
HARDROCK CHAPTER COMPREHENSIVE COMMUNITY-BASED LAND USE PLAN



Adopted by the Hardrock Chapter Membership
pursuant to the
Local Governance Act (26 N.N.C)
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Table of Contents

1	INTRODUCTION.....	1
1.1	OVERVIEW	1
1.2	PURPOSES AND NEEDS.....	1
1.3	VISION.....	1
1.4	SCOPE	1
1.5	IMPLEMENTATION.....	2
1.6	BACKGROUND.....	2
1.7	AUTHORITY	2
1.8	ISSUES.....	2
1.9	PLANNING PROCESS.....	3
1.10	COMMUNITY PARTICIPATION PLAN.....	4
2	COMMUNITY ASSESSMENT	5
2.1	INTRODUCTION	5
2.2	LAND USE	6
2.3	DEMOGRAPHICS	7
2.4	HOUSING	8
2.5	AGRICULTURE.....	9
2.5.1	<i>Grazing</i>	9
2.5.2	<i>Farming</i>	10
2.6	ECONOMIC DEVELOPMENT.....	10
2.6.1	<i>Commercial</i>	10
2.6.2	<i>Industrial</i>	10
2.7	COMMUNITY FACILITIES.....	11
3	HARDROCK LAND SUITABILITY ANALYSIS.....	12
3.1	INTRODUCTION	12
3.2	SLOPES.....	12
3.3	SOILS	12
3.4	VEGETATION.....	13
3.5	WATER RESOURCES	14
3.5.1	<i>Surface Water</i>	14
3.5.2	<i>Ground Water Resources</i>	14
3.6	TRADITIONAL AND CULTURAL AREAS.....	15
3.6.1	<i>Cultural Resource Protection Laws</i>	15
3.6.2	<i>Past Human Occupation</i>	15
3.6.3	<i>Records Search</i>	16
3.7	ENVIRONMENTALLY SENSITIVE AREAS	16
3.7.1	<i>Wetland Protection</i>	17
3.7.2	<i>Floodplains</i>	17
3.7.3	<i>Earthquake Hazards</i>	17
3.7.4	<i>Threatened and Endangered Species</i>	17
3.7.5	<i>Scenic Areas or Unique Natural Features</i>	18
3.8	CONCLUSION.....	19
4	INFRASTRUCTURE ANALYSIS.....	20
4.1	INTRODUCTION	20
4.2	WATER.....	20
4.2.1	<i>Existing</i>	20
4.2.2	<i>Future</i>	20
4.3	WASTEWATER.....	20
4.3.1	<i>Existing</i>	20
4.3.2	<i>Future</i>	21

4.4	ELECTRIC UTILITIES.....	21
4.4.1	Existing.....	21
4.4.2	Future.....	21
4.5	TELECOMMUNICATIONS.....	21
4.5.1	Existing.....	21
4.5.2	Future.....	22
4.6	ROADS.....	22
4.6.1	Existing.....	22
4.6.2	Future.....	22
4.7	CONCLUSION.....	22
5	COMPREHENSIVE PLAN.....	23
5.1	INTRODUCTION.....	23
5.2	GENERAL LAND USE PLAN.....	23
5.3	COMMUNITY FACILITIES PLAN.....	24
5.3.1	Community Facilities.....	25
5.3.2	Utilities.....	26
5.3.3	Solid Waste Management.....	27
5.4	THOROUGHFARE PLAN.....	27
5.5	OPEN SPACE PLAN.....	28
5.6	HOUSING PLAN.....	28
5.7	ECONOMIC DEVELOPMENT PLAN.....	29
5.8	NATURAL RESOURCE PROTECTION PLAN.....	30
6	IMPLEMENTING THE PLAN.....	31
6.1	INTRODUCTION.....	31
6.2	ZONING.....	31
6.3	MONITORING AND ENFORCEMENT.....	32
6.4	ADOPTION OF OTHER ORDINANCES AS NECESSARY.....	32
6.5	UNDERSTANDING THE LEGAL FRAMEWORK.....	32
6.6	PUBLIC EDUCATION.....	33
6.7	CONCLUSION.....	33

LIST OF TABLES

- 1-1. Schedule of Public Meetings
- 2-1. Summary of Land Withdrawals
- 2-2. Population Trends
- 2-3. Age Distribution
- 2-4. Population Composition
- 2-5. Employment and Income
- 2-6. Occupied Housing Units
- 2-7. Major Employers
- 2-8. Education Levels for 25-Years of Age and Older
- 2-9. Existing Community Facilities
- 3-1. Well Data
- 3-2. TES Species and Habitat Requirements

LIST OF FIGURES

- 1. General Land Use Planning Process
- 2. Public Hearing Held at Senior Center
- 3. Hardrock Chapter Location Map
- 4. Great Basin Desert Scrub

PLATES:

1. Soils
2. Slopes
3. Native Vegetation
4. Surface Waters and Wells
5. Environmentally Sensitive Areas
6. Optimal Growth Model
7. Infrastructure
8. Existing and Future Land Use

1 INTRODUCTION

1.1 OVERVIEW

Hardrock Chapter's Comprehensive Community-Based Land Use Plan (CCBLUP) is a statement about the desired future of the community. It is considered a comprehensive plan because it emphasizes the relationships among a number of individual plans including, (1) *General Land Use Plan*, (2) *Community Facilities Plan*, (3) *Thoroughfare Plan*, (4) *Open Space Plan*, (5) *Housing Plan*, (6) *Economic Development Plan* and (7) *Natural Resource Protection Plan*. Each plan contains long range goals and short-term implementation policies based on the issues and needs confronting the community. Implementation of this plan will occur through the adherence to the policies and through adoption of future zoning ordinances.

1.2 PURPOSES AND NEEDS

The following are the purposes and needs of the Hardrock Chapter CCBLUP:

- Address issues confronting the community
- Coordinate the public health, safety and welfare of the residents
- Meet the requirements and purposes of the Local Governance Act (LGA); Title 26 of the Navajo Nation Code (26 N.N.C.)
- Provide for efficient expenditure of public funds
- Provide for a continual citizen involvement

1.3 VISION

Hardrock Chapter's vision is to promote organized growth, while maintaining a clean, safe and healthy environment and enhancing rich and strong Dine' traditions. The Chapter's priorities are to: (1) assert the Chapter government's authority under LGA (2) create a more stable and self-sufficient social and economic environment, (3) improve the range lands and encourage farming, and (4) establish more involvement and cooperation among the members of the community.

1.4 SCOPE

Hardrock Chapter shares its boundaries with the Hopi Tribe, Pinon Chapter and Forest Lake Chapter. The geographic scope of the CCBLUP includes all areas within the boundaries of the Hardrock Chapter including former areas of the Chapter now known as the Hopi Partition Lands (HPL). While the Navajo Nation and the Chapter lack jurisdiction for some civil actions on HPL, this plan provides recommendations for the HPL area since a number of Chapter members continue to reside there. The CCBLUP planning range is 20 years. However, the plan will need to be adjusted every five years to meet the changing political, social and economic conditions.

1.5 IMPLEMENTATION

Implementation of the CCBLUP will involve converting policies presented in Chapter 5 into local regulations or zoning ordinances and translating future land use maps into zoning maps. The policies provide the framework for future zoning ordinances. Zoning ordinances and other implementation recommendations are more fully discussed in Chapter 6.

1.6 BACKGROUND

On December 23, 2001, Hardrock Chapter membership passed a resolution (HR-120108) establishing the Comprehensive Land Use Planning (CLUP) Committee, hereafter referred to as the "Committee." The resolution identified six individuals to serve on the Committee. *ETD, Inc.*, of Flagstaff, Arizona, was hired to lead the land use planning process and prepare the CCBLUP. From April 2002 to April 2003, the Committee and the Consultant held monthly workshops as the draft CCBLUP was developing. From April 2003 to December 2003, the Committee held a number of public meetings to present the draft CCBLUP and receive comments. The Consultant continued to refine the CCBLUP based on the public comments. On January 26, 2004, the Chapter membership approved and adopted the CCBLUP through Resolution HR-01047.

1.7 AUTHORITY

The authority to develop and implement a CCBLUP is granted under the LGA (26 NNC) passed by the Navajo Nation Council on April 20, 1998 (Resolution CAP-34-98). The LGA enables chapters to develop a local government that meets their needs. There are a broad range of benefits associated with this authority, including the right to enter into direct governmental agreements with Federal, State, Navajo Nation, and Hopi Tribal agencies and to generate revenue through a local taxation ordinance established by the chapter. The LGA also calls for chapters to govern with responsibility and accountability. Where land is concerned, chapter governments will be able to issue homesite and business-site leases, develop a local grazing management plan, and acquire or sell properties of the chapter. Chapter governments, however, will find it necessary to adopt zoning ordinances consistent with this plan, including language that spells out the procedures for amending the land use plan.

1.8 ISSUES

During the initial planning efforts, the Committee identified a list of issues that greatly concern the community. These issues later became the focus of the plan:

- The Chapter lacks water delivery systems for domestic and wells for livestock uses, especially during drought
- The Chapter lacks an adequate Chapter house/community facility, which translates to lack of human services
- There are land use conflicts among residents such as local livestock owners and sponsors of projects seeking land withdrawals
- The Chapter road system is inadequate, including unfinished Turquoise Trail and unpaved dirt roads

- Many families lack housing or have not had their housing construction completed, and many home need improvements
- The Chapter lacks a legal solid waste disposal mechanism for the community
- The rangelands are deteriorating and there are no approved grazing regulations
- There are a number of issues concerning unfulfilled agreements with the Federal Office of Navajo Relocation Commission, the Navajo Gospel Mission and other lessees
- The telecommunication system is inadequate, especially for emergency purposes
- The Chapter lacks economic development, which translates to lack of basic goods and services, local jobs and local tax revenues
- There is a need for community healing (mental and physical healing programs) due to the Federal relocation policy and subsequent related policies
- Many homes lack electric utilities and alternative energy sources
- There is a need to upgrade the existing school facility at Rocky Ridge
- There is a need to improve relationship with Hopi Tribe to address the needs on the HPL

1.9 PLANNING PROCESS

The land use planning process involved the development and completion of six steps (Figure 1-1):

1. *Community Participation Plan* presented in section 1.9
2. *Community Assessment* presented in Chapter 2
3. *Land Suitability Analysis* presented in Chapter 3
4. *Utility Infrastructure Analysis* presented in Chapter 4
5. *Comprehensive land use plan* presented in Chapter 5
6. Recommendations to Implement the CCBLUP presented in Chapter 6

These steps did not necessarily follow the order presented. Some steps were rechecked and reworked as additional information became available.

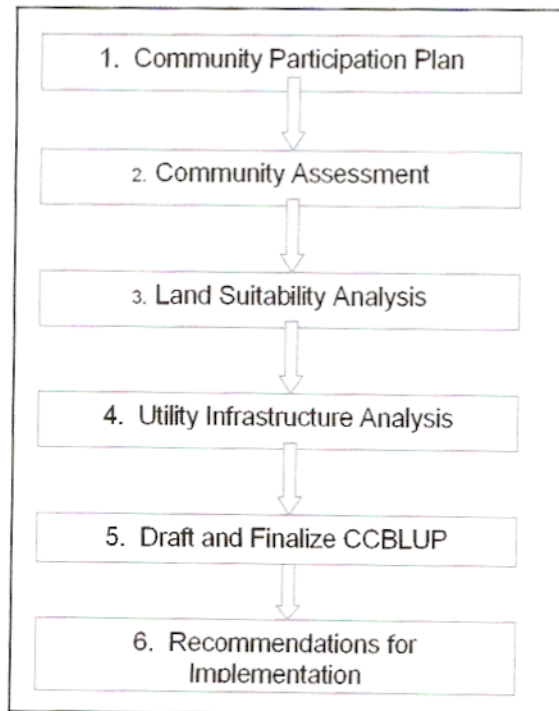


Figure 1-1 General Land Use Planning Process

1.10 COMMUNITY PARTICIPATION PLAN

A *Community Participation Plan* was developed to increase public involvement. The plan involved a door-to-door survey, public meetings and presentations, radio announcements and flyers. The door-to-door survey was conducted in June and July 2002 at 136 households, or approximately 1/3 of the total housing units. The purpose of the survey was to identify issues, concerns and solutions for a variety of topics, including housing, economic development, grazing, and rangeland management, public facilities, roads, utility infrastructure, and Chapter leadership. The results of the survey have been incorporated into Chapter 2, *Community Assessment*.



Figure 1-2. Public hearing held at the Senior Center.

Throughout the planning process, the Committee provided a number of presentations at Chapter meetings and public meetings. These meetings were announced in the Community Calendar section of the Navajo Times and KTNN, KAFF, KUYI, and KFLX radio stations. The CLUP Committee boosted attendance to these meetings by sponsoring hot meals donated by Committee members. Other community education efforts involved flyers highlighting project status, issues, goals and policies, and proposed land use design. Meeting dates and topics are summarized in Table 1-1.

Table 1-1. Schedule of Public Meetings

MEETING DATE	PRESENTATION ITEMS	PRESENTERS
June 24, 2002	Purpose, need and benefits of land use plan	Willard Benward, Committee President
August 26, 2002	Results of community survey	
November 28, 2002	Proposed future land use goals	Dan Herder, Committee Member
January 27, 2002	Revised land use goals and policies	Louise Sheppard, Committee Member
April 17, 2003	Draft land use plan	Larry Yazzie, Committee Member
October 27, 2003	Draft land use plan	
November 26, 2003	Final land use plan	Deswood Yazzie, Committee Member
December 26, 2003	Final land use plan	Percy Deal, Committee Member
		Colleen Biakeddy, Committee Member
January 26, 2004	Request for Chapter resolution approving the plan	Eunice Tso, Consultant

2 COMMUNITY ASSESSMENT

2.1 INTRODUCTION

Hardrock Chapter lies within the Chinle Agency of the Navajo Nation, in Navajo County of northeastern Arizona (Figure 2-1). The Chapter's planning area is 78,100 acres, or about 122 square miles. Prior to the *Navajo-Hopi Land Settlement Act* of 1974 (P.L. 93-531), the Hardrock Chapter had three times its current land base. The area that reverted to the Hopi Tribe is referred to as the HPL. The area within the Chapter boundaries is referred to the Navajo Partition Lands (NPL). While the Chapter does not have civil jurisdiction in the HPL, this CCBLUP addresses the issues of the HPL Navajo residents who reside there and continue to participate and vote at Hardrock Chapter. Neighboring Chapters include Forest Lake and Pinon located north and east of the Chapter.

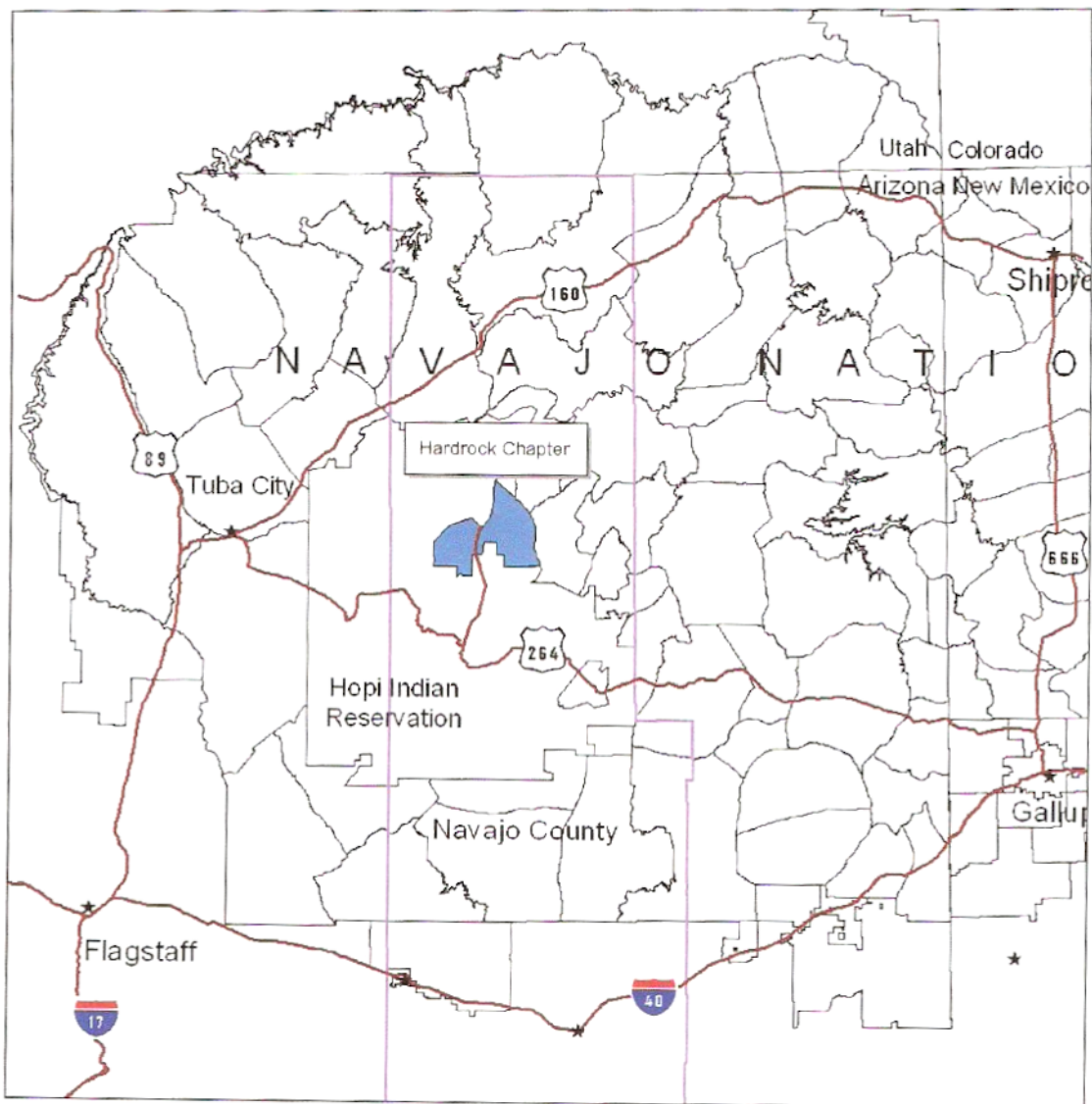


Figure 2-1. Hardrock Chapter location map.

2.2 LAND USE

For nearly 50 years, the Chapter experienced various land development restrictions and land reductions. In the early 1960s, the Federal District Court effectively halted all forms of community development in the former Joint Use Area (JUA) until the Navajos and Hopis could resolve their land disputes. As a result, no homes, roads and public facilities projects were built for nearly 20 years. Indirectly, the U.S. Government placed social and economic sanctions on the entire Chapter.

In 1974, the greatest impact began when the federal government partitioned the former JUA into the Navajo Partition Lands (NPL) and the HPL as a result of the *Navajo-Hopi Land Settlement Act of 1974* (P.L. 93-531). Approximately 10,000 Navajos were relocated from the HPL. On top of the Chapter losing nearly three-fourths of its original land base, about 140 families were relocated to NPL portion of Hardrock Chapter. This resulted in a number of problems, including less grazing lands for those who were accustomed to larger herds and grazing areas. Twenty six families reside on the HPL through Accommodation Agreements between the Hopi Tribe and individual families.

Land use categories in Hardrock Chapter include residential developments, public/government facilities, a single commercial establishment and open spaces managed as rangelands. The primary thoroughfare is Turquoise Trail, which extends from Highway 264 south of the Chapter to the center of the Chapter. Secondary roads include a number of Bureau of Indian Affairs (BIA) service routes (N-8031, 8027, and 8029) that provide access to most areas of the Chapter. BIA maintains these roads for bus service. N-8027 is scheduled to be paved by BIA in the future.

The Chapter House and other public facilities (i.e., administration building, senior center, pre-school, warehouse and storage building) are located near the southern end of the Chapter compound. Adjacent to the Chapter compound is the 23-acre Navajo Gospel Mission site. The lease agreement between the Nation and the Mission is a contentious issue among local residents because they feel the Mission did not live up to their agreement, which identified community services that have not come to fruition. Other developments include the Rocky Ridge School, Rocky Ridge General Store and about 375 scattered homesites. Land withdrawal information is summarized in Table 2-1.

Table 2-1. Summary of Land Withdrawals

LAND WITHDRAWAL	APPROXIMATE ACREAGE	LEASEE
Chapter House Complex	6	Chapter
Rocky Ridge School	10	BIA
Hardrock Gospel Mission	23	Ameritribes, Inc.
Churches (4):	2 ea.	Private individual
Rocky Ridge Store	5.5	Private individual
Homesite leases	375 (based on number of homes)	Private individual
Roads	50 (primary roads only)	BIA

2.3 DEMOGRAPHICS

Hardrock Chapter lies in the heart of the Navajo Nation. The population of the Chapter in 2000 was 1,256 according to the U.S. Census Bureau. Ninety-eight percent of the population was Native American. About 52% of the population was 24 years or younger. The average annual growth rate for the previous 10 years was about 1.66 percent. Based on this growth rate, the projected population for the years 2010 and 2020 are 1,492 and 1,746, respectively. In comparison, the Navajo Nation's annual growth rate was about 2.5%.

According to the 2000 census data, there were about 331 households with an average household size of 3.8 persons. The Chapter believes that the current number of homes is about 375 housing units based on the information from the *Hardrock Chapter Housing Plan* (Southwest Marketing 1993) and housing construction information for the past 10 years.

The median household income was \$21,136 in 2000 and the per capita income was \$7,578. The unemployed workforce was 25.2 percent. The major employers were and continue to be the Rocky Ridge School and the Navajo Nation Government.

Education levels were lower than the national standards. Sixteen percent of adults 25 years-and-older had no formal education. Eighteen percent of the population 25 years-and-older had a high school diploma. About 2.5% had a college degree. Tables 2-2 through 2-8 provide detailed demographic data based on the 2000 census data.

Table 2-2. Population Trends

1980	1,220
1990	1,065
2000	1,256
2010 *	1,492
2020 *	1,746

* based on 1.66% growth rate

Table 2-3. Age Distribution

AGE GROUP	POPULATION
0-14	453
15-24	207
25-44	284
45-64	199
65 and older	113

Table 2-4. Population Composition

RACE	PERCENT
American Indian	97.9
White	2.1
Other	<0.1

Table 2-5. Employment and Income*

Unemployment	25.2%
Per capita income	\$7,578
Median household income	\$21,136
Median family income	\$23,992

Table 2-6. Occupied Housing Units

Total occupied housing units	331
Owner occupied housing units	315
Renter occupied housing unit	16
Average household size	3.79
Households with people 18 years and under	177
Households with 65+	94

Table 2-7. Major Employers

NAME OF EMPLOYER	NUMBER OF EMPLOYEES
Rocky Ridge School	42*
Rocky Ridge General Store	4
Navajo Nation-Public Service Programs	20
Navajo Gospel Mission	2

* including 35 seasonal (nine-month) positions

Table 2-8. Education Levels for 25 Years of Age and Older

SCHOOLING	NUMBER
None	99
K-12 no diploma	203
H.S. Diploma	138
Associates Degree	28
Master's Degree	6
Doctorial Degree	0

2.4 HOUSING

The housing stock in 1993 consisted of 355 housing units (258 modern homes, 13 mobile homes and 84 traditional homes) according to the *Hardrock Chapter Housing Plan (Southwest Planning and Marketing 1993)*. Since the housing plan was completed, about 20 additional homes were built. Forty percent of the housing units in Hardrock Chapter were built by the Office of Navajo Hopi Indian Relocation Program between 1981 and 1990.

The majority of the homes evaluated in *Hardrock Chapter Housing Plan* were considered to be substandard. About 47% of these homes needed weatherization; 39.5% needed minor repairs; 21.1% needed major rehabilitation; 20.8% needed replacement; and 3.7% posed an

immediate hazard. Many of these homes lacked water, sewer, electricity, and adequate insulation. Only 45% of the homes had both water and electricity; 14% had only electricity; 10% had running water; and 31% had no utilities. On the HPL, there are 27 occupied homes, many of which are traditional homes in need of repair.

The community survey revealed that many families lack adequate housing. About 80% of the households surveyed had at least one member who was in need of housing (including household members who currently reside outside the Chapter for work, school or other reasons). The survey further revealed 83% of those who needed housing had less than \$10,000 in yearly income; 13% had yearly incomes ranging from \$10,000 to \$20,000; and 4% had incomes above \$20,000.

When asked about the condition of the home, 83% indicated their home was in need of some type of repair and 80% revealed their home was not large enough. The average household size was 3.79 in the year 2000, which was higher than the Navajo Nation's average at 3.5 and the U.S. at 2.5.

As indicated in Table 2-2, population projections for the years 2010 and 2020 are 1,492 and 1,746, respectively. Based on these figures, about 62 new homes would be needed by 2010 and 129 by 2020 to meet the housing demand, based on the projected population growth divided by the average household size. As for the type of future housing developments, only 11% of households surveyed believed that future housing developments should occur in subdivisions, 41% preferred only scattered housing developments, 36% preferred both, and 11% preferred cluster-family housing developments. Scattered dwellings are the traditional lifestyle of the Navajo people.

2.5 AGRICULTURE

2.5.1 Grazing

Unsettled land ownership of the Joint Use Area (JUA) in the 1960's, prompted the U.S. District Court to order the Bureau of Indian Affairs (BIA) to cancel and seize all livestock permits. This federal livestock reduction policy removed approximately 80% to 90% of all livestock in the years between 1970 and 1990. These permits were never reissued. Most families in Hardrock Chapter, however, continue to raise livestock, since this is the only lifestyle they know. The Chapter's Grazing Officer estimates 3,000 animal units currently graze within the Chapter's NPL and HPL area.

The NPL areas of the Chapter extend into all or parts of four grazing units (303, 305, 306 and 307). NPL grazing regulations have been promulgated by BIA and recently published in the Federal Register. When formally adopted, these regulations will identify the process to be used by BIA for reissuing permits and monitoring grazing activities. Ranchers within the NPL believe these new regulations will not allow all current livestock owners to have livestock permits, and it will greatly limit the number of animal units currently grazing in NPL. As a result, these regulations will have a significant social and economic impact on the community.

HPL areas include all or parts of five grazing units (257, 259, 260, 261 and 262), which are regulated by the Hopi Tribe's grazing ordinance (Ordinance 43). Navajo families located on HPL may apply for grazing permits under the Hopi Tribe's Ordinance 43. Up to 2,800 sheep units year long (SUYL) are allowed to graze in the entire HPL under Ordinance 43.

The community survey revealed 61% of the households from both NPL and HPL areas raise livestock, and 30% indicated their livestock provides or supplements their household income. When asked about problems associated with livestock and grazing most identified, overgrazing and poor range conditions, lack of education about proper range management and current drought conditions. Ninety-four percent indicated support for stricter livestock management controls.

2.5.2 Farming

No large farming or irrigated farming activities occur within the Chapter; however, there are many families that have small farms. According to the survey, about half of the Chapter residents have a small farm where they grow primarily corn, squash, melon, apricots, sunflower seeds, wheat, peaches, potatoes, and asparagus. Other residents have expressed an interest in farming, but their job, current land conditions and land restrictions were their most frequently cited reasons for not establishing a farm.

2.6 ECONOMIC DEVELOPMENT

2.6.1 Commercial

The Rocky Ridge General Store is the only commercial establishment in Hardrock Chapter; yet the community survey revealed that Chapter residents desire additional commercial developments. Eighty-three percent of the households surveyed want commercial establishments, such as a laundromat, auto parts and repair shop, gas station, grocery store, vendor center/visitor center, office space, and restaurant. The survey also indicated support for a child care center, feed store, green house service, building supply store, and natural wool product factory.

As for the number of acres that should be designated for commercial development; 30% desire 100 acres or more; 26% desire about 50 acres; 39% desire about 10 acres; and 4% desire about 2.5 acres. Thirty seven percent want commercial establishments located near the Chapter House; 55% want commercial establishments located along the Turquoise Trail; and 8% were unsure.

At present, reservation border towns, such as Flagstaff, Arizona, and Gallup, New Mexico, benefit from taxes paid by Navajo residents when they leave the reservation to buy groceries, gas, clothes, car repairs and other daily needs. Future economic development can bring money back to the Chapter in the form of tax revenues and employment opportunities.

The survey revealed that over half of the households have at least one member who desires employment. Their jobs skills include clerical, secretarial, commercial driving, carpentry, computer technology, cashier, child care, elderly care, construction labor, artisan, social work, Navajo rug weaving, and auto repair.

2.6.2 Industrial

There are no industrial developments within Hardrock Chapter. However, the community survey revealed that Chapter residents support future clean-industries, such as water bottling, wool products, tool shop and herb nurseries.

2.7 COMMUNITY FACILITIES

The Chapter House and nearby buildings are the hub of local public service programs. Such programs include food distribution, senior care, relocation services, substance abuse and preschool education. Other community facilities include Rocky Ridge School and local churches. There are plans underway to develop a recreation area in and around the Chapter House complex that will be tied to a new diabetes program. In addition, the Rocky Ridge School is discussing future recreational amenities within the school compound.

According to the community survey, the current community facilities in Hardrock Chapter are insufficient to meet the needs of the community. The Chapter lacks a public safety facility and an emergency medical establishment. The nearest police station is located 65 miles away in Chinle, Arizona and the nearest medical facility is 25 miles away in Polacca, Arizona.

The Chapter House administration/meeting facility is considered inadequate. The original Chapter House was deemed substandard in January 2000 by Indian Health Service, Office of Environmental Health, due to mold conditions. The Chapter now utilizes an administration building as the Chapter's meeting space, which is less than ¼ of the original meeting space.

A new multipurpose facility is needed to provide adequate space for Chapter meetings and existing service programs, as well as new public programs. Residents have also expressed their desire for additional public facilities including an emergency medical facility, youth center, long-term senior care center, park and recreation area, and rodeo/powwow grounds. Table 2-10 summarizes the current public facilities and programs within the Chapter.

Table 2-10. Existing Community Facilities

FACILITY	SIZE AND CAPACITY	OPERATOR	PROGRAM(S)
Old Chapter House	2,400 sq. ft.	Hardrock Chapter	No longer in use
Administration Building	1,500 sq. ft.	Hardrock Chapter	Office Administration and Computer Lab
Service Provider's Office	1,900 sq. ft.	Hardrock Chapter/Navajo Division of Health and Social Services/Navajo Food Distribution Program	Summer Youth Employment (SYE) Public Employment Program (PEP) Community Health Representative Women, Infants and Children (WIC) Adult In-home Care, Counseling Donated Foods
Head Start	3,350 sq. ft.	Navajo Dept. of Head Start	Preschool education
Senior Center	4,032 sq. ft.	Navajo Dept. of Aging	Meals/Transportation/Health
Churches	-	Private operators	Private
Rocky Ridge School	40,000 sq. ft.	BIA	K-8
Navajo Hopi Land Commission	720 sq. ft.	Chapter	Relocation Assistance

3 HARDROCK LAND SUITABILITY ANALYSIS

3.1 INTRODUCTION

A land suitability analysis was conducted to direct future development to the most suitable areas of the Chapter. This analysis was based on the physical characteristics of the Chapter's land base including slopes, soils, vegetation, water resources, and environmentally sensitive areas shown in **Plates 1 through 5**. In addition, Federal and Tribal laws, rules and policies that protect various resources were considered in the analysis that restricts areas from development. Areas with physical or legal restrictions were removed from consideration during the development of future land use map.

Two future community development sites within the Chapter boundary are envisioned: (1) a 30-acre parcel for commercial, public facilities and residential located adjacent to the Rocky Ridge School along N-8031; and (2) a 10-acre tract to be used for an upgraded sewer lagoon and a solid waste transfer station. The ten-acre tract is already being used as for a sewer lagoon and there is a nearby unregulated solid waste dump site. The Chapter is also proposing a Chapter house/multipurpose facility within the existing Chapter house complex which has already been withdrawn.

In addition, the Chapter is considering future commercial development outside the Chapter's boundary on HPL along the Turquoise Trail, which would require a lease agreement with the Hopi Tribe. These future community development areas are considered optimal growth areas according to **Plate 6-Optimal Growth Model**.

Future scattered housing are not specifically identified in this CCBLUP, but the scattered housing policies presented in Chapter 5 encourage that future scattered housing developments occur along the main roads and utility right-of-ways and away from environmentally sensitive areas.

3.2 SLOPES

The western and eastern parts of the Chapter have steep slopes defined by ridges, mesas and dramatic canyons, while the central area is characterized by gently sloping valleys. Slopes are important considerations when planning for housing and other developments. Slopes ranging between zero to five percent are considered ideal for most developments. Future community development sites are located within this slope range (see **Plate 1-Slopes**). Slopes in excess of 15% can create construction problems and drive up the cost of site preparation, construction and management. These areas have been eliminated from consideration for future development. Slopes ranging between 5% to 15% are not as restrictive and can support a limited amount of development.

3.3 SOILS

The characteristics and distribution of soil types in the planning area affect the use and management of the land and the quality of the surface water, air, and forage. Soil characteristics are important considerations when siting construction activities, since some soils pose limitations.

Soils in the planning area are divided into two main associations shown in **Plate 2-Soils**. Soils in elevations above 6,000 feet are classified as the *Lithic Torriorthents Lithic Halpargids Rock Outcrop* association (Hendricks 1985). This association contains soils that are shallow, gravelly and cobbly, moderately coarse-to-fine in texture and/or soils located on rock outcrops and moderately sloping to very steep hills and mountains. Factors limiting the potential of these soils for community development areas are steep slopes, shallow depth, and bedrock and rock fragments on the surface. While these soil conditions pose limitations for construction of community facilities and homes, certain areas can be suitable for campgrounds and hiking trails.

Soils in elevations below 6,000 feet are part of the *Fruitland-Camborthids-Torrfluvents* association. This association is characterized by soils that are shallow to deep-and-moderately coarse to moderately-fine in texture and consists of well-drained soils on the hilly upland plains. The plains are broken by occasional steep-sided drainageways and scattered buttes. These soils have good potential for homesites and community development. With proper range management techniques, this association can also sustain low-to-fair forage production for livestock. Precipitation, and not soil condition, is the major factor limiting forage production in the area.

3.4 VEGETATION

Hardrock Chapter is divided into three distinct native vegetation areas and biotic communities shown in **Plate 3-Vegetation**: the *Great Basin Conifer Woodland* community, *Plains and Great Basin Grassland* and the *Great Basin Desertscrub* communities (Brown 1982).

The highest elevations of the Chapter are part of the *Great Basin Conifer Woodland* community where the average precipitation is above eight inches per year. This cold-adapted evergreen woodland is characterized by the dominance of juniper and pinyon pines. Other vegetation includes various grasses, sagebrush, shrubs, and cacti.

The lower elevations are part of the *Plains and Great Basin Grassland* and the *Great Basin Desertscrub* communities (Brown 1982). Precipitation averages below eight inches per year.

The vegetative community of the *Plains and Great Basin Grassland* is dominated by various grasses, shrubs and cacti. The *Great Basin Desertscrub community* is dominated by various sagebrush, shadscale, grasses, and blackbrush plants. These vegetative communities do not restrict community development. However, in the Little Spot Mountain area, the woodland community provides vital habitat for many animal species, including threatened and endangered or sensitive (TES) species protected by law.



Figure 2-2. Plains and Great Basin Grassland

3.5 WATER RESOURCES

Water resources are sacred to the Navajo People who hold the philosophy that “water is life,” which has deep cultural and religious significance. Teachings, culture and philosophy of life for the Navajo People are based on four elements, including water. Offerings are made to natural water sources (e.g., springs, rivers, oceans) to ensure continued existence, health and sustainability of life. Prayers and songs concerning water are conducted and kept in trust by elders and medicine people for the health, well-being, and longevity of the people and future generations. The livelihood of the Navajo People, including but not limited to farming, raising livestock, and hunting are dependent on reliable sources of water. Water resources are generally protected by Federal and Tribal laws, rules and policies. These requirements include buffer zones along streams and surrounding wells.

3.5.1 Surface Water

Hardrock Chapter rests on the southern flank of Black Mesa, a large moderately dissected highland that occupies the structural center of Black Mesa basin (Cooley et al. 1969). The Chapter is drained by Dinnebito Wash and Oraibi Wash as shown in **Plate 4-Surface Water and Wells**. These washes flow southwestwardly toward the Little Colorado River. These streams are intermittent, meaning that they generally flow only in response to intense precipitation events. Perennial waters, or water that flow year around, consist of several small, isolated springs in the eastern part of the Chapter.

Clearing and shaping of the land during construction or development activities can alter the natural surface drainage patterns. This can result in soil erosion, stream siltation, water quality degradation in nearby streams and drainages, and alter critical habitat of TES species. The *Navajo Nation Aquatic Resource Protection Program* (NNARPP) recommends protective buffer zones along each stream bank to protect against such adverse impacts, ranging from 25 to 200 feet, depending upon the stream category. Dinnebito and Oraibi washes are Category II Streams entitled to 100-foot protective buffer zones on each bank. Future developments shall meet this requirement according to this plan.

3.5.2 Ground Water Resources

While surface water is relatively scarce in this region, sufficient ground water resources occur in this area, which are available for community development. Ground water resources are protected by the Safe Drinking Water Act (P.L. 93-523), which prohibits federal agencies from funding projects that may contaminate a sole-source aquifer. The Navajo aquifer is the main aquifer in the region and the sole-source aquifer for Hardrock Chapter. Consequently, Chapter members would like to see it protected as a sole-source aquifer. To this end, members of the Chapter passed resolutions in June 2001 and April 2002 requesting the Navajo Nation to end the pumping of the aquifer for coal-slurrying activities conducted by the nearby Peabody Coal Mining Company. Chapter members feel that such use of the aquifer is unwise as it depletes the sole-source aquifer and immoral as it goes against the “water is life” philosophy.

There are about 13 wells in Hardrock Chapter according to the Navajo Nation’s Water Management Branch. Well locations are shown in **Plate 4-Surface Water and Wells** and well data is presented in Table 3-1. While this data has been shown to be somewhat outdated, it does illustrate that several underlying sandstone units host ground water resources within the Chapter. The *Navajo Nation Wellhead Protection Policy* and *Navajo*

Nation Grazing Regulation protect ground water resources by recommending 1,000 feet and 2,500 feet buffer zones surrounding all wells. These buffer zones were considered during the development of the CCBLUP.

Table 3-1. Well Data for Hardrock Chapter

WELL NO.	OPERATOR	ELEVATION	DEPTH	AQUIFER CODE
04-0580	NUTA	6195	2677	220 NVJO
04K-377	BIA/HPL	6198	315	211 WEPO
04M-128B	UNKNOWN	6020	239	211 TORV
04T-378	BIA/HPL	5925	284	211 TORV
04T-394	BIA/HPL	6251	650	211 TORV
04T-506	UNKNOWN	6136	566	211 TORV
04T-509	NPL	6306	647	211 TORV
04T-525	PHS	0	1903	220 NVJO
04T-551	NTUA	5979	1880	231 CHNL
BM-6	USGS	6340	2507	220 NVJO
ROCKY	BIA	5995	1805	220 NVJO
ROCKY PM1	UNKNOWN	6000	1500	221 CSPG
ROCKY PM2	UNKNOWN	5985	1780	220 NVJO

3.6 TRADITIONAL AND CULTURAL AREAS

3.6.1 Cultural Resource Protection Laws

A variety of laws, resolutions, policies and procedures enacted by the Federal Government and the Navajo Nation require the location, identification, assessment, and protection of cultural resources that may be impacted by development involving tribal land, federal funding, or federal licensing. These legal responsibilities are mandated by the *National Historic Preservation Act* of 1966 (Public Law 89-655, as amended); the *National Environmental Policy Act* (Public Law 91-190); the *Archaeological and Historical Preservation Act* (Public Law 93-291); the *Archaeological Resources Protection Act* (Public Law 96-95); the *American Indian Religious Freedom Act* (Public Law 95-341); the *Native American Graves Protection and Repatriation Act* (Public Law 101-601); the *Navajo Nation Cultural Resources Protection Act* (NNC Resolution CMY-19-88); the *Navajo Nation Policy of Protection of Jishchaa': Graves, Human remains, and Funerary Items*; and the *Navajo Nation Policy to Protect Traditional Cultural Properties*.

The Navajo Historic Preservation Department (NHPD) is the Navajo Nation's lead agency for cultural resource preservation, protection, and management planning. Compliance with cultural resource protection laws requires field surveys and ethnographic interviews with local residents.

3.6.2 Past Human Occupation

Archaeological, historical, and cultural resources are remnants of former human occupation. Hardrock Chapter is located on the Colorado Plateau, which has been occupied by humans

for the past 10,000 years according to the archaeological resource sites. The main periods of human occupation are described in the sections below.

Paleoindian (9500 to 6000 B.C) and Archaic (6000 to 600 BC). Evidence from the Paleoindian and Archaic occupations is seen in surface scatters of chipped stone artifacts. No such artifacts have been found in Hardrock Chapter; although some sites have been found north of the project area in the Black Mesa region.

Formative (600 B.C to A.D 1300). The Formative era is generally considered to correlate with the Anasazi occupation of the region and is characterized by a reliance on agriculture, the development of permanent habitations and use of pottery. The Formative era is subdivided into a number of periods, based on changes in architectural styles, site structure, settlement patterns and pottery styles. The area of Hardrock Chapter area is located in the Kayenta Anasazi region. Middens, pit structures, hearths, ceramic scatters and lithic scatters have been found in Hardrock Chapter.

Late Prehistoric (A.D. 1300 to A.D. 1500) and Protohistoric (A.D. 1500 to A.D. 1775). The Late Prehistoric and Protohistoric eras correlate with the apparent abandonment of the region by the Anasazi after A.D. 1300 and the initial of contact with the European explorers between A.D. 1500 and A.D. 1775. Local populations were shifting towards the occupation of large pueblos in the Hopi, Zuni, Acoma, and Rio Grande areas. No sites dating to these periods have been found in the Hardrock Chapter.

Historic (A.D.1775 to present). The early Navajo occupation of the Hardrock region dates to the sixteenth century. The types of archaeological remains found from this period include hogan foundations, sweathouses, corral areas, and gravesites.

3.6.3 Records Search

A records search conducted at NHPD revealed that several large and small-scale cultural and ethnographic investigations were conducted within the Chapter; however, only one site was identified within 0.5 miles of the proposed community development site near Rocky Ridge School. These records further revealed that ethnographic interviews identified at least three traditional cultural sites within the Chapter boundary. The first site consists of a prayer offering place where precious stones and/or corn pollen are offered. The second site consists of a place where dirt is gathered for religious purposes. The third is a plant gathering area. The exact locations of these sites are not identified in this CCBLUP due to the need to protect the sites. However, they are not located near the future community development sites.

Site-specific cultural and ethnographic surveys will be required when individual land withdrawals are sought. Depending upon the findings of these surveys, NHPD may stipulate conditions of compliance that will require project sponsors to avoid cultural resources on or near the site, or mitigate the effects of disturbance by recovering the data associated with the site.

3.7 ENVIRONMENTALLY SENSITIVE AREAS

Environmentally sensitive areas include wetlands, floodplains, faults, earthquake hazard areas, habitats of threatened and endangered species and scenic areas. Under Federal and Tribal laws, these areas may pose certain restrictions concerning development. However,

this analysis did not find such restrictions associated with areas identified for future community development.

3.7.1 Wetland Protection

Wetlands are those areas that are inundated by surface water or groundwater that is sufficient to support vegetative or aquatic life requiring saturated or seasonally saturated soil conditions. Impacts to wetlands are regulated by Section 404 of the CWA. In addition, Navajo Nation policies requires up to 200-foot buffer zones to adequately protect these natural systems. Vegetation that distinguish wetlands are not found on or near the future community development sites

3.7.2 Floodplains

Typical floodplains include low lands along rivers and flat areas in which storm water accumulates due to clay or other non-porous soils during high precipitation events that result in flash floods. The U.S. Housing and Urban Development (HUD) policy recognizes that floodplains have unique and significant public value and calls for the protection of these resources. Floodplains can also pose a danger and result in the loss of life and property. The Federal Emergency Management Agency (FEMA) provides 100-year floodplain maps for all counties in the State of Arizona, except for areas on the Navajo Nation.

Proposed future community development areas near Rocky Ridge are likely to be outside of the floodplain of the Dinnebito wash due to the site's distance (one mile) and elevation from the wash.

3.7.3 Earthquake Hazards

An earthquake is a sudden rapid shaking of the earth caused by the breaking and shifting of rock beneath the earth's surface, which can collapse buildings and bridges, disrupt gas, electric, and phone services, and sometimes trigger landslides and fires. The risk of earthquakes are measured as peak ground acceleration (PGA), where ten percent PGA is the approximate threshold of damage to older or other dwellings not made to sustain earthquakes. The U.S. Geological Survey has mapped the earthquake potential for the U.S. PGA contours for this region are shown to be near five percent, which is below the ten percent threshold. Therefore, the Hardrock Chapter is considered to have a low earthquake potential.

3.7.4 Threatened and Endangered Species

Threatened, endangered, and sensitive (TES) species are protected under the *Endangered Species Act* (ESA), the *Eagle Protection Act*, the *Migratory Bird Act* and the *Navajo Endangered Species List* (NESL). Project sponsors involved in earthmoving activities must ensure that TES species are adequately protected. Potential impacts to TES species are determined through the preparation of a Biological Evaluation (BE). This evaluation focuses on a list of TES species provided by the Navajo Natural Heritage Program (NNHP). Nine species are listed as potentially occurring within the Hardrock Chapter (See Table 3-2).

A cursory evaluation conducted by ETD, Inc., compared the physical features of the proposed development areas against habitat requirements of TES species. The evaluation reveals there is potential habitat for three TES species including the Ferruginous Hawk;

Mountain plover, and the Black footed ferret. However, these areas are also considered Type 3-low sensitive areas under the Navajo Nation's *Biological Resource Land Clearance Policy* (BRLCP). Under this policy, *Type 3-low sensitive* areas have the least restrictions for development. Therefore, the future community development areas will likely not have restrictions concerning TES species.

Hardrock Chapter also contains a *Type 1- highly sensitive* area: a kidney shaped area in the eastern part of the Chapter, including Little Black Spot Mountain and a number of springs and tributaries. No development is recommended in this area under the BPLCP. However, if development is necessary and there are no alternatives, a BE would be required and a plan to mitigate impacts to TES species would be necessary.

Table 3-2. TES Species and Habitat Requirements

NAME	SCIENTIFIC NAME	STATUS	HABITAT REQUIREMENT
Golden Eagle	<i>Aquila chrysaetos</i>	NESL G3/EPA/MBTA	Steep cliffs directly adjacent to foraging habitat of desert grasslands or desertscrub.
Ferruginous Hawk	<i>Buteo regalis</i>	NESL G3	Badlands, flat or rolling desert grasslands, and desertscrub.
Mountain plover	<i>Charadrius montanus</i>	NESL G4	Flat to slightly rolling expanses of grassland, semidesert, or badland, in an area with short, sparse vegetation.
Southwest willow flycatcher	<i>Empidonax traillii extimus</i>	NESL G2	Dense riparian vegetation near surface water or saturated soil.
Black-footed ferret	<i>Mustela nigripes</i>	NESL G2	Plain and desert grasslands and desertscrubs adjacent to active prairie dog towns.
Peregrine falcon	<i>Falco peregrinus</i>	NESL G4	Steep cliffs with quality foraging in extensive wetland and/or forest habitat.
Northern leopard frog	<i>Rana pipiens</i>	NESL G2	Wetlands usually with permanent water and aquatic vegetation.
Western seep fritillary	<i>Speyeria nokomus</i>	NESL G3	Perennially wet meadows associated with seeps, springs dominated with by grasses and few shrubs.
Mexican spotted owl	<i>Strix occidentalis lucida</i>	NESL G3	Three distinct types; mixed-conifer stands dominated by Douglas-fir, steep-walled narrow canyons with riparian vegetation, and moderately sloped drainages in the pinon-juniper woodlands.

3.7.5 Scenic Areas or Unique Natural Features

Hardrock Chapter is rich in natural beauty and scenery; however, such areas have not been formally designated by Hardrock Chapter, Tribal Departments or Federal agencies. Therefore, no restrictions apply to the future community development sites concerning scenic areas or natural features.

3.8 CONCLUSION

This land suitability analysis was based on data gathered from published reports, maps, government data bases, and field investigations. *Archview 8.0* mapping software was used to identify areas of the Chapter that are more suitable for development by eliminating areas with physical or legal restrictions. The most optimal growth areas are shown in **Plate 6-Optimal Growth Model**. Future community development sites are located within optimal growth areas according to model. However, future site specific archaeological and cultural resource surveys required for land withdrawal may reveal unidentified cultural resources, which may be eligible for protection. If such areas can't be avoided, then a plan to mitigate the impact of development, including data recovery, may be required.

4 INFRASTRUCTURE ANALYSIS

4.1 INTRODUCTION

Determining a site's feasibility for future housing or other developments involves an evaluation of the available infrastructure. Infrastructure systems in Hardrock Chapter include water, wastewater, electric, and telecommunications and roads. This infrastructure analysis assesses the availability of utilities and accessibility of future community developments. **Plate 7- Infrastructure** shows the location and extent of the infrastructure systems within the Chapter.

4.2 WATER

4.2.1 Existing

The water delivery system in Hardrock Chapter was designed and constructed by Indian Health Service (IHS) and later turned over to the Navajo Tribal Utility Authority (NTUA) for operation and maintenance. Hardrock Chapter's domestic water supply system includes two wells (04-0580 and 4T-551) and three tanks. The wells are located north of the Chapter House. They pump water from the N-aquifer to three storage tanks located on Many Bobcat Hill, Rocky Ridge and Little Black Spot Mountain. Waterlines extend from these tanks to over 150 homesites. Nearly 45% of the existing homes, however, lack running water, or about 190 homes.

4.2.2 Future

According to NTUA, the current water delivery system would accommodate future community developments described in this plan. The main waterlines are located within 1,500 feet of the 30-acre site. Future scattered homesite developments would also have access to waterlines if the housing policies (presented in Chapter 5) are followed that require housing developments to be sited along utility corridors.

Future IHS waterline projects are planned and referred to as the Sleepy Mountain/Goy and White Valley waterline extensions. These projects will provide water to the northeastern and eastern parts of the Chapter for up to 76 homes. Additional waterline projects need to be developed to provide water to scattered homes not included in these projects. The Chapter would need to coordinate with IHS and Hopi Tribe to develop such projects and support related projects, such as bathroom additions that make homes eligible for service.

4.3 WASTEWATER

4.3.1 Existing

The current wastewater system in the Chapter includes sewer lagoons located east of the Chapter House complex and south of Rocky Ridge School. The lagoon near the Chapter compound is used by facilities within the complex and to nearby homesites and the Navajo Gospel Mission. The lagoon near Rocky Ridge is used by the school and the local store. Individual scattered homesites utilize septic tanks.

4.3.2 Future

Projects within the Chapter house complex, such as the proposed new Chapter house/multipurpose facility, would have access to the existing sewer system. Future community developments near Rocky Ridge School would require upgrades to the nearby sewer lagoons to accommodate the developments. The Chapter could begin a wastewater project by collaborating with NTUA and having a feasibility study conducted. This information could then be used to develop grant applications. Possible funding sources include the Navajo Capitol Improvement Office, the Navajo Community Block Development Grant Program and the U.S. Rural Development program.

4.4 ELECTRIC UTILITIES

4.4.1 Existing

The electrical system within the Chapter includes a three phase line (24Kv) that extends from Forest Lake Chapter. This system is owned and operated by NTUA. From the main line, there are numerous single phase lines (12.4Kv) that branch out to the community including homes along Rocky Ridge, White Valley and Little Black Spot Mountain.

4.4.2 Future

According to NTUA, the current electrical system would accommodate future developments identified in this plan. Future community development sites are located within 1,500 feet of the existing utility lines. Future scattered homesite developments would also have access to electric utilities if the policies in Chapter 5 are followed that require such developments to be sited along existing utility corridors.

Nearly 41 % of homes in Hardrock Chapter, however, lack electric utilities. Therefore, future infrastructure projects should include utility line extensions to these homes. The Chapter would need to collaborate with NTUA to conduct a feasibility study. The information could be used to develop grant applications. Possible funding sources include the Navajo Capitol Improvement Office, the Navajo Community Block Development Grant Program and the U.S. Rural Development program.

4.5 TELECOMMUNICATIONS

4.5.1 Existing

Telephone service is available only to the Chapter House compound and the Rocky Ridge School through satellite transmission owned by Navajo Communications Company. Residents primarily utilize cellular/wireless phones for their telecommunication service.

4.5.2 Future

No plans are underway to expand the satellite phone service at this time. However, there is a need for additional wireless infrastructure (cell towers) to increase the signal strength to all areas of the Chapter.

4.6 ROADS

4.6.1 Existing

The existing primary thoroughfare is Turquoise Trail, which extends from Highway 264 south of the Chapter to the center of the Chapter. Existing secondary roads include a number of Bureau of Indian Affairs (BIA) service routes (N-8031, 8027, and 8029) that provide access to most areas of the Chapter. BIA maintains these roads for bus service. N-8027 is scheduled to be paved by BIA in the future.

4.6.2 Future

Upon analysis of the road system, the Committee identified a new road system. Primary roads were identified as roads that sustain the most use and require paving. Secondary roads were identified as roads that experience less use and should at least be graveled and regularly maintained. To accomplish these objectives the Committee discussed the need to establish partnerships with BIA, Navajo Hopi Indian Relocation Office, Navajo Department of Transportation (NDOT), Pinon School District, Hopi Tribe, adjoining Chapters and Navajo County.

4.7 CONCLUSION

Areas proposed for future community developments near Rocky Ridge school are situated in locations that are accessible to water and electricity utilities, telecommunication systems, and paved roads. A nearby sewer lagoon is also available; however, it would need to be upgraded to meet future community developments identified in this plan.

5 Comprehensive Plan

5.1 INTRODUCTION

Hardrock Chapter CCBLUP is a statement about the desired future of the community. The comprehensive nature of the CCBLUP emphasizes the relationships among seven individual plans:

1. *General Land Use Plan*
2. *Community Facilities Plan*
3. *Thoroughfare Plan*
4. *Open Space Plan*
5. *Housing Plan*
6. *Economic Development Plan*
7. *Natural Resource Protection Plan.*

Each plan contains long range goals that provide the overall direction for future development and policies that outline the decisions, actions and steps needed to achieve the goal. The objectives are to address the issues and needs of the community.

5.2 GENERAL LAND USE PLAN

This *General Land Use Plan* sets forth areas to be used for residential, commercial, and community facilities as depicted in **Plate 8-Existing and Future Land Use Map**. The goal and policies are intended to balance the need for the above land uses with the need to preserve the rangeland.

Two future community development sites within the Chapter boundary are envisioned: (1) a 30-acre parcel for commercial, public facilities and residential located adjacent to the Rocky Ridge School along N-8031; and (2) a 10-acre tract to be used for public works (i.e. an upgraded sewer lagoon and a solid waste transfer station). The ten-acre tract is already being used as for a sewer lagoon and there is a nearby unregulated solid waste dump site. The Chapter is also proposing a Chapter house/multipurpose facility within the existing Chapter house complex which has already been withdrawn.

Future scattered housing are not specifically identified in this CCBLUP, but the scattered housing policies presented in Chapter 5 encourage future scattered housing developments to occur along the main roads and utility right-of-ways and away from environmentally sensitive areas.

In addition, the Chapter is proposing a future commercial development site outside the Chapter's boundary that would require a lease agreement with the Hopi Tribe. The preferred site is near the junction of N-8031 and the Turquoise Trail.

Initially, the Committee proposed one additional 25-acre site along N-8031 near the Chapter compound; however, much opposition to this idea was expressed during several public meetings. The residents feared that allowing more land to be withdrawn for development would add to the impact of the forthcoming NPL grazing regulations that will greatly limit their grazing opportunities. They also felt that this site's commercial component would compete with the commercial site proposed along the Turquoise Trail.

Goal: Promote organization in future development and create land use efficiency for the benefit of all community members.

Policies:

1. Encourage new housing developments to "fill in" spaces where cluster developments already occur and promote organized development.
2. Review current leases within the Chapter. Leased lands not in full use shall revert to the Chapter for its future needs.
3. Request Navajo Nation Department of Justice to review all lease agreements with Navajo Gospel Mission, Rocky Ridge Store and Rocky Ridge School to ensure that the original intent of the land is utilized accordingly. Should the lessee be unable to fulfill agreement, then the lease should be adjusted accordingly and brought into accordance with current tribal lease policies.
4. Encourage future scattered homesite developments to occur in areas along the main roads or along utility corridors in order to preserve the rangeland and share the cost of infrastructure.
5. Require the Committee or designated future land administrator to provide regular updates and recommendations to the Chapter Membership about current status of land leases.
6. Work with Navajo Nation to purchase land for economic development and rangelands to replace lost HPL lands. The Chapter passed a resolution in December 2002 requesting the Navajo Nation to acquire deeded land near I-40 and Winslow, Arizona for the Chapter's benefit.
7. Compile historic and traditional stories of the Hard Rock community and provide a central data base to store such ethnographic data, including pictures, news clippings, tape recorded stories, traditional clothes, cultural paraphernalia, regalia, tools, artifacts, etc.

5.3 COMMUNITY FACILITIES PLAN

The Chapter lacks a public safety facility, a solid waste transfer station and a Chapter House/multipurpose facility. Other issues relating to community facilities include the dilapidating condition of Rocky Ridge School, lack of running water at many homes and stock wells in need of repair. This *Community Facilities Plan* identifies public facilities projects greatly needed within the community. It sets forth the decisions, actions and steps to initiate and implement projects. It subdivides community facilities into three areas: (1) community

facilities, (2) utilities and (3) solid waste management. The locations of future public facilities are shown in **Plate 8-Existing and Future Land Use Map**.

5.3.1 Community Facilities

Goals:

1. Build a Chapter house/multipurpose facility for the NPL and HPL residents that will provide adequate space for meetings and public service programs. The facility will be located within the Chapter house complex. The conceptual size is 16,000 square feet with a 400 person capacity.
2. Build a public safety facility to house a police station, fire station, and local emergency medical center. The site will be located next to the Rocky Ridge School. The conceptual size of the public safety facility is 20,000 square feet to adequately accommodate a staff of eight.
3. Support a top-ranking school facility that begins by addressing the need for improvements to the Rocky Ridge school.
4. Identify several community cemetery locations in various regions of the Chapter.

Policies:

1. Initiate a new Chapter house/multipurpose facility project and a public safety facility project by withdrawing land and obtaining conceptual designs and preliminary cost estimates for each proposed project.
2. Identify and/or pursue planning funds (i.e., land survey, site plan, architectural design, environmental assessment and archaeological survey).
3. Use the planning information to develop grant applications. Pursue construction funds from various sources, including the Navajo Nation Sales Tax revenue, Navajo Nation Local Governance Trust Fund, Navajo Nation Permanent Trust Funds, grants from various Navajo Nation and Federal programs and private sources. If feasible, hire a grant writer to develop construction grant applications.
4. Identify support for upgrading Rocky Ridge School or developing a new school.
5. Work with BIA to upgrade Rocky Ridge School to improve safety.
6. Identify future sites for additional educational facilities that could serve as a space for satellite learning, adult education and college extension courses.
7. Identify site for alternative school for children with learning disabilities as well as children who are gifted and talented.
8. Work with local residents to identify community cemetery sites for various geographical locations of the Chapter, as recommended by Navajo Nation government.

9. Develop partnerships with the Navajo Nation Department of Public Safety, BIA, Navajo County and higher education institutions to collaborate on a mutually, beneficial public safety facility project.

5.3.2 Utilities

Goals:

1. Expand the community's water system to provide all residents, including HPL residents, with safe drinking water.
2. Develop more water supplies for livestock.
3. Support the use of the N-aquifer for community development.
4. Provide all residents with power, including those on HPL.
5. Encourage community members to utilize alternative energy sources, particularly those in remote areas.
6. Provide telecommunication systems for residents, schools, businesses and public safety services.

Policies:

1. Work with the Hopi Tribe and IHS on waterline projects for HPL residents.
2. Collaborate with Hopi Tribe, BIA-Keams Canyon to improve and/or fix existing livestock wells.
3. Encourage alternative technologies to meet water delivery needs.
4. Apply for grants to build bathroom additions for homes without running water, in order to qualify them for IHS water service.
5. Encourage scattered homesites to be located along water utility line corridors in order to share infrastructure costs.
6. Identify residents without power and request feasibility studies as first step to developing power line projects.
7. Work with Hopi Tribe on power line projects to HPL areas and seek partnerships and funding sources for power line construction.
8. Educate residents on various alternative energy sources.
9. Identify vendors who can build and maintain alternative energy systems.
10. Inform cellular service providers about the need to improve the service for Chapter residents and work with these service providers to identify suitable cell tower sites.

11. Require cell tower and other large standing utility structures to be painted to blend in with surrounding environment.
12. Ensure that Chapter is entitled to proceeds from cell tower lease agreements.

5.3.3 Solid Waste Management

Goal: Develop solid waste disposal mechanism that meets the requirement of Subtitle D of the Resource Conservation and Recovery Act (RCRA).

Policies:

1. Work with Navajo EPA to characterize the Chapter's solid waste stream and select the most appropriate option for solid waste disposal.
2. Work with Hopi Tribe and Peabody Company for possible use of their landfills.
3. Close and remediate open dumps.
4. Educate the public about the need to properly dispose of waste.
5. Work with surrounding Chapters on a larger solid waste disposal effort.
6. Encourage Navajo Nation leaders to develop a regional solid waste landfill.

5.4 THOROUGHFARE PLAN

The road system within the Chapter is inadequate, including the unfinished Turquoise Trail and many miles of unpaved roads. BIA maintains some roads that are used as bus routes, but only to a limited extent. This *Thoroughfare Plan* identifies future primary thoroughfares and secondary collector streets as it relates to the regional road network and land uses as shown in **Plate 8-Existing and Future Land Use Map**.

Goals:

1. Improve the road system within the Chapter.
2. Pave and maintain all primary thoroughfares as identified in Plate 8.
3. Gravel and maintain all secondary roads as identified in Plate 8.
4. Install a culvert or low crossing bridge at Dinnebito Wash east of Big Mountain and across Blue Canyon Wash, and in the upper and lower crossing of Wide Ruin Canyon.

Policies:

1. Develop partnerships with Chinle BIA Roads Department, Navajo Hopi Indian Relocation Office, Navajo Department of Transportation (NDOT), Pinon School District, Hopi Tribe, adjoining Chapters, and Navajo County to develop the road improvement projects identified under the goals.

2. Identify roads that are no longer being used and close and reclaim them.
3. Seek outside funding that will match Chapter funds to conduct the necessary environmental review requirements in order to move up road projects on BIA's priority list, since the cost of environmental requirements has stifled past road projects.

5.5 OPEN SPACE PLAN

Open spaces are areas that have not been withdrawn for development or have not been identified for future development. Open spaces are managed as rangeland by the Navajo Department of Agriculture under contract from the BIA. The rangeland is in poor condition due to overgrazing and current drought conditions. The goal of this *Open Space Plan* is to encourage preservation of open spaces and rangeland improvements through local planning and education efforts.

Goals:

1. Improve and preserve the open space for rangelands.
2. Acquire off-reservation rangelands either through leasing agreements or land acquisition to offset overgrazing in Hardrock Chapter.

Policies:

1. Educate community on rangeland conditions and appropriate range, livestock and ecology management practices. Establish partnerships with USDA, Natural Resource Conservation Service and BIA to conduct education workshops on proper range management practices.
2. Create a local land users committee to develop best management practices for range land and the ecology.
3. Establish a local task force to evaluate the proposed NPL regulations and proposed Navajo Nation Grazing Regulations and educate the community. Then develop a cohesive position and submit comments to the appropriate agency. Reserve the right to challenge the NPL policy.

5.6 HOUSING PLAN

There is an increasing demand for housing, yet homesites and associated developments, including utility and roads, are depleting the rangelands. This *Housing Plan* addresses these issues.

Goals:

1. Provide and designate equal area housing space to meet the needs of all segments of the community regardless of economic level.
2. Set guidelines for scattered and clustered homesite leases to share infrastructure costs for this type of development.

3. Explore opportunities or incentives to livestock owners/permit holders who approve land housing.
4. Develop parks and recreation sites in cluster housing areas for the families.

Policies:

1. Any future scattered and clustered homesites must meet the following criteria: (a) have access to roads and utility connections; (b) obtain necessary archaeological clearance; (c) have suitable land characteristics including slopes at 15% or less and suitable soils; (d) have adequate distances from streams, wetlands and wells, based on Navajo Nation policies; (e) locate outside highly-sensitive and moderately-sensitive biological zones set forth by Navajo Fish and Wildlife Department; and (f) locate along existing roads and utility corridors.
2. The Chapter designated administrator shall evaluate each site application according to the criteria and prepare a recommendation to the membership for approval or disapproval.
3. Develop a partnership with NHA, Pinon Residential Management Organization and other housing organizations to plan for housing projects.
4. Encourage family cluster housing developments.

5.7 ECONOMIC DEVELOPMENT PLAN

The Chapter lacks commercial establishments that would otherwise provide local jobs, goods and services and tax revenue. This *Economic Development Plan* lays the ground work for future commercial activities. It identifies two commercial tracts along the primary thoroughfares and supports home-based businesses.

Goal: Foster economic development that will provide goods and services, jobs and tax revenue to benefit the Chapter residents.

Policies:

1. Provide incentives to local livestock owners who provide and consent to land withdrawals for economic development.
2. Work with the Hopi Tribe to lease land along the Turquoise Trail for commercial development.
3. Work with the Navajo Nation and non-Tribal entities to secure off reservation commercial activities particularly along I-40 corridor.
4. Work with neighboring Chapters, Navajo Nation and Hopi Tribe, U.S. Office of Surface Mining (OSM) to cease mining of the N-aquifer to slurry coal and replace with environmentally friendlier industries, such as water bottling.

5. Work with Navajo Nation Regional Business Development Office, USDA Rural Economic Development Agency and the Small Business Administration to provide education and training opportunities for small business development.
6. Identify successful cooperative programs in other chapters that engage in wool products industry and livestock sales on the Internet to learn more about their programs.
7. Support small business owners entrepreneurs that want to establish needed services as identified in the community assessment (e.g., convenience store, feed store, laundromat, gas station, and café).
8. Encourage low start-up, home-based businesses and assist those who are seeking a business site lease.

5.8 NATURAL RESOURCE PROTECTION PLAN

The need for development has impacts on the natural environment. This *Natural Resource Protection Plan* seeks to balance the need for development with environmental protection.

Goal: To promote a cleaner healthier environment and protect natural systems.

Policies:

1. Encourage the protection and restoration of springs riparian areas and the natural condition of these and other environmentally sensitive lands as opportunities arise and resources become available.
2. To the extent possible revegetate and restore construction areas with native species.
3. Economic development efforts should focus on clean air industries.
4. Support efforts to pursue renewable energy production alternatives such as wood biomass, energy facilities, landfill methane gas collection, solar electricity, wind power, and other alternative energy technologies.
5. Encourage and support efforts of local organizations, developers and individual residents to utilize sustainable building technologies in the development projects.
6. Conduct a watershed analysis to identify areas where top soil is prone to erosion and work toward projects that stabilize the soil.

6 Implementing the Plan

6.1 INTRODUCTION

This Chapter provides recommendations for successful implementation of the Hardrock Chapter CCBLUP. Implementation of the CCBLUP involves converting policies presented in Chapter 5 into local regulations or zoning ordinances and translating future land use maps into zoning maps. In addition, it requires the establishment of a planning and zoning office that will monitor and enforce the zoning regulations. A legal administrative review process is also necessary to ensure due process for all residents.

Chapter 6 defines and discusses zoning ordinances as a tool for implementing the CCBLUP. It describes the need for the Chapter to fully understand its authority and responsibility concerning enforcement and discusses the need for a continual public education program.

6.2 ZONING

The basic components of a land use regulatory system are the comprehensive plan and zoning ordinances (Kelly and Becker 2000). Zoning is a system which regulates what uses may be made of land, where the uses may be located, how the uses may be conducted, and the restricted uses of land to further the public health, safety and general welfare of the community (Kelly and Becker 2000). The purpose of a zoning ordinance is to implement community values reflected in a comprehensive plan and provide authority to regulate uses of land within the Chapter. Basic elements of a zoning ordinance are shown on Chart 6-1.

In developing zoning ordinances, the Chapter should hire a professional to work closely with the CCBLUP Committee to ensure that the ordinances are consistent with the intent of the policies. Generally, the officials in the zoning process include: 1) a planning commission which advises the Chapter on planning, zoning and development matters; 2) a planner or a zoning compliance officer who works for the Chapter on planning matters; 3) and a hearings examiner or a professional who serves an administrative law judge for quasi-judicial land use matters. If the Chapter does not have an administrative review process, it can utilize the Navajo Nation's local court system.

Zoning ordinances must be easy to understand and should not cause an undue burden to residents. Once a zoning ordinance is adopted by the Chapter membership, the Chapter government must be prepared to monitor and enforce the ordinance.

Chart 6-1. Zoning Ordinance Components

- Zones
- Use regulations
- Development density
- Bulk regulations
- Parking lot standards
- Fences
- Landscaping
- Signs
- Definitions
- Conditional/Use Permits
- Unclassified uses
- Nonconforming uses
- Variances
- Mobile/modular housing
- Development permits
- Planned unit development
- Floating zones

6.3 MONITORING AND ENFORCEMENT

Implementation of a zoning ordinance requires: (1) daily administration, (2) monitoring, (3) a quasi-judicial permit process, (4) legislative amendments, (5) rezoning, and (6) enforcement (Kelly and Becker 2000). The planner or enforcement officer is responsible for reviewing all proposed developments to ensure their compatibility with the comprehensive plan and the zoning ordinance and to make recommendations to the land commission. The planner or enforcement officer is also responsible for inspecting new buildings to ensure conformance to the zoning ordinance. The ability to enforce a zoning ordinance or any other ordinance for that matter is as important as the ordinance itself.

There are a number of serious considerations with respect to monitoring and enforcement, such as availability of financial resources. Initially, \$50,000 to \$75,000 would be necessary for implementing a planning and zoning office. Initial funds received from the Navajo Nation after the Chapter has been governance certified under LGA may be used for this purpose. Thereafter, the Chapter should utilize proceeds from other sources such as the Navajo Sales tax and annual allocations from the Navajo Nation Local Government Trust Fund. The Chapter could rely on grants.

6.4 ADOPTION OF OTHER ORDINANCES AS NECESSARY

Chapters may find it necessary to adopt other ordinances. Subdivision regulations, for example, can complement zoning ordinances by further defining the quality of new developments, such as the creation of lots, blocks, streets, utilities and other improvements within the subdivision (Kelly and Becker 2000).

Building ordinances can also be useful. Building ordinances are the written provisions and structural requirements for the construction, repair, alteration, or addition to a structure. They protect the health and safety of the residents by ensuring safe buildings. Building ordinance regulate such factors as building height, building coverage, building materials, size of building size, and permit requirements. In addition, building ordinances can stipulate the building designs to ensure that they blend in with the nature of the community.

A tax ordinance should also be considered as a means for bringing revenue to the chapter government for operation. This tax will be in addition to the Navajo Nation Sales Tax revenue, which is currently at 3%.

6.5 UNDERSTANDING THE LEGAL FRAMEWORK

The community planner and the citizens involved in the planning of their community must have a working knowledge of the legal framework affecting this plan. The LGA is the foundation of the legal framework that allows chapters to develop a government that works for them. In implementing the LGA authority, there are several issues that must be kept in mind, especially as chapters develop local ordinances. These issues relate to understanding existing laws (e.g., Navajo Nation Code), receiving delegation of authority and providing due process for non-tribal members.

1. Existing Navajo Nation Code. The Navajo Nation has a comprehensive set of codes, and the chapter government cannot exceed this authority. However, chapter governments can develop ordinances that do not contradict these codes to meet the specific needs of the local government.

2. Delegation of Authority. The LGA directs the Natural Resources Committee and the Economic Development Committee of the Navajo Nation Council to promulgate rules that redelegate power from these Committees to the local chapter government concerning homesite leasing and business site leasing. Chapter governments will need to utilize the current leasing process until such time the Committees develop these rules.

3. Non-tribal members. Chapter governments must recognize jurisdictional issues relating to non-tribal members. Ordinances should provide equal treatment and due process for all individuals.

6.6 PUBLIC EDUCATION

The Chapter should consider providing an educational program for residents that emphasizes opportunities for public involvement. Public participation should occur throughout the implementation of the plan.

In adopting a zoning ordinance it would be helpful to: 1) develop a theme to explain the goals of the ordinance and how it will help the Chapter, 2) involve the community to generate support for the ordinance, 3) publicize the need and benefits of the new regulations, and 4) notify the development community of the new code, such as utility operators, schools, churches, etc.

6.7 CONCLUSION

The CCBLUP sets forth the vision and long range goals of the community, which are intended to address the most pressing issues confronting the community. Implementation of this plan requires adherence to the policies and future zoning ordinances. The implementation process will be difficult and lengthy, but will be well worth the effort. The implementation process may take up to ten years, but the starting point is the development of the necessary ordinances which can occur much sooner.

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**RESOLUTION OF THE
TRANSPORTATION AND COMMUNITY DEVELOPMENT COMMITTEE
OF THE NAVAJO NATION COUNCIL**

20th NAVAJO NATION COUNCIL—Third Year, 2004

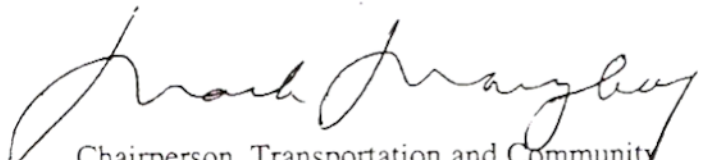
**AN ACTION
RELATING TO LOCAL GOVERNANCE AND COMMUNITY DEVELOPMENT;
APPROVING THE HARDROCK CHAPTER COMMUNITY-BASED LAND USE
PLAN**

BE IT ENACTED:

The Transportation and Community Development Committee of the Navajo Nation Council hereby certifies the Hardrock Chapter Community-Based Land Use Plan (CBLUP), attached hereto as Exhibit "A." Amendments or modifications to this CBLUP shall be approved by the Transportation and Community Development Committee of the Navajo Nation Council, pursuant to 2 N.N.C. §423(C)(2).

CERTIFICATION

I hereby certify that the foregoing resolution was duly considered by the Transportation and Community Development Committee of the Navajo Nation Council at a duly called meeting at Hardrock Chapter, Navajo Nation (Arizona), at which a quorum was present and the same was passed by a vote of 7 in favor and 0 opposed, this 17th day of March, 2005.


Chairperson, Transportation and Community
Development Committee

Motion: Sampson Begay
Second: Edward Jim, Sr.