

## LEGISLATIVE SUMMARY SHEET

Tracking No. 0429-18

**DATE:** December 18, 2018

**TITLE OF RESOLUTION:** AN ACTION RELATING TO RESOURCES AND DEVELOPMENT COMMITTEE, CERTIFYING TSÉ' AŁNAOZTI'I CHAPTER COMMUNITY LAND USE PLAN WHICH HAS REEVALUATED AND READJUSTED TSÉ' AŁNAOZTI'I CHAPTER'S PREVIOUS COMMUNITY-BASED LAND USE PLAN

**PURPOSE:** If approved, this resolution will approve the re-certifies the reevaluated and readjusted Tsé' Ałnaozt'i Chapter Community Land Use Plan.

This written summary does not address recommended amendments as may be provided by the standing committees. The Office of Legislative Counsel requests each Council Delegate to review each proposed resolution in detail.

5-DAY BILL HOLD PERIOD: None  
Website Posting Time/Date: 12:11pm 12/18/18  
Posting End Date: 12/23/2018  
Eligible for Action: 12/24/2018

PROPOSED STANDING COMMITTEE RESOLUTION  
23<sup>rd</sup> NAVAJO NATION COUNCIL—Fourth Year, 2018

INTRODUCED BY

  
Primary Sponsor

TRACKING NO. 0429-15

AN ACTION

RELATING TO RESOURCES AND DEVELOPMENT COMMITTEE,  
RECERTIFYING TSÉ' ALNAOZTI'I CHAPTER COMMUNITY LAND USE PLAN  
WHICH HAS REEVALUATED AND READJUSTED TSÉ' ALNAOZTI'I  
CHAPTER'S PREVIOUS COMMUNITY-BASED LAND USE PLAN

BE IT ENACTED:

**SECTION ONE. AUTHORITY**

- A. The Resources and Development Committee, pursuant to 26 N.N.C. §2004(D)(2) shall certify community-based land use plans.
- B. Pursuant to 26 N.N.C. §2004(D)(2), "Every five years the plan shall be reevaluated and readjusted to meet the needs of the changing community" and such readjustment is subject to the certification of the Resources and Development Committee of the Navajo Nation Council.
- C. Pursuant to 26 N.N.C. § 2004 (B), "Community Based Land Use Plan. The chapter, at a duly-called chapter meeting shall by resolution, vote to implement a community based land use plan, after the CLUPC has educated the community on the concepts, needs, and process for planning and implementing a community based land use plan. The community based land use plan shall project future community land needs, shown by location and extent, of areas identified for

1 residential, commercial, industrial, and public purposes. The land use plan shall  
2 be based upon the guiding principles and vision as articulated by the community;  
3 along with information revealed in inventories and assessments of the natural,  
4 cultural, human resources, and community infrastructure; and, finally with  
5 consideration for the land-carrying capacity. Such a plan may also include the  
6 following: 1. An open space plan which preserves for the people certain areas to  
7 be retained in their natural state or developed for recreational purposes. 2. A  
8 thoroughfare plan which provides information about the existing and proposed  
9 road network in relation to the land use of the surrounding area. 3. A community  
10 facilities plan which shows the location, type, capacity, and area served, of  
11 present and projected or required community facilities including, but not limited  
12 to, recreation areas, schools, libraries, and other public buildings. It will also  
13 show related public utilities and services and indicate how these services are  
14 associated with future land use.”

## 15 16 **SECTION TWO. FINDINGS**

17 A. The Tsé' Ałnaozt'i Chapter last updated their Community Land Use Plan in 2004.

18 *See Exhibit B.*

19 B. Pursuant to Tsé' Ałnaozt'i Chapter Resolution TAT 18-04-12, attached as  
20 **Exhibit B**, the Tsé' Ałnaozt'i Chapter approved the Community Land Use Plan  
21 which is attached as **Exhibit A**.

## 22 23 **SECTION THREE. Certification of Tsé' Ałnaozt'i Chapter's Reevaluated and** 24 **Readjusted Community Land Use Plan**

25 A. The Resources and Development Committee of the Navajo Nation Council hereby  
26 recertifies the reevaluated and readjusted Tsé' Ałnaozt'i Chapter Community  
27 Land Use Plan, attached hereto as **Exhibit A**.

28 B. Certification of this Community Land Use Plan shall not delineate adjacent  
29 chapter boundaries. Any chapter disputes rest solely with the Courts of the Navajo  
30 Nation.

# Land Use Plan for the Tsé Ałnaozti'í Chapter



January 2018

Tsé Ałnaozti'í Chapter Land Use Planning Committee

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## **A. Introduction**

**1.0 Purpose of Chapter Planning Initiative** The purpose of the Land Use Plan is to provide a long- range guide for future housing and other development in the Tsé Ałnaozti'í Chapter service area. This document will assist the Tsé Ałnaozti'í Chapter through the identification of the most suitable sites for community development. The recommendations provided by this document are based on careful assessments of the housing, community development, and facility needs of the Chapter; infrastructure capabilities and needs; and the suitability of the sites for development.

The document is intended to function as a working resource for the Chapter's Land Use Planning Committee, Chapter Officials and administration in its efforts to plan effectively and appropriately for the future. While future development of community, housing and commercial activities should comply with the recommendations of the plan, the nature of this document is one of flexibility and adaptability to local and regional changes.

### **1.1 Local Governance Act**

The original land use plan was developed in 2004, through a grant funded by the 1996 Native American Housing and Self Determination Act (NAHASDA).

The 1998 Navajo Nation Local Governance Act (LGA) grants chapters authority over local issues relating to economic development, taxation and revenue generation, infrastructure development, and land use planning. By assisting chapters in becoming self-governing entities, the LGA creates opportunities for the improvement of the chapter members' quality of life by:

- developing opportunities for economic development
- conserving natural resources and preserving Navajo heritage and culture
- ensuring government accountability
- creating an atmosphere of experimentation and learning

The LGA sets forth a process by which local chapters are granted power over local issues. As part of this process chapters must adopt a Five Management System (FMS) which sets up policies and procedures for chapter administration of 1) personnel, 2) property, 3) procurement, 4) accounting (fiscal), and 5) record keeping.

Chapters must also develop and adopt a comprehensive, community-based land use plan which provides local chapters the tools to administer their land. This comprehensive plan, according to the LGA, section 2004 (B), is based on "the guiding principles and vision as articulated by the

community; along with information revealed in inventories and assessments of the natural, cultural, human resources, and community infrastructure."

The LGA also states that such a plan shall include "a land use plan which projects future community needs, shown by location and extent, [and] areas to be used for residential, commercial, industrial and public purposes." While the main intention of this planning document is to develop a land use plan specific to community, the information presented in this plan will also provide technical and informational support to the Tsé Ahnaozti'í Chapter in the development of their comprehensive land use plan, to follow at a later date.

## **1.2 Chapter Planning Process**

There are five elements involved in this chapter planning process, culminating in a final Chapter Land Use Plan (*Exhibit 1*).

The first phase is the development of a community participation plan. The community participation plan specifies the plan of operation, frequency and manner of committee meetings, and the methods to be used to educate and involve community members in the planning process.

The second phase involves a Community Assessment. The Community Assessment will assess individual chapter community needs such as housing, economic development and community facilities.

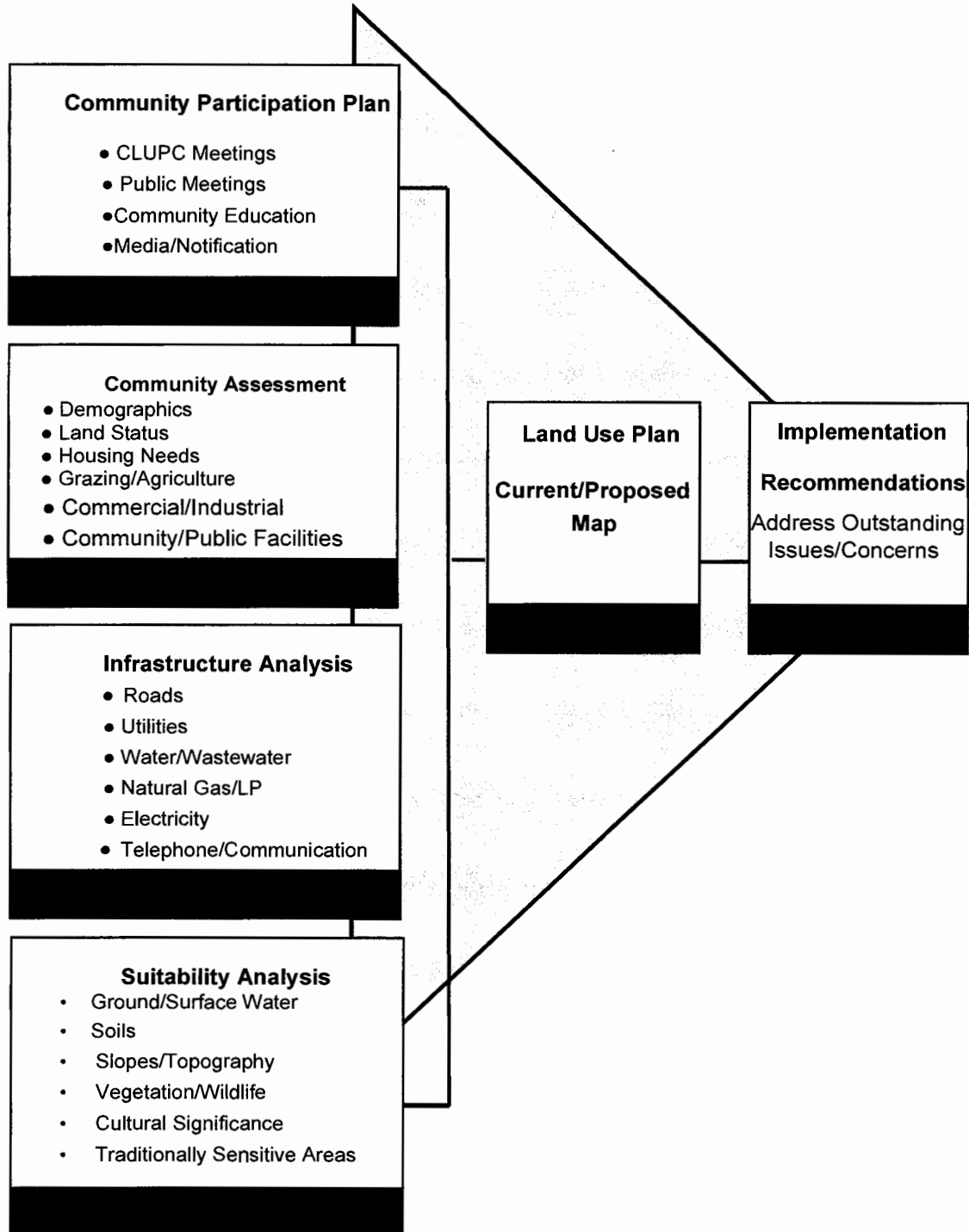
The third phase of the planning process includes a suitability analysis. The suitability analysis examines the natural and cultural resources and environmental constraints affecting development, general to the Chapter and specific to sites under consideration for community development.

The fourth phase includes an infrastructure analysis. The infrastructure analysis will consider transportation and utilities needed for development to occur on specific development sites under consideration for community development.

The final product will be a Chapter Land Use Plan for community development that identifies the most suitable housing development sites, as well as sites for other community needs.

### ***Exhibit 1: Planning Process***

## Typical Planning Process for Individual Chapters



## 1.4 Meetings

During the planning process, the Community Land Use Planning Committee (CLUPC) conducted their own monthly meetings, numerous work sessions and public meetings. At the CLUPC meetings, issues were discussed regarding land use, facility needs, economic development, community history, community goals and policies, and site selection for community development.

The CLUPC members provided reports to the community at the regular chapter meetings every month. At the public meetings, presentations were made regarding the planning process, visioning exercises were conducted, and community survey results, selected sites for housing, community goals, and community policies were presented and discussed. Community members actively participated in the visioning exercises giving their input as to what they would like to see Tsé Ałnaozti'í become in the future

A listing of the various meetings and their activities is listed on the following page (*Exhibit 2*. **Exhibit 2:** List of Meetings

Meetings	Meeting Highlights
April 11, 2017	CLUPC Training
April 20, 2017	CLUPC Orientation
April 25, 2017	CLUPC Regular Monthly Meeting
May 3, 2017	CLUPC Work session
May 8, 2017	CLUPC Work session
May 16, 2017	CLUPC Training for Mapping
May 17, 2017	CLUPC Regular Monthly Meeting
May 22, 2017	CLUPC Work session for NM - ICIP priorities
June 2, 2017	CLUPC Meeting with NTEC on project funding
June 7, 2017	CLUPC Meeting, Gallup Waterline Project Update
June 13, 2017	CLUPC Work session, NM-ICIP Training
June 20, 2017	CLUPC Regular Monthly Meeting
June 21, 2017	CLUPC Training session
June 23, 2017	Meeting on Shiprock Pinnacle Tourism Project
July 17, 2017	CLUPC Regular Monthly Meeting
July 25, 2017	CLUPC Work session
August 8, 2017	CLUPC sponsored Navajo –Gallup Waterline Project Public Hearing
August 15, 2017	CLUPC Regular Monthly Meeting
August 22, 2017	CLUPC Work session
September 12, 2017	CLUPC Regular Monthly Meeting
October 17, 2017	CLUPC Regular Monthly Meeting
November 2, 2017	CLUPC Work Session
November 19, 2017	CLUPC Regular Monthly Meeting
November 30, 2017	CLUPC Work Session

December 19, 2017	CLUPC Regular Monthly Meeting
January 09, 2018	CLUPC Work Session
January 25, 2018	CLUPC Work Session
February 08, 2018	CLUPC Public Hearing – Revised Land Use Plan Presented
February 20, 2018	CLUPC Regular Monthly Meeting
March 02, 2018	Chapter Sub-Committees Joint Committee
March 27, 2018	CLUPC Regular Monthly Meeting
April 17, 2018	CLUPC Regular Monthly Meeting
April 20, 2018	Tse Ałnaozti’i Chapter Meeting – Approval of Revised Land Use Plan
May 14, 2018	CLUPC Regular Monthly Meeting
May 25, 2018	CLUPC Work session
June 08, 2018	CLUPC Work Session
June 18, 2018	CLUPC Work Session
June 19, 2018	CLUPC Regular Monthly Meeting
June 28, 2018	CLUPC Work Session
July 17, 2018	CLUPC Regular Monthly Meeting
July 23 & 25, 2018	CLUPC work session on Chapter ICIP
July 31, 2018	CLUPC Work Session

## B. Community Assessment

### 1.0 Assessment Tools

The Community Assessment Section provides background information on the Tsé Ałnaozti’i community; an analysis of socio-economic trends; a summary of land status; descriptions of the community’s conditions and needs related to housing, grazing and agriculture, commercial and industrial development, and community facilities; and a list of community goals.

#### *Community Survey*

The Community Assessment also incorporates information from a community survey conducted by the Community Land Use Planning Committee through individual and door-to door surveys. The survey of was conducted to gain information about community members’ lives, living conditions, and opinions on what is needed to improve the quality of life in TséAłnaozti’i. The summarized results of the survey are contained in this section.

#### *Community Visioning*

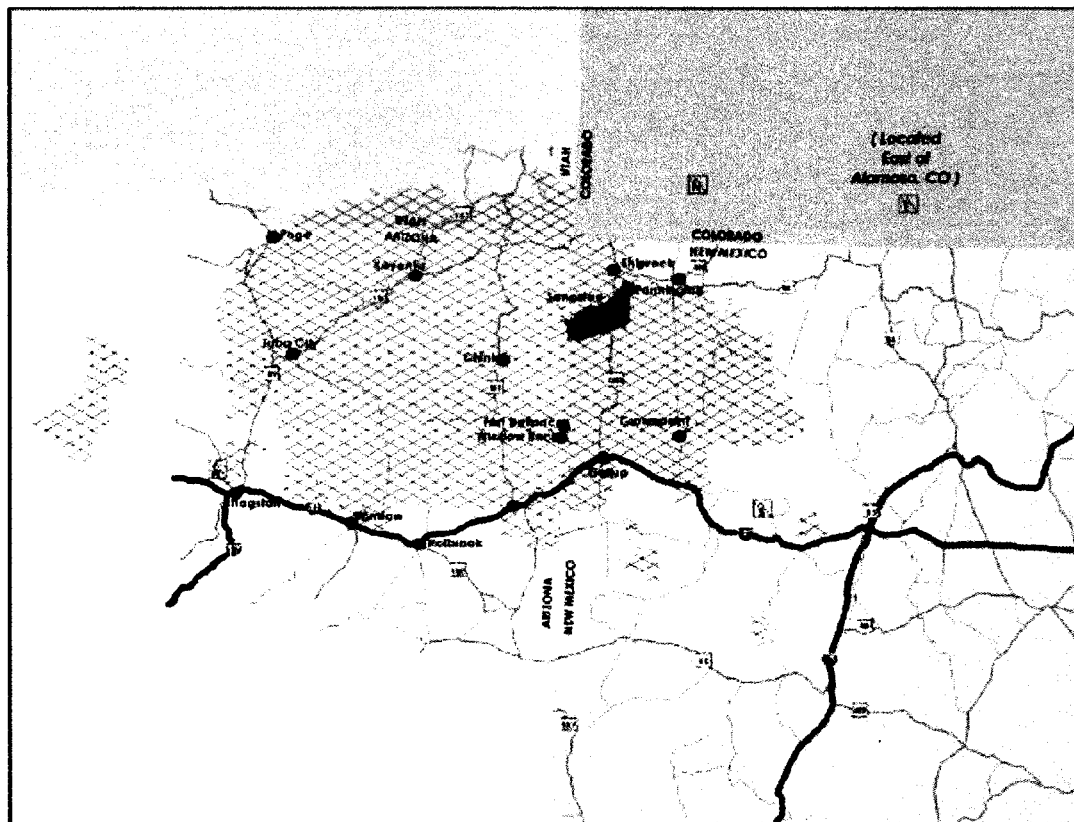
Finally, the Community Assessment integrates the results of the “visioning” processes in which community members were asked to describe what makes Tsé Ałnaozti’i Chapter unique, what they would like to preserve in the Chapter, what they would like to change, and what they would like the Chapter to be like in twenty years. The community members would like to see a new chapter house,

new senior center, new head start building, new recreational facilities, a youth center, and a new business in the community.





## 1.1 Location

Tsé Ałnaozti'í Chapter, is one of the largest communities within the Northern Agency of the Navajo Nation (*Exhibit 3*). The Chapter is located along the northeastern base of the Chuska Mountains astride the New Mexico-Arizona border, in two counties: San Juan County, New Mexico, and Apache County, Arizona. The Tsé Ałnaozti'í community is located approximately nine miles west of U.S. Highway 491 on Navajo Route N-34. The community is very large and covers approximately 520 square miles, with neighboring chapters being Shiprock, TseDaKaan, Red Valley, Two Grey Hills/Toadlena, Newcomb, and TiisTsohSikaad. The closest town is Shiprock, New Mexico, which is thirty-two miles north of TséAłnaozti'í, and is the Agency Headquarters for the Northern Agency.

Exhibit 3: Navajo Nation Location Map – Community of TséAłnaozti'í



### Legend

-  Navajo Nation
-  Sanostee Chapter Boundary
-  City Locations
-  4 Sacred Peaks

### 1.3 History

One of the earliest historical accounts from Tsé Ałnaozti'í describes an occurrence during the time of the American Civil War, of Slim Woman's family hiding from Ute raiders in a canyon of Tsé Ałnaozti'í Wash. The Utes burned the Navajo's hogans and killed their sheep.

In 1892, Lieutenant W. C. Brown of the U.S. Army conducted a resource survey of the Navajo country, and noted farms in the same area using irrigation with water from Tsé Ałnaozti'í Wash

In 1907, a sawmill (under the instructions of Shiprock Agency Superintendent William T. Shelton) was constructed to cut timber from the nearby forest and produce lumber to build the Shiprock and Toadlena schools.

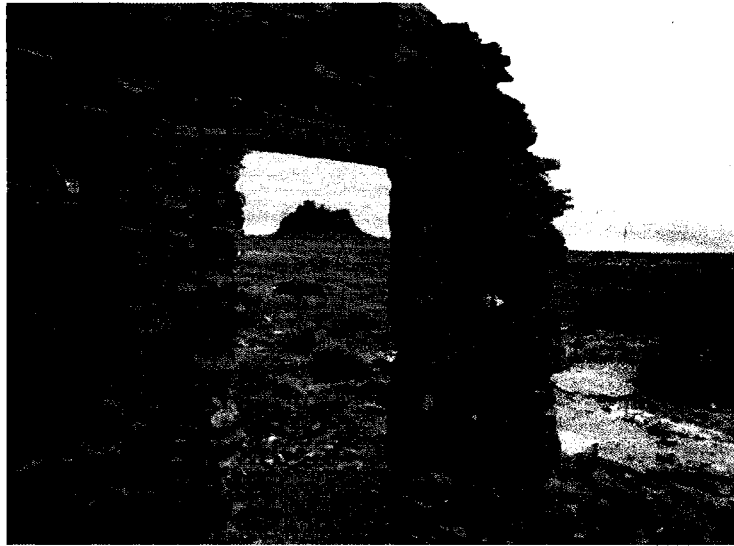
The Sanostee Trading Post was established in 1899 by Joseph Wilken. In 1905 the trading post was purchased by Frank Noel, and later it was bought by the Foutz brothers. When a disagreement broke out between Noel and Superintendent Shelton, the Tocito Trading Post was licensed even though it was only seven miles southeast of the Sanostee Trading Post. Jess Foutz and Sante Bowen founded the Tocito Trading Post in 1913. It had the effect of cutting business in half at Sanostee.

During this same time period, in 1913, an uprising of local Navajos occurred in Sanostee. This became known as the Beautiful Mountain Uprising, when followers of Bi-Joshi, a medicine man, refused to follow Superintendent Shelton's edict against polygamy. His followers went and by force freed three wives of Bi Zhoshí's son, Haatalii Yázhí (Little Medicine Man), who were being held in the Fort Defiance jail. General Hugh L. Scott was ordered by Washington to help solve the problem. Since about 1908, there had been many conflicts between the Navajo and the management of the Shiprock Agency. Scott chose Father Anselm Weber, the Catholic missionary to the Navajo and Chee Dodge, the most prominent Navajo at the time, to help him solve the situation. After much negotiation, BiJoshi surrendered to General Scott on Thanksgiving Day, November 27, 1913.

This incident appears to be the last time U.S. Army troops were called out against American Indians (there have been many other skirmishes between American Indians and various government entities since this time; however, the U.S. Army was not involved).

Uranium was discovered in the community in 1949. A mine was opened and operated eight miles east of the Chapter House by Ray William of Aztec, New Mexico. The mine was closed in 1980.

*Ruins of the old trading post in Tocito.*



## **2.0 Community Socio-economic Trends**

### **2.1 Population and Demographic Characteristics**

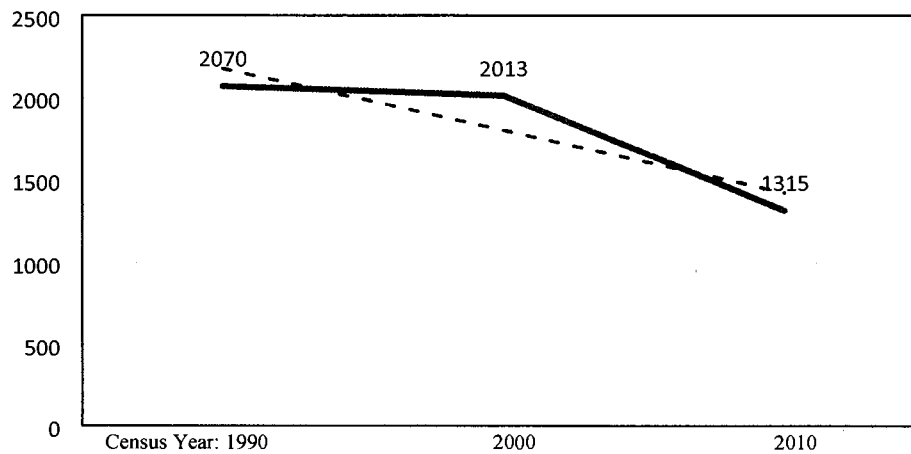
#### **Historic Population**

U.S. Census information for the Tsé Ałnaozti'í Chapter shows a fluctuating population over the past 20 years. As shown in the table below, the population increased from 1,943 persons in 1980 to 2,070 persons in 1990, then decreased to 2,013 in 2000 and has decreased to 1,315 in 2010. The rate of change is relatively small during both decades, averaging less than 1% of increase and decrease per year. According to the Chapter, the population was likely undercounted in 2010.



#### Exhibit 4: Chapter Historic Population Trends

##### Tsé Ałnaozti'í Chapter Historic Population



The U.S. Census Bureau reported that at least one chapters near Tsé Ałnaozti'í grew between 2000 and 2010, in contrast to the reported decline in the Tsé Ałnaozti'í Chapter population, as shown in the chart below. The overall area had a decline in population by 203 persons, at an average annual rate of 2%.

#### Exhibit 5: Population Comparison

Community	2000	2010	Change	%Change
Sanostee	2,013	1,315	- 698	-33.0%
TwoGreyHills/Newcomb	1,547	1,750	203	13.0%
Red Valley	1,286	1,267	-19	-0.98%
Total	4,846	4,332	-203	-20.98%

Given the limited housing available for new families, it is expected that some young families would move to TséAłnaozti'í, if housing were available. However, the distance to current jobs is a factor that dampens growth potential.

#### Current Population

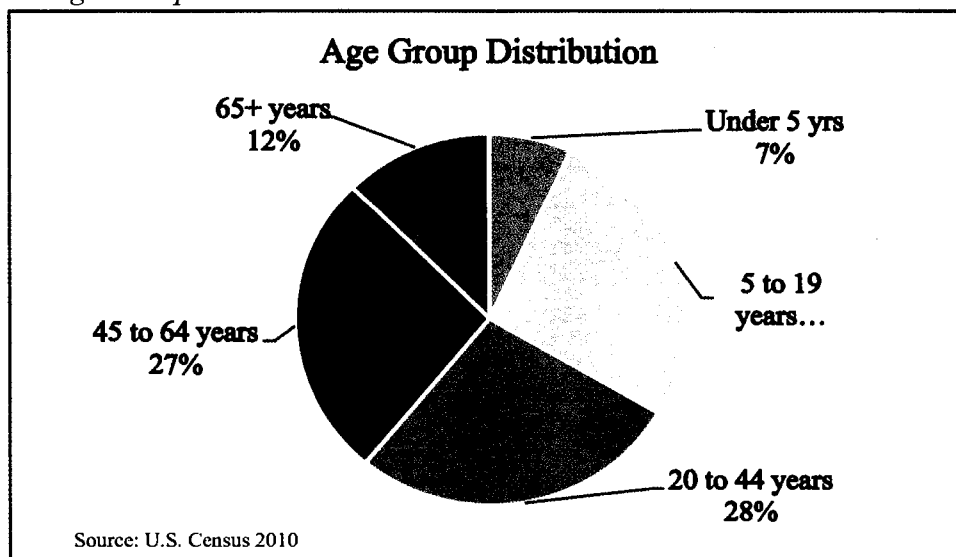
The population of the Tsé Ałnaozti'í Chapter is slightly older than the population of the Navajo Nation as a whole. As shown on the chart below, the age group of under 5 years old to 19 years of age is 1% smaller for the chapter than for the Navajo Nation. The portion of population in the main child-bearing years of age 20–44 is less for the chapter as for the Navajo Nation. However, the portion of the Tsé Ałnaozti'í Chapter population over 65 years of age is 1.7% more than for the Navajo Nation.

**Exhibit 6: Age Group Distribution – 2010 Census**

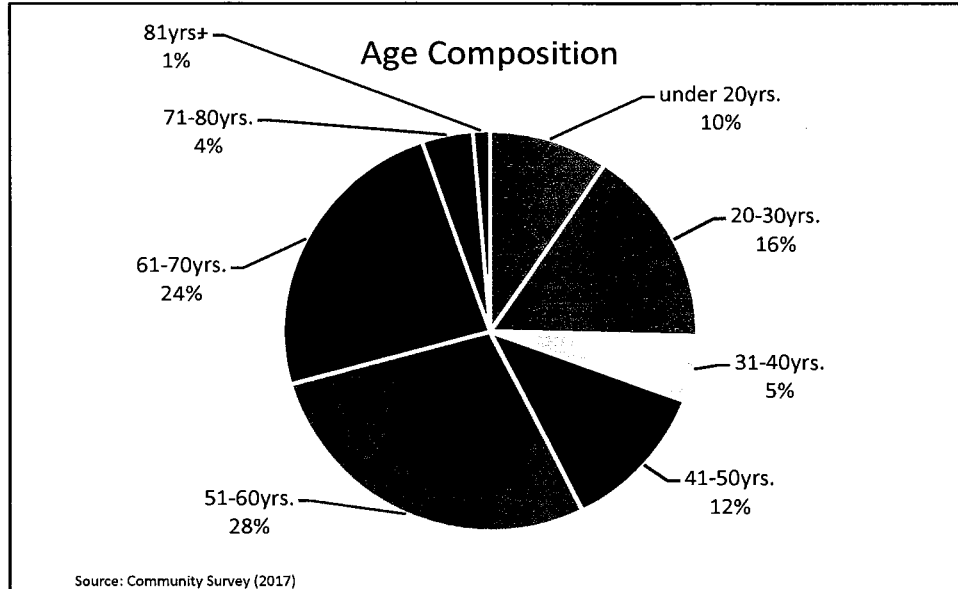
Tsé Ałnaozti'í Chapter and Navajo Nation 2010 Age Distribution				
	Tsé Ałnaozti'í Chapter		Navajo Nation	
Under 5	90	6.8%	14,068	8.1%
5 to 9	109	8.3%	15,074	8.7%
10 to 14	128	9.7%	14,778	8.5%
15 to 19	111	8.4%	15,362	8.8%
20 to 24	88	6.7%	14,753	8.5%
25 to 34	157	11.9%	21,525	12.4%
35 to 44	120	9.1%	19,751	11.4%
45 to 54	207	15.7%	22,018	12.7%
55 to 59	80	6.1%	10,360	6.0%
60 to 64	62	4.7%	7,685	4.4%
65 to 74	80	6.1%	10,697	6.2%
75 to 84	65	4.9%	8,886	3.4%
85 years and over	18	1.4%	1,865	1.1%
Total	1,315	100%	173,822	100%

Results of the Chapter Survey show similar findings with the 2010 Census figures, as seen in Exhibits 7 and 8. The main difference is in the percentage of children and seniors in the population. The Chapter survey shows an even greater number of seniors and fewer children than the 2010 Census (Exhibit 9).

**Exhibit 7: Age Group Distribution - Census 2010**



**Exhibit 8: Age Group Distribution – Community Survey**



The household composition in terms of age of occupants, approximately 28% of the household occupants were in the age category of 51 to 60 years. The next largest group was the individuals aged 61 to 70 years of age, which comprised 24% of the households. The 31 to 50 years of age category was 17% of the population. Individuals under 20 years of age, comprised 10% of the population. The smallest population group was the 71 years and older, which is at 5% of the population.

**Exhibit 9: Comparison of Community Survey and Census 2010**

	Community Survey	Census 2010
Children (0-19)	10.0%	33.2%
Working Age Adults (20-64)	33.0%	54.2%
Senior Citizens (65+)	29.0%	11.0%

### ***Future Population Projections***

The following chart shows population growth projected for the Tsé Ałnaozti'í Chapter over the next twenty years. Population is projected to increase from 1,315 persons in 2010 to between 2,100 and 2,600 persons by 2020. The low range represents an annual rate of 0.5% growth from 2000-2020, anticipating slow growth similar to the past 20 years as reported by the U.S. Census. The mid-range series has an annual growth rate of 1.2% between 2000 – 2010 and 0.9% between

2010 – 2020. The growth rates are similar to the projected rates for McKinley and San Juan Counties.

Specific to the Tsé Ałnaozti'í Chapter, the rates reflect the somewhat older population of the chapter and an anticipated slight decline in the number of persons in the main-child bearing years living in the chapter. The high- range series shows an annual average growth rate of 1.8% between 2000 – 2010 and 1.4% between 2010 – 2020, consistent with the combined historic growth rate of area chapters.

## **2.2 Employment and Income**

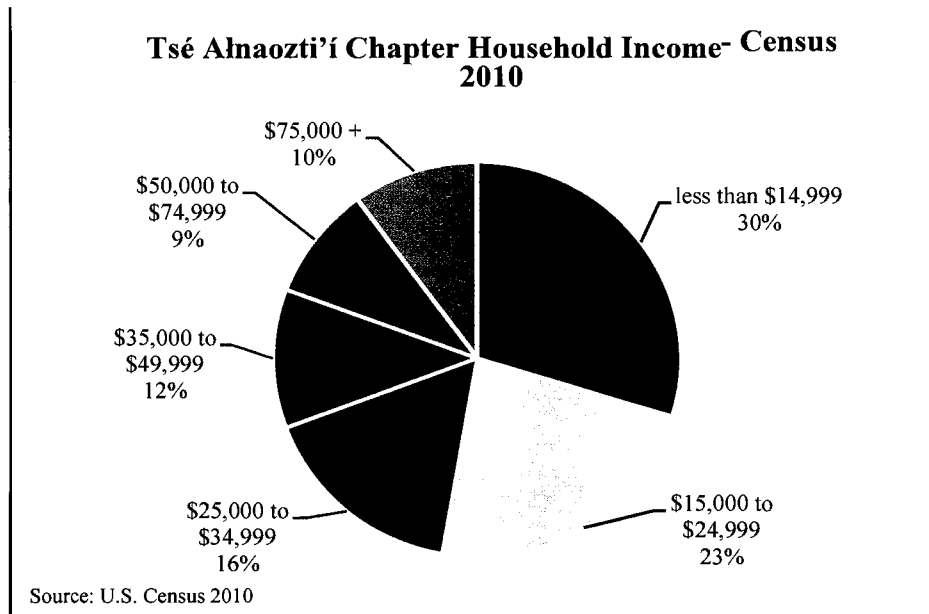
According to the U.S. Census, in 2010, 24.4% percent of the labor force on Navajo reservation and off-reservation trust lands in New Mexico (including all of the Eastern Agency and part of the Northern -- formerly Shiprock -- Agency).

Major employers of Tsé Ałnaozti'í Chapter members include:

- Navajo Nation Tribal Government
- Navajo Tribal Utilities Authority (NTUA)
- Navajo Engineering and Construction Authority (NECA)
- Navajo Agricultural Products Industry (NAPI)
- Bureau of Indian Affairs (BIA)
- Indian Health Services (IHS)
- Public Schools and BIE Schools
- Arizona Public Service Company (Power Plant)
- Mining: Navajo Mine, San Juan Mine, La Plata Mine, and NTEC
- Home Health Care Providers

The majority, 30% of the residents of Tsé Ałnaozti'í Chapter have an income of less than \$15,000.00 per year, as of the 2010 Census. The second largest income group, 23% reported an income between \$15,000.00 to \$24,999.00 per year. Sixteen (16%) of the residents reported an income between \$25,000.00 to \$34,999.00 and 12% reported an income of \$35,000.00 to \$49,999.00. The rest approximately 19% reported an income of \$50,000.00 and more. The median income was reported at \$23,167.00

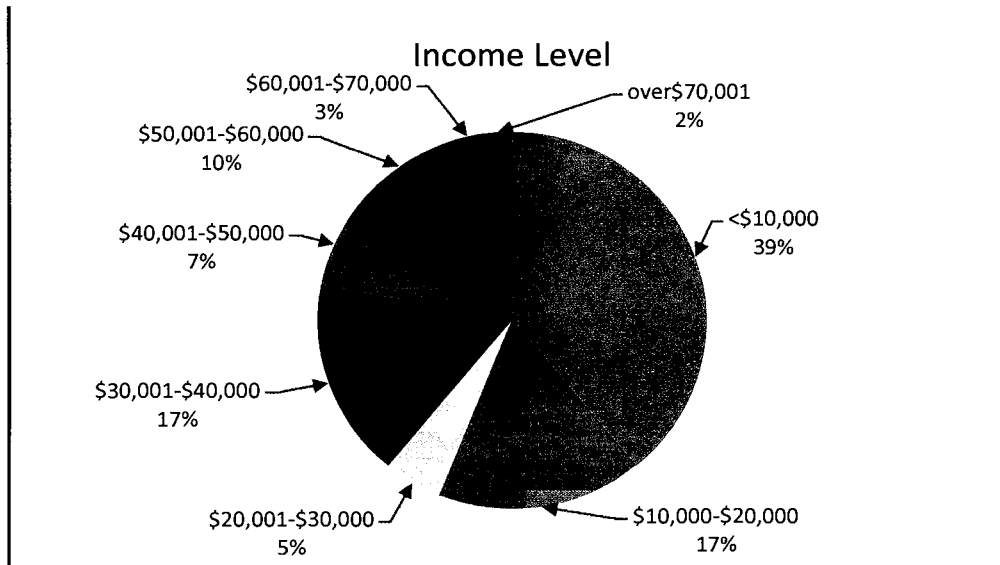
**Exhibit 10: Household Income – Census 2010**



The Census 2010 reported thirty (30%) percent of the population with an income of less than \$10,000.00 per year. There are two income levels which were the next largest group, 39% was reported for two income levels, with an income between \$10,001 to \$20,000 and also \$30,001 to \$40,000 a year. Another 12% of the households reported an income of over \$50,000 a year (*Exhibit 10*). In comparison to the community survey, there is a slight difference from the Census 2010 and it might be that this survey was completed in 2017(*Exhibit 11*).

The majority, 39%, of the residents of the Tsé Ałnaozti'í Chapter have an income of less than \$10,000.00 a year, as of the 2017 community survey. There are two income levels which were the next largest group, 17% was reported for two income levels, with an income between \$10,001.00 to \$20,000.00 and also \$30,001.00 to \$40,000.00 a year. Another 17% of the households reported an income of over \$50,000.00 a year (*Exhibit 11*).

**Exhibit 11: Household Income – Community Survey**

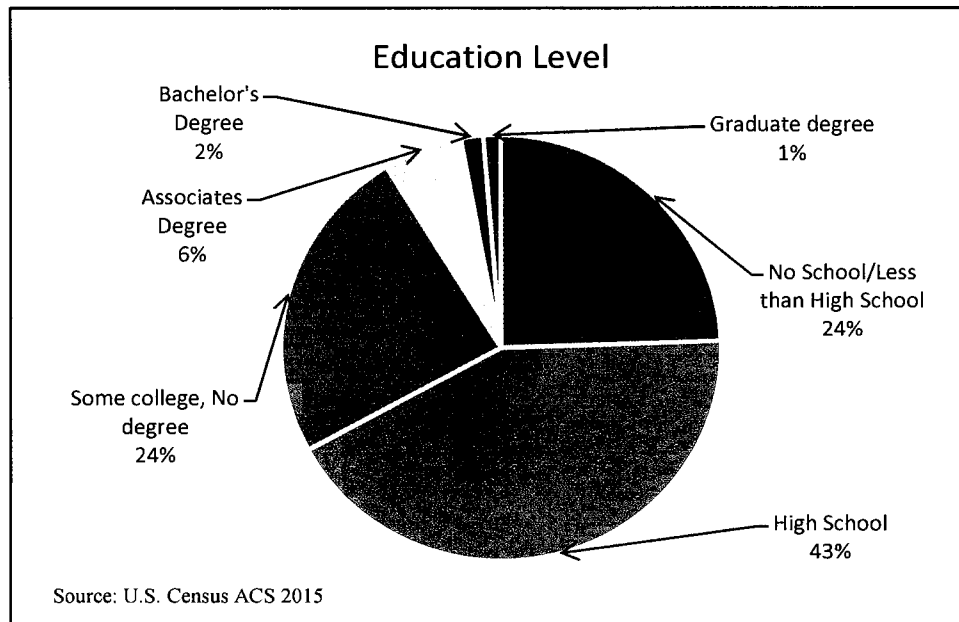


Source: Community Survey

According to the U.S. Census, in 2015 American Community Survey, 62.5 % of the population aged 25 or older on Navajo reservation and off- reservation trust lands in New Mexico had at least a high school diploma. 13% had a bachelor's degrees or higher.

Educational levels were much lower for Tsé Ałnaozti'í Chapter when compared with the rest of San Juan County in Census 2010. Whereas, 76.8% of San Juan County residents had at least a high school diploma. 31 % of San Juan County residents had a high school diploma (or equivalency), whereas 62.5% of the Tsé Ałnaozti'í residents had obtained a high school diploma. Fifty percent of San Juan County residents had some college or a degree, whereas only 13% of Tsé Ałnaozti'í residents had attended college with only 6% obtaining a degree as compared to 20% for San Juan County.

**Exhibit 12: Education levels – Census 2010**



**Exhibit 13: Education Levels – Community Survey**

How Much education has this person completed?				
Some School	Attended High School	HS Diploma or GED	Some College	Technical School
Military Training	Certificate	Associates	Bachelors	Masters and PhD

The Chapter Survey indicated that 40% of the respondents (the household members who answered the questions) had a high school diploma, GED, or higher education. Of these, 5% had an Associate degree or higher.

### 3.0 Land Status

Tsé Ałnaozti'í community is located within the Navajo Indian Reservation. The total area of the Chapter is 313,576.4 acres, all of which is Tribal Trust lands.

### *Cliffs in Tsé Ałnaozti'í Community*



## **4.0 Housing**

This section described existing housing, housing needs and proposed housing sites in the Tsé Ałnaozti'í community.

### *NHA Housing*





### Existing Housing

Tsé Ałnaozti'í community has a 32-unit Navajo Housing Authority (NHA) homes located south of the Chapter compound.

According to the 2010 Census, there was a total of 657 housing units within the Tsé Ałnaozti'í community. Of these housing units, 422 houses or 64.2%, were occupied, while 235, or 35.8%, were vacant. Of the vacant households, 83% were for seasonal, recreational, or occasional use (*Exhibit 14*).

**Exhibit 14:** *Housing Units, 2010*

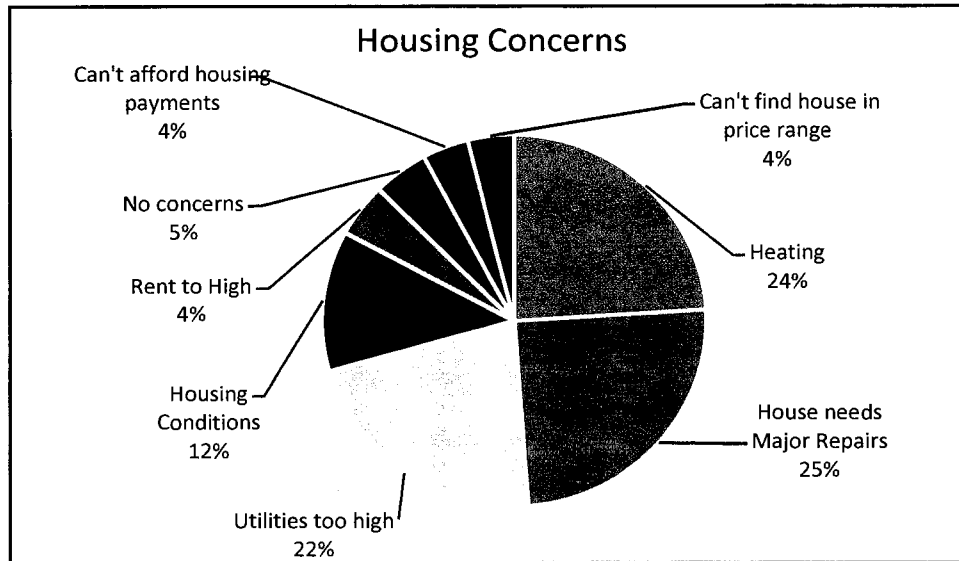
Tsé Ałnaozti'í Housing Units: 2010			
Total Housing Units	Occupied	Vacant	Seasonal (included in vacant)
657	422	235	195



## Residents' concerns about their Houses

The community survey conducted by the CLUPC included a number of questions about community member's houses and the utilities that serve them. The remainder of this section presents information obtained from the survey. Survey respondents were concerned about the conditions of their house. (*Exhibit 15*).

***Exhibit 15: Reported Housing Condition and Concerns***



Source: Community Survey

Fifty-five percent of the respondents stated that their homes were adequate. However, 25% said that their homes were in need of major repairs. The other major concern was that the heating was not adequate for their homes, twenty-four percent (24%) stated that they need assistance with heating their home. Twenty-two percent (22%) stated that the utilities were too high.

- **Primary Source of Heating**

Sixty-two percent of respondents stated that they used wood/coal as a primary heat source. Nineteen percent (19%) use electric heaters for heat. Five percent (5%) used LP Gas, 3% used pellet stoves, and the remaining 3% used some other form of heating. Many people used several heating sources, particularly in combination with wood or coal.

- **Electricity**

Eighty-eight percent of respondents received power from the electric utility. Four-percent of the respondents said that they use solar-generated electricity, and while 1% reported that they used other sources, and 4% responded that they do not have electricity.

- **Plumbing**

Seventy-eight percent of respondents reported that they have full plumbing, both kitchen and bathroom. One percent reported using privies. An additional 5% reported using other alternatives to kitchen and bathroom plumbing.

- **Domestic Water**

Seventy-six percent of respondents reported that they get water through the community's water lines. Five (5%) reported that there was no domestic water in their homes. Some respondents reported using more than one source of water.

### ***Proposed Housing***

The Chapter members are interested in developing individual, scattered housing, as there is concern with negative impacts of subdivisions on Navajo families. Crime such as gang activity is perceived to be worse in subdivisions. The Chapter is interested; however, in planning for clustered housing projects and subdivisions, in addition to scattered housing. This includes identifying land for development and withdrawing the land through chapter membership vote. In this plan, there are three different sites identified for housing development.

## **5.0      Grazing and Agriculture**

### ***Existing***

Volunteer elders established the community and its irrigation system sometime after 1868. Using picks, shovels, dirt buckets, and a team of horses they constructed an irrigation system using water from a spring produced by runoff from the nearby mountains. Planting and harvesting was all done by individual farmers and their families. There have been no improvements in the system in over 100 years. Currently corn, squash, beans, melons, apples, peaches, apricots, in the lower elevations are being dry-farmed. An estimated 15 family farms are still active.

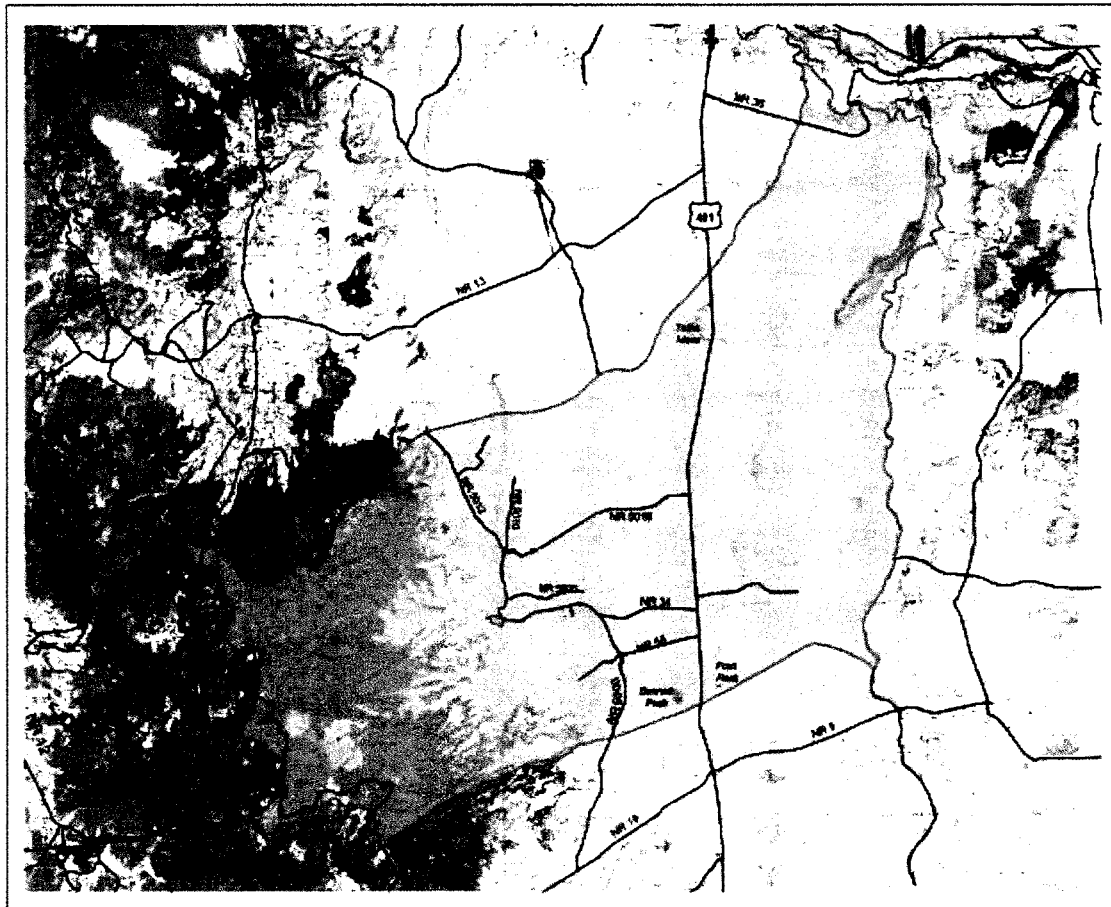
Livestock grazing (mainly cattle and sheep) is still an important practice in the Chapter. Approximately, 200 grazing permits in the community. Approximately 69% of those who have livestock, haul water for their animals.

### ***Proposed***

The community would like to continue livestock grazing in the Chapter, but with better management practices in order to reduce possible soil erosion and resultant deterioration of rangeland (*Exhibit 16*). According to the land board representative, only the school grounds, Chapter house area, and the NHA subdivision, individual home site leases and land use permitted areas are not open range.

There is also the possibility of water being made available from the Navajo- Gallup Water Supply Project (although current discussions indicate that this project will only provide water for household use). The project managers are stating that the community or people can use the water for other purposes than domestic use such as irrigation, as long as they are willing to pay the water use bills.

**Exhibit 16: Grazing District 12 Map**



**Legend**

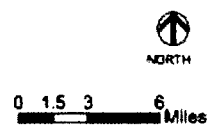
Chapter Boundary

★ Chapter House

**Grazing**

Open Range

Non-grazing Area



## 6.0 Commercial and Industrial Development

### *Existing/Needs*

There is a small convenience store in the community of Little Water. The store is operated by Red Mesa Express and is located directly off U. S. Highway 491. The store is a convenience store and sells gasoline.

### *Little Water Store*



In the plan's visioning process, Chapter members identified a need for a food store, a laundromat, a gas station and garage, a restaurant, and office space. Community members recommended the following:

□ Small shopping mall/Shopping center

- Grocery store
- Managed tourism
- A recreation area/Campground
- Fishing area
- Arts and crafts center
- Marketing of business activities through own Chapter website and media
- Truck stop
- Casino
- Racetrack
- Motel/Conference center/Restaurant
- Restaurants, café
- Golf course
- Trail rides
- Mortuary
- Newspaper
- Slaughter house
- Rare plant nursery/Center

- Museum for local artifacts
- Zoo
- Community fair
- Office/Multipurpose building

### **Proposed**

The CLUP Committee has chosen several sites for future commercial development. On one of these sites, plans are for a laundromat, restaurant and a grocery store. Neighboring chapters are also planning a combined truck stop/motel/shopping center is being proposed along U.S. Highway 491 near Bennett Peak. The Tsé Ałnaozti'í Chapter is collaborating with neighboring Chapters on this project.

Further information on commercial sites is presented on page 77 in the suitability analysis section of this document.

### **6.1 Tourism Possibilities**

The Tsé Ałnaozti'í Chapter is located in the middle of mesas and at the base of the Chuska Mountains. It is located in one of the most beautiful, scenic locations on the Navajo Nation. The Chapter is very interested in preserving these scenic areas and possibly using some of them for recreational facilities such as camping sites and RV parks.

Nearby attractions include Mesa Verde National Park, Four Corners National Monument, Aztec National Monument, and the various landforms such as Bennett Peak, Ford Peak, Barber Peak, and Table Mesa in the Chapter and Shiprock to the north.

#### *Chuska Mountains*



### **7.0 Community Facilities**

With the exception of the new ALERT/CERT building, most of the community facilities within the Tsé Ałnaozti'í Chapter are fairly old and need to be renovated or replaced. There has been some renovation work on the gym and chapter house buildings.

## 7.1 Chapter House and Chapter Facilities

The Chapter House was built in 1954. Before that time, meetings were held in an old post office building. The senior center has been operating out of the chapter house since 1998. The main reason why the community people visit the chapter house is to partake in the senior citizen and lunch services. Other reasons for visiting the chapter is to obtain residency verification letters and to attend various meetings or activities being held at the chapter and gym facilities.

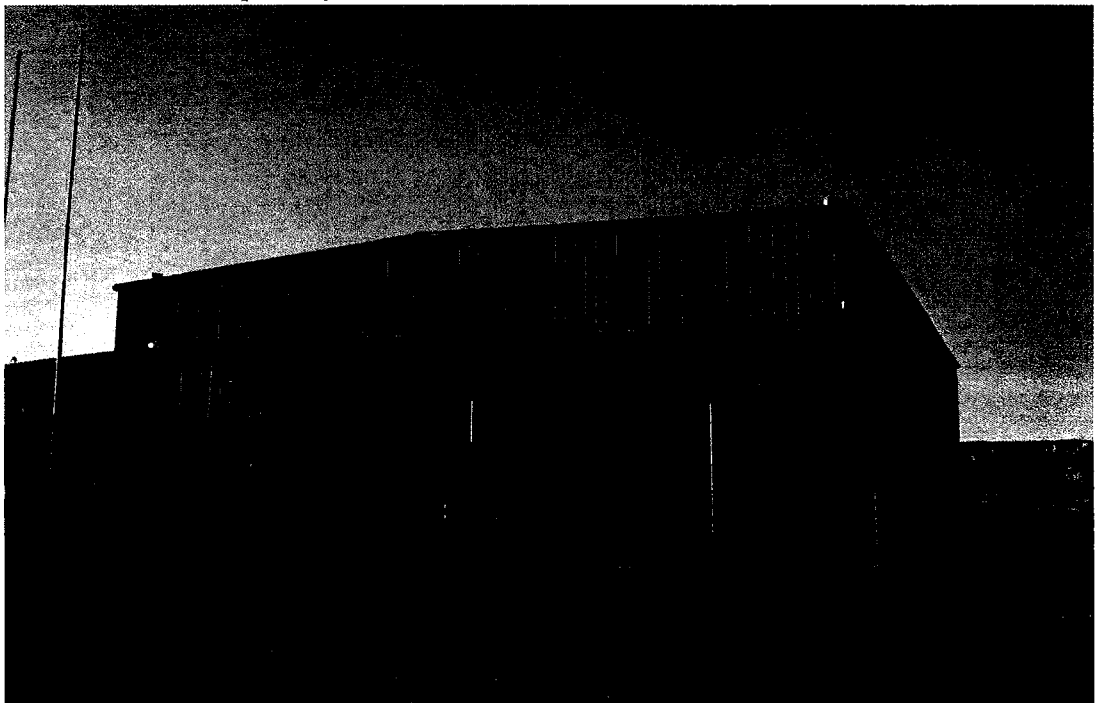
*Exhibit 17: Map of the Tsé Ałnaozti'í Chapter House area*



*Tsé Ałnaozti'í Chapter House*



*Tsé Ałnaozti'í Chapter Gym*





### **Proposed**

There is no secure office space or office space for chapter officials in the present Chapter House. In 2016, the Chapter renovated the gym and put in office spaces where the lockers and showers were. The community has been aware that there is a need for a new chapter house to be built. Due to the soil conditions and constant shifting of the ground at the current site, the current buildings are shifting on their foundations and walls are cracking. The proposal is to look for a different and more suitable location for the chapter facilities. This land use plan includes a new site directly off the U.S. Highway 491 in the Little Water area to house the new chapter house and community facilities.

## **7.2 United States Postal Service Office**

### **Existing**

There is a contract post office operating in the one of the Chapter's building. The office is opened with very limited hours. The previous location of the U.S. Post Office was in the old Sanostee Trading Post building.

## **7.3 Public Safety Facilities**

### **Existing**

While there is no building specifically dedicated to police/public safety activities, Public safety is provided to the community from the Shiprock Police Department. The office is located in Shiprock, New Mexico approximately 35 miles from the Chapter House. The officers are on call 24 hours per day to provide service in the area south of Shiprock.

Fire protection is now provided by the Navajo Nation's Newcomb Fire Department. This fire station is located approximately 19 miles south of Tsé Ałnaozti'í.

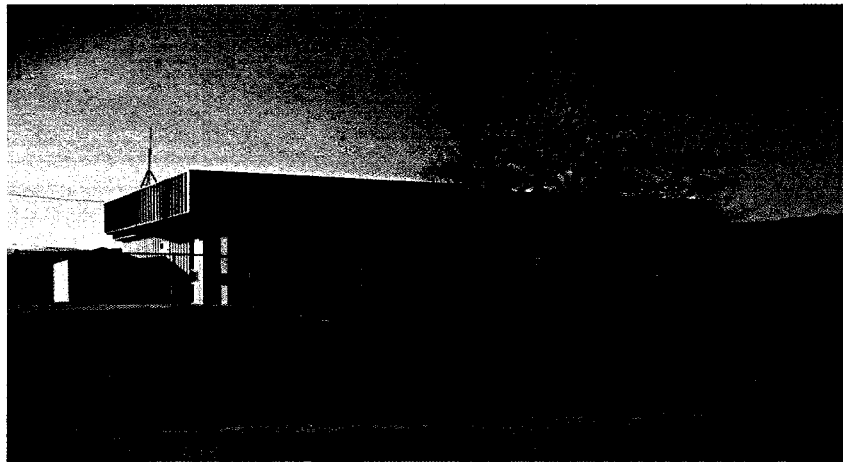
### **Proposed**

The Chapter is investigating the use of CIP funds to provide police and fire protection. In the meantime, an ALERT/CERT team of local volunteers is formed in the Chapter to develop means of responding to emergencies.

## **7.4 Educational Facilities**

*Head Start:* The Department of Diné Education operates a Head Start program for the Community. At the time of this writing, there are on the average 20 children in the Head Start program. There is one teacher, a cook, and a bus driver for the Navajo Nation Head Start program.

*Tsé Ahnaozti'í Head start*



*Elementary School:* Sanostee Day School is a BIE (Bureau of Indian Education) facility and has grades kindergarten through third grade. The school was built in 2009 at its current location. Approximately 85 students attend the school. There are 12 staff members including four teachers, one special education teacher, education technicians, a principal, a business technician, two bus drivers, one maintenance person, one security guard and one cook. There are two (02) school buses and one (1) government vehicle assigned to the school. The main building includes a computer room/library, two classrooms (one Kindergarten and one combination Kindergarten/First Grade), the administration office, an office for special education staff, and a kitchen and dining area



*Sanostee Day School*

Students from the community also attend the Newcomb Public School, which is part of the Central Consolidated School District. kindergarten through twelfth grade are provided there. The majority of Tsé Ałnaozti'í students use these facilities. Some students are attending school in the Shiprock area, Shiprock High School, and Shiprock Northwest High School. Other students attend school at Navajo Prep and Aztec Schools (Aztec Dorm).

Other students attend Toháali Community School, the BIE school in Toadlena, which has grades Kindergarten through Eighth Grades, and also has boarding facilities for students.

Higher education facilities are located in Shiprock, New Mexico approximately 35 miles north of the community. Students attend Dine' College, Shiprock Branch and San Juan College. Other students also are taking on-line classes through various colleges and universities.

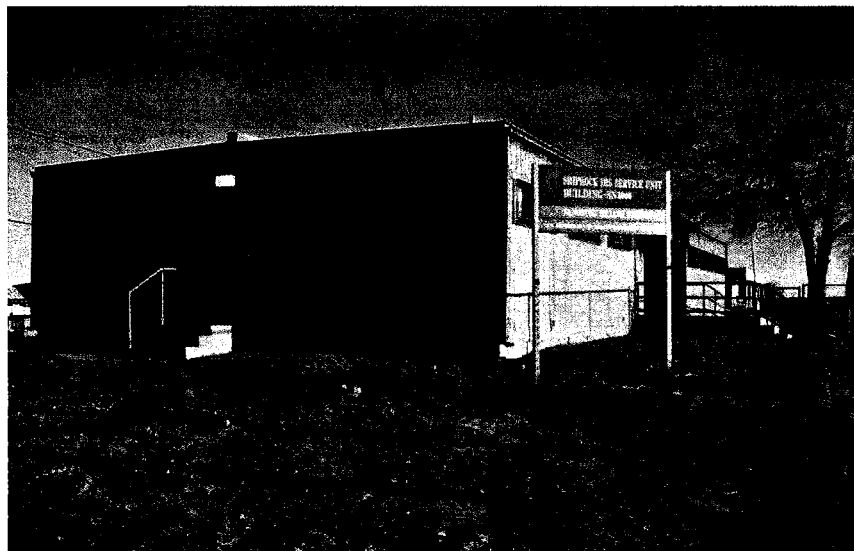
## **7.5 Health Care Facilities**

### **Existing**

There is an Indian Health Service Field Clinic located near the Chapter House. It is open for six hours per day on Tuesdays and Thursdays. There are winter hours in which the Clinic is open on Mondays, Tuesday and Thursday. No dental services are provided. A medical helicopter is available upon request from San Juan Regional Medical Center, Farmington, New Mexico.

The nearest medical facilities include:

- Northern Navajo Medical Center, Shiprock, 33 miles
- Gallup Indian Medical Center, Gallup, 66 miles
- San Juan Regional Medical Center, Farmington, 63 miles



*Tsé Ałnaozti'í IHS Clinic*

**Proposed**

Community members expressed a desire for more open hours and days at the IHS Health Clinic. They would also like to see dental services provided at the clinic.

**7.6 Senior Center****Existing**

The Senior Center Program is currently operating out of the Chapter House. In 2017, the Chapter renovated the southern portion of the Chapter House to be dedicated as the senior center. According to center administration, there is a need for additional services for senior citizens at the Chapter, including medical care on site, help with social security claims and issues, and more recreational programs. The Navajo Nation funds 80% and the State of New Mexico funds 20% of the personnel and operating costs of the senior center. Federal funding pays for the cost of some of the food for meals. San Juan County also provides some operational funds.

**7.7 Other Community Facilities****Existing**

There are numerous churches operating in Tsé Ałnaozti'í community including the Christian Reformed, Mesa Baptist, Miracle Church, Seven Church, Church of Holiness and Yellowhill Church.

**8.0 Community Services****Existing**

Active community organizations include the Community Land Use Planning Committee, Senior Citizen Council, Veterans Organization, ALERT/CERT and the Roads Committee.

**Needs**

Community members expressed a need for the following community services:

- Better Communication System
- Nursing home
- Expand the health clinic
- Adult day care
- Child day care (none available in Chapter)
- Better health and safety systems
- Better family planning
- Better post office with home mail delivery
- Police and fire, a public safety building
- Helipad
- Chiropractor

- Optical Services
- Juvenile detention center/Prison
- Adult detention center/Prison
- Treatment center/Recovery center
- Better elder protection laws

## **9.0 Navajo Nation Enhanced E-9-1-1 Rural Addressing**

The goal of the Enhanced 9-1-1 rural addressing process is to link each telephone number to a permanent unique address that is E 9-1-1 compliant and clearly identifies where a caller is physically located. This requires a creation of a physical address for any property that is currently occupied. The most important reason for creating physical addresses is to enhance the effective and rapid location of properties by public safety personnel, including law enforcement, fire, rescue and emergency medical services personnel responding to a call for such services in the rural area. The Tsé Ałnaozti'í community service boundaries extends to Tocito in the south portion, West Chaco Wash N5092 in the eastern portion, Littlewater and north to the Table Mesa Area and to the west to the Arizona border in the Chuska mountain areas.

The community started the original work on rural addressing in 2000. The ALERT team was originally assigned to do field data collection. In 2008, the Northern Navajo Chapters entered into an agreement with San Juan County to establish the standard road naming system for areas of the Nation which were located in San Juan County.

The Chapter continued field data collection under the new road naming system agreement. The field data collection was completed in 2016. In 2017, the Chapter through the Local Rural Addressing Committee (LRAC) technicians started installing road signs.

The road signs have been installed for the major roads and residential roads, based on the road numbering system agreement with San Juan County. The road numbers start with 8770 in the eastern area of U.S. Highway 491. On the western area of U.S. Highway 491, the road numbers are in the 9000s. The road numbers start with 9729 in the northern portion near Table Mesa area and end with 9589 near the southern portion of the community. The drive way posts and house structure signs will be installed in early 2018.

This rural addressing project's main purpose is emergency response. The Tsé Ałnaozti'í Chapter has an active ALERT/CERT. The ALERT has been active since 1996. The ALERT members are all trained as First Responders. The Chapter has an Emergency Response Plan in place. Recently, the Chapter is actively participating in developing mutual agreements with neighboring chapters to response to emergencies with equipment, facilities and personnel. Three chapters participating in this mutual regional emergency response are called the Chuska Mountain Regional Chapters.

## **10.0 Open Space and Recreation**

Recreational facilities provide places for play and relaxation. The availability and activities at recreational facilities encourages physical fitness among community members from youth to elders. In this plan, along with the community development site, there are plans to have a youth center that will provide recreational activities with a basketball/volleyball court and a swimming pool. Outdoor activities at the center will include a softball field and playground.

There are areas designated as open space in the community which have significance to the people. This designation will allow for uses such as hiking, horse trail riding, and such recreational activities which have low impact to the environment. The intent of this open space designation is to preserve areas for their esthetic value or natural and cultural significance for the future generations to enjoy.

## **11.0 Other Concerns and Needs**

Community members expressed the following concerns and needs for the future of the Tsé Ałnaozti'í community:

### **Community Facilities**

- New Chapter House
- Sports complex/recreational facilities
- Picnic area
- Public swimming pool
- Health center – exercise center
- Local health clinic - open 24 hours or extended hours compared to present
- Veterans' clinic
- Police and fire – public safety building
- Functioning Airstrip
- Public library
- Parks and open space
- Elderly home/nursing home
- Retirement center
- Cemetery
- Trash transfer station

### **Infrastructure**

- Better, paved roads including across mountains to Arizona part of Chapter
- Wind generation of electric power for self-sustaining electric supply as well as economic development – sell excess electricity produced
- Improved communications systems

**Education**

- Early childhood education
- Better school board members – accountability
- Community college
- Vocational training
- Schools with up-to-date computer technology
- Education that includes cultural history

**Other**

- Clean up former uranium mine

**Government**

- Better local government
- Township form
- Chapter should be self-sustaining and have its own authority - be self-governing
- Long-term support – strong intergovernmental relations
- Government accountability
- Plan for growth using better method

**12.0 Community Planning Goals**

Using the information gathered from the CLUP Committee and the Tsé Ałnaozti'í Community, as described above, the CLUP Committee identified the following items as goals for the Tsé Ałnaozti'í Community. These goals relate to each of the categories described above in the Community Assessment. Policies, as outlined in Section E of this document, have been developed to attain these goals as well as to address other issues identified during the planning process.

**Culture and Religion**

- Preserve the Navajo language and local customs.
- Encourage the teaching and development of native arts and crafts.
- Preserve the right of individuals to practice their own religion and beliefs.
- Protect sacred sites and shrines.

**Grazing and Agriculture**

- Identify and set aside suitable lands for grazing and agriculture.
- Ensure land becomes, and remains, healthy and productive.
- Promote range management practices that make ranching a sustainable use of land.
- Develop an irrigation system for farming.
- Teach methods of dry farming to community youth.

**Environment and Natural Resources**

- Keep Tsé Ałnaozti'í a healthy, clean place for people to live, including picking up and disposing of trash.
- Protect existing resources and ensure for future use.
- Mitigate impacts and manage resources wisely.
- Retain existing wildlife.

#### Economic Development/Tourism

- Create business and industry in the community. • Provide needed businesses, goods, and services
- Create jobs in the community.
- Develop tourism that capitalizes on the isolation and open space of the area

#### Services to Improve the Quality of Life in the Chapter

- Create educational opportunities for people of all ages.
- Provide health care, recreation services, adequate police and fire protection.
- Provide services that improve the quality of life.
- Provide services for elderly, youth, veterans, and others.

#### Infrastructure and Community Development

- Ensure that there is quality, safe housing with the basic utilities of water, sewer, gas, power, and telephone to the entire community.
- Provide all-weather roads throughout the community.
- Encourage long-term planning of infrastructure and land use.
- Develop Tsé Ałnaozti'í as a “small town”
- Governance - Develop a township or other municipal form of local government

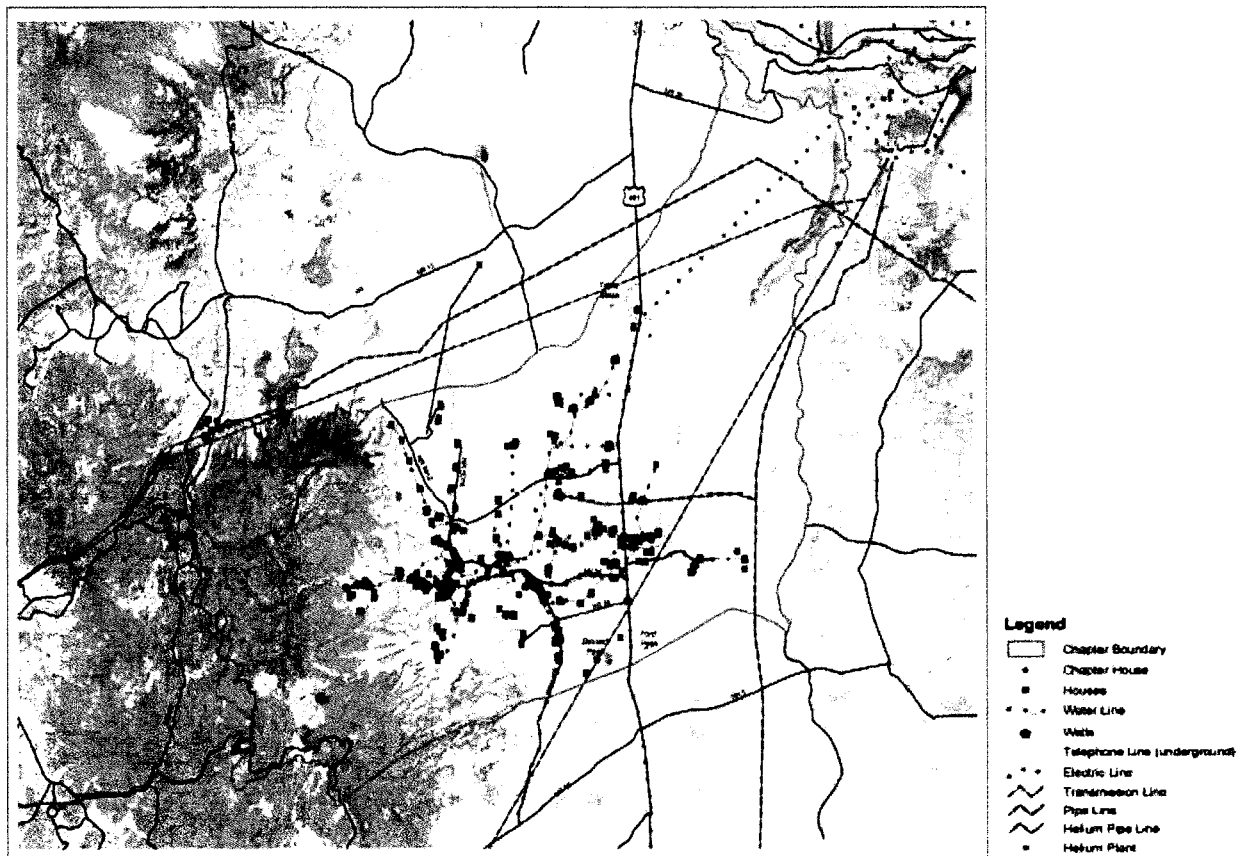
#### Exhibit 18: Summary of Land Use

Location	Existing Uses	Acreage	Proposed Uses	Withdrawn
Chapter House Compound	Chapter House Senior Center Head start Warehouse	7.1 acres	Fire Station Police Substation Community Warehouse	Yes
BIE School Compound	K-3 Elementary School	40 acres	Education	Yes
Tsé Ałnaozti'í NHA Housing	Housing	14 acres	Housing	
Old BIA School Compound	Abandoned	35 acres		
IHS Clinic	Housing	--	Medical Services	Yes
Housing Site 1	Grazing	40 acres	Housing	No
Housing Site 2	Grazing	60 acres	Housing	No
Housing Site 3	Grazing	100 acres	Housing	No
Community Development Site 1	Grazing	100 acres	Chapter House, Sr. Center, Veterans, Head start, Youth facility, laundromat	No



Commercial Site Opposite NR34 and US Highway 491	Grazing	Undetermined	Convenience Store, Laundromat	No
Commercial Site along northeast Chapter boundary	Grazing	Undetermined	Industrial and commercial	No
Community Cemetery Site 1	Grazing	Undetermined	Veterans/Community cemetery	No
Community Cemetery Site 1	Grazing	Undetermined	Veterans/Community cemetery	No
Community Cemetery Site 1	Grazing	Undetermined	Veterans/Community cemetery	No

**Exhibit 19: Existing Land Use**



## C. Infrastructure Analysis

### 1.0 Infrastructure

This section describes the existing and needed infrastructure in the Tsé Ałnaozti'í community.

## **1.1 Thoroughfare, Transportation and Roads**

### **1.2 Existing**

The major roads in the Chapter include:

- U.S. Federal Highway 491 (4 lane paved) traverses the community north and south, from Table Mesa area to the Bennett's Peaks area near Newcomb.
- Highway N34 (paved) from U.S. 491 to Tsé Ałnaozti'í Chapter House compound approximately 9 miles of paved road.
- Navajo Route 5000 (paved) south from N34 in the Tocito area to Two Grey Hills Housing area, approximately 6 miles of paved road.
- Navajo Route 5005, west of U.S. Highway 491 (north of Little Water) to Navajo Route 5012 north, approximately 9 miles of dirt road.
- Navajo Route 5010 (dirt) south from N34 towards Pillow Mesa South, approximately 8 miles of dirt road.
- Navajo Route 5012 (dirt) North from N34 towards Mitten Rock connecting to Navajo Route 13, approximately 6 miles of dirt road.
- Navajo Route 5016 (dirt) West of U.S. Highway 491 towards Big Bell Mountain, approximately 10 miles of dirt road.
- Navajo Route 5017 (dirt) East of U.S. 491 and east of Table Mesa, approximately 11 miles of dirt road.
- Navajo Route 5092 (dirt) East of U.S.491 to Cactus Area, approximately 9 miles of dirt road.

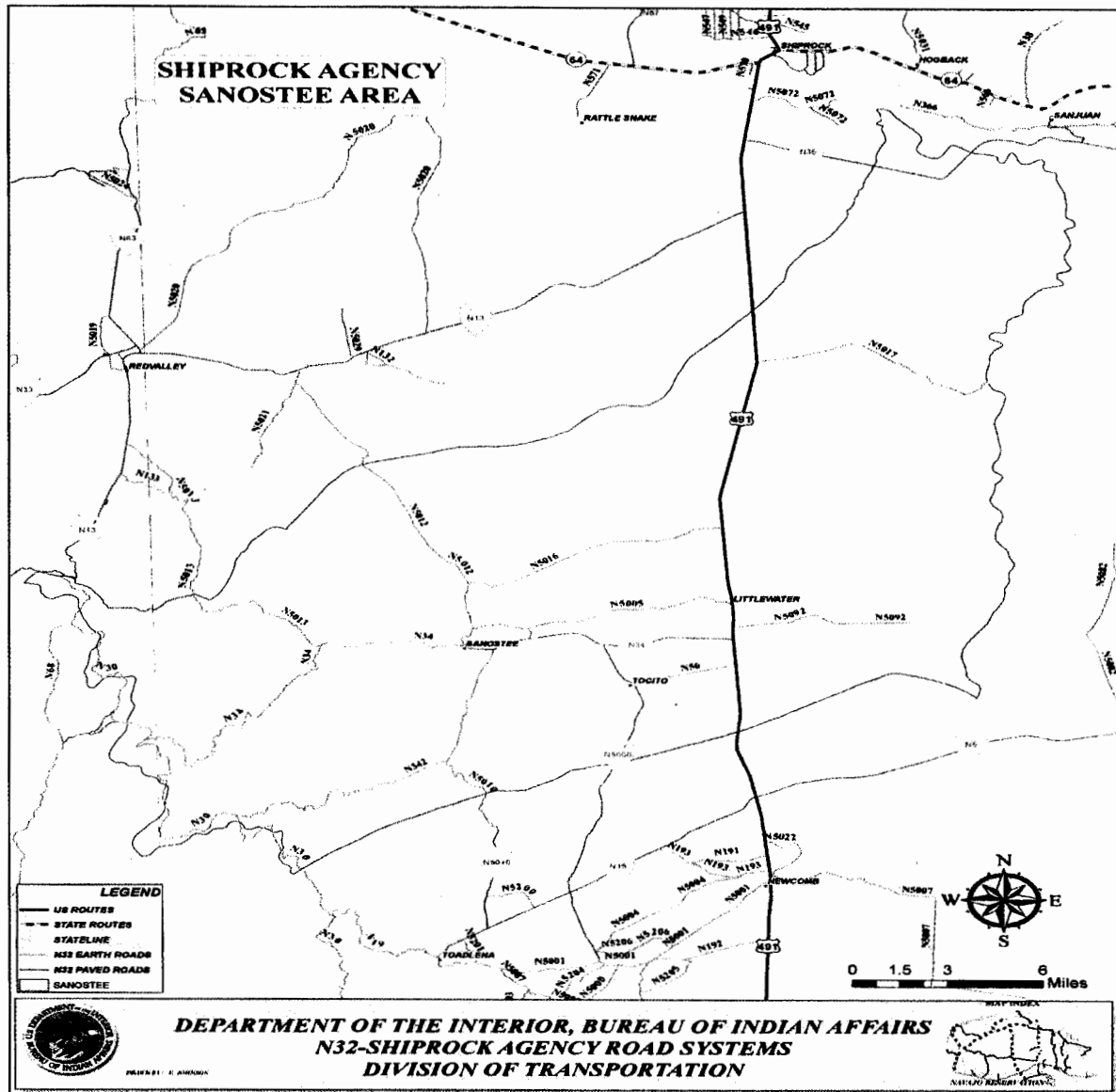
There are numerous other dirt roads in the community, which serve private residences. Through the Rural Address Project, the Chapter is installing road signs, driveway posts and house structure signs.

The Tsé Ałnaozti'í Chapter has a Roads Committee of community members whose main responsibility is to ensure that the community roads are maintained properly and/or prioritized for funding for upgrade. The chapter has currently prioritized Navajo Route 5010 south for funding purposes through the Chapter's Infrastructure Capital Improvement Project (ICIP) system.

### ***Proposed***

At the time of this writing, archaeological surveys and all clearances have been completed for Navajo Route 5010 South. Funding to pave this road is being sought.

## Exhibit 20: Roads within Tsé Ałnaozti'í community



### Transit

The community has a Navajo Transportation service bus stop at the Littlewater Store on U.S. Highway 491. There are three different bus schedules that serve the Tsé Ałnaozti'í community. There is no bus service on weekends and Holidays. The fee for these bus services are \$2.00 per person.

The Route 14 bus travels from Shiprock to Fort Defiance and back to Shiprock before going south on U.S. 491. The bus arrives at Littlewater Store at 5:30 am and returns at 7:15 pm, Monday through Friday.

There are two other routes which serve the area, Route 07a departs from Newcomb to Farmington and to Ft. Defiance and returns. This route is in service on Monday and Friday only. The third route is Route 07b, this bus departs from Newcomb to Shiprock and to Farmington and returns. This route is in service on Tuesday, Wednesday and Thursday only. All three routes stop at the Littlewater Store.

### **Railroad**

There is currently no rail service to the Tsé Ałnaozti'í community or in the area.

### **Airport**

There is an abandoned air strip east of the Chapter House area that was used by the old BIA school and for medical emergencies. Currently, there are no plans to put it back in operation. The closest air strip is located south of Shiprock, east of the Red Valley junction of U.S. Highway 491. This air strip is approximately thirty (30) miles to the north of the Tsé Ałnaozti'í Chapter house.

## **1.3 Utilities**

### **Gas**

As there is no natural gas service in the Tsé Ałnaozti'í community, the homes including those in the subdivision near the Chapter House are served by individual LP gas (propane) tanks.

According to the Chapter Survey, 16% of the respondents had LP gas.

### **Electric**

Electric service is provided and maintained by the Navajo Tribal Utility Authority (NTUA). Of the homes which have electricity, NTUA provides the services. Some elders' homes have been equipped with solar lights through the local Senior Center program. There are other who use gas generators too.

### **Water**

The Tsé Ałnaozti'í Chapter is served by the development of local artesian wells. There are four wells in the Tsé Ałnaozti'í community area, Well #12T-662, Well #12T-512, Well #12T-633 and Well #12T-590. There are also watering points located in community through windmills and one well in Tocito from an artesian source. But these water sources are not for domestic use.

### **Wastewater**

Some residents are using the sewer system managed by NTUA. These are limited to the residents located near the Chapter house compound. The BIE school has its own sewer pond. The majority of the residents use on-site septic tanks and care for these systems at their own costs.

**Solid Waste**

There is no solid waste transfer station nor landfill in the community area. Residents use transfer stations in Newcomb- Sand springs station, Shiprock, Nenahnezad or Waterflow. Unfortunately, because of the distances involved and fees, some people dump their trash in various areas according to the Chapter.

**Telephone**

Land line telephone service is provided by Frontier to the school, chapter and some local residents. Other residents rely on cellular phone services.

**Cellular Communication**

There are two communication towers located in the community of Tsé Ałnaozti'í. One communication tower is for cellular telephone communications owned by Cellular One of Arizona. This tower is located north of Navajo Route 5005 in the Little Water area. The second communication tower is owned by Navajo Tribal Utility Authority. This tower is located approximately ½ mile west of U.S. Highway 491 in the Little Water area.

**2.0 Analysis of Individual Sites for Housing Development**

This section assesses three potential housing sites regarding the existing and needed infrastructure of each.

Several sites for potential housing were chosen for initial review in the Tsé Ałnaozti'í Chapter. Through the community assessment, the biggest concern that the community people have is in regard to housing. Through research and community involvement, some sites were eliminated from consideration due to a lack of community support or problems such as potential for flooding, terrain issues, and access.

**2.1 Housing Development Site One (1)**

*Exhibit 21: Housing Development Site 1*



**Location:** 1 mile north of the Littlewater Store, south of Navajo Route 5016 turnoff, west of U.S. Highway 491. Site one consists of sixty (60) acres located approximately 1 ½ mile north of the Littlewater Store. The site is shown on the map in Exhibit 21.

### **Site Accessibility**

The site is directly accessible from Navajo Route 5016 and U.S. Highway 491. Navajo Route 5016 runs west from U.S. Highway 491 towards the Chuska Mountain. This road is a dirt gravel road.

### **Site-Related Aspects**

There are no existing buildings or structures noted on the site.

### **Site Utilities**

- Water:

The closest water lines are approximately 3,350 feet east from the site border.

- Sewer:

No sewer service is available on the site. A subdivision- type housing development will require the construction of a sewer lagoon. A four- to six-acre cell will serve between 20 and 160 homes. A 1,000 foot setback from the lagoon is required.

- Gas:

Homes built here would most likely be served by individual propane tanks.

- Electrical:

The closest electric lines are approximately 250 feet east from the site border.

- Telephone:

The nearest telephone lines are approximately 250 feet east of the site.

### **Special Site Development Requirements**

The relatively level area of the site makes it one of the more suitable areas for housing development in the Chapter.

### **Legal Considerations**

The Chapter will be required to proceed with the proper land withdrawal process and obtain utility rights-of-way from land use permittees.

## 2.2 Housing Development Site Two (2)



**Location:** This site is located approximately 5.2 miles east of the Tsé Ałnaozti'í Chapter House and directly west of the Bennett Peak in the Tocito Area. This housing site two consists of 100 acres located west of Bennett Peak and east of Navajo Route 5000.

### **Site Accessibility**

The site is directly accessible from Navajo Route 5000. Navajo Route 5000 runs south to the community of Two Grey Hills from Navajo Route N34. This road is a two-lane paved road.

### **Site-Related Aspects**

There are no existing buildings or structures noted on the site. This site has been used a barrow pit to construct N5000.

### **Site Utilities**

- **Water:**

The closest water lines are approximately 1,000 feet west from the site border.

- **Sewer:**

No sewer service is available on the site. A subdivision- type housing development will require the construction of a sewer lagoon. A four- to six-acre cell will serve between 20 and 160 homes. A 1,000 foot setback from the lagoon is required.

- **Gas:**

Homes built here would most likely be served by individual propane tanks.

- Electrical:

The closest electric lines are approximately 1,000 feet west from the site border.

- Telephone:

The nearest telephone lines are approximately ½ miles north of the site.

### **Special Site Development Requirements**

The relatively level area of the site makes it one of the more suitable areas for housing development in the Chapter.

### **Legal Considerations**

The Chapter will be required to proceed with the proper land withdrawal process and obtain utility rights-of-way from land use permittees.

## **2.3 Housing Development Site Three (3)**



**Location:** 4.7 miles northeast of the Tsé Ałnaozti'í Chapter House, West of U.S. Highway 491 turnoff at mile post 72 and 5.8 miles West on Navajo Route 5016. Housing site three consists of 40 acres.

### **Site Accessibility**

The site is accessible from Navajo Route 5016.

### **Site Related Aspects**

There are no existing buildings or structures on this site.



## **Site Utilities**

- **Water**

The closest water lines are approximately 9,240 feet northwest from the site border.

- **Sewer:**

No sewer service is available on the site. A subdivision- type housing development will require the construction of a sewer lagoon. A four- to six-acre cell will serve between 20 and 160 homes. A 1,000 foot setback from the lagoon is required.

- **Gas:**

Homes built here would most likely be served by individual propane tanks.

- **Electrical:**

The closest electric lines are located 9,240 feet northwest of the site.

- **Telephone:**

There is no landline telephone service on the site.

## **Special Site Development Requirements**

The relatively level area of the site makes it one of the more suitable areas for housing development in the Chapter.

## **Legal Considerations**

The Chapter will be required to proceed with the proper land withdrawal process and obtain utility rights-of way from appropriate land use permittees.

## **3.0 Analysis of Individual Site for Community Development**

This section assesses two potential community development sites regarding the existing and needed infrastructure of each.

Several sites for potential community development sites were chosen for initial review in the Tsé Ahnaozti'í Chapter. Through research and community involvement, some sites were eliminated from consideration due to a lack of community support or problems such as potential for flooding, terrain issues, and access.

### 3.1 Community Development Site One (1)



**Location:** This site is approximately 8.9 miles northeast of the Tsé Ałnaozti'í Chapter House, 1.8 miles north from Navajo Route N34 and U.S. Highway 491 junction, turnoff at mile post 70. This site is located near the NTUA communication tower and consists of approximately 100 acres. This site is planned for a new chapter house, senior center, Head start, Veterans center, Youth facilities, wellness sports complex, police substation, IHS Field Clinic, fire station, housing and other businesses such as a laundromat. The site is shown on the map in Exhibit 22.

#### **Site Accessibility**

The site is directly accessible from U.S. Highway 491. U.S. Highway 491 is a four-lane highway located directly east of this location.

#### **Site-Related Aspects**

There is a communication tower located west of this site.

#### **Site Utilities**

- **Water:**

The closest water lines are approximately 3,350 feet east from the site border.

- **Sewer:**

No sewer service is available on the site. This type of community development will require the construction of a sewer lagoon. A 1,000 foot setback from the lagoon is required.

- **Gas:**

Buildings built here would most likely be served by individual propane tanks.

- Electrical:

The closest electric lines are approximately 225 feet east from the site border.

- Telephone:

The nearest telephone lines are approximately 225 feet east of the site.

### **Special Site Development Requirements**

The relatively level area of the site makes it one of the more suitable areas for community development in the Chapter.

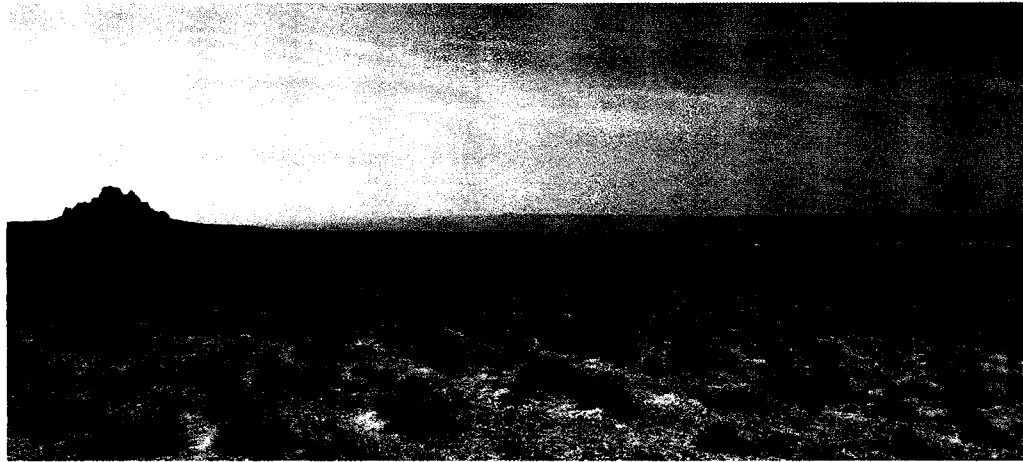
### **Legal Considerations**

The Chapter will be required to proceed with the proper land withdrawal process and obtain utility rights-of-way from land use permittees.

### **Exhibit 22: *Tsé Ałnaozti'í Community Development Site 1***



### 3.2 Community Development Site Two (2)



**Location:** This site is approximately 4.5 miles east of the Tsé Ałnaozti'í Chapter House, north of Navajo Route N34, 1.9 miles west of Navajo Route N34 and U.S. Highway 491 junction. This location is planned as a secondary location for new community facilities.

#### **Site Accessibility**

The site is directly accessible from Navajo Route N34 which is a two-lane paved road.

#### **Site-Related Aspects**

There is no buildings or structures on this site.

#### **Site Utilities**

- **Water:**

The closest water lines are approximately 250 feet south from the site border.

- **Sewer:**

No sewer service is available on the site. This type of community development will require the construction of a sewer lagoon. A 1,000 foot setback from the lagoon is required.

- **Gas:**

Buildings built here would most likely be served by individual propane tanks.

- **Electrical:**

The closest electric lines are approximately 250 feet south from the site border.

- **Telephone:**

The nearest telephone lines are approximately 275 feet south of the site.

#### **Special Site Development Requirements**

The relatively level area of the site makes it one of the more suitable areas for community development in the Chapter.

## **Legal Considerations**

The Chapter will be required to proceed with the proper land withdrawal process and obtain utility rights-of-way from land use permittees.

### **4.0 Analysis of Individual Site for Community/Veterans Cemetery Sites**

#### **4.1 Community and Veterans Cemetery**

##### **Cemetery Site One (1)**



Location: 13 miles northeast of the Tsé Ałnaozti'í Chapter House, turnoff at mile post 76 from U.S. Highway 491. This site consists of 40 acres located south of Table Mesa and east of U.S. Highway 491, approximately 9 miles north from Navajo Route N34 and U.S. Highway 491 junction.

##### **Site Accessibility**

This site is accessible directly off of U.S. Highway 491.

##### **Site Related Aspects**

There are no existing buildings or structures noted on the site.

##### **Site Utilities**

- Water, electric power and telephone lines are located approximately 1.25 miles on the west side of U.S. Highway 491.

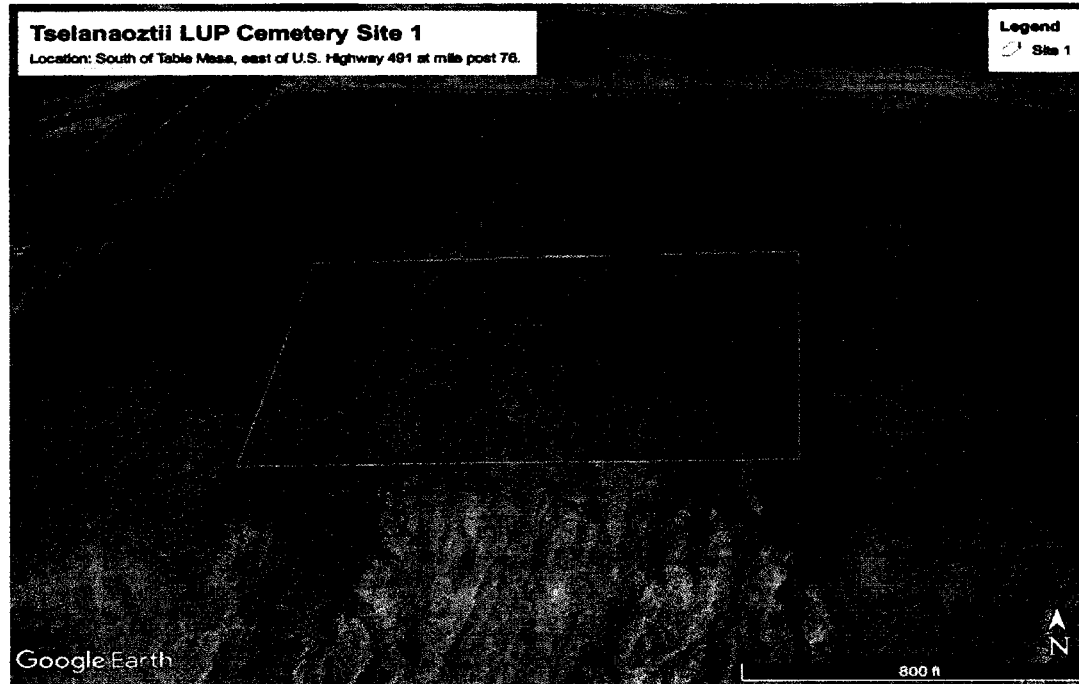
##### **Special Site Development Requirements**

There is approximately up to ten percent (10%) slope to this area near the mesa, but relatively level area of the site makes it more of a suitable site for a community cemetery.

## Legal Consideration

The Chapter will be required to proceed with the proper land withdrawal process and obtain utility rights-of-way from chapter members.

### Exhibit 23: *Tsé Ałnaozti'í Community and Veterans Cemetery Site 1*



#### 4.2 Community and Veterans Cemetery Site Two (02) – Tocito/Tsézhin i'ahi



**Location:** This site is located 3.5 miles east of the Tsé Ałnaozti'í Chapter House, in the Tocito area near Tsézhin i'ahi. This site two consists of 40 acres, located next to the Smiley family cemetery.

**Site Accessibility**

The site is accessible from Navajo Route N34 onto County Road 9536. Navajo Route N34 is the main paved road into the community of Tsé Ałnaozti'í. The road is a dirt road.

**Site-Related Aspects**

This site is an existing family plot and there are no existing buildings or structures noted on the site.

**Site Utilities**

- Electric power and telephone lines are located approximately 5,280 feet on the Navajo Route N34 highway.

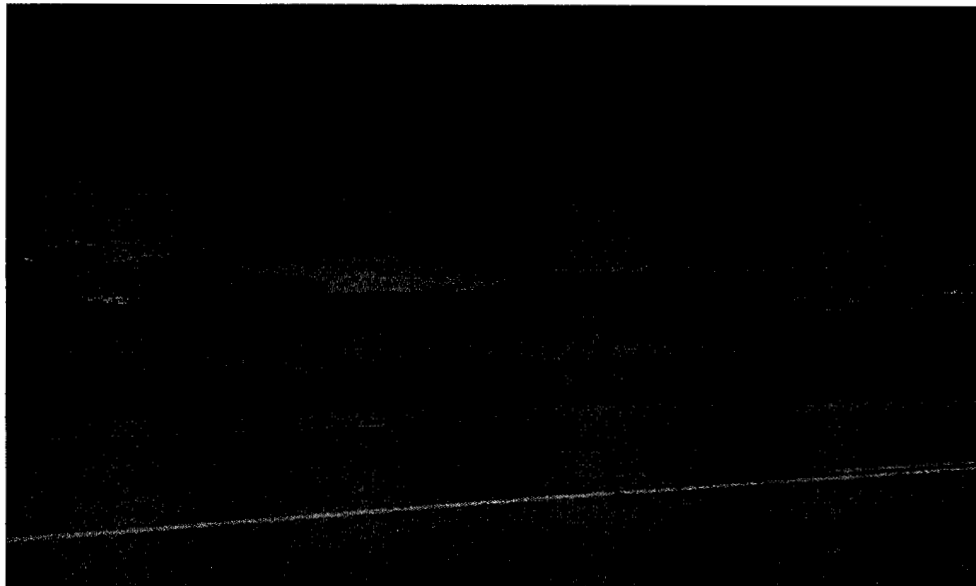
**Special Site Development Requirements**

The relatively level area of the site makes it one of the more suitable areas for a cemetery in the Chapter.

**Legal Considerations**

The Chapter will be required to proceed with the proper land withdrawal process and obtain utility rights-of-way from land use permittees.

**4.3 Community and Veterans Cemetery Site Three (03)**



**Location:** This site is located approximately 4.5 miles east of the Tsé Ałnaozti'í Chapter House, directly south of Navajo Route N34 at milepost 20. This site consists of 20 acres located in between two mesas.

### **Site Accessibility**

The site is directly accessible from Navajo Route N34. Navajo Route 34 is a paved two-lane highway

### **Site-Related Aspects**

There are no existing buildings or structures noted on the site.

### **Site Utilities**

- Electric power and telephone lines are located approximately 450 feet on the Navajo Route N34 highway.

### **Special Site Development Requirements**

The site is recommended for a community cemetery site due to its location. It is located between two mesas and would not be too visible from the highway. But the site has up to twenty-five (25%) percent slope.

### **Legal Considerations**

The Chapter will be required to proceed with the proper land withdrawal process and obtain utility rights-of-way from land use permittees.

## **4.4 Community and Veterans Cemetery Site Four (04)**



**Location:** This site is located approximately 2.0 miles south of the Tsé Ałnaozti'í Chapter House, directly south of Navajo Route N34 on NR 5010 South. This site consists of 20 acres and is currently a family cemetery for Henderson Family.

### **Site Accessibility**

The site is directly accessible from Navajo Route N34 and NR 5010 South. NR 5010 south is a dirt road.



### Site-Related Aspects

There are no existing buildings or structures noted on the site.

### Site Utilities

- Electric power is located approximately 450 feet at a private residence.

### Special Site Development Requirements

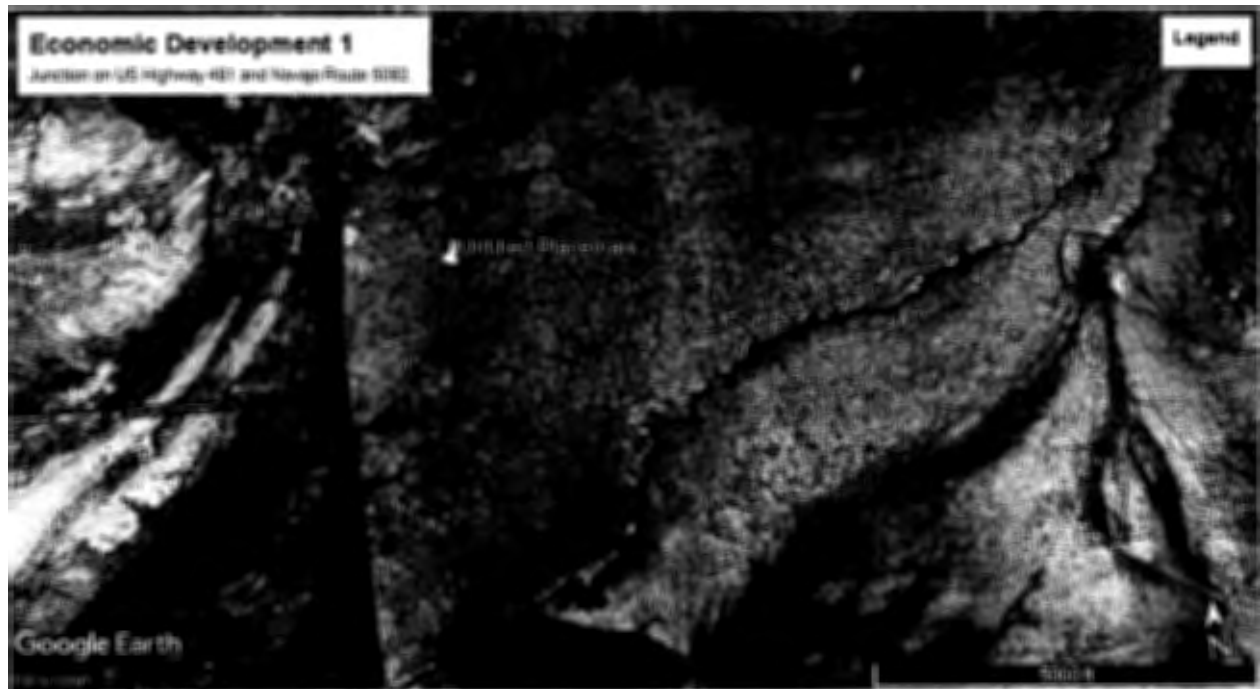
The site is recommended for a community cemetery site due to the existence of a family cemetery and plenty of land available for expansion.

### Legal Considerations

The Chapter will be required to proceed with the proper land withdrawal process and obtain utility rights-of-way from land use permittees.

## 5.0 Analysis of Individual Site for Economic Development Sites

### 5.1 Economic Development Site One (01)



**Exhibit 24:** *Tsé Ałnaozti'í Economic Development Site 1*

**Location:** This site is located approximately 9 miles east of the Tsé Ałnaozti'í Chapter House. This site consists of 60 acres and is located at the junction of U.S. Highway 491 and Navajo Route 5092. Shown on the map in Exhibit 24 (above).

### **Site Accessibility**

The site is directly accessible from U.S. Highway 491 on Navajo Route 5092. Navajo Route 5092 runs east from U.S. Highway 491 towards the Cactus Area and Chaco Wash. This road is a dirt road.

### **Site-Related Aspects**

There are no existing buildings or structures noted on the site. This site is directly along the Navajo-Gallup Waterline Project alignment.

### **Site Utilities**

- **Water:**

The closest water lines are approximately 1,000 feet south from the site border.

- **Sewer:**

No sewer service is available on the site. A sewer lagoon needs to be part of this development. A 1,000 foot setback from the lagoon is required.

- **Gas:**

Buildings built here would most likely be served by individual propane tanks.

- **Electrical:**

The closest electric lines are approximately 1,000 feet south from the site border.

- **Telephone:**

The nearest telephone lines are approximately 1,850 feet west of the site.

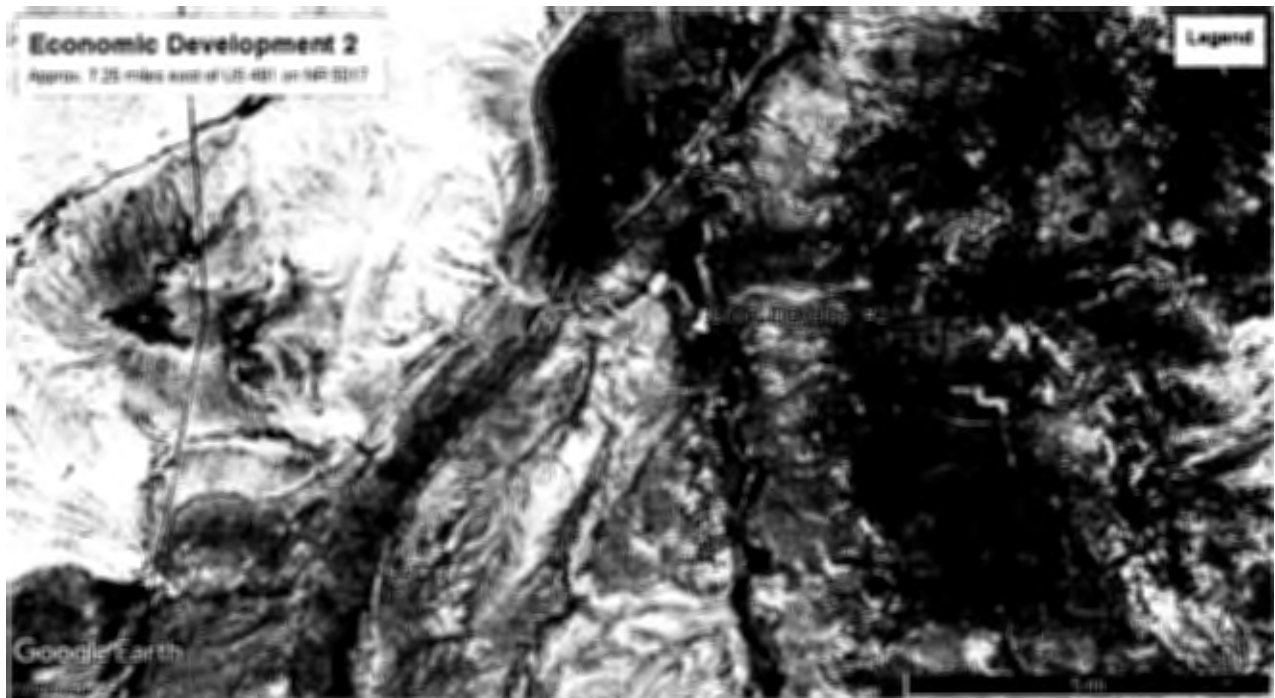
### **Special Site Development Requirements**

The location of this site and its relatively level area makes it one of the more suitable areas for economic development in the Chapter. The Navajo-Gallup Waterline Project right-of-way alignment will be a big factor in the development of this location.

### **Legal Considerations**

The Chapter will be required to proceed with the proper land withdrawal process and obtain utility rights-of-way from land use permittees.

## 5.2 Economic Development Site two (02)



**Location:** This site is located approximately 7.25 miles east of Table Mesa, east of U.S. Highway 491, south of Navajo 5017. This site consists of 100 acres.

### Site Accessibility

The site is directly accessible from U.S. Highway 491 and Navajo Route 5017. Navajo Route 5017 runs east from U.S. Highway 491 towards the Hogback near the Power Plant. This road is a dirt gravel road.

### Site-Related Aspects

There are no existing buildings or structures noted on the site.

### Site Utilities

- **Water:**

The closest water lines are approximately 9,240 feet east from the site border.

- **Sewer:**

No sewer service is available on the site. Any development on this site will require the construction of a sewer lagoon. A 1,000 foot setback from the lagoon is required.

- **Gas:**

Any buildings built here would most likely be served by individual propane tanks.

- Electrical:

The closest electric lines are approximately 9,240 feet east from the site border.

- Telephone:

There are no telephone services line in the area, the closest is along U.S. Highway 491.

### **Special Site Development Requirements**

The relatively level area of the site makes it one of the more suitable areas for economic or industrial development such as a manufacturing plant.

### **Legal Considerations**

The Chapter will be required to proceed with the proper land withdrawal process and obtain utility rights-of-way from land use permittees.

## **D. Suitability Analysis**

### **1.0 Overview of Resources**

This section provides an overview of natural and cultural resources in the community.

#### **1.1 Natural Resources**

##### **General**

Natural resources are an important part of a community's character and appearance. They are a determining factor in how a community can or should develop. Natural resources include geology/soils, groundwater, surface water, wetlands, vegetation, wildlife and threatened endangered and species of concern. Climate and air quality are also included in this section.

The Community is located at the base of the eastern side of the Chuska Mountains and the western portion of the San Juan Basin. The Navajo Name of the chapter is Tsé Ałnaozti'í which means crisscrossing rocks.

An assessment of natural resources, using information provided by the Navajo Nation Fish & Wildlife Department helped the Tsé Ałnaozti'í Chapter to identify areas that are suitable for development, other areas suitable for limited development, and areas that should be protected from development.

##### **Geology/Soils**

The Tsé Ałnaozti'í Chapter lies within the Navajo and Canyonlands section of the Colorado Plateau. The San Juan Basin and the Four Corners platform are two distinct structural subsections within the Navajo section of the Colorado Plateau. The Hogback, which was formed by geological faults in the area, separates the San Juan Basin from the Four Corners Platform.

The Hogback stretches southwest from the San Juan River towards the community of Two Grey Hills, New Mexico.

### The Hogback

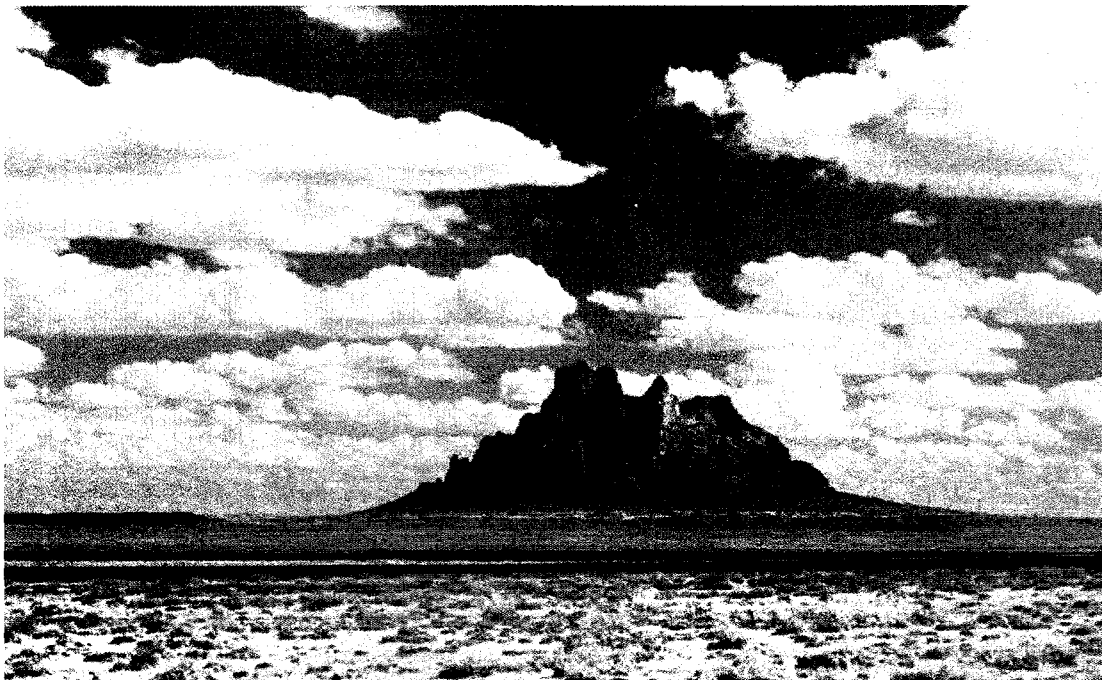


The western San Juan Basin is typified by exposure of the Fruitland and Menefee Formations. The Four Corners Platform has broad expanses of Mancos Shale and localized exposures of Gallup Sandstone.

Also present are Tertiary tuff-breccia and basalt in prominent volcanic necks and dikes such as Shiprock, Ford and Bennett Peaks. The geomorphology of these two subsections is dominated by undulating plateaus with locally prominent buttes, mesas, cuestras (A sloping plain, especially one with the upper end at the crest of a cliff; a hill or ridge with one face steep and the opposite face gently sloping), and shallow canyons.

Prominent landforms such as plateau escarpments, buttes, and mesa rims are commonly bounded by vertical sandstone cliffs and intricately dissected shale badlands. A stepped sequence of high stream terraces, present above the San Juan River and its tributaries, represents abandoned Pleistocene flood plains.

## *Bennett Peak*



### **Climate**

The Four Corners area is renowned for its year-round pleasant climate. Low humidity and warm temperatures prevail. Average low temperatures in winter and summer are 41.3° F. and 88.5° F. respectively. Average rainfall is 7.5 inches; winters are usually mild, with an average snowfall of 12.3 inches. There is an average of 273 sunny days per year.

### **Water Resources Groundwater/Water Quality**

The Tsé Ałnaozti'í Chapter is served by the development of local artesian wells. These four wells are utilized by the Tsé Ałnaozti'í Chapter, Two Grey Hills, and Mitten Rock areas. The domestic water system is operated and maintained by NTUA.

### **Surface Water**

Surface waters in the Navajo Nation flow in seasonal and perennial (year-round) rivers and streams on the Reservation. Two large washes, Tsé Ałnaozti'í Wash and Tocito Wash, originate in the Chuska Mountains and are the main drainages through the Tsé Ałnaozti'í Chapter. Tocito Wash flows into Tsé Ałnaozti'í Wash, which in turn flows into the Chaco River. The Chaco River is a major tributary of the San Juan River, which is part of the larger Colorado River Basin.

As with many of the arroyos and washes in the area, Tsé Ałnaozti'í Wash is lined with salt cedar (Tamarisk species), an invasive, non-native tree that consumes large amounts of water. Eradication programs have begun in other parts of New Mexico (along the Rio Grande and Pecos

River drainages); however, at the time of this writing no similar programs exist in the Tsé Ałnaozti'í area.

### **Floodplain/Flood Hazard/Drainage**

Executive Order 11988, Floodplain Management, requires that any potential impact to floodplain areas be studied assessed and identified to reduce the risk of flood loss; to minimize the impact of floods on human safety, health, and welfare; and to restore and preserve the natural and beneficial values served by floodplains.

Project planning must ensure that any proposed construction will be compatible with the floodplain areas by identifying potential impacts and ways to mitigate them. The U.S. Federal Emergency Management Association (FEMA) has not mapped the Tsé Ałnaozti'í Chapter to locate flood plains. It is to be expected that Zone A areas can be found throughout the surrounding areas. A Zone A area identifies 100-year flood zones with base flood elevations, but for which the flood hazard factor has not been determined.

### **Wetlands**

Wetlands are lands transitional between terrestrial and aquatic systems that are inundated or saturated by surface water or groundwater at a frequency and duration sufficient to support a prevalence of vegetation that is typically adapted for life in saturated soil conditions. Wetland systems and classes are based on criteria set forth in the Clean Water Act (CWA) of 1977, Executive Order 11990, and other regulator materials.

The Natural Wetlands Inventory recognizes a wetland as such if it has one or more of the following three attributes:

- At least periodically, the land supports predominantly hydrophytes (any plant growing in water or on a substrate that is at least periodically deficient in oxygen as a result of excessive water content).
- The substrate is predominantly undrained hydric soil (soil that is wet long enough to periodically produce anaerobic conditions, thereby influencing the growth of plants).
- The substrate is non-soil and saturated with water or covered by shallow water at some time during the growing season of each year.

Both natural and man-made wetlands are present within the chapter boundary, according to the U.S. Fish and Wildlife Service, Natural Wetlands Inventory. These are all relatively small, mostly man-made, and only retain moisture for short periods of time.

### **Air Quality**

Section 109 of the Clean Air Act (CAA) (42 U.S.C 1857- 18571, as amended by Public Law 91-604) requires that National primary and secondary ambient air quality standards be established. The Tsé Ałnaozti'í Chapter is located almost entirely in San Juan County with a small portion being located in Apache County, Arizona. Both counties have reached attainment, which indicates ambient air quality meets or exceeds the National Ambient Air Quality Standards (NAAQS).

The Navajo Nation monitors air quality through the Navajo Air Quality Control Program (NAQCP). In 1995, the NAQCP developed the Navajo Nation Air Pollution and Control Act, which authorized the regulation of air pollution sources on the Navajo Nation. In 1998, the United States EPA finalized the Tribal Authority Rule implementing the provisions of Section 301 (d) of the Clean Air Act and authorized eligible Indian Tribes to be treated in the same manner as States in implementing their own tribal air programs through a Tribal Implementation Plan (TIP). The program has the authority to regulate different sources of air pollution located on the Navajo Nation. The program also follows the National Ambient Air Quality Standards for allowable levels of pollution.

The Navajo Nation maintains four monitoring stations, which operate 24 hours a day and take readings every 15 minutes. The monitoring stations are at the following locations:

- Shiprock, New Mexico
- Fort Defiance, Arizona
- Crownpoint, New Mexico
- Nazlini, Arizona

Currently, the Navajo Nation tests only for PM10 and has reached attainment for the pollutant.

### **Living Resources**

- **Vegetation** (See Exhibit 25)

As a result of changes in elevation, from the lower desert floor to the top of the Chuska Mountains, there is a wide diversity of habitat found in the Tsé Ałnaozti'í Chapter. This results in the distribution of several vegetation types, which are listed below in ascending order from Great Basin Desert Scrub to Sub-Alpine Coniferous Forest. Use of these various vegetation types ranges from livestock grazing to logging to potential areas for recreation and tourism.

- **Great Basin Desert Scrub**

The area of Great Basin Desert Scrub in the Chapter is dominated by shrubs including big sagebrush (*Artemisia tridentata*), four-wing saltbush (*Atriplex canescens*), shadscale (*Atriplex confertifolia*), and Greasewood (*Sarcobatus vermiculatus*). Great Basin Desert Scrub has sparse ground cover, little of which is grass. Big sagebrush communities with good grass cover are considered Desert Grassland. Sixty-eight percent (200,000 acres) of the land in Tsé Ałnaozti'í is Great Basin Desert Scrub.

While not recommended for livestock grazing due to the low density and types of vegetation present, Great Basin Desert Scrub is good for wildlife habitat. All three potential housing sites are located in this vegetation type. The lack of trees and brush, which are present in the last three vegetation types, is favorable for housing due to a lower risk of hazardous fires occurring.



- **Desert Grassland**

Desert Grassland communities in this area are composed of shrub dominants of big sagebrush (*Artemisia tridentata*), four-wing saltbush (*Atriplex canescens*), or shadscale (*Atriplex confertifolia*), and cool-season grasses as grass dominants. Desert Grassland is a transition vegetation type between Great Basin Desert Scrub and higher elevation woodland types. It is the most common vegetation type found in the Chapter. Six percent (16,500 acres) of the land in Tsé Ałnaozti'í is Desert Grassland.

- **Coniferous and Mixed Woodland**

Coniferous woodland in Ojo Encino consists of pinyon-juniper and mixed woodland. Colorado pinyon (*Pinus edulis*) and one-seed juniper (*Juniperus monosperma*) are the major species of this vegetation type. In some areas, Gambel oak (*Quercus gambelii*) may be a codominant with the pinyon-juniper in woodland creating the vegetation type known as mixed woodland. Sixteen percent (48,500 acres) of the land in Tsé Ałnaozti'í is Coniferous and Mixed Woodland.

- **Montane Coniferous Forest**

Montane coniferous forest feature forests of Douglas fir (*Pseudotsuga menziesii* var. *glauca*), white fir (*Abies concolor*), several tall species of pine including Ponderosa pine (*Pinus ponderosa*), and aspen (*Populus tremuloides*). Eight percent (24,700 acres) of the land in Tsé Ałnaozti'í is Montane Coniferous Forest.

- **Subalpine Coniferous Forest**

Subalpine coniferous forests occur generally above 9,500 feet elevation to timberline. These forests have a short growing season and heavy snow accumulation. Typical trees include Engelmann spruce (*Picea engelmannii*) and various species of firs. Two percent (4,600 acres) of the land in Tsé Ałnaozti'í is Subalpine Coniferous Forest.

## Exhibit 25. Vegetation



### • Wildlife

With the wide variation in elevation, terrain, and habitats, Tsé Ałnaozti'í Chapter is home to a host of wildlife species, from lowland desert species such as collared lizards and black-tailed jackrabbits to upland species such as porcupines and Rocky Mountain elk. The Chuska Mountains with its forests are an important refuge for many species in this area including many of the bird species. The Navajoan Desert (Great Basin Desert Scrub) is the most abundant habitat in the region and is home to many of the reptiles and small mammals in the Chapter. Characteristic wildlife of the area is shown in Exhibit 26).

### • Threatened and Endangered Species (Exhibit 27)

The Navajo Nation Fish and Wildlife Department designated several areas within the Tsé Ałnaozti'í Chapter as Area I: Highly Sensitive Wildlife Resources and Area II: Moderately Sensitive Wildlife Resources (Exhibit 28).

*Area 1 of the Chuska Mountains and other nearby mountains:* Listed within these areas as Navajo Nation Species of Concern are mule deer, elk, turkey, bear, mountain lion, northern goshawk, Mexican spotted owl, golden eagle, blue grouse, northern leopard frog, American dipper, western seep fritillary and the three-toad woodpecker.

Listed plants include *Erigeron rhizomatus*, *Allium goodingii*, *Astragalus humillimus*, *Astragalus monumentalis* var. *cottamii*, and *Clematis hirsutissima* var. *arizonica*

*Area 1 and 2 of the badland and desert grassland habitat:* Listed within these areas as Nation Species of Concern are the golden eagle, ferruginous hawk and kit fox.

*Area 2 near the Tsé Ałnaozti'í Community:* This area is designated as Area 2 to protect the Mesa Verde Cactus.

*Area 1 east of Littlewater:* This area is designated as Area 1 to protect *Astragalus humillimus*.

*Area 1 pinyon-juniper habitat within the Chapter:* The pinyon-juniper habitat is important mule deer winter range.

**Exhibit 26: Community Found Wildlife in the Tsé Ałnaozti'í community area.**

Tsé Ałnaozti'í Chapter Commonly Found Wildlife			
Class	Species	Common Name	Habitat
Amphibians	Ambystoma tigrinum	Tiger Salamander	Montane Coniferous Forest
Reptiles	Crotaphytus collaris	Collared Lizard	Desert Grassland
	Pituophis melanoleucus	Gopher Snake	Montane Coniferous Forest
	Cnemidophorus tigris	Western Whiptail	Great Basin Desert scrub
	Gambelia wislizenii	Leopard Lizard	Great Basin Desert scrub
	Eumeces callicephalus	Mountain Skink	Montane Coniferous Forest
	Uta stansburiana	Northern Side-blotched Lizard	Great Basin Desert scrub
	Cnemidophorus velox	Plateau Whiptail	Juniper Savanna
	Sceloporus graciosus	Sagebrush Lizard	Great Basin Desert scrub
	Phrynosoma douglassi	Short-horned Lizard	Montane Coniferous Forest
	Holbrookia texana scitula	Southwestern Earless Lizard	Desert Grassland
	Thamnophis elegans vagrans	Wandering Garter Snake	Great Basin Desert scrub
	Crotalus viridis	Western Rattlesnake	Montane Coniferous Forest
Birds	Turdus migratorius	American Robin	Subalpine Coniferous Forest
	Myiarchus cinerascens	Ash-throated Flycatcher	Desert Grassland
	Hirundo rustica erythrogaster	Barn Swallow	Desert Grassland
	Poliophtila melanura	Black-tailed Gnatcatcher	Desert Grassland
	Dendroica nigrescens	Black-throated Gray Warbler	Juniper Savanna
	Amphispiza bilineata	Black-throated Sparrow	Desert Grassland
	Dendragapus obscurus	Blue Grouse	Subalpine Coniferous Forest
	Selasphorus platycercus	Broad-tailed Hummingbird	Subalpine Coniferous Forest Montane Coniferous
	Certhia familiaris	Brown Creeper	ForestSubalpine Coniferous Forest Montane Coniferous

	<i>Molothrus ater</i>	Brown-headed Cowbird	Desert Forest Grassland
	<i>Athene cunicularia hypugaes</i>	Burrowing Owl	Desert Grassland
	<i>Carpodacus cassinii</i>	Cassin's Finch	Subalpine Coniferous Forest
	<i>Spizella passerina</i>	Chipping Sparrow	Montane Coniferous Forest
	<i>Nucifraga columbiana</i>	Clark's Nutcracker	Subalpine Coniferous Forest
	<i>Phalaenoptilus nuttallii</i>	Common Poorwill	Desert Grassland
	<i>Hesperiphona vespertina</i>	Evening Grosbeak	Montane Coniferous Forest
	<i>Dendroica</i>	Grace's Warbler	Montane Coniferous Forest
	<i>Empidonax wrightii</i>	Gray Flycatcher	Juniper Savanna
	<i>Vireo vicinior</i>	Gray Vireo	Juniper Savanna
	<i>Regulus satrapa</i>	Golden-crowned Kinglet	Subalpine Coniferous Forest
	<i>Accipiter gentilis</i>	Goshawk	Montane Coniferous Forest
	<i>Empidonax hammondii</i>	Hammond's Flycatcher	Subalpine Coniferous Forest
	<i>Catharus guttatus</i>	Hermit Thrush	Subalpine Coniferous Forest

	<i>Eremophila alpestris</i>	Horned Lark	Desert Grassland
	<i>Falco sparverius</i>	Kestrel	Desert Grassland
	<i>Chondestes grammacus strigatus</i>	Lark Sparrow	Desert Grassland
	<i>Lanius ludovicianus</i>	Loggerhead Shrike	Desert Grassland
	<i>Mimus polyglottos</i>	Mockingbird	Desert Grassland
	<i>Sialia currucoides</i>	Mountain Bluebird	Subalpine Coniferous Forest
	<i>Parus gambeli</i>	Mountain Chickadee	Subalpine Coniferous Forest
	<i>Zenaida macroura</i>	Mourning Dove	Desert Grassland
	<i>Picoides tridactylus</i>	Northern Three-toed Woodpecker	Subalpine Coniferous Forest
	<i>Nuttallornis borealis</i>	Olive-sided Flycatcher	Subalpine Coniferous Forest
	<i>Pinicola enucleator</i>	Pine Grosbeak	Subalpine Coniferous Forest
	<i>Carduelis pinus</i>	Pine Siskin	Subalpine Coniferous Forest Montane Coniferous
	<i>Gymnorhinus cyanocephalus</i>	Pinyon Jay	Forest Juniper Savanna
	<i>Sitta pygmaea</i>	Pygmy Nuthatch	Subalpine Coniferous Forest Montane Coniferous
	<i>Glaucidium gnoma</i>	Pygmy Owl	Montane Coniferous Forest
	<i>Loxia curvirostra</i>	Red Crossbill	Subalpine Coniferous Forest Montane Coniferous
	<i>Sitta canadensis</i>	Red-breasted Nuthatch	Forest Subalpine Coniferous Forest
	<i>Geococcyx californianus</i>	Roadrunner	Desert Grassland
	<i>Regulus calendula</i>	Ruby-crowned Kinglet	Subalpine Coniferous Forest
	<i>Amphispiza belli nevadensis</i>	Sage Sparrow	Great Basin Desert scrub
	<i>Oreoscoptes montanus</i>	Sage Thrasher	Great Basin Desert scrub
	<i>Aegolius acadicus</i>	Saw-wet Owl	Montane Coniferous Forest
	<i>Sayornis saya</i>	Say's Phoebe	Desert Grassland

	<i>Callipepla squamata</i>	Scaled Quail	Desert Grassland
	<i>Icterus parisorum</i>	Scott's Oriole	Desert Grassland
	<i>Vireo solitarius</i>	Solitary Vireo	Montane Coniferous Forest
	<i>Strix occidentalis</i>	Spotted Owl	Montane Coniferous Forest
	<i>Cyanocitta stelleri</i>	Steller's Jay	Montane Coniferous Forest
	<i>Buteo swainsoni</i>	Swainson's Hawk	Desert Grassland
	<i>Myadestes townsendi</i>	Townsend's Solitaire	Subalpine Coniferous Forest Montane Coniferous
	<i>Auriparus flaviceps ornatus</i>	Verdin	Desert Grassland
	<i>Tachycineta thalassina</i>	Violet-green Swallow	Subalpine Coniferous Forest
	<i>Vireo gilvus</i>	Warbling Vireo	Subalpine Coniferous Forest Montane Coniferous
	<i>Sialia mexicana</i>	Western Bluebird	Montane Forest Coniferous Forest
	<i>Tyrannus verticalis</i>	Western Kingbird	Desert Grassland
	<i>Piranga ludoviciana</i>	Western Tanager	Subalpine Coniferous Forest Montane Coniferous
	<i>Meleagris gallopavo mexicana</i>	Wild Turkey	Montane Coniferous Forest
	<i>Sphyrapicus thyroideus</i>	Williamson Sapsucker	Subalpine Coniferous Forest
	<i>Dendroica coronata</i>	Yellow-rumped Warbler	Subalpine Coniferous Forest Montane Coniferous
			Forest
<b>Mammals</b>	<i>Taxidea taxus</i>	Badger	Desert Grassland
	<i>Dipodomys spectabilis baileyi</i>	Banner-tailed Kangaroo Rat	Desert Grassland
	<i>Eptesicus fuscus</i>	Big Brown Bat	Montane Coniferous Forest
	<i>Lepus californicus</i>	Black-tailed Jack Rabbit	Desert Grassland
	<i>Neotoma cinerea arizonae</i>	Bushy-tailed Wood Rat	Great Basin Desert scrub
	<i>Eutamias quadrivittatus</i>	Colorado Chipmunk	Montane Coniferous Forest
	<i>Canis latrans</i>	Coyote	Desert Grassland
	<i>Peromyscus maniculatus</i>	Deer Mouse	Subalpine Coniferous Forest Montane Coniferous
	<i>Cervus elaphus nelsoni</i>	Rocky Mountain Elk	Forest Juniper Savanna Subalpine Coniferous Forest Montane Coniferous
	<i>Citellus lateralis</i>	Golden-mantled Ground Squirrel	Subalpine Coniferous Forest Montane Coniferous
	<i>Chaetodipus hispidus</i>	Hispid Pocket Mouse	Desert Forest Grassland
	<i>Eutamias minimus</i>	Least Chipmunk	Subalpine Coniferous Forest
	<i>Myotis evotis</i>	Long-eared Myotis Bat	Montane Coniferous Forest
	<i>Microtus longicaudus</i>	Long-tailed Vole	Montane Coniferous Forest
	<i>Mustela frenata</i>	Long-tailed Weasel	Montane Coniferous Forest
	<i>Neotoma mexicana</i>	Mexican Wood Rat	Montane Coniferous Forest
		Montane Vole	Great Basin Desert scrub Montane Coniferous

	Microtus montanus fusus		
			Desert Grassland Juniper Savanna
	Odocoileus hemionus	Mule Deer	
	Sylvilagus nuttallii	Nuttall's Cottontail	MontaneSubalpine Coniferous Forest
	Dipodomys ordii	Ord's Kangaroo Rat	Desert Grassland Great Basin Desert scrub
	Erethizon	Porcupine	Montane Coniferous Forest
	Peromyscus truei	Pinyon Mouse	Juniper Savanna
	Myotis auriculus	Southern Myotis Bat	Montane Coniferous Forest
	Spermophilus spilosoma	Spotted Ground Squirrel	Desert Grassland

### Exhibit 27: Threatened and Endangered Species: Animals

Rare, Threatened, Endangered, Review or Sensitive Species of Animals Potentially within the Tsé Aínaozti'í Chapter					
Lands			Status		
Species Name	Common Name	Navajo Name	Federal	State	Navajo
<b>Insects</b>					
<i>Daihinibaenetes arizonensis</i>	Arizona giant sand treader cricket		None	WSC	None
<i>Psephenus montanus</i>	White mountains water penny beetle		SOC	None	None
<b>Amphibians</b>					
<i>Rana pipiens</i>	Northern leopard frog	Ch'al	None	WSC	Group 2
<i>Rana yavapaiensis</i>	Lowland leopard frog		SOC	WSC	None
<i>Bufo microscaphus</i>	Arizona toad		SOC	None	None
<b>Birds</b>					
<i>Accipiter gentilis</i>	Northern Goshawk	Giníibáhi	SOC*	WSC*	Group 4
<i>Athene cunicularia hypugaea</i>	Western burrowing owl		SOC	Protected	None
<i>Anodonta californiensis</i>	California floater		SOC	WSC	None
<i>Catharus fuscescens</i>	Veery		None	WSC	None
<i>Ceryle alcyon</i>	Belted Kingfisher		None	WSC	None
<i>Charadrius montanus</i>	Mountain Plover	Tábaasdisi	Threatened	Protected	Group 4
<i>Coccyzus americanus occidentalis</i>	Western yellow-billed cuckoo		None	WSC	None
<i>Dolichonyx oryzivorus</i>	Boblink		None	WSC	None
<i>Dumetella Carolinenis</i>	Cray Catbird		None	WSC	None
<i>Empidonax traillii extimus</i>	Southwestern willow flycatcher	Tsiyaatsii	Endangered	WSC	Group 2
<i>Falco peregrinus anatum</i>	American peregrine falcon		SOC	WSC	None
<i>Haliaeetus leucocephalus</i>	Bald eagle		Threatened	WSC	Group 3
<i>Pandion Haliaeetus</i>	Osprey		Endangered	WSC	None
<i>Pica Hudsonia</i>	Black-billed magpie		None	WSC	None
<i>Pinicola Enculeator</i>	Pine Grosbeak		None	WSC	None
<i>Setophaga Ruticilla</i>	American Redstart		None	WSC	None
<i>Strix Occidentalis Lucida</i>	Mexican Spotted Owl	Né'éshjaa'	Threatened	WSC	Group 3

<b>Mammals</b>			None	None	None
<i>Myotis lucifugus occultus</i>	Occult little brown bat		SOC	None	None
<i>Myotis volans</i>	Long-legged myotis		SOC	None	None
<i>Euderma maculatum</i>	Spotted bat		SOC	WSC	None
<i>Idionycteris phyllotis</i>	Allen's big-eared bat		SOC	None	None
<i>Microtus mexicanus navaho</i>	Navajo mexican vole		SOC	WSC	None
<i>Mustela nigripes</i>	Black-footed ferret	Dł'ii Lizhinii	Endangered	Protected	Group 2
<i>Perognathus flavus goodpasteri</i>	Springerville pocket mouse		SOC	None	None
<i>Sorex Palustris</i>	Water Shrew		None	WSC	None
<i>Zapus Hudsonius Luteus</i>	New mexican jumping mouse		SOC	WSC	None

\* MBTA = Migratory Bird Treaty Act, SOC = Species of Concern, WSC = Wildlife of Special Concern in Arizona

Sources: U.S. Fish and Wildlife Service, Navajo Nation Fish and Wildlife Department, BISON (New Mexico Department of Game and Fish)

### Exhibit 27, continued: *Threatened and Endangered Species: Plants*

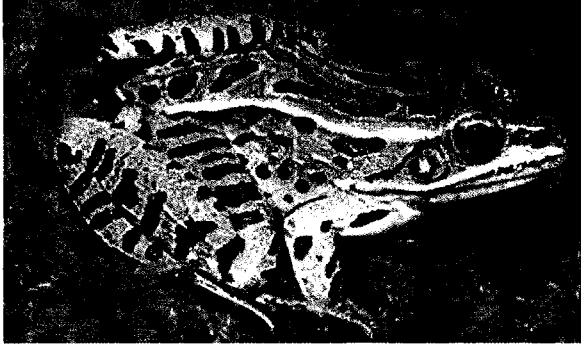
Rare, Threatened, Endangered, Review or Sensitive Species of Plants Potentially within the Tsé Ałnaozti'í Chapter Lands				
		Status		
Species	Common Name	Federal	State	Navajo
<i>Aletes macdougallii</i> <i>ssp. breviradiatus</i>	Macdougall's false carrot	None	Sensitive	None
<i>Aliciella formosa</i>		SOC*	Endangered	None
<i>Asclepias sanjuanensis</i>		None	SOC	G4
<i>Astragalus chuskanus</i>		None	SOC	None
<i>Astragalus cottamii</i>		None	None	None
<i>Astragalus humillimus</i>		Endangered	Endangered	G2
<i>Astragalus micromerius</i>	Chaco milkvetch	None	Sensitive	None
<i>Astragalus naturitensis</i>		None	SOC	G4
<i>Astragalus oocalycis</i>		None	SOC	None
<i>Pediocactus knowltonii</i>		Endangered	Endangered	None
<i>Penstemon breviculus</i>	Narrow-mouth penstemon	None	SOC	None
<i>Penstemon lentus</i>		None	None	None
<i>Phlox cluteana</i>		None	SOC	None
<i>Proatriplex pleiantha</i>		None	SOC	None
<i>Pucinellia pairshii</i>	Parish's alkali grass	SOC	Endangered	G4
<i>Sclerocactus cloveriae</i> <i>ssp. brackii</i>	Brack's hardwall cactus	SOC	Endangered	None

<i>Sclerocactus mesae-verdae</i>	Mesa Verde cactus	Threatened	Endangered	None
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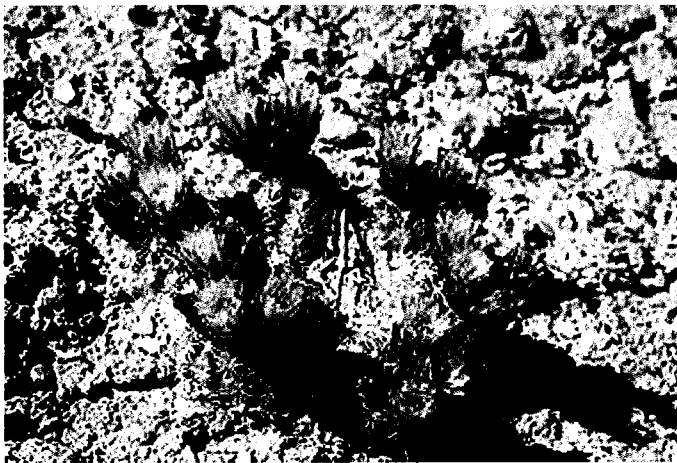
*\*Species of Concern*

Source: New Mexico Rare Plant Technical Council. 1999. *New Mexico Rare Plants*. Albuquerque, NM: New Mexico Rare Plants Home Page.  
<http://nmrareplants.unm.edu> (Version 15 March 2002).

*Northern Leopard Frog*

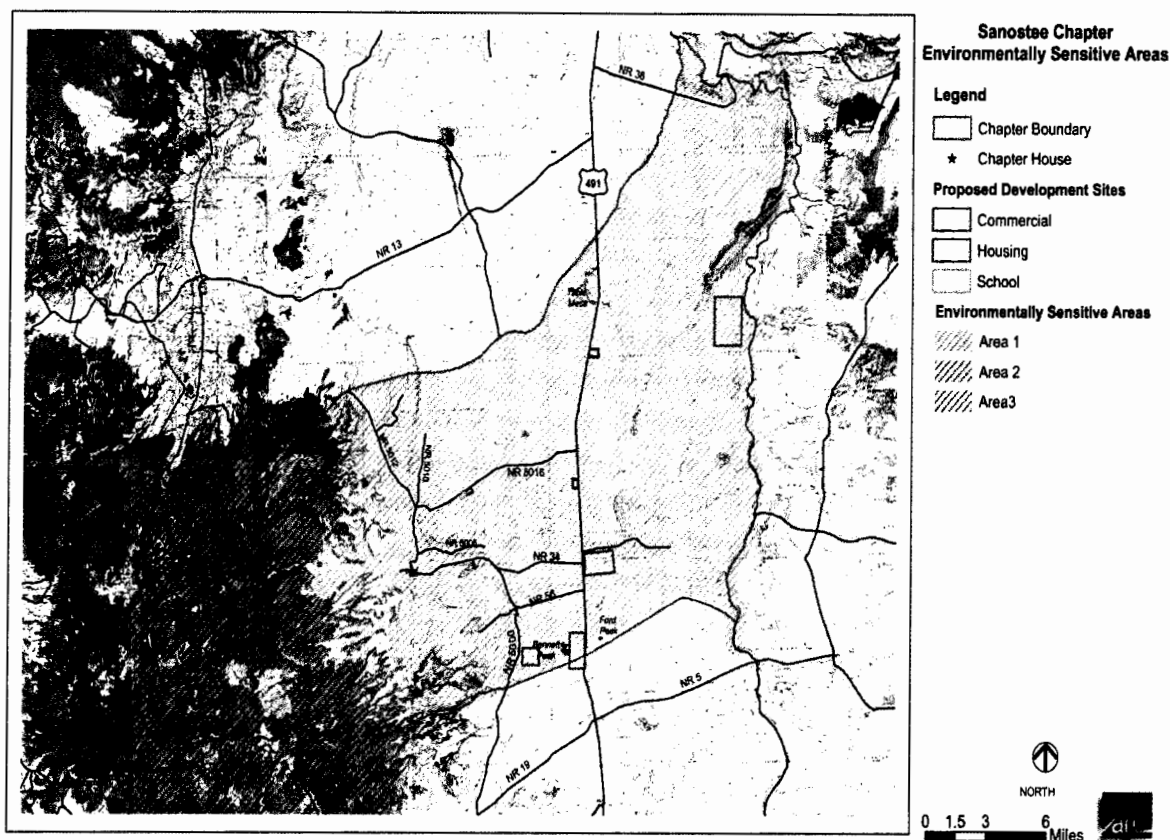


*Mesa Verde Cactus*





## Exhibit 28: Environmentally Sensitive Areas



- **Environmental Issue and Recommendation** There is concern within Tsé Ałnaozti'í Chapter and within the Navajo Nation regarding the proper methods of forest management. The following is an account of the attempt to develop a plan of action for managing the forests within the Chuska Mountains of the Tsé Ałnaozti'í Chapter.

### *Chuska Mountain – Navajo Nation Forest*

The 600,000 acre forest is situated in the Chuska Mountains and Defiance Plateau.

Centrally located (north/south) within the Navajo Nation, the forest straddles the Arizona/New Mexico state line. This pine and fir upland ecosystem is a primary Navajo domestic water source and contains the highest levels of wildlife diversity on the Navajo Nation. Seven plant and animal species occurring on the Navajo Forest are listed as threatened and endangered or as candidate species by the federal government. Additionally, nineteen threatened and endangered species found on the forest are listed or are candidates for the Navajo Nation Endangered Species Act. To the Navajo people, the region is considered the male deity and contains sacred places our traditional elders use for sacred offerings and herb gathering. Furthermore, the forest contains numerous sacred old-growth Yellow Pines that take over 200 years to mature. These are called "the Grandfather Trees" and they watch over the sacred ceremonies of the forest."

## 1.2 Historic and Cultural Resources

Culturally significant areas include prehistoric and historic sites, as well as traditional cultural objects, structures, locations or natural features. Cultural resource compliance on the Navajo Nation is mandated by the National Environmental Policy Act (NEPA) and by the National Historic Preservation Act (NHPA).

NEPA requires environmental impact statements on cultural as well as natural resources affected by proposed projects. NHPA provides protection and preservation of significant cultural properties.

A cultural records search was conducted at the New Mexico Museum of Anthropology Records Management Section (ARMS) for the three potential sites for housing in the Tsé Ałnaozti'í Chapter. There are no recorded archaeological sites within a mile of any of the three housing sites.

Before any construction can take place at the three housing sites, a full archaeological assessment, biological resources and archaeological/cultural resources surveys will be necessary.

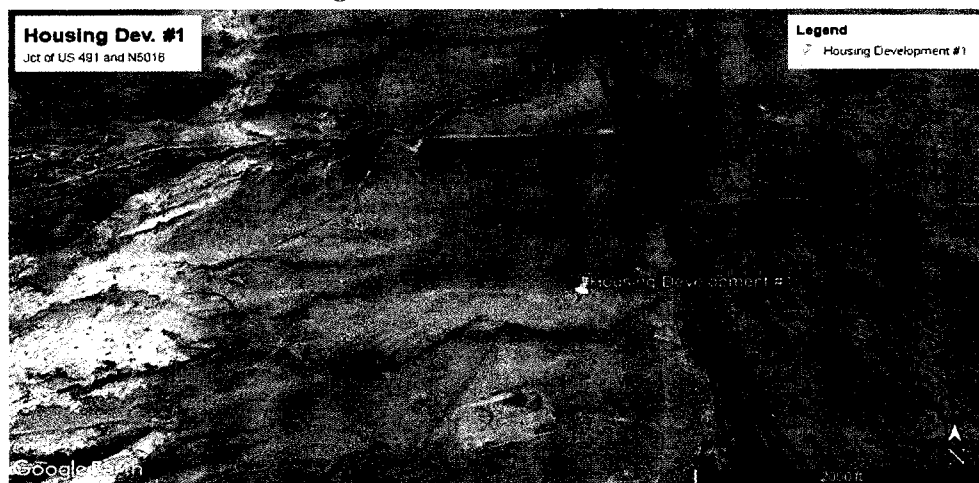
## 1.4 Visual Resources

Visual resources are those physical features that make up the visible landscape, including land, water, vegetation, and human-made elements. No adverse impacts to visual resources are anticipated from the construction of any housing units to be built on the proposed sites.

## 2.0 Analysis of Individual Development Sites

**2.1 Housing Development Site One Location:** This site is located approximately 1 mile north of the Littlewater Store, south of Navajo Route 5016 turnoff, west of U.S. Highway 491 at mile post 73. Site Two consists of sixty (60) acres located approximately 9 miles northeast of the Chapter House. The site is shown on the map in Exhibit 29.

**Exhibit 29:** *Tsé Ałnaozti'í Housing Site 1*



### ***Geology/Soils***

The proposed housing site lies at approximately 5,585 feet above sea level.

The main soils types in the area include:

*Persayo-Fordbutte association* - Persayo, a very fine sandy loam, and similar soils comprise 55 percent of the association. Fordbutte, a very fine sandy loam, and similar soils comprise 30 percent of the association. Contracting inclusions (a solid foreign body enclosed in a mass as in a mineral) comprise the remaining 15 percent.

This soils type occurs on undulating plateaus and cuevas at an elevation of 5,300 to 6,300 feet. Persayo is a shallow soil, with a very severe potential for water erosion and a slope of 1 to 10 percent. Fordbutte is a moderately deep soil, with a moderate potential for water erosion and a slope of 1 to 3 percent. This soils association is typically well drained with a moderate permeability and medium service runoff. The shrink-swell potential is low for both Persayo soils and Fordbutte soils.

### **Surface Water/Drainage**

There are no major drainages running through this site. No visible wetlands were noted during the site visit.

### **Vegetation**

The site lies entirely within the Great Basin Desert Scrub habitat type. Grasses are the most prevalent vegetation on this site. Plants typical of this habitat, such as big sagebrush, shadscale, and four-wing saltbush are not prominent here.

### **Wildlife**

Wildlife that occupies the site is expected to be typical of that found in a Great Basin Desert Scrub habitat. Coyotes, rabbits, small rodents, lizards, snakes, ravens, and birds of prey may be common residents of the site. Wildlife may be reduced in numbers due to previous overgrazing of the site.

### **Environmentally Sensitive Areas**

There are no environmentally sensitive areas identified by the Navajo Nation Fish and Wildlife Service on or near this site.

### **Culturally Significant Areas/Traditionally Sensitive Areas**

There are no recorded archaeological sites within one mile of the site (ARMS search 12/03). This site appears to be well-suited for development, as the soil types are good for building, there are limited drainage problems, and there appear to be no restrictive environmental conditions or cultural sites present.

## 2.2 Housing Development Site Two Location:



This site is located approximately 5.2 miles east of the Tsé Ałnaozti'í Chapter House and directly west of the Bennett Peak in the Tocito Area. This housing site two consists of 100 acres located west of Bennett Peak and east of Navajo Route 5005.

### Geology/Soils

The proposed community and veteran's cemetery site lies at approximately 5,585 feet above sea level.

#### **The main soil types in the area include:**

Persayo-Fordbutte association - Persayo, a very fine sandy loam, and similar soils comprise 55 percent of the association. Fordbutte, a very fine sandy loam, and similar soils comprise 30 percent of the association. Contracting inclusions (a solid foreign body enclosed in a mass as in a mineral) comprise the remaining 15 percent.

This soil type occurs on undulating plateaus and cuevas at an elevation of 5,300 to 6,300 feet. Persayo is a shallow soil, with a very severe potential for water erosion and a slope of 1 to 10 percent. Fordbutte is a moderately deep soil, with a moderate potential for water erosion and a slope of 1 to 3 percent. This soils association is typically well drained with a moderate

permeability and medium surface runoff. The shrink-swell potential is low for both Persayo soils and Fordbutte soils.

Tesbitai - Tesbitai, a very fine sandy loam, and similar soils comprise 80 percent of this soil type. Contracting inclusions (a solid foreign body enclosed in a mass as in a mineral) comprise the remaining 20 percent.

This soil occurs on fan terraces below mesas, cuestras, and buttes at an elevation of 5,300 to 5,500 feet. Tsebitai is a very deep soil and with a moderate potential for water erosion. This soil type is typically well drained with a moderate permeability and slow surface runoff. The shrink- swell potential is low for Tsebitai soils.

### **Surface Water/Drainage**

There are no major drainages running through this site. No visible wetlands were noted during the site visit.

### **Vegetation**

The site lies entirely within the Great Basin Desert Scrub habitat type. Grasses are the most prevalent vegetation on this site. Plants typical of this habitat, such as big sagebrush, shadscale, and four-wing saltbush are not prominent here.

### **Wildlife**

Wildlife that occupies the site is expected to be typical of that found in a Great Basin Desert Scrub habitat. Coyotes, rabbits, small rodents, lizards, snakes, ravens, and birds of prey may be common residents of the site. Wildlife may be reduced in numbers due to previous overgrazing of the site.

### **Environmentally Sensitive Areas**

There are no environmentally sensitive areas identified by the Navajo Nation Fish and Wildlife Service on or near this site.

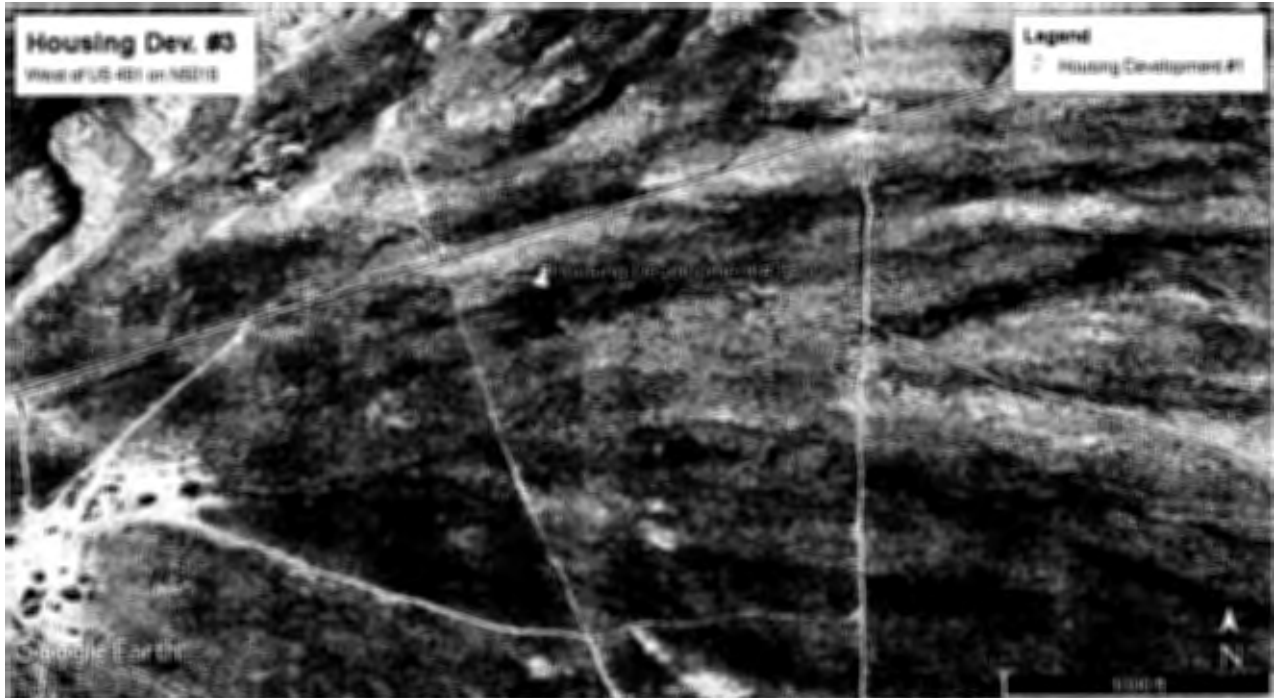
### **Culturally Significant Areas/Traditionally Sensitive Areas**

There are no recorded archaeological sites within one mile of the site (ARMS search 12/03).

### **Recommendations**

This site appears to be well-suited for development, as the soil types are good for building, there are limited drainage problems, and there appear to be no restrictive environmental conditions or cultural sites present.

### 2.3 Housing Development Site Three Location:



This site is approximately 5.8 miles West on Navajo Route 5016 and 4.7 miles northeast of the Tsé Ałnaozti'í Chapter House, West of U.S. Highway 491 turnoff at mile post 73, Housing development site one consists of 40 acres.

#### **Geology/Soils**

The proposed housing site lies at approximately 5,852 feet above sea level.

The main soils types in the area include:

*Persayo-Fordbutte association* - Persayo, a very fine sandy loam, and similar soils comprise 55 percent of the association. Fordbutte, a very fine sandy loam, and similar soils comprise 30 percent of the association. Contracting inclusions (a solid foreign body enclosed in a mass as in a mineral) comprise the remaining 15 percent.

This soils type occurs on undulating plateaus and cuestras at an elevation of 5,300 to 6,300 feet. Persayo is a shallow soil, with a very severe potential for water erosion and a slope of 1 to 10 percent. Fordbutte is a moderately deep soil, with a moderate potential for water erosion and a slope of 1 to 3 percent. This soils association is typically well drained with a moderate permeability and medium service runoff. The shrink-swell potential is low for both Persayo soils and Fordbutte soils.

### **Surface Water/Drainage**

There are no major drainages running through this site. No visible wetlands were noted during the site visit.

### **Vegetation**

The site lies entirely within the Great Basin Desert Scrub habitat type. Grasses are the most prevalent vegetation on this site. Plants typical of this habitat, such as big sagebrush, shadscale, and four-wing saltbush are not prominent here.

### **Wildlife**

Wildlife that occupies the site is expected to be typical of that found in a Great Basin Desert Scrub habitat. Coyotes, rabbits, small rodents, lizards, snakes, ravens, and birds of prey may be common residents of the site. Wildlife may be reduced in numbers due to previous overgrazing of the site.

### **Environmentally Sensitive Areas**

There are no environmentally sensitive areas identified by the Navajo Nation Fish and Wildlife Service on or near this site.

### **Culturally Significant Areas/Traditionally Sensitive Areas**

There are no recorded archaeological sites within one mile of the site.

### **Recommendations**

This site appears to be well-suited for development, as the soil types are good for building, there are limited drainage problems, and there appear to be no restrictive environmental conditions or cultural sites present.

## **3.0 Community Development Site**



### **3.1 Community Development Site One Location:**

This site is approximately 8.9 miles northeast of the Tsé Ałnaozti'í Chapter House, 1.8 miles north from Navajo Route N 34 and U.S. Highway 491 junction, turnoff at mile post 70. This site is located near the NTUA communication tower and consists of approximately 100 acres. The site is shown on the map in Exhibit 29.

### **Geology/Soils**

The proposed housing site lies at approximately 5,628 feet above sea level.

The main soil types in the area include:

*Persayo-Fordbutte association* - Persayo, a very fine sandy loam, and similar soils comprise 55 percent of the association. Fordbutte, a very fine sandy loam, and similar soils comprise 30 percent of the association. Contrasting inclusions (a solid foreign body enclosed in a mass as in a mineral) comprise the remaining 15 percent.

*Shiprock-Farb association* – a loamy fine sand and similar soils comprise 70 percent of the association. Farb is a fine sand and similar soils comprise 15 percent of the association. Contrasting includes comprise the remaining 15 percent. These soils occur at elevations of 5,500 to 6,100 feet. This soils association is typically at 1 to 5 percent slope.

### **Surface Water/Drainage**

There are no major drainages running through this site. No visible wetlands were noted during the site visit.

### **Vegetation**

The site lies entirely within the Great Basin Desert Scrub habitat type. Grasses are the most prevalent vegetation on this site. Plants typical of this habitat, such as big Indian rice grass, blue grama, broom snakeweed, galleta, sand dropseed, Greene rabbitbrush and four-wing saltbush are prominent here.

### **Wildlife**

Wildlife that occupies the site is expected to be typical of that found in a Great Basin Desert Scrub habitat. Coyotes, rabbits, small rodents, lizards, snakes, ravens, and birds of prey may be common residents of the site. Wildlife may be reduced in numbers due to previous overgrazing of the site.

### **Environmentally Sensitive Areas**

There are no environmentally sensitive areas identified by the Navajo Nation Fish and Wildlife Service on or near this site.

### **Culturally Significant Areas/Traditionally Sensitive Areas**

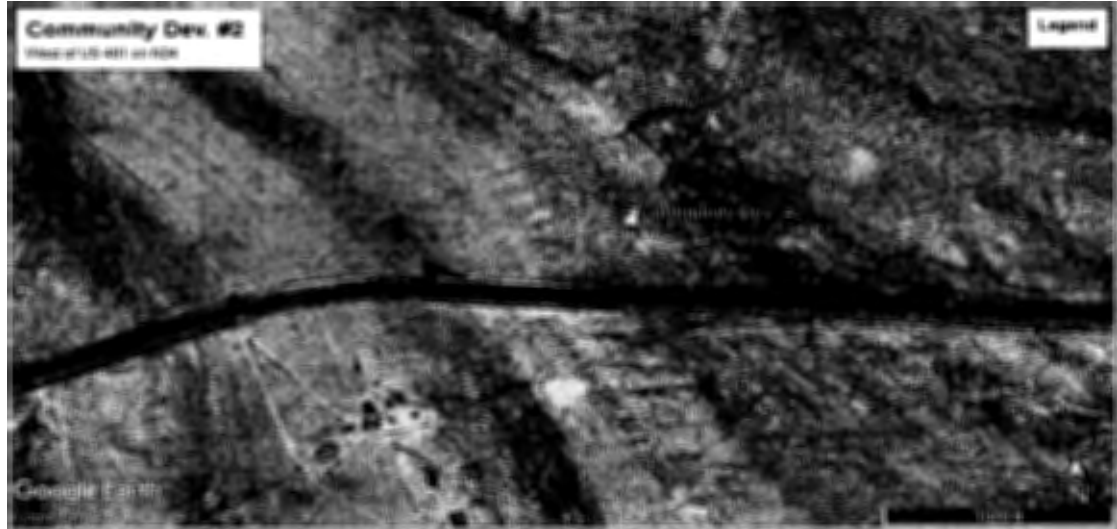


There are no recorded archaeological sites within one mile of the site (ARMS search 12/03).

### **Recommendations**

This site appears to be well-suited for development, as the soil types are good for building, there are limited drainage problems, and there appear to be no restrictive environmental conditions or cultural sites present.

#### **Exhibit 30: Tsé Ałnaozti'í Community Development Site 1 Soils**



### **3.2 Community Development Site Two Location:**

This site is approximately 6.8 miles east of the Tsé Ałnaozti'í Chapter House, north of Navajo Route N34, 1.9 miles west of Navajo Route N 34 and U.S. Highway 491 junction. This location is planned as a secondary location for new community facilities.

### **Geology/Soils**

The proposed housing site lies at approximately 5,689 feet above sea level.

The main soil types in the area include:

*Persayo-Fordbutte association* - Persayo, a very fine sandy loam, and similar soils comprise 55 percent of the association. Fordbutte, a very fine sandy loam, and similar soils comprise 30 percent of the association. Contrasting inclusions (a solid foreign body enclosed in a mass as in a mineral) comprise the remaining 15 percent.

*Kimbeto loamy sand association* – a loamy fine sand and similar soils comprise 80 percent of the association. Contrasting includes comprise the remaining 15 percent. These soils occur at elevations of 5,400 to 5,900 feet. This soils association is typically at 0 to 4 percent slope.

**Surface Water/Drainage**

There are no major drainages running through this site. No visible wetlands were noted during the site visit.

**Vegetation**

The site lies entirely within the Great Basin Desert Scrub habitat type. Grasses are the most prevalent vegetation on this site. Plants typical of this habitat, such as alkali sacaton, Indian rice grass, shadscale, and galleta are prominent here.

**Wildlife**

Wildlife that occupies the site is expected to be typical of that found in a Great Basin Desert Scrub habitat. Coyotes, rabbits, small rodents, lizards, snakes, ravens, and birds of prey may be common residents of the site. Wildlife may be reduced in numbers due to previous overgrazing of the site.

**Environmentally Sensitive Areas**

There are no environmentally sensitive areas identified by the Navajo Nation Fish and Wildlife Service on or near this site.

**Culturally Significant Areas/Traditionally Sensitive Areas**

There are no recorded archaeological sites within one mile of the site (ARMS search 12/03).

**Recommendations**

This site appears to be well-suited for development, as the soil types are good for building, there are limited drainage problems, and there appear to be no restrictive environmental conditions or cultural sites present.

**4.0 Community/Veterans Cemetery****4.1 Community/Veterans Cemetery Site One (1), Table Mesa area**

Location: 13 miles northeast of the Tsé Ałnaozti'í Chapter House, turn off at mile post 76 from U.S. Highway 491. This site consists of 40 acres located south of Table Mesa and east of U.S. Highway 491, approximately 9 miles north from Navajo Route 34 and U.S. Highway 491 junction. The site is shown in Exhibit 31.

**Geology/Soils**

The proposed community/Veterans' cemetery site lies at approximately 5,420 feet above sea level.

The main soils types in the area include:

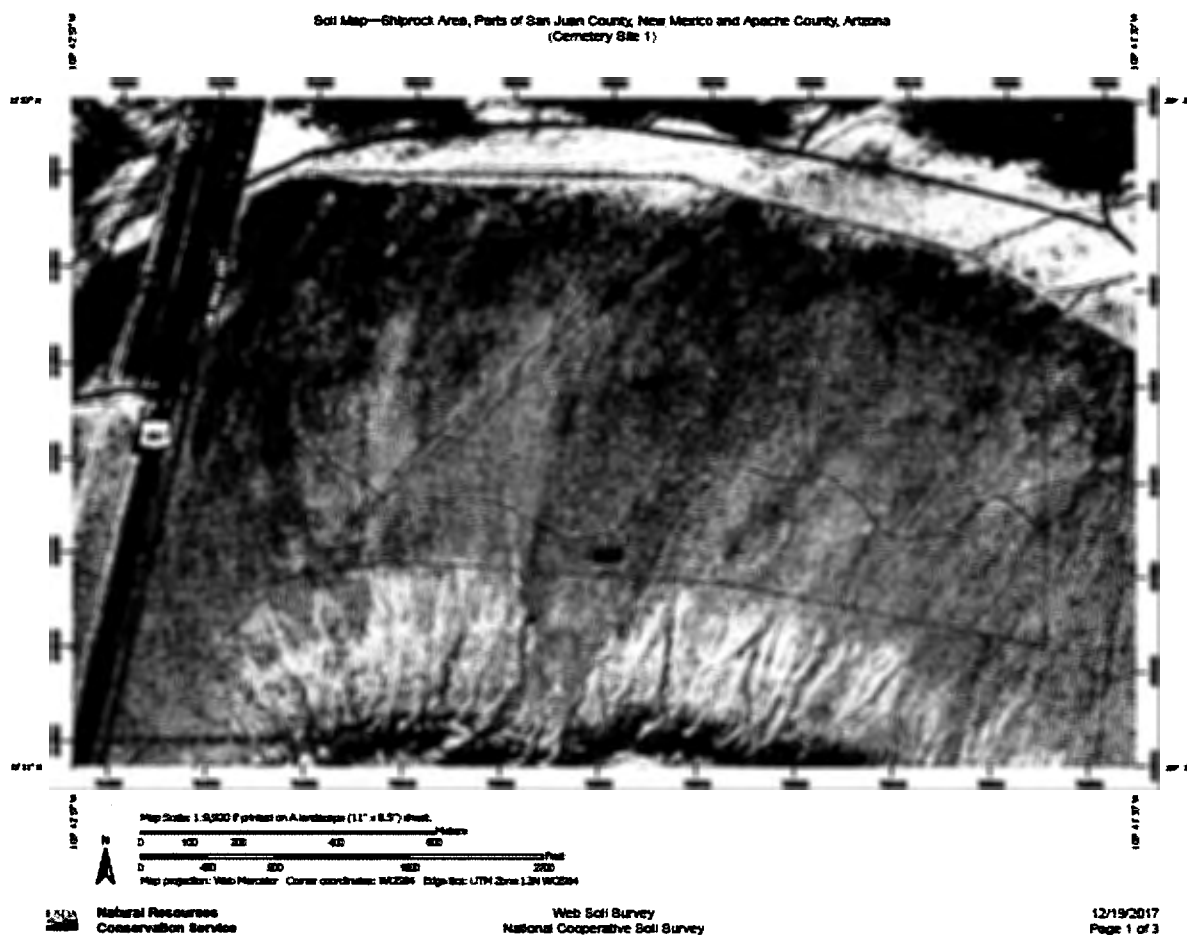
*Persayo-Fordbutte association* - Persayo, a very fine sandy loam, and similar soils comprise

55 percent of the association. Fordbutte, a very fine sandy loam, and similar soils comprise 30 percent of the association. Contracting inclusions (a solid foreign body enclosed in a mass as in a mineral) comprise the remaining 15 percent.

This soils type occurs on undulating plateaus and cuestas at an elevation of 4,600 to 6,300 feet. Persayo is a shallow soil, with a very severe potential for water erosion and a slope of 1 to 10 percent. Fordbutte is a moderately deep soil, with a moderate potential for water erosion and a slope of 1 to 3 percent. This soils association is typically well drained with a moderate permeability and medium service runoff. The shrink-swell potential is low for both Persayo soils and Fordbutte soils.

*Tsebitai association* – is a very fine sandy loam and similar soils comprise about 64 percent of the site. This soils type occurs on undulating plateaus and cuestas at an elevation of 4,600 to 6,300 feet, with a 1 to 3 percent slopes on the site.

### Exhibit 31: *Tsé Ałnaozti'í Community/Veterans Cemetery Site 1 Soils*



### **Surface Water/Drainage**

There is a major drainage running on the northern side of this site, but not through the site. The site has a 1 to 3 percent slope in the majority of the site and up to 10% closer to the mesa. No visible wetlands were noted during the site visit.

### **Vegetation**

The site lies entirely within the Great Basin Desert Scrub habitat type. Grasses are the most prevalent vegetation and are prevalent on this site. Plants typical of this habitat, such as Indian rice grass, alkali sacaton, Castle Valley clover, sand dropseed, galleta, bottlebrush, squirrel tail and shadscale are prominent vegetation.

### **Wildlife**

Wildlife that occupies the site is expected to be typical of that found in a Great Basin Desert Scrub habitat. Coyotes, rabbits, small rodents, lizards, snakes, ravens, and birds of prey may be common residents of the site. Wildlife may be reduced in numbers due to previous overgrazing of the site.

### **Environmentally Sensitive Areas**

There are no environmentally sensitive areas identified by the Navajo Nation Fish and Wildlife Service on or near this site.

### **Culturally Significant Areas/Traditionally Sensitive Areas**

There are no recorded archaeological sites within one mile of the site (ARMS search 12/03).

### **Recommendations**

This site appears to be well-suited for the proposed use, there are limited drainage problems, and there appear to be no restrictive environmental conditions or cultural sites present.

## **4.2 Community/Veterans Cemetery Site Two (02), Tocito Tsezhin iahi**

**Location:** This site is located 3.5 miles east of the Tsé Ałnaozti'í Chapter House, in the Tocito area near Tsézhin i'ahi. This site one consists of 40 acres, located next to the Smiley family cemetery.

### **Geology/Soils**

The proposed community/Veterans' cemetery site lies at approximately 5,875 feet. above sea level.

The main soils types in the area include:

*Tewa fine sandy loam association* - Tewa, a fine sandy loam, and similar soils comprise 85 percent of the association. Pesayo-Fordbutte, a very fine sandy loam, and similar soils comprise 7 percent of the association.

This soils type occurs on undulating plateaus and cuevas at an elevation of 5,800 to 6,100 feet. Tewa is a shallow soil, with a very severe potential for water erosion and a slope of 1 to 15 percent. Pesayo-Fordbutte is a moderately deep soil, with a moderate potential for water erosion and a slope of 1 to 3 percent. This soils association is typically well drained with a moderate permeability and medium service runoff. The shrink-swell potential is low for both Persayo soils and Fordbutte soils.

### **Surface Water/Drainage**

There are natural drainages south of the site location. No visible wetlands were noted during the site visit.

### **Vegetation**

The site lies entirely within the Great Basin Desert Scrub habitat type. Plants typical of this habitat, such as Indian rice grass, blue grama, alkali sacaton and four-wing saltbrush, shadscale, are prominent vegetation. Grasses are the most prevalent vegetation on this site.

### **Wildlife**

Wildlife that occupies the site is expected to be typical of that found in a Great Basin Desert Scrub habitat. Coyotes, rabbits, small rodents, lizards, snakes, ravens, and birds of prey may be common residents of the site. Wildlife may be reduced in numbers due to previous overgrazing of the site.

### **Environmentally Sensitive Areas**

There are no environmentally sensitive areas identified by the Navajo Nation Fish and Wildlife Service on or near this site.

### **Culturally Significant Areas/Traditionally Sensitive Areas**

There are no recorded archaeological sites within one mile of the site (ARMS search 12/03). There are existing burial sites in the area as this site is a family burial plot.

### **Recommendations**

This site appears to be well-suited for the proposed use, there are limited drainage problems, and there appear to be no restrictive environmental conditions or cultural sites present.

## **4.3 Community/Veterans Cemetery Site 3**

**Location:** This site is located approximately 3.5 miles east of the Tsé Ałnaozti'í Chapter House, directly south of Navajo Route 34 at mile post 20. This site consists of 18 acres located in between two mesas.

### **Geology/Soils**

The proposed housing site lies at approximately 5,852 feet above sea level.

The main soils types in the area include:

*Tewa fine sandy loam association* - Tewa, a fine sandy loam, and similar soils comprise 85 percent of the association. Contracting inclusions (a solid foreign body enclosed in a mass as in a mineral) comprise the remaining 15 percent. This soils association is typically well drained with a moderate permeability and medium service runoff.

#### **Surface Water/Drainage**

There are no major drainages running through this site. No visible wetlands were noted during the site visit.

#### **Vegetation**

The site lies entirely within the Great Basin Desert Scrub habitat type. Grasses are the most prevalent vegetation on this site. Plants typical of this habitat, such as galleta, Indian rice grass, blue grama, alkali sacaton, bottle squirrel tail and four-wing saltbush are prominent here.

#### **Wildlife**

Wildlife that occupies the site is expected to be typical of that found in a Great Basin Desert Scrub habitat. Coyotes, bobcats, rabbits, small rodents, lizards, snakes, ravens, and birds of prey may be common residents of the site. Wildlife may be reduced in numbers due to previous overgrazing of the site.

#### **Environmentally Sensitive Areas**

There are no environmentally sensitive areas identified by the Navajo Nation Fish and Wildlife Service on or near this site.

#### **Culturally Significant Areas/Traditionally Sensitive Areas**

There are no recorded archaeological sites within one mile of the site (ARMS search 12/03).

#### **Recommendations**

This site appears to be well-suited for proposed use, there are limited drainage problems, and there appear to be no restrictive environmental conditions or cultural sites present.

### **5.0 Economic Development Sites 5.1 Economic Development Site one (01)**

**Location:** This site is located approximately 9 miles east of the Tsé Ałnaozti'í Chapter House. This site is located at the junction of U.S. Highway 491 and Navajo Route 5092. This site one consists of 60 acres. The site is shown on the map in Exhibit 32.

#### **Geology/Soils**

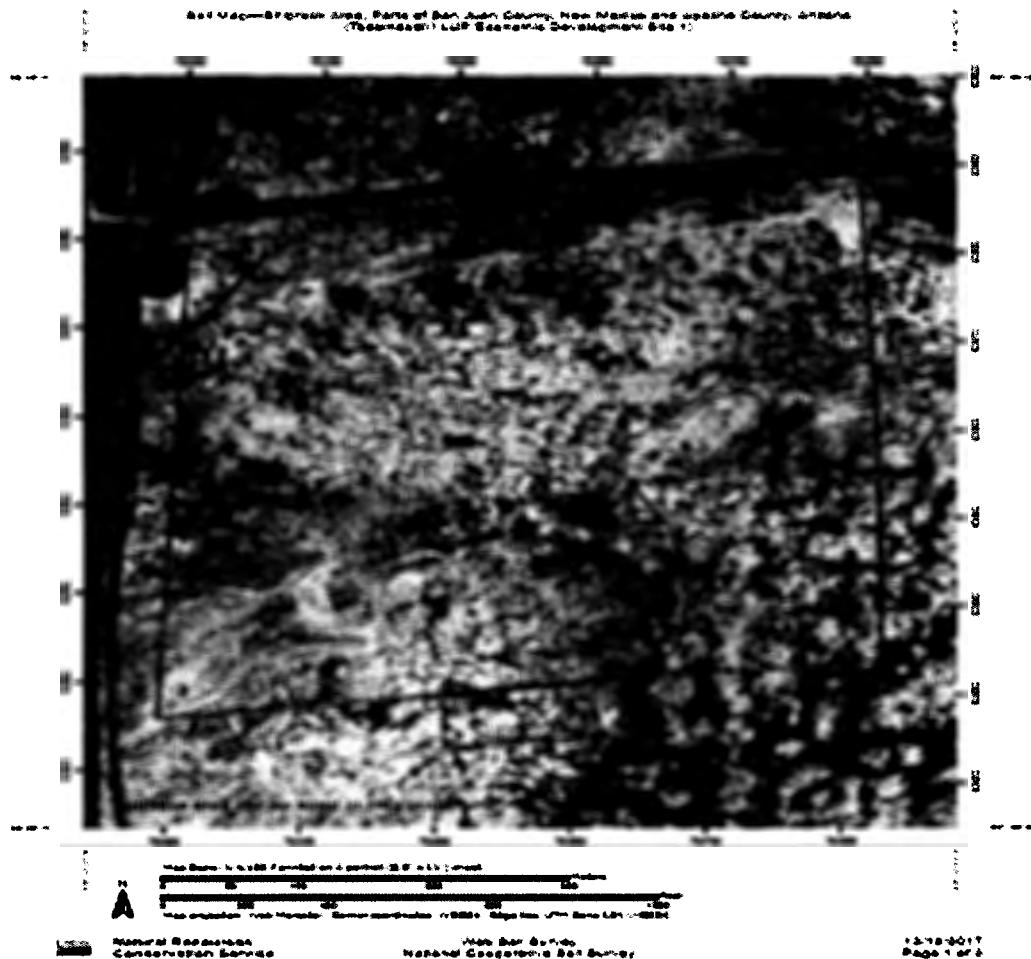
The proposed Economic Development site lies at approximately 5,560 feet above sea level.

The main soils types in the area include:

*Jeddito Loam association* - a fine sandy loam, and similar soils comprise 85 percent of the association. Contracting inclusions (a solid foreign body enclosed in a mass as in a mineral) comprise the remaining 15 percent.

This soils type occurs on undulating plateaus and cuestas at an elevation of 5,500 to 6,000 feet. This soils association is typically well drained with a moderate permeability and slow surface runoff, with up to a 2 percent slope.

**Exhibit 32: Tsé Ałnaozti'í Economic Development Site 1 Soils**



**Surface Water/Drainage**

There are no major drainages running through this site. No visible wetlands were noted during the site visit.

**Vegetation**

The site lies entirely within the Great Basin Desert Scrub habitat type. Grasses are the most prevalent vegetation on this site. Plants typical of this habitat, such as big Indian rice grass, four-wing saltbush, galleta, blue grama, alkali sacaton and sand dropseed are prominent here.

**Wildlife**

Wildlife that occupies the site is expected to be typical of that found in a Great Basin Desert Scrub habitat. Coyotes, rabbits, small rodents, lizards, snakes, ravens, and birds of prey may be common residents of the site. Wildlife may be reduced in numbers due to previous overgrazing of the site.

**Environmentally Sensitive Areas**

There are no environmentally sensitive areas identified by the Navajo Nation Fish and Wildlife Service on or near this site.

**Culturally Significant Areas/Traditionally Sensitive Areas**

There are no recorded archaeological sites within one mile of the site (ARMS search 12/03).

**Recommendations**

This site appears to be well-suited for development, as the soil types are good for building, there are limited drainage problems, and there appear to be no restrictive environmental conditions or cultural sites present. The Navajo-Gallup Water Project alignment is near this area and will be a large consideration in the development of this site. The construction of the water project is scheduled for 2019 in this area.

**5.2 Economic/Industrial Development Site Two (02)**

**Location:** This site is located approximately 19 miles northeast of the Tsé Ałnaozti'í Chapter House. This site is located 7.2 miles east of Table Mesa, south of Navajo Route 5017, east of the Hogback ridge. This site consists of 100 acres.

**Geology/Soils**

The proposed economic/industrial site lies at approximately 5,349 feet above sea level.

The main soils types in the area include:

*Persayo-Fordbutte association* - Persayo, a very fine sandy loam, and similar soils comprise 55 percent of the association. Fordbutte, a very fine sandy loam, and similar soils comprise 30 percent of the association. Contracting inclusions (a solid foreign body enclosed in a mass as in a mineral) comprise the remaining 15 percent.

This soils type occurs on undulating plateaus and cuevas at an elevation of 5,300 to 6,300 feet. Persayo is a shallow soil, with a very severe potential for water erosion and a slope of 1 to 10



percent. Fordbutte is a moderately deep soil, with a moderate potential for water erosion and a slope of 1 to 3 percent. This soils association is typically well drained with a moderate permeability and medium service runoff. The shrink-swell potential is low for both Persayo soils and Fordbutte soils.

### **Surface Water/Drainage**

There are no major drainages running through this site. No visible wetlands were noted during the site visit.

### **Vegetation**

The site lies entirely within the Great Basin Desert Scrub habitat type. Grasses are the most prevalent vegetation on this site. Plants typical of this habitat, such as big Indian rice grass, four-wing saltbush, galleta, blue grama, shadscale, sickle saltbrush, bottlebrush squirrel tail, alkali sacaton and sand dropseed are prominent here.

### **Wildlife**

Wildlife that occupies the site is expected to be typical of that found in a Great Basin Desert Scrub habitat. Coyotes, bobcats, rabbits, small rodents, lizards, snakes, ravens, and birds of prey may be common residents of the site. Wildlife may be reduced in numbers due to previous overgrazing of the site.

### **Environmentally Sensitive Areas**

There are no environmentally sensitive areas identified by the Navajo Nation Fish and Wildlife Service on or near this site.

### **Culturally Significant Areas/Traditionally Sensitive Areas**

There are no recorded archaeological sites within one mile of the site (ARMS search 12/03).

### **Recommendations**

This site appears to be well-suited for development, there are drainages in the area, and there appear to be no restrictive environmental conditions or cultural sites present.

## **E. Land Use Plan**

The Land Use Plan for Tsé Ałnaozti'í Chapter is comprised of three sections:

- 1.0 Recommendations
- 2.0 Implementation
- 3.0 Future Land Use Map

### **1.0 Recommendations**

As described in the Community Assessment Section, the 2010 U.S. Census identified 998 total housing units in Tsé Ałnaozti'í.

Over recent years, there have been many families who left the community to pursue educational and/or employment opportunities. Many continue to live in border towns such as Farmington, Gallup, as well as, regional cities such as Albuquerque, New Mexico, Phoenix, Arizona and Salt Lake City, Utah.

As people mature, the importance of family and kinship tend to become more important to them. There are indications that families are moving back to the community, returning to their childhood homes and family homesteads to build a life for themselves and their children. One of the greatest deterrents to families returning is the lack of available housing.

### **1.1 Recommended Housing Sites**

This subsection presents summary information about each recommended site. Each description is followed by a site map on the next page. The matrix on the following pages provides a quick glance of the criteria used in evaluating each site.

**Exhibit 33: Proposed Housing Development Map**



## Site Analysis Matrix: Summary of Findings

Rating Criteria		Site 1	Site 2	Site 3
Land Status	e.g., Trust, BIA, etc.	Trust	Trust	Trust
Land Availability	<input checked="" type="checkbox"/> Withdrawn <input type="checkbox"/> Owner's Written Approval <input checked="" type="checkbox"/> Approvals Required	X	X	X
Usable Acreage	Number of Developable Acres	40	60	100
Adequacy of Size to Meet Needs	<input checked="" type="checkbox"/> Adequate to Meet 5-10 yrs. of housing demand <input type="checkbox"/> Adequate to Meet 2-4 yrs. Of housing demands <input checked="" type="checkbox"/> Adequate to Meet 1 yr. of demand or less	✓	✓	✓
Note: Chapter may decide that Development of several smaller Sites better meets housing needs.				
Soils	<input checked="" type="checkbox"/> Suitable for Residential Development <input type="checkbox"/> Suitable for Mitigation <input checked="" type="checkbox"/> Unsuitable, e.g., high shrink-swell or flood plain	✓	✓	✓
Topography	<input checked="" type="checkbox"/> Flat but well-drained <input type="checkbox"/> Variable but with buildable pads <input checked="" type="checkbox"/> Steep	✓	✓	□
Wildlife/Natural Resources Issues	<input checked="" type="checkbox"/> No identified issues <input type="checkbox"/> Can be mitigated <input checked="" type="checkbox"/> Significant issues	✓	✓	✓
Proximity to Existing Community Development	<input checked="" type="checkbox"/> Within 200' of site <input type="checkbox"/> 200' to 1 mile of site <input checked="" type="checkbox"/> > 1 mile	✗	✗	✗
Proximity to Negative Features, e.g. large powerlines, railroad, landfill, Mining: case by case	<input checked="" type="checkbox"/> Acceptable <input type="checkbox"/> Marginal <input checked="" type="checkbox"/> Unacceptable	✓	✓	✓
Utilities				
Distance to Electricity	<input checked="" type="checkbox"/> Within 200' of site <input type="checkbox"/> 200' to 1 mile of site <input checked="" type="checkbox"/> > 1 mile	□	✓	□
Water Capacity	<input checked="" type="checkbox"/> Adequate: Existing or Funded <input checked="" type="checkbox"/> Need new well or source	✓	✓	✓□
Distance to Waterlines	<input checked="" type="checkbox"/> Within 200' of site <input type="checkbox"/> 200' to 1 mile of site	✗□	□	□

- Sewer Service**
- ✓ Capacity in Existing
  - Expansion of existing required, e.g., lift station, new cell
  - New system required
- Distance to sewer lines (if available)**
- ✓ Within 200' of site
  - 200' to 1 mile of site
  - > 1 mile
- Distance to Telephone Lines**
- ✓ Within 200' of site
  - 200' to 1 mile of site
  - > 1 mile
- Distance to Natural Gas (if available)**
- ✓ Within 200' of site
  - 200' to 1 mile of site
  - > 1 mile
- Roads**
- ✓ 1000; or Less to Maintained, All-Weather Road
  - 1000' to 1 mile to All-Weather Road
  - ✖ > 1 mile to All-Weather Road

X	X	X
X	X	X
✓	X	X
X	X	X
✓	✓	X

Notes: Housing demand is based on: current number of families on waiting list + projected population per year/3. Houses per acres: for typical NHA subdivision, consider 3 units/usable gross acres (10,000 SF lots). Other subdivision models may also be used. Need for new lagoons will require more land. Lagoons must be located at least 1,000' from development.

### **Recommended Housing Development: Site 1**

*Land Status:* Tribal Trust

*Location:* 3.36 miles North of the Tsé Ałnaozti'í Chapter House turnoff from U.S. Route 491.

*Acreage:* 60 acres

This site appears well suited for a housing development based on the following factors:

- Site 1 is accessible from U.S. Route 491.
- Site 1 does not have any recorded archaeological sites.
- Electric lines are located along the eastern border of the site, water lines are located approximately 3,350 feet east of the site, and telephone lines are located along the eastern border of the site.
- There appears to be few drainage problems with this site. There is a suitable spot for a sewer lagoon.
- The site is not in an environmentally sensitive area as defined and designated by the Navajo Nation Fish and Wildlife Department.

### ***Exhibit 34: Tsé Ałnaozti'í Housing Development Site 1***



### **Recommended Housing Development: Site 2**

*Land Status:* Tribal Trust

*Location:* 4.7 miles North of the Tsé Ałnaozti'í Chapter House turnoff on U.S. Route 491, 5.8 miles West on NR 5016. *Acreage:* 40 acres

This site appears well-suited for a housing development based on the following factors:

- Site 2 is accessible from NR5016
- Site 2 does not have any recorded archaeological sites
- Electric lines are located approximately 237 feet east of the site, water lines are located approximately 9,240 feet east of the site, and telephone lines are located approximately 237 feet east of the site.
- There appear to be few drainage problems with this site. There is a suitable spot for a sewer lagoon.
- The site is not in an environmentally sensitive area as defined and designated by the Navajo Nation Fish and Wildlife Department.



### **Recommended Housing Development: Site 3**

*Land Status:* Tribal Trust

*Location:* This site is located west of Bennett's Peak in the Tocito area, east of Navajo Route 5005 and approximately three miles south of Highway N34. Road 5005 is a two lane paved road.

*Acreage:* 100 acres

This site appears well suited for a housing development based on the following factors:

- Site 3 is accessible from Navajo Route 5000.
- Site 3 does not have any recorded archaeological sites
- Electric lines are located approximately 1,500 feet west of the site, water lines are located approximately 2,200 feet east of the site.

- The site is not in an environmentally sensitive area as defined and designated by the Navajo Nation Fish and Wildlife Department.

*Site 3 – new pictures.*



## **1.2 Community Development Sites**

Community Development Site 1:

This site consists of 100 acres. This site is designated for chapter government facilities, with senior citizens center, Head start facilities, youth complex, community center, public safety facilities and health facilities.

*Land Status:* Tribal Trust

*Location:* West of U.S. Highway 491, north of cell tower road at mile post 70.

This site appears well suited for this type of development based on the following factors:

- Site 1 is accessible directly from U.S. Highway 491.
- Site 1 does not have any recorded archaeological sites.
- Electric lines are located approximately 1,850 feet west of the site, water lines are located approximately 2,280 feet east of the site, and telephone lines are located approximately 1,850 feet west of the site.
- The site is not in an environmentally sensitive area as defined and designated by the Navajo Nation Fish and Wildlife Department.

**Exhibit 35:** *Tsé Ałnaozti'í Community Development Site 1*





### **1.3 Community/Veterans Cemetery Site 1**

This site consists of 40 acres. Twenty (20) acres will be designated for veterans' cemetery and twenty (20) acres for the community.

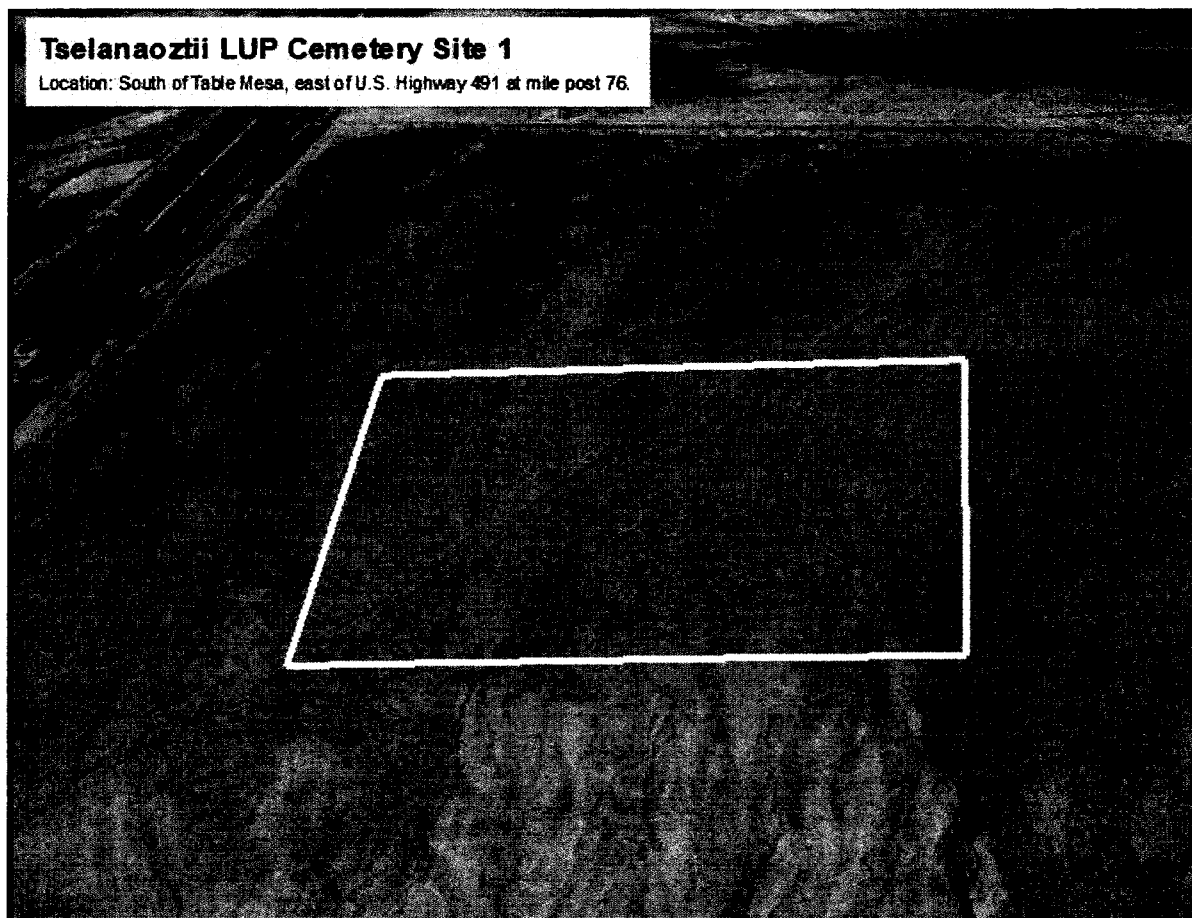
*Land Status:* Tribal Trust

*Location:* East of U.S. Highway 491, south of Table Mesa, at mile post 76.

This site appears well suited for the proposed use on the following factors:

- Site 1 is accessible directly from U.S. Highway 491.
- Site 1 does not have any recorded archaeological sites
- The site is not in an environmentally sensitive area as defined and designated by the Navajo Nation Fish and Wildlife Department.

### **Exhibit 36: Community/Veterans Cemetery Site 1**



#### **Community/Veterans Cemetery Site 2: Tocito/Tsezhín i'ahí area**

This site consists of 40 acres. Twenty (20) acres will be designated for veterans' cemetery and twenty (20) acres for the community.

*Land Status:* Tribal Trust

*Location:* South of Highway N34, in the Tocito area known as the Tsezhín i'ahí area, turnoff at mile post 20, south of the mesa.

This site appears well suited for a housing development based on the following factors:

- Site 2 is accessible from Navajo Route N34.
- Site 2 does not have any recorded archaeological sites
- The site is not in an environmentally sensitive area as defined and designated by the Navajo Nation Fish and Wildlife Department.

#### **Community/Veterans Cemetery Site 3:**

This site consists of 20 acres. Twenty (10) acres will be designated for veterans' cemetery and twenty (10) acres for the community. *Land Status:* Tribal Trust

*Location:* South of Highway N34, in Tocito/Tsezhín i'ahí area, at mile post 19.

This site appears well suited for a housing development based on the following factors:

- Site 3 is accessible from Navajo Route N34.
- Site 3 does not have any recorded archaeological sites
- The site is not in an environmentally sensitive area as defined and designated by the Navajo Nation Fish and Wildlife Department.

#### **1.4 Commercial/Industrial Development Sites**

During the course of the planning effort, the CLUP Committee identified several locations as potential sites for various types of commercial and industrial development. The following is a list of the sites, their locations, and possible uses. The amount of acreage needed for each site needs to be determined on an individual basis before development can occur and the land is formally withdrawn. Environmental and archaeological assessments will need to be conducted as part of the business site leasing process.

##### **Commercial/Industrial Site 1**

*Land Status:* Tribal Trust

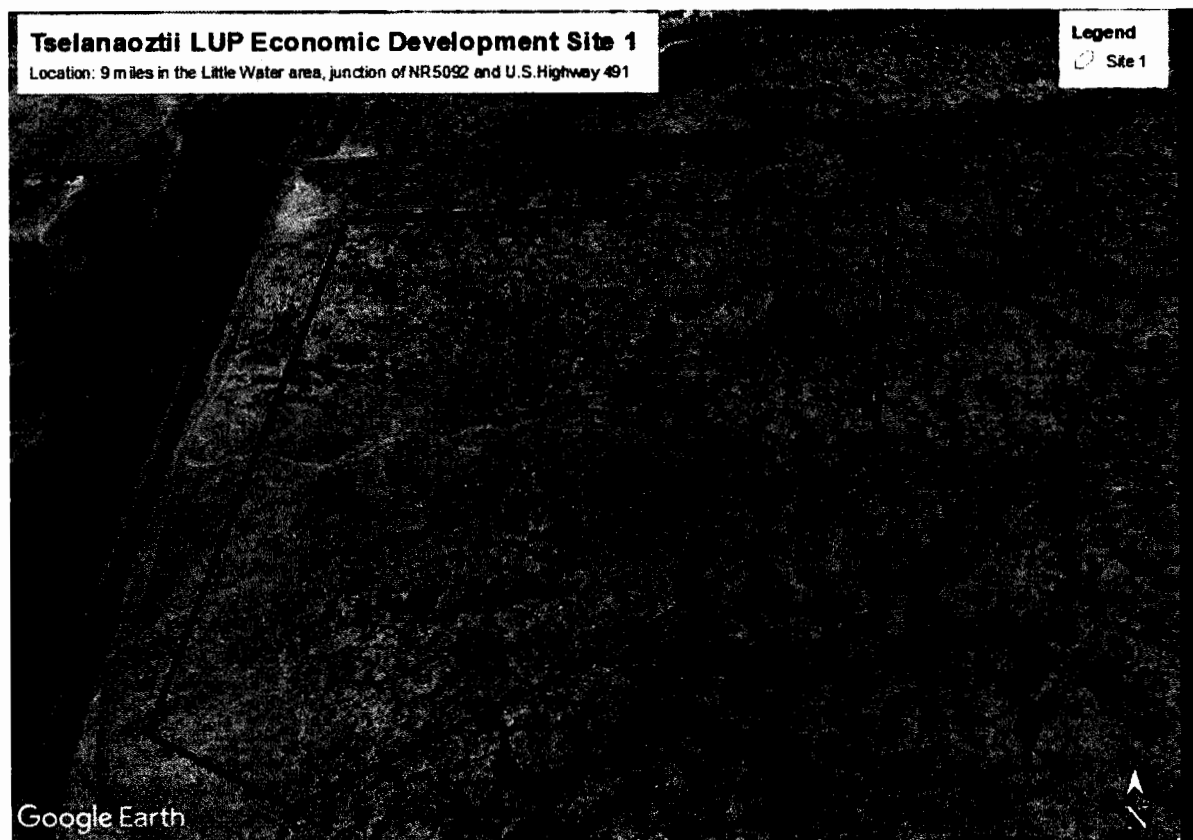
*Location:* Opposite NR 34 along U.S. Highway 491

This site has the advantage of being located along busy U.S. Highway 491. The Navajo Gallup Water Project waterline alignment is within this area may prove to have its advantages. The site is directly accessible from U.S. Highway 491 on Navajo Route 5092. Navajo Route 5092 is a dirt road, it runs east from U.S. Highway 491 towards the Cactus Area and Chaco Wash.

This site appears well suited for development based on the following factors:

- Site 1 is accessible from U.S. Highway 491.
- Site 1 does not have any recorded archaeological sites.
- Electric lines are located approximately 225 feet west of the site, water lines are located approximately 3,350 feet west of the site, and telephone lines are located approximately 225 feet west of the site.
- The site is not in an environmentally sensitive area as defined and designated by the Navajo Nation Fish and Wildlife Department.

### Exhibit 37: Tsé Ałnaozti'í Economic/Industrial Development Site 1



#### Commercial Site 2

*Land Status:* Tribal Trust

*Location:* East of U.S. Highway 491, south of Road 5017.

This site appears well suited for economic or industrial development based on the following factors:

- Site 2 is accessible from Navajo Route 5017.
- Site 2 does not have any recorded archaeological sites
- There are electric, water or telephone lines near this site. The closest is approximately a quarter of a mile west of the site.
- The site is not in an environmentally sensitive area as defined and designated by the Navajo Nation Fish and Wildlife Department.

#### 2.0 Implementation

The following list of policies contains guidelines and information to assist the Tsé Ałnaozti'í Chapter in the implementation of the Land Use Plan for community development and housing. It reflects the community's goals, vision and additional facts and data assembled during the planning process. All policies should be considered and implemented in order to achieve a healthy, vibrant, successful community.

**Policy 1.** Encourage people to live once more in the tradition of the beauty way.

- Respect themselves and others.
- Take responsibility as citizens of the Chapter.

**Policy 2.** Encourage healthy and productive land conditions and promote sustainable farming and grazing in the Chapter.

- Ensure land becomes and remains healthy and productive.
  - Limit vehicle use to established roads to reduce erosion.
  - Seek funding sources for erosion control projects, farm equipment, and irrigation hardware.
  - Develop better methods of livestock management with the help of the Land Board, especially in matters of enforcement.
  - Form a local Rancher's Association.
- Locate additional sources of water for agriculture, grazing, and wildlife.
- Educate livestock permittees about best ranchland management practices.
- Inform livestock permittees as to the legal rights and limitations of a grazing permit
- Promote enforcement of livestock management by the Bureau of Indian Affairs, and other responsible governmental agencies.
- Teach methods of dry farming to community youth.

**Policy 3.** Plan for the orderly development of Tsé Ałnaozti'í while assuring that there is flexibility in the planning process to change the plan as new policies are developed.

- Develop a land use plan for the Tsé Ałnaozti'í community center to become a small town with streets, shops, and community facilities.
- Develop more detailed land use guidance through design guidelines and zoning to address such features as:
  - The desired locations and mix of uses
  - Street lay-out
  - Pedestrian paths and sidewalks
  - Housing types and design
  - Housing orientation
  - The location of parks, schools, and other community facilities in relation to residential areas
  - Trail access to public lands and through open lands by foot, horse, or bicycle.
- Encourage new businesses and tourist sites in designated areas.
- Review the Chapter Land Use Plan for Housing periodically and update the plan as necessary to assure that it contains new policies of the Chapter.

- Policy 4.** Preserve and protect the environment in the Chapter area.
- Make Tsé Ałnaozti'í community a healthy, clean place for people to live.
  - Organize clean-up days to pick up trash and create an adopt-a-highway litter clean-up program.
  - Start a house-to-house and housing cluster trash pick-up service.
  - Start a program of recycling separation and pick-up serving Chapter residents. • Develop a strategy for regional cooperation for trash and recycling pick-up service and select the arrangement most advantageous for Tsé Ałnaozti'í residents, including but not limited to working with: neighboring Chapters, the Navajo Nation, San Juan County, BIA School, and State of New Mexico.
- Policy 5.** Preserve existing natural resources and ensure availability for future use.
- Mitigate negative impacts of past, current, and future use, and manage resources wisely.
  - Protect areas where native herbs are growing.
  - Educate people in ways to use and protect native herb plants for future generations.
  - Protect the forests for wildlife such as deer, elk, bears, bobcats, and turkeys in the Chapter.
  - Protect endangered species such as the Mesa Verde Cactus.
- Policy 6.** Preserve and protect historical and cultural features in the Community.
- Preserve historical and sacred places including Snake Bridge, hiding places that were used in times of troubles, Yei figures on canyon walls, and the area surrounding the lone tree in the desert as it is known by the local community.
  - Encourage continued cultural practices such as song and dance, pow wows, traditional games, and the use of the Navajo language.
- Policy 7.** Create and promote business and industry in the Community.
- Provide businesses, goods, and services to meet Community needs.
  - Locate new businesses and industry in the proposed commercial development sites.
  - Create jobs in the Community.
  - Develop cooperative business associations between the Tsé Ałnaozti'í community members and with others beyond the Community.
  - Develop tourist facilities and services within the proposed tourism areas in the mountains (located away from sacred sites such as Snake Bridge).
  - Promote arts and crafts produced within the Community, including jewelry making, pottery, basket weaving, and rug weaving.
- Policy 8.** Provide services to community members including health, safety, educational, and recreation services.
- Promote educational opportunities for people of all ages.

- Improve health care services and facilities.
- Provide adequate police and fire protection, including residential fire protection. Involve community members in neighborhood watches and awareness, especially in the NHA housing area.
- Provide facilities that improve community health and quality of life, including a renovated recreation center/community gymnasium and a senior day care center.
- Provide in-home elderly day care service.

**Policy 9.** Ensure quality, safe housing for both new construction and for housing renovations.

- Locate housing in proposed housing sites identified in this document.
- Work to promote construction of smaller, clustered subdivisions.
- Investigate land exchanges with parties such as the BIA, in order to locate housing near the Chapter House compound.
- Work with NHA, BIA, IHS, and other public and private housing providers to secure sources of funding for new housing and renovations.
- Develop new approaches to housing, including home ownership and the ability to have equity in one's home.

**Policy 10.** Develop and maintain reliable utilities and roads within the Community.

- Extend basic utilities of water, sewer, gas, power, and telephone to the entire community.
- Use alternative sources of energy, including solar, wind, and sustainable wood cutting.
- Where feasible, use constructed wetlands instead of sewer lagoons.

**Policy 11.** Develop a form of government that promotes local authority.

- Institute a township or municipal form of government.
- Elect local government officials to represent geographic areas, such as districts.

**Policy 12.** Seek funding to create a land administration staff that will:

- Seek grants and funds for government operations and capital projects.
- Develop and implement a zoning code.
- Implement the land use plan.
- Contract with a legal service to provide expertise on land issues.

### **3.0 Future Land Use Map**

The map on the following page summarizes all land use recommendations for the Tsé Ałnaozti'í Community.

**Exhibit 38:** *Tsé Ałnaozti'í Future Land Use Map*

(Insert the map diagrams, here.)



## ***A. Appendices***

### **1.0 Tsé Ałnaozti'í Community Land Use Planning Committee (Members)**

1. Alonzo Cohoe, President
  2. Jeanne Haskie, Vice- President
  3. Tanya Begay, Secretary  
Brad Charles, Secretary (2017)
  4. Beronica Barber, Member
  5. LaVerda Washburn, Member
- Technical assistance provided by Eliza-Beth Washburne.

### **2.0 Notes from the Tsé Ałnaozti'í Chapter Visioning Meetings**

#### **1. What is unique and different about Tsé Ałnaozti'í Chapter?**

##### **Location**

- Wide-open area
- Not like Checkerboard area – all Tribal Trust land

##### **Agriculture**

- Dry farming
- Grazing/Open rangeland
- Windmills

##### **Environment and natural resources**

- Chuska Mountains
- Beautiful Mountain
- Scenery
- Two volcanic peaks
- Bennett Peak
- Fort Peak
- Shiprock Peak to north
- Mesas
- Table Mesa
- Weather
- Dry – no rain or snow, used to be green, things are getting dryer and dryer
- Washes

- Sanostee Wash
- Canyons
- Bridge Canyon
- Red Canyon
- Water
- Artesian wells
- Natural bridge
- Snake Bridge
- Livestock reservoirs
- Wildlife – deer, bear, birds, elk, coyote, fox, bobcats, lizards, crows, eagles (nesting)
- Uranium
- One pine tree out in the desert

### **Built environment**

- U.S. Highway 491 through community - scenic route
- Housing
- BIA School – K-3
- Head start
- New Senior Center
- Hogan for ceremonial purposes
- Multi-purpose gym – all ages use
- Cultural center for Seniors
- Health center – Doctor visits once a week
- Post Office
- Community store
- Airstrip – not functional
- School bus routes – maintained by BIA
- Public schools come into Chapter – bus kids
- Water system
- Power lines
- Some telephones
- Artesian well
- Senior Center transport
- Lagoon for NHS housing
- New pump
- Water system
- Power lines
- Some telephone

- Historical sites
- Archaeological sites
- Petroglyphs
- Gravel pit
- Need phone line to the north
- Oil wells

### **Community**

- People – It's what makes the community
- Religion
- Cultural sites
- Sacred places
  - Kids have choices on schools
  - Family connections
  - Activities
  - Rodeo
  - VFW
  - 4-H
  - Miss Tsé Ałnaozti'í Pageant
  - Basketball
  - Softball fields
  - Unique Stories

### **Government**

- Local government
- Chapter
- Council
- Grazing
- CLUP Committee

## **2. What do you want to preserve in Tsé Ałnaozti'í Chapter?**

### **Natural Environment •**

- Historical sites
  - Snake Bridge
  - Hiding places during times of troubles
- Forests for wildlife
  - Deer, elk, bear, bobcats, turkeys

- Mesa Verde Cactus – rare cacti
- Fossils
- Crystals on the mesas
- Artesian wells

### **Agriculture**

- Farming – Dry
  - Potatoes in the mountains
  - Corn, squash, beans, melons
  - Hay, oats
  - Apples, peaches, apricots
- Livestock (more head now than in the past in the Chapter - Mainly cattle and sheep
  - Preserve, but with better management

### **Culture**

- History of the area •
- Historical sites
  - Snake Bridge
  - Hiding places during times of troubles
  - Yei figure on canyon wall (sacred site)
- Clan system
- Traditional healing
- Gathering of herbs and knowledge of what they are used for
- Sweat lodges
- Traditional ceremonies
  - Yei-Bi-Chai dance
  - By the seasons
  - Puberty ceremony/coming of age ceremony
  - Traditional marriage ceremony - not from same clan
- Traditional Games
  - Old Shoe Game (winter time only)
  - Stick game (women's)
- Navajo Crafts
  - Basket making
  - Rug weaving
  - Silver smiting
  - Pottery making

- Soaps
- Corn grinding with stones
- Traditional cooking
- Storytellers and stories
- Traditional ways of telling time and direction by the stars
- Using the stars and moon for planting times
- Hogan with pointed roof that allowed for the sun to shine to show time and season
- Respect for culture and artifacts
- Antiquity Act
- Burial sites

Other

- Education
- 

### **3. What do you want to change in Tsé Ałnaozti'í Chapter? Community**

- Government reform
- Recommendation of candidates for office - return to former way of selection
- Tribal officials should obey tribal law by attending all meetings
- Communication
- State and county representatives that listen
- Nursing home
- Expand the health clinic
- Adult day care
- Child day care (none available in Chapter)
- Attitudes - to a “can do” attitude

### **Economic Development**

- Store
- More livestock auctions
- “Sandstone bricks” • Trash
- Transfer station – charge
- Recycle plastic, metal, paper, tires for commercial/economic development
- Gravel pit
- Recycling of old cars

### **Agriculture**

- Overgrazing
- Erosion control
- Set aside ATV areas to prevent further erosion and damage to land

- Eliminate multiple, unpaved roads that cause erosion and runoff
- Prepare reservoir to hold water for irrigation
- Install and irrigation system for farming
- Enforcement of livestock laws

### **Built Environment**

- Road improvements
  - Paving of roads
- Paved parking area in front of existing Chapter House
- New Chapter House
- New School
  - Bigger school with upper grades
  - High School
- Renovate existing recreation center, especially the floor
- New recreation center
  - Boys and Girls Club
  - Save the Children Organization
- Heavy equipment
- Dams – earth
- Reservoirs
- Library
- Technology
  - Telephone
  - Internet
- Community cemetery •

### **Water/Power lines**

- Certain areas lack
- Scattered houses particularly

### **Social Issues**

- Better Education
- Adult Education
- Better, certified teachers • Health/Safety

- Law enforcement
- Rescue
- Fire protection
- Rescue team
- EMT
- ALERT/CERT Team
- Animal control

#### **Other**

- More vehicles
- Vans/Busses – 24 passenger

#### **4. What do you want Sanostee Chapter to look like in twenty years?**

##### **Community Facilities**

- New Chapter House
- Sports complex/recreational facilities
- Picnic area
- Public swimming pool
- Health center – exercise center
- Local health clinic - open 24 hours or extended hours compared to present
- Veterans' clinic
- Police and fire – public safety building
- Functioning Airstrip
- Public library
- Parks and open space
- Elderly home/nursing home
- Retirement center
- Cemetery
- Trash transfer station

##### **Economic Development**

- Chamber of Commerce
- Employment
- Grocery store
- Small shopping mall/Shopping center
- Managed tourism
- A recreation area/Campground

- Fishing area
- Arts and crafts center
- Marketing of business activities through own Chapter website and media • Truck stop
- Casino
- Racetrack
- Motel/Conference center/Restaurant
- Restaurants, café
- Golf course
- Trail rides
- Mortuary
- Newspaper
- Slaughter house
- Rare plant nursery/Center
- Museum for local artifacts
- Zoo
- Community fair
- Office/Multipurpose building

### **Infrastructure**

- Better, paved roads including across mountains to Arizona part of Chapter
- Wind generation of electric power for self-sustaining electric supply as well as economic development – sell excess electricity produced
- Improved communications systems

### **Agriculture/Natural Resources Management**

- Better agriculture
- Healthier rangeland – better range management
- Chapter control over land management including land withdrawals
- Rodeo grounds – bigger, better
- Livestock show/Grounds
- Greenhouse – for raising transplants for farms among other activities
- Irrigation systems
- Dam on top of mountain and feeder dams for irrigation
- Concrete canals



- Veterinary clinic for livestock
- Re-establish wool program

### **Services**

- Better health and safety systems
- Better family planning
- Better post office with home mail delivery
- Police and fire – public safety building
- Chiropractor
- Optical
- Juvenile detention center/Prison
- Adult detention center/Prison
- Treatment center/Recovery center
- Better elder protection laws
- Day care center for children

### **Education**

- Early childhood education
- Better school board members – accountability
- Community college
- Vocational training
- Schools with up-to-date computer technology
- Education that includes cultural history

### **Other**

- Clean up uranium mine

### **Government**

- Better local government
- Township form
- Chapter should be self-sustaining and have its own authority - be self-governing
- Long-term support – strong intergovernmental relations
- Government accountability
- Plan for growth using better methods

### **3.0 The Sanostee Tsé Ałnaozti'í Survey:**

#### **What the Community Tells Us**

In 2017, the CLUP Committee members conducted a survey of the Tsé Ałnaozti'í community members to gain information about community members, their lives and living conditions and their opinions on what is needed to improve the quality of life in Tsé Ałnaozti'í. The results were analyzed, and the summaries are presented in community assessment section of this document.

#### **The Surveyed Households: Demographics**

The results of the community survey were compared and presented in the document. The Census 2010 information was used, and the 2017 community surveys were used in the comparison. The major difference was in population. The population seems to be going down. The voter registration also fluctuates. Within the surveyed households, there were a total of 1,315 household members. The average number of people per household was 3.18. According to the 2010 Census, the average number of people per household was 3.41.

- **Age of Household Members**

The household composition in terms of age of occupants, approximately 24% of the household occupants were in the age category of 61 to 70 years. The next largest group was the individuals aged 51 to 60 years of age, which comprised 20% of the households. The 30 to 40 years of age category was 14% of the population. Individuals under 20 years of age, comprised 21% of the population. The smallest population group was the 71 years and older, which is at 6% of the population.

## 4.0 Planning Definitions

**Average Daily Traffic:** a measure of the average number of vehicles that pass through a location along a road in a day.

**Candidate Species:** a species being considered for listing as threatened or endangered.

**Clustered Housing:** housing developed in subdivisions or in a close-together pattern.

**CLUP Committee:** Comprehensive Land Use Planning Committee - committee designated under the LGA to oversee the development of a land use plan.

**Community Facilities:** schools, preschools, clinics, chapter houses, police/fire stations, recreation and senior centers, etc.

**Development Plan:** a site plan showing how the land will be developed: location of structures, parking, access, signs, utility connections, drainage, etc.

**Economic Development:** training programs, taxes or other incentives designed to retain existing businesses as well as create and/or attract new businesses.

**Endangered Species:** a species that is in danger of extinction throughout all or a significant portion of its range.

**Extirpated Species:** a species that has been eliminated from its range, usually in a specific geographic area.

**Infrastructure:** utilities (water, sewer, gas, electric, telephone, solid waste facilities), and roads.

**Land Status:** type of land ownership as identified below:

**Allotment** - Land in legal title of the U.S. held in trust for an individual Indian. The BIA has power over this land and the Tribe has no consent privilege. The land can be leased to non-Indians or sold to a tribe with the consent of an individual.

**State Land** - Lands in legal title of the State of New Mexico.

**U.S. Purchase Lands** - Lands purchased from 1915 to 1933 using tribal and government funds. Total purchase in New Mexico is 188,342 acres. These lands are held in trust by the Navajo tribe.

**Public Domain** - Lands owned by U.S. and administered by the BLM.

**2198 Land** - BLM land slated to be exchanged with individuals to consolidate Tribal lands.

**Administrative Reserve** - Lands specifically set aside by executive order or statute to be used as administrative sites for agency or school purposes. Lands in legal title of the U.S. conveyed into trust status. These lands are specifically set aside for administrative uses.

**Private Land** - Lands with legal title owned by a person or legal entity. These lands belong to individuals or legal entities and are taxable. The owner, who can be Indian, has power over the land.

**Land Use Plan:** a document identifying existing and future land use. It serves as a guide for the orderly development of a community. It generally contains information about current conditions and needs as well as goals, priorities, and vision for the future. Additionally, it identifies recommendations for implementing the plan.

**LGA:** Navajo Nation Local Governance Act of 1998. Law passed by Navajo Nation that grants local authority over local issues related to:

- Economic development
- Taxation and Revenue Generation

- Bonds
- Infrastructure Development
- Land Use Planning/Zoning/Ordinances
- Federal, State and Tribal Contracts
- Public Safety/ Recreation The LGA has two requirements:
- The adoption of the Five Management System - accounting, personnel, property, procurement, and record keeping policies and procedures.
- If a chapter wants to “administer land,” it must develop and adopt a comprehensive, community-based land use plan.

**Participation Process:** process adopted by the CLUP committee to ensure community participation and education during the preparation of the land use plan.

**Performance-Based Zoning:** developments are evaluated on a case-by-case basis to ensure that all of the potential impacts are addressed before approval. The land use plan serves as a guide to which uses are appropriate.

**Planning Process:** steps involved in preparing a land use plan.

**Community Assessment** - assess community needs for housing, economic development and community facilities.

**Infrastructure Analysis** - compile data on transportation and utilities needed for development to occur.

**Suitability Analysis** - examine the natural and cultural resources and environmental constraints to development.

**Scattered Housing:** housing developed in a spread-apart pattern.

**Service Area:** the planning area of a community encompassing all lands within it. Chapter members may live outside of this area and still be eligible for chapter programs.

**Threatened Species:** a species that is likely to become endangered in the foreseeable future.

**Traditional Zoning:** automatically permits and excludes certain types of uses and developments, without regard to how impacts are addressed. A proposed use not listed as permitted requires that the land be ‘rezoned.’

**Withdrawn Land:** sites for which all clearances and approvals have been given.

#### 4.0 Acronyms and Abbreviations ADT

– Average Daily Traffic

AHP – Affordable Housing Program

ALERT – Authorized Local Emergency Response Team

BIA – Bureau of Indian Affairs

BIDF – Business and Industrial Development Fund

BLM – Bureau of Land Management

CERT – Community Emergency Response Team

CHR – Community Health Representative

CIP – Capital Improvement Program

CLUPC - Community Land Use Planning Committee

CR – County Route  
CDBG – Community Development Block Grant  
EPA – U.S. or Navajo Environmental Protection Agency  
EPA – Eagle Protection Act  
ESA – Endangered Species Act  
FNLB – Federal Home Loan Bank  
GED – General Education Degree  
HIP – Housing Improvement Program  
HUD – U.S. Department of Housing and Urban Development  
I.H.S. – Indian Health Service  
IHP – Indian Housing Plan  
ISR – Indian Service Route  
JMEC – Jemez Mountain Electric Cooperative  
LGA – Local Governance Act of the Navajo Nation  
LIHTC – Low Income Housing Tax Credit  
MELP – Micro Enterprise Lending Program  
MBTA – Migratory Bird Treaty Act  
NAHASDA – Native American Housing and Self Determination Act  
NCC – Navajo Communications Company  
NDOT – Navajo Department of Transportation  
NEPA – National Environmental Protection Act  
NESL – Navajo Endangered Species List  
NHA – Navajo Housing Authority  
NHS – Navajo Housing Services  
NRCS – Natural Resource Conservation Service  
NSR – Navajo Service Route  
NTUA – Navajo Tribal Utility Authority  
OEDP – Overall Economic Development Program  
OEH – Office of Environmental Health  
ONAP – Office of Native American Programs  
RBDO – Regional Business Development Office  
SBA – Small Business Administration  
TDHE – Tribal Designated Housing Entity  
USDA – US Department of Agriculture

## 5.0 CLUPC Education and Public Participation Plan

<b>Tsé Alnaozti'í Chapter Community Participation and Education Plan</b>		
<b>Community Participation: Goal/Purpose</b>	<b>Community Participation Objective/Action</b>	
Land Use planning will be community driven with informed community members	♦	CLUPC will work with Officials to make decisions, but community members need to have input and review prior to final decisions being made.
	♦	A community assessment (questionnaire) survey will be conducted by CLUPC. (25 surveys each to start).
Involve community members about CLUPC meetings	♦	All CLUPC meetings will be held as open public meetings.
	♦	CLUPC President will announce at Planning & Regular meetings
	♦	Meeting announcements will be posted.
	♦	Meeting announcements will be made on radio.
Inform community members about CLUP public hearings	♦	Meeting announcements will be posted.
	♦	Prepare flyers and post for public hearings
	♦	CLUPC President will announce at Planning & Regular meetings
	♦	Meeting announcements will be made on radio.
	♦	CLUPC President will provide a verbal report to the community membership at each Chapter regular meeting.
Involve local government officials including Chapter Officials, Council Delegate, Grazing Official, CSC in the planning process	♦	Send invitation to attend CLUPC meetings and public hearings
	♦	CLUPC President will provide a written report at the end of each month on CLUPC activities and progress on LUP update
	♦	Grazing official should always attend CLUPC meetings as an ex-officio member
	♦	The Chapter Officials and Chapter Administration staff will attend the CLUPC Meetings to stay informed of the progress of the development of Land Use Plan.

Involve grazing/land use permittees in land use planning process	◆	CLUPC will attend at least one permittee meeting in the quarter to give a verbal and written update
	◆	CLUPC Officials will meet individually with affected or potential land users (grazing permittees) of the proposed development sites to start informing them and to get buy-in as soon as possible.
Conduct at public hearings for each policy or project decision	◆	Refer back to informing community about CLUPC and public hearings
	◆	1st Public hearing will be to present Original land use plan and development
Involve the Community Youth in the planning process	◆	CLUPC will conduct another survey for youth

<u>Maps</u>	<u>Pages</u>
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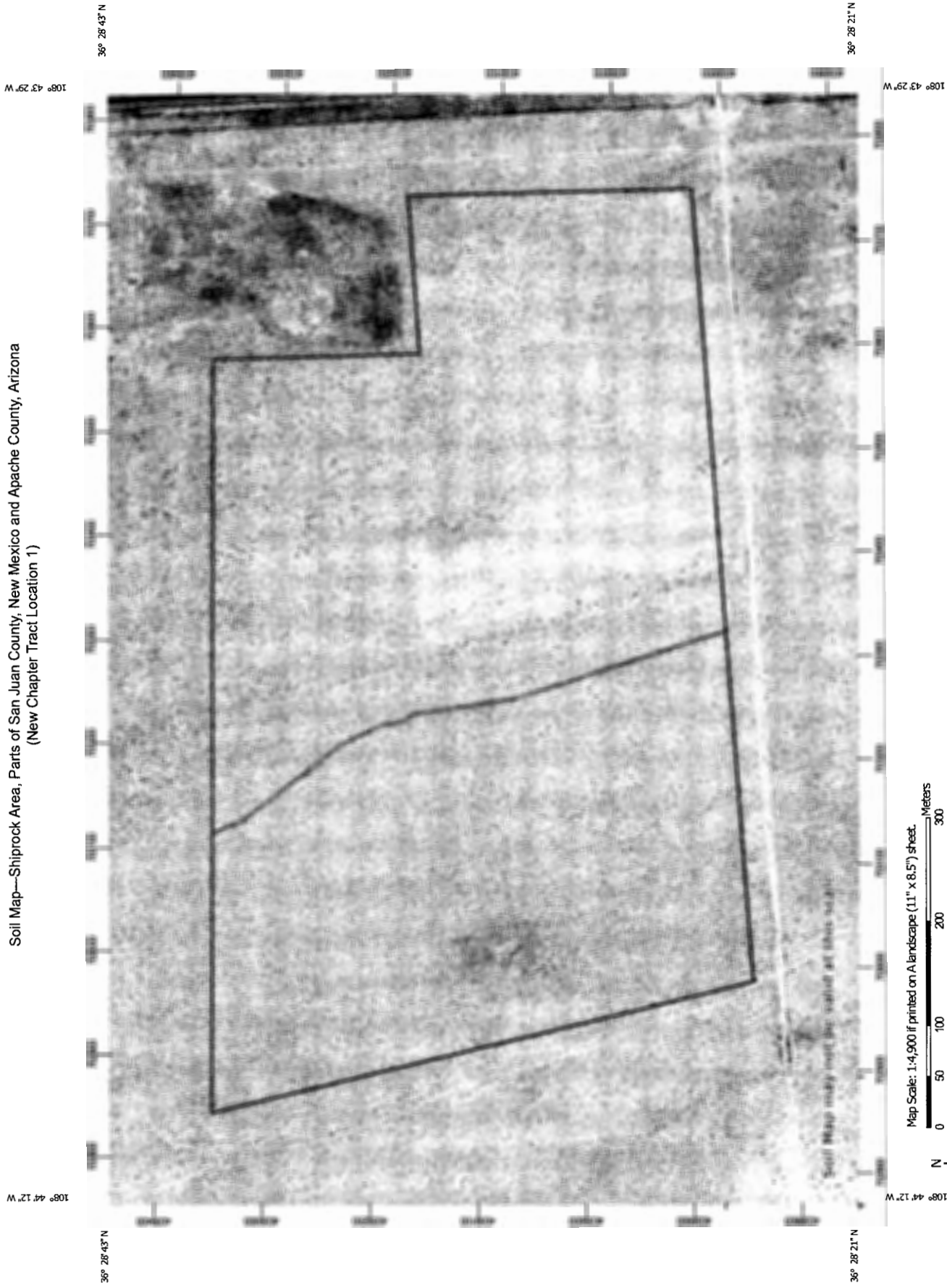
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5016A	1
5014	1
5017A	1
5092	1
Map BIE School	2
Econ Develpmt Site 1	1
Housing Dev Site Map A	1

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



























# Soil Map—Shiprock Area, Parts of San Juan County, New Mexico and Apache County, Arizona (New Chapter Tract Location 1)



Map Scale: 1:4,900 if printed on A landscape (11" x 8.5") sheet.  
 Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 12N WGS84

## MAP LEGEND

<b>Area of Interest (AOI)</b>		<b>Area of Interest (AOI)</b>		<b>Spoil Area</b>
<b>Soils</b>		<b>Soils</b>		<b>Stony Spot</b>
<b>Soil Map Unit Polygons</b>		<b>Soil Map Unit Polygons</b>		<b>Very Stony Spot</b>
<b>Soil Map Unit Lines</b>		<b>Soil Map Unit Lines</b>		<b>Wet Spot</b>
<b>Soil Map Unit Points</b>		<b>Soil Map Unit Points</b>		<b>Other</b>
<b>Special Point Features</b>		<b>Special Point Features</b>		<b>Special Line Features</b>
<b>Blowout</b>		<b>Water Features</b>		<b>Streams and Canals</b>
<b>Borrow Pit</b>		<b>Transportation</b>		<b>Rails</b>
<b>Clay Spot</b>		<b>Interstate Highways</b>		<b>US Routes</b>
<b>Closed Depression</b>		<b>Major Roads</b>		<b>Local Roads</b>
<b>Gravel Pit</b>		<b>Background</b>		<b>Aerial Photography</b>
<b>Gravelly Spot</b>				
<b>Landfill</b>				
<b>Lava Flow</b>				
<b>Marsh or swamp</b>				
<b>Mine or Quarry</b>				
<b>Miscellaneous Water</b>				
<b>Perennial Water</b>				
<b>Rock Outcrop</b>				
<b>Saline Spot</b>				
<b>Sandy Spot</b>				
<b>Severely Eroded Spot</b>				
<b>Sinkhole</b>				
<b>Slide or Slip</b>				
<b>Sodic Spot</b>				

## MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service  
Web Soil Survey URL:  
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Shiprock Area, Parts of San Juan County, New Mexico and Apache County, Arizona  
Survey Area Data: Version 11, Sep 26, 2014

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: May 21, 2010—Nov 5, 2010

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

## Map Unit Legend

Shiprock Area, Parts of San Juan County, New Mexico and Apache County, Arizona (NM717)			
Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
205	Shiprock-Farb complex, 1 to 5 percent slopes	39.3	43.9%
215	Persayo-Fordbutte association, 1 to 10 percent slopes	50.3	56.1%
Totals for Area of Interest		89.5	100.0%





































Map Scale: 1:3,380 if printed on A landscape (11" x 8.5") sheet.



Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 12N WGS84



## MAP LEGEND

<b>Area of Interest (AOI)</b>		<b>Area of Interest (AOI)</b>		<b>Spoil Area</b>
<b>Soils</b>		<b>Soils</b>		<b>Stony Spot</b>
<b>Soil Map Unit Polygons</b>		<b>Soil Map Unit Polygons</b>		<b>Very Stony Spot</b>
<b>Soil Map Unit Lines</b>		<b>Soil Map Unit Lines</b>		<b>Wet Spot</b>
<b>Soil Map Unit Points</b>		<b>Soil Map Unit Points</b>		<b>Other</b>
<b>Special Point Features</b>		<b>Special Point Features</b>		<b>Special Line Features</b>
<b>Blowout</b>		<b>Water Features</b>		<b>Streams and Canals</b>
<b>Borrow Pit</b>		<b>Transportation</b>		<b>Rails</b>
<b>Clay Spot</b>		<b>Interstate Highways</b>		<b>US Routes</b>
<b>Closed Depression</b>		<b>Major Roads</b>		<b>Local Roads</b>
<b>Gravel Pit</b>		<b>Background</b>		<b>Aerial Photography</b>
<b>Gravelly Spot</b>				
<b>Landfill</b>				
<b>Lava Flow</b>				
<b>Marsh or swamp</b>				
<b>Mine or Quarry</b>				
<b>Miscellaneous Water</b>				
<b>Perennial Water</b>				
<b>Rock Outcrop</b>				
<b>Saline Spot</b>				
<b>Sandy Spot</b>				
<b>Severely Eroded Spot</b>				
<b>Sinkhole</b>				
<b>Slide or Slip</b>				
<b>Sodic Spot</b>				

## MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service  
Web Soil Survey URL:  
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Shiprock Area, Parts of San Juan County, New Mexico and Apache County, Arizona  
Survey Area Data: Version 12, Sep 13, 2017

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

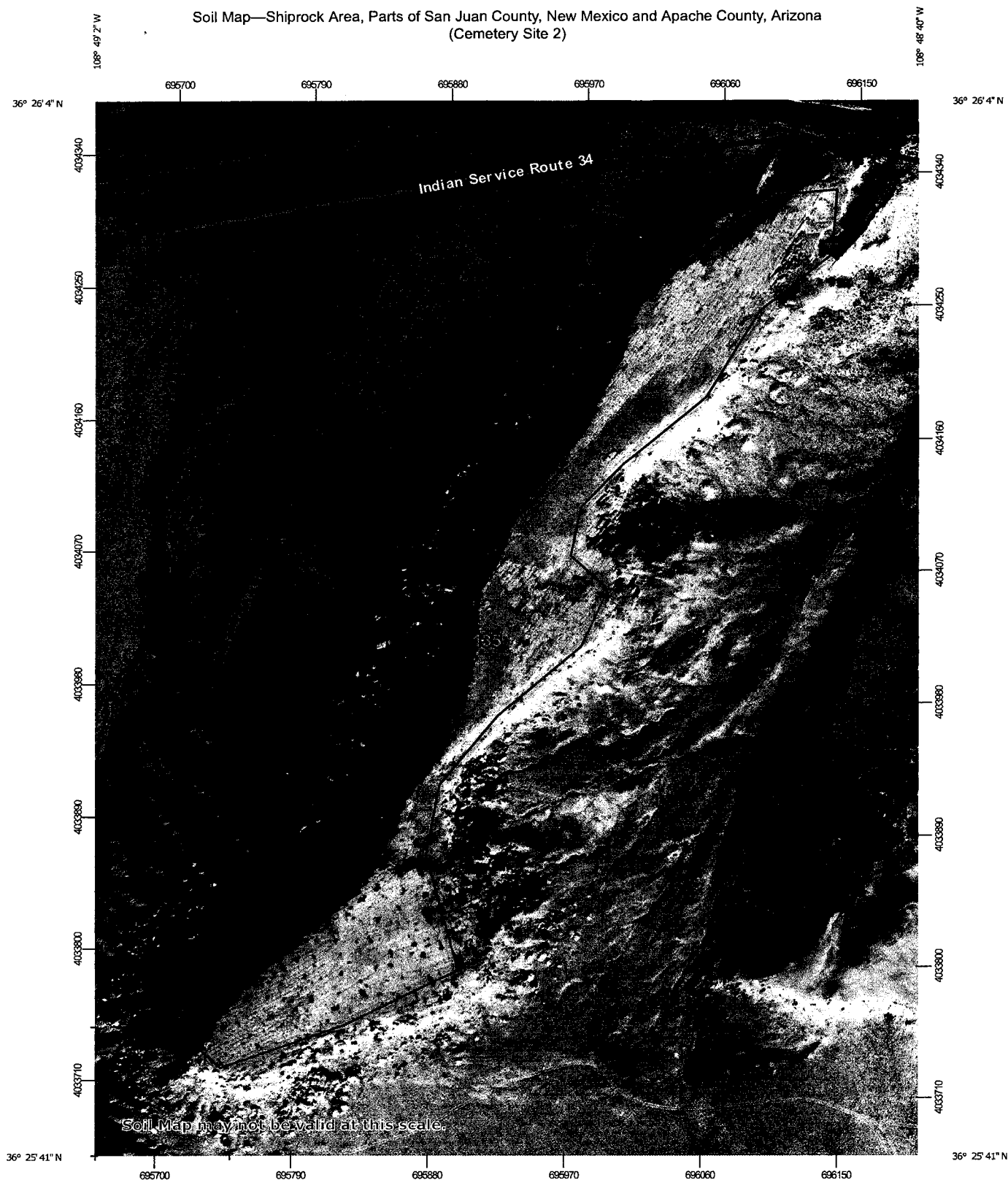
Date(s) aerial images were photographed: Feb 9, 2011—Mar 3, 2017

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

## Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
125	Kimbeto loamy fine sand, 0 to 4 percent slopes	0.3	0.8%
215	Persayo-Fordbutte association, 1 to 10 percent slopes	40.1	99.2%
<b>Totals for Area of Interest</b>		<b>40.4</b>	<b>100.0%</b>

Soil Map—Shiprock Area, Parts of San Juan County, New Mexico and Apache County, Arizona  
(Cemetery Site 2)



Soil Map may not be valid at this scale.

Map Scale: 1:3,500 if printed on A portrait (8.5" x 11") sheet.

0 50 100 200 300 Meters

0 150 300 600 900 Feet

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 12N WGS84




Natural Resources  
Conservation Service


Web Soil Survey  
National Cooperative Soil Survey


12/19/2017  
Page 1 of 3


MAP LEGEND


- Area of Interest (AOI)


 Area of Interest (AOI)
- Soils


 Soil Map Unit Polygons


 Soil Map Unit Lines


 Soil Map Unit Points
- Special Point Features


 Blowout


 Borrow Pit


 Clay Spot


 Closed Depression


 Gravel Pit


 Gravelly Spot


 Landfill


 Lava Flow


 Marsh or swamp


 Mine or Quarry


 Miscellaneous Water


 Perennial Water


 Rock Outcrop


 Saline Spot


 Sandy Spot


 Severely Eroded Spot


 Sinkhole


 Slide or Slip


 Sodic Spot
- Water Features


 Streams and Canals
- Transportation


 Rails


 Interstate Highways


 US Routes


 Major Roads


 Local Roads
- Background


 Aerial Photography
- Soil Area


 Spoil Area

 Stony Spot

 Very Stony Spot

 Wet Spot

 Other

 Special Line Features

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service  
Web Soil Survey URL:  
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Shiprock Area, Parts of San Juan County, New Mexico and Apache County, Arizona  
Survey Area Data: Version 12, Sep 13, 2017

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Feb 9, 2011—Mar 3, 2017

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.



## Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
135	Farb-Rock outcrop-Badland complex, 2 to 25 percent slopes	10.6	100.0%
<b>Totals for Area of Interest</b>		<b>10.6</b>	<b>100.0%</b>



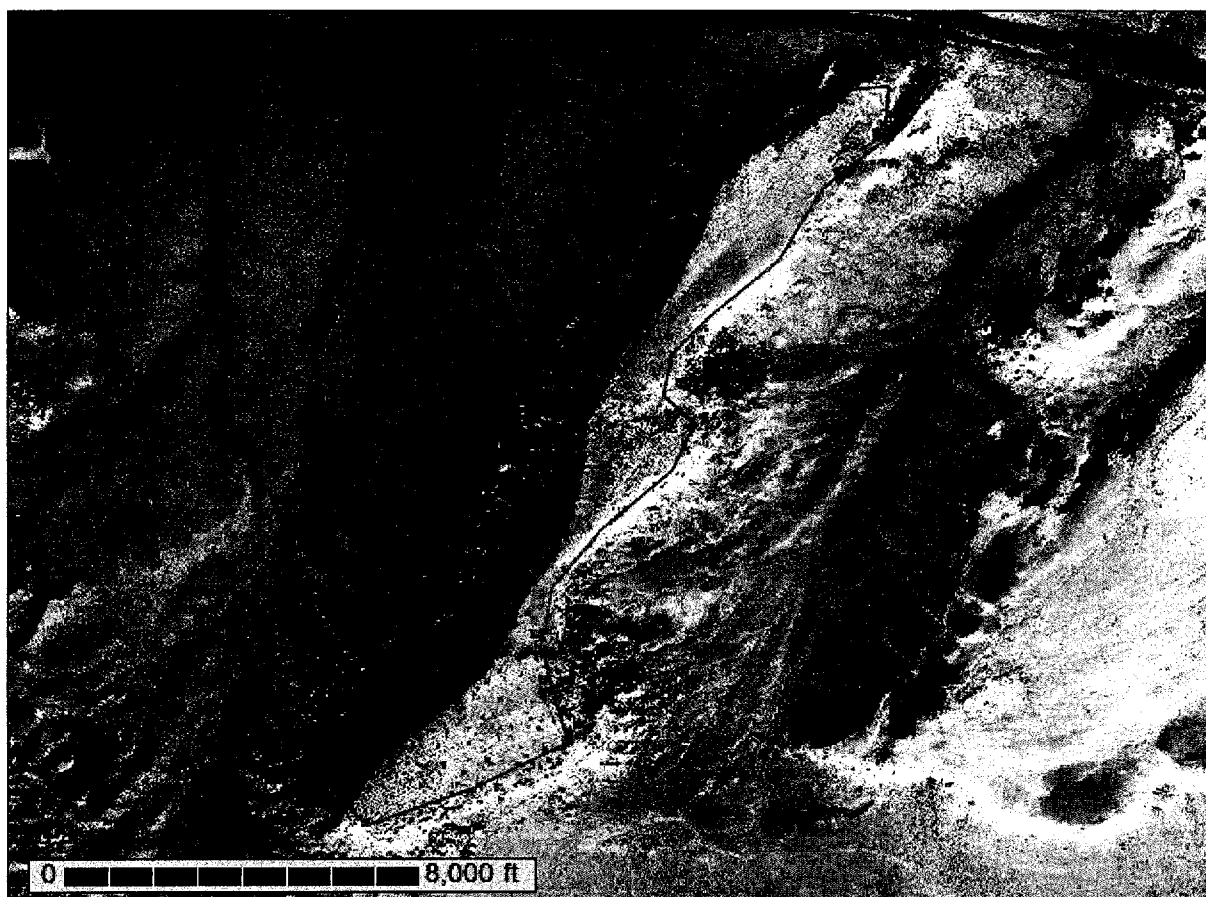
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A product of the National  
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States Department of  
Agriculture and other  
Federal agencies, State  
agencies including the  
Agricultural Experiment  
Stations, and local  
participants

## **Custom Soil Resource Report for Shiprock Area, Parts of San Juan County, New Mexico and Apache County, Arizona**



# Preface

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Soil surveys contain information that affects land use planning in survey areas. They highlight soil limitations that affect various land uses and provide information about the properties of the soils in the survey areas. Soil surveys are designed for many different users, including farmers, ranchers, foresters, agronomists, urban planners, community officials, engineers, developers, builders, and home buyers. Also, conservationists, teachers, students, and specialists in recreation, waste disposal, and pollution control can use the surveys to help them understand, protect, or enhance the environment.

Various land use regulations of Federal, State, and local governments may impose special restrictions on land use or land treatment. Soil surveys identify soil properties that are used in making various land use or land treatment decisions. The information is intended to help the land users identify and reduce the effects of soil limitations on various land uses. The landowner or user is responsible for identifying and complying with existing laws and regulations.

Although soil survey information can be used for general farm, local, and wider area planning, onsite investigation is needed to supplement this information in some cases. Examples include soil quality assessments (<http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/health/>) and certain conservation and engineering applications. For more detailed information, contact your local USDA Service Center (<https://offices.sc.egov.usda.gov/locator/app?agency=nrcs>) or your NRCS State Soil Scientist ([http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/contactus/?cid=nrcs142p2\\_053951](http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/contactus/?cid=nrcs142p2_053951)).

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are too unstable to be used as a foundation for buildings or roads. Clayey or wet soils are poorly suited to use as septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations.

The National Cooperative Soil Survey is a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local agencies. The Natural Resources Conservation Service (NRCS) has leadership for the Federal part of the National Cooperative Soil Survey.

Information about soils is updated periodically. Updated information is available through the NRCS Web Soil Survey, the site for official soil survey information.

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# How Soil Surveys Are Made

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Soil surveys are made to provide information about the soils and miscellaneous areas in a specific area. They include a description of the soils and miscellaneous areas and their location on the landscape and tables that show soil properties and limitations affecting various uses. Soil scientists observed the steepness, length, and shape of the slopes; the general pattern of drainage; the kinds of crops and native plants; and the kinds of bedrock. They observed and described many soil profiles. A soil profile is the sequence of natural layers, or horizons, in a soil. The profile extends from the surface down into the unconsolidated material in which the soil formed or from the surface down to bedrock. The unconsolidated material is devoid of roots and other living organisms and has not been changed by other biological activity.

Currently, soils are mapped according to the boundaries of major land resource areas (MLRAs). MLRAs are geographically associated land resource units that share common characteristics related to physiography, geology, climate, water resources, soils, biological resources, and land uses (USDA, 2006). Soil survey areas typically consist of parts of one or more MLRA.

The soils and miscellaneous areas in a survey area occur in an orderly pattern that is related to the geology, landforms, relief, climate, and natural vegetation of the area. Each kind of soil and miscellaneous area is associated with a particular kind of landform or with a segment of the landform. By observing the soils and miscellaneous areas in the survey area and relating their position to specific segments of the landform, a soil scientist develops a concept, or model, of how they were formed. Thus, during mapping, this model enables the soil scientist to predict with a considerable degree of accuracy the kind of soil or miscellaneous area at a specific location on the landscape.

Commonly, individual soils on the landscape merge into one another as their characteristics gradually change. To construct an accurate soil map, however, soil scientists must determine the boundaries between the soils. They can observe only a limited number of soil profiles. Nevertheless, these observations, supplemented by an understanding of the soil-vegetation-landscape relationship, are sufficient to verify predictions of the kinds of soil in an area and to determine the boundaries.

Soil scientists recorded the characteristics of the soil profiles that they studied. They noted soil color, texture, size and shape of soil aggregates, kind and amount of rock fragments, distribution of plant roots, reaction, and other features that enable them to identify soils. After describing the soils in the survey area and determining their properties, the soil scientists assigned the soils to taxonomic classes (units). Taxonomic classes are concepts. Each taxonomic class has a set of soil characteristics with precisely defined limits. The classes are used as a basis for comparison to classify soils systematically. Soil taxonomy, the system of taxonomic classification used in the United States, is based mainly on the kind and character of soil properties and the arrangement of horizons within the profile. After the soil

## Custom Soil Resource Report

scientists classified and named the soils in the survey area, they compared the individual soils with similar soils in the same taxonomic class in other areas so that they could confirm data and assemble additional data based on experience and research.

The objective of soil mapping is not to delineate pure map unit components; the objective is to separate the landscape into landforms or landform segments that have similar use and management requirements. Each map unit is defined by a unique combination of soil components and/or miscellaneous areas in predictable proportions. Some components may be highly contrasting to the other components of the map unit. The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The delineation of such landforms and landform segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, onsite investigation is needed to define and locate the soils and miscellaneous areas.

Soil scientists make many field observations in the process of producing a soil map. The frequency of observation is dependent upon several factors, including scale of mapping, intensity of mapping, design of map units, complexity of the landscape, and experience of the soil scientist. Observations are made to test and refine the soil-landscape model and predictions and to verify the classification of the soils at specific locations. Once the soil-landscape model is refined, a significantly smaller number of measurements of individual soil properties are made and recorded. These measurements may include field measurements, such as those for color, depth to bedrock, and texture, and laboratory measurements, such as those for content of sand, silt, clay, salt, and other components. Properties of each soil typically vary from one point to another across the landscape.

Observations for map unit components are aggregated to develop ranges of characteristics for the components. The aggregated values are presented. Direct measurements do not exist for every property presented for every map unit component. Values for some properties are estimated from combinations of other properties.

While a soil survey is in progress, samples of some of the soils in the area generally are collected for laboratory analyses and for engineering tests. Soil scientists interpret the data from these analyses and tests as well as the field-observed characteristics and the soil properties to determine the expected behavior of the soils under different uses. Interpretations for all of the soils are field tested through observation of the soils in different uses and under different levels of management. Some interpretations are modified to fit local conditions, and some new interpretations are developed to meet local needs. Data are assembled from other sources, such as research information, production records, and field experience of specialists. For example, data on crop yields under defined levels of management are assembled from farm records and from field or plot experiments on the same kinds of soil.

Predictions about soil behavior are based not only on soil properties but also on such variables as climate and biological activity. Soil conditions are predictable over long periods of time, but they are not predictable from year to year. For example, soil scientists can predict with a fairly high degree of accuracy that a given soil will have a high water table within certain depths in most years, but they cannot predict that a high water table will always be at a specific level in the soil on a specific date.

After soil scientists located and identified the significant natural bodies of soil in the survey area, they drew the boundaries of these bodies on aerial photographs and

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identified each as a specific map unit. Aerial photographs show trees, buildings, fields, roads, and rivers, all of which help in locating boundaries accurately.

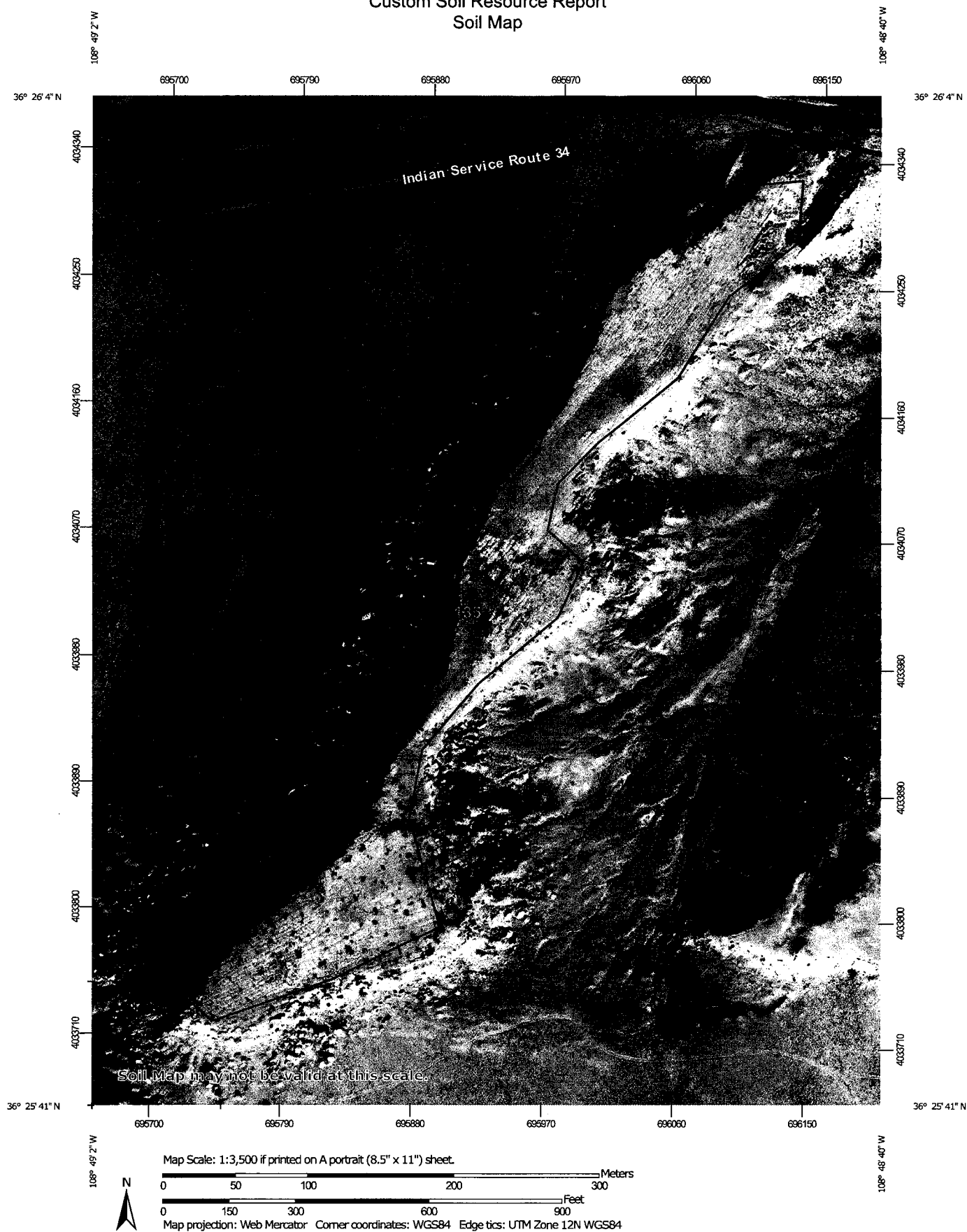


# Soil Map

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The soil map section includes the soil map for the defined area of interest, a list of soil map units on the map and extent of each map unit, and cartographic symbols displayed on the map. Also presented are various metadata about data used to produce the map, and a description of each soil map unit.

# Custom Soil Resource Report Soil Map



MAP LEGEND

<b>Area of Interest (AOI)</b>			<b>Area of Interest (AOI)</b>
<b>Soils</b>			<b>Soil Map Unit Polygons</b>
			<b>Soil Map Unit Lines</b>
			<b>Soil Map Unit Points</b>
<b>Special Point Features</b>			<b>Blowout</b>
			<b>Borrow Pit</b>
			<b>Clay Spot</b>
			<b>Closed Depression</b>
			<b>Gravel Pit</b>
			<b>Gravelly Spot</b>
			<b>Landfill</b>
			<b>Lava Flow</b>
			<b>Marsh or swamp</b>
			<b>Mine or Quarry</b>
			<b>Miscellaneous Water</b>
			<b>Perennial Water</b>
			<b>Rock Outcrop</b>
			<b>Saline Spot</b>
			<b>Sandy Spot</b>
			<b>Severely Eroded Spot</b>
			<b>Sinkhole</b>
			<b>Slide or Slip</b>
			<b>Sodic Spot</b>
			<b>Spoil Area</b>
			<b>Stony Spot</b>
			<b>Very Stony Spot</b>
			<b>Wet Spot</b>
			<b>Other</b>
			<b>Special Line Features</b>
<b>Water Features</b>			<b>Streams and Canals</b>
<b>Transportation</b>			<b>Rails</b>
			<b>Interstate Highways</b>
			<b>US Routes</b>
			<b>Major Roads</b>
			<b>Local Roads</b>
<b>Background</b>			<b>Aerial Photography</b>

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service  
Web Soil Survey URL:  
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Shiprock Area, Parts of San Juan County, New Mexico and Apache County, Arizona  
Survey Area Data: Version 12, Sep 13, 2017

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Feb 9, 2011—Mar 3, 2017

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background

## MAP LEGEND

## MAP INFORMATION

imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

## Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
135	Farb-Rock outcrop-Badland complex, 2 to 25 percent slopes	10.6	100.0%
<b>Totals for Area of Interest</b>		<b>10.6</b>	<b>100.0%</b>

## Map Unit Descriptions

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. If included in the database for a given area, the contrasting minor components are identified in the map unit descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however,

## Custom Soil Resource Report

onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives important soil properties and qualities.

Soils that have profiles that are almost alike make up a *soil series*. Except for differences in texture of the surface layer, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement.

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Alpha silt loam, 0 to 2 percent slopes, is a phase of the Alpha series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes, associations, or undifferentiated groups.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Alpha-Beta complex, 0 to 6 percent slopes, is an example.

An *association* is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Alpha-Beta association, 0 to 2 percent slopes, is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Alpha and Beta soils, 0 to 2 percent slopes, is an example.

Some surveys include *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Rock outcrop is an example.

## Shiprock Area, Parts of San Juan County, New Mexico and Apache County, Arizona

### 135—Farb-Rock outcrop-Badland complex, 2 to 25 percent slopes

#### Map Unit Setting

*National map unit symbol:* 1xnny  
*Elevation:* 4,600 to 9,800 feet  
*Mean annual precipitation:* 5 to 8 inches  
*Mean annual air temperature:* 52 to 54 degrees F  
*Frost-free period:* 140 to 160 days  
*Farmland classification:* Not prime farmland

#### Map Unit Composition

*Farb and similar soils:* 50 percent  
*Rock outcrop:* 25 percent  
*Badland:* 15 percent  
*Minor components:* 10 percent  
*Estimates are based on observations, descriptions, and transects of the mapunit.*

#### Description of Farb

##### Setting

*Landform:* Cuestas, mesas, benches  
*Landform position (three-dimensional):* Side slope, riser, talf  
*Down-slope shape:* Convex  
*Across-slope shape:* Convex, linear  
*Parent material:* Slope alluvium over residuum weathered from sandstone

##### Typical profile

*A - 0 to 2 inches:* channery loamy fine sand  
*BC - 2 to 5 inches:* fine sandy loam  
*2C - 5 to 8 inches:* channery fine sandy loam  
*2R - 8 to 18 inches:* bedrock

##### Properties and qualities

*Slope:* 2 to 25 percent  
*Depth to restrictive feature:* 5 to 10 inches to lithic bedrock  
*Natural drainage class:* Well drained  
*Runoff class:* Low  
*Capacity of the most limiting layer to transmit water (Ksat):* Very low to moderately high (0.00 to 0.20 in/hr)  
*Depth to water table:* More than 80 inches  
*Frequency of flooding:* None  
*Frequency of ponding:* None  
*Calcium carbonate, maximum in profile:* 10 percent  
*Salinity, maximum in profile:* Very slightly saline to slightly saline (2.0 to 4.0 mmhos/cm)  
*Sodium adsorption ratio, maximum in profile:* 5.0  
*Available water storage in profile:* Very low (about 0.9 inches)

##### Interpretive groups

*Land capability classification (irrigated):* None specified  
*Land capability classification (nonirrigated):* 7s  
*Hydrologic Soil Group:* D

## Custom Soil Resource Report

*Ecological site:* Sandstone Upland 6-10" p.z. (R035XB204AZ)

*Hydric soil rating:* No

### Description of Rock Outcrop

#### Typical profile

*H1 - 0 to 80 inches:* bedrock

#### Properties and qualities

*Slope:* 8 to 20 percent

*Depth to restrictive feature:* 0 inches to lithic bedrock

*Capacity of the most limiting layer to transmit water (Ksat):* Very low to moderately high (0.00 to 0.20 in/hr)

#### Interpretive groups

*Land capability classification (irrigated):* None specified

*Land capability classification (nonirrigated):* 8s

*Hydric soil rating:* No

### Description of Badland

#### Setting

*Landform:* Breaks

*Landform position (three-dimensional):* Side slope

*Down-slope shape:* Convex

*Across-slope shape:* Convex

#### Typical profile

*H1 - 0 to 60 inches:* bedrock

#### Properties and qualities

*Slope:* 8 to 15 percent

*Depth to restrictive feature:* 0 to 3 inches to paralithic bedrock

*Capacity of the most limiting layer to transmit water (Ksat):* Very low to moderately high (0.00 to 0.20 in/hr)

#### Interpretive groups

*Land capability classification (irrigated):* None specified

*Land capability classification (nonirrigated):* 8s

*Hydric soil rating:* No

### Minor Components

#### Genats

*Percent of map unit:* 2 percent

*Ecological site:* Shale Hills 6-10" p.z. (R035XB268AZ)

*Hydric soil rating:* No

#### Chipeta

*Percent of map unit:* 2 percent

*Ecological site:* Shale Hills 6-10" p.z. (R035XB268AZ)

*Hydric soil rating:* No

#### Denazar

*Percent of map unit:* 2 percent

*Ecological site:* Sandy Upland 6-10" (R035XB035NM)

*Hydric soil rating:* No

#### Persayo

*Percent of map unit:* 2 percent



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*Ecological site:* Shale Hills 10-14"p.z. (Provisional) (R035XA130NM)

*Hydric soil rating:* No

**Farb**

*Percent of map unit:* 2 percent

*Ecological site:* Shallow (R035XB006NM)

*Hydric soil rating:* No

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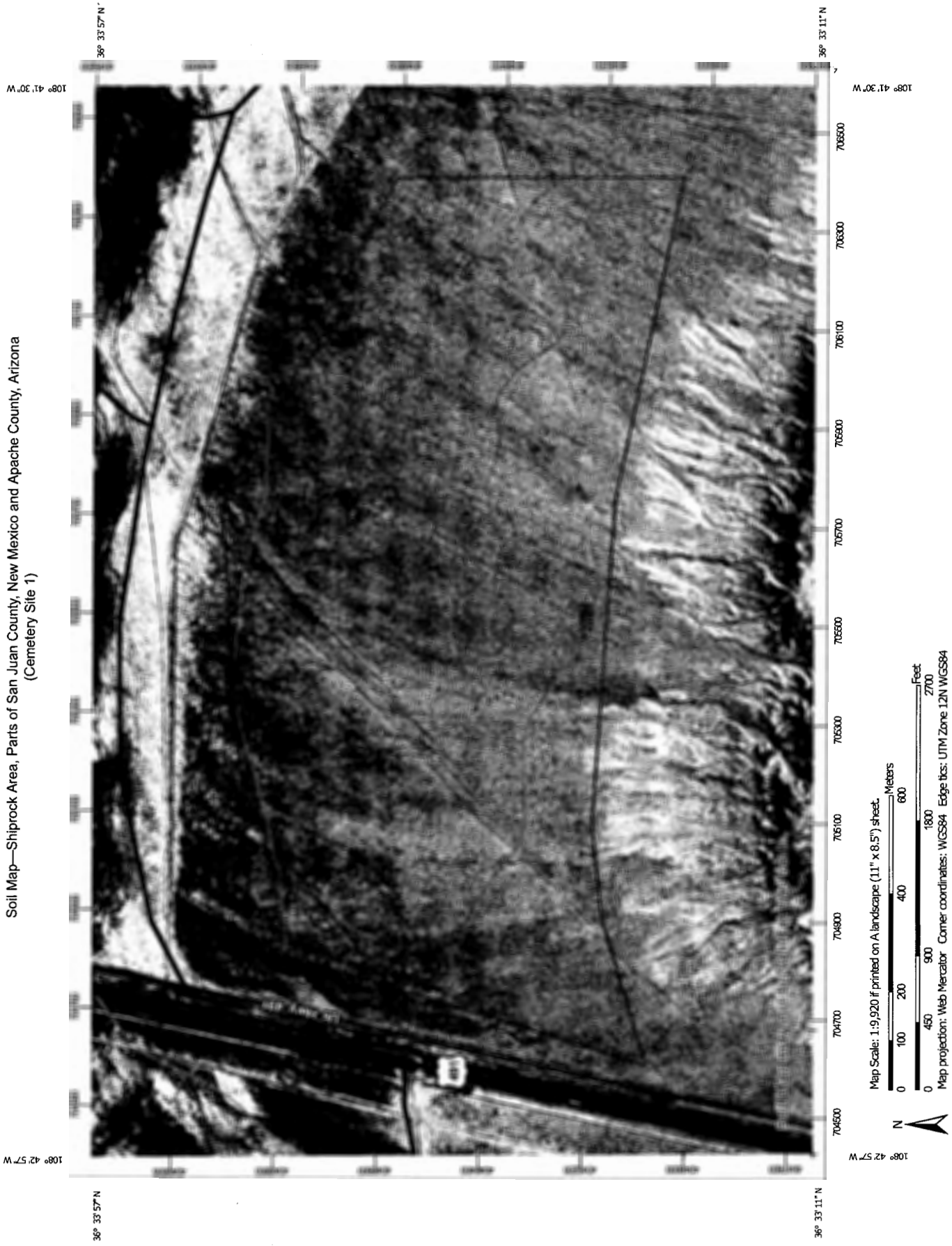
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United States Department of Agriculture, Natural Resources Conservation Service. National soil survey handbook, title 430-VI. [http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/scientists/?cid=nrcs142p2\\_054242](http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/scientists/?cid=nrcs142p2_054242)











































United States Department of Agriculture, Natural Resources Conservation Service. 2006. Land resource regions and major land resource areas of the United States, the Caribbean, and the Pacific Basin. U.S. Department of Agriculture Handbook 296. [http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2\\_053624](http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2_053624)

United States Department of Agriculture, Soil Conservation Service. 1961. Land capability classification. U.S. Department of Agriculture Handbook 210. [http://www.nrcs.usda.gov/Internet/FSE\\_DOCUMENTS/nrcs142p2\\_052290.pdf](http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_052290.pdf)

Soil Map—Shiprock Area, Parts of San Juan County, New Mexico and Apache County, Arizona  
(Cemetery Site 1)



## MAP LEGEND

<b>Area of Interest (AOI)</b>		<b>Area of Interest (AOI)</b>		<b>Spoil Area</b>
<b>Soils</b>		<b>Soil Map Unit Polygons</b>		<b>Stony Spot</b>
		<b>Soil Map Unit Lines</b>		<b>Very Stony Spot</b>
		<b>Soil Map Unit Points</b>		<b>Wet Spot</b>
<b>Special Point Features</b>		<b>Special Line Features</b>		<b>Other</b>
		<b>Water Features</b>		<b>Special Line Features</b>
		<b>Streams and Canals</b>		<b>Streams and Canals</b>
		<b>Transportation</b>		<b>Transportation</b>
		<b>Rails</b>		<b>Rails</b>
		<b>Interstate Highways</b>		<b>Interstate Highways</b>
		<b>US Routes</b>		<b>US Routes</b>
		<b>Major Roads</b>		<b>Major Roads</b>
		<b>Local Roads</b>		<b>Local Roads</b>
		<b>Background</b>		<b>Background</b>
		<b>Aerial Photography</b>		<b>Aerial Photography</b>
				
				
				
				
				
				
				
				
				
				
				
				

## MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service

Web Soil Survey URL:

Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Shiprock Area, Parts of San Juan County, New Mexico and Apache County, Arizona

Survey Area Data: Version 12, Sep 13, 2017

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Feb 9, 2011—Mar 3, 2017

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

## Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
215	Persayo-Fordbutte association, 1 to 10 percent slopes	93.4	32.6%
230	Ravola very fine sandy loam, 1 to 3 percent slopes	9.3	3.2%
245	Tsebitai very fine sandy loam, 1 to 3 percent slopes	184.0	64.2%
<b>Totals for Area of Interest</b>		<b>286.6</b>	<b>100.0%</b>



United States  
Department of  
Agriculture

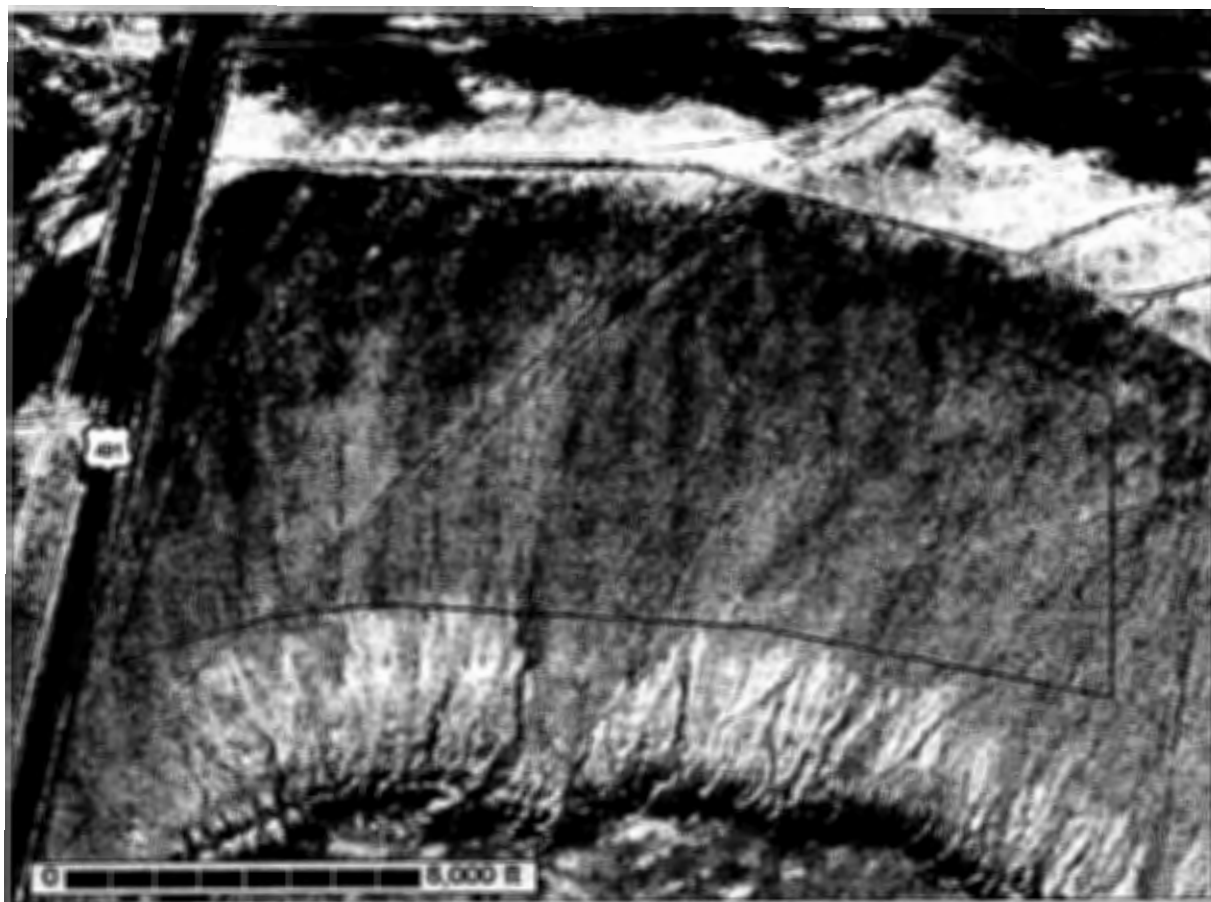
**NRCS**

Natural  
Resources  
Conservation  
Service

A product of the National  
Cooperative Soil Survey,  
a joint effort of the United  
States Department of  
Agriculture and other  
Federal agencies, State  
agencies including the  
Agricultural Experiment  
Stations, and local  
participants

# **Custom Soil Resource Report for Shiprock Area, Parts of San Juan County, New Mexico and Apache County, Arizona**

## **Cemetery Site 1**



# Preface

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Soil surveys contain information that affects land use planning in survey areas. They highlight soil limitations that affect various land uses and provide information about the properties of the soils in the survey areas. Soil surveys are designed for many different users, including farmers, ranchers, foresters, agronomists, urban planners, community officials, engineers, developers, builders, and home buyers. Also, conservationists, teachers, students, and specialists in recreation, waste disposal, and pollution control can use the surveys to help them understand, protect, or enhance the environment.

Various land use regulations of Federal, State, and local governments may impose special restrictions on land use or land treatment. Soil surveys identify soil properties that are used in making various land use or land treatment decisions. The information is intended to help the land users identify and reduce the effects of soil limitations on various land uses. The landowner or user is responsible for identifying and complying with existing laws and regulations.

Although soil survey information can be used for general farm, local, and wider area planning, onsite investigation is needed to supplement this information in some cases. Examples include soil quality assessments (<http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/health/>) and certain conservation and engineering applications. For more detailed information, contact your local USDA Service Center (<https://offices.sc.egov.usda.gov/locator/app?agency=nrcs>) or your NRCS State Soil Scientist ([http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/contactus/?cid=nrcs142p2\\_053951](http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/contactus/?cid=nrcs142p2_053951)).

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are too unstable to be used as a foundation for buildings or roads. Clayey or wet soils are poorly suited to use as septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations.

The National Cooperative Soil Survey is a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local agencies. The Natural Resources Conservation Service (NRCS) has leadership for the Federal part of the National Cooperative Soil Survey.

Information about soils is updated periodically. Updated information is available through the NRCS Web Soil Survey, the site for official soil survey information.

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# How Soil Surveys Are Made

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Soil surveys are made to provide information about the soils and miscellaneous areas in a specific area. They include a description of the soils and miscellaneous areas and their location on the landscape and tables that show soil properties and limitations affecting various uses. Soil scientists observed the steepness, length, and shape of the slopes; the general pattern of drainage; the kinds of crops and native plants; and the kinds of bedrock. They observed and described many soil profiles. A soil profile is the sequence of natural layers, or horizons, in a soil. The profile extends from the surface down into the unconsolidated material in which the soil formed or from the surface down to bedrock. The unconsolidated material is devoid of roots and other living organisms and has not been changed by other biological activity.

Currently, soils are mapped according to the boundaries of major land resource areas (MLRAs). MLRAs are geographically associated land resource units that share common characteristics related to physiography, geology, climate, water resources, soils, biological resources, and land uses (USDA, 2006). Soil survey areas typically consist of parts of one or more MLRA.

The soils and miscellaneous areas in a survey area occur in an orderly pattern that is related to the geology, landforms, relief, climate, and natural vegetation of the area. Each kind of soil and miscellaneous area is associated with a particular kind of landform or with a segment of the landform. By observing the soils and miscellaneous areas in the survey area and relating their position to specific segments of the landform, a soil scientist develops a concept, or model, of how they were formed. Thus, during mapping, this model enables the soil scientist to predict with a considerable degree of accuracy the kind of soil or miscellaneous area at a specific location on the landscape.

Commonly, individual soils on the landscape merge into one another as their characteristics gradually change. To construct an accurate soil map, however, soil scientists must determine the boundaries between the soils. They can observe only a limited number of soil profiles. Nevertheless, these observations, supplemented by an understanding of the soil-vegetation-landscape relationship, are sufficient to verify predictions of the kinds of soil in an area and to determine the boundaries.

Soil scientists recorded the characteristics of the soil profiles that they studied. They noted soil color, texture, size and shape of soil aggregates, kind and amount of rock fragments, distribution of plant roots, reaction, and other features that enable them to identify soils. After describing the soils in the survey area and determining their properties, the soil scientists assigned the soils to taxonomic classes (units). Taxonomic classes are concepts. Each taxonomic class has a set of soil characteristics with precisely defined limits. The classes are used as a basis for comparison to classify soils systematically. Soil taxonomy, the system of taxonomic classification used in the United States, is based mainly on the kind and character of soil properties and the arrangement of horizons within the profile. After the soil

## Custom Soil Resource Report

scientists classified and named the soils in the survey area, they compared the individual soils with similar soils in the same taxonomic class in other areas so that they could confirm data and assemble additional data based on experience and research.

The objective of soil mapping is not to delineate pure map unit components; the objective is to separate the landscape into landforms or landform segments that have similar use and management requirements. Each map unit is defined by a unique combination of soil components and/or miscellaneous areas in predictable proportions. Some components may be highly contrasting to the other components of the map unit. The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The delineation of such landforms and landform segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, onsite investigation is needed to define and locate the soils and miscellaneous areas.

Soil scientists make many field observations in the process of producing a soil map. The frequency of observation is dependent upon several factors, including scale of mapping, intensity of mapping, design of map units, complexity of the landscape, and experience of the soil scientist. Observations are made to test and refine the soil-landscape model and predictions and to verify the classification of the soils at specific locations. Once the soil-landscape model is refined, a significantly smaller number of measurements of individual soil properties are made and recorded. These measurements may include field measurements, such as those for color, depth to bedrock, and texture, and laboratory measurements, such as those for content of sand, silt, clay, salt, and other components. Properties of each soil typically vary from one point to another across the landscape.

Observations for map unit components are aggregated to develop ranges of characteristics for the components. The aggregated values are presented. Direct measurements do not exist for every property presented for every map unit component. Values for some properties are estimated from combinations of other properties.

While a soil survey is in progress, samples of some of the soils in the area generally are collected for laboratory analyses and for engineering tests. Soil scientists interpret the data from these analyses and tests as well as the field-observed characteristics and the soil properties to determine the expected behavior of the soils under different uses. Interpretations for all of the soils are field tested through observation of the soils in different uses and under different levels of management. Some interpretations are modified to fit local conditions, and some new interpretations are developed to meet local needs. Data are assembled from other sources, such as research information, production records, and field experience of specialists. For example, data on crop yields under defined levels of management are assembled from farm records and from field or plot experiments on the same kinds of soil.

Predictions about soil behavior are based not only on soil properties but also on such variables as climate and biological activity. Soil conditions are predictable over long periods of time, but they are not predictable from year to year. For example, soil scientists can predict with a fairly high degree of accuracy that a given soil will have a high water table within certain depths in most years, but they cannot predict that a high water table will always be at a specific level in the soil on a specific date.

After soil scientists located and identified the significant natural bodies of soil in the survey area, they drew the boundaries of these bodies on aerial photographs and

## Custom Soil Resource Report

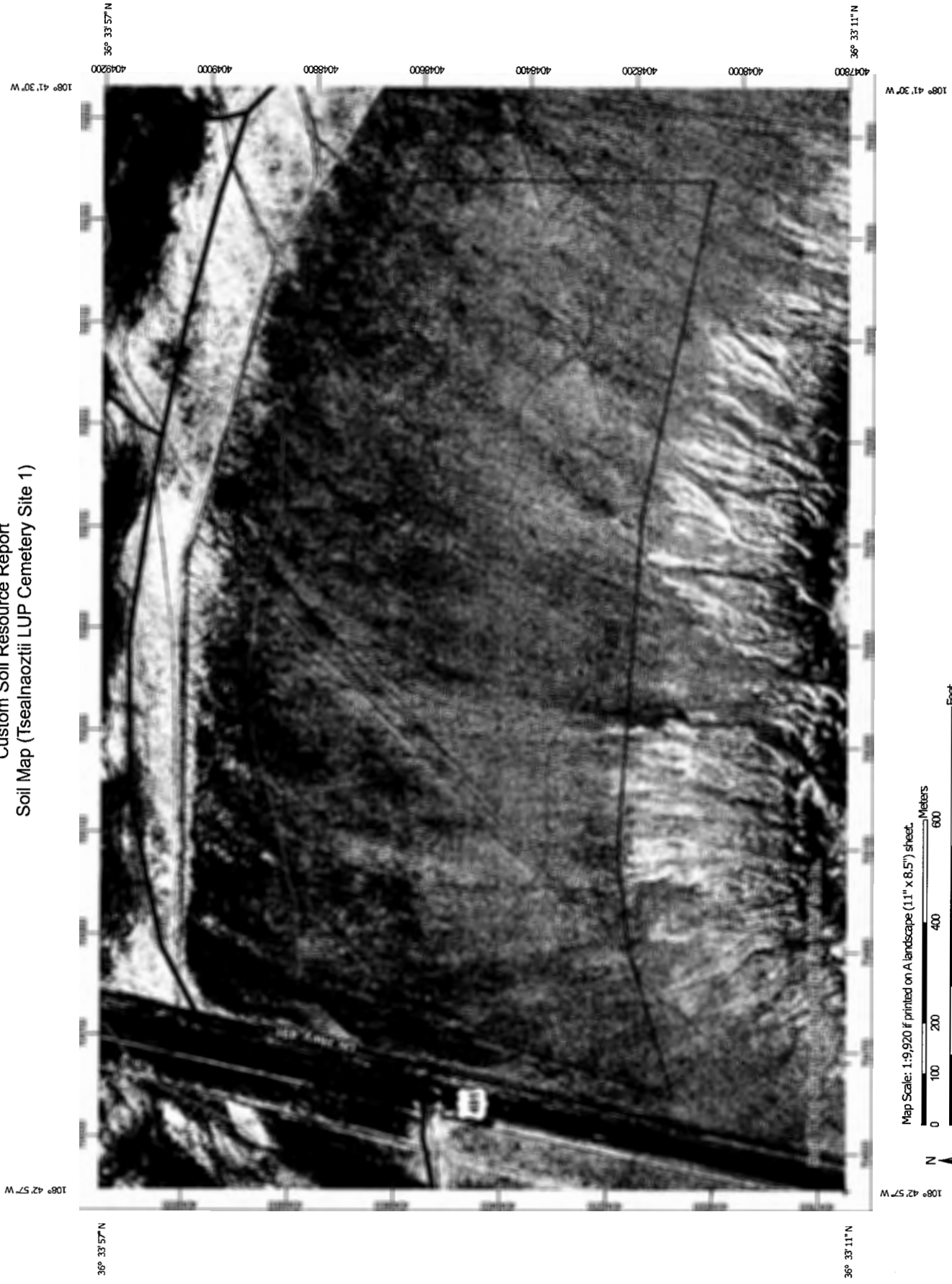
identified each as a specific map unit. Aerial photographs show trees, buildings, fields, roads, and rivers, all of which help in locating boundaries accurately.

# Soil Map

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The soil map section includes the soil map for the defined area of interest, a list of soil map units on the map and extent of each map unit, and cartographic symbols displayed on the map. Also presented are various metadata about data used to produce the map, and a description of each soil map unit.

# Custom Soil Resource Report Soil Map (Tsealnaoztii LUP Cemetery Site 1)



Map Scale: 1:9,920 if printed on A landscape (11" x 8.5") sheet.



Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 12N WGS84



MAP LEGEND

- Area of Interest (AOI)

Area of Interest (AOI)
- Soils

Soil Map Unit Polygons

Soil Map Unit Lines

Soil Map Unit Points
- Special Point Features

Blowout

Borrow Pit

Clay Spot

Closed Depression

Gravel Pit

Gravelly Spot

Landfill

Lava Flow

Marsh or swamp

Mine or Quarry

Miscellaneous Water

Perennial Water

Rock Outcrop

Saline Spot

Sandy Spot

Severely Eroded Spot

Sinkhole

Slide or Slip

Sodic Spot

Water Features

Streams and Canals

Transportation

Rails

Interstate Highways

US Routes

Major Roads

Local Roads

Background

Aerial Photography

Spoil Area

Spoil Spot

Very Stony Spot

Wet Spot

Other

Special Line Features

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service  
Web Soil Survey URL:  
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Shiprock Area, Parts of San Juan County, New Mexico and Apache County, Arizona  
Survey Area Data: Version 12, Sep 13, 2017

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Feb 9, 2011—Mar 3, 2017

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background



## MAP LEGEND

## MAP INFORMATION

imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

## Map Unit Legend (Tsealnaoztii LUP Cemetery Site 1)

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
215	Persayo-Fordbutte association, 1 to 10 percent slopes	93.4	32.6%
230	Ravola very fine sandy loam, 1 to 3 percent slopes	9.3	3.2%
245	Tsebitai very fine sandy loam, 1 to 3 percent slopes	184.0	64.2%
<b>Totals for Area of Interest</b>		<b>286.6</b>	<b>100.0%</b>

## Map Unit Descriptions (Tsealnaoztii LUP Cemetery Site 1)

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. If included in the database for a given area, the contrasting minor components are identified in the map unit descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

## Custom Soil Resource Report

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however, onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives important soil properties and qualities.

Soils that have profiles that are almost alike make up a *soil series*. Except for differences in texture of the surface layer, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement.

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Alpha silt loam, 0 to 2 percent slopes, is a phase of the Alpha series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes, associations, or undifferentiated groups.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Alpha-Beta complex, 0 to 6 percent slopes, is an example.

An *association* is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Alpha-Beta association, 0 to 2 percent slopes, is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Alpha and Beta soils, 0 to 2 percent slopes, is an example.

Some surveys include *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Rock outcrop is an example.

## Shiprock Area, Parts of San Juan County, New Mexico and Apache County, Arizona

### 215—Persayo-Fordbutte association, 1 to 10 percent slopes

#### Map Unit Setting

*National map unit symbol:* 1xps  
*Elevation:* 4,900 to 6,300 feet  
*Mean annual precipitation:* 5 to 8 inches  
*Mean annual air temperature:* 52 to 54 degrees F  
*Frost-free period:* 140 to 160 days  
*Farmland classification:* Not prime farmland

#### Map Unit Composition

*Persayo and similar soils:* 55 percent  
*Fordbutte and similar soils:* 30 percent  
*Minor components:* 13 percent  
*Estimates are based on observations, descriptions, and transects of the mapunit.*

#### Description of Persayo

##### Setting

*Landform:* Cuestas, hills  
*Landform position (two-dimensional):* Backslope, footslope, shoulder, toeslope  
*Landform position (three-dimensional):* Side slope, crest, nose slope, head slope  
*Down-slope shape:* Convex  
*Across-slope shape:* Convex  
*Parent material:* Slope alluvium over residuum weathered from siltstone

##### Typical profile

*A - 0 to 2 inches:* very fine sandy loam  
*2BCy - 2 to 18 inches:* loam  
*2Cr - 18 to 22 inches:* bedrock

##### Properties and qualities

*Slope:* 1 to 10 percent  
*Depth to restrictive feature:* 10 to 20 inches to paralithic bedrock  
*Natural drainage class:* Well drained  
*Runoff class:* Very high  
*Capacity of the most limiting layer to transmit water (Ksat):* Very low to moderately high (0.00 to 0.20 in/hr)  
*Depth to water table:* More than 80 inches  
*Frequency of flooding:* None  
*Frequency of ponding:* None  
*Calcium carbonate, maximum in profile:* 15 percent  
*Gypsum, maximum in profile:* 10 percent  
*Salinity, maximum in profile:* Slightly saline to strongly saline (4.0 to 16.0 mmhos/cm)  
*Sodium adsorption ratio, maximum in profile:* 13.0  
*Available water storage in profile:* Very low (about 2.1 inches)

##### Interpretive groups

*Land capability classification (irrigated):* None specified  
*Land capability classification (nonirrigated):* 7s  
*Hydrologic Soil Group:* D

## Custom Soil Resource Report

*Ecological site:* Siltstone Upland 6-10" p.z. Saline (R035XB276AZ)

*Hydric soil rating:* No

### Description of Fordbutte

#### Setting

*Landform:* Cuestas

*Landform position (three-dimensional):* Side slope

*Down-slope shape:* Convex

*Across-slope shape:* Convex

*Parent material:* Alluvium over residuum weathered from siltstone

#### Typical profile

*A - 0 to 4 inches:* very fine sandy loam

*3BCK - 4 to 26 inches:* loam

*4Cy - 26 to 34 inches:* loam

*4Cr - 34 to 44 inches:* bedrock

#### Properties and qualities

*Slope:* 1 to 3 percent

*Depth to restrictive feature:* 20 to 40 inches to paralithic bedrock

*Natural drainage class:* Well drained

*Runoff class:* Low

*Capacity of the most limiting layer to transmit water (Ksat):* Very low to moderately high (0.00 to 0.20 in/hr)

*Depth to water table:* More than 80 inches

*Frequency of flooding:* None

*Frequency of ponding:* None

*Calcium carbonate, maximum in profile:* 20 percent

*Gypsum, maximum in profile:* 3 percent

*Salinity, maximum in profile:* Slightly saline to moderately saline (4.0 to 8.0 mmhos/cm)

*Sodium adsorption ratio, maximum in profile:* 30.0

*Available water storage in profile:* Low (about 5.3 inches)

#### Interpretive groups

*Land capability classification (irrigated):* None specified

*Land capability classification (nonirrigated):* 7c

*Hydrologic Soil Group:* C

*Ecological site:* Sandy Loam Upland 6-10" p.z. Saline (R035XB274AZ)

*Hydric soil rating:* No

### Minor Components

#### Ravola

*Percent of map unit:* 5 percent

*Ecological site:* Loamy Fan 6-10" p.z. (R035XB275AZ)

*Hydric soil rating:* No

#### Gypsum land

*Percent of map unit:* 2 percent

*Ecological site:* Loamy Upland 6-10" p.z. Gypsic (R035XB205AZ)

*Hydric soil rating:* No

#### Farb

*Percent of map unit:* 2 percent

*Ecological site:* Shallow (R035XB006NM)

*Hydric soil rating:* No

## Custom Soil Resource Report

### **Littlehat**

*Percent of map unit:* 2 percent

*Ecological site:* Loamy Upland 6-10" p.z. Saline-Sodic (R035XB271AZ)

*Hydric soil rating:* No

### **Persayo**

*Percent of map unit:* 1 percent

*Ecological site:* Shale Hills 10-14"p.z. (Provisional) (R035XA130NM)

*Hydric soil rating:* No

### **Nataani**

*Percent of map unit:* 1 percent

*Ecological site:* Loamy Upland 6-10" p.z. Saline, Gypsic (R035XB278AZ)

*Hydric soil rating:* No

## **230—Ravola very fine sandy loam, 1 to 3 percent slopes**

### **Map Unit Setting**

*National map unit symbol:* 2s27z

*Elevation:* 4,770 to 6,310 feet

*Mean annual precipitation:* 6 to 10 inches

*Mean annual air temperature:* 50 to 55 degrees F

*Frost-free period:* 130 to 150 days

*Farmland classification:* Not prime farmland

### **Map Unit Composition**

*Ravola and similar soils:* 80 percent

*Minor components:* 20 percent

*Estimates are based on observations, descriptions, and transects of the mapunit.*

### **Description of Ravola**

#### **Setting**

*Landform:* Flood plains, alluvial fans

*Landform position (three-dimensional):* Talf, rise

*Down-slope shape:* Linear

*Across-slope shape:* Linear

*Parent material:* Fan alluvium derived from siltstone

#### **Typical profile**

*A - 0 to 3 inches:* very fine sandy loam

*AC - 3 to 10 inches:* very fine sandy loam

*C1 - 10 to 17 inches:* stratified very fine sandy loam to loam

*C2 - 17 to 29 inches:* stratified very fine sandy loam to loam

*C3 - 29 to 46 inches:* stratified very fine sandy loam to loam

*C4 - 46 to 70 inches:* stratified very fine sandy loam to loam

#### **Properties and qualities**

*Slope:* 1 to 3 percent

*Depth to restrictive feature:* More than 80 inches

## Custom Soil Resource Report

*Natural drainage class:* Well drained  
*Runoff class:* Low  
*Capacity of the most limiting layer to transmit water (Ksat):* Moderately high to high (0.60 to 2.00 in/hr)  
*Depth to water table:* More than 80 inches  
*Frequency of flooding:* Occasional  
*Frequency of ponding:* None  
*Calcium carbonate, maximum in profile:* 15 percent  
*Gypsum, maximum in profile:* 2 percent  
*Salinity, maximum in profile:* Nonsaline to slightly saline (0.0 to 4.0 mmhos/cm)  
*Sodium adsorption ratio, maximum in profile:* 5.0  
*Available water storage in profile:* High (about 10.1 inches)

### Interpretive groups

*Land capability classification (irrigated):* None specified  
*Land capability classification (nonirrigated):* 7c  
*Hydrologic Soil Group:* B  
*Ecological site:* Loamy Fan 6-10" p.z. (R035XB275AZ)  
*Hydric soil rating:* No

### Minor Components

#### Gypsids

*Percent of map unit:* 10 percent  
*Landform:* Alluvial fans  
*Landform position (three-dimensional):* Talf  
*Down-slope shape:* Linear  
*Across-slope shape:* Convex  
*Ecological site:* Loamy Upland 6-10" p.z. Gypsic (R035XB205AZ)  
*Hydric soil rating:* No

#### Ravola

*Percent of map unit:* 10 percent  
*Landform:* Channels  
*Landform position (three-dimensional):* Tread  
*Down-slope shape:* Linear  
*Across-slope shape:* Linear  
*Ecological site:* Loamy Fan 6-10" p.z. (R035XB275AZ)  
*Hydric soil rating:* No

## 245—Tsebitai very fine sandy loam, 1 to 3 percent slopes

### Map Unit Setting

*National map unit symbol:* 1xpz  
*Elevation:* 4,900 to 6,300 feet  
*Mean annual precipitation:* 5 to 8 inches  
*Mean annual air temperature:* 52 to 54 degrees F  
*Frost-free period:* 140 to 160 days  
*Farmland classification:* Not prime farmland

## Custom Soil Resource Report

### Map Unit Composition

*Tsebitai and similar soils:* 80 percent

*Minor components:* 20 percent

*Estimates are based on observations, descriptions, and transects of the mapunit.*

### Description of Tsebitai

#### Setting

*Landform:* Fan remnants

*Landform position (three-dimensional):* Tread

*Down-slope shape:* Convex

*Across-slope shape:* Convex

*Parent material:* Fan alluvium derived from sandstone and siltstone

#### Typical profile

*A - 0 to 5 inches:* very fine sandy loam

*Bw - 5 to 26 inches:* loam

*BCK - 26 to 64 inches:* loam

#### Properties and qualities

*Slope:* 1 to 3 percent

*Depth to restrictive feature:* More than 80 inches

*Natural drainage class:* Well drained

*Runoff class:* Low

*Capacity of the most limiting layer to transmit water (Ksat):* Moderately high to high (0.60 to 2.00 in/hr)

*Depth to water table:* More than 80 inches

*Frequency of flooding:* None

*Frequency of ponding:* None

*Calcium carbonate, maximum in profile:* 10 percent

*Gypsum, maximum in profile:* 5 percent

*Salinity, maximum in profile:* Very slightly saline to moderately saline (2.0 to 8.0 mmhos/cm)

*Sodium adsorption ratio, maximum in profile:* 5.0

*Available water storage in profile:* Moderate (about 8.9 inches)

#### Interpretive groups

*Land capability classification (irrigated):* None specified

*Land capability classification (nonirrigated):* 7c

*Hydrologic Soil Group:* B

*Ecological site:* Loamy Upland 6-10" p.z. Saline, Gypsic (R035XB278AZ)

*Hydric soil rating:* No

### Minor Components

#### Ravola

*Percent of map unit:* 10 percent

*Ecological site:* Loamy Fan 6-10" p.z. (R035XB275AZ)

*Hydric soil rating:* No

#### Persayo

*Percent of map unit:* 5 percent

*Ecological site:* Shale Hills 10-14"p.z. (Provisional) (R035XA130NM)

*Hydric soil rating:* No

#### Fordbutte

*Percent of map unit:* 5 percent



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*Ecological site:* Sandy Loam Upland 6-10" p.z. Saline (R035XB274AZ)

*Hydric soil rating:* No

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United States  
Department of  
Agriculture

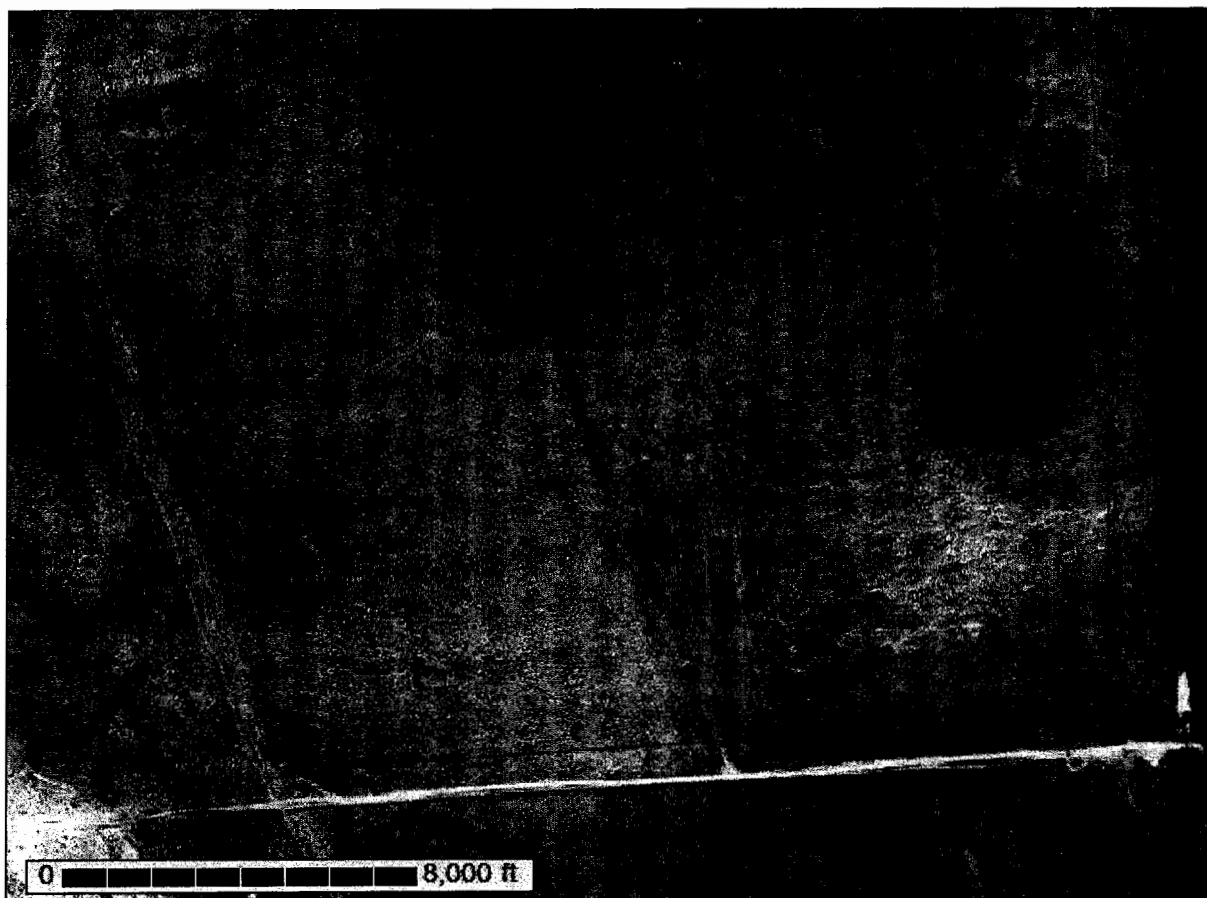
**NRCS**

Natural  
Resources  
Conservation  
Service

A product of the National  
Cooperative Soil Survey,  
a joint effort of the United  
States Department of  
Agriculture and other  
Federal agencies, State  
agencies including the  
Agricultural Experiment  
Stations, and local  
participants

# **Custom Soil Resource Report for Shiprock Area, Parts of San Juan County, New Mexico and Apache County, Arizona**

**Tselanaoztii LUP Community  
Development Site**



December 19, 2017

# Preface

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Soil surveys contain information that affects land use planning in survey areas. They highlight soil limitations that affect various land uses and provide information about the properties of the soils in the survey areas. Soil surveys are designed for many different users, including farmers, ranchers, foresters, agronomists, urban planners, community officials, engineers, developers, builders, and home buyers. Also, conservationists, teachers, students, and specialists in recreation, waste disposal, and pollution control can use the surveys to help them understand, protect, or enhance the environment.

Various land use regulations of Federal, State, and local governments may impose special restrictions on land use or land treatment. Soil surveys identify soil properties that are used in making various land use or land treatment decisions. The information is intended to help the land users identify and reduce the effects of soil limitations on various land uses. The landowner or user is responsible for identifying and complying with existing laws and regulations.

Although soil survey information can be used for general farm, local, and wider area planning, onsite investigation is needed to supplement this information in some cases. Examples include soil quality assessments (<http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/health/>) and certain conservation and engineering applications. For more detailed information, contact your local USDA Service Center (<https://offices.sc.egov.usda.gov/locator/app?agency=nrcs>) or your NRCS State Soil Scientist ([http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/contactus/?cid=nrcs142p2\\_053951](http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/contactus/?cid=nrcs142p2_053951)).

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are too unstable to be used as a foundation for buildings or roads. Clayey or wet soils are poorly suited to use as septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations.

The National Cooperative Soil Survey is a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local agencies. The Natural Resources Conservation Service (NRCS) has leadership for the Federal part of the National Cooperative Soil Survey.

Information about soils is updated periodically. Updated information is available through the NRCS Web Soil Survey, the site for official soil survey information.

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# How Soil Surveys Are Made

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Soil surveys are made to provide information about the soils and miscellaneous areas in a specific area. They include a description of the soils and miscellaneous areas and their location on the landscape and tables that show soil properties and limitations affecting various uses. Soil scientists observed the steepness, length, and shape of the slopes; the general pattern of drainage; the kinds of crops and native plants; and the kinds of bedrock. They observed and described many soil profiles. A soil profile is the sequence of natural layers, or horizons, in a soil. The profile extends from the surface down into the unconsolidated material in which the soil formed or from the surface down to bedrock. The unconsolidated material is devoid of roots and other living organisms and has not been changed by other biological activity.

Currently, soils are mapped according to the boundaries of major land resource areas (MLRAs). MLRAs are geographically associated land resource units that share common characteristics related to physiography, geology, climate, water resources, soils, biological resources, and land uses (USDA, 2006). Soil survey areas typically consist of parts of one or more MLRA.

The soils and miscellaneous areas in a survey area occur in an orderly pattern that is related to the geology, landforms, relief, climate, and natural vegetation of the area. Each kind of soil and miscellaneous area is associated with a particular kind of landform or with a segment of the landform. By observing the soils and miscellaneous areas in the survey area and relating their position to specific segments of the landform, a soil scientist develops a concept, or model, of how they were formed. Thus, during mapping, this model enables the soil scientist to predict with a considerable degree of accuracy the kind of soil or miscellaneous area at a specific location on the landscape.

Commonly, individual soils on the landscape merge into one another as their characteristics gradually change. To construct an accurate soil map, however, soil scientists must determine the boundaries between the soils. They can observe only a limited number of soil profiles. Nevertheless, these observations, supplemented by an understanding of the soil-vegetation-landscape relationship, are sufficient to verify predictions of the kinds of soil in an area and to determine the boundaries.

Soil scientists recorded the characteristics of the soil profiles that they studied. They noted soil color, texture, size and shape of soil aggregates, kind and amount of rock fragments, distribution of plant roots, reaction, and other features that enable them to identify soils. After describing the soils in the survey area and determining their properties, the soil scientists assigned the soils to taxonomic classes (units). Taxonomic classes are concepts. Each taxonomic class has a set of soil characteristics with precisely defined limits. The classes are used as a basis for comparison to classify soils systematically. Soil taxonomy, the system of taxonomic classification used in the United States, is based mainly on the kind and character of soil properties and the arrangement of horizons within the profile. After the soil



## Custom Soil Resource Report

scientists classified and named the soils in the survey area, they compared the individual soils with similar soils in the same taxonomic class in other areas so that they could confirm data and assemble additional data based on experience and research.

The objective of soil mapping is not to delineate pure map unit components; the objective is to separate the landscape into landforms or landform segments that have similar use and management requirements. Each map unit is defined by a unique combination of soil components and/or miscellaneous areas in predictable proportions. Some components may be highly contrasting to the other components of the map unit. The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The delineation of such landforms and landform segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, onsite investigation is needed to define and locate the soils and miscellaneous areas.

Soil scientists make many field observations in the process of producing a soil map. The frequency of observation is dependent upon several factors, including scale of mapping, intensity of mapping, design of map units, complexity of the landscape, and experience of the soil scientist. Observations are made to test and refine the soil-landscape model and predictions and to verify the classification of the soils at specific locations. Once the soil-landscape model is refined, a significantly smaller number of measurements of individual soil properties are made and recorded. These measurements may include field measurements, such as those for color, depth to bedrock, and texture, and laboratory measurements, such as those for content of sand, silt, clay, salt, and other components. Properties of each soil typically vary from one point to another across the landscape.

Observations for map unit components are aggregated to develop ranges of characteristics for the components. The aggregated values are presented. Direct measurements do not exist for every property presented for every map unit component. Values for some properties are estimated from combinations of other properties.

While a soil survey is in progress, samples of some of the soils in the area generally are collected for laboratory analyses and for engineering tests. Soil scientists interpret the data from these analyses and tests as well as the field-observed characteristics and the soil properties to determine the expected behavior of the soils under different uses. Interpretations for all of the soils are field tested through observation of the soils in different uses and under different levels of management. Some interpretations are modified to fit local conditions, and some new interpretations are developed to meet local needs. Data are assembled from other sources, such as research information, production records, and field experience of specialists. For example, data on crop yields under defined levels of management are assembled from farm records and from field or plot experiments on the same kinds of soil.

Predictions about soil behavior are based not only on soil properties but also on such variables as climate and biological activity. Soil conditions are predictable over long periods of time, but they are not predictable from year to year. For example, soil scientists can predict with a fairly high degree of accuracy that a given soil will have a high water table within certain depths in most years, but they cannot predict that a high water table will always be at a specific level in the soil on a specific date.

After soil scientists located and identified the significant natural bodies of soil in the survey area, they drew the boundaries of these bodies on aerial photographs and

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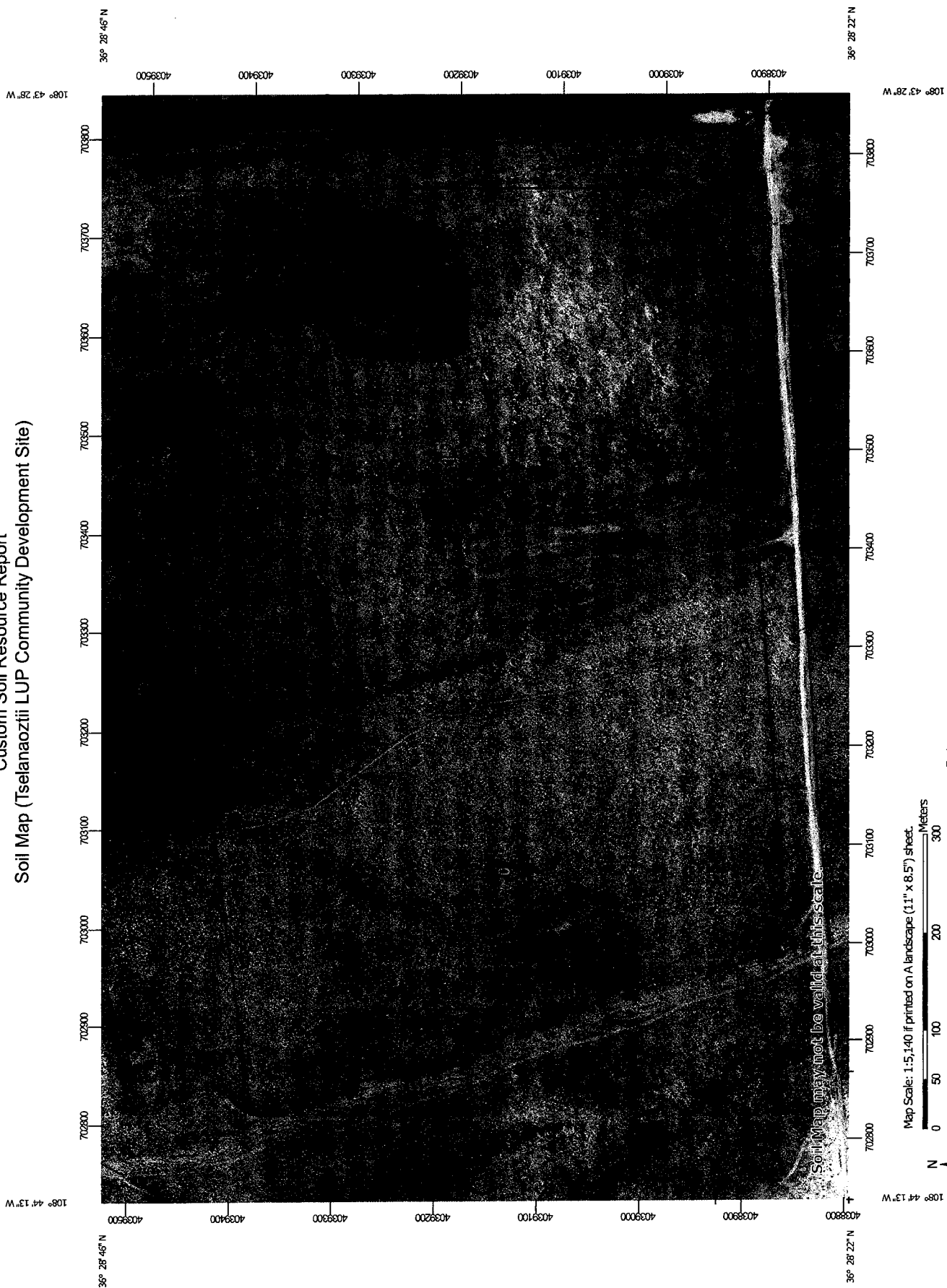
identified each as a specific map unit. Aerial photographs show trees, buildings, fields, roads, and rivers, all of which help in locating boundaries accurately.

# Soil Map

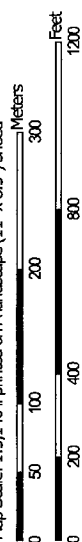
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The soil map section includes the soil map for the defined area of interest, a list of soil map units on the map and extent of each map unit, and cartographic symbols displayed on the map. Also presented are various metadata about data used to produce the map, and a description of each soil map unit.

# Custom Soil Resource Report Soil Map (Tselanaoztii LUP Community Development Site)































































Map Scale: 1:5,140 if printed on A landscape (11" x 8.5") sheet.



Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 12N WGS84

MAP LEGEND

<b>Area of Interest (AOI)</b>		<b>Area of Interest (AOI)</b>	
	Area of Interest (AOI)		
<b>Soils</b>			
	Soil Map Unit Polygons		
	Soil Map Unit Lines		
	Soil Map Unit Points		
<b>Special Point Features</b>		<b>Special Line Features</b>	
	Blowout		
	Borrow Pit		
	Clay Spot		
	Closed Depression		
	Gravel Pit		
	Gravelly Spot		
	Landfill		
	Lava Flow		
	Marsh or swamp		
	Mine or Quarry		
	Miscellaneous Water		
	Perennial Water		
	Rock Outcrop		
	Saline Spot		
	Sandy Spot		
	Severely Eroded Spot		
	Sinkhole		
	Slide or Slip		
	Sodic Spot		
	Spoil Area		
	Stony Spot		
	Very Stony Spot		
	Wet Spot		
	Other		
<b>Water Features</b>		<b>Water Features</b>	
	Streams and Canals		
<b>Transportation</b>		<b>Transportation</b>	
	Rails		
	Interstate Highways		
	US Routes		
	Major Roads		
	Local Roads		
<b>Background</b>		<b>Background</b>	
	Aerial Photography		

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000.	
Warning: Soil Map may not be valid at this scale.	
Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.	
Please rely on the bar scale on each map sheet for map measurements.	
Source of Map: Natural Resources Conservation Service Web Soil Survey URL: Coordinate System: Web Mercator (EPSG:3857)	
Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.	
This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.	
Soil Survey Area: Shiprock Area, Parts of San Juan County, New Mexico and Apache County, Arizona Survey Area Data: Version 12, Sep 13, 2017	
Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.	
Date(s) aerial images were photographed: Feb 9, 2011—Mar 3, 2017	
The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background	

**MAP LEGEND**

**MAP INFORMATION**

imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

## Map Unit Legend (Tselanaoztii LUP Community Development Site)

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
205	Shiprock-Farb complex, 1 to 5 percent slopes	41.5	35.7%
215	Persayo-Fordbutte association, 1 to 10 percent slopes	74.7	64.3%
<b>Totals for Area of Interest</b>		<b>116.1</b>	<b>100.0%</b>

## Map Unit Descriptions (Tselanaoztii LUP Community Development Site)

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. If included in the database for a given area, the contrasting minor components are identified in the map unit descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate

## Custom Soil Resource Report

pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however, onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives important soil properties and qualities.

Soils that have profiles that are almost alike make up a *soil series*. Except for differences in texture of the surface layer, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement.

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Alpha silt loam, 0 to 2 percent slopes, is a phase of the Alpha series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes, associations, or undifferentiated groups.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Alpha-Beta complex, 0 to 6 percent slopes, is an example.

An *association* is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Alpha-Beta association, 0 to 2 percent slopes, is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Alpha and Beta soils, 0 to 2 percent slopes, is an example.

Some surveys include *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Rock outcrop is an example.



## Shiprock Area, Parts of San Juan County, New Mexico and Apache County, Arizona

### 205—Shiprock-Farb complex, 1 to 5 percent slopes

#### Map Unit Setting

*National map unit symbol:* 1xpq  
*Elevation:* 4,900 to 6,100 feet  
*Mean annual precipitation:* 5 to 8 inches  
*Mean annual air temperature:* 52 to 54 degrees F  
*Frost-free period:* 140 to 160 days  
*Farmland classification:* Not prime farmland

#### Map Unit Composition

*Shiprock and similar soils:* 80 percent  
*Farb and similar soils:* 20 percent  
*Estimates are based on observations, descriptions, and transects of the mapunit.*

#### Description of Shiprock

##### Setting

*Landform:* Cuestas  
*Landform position (three-dimensional):* Side slope  
*Down-slope shape:* Convex  
*Across-slope shape:* Convex  
*Parent material:* Eolian deposits over alluvium derived from sandstone

##### Typical profile

*A - 0 to 3 inches:* loamy fine sand  
*2Btk - 3 to 36 inches:* fine sandy loam  
*2BCK - 36 to 66 inches:* fine sandy loam

##### Properties and qualities

*Slope:* 1 to 5 percent  
*Depth to restrictive feature:* More than 80 inches  
*Natural drainage class:* Well drained  
*Runoff class:* Very low  
*Capacity of the most limiting layer to transmit water (Ksat):* High (2.00 to 6.00 in/hr)  
*Depth to water table:* More than 80 inches  
*Frequency of flooding:* None  
*Frequency of ponding:* None  
*Calcium carbonate, maximum in profile:* 5 percent  
*Salinity, maximum in profile:* Slightly saline to moderately saline (4.0 to 8.0 mmhos/cm)  
*Sodium adsorption ratio, maximum in profile:* 13.0  
*Available water storage in profile:* Moderate (about 7.5 inches)

##### Interpretive groups

*Land capability classification (irrigated):* None specified  
*Land capability classification (nonirrigated):* 7c  
*Hydrologic Soil Group:* A  
*Ecological site:* Sandy Loam Upland 6-10" (R035XB030NM)  
*Hydric soil rating:* No

## Custom Soil Resource Report

### Description of Farb

#### Setting

*Landform:* Cuestas  
*Landform position (three-dimensional):* Side slope  
*Down-slope shape:* Convex  
*Across-slope shape:* Convex  
*Parent material:* Eolian deposits over alluvium derived from sandstone

#### Typical profile

*A - 0 to 2 inches:* fine sand  
*BC - 2 to 10 inches:* fine sandy loam  
*2R - 10 to 14 inches:* bedrock

#### Properties and qualities

*Slope:* 1 to 5 percent  
*Depth to restrictive feature:* 5 to 10 inches to lithic bedrock  
*Natural drainage class:* Well drained  
*Runoff class:* Very low  
*Capacity of the most limiting layer to transmit water (Ksat):* Very low to moderately high (0.00 to 0.20 in/hr)  
*Depth to water table:* More than 80 inches  
*Frequency of flooding:* None  
*Frequency of ponding:* None  
*Calcium carbonate, maximum in profile:* 5 percent  
*Salinity, maximum in profile:* Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)  
*Sodium adsorption ratio, maximum in profile:* 5.0  
*Available water storage in profile:* Very low (about 1.1 inches)

#### Interpretive groups

*Land capability classification (irrigated):* None specified  
*Land capability classification (nonirrigated):* 7s  
*Hydrologic Soil Group:* D  
*Ecological site:* Sandstone Upland 6-10" p.z. (R035XB204AZ)  
*Hydric soil rating:* No

## 215—Persayo-Fordbutte association, 1 to 10 percent slopes

#### Map Unit Setting

*National map unit symbol:* 1xps  
*Elevation:* 4,900 to 6,300 feet  
*Mean annual precipitation:* 5 to 8 inches  
*Mean annual air temperature:* 52 to 54 degrees F  
*Frost-free period:* 140 to 160 days  
*Farmland classification:* Not prime farmland

#### Map Unit Composition

*Persayo and similar soils:* 55 percent  
*Fordbutte and similar soils:* 30 percent

## Custom Soil Resource Report

*Minor components: 13 percent*

*Estimates are based on observations, descriptions, and transects of the mapunit.*

### Description of Persayo

#### Setting

*Landform: Cuestas, hills*

*Landform position (two-dimensional): Backslope, footslope, shoulder, toeslope*

*Landform position (three-dimensional): Side slope, crest, nose slope, head slope*

*Down-slope shape: Convex*

*Across-slope shape: Convex*

*Parent material: Slope alluvium over residuum weathered from siltstone*

#### Typical profile

*A - 0 to 2 inches: very fine sandy loam*

*2BCy - 2 to 18 inches: loam*

*2Cr - 18 to 22 inches: bedrock*

#### Properties and qualities

*Slope: 1 to 10 percent*

*Depth to restrictive feature: 10 to 20 inches to paralithic bedrock*

*Natural drainage class: Well drained*

*Runoff class: Very high*

*Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately high (0.00 to 0.20 in/hr)*

*Depth to water table: More than 80 inches*

*Frequency of flooding: None*

*Frequency of ponding: None*

*Calcium carbonate, maximum in profile: 15 percent*

*Gypsum, maximum in profile: 10 percent*

*Salinity, maximum in profile: Slightly saline to strongly saline (4.0 to 16.0 mmhos/cm)*

*Sodium adsorption ratio, maximum in profile: 13.0*

*Available water storage in profile: Very low (about 2.1 inches)*

#### Interpretive groups

*Land capability classification (irrigated): None specified*

*Land capability classification (nonirrigated): 7s*

*Hydrologic Soil Group: D*

*Ecological site: Siltstone Upland 6-10" p.z. Saline (R035XB276AZ)*

*Hydric soil rating: No*

### Description of Fordbutte

#### Setting

*Landform: Cuestas*

*Landform position (three-dimensional): Side slope*

*Down-slope shape: Convex*

*Across-slope shape: Convex*

*Parent material: Alluvium over residuum weathered from siltstone*

#### Typical profile

*A - 0 to 4 inches: very fine sandy loam*

*3BCK - 4 to 26 inches: loam*

*4Cy - 26 to 34 inches: loam*

*4Cr - 34 to 44 inches: bedrock*

## Custom Soil Resource Report

### Properties and qualities

*Slope:* 1 to 3 percent

*Depth to restrictive feature:* 20 to 40 inches to paralithic bedrock

*Natural drainage class:* Well drained

*Runoff class:* Low

*Capacity of the most limiting layer to transmit water (Ksat):* Very low to moderately high (0.00 to 0.20 in/hr)

*Depth to water table:* More than 80 inches

*Frequency of flooding:* None

*Frequency of ponding:* None

*Calcium carbonate, maximum in profile:* 20 percent

*Gypsum, maximum in profile:* 3 percent

*Salinity, maximum in profile:* Slightly saline to moderately saline (4.0 to 8.0 mmhos/cm)

*Sodium adsorption ratio, maximum in profile:* 30.0

*Available water storage in profile:* Low (about 5.3 inches)

### Interpretive groups

*Land capability classification (irrigated):* None specified

*Land capability classification (nonirrigated):* 7c

*Hydrologic Soil Group:* C

*Ecological site:* Sandy Loam Upland 6-10" p.z. Saline (R035XB274AZ)

*Hydric soil rating:* No

### Minor Components

#### Ravola

*Percent of map unit:* 5 percent

*Ecological site:* Loamy Fan 6-10" p.z. (R035XB275AZ)

*Hydric soil rating:* No

#### Gypsum land

*Percent of map unit:* 2 percent

*Ecological site:* Loamy Upland 6-10" p.z. Gypsic (R035XB205AZ)

*Hydric soil rating:* No

#### Farb

*Percent of map unit:* 2 percent

*Ecological site:* Shallow (R035XB006NM)

*Hydric soil rating:* No

#### Littlehat

*Percent of map unit:* 2 percent

*Ecological site:* Loamy Upland 6-10" p.z. Saline-Sodic (R035XB271AZ)

*Hydric soil rating:* No

#### Persayo

*Percent of map unit:* 1 percent

*Ecological site:* Shale Hills 10-14"p.z. (Provisional) (R035XA130NM)

*Hydric soil rating:* No

#### Nataani

*Percent of map unit:* 1 percent

*Ecological site:* Loamy Upland 6-10" p.z. Saline, Gypsic (R035XB278AZ)

*Hydric soil rating:* No

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- United States Department of Agriculture, Natural Resources Conservation Service. National range and pasture handbook. <http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/landuse/rangepasture/?cid=stelprdb1043084>

## Custom Soil Resource Report

United States Department of Agriculture, Natural Resources Conservation Service. National soil survey handbook, title 430-VI. [http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/scientists/?cid=nrcs142p2\\_054242](http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/scientists/?cid=nrcs142p2_054242)

United States Department of Agriculture, Natural Resources Conservation Service. 2006. Land resource regions and major land resource areas of the United States, the Caribbean, and the Pacific Basin. U.S. Department of Agriculture Handbook 296. [http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2\\_053624](http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2_053624)

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Soil Map—Shiprock Area, Parts of San Juan County, New Mexico and Apache County, Arizona  
(Tséaináoztíí LUP Economic Development Site 1)






















## MAP LEGEND

## MAP INFORMATION


**Area of Interest (AOI)**  
 Area of Interest (AOI)

**Soils**  
 Soil Map Unit Polygons  
 Soil Map Unit Lines  
 Soil Map Unit Points






### Special Point Features

 Blowout  
 Borrow Pit  
 Clay Spot  
 Closed Depression  
 Gravel Pit  
 Gravelly Spot  
 Landfill  
 Lava Flow  
 Marsh or swamp  
 Mine or Quarry  
 Miscellaneous Water  
 Perennial Water  
 Rock Outcrop  
 Saline Spot  
 Sandy Spot  
 Severely Eroded Spot  
 Sinkhole  
 Slide or Slip  
 Sodic Spot


### Water Features

 Streams and Canals

### Transportation

 Rails  
 Interstate Highways  
 US Routes  
 Major Roads  
 Local Roads

### Background

 Aerial Photography

The soil surveys that comprise your AOI were mapped at 1:24,000.

**Warning:** Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service  
Web Soil Survey URL:  
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Shiprock Area, Parts of San Juan County, New Mexico and Apache County, Arizona  
Survey Area Data: Version 12, Sep 13, 2017

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Feb 9, 2011—Mar 3, 2017

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.



## Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
170	Notal sandy clay loam, 0 to 1 percent slopes	14.5	21.1%
190	Jeddito loamy fine sand, 0 to 2 percent slopes	54.3	78.9%
Totals for Area of Interest		68.9	100.0%

RESOLUTION OF THE  
NAVAJO NATION COUNCIL

23<sup>rd</sup> NAVAJO NATION COUNCIL - Third Year, 2017

AN ACTION

RELATING TO LAW AND ORDER COMMITTEE, RESOURCES AND DEVELOPMENT COMMITTEE, BUDGET AND FINANCE COMMITTEE, NAABIK'ÍYÁTI' COMMITTEE, AND NAVAJO NATION COUNCIL; AMENDING TITLE 12 AT 12 N.N.C. §§ 2001-2070 THE CAPITAL OUTLAY MATCH FUNDING SPECIAL REVENUE FUND

BE IT ENACTED:

Section One. Authority

- A. The Law and Order Committee, the Budget and Finance Committee, the Resources and Development Committee, and the Naabik'íyáti' Committee are standing committees of the Navajo Nation Council. 2 N.N.C. §§ 300(A), 500(A), 600(A), and 700(A).
- B. The Law and Order Committee is empowered to "review and make recommendations to the Navajo Nation Council on proposed amendments to and enactments to the Navajo Nation Code." 2 N.N.C. §601(B)(14).
- C. The Resources and Development Committee serves as the oversight committee of the Division of Community Development. 2 N.N.C. §501(C)(1).
- D. The Budget and Finance Committee is empowered to "review and recommend to the Navajo Nation Council the budgeting, appropriation, investment, and management of all funds." 2 N.N.C. § 301(B)(2).
- E. A proposed resolution that requires final action by the Navajo Nation Council shall be assigned to the Naabik'íyáti' Committee before it is heard by the Navajo Nation Council. 2 N.N.C. § 164 (A)(9).

Section Two. Findings

- A. The States of Arizona, New Mexico, and Utah appropriate capital outlay funds for the construction of capital

projects to benefit the Navajo people residing on the Navajo Nation in the respective states. 12 N.N.C. § 2001.

- B. The Capital Outlay Match Funding Special Revenue Fund was established by the Navajo Nation Council in order to provide match funding and cost reimbursement for the partially funded capital outlay projects. 12 N.N.C. § 2010.
- C. The Capital Outlay Match Funding Special Revenue Fund was codified at 12 N.N.C. §§ 2001-2070. The Navajo Nation Council now determines that it is in the best interest of the Navajo Nation that 12 N.N.C. §§ 2001 - 2070 be amended in the manner described below.

### Section Three. Amendments to the Capital Outlay Match Funding Special Revenue Fund

The Navajo Nation hereby amends the Capital Outlay Match Funding Special Revenue Fund, at 12 N.N.C. §§ 2001-2070, as follows:

#### TITLE 12. FISCAL MATTERS CHAPTER 20

\*\*\*

#### § 2001. Establishment

There is hereby established the "Capital Outlay Match Funding Special Revenue Fund" (hereinafter "Fund"). During the annual appropriation the Navajo Nation Council shall appropriate two million dollars (\$2,000,000) to the Fund from any sources of income that becomes available to the Navajo Nation. Any money deposited into the Fund, plus accrued interest, shall be used only as provided herein. These funds shall not lapse on an annual basis, pursuant to 12 N.N.C. § 820(N).

#### § 2010. Purpose

A. The purpose of this Fund is to establish a special fund to provide match, supplemental funding and cost reimbursement for the States of Arizona, Utah and New Mexico and Federal grants that partially funded capital outlay improvement and local government projects, as defined by 12 N.N.C. § 810 (F) and (N) (hereinafter

*To use as  
match funds  
as defined in  
12 NNC § 810(F)  
& (N)*

*for planning design & construct.*

"Project") that benefit the Navajo people residing on the Navajo Nation and fund any stage of the Project such as, but not limited to planning, designing, and construction. The Fund is created to address the following:

1. When applying for State and/or Federal funds to fund a Project, the State or Federal government may require the Navajo Nation to match the amount that is funded or another identified amount as set forth by the grant requirement;

*match*

2. Often times the Navajo Nation applies for funds from the State and/or Federal government to assist with funding the Project and when the grant is approved, the Project is partially funded. This Fund is to assist the Project that has a short-fall and to supplement the funding that has been received by the State and/or Federal Government. said states will require the Navajo Nation to match fund and/or cost reimburse the capital outlay projects that benefit the Navajo people residing on the Navajo Nation in the respective States, and there is no ready source of funds within the budget of the Navajo Nation to make the match and/or cost reimbursement.

*Short fall*

3. When receiving funds from the State and/or Federal government, the grant may fund the Project on a cost-reimbursement basis. To assist with funding the Project, the Navajo Nation may use this Fund to assist with the cost of the Project until the Navajo Nation receives a reimbursement from the State and/or Federal government.

*cost reimbursement*

B. This Fund is created to address theis deficiencyies as provided in subsection A of this section.

#### § 2020. Program administration

A. Legislative oversight. The Transportation and Community Resources and Development Committee of the Navajo Nation Council shall provide legislative oversight to ensure the purpose of this Fund is being fulfilled. review and approve all requests from the Navajo local chapters and Navajo government branches, divisions, departments and programs that require the use of money from the Fund for match funding and/or cost reimburse capital outlay projects that are partially funded by the States of Arizona, Utah or New Mexico.

*RDC all right.*

B. Program management. ~~The Capital Improvement Office of the Division of Community Development shall have the authority and responsibility to use the Fund consistent with the purposes as provided in § 2010 to match fund and/or cost reimburse capital outlay projects that are partially funded by the States of Arizona, New Mexico and Utah with concurrence by the Transportation and Community Development Committee of the Navajo Nation Council in conformance with § 2030(C), Matching Practices. Such requests for funding road and airport projects and shall follow the established process policies including, but not limited to the budget instructions manual and capital improvement project policies and procedures. The Division of Community Development shall review and approve all requests from the Navajo Nation chapters and Navajo Nation government branches, divisions, departments and programs.~~

BIM  
 CI  
 Policies

#### § 2030. Fund management

##### A. Fund accounting

1. The records and books of account for the Fund shall be kept separate from the Navajo Nation General Fund with its own balance sheet and revenue and expenditure statement. The day-to-day accounting for the Fund shall be performed by the Navajo Nation Division of Finance in accordance with generally accepted accounting principles.

2. ~~The Capital Improvement Office~~ Division of Community Development shall account for the money spent out of the Fund. Such accounting shall be included as part of the quarterly program reports submitted to the ~~Transportation and Community Resources and Development Committee~~ of the Navajo Nation Council and the Navajo Nation Council.

B. Investment goals and objectives. All monies deposited into the Fund shall be invested as soon as practicable in accordance with:

1. The degree of care exercised by reasonable and prudent managers of investments intended to produce maximum growth of the investments with a high degree of safety; and

2. The Investment Objectives and Investment Policies of the Navajo Nation as formally adopted by the Budget and Finance Committee of the Navajo Nation Council.

C. Indirect Cost. ~~Matching and cost reimbursement practices. The Fund shall be used to match fund and/or cost reimburse capital improvement projects, as defined at 12 N.N.C. § 810(F) of the Navajo Nation Appropriations Act, that are partially funded by the States of Arizona, Utah and New Mexico for the construction of, including but not limited to, preschool buildings, chapter houses and multi purpose buildings on the Navajo Nation. The monies can be used to fund any stage of the projects such as planning, designing, required clearances, construction, etc. The Transportation and Community Development Committee of the Navajo Nation Council shall approve the use of the monies in the Fund. This provision shall not deemed to waive or amend any requirement of law concerning the recovery of indirect costs, including 2 N.N.C. § 824(B)(9).~~

#### § 2040. Effective date

The effective date of the Fund shall be the beginning of Fiscal Year 2001 and shall remain in effect until the Navajo Nation Council terminates the Fund by resolution.

#### § 2050. Audit requirements

The Fund shall be audited annually by independent auditors as part of the overall audit of the Navajo Nation government.

#### § 2070. Amendments

This Fund Plan of Operation shall be amended by the Navajo Nation Council from time to time upon the recommendation of the Transportation and Community Resources and Development Committee of the Navajo Nation Council.

\*\*\*

#### Section Four. Effective Date

The amendments to this Chapter are effective upon its approval pursuant to 2 N.N.C. § 221.

**Section Five. Codification**


The provisions of this resolution which amend or adopt new sections of the Navajo Nation Code shall be codified by the Office of Legislative Counsel. The Office of Legislative Counsel shall include these statutory provisions in the next codification or supplement of the Navajo Nation Code that corresponds to the effective date of these provisions, to the extent practicable.

**Section Six. Saving Clause**

Should any provision of this enactment at 12 N.N.C. §§ 2001-2070 be determined invalid by the Navajo Nation Supreme Court, or the District Courts of the Navajo Nation without appeal to the Navajo Nation Supreme Court, those portions of the enactment, which are not determined invalid, shall remain the law of the Navajo Nation.

**CERTIFICATION**

I hereby certify that the foregoing resolution was duly considered by the Navajo Nation Council at a duly called meeting in Window Rock, Navajo Nation (Arizona) at which a quorum was present and that the same was passed by a vote of 14 in favor and 0 opposed, this 26<sup>th</sup> day of January 2017.



LoRenzo C. Bates, Speaker  
Navajo Nation Council


2-1-17

Date

Motion: Herman M. Daniels  
Second: Jonathan Perry

ACTION BY THE NAVAJO NATION PRESIDENT:

1. I hereby sign into law the foregoing legislation, pursuant to 2 N.N.C. §1005 (C) (10), on this 10<sup>th</sup> day of February 2017.

  
\_\_\_\_\_  
Russell Begaye, President  
Navajo Nation

2. I hereby veto the foregoing legislation, pursuant to 2 N.N.C. §1005 (C) (11), this \_\_\_\_\_ day of \_\_\_\_\_ 2017 for the reason(s) expressed in the attached letter to the Speaker.

\_\_\_\_\_  
Russell Begaye, President  
Navajo Nation



②

23rd Navajo Nation Council  
Winter Session

DATE: January 26, 2017

Legislation D344-16 (Main Motion)

Motion: Daniels

Second: Perry


ALL DELEGATES:

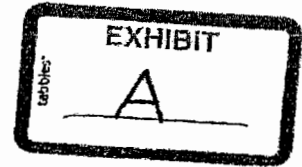
	Yea	Nay
BATES, LoRenzo		
BEGAY, Kee Allen Jr.	✓	
BEGAY, Norman M.		
BEGAYE, Nelson	✓	
BENNETT, Benjamin L.	✓	
BROWN, Nathaniel		
CHEE, Tom T.	✓	
CROTTY, Amber K.		
DAMON, Seth		
DANIELS, Herman	✓	
FILFRED, Davis	✓	
HALE, Jonathan L.	✓	
JACK, Lee Sr.		
PERRY, Jonathan	✓	
PETE, Leonard H.		
PHELPS, Walter	✓	
SHEPHERD, Alton Joe		
SLIM, Tuchoney Jr.	✓	
SMITH, Raymond Jr.		
TSO, Otto	✓	
TSOSIE, Leonard		
WITHERSPOON, Dwight	✓	
YAZZIE, Edmund	✓	
YAZZIE, Peterson	✓	

GRAND TOTAL

14 0

CERTIFICATION:

  
Honorable LoRenzo Bates  
Speaker



## CAPITAL OUTLAY MATCH FUNDING SPECIAL REVENUE FUND

12 N.N.C. § 2001 *et. seq.*

### § 2001. Establishment

There is hereby established the "Capital Outlay Match Funding Special Revenue Fund" (hereinafter "Fund"). During the annual appropriation the Navajo Nation Council shall appropriate two million dollars (\$2,000,000) to the Fund from any sources of income that becomes available to the Navajo Nation. Any money deposited into the Fund, plus accrued interest, shall be used only as provided herein. These funds shall not lapse on an annual basis, pursuant to 12 N.N.C. § 820(N).

### § 2010. Purpose

A. The purpose of this Fund is to establish a special fund to provide match, supplemental funding and cost reimbursement for the States of Arizona, Utah and New Mexico and Federal grants that partially funded capital outlay improvement and local government projects, as defined by 12 N.N.C. § 810 (F) and (N) (hereinafter "Project") that benefit the Navajo people residing on the Navajo Nation and fund any stage of the Project such as, but not limited to planning, designing, and construction. The Fund is created to address the following:

1. When applying for State and/or Federal funds to fund a Project, the State or Federal government may require the Navajo Nation to match the amount that is funded or another identified amount as set forth by the grant requirement;

2. Often times, the Navajo Nation applies for funds from the State and/or Federal government to assist with funding the Project and when the grant is approved, the Project is partially funded. This Fund is to assist the Project that has a short-fall and to supplement the funding that has been received by the State and/or Federal Government. ~~said states will require the Navajo Nation to match fund and/or cost reimburse the capital outlay projects that benefit the Navajo people residing on the Navajo Nation in the respective States, and there is no ready source of funds within the budget of the Navajo Nation to make the match and/or cost reimbursement.~~

3. When receiving funds from the State and/or Federal government, the grant may fund the Project on a cost-reimbursement basis. To assist with funding the Project, the Navajo Nation may use this Fund to assist with the cost of the Project until the Navajo Nation receives a reimbursement from the State and/or Federal government.

B. This Fund is created to address their deficiencies as provided in subsection A of this section.

§ 2020. Program administration

A. Legislative oversight. ~~The Transportation and Community Resources and Development Committee of the Navajo Nation Council shall provide legislative oversight to ensure the purpose of this Fund is being fulfilled review and approve all requests from the Navajo local chapters and Navajo government branches, divisions, departments and programs that require the use of money from the Fund for match funding and/or cost reimburse capital outlay projects that are partially funded by the States of Arizona, Utah or New Mexico.~~

B. Program management. ~~The Capital Improvement Office of the Division of Community Development shall have the authority and responsibility to use the Fund consistent with the purposes as provided in § 2010 to match fund and/or cost reimburse capital outlay projects that are partially funded by the States of Arizona, New Mexico and Utah with concurrence by the Transportation and Community Development Committee of the Navajo Nation Council in conformance with § 2030(C), Matching Practices. Such requests for funding road and airport projects and shall follow the established process policies including, but not limited to, the budget instructions manual and capital improvement project policies and procedures. The Division of Community Development shall review and approve all requests from the Navajo Nation chapters and Navajo Nation government branches, division, departments and programs.~~

§ 2030. Fund management

A. Fund accounting

1. The records and books of account for the Fund shall be kept separate from the Navajo Nation General Fund with its own balance sheet and revenue and expenditure statement. The day-to-day accounting for the Fund shall be performed by the Navajo Nation Division of Finance in accordance with generally accepted accounting principles.

2. ~~The Capital Improvement Office~~ Division of Community Development shall account for the money spent out of the Fund. Such accounting shall be included as part of the quarterly program reports submitted to the ~~Transportation and Community Resources and Development Committee of the Navajo Nation Council and the Navajo Nation Council.~~

B. Investment goals and objectives. All monies deposited into the Fund shall be invested as soon as practicable in accordance with:

1. The degree of care exercised by reasonable and prudent managers of investments intended to produce maximum growth of the investments with a high degree of safety; and

2. The Investment Objectives and Investment Policies of the Navajo Nation as formally adopted by the Budget and Finance Committee of the Navajo Nation Council.

~~C. Matching and cost reimbursement practices~~ Indirect Cost. The Fund shall be used to match fund and/or cost reimburse capital improvement projects, as defined at 12 N.N.C. § 810(F) of the Navajo Nation Appropriations Act, that are partially funded by the States of Arizona, Utah and New Mexico for the construction of, including but not limited to, preschool buildings, chapter houses and multi-purpose buildings on the Navajo Nation. The monies can be used to fund any stage of the projects such as planning, designing, required clearances, construction, etc. The Transportation and Community Development Committee of the Navajo Nation Council shall approve the use of the monies in the Fund. This provision shall not deemed to waive or amend any requirement of law concerning the recovery of indirect costs, including 2 N.N.C. § 824(B)(9).

§ 2040. Effective date

The effective date of the Fund shall be the beginning of Fiscal Year 2001 and shall remain in effect until the Navajo Nation Council terminates the Fund by resolution.

§ 2050. Audit requirements

The Fund shall be audited annually by independent auditors as part of the overall audit of the Navajo Nation government.

§ 2070. Amendments

This Fund Plan of Operation shall be amended by the Navajo Nation Council from time to time upon the recommendation of the Transportation and Community Resources and Development Committee of the Navajo Nation Council.

Document No. 006357Date Issued: 07/18/2016**RECEIVED****SECTION 164 REVIEW FORM**

Title of Document: Match Fund Policy-Amendments to Capital Outlay Match Contact Name: CAPITAL IMPROVEMENT OFFICE  
Program/Division: DIV. OF COMMUNITY DEVELOPMENT  
Email: casey@nncio.org Phone Number: 871-6211/6170

Division Director Approval for 164A: CB Paul Smith

**Check document category: only submit to category reviewers. Each reviewer has a maximum 7 working days, except Business Regulatory Department which has 2 days, to review and determine whether the document(s) are sufficient or insufficient. If deemed insufficient, a memorandum explaining the insufficiency of the document(s) is required.**

**Section 164(A) Final approval rests with Legislative Standing Committee(s) or Council**

- ☒ **Statement of Policy or Positive Law:** LRB Date: 7/19/16 Sufficient ☒ Insufficient ☐
- ☐ **IGA, Budget Resolutions, Budget Reallocations or amendments: (OMB and Controller sign ONLY if document expends or receives funds)**
- |         |       |             |                          |                          |
|---------|-------|-------------|--------------------------|--------------------------|
| 1. OMB: | _____ | Date: _____ | <input type="checkbox"/> | <input type="checkbox"/> |
| 2. OOC: | _____ | Date: _____ | <input type="checkbox"/> | <input type="checkbox"/> |
| 3. OAG: | _____ | Date: _____ | <input type="checkbox"/> | <input type="checkbox"/> |

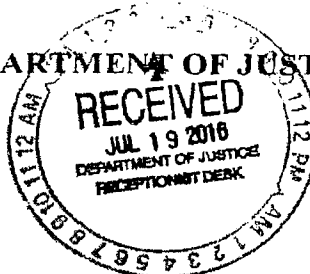
**Section 164(B) Final approval rests with the President of the Navajo Nation**

- ☐ **Grant/Funding Agreement or amendment:**
- |              |       |             |                          |                          |
|--------------|-------|-------------|--------------------------|--------------------------|
| 1. Division: | _____ | Date: _____ | <input type="checkbox"/> | <input type="checkbox"/> |
| 2. OMB:      | _____ | Date: _____ | <input type="checkbox"/> | <input type="checkbox"/> |
| 3. OOC:      | _____ | Date: _____ | <input type="checkbox"/> | <input type="checkbox"/> |
| 4. OAG:      | _____ | Date: _____ | <input type="checkbox"/> | <input type="checkbox"/> |
- ☐ **Subcontract/Contract expending or receiving funds or amendment:**
- |              |       |             |                          |                          |
|--------------|-------|-------------|--------------------------|--------------------------|
| 1. Division: | _____ | Date: _____ | <input type="checkbox"/> | <input type="checkbox"/> |
| 2. BRD:      | _____ | Date: _____ | <input type="checkbox"/> | <input type="checkbox"/> |
| 3. OMB:      | _____ | Date: _____ | <input type="checkbox"/> | <input type="checkbox"/> |
| 4. OOC:      | _____ | Date: _____ | <input type="checkbox"/> | <input type="checkbox"/> |
| 5. OAG:      | _____ | Date: _____ | <input type="checkbox"/> | <input type="checkbox"/> |
- ☐ **Letter of Assurance/M.O.A./M.O.U./Other agreement not expending funds or amendment:**
- |              |       |             |                          |                          |
|--------------|-------|-------------|--------------------------|--------------------------|
| 1. Division: | _____ | Date: _____ | <input type="checkbox"/> | <input type="checkbox"/> |
| 2. OAG:      | _____ | Date: _____ | <input type="checkbox"/> | <input type="checkbox"/> |
- ☐ **M.O.A. or Letter of Assurance expending or receiving funds or amendment:**
- |              |       |             |                          |                          |
|--------------|-------|-------------|--------------------------|--------------------------|
| 1. Division: | _____ | Date: _____ | <input type="checkbox"/> | <input type="checkbox"/> |
| 2. OMB:      | _____ | Date: _____ | <input type="checkbox"/> | <input type="checkbox"/> |
| 3. OOC:      | _____ | Date: _____ | <input type="checkbox"/> | <input type="checkbox"/> |
| 4. OAG:      | _____ | Date: _____ | <input type="checkbox"/> | <input type="checkbox"/> |



# NAVAJO NATION DEPARTMENT OF JUSTICE

## DOCUMENT REVIEW REQUEST FORM



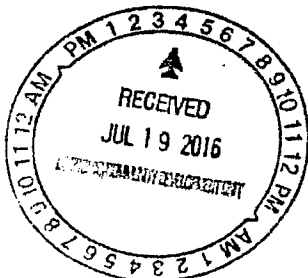
☐ RESUBMITTAL

DOJ
07-19-16 325pm
DATE / TIME
<input type="checkbox"/> 7 Day Deadline
DOC #: 006357
SAS #:
UNIT: ECDM

\*\*\* FOR NNDOJ USE ONLY - DO NOT CHANGE OR REVISE FORM. VARIATIONS OF THIS FORM WILL NOT BE ACCEPTED. \*\*\*

CLIENT TO COMPLETE			
DATE OF REQUEST:	7/19/2016	DIVISION:	Community Development
CONTACT NAME:	Marie R. Begay	DEPARTMENT:	Capital Improvement Office
PHONE NUMBER:	871-6170	E-MAIL:	marierb@nncio.org
TITLE OF DOCUMENT: Match Fund Policy and Procedure - Amendments to Capital Outlay Match			
DOJ SECRETARY TO COMPLETE			
DATE/TIME IN UNIT:		REVIEWING ATTORNEY/ADVOCATE:	
7-19-16 3:55pm		Latoria Johnson	
DATE TIME OUT OF UNIT:			
DOJ ATTORNEY / ADVOCATE COMMENTS			
Submittal			
REVIEWED BY: (Print)	Date / Time	SURNAMED BY: (Print)	Date / Time
UBT	7/19/16 457pm	UBT	7/19/16 457pm
DOJ Secretary Called:	Irma	for Document Pick Up on:	7/20/16 at 815 By: AH
PICKED UP BY: (Print)		DATE / TIME:	

NNDOJ/DRRF-July 2013





Marie R. Begay &lt;marierb@nnccio.org&gt;

**Fwd: Amendments to the Capital Outlay Match**

Casey Begay &lt;casey@nnccio.org&gt;

Fri, Jul 15, 2016 at 4:57 PM

To: "Marie R. Begay" &lt;marierb@nnccio.org&gt;

Cc: "Jacquelyn F. Morgan" &lt;jackie@nnccio.org&gt;, Margaret Begay &lt;margaret@nnccio.org&gt;, Elmer Johnson &lt;ejohnson@nnccio.org&gt;, "Leland K. Dayzie" &lt;lkdazyie@nnccio.org&gt;, Irma Julian &lt;irma@nnccio.org&gt;, Rory Jaques &lt;roryaj@nnccio.org&gt;

Marie,

I printed the attachment for you. And I would like you to proceed to process through the 164 process to amend the NN STATE MATCH FUND policy and procedure. If you have any questions, please confer with me. Thank you.

----- Forwarded message -----

From: LaTonia Becenti-Johnson &lt;lbjohnson@nndoj.org&gt;

Date: Tue, May 3, 2016 at 10:13 AM

Subject: Amendments to the Capital Outlay Match

To: "Casey Begay (casey@nnccio.org)" &lt;casey@nnccio.org&gt;

Cc: "csmith@nndcd.org" &lt;csmith@nndcd.org&gt;, "Brenda Holgate (bholgate@nndcd.org)" &lt;bholgate@nndcd.org&gt;

Casey,

Attach please find the amendments to the Capital Outlay Match Fund. I also attached the TCDC Objective Criteria.

If you have any questions, please let me know.

Best, LaTonia

--

**LaTonia Becenti Johnson, Attorney**

Economic and Community Development Unit  
Department of Justice/Office of the Attorney General

Navajo Nation  
Post Office Box 2010  
Window Rock, Arizona 86515  
(928) 871-6932 and 6933  
(928) 871-6200 (f)  
lbjohnson@nndoj.org

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<https://mail.google.com/mail/u/0/?ui=2&ik=8a2945f03&view=pt&search=inbox&msg=1550c7021484c1&siml=1550c7021484c1>



NAVAJO NATION DEPARTMENT OF JUSTICE  
OFFICE OF THE ATTORNEY GENERAL

ETHEL B. BRANCH  
ATTORNEY GENERAL

RODGERICK T. BEGAY  
DEPUTY ATTORNEY GENERAL

M E M O R A N D U M

TO: Marie Begay, Contract Analyst  
Capital Projects Management Department  
Division of Community Development

FROM: *[Signature]*  
LaDonia B. Johnson, Assistant Attorney General  
Economic/Community Development Unit, Dept. Of Justice

DATE: August 22, 2017

SUBJECT: Document No. 8435: Approving The Capital Outlay  
Matching Fund Special Revenue Funds In The Amount Of  
\$4,030,358.00

The Navajo Nation Department of Justice has reviewed the above-mentioned documents and finds it legally insufficient. As you know, the Navajo Nation Council, through Legislation No. CJA-06-17, approved amendments to the Capital Outlay Match Fund (Fund). Through these amendments, the Division of Community Development (DCD) has the authority to approve projects that are in compliance with the Fund, which includes, but not limited to the Budget Instruction Manual (BIM) and the Transportation and Community Development Committee Objective Criteria (Objective Criteria). As such, DOJ's review was based on compliance with the aforementioned.

BIM  
TCDC

First, it is noted that DCD disputes Office of Management and Budget's (OMB) directions on the use of a certain business unit number. Considering that this request requires compliance with the BIM, it is highly recommended that DCD meet with OMB to address OMB's concerns. Second, DCD is required to obtain documents as outlined in Section XV of the TCDC Objective Criteria. In reviewing the package, those documents are not included. Did DCD obtain those documents and verify the documents are on file and are sufficient? This needs to be clarified considering that this is a legal requirement and in

Memorandum to: Marie Begay, Contract Analyst  
RE: Document No. 8435: Approving The Capital Outlay Matching  
Fund Special Revenue Funds In The Amount Of \$4,030,358.00  
August 22, 2017  
Page 2

the past, DCD failed to obtain the required documents from the Chapters which resulted in an audit since 2002. Please clarify.

Until the above-mentioned is clarified, this document is deemed insufficient. It is noted that this is the second 164 packet for use of the Fund. It is highly recommended that DCD ensure that it adequately puts a packet together to demonstrate that it is in compliance with the BIM and TCDC Objective Criteria. Otherwise, similar requests will result in a delay of approval. If you have any questions regarding this memorandum, please contact me at 928-871-6933. Thank you.

LBJ/gj/187

xc: Sherylene Yazzie, Department Manager III  
Capital Project Management Department  
Division of Community Development



# Wichita and Affiliated Tribes Employment Rights Ordinance

## Section 1: Declaration of Policy

As a guide to the interpretation and application of this Ordinance, the public policy of the Wichita and Affiliated Tribes is declared to be as follows:

## Section 2: Definitions

- by whom?*
- A. "Employee": means any person employed for remuneration.
  - B. "Employer": means any person, partnership, corporation or other entity that employs, for wages, two or more employees.
  - C. "Covered Employer": means any employer that employs two or more employees who during any 30-day period, spend cumulatively 40 or more hours performing work on land(s) subject to the jurisdiction of the Wichita and Affiliated Tribes.
  - D. "Entity": means any person, partnership, corporation, joint venture, government, governmental enterprise, or any other natural or artificial person or organization. The term entity is intended to be broad and encompassing as possible to ensure the Ordinance's coverage overall employment and contract activities within the Wichita and Affiliated Tribe's jurisdiction and the term shall be so interpreted by the Wichita TERO Commission.
  - E. "Commission": means the Wichita and Affiliated Tribe's Employment Rights Commission established by this ordinance.
  - F. "Commercial Enterprise": means any activity by the Wichita and Affiliated Tribes or of the federal or state governments that is not a traditional government function as defined by the Internal Revenue Service.
  - G. "Indian": means any member of a federally-recognized tribe.
  - H. "Local Indian": means any member of a federally recognized tribe who reside within jurisdiction of the former reservation area.
  - I. "Former Reservation Area": means any tribal or Wichita member owned land located within the boundaries of the former reservation area that is subject to the jurisdiction of the Wichita and Affiliated Tribes. This shall include commonly owned lands of the Wichita,

## WT-TERO ORDINANCE

Caddo and Delaware Tribes or until otherwise agreed by joint resolution of the Wichita, Caddo and Delaware Tribes.

### **Section 3: Indian Preference for Employment**

All covered employers, for all employment activities occurring within the *Former Reservation Area* will give preference to qualified Indians, with the first preference to local Indians, in all hiring, promotion, training, layoffs, and all other aspects of employment. Such employers will comply with the rules, regulations, guidelines and orders of the Wichita Tribal Employment Rights Commission which sets forth the specific obligations of employers in regard to Indian preference and local Indian preference. These requirements will not apply to any direct employment by the Wichita and Affiliated Tribes or the federal, state or other governments or their subdivisions. It will apply to all contractors or grantees of such governments and to all commercial enterprises operated by such governments.

### **Section 4: Indian Preference in Contracting**

All entities awarding contracts or subcontractors for supplies, services, labor and materials in the amount of \$5,000 or more where the majority of the work on the contract or subcontract will occur within the *Former Reservation Area* will give preference in contracting and subcontracting to qualified entities that are certified by the TERO Commission as 51% or more Indian owned and controlled, with a first preference to qualified entities that are 51% or more owned and controlled by local Indians. These requirements shall not apply to any contracts awarded directly by the Wichita Executive Committee or by the federal or state governments or their subdivisions. They will apply to any contracts awarded by any commercial enterprises of the Wichita and Affiliated Tribes, even if said contracts must be submitted to the Wichita Executive Committee for approval.

Tribal programs or divisions other than commercial enterprises will not be required to comply with these requirements but shall be required, when submitting a contract to the Wichita Executive Committee for approval, to indicate, as part of the submission to the Committee, the steps taken to award the contract to a local Indian contractor. These requirements will apply to all subcontracts awarded by a tribal, federal or state direct contractor or grantee, whether or not the prime contract was subject to these requirements. All covered entities will comply with the rules, regulations, guidelines and orders of the Commission which set forth the specific obligations of such entities in regard to Indian preference in contracting and subcontracting. The Commission will establish a system for certifying firms eligible for Indian preference

### **Section 5: Unions**

Any covered employer who has a collective bargaining agreement with one or more unions shall obtain written agreements from such union(s) stating that the union will comply with Indian preference laws, and with the rules, regulations and guidelines of the Wichita and Affiliated Tribes. Such agreement shall be subject to the approval of the Director of the Wichita and Affiliated Tribes TERO pursuant to delegated authority as provided in Section 7(G), 8 and 9 herein.

### **Section 6: Commissions, Members, Compensation, Quorum**

- A. There is created a Wichita Tribal Employment Rights Commission
- B. The Commission will be composed of four (4) commissioners appointed by the Wichita Executive Committee. The Committee will designate one such commissioner as Committee Chairman. The Committee will also designate one member of the Committee to serve as an ex-officio member of the Commissioners. The Commission will serve at the pleasure of the Wichita Executive Committee until replaced by the Wichita Executive Committee.
- C. Members of the Commission will be entitled to a meeting stipend in an amount designated by the Wichita Executive Committee. The meeting stipend shall cover all expenses related to regular Commission meetings.
- D. If other Commission related travel is deemed necessary, members of the Commission may receive, upon presentation of proper vouchers, such mileage and per diem payments as are in effect for Commissioners of the Wichita and Affiliated Tribes. If no such travel rates are in effect for Commissioners, then the rate will default to the rate applicable to members of the Wichita Executive Committee for travel and lodging expenses incurred in the necessary execution of their duties as provided by the Ordinance. Compensation and travel expenses will
- E. A majority of the Commission will constitute a quorum to transact business. When a vacancy occurs in the Commission, the remaining members shall exercise all the powers of the Commission until the vacancy is filled.

### **Section 7: Powers of the Commission**

The Commission has the full power, jurisdiction and authority to:

Authority: (Wichita Pub. Law, July 29, 1987, Amended W.P.L. Res. No. 92 - \_\_\_\_\_)

## WT-TERO ORDINANCE

- A. Formulate, adopt, amend and rescind rules, regulations and guidelines necessary to carry out the provisions of this Ordinance. Except when an emergency exists, the TERO Commission will provide the public with a reasonable time for comment before promulgating any final regulations.
- B. Require each covered employer and entity to submit to the TERO Commission an acceptable compliance plan indicating how it will comply with this Ordinance, before a covered employer or entity may commence work on the *Former Reservation Area*.
- C. Impose numerical hiring goals and timetables that specify the minimum number of Indians a covered employer *must* hire, by craft or skill level.
- D. Require covered employers to establish or participate in such training programs as the TERO Commission determines necessary in order to increase the pool of qualified Indians in the *Former Reservation Area* as quickly as possible.
- E. Establish a tribal Labor Force or Skills Bank and impose a requirement that no covered employer will hire a non-Indian until the tribal Labor Force or Skills Bank has certified that no qualified Indian is available to fill the vacancy.
- F. Prohibit covered employers from using qualifications criteria or other personnel requirements that serve as barriers to Indian employment unless the employer can demonstrate that such criteria or requirements are required by necessity. In developing regulations to implement this requirement, the TERO Commission shall reserve the right to impose its own requirements in addition to or in lieu of EEOC guidelines when necessary to address unique qualification problems confronting Indians.
- G. To enter into agreements with Unions to insure union compliance with this Ordinance. Such agreements shall in no way constitute recognition or endorsement of any union.
- H. Impose contract and subcontract preference requirements, with a first preference to local Indian firms, and establish and operate a system for certifying firms are eligible for Indian preference and local Indian preference.

**Section 8: Director; Qualifications; Staff; Duties**

- A. The TERO Commission will have exclusive authority to appoint, direct, suspend or remove TERO Director of the Wichita Tribal Employment Rights Office. The Commission

## WT-TERO ORDINANCE

has the authority to delegate this authority to the Wichita and Affiliated Tribes Tribal Administrator.

- B. The TERO Director shall have such administrative ability, education and training as the Commission determines.
- C. The TERO Director shall have authority to hire support staff.
- D. The TERO Director shall have authority to expend funds appropriated by the Wichita Executive Committee, and to obtain and expend funding from federal, state or other sources to carry out the purposes of the TERO Commission, subject to approval by the Wichita Executive Committee.
- E. The TERO Director shall administer the policies, authorities, and duties prescribed for him/her in this Ordinance and delegated to him/her by the Commission pursuant to Section 9.

### **Section 9: Delegation of Authority**

The TERO Commission will delegate to the TERO Director the authority to carry out the day-to-day operations of the TERO Commission and such other authority as is convenient or necessary to the efficient administration of this Ordinance, except that the TERO Commission will not delegate its power or duty to:

- A. Adopt, amend and rescind rules, regulations, or guidelines without prior approval of the TERO Commission.
- B. To conduct hearings or to impose sanctions pursuant to Section 15.

### **Section 10: Intergovernmental Relations**

The TERO Commission acting through the TERO Director is authorized to enter into cooperative relationships with federal employment rights agencies such as Equal Employment Opportunity Commission and Office of Federal Contract Compliance Programs, in order to eliminate discrimination against Indians within or outside the *Former Reservation Area*.

### **Section 11: Employment Rights Fee**

An employee rights fee, to raise revenue for the operation of the TERO Commission, is imposed as follows:

Authority: (Wichita Pub. Law, July 29, 1987, Amended W.P.L. Res. No. 92 - \_\_\_\_\_)

## WT-TERO ORDINANCE

- A. Every covered employer with a construction contract in the sum of \$100,000 or more to be performed within the *Former Reservation Area* will pay a one-time fee of ½ of 1% of the total amount of the contract. Such fee will be paid by the employer prior to commencing work within the *Former Reservation Area*. However, where good cause is shown, the TERO DIRECTOR may authorize a construction contractor to pay said fee in installments over the course of the contract.
- B. The TERO Director shall be responsible for collecting said fees pursuant to any rules and regulations adopted by the TERO Commission. Said fees shall be paid to the Wichita and Affiliated Tribes shall be credited to the Special Wichita TERO Account of the Wichita Tribe, to carry out the purposes of this Ordinance, including training programs for worker and business persons.
- C. Employer shall pay monthly fee not to exceed 3% of total gross payroll of all employees to the Wichita and Affiliated Tribes Tribal Employment Rights Office. This fee shall be due and paid in full each month on or before the 15<sup>th</sup> day of the next following calendar month. The check made payable to the Wichita and Affiliated Tribes TERO.

### **Section 12: Complaints**

Any individual, group of individuals or organization that believes any covered employer or entity, or the Commission has violated any requirements imposed by this Ordinance or regulations issued pursuant to it, may file a complaint with the TERO Director. The complaint shall be in writing and shall provide such information as is necessary to enable the TERO Director to carry out an investigation. The TERO Director shall investigate every complaint filed with him/her. If upon investigation, he/she has reason to believe a violation has occurred, he/she shall proceed pursuant to the provisions of Section 15. Within 20 days after receipt of the complaint, and on a regular basis thereafter, the TERO Director shall provide the complaining party with a written report on the status of the complaint.

### **Section 13: Investigation**

On his/her own initiative or pursuant to a complaint, the TERO Director or any Field Compliance Officer designated by the TERO Director will make such public or private investigations within the *Former Reservation Area* as he/she or the Commission deems necessary to determine whether any covered employer or other covered entity has violated any provisions of this Ordinance or any rule or order hereunder, or to aid in prescribing rules, regulations and guidelines hereunder. The TERO Director or his/her delegate may enter the place of business or employment within the *Former Reservation Area* during regular business hours of any employer for the purpose of such investigations,

## WT-TERO ORDINANCE

and may require the covered employer or entity to submit such reports as he deems necessary to monitor compliance with the requirements of this Ordinance or any rules or order hereunder.

### **Section 14: Power to Require Testimony and Procedure of Records**

During the conduct of any investigation which, in the opinion of the TERO Director of the TERO Commission, are necessary and proper for the enforcement of this Ordinance, the TERO Director, or any field Compliance Officer designated by the TERO Director may administer oaths or affirmations, subpoena witnesses, take evidence, and require, by citation, the production of books, papers, contracts, agreements or other documents, records or information which the TERO Director of the TERO Commission deems relevant or material to the investigation.

### **Section 15: Enforcement**

- A. When, after conducting an investigation, initiated by a complaint pursuant to Section 12 or self-initiated investigation pursuant to Section 13, the TERO Director has reason to believe a violation of this Ordinance or regulations issued pursuant to it has occurred, the TERO Director shall notify the covered employer or entity in writing specifying the alleged violations. However, he/she may withhold the name(s) of the complaining party if he has reason to believe such party shall be subject to retaliation. The TERO Director shall seek to achieve an informal settlement of the alleged violation. If he/she is unable to do so, he/she shall issue a formal notice of non-compliance, which shall also advise the covered employer or entity of his right to request a hearing.
- B. The formal notice shall set out the nature of the alleged violation and the steps that must be taken to come into compliance. It shall provide the employer or entity with a reasonable time, which in no event shall be less than five (5) days from the date of receipt of such notice, to comply. If the party fails or refuses to comply, he may request a hearing before the TERO Commission which shall be held no sooner than five (5) days and no later than thirty (30) days after the date for compliance set forth in the TERO Director's notification to the party charged of a violation, unless an expedited hearing is deemed by the TERO Commission to avoid irreparable harm. If a party fails or refuses to comply and does not request a hearing, the TERO Commission may proceed pursuant to subsection E of this Section.
- C. If the party requests a hearing pursuant to subsection B, and the TERO Director has good cause to believe that there is a danger that the party requesting the hearing will remove itself or its property from the jurisdiction of the Wichita Tribe prior to the hearing, he/she may, in his discretion, require the party to post a bond to cover possible monetary damages that may be

## WT-TERO ORDINANCE

assessed against the party at the hearing. If the party fails or refuses to post said bond, the TERO Commission may proceed pursuant to subsection E of this section.

- D. Any hearing held pursuant to subsection B shall be conducted by the TERO Commission may administer oaths or affirmations, subpoena witnesses, take evidence, and require, by citation the production of books papers, contracts, agreements or other documents, records or information which the TERO Commission deems relevant or material to the inquiry. Conduct of the hearing shall be governed by the rules of practice and procedure which may be adopted by the TERO Commission. The TERO Commission shall not be bound by technical rules of evidence in the conduct of hearings under this Ordinance, and no informality in any proceedings, as in the manner of taking testimony, shall invalidate any order, decision, rule or regulation made, approved or confirmed by the TERO Commission. No stenographic record of the proceedings and testimony shall be required except upon arrangement by, and at the cost of the party requesting such a record.
- E. If, after the hearing, the TERO Commission determines that the violation alleged in subsection A occurred and that the party charged has no adequate defense in law or fact, or if no hearing is requested consistent with the requirements of 25 U.S.C. Sec. 1302, at seq, the Commission may;
1. Deny such party the right to commence business on the *Former Reservation Area*.
  2. Impose civil fine on such party in an amount not to exceed \$500 per day for each violation;
  3. Suspend such party's operation on the *Former Reservation Area*;
  4. Terminate such party's operation on the *Former Reservation Area*;
  5. Deny the right of such party to conduct any further business on the *Former Reservation Area*;
  6. Order such party to make payment or back pay to any aggrieved Indian(s) as restitution to such aggrieved Indians(s);
  7. Order such party to dismiss any employees hired in violation of the Wichita Tribe's employment rights requirements;
  8. Order the party to take such other action as is necessary to ensure compliance with the Ordinance or to remedy any harm caused by a violation of this Ordinance.



## WT-TERO ORDINANCE

The TERO Commission's decision shall be in writing, shall be served on the charged party by registered mail or in person and shall be submitted no later than thirty (30) days after the close of the hearing provided in subsection E of this section.

F. The decision of the TERO Commission shall be final.

**Section 16: Amendment**

The Wichita and Affiliated Tribes hereby reserves the right to amend the aforementioned TERO Ordinances as deemed necessary and recommended by the TERO Director and/or TERO Commission.

DRAFT



# TSÉ AĽNAOZTI' Í CHAPTER

SANOSTEE@NAVAJOCHAPTERS.ORG

P.O BOX 219 SANOSTEE NM 87461

PHONE: (505) 723-2702

FAX: (505) 723-2702

COUNCIL DELEGATE  
AMBER CROTTY

PRESIDENT  
FRANK SMITH JR.

VICE-PRESIDENT  
GERALD HENDERSON

SECRETARY / TREASURER  
VACANT

COMMITTEE  
CLARINA CLARK



## RESOLUTION OF TSÉ' AĽNAOZTI'Í CHAPTER RESOLUTION NO. TAT 18-04-12

### APPROVING AND RECERTIFYTING THE REEVALUATED AND REVISED TSÉ' AĽNAOZTI'Í CHAPTER COMMUNITY LAND USE PLAN (2018).

#### WHEREAS;

1. Pursuant to 26 NNC, Section 1 (B), the Navajo Nation Council delegated the authority to Tsé AĽnaozti'í Chapter to review and process all local matters affecting the community and its constituents, assuring that quality services are provided and Section 101 (A) (B), Tsé AĽnaozti'í Chapter shall operate under Five Management System (FMS) consist with applicable Navajo Nation Laws; and
2. Pursuant to 26 NNC, Section 103 (A), Tsé AĽnaozti'í Chapter membership are authorized to oversee the authority delegated to the chapter and Section 1004 (A), Tsé AĽnaozti'í Chapter shall enact by resolutions plans of operations for all executive functions and administrative policies of the chapter; and
3. Tsé AĽnaozti'í Chapter's Community Land Use Committee (CLUPC) has worked in conjunction with the community members, chapter officials and chapter administration to review and revise the Sanostee Chapter Land Use Plan that was originally certified in 2004; and
4. The Tsé AĽnaozti'í Chapter CLUPC has reevaluated the previously approved sites for housing, economic development, and have added proposed sites for community development and proposed community/veterans cemetery sites; and
5. The Tsé AĽnaozti'í Chapter CLUPC has met over 40 times to review and revise this land use plan and Tsé AĽnaozti'í Chapter has sponsored a Public Hearing on February 08, 2018 and have waited the 60 days required for public input; and
6. The Tsé AĽnaozti'í Chapter CLUPC is ready to move forward on getting approval for land withdrawals and development of housing, economic development, community development and construction of a community and veterans cemetery.

#### NOW, THEREFORE BE IT RESOLVED THAT;

1. Tsé AĽnaozti'í Chapter membership hereby pass this chapter resolution approving and recertifying the reevaluated and revised Tsé' AĽnaozti'í Chapter Community Land Use Plan (2018).

GRAZING OFFICIAL  
ELOUISE BROWN

ACCOUNTS MAINTENANCE SPECIALIST  
VACANT

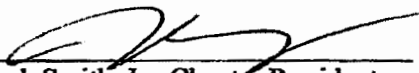
2. Tsé Ałnaozti'í Chapter hereby recommends the Navajo Nation Resources and Development Committee to approve this reevaluated and revised Community Land Use Plan.
3. The Tsé Ałnaozti'í Chapter CLUPC, chapter officials and administration will follow the plans drawn out in this approved Community Land Use Plan in the development of community projects.

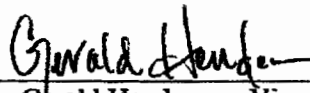
### CERTIFICATION

I, hereby certify that the foregoing resolution was presented and thoroughly discussed by the constituents, at a duly called Chapter Meeting at Tsé Ałnaozti'í (Sanostee), New Mexico, at which a quorum was present and that same was passed by a vote of 29 in favor, 00 opposed and 01 abstained, on this 20th day of April 2018.

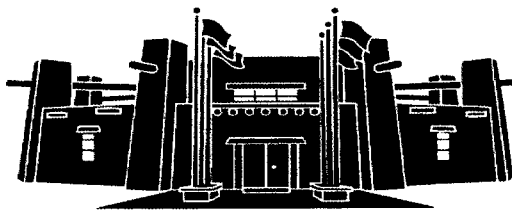
Motioned by: Alonzo Cohoe

Seconded by: Direne Curley

  
Mr. Frank Smith, Jr., Chapter President

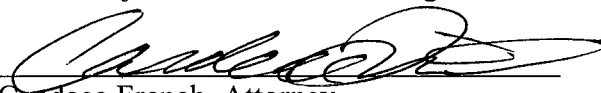
  
Mr. Gerald Henderson, Vice-President

Ms. Amber K. Crotty, Council Delegate



## MEMORANDUM

TO: Honorable Amber K. Crotty  
23<sup>rd</sup> Navajo Nation Council Delegate

FROM:   
Candace French, Attorney  
Office of Legislative Counsel

DATE: December 18, 2018

RE: AN ACTION RELATING TO RESOURCES AND DEVELOPMENT  
COMMITTEE, CERTIFYING TSÉ' ALNAOZTI'I CHAPTER  
COMMUNITY LAND USE PLAN WHICH HAS REEVALUATED AND  
READJUSTED TSÉ' ALNAOZTI'I CHAPTER'S PREVIOUS  
COMMUNITY-BASED LAND USE PLAN

Per your request, attached is the above-reference proposed resolution and associated legislative summary sheet. Based on existing law, the resolution drafted is legally sufficient. The exhibits associated with the resolution are attached as provided to the Office of Legislative Counsel. Please ensure the order of your exhibits is correct. As with all legislation, the proposed resolution is subject to review by the courts in the event of a challenge.

The Office of Legislative Counsel recommends the appropriate standing committee(s) reviews based on the standing committees powers outlined in 2 N.N.C. §§ 301, 401, 501, 601, and 701. Nevertheless, "the Speaker of the Navajo Nation Council shall introduce [the proposed resolution] into the legislative process by assigning it to the respective oversight committee(s) of the Navajo Nation Council having authority over the matters for proper consideration. 2 N.N.C. § 164(A)(5).

Please review the proposed resolution to ensure it is drafted to your satisfaction. If you approve, please sign as "Primary Sponsor" and submit it to the Office of Legislative Services where the proposed resolution will be given a tracking number and referred to the Office of the Speaker. If the proposed legislation is unacceptable to you, please contact me at the Office of Legislative Counsel and advise me of the changes you would like to make to the proposed resolution.

THE NAVAJO NATION  
LEGISLATIVE BRANCH  
INTERNET PUBLIC REVIEW PUBLICATION



LEGISLATION NO: \_0429-18\_\_

SPONSOR: Amber Crotty

**TITLE: An Action Relating To Resources And Development Committee, Recertifying Tse' Alnaozti'i Chapter Community Land Use Plan Which Has Reevaluation And Readjustment Tse' Alnaozti'i Chapter's Previous Community-Based Land Use Plan**

**Date posted: December 18, 2018 at 6:11 PM**

Digital comments may be e-mailed to [comments@navajo-nsn.gov](mailto:comments@navajo-nsn.gov)

Written comments may be mailed to:

Executive Director  
Office of Legislative Services  
P.O. Box 3390  
Window Rock, AZ 86515  
(928) 871-7586

Comments may be made in the form of chapter resolutions, letters, position papers, etc. Please include your name, position title, address for written comments; a valid e-mail address is required. Anonymous comments will not be included in the Legislation packet.

**Please note:** This digital copy is being provided for the benefit of the Navajo Nation chapters and public use. Any political use is prohibited. All written comments received become the property of the Navajo Nation and will be forwarded to the assigned Navajo Nation Council standing committee(s) and/or the Navajo Nation Council for review. Any tampering with public records are punishable by Navajo Nation law pursuant to 17 N.N.C. §374 *et. seq.*

**THE NAVAJO NATION  
LEGISLATIVE BRANCH  
INTERNET PUBLIC REVIEW SUMMARY**

**LEGISLATION NO.:** 0429-18

**SPONSOR:** Honorable Amber Kanazbah Crotty

**TITLE:** An Action Relating To Resources And Development Committee, Recertifying Tse' Alnaozti'i Chapter Community Land Use Plan Which Has Reevaluation And Readjustment Tse' Alnaozti'i Chapter's Previous CommunityBased Land Use Plan

**Posted:** December 18, 2018 at 6:11 PM

**5 DAY Comment Period Ended:** December 23, 2018

**Digital Comments received:**

<b>Comments Supporting</b>	<i>None</i>
<b>Comments Opposing</b>	<i>None</i>
<b>Inconclusive Comment</b>	<i>None</i>

  
\_\_\_\_\_  
**Legislative Secretary II  
Office of Legislative Services**

12/24/2018 8:30am  
\_\_\_\_\_  
**Date/Time**

**RESOURCES AND DEVELOPMENT COMMITTEE  
23rd NAVAJO NATION COUNCIL**

**FOURTH YEAR 2018**

**COMMITTEE REPORT**

Mr. Speaker,

The **RESOURCES AND DEVELOPMENT COMMITTEE** to whom has been assigned:

**Legislation # 0429-18:** An Action Relating to Resources and Development; Recertifying Tse' Alnaozti'I Chapter Community Land Use Plan Which Has Reevaluated and Readjusted Tse' Alnaozti'I Chapter's Previous Community-Based Land Use Plan. *Sponsor: Honorable Amber K. Crotty*

Has had it under consideration and reports a **DO PASS** with no amendment;

And thereafter the legislation was approved.

Respectfully submitted,



Alton Joe Shepherd, Presiding Chairperson  
Resource and Development Committee of  
the 23<sup>rd</sup> Navajo Nation Council

Date: December 27, 2018 – Special Meeting

Meeting Location: Navajo Nation Council Chambers, Window Rock, Arizona

**MAIN MOTION:**

M: Walter Phelps                      S: Davis Filfred                      Vote: 3-0-1 (CNV)

YEAS: Benjamin Bennett, Walter Phelps; and Davis Filfred

NAYS:

EXCUSED: Jonathan Perry and Leonard Pete

**RESOURCES AND DEVELOPMENT COMMITTEE**  
**Special Meeting**

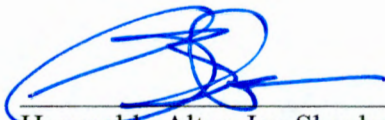
**ROLL CALL**  
**VOTE TALLY SHEET:**

**Legislation # 0429-18:** An Action Relating to Resources and Development; Recertifying Tse' Alnaozti'I Chapter Community Land Use Plan Which Has Reevaluated and Readjusted Tse' Alnaozti'I Chapter's Previous Community-Based Land Use Plan. *Sponsor: Honorable Amber K. Crotty*

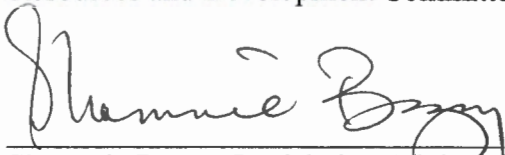
**MAIN MOTION:**

M: Walter Phelps                      S: Davis Filfred      Vote: 3-0-1 (CNV)  
YEAS: Walter Phelps, Davis Filfred and Benjamin Bennett  
NAYS:  
EXCUSED: Jonathan Perry and Leonard Pete

Date: December 27, 2018 –Special Meeting  
Meeting Location: Navajo Nation Council Chambers, Window Rock, Arizona



Honorable Alton Joe Shepherd, Presiding Chairman  
Resources and Development Committee



Shammie Begay, Legislative Advisor  
Office of Legislative Services