run short. The Horn/Sandia Mountain Development issue lead the City of Albuquerque to establish limits beyond which it would not extend water and sewage systems or provide police and fire protection. A policy of infill development was encouraged--the spinoff effect being that major population increases in the future will be absorbed in peripheral areas of the Albuquerque region, where prime land is available for development.

2.4 West Mesa: Many informed observers predict that this area will be the prime area for future development in the Albuquerque region. Major transportation arteries are existing; City utilities have been committed to the area and the Albuquerque Public Schools and Lovelace/Bataan Clinic have planned new facilities for the West Mesa/Volcano Cliffs area. Major builders in Albuquerque have purchased tracts of West Mesa land, and there have been predictions that through the 70's the West Mesa will develop into another Northeast Heights.

Population growth and construction activity have been tied to the general economic situation in

Albuquerque, and they have fluctuated in boom and bust cycles through the last twenty years. At present, the economy is in a downturn; and therefore, it is felt that growth and development of the West Mesa will not boom until late 1975, when the current slackening of the local economy has been worked out. Based on demographic and economic data, it is predicted that the population of the Volcano Cliffs/West Mesa area will go from 3,706 in 1974 to 10,540 by 1980. If a proposed Jet Transport Facility and Industrial Park is developed west of the Volcanoes, this population projection will increase threefold.

2.5 Rio Rancho: Because of an existing structure for residential development, it is predicted that Rio Rancho will experience even more growth than the West Mesa area through the seventies. Originally a portion of the Alameda Land Grant, this mesa land to the west of Corrales was sold in 1912 at 7¢ an acre, and it became known as the Thompson Ranch. In 1962 it was sold to AMREP Corporation for \$7.6 million and the area, which runs from the Rio Puerco on the west to the Thompson fence on the East, was developed into Rio Rancho Estates. There are community water and

sewer facilities and an industrial park with several tenants. At present, the community is not self-sufficient economically, as a majority of its residents commute by auto into Albuquerque by way of one two-lane highway, which is shared with the Village of Corrales. It is predicted that Rio Rancho will grow from a current population of 4,982 to 13,200 in 1980. This 265% increase is based on a predicted rise in out-of-state land sales, new industry, and the intensification of building for local residents of Albuquerque.

2.6 North Valley: The lands of the Sandia Pueblo and the town of Alameda form the Eastern boundary of the Village of Corrales.

The Sandia Pueblo has an area of 22,800 acres of agricultural or grazing land with scattered residential development. The 1970 population was 566 and the prospects are for minimal increases through to 1980. The industrial development potential of the reservation is favorable, as a railroad and two federal highways traverse the land. The Pueblo Council has recently relocated a tribal owned industry from its current location in Albuquerque to a site on the reservation. It can be concluded that more commercial and industrial facilities will locate on the reservation in the future.

The land south of the Pueblo--Alameda--is an area of scattered residential, commercial, and small farms. It is predicted that further development and infill of this valley land will occur, and that population of the North Valley will rise from 9,084 to 14,100 by 1980.

2.7 Bernalillo: The town of Bernalillo, which lies to the northeast of the Village of Corrales had a population of 2,016 in 1970. The area is heavily dependent on Albuquerque for employment and many residents commute to work. County Commissioners have recently approved several large trailer park developments on the East and West side of the Rio Grande near Bernalillo.

Bernalillo and the town could become a center for low and moderate income settlement for the Albuquerque region. However, major population increases are not predicted for the town and surrounding land, nor is a great influx of commercial and industrial development projected. The development of these surrounding communities within the region will exert numerous pressures on the Village of Corrales. Many of these pressures will be continuations of prior trends, such as increased population, pressures from the outside causing new land speculation, development,

and internal population growth within the Village. As the suburbanization of the West Mesa takes place, additional pressures on roads, air quality, and open space will be felt by the Village. The major effect of these influences, which are summarized in Fig. 2.a, will be the intensification of a trend moving the Village from a rural to an urban settlement. The core of the planning problem facing Corrales therefore becomes: How can the Village meet these pressures efficiently and effectively? In the next section the specific effects of the 'suburban trend' in Corrales will be examined with regard to developments in population, housing and land use.

Figure 2.a

Effects of Regional Population Growth and
Industrial-Commercial Development on Corrales

- A) Increased demand for Village land for housing and other developments.
- B) Loss of open space that surrounds the Village: Rio Rancho, Bernalillo, Volcanoes, etc.
- C) Noise pollution from increased road traffic and approaching aircraft (West Mesa Airport)
- D) Air pollution from more cars and nearby industries.
- E) Declining water quality as settlements to the North and West increase.
- F) Increased pressure on Village lands (i.e., the Bosque) for recreational use by outsiders.
- G) Social pressures on Village by outsiders (i.e., vandalism).

Figure 2.b

Population Projections for Communities
Surrounding Corrales

	1973	1975	1976	1977	1978	1979	1980
West Mesa	3,706	4,352	5,725	7,140	8,200	9,860	10,540
Rio Rancho Paradise Hills	4,982	5,881	6,854	8,124	9,233	10,395	13,200
North Valley	9,048	9,615	10,189	11,119	11,784	12,484	14,140
Bernalillo	2,150	2,300	2,500	2,950	3,100	3,200	3,400

POPULATION HOUSING & LAND USE 3

3.1 Introduction: The heart of the development issue--pressures from outside the Village causing increased population, higher density of development, and loss of farm land and open space--will be analyzed in this section.

The population of the Village of Corrales was traditionally controlled by the amount of farm land and its ability to support the people. The land was continually subdivided in equal strips down through the generations in the Spanish tradition; yet, not all residents remained to farm the land; a constant out-migration led to a stable population. Periodic flooding of the river through the 1800's caused a gradual transition to settlement East of the road on higher ground. Originally, families clustered their homes together near the riverside to share wells and gain protection. Commercial enterprises were limited throughout the history of Corrales, and industry did not come to the Village until the Sandia Academy Industry was organized in the early 1950's. The following analysis will concentrate on trends in land use, population, and housing since 1970.

3.2 Population: Changes in land use patterns and housing development are controlled by

population growth. The 1970 Census placed the Village population at 2,213; following is a review of pertinent population characteristics in the census:

Figure 3.a
Population--2,213
Number of people per Housing Unit--3.34

Age Breakdown of Population	
0 - 9 yr.	20.3%
10 - 19 yr.	24.4%
20 - 34 yr.	18.2%
35 - 54 yr.	25.2%
55 - 65 yr.	5.3%
65 - 75 +	5.8%

Though many have felt that the census figures were low, the consultants have generally confirmed them in the planning survey and with electric and telephone use statistics. In the survey, the consultants found that the average number of persons per housing unit was 3.5; an estimate of current population was developed by multiplying this factor by the current number of households (from telephone and electric service data). The population projection in Figure 3.b was based on a continued steady growth rate of 8 percent. It is a conservative

projection that cannot accommodate extensive development of the Sand Hills or development greater than an average of one unit per acre.

Figure 3.b

Population Projections for Corrales

1974	1975	1976	1977	1978	1979	1980
3,500	3,780	4,082	4,409	4,762	5,143	5,554

Source: Barker-Bo1 and Associates; Herb Smith, Planner

This "moderate" projection represents a 58% increase in Corrales' population within six years. While this may seem unacceptable to many residents, the consultants see no legal or practical alternative to this trend.

The region around Corrales will be growing rapidly and it seems unreasonable to expect a no-growth trend to materialize. This amount of growth can be accommodated, while maintaining the present character of the Village. Without adequate policies or planning this trend could lead to the loss of the rural atmosphere and the appearance of settlement problems (e.g., water quality, road loads) which will effect the quality of life for Village residents.

*Permits generally under-value the cost of construction.

3.3 Housing: The development of new residential housing is one of the most visible signs of the shift within Corrales from a farm to a suburban community. Since records of building permits have been kept by the community, there has been a yearly 8.5% growth in residential construction. From May, 1973 to May, 1974, residential permits amounted to an average of \$119,800 per month, with the average cost of a residence being \$29,950.* The trend in residential construction is steadily up, largely comprised of middle and upper middle income dwellings. At the same time, 18 mobile home permits were processed by the Village in the last year. The consultants predict a continued growth in the construction of residences, to a peak of 85 units per year in 1980. Usage of mobile homes, which are the sole remaining form of private low-income housing in the U.S., will continue at the present rate to a peak of 42 permits per year in 1980.

Residential housing is a prime and often contradictory element in the life of the Village. Housing in Corrales, typically represented by the rough adobe home under a cottonwood tree, is one

of the identifying marks of the community. Housing is also a primary arena for the expression of the individual. Corrales has always been a community which has allowed freedom to the individual; yet, as the population grows and density increases, aesthetic and social clashes between individuals will occur over housing. The image of the community, as a Spanish place of adobes, will also suffer as the mix of adobes, frame homes, and mobile homes is intensified. The consultants do not recommend the restriction of residential housing styles or types; Corrales should remain a community of different income levels and free individuals. In the last section of the report, the consultants do recommend some minimal control of residential construction in such areas as setbacks and heights to forestall many possible conflicts between individuals, and between the individual and the community.

3.4 Land Use: Changes in population and housing are closely related to changes in land usage. An analysis of a March, 1974 aerial photo of the Village revealed the following breakdown of usages:

Figure 3.c

Land Use Breakdown	
24.8% - 925 acres - developed residential and commercial use; one structure or more per acre	
10.5% - 392 acres - orchard with less than one unit per acre	
5.2% - 196 acres - Bosque; less than one structure per acre	
50.3% - 1,857 acres - field agriculture with less than one structure per acre	
9.2% - 345 acres - undeveloped open land with no structures	
100.0% 3,715 acres - total in Village area (3.7 acres per unit)	
3,053 acres - in Sand Hills, (East of the canal, West of the Thompson fence)	
6,768 acres - Total Acres (.5 persons per acre)	

The land within the Village of Corrales remains oriented to farm or rural usages, yet many have pointed out that the Village has already lost much of the Spanish community character. This negative evaluation of existing developments in Corrales by its citizens may be due to the nature of land ownership on Corrales. The Spanish

tradition of dividing a father's land equally between the children and allowing each strip access to irrigation water and the Sand Hills has left the land subdivided into long and narrow strips that are not advantageous to residential development. Housing on these strips presents a cramped, crowded image and creates unsanitary septic and well conditions as well as accessibility and privacy problems. Figure 3.d shows a typical tract of land within the Village to demonstrate the strip pattern that predominates. Even if development on these strips were never greater than one unit per acre, it would still present a crowded suburban image.

The image of the Village is a difficult quantity to measure, as it depends on a subjective aesthetic judgement. In the Corrales Planning Questionnaire, 93.5% felt that the Village should retain its rural atmosphere; 50.4% felt that uncontrolled land development was the major problem facing the Village; and 45.9% expected to keep their land exactly the way it is now. Along with the substantial concern of citizens over changing land use patterns there is a desire, by many, not to develop their land. Even with these

intentions, it can be concluded that the trend in future land use is going to be towards the subdivision of orchards and fields for residential lots. The following is a summary of reasons for the continuing trend from agricultural to developed residential and commercial land use in Corrales:

- 1) Increasing populations in the region causing an increasing demand for Corrales land for residential purposes
- 2) Increasing price of land precluding profitable agricultural usages and forcing a more intensive development of Corrales.
- 3) Incompatibility of agriculture and residential uses causing farmers to move their operations or "cash-in" on their investment.

The spiraling price of valley land has locked the existing farm land in Corrales into intensive, residential use by future owners. Based on many interviews, the consultants feel that future demand for Corrales land will set off even greater increases in land prices. Even with a "green belt" assessment (a lower tax rate to encourage agricultural usage), the trend will be for large landholders or farmers

LAND OWNERSHIP FIGURE 3.d
SCALE 1"=200'

ROAD

1.9 ac

2.2 ac

1.8 ac

.7 ac

.7 ac

.7 ac

.8 ac

1.4 ac

.6 ac

.2 ac

1.8 ac

1.8 ac

.5 ac

.5 ac

.5 ac

2.0 ac

1.0 ac

1.2 ac

.6 ac

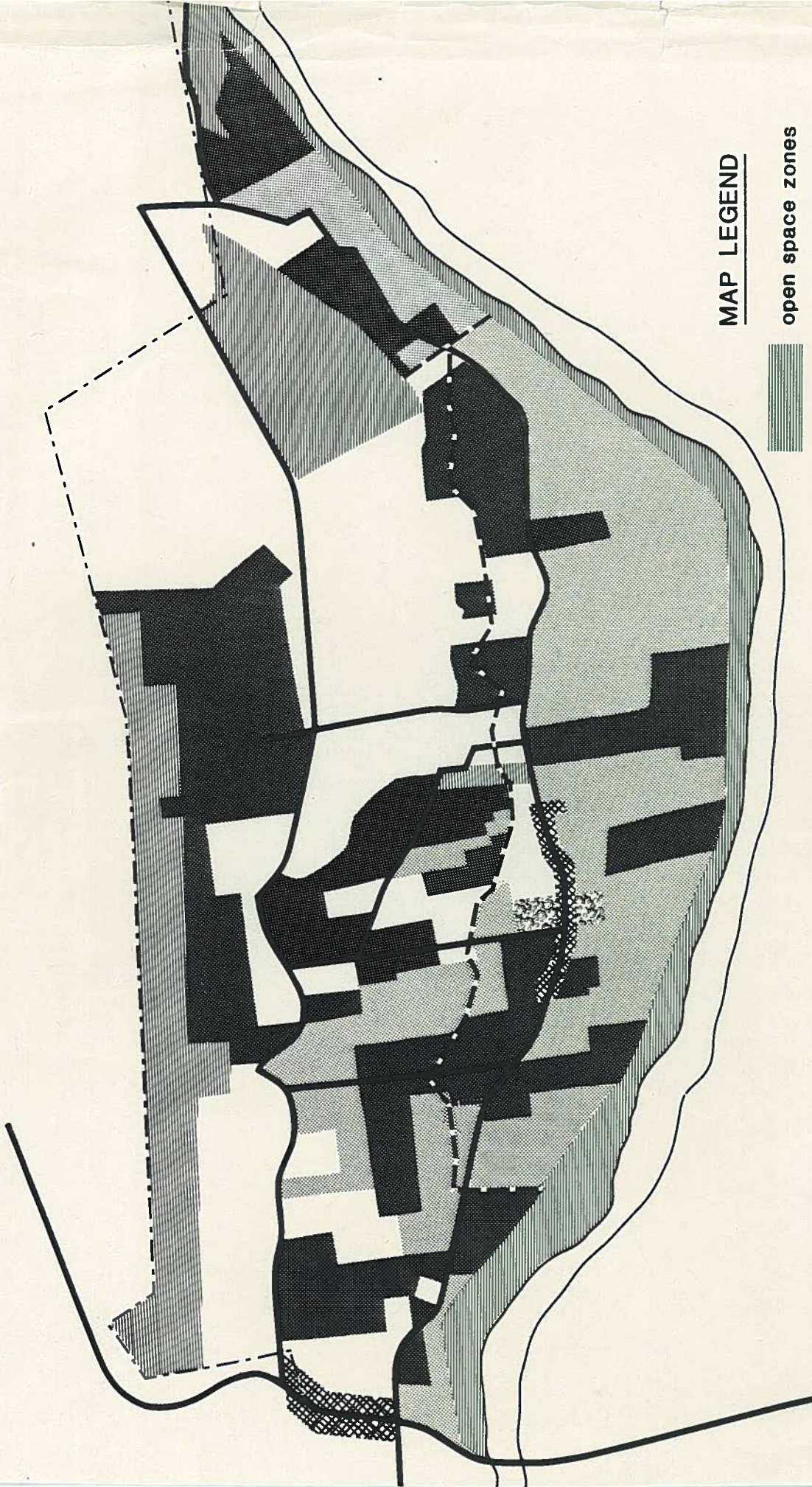
.6 ac

.6 ac

.9 ac

.9 ac

OPEN SPACE & RECREATION 4



LAND USE MAP



MAP LEGEND

-  open space zones
-  commercial zones
-  community zones
-  low density residential or agriculture
-  moderate density residential
-  high density residential

Black and white map produced by the Middle Rio Grande Council of Governments,
with information provided by Barker-Bol and Associates.

4.1 Open Space: The need for land devoted to open space uses can be easily ignored in the State of New Mexico. For the Village of Corrales in the future, however, there is no assurance that productive agricultural lands and other open lands will not be gobbled up by development. It may soon be too late to assure a rural character for the Village and preserve those open spaces that are necessary to the life styles of Corrales' residents. There is typically a critical time lag between the loss of environmental amenities and action designed to protect the environment. In the Citizen Planning Questionnaire, respondents seemed to emphasize meeting the problem by stopping and/or restricting development, without mentioning the other end of the equation: preserving and conserving open space lands. The later approach requires an ongoing (and often expensive) program; however, it requires less administration and offers more long-term security than development controls.

This discussion of open space land implies a wider concern than just land for parks and recreation. The elements of an open space system have potential significance in the following three categories:

4.1.1 Open Space Areas for the Preservation of Natural Resources:

- a) Wildlife exists only when there are suitable habitats available. The bosque of the Rio Grande provides a refuge for many species of wildlife and a habitat for flocks of birds migrating yearly up the Central Flyway. The unique ecological relationships presented in Bosque makes it a prime area for scientific study.
- b) Surface water resources (ditches, canals and Rio Grande) not only supply agricultural needs, but they serve as wildlife habitats, outdoor recreation zones, and in many cases along with hiking and riding trails, provide corridors linking open space areas into a system.
- c) Because of their open character, agricultural lands should be an integral part of an open space conservation program. Rio Grande Valley agricultural land is certainly a scarce commodity; a rational resource management program for Corrales should attempt to limit the loss of prime agricultural fields and orchards. Estimates by the consultants indicate that 70 acres of farmland are being converted to other uses per year. The rationale for converting existing prime agricultural lands to other uses is not justified when one considers the scarcity of this resource and the invaluable open space amenities which these lands provide a community.

This issue that remains is how to implement a preservation program in which the owner of agricultural land is not denied the development rights to his land or forced to provide open space and visual relief to the rest of the community without compensation. The possible methods of securing open spaces are discussed later in this section.

4.1.2 Open Space for Parks and Recreation: Corrales has relied in the past on its abundant Open Space opportunities for recreation: hiking and riding in the Sand Hills, along the ditches, and in the Bosque. There will be an increasing demand for planned recreational areas, generated by increased population and more leisure time in the next five years. With greater numbers of children, some recreation facilities, in addition to those provided at the Sandoval Elementary School, will also be required. The need for open spaces devoted to recreation will consequently increase, as the supply of freely occurring open spaces diminishes.

The current National Recreation Association standards for park land is one acre per 100 in population. If this somewhat excessive standard was applied to the consultant's population estimates

56 acres of park land should be developed in Corrales by 1980. By any standard the job to provide adequate parks and recreation will be large. A thorough and well-formulated plan for parks and recreation has already been put together by the Parks and Recreation Board. The major divergence of opinion between that plan and the consultants' is in the area of priorities: the consultants favor a rapid acquisition or control of open lands in the first phase, rather than devotion of funds and energy to the development of facilities and maintenance. The acquisition of open space should be the starting point for a recreation program.

4.1.3 Open Space Areas for Public Health and Safety: Settlement and development on flood plains, steep slopes, and unconsolidated soils are hazardous to the health and safety of the community. The Village open space program should identify major danger spots, and once identified, they should be designated as Open Space elements and restricted to appropriate uses by zoning. Open space planning can contribute to the safety and welfare of residents and forestall some of the disastrous consequences

of settlement in flood and slide-prone areas. (see 6.2.2 for program recommendations.)

The purpose for preserving Open Space lands are many, yet a program of Open Space requires foresight. The time to acquire and control open lands is when they are available and not after development pressures have become unmanageable and land prices prohibitive. The consultants recommend the following system for developing a program of open space lands, along with the methods by which this program can operate:

4.1.4 System for Open Space Land Preservation:

- a) The Village should take a more active role in the preservation, conservation, and management of Open Space Lands. The Parks and Recreation Board should develop and update an Open Space Plan and administer it with the cooperation of Federal, State and County agencies. The Village will have to coordinate the participation of the various parties.
- b) While County and State agencies will have the prime responsibility for maintenance of open space preserves on its land, the Village will be required to finance and organize the maintenance efforts for municipal open space preserves and parks. Due to the cost of maintenance, the consultants recommend an emphasis on low maintenance projects.

- c) An open space fund should be established for the purpose of acquiring open space parcels. The fund would encourage private philanthropy and organize the acquisition by fee and less-than fee methods. The fund could also acquire and then retire transferable development rights. (see Section 7.4.1 for description of this land use proposal) to insure the preservation of open space throughout the Village.

4.1.5 Methods of Open Space Lands Acquisition:

- a) Private donations of land and contributions of funds towards the purchase of land should be the primary method emphasized by the Parks and Recreation Board. The possibility of exchanging donations for key parcels in the Open Space Plan should be used as a means of implementing the plan, while depending on the somewhat unpredictable philanthropic method. Contractors and developers of large parcels within the Village should be encouraged to include donated parcels within proposals to the Planning and Zoning Board. If this practice could be established in the Village, open space resources would accumulate as development proceeds.
- b) Fee Simple Acquisition. Important parcels of open space land that have potential for recreation, park, or historical/cultural preservation uses should be acquired by the fee-simple method. A similar approach is the option-agreement in which a proposed open space area is divided into equal parcels to be acquired

annually. Each annual payment for one of parcels continues the option-agreement on the remaining parcels. During the time of the option-agreement on the option-agreement, the use of the remaining parcels is not changed or altered. This method of incremental acquisition would allow the Village to get the most for its funds while at the same time offering the landowner capital gains and other tax advantages.

Seven agencies of the Federal government offer domestic assistance for open space and recreation purposes (these programs are listed in Appendix A). Funds from these programs, which are largely on a matching-grant basis, are time-consuming to pursue and administer (Staff services for program application are available from COG). The consultants believe that the Village will be forced to rely mainly on the financial support of the community to operate the acquisitions portion of its Open Space program. Priorities for the open space program were first assigned to open spaces which would present the least financial burden on the community.

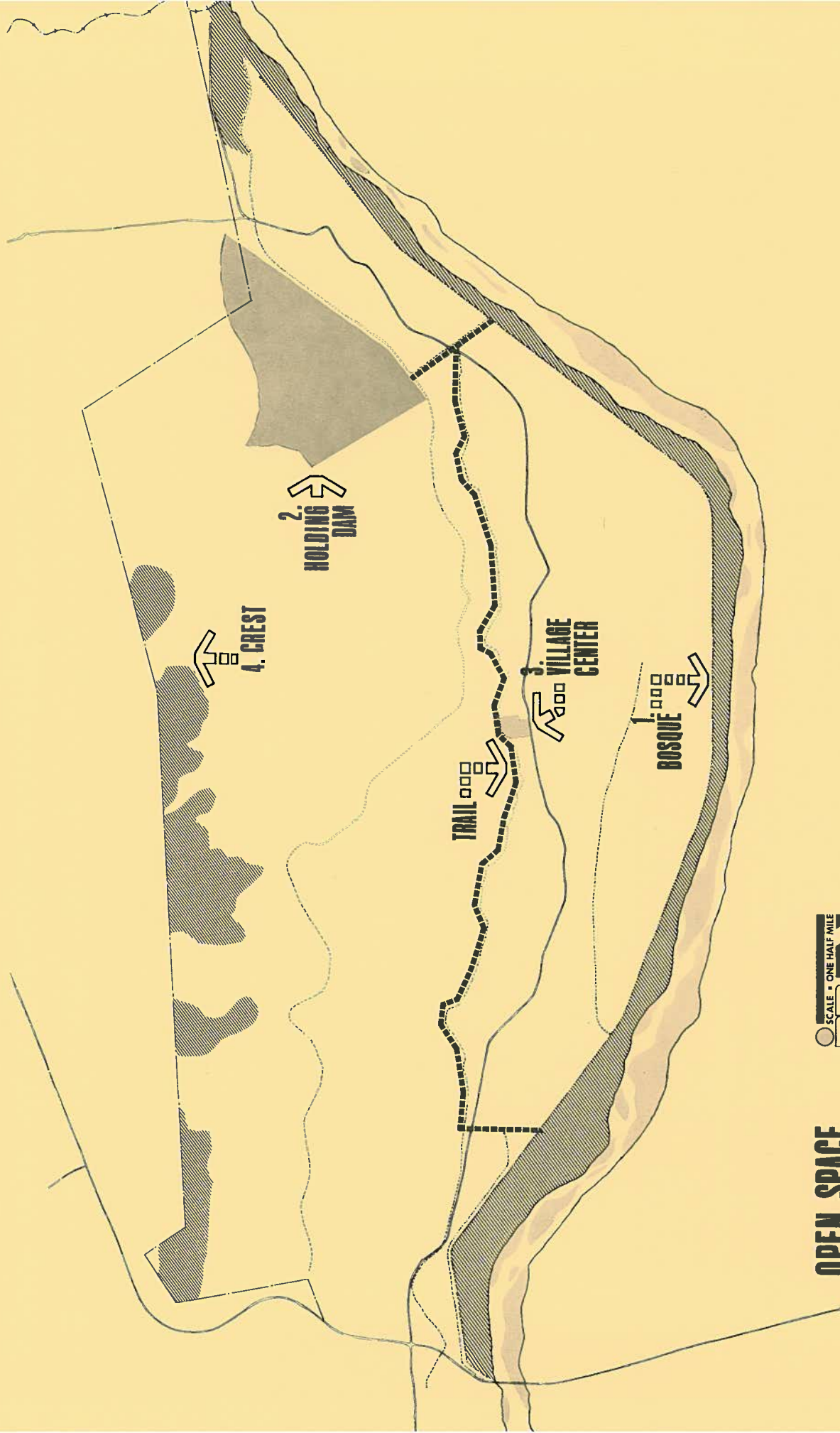
- c) Leased-back Method: This method entails acquiring the land in fee-simple and then placing the land back into private hands by the lease or resale of certain interests with reservations covering the future use of the land. Through the use of this method, the Village Open Space fund can recover some of its investment, as well as control the future use of the land until it is ready to be developed as a recreation or park area. Land can

also be locked into an agricultural usage by this method.

- d) Zoning: By establishing a historic or cultural district, the Planning and Zoning Board could restrict use of vital lands to be acquired and minimize the possible damage to the essential resources of the land. The State maintains a historical buildings list which qualifies designated buildings and their surrounding area for acquisition and maintenance funds. (See Appendix A)

4.1.6 Open Space Priorities: As part of their assignment, the consultants sought to identify the highest priority areas for Open Space action. Four areas are listed in an order of priority based on their unique natural characteristics, the degree of endangerment from competing uses, and their ease of acquisition:

- a) The Bosque of the Rio Grande which is administered by the Rio Grande Conservancy District could be developed for recreation and open space functions with a minimum of expenditures. A Village Bosque Area could be linked to that portion of the Bosque in Bernalillo County, as the Bernalillo County Planning Commission is currently considering a special use zone for scenic and recreation preservation of the Bosque. Access to the area should be controlled to prevent vehicular traffic and the dumping of refuse. The Bosque would be left in a



OPEN SPACE PRIORITY MAP



natural state for hiking, study and riding; no facilities (e.g., picnic tables) would be located in the Bosque. Based on a recommendation of the Parks and Recreation Board, the Bosque's major access should be from a central park adjoining the Bosque in the area of the Lateral Ditch. Access by vehicles for maintenance purposes would be from fenced gates at three points along the Bosque. The Bosque should be fostered as a wildlife refuge (for grey fox, migrating duck, bobcat, raccoon, doves) and hunting should be discouraged. With minimal administration and maintenance, the Village will reap enormous Open Space benefits from a controlled Bosque. Open lands at the North End--where the river and sand hills meet--could also be secured as part of the Bosque Open Area. This land is controlled by the Conservancy District and it could become a prime recreation zone with access control, picnic and sanitary facilities. Estimated cost for controlled access to Bosque: \$5,000. Funding Source: Private donations.

- b) The consultants recommend that a small historic zone be imposed around the Old Church area, and that an acquisition and preservation effort be undertaken. A community green area and vest pocket park, museum, or other facility could be later worked into this area. This open land could become the core of the Village--a focal point for meetings, informal gatherings of older residents, and community fiestas. Estimated cost of Old

Church Park facility: \$100,000 Funding Source: State Historical Building Fund, private donations.

- c) Another prime Open Space/Recreation area which can be secured for the Village at minimal cost is the flood control impoundment area of Montoya Arroyo Dam. This could be used as a public Open Space for hiking, riding and more active recreation (if facilities for parking and clean-up are provided). This area could be tied to the historical center and the other Open Space resources by trails along the acequia controlled for non-vehicular traffic. The consultants recommend controlled fencing (at approximately 30 points) where the acequia is crossed by East-west roads, thereby allowing access only to adjacent property owner's vehicles and pedestrian/equestrian usage. Estimated cost for controlled access to flood impoundment area: N/A. (6' fence is presently planned for area by S.C.S.). Estimated cost for controlled access to Acequia Trail: \$5,000. Funding Source: Private donations.

- d) Open Space land should be developed along the steep escarpment of the Sand Hills (12% slope) and in the four arroyos which run down from the Sand Hills. This land should be zoned to promote flood control, terrain management, and to preserve the western skyline of the Village.

4.2 Recreation: An implication of this extensive open space land program is that recreation facilities will lag behind needs. The consultants recommend that an emphasis be placed on

securing raw land rather than facilities, as the most efficient use of Village funds. We recommend that any implementation of recreation facilities and activities be compatible with the rural character of the area. Horse trails and field sports should be favored over court facilities or swimming pools. Recommended standards based on the Bureau of Outdoor Recreation's Outdoor Recreation Space Standards guidelines are as follows:

Figure 4.a

Recreation Facility Standards (5,000 population)

Bicycle Trails: 2.5 miles of trails

Baseball: 1 baseball diamond; 1 softball diamond

Basketball: 4 courts--2 goals/court

Horseback trails: 20 miles of trail

Swimming: 1 pool with surface area large enough to handle 3% of the population at one time.

Tennis: 5 courts

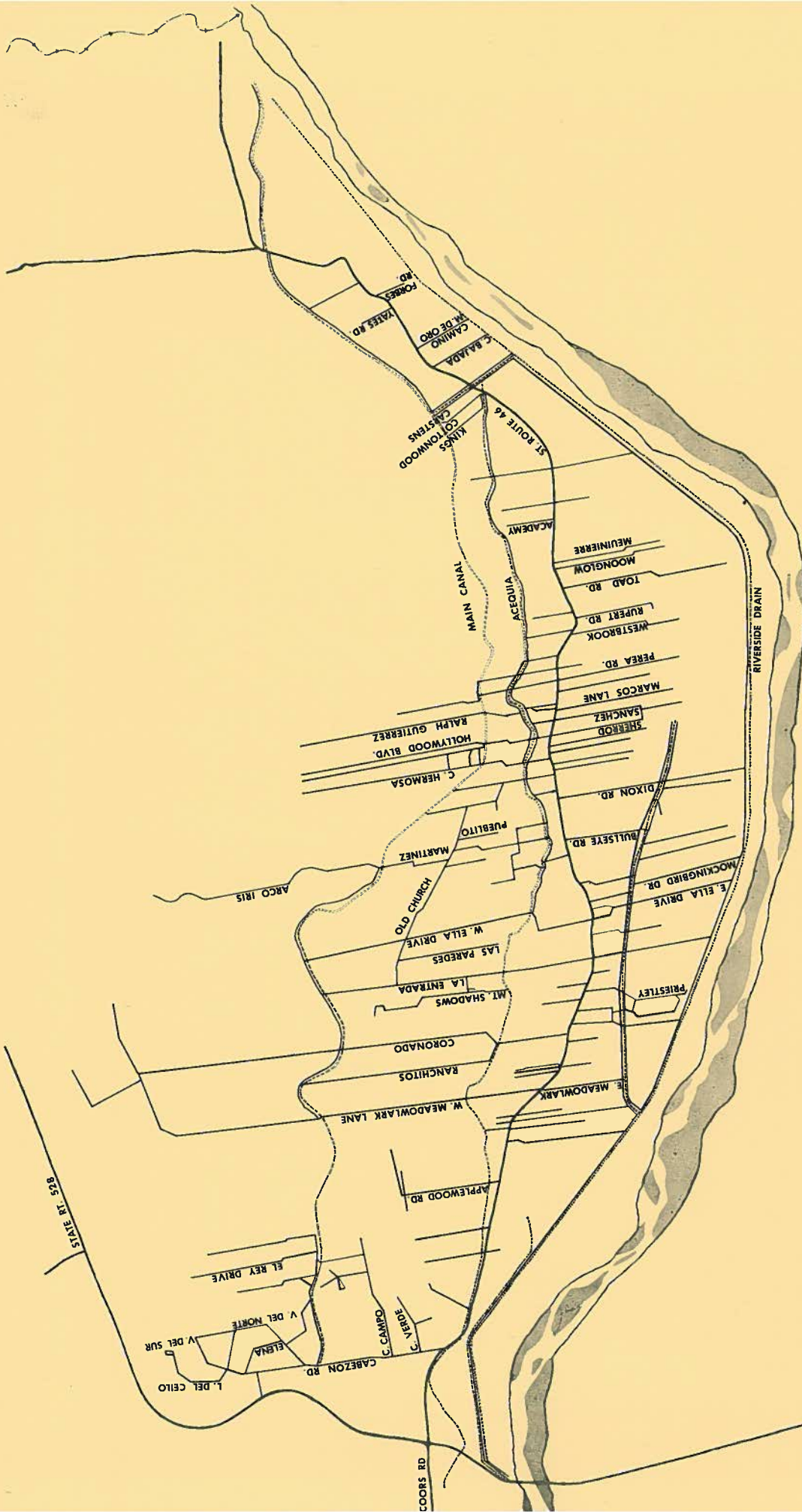
Picnicing: 120 units (8 units/acre) 15 acres

Children Playgrounds: 5 acres (exclusive of schools)

Outdoor Concerts, Plays, etc.: 5-20 acres with 1/5 for parking

4.3 Program Recommendations: The consultants recommend that the Village of Corrales emphasize

open space lands in the first phase; the first priority is to secure the Bosque. The second phase of the Open Space and Recreation Program should concentrate on more active park and recreation facilities. Corrales does not presently have the funds or motivation to bring itself up to the recreation standards set forth in the preceding section, and the consultants do not feel that the Village must meet these standards. It should orient its efforts to the rural character of the community by stressing facilities for the young and low maintenance activities. A small recreation survey might also be undertaken by the Parks and Recreation Board to help to assign recreation priorities in the second phase. Further studies will also be required to designate steep slope and arroyo lands for zoning purposes (See Section 6.2.2).



STREETS AND ROADS

5.1 Road Planning Needs for Corrales: The subject of roads has always been an emotional issue for residents of Corrales. In 1971, an uproar greeted a proposal by the New Mexico State Highway Department to straighten and widen the existing two-lane road. The same reaction met plans for a new river crossing and the paving of Meadowlark Lane to Rio Rancho Estates. The consultants would like to stress the following points in this section:

- a) There is a need for a "cool" assessment of projected traffic volume in Corrales and the road requirements needed to meet this volume.
- b) There is need for a positive approach to the problem; the Village should define its problems, arrange priorities, and present the appropriate agencies with a consensus for action.
- c) Due to the high cost of road construction and maintenance, the Village must tailor its plan to existing programs and funding sources.

5.2 Description of System: The road system within Corrales (See Map 5.A) consists of many unpaved and poorly maintained East/West municipal connectors which access one paved two-lane North/South state arterial (State Route 46) which provides the sole outlet from the Village to the regional system

(see Map 2.A). The major routes to the Albuquerque metropolitan area are East across the Rio Grande on Corrales Road and South along Coors Boulevard to I-40.

5.3 Sources for Funding: For the planning and funding of road projects, the Village must look to the following agencies:

- a) The Village falls within the Urban Transportation Planning Study Area of the Transportation Coordinating Committee (T.C.C.). The T.C.C. has authority to study and assign priorities for the regional traffic system; the State Highway Commission, Federal Highway Administration, C.O.G., and other local governmental groups take part in the T.C.C. Proposals for new paved roads should be directed to C.O.G.
- b) Funding for paved roads can be accomplished under three methods. Federal-aid Secondary Funds to the State for the local municipality can be applied for feeder roads to primary highways. The funds are limited in this program for the State of New Mexico. Cooperative agreements between the Village/County (50%) and State (50%) for funding on a project-by-project basis can be established. The Village/County share of the project may be generated by in-kind participation of materials, equipment, or labor. The Municipal Arterial Program (M.A.P.) is a program of state financial aid (33%) to the municipality (67%) for

local street construction for which local in-kind participation is acceptable.

- c) The Village relies on Sandoval County for maintenance of its dirt roads. At present, the Village has little equipment and extremely limited funds for road maintenance. Maintenance and improvement of the existing State Route 46 falls under the jurisdiction of the New Mexico State Highway Department. Proposals for maintenance and improvement of this route should be directed to the District Engineer of the State Highway Department.
- d) The possible sources of funding from within the Village include (1) special assessment of property owners whose land adjoins the new or improved road project, (2) a general assessment of all property owners in the Village, or (3) general obligation bonds which are affirmed through a referendum and retired by special real estate tax levies (these bonds are limited by law to 4% of the total assessed value of the community).

5.4 Problems and Recommendations: Three problem areas--the regional system, State Route 46, and East/West collectors--should form the basis of a Street and Traffic Planning Program for the Village.

Problem Areas

Based on the Planning Questionnaire, 77.9% of Corrales' employed heads of households commute to Albuquerque; access to Albuquerque will be increasingly jammed due to population growth in Corrales and Rio Rancho.

Recommended Policies

The Village should support a new river crossing at Corrales Road and improvement of Coors Road South. The U.T.P. of C.O.G. is currently beginning a corridor study of Corrales Road for a connection between I-25 and Coors Road. The Village Planning and Zoning Board should develop a Corrales recommendation for alignment of this route and present their position to the C.O.G. and the T.C.C.

Between 1972 and 1974, State Road 46 through the Village has experienced a 22.6% increase in daily traffic volume. The route experiences frequent traffic accidents and considerable congestion occurs at the 4-way stop sign at Coors Road. Slow truck traffic and local commercial, horse, and bike traffic combine to clog and slow down automobile traffic. If traffic volume increases at past rates, the route will be overloaded at peak hours.

The Village should submit a proposal to the State District Highway Engineer within 6 months for:

- a) resurfacing State Route 46
- b) shoulder improvement and widening of the route by two to four feet
- c) inclusion of passing lane areas where existing easements are available.

These improvements would be funded 100% under the State Road System Program.

The Village should acquire the right-of-way for a North/South route in the Sand Hills, to be held in preparation for future development in this area. This route could fulfill civil defense functions, protect air quality by decreasing travel on dirt road collectors, and decrease pressures on the State Road 46. The Village should work with Baja Corrales Association and the Bernalillo County

Problem Areas

Recommended Policies

Planning Department to insure an outlet for the new route on Route 528 in Bernalillo County. Once an 80 foot easement has been accepted by these parties, a 32-foot wide dirt road should be bladed to provide a temporary outlet. A 44 foot, 2 lane minor arterial (4 inch shaped asphaltic surface with a 500 vehicle per hour capacity) should be constructed when future development in the Sand Hills requires it. If an 80 foot easement is obtained, equestrian, pedestrian and bike traffic could share the road. Construction in the first phase could be carried out by the Sandoval County Road Maintenance Department, and funding in the second phase would have to come under a cooperative agreement between the State, County and Municipality, or through Federal Aid for Secondary Routes (See Map 5.B for suggested route alignment).

The planning survey showed that there is one vehicle for every three Corrales residents. Usage of local roads is heavy and comments on the questionnaire indicate that the condition of public dirt roads is a major concern of residents. "Improvement of existing roads" was said to be the second highest priority goal for the Village government. Sandoval County has responsibility for road maintenance, but road conditions have continued to deteriorate: mud in the winter, dust clouds in the summer. No funding programs are available for less-than-paved municipal road improvements and maintenance. Corrales residents wish to retain their rural, unpaved roads as an important element of the Village's character. They should be improved, however, without major tax burdens.

The consultants recommend a limited program of road improvement to be funded by a special assessment of property owners whose land abuts the designated roads. The consultants recommend a 3" gravel treatment program on three Village collector roads (See Map 5.B) which have high traffic volume and the potential for handling future Sand Hills development based on anticipated usage (See Map 7.G).

Problem Areas

Recommended Policies

There are many types of less-than-paved road improvements which fall into a sliding scale of cost and benefits:

<u>Treatment</u>	<u>Cost/Mile</u> <u>(21' width)</u>
a) Soil and Caliche (soil and caliche mix that is wetted and rolled to form a hard cap)	\$ 9,250.00
b) 3" Select Crushed Gravel over graded dirt	18,501.00
c) 6" Select Crushed Gravel over graded dirt	22,201.00
d) Soil, Cement and 3" Select Crushed Gravel (soil graded, mixed with cement 3% rolled, gravel over)	33,918.00
e) Asphalt (3")	38,852.00
f) Asphalt (binder, 3" 2/1") (surface asphalt)	61,000.00
Maintenance cost for unpaved road (including equipment)	3,080.00 per mile per year

Sources: Border Construction Equipment, Lively Equipment, Kent Nowlin Construction, Universal Construction Companies.

The Village can lower its cost by procuring County labor and equipment, while supplying materials. The consultants recommend a minimum width of 42 feet for the improved roads with adequate bar ditches and drainage improvements.

Problem Areas

Recommended Policies

Traffic volume is constantly increasing on the East/West collector roads and dust will soon become a health hazard and hindrance to local farming; therefore, action is necessary on this recommendation within the near future.

In order to increase the quality of road maintenance, the Village will be required to encourage agencies which have only limited responsibility. The Village could develop a formal cooperative agreement with Sandoval County to insure adequate crowning and shaping of the existing public dirt roads and the maintenance of bar ditches for proper drainage.

Traffic and transportation systems have a controlling influence on development. There is a need to promote orderly growth in the Village--to retain its character while providing for the needs of residents. A road/traffic strategy should be developed and updated to support this goal.

The Planning and Zoning Board should review the impact of proposed residential developments (over 10 acres) on the road system and require adequate road easements and improvements as a condition for approval. Large commercial developments (e.g., shopping center 5000+ sq. ft.) or institutional projects (e.g., Mid. School) would attract traffic into the Village from the outside and, therefore, they should be discouraged. These large developments are best sited in the Skyview Acres/4 way stop area, to serve the Corrales market without affecting the character of the Village.

The Street Naming Committee should complete the task of naming and marking Corrales' streets to aid in police/fire protection, and other administrative functions. This committee should certify the classification of public and private roads and update the Corrales Road Map.

Problem Areas

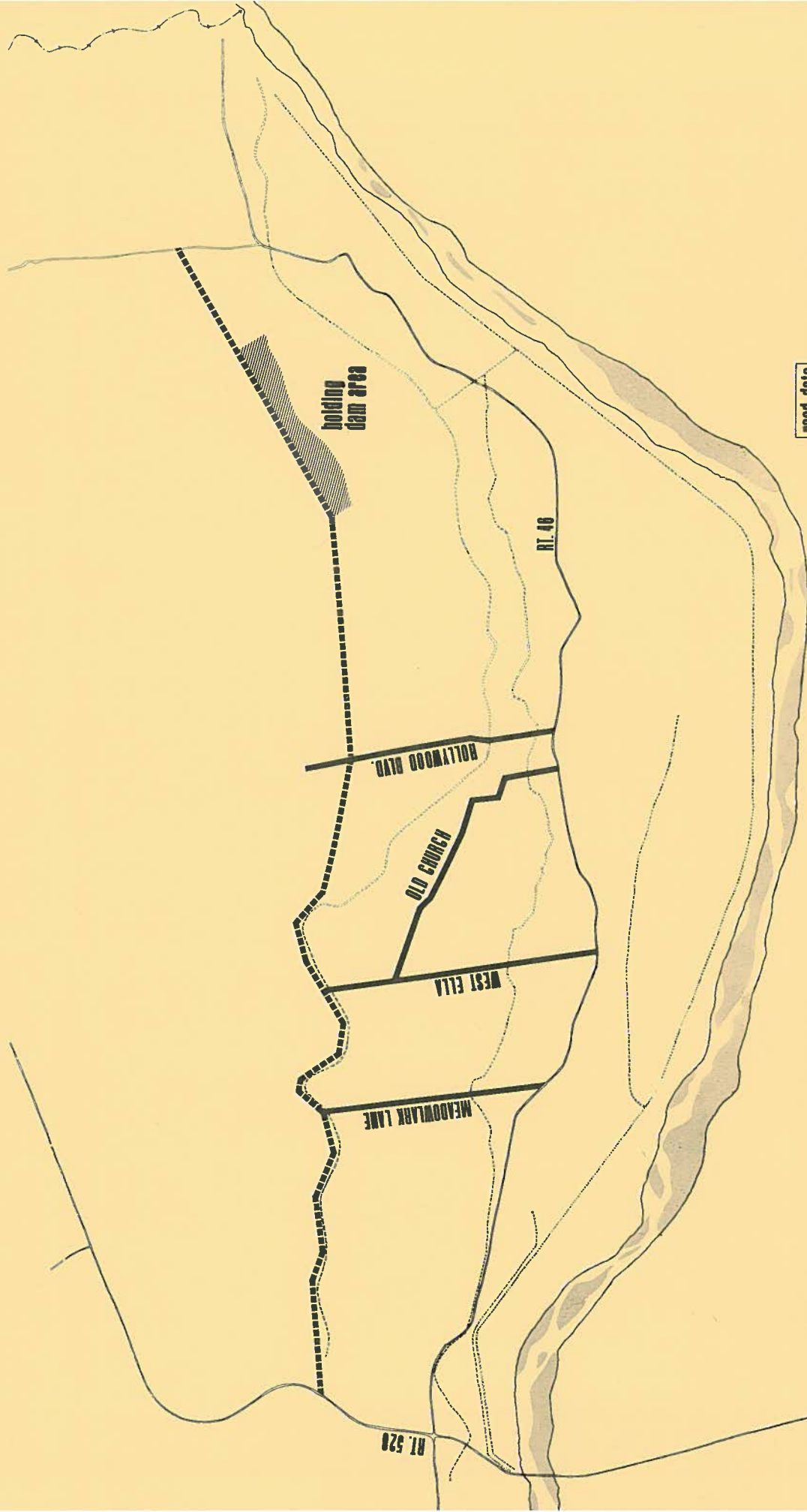
Recommended Policies

The Old Church Road to West Ella should be improved with Soil/Cement or Gravel treatment as the first phase of a Village Center concept. This important collector would act as a link between horse/pedestrian traffic along the Acequia and the State Route 46, and a link between the residential zone and the commercial/institutional zones at the heart of the Village.

Village Open Space/Recreation areas should be linked together by the Acequia Main and Lateral Canals for pedestrian and horse traffic.

5.5 Road Improvement Program:

<u>Short Range Priority</u>	<u>Estimated Cost</u>	<u>Funding Source</u>
1. Improvement of State Route 46--shoulder improvements, repaving, and 2-4 ft. widening	\$ N/A	New Mexico State Highway Dept. Road Improvements
2. Improve three East/West collectors (See Map 5.B)--borrow for shoulders, 3" crushed gravel over graded dirt to form a 32' wide crown--3.5 miles designed for 20 mph and 66 vehicles per hr.	90,000	General Obligation Bond and County contribution of equipment
3. Acquire 80 ft. easement for North/South outlet in Sand Hills and blade a 44 ft. wide dirt road 8.25 miles designed for 15 mph and 100 vehicles per hour	40,000	Easement donated by property owners, special assessment with possible County contribution of equipment
<u>Long Range Project Priority</u>		
1. Improve Old Church Road to West Ella after Historical Zone is secured--to 32 ft. wide shaped road, 3" crushed gravel over graded dirt with shoulders--1.25 miles designed for 25 mph and 75 vehicles per hour	31,250	Cooperative agreement with County and State
2. Paved North/South arterial in Sand Hills when Sand Hills development reaches 700 dwelling units--a 3" crowned asphaltic 2 lane arterial 44 ft wide with 12 ft. separations between roadbed & 5 ft wide pedestrian/equestrian trails--8.25 miles designed for 30 mph and a 500 vehicle per hour capacity	1,650,000	Cooperative agreement with County and State



road data

-  gravel improvements to existing roads
-  proposed easement for new north/south road



ROAD PRIORITY MAP

UTILITIES & FLOOD CONTROLS

6.1 Utilities: As the pressures of new development build in Corrales, there will be an increasing need for community water and sewage facilities. The first step will be towards a water system because of declining water quality, fire protection, reliability of service and lower insurance rates. The effects of a water system will be as follows:

- a) While providing definite benefits towards the health and safety of the Village, a water system will require a financial commitment from the community. (e.g., water systems are designed on a 20-year population projection.

estimated households 1994	3170
cost per connection	\$1000
total cost of system (wells, storage, lines)	\$3,200,000

Up to 40% of the costs could be carried through EIA, HUD, or Four Corners Regional Commission programs to significantly reduce the total Village commitment. The balance would be paid through a revenue bond in which income from the system retires the bond (This bond is excluded from 4% of assessed market value limit).

- b) New development would be encouraged; a water system would make development easier and lead to pressures for greater than one unit per acre settlement to make more efficient use of water lines.

The adoption of public utilities would lead to an attack on the traditional character and living patterns of the Village; yet, Corrales may be forced into such a system for reasons of health and safety. The consultants' recommendations are aimed at forestalling this possibility.

The quality of potable ground water relates to the following factors:

- a) soil type percolation rate, slope
- b) seasonal water table depth
- c) land use--distances to contamination, density of settlement
- d) well and septic system design and construction

The Village and the Environmental Improvement Agency are empowered to regulate items c and d to insure adequate ground water quality. The Village Planning and Zoning Board is currently requiring EIA approval on all variances and building permits. Under new EIA regulations (January, 1974) 1.25 acres per homestead or a more sophisticated sewage system is required if the seasonal water table is less than 12 feet. If the water table is less than 4 feet, no onsite sewage disposal is allowed. Due to aggradation (silt) of the Rio Grande, the seasonal water

table of Corrales has been rising steadily. Informed residents place the current levels as follows:

- a) East of State Route 46: 3-5 feet
- b) West of State Route 46 to Main Canal: 7 ft.
- c) West of Main Canal to foot of Sand Hills: 10-25 ft.

Based on this unofficial data, the Village and EIA should be requiring more sophisticated septic systems or more than one acre per housing unit in the Valley portion of Corrales.

The quality of ground water in Corrales has not been systematically studied, however, unofficial reports find:

- a) extensive pollution of ground water strata at 35-40 feet
- b) well and septic systems are constructed below State and EIA standards
- c) development of long, narrow lots (even with one acre) are placing wells and septic systems within dangerous proximity
- d) high seasonal water table interferes with the operation of septic tanks; plastic tanks "pop" out due to water pressure

To resist being forced into a community utility system, the Village must face some major problems, such as:

- a) The EIA is not presently enforcing its own regulations

- b) The Village Planning and Zoning Board is placing all the responsibility for maintenance of water quality on the EIA
- c) Current data on seasonal water tables and ground water contamination are not available

The consultants recommend that a study of ground water quality be the prime focus of the second phase of the planning project. Such a study could be funded in the following manner:

\$10,000 in-kind services by EIA for collection and analysis

1,000 Village share for evaluation

9,000 Four Corners Regional Commission grant for evaluation

\$ 20,000 Total Cost

This is an expensive study, but it will allow the EIA and Planning and Zoning Commission a factual basis for policy decisions. Once existing ground water quality is established, the Planning and Zoning Board can require lower density (less development per acre) or more sophisticated septic/well systems to protect the future quality of the Village water supply in specific areas of Corrales. The study will justify regulation of development and the establishment of zones; the

future residents/developers of Corrales will be paying an indirect tax in density controls and higher quality septic systems in order to pre-serve the character of the Village.

Corrales is at a critical point in its history; action must be taken to prevent the day when public utilities are forced on the Village.

6.2 Flood Control: The Village is within the Albuquerque Metropolitan Arroyo and Flood Control District and the Corrales Watershed District. The history of Corrales is marked by floods. The Village has been susceptible to flooding from five sources:

- a) Rio Grande: controlled by Cochiti Dam
- b) Arroyo de las Lomas Negras: will be controlled by proposed SCS holding dam
- c) Arroyo de los Montoyas: will be controlled by proposed SCS holding dam
- d) Blacks Arroyo: diverted South to Arroyo de los Callabacillas by AMAFCA
- e) Minor Arroyos between los Montoyas and Blacks Arroyos: holding dams constructed by Rio Rancho to maintain rate of flow while increasing duration 3-r times.

The Village is protected from flooding from all but the last source. A majority of the land

of the Village is open to flooding from these arroyos. As development on the Mesa proceeds at Rio Rancho, the runoff potential of these arroyos increases.

6.2.1 Recommended Action: Phase II planning for flood control should undertake the following course of action:

- a) The Village should adopt a resolution and work with the COG to become qualified for temporary HUD Flood insurance.
- b) Once qualified, HUD will authorize SCS or the Army Corps of Engineers to undertake a study of the designated flood prone areas to identify the 100-year floodway and ponding area. The Village should adopt a Flood Plains Ordinance which restricts structures from the identified 100 year floodway and ponding area. A proposed ordinance has already been drawn up by the Planning and Zoning Board.
- c) At the same time, the Village should work with the COG to become qualified for the regular Flood Insurance Program which has higher levels of coverage.
- d) Non-structural concepts of flood management (e.g., zoning, building and landscaping regulations) remain the least expensive approach to insuring the safety of the community from flooding.

As Corrales develops from a rural-farm to a rural-residential community, the destructive impact of a

potential flood increases and the community may become forced into expensive retarding structures or diversion projects. Therefore, based on the results of the 100-year Flood Survey, the Village should be quite restrictive in applying non-structural concepts of flood management in the flood prone areas, as regards to zoning density and any development which alters the natural drainage system. Alternations which should be restricted include grading, filling, excavating, paving, building foundations, soil compaction or other man-made changes which tend to alter the rate, velocity, location or quantity of storm runoff. The Village should further apply these standards to the operation of the Rio Rancho holding dams--documenting the impact of these structures on the drainage system, in order to develop a factual basis for legal action. The Village government has a clear mandate to protect the safety and welfare of the community by taking firm action in the area of flood control. This action should begin with the proposed identification of flood prone areas within the Village. Once this step has been taken, a logical progression of policies can be implemented in Phase II Planning.

LAND USE 7



7.1 Statement of Goals: The major goal of the Plan--to retain the character of the Village--is elaborated in the following land use goals to be used by the Village officials and citizens in directing the future of the community:

- a) Village government should control and shape future development to insure orderly growth and maintain the rural/residential character of the Village.
- b) Improve the existing services of the Village--fire, police, zoning--to insure the health, safety and welfare of the community with the minimal possible intrusion into the affairs of residents.
- c) Village government should take action to control future density and development, while at the same time protecting the right of each landowner to sell or retain his property.

7.2 Threat to Goals: Based on present growth trends, existing policies and methods of problem solving, the consultants foresee several areas in which future land use will fall short of these goals unless changes in directional policies are made. These areas are:

- a) The rising cost of land, an influx of new residents and the existing one-acre/unit zoning standard will gradually lead to the subdivision of large, undeveloped parcels and farms into one-acre home-sites. This trend will accelerate the

loss of open spaces and the change to a suburban community.

- b) Development in Corrales will not have a shape or form; it will take place on disjointed strips, with long, dusty East/West roads connecting units. Since many parcels in the Sand Hills are land locked, much of the development could occur in the Valley portion of Corrales. The rigid one-acre approach will create a Corrales of small postage stamp 'estates' which neither conform to the natural contours and terrain, nor to the traditional settlement patterns of a New Mexican farming community. There will be a monotonous and wasteful exploitation of la tierra de Corrales.
- c) Rising land prices and population pressures will lead to a continuing influx of professional, Anglo, commuter residents. The social and cultural heritage of Corrales will be maintained, however, new political and inter-group conflicts will arise as perspectives change. This will be reflected in a planning process that becomes increasingly rancorous: a tighter mix of income groups and home styles will spark debates. The day-to-day business of zoning will sap the energy of the Board to plan for the Village.
- d) The present fiscal condition of the Village does not allow any improvement of existing services or the proper administration of existing land use ordinances. Future developmental pressures and increased population will require improved road maintenance, provision of open space land for recreation, land for a new school and other institutional functions, funds for

Village administrative personnel and more police/fire protection. Interviews have confirmed that residents are not willing to undertake new property taxes to raise funds for the Village, yet, a price would be paid in the character and quality of life of the Village without future funding increases. A low-market assessment value and a green-belt assessment for agricultural land permits land owners to hold their land open, however, this approach tends to lead to underfinancing of the Village government. The Village will require more funds to operate in the future, yet, the innovation is lacking to take the needed steps.

- e) With present ordinances and policies, the health, safety and welfare of the community will be threatened by deteriorating water quality, flooding of arroyos in the Sand Hills, and ponding from floods in the Valley. New development will be sited without regard to these issues, later necessitating extraordinary measures such as flood control structures, community water systems and flood diversion projects.

- f) The Planning and Zoning Commission and Village Council will continue to be besieged with requests for variances from the present ordinance requirements for both small unusually shaped individual lot development and large scale projects. This not only causes potential problems from reaction to pressure but interferes with the real work of the Commission in planning for the future.

- g) The Village has not yet developed a census of its population around land use

policies. The lack of agreement will lead to a planning paralysis and imposed solutions from outside interests.

The Village is faced with a wide range of land use problems. Policies aimed to achieve the Village's land use goals were developed by the consultants in the following process:

- a) Environmental factors were evaluated to determine those areas of the Village in which development should/should not occur.
- b) Policies were devised to encourage land use densities and activities to support the results of the environmental impact evaluation.
- c) Policies and proposals were then devised to implement the land use policies.

7.3 Environmental Impact Evaluation: The environmental evaluation method consists of identifying the critical factors which affect residential/commercial development. These factors can be ranked (showing severe, moderate, or slight limitation to development) and the composite mapping of all factors can point to the areas in which development will have the most benefit/least cost. The consultants found that more in-depth technical studies were required to provide the necessary data for flood plains, water quality, and air quality. The environmental impact evaluation

should evolve as conditions change or more detailed data permits improved mapping.

7.3.1 Water Quality: The EIA has made periodic, but unsystematic analysis of ground water quality in Corrales. A thorough study (as recommended in Section 6) would allow the Planning and Zoning Board to shape policy so that conditions would not deteriorate to the point requiring a community water system. The unofficial view is that pollution has reached the 40 foot mark in areas of dense settlement. Well and septic system design and construction, and overall density should be regulated to maintain the following requirements for potable water quality.

Nitrates - 45 ppm.
Dissolved Solids - 500 ppm.
Coliform density (Standard plate count) - 500 organisms per ml.
When 10 ml. standard portions are examined, not more than 10% in any month shall show the presence of the coliform group in 3 or more 10 ml. portions of a standard sample shall not be allowable if it occurs:

- a) in two consecutive samples
- b) in more than one sample per month when less than 20 are examined per month or
- c) in more than 5% of the sample when 20 or more are examined per month

Source: Manual for Evaluating Public Drinking Water Supplies: E.P.A., 1971

7.3.2 Water Table: The depth of the seasonal high water table is an important determinant of an area's development potential. A high water table (less than 12 feet) impedes the operation of private septic systems and promotes the pollution of deeper ground water strata. Residential developments on high water tables are effected by drainage and ponding problems. The EIA regulations (basis for Water Table Evaluation) can be amended if more sophisticated septic systems are employed or acceptable private package systems are installed under carefully prepared standards and controls. The quality of a septic system can effect the relationship of water table, water quality and development based on the common septic tank system and absorption field. (See Section 7.3.8 - Map 7.A)

7.3.3 Flooding and Ponding Areas: This evaluation map is only a preliminary indication of the areas on which development should be discouraged because of the danger from flooding. The Flood Plains Survey, as proposed in Section 6, would enable the Village to plot the potential effects of a 100-year flood on the Sand Hills to the West and the amount of ponding area required in the Valley. (See Section 7.3.8 - Map 7.B).

7.3.4 Slope: Slope should be a limiting factor in the selection of land for commercial or residential development. Steep slopes of over 12% are central to the problems of flood control and erosion. Building on steep slopes tends to increase the concentration and velocity of runoff; the vulnerability of the slopes of the Sand Hills to erosion could ultimately threaten the stability of building foundations. Fire protection becomes more difficult to deliver to residential developments on steep slopes. The aesthetic result of concentrated development along the slopes of the Sand Hills would be to change the character of Corrales' western skyline and diminish the open character of the Village. The consultants recommend no development on slopes greater than 12% and limited development on 5 to 11% slopes. Soil properties and road access should also be taken into account in any decision to limit development on steep slopes. (See Section 7.3.8 - Map 7.C)

7.3.5 Soils: Soil properties are a critical determinant of a site's suitability for development. The soil properties of a development should have a percolation rate of less than 60 minutes/inch and a low/moderate shrink swell potential.

The soils of Corrales were established in a Soil Conservation Service survey. In the Valley portion of Corrales, east of the Main Canal, the soils are deep sandy and clay loams. For the most part, these soils drain poorly and have moderate shrink/swell potential. Due to their low permeability, these soils make poor septic absorption fields. The soils of the Sand Hills are deep calcareous soils with loamy fine sand surfaces over fine sandy loam subsoils. The soils in the area present few limitations for septic absorption fields or building foundations, except in those areas with steep slopes. Exposed soils in the Sand Hills have a moderate to severe susceptibility to wind and water erosion. (See Section 7.5.8 - Map 7.D)

7.3.6 Agriculture: A combination of features-- subsurface geology, climate, soils, slope and water--come together to determine the suitability of land for agriculture. In New Mexico, the proper combination of these features is a rare occurrence. Agricultural land, however, is abundant in Corrales and contributes significantly to the traditional character of the Village; it should be preserved as a unique resource from

residential/commercial development. In order to map the existing agricultural land of the Village, an aerial map was evaluated and areas with a field or orchard land usage and less than one structure per acre were defined as agricultural. (See Section 7.3.8 - Map 7.E)

7.3.7 Special Features: Corrales has several features which contribute to the unique character of the Village and which should be excluded from residential/commercial developments. These features are:

- a) the Bosque of the Rio Grande
- b) Historical Old Church area
- c) Historic adobe dwellings
- d) Sand dunes of the Los Montoyas arroyo

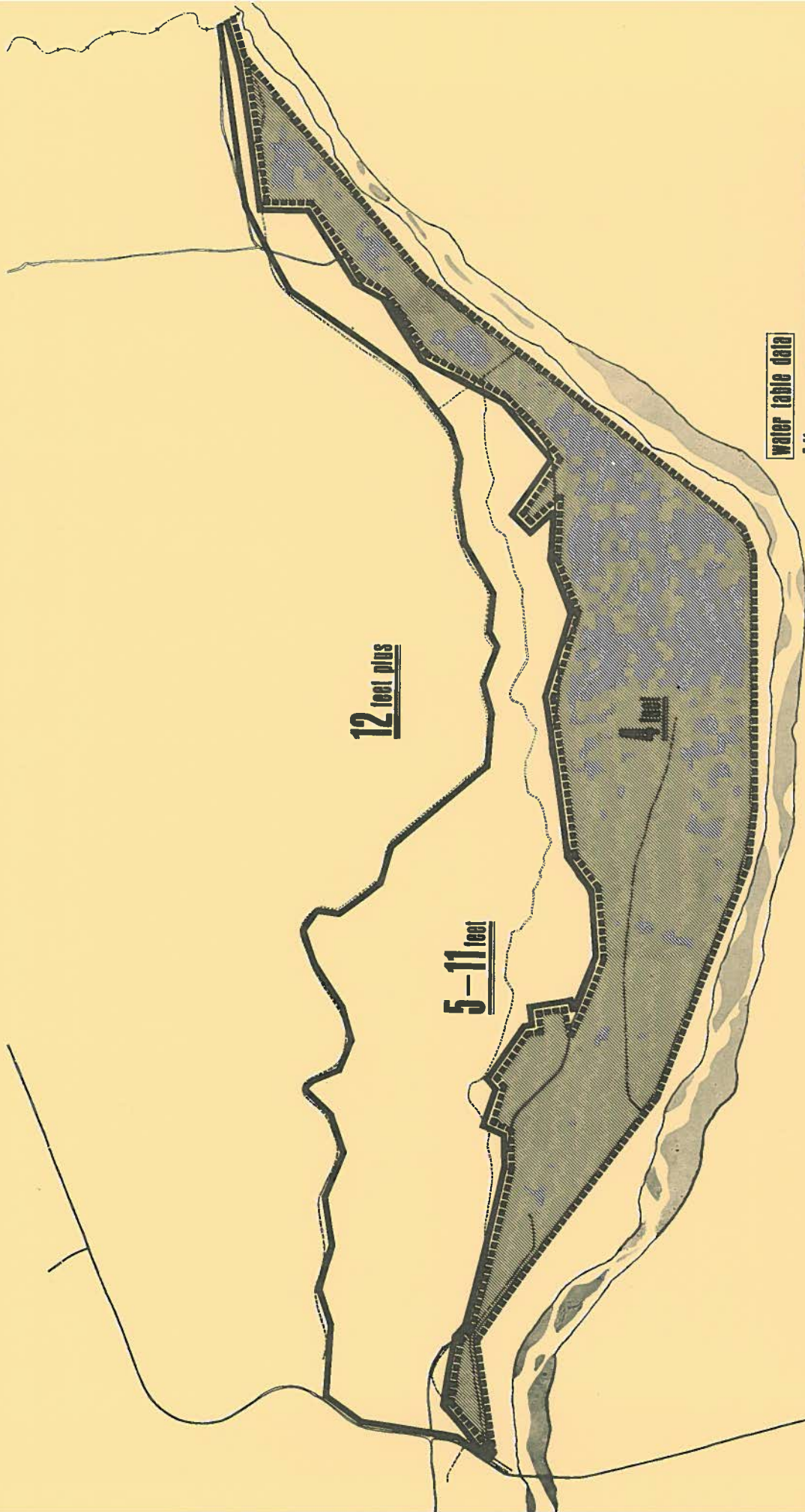
7.3.8 Environmental Impact Evaluation: The preceding six environmental factors were combined to create a composite mapping of Corrales. The Environmental Evaluation Map (See Map 7.D) defines areas which development should and should not occur; this map was scaled in the following manner:

- a) Areas with severe limitations for development; three or more negative environmental features coincide
- b) areas with moderate limitations for development; two negative environmental features are present

- c) areas favorable for development; one or no negative environmental features.

7.3.9 General Land Use Plan: A Land Use plan should present the actual physical configuration toward which a municipality and its planning jurisdiction should develop. The strategy of the consultants was to develop a Land Use proposal which closely conforms to the results of the Environmental Evaluation. (See Map 7.G). This proposal does not represent a radical change from the existing land use, as the major goal was to retain the existing character of the Village, while shaping growth and development within an orderly framework. The General Land Use Plan proposes the following mix of usages for the Village of Corrales and its ex-territorial zone:

	<u>Acres</u>	<u>Percent</u>
Open Space Preserves	1340	18.2%
Commercial Zone	109	1.4%
Institutional (Govt., Educ.)	32	.4%
Low Density Residential, Agric.	1721	23.4%
Moderate Density Residential	2054	27.9%
Highest Density Residential	2092	28.4%
(6,768 acres without Bosque)	<u>7348</u>	<u>100.0%</u>



WATER TABLE EVALUATION



water table data

4 ft.	severe limitations, no development with private septic systems
5-11 ft.	moderate limitations, 1.25 acres required for private septic system
12 ft. plus	slight limitations, 1.00 acre required for private septic system



map data

flood plain — further study required

corrals heights area

ponding area — further study required

holding dam



FLOODING AND PONDING MAP

RIO RANCHO ESTATES

**VILLAGE OF CORRALES
PLANNING AREA**

west
planning
boundary

**SLOPE
EVALUATION**



slope data

shaded area denotes 12% (or more)
land slope — severe limitations required
for development.



SOILS EVALUATION



soil data
 shaded areas requires severe
 limitations for septic absorption fields
 shaded areas requires severe
 limitations for building foundations
 adapted from 1974 S.C.S. survey



AGRICULTURAL LAND MAP



map data

shaded area represents land with less than one structure per acre.

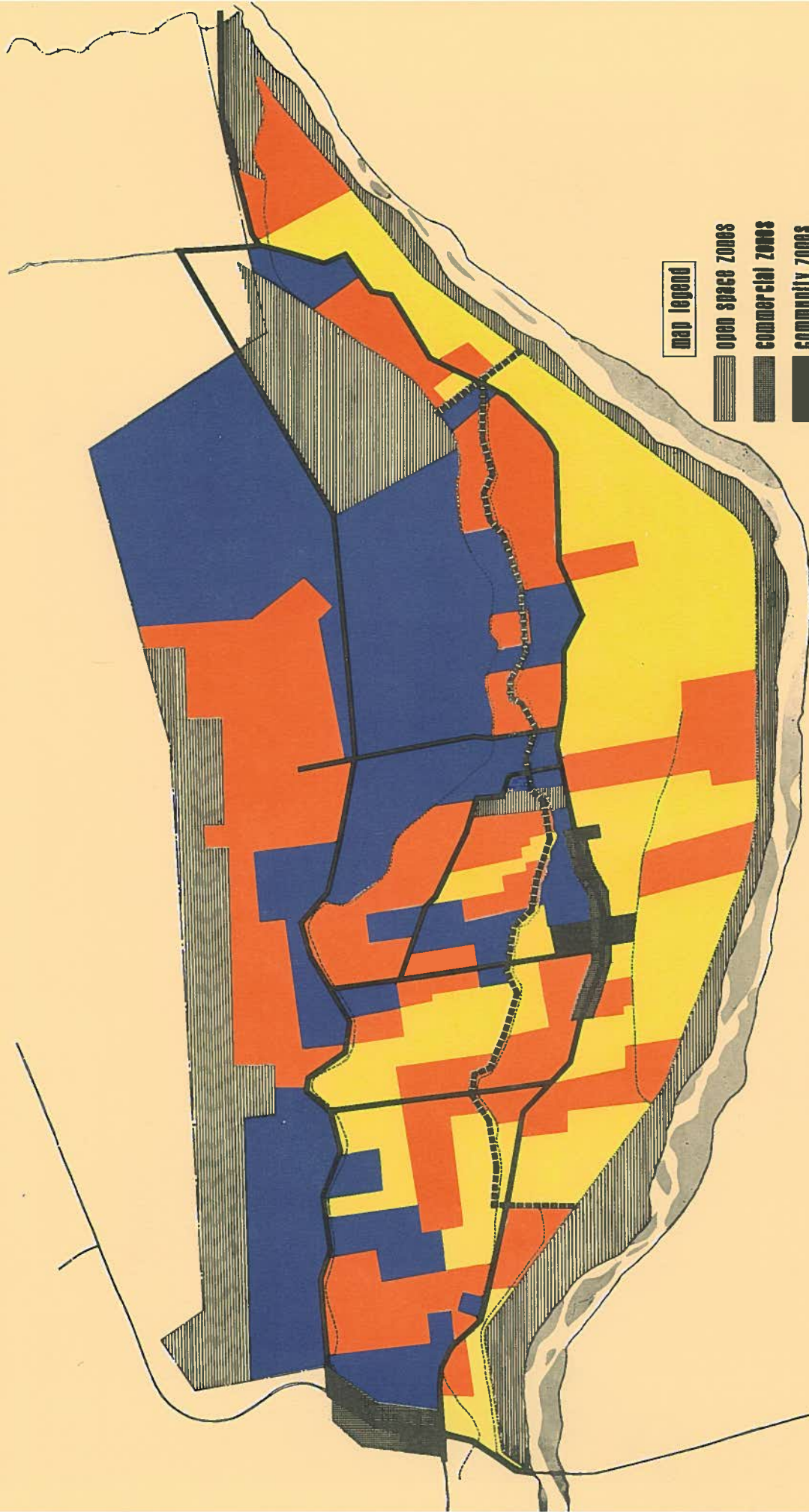


SCALE • ONE HALF MILE
BB&B

**ENVIRONMENTAL
EVALUATION**



LAND USE MAP



map legend

-  open space zones
-  commercial zones
-  community zones
-  low density residential or agriculture
-  moderate density residential
-  high density residential

The Land Use Map emphasizes single family residential/agricultural usages in the Village. Corrales need not become a diversified city with high density multi-family residential, industrial parks, and public housing; these usages would alter the character of the Village, and they can be best located in other areas of the region. Three single-family residential zones are proposed in the land use map; specific densities (e.g., one unit per acre) were not selected as the available environmental data is too limited. The consultants have recommended further technical studies, so that density and zoning restrictions can be adopted and upheld in the courts.

The Land Use policy should integrate the strategy and policy of all sub-categories (e.g., open space/recreation, traffic) into one package. The proposed Land Use Map attempts to promote the following principles of physical development for the Village:

- a) Road improvements should be related to the areas of highest density development; three improved East/West collectors are located to serve high density residential zones in the Sand Hills. A new North/South outlet was aligned to serve this same area and take pressure off the existing paved outlet.

- b) Three separate transportation systems are proposed to link residential areas to commercial, open space and central community zones. The automobile system is the most extensive; a pedestrian/equestrian trail (with controlled access) along the acequia runs the length of the Village connecting the Village Center and Open Space areas; widening of State Route 46 would allow more space for bicycle travel through the Village to connect up with the proposed Albuquerque Bikeway at the four-way crossing.
- c) Open Space priorities were selected to tie into the transportation system, as well as relate to the preservation of skylines and the definition of a Village center.
- d) The Village center concept was developed to counter the tendency towards strip development of State Route 46, while giving a focal point to the community. The center has two nodes: an open space, historic zone at the North for passive outdoor activities, outdoor meetings, and fiestas and an institutional zone at the Southern end which would provide land for future community facilities (e.g., meeting hall, offices). The land between the nodes would be devoted to local commercial services. The Village center would be tied together with improvements to the West Ella/Old Church Road loop. At a later date, the concept could be reinforced with the development of a Village plaza at the Southern node. The Village Center proposed in the Land Use Map would reserve

32 acres for future educational/institutional functions, while providing a physical center to the Village.

- e) Commercial land uses are limited in the proposed Land Use Map to 109 acres (normal planning practice would require 220). A more intensive commercial area is recommended for the Southern border of the planning area to discourage commercial road traffic. Commercial land uses are highly restricted in this plan, in order to preserve a rural character.

The plan represented in the Land Use Map contains the appropriate mix of land usages based on present goals and available data. The Village should change the plan in accordance with new data and conditions.

7.4 Land Use Policies: The consultants developed three land use strategies to encourage land use densities and activities which would move Village development in the direction of the proposed Land Use Map. The final decision between the three options remains for the Village, as the strategies have both positive and negative features.

7.4.1 Development Rights: A system of "transferable development rights" is based on the following:

- a) Detailed environmental studies of the waste absorption capacity of the water and air, water supply, and drainage

system will provide an educated estimate of the ultimate population which Corrales can sustain without undue congestion or danger to health, safety and welfare.

- b) This optimum population figure is converted to a maximum density (units per acre) for the entire Village.
- c) From this density a system of development rights can be established. That is, each acre of land will contain a certain number or fraction of a number of development rights (this ratio is the same throughout the Village). These rights can be sold by one party to another party. This system is similar to transferrable water rights. Commercial rights would also be distributed across the Village in terms of square footage; residential development rights would be in terms of dwelling units. Any development which is already in place, either residential or commercial, must be taken into account in determining each acre's entitlement to development rights.
- d) A developer must own enough rights to build on his land. He can buy any additional rights on the open market from other landowners within the Village. No development could occur without the approved number of rights.
- e) In addition to development rights, there will be a zoning map in which maximum densities for different areas within the Village will be defined, based on their environmental characteristics.

f) Public uses, such as schools, libraries, police, fire, recreation, and open space preserves, will not require development rights. When rights are assigned, the local government is entitled to all rights issued to properties owned by it and the State. This windfall could be used to pay future capital costs for years or the rights could be retired to insure the Village open space and rural character. The Village government could also form a non-profit corporation to buy development rights with Federal Open Space money or bond issues.

g) Any proposed increase in development rights would require a new master plan and environmental evaluation.

An Example: This alternative means that a farmer who owns a parcel of land which contains fourteen development rights could sell three of those rights to someone who wants to build 10 dwelling units in the Sand Hills. The builder has only enough development rights of his own to build seven units. He, therefore, must pay the farmer for his three development rights in order to possess a total of ten development rights. This presupposes that the zoning of the builder's land will allow for ten units on the parcel of land on which he is proposing to build. This gives the farmer a marketable commodity while he retains title to and use of his land. Based on the zoning of his land, the farmer may only be allowed to build nine dwelling units on his farm land, but he can still sell any or all of his fourteen develop-

ment rights, even though he cannot use five of those development rights to develop or build on his own parcel of land. The value of the farmer's land has not been effected.

The system of transferrable development goes a long way to implementing the basic goal of this plan: to retain the existing character of the Village of Corrales. This system encourages farmers to continue farming their land while providing them with some financial compensation for holding important property in an undeveloped open state. Long-time Village residents would be encouraged to stay and farm their land, thereby insuring a future social balance between the suburban commuter and the farm segments of the community. Economically, this system would represent a windfall to the municipality and a significant asset to property owners (which increases in value as development occurs).

On the negative side, transferrable development rights have not been attempted in New Mexico* and there is presently no statutory basis for

*This system has been used successfully for two years in New York City, and has been recently implemented in Buffalo, New York and proposed for the State of New Jersey

the system. The State Land Use Advisory Committee is presently reviewing land use and zoning regulations to make recommendations for new statutes; the Village should make a presentation to this Committee to develop needed statutory powers. This system would also require new administrative methods and costs; a procedure for documenting the transfer of rights and enforcing the operation of the system would also be required. A complete legal and administrative study of this concept should be required as the major thrust of Phase II planning. While this alternative is clearly not ready for implementation, the consultants view it as a viable concept which should be pursued.

7.4.2 Variable Zoning: This option could be implemented under existing legal statutes and administered within the present Village Planning and Zoning structure. Variable Zoning begins with the Board converting the General Land Use Plan into three residential zoning areas. The Valley portion East of Corrales Road and the steep slopes of the Sand Hills would have the most severe density controls, and areas in the Sand Hills and west of Corrales, the least stringent regulation. The

density guidelines (e.g., one unit per acre) could be further defined as studies of ground water and flood plains were completed. This approach would begin to treat land according to its environmental characteristics rather than a blanket one-acre zone that treats all the land the same. A disadvantage of this system is that landowners in the valley would not be compensated for stricter density controls imposed on their land. The Planning and Zoning Board has the complete legal authority, however, to make these determinations based on its environmental analysis. Variances would be permitted after taking the Environmental Impact and the probabilities for neighboring development into account.

7.4.3 This option would be a continuation of the present system with two exceptions: a new unit per acre maximum standard would be established, based on the results of the water quality study and the cluster housing ordinance would be changed to a Special Use (SU-R1) Zone. All large developments of 10 acres or more, as well as persons desiring to develop at higher densities than the Village Standard, and all commercial users would be required to receive a variance from the Planning and Zoning Commission under

the Special Use process. This process would allow the Board to negotiate with developers and others to encourage development which insures health, safety and other Village goals. The developer would file an Environmental Impact Statement which should cover the following subjects:

Traffic

- a) Improvements to existing roads that will service a proposed development may be required to handle additional traffic, control dust, etc.
- b) New roads proposed to serve developments should be ecologically designed (i.e., follow contours of the land rather than plowing a straight line, be designed to compensate for blowing dust, etc.).
- c) All roads (new and existing) must be maintained to provide adequate service to users (this includes bridges over irrigation ditches, etc.)
- d) A new North/South road may be needed in the future to handle traffic from developments in the Sand Hills; developers should be required to contribute easements and other assistance.

Drainage

- a) Construction and excavation should not cause a change in the overall drainage characteristics of the site.

- b) The nature of the drainage in some areas will require the need for open pending areas on the site.
- c) New and existing drainage systems (ditches, sewers, etc.) will require maintenance.

Sewer and Water

- a) Availability of ground water rights will determine the allowable population densities of proposed developments.
- b) All septic systems must conform to strict minimum standards for effluent emission (See EIA, Environmental Health standards).
- c) If development is to include a community water and/or sewer systems, the Homebuyer's Association must be made responsible for systems on a long term basis.

Schools

- a) Developers should be required to show the impact of their project on the school system and have their analysis verified by representation of the Albuquerque Public School Board. Where pressures require additional facilities and/or housing, the developer should be required to provide feasible suggestions for the solutions to the problems created.
- b) Developers may be required to provide land for new schools or school facilities.

Recreation and Parks

- a) Developers should be required to provide areas for public recreation and parks on a percentage basis (with 10 acres developed, .25 acres must be made available for public parks or Open Space.
- b) Easements to Open Space/Recreation areas should be considered in the development plan.

Police and Fire Protection

- a) Police and fire protection as they exist now will be inadequate to serve large developments; therefore, these services will have to be expanded.
- b) Fire and police protection will be restricted to a certain area if no additional facilities or precautions are made available by the developer.

Other Considerations

- a) Restrictions on the use of poles for power and telephone lines
- b) Restrictions on animals to be kept on the site.
- c) Restrictions on setback, building height, easements, architectural style, landscaping plan
- d) Special consideration of the development's effect on agricultural operations

Commercial

- a) Setback, percentage of site used for structure
- b) Parking, traffic and pedestrian requirements

- c) Limiting commercial to centralized location and limiting architectural style in that area.

This list is a preliminary outline of the guidelines which should govern the S.U. permit. The final guidelines will have to be both thorough and detailed to be effective, but it should be remembered that these are only guidelines and not laws in the sense of restrictions written into a zoning ordinance. This does not mean that the guidelines cannot be enforced; the impact statement is a strong legal document. The Impact Statement and guidelines can be used in a flexible way to achieve the maximum benefits from a planned development while making minor compensations for increased density and development.

7.4.4 Implementing an Option: Based on the alternatives presented, the Village of Corrales should take the following action in Phase II planning:

- 1) Undertake a Water Quality and Flood Drainage Study which will provide important data in determining zoning densities and defining areas for restricted development.
- 2) Make a choice between alternatives #1 and #2 (three density zones) or alternative #3 (one density zone).

3a) If alternative #3 is picked, the following tasks must be accomplished:

- Select a figure for zoning density through the Village or wait until further technical data is available before a decision.
 - Hold citizen review meetings on the subject of density.
 - Appoint an advisory board of local residents for Special Use Permit reviews.
 - Write the new ordinances and undertake a legal review of the proposals.
- 3b) If Alternative #2 is picked, the following tasks must be accomplished:
- Analyze the technical data on water quality and flood control to delineate restricted zones.
 - Refine the Phase I General Land Use Map to specifically defined zones.
 - Hold citizen review meetings on all decisions.
 - Write new ordinances and undertake a legal review.

3c) If Alternative #1 is selected, the following action should be taken:

- Undertake a legal and administrative study of Development Rights.
- Make presentation to the State Land Use Committee.
- If the legal search does not reveal sufficient statutory basis for implementing the system, return to Alternative #2 until the State Legislature provides the needed legal basis.

-If a statutory basis is present, develop an estimate of ultimate population through an analysis of technical data.

-Follow the steps in (3b).

Note: The proposed alternatives and the schedules for implementation are not rigid. For example, the Special Use Permit process could be employed with any of the options. The Village may also wish to approve and begin to implement more than one alternative in Phase II, until improved data allows a more informed decision.

7.5 Secondary Recommendations: These recommendations should be followed under any of the major policy alternatives:

- a) no restrictions on residential style except a 26-foot height limitation and no mobile home parks allowed
- b) architectural and site planning restrictions on commercial developments
 - Southwestern Style
 - One parking space per 200 sq. ft. enclosed space
 - 26' height limitation
 - 30' setback from Corrales Road
 - no more than 50% coverage of a parcel
- c) Cottage Industry should be more specifically defined, for example:
 - The activity is clearly incidental and secondary to use of premises for a dwelling
 - No more than four employees
 - There is no nuisance to neighbors from activities, such as commercial vehicles,

inordinate traffic, noise, dust, odors, noxious fumes or other nuisances.

- d) Village should consider a setback (e.g., 15 feet) from the major irrigation channels, as well as some setbacks on the location of haystacks, outbuildings, and other storage areas.
- e) Commercial zone should be confined to the present area with a 200-foot depth limit.
- f) Require better liquid waste systems for individual homes and larger developments, as water study indicates.

7.6 Implementation and Administration of the Plan:

This plan represents Phase I of the Master Plan Process; it is a conceptual guide for the future of the Village and is intended to help create a community which meets the goals of the residents, while insuring general health and welfare. However, planning can only provide the sense of direction; implementation requires policy decision and action by the appointed and elected officials. While professionals can study, examine and recommend, the decision as to the future of any community is dependent upon the willingness of the people, represented by their elected officials, to take a stand and to see that sound principles and policies are enacted into laws.

In this section, the consultants intend to list the principles and procedures through which the Master Planning Process can continue and ultimately affect the physical development of the community.

7.6.1 Planning Principles:

- a) The Village government should build a consensus within the community on the Planning issues by emphasizing citizen review and involvement, as well as information and education campaigns.
- b) The Village should facilitate change in the future, as goals are re-evaluated and new information gathered. Ordinances and organizational structures should not be too restrictive and rigid.
- c) The Village should take advantage of the talents of citizens, using them as advisors to the Board, and members of fact-finding and policy-setting committees.

7.6.2 Planning Administration:

- a) More elaborate planning and zoning ordinances, along with future development pressures will increase the administration burden of the Village. Village Planning and Zoning has been run by citizen volunteers. The consultants recommend an even greater expansion of citizen involvement in fact-finding committees and policy boards.

As a specific example, the Village should be advised in the Special Use process by a committee of professional experts who could provide expertise to the Board in its negotiations and decisions.

- b) The Village Planning and Zoning Board also requires a full-time employee to be responsible for plan checking, zoning enforcement and general administration. This would free the Board to undertake its planning responsibilities. This employee could be assisted by the local sheriffs and the State Building Inspector in zoning enforcement.
- c) Large bond issues and taxes should be kept to a minimum; funding should be based on a project-by-project basis which would allow for clear citizen support.
- d) Funding for the Planning Administrator and other administrative costs of planning and zoning should be covered by increases in the fee schedules for building permits.

7.6.3 Plan Implementation: The Village of Corrales should undertake the following actions within six months of this plan's acceptance:

- a) The Village should distribute copies of the plan through the community and hold citizen review sessions in order to build a consensus of opinion, organize volunteer committees, and assess priorities.
- b) The Village must represent its goals and interests to outside agencies; committees should be appointed to deal with the COG on the bridge location, with the State Land Use Advisory Committee on State Land Use regulation.

- c) Study of the three Land Use Alternatives should be completed and a course of action toward a major land use policy initiated. (See Section 7.4.4).
- d) The Planning and Zoning Board should consult with the Parks and Recreation Board to arrive at a consensus for priorities and action to be presented for approval by the Village Council.
- e) The right-of-way for a paved outlet road in the Sand Hills (with easement for bike and horse trails) should be obtained. This will require consultation with Baja Corrales Association and Bernalillo County Traffic Department.
- f) The Board should appoint a committee to study and represent Corrales' interests in the location of the new river crossing and other regional transportation issues to the COG and the TCC.
- g) A proposal to the State Engineer should be made for resurfacing, shoulder improvement, and other changes to State Route 46. (100% NMSHD funding)
- h) The Board should undertake a Ground Water Study. (See Section 6.1)
- i) The Village Board should work with COG to qualify for Federal Flood Insurance and a flood identification study.
- j) Review secondary land use proposals (See Section 7.5) and draw up ordinances covering the following recommendations:
 - defining cottage industry
 - residential/commercial height limit
 - setback of residential/commercial

This will represent the end of Phase II planning and a third round of citizen review, fact gathering, proposing ordinances and action should begin. The major objectives of the third phase planning should be the following:

- a) Securing Open Space resources for the Village
- b) Implementing the Flood Plains Ordinance and zone restrictions on flood prone areas
- c) Improvements to selected East/West collector roads (See Section 5.5)
- d) Evaluating Water Quality Study and instituting strict standards for well and septic systems in conjunction with zoning controls.

7.7 Second Phase Planning Recommendations:

In accordance with the directions set forth in this report, the consultants recommend the following budget for second phase planning funds:

\$1,000	Evaluation of Water Quality Study
\$1,000	Legal Study of Development Rights
\$ 500	Land Use Information Campaign; develop a slide show and pamphlets explaining Planning and Zoning policies in English and Spanish
\$1,500	Second Phase planning consultant. Pull together new data and write ordinances

SUMMARY & APPENDIX

8.1 Goals:

- 1) Retain character of the existing Village: Corrales could become a high income, white bedroom suburb of Albuquerque with a homogeneous life style of commuters that leaves very few orchards and farms in the village.
- 2) The Village should improve the existing services--fire, police, planning, road maintenance, parks and recreation--to insure the health, safety, and welfare of the community with the minimum possible intrusion into the affairs of the residents.
- 3) Village government should take action to control future density and development, while at the same time protecting the right of each landowner to sell or retain his property.

8.2 Recommendations:

Open Space/Recreation

- 1) An active program should be undertaken to acquire open space.
- 2) An Open Space fund under the control of the Board should acquire open space lands by the following methods:
 - a) private donation
 - b) fee acquisition; option
 - c) lease-back
 - d) historical zoning (State)
 - e) Federal assistance

- 3) Open Space priorities should relate towards a shaping of the Village form; pedestrian and equestrian links should tie the Village open space lands together. The following is a list of priorities which present the most potential for open space with the least cost to the Village:

- a) Rio Grande Bosque/North end
- b) Flood ponding area of Los Montoya's dam
- c) Old Church (historical zone)
- d) Flood plain arroyos and steep slopes of the Sand Hills
- 4) Open space land with rural recreational activities (e.g., hiking) should take priority over recreational activities that require facilities and constant maintenance.

Traffic and Transportation

- 1) Village funds should not be spent on extensive road improvements--dirt roads are part of the rural character and road improvements are expensive.
- 2) The right-of-way for a paved outlet road in the Sand Hills (with easement for bike and horse trails) should be obtained. This route should be demanded as a prerequisite to Sand Hills development.
- 3) The Board should appoint a committee to study and represent Corrales' interests in the location of the new river crossing and other regional transportation issues to the COG and the TCC.

- 4) A proposal to the District, State Highway Engineer should be made for resurfacing, shoulder improvement, and other changes to State Route 46. (100% NMSHD funding)
- 5) Graveling and other less-than-paved improvements to local collector roads should be made on the traffic volume, dust control, and as a tool in shaping the growth of the Village. The following are priorities for improvements:

- a) Old Church Road and West Ella loop to State Road 46
- b) West Meadowlark Lane to Main ditch
- c) Sherrod West to the Main ditch

(These improvements may have to require new taxes or bonds.)

Utilities and Flood Control

- 1) Health and safety of the Village are largely dependent on ground water quality and flood protection.
- 2) More data is needed by governmental bodies to control development and insure the Village ground water quality. A Ground Water Study is recommended strongly to determine if, where and how much development can continue.
- 3) Strictly enforced standards for well and septic systems should be placed on areas where conditions are deteriorating. Minimum well depths, based on the study should be required.

- 4) The Village should avoid development of a community water or sewer system, if possible.
- 5) The Board should permit community water and septic systems for cluster housing, if appropriate responsibilities for maintenance are written into covenants.
- 6) The Village should work with COG to qualify for a flood plains survey and Federal Flood Insurance. This survey will form the basis of a recommended Flood Plains Ordinance.

Land Use

- 1) Institute a system of "transferrable development rights" based on the following:
 - a) An environmental study of the Village will provide an educated estimate of the ultimate population which Corrales can sustain without potential health, safety and welfare problems.
 - b) From this optimum population figure, an optimum density (units per acres) can be established for the entire Village.
 - c) From this density a system of development rights can be established. That is, each acre of land will contain a certain number or fraction of a number of development rights (this ratio is the same throughout the Village).

- d) These rights can be sold by one party to another party. This system is similar to transferrable water rights.
 - e) In addition to the "blanket" density for the entire incorporated Village there will be a zoning of maximum densities for different areas within the Village.
- 2) No restrictions on residential style, except a 26-foot height limitation and no mobile home parks allowed
- 3) Architectural and site planning restrictions on commercial developments
- a) Southwestern style
 - b) one parking space per 200 sq. ft. enclosed space
 - c) 26' height limitation
 - d) 30' setback from Corrales Road
 - e) no more than 50% coverage of parcel
- 4) Cottage Industry should be more specifically defined, for example:
- a) the activity is clearly incidental and secondary to use of premises for a dwelling
 - b) no more than four employees
 - c) There is no nuisance to neighbors from activities, such as commercial vehicles, inordinate traffic, noise, dust, odors, noxious fumes or other nuisances.
- 5) Village should consider a setback (e.g., 15 feet) from the major irrigation
- 6) channels and additional setbacks for outbuildings and storage areas.
 - Commercial zone should be confined to the present area with a 200 sq. ft. depth limit.
 - 7) Require better liquid waste systems for individual homes and larger developments, as water study indicates.

Appendix A

Index of possible sources of funding for recommended programs

Planning

Federal: *66.500 Environmental Protection Grant
Grants to aid in environmental research; possible for use to pay for impact studies.

Follow-on Assistant Program (H.U.D.)
To pay for planning costs up to 75% of total

Open Space and Recreation

Federal: 10.413 Conversion of Farmland to Recreation Loan for use to help on conversion of farm and ranch land to recreation (such as horseback riding stables)

10.414 Resource Conservation and Development Loan for use by rural communities for facilities, maintenance of public recreational facilities.

15.202 Public Land for Recreation Grant-Assistance help in acquisition of Land for public use

15.400 Outdoor Recreation-Acquisition and Development Grant for development of most types of recreational facilities

15.903 Historic Preservation funds for acquisition of historic property

*Federal Program Number.

State:

State Supplemental Land and Water Construction Fund for costs of recreation facilities (for communities under 15,000 only) up to 25% costs. Can be used to meet matching Federal grants.

State Planning Office List of Historic Buildings inclusion of buildings on this list will help in getting money for acquisition, maintenance, etc.

Traffic and Transportation

State: 50%-50% matching on project-by-project basis with Village and/or County

Municipal Arterial Program 40%-60% Village funding for local street construction for which in-kind participation is okay.

State Highway Department 100% funding for work on state roads (46)

Utilities and Flood Control

Federal: 10.418 Water and Waste Disposal Systems for Rural Communities Loans money to help develop sewer and water systems

10.419 Watershed Protection and Flood Prevention Loans for installation of facilities to drain lands, store and convey water, stabilize stream flow

14.001 Flood Insurance

15.803 Topographic Survey and Mapping Grant for mapping of unsurveyed areas

66.015 Construction Grants for Waste
Treatment money for sewage treatment
projects

State:

Water Supply Construction Fund

Solid Waste Facilities Construction
Fund money for landfill and other
waste facilities

Flood Plain Survey State Engineer
and Corp. of Engineers, 100% funding
study

Appendix B

Persons contacted for information or interviewed:

<u>Name</u>	<u>Title</u>	<u>Organization</u>	<u>City</u>
Walt Nickerson	Transportation Eng.	M.R.G.C.O.G.	Albuquerque
Pete Metzner	Planner	M.R.G.C.O.G.	Albuquerque
A. W. Gonzales	Planner	N.M.S.H.D.	Santa Fe
Larry Vigil	Engineer	D. F. Molzen	Albuquerque
D. F. Molzen	Engineer	D. F. Molzen	Albuquerque
Jon Wright	Director	E.I.A.	Santa Fe
John Robert	Director	AMAFCA	Albuquerque
Ann Rustabakke	County Assessor	Sandoval County	Bernalillo
Paul Lusk	Planner	Albuquerque Planning Dept.	Albuquerque
Alex Georgieff	Agent	E.I.A.	Albuquerque
Oscar Carter	Chairman	Board of Parks & Recreation	Corrales
Robert Stone	Planner	City Planning	Las Cruces
Al Utton	Member	Planning Board	Corrales
Pete Smith	Chairman	Planning Board	Corrales
Al Beatie	Member	Planning Board	Corrales
Phyllis Van Auken	Clerk	Village of Corrales	Corrales
Cliff Pedroncelli	Councilman	Village of Corrales	Corrales
Bill McMillan	Director, Planning	Albuq. Public Schools	Albuquerque
Bob Bergan	Director	Albuq. Public Schools	Albuquerque
Land Use Subcommittee	(10 residents)		Corrales
Citizen Task Force	(35 residents)		Corrales
R. S. Nanninger	Director	M.R.G.C.D.	Albuquerque
Neal Godwin	Director, Eng.	Rio Rancho	Rio Rancho
Frank Fine	Planner	Public Service Co.	Albuquerque
Sid Jones	Engineer	Mt. Bell	Albuquerque
Jigger Stevens	Planner	Mt. Bell	Albuquerque
A. Gonzales	Services	So. Union Gas Co.	Albuquerque
Anita Chavez	Member	Corrales Planning Board	Corrales
David Sanchez	Chairman	St. Naming Committee	Corrales
J. McDougale	Engineer	Soil Conservation Dist.	Albuquerque
Rosemary Thompson	Planner	City Planning	Albuquerque
C. R. Richards	Planner	Chambers and Campbell	Albuquerque
Walter Mourant	Engineer	U.S.G.S.	Albuquerque
Peter Montague	Environmental list	S.W. Information Center	Albuquerque

Gilbert Luna
Jim Pond

Bill Mueller
Rex King

Don Peterson
Miguel Griego
Luz Moreno
Ernest Alary
Pete Test
Brant Calkin
Albert Silva
Mike Conally

Estimator
Engineer

Planner
Planner

Planner
Resident
Resident
Resident
Engineer
Environmental
Engineer
Meteorologist

Universal Construction
Kent Nowlin Const.
Ideal Cement Co.
City Planning Dept.
City Planning Dept.
City Traffic Engineer
City Planning Dept.

Scanlon & Assoc.
Central Clearing House
Environmental Health
Air Management Division
Environmental Health

Albuquerque
Albuquerque
Albuquerque
Albuquerque
Albuquerque
Albuquerque
Albuquerque
Corrales
Albuquerque
Corrales
Albuquerque
Santa Fe
Albuquerque
Albuquerque

Appendix C

Citizen Planning Questionnaire Results:

(Sample Size = 420 respondents)

1. The major problems facing the Village of Corrales are:
(weighted averages of 4 choices)

-uncontrolled land development	70.0%
-too many people	49.7%
-poor sewage and water supply	35.3%
-poor health services	30.3%
-excessive property taxes	29.4%
-lack of stores	18.4%

2. Corrales Village should concentrate on:
(weighted averages of 4 choices)

-controlling land development to assure adequate open space	55.9%
-improving law enforcement and fire protection	41.2%
-improvement of existing roads	38.6%
-keeping the Village exactly the way it is	37.2%
-developing public recreation areas	27.3%
-developing water and sewage systems	25.1%
-paving new and existing roads	19.3%
-opening another main road	15.7%

- a. Should the Village maintain itself as a farming and rural community?

Yes	No
93.5%	6.5%

- b. Should the Village encourage federally subsidized low income housing?

13.0%	87.0%
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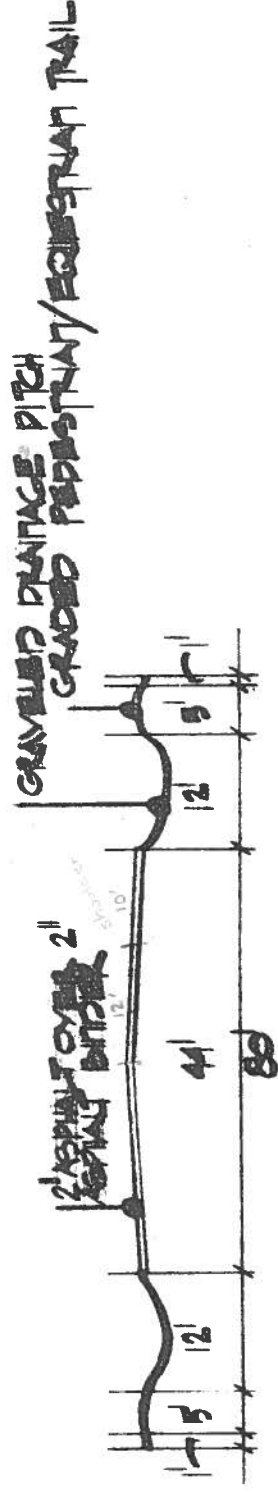
c.	Should the Village encourage new businesses and commercial developments?	<u>Yes</u>	<u>No</u>			
		17.2%	82.8%			
d.	Should the Village permit mobile home or trailer parks?	17.1%	82.9%			
e.	Should the Village control the type and style of new homes?	33.8%	66.2%			
f.	Should the Village control the type and style of commercial buildings?	71.7%	28.3%			
g.	Should the Village have a tax system for community improvements?	43.5%	56.5%			
h.	Should the Village permit mobile homes on individually owned land?	58.6%	41.4%			
i.	Should the Village permit apartments or other multi-family housing developments?	21.1%	78.9%			
4.	Subdivision of land for homes:					
	-should not be limited	8.6%				
	-should be limited to 1/2 acre lots	14.8%				
	-should be limited to 1-acre lots	60.3%				
	-should be limited to 2-acre lots	14.8%				
	-should be limited to 5-acre lots	1.5%				
	Total	<u>100.0%</u>				
5.	Where are you employed?					
	Albuquerque	77.9%	Corrales	20.1%	other	2.0%
6.	How many vehicles are owned and operated in your household?					
	1	19.5%	4+	8.0%		
	2	51.3%	Total	100.0%		
	3	21.2%				

7. Do you own (88.9%) or rent (11.1%) your home?

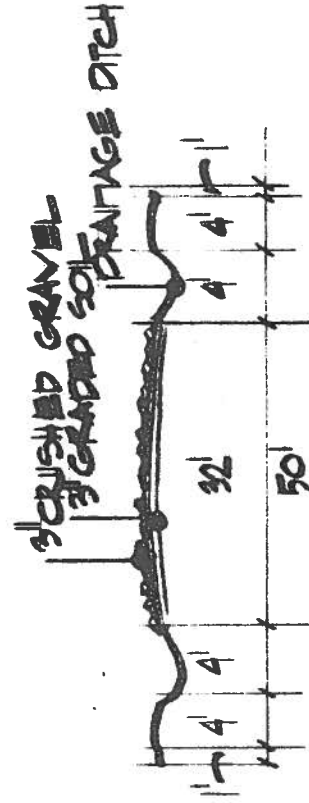
8. What do you expect to be doing with your land between now and five years from now?

-build a new home or put on an addition to my present home	22.4%
-keep the land just as it is now	45.9%
-farm the land	25.4%
-sell part of my land	2.9%
-sell all of my land	2.2%
-subdivide and develop my own land	<u>1.2%</u>
Total	100.0%

STANDARDS for ROAD CROSS SECTIONS



STANDARD



IMPROVED
COLLECTOR

June 14, 1974

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