

Level II HAER Documentation of the Historic Control Road (FR 64) and its Associated Features, Payson Ranger District, East of Payson, Gila County, Arizona

Prepared for:

Gila County Public Works Division
Tonto National Forest

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LSD Technical Report No. 115042a

ABSTRACT AND MANAGEMENT SUMMARY

Report Title	Level II HAER Documentation of the Historic Control Road (FR 64) and its Associated Features, Payson Ranger District, East of Payson, Gila County, Arizona
Agencies Involved	Gila County Public Works Division, Tonto National Forest (TNF)
ASM Permit No.	2011-30bl
LSD Project No.	115042
Report Date	December 20, 2011
Project Description	The Gila County Public Works Division, in conjunction with TNF, requested that Logan Simpson Design Inc. (LSD) prepare Level II Historic American Engineering Record (HAER) documentation of the historic Control Road and its associated features. Gila County recently paved a 6.25-mile-long segment of the Control Road west of SR 260. This document presents the HAER Level II documentation for the entire length of the Control Road pursuant to stipulations of an executed Programmatic Agreement concerning the identification, evaluation, and treatment of Gila County-maintained historic roads and associated features.
Project Location	Within portions of Section 1, T11N, R11E; Sections 5, 6, and 8, T11N, R11½E; Sections 29 and 30, T11N, R12E; Sections 23, 24, 25, 26, and 27, T11½N, R9E; Section 19, T11½N, R10E; Sections 20, 21, 22, 26, 27, 35, and 36, T11½N, R11E; Sections 35 and 36, T12N, R9E; and Sections 31, 32, 33, 34, 35, and 36, T12N, R10E, Gila and Salt River Baseline and Meridian (USGS 7.5' Buckhead Mesa, Ariz., 1973; Dane Canyon, Ariz., 1972; Diamond Point, Ariz., 1973; Kehl Ridge, Ariz., 1993; Payson North, Ariz., 1973; and Promontory Butte, Ariz., 1998)
Land Ownership	TNF
Methods	Archival research and photographic documentation

Summary

The evaluation of 23 miles of the historic Control Road resulted in the identification of 300 features and 16 abandoned road segments. Additionally, other features of the roadway including nine cattle guards, five pull-outs, three parking areas, and one trailhead were documented. The Control Road and its associated features have been previously determined eligible for inclusion in the National Register of Historic Places under Criteria A and C (association with events, characteristics of a type of construction). The road was constructed by the Civilian Conservation Corps in the mid-1930s for the purpose of creating a fire break between Payson and the Mogollon Rim and to facilitate vehicular traffic in the sub-rim area. Although the alignment of the road has changed over time, the road retains its setting, feeling, design, and materials, and continues to function as originally designed. Completion of this Level II HAER documentation report has adequately documented the historic Control Road and this report serves as mitigation for adverse effects to the roadway resulting from the Gila County Public Works Division paving project; therefore, no further work is recommended.

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INTRODUCTION

The Gila County Public Works Division, in conjunction with Tonto National Forest (TNF), is planning a long-term road paving project along the historic Control Road (Forest Road [FR] 64) northeast of Payson, in northern Gila County, Arizona (Figure 1). The road is located entirely within the Payson Ranger District (PRD) of the TNF (Figure 2); the 7.25 mile-long segment of road between State Route (SR) 260 and FR 430 is within an easement maintained by Gila County. Although project plans have not been developed for improving the remainder of the road west of its intersection with FR 430, Gila County ultimately plans to pave the entire road.

The Control Road has been previously determined eligible by the TNF for inclusion in the National Register of Historic Places (NRHP) under Criteria A and C (association with events, characteristics of a type of construction). The road was constructed by the Civilian Conservation Corps (CCC) in the mid-1930s for the purpose of creating a fire break between Payson and the Mogollon Rim and to facilitate vehicular traffic in the sub-rim area. In 2008, Logan Simpson Design Inc. (LSD) surveyed 6.25 miles of the 23-mile-long Control Road in preparation for a long-term paving project (Drake and Rayle 2009). In 2011, Gila County contracted with LSD to provide historic documentation of the remaining 16.75 miles of the Control Road pursuant to the stipulations of an executed Programmatic Agreement (PA) between the United States Department of Agriculture Forest Service (Forest Service), the Arizona State Historic Preservation Office (SHPO), and the Advisory Council on Historic Preservation. The PA was executed to address the identification, evaluation, and treatment of Gila County-maintained historic roads and their associated features within the PRD and Pleasant Valley Ranger District of the TNF. Archival research of primary and secondary documents was conducted to provide information on the history and significance of the road. Historic documentation within this report complies with the National and State Historic Preservation Acts Documentation Standards for Historic Properties guidelines (revised December 2002) and the Secretary of the Interior's Standards and Guidelines for Architectural and Engineering Documentation: Historic American Building Survey/Historic American Engineering Record (HAER) (revised 1990). Companion videography that showcases the historic Control Road in its entirety, as well as its associated features, was submitted to the Gila County Public Works Division and the TNF in 2010.

HISTORIC CONTEXT OF ROAD DEVELOPMENT IN THE PAYSON BASIN AND MOGOLLON RIM ESCARPMENT

The design and construction of a reliable transportation network was an important factor in the settlement and economic growth and development of the Payson Basin and Mogollon Rim escarpment. For much of the nineteenth century, travel in the region and elsewhere in Arizona was considered arduous and dangerous due to its "rugged topography, lack of water, climatic extremes, and hostile relations with American Indians" (Stein 1994:12). In response to the 1857 gold rush in Arizona and the subsequent influx of thousands of Euro-American prospectors and miners that migrated to the territory, the federal government during the 1860s established 15 military posts in strategic locations across Arizona to protect settlers from Indian attacks and make its newly-acquired territory safe for travel (Collins et al. 1993:12; Stein 1994:17). Despite the establishment of these forts, the Payson Basin and areas surrounding the Mogollon Rim were not homesteaded by Euro-Americans until the late 1800s due to hostilities with the

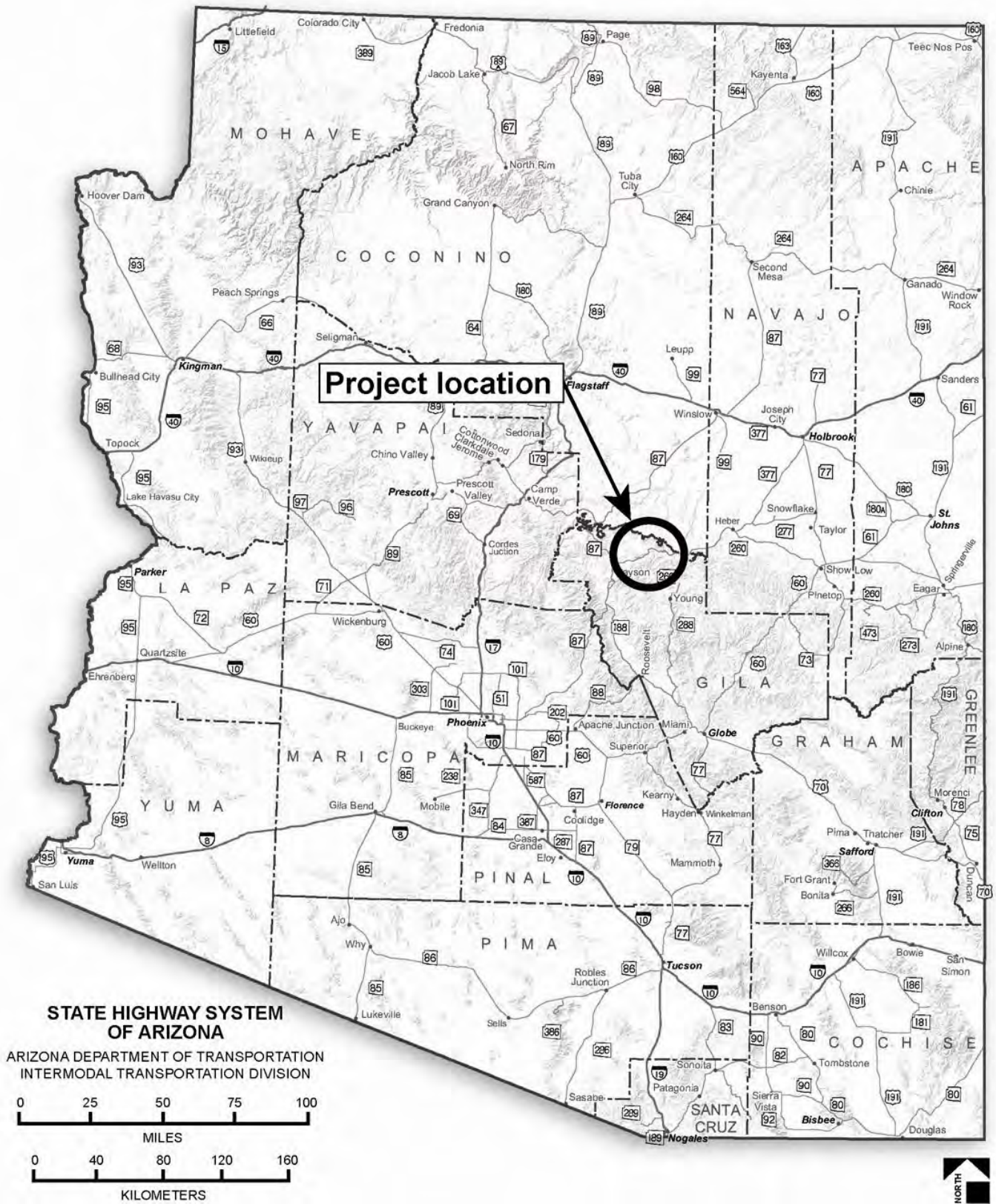


Figure 1. Location of project area.



Source: Land Ownership GIS Coverage provided by Arizona State Land Department. UTM Zone 12 NAD 83.

Key

- Project Area
- Private Land
- State Trust Land
- Coconino National Forest
- Tonto National Forest
- Yavapai Tonto Apache Reservation

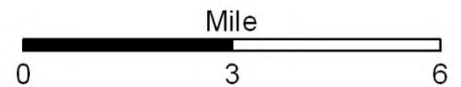


Figure 2. Land jurisdiction of project area.

Apache. In the 1870s, the Apache threat was diminished with the establishment of the White Mountain and San Carlos Apache reservations, and Euro-American farmers and ranchers began to establish permanent settlements in the area. Settlement in the region was further encouraged by a series of national public land laws, such as the National Homestead Act (1862), the Timber Culture Act (1877), and the enlarged Homestead Act (1909) (Stein 1990).

Archival research suggests that the first roads in the Payson Basin and along the Mogollon Rim escarpment were primitive wagon roads constructed by the military and Euro-American settlers. Between 1846 and 1874, the United States military had established three primitive wagon trails across the Arizona territory. One of these roads, known today as Crook's Trail, stretched east-west along the Mogollon Rim in central Arizona (Bowman 1978). Pioneered by General George W. Crook in 1871, the 200-mile-long road was used as a supply route by wagons and pack animals traveling between Fort Whipple near the territorial capital at Prescott to Fort Apache on the White Mountain River (Bowman 1978). The location of the trail was also of great strategic importance as it allowed the movement of military troops along the Mogollon Rim during the Apache Indian Campaign (Bourke 1891).

The establishment of Crook's Trail was also important to non-military traffic as it further opened the Payson Basin and Mogollon Rim area to Euro-American settlement. In the early 1880s, the communities of Pine and Payson (then known as Green Valley or Union Park) were founded to the south and west of the Mogollon Rim, and numerous homesteads and settlements were established in the vicinity of Tonto Creek. An 1886 USGS topographic map of the region depicts numerous northeast-trending road segments that originate near Payson and generally follow Tonto Creek (Figure 3). Named wagon routes that traversed the region during this time included the Payson to 13 Ranch Wagon Road, which consisted of a lightly-engineered road that stretched east-northeast from Payson to the 13 Ranch near Christopher Creek. Historic GLO maps of the T11½N, R11E (plat no. 00423, filed 2/25/1908) and T12N, R10E (plat no. 00478, filed 3/25/1908) suggest that few improvements were made to these routes by the early 1900s, as most of the roads are depicted as short discontinuous segments that meander around topographic features to connect numerous ranches and homesteads.

As ranching activities spread throughout the region, environmental damage caused by a combination of overgrazing and adverse weather conditions led to the establishment of the Tonto Forest Reserve in 1905 to protect the watersheds of the Salt and Verde Rivers (Macnider and Effland 1989). In 1906, the Tonto Forest Reserve was transferred to the United States Forest Service, and on March 4, 1907, the area became the Tonto National Forest (TNF). Between 1907 and 1928, the Forest Service made numerous improvements to main roads in the region, including the Crook's Trail, which was renamed the Old Rim Road during this time (Moore 2006:17–18). However, side roads linking ranches and homesteads along the East Verde River and Tonto Creek were not improved during this time and most remained in primitive condition.

Despite various TNF improvement projects in the region, the Payson Basin and western Mogollon Rim area remained relatively isolated by the end of the 1920s. A 1924 TNF map suggests that most settlements in the region were accessed by two main roads (Figure 4). The more primitive of the two routes, the

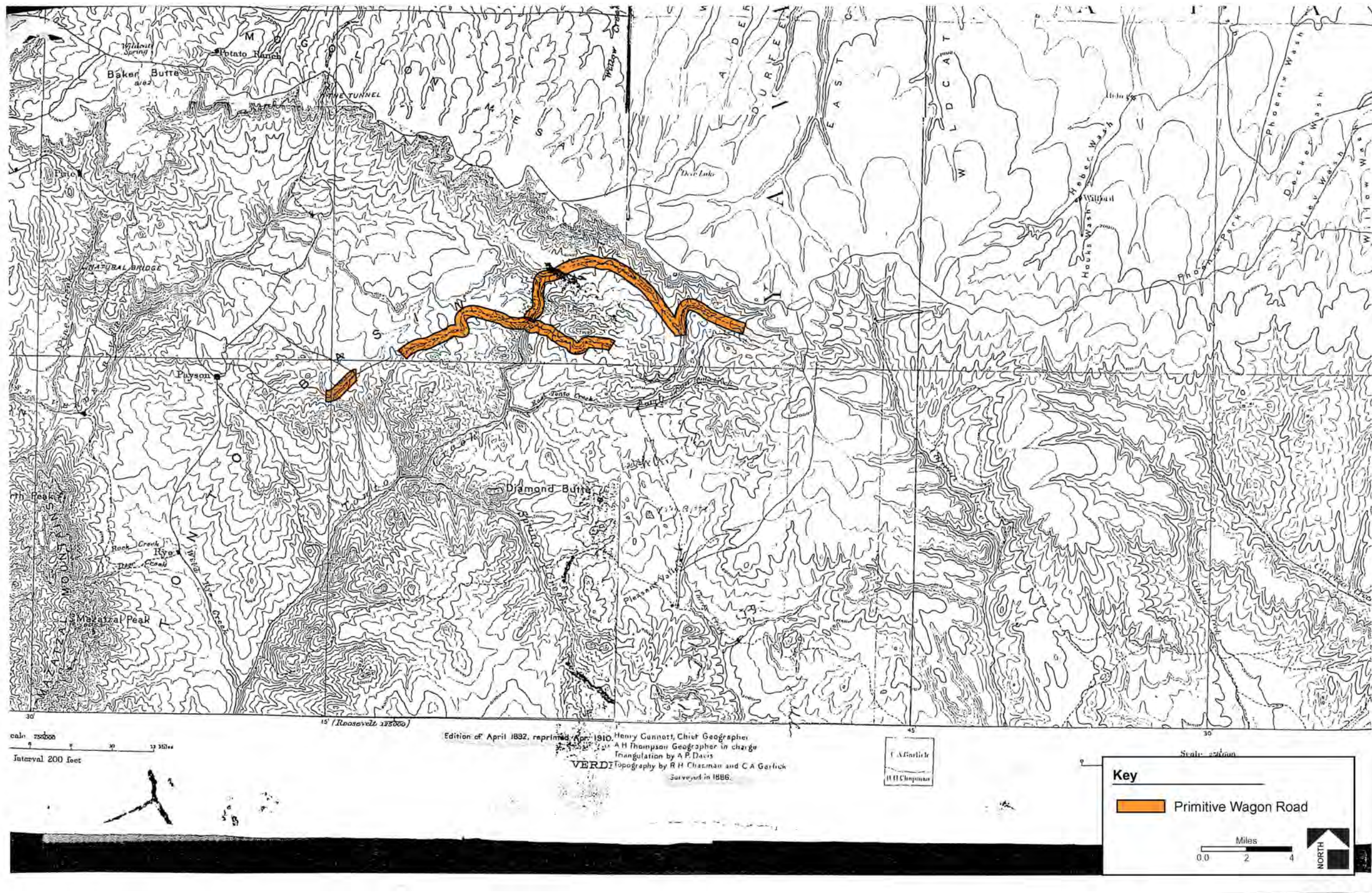


Figure 3. Excerpt from an 1886 USGS map showing primitive wagon roads in the Payson Basin and western Mogollon Rim area.

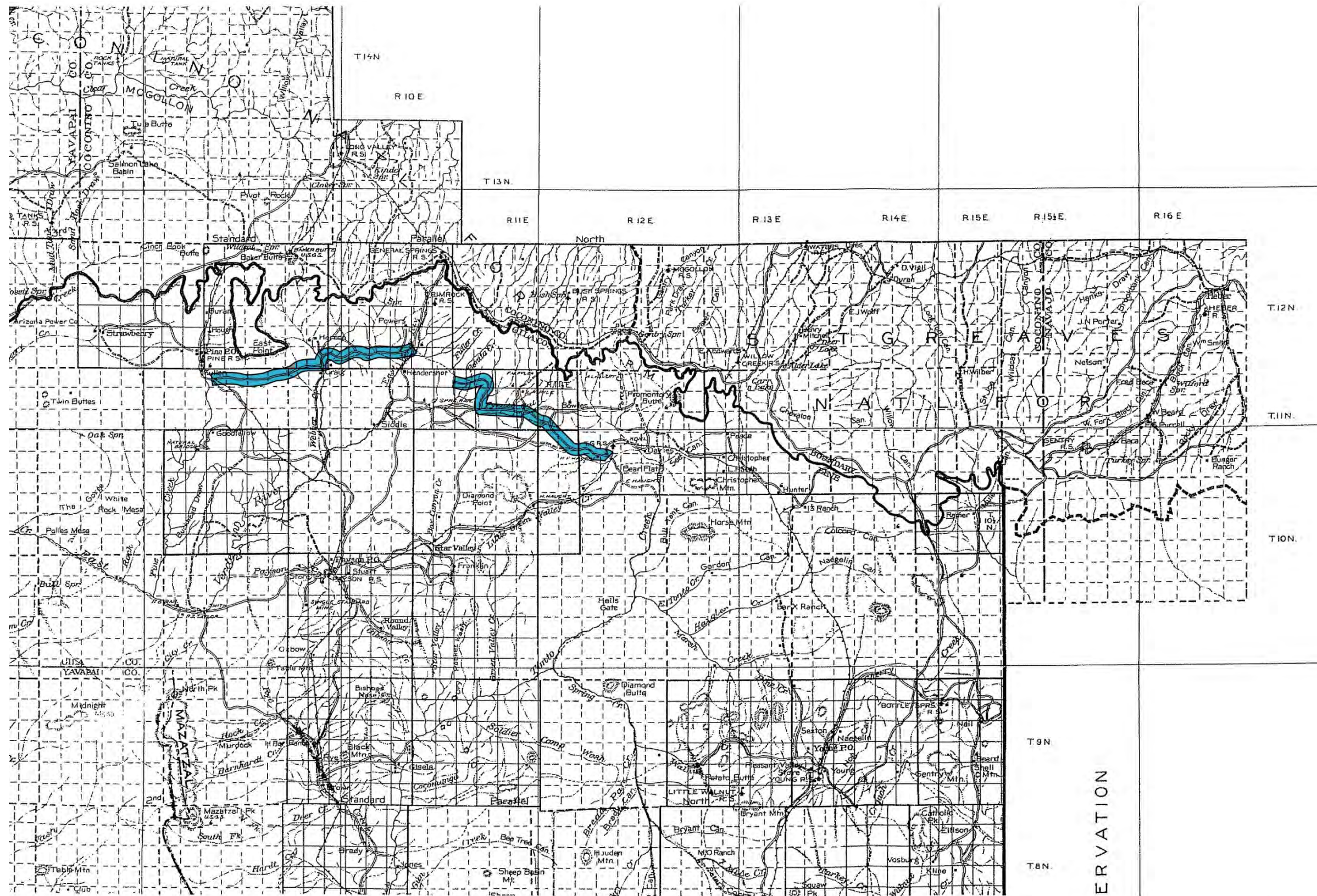


Figure 4. Excerpt from a 1924 TNF map showing the two main roads in the western Mogollon Rim area.

westernmost road, began south of Pine and extended east until terminating at the East Verde River. This road is depicted as a dashed line on the map and is presumably little more than a trail (see Figure 4) The second road is depicted as more formalized; this route began east of the river, to the south of Fuller and Bonita creeks, and extended west where it connected with numerous roads and continued in a generally southeast direction to its terminus with the Payson to 13 Ranch Wagon Road near the Indian Garden Ranger station (later known as Guard Station).

The lack of a formal road network in the region also had a profound impact on tourism during the late 1920s and early 1930s. Although the eastern Mogollon Rim area was visited by tourists from neighboring Mormon communities and the railroad towns of Holbrook and Winslow, access to cool pine forests of the TNF remained difficult and often required an arduous journey along narrow and winding dirt roads across the Mogollon Rim, the high desert of the Colorado Plateau, or the southern sections of the Apache Forest (Moore 2006:17). While the Forest Service recognized the economic importance of opening the forests in central Arizona to increased recreational use, the gripping effects of the Great Depression hampered large-scale construction and improvement projects in the TNF during the early 1930s.

The TNF and the CCC

On March 31, 1933, Franklin Roosevelt created the CCC through the Emergency Conservation Work Act, in an effort to speed economic recovery and provide work for thousands of unemployed young men on the nation's public lands (Booth 1991:7; Moore 2006:1). The program was largely a federal effort; enrollees were employed and paid by the Federal government, work projects were coordinated by the Department of the Interior (USDI) and the Department of Agriculture (USDA), and the camps and off-work activities were regulated by the United States (US) Army (Collins 1999:207). The first recruiting program started one week after the bill was signed, and by August 1933, nearly 300,000 young men based in 1,300 camps were at work on a variety of projects across the United States (Wright 1993:25). Two years later, the program had grown to include more than 505,000 enrollees, including a few hundred women, stationed at 2,650 camps in all 48 states, the Alaska and Hawaii territories, Puerto Rico, and the Virgin Islands (Moore 2006). Since the program was directed by the US Army, the enlistees included approximately 3,000 reserve officers who ran the camps, each of which was sponsored by a federal or state agency.

For CCC administrative purposes, the War Department divided the United States into nine corps areas, each of which was further divided into sub-districts (Moore 1991:22; Wright 1993:26). Arizona was part of the 8th Corps, and was initially part of the New-Mexico District; however, by 1935, most of central and northern Arizona was part of the Phoenix District (Wright 1993:26). An abundance of federal land made Arizona an attractive place for CCC camps, and in its first season of operation, Arizona had 20 regular camps and three veteran camps with 4,000 men and veterans and 550 locally employed men who supplied expertise and skills to the camps and helped cultivate relationships between the camps and host communities (Booth 1991; Collins 1992:210). By 1936, the Phoenix District included 18 companies, each of which contained approximately 200 men stationed at numerous camps across the state. Additionally, a number of side camps, or "fly" camps, were also in operation throughout the state. The side camps were occupied temporarily by small groups of men who worked on projects located at inconvenient distances from the main camp (Wright 1993:26).

The CCC camps were designated by letters and numbers that indicated their classification regarding land ownership or type of work, their order of formation, and their home state (Otis et al. 1986:29). For instance, the Airport Camp, or Camp F-45-A, was the 45th camp in Arizona (A) sponsored by the Forest Service (F). Camps also received less formal names that were generally associated with a geographical location or person (Otis et al. 1986:28). The camps were occupied over a period of time as manpower needs and work projects varied (Wright 1993:26). By 1936, the facilities of the camps had been standardized to include four barracks, a mess hall, a bath house, a latrine block, a schoolhouse, and 12 officers and service buildings (CCC Historical Background, n.d.). The buildings were prefabricated so the camp could be moved to another location when work in the area was complete (CCC Historical Background, n.d.).

In Arizona, nearly 53,000 enlistees participated in the CCC over a 9-year period, with workers primarily from Arizona, New Mexico, Texas, Oklahoma, Pennsylvania, and New Jersey (Moore 2006). In 1933, 28 camps with an enrollment quota of 4,800 were planned for Arizona, and at the program's peak in 1935, there were 50 camps across the state, mostly in southeastern Arizona and the Gila River Valley (Booth 1991:23; Otis et al. 1986:29). The first CCC camp in Arizona was established north of Willcox at Treasure Park on May 24, 1933 (Booth 1991:39).

The Forest Service was the main sponsor of CCC camps in Arizona, with 18 camps on Forest Service land by the end of 1938 (Collins 1999; Wright 1993:28). Of these camps, 12 were located on lands administered by the TNF (Table 1) (Wright 1993:28). Other federal and state agencies that operated camps in Arizona included the Soil Conservation Service, the Division of Grazing, the Bureau of Land Management, and the Arizona Fish and Wildlife Department (Merrill 1981:109). CCC camps were also established across the state at four national parks and monuments, four state parks, and one county park (Merrill 1981:109).

Table 1. CCC camps on the TNF (adapted from Wright 1993:28).

Camp name	Camp designation	Nearest town	Occupation date
Cherry Creek	F-26-A	Tonto Basin	1936–1937
A-Cross Camp	F-29-A	Tonto Basin	11/1933–05/1938
Airport	F-45-A	Miami	11/1933–05/1935
Ashdale	F-34-A	Cave Creek	10/1933–05/1941
Bar X Ranch	F-24-A	Young	06/1933–11/1933
East Verde	F-77-A	Payson	Summer 1938–11/1941
Indian Gardens	F-23-A	Payson	05/1933–10/1937
J. K. Ranch	F-36-A	Miami	11/1933–05/1935
Pinal Mountain	F-16-A	Globe	05/1933–03/1942
Sunflower	F-25-A	Tonto Basin	10/1933–06/1935
Superior	F-31-A	Superior	1935
Tonto Creek	F-38-A	Tonto Basin	11/1933–05/1935

The main CCC camp in the Mogollon Rim area was Indian Gardens (Camp F-23-A), which was located approximately 15 miles east of Payson and immediately north of SR 260 in the vicinity of Tonto Creek (Indian Gardens CCC camp occupation log, n.d.). Established in 1933, the camp was the second largest CCC camp in the state (Moore 2006). A CCC camp occupation log for Indian Gardens suggests that the camp was occupied seasonally by enrollees of Company 807 between May 1933 and June 1937 (Table 2). The log also indicates that the camp was known as Camp Gatewood (Indian Gardens CCC camp occupation log, n.d.).

Table 2. Occupation dates and enrollee counts for the Indian Gardens CCC camp (Source: Indian Gardens CCC camp occupation log, n.d.).

Occupation dates	Total number of enrollees	Number of African-American enrollees	State of residency		
			AZ	TX	OK
May 24, 1933 to October 31, 1933	188	—	84	104	—
May 1, 1934 to August 31, 1934	178	3	77	101	—
May 16, 1935 to June 30, 1925	216	—	81	135	—
May 15, 1936 to June 30, 1936	159	—	70	59	30
May 29, 1937 to June 30, 1937	125	—	20	89	16

A November 15, 1937 edition of the Indian Gardens camp newspaper, the *Tonto Wrangler*, provides an approximate timeline for work projects completed by camp enrollees between 1934 and 1937 (Table 3). Other improvement projects completed by Company 807 enrollees during this time included the development of the Tonto-Horton, Pine, and Sycamore recreation areas; trail construction; fence installation; timber stand improvement; installation of the water pipeline system; and the construction of 750 check dams, 2 livestock springs, and 100 cubic yards of flood control levees along the Horton and upper Tonto Creeks (Courtney 1988; Irish 1983; Moore 2006).

Table 3. Indian Gardens camp activities, 1934–1937 (Source: *Tonto Wrangler*, 15 November 1937).

Date	Camp activities
Summer 1934	Road improvement from Payson to Kohl's Ranch; established a side camp at Gordon Canyon for road construction.
Summer 1935	Stream improvement; fish pond construction; side camp initiated construction on the north end of the Tonto Basin-Payson telephone line.
Summer 1936	Stream improvement; completed construction of the Indian Gardens ranger station and Diamond Point lookout tower; side camp began construction on the Tonto Basin ranger station.
Summer 1937	Road grading from Pleasant Valley to Indian Gardens; fish stream improvement; garden improvements at the Indian Gardens ranger station; side camp at the East Verde River performed road construction and improvements

Construction of the Control Road

One of the most significant and time-consuming projects completed by enrollees of the Indian Gardens camp was construction of the Control Road (Moore 2006:56). The road was one of numerous roads built by the CCC during the mid-1930s for the purpose of fire suppression (Moore 2006:19). Historic maps suggest that the road followed the same general alignment as an earlier route that was constructed by the TNF between 1924 and 1933. This road is depicted on a series of 1930s TNF and Bureau of Public Roads

maps as a generally east-west trending road that originates south of Pine and continues east across the East Verde River to numerous homesteads and ranches before terminating at the Indian Gardens CCC camp. However, a TNF map indicates that the road had deteriorated to “minor” or “very poor” condition by the time the CCC arrived at the TNF in 1933 (Figure 5).

A CCC newspaper for the Indian Gardens camp suggests that work on the Control Road commenced during the summer of 1935 (*Tonto Wrangler*, 15 November 1937). Construction was initiated by the CCC on the east end of the roadway and continued for several seasons before the section of roadway closest to Indian Gardens was completed (Moore 2006:40). In 1937, a side camp, or “fly” camp, was established along the banks of the East Verde River (Camp F-77-A) for crews working on the western end of Control Road (Moore 2006:56). At the time the camp was established, Company 807 had made significant improvement on the east end of the road to Forest Highway (FH) 11 but the west end to Pine had not been completed. In addition to making improvements to the roadway, men from the East Verde camp constructed four masonry bridges, telephone lines, and two lookout buildings by the summer of 1941 (Moore 2006:57).

The CCC continued its operations in the Payson Basin and along the Mogollon Rim escarpment until June 1942 when the onset of American participation in World War II and the decision to formally stop federal funding effectively ended the program. After this date, the Control Road was completed and subsequently maintained and improved by the Forest Service and Gila County.

A 1946 TNF map and a 1952 Bureau of Public Roads as-built plan for the Control Road suggest that portions of the road were realigned between 1946 and 1952. Comparison of the maps also indicates that the easternmost one mile of the road in the vicinity of Tonto Village was paved subsequent to 1952 (Figures 6 and 7). Brass station caps and guardrail etchings on eight bridges located along the roadway confirm that additional improvements, such as the installation of guardrails and deck replacement, were made to the road between 1953 and 1956; however, the CCC-constructed abutments and piers of the bridges were not altered during this time.

The Control Road alignment was eventually re-designated as Forest Road (FR) 64. Following the completion of the SR 87 to the west and the establishment of SR 260 to the east in the late 1950s, the road became an important access route that opened up the TNF to recreational uses. Tourism in the region was further encouraged with the paving of SR 87 and SR 260 in 1957 and the 1960s, respectively (Keane and Bruder 2003), and by the late 1960s, housing developments such as Whispering Pines and Tonto Village were established along the road.

Today, the Control Road continues to serve as an access road for numerous summer homes, campgrounds, hiking trails, and wooded recreational areas established along the roadway. It also remains an important fire-break between the Mogollon Rim and communities south of the road and continues to facilitate the rapid deployment of fire-fighting personnel. Although the road is continually maintained by the Gila County Road Department, the alignment of the road has changed little since its realignment in 1952, and numerous historic features including bridges, low-water crossings, and CCC-era culverts remain intact along the route.

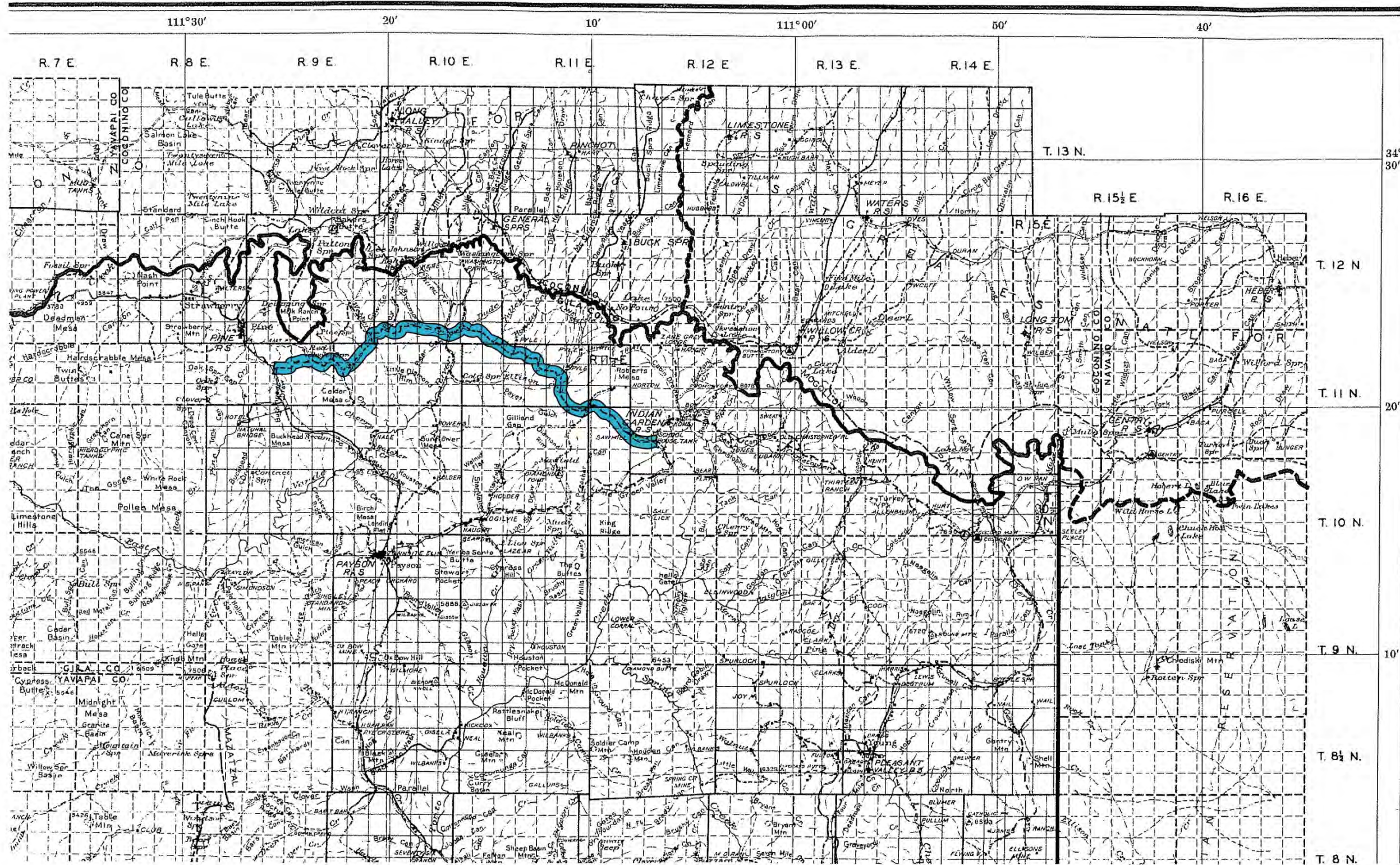


Figure 5. Excerpt from a 1933 TNF map showing the early alignment of the Control Road.

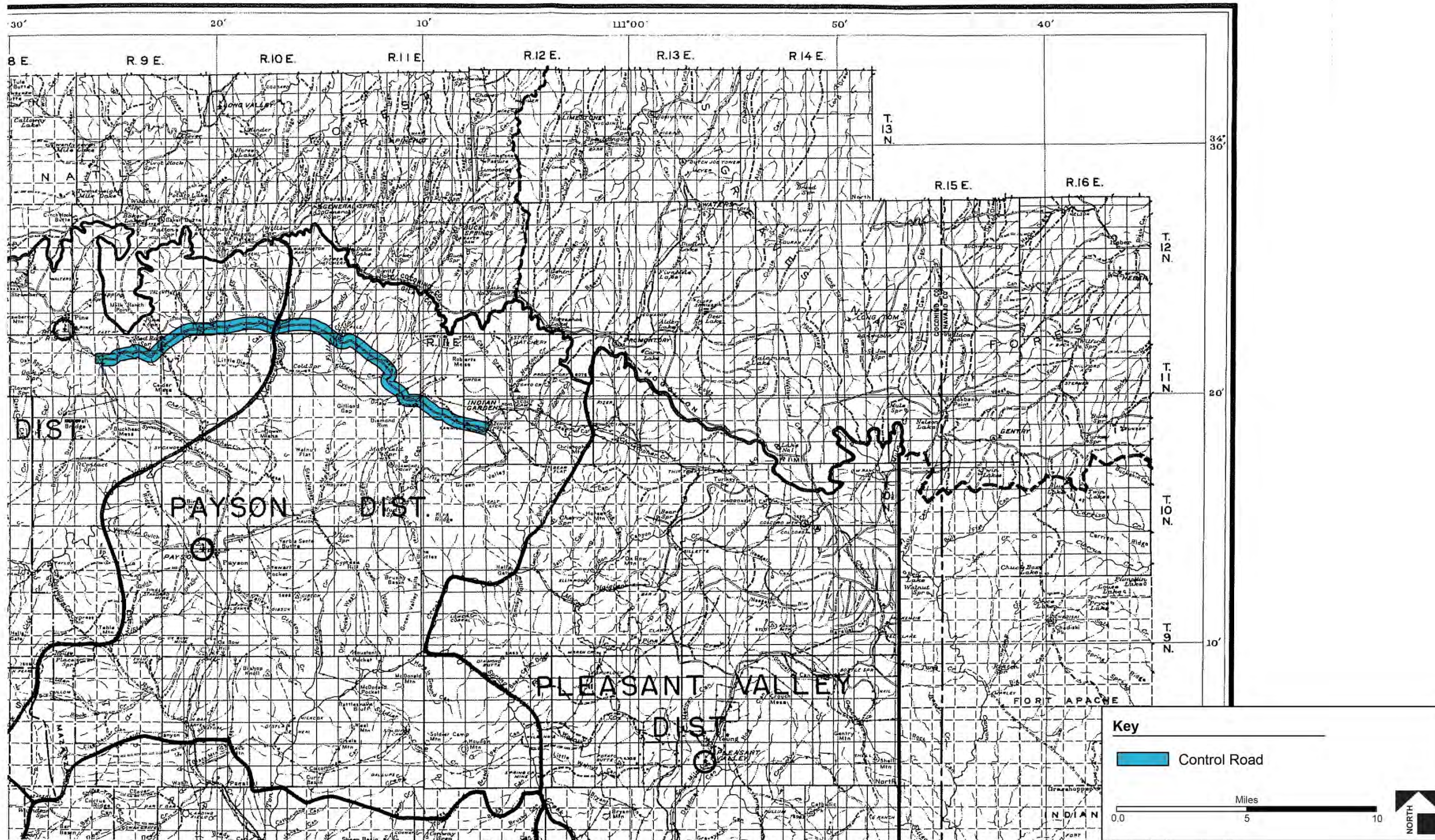


Figure 6. Excerpt from a 1946 TNF map showing the CCC-era alignment of the Control Road.

UNITED STATES DEPARTMENT OF COMMERCE
BUREAU OF PUBLIC ROADS

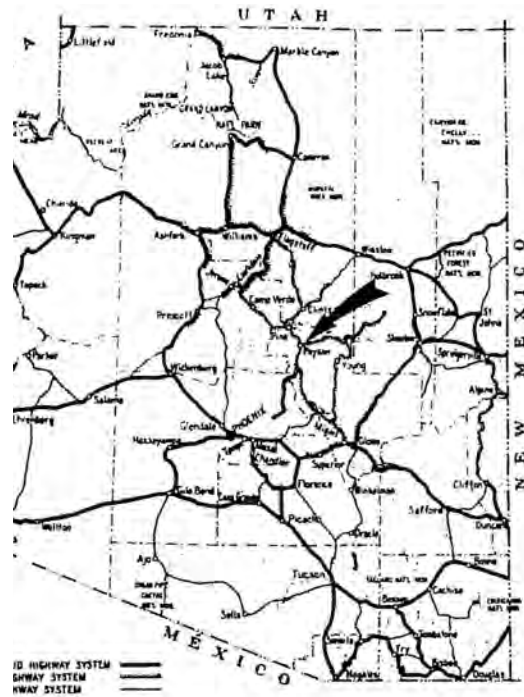
AS CONSTRUCTED PLANS FOR
PROJECT 11-H
ROUTE NO. 11 - PAYSON - COLCORD MOUNTAIN
39.6 MILES - CLASS 3
ARIZONA FOREST HIGHWAY SYSTEM
TONGO NATIONAL FOREST
GILA COUNTY
ARIZONA

DIV. NO.	STATE	PROJ. NO.	SECT.	SHEET NO.	TOTAL SHEETS
7	ARIZ.	11-H	H	1	27

Construction Revisions Shown

SHEET NO.	DESCRIPTION
1	Title Sheet
2	Typical Cross Sections
3	Estimate of Quantities
4-16	Plan & Profile, Sta. 2+71.28 to Sta. 384+44.19
17	1 Span 12 Ft. Culvert
18	2 Span 12 Ft. Culvert
19	4 Span 12 Ft. Culvert
20	Std. R.C. Box Culverts
21	Std. Conc. Headwalls (D2-B)
22	Std. Cattle Guards
23	Std. Fence & Gates (Ariz.)
24	Metal Guide Posts
25	Miscellaneous Structures (D2-A)
26	Special Project Sign (D7-S2)
27	Typical Signs

DESCRIPTION OF PROJECT:~
Project Arizona Forest Highway 11-H, Grading and Bridges
Beginning at Junction F.H. 9 and 11 near Payson;
Ending 7.2 Miles easterly near Lion Spring Draw
Sta. 2+71.28 to Sta. 384+44.19
Length 7.230 Miles



ARIZONA

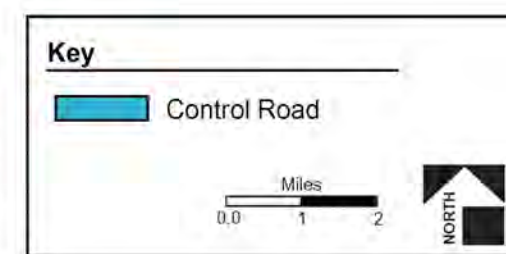
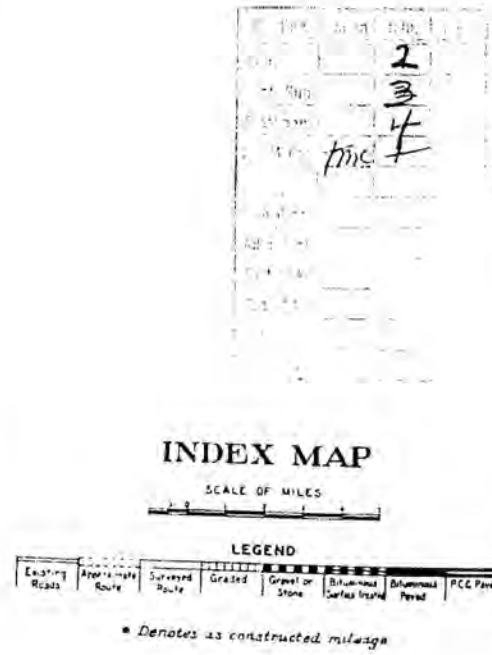
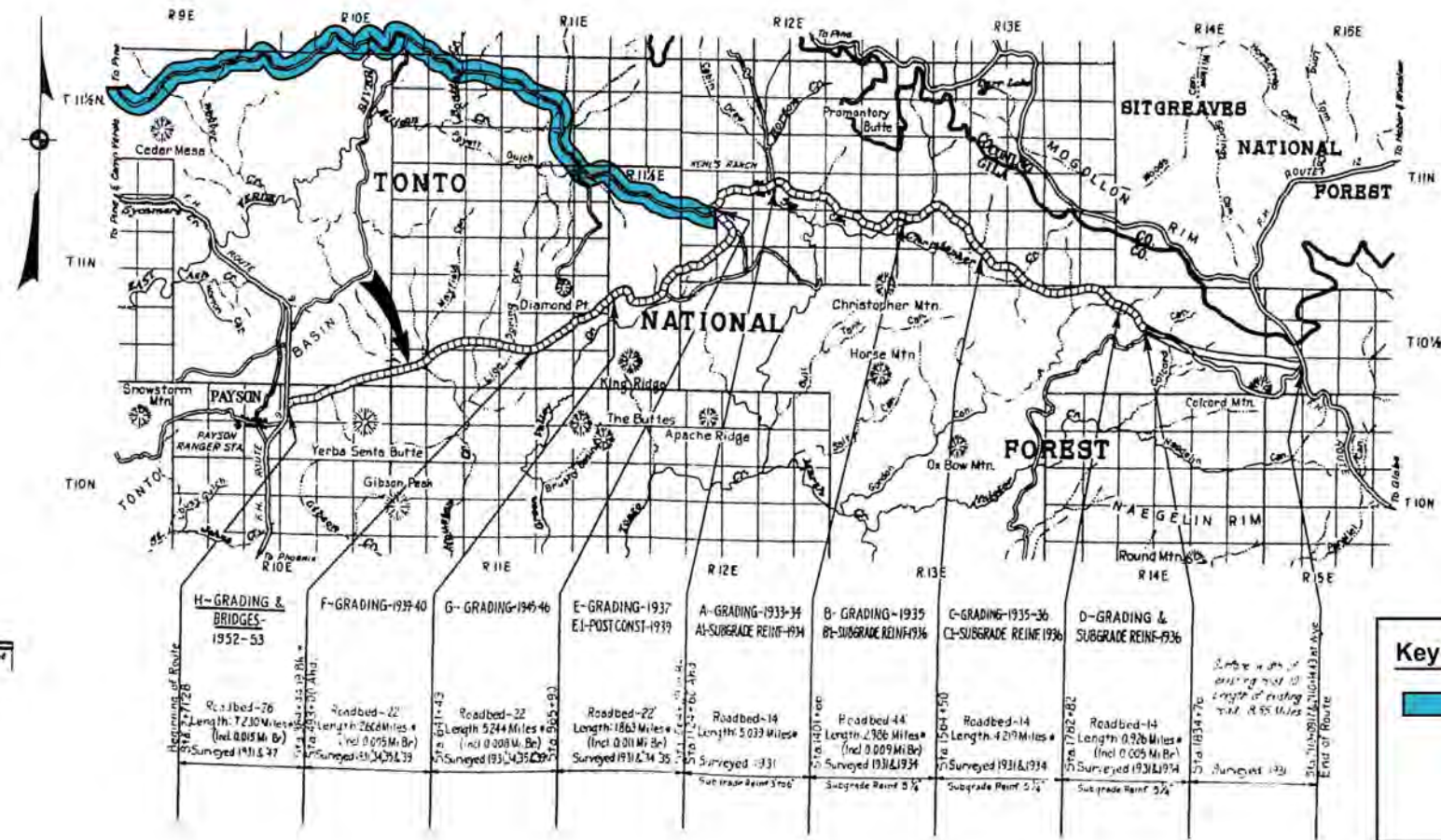


Figure 7. Excerpt from a 1952 Bureau of Public Roads map showing the current, in-use alignment of the Control Road.

DOCUMENTATION OF THE HISTORIC CONTROL ROAD

The in-use alignment of the historic Control Road documented by LSD spans 23 miles between SR 260 on the east and SR 87 on the west. The eastern 6.25 miles of the Control Road and its associated features were previously documented by LSD in 2008 (Drake and Rayle 2009); the remaining 16.75 miles were documented by LSD archaeologists Greta Rayle and Leigh Davidson between April 28 and May 12, 2011. The results of both efforts have been consolidated and are summarized in the sections below.

The Control Road extends primarily east to west and crosses numerous creek valleys and ridge systems until it terminates at SR 87. The road is mostly unpaved except for a one-mile-long segment to the west of SR 260 and a short segment in the vicinity of the East Verde River at Whispering Pines. Additionally, the road is paved in areas where it spans low-water crossings or bridges. The paved and unpaved travel surfaces vary in width from 14 ft to 26 ft, with the widest segments located near SR 260 and SR 87 and in developed areas. Road cuts varying in height from 3 ft to 10 ft are present along hill slopes. The road surface is slightly crowned and generally flanked on either side with gravel shoulders and/or unlined drainage ditches; the shoulders vary in width from 15 inches to 3 ft, and the drainage ditches average 3 ft wide by 2 ft deep. The road is in good condition and is regularly maintained. Photographs of the in-use alignment of the Historic Control Road are included in Appendix B.

Associated Features

The survey of 23 miles of the historic Control Road resulted in the identification of 300 features (Table 4). The features consist of five different types: corrugated metal pipe (CMP) culverts, or Type 1 features; masonry box culverts (MBCs) and concrete box culverts (CBCs), or Type 2 features; low-water crossings, or Type 3 features; bridges, or Type 4 features; and masonry arch culverts (MACs), or Type 5 features. Additionally, 15 of the recorded features could not be typed; these features were partially and/or completely destroyed by erosion or obscured due to the accumulation of sediment (Table 4). The majority of the features within the project area are Type 1 CMP culverts and include 29 Type 1A culverts, 127 Type 1B culverts, and 108 Type 1C culverts (see below). The features were numbered sequentially east to west beginning at SR 260. Topographic maps showing the location of each feature along the entire length of Control Road are included in Appendix A. Photographs of unique and exceptional features are included in Appendix C.

Table 4. Summary of features along the Control Road.

Type ^a	Description	Number
1	CMP culvert	264
2	MBC or CBC	3
3	Low-water crossing	8
4	Bridge	8
5	MAC	2
Unknown	Obscured by erosion or maintenance	15

^a CMP = corrugated metal pipe; MBC = masonry box culvert; CBC = concrete box culvert; and MAC = masonry arch culvert.

Type 1A CMP Culverts

The 29 historic Type 1A features documented along the Control Road consist of a CMP culvert with no accompanying headwall or wing wall (Photograph 1). With the exception of 3 of the features (Features 1, 2, and 265), all of the Type 1A culverts were constructed by the CCC between 1934 and 1942. Features 1 and 2 are associated with a modern alignment of the roadway at the east end of the project area and Feature 265 is situated parallel to Control Road beneath a modern access road leading to a small parking area for TNF Trailhead 294 (Photograph C.1).

Twenty-eight of the Type 1A features are constructed of a single pipe, although two of the features (Features 65 and 263) have two pipes. The culverts have a variety of different pipe diameters which are related to the size of the drainage: 12 are 18 inches; two are 20 inches; six are 24 inches; one is 30 inches; two are 32 inches; three are 36 inches; one is 62 inches; and one is 72 inches. One Type 1A culvert (Feature 46) was completely silted in and the pipe diameter could not be determined. The largest of the Type 1A features (Feature 65) is located approximately 4.5 miles west of SR 260 in an area where Pyeatt Draw crosses the roadway (Photograph C.2).

The greatest concentration of Type 1A features is between 2.0 miles and 2.5 miles east of SR 260, where five 24-inch-diameter CMP culverts (Features 21, 22, 23, 24, and 25) occur in a 0.5-mile stretch of road. This section of the road is located within the Thompson Draw valley, which is among the flattest sections in the project area. Typically, Type 1A features are more widely distributed along the remainder of the road, with typically only one or two in a 0.5-mile area.



Photograph 1. Feature 235, an example of a Type 1A culvert, facing northwest.

Type 1B CMP Culverts

Type 1B features are CMP culverts with one or more associated masonry headwalls. The headwalls are constructed of shaped sandstone, limestone slabs, and conglomerate boulders that have been dry-laid in various courses or mortared. The majority of the features showcase a single construction technique, although dry-laid rock has been placed on top of mortared headwalls at two locations within the project corridor (Features 109 and 193). In all cases, most rocks are of a size that could have been moved by one or more men, but several of the larger culverts have large boulders that would have required machinery and/or draft animals to place. A total of 127 Type 1B features were identified within the project corridor (Table 5). With the exception of Feature 3, which is associated with a modern realignment of the roadway, all of the features were constructed by the CCC between 1934 and 1942. The features are generally in good to fair condition, although the headwalls of the some of the features were partially destroyed by erosion and could not be measured.

Table 5. Type 1B Features along the Control Road.

Feature	Side of Road	Headwall Length	Headwall Height	Courses High	Mortared	Pipe Diameter (inches)	UTMs ^a (Centerpoint)
3	South	12 ft	5 ft	4	No	36.0	488992 mE, 3797234 mN
	North	13 ft	4 ft	4	No	36.0	
4	South	6 ft	2 ft 6 in	3	No	24.0	488754 mE, 3797147 mN
	North	7 ft	2 ft 6 in	4	No	24.0	
5	South	—	—	—	—	24.0	488696 mE, 3797126 mN
	North	3 ft 6 in	1 ft 6 in	2	No	24.0	
6	South	—	—	—	—	18.0	488637 mE, 3797114 mN
	North	3 ft 6 in	1 ft	2	No	18.0	
7	South	11 ft	2 ft 6 in	5	No	24.0	488539 mE, 3797104 mN
	North	4 ft 6 in	1 ft	1	No	24.0	
8	South	6 ft 6 in	1 ft 6 in	3	No	18.0	488386 mE, 3797179 mN
	North	3 ft 6 in	1 ft 6 in	1	No	18.0	
9	South	5 ft	1 ft 6 in	2	No	24.0	488235 mE, 3797238 mN
	North	6 ft	2 ft	6	Yes	24.0	
10	South	6 ft	2 ft	2	No	24.0	488107 mE, 3797285 mN
	North	6 ft	2 ft 6 in	10	Yes	24.0	
11	South	10 ft	2 ft 6 in	4	No	24.0	488042 mE, 3797248 mN
	North	6 ft	2 ft 6 in	6	Yes	24.0	
12	South	8 ft	2 ft 6 in	5	No	36.0	487958 mE, 3797238 mN
	North	3 ft	1 ft	4	Yes	36.0	
13	South	—	—	—	—	12.0	487872 mE, 3797220 mN
	North	3 ft	1 ft 6 in	4	No	12.0	
16	South	3 ft 6 in	1 ft	1	No	24.0	487117 mE, 3797374 mN
	North	—	—	—	—	24.0	

continued

Table 5. Type 1B Features along the Control Road.

Feature	Side of Road	Headwall Length	Headwall Height	Courses High	Mortared	Pipe Diameter (inches)	UTMs ^a (Centerpoint)
18	South	13 ft	4 ft	4	No	42.0	486757 mE, 3797483 mN
	North	—	—	—	—	42.0	
27	South	—	—	—	—	24.0	485412 mE, 3798043 mN
	North	2 ft	1 ft	—	No	24.0	
30	South	—	—	—	—	24.0	485157 mE, 3798128 mN
	North	4 ft	2 ft	3	Yes	24.0	
36	South	—	—	—	—	24.0	484717 mE, 3798631 mN
	North	7 ft	2 ft 6 in	6	Yes	24.0	
37	South	3 ft	1 ft	2	No	24.0	484574 mE, 3798681 mN
	North	7 ft 6 in	2 ft	4	Yes	24.0	
42	South	—	—	—	—	18.0	483986 mE, 3798628 mN
	North	3 ft 6 in	2 ft	2	No	18.0	
47	South	—	—	—	—	24.0	483407 mE, 3798626 mN
	North	6 ft	—	5	Yes	24.0	
50	South	5 ft 6 in	3 ft	2	No	18.0	483168 mE, 3798921 mN
	North	—	—	—	—	18.0	
52	South	2 ft 6 in	2 ft	3	No	18.0	483121 mE, 3799219 mN
	North	—	—	—	—	18.0	
68	South	7 ft	3 ft	4	No	30.0	482328 mE, 3800618 mN
	North	7 ft	2 ft 6 in	5	Yes	30.0	
71	South	4 ft	2 ft	4	No	18.0	482298 mE, 3800897 mN
	North	3 ft 6 in	2 ft	3	No	18.0	
78	South	4 ft 11 in	1 ft 10 in	3	Yes	18.0	482213 mE, 3801559 mN
	North	—	—	—	—	18.0	
79	South	4 ft	1 ft 9 in	3	Yes	18.0	482131 mE, 3801608 mN
	North	—	—	—	—	18.0	
81	South	5 ft 1 in	1 ft 4 in	4	Yes	18.0	481886 mE, 3801816 mN
	North	—	—	—	—	18.0	
82	South	4 ft 2 in	2 ft 5 in	4	No	18.0	481723 mE, 3801808 mN
	North	4 ft 9 in	2 ft 8 in	6	Yes	18.0	
89	East	6 ft 6 in	IND	4+	Yes	28.0	481237 mE, 3802151 mN
	West	—	—	—	—	28.0	
91	South	—	—	—	—	16.0	481087 mE, 3802185 mN
	North	6 ft 6 in	1 ft 11 in	4	Yes	16.0	
92	East	8 ft 3 in	2 ft 7 in	4	No	22.0	480860 mE, 3802325 mN
	West	—	—	—	—	22.0	

continued

Table 5. Type 1B Features along the Control Road.

Feature	Side of Road	Headwall Length	Headwall Height	Courses High	Mortared	Pipe Diameter (inches)	UTMs ^a (Centerpoint)
95	South	4 ft 2 in	2 ft 4 in	2+	No	24.0	480448 mE, 3802588 mN
	North	–	–	–	–	24.0	
96	South	–	–	–	–	18.0	480373 mE, 3802587 mN
	North	4 ft 5 in	1 ft 12 in	3	Yes	18.0	
97	South	10 ft 6 in	5 ft 4 in	9	Yes	34.0	480216 mE, 3802593 mN
	North	12 ft 11 in	4 ft 2 in	9	Yes	34.0	
100	East	5 ft 9 in	3 ft	6	Yes	18.0	479953 mE, 3802744 mN
	West	–	–	–	–	18.0	
101	East	7 ft 10 in	2 ft 11 in	4	Yes	30.0	479908 mE, 3802888 mN
	West	–	–	–	–	30.0	
103	South	–	–	–	–	24.0	479639 mE, 3802956 mN
	North	5 ft 9 in	2 ft 5 in	3	No	24.0	
104	South	–	–	–	–	24.0	479581 mE, 3802990 mN
	North	7 ft 6 in	2 ft 3 in	5	Yes	24.0	
105	South	–	–	–	–	18.0	479514 mE, 3803004 mN
	North	5 ft	2 ft	2+	Yes	18.0	
106	South	8 ft 1 in	1 ft 6 in	4	No	24.0	479450 mE, 3803023 mN
	North	8 ft 8 in	2 ft 7 in	5	No	24.0	
107	East	5 ft 9 in	2 ft 9 in	5	No	24.0	479390 mE, 3803049 mN
	West	–	–	–	–	24.0	
108	East	3 ft 8 in	2 ft 2 in	3	No	24.0	479332 mE, 3803110 mN
	West	–	–	–	–	24.0	
109	South	11 ft 11 in	4 ft 7 in	9	Yes	24.0	479308 mE, 3083168 mN
	North	10 ft 9 in	3 ft 6 in	6	Yes	24.0	
111	South	–	–	–	–	24.0	479157 mE, 3803121 mN
	North	12 ft	2 ft 12 in	5	No	24.0	
112	South	2 ft 11 in	2 ft 9 in	2	No	26.0	478988 mE, 3803110 mN
	North	4 ft 1 in	1 ft 11 in	3+	Yes	26.0	
114	South	–	–	–	–	18.0	478451 mE, 3803053 mN
	North	5 ft 5 in	1 ft 6 in	3	Yes	18.0	
117	South	–	–	–	–	30.0	478099 mE, 3803322 mN
	North	8 ft 4 in	3 ft	5	Yes	30.0	
120	South	–	–	–	–	18.0	477712 mE, 3803635 mN
	North	9 ft 2 in	2 ft	4	Yes	18.0	
121	South	–	–	–	–	18.0	477554 mE, 3803671 mN
	North	3 ft 10 in	11 in	3	Yes	18.0	

continued

Table 5. Type 1B Features along the Control Road.

Feature	Side of Road	Headwall Length	Headwall Height	Courses High	Mortared	Pipe Diameter (inches)	UTMs ^a (Centerpoint)
124	East	4 ft 5 in	1 ft 8 in	4	Yes	18.0	477460 mE, 3803877 mN
	West	–	–	–	–	18.0	
125	East	3 ft 3 in	1 ft 5 in	2+	Yes	18.0	477427 mE, 3803948 mN
	West	–	–	–	–	18.0	
129	East	5 ft 9 in	2 ft	3	Yes	18.0	476971 mE, 3804148 mN
	West	6 ft 4 in	4 ft 2 in	5	No	18.0	
130	East	6 ft 7 in	2 ft 2 in	4	Yes	18.0	476929 mE, 3804211 mN
	West	–	–	–	–	18.0	
131	South	9 ft 7 in	3 ft 11 in	6	Yes	30.0	476879 mE, 3804271 mN
	North	–	–	–	–	30.0	
132	East	3 ft 4 in	2 ft 1 in	3	Yes	18.0	476608 mE, 3804361 mN
	West	–	–	–	–	18.0	
134	South	–	–	–	–	18.0	475705 mE, 3804372 mN
	North	3 ft 10 in	1 ft 10 in	3	No	18.0	
135	South	–	–	–	–	18.0	475628 mE, 3804320 mN
	North	3 ft 6 in	1 ft 9 in	2	No	18.0	
136	South	–	–	–	–	18.0	475526 mE, 3804303 mN
	North	5 ft 2 in	2 ft 7 in	2+	No	18.0	
137	East	–	–	–	–	20.0	475463 mE, 3804280 mN
	West	4 ft 10 in	1 ft 8 in	2+	No	20.0	
140	South	6 ft 1 in	2 ft 9 in	4	No	30.0	475211 mE, 3804263 mN
	North	–	–	–	–	30.0	
143	South	15 ft	3 ft 3 in	4	No	30.0	474903 mE, 3804425 mN
	North	12 ft	3 ft	5	No	30.0	
149	East	10 ft 2 in	2 ft 11 in	7	Yes	30.0	474408 mE, 3804521 mN
	West	–	–	–	–	30.0	
152	South	5 ft 1 in	1 ft 4 in	2+	Yes	18.0	474090 mE, 3804396 mN
	North	–	–	–	–	18.0	
153	East	6 ft 4 in	2 ft 7 in	5	No	24.0	473987 mE, 3804266 mN
	West	–	–	–	–	24.0	
159	South	11 ft 1 in	5 ft	9	Yes	36.0	473121 mE, 3804523 mN
	North	–	–	–	–	36.0	
162	East	8 ft 1 in	3 ft 7 in	7	Yes	30.0	472881 mE, 3804694 mN
	West	–	–	–	–	30.0	
177	South	10 ft 11 in	3 ft 8 in	5	Yes	30.0	471131 mE, 3804055 mN
	North	6 ft 6 in	2 ft 9 in	5	Yes	30.0	

continued

Table 5. Type 1B Features along the Control Road.

Feature	Side of Road	Headwall Length	Headwall Height	Courses High	Mortared	Pipe Diameter (inches)	UTMs ^a (Centerpoint)
183	South	4 ft 5 in	1 ft 8 in	3	Yes	18.0	470435 mE, 3803942 mN
	North	–	–	–	–	18.0	
189	South	16 ft 10 in	4 ft 2 in	9	Yes	38.0	469881 mE, 3804139 mN
	North	16 ft 10 in	4 ft 2 in	9	Yes	38.0	
191	South	6 ft	2 ft	4	No	18.0	469840 mE, 3804297 mN
	North	–	–	–	–	18.0	
192	South	4 ft 5 in	2 ft 4 in	5	Yes	18.0	469777 mE, 3804330 mN
	North	–	–	–	–	18.0	
193	South	8 ft 11 in	4 ft 8 in	10	Yes	36.0	469702 mE, 3804345 mN
	North	10 ft 4 in	3 ft 7 in	7	Yes	36.0	
196	South	4 ft	2 ft 7 in	6	No	18.0	469484 mE, 3804498 mN
	North	–	–	–	–	18.0	
197	South	4 ft 3 in	2 ft 9 in	4	No	18.0	469408 mE, 3804549 mN
	North	–	–	–	–	18.0	
198	South	5 ft	2 ft 3 in	4	No	18.0	469345 mE, 3804574 mN
	North	–	–	–	–	18.0	
199	East	5 ft 8 in	1 ft 9 in	3	No	18.0	469250 mE, 3804552 mN
	West	–	–	–	–	18.0	
200	South	13 ft 6 in	4 ft 3 in	7	Yes	36.0	469186 mE, 3804509 mN
	North	13 ft	3 ft 3 in	7	Yes	36.0	
202	East	6 ft 2 in	1 ft 4 in	3	Yes	18.0	468997 mE, 3804448 mN
	West	–	–	–	–	18.0	
203	South	9 ft 6 in	3 ft 1 in	5	Yes	24.0	468934 mE, 3804399 mN
	North	–	–	–	–	24.0	
205	South	7 ft 5 in	3 ft 5 in	6	Yes	26.0	468793 mE, 3804337 mN
	North	–	–	–	–	26.0	
206	South	8 ft 12 in	2 ft 8 in	4	Yes	26.0	468710 mE, 3804334 mN
	North	6 ft 3 in	2 ft 10 in	3	No	26.0	
209	South	12 ft	4 ft 8 in	10	Yes	36.0	468518 mE, 3804385 mN
	North	13 ft 6 in	5 ft 11 in	11	Yes	36.0	
211	South	–	–	–	–	38.0	468287 mE, 3804282 mN
	North	12 ft	4 ft 9 in	7	Yes	38.0	
212	South	–	–	–	–	26.0	468200 mE, 3804264 mN
	North	7 ft 11 in	3 ft 3 in	5	Yes	26.0	
213	South	–	–	–	–	18.0	468123 mE, 3804210 mN
	North	11 ft 8 in	2 ft 9 in	5	Yes	18.0	

continued

Table 5. Type 1B Features along the Control Road.

Feature	Side of Road	Headwall Length	Headwall Height	Courses High	Mortared	Pipe Diameter (inches)	UTMs ^a (Centerpoint)
215	East	—	—	—	—	18.0	467935 mE, 3804317 mN
	West	4 ft 2 in	1 ft	2+	Yes	18.0	
216	South	4 ft 4 in	2 ft 3 in	6	Yes	18.0	467986 mE, 3804391 mN
	North	—	—	—	—	18.0	
222	East	—	—	—	—	20.0	467470 mE, 3804198 mN
	West	7 ft 1 in	2 ft 1 in	5	Yes	20.0	
223	East	—	—	—	—	20.0	467416 mE, 3804140 mN
	West	5 ft	2 ft 1 in	5	Yes	20.0	
227	South	—	—	—	—	71.0	467090 mE, 3804234 mN
	North	8 ft 2 in	6 ft 5 in	15	Yes	71.0	
228	South	—	—	—	—	18.0	467077 mE, 3804147 mN
	North	10 ft 4 in	2 ft 4 in	6	Yes	18.0	
229	South	—	—	—	—	18.0	466956 mE, 3804042 mN
	North	6 ft 9 in	2 ft 3 in	5	Yes	18.0	
230	South	6 ft 8 in	2 ft 11 in	4	No	24.0	466870 mE, 3804028 mN
	North	4 ft 3 in	6 ft 8 in	4	No	24.0	
231	South	—	—	—	—	24.0	466786 mE, 3804026 mN
	North	4 ft 9 in	3 ft 1 in	5	No	24.0	
237	South	9 ft 5 in	2 ft 8 in	7	Yes	28.0	466280 mE, 3803715 mN
	North	6 ft 2 in	2 ft 2 in	6	Yes	28.0	
238	East	10 ft 4 in	2 ft 11 in	8	Yes	36.0	466219 mE, 3803675 mN
	West	10 ft 9 in	3 ft 8 in	7	Yes	36.0	
239	East	6 ft 4 in	1 ft 11 in	4	No	20.0	466195 mE, 3803600 mN
	West	4 ft 3 in	2 ft 6 in	3	No	20.0	
241	South	3 ft 6 in	2 ft 5 in	2	No	18.0	466036 mE, 3803498 mN
	North	4 ft	2 ft 7 in	3	No	18.0	
243	East	15 ft	4 ft 8 in	12	Yes	30.0	465923 mE, 3803534 mN
	West	13 ft	4 ft 8 in	11	Yes	30.0	
245	East	12 ft 7 in	4 ft 8 in	8	Yes	36.0	465810 mE, 3803421 mN
	West	15 ft 3 in	4 ft 8 in	10	Yes	36.0	
248	South	7 ft 3 in	3 ft 5 in	5	No	18.0	465551 mE, 3803275 mN
	North	8 ft 7 in	2 ft 1 in	6	Yes	18.0	
250	East	—	—	—	—	18.0	465541 mE, 3803149 mN
	West	4 ft	2 ft 9 in	3	No	18.0	
251	East	5 ft	2 ft 10 in	4	No	18.0	465521 mE, 3803087 mN
	West	3 ft 9 in	1 ft 9 in	2+	No	18.0	

continued

Table 5. Type 1B Features along the Control Road.

Feature	Side of Road	Headwall Length	Headwall Height	Courses High	Mortared	Pipe Diameter (inches)	UTMs ^a (Centerpoint)
255	South	9 ft 8 in	4 ft 9 in	5	No	36.0	465053 mE, 3803048 mN
	North	14 ft 5 in	4 ft 6 in	10	Yes	36.0	
257	East	7 ft 1 in	3 ft 10 in	7	No	24.0	464939 mE, 3802983 mN
	West	9 ft	2 ft 11 in	7	Yes	24.0	
258	South	4 ft 3 in	2 ft 6 in	5	No	24.0	464848 mE, 3802865 mN
	North	21 ft 7 in	4 ft 10 in	10	Yes	24.0	
259	South	—	—	—	—	36.0	464784 mE, 3802826 mN
	North	7 ft 4 in	4 ft 5 in	5	No	36.0	
260	East	3 ft 7 in	2 ft 11 in	3	No	18.0	464686 mE, 3802701 mN
	West	10 ft 8 in	2 ft 4 in	6	Yes	18.0	
261	South	4 ft 1 in	2 ft 10 in	4	No	18.0	464570 mE, 3802605 mN
	North	—	—	—	—	18.0	
262	South	6 ft 3 in	3 ft 11 in	4	No	32.0	464406 mE, 3802728 mN
	North	7 ft 7 in	3 ft 9 in	7	Yes	32.0	
266	East	3 ft 2 in	1 ft 8 in	2+	No	26.0	464256 mE, 3802581 mN
	West	5 ft 10 in	2 ft 5 in	4	Yes	26.0	
269	South	—	—	—	—	24.0	464064 mE, 3802431 mN
	North	6 ft 4 in	2 ft 9 in	6	Yes	24.0	
270	East	5 ft 5 in	1 ft 7 in	2+	No	24.0	464036 mE, 3802639 mN
	West	6 ft 1 in	2 ft 11 in	5	Yes	24.0	
272	South	—	—	—	—	24.0	463889 mE, 3802211 mN
	North	9 ft 11 in	3 ft 9 in	6	Yes	24.0	
273	South	—	—	—	—	24.0	463956 mE, 3802215 mN
	North	7 ft 1 in	2 ft 9 in	5	Yes	24.0	
274	South	7 ft 5 in	1 ft 8 in	3	No	22.0	463774 mE, 3802156 mN
	North	6 ft 1 in	2 ft 9 in	6	Yes	22.0	
275	South	15 ft	5 ft 7 in	12	Yes	38.0	463587 mE, 3802112 mN
	North	8 ft 4 in	4 ft 3 in	8	No	38.0	
278	South	11 ft 3 in	3 ft 1 in	6	Yes	32.0	463342 mE, 3802000 mN
	North	7 ft	3 ft 8 in	5	No	32.0	
279	South	5 ft 1 in	2 ft 8 in	5	No	28.0	463129 mE, 3802018 mN
	North	4 ft	2 ft 8 in	4	No	28.0	
281	South	9 ft 9 in	6 ft	9	No	28.0	462929 mE, 3802092 mN
	North	7 ft 3 in	3 ft	5	No	28.0	
282	South	3 ft 9 in	1 ft 9 in	4	Yes	20.0	462836 mE, 3802145 mN
	North	—	—	—	—	20.0	

continued

Table 5. Type 1B Features along the Control Road.

Feature	Side of Road	Headwall Length	Headwall Height	Courses High	Mortared	Pipe Diameter (inches)	UTMs ^a (Centerpoint)
284	South	2 ft 11 in	1 ft 11 in	3	No	18.0	462715 mE, 3802204 mN
	North	3 ft 7 in	2 ft 1 in	5	No	18.0	
285	East	5 ft 4 in	1 ft 6 in	4	No	24.0	462654 mE, 3802237 mN
	West	4 ft 7 in	2 ft 4 in	2+	No	24.0	
288	South	2 ft 1 in	4 ft 10 in	6	Yes	18.0	462462 mE, 3802353 mN
	North	–	–	–	–	18.0	
290	East	7 ft 10 in	4 ft 1 in	6	No	26.0	462307 mE, 3802398 mN
	West	10 ft 10 in	5 ft 8 in	7	No	26.0	
294	South	3 ft 3 in	2 ft 2 in	5	No	18.0	461810 mE, 3802167 mN
	North	–	–	–	–	18.0	
296	South	9 ft	5 ft 1 in	9	No	30.0	461530 mE, 3802211 mN
	North	–	–	–	–	30.0	
300	South	3 ft 3 in	1 ft 10 in	2+	No	18.0	461143 mE, 3802166 mN
	North	–	–	–	–	18.0	

^a = UTM coordinates are Zone 12, NAD 1983 CONUS.

Eight of the features (Features 18, 101, 109, 143, 149, 189, 243, and 245) are double CMPs (Photograph 2); all other Type 1B features have a single CMP (Photograph 3). The diameters of the pipes are as follows: one is 12 inches; two are 16 inches; 48 are 18 inches; five are 20 inches; two are 22 inches; 30 are 24 inches; six are 26 inches; four are 28 inches; 11 are 30 inches; two are 32 inches; one is 34 inches; ten are 36 inches; three are 38 inches; one is 42 inches; and one is 71 inches. The most substantial feature (Feature 258) is a double CMP with a 22-ft-long by 5-ft-high mortared headwall (Photograph C.3). The feature is located approximately 2.5 miles east of SR 87 within an unnamed tributary of Shannon Gulch. Feature 27 is the smallest Type 1B feature documented in the project corridor; the 2-ft-long dry-laid headwall is located approximately 2.0 miles west of SR 260 near the eastern terminus of the roadway.

Design variations to Type 1B features include the construction of mortared wing walls and the use of V-shaped, J-shaped, and L-shaped headwalls. Mortared wing walls are present at three of the Type 1B features in the project corridor (Features 212, 227, and 262). Feature 227 consists of a 71-inch-diameter CMP with two wing walls on its upslope side. The wing walls are constructed of 15 courses of shaped sandstone slabs (Photograph C.4); the eastern wing wall is 9 ft 8.5 inches long by 3 ft high, and the western wing wall measures 12 ft 3 inches long by 6 ft 4.5 inches high. Features 212 and 162 are of similar construction; however, the single CMPs have only a single wing wall constructed on their upslope sides. The wing wall at Feature 212 measures 3 ft high by 3 ft wide and is constructed of 5 courses of shaped sandstone slabs (Photograph C.5), and Feature 262 has a 5-ft-long by 2-ft-high wing wall at its eastern end (Photograph C.6).



Photograph 2. Feature 3, a dry-laid Type 1B feature with a single CMP, facing southeast.



Photograph 3. Feature 149, a mortared Type 1B feature with a double CMP, facing northwest.

Features 183 and 288 have L-shaped headwalls (Photograph C.7), and the headwall at Feature 202 is J-shaped (Photograph C.8). All of the features are in poor condition and it is probable that portions of the original headwalls have been destroyed by erosion. The only V-shaped headwall, Feature 278, is located 1.5 miles east of SR 87 near the western terminus of the roadway. The feature is composed of a single 32-inch-diameter CMP with an 11-ft-long by 3-ft-high headwall. At the center of the CMP, the headwall angles slightly to the east and west forming the shape of a wide “V” (Photograph C.9).

In addition to the headwall variations, associated features including fences, wooden barricades, and rock walls were also documented at seven of the Type 1B features. The fences and wooden barricades are present on the upslope side of Features 89, 96 and 104, whereas the rock walls were documented on the downslope side of Features 100, 124, 183, and 240. The fences are oriented perpendicular to the channel and consist of wire mesh stretched between three metal posts (Photographs C.10 and C.11). The wooden barricades consist of five semi-upright beams that are anchored to a horizontal cross beam with barbed wire (Photograph C.12). The rock walls vary in length and width. With the exception of Feature 240, which has a mortared and J-shaped rock wall (Photograph C.13), all of the walls consist of a single course of dry-laid medium to large conglomerate boulders that are arranged in an arch or circular pattern (Photograph C.14 and C.15). The location and orientation of the fences and barricades suggest they are used to trap sediment and other debris from obstructing the CMPs. In comparison, the walls function as diversionary features to slow down the flow of water draining beneath the roadway to reduce scouring downslope of the feature.

The placement of Type 1B features is more evenly spaced than that of Type 1A features. The greatest concentration of Type 1B culverts is within the first mile from SR 260, where there are 11 consecutive features (Features 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, and 13) in the vicinity of Thompson Draw. Other concentrations are present in the vicinity of Perley Creek and Shannon Gulch, where seven and six consecutive Type 1B features are located, respectively.

Type 1C CMP Culverts

Type 1C features are CMP culverts with rectangular catchment basins on the upslope side to channel water into the CMP. The features vary in size and shape, and with the exception of one feature (Feature 26), all are constructed of shaped slabs set in poured concrete. The basins are constructed of limestone and sandstone slabs and/or conglomerate boulders mortared with concrete.

A total of 108 Type 1C features were identified along Control Road (Table 6). Five of the pipes are 16 inches in diameter; 68 are 18 inches; 22 are 20 inches; 11 are 24 inches; and one is 30 inches. Additionally, the diameter of one of the Type 1C features (Feature 174) could not be determined because it was completely covered with sediment. One 24-inch-diameter feature is a double CMP (Feature 51); all other features have single pipe.

Two types of catchments are present along Control Road: vertical-walled boxes and partially sloped boxes. Vertical-walled boxes are defined as those with the top courses at or nearly level with the surrounding ground surface (Photograph 4); 102 of the Type 1C features are of this design. Partially sloped basins are

Table 6. Type 1C Features along the Control Road.

Feature	Side of Road	Headwall Length	Culvert Width	Headwall Height	Courses High	Mortared	Pipe Diameter (inches)	UTMs ^a (Centerpoint)
17	South	7 ft	3 ft	2 ft 6 in	5	Yes	24.0	487037 mE, 3797410 mN
	North	3 ft	–	1 ft 6 in	3	No	24.0	
19	South	6 ft	2 ft 6 in	–	–	Yes	24.0	486584 mE, 3797579 mN
	North	–	–	–	–	–	24.0	
20	South	7 ft	3 ft 6 in	2 ft	3	Yes	24.0	486515 mE, 3797674 mN
	North	–	–	–	–	–	24.0	
26	South	5 ft	4 ft	2 ft	4	Yes	24.0	485750 mE, 3797833 mN
	North	–	–	–	–	–	24.0	
28	South	–	–	–	–	–	18.0	485327 mE, 3798067 mN
	North	4 ft	4 ft	4 ft	5	Yes	18.0	
29	South	4 ft	–	2 ft 6 in	2	No	18.0	485225 mE, 3798106 mN
	North	3 ft	4 ft	2 ft 6 in	4	Yes	18.0	
31	South	5 ft 6 in	5 ft	4 ft 6 in	7	Yes	18.0	485051 mE, 3798189 mN
	North	8 ft	–	2 ft	1	No	18.0	
32	South	–	–	–	–	–	24.0	484987 mE, 3798255 mN
	North	6 ft	5 ft	3 ft	6	Yes	24.0	
33	South	9 ft	–	2 ft 6 in	2	No	18.0	484923 mE, 3798340 mN
	North	5 ft	6 ft	5 ft	8	Yes	18.0	
34	South	6 ft	–	3 ft 6 in	2	No	24.0	484877 mE, 3798457 mN
	North	7 ft	6 ft	4 ft	5	Yes	24.0	
38	South	–	–	–	–	–	18.0	484476 mE, 3798701 mN
	North	5 ft	5 ft	2 ft 6 in	4	Yes	18.0	
39	South	–	–	–	–	–	18.0	484330 mE, 3798691 mN
	North	4 ft 6 in	6 ft 6 in	4 ft 6 in	6	Yes	18.0	
40	South	2 ft	–	2 ft	1	No	18.0	484241 mE, 3798681 mN
	North	4 ft 6 in	6 ft	4 ft	5	Yes	18.0	
43	South	–	–	–	–	–	18.0	483841 mE, 3798613 mN
	North	8 ft	5 ft 6 in	3.0	4	Yes	18.0	
44	South	–	–	–	–	–	18.0	483711 mE, 3798593 mN
	North	4 ft 6 in	5 ft	3 ft	4	Yes	18.0	
51	South	9 ft	–	3 ft	5	Yes	24.0	483186 mE, 3799070 mN
	North	11 ft	5 ft	3 ft	5	Yes	24.0	
53	South	2 ft 6 in	–	1 ft	2	No	18.0	483027 mE, 3799442 mN
	North	5 ft 6 in	2 ft 6 in	2 ft	3	Yes	18.0	
54	South	–	–	–	–	–	18.0	483032 mE, 3799507 mN
	North	6 ft	3 ft	2 ft	4	Yes	18.0	

continued

Table 6. Type 1C Features along the Control Road.

Feature	Side of Road	Headwall Length	Culvert Width	Headwall Height	Courses High	Mortared	Pipe Diameter (inches)	UTMs ^a (Centerpoint)
55	South	—	—	—	—	—	18.0	482985 mE, 3799547 mN
	North	9 ft	—	2 ft	4	Yes	18.0	
56	South	2 ft 6 in	—	2 ft	2	No	24.0	482840 mE, 3799505 mN
	North	6 ft 6 in	—	2 ft	3	Yes	24.0	
57	South	3 ft	—	2 ft	2	No	18.0	482816 mE, 3799627 mN
	North	5 ft	2 ft	1 ft 6 in	3	Yes	18.0	
58	South	6 ft	2 ft 6 in	2 ft	4	Yes	18.0	482340 mE, 3799888 mN
	North	—	—	—	—	—	18.0	
59	South	6 ft	2 ft 6 in	1 ft 6 in	2	Yes	18.0	482310 mE, 3799944 mN
	North	—	—	—	—	—	18.0	
60	South	6 ft	3 ft	1 ft 6 in	3	Yes	18.0	482278 mE, 3799996 mN
	North	—	—	—	—	—	18.0	
61	South	—	—	—	—	—	18.0	482178 mE, 3800252 mN
	North	4ft 6 in	2 ft	1 ft 6 in	4	Yes	18.0	
62	South	—	—	—	—	—	18.0	482179 mE, 3800352 mN
	North	5 ft	2 ft 6 in	3 ft	7	Yes	18.0	
63	South	—	—	—	—	—	18.0	482254 mE, 3800376 mN
	North	4 ft 6 in	2 ft 6 in	2 ft	4	Yes	18.0	
64	South	—	—	—	—	—	24.0	482324 mE, 3800377 mN
	North	4 ft 6 in	3 ft	3 ft	4	Yes	24.0	
69	South	5 ft	2 ft	2 ft 6 in	5	Yes	18.0	482329 mE, 3800720 mN
	North	3 ft	—	2 ft 6 in	1	No	18.0	
70	South	7 ft	3 ft	1 ft 6 in	4	Yes	24.0	482316 mE, 3800787 mN
	North	—	—	—	—	—	24.0	
72	West	—	—	—	—	—	18.0	482419 mE, 3801154 mN
	East	4 ft	3 ft 5 in	2 ft 2 in	5	No	18.0	
73	West	—	—	—	—	—	18.0	482399 mE, 3801205 mN
	East	7 ft 4 in	5 ft	2 ft 7 in	6	Yes	18.0	
74	West	—	—	—	—	—	18.0	482372 mE, 3801264 mN
	East	5 ft 3 in	2 ft 7 in	1 ft 8 in	7	Yes	18.0	
75	South	—	—	—	—	—	18.0	482295 mE, 3801344 mN
	North	5 ft 7 in	2 ft 7 in	1 ft 5 in	4	Yes	18.0	
76	West	—	—	—	—	—	18.0	482272 mE, 3801408 mN
	East	5 ft 9 in	2 ft 7 in	1 ft 5 in	5	Yes	18.0	
84	South	—	—	—	—	—	20.0	481588 mE, 3801860 mN
	North	5 ft 7 in	2 ft 6 in	1 ft 6 in	6	Yes	20.0	

continued

Table 6. Type 1C Features along the Control Road.

Feature	Side of Road	Headwall Length	Culvert Width	Headwall Height	Courses High	Mortared	Pipe Diameter (inches)	UTMs ^a (Centerpoint)
98	South	—	—	—	—	—	18.0	480120 mE, 382631 mN
	North	5 ft 6 in	2 ft 4 in	1 ft 11 in	4	Yes	18.0	
110	South	—	—	—	—	—	18.0	479240 mE, 3803156 mN
	North	5 ft 9 in	2 ft 3 in	2 ft 1 in	4	Yes	18.0	
115	East	IND	1 ft 6 in	2 ft 3 in	4	Yes	16.0	478279 mE, 3803112 mN
	West	—	—	—	—	—	16.0	
127	South	4 ft 9 in	4 ft 8 in	2 ft 6 in	3	Yes	18.0	477253 mE, 3804042 mN
	North	—	—	—	—	—	18.0	
128	South	—	—	—	—	—	18.0	477041 mE, 3804067 mN
	North	5 ft 3 in	2 ft 10 in	1 ft 1 in	2	Yes	18.0	
138	South	—	—	—	—	—	18.0	475400 mE, 3804233 mN
	North	3 ft 9 in	2 ft 3 in	IND	IND	Yes	18.0	
144	West	3 ft	2 ft	2 ft 2 in	2	Yes	18.0	474833 mE, 3804474 mN
	East	—	—	—	—	—	18.0	
145	West	3 ft 2 in	3 ft	1 ft 6 in	4	Yes	18.0	474750 mE, 3804582 mN
	East	—	—	—	—	—	18.0	
146	West	4 ft 4 in	2 ft 2 in	1 ft 5 in	3	Yes	18.0	474711 mE, 3804635 mN
	East	—	—	—	—	—	18.0	
147 ^a	South	—	—	—	—	—	18.0	474658 mE, 3804680 mN
	North	IND	IND	IND	IND	Yes	18.0	
148	West	—	—	—	—	—	20.0	474530 mE, 3804664 mN
	East	3 ft 6 in	5 ft	1 ft 6 in	3	No	20.0	
151	South	3 ft 5 in	3 ft	1 ft 10 in	3	Yes	20.0	474169 mE, 3804411 mN
	North	—	—	—	—	—	20.0	
155 ^a	South	2 ft 11 in	IND	2 ft 1 in	3	No	18.0	473596 mE, 3804266 mN
	North	—	—	—	—	—	18.0	
156	South	3 ft 3 in	2 ft 3 in	1 ft 11 in	3	Yes	18.0	473527 mE, 3804297 mN
	North	—	—	—	—	—	18.0	
157	South	2 ft 11 in	2 ft	1 ft 8 in	3	Yes	20.0	473366 mE, 3804389 mN
	North	—	—	—	—	—	20.0	
160	South	2 ft 11 in	1 ft 6 in	2 ft 5 in	6	Yes	20.0	473010 mE, 3804549 mN
	North	—	—	—	—	—	20.0	
161	South	3 ft 3 in	1 ft 9 in	1 ft 8 in	4	Yes	18.0	472962 mE, 3804613 mN
	North	—	—	—	—	—	18.0	
163	South	3 ft 6 in	4 ft 6 in	2 ft	4	Yes	20.0	472712 mE, 3804749 mN
	North	—	—	—	—	—	20.0	

continued

Table 6. Type 1C Features along the Control Road.

Feature	Side of Road	Headwall Length	Culvert Width	Headwall Height	Courses High	Mortared	Pipe Diameter (inches)	UTMs ^a (Centerpoint)
164	South	3 ft 2 in	1 ft 10 in	1 ft 8 in	3	Yes	18.0	472631 mE, 3804680 mN
	North	–	–	–	–	–	18.0	
165	South	3 ft 8 in	1 ft 10 in	2 ft 3 in	4	Yes	18.0	472543 mE, 3804613 mN
	North	–	–	–	–	–	18.0	
166	South	3 ft 2 in	1 ft 11 in	2 ft 4 in	5	Yes	18.0	472380 mE, 3804484 mN
	North	–	–	–	–	–	18.0	
167	South	3 ft 3 in	1 ft 9 in	2 ft 1 in	4	Yes	20.0	472431 mE, 3804531 mN
	North	–	–	–	–	–	20.0	
168	South	3 ft 5 in	1 ft 3 in	2 ft 4 in	6	Yes	20.0	472181 mE, 3804430 mN
	North	–	–	–	–	–	20.0	
170	South	3 ft 6 in	2 ft 5 in	2 ft	4	Yes	18.0	471971 mE, 3804375 mN
	North	–	–	–	–	–	18.0	
171	South	4 ft	2 ft 7 in	2 ft 1 in	9	Yes	18.0	471743 mE, 3804343 mN
	North	–	–	–	–	–	18.0	
172	South	2 ft 10 in	1 ft 8 in	1 ft 6 in	3	Yes	18.0	471680 mE, 3804309 mN
	North	–	–	–	–	–	18.0	
174	South	4 ft 7 in	1 ft 6 in	2 ft 5 in	4	Yes	IND	471432 mE, 3804155 mN
	North	–	–	–	–	–	IND	
175	South	4 ft 6 in	1 ft 5 in	2 ft 10 in	5	Yes	20.0	471352 mE, 3804122 mN
	North	–	–	–	–	–	20.0	
176	South	4 ft 2 in	1 ft 6 in	2 ft 3 in	6	Yes	20.0	471231 mE, 3804093 mN
	North	–	–	–	–	–	20.0	
178	South	4 ft 8 in	1 ft 6 in	2 ft	5	Yes	18.0	471052 mE, 3804046 mN
	North	–	–	–	–	–	18.0	
179	South	4 ft 8 in	1 ft 7 in	2 ft 3 in	5	Yes	20.0	470984 mE, 3804020 mN
	North	–	–	–	–	–	20.0	
181	South	2 ft 5 in	IND	2 ft	3	Yes	20.0	470597 mE, 3803934 mN
	North	–	–	–	–	–	20.0	
182	South	4 ft 4 in	1 ft 8 in	1 ft 10 in	5	Yes	18.0	470505 mE, 3803937 mN
	North	–	–	–	–	–	18.0	
186	South	4 ft 8 in	1 ft 7 in	2 ft 2 in	6	Yes	20.0	470194 mE, 3804118 mN
	North	–	–	–	–	–	20.0	
187	South	4 ft 2 in	1 ft 7 in	1 ft 8 in	4	Yes	18.0	470121 mE, 3804130 mN
	North	–	–	–	–	–	18.0	
188	South	3 ft 11 in	2 ft 1 in	2 ft 3 in	5	Yes	20.0	469946 mE, 3804137 mN
	North	–	–	–	–	–	20.0	

continued

Table 6. Type 1C Features along the Control Road.

Feature	Side of Road	Headwall Length	Culvert Width	Headwall Height	Courses High	Mortared	Pipe Diameter (inches)	UTMs ^a (Centerpoint)
190	West	4 ft 10 in	1 ft 6 in	2 ft 10 in	5	Yes	20.0	469883 mE, 3804226 mN
	East	–	–	–	–	–	20.0	
194	South	5 ft 3 in	1 ft 6 in	1 ft 7 in	4	Yes	18.0	469645 mE, 3804388 mN
	North	–	–	–	–	–	18.0	
195	South	5 ft 2 in	1 ft 9 in	1 ft 11 in	4	Yes	18.0	469572 mE, 3804457 mN
	North	–	–	–	–	–	18.0	
201	South	5 ft 3 in	1 ft 6 in	2 ft 1 in	5	Yes	18.0	469099 mE, 3804485 mN
	North	–	–	–	–	–	18.0	
204	South	6 ft 4 in	1 ft 4 in	2 ft	7	Yes	18.0	468858 mE, 3804354 mN
	North	–	–	–	–	–	18.0	
208	South	–	–	–	–	–	18.0	468582 mE, 3804369 mN
	North	5 ft 5 in	1 ft 6 in	1 ft 7 in	5	Yes	18.0	
210	South	–	–	–	–	–	18.0	468351 mE, 3804312 mN
	North	4 ft 7 in	1 ft 5 in	2 ft 3 in	8	Yes	18.0	
218	South	4 ft	2 ft 4 in	1 ft 11 in	5	Yes	18.0	467780 mE, 3804413 mN
	North	–	–	–	–	–	18.0	
219	South	3 ft 4 in	2 ft 7 in	1 ft 4 in	3	Yes	20.0	467716 mE, 3804360 mN
	North	–	–	–	–	–	20.0	
220	South	5 ft 6 in	2 ft 4 in	1 ft 11 in	5	Yes	18.0	467657 mE, 3804322 mN
	North	–	–	–	–	–	18.0	
221	West	5 ft 6 in	2 ft 4 in	1 ft 3 in	4	Yes	16.0	467523 mE, 3804259 mN
	East	–	–	–	–	–	16.0	
224	South	–	–	–	–	–	20.0	467309 mE, 3804087 mN
	North	5 ft 6 in	2 ft 2 in	2 ft 6 in	5	Yes	20.0	
225	South	–	–	–	–	–	16.0	467231 mE, 3804097 mN
	North	4 ft 8 in	2 ft 8 in	1 ft 4 in	4	Yes	16.0	
226	West	–	–	–	–	–	20.0	467159 mE, 3804138 mN
	East	4 ft 6 in	2 ft 5 in	2 ft 5 in	5	Yes	20.0	
236	South	5 ft 5 in	2 ft 6 in	1 ft 4 in	4	Yes	18.0	466369 mE, 3803691 mN
	North	–	–	–	–	–	18.0	
240	South	7 ft 9 in	–	4 ft 3 in	4	No	18.0	466102 mE, 3803475 mN
	North	6 ft	2 ft 4 in	2 ft	5	Yes	18.0	
242	South	–	–	–	–	–	18.0	465979 mE, 3803530 mN
	North	5 ft 5 in	2 ft 2 in	1 ft 10 in	6	Yes	18.0	
244	West	3 ft 9 in	2 ft 3 in	1 ft 10 in	6	Yes	18.0	465906 mE, 3803473 mN
	East	–	–	–	–	–	18.0	

continued

Table 6. Type 1C Features along the Control Road.

Feature	Side of Road	Headwall Length	Culvert Width	Headwall Height	Courses High	Mortared	Pipe Diameter (inches)	UTMs ^a (Centerpoint)
246	South	—	—	—	—	—	18.0	465700 mE, 3803268 mN
	North	4 ft	2 ft 4in	1 ft 6 in	6	Yes	18.0	
247	South	4 ft 9 in	1 ft 8 in	2 ft 4 in	4	Yes	18.0	465623 mE, 3803280 mN
	North	—	—	—	—	—	18.0	
252	South	5 ft 8 in	2 ft 4 in	2 ft	6	Yes	18.0	465428 mE, 3803048 mN
	North	—	—	—	—	—	18.0	
253	South	4 ft 11 in	2 ft 4 in	2 ft 3 in	8	Yes	20.0	465369 mE, 3803048 mN
	North	—	—	—	—	—	20.0	
254	South	—	—	—	—	—	20.0	465126 mE, 3803049 mN
	North	4 ft 8 in	2 ft 5 in	2 ft 2 in	6	Yes	20.0	
256	South	—	—	—	—	—	24.0	464983 mE, 3803041 mN
	North	5 ft 6 in	3 ft	2 ft 2 in	5	Yes	24.0	
267	West	4 ft 7 in	2 ft 5 in	1 ft 5 in	4	Yes	18.0	464214 mE, 3802502 mN
	East	—	—	—	—	—	18.0	
268	South	4 ft 10 in	2 ft 1 in	1 ft 4 in	3	Yes	16.0	464160 mE, 3802470 mN
	North	—	—	—	—	—	16.0	
271	West	5 ft 11 in	2 ft 6 in	2 ft 4 in	5	Yes	20.0	464052 mE, 3802288 mN
	East	—	—	—	—	—	20.0	
276	South	—	—	—	—	—	30.0	463477 mE, 3801990 mN
	North	6 ft 5 in	3 ft 8 in	4 ft 4 in	8	Yes	30.0	
280	South	4 ft 10 in	2 ft 4 in	1 ft 7 in	4	Yes	18.0	462988 mE, 3802072 mN
	North	—	—	—	—	—	18.0	
283	South	4 ft 1 in	2 ft 3 in	10 in	2	Yes	20.0	462780 mE, 3802192 mN
	North	—	—	—	—	—	20.0	
286	South	5 ft 4 in	—	1 ft 10 in	6	Yes	16.0	462590 mE, 3802287 mN
	North	3 ft 10 in	5 ft	1 ft 10 in	2+	No	16.0	
287	South	5 ft 1 in	2 ft 5 in	1 ft 11 in	4	Yes	18.0	462532 mE, 3802327 mN
	North	—	—	—	—	—	18.0	
289	South	4 ft 1 in	2 ft 7 in	1 ft 11 in	5	Yes	18.0	462390 mE, 3802375 mN
	North	—	—	—	—	—	18.0	
291	East	3 ft 8 in	—	1 ft 7 in	3	No	18.0	462219 mE, 3802323 mN
	West	5 ft 10 in	3 ft 5 in	1 ft 10 in	3	Yes	18.0	
297	South	—	—	—	—	—	18.0	461432 mE, 3802197 mN
	North	5 ft 1 in	2 ft 4 in	1 ft 9 in	4	Yes	18.0	
298	South	—	—	—	—	—	18.0	461270 mE, 3802174 mN
	North	6 ft 10 in	2 ft 6 in	1 ft 9 in	5	Yes	18.0	

IND = Indeterminate; ^a = UTM coordinates are Zone 12, NAD 1983 CONUS.



Photograph 4. Feature 51, an example of a Type 1C feature with vertical walls, facing southeast.

defined as those with a sloping sidewall that extends up the slope and above the tops of the other catchment walls (Photograph 5). Six sloped basins were identified (Features 33, 38, 40, 43, 44, and 115); with the exception of Feature 115, which is located within Walk Moore Canyon, all of the sloped basin features are situated along a 0.5 mile stretch of road in the vicinity of Thompson and Pyeatt Draws (see Figure A.1).

All Type 1C features have stepped openings that slow down water as it drains into the CMP (see Photograph 4). One feature (Feature 73) has three stepped openings at its northern, southern, and western ends (Photograph C.16); the remaining Type 1C features have one stepped opening perpendicular to the headwall. Nearly all of the Type 1C features are partially or mostly silted in; however, visible floors in some of the features are finished with carefully laid masonry flagstone or with poured concrete (Photograph 6). Unprepared dirt floors are also common. The majority of the features are in poor condition and many of the headwalls and/or catchment basin walls have been partially or fully dismantled (Photograph 7).

The greatest concentration of Type 1C features is between 4.7 and 5.8 miles west of SR 260, where 12 consecutive features were constructed (see Figures A.1 and A.2). This area is located in the upland ridge system between Pyeatt Draw and Ellison Creek and contains some of the steepest, most rugged terrain crossed by the road.



Photograph 5. Feature 33, an example of a Type 1C feature with a partially sloping catchment wall, facing west.



Photograph 6. Feature 54, an example of a Type 1C feature with a prepared concrete floor, facing west.



Photograph 7. Feature 297, an example of a Type 1C feature with a partially destroyed headwall, facing southeast.

Type 2 Features

Three Type 2 culverts (Features 35, 169, and 180) were documented along Control Road. Feature 35 consists of a CBC that is located 3.2 miles west of SR 260 across a tributary to Pyeatt Draw. Features 169 and 180 are MBCs that are situated 1 mile apart across two tributaries of North Sycamore Creek; SR 87 is located approximately 6.1 miles to the west. All of the features consist of a single box with two associated wing walls.

The MBCs are the most substantial of the Type 2 features. The larger of the MBCs, Feature 180, has two wing walls that consist of 10 tiered courses of shaped sandstone slabs that are mortared with concrete (Photograph C.17). The east wing wall is 10 ft long and the west wing wall measures 9 ft in length; both walls measure 6 ft high by 1 ft wide. The box is constructed of poured concrete that is capped with two courses of shaped sandstone. The bottom course consists of 11 upright boulders and the second course is composed of horizontal slabs that continue past the box to form the top courses of the wing walls. A 9-ft-long by 19-ft-wide by 1-inch-thick poured concrete floor is present beneath the feature. Feature 169 is of the same construction as Feature 180, although minor variations in the feature's design include the use of a single course of 7 upright, shaped sandstone boulders above the box and different wing wall lengths (Photograph C.18). In total, the feature spans nearly 23 ft east-west and 14 ft north-south. The west wing wall measures 5 ft long and the east wing wall is 10 ft in length.

Feature 35 is the smallest of the Type 2 features and the only CBC documented in the project corridor (Photograph C.19). The feature's wing walls are approximately 10 inches thick and are constructed of form-poured concrete. The west wing wall measures 6 ft in length and the east wing wall is slightly longer and

measures 8 ft in length. Impressions from the wooden plank forms used in the CBC's construction are visible in the concrete (Photograph C.20).

Type 3 Features

Eight Type 3 low-water crossing features were identified along Control Road (Table 7). The crossings are situated within dry, unnamed tributaries along the road and serve as alternatives to bridges in areas where water flow is highly variable. Additionally, there are shallow banks to the drainages and the approaches at all of the low-water crossings are gradual. With the exception of Features 15, 207, and 277, which consist of vented gravel and concrete fords, all of the Type 3 features are at-grade, unvented and improved fords with masonry or concrete drop structures.

Table 7. Type 3 low-water crossings located along the historic Control Road.

Feature no.	Photograph reference no.	Type	Length	Height	Width of ford	No. of courses	UTMs^a
14	C.21 and C.22	At-grade improved concrete ford with masonry apron, drop structure, and embankments	44 ft	2 ft 6 in	17 ft	5	487829 mE, 3802395 mN
15	C.23	Vented gravel ford with masonry drop structure and masonry/concrete apron	22 ft	1 ft 6 in	17 ft	4	487689 mE, 3797204 mN
86	C.24	At-grade improved ford with masonry drop structure and concrete spillway	32 ft 6 in	2 ft 2 in	15 ft	4–6	481447 mE, 3802016 mN
93	C.25	At-grade improved ford with concrete drop structure	8 ft 3 in	1 ft 11 in	15 ft	—	480838 mE, 3802395 mN
116	C.26	At-grade improved concrete ford with masonry drop structure	30 ft 10 in	2 ft 6 in	16 ft	6	478283 mE, 3797204 mN
173	C.27	At-grade improved ford with masonry drop structure	29 ft 9 in	2 ft 4 in	20 ft	3	471562 mE, 3804227 mN
207	C.28	Vented concrete ford	6 ft 10 in	1 ft 1 in	16 ft	—	468649 mE, 3804336 mN
277	C.29	Vented concrete ford	33 ft 10 in	2 ft 3 in	16 ft	—	463402 mE,

^a = UTM coordinates are Zone 12, NAD 1983 CONUS.

Two of the low-water crossings (Features 14 and 15) are located south of the Tonto Village community near the intersection of the Control Road and Standage Drive. Feature 14 is the most substantial Type 3 feature documented along Control Road and consists of an unvented concrete ford with a 1.5 ft high masonry drop structure (see Photographs C.21, C.22, and C.23). The downstream side of the crossing is faced with vertical concrete slabs. Reinforcement features consisting of a masonry apron and several embankments are located south of the roadway on the downstream side of the crossing. The apron measures 44 ft long by 17 ft wide by 2.5 ft high and consists of coursed sandstone slabs capped with a thin veneer of concrete. Five courses of sandstone slabs are visible at the southern edge of the apron. The two embankments downslope of the concrete ford are constructed of sandstone and limestone slabs stacked four to five courses high and fortified with concrete mortar. The west embankment measures 15 ft long by 4 ft wide by 3 ft high; the east embankment is 14 ft long by 4 ft wide by 4 ft high. Additionally, a third embankment is present along the west bank, 19 ft downstream from the crossing. This embankment measures 15 ft long by 2.5 ft wide by 2.5 ft high and is constructed of dry-laid limestone slabs stacked five

to six courses high. In comparison, Feature 15 consists of a vented ford with a masonry drop structure and apron. The apron measures 22 ft long by 7 ft wide by 1.5 ft high and consists of four courses of limestone slabs capped with a thin veneer of concrete (Photograph C.24). Modern features associated with Tonto Village are located north of both of the crossings. Both of the features are in good condition and appear to be regularly maintained.

The remaining low-water crossings are located within tributaries of Ellison Creek (Feature 86), Moore Creek (Feature 93), Fuller Creek (Feature 116), the East Verde River (Feature 173), Webber Creek (Feature 207), and Shannon Gulch (Feature 277). These crossings are generally in poor condition and each was mostly obscured by sediment. Additionally, the drop structures at three of the crossings (Features 86, 173, and 207) are partially or almost completely destroyed due to flooding and erosion (see Photographs C.25, C.28, and C.29).

Type 4 Features

Eight Type 4 features, or bridges, were documented along Control Road (Table 8). With the exception of Feature 154, which is modern replacement for an earlier bridge, HAER documentation was recently completed for all of the historic bridges located along Control Road (Herbert and Root 2011); therefore, this section provides only a brief discussion of the bridges.

Table 8. Type 4 bridges located along the historic Control Road.

Feature no.	Name	Description	Length	Height^b	Width	UTMs^a
41	Roberts Draw Bridge	Concrete beam with 2 spans and 3 concrete piers	44 ft	6 ft	16 ft	484085 mE, 3798640 mN
67	Ellison Creek Bridge	Concrete beam with 2 spans and 3 concrete piers	40 ft	6 ft	15 ft	482340 mE, 3800517 mN
77	Lewis Creek Bridge	Concrete beam with 1 span and masonry abutments and wing walls	25 ft	5 ft 6 in	16 ft	482272 mE, 3801465 mN
94	Moore Creek Bridge	Concrete beam with 1 span and masonry abutments and wing walls	25 ft	8 ft	16 ft	480715 mE, 3802560 mN
102	Perley Creek Bridge	Concrete beam with 1 span and masonry abutments and wing walls	23 ft	9 ft	16 ft	479868 mE, 3802910 mN
113	Bonita Creek Bridge	Concrete beam with 1 span and masonry abutments and wing walls	22 ft 7 in	5 ft 6 in	16 ft	478645 mE, 3803085 mN
154	East Verde River Bridge	Concrete beam with 2 spans and a central concrete pier	140 ft	8 ft	29 ft 2 in	473923 mE, 3804171 mN
214	Webber Creek	Concrete beam with 2 spans and a central masonry pier	49 ft	16 ft	16 ft	467310 mE, 3805180 mN

^a = UTM coordinates are Zone 12, NAD 1983 CONUS. ^b = above creek/river channel.

All of the Type 4 features along Control Road are concrete beam bridges with concrete curbs and metal guardrails (Photographs C.31, C.32, C.33, C.34, C.35, C.36, C.37, and C.38). Four of the bridges employ masonry abutments, side walls, and piers (Features 94, 102, 113, and 214), and three of the bridges have abutments and footers constructed of form-poured concrete (Features 46, 67, 77, and 154). Feature 154 is

a modern two-lane bridge and the remaining bridges are a single lane. All of the bridge decks as well as the roadway approaches are paved with asphalt.

Feature 154 is the most substantial bridge along Control Road. The bridge spans the East Verde River within the community of Whispering Pines and was constructed by the TNF in 1995 (see Photograph C.36). The bridge replaced an earlier Steel Pratt through truss bridge that was constructed by the Works Projects Administration (WPA) in 1939 (Ryan 2000). According to Frazier (1995), the steel truss of the 1939 bridge was originally part of the San Carlos Bridge that spanned the Gila River during the early 20th century. In 1934, the San Carlos Bridge was dismantled by the Bureau of Indian Affairs, and portions of the bridge were distributed to the Forest Service at this time (Frazier 1995).

The Webber Creek Bridge (Feature 214) is the largest of the masonry bridges built along Control Road (see Photograph C.38). The bridge is located near the western terminus of the Control Road approximately 5.9 miles east of SR 87. The bridge consists of two spans with a central masonry pier. Both the abutments and pier consist of 17 courses of shaped sandstone slabs that are mortared with concrete. The masonry abutments measure 14 ft 1 inch long by 16 ft high by 1 ft wide and the central pier measures 16 ft 3 inches long by 18 ft 2 inches high by 3 ft 9 inches wide. Form-poured concrete footings are present beneath both of the abutments and the central pier. Tiered masonry wing walls of differing dimensions flank the abutments.

The original construction dates for the Webber Creek Bridge, as well as for the six remaining bridges in the project area is not known. Historic records pertaining to the bridges are scarce and informant accounts of CCC work projects along the roadway are conflicting. Archival research suggests that the Webber Creek Bridge and the other bridges with masonry abutments (Features 94, 102, and 113) were constructed by the CCC between 1939 and 1941 (Herbert and Root 2011; Moore 2006). Additionally, the concrete bridges (Features 41, 67, and 77) may have been constructed by the CCC at the same time as the masonry bridges. While this is difficult to verify as concrete was commonly used as a building material from the late 1930s to the early 1960s, the type of the concrete used for the abutments and piers of the bridges is similar in composition to that of Feature 35, a Type 2 CBC that was constructed by the CCC in the late 1930s. The concrete contains sand and gravel from the surrounding washes and is fairly unconsolidated and crumbly. Additionally, impressions from the wooden plank forms are also visible on the bridges' abutments and piers. Brass caps located on the curbs of both the masonry and concrete bridges suggest that all of the structures were altered by the TNF between 1953 and 1956. Additional modifications including deck replacement and guardrail installation were made to the bridges between 1956 and 1964 (Herbert and Root 2011).

Type 5 Features

A total of two Type 5 features (Features 126 and 249), or MACs, were identified along Control Road. Feature 126 is situated within the channel of Brody Creek and Feature 249 spans an unnamed tributary of Webber Creek near the west end of the road. Both features vary considerably in their size and construction methods.

Feature 249 is the larger of the two Type 5 features and consists of a masonry arch flanked by two wing walls (Photograph C.39). The wing walls, which vary in both height and width, consist of 19 courses of shaped sandstone slabs that have been stacked and mortared with concrete. The wing walls on the east side of the road measure 8.5 ft long and vary from 6 ft to 9 ft in height; the wing walls located on the west side of the road are approximately 8 ft high and vary in length from 11.5 ft to 8.5 ft. The archway is framed by a single course of shaped sandstone boulders that have been placed upright. The total length of the culvert, including the southern and northern wing walls, is 20 ft. A 4-inch-thick prepared concrete floor is present on the interior of the channel beneath the archway.

Feature 126 consists of a masonry arch and V-shaped headwall (Photograph C.40). The headwall is approximately 5 ft high and measures 18 ft long on the north side of the road and 26 ft long on the south side. It is constructed of 6 courses of shaped limestone slabs that have been mortared with concrete. The archway is constructed of concrete. The interior of the culvert beneath the arch is lined with two masonry walls that form a narrow channel beneath the roadway. A wooden barricade, similar to the one at Feature 89 (see Photograph C.12), is located upstream from the MAC.

Other Features

Other features documented along the historic Control Road alignment include cattle guards ($n = 9$), pull-outs ($n = 5$), parking areas ($n = 3$), and trailheads ($n = 1$). Topographic maps showing the locations of these features are provided in Appendix D.

The cattle guards consist of standard type or flat guards that are placed below grade so they are level with the current roadway (see Photographs B.5, B.8, B.17, and B.22). With the exception of cattle guard 5, all of the cattle guards have metal wings. The cattle guards are spaced approximately 2.5 miles apart, and are generally located near developed areas or at the boundary of TNF and private lands. Barbed wire fences, running perpendicular to the roadway, are present at each of the cattle guards.

Pull-outs are located at numerous locations along the Control Road. In most cases, the pull-outs are located in areas where the roadway intersects with jeep trails or forest roads (Photograph 8). These pull-outs range in size from 35 ft to 100 ft long by 20 ft to 50 ft wide, and often serve as informal parking areas for recreationists (Photograph 9). Pull-outs are also located along steep and narrow sections of the roadway where additional shoulder space is needed for vehicular safety. These pull-outs parallel the shoulder of the in-use roadway and are much smaller in size than those located near popular recreation areas (Photograph 10).

In addition to pull-outs, three parking areas are located along the Control Road. The parking areas are located adjacent to trailheads or in popular recreational areas, such as Verde Glen along the East Verde River, and most are designed to accommodate parking for more than one vehicle (Photographs 11 and 12). One parking area with space for a single vehicle is present at a campsite along the East Verde River approximately 0.2 mile west of the East Verde Glen parking area (Photograph 13). Additionally, a trailhead associated with one of the parking areas was documented in the project area. The trailhead for the Stand 1



Photograph 8. Pull-out 5, an example of a pull-out adjacent to a jeep trail or forest road, facing north. FR 432 is visible at the right of the photograph.



Photograph 9. Pull-out 2, an example of a pull-out that serves as an informal parking area for recreationists, facing north.



Photograph 10. Pull-out 6, an example of a pull-out along the north shoulder of the roadway, facing northwest.



Photograph 11. Parking area 2 for the Dude Fire trailhead, facing southeast. Control Road is visible near the top right of the photograph.



Photograph 12. Parking area 3, East Verde Glen parking area, facing northeast.



Photograph 13. Parking area 4, parking area for a campsite along the East Verde River, facing northwest and across Control Road.

Trail is located near a wooden sign for the trailhead on the north side of the road (Photograph 14). Other trailheads located along the road, such as Trailhead 294 and the Dude Fire Trail, are accessible from parking areas and are not located immediately adjacent to the road.



Photograph 14. Photograph of the Stand 1 trailhead marker from Control Road, facing northeast.

Abandoned Road Segments

In addition to the features identified along Control Road, 16 abandoned road segments (RS) were documented within the project area (see Appendix D). All of the road segments were previously recorded by Ryan (2000). Additionally, four of the road segments (RS 1–RS 4) were documented by LSD in 2008 (Drake and Gomez 2009). The abandoned road segments were photo-documented and mapped using a handheld Trimble Global Positioning System.

The majority of the abandoned road segments are adjacent to drainage systems where the roadway originally followed the hill contours around drainage heads or was deviated to unimproved low-water crossings at larger tributaries or creeks (Photograph 15). Abandoned segments also follow the hill slopes and ridge systems above the existing roadway (Photograph 16). The road segments vary in length, with the longest segment (RS 6) spanning approximately 1.2 miles between Ellison and Perley Creeks in Hells Gate Canyon. The shortest segment, RS 13, measures 0.2 mile long and parallels the hill slope along the south side of the current Control Road alignment. In some areas where the road segments intersect the in-use alignment of the Control Road, earthen berms or barricades of large boulders or logs have been placed in the center of the abandoned segments to discourage continued use of the routes (Photograph 17). Other segments appear to remain in use as primitive trails for off-road vehicles.



Photograph 15. RS 10, an abandoned road segment that follows the hill contours around Webber Creek, facing northwest. The in-use alignment of the Control Road is visible at the bottom left of the photograph.



Photograph 16. RS 15, an abandoned road segment that follows the hill contours above the in-use alignment of Control Road near Shannon Gulch, facing northeast.



Photograph 17. RS 16, showing a rock barricade visible from the in-use alignment of the Control Road, facing northwest.

Discussion and Recommendations

The historic Control Road has been previously determined eligible for inclusion in the NRHP under Criteria A and C (association with events, characteristics of a type of construction). The road is directly associated with CCC activities in Arizona and can contribute important information regarding CCC undertakings along the Mogollon Rim and in the Payson region in the 1930s and early 1940s. The evaluation of 23 miles of the historic Control Road resulted in the identification of 300 features and 16 abandoned road segments. The features include 264 CMPs, 8 low water crossings, 8 bridges, 3 MBCs and CBCs, and 2 MACs. Additionally, 15 of the recorded features could not be typed due to erosion or the accumulation of sediment. All of these features contribute to the eligibility of the historic Control Road as they were either constructed by the CCC or are historic and illustrate the on-going use and evolution of built features along the roadway. Additionally, other features of the road including nine cattle guards, five pull-outs, three parking areas, and one trailhead were documented. While these features contribute to the setting, feeling, and aesthetic experience of traveling the route, they are likely modern in age and do not contribute to the road's NRHP eligibility. While the alignment of the road has changed over time, it continues to retain its integrity of setting, feeling, materials, and design. Despite modern improvements and maintenance to the route, the road also continues to function as originally designed and segments of the road remain unpaved. Although project plans have not been fully developed for improving the unpaved segments of roadway, Gila County ultimately plans to pave the entire route which constitutes an adverse effect to the roadway. Completion of this Level II HAER documentation report has adequately documented the historic Control Road and this report serves as mitigation for adverse effects to the roadway resulting from the Gila County Public Works Division paving project; therefore, no further work is recommended.

Section II.B.8 of the executed PA between the United States Department of Agriculture Forest Service (Forest Service), the Arizona State Historic Preservation Office (SHPO), and the Advisory Council on Historic Preservation specifies that recommendations for enhancing heritage education curriculum and public interpretation of the affected road be made. LSD believes that interpretative signage showcasing the CCC's involvement in the development of the Control Road could be placed at pull-outs and parking areas to educate recreationalists and residents about the CCC's overall contribution to the TNF and Mogollon Rim area. Additionally, in areas where abandoned road segments intersect the existing road, interpretative signage discussing earlier alignments of the road could be installed. Interpretative signs could also be placed in the general vicinity of the Indian Gardens and East Verde River CCC camps which discuss the history of the camps as well as information regarding camp life and the enrollees who resided there. If possible, an exemplary example of a CCC-constructed feature could be preserved and a roadside display discussing the types of features that were originally present and their construction methods could also be developed.

SUMMARY AND RECOMMENDATIONS

The Gila County Public Works Division, in conjunction with TNF, is planning a long-term road paving project along the historic Control Road (FR 64) northeast of Payson, in northern Gila County, Arizona. The road is located entirely within the PRD of the TNF; the 7.25 mile-long segment of road between SR 260 and FR 430 is within an easement maintained by Gila County. Although project plans have not been developed for improving the remainder of the road west of its intersection with FR 430, Gila County ultimately plans to pave the entire road.

The evaluation of 23 miles of the historic Control Road resulted in the identification of 300 features and 16 abandoned road segments. Additionally, other features of the roadway including nine cattle guards, five pull-outs, three parking areas, and one trailhead were documented. The Control Road and its associated features have been previously determined eligible for inclusion in the NRHP under Criteria A and C (association with events, characteristics of a type of construction). The road was formally constructed by the CCC in the mid-1930s for the purpose of creating a fire break between Payson and the Mogollon Rim and to facilitate vehicular traffic in the sub-rim area. Although the alignment of the road has changed over time, the road retains its integrity of setting, feeling, design, and materials, and continues to function as originally designed. Completion of this Level II HAER documentation report has adequately documented the historic Control Road and this report serves as mitigation for adverse effects to the roadway resulting from the Gila County Public Works Division paving project; therefore, no further work is recommended.

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**APPENDIX A: PHOTOGRAPHIC DOCUMENTATION OF THE IN-USE ALIGNMENT OF THE HISTORIC CONTROL ROAD
(TRAVELING EAST TO WEST)**

Photographs of the In-use Alignment of the Historic Control Road

- A.1. Photograph of a modern paved segment of the Control Road just west of SR 260 (UTM Zone 12, NAD 1983 CONUS: 489319 mE, 3797291 mN), photographer Jackie Orcholl, October 2008, facing west (*Source*: Logan Simpson Design Inc., 51 West Third Street, Tempe AZ 85281).
- A.2. Photograph of the Control Road near Thompson Draw (UTM Zone 12, NAD 1983 CONUS: 487764 mE, 3797198 mN), photographer Jackie Orcholl, October 2008, facing west (*Source*: Logan Simpson Design Inc., 51 West Third Street, Tempe AZ 85281).
- A.3. Photograph of the Control Road in the upland section (UTM Zone 12, NAD 1983 CONUS: 485262 mE, 3799078 mN), photographer Jackie Orcholl, October 2008, facing west (*Source*: Logan Simpson Design Inc., 51 West Third Street, Tempe AZ 85281).
- A.4. Photograph of the Control Road near the Pyle Ranch junction (UTM Zone 12, NAD 1983 CONUS: 482386 mE, 3801057 mN), photographer Doug Drake, October 2008, facing northeast (*Source*: Logan Simpson Design Inc., 51 West Third Street, Tempe AZ 85281).
- A.5. Photograph of the Control Road at cattle guard 1 (UTM Zone 12, NAD 1983 CONUS: 480448 mE, 3802588 mN), photographer Leigh Davidson, April 2011, facing southwest (*Source*: Logan Simpson Design Inc., 51 West Third Street, Tempe AZ 85281).
- A.6. Photograph of the Control Road in the vicinity of Feature 98 (UTM Zone 12, NAD 1983 CONUS: 480216 mE, 3802593 mN), photographer Leigh Davidson, April 2011, facing east (*Source*: Logan Simpson Design Inc., 51 West Third Street, Tempe AZ 85281).
- A.7. Photograph of the Control Road in the vicinity of Feature 101 (UTM Zone 12, NAD 1983 CONUS: 479953 mE, 3802744 mN), photographer Leigh Davidson, April 2011, facing southeast (*Source*: Logan Simpson Design Inc., 51 West Third Street, Tempe AZ 85281).
- A.8. Photograph of the Control Road at cattle guard 2 (UTM Zone 12, NAD 1983 CONUS: 478365 mE, 3803083 mN), photographer Leigh Davidson, May 2011, facing northeast (*Source*: Logan Simpson Design Inc., 51 West Third Street, Tempe AZ 85281).
- A.9. Photograph of the Control Road in the vicinity of Feature 117 (UTM Zone 12, NAD 1983 CONUS: 478283 mE, 3803224 mN), photographer Leigh Davidson, May 2011, facing southeast (*Source*: Logan Simpson Design Inc., 51 West Third Street, Tempe AZ 85281).
- A.10. Photograph of the Control Road in the vicinity of Feature 133 (UTM Zone 12, NAD 1983 CONUS: 476608 mE, 3804361 mN), photographer Leigh Davidson, May 2011, facing southeast (*Source*: Logan Simpson Design Inc., 51 West Third Street, Tempe AZ 85281).
- A.11. Photograph of the Control Road in the vicinity of Feature 140 (UTM Zone 12, NAD 1983 CONUS: 475308 mE, 3804217 mN), photographer Leigh Davidson, May 2011, facing northwest (*Source*: Logan Simpson Design Inc., 51 West Third Street, Tempe AZ 85281).
- A.12. Photograph of the Control Road in the vicinity of Feature 149 (UTM Zone 12, NAD 1983 CONUS: 474530 mE, 3804664 mN), photographer Leigh Davidson, May 2011, facing northwest (*Source*: Logan Simpson Design Inc., 51 West Third Street, Tempe AZ 85281).

- A.13. Photograph of the Control Road, just west of Whispering Pines (UTM Zone 12, NAD 1983 CONUS: 473752 mE, 3804172 mN), photographer Leigh Davidson, May 2011, facing southeast. Cattle guard 3 is visible near the top center of the photograph (*Source*: Logan Simpson Design Inc., 51 West Third Street, Tempe AZ 85281).
- A.14. Photograph of the Control Road at the junction of FR 32 (UTM Zone 12, NAD 1983 CONUS: 472967 mE, 3804605 mN), photographer Leigh Davidson, May 2011, facing southeast (*Source*: Logan Simpson Design Inc., 51 West Third Street, Tempe AZ 85281).
- A.15. Photograph of the Control Road in the vicinity of Feature 177 (UTM Zone 12, NAD 1983 CONUS: 471231 mE, 3804093 mN), photographer Leigh Davidson, May 2011, facing southwest (*Source*: Logan Simpson Design Inc., 51 West Third Street, Tempe AZ 85281).
- A.16. Photograph of the Control Road in the vicinity of Feature 188 (UTM Zone 12, NAD 1983 CONUS: 470121 mE, 3804130 mN), photographer Leigh Davidson, May 2011, facing east (*Source*: Logan Simpson Design Inc., 51 West Third Street, Tempe AZ 85281).
- A.17. Photograph of the Control Road at cattle guard 5 (UTM Zone 12, NAD 1983 CONUS: 469142 mE, 3804497 mN), photographer Leigh Davidson, May 2011, facing northeast. The marker for Feature 200 is visible near the center of the photograph (*Source*: Logan Simpson Design Inc., 51 West Third Street, Tempe AZ 85281).
- A.18. Photograph of the Control Road in the vicinity of Feature 213 (UTM Zone 12, NAD 1983 CONUS: 468200 mE, 3804264 mN), photographer Leigh Davidson, May 2011, facing southwest (*Source*: Logan Simpson Design Inc., 51 West Third Street, Tempe AZ 85281).
- A.19. Photograph of the Control Road in the vicinity of Features 237 and 238 (UTM Zone 12, NAD 1983 CONUS: 466494 mE, 3803685 mN), photographer Leigh Davidson, May 2011, facing south (*Source*: Logan Simpson Design Inc., 51 West Third Street, Tempe AZ 85281).
- A.20. Photograph of the Control Road in the vicinity of Feature 277 (UTM Zone 12, NAD 1983 CONUS: 463587 mE, 3802112 mN), photographer Leigh Davidson, May 2011, facing west (*Source*: Logan Simpson Design Inc., 51 West Third Street, Tempe AZ 85281).
- A.21. Photograph of the Control Road in the vicinity of Feature 295 (UTM Zone 12, NAD 1983 CONUS: 462077 mE, 3802231 mN), photographer Leigh Davidson, May 2011, facing northeast (*Source*: Logan Simpson Design Inc., 51 West Third Street, Tempe AZ 85281).
- A.22. Photograph of a modern paved section of the Control Road just east of SR 87 (UTM Zone 12, NAD 1983 CONUS: 406963 mE, 3802170 mN), photographer Leigh Davidson, May 2011, facing east (*Source*: Logan Simpson Design Inc., 51 West Third Street, Tempe AZ 85281).



A.1.



A.2.



A.3.



A.4.



A.5.



A.6.



A.7.



A.8.



A.9.



A.10.



A.11.



A.12.



A.13.



A.14.



A.15.



A.16.



A.17.



A.18.



A.19.



A.20.



A.21.

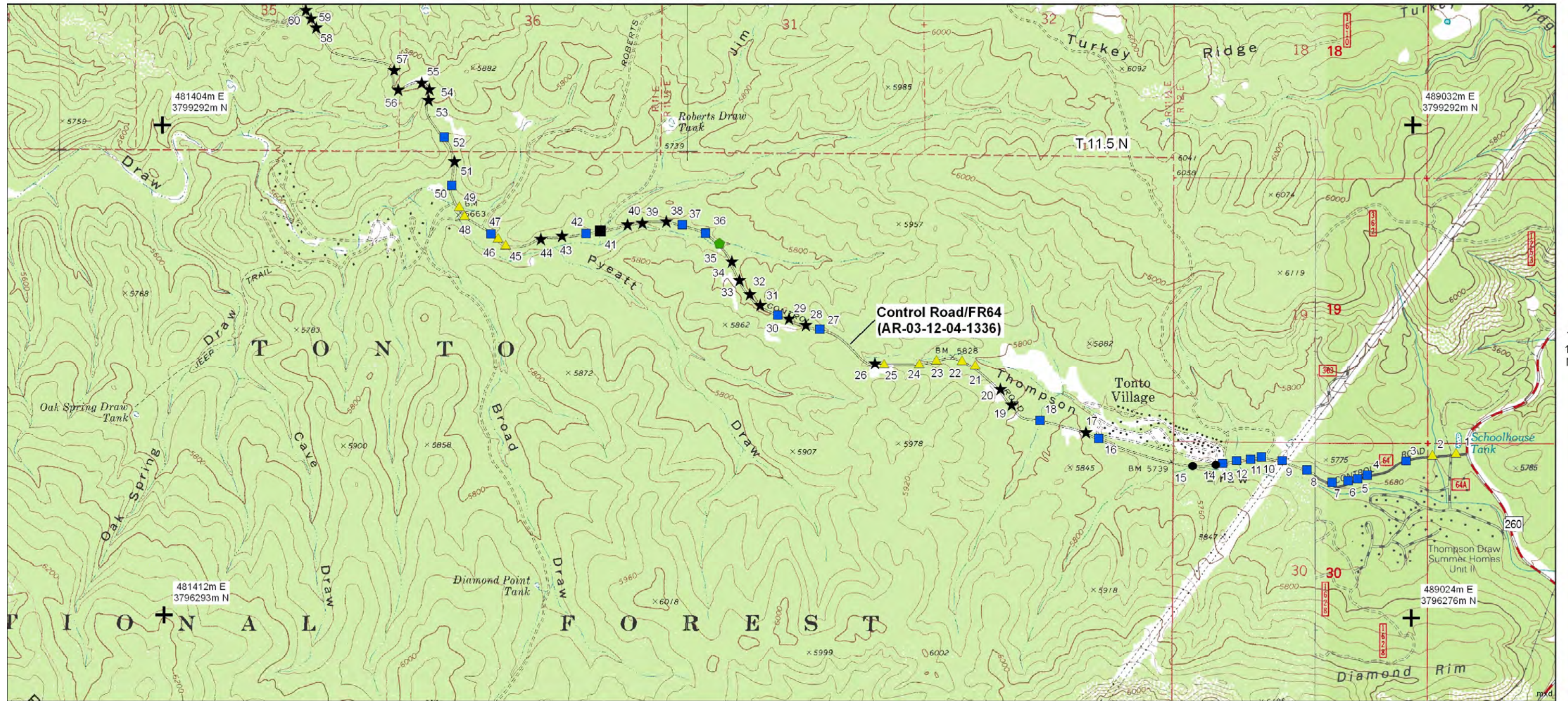


A.22.

APPENDIX B: TOPOGRAPHIC MAPS SHOWING FEATURES ALONG THE HISTORIC CONTROL ROAD

R 11 E ● R 11.5 E

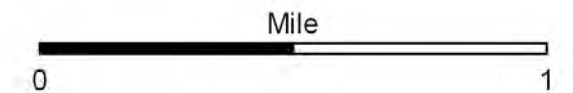
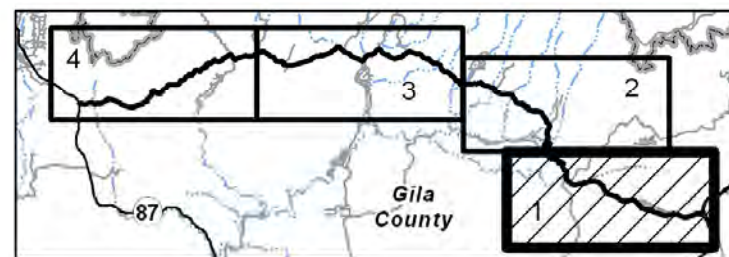
R 11.5 E ● R 12 E



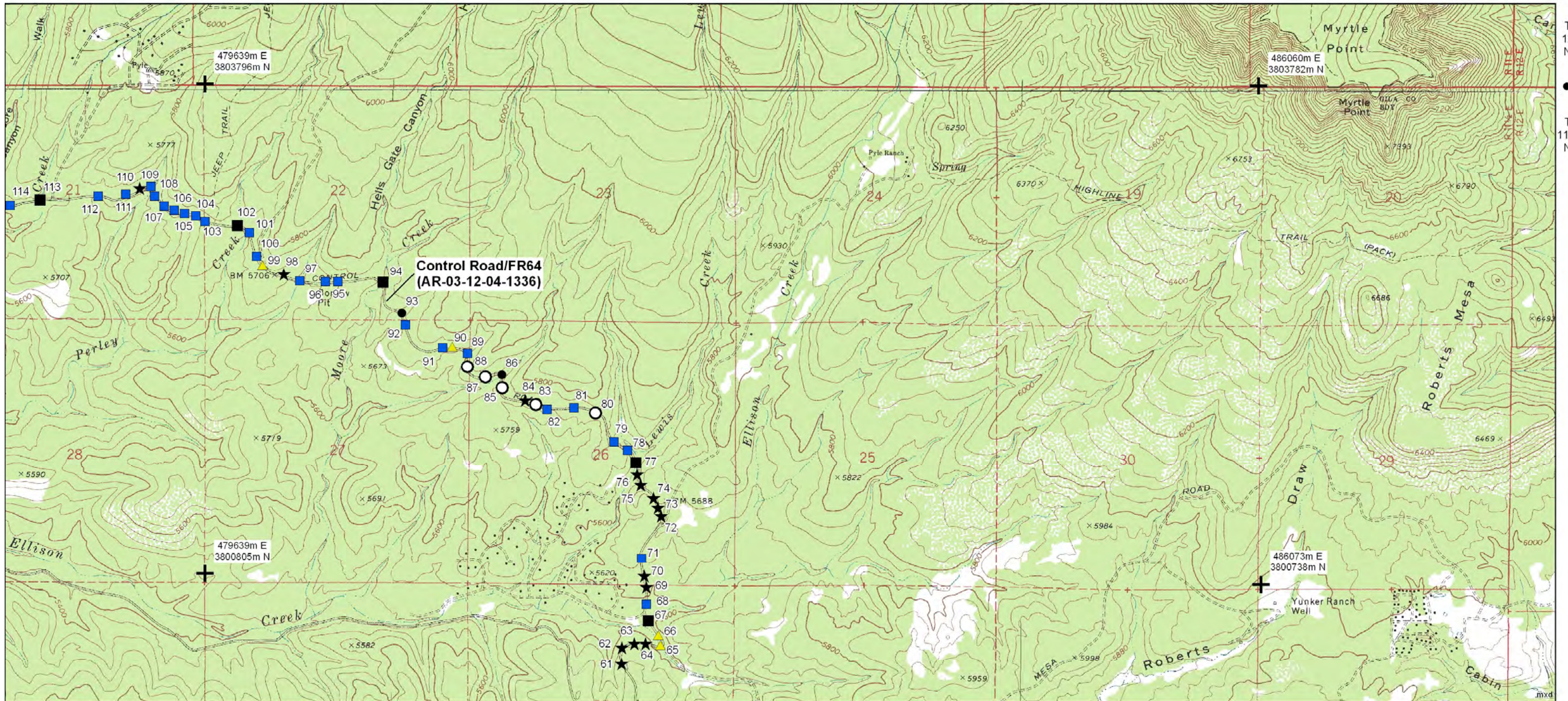
Source: USGS 7.5' Quadrangles Diamond Point, Ariz. (1973) and Promontory Butte, Ariz. (1998).
 Map Projection: NAD 1983, UTM Zone 12 North. Note: All numbers that are labeled are preceded by Feature.

Key

▲ Type 1A Feature	● Type 3 Feature
■ Type 1B Feature	■ Type 4 Feature
★ Type 1C Feature	● Type 5 Feature
◆ Type 2 Feature	○ Indeterminate Type



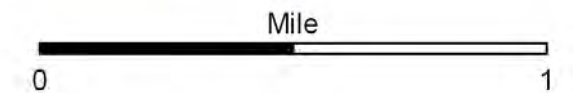
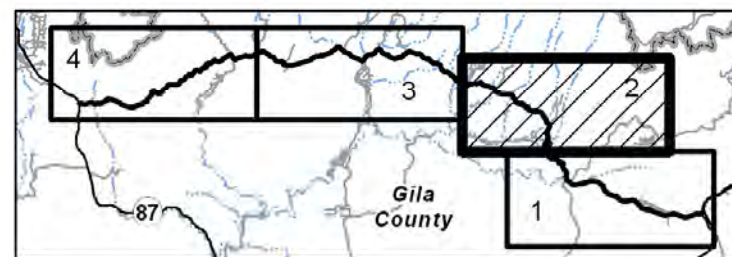
B.1.



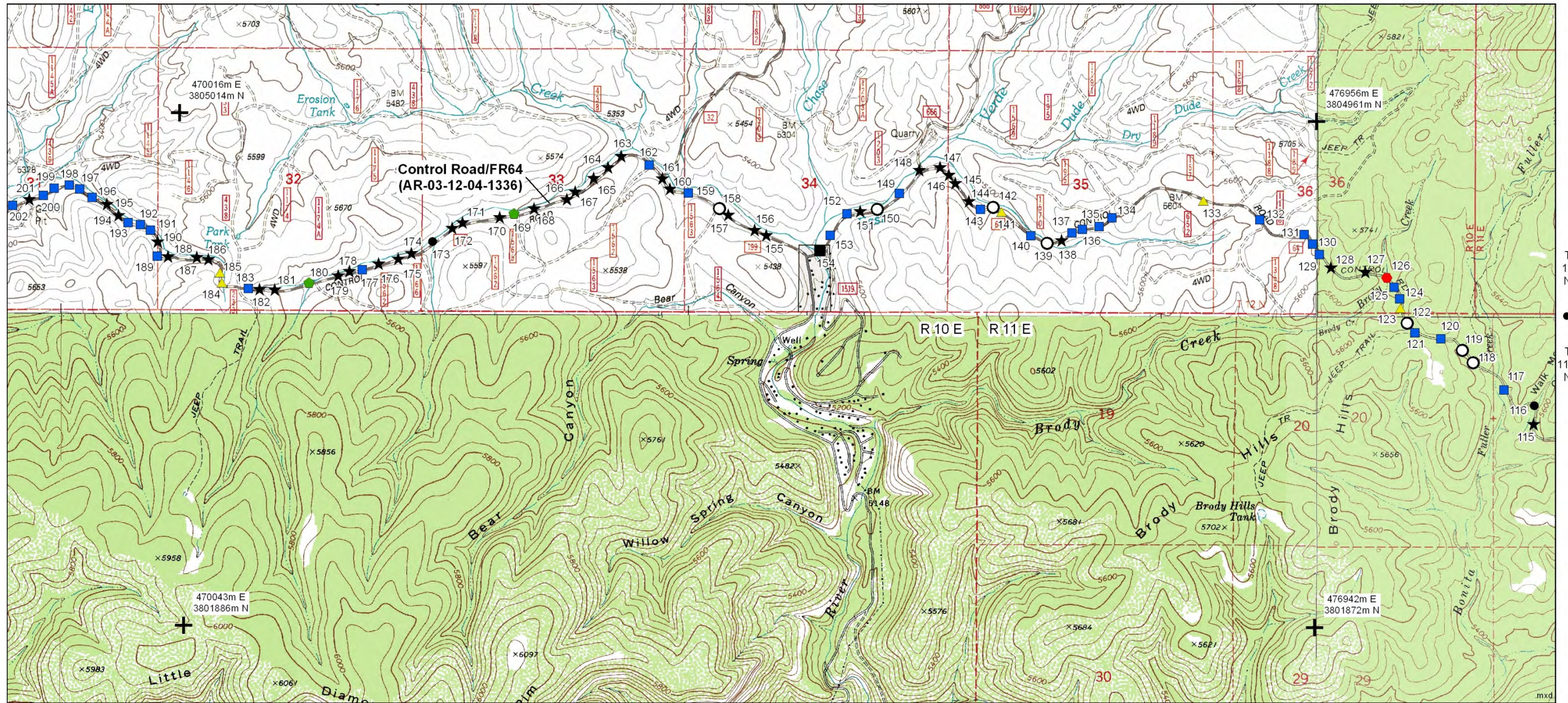
Source: USGS 7.5' Quadrangles Dane Canyon, Ariz. (1972) and Diamond Point, Ariz. (1973).
 Map Projection: NAD 1983, UTM Zone 12 North. Note: All numbers that are labeled are preceded by Feature.

Key

▲ Type 1A Feature	● Type 3 Feature
■ Type 1B Feature	■ Type 4 Feature
★ Type 1C Feature	● Type 5 Feature
◆ Type 2 Feature	○ Indeterminate Type

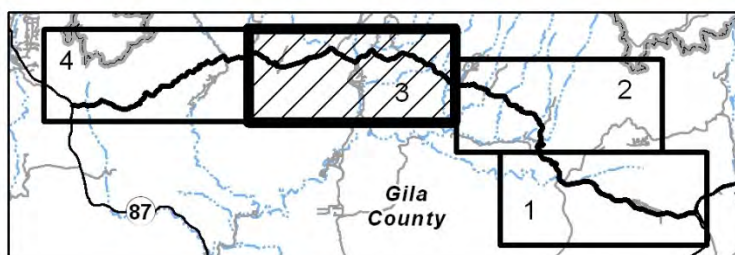


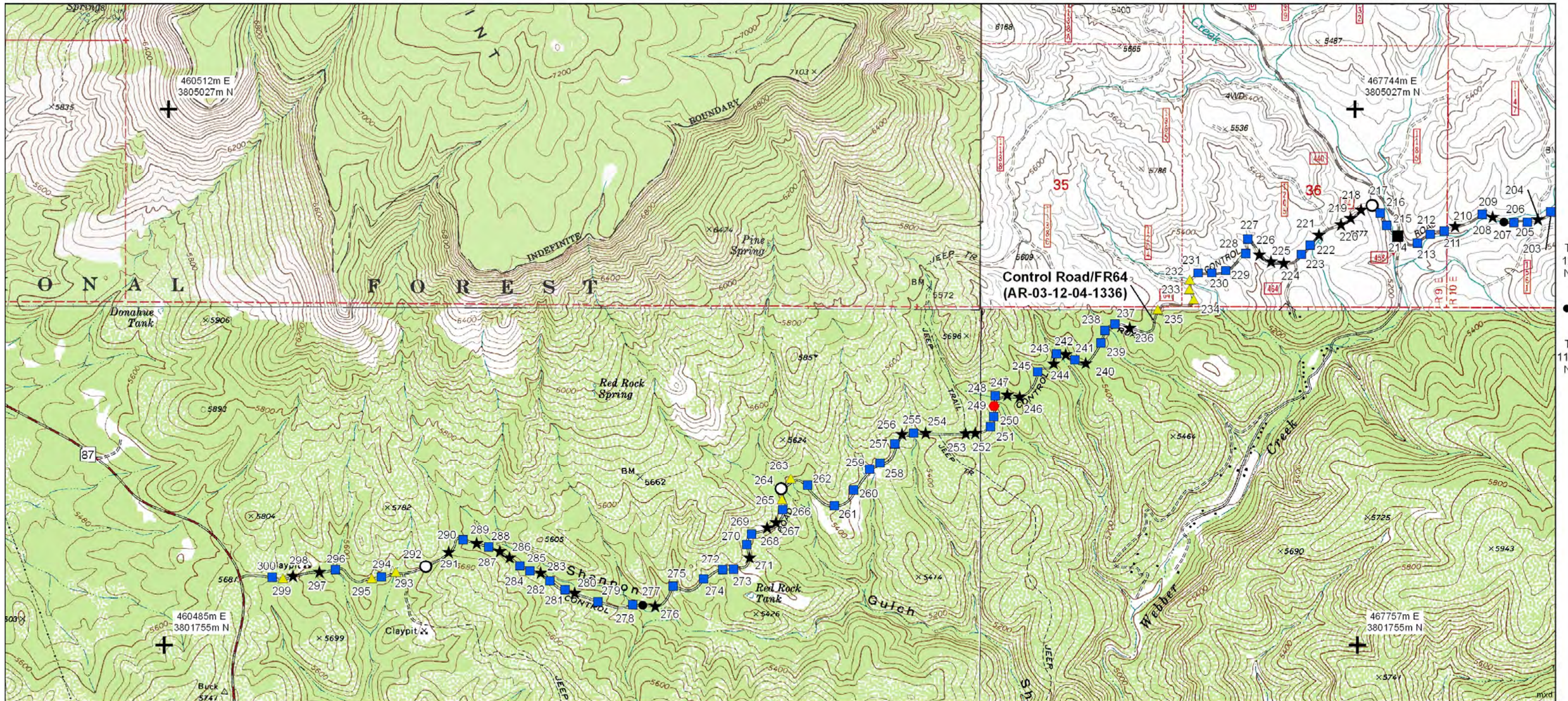
B.2.



Source: USGS 7.5' Quadrangles Dane Canyon, Ariz. (1972), Diamond Point, Ariz. (1973), Kehl Ridge, Ariz. (1993) and Payson North, Ariz. (1973).
 Map Projection: NAD 1983, UTM Zone 12 North. Note: All numbers that are labeled are preceded by Feature.

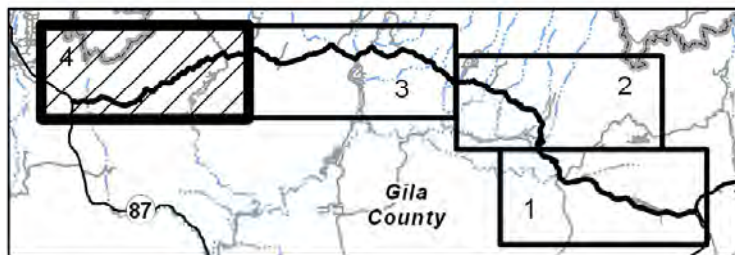
- Key
- ▲ Type 1A Feature
 - Type 1B Feature
 - ★ Type 1C Feature
 - ◆ Type 2 Feature
 - Type 3 Feature
 - Type 4 Feature
 - Type 5 Feature
 - Indeterminate Type





Source: USGS 7.5' Quadrangles Buckhead Mesa, Ariz. (1973), Kehl Ridge, Ariz. (1993), Payson North, Ariz. (1973) and Pine, Ariz. (1973).
 Map Projection: NAD 1983, UTM Zone 12 North. Note: All numbers that are labeled are preceded by Feature.

- Key**
- ▲ Type 1A Feature
 - Type 1B Feature
 - ★ Type 1C Feature
 - ◆ Type 2 Feature
 - Type 3 Feature
 - Type 4 Feature
 - Type 5 Feature
 - Indeterminate Type



B.4.

APPENDIX C: PHOTOGRAPHIC DOCUMENTATION OF UNIQUE AND EXCEPTIONAL FEATURES ALONG THE HISTORIC CONTROL ROAD

Photographs of Unique and Exceptional Features located along the Historic Control Road

- C.1. Photograph of Feature 265, situated parallel to Control Road at the TNF Trailhead 294 parking area, photographer Leigh Davidson, May 2011, facing northwest (*Source*: Logan Simpson Design Inc., 51 West Third Street, Tempe AZ 85281).
- C.2. Photograph of Feature 65, a 72-inch-diameter Type 1A feature, photographer Jackie Orcholl, October 2008, facing south (*Source*: Logan Simpson Design Inc., 51 West Third Street, Tempe AZ 85281).
- C.3. Photograph of Feature 258, a Type 1B feature with a long headwall, photographer Leigh Davidson, May 2011, facing southwest (*Source*: Logan Simpson Design Inc., 51 West Third Street, Tempe AZ 85281).
- C.4. Photograph of Feature 227, a Type 1B feature with two masonry wing walls, photographer Leigh Davidson, May 2011, facing south (*Source*: Logan Simpson Design Inc., 51 West Third Street, Tempe AZ 85281).
- C.5. Photograph of Feature 212, a Type 1B feature with one masonry wing wall, photographer Leigh Davidson, May 2011, facing southwest (*Source*: Logan Simpson Design Inc., 51 West Third Street, Tempe AZ 85281).
- C.6. Photograph of Feature 262, a Type 1B feature with one masonry wing wall, photographer Leigh Davidson, May 2011, facing south (*Source*: Logan Simpson Design Inc., 51 West Third Street, Tempe AZ 85281).
- C.7. Photograph of Feature 288, a Type 1B feature with an L-shaped headwall on the upslope side, photographer Leigh Davidson, May 2011, facing south (*Source*: Logan Simpson Design Inc., 51 West Third Street, Tempe AZ 85281).
- C.8. Photograph of Feature 202, a Type 1B feature with a J-shaped headwall on the upslope side, photographer Leigh Davidson, May 2011, facing northwest (*Source*: Logan Simpson Design Inc., 51 West Third Street, Tempe AZ 85281).
- C.9. Photograph of Feature 278, a Type 1B feature with a V-shaped headwall, photographer Leigh Davidson, May 2011, facing north (*Source*: Logan Simpson Design Inc., 51 West Third Street, Tempe AZ 85281).
- C.10. Photograph of a modern 3-post wire fence at Feature 104, photographer Leigh Davidson, May 2011, facing south (*Source*: Logan Simpson Design Inc., 51 West Third Street, Tempe AZ 85281).
- C.11. Photograph of a modern 3-post wire fence at Feature 96, photographer Leigh Davidson, May 2011, facing south (*Source*: Logan Simpson Design Inc., 51 West Third Street, Tempe AZ 85281).
- C.12. Photograph of a wooden barricade at Feature 89, photographer Leigh Davidson, April 2011, facing southwest (*Source*: Logan Simpson Design Inc., 51 West Third Street, Tempe AZ 85281).
- C.13. Photograph of Feature 240, a Type 1B feature with a J-shaped headwall, photographer Leigh Davidson, May 2011, facing west (*Source*: Logan Simpson Design Inc., 51 West Third Street, Tempe AZ 85281).

- C.14. Photograph of Feature 100, a Type 1B feature with a tiered and curved rock retaining wall (visible near the bottom right of the photograph), photographer Leigh Davidson, April 2011, facing southwest (*Source*: Logan Simpson Design Inc., 51 West Third Street, Tempe AZ 85281).
- C.15. Photograph of an arch of large boulders on the downslope side of Feature 183, photographer Leigh Davidson, May 2011, facing southwest (*Source*: Logan Simpson Design Inc., 51 West Third Street, Tempe AZ 85281).
- C.16. Photograph of Feature 73, a Type 1C feature with three stepped openings, photographer Leigh Davidson, April 2011, facing northwest (*Source*: Logan Simpson Design Inc., 51 West Third Street, Tempe AZ 85281).
- C.17. Photograph of Feature 180, a Type 2 masonry box culvert, photographer Leigh Davidson, May 2011, facing north (*Source*: Logan Simpson Design Inc., 51 West Third Street, Tempe AZ 85281).
- C.18. Photograph of Feature 169, a Type 2 masonry box culvert, photographer Leigh Davidson, May 2011, facing northwest (*Source*: Logan Simpson Design Inc., 51 West Third Street, Tempe AZ 85281).
- C.19. Photograph of Feature 35, a Type 2 masonry box culvert, photographer Jackie Orcholl, October 2008, facing southwest (*Source*: Logan Simpson Design Inc., 51 West Third Street, Tempe AZ 85281).
- C.20. Photograph of Feature 35 construction detail of poured concrete wing wall, showing the impressions left by the wood forms, photographer Jackie Orcholl, October 2008 (*Source*: Logan Simpson Design Inc., 51 West Third Street, Tempe AZ 85281).
- C.21. Photograph of Feature 14, a Type 3 feature, photographer Jackie Orcholl, October 2008, facing east (*Source*: Logan Simpson Design Inc., 51 West Third Street, Tempe AZ 85281).
- C.22. Photograph of Feature 14 and its associated elements, showing concrete surface and drop structure, stacked embankment, and cobble masonry apron, photographer Jackie Orcholl, October 2008, facing east (*Source*: Logan Simpson Design Inc., 51 West Third Street, Tempe AZ 85281).
- C.23. Photograph of Feature 14 and its associated elements, showing concrete surface and drop structure and cobble masonry apron, photographer Jackie Orcholl, October 2008, facing northwest (*Source*: Logan Simpson Design Inc., 51 West Third Street, Tempe AZ 85281).
- C.24. Photograph of Feature 15, a Type 1A feature with double CMP, limestone apron, and modern cobble gabion, photographer Jackie Orcholl, October 2008, facing south (*Source*: Logan Simpson Design Inc., 51 West Third Street, Tempe AZ 85281).
- C.25. Photograph of Feature 86, a Type 3 low-water crossing, photographer Leigh Davidson, April 2011, facing northeast (*Source*: Logan Simpson Design Inc., 51 West Third Street, Tempe AZ 85281).
- C.26. Photograph of Feature 93, a Type 3 low-water crossing, photographer Leigh Davidson, April 2011, facing northeast (*Source*: Logan Simpson Design Inc., 51 West Third Street, Tempe AZ 85281).

- C.27. Photograph of Feature 116, a Type 3 low-water crossing, photographer Leigh Davidson, May 2011, facing northeast (*Source*: Logan Simpson Design Inc., 51 West Third Street, Tempe AZ 85281).
- C.28. Photograph of Feature 173, a Type 3 low-water crossing, photographer Leigh Davidson, May 2011, facing southeast (*Source*: Logan Simpson Design Inc., 51 West Third Street, Tempe AZ 85281).
- C.29. Photograph of Feature 207, a Type 3 low-water crossing, photographer Leigh Davidson, May 2011, facing northwest (*Source*: Logan Simpson Design Inc., 51 West Third Street, Tempe AZ 85281).
- C.30. Photograph of Feature 277, a Type 3 low-water crossing, photographer Leigh Davidson, May 2011, facing northeast (*Source*: Logan Simpson Design Inc., 51 West Third Street, Tempe AZ 85281).
- C.31. Photograph of Feature 41, the Roberts Draw Bridge, a Type 4 feature, photographer Jackie Orcholl, October 2008, facing north (*Source*: Logan Simpson Design Inc., 51 West Third Street, Tempe AZ 85281).
- C.32. Photograph of Feature 67, the Ellison Creek Bridge, a Type 4 feature, photographer Jackie Orcholl, October 2008, facing north (*Source*: Logan Simpson Design Inc., 51 West Third Street, Tempe AZ 85281).
- C.33. Photograph of Feature 77, the Lewis Creek Bridge, a Type 4 feature, photographer Leigh Davidson, April 2011, facing south (*Source*: Logan Simpson Design Inc., 51 West Third Street, Tempe AZ 85281).
- C.34. Photograph of Feature 94, the Moore Creek Bridge, a Type 4 feature, photographer Leigh Davidson, April 2011, facing southwest (*Source*: Logan Simpson Design Inc., 51 West Third Street, Tempe AZ 85281).
- C.35. Photograph of Feature 102, the Perley Creek Bridge, a Type 4 feature, photographer Leigh Davidson, April 2011, facing southwest (*Source*: Logan Simpson Design Inc., 51 West Third Street, Tempe AZ 85281).
- C.36. Photograph of Feature 113, the Bonita Creek Bridge, a Type 4 feature, photographer Leigh Davidson, May 2011, facing southeast (*Source*: Logan Simpson Design Inc., 51 West Third Street, Tempe AZ 85281).
- C.37. Photograph of Feature 154, the East Verde River Bridge, a Type 4 feature, photographer Leigh Davidson, May 2011, facing south (*Source*: Logan Simpson Design Inc., 51 West Third Street, Tempe AZ 85281).
- C.38. Photograph of Feature 214, the Webber Creek Bridge, a Type 4 feature, photographer Leigh Davidson, May 2011, facing southwest (*Source*: Logan Simpson Design Inc., 51 West Third Street, Tempe AZ 85281).
- C.39. Photograph of Feature 249, a Type 5 feature, photographer Leigh Davidson, May 2011, facing northwest (*Source*: Logan Simpson Design Inc., 51 West Third Street, Tempe AZ 85281).
- C.40. Photograph of Feature 126, a Type 5 feature, photographer Leigh Davidson, May 2011, facing southwest (*Source*: Logan Simpson Design Inc., 51 West Third Street, Tempe AZ 85281).



C.1.



C.2.



C.3.



C.4.



C.5.



C.6.



C.7.



C.8.



C.9.



C.10.



C.11.



C.12.



C.13.



C.14.



C.15.



C.16.



C.17.



C.18.



C.19.



C.20.



C.21.



C.22.



C.23.



C.24.



C.25.



C.26.



C.27.



C.28.



C.29.



C.30.



C.31.



C.32.



C.33.



C.34.



C.35.



C.36.



C.37.



C.38.



C.39.

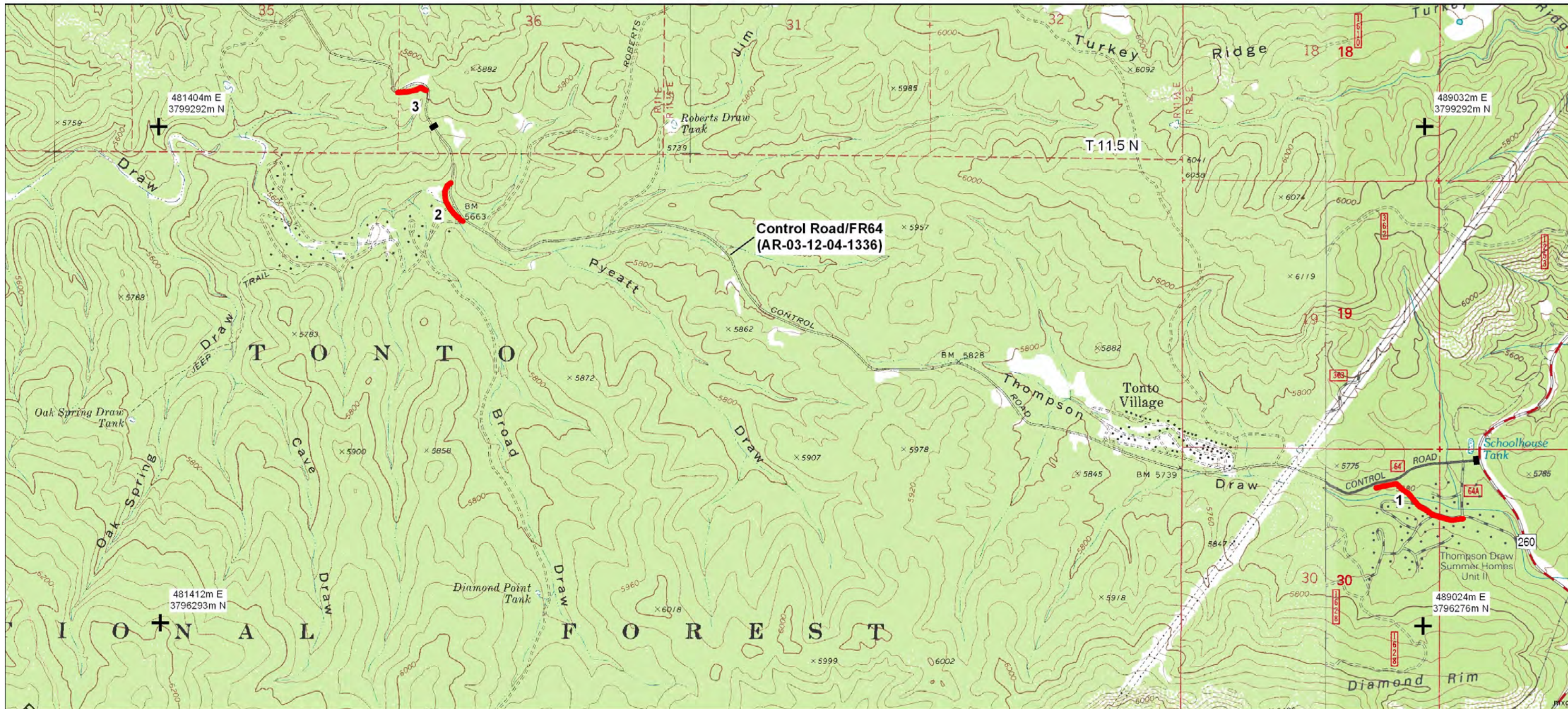


C.40.

APPENDIX D: TOPOGRAPHIC MAPS SHOWING OTHER FEATURES AND ABANDONED ROAD SEGMENTS ALONG THE HISTORIC CONTROL ROAD

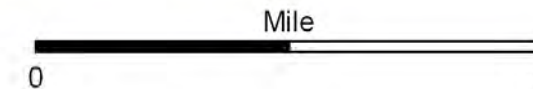
R 11 E ● R 11.5 E

R 11.5 E ● R 12 E

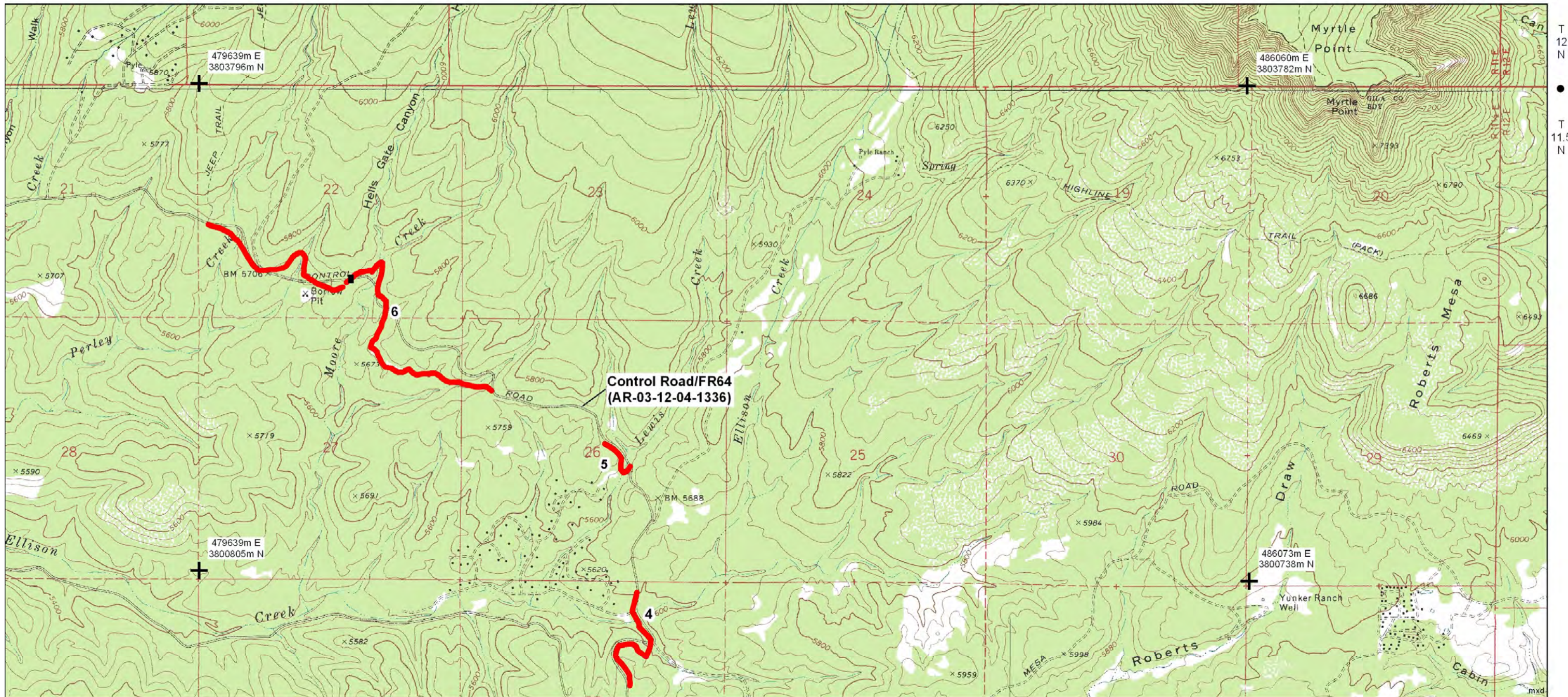


Source: USGS 7.5' Quadrangles Diamond Point, Ariz. (1973) and Promontory Butte, Ariz. (1998).
 Map Projection: NAD 1983, UTM Zone 12 North.

- Key
- Abandoned Road Segment
 - Cattle guard

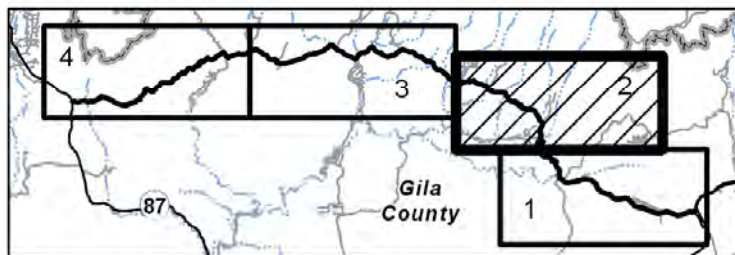


D.1.

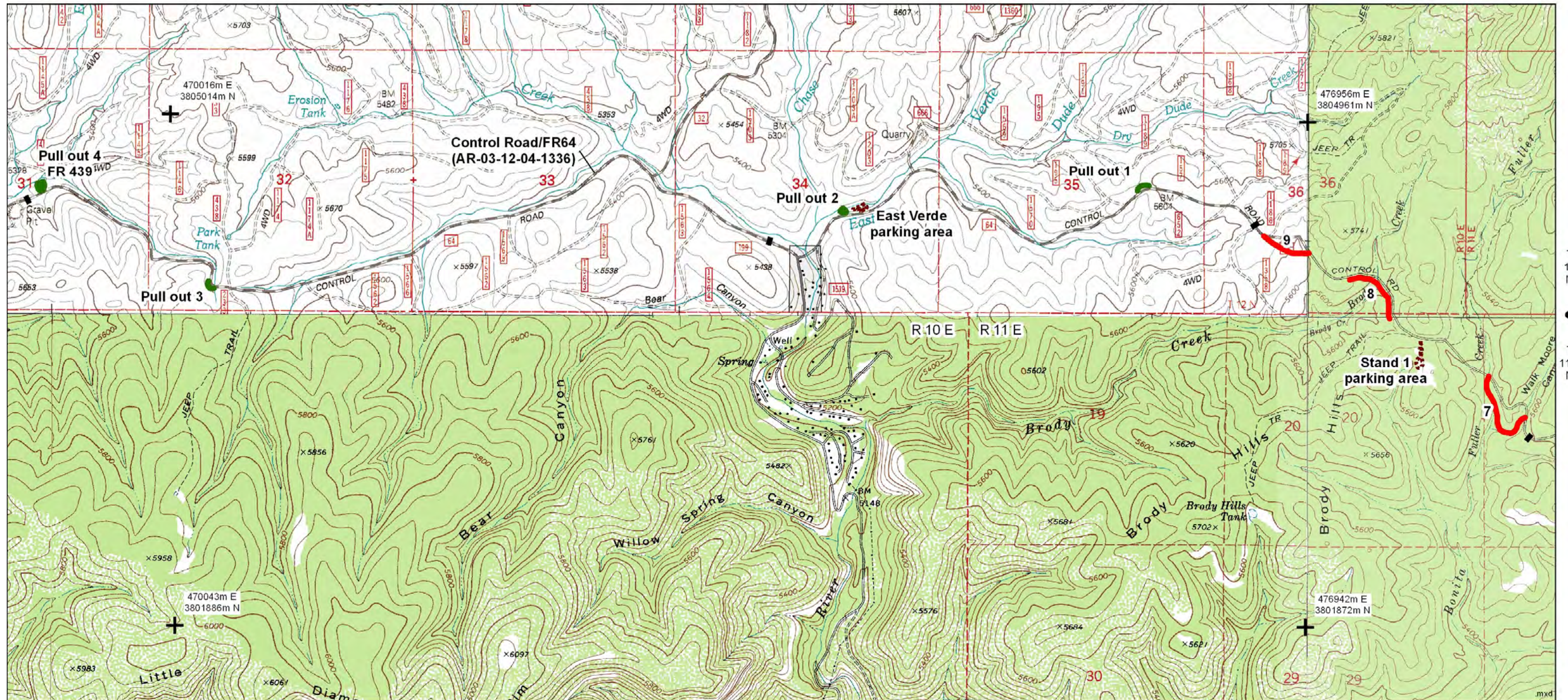


Source: USGS 7.5' Quadrangles Dane Canyon, Ariz. (1972) and Diamond Point, Ariz. (1973).
 Map Projection: NAD 1983, UTM Zone 12 North.

- Key**
- Abandoned Road Segment
 - Cattle guard

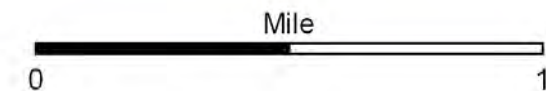
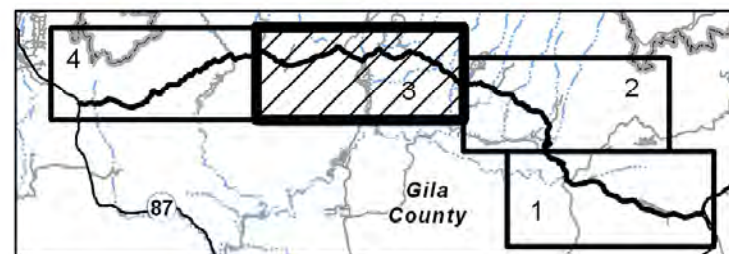


D.2.

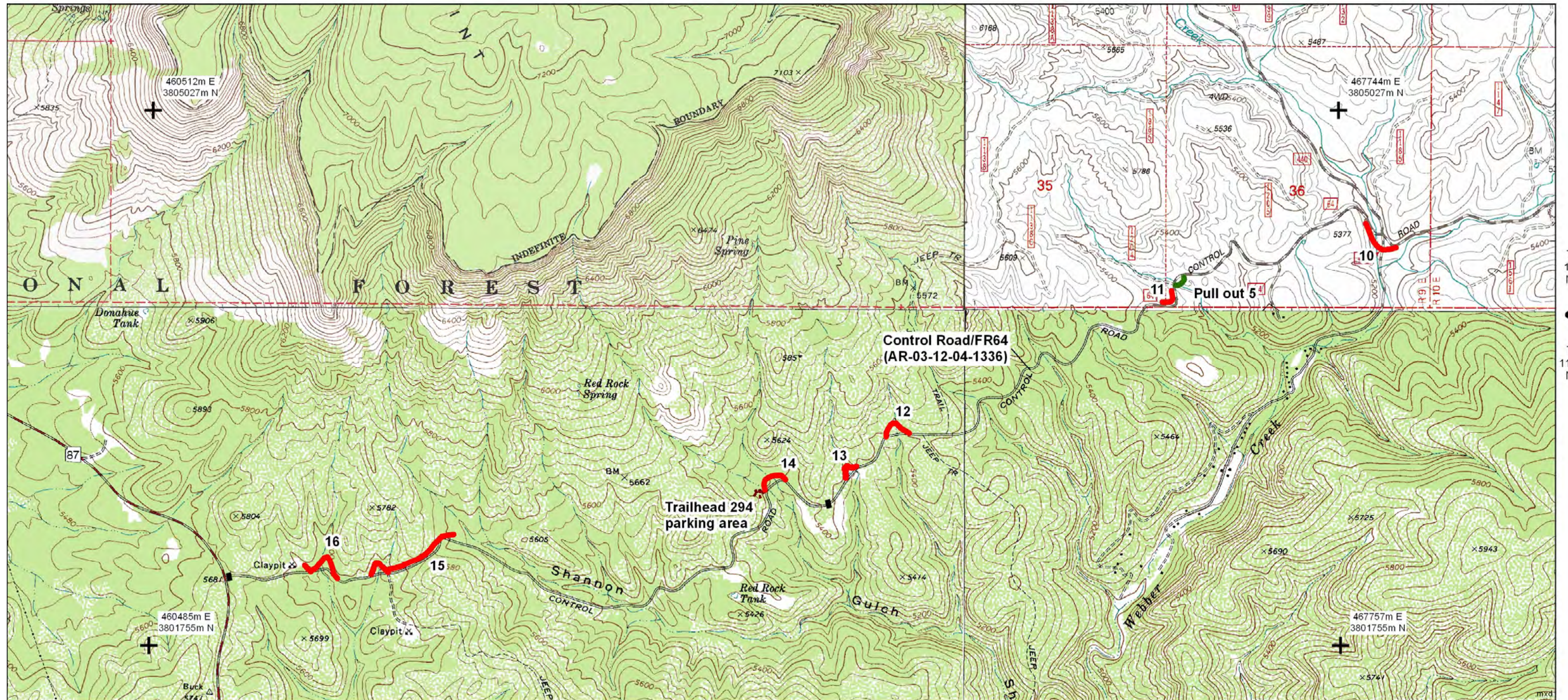


Source: USGS 7.5' Quadrangles Dane Canyon, Ariz. (1972), Diamond Point, Ariz. (1973), Kehl Ridge, Ariz. (1993) and Payson North, Ariz. (1973).
 Map Projection: NAD 1983, UTM Zone 12 North.

- Key
- Abandoned Road Segment
 - Cattle guard
 - Pull out

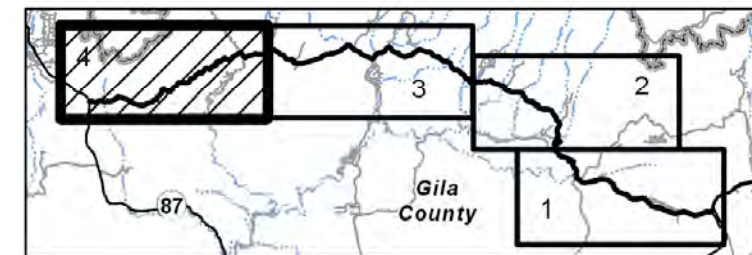


D.3.



Source: USGS 7.5' Quadrangles Buckhead Mesa, Ariz. (1973), Kehi Ridge, Ariz. (1993), Payson North, Ariz. (1973) and Pine, Ariz. (1973).
 Map Projection: NAD 1983, UTM Zone 12 North.

- Key
- Abandoned Road Segment
 - Cattle guard
 - Pull out



D.4.

APPENDIX E: PHOTOGRAPH RECORDS AND NEGATIVES

Logan Simpson Design Photo Record

Project Name: Documentation of Historic Control Road (FR 64)

Photographer: Leigh Davidson

Date: 04/26/11–04/27/11

Roll Number: 1 **Exposures:** 36

Film Type: Ilford 100 Black and white

Exposure no.	Direction	Description
1–23 ^a	—	Photographs of Colcord Road (see Rayle 2011)
24	N	Road overview at the east end of the Control Road project area
25 ^a	SW	Feature 73, east side
26	NW	Feature 73, east side
27	NE	Feature 73, west side
28 ^a	S	Overview of Feature 77 (superstructure) from the road
29	S	Overview of Feature 77 (superstructure) from the road
30	N	Overview of Feature 77 (superstructure) from the road
31 ^a	N	Overview of Feature 77 (superstructure) from the road
32	S	Overview of Feature 77 (substructure)
33 ^a	SE	Overview of Feature 77 (substructure)
34	SE	Overview of Feature 77 (substructure)
35 ^a	NW	Overview of Feature 77 (substructure)
36	NW	Road overview in the vicinity of Feature 80

^a = Photograph(s) not included in Appendix E.



Roll 1_115042 024



Roll 1_115042 025



Roll 1_115042 026



Roll 1_115042 027



Roll 1_115042 028



Roll 1_115042 029



Roll 1_115042 030



Roll 1_115042 031



Roll 1_115042 032



Roll 1_115042 033



Roll 1_115042 034



Roll 1_115042 035



Roll 1_115042 036



E.1.24.



E.1.26.



E.1.27.



E.1.29.



E.1.30.



E.1.32.



E.1.34.



E.1.36.

Logan Simpson Design Photo Record

Project Name: Documentation of Historic Control Road (FR 64)

Photographer: Leigh Davidson

Date: 04/28/2011–04/29/11

Roll Number: 2 **Exposures:** 36

Film Type: Ilford 100 Black and white

Exposure no.	Direction	Description
1 ^a	N	Feature 82, south side
2	S	Feature 82, north side
3	NE	Overview, Feature 86
4	W	Overview, Feature 86
5	SE	Overview, Feature 86
6	NE	Retaining wall, Feature 86
7	NE	Spillway, Feature 86
8	W	West wingwall, Feature 86
9	NW	Road overview in the vicinity of Feature 86
10	N	Road overview in the vicinity of Feature 86
11	SW	Overview, Feature 89
12 ^a	SW	Overview, Feature 89
13 ^a	E	Road overview in the vicinity of Feature 89
14	NE	Feature 89 from the road
15	W	Feature 92, east side
16	NE	Feature 93, east side
17	N	Road overview in the vicinity of Feature 93
18	SE	Overview of Feature 94 (superstructure)
19 ^a	SE	Overview of Feature 94 (superstructure)
20 ^a	NW	Overview of Feature 94 (superstructure)
21	NW	Overview of Feature 94 (superstructure)
22	SE	Feature 94, southeast wingwall
23 ^a	W	Feature 94, northeast wingwall
24	SW	Overview of Feature 94 (substructure)
25 ^a	NE	Overview of Feature 94 (substructure)
26	NW	RS 6 at Moore Creek, east end
27 ^a	SE	RS 6, creek crossing at Moore Creek
28	SW	RS 6, creek crossing at Moore Creek, west side
29 ^a	W	Overview of RS 6
30 ^a	E	Overview of RS 6
31	SW	Overview of RS 6
32 ^a	NE	Overview of RS 6
33 ^a	NE	North end of RS 6 at the junction of Control Road
34	W	North end of RS 6 at the junction of Control Road
35	NE	North end of RS 6 at the junction of Control Road
36 ^a	—	Photograph of Colcord Road (see Rayle 2011)

^a = Photograph(s) not included in Appendix E.



Roll 2_115042 001



Roll 2_115042 002



Roll 2_115042 003



Roll 2_115042 004



Roll 2_115042 005



Roll 2_115042 006



Roll 2_115042 007



Roll 2_115042 008



Roll 2_115042 009



Roll 2_115042 010



Roll 2_115042 011



Roll 2_115042 012



Roll 2_115042 013



Roll 2_115042 014



Roll 2_115042 015



Roll 2_115042 016



Roll 2_115042 017



Roll 2_115042 018



Roll 2_115042 019



Roll 2_115042 020



Roll 2_115042 021



Roll 2_115042 022



Roll 2_115042 023



Roll 2_115042 024



Roll 2_115042 025



Roll 2_115042 026



Roll 2_115042 027



Roll 2_115042 028



Roll 2_115042 029



Roll 2_115042 030



Roll 2_115042 031



Roll 2_115042 032



Roll 2_115042 033



Roll 2_115042 034



Roll 2_115042 035



E.2.2.



E.2.3.



E.2.4.



E.2.5.



E.2.6.



E.2.7.



E.2.8.



E.2.9.



E.2.10.



E.2.11.



E.2.14.



E.2.15.



E.2.16.



E.2.17.



E.2.18.



E.2.21.



E.2.22.



E.2.24.



E.2.26.



E.2.28.



E.2.31.



E.2.34.



E.2.35.

Logan Simpson Design Photo Record

Project Name: Documentation of Historic Colcord Road (FR 291)

Photographer: Leigh Davidson

Date: 04/29/11

Roll Number: 3 **Exposures:** 36

Film Type: Ilford 100 Black and white

Exposure no.	Direction	Description
1–19 ^a	—	Photographs of Colcord Road (see Rayle 2011)
20 ^a	SW	Feature 96, north side, showing fence
21	SW	Feature 97, north side
22 ^a	NE	Feature 97, south side
23	E	Road overview in the vicinity of Feature 98
24	SW	Feature 100, east side
25	NE	Feature 100, west side
26	NE	Feature 101, west side
27 ^a	SW	Feature 101, east side
28	SE	Road overview in the vicinity of Feature 101
29	W	Overview of Feature 102
30 ^a	W	Overview of Feature 102
31	E	Overview of Feature 102
32 ^a	E	Overview of Feature 102
33 ^a	E	Feature 102, southeast wingwall
34	SW	Feature 102, northwest wingwall
35	SW	Overview of Feature 102 (substructure)
36	N	Overview of Feature 102 (substructure)

^a = Photograph(s) not included in Appendix E.



Roll 3_115042 020



Roll 3_115042 021



Roll 3_115042 022



Roll 3_115042 023



Roll 3_115042 024



Roll 3_115042 025



Roll 3_115042 026



Roll 3_115042 027



Roll 3_115042 028



Roll 3_115042 029



Roll 3_115042 030



Roll 3_115042 031



Roll 3_115042 032



Roll 3_115042 033



Roll 3_115042 034



Roll 3_115042 035



Roll 3_115042 036



E.3.21.



E.3.23.



E.3.24.



E.3.25.



E.3.26.



E.3.28.



E.3.29.



E.3.31.



E.3.34.



E.3.35.



E.3.36.

Logan Simpson Design Photo Record

Project Name: Documentation of Historic Control Road (FR 64)

Photographer: Leigh Davidson

Date: 05/02/11

Roll Number: 4 **Exposures:** 36

Film Type: Ilford 100 Black and white

Exposure no.	Direction	Description
1	NW	Road overview in the vicinity of Features 108 and 109
2 ^a	SE	Feature 111, north side
3 ^a	SW	Overview of Feature 113 (superstructure)
4	SW	Overview of Feature 113 (superstructure)
5 ^a	NE	Overview of Feature 113 (superstructure)
6	NE	Overview of Feature 113 (superstructure)
7 ^a	SE	Feature 113, northeast wingwall
8	W	Feature 113, northwest wingwall
9	SE	Overview of Feature 113 (substructure)
10	NW	Overview of Feature 113 (substructure)
11	E	Cattle enclosure adjacent to CG 2
12	NE	Road overview at CG 2
13 ^a	N	Road overview in the vicinity of Feature 115
14	NE	Feature 116 overview
15	NW	Overview of Feature 116 showing the junction at the west wingwall
16	NE	Wood fence upstream from Feature 116
17	SE	Dude Fire parking area
18 ^a	NW	Road overview in the vicinity of Feature 117
19 ^a	SE	Road overview in the vicinity of Feature 117
20	E	Road overview in the vicinity of Feature 120
21	NE	Stand 1 trailhead marker
22	SE	Stand 1 parking area sign
23 ^a	NW	Feature 124, east side showing circular wall
24 ^a	E	Feature 124, east side showing circular wall
25 ^a	NW	Road overview in the vicinity of Feature 125
26 ^a	SW	Feature 126, north side
27	SW	Feature 126, north side
28 ^a	NE	Feature 126, south side
29	NW	Wood barricade at Feature 126
30	NW	Road overview at CG 3
31 ^a	SE	Road overview in the vicinity of Feature 133
32 ^a	NW	Road overview in the vicinity of Feature 140
33	S	Road overview in the vicinity of Feature 140
34 ^a	S	Feature 143, north side
35	NE	Feature 143, south side
36	N	Feature 145, west side

^a = Photograph(s) not included in Appendix E.



Roll 4_115042 001



Roll 4_115042 002



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Roll 4_115042 034



Roll 4_115042 035



Roll 4_115042 036



E.4.1.



E.4.4.



E.4.6.



E.4.8.



E.4.9.



E.4.10.



E.4.11.



E.4.12.



E.4.14.



E.4.15.



E.4.16.



E.4.17.



E.4.20.



E.4.21.



E.4.22.



E.4.27.



E.4.29.



E.4.30.



E.4.33.



E.4.35.

Logan Simpson Design Photo Record

Project Name: Documentation of Historic Control Road (FR 64)

Photographer: Leigh Davidson

Date: 05/03/11

Roll Number: 5 **Exposures:** 36

Film Type: Ilford 100 Black and white

Exposure no.	Direction	Description
1	SW	Road overview in the vicinity of Feature 149
2 ^a	NE	Road overview in the vicinity of Feature 149
3 ^a	NE	Verde Glen parking area
4	NE	Rock berms at Feature 152
5 ^a	NE	Road overview in the vicinity of Feature 152
6	NE	Road overview in the vicinity of Feature 152
7 ^a	SW	Overview of Feature 154 (superstructure)
8	SW	Overview of Feature 154 (superstructure)
9	NE	Overview of Feature 154 (superstructure)
10 ^a	NE	Overview of Feature 154 (superstructure)
11	SE	Feature 154, northwest wingwall
12	S	Overview of Feature 154 (substructure)
13 ^a	E	Overview of Feature 154 (substructure)
14 ^a	SW	Overview of Feature 154 (substructure)
15	N	Overview of Feature 154 (substructure)
16	NW	Feature 154, center pier
17	S	Feature 154, south abutment and wingwalls
18	SW	Feature 154, southwest wingwall
19 ^a	SE	Road overview at CG 4 near Whispering Pines
20 ^a	NE	Feature 157, south side
21	S	Feature 157, north side
22	SE	Road overview showing the junction of FR 32 and the Control Road
23 ^a	NW	Road overview showing the junction of FR 32 and the Control Road
24	NE	Feature 162, east side
25 ^a	NE	Road overview in the vicinity of Feature 165
26	NW	Feature 169, south side
27	NE	Feature 169, southwest wingwall
28 ^a	SE	Feature 169, north side
29 ^a	SW	Road overview in the vicinity of Feature 169
30	SE	Feature 173
31	SW	Road overview in the vicinity of Feature 177
32 ^a	NE	Road overview in the vicinity of Feature 177
33	SE	Feature 178, south side
34 ^a	NE	Feature 178, north side
35	N	Feature 180, south side
36 ^a	S	Feature 180, north side

^a = Photograph(s) not included in Appendix E.



Roll 5_115042 001



Roll 5_115042 002



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Roll 5_115042 035



Roll 5_115042 036



E.5.1.



E.5.4.



E.5.6.



E.5.8.



E.5.9.



E.5.11.



E.5.12.



E.5.15.



E.5.16.



E.5.17.



E.5.18.



E.5.21.



E.5.22.



E.5.24.



E.5.26.



E.5.27.



E.5.30.



E.5.31.



E.5.33.



E.5.35.

Logan Simpson Design Photo Record

Project Name: Documentation of Historic Control Road (FR 64)

Photographer: Leigh Davidson

Date: 05/04/11–5/10/11

Roll Number: 6 **Exposures:** 36

Film Type: Ilford 100 Black and white

Exposure no.	Direction	Description
1	NE	Road overview in the vicinity of Feature 180
2 ^a	E	Road overview with Feature 188 in the foreground
3	E	Road overview with Feature 188 in the foreground
4	SW	Feature 189, north side
5	NE	Feature 189, south side
6	S	Feature 193, north side
7	SE	Feature 200, north side
8	NE	Road overview in the vicinity of CG 5 and Feature 200
9 ^a	W	Road overview in the vicinity of Feature 207
10	W	Road overview in the vicinity of Feature 207
11	NE	Overview of Feature 207
12	NW	Overview of Feature 207
13 ^a	SW	Feature 212, north side
14 ^a	NE	Road overview in the vicinity of Feature 212
15	SW	Road overview showing Feature 213
16	NW	Overview of Feature 214 (superstructure)
17	NW	Overview of Feature 214 (superstructure)
18	SE	Overview of Feature 214 (superstructure)
19	SE	Overview of Feature 214 (superstructure)
20	N	Feature 214, southwest wingwall
21	E	Feature 214, central pier
22	E	Feature 214, northeast wingwall
23	SW	Overview of Feature 214
24	NE	Overview of Feature 214
25 ^a	NE	Road overview in the vicinity of Feature 220
26	SW	Road overview in the vicinity of Feature 221
27 ^a	S	Feature 222, west side
28 ^a	S	Feature 227, north side
29	W	Feature 227, south side
30	SW	“Road closed” barricade at intersection of an unknown Forest Road
31 ^a	S	Road overview in the vicinity of Feature 233 showing the barricade
32 ^a	NE	Road overview in the vicinity of Feature 233 showing the barricade
33	S	Road overview in the vicinity of Features 238 and 239
34	NE	Road overview in the vicinity of Features 238 and 239
35	W	Feature 240, north side
36 ^a	SE	Feature 245, west side

^a = Photograph(s) not included in Appendix E.



Roll 6_115042 001



Roll 6_115042 002



Roll 6_115042 003



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Roll 6_115042 036



E.6.1.



E.6.3.



E.6.4.



E.6.5.



E.6.6.



E.6.7.



E.6.8.



E.6.10.



E.6.11.



E.6.12.



E.6.15.



E.6.16.



E.6.17.



E.6.18.



E.6.19.



E.6.20.



E.6.21.



E.6.22.



E.6.23.



E.6.24.



E.6.26.



E.6.29.



E.6.30.



E.6.33.



E.6.34.



E.6.35.

Logan Simpson Design Photo Record

Project Name: Documentation of Historic Control Road (FR 64)

Photographer: Leigh Davidson

Date: 05/10/11–05/11/11

Roll Number: 7 **Exposures:** 36

Film Type: Ilford 100 Black and white

Exposure no.	Direction	Description
1	NE	Road overview in the vicinity of Feature 245
2 ^a	SW	Road overview in the vicinity of Feature 245
3	E	Feature 249, west side
4 ^a	SW	Feature 249, close-up of arch, east side
5	W	Feature 249, east side
6	NW	Feature 257, east side
7	SW	Feature 258, east side
8 ^a	NE	Road overview showing Feature 258
9	SW	Road overview in the vicinity of Feature 259
10	NE	RS 1, east end near Feature 258
11 ^a	NW	RS 13
12	E	RS 13
13	SE	RS 13, showing creek crossing
14	SE	RS 13, showing creek crossing
15 ^a	NE	RS 13, showing creek crossing, CMPs, and wall remnants
16	NW	RS 13, close-up of east wall at creek
17 ^a	NW	RS 13, overview at creek crossing
18 ^a	N	RS 13, overview at creek crossing
19 ^a	SW	RS 13, intact wall on south bank at creek crossing
20	S	RS 13, overview
21 ^a	NW	RS 13, overview
22	N	RS 13, west end
23	S	Road overview at CG 6
24	SE	Feature 263, west side
25 ^a	NW	Overview showing Feature 265 and Trailhead 294 sign
26	W	Trailhead 294 parking area
27 ^a	NE	Road overview at Feature 268
28	NE	Road overview at Feature 268
29	N	Feature 275, south side
30 ^a	SW	Feature 276, north side
31 ^a	NW	Feature 276, south side
32	NE	Feature 277, south side
33	N	Feature 278, south side
34 ^a	W	Road overview in the vicinity of Feature 277
35 ^a	SE	Road overview in the vicinity of Features 285 and 286
36 ^a	NW	Road overview in the vicinity of Features 285 and 286

^a = Photograph(s) not included in Appendix E.



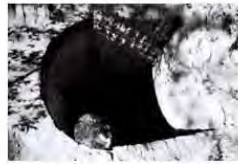
Roll 7_115042 001



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Roll 7_115042 036



E.7.1.



E.7.3.



E.7.5.



E.7.6.



E.7.7.



E.7.9.



E.7.10.



E.7.12.



E.7.13.



E.7.14.



E.7.16.



E.7.20.



E.7.22.



E.7.23.



E.7.24.



E.7.26.



E.7.28.



E.7.29.



E.7.32.



E.7.33.

Logan Simpson Design Photo Record

Project Name: Documentation of Historic Control Road (FR 64)

Photographer: Leigh Davidson

Date: 05/11/11

Roll Number: 8 **Exposures:** 15

Film Type: Ilford 100 Black and white

Exposure no.	Direction	Description
1	NE	Feature 289, south side
2 ^a	NE	Road overview in the vicinity of Features 291 and 292
3	SW	Road overview in the vicinity of Features 291 and 292
4	N	RS 14 on north side of Control Road
5	S	RS 14 on south side of Control Road
6	NE	RS 15, west end
7	SW	Road overview in the vicinity of Feature295
8 ^a	NE	Road overview in the vicinity of Feature295
9	NW	RS 16
10	E	Road overview in the vicinity of Features 296 and 298
11 ^a	W	Road overview in the vicinity of Features 296 and 298
12	S	Feature 298, north side
13	W	Road overview at the west end of the project area
14 ^a	E	Road overview at the west end of the project area
15	E	Road overview at the west end of the project area

^a = Photograph(s) not included in Appendix E.



Roll 8_115042 001



Roll 8_115042 002



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Roll 8_115042 015



E.8.1.



E.8.3.



E.8.4.



E.8.5.



E.8.6.



E.8.7.



E.8.9.



E.8.10.



E.8.12.



E.8.13.



E.8.15.