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## Cultural Resources Survey for the Rehabilitation of Floodwater Retarding Structures 10, 12, 21, and 28, Within the Plum Creek Conservation District, Hays and Caldwell Counties, Texas

Steven W. Ahr

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**Cultural Resources Survey for the Rehabilitation of Floodwater Retarding Structures 10, 12, 21, and 28, Within the Plum Creek Conservation District, Hays and Caldwell Counties, Texas**

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FINAL REPORT

**Cultural Resources Survey for the  
Rehabilitation of Floodwater Retarding  
Structures 10, 12, 21, and 28, Within the Plum  
Creek Conservation District, Hays and  
Caldwell Counties, Texas**

September 2017

**URS**

**FINAL REPORT**

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Creek Conservation District, Hays and  
Caldwell Counties, Texas**

**Prepared By**

Steven W. Ahr



URS Corporation

**Principal Investigator**

Steven W. Ahr, PhD

**Prepared For**

Natural Resources Conservation Service

**Texas Antiquities No. 7469**

**September 2017**

## ABSTRACT

URS Corporation (URS) was contracted by the United States Department of Agriculture's Natural Resources Conservation Service (NRCS) to perform a cultural resources survey in support of plans to rehabilitate four Floodwater Retention Structures (FRSs) located in Hays and Caldwell Counties, Texas. FRS 10 and FRS 12 are located in Hays County, while FRS 21 and FRS 28 are in Caldwell County. Rehabilitation activities for FRSs generally consist of widening and raising the earthen spillway by flattening the downstream slope and extending the footprint of the earthen structure, updating or replacing the inlet and/or outlet pipes, and sediment excavation within the drained pool area. Auxiliary spillways, which are typically located on the uplands, may also be modified, and temporary construction sites may be established on the uplands as well.

The project is being developed by the Plum Creek Conservation District (PCCD) and the NRCS. As such, the project is subject to Section 106 of the National Historic Preservation Act (NHPA) of 1966, as amended. In accordance with Advisory Council on Historic Preservation regulations pertaining to the protection of historic properties, federal agencies are required to assess the effects of their undertaking on historic properties prior to issuing permits or funding. Furthermore, because each FRS is currently monitored, operated, and maintained by the PCCD, which is a political subdivision of the State of Texas, the projects also fall within the purview of the Antiquities Code of Texas, which requires the Texas Historical Commission (THC) to review any actions that have the potential to disturb prehistoric or historic sites within the public domain of the State of Texas.

The survey was carried out within the estimated Limits of Construction (LOC) at each FRS from November 17-18, 2015, under Texas Antiquities Permit No. 7469, issued by the THC. Dr. Steve Ahr served as Principal Investigator. For purposes of these investigations, the LOC is considered to be equivalent to the Area of Potential Effect for cultural resources compliance with the NHPA and the Antiquities Code of Texas. The survey included a 100 percent pedestrian survey of all areas of potential new disturbance associated with rehabilitation measures at each FRS. Field investigations also included an assessment of the soils and geomorphic setting of the project areas as it relates to archaeological integrity potential and extant project impacts.

During the survey, a prehistoric isolated find was identified within the LOC at FRS 12, and two barn structures were found adjacent to the LOC at FRS 21. Further inspection revealed that none of these cultural resources are eligible for listing in the National Register of Historic Places (NRHP), or merit designation as a State Antiquities Landmark (SAL). No artifacts were collected during the survey. Pursuant to 13 TAC 26.17, all project notes, maps, photographs, and other documentary records will be permanently curated at the Center for Archaeological Studies, Texas State University, San Marcos.

Based on the results of the background review and survey, it is recommended that the proposed rehabilitation efforts for FRS 10, 12, 21, and 28 in Hays and Caldwell Counties should have **No Effect** on properties included in, or eligible for inclusion in, the NRHP, or that merit designation as SALs. In the event that previously undiscovered sites are found during construction, appropriate actions should be taken in accordance with the State Level Agreement among NRCS

and the Texas State Historic Preservation Office, the National Programmatic Agreement among NRCS, the National Conference of State Historic Preservation Officers, and the Advisory Council on Historic Preservation, and NRCS General Manual 420, Part 401 guidance.

In the event that any unmarked prehistoric or historic human remains or burials are encountered during construction, the area of the remains is considered a cemetery under current Texas law and all construction activities must cease immediately so as to avoid impacting the remains. The THC must be notified immediately by contacting the History Programs Division at (512) 463-5853 and the Archeology Division at (512) 463-6096. All cemeteries are protected under State law and cannot be disturbed. Further protection is provided in Section 28.03(f) of the Texas Penal Code, which provides that intentional damage or destruction inflicted on a human burial site is a state jail felony.

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## 1.0 INTRODUCTION

URS Corporation (URS) was contracted by the United States Department of Agriculture's Natural Resources Conservation Service (NRCS) to perform a cultural resources survey in support of plans to rehabilitate four Floodwater Retention Structures (FRSs) located in Hays and Caldwell Counties, Texas (**Figure 1**). The project is being developed by the Plum Creek Conservation District (PCCD) and the NRCS. FRS 10 and FRS 12 are located in Hays County, while FRS 21 and FRS 28 are in Caldwell County. Rehabilitation activities for FRSs generally consist of widening and raising the earthen spillway by flattening the downstream slope and extending the footprint of the earthen structure, updating or replacing the inlet and/or outlet pipes, and sediment excavation within the drained pool area. Auxiliary spillways, which are typically located on the uplands, may also be modified, and temporary construction sites may be established on the uplands as well. Specific details regarding the proposed construction activities at each FRS location are discussed in Section 5: Results.

Because these projects are being developed through the NRCS, they fall under the purview of Section 106 of the National Historic Preservation Act (NHPA) of 1966, as amended. In accordance with Advisory Council on Historic Preservation (ACHP) regulations pertaining to the protection of historic properties (36 Code of Federal Regulations [CFR] 800), federal agencies are required to assess the effects of their undertaking on historic properties prior to issuing permits or funding. Historic properties are defined as those properties that are included in, or eligible for inclusion in the National Register of Historic Places (NRHP). Therefore, the project is subject to review by the Texas State Historic Preservation Office (SHPO). Furthermore, because each FRS is currently monitored, operated, and maintained by the PCCD, which is a political subdivision of the State of Texas, the projects also fall within the purview of the Antiquities Code of Texas, which requires the Texas Historical Commission (THC) to review any actions that have the potential to disturb prehistoric or historic sites within the public domain of the State of Texas. Regulations pertaining to the code can be found within Title 13, Part 2, Chapter 26 of the Texas Administrative Code (TAC). The THC issues Antiquities Permits that stipulate conditions under which survey, discovery, excavation, demolition, restoration, or scientific investigations can occur. Therefore, URS submitted an Antiquities Permit application and research design in order to perform an intensive archaeological survey (13 TAC 26.13 and 26.15).

For purposes of these investigations, the Limits of Construction (LOC) is considered to be equivalent to the Area of Potential Effect (APE) for cultural resources, which includes all known areas of disturbances related to the project. The survey was carried out within the estimated LOC at each FRS from November 17-18, 2015, under Texas Antiquities Permit No. 7469. Dr. Steve Ahr served as Principal Investigator.

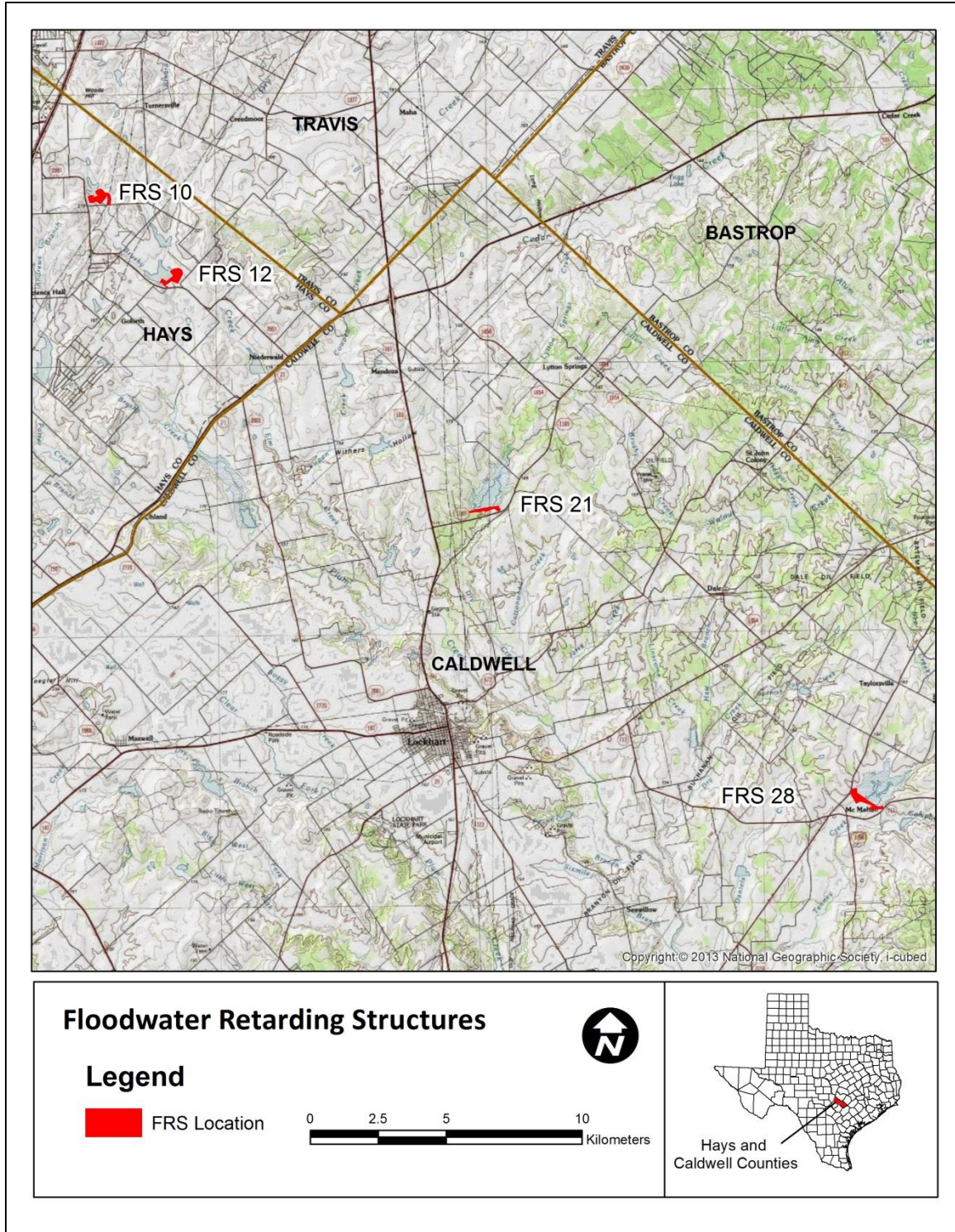


Figure 1. FRS locations in Hays and Caldwell Counties, Texas.

## 2.0 ENVIRONMENTAL SETTING

### Physiography

The FRSs under evaluation are located within the Blackland Prairies physiographic region (Bureau of Economic Geology [BEG] 1996), and within the Texan Biotic Province (Blair 1950). Typical vegetation in this area consists of tall grass prairie with oak-hickory forests of post oak, blackjack oak, and hickory along stream edges. Fauna in the region include white-tailed deer, wild turkeys, mourning doves, eastern cottontails, eastern fox squirrels, bullfrogs, Virginia opossum and striped skunk (Telfair 1999).

### Geology and Soils

#### FRS 10

FRS 10 is located along Brushy Creek, which flows south for approximately nine miles before joining Plum Creek. FRS 10 is located approximately 1.8 miles southeast of Buda, in Hays County, Texas. The study area is underlain by Upper Cretaceous Pecan Gap Chalk (**Figure 2**). This formation consists of chalky marl with micro-granular calcite in clay matrix and well-rounded quartz grains, and weathers light gray and white (BEG 1974).

Soils within the narrow channel below the dam include Tinn clay (Tn), 0 to 1 percent slopes, frequently flooded. These moderately well drained, very slowly permeable soils are on floodplains on the dissected Blackland Prairies and formed in calcareous clayey alluvium. Within the upland and terrace riser portions of the study area flanking the dam and the reservoir, the soils are comprised of Houston Black gravelly clay (HvD), Heiden clay (HeC3 and HeD3), and Altoga silty clay (AgC3). The Houston Black and Heiden soils are very slowly permeable, clay-rich Vertisols that formed in calcareous clayey residuum (NRCS 2017). Due to the highly expansive smectitic clay content, these soils have high shrink-swell capacity that results in the formation of wedge-shaped peds, slickensides, and localized micro-high and micro-low surface topography. The Altoga soils are well drained soils on terrace risers. Within the LOC they are moderately eroded soils on 2 to 5 percent slopes (NRCS 2017). The mapping extent of these soils and their relation to the field survey and potential for archaeological resources is presented in Section 5.

#### FRS 12

FRS 12 is located along Brushy Creek, which flows south for approximately seven miles before joining Plum Creek, approximately four miles southeast of Buda, in Hays County. The area immediately west of the dam is underlain by Upper Cretaceous Pecan Gap Chalk (see **Figure 2**). This formation consists of chalky marl with micro-granular calcite in clay matrix and well-rounded quartz grains, and weathers light gray and white (BEG 1974). East of the site, the underlying geology consists of the Navarro Group and Marlbrook Marl, which is made of calcareous clay and silt, and is massive, thinly laminated, and weathers gray (BEG 1974).



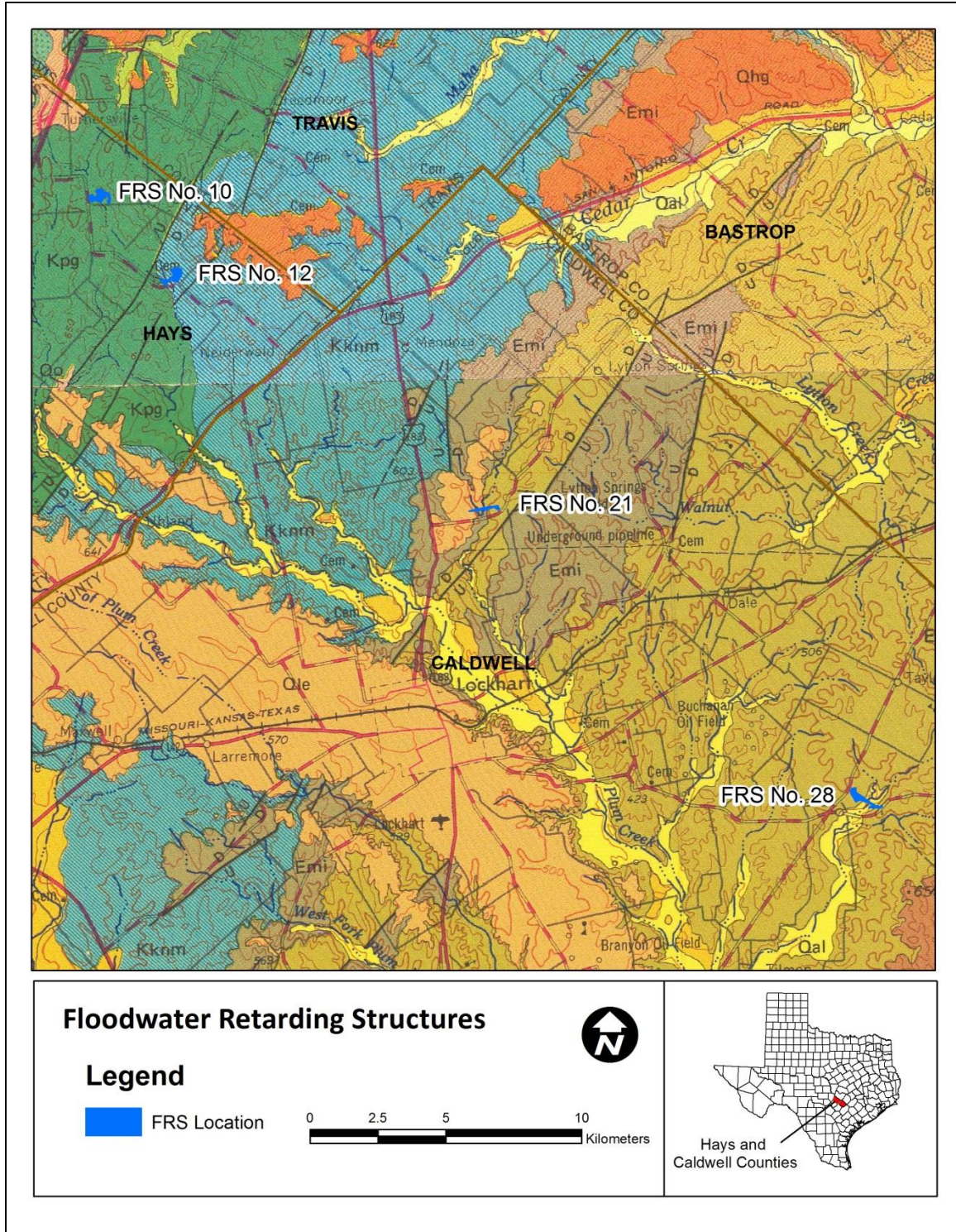


Figure 2. Geologic map of FRS locations.

Soils within the narrow channel portion of the study area below the dam outlet include Tinn clay, 0 to 1 percent slopes, frequently flooded. These moderately well drained, very slowly permeable soils are on floodplains on the dissected Blackland Prairies and formed in calcareous clayey alluvium. Within the upland and terrace portions of the study area, the soils are comprised of Houston Black gravelly clay (HvD), Houston Black clay 1 to 3 percent slopes (HoB), Heiden clay, 5 to 8 percent slopes, eroded (HeC3), Ferris clay, 5 to 20 percent slopes, severely eroded (FeF4), and Branyon clay, 1 to 3 percent slopes (ByB). The Houston, Heiden, Ferris, and Branyon soils are generally described as very slowly permeable, clay-rich Vertisols that formed in calcareous clayey residuum (NRCS 2017). Due to the highly expansive smectitic clay content, these soils have high shrink-swell capacity that results in the formation of wedge-shaped peds, slickensides, and localized micro-high and micro-low surface topography. The mapping extent of these soils and their relation to the field survey and potential for archaeological resources is presented in Section 5.

## **FRS 21**

FRS 21 is located on Dry Creek, which flows south for approximately five miles before joining Plum Creek. FRS 21 is located approximately five miles north of Lockhart, in Caldwell County. Basal geology of the study area is the Eocene-age Wilcox Group, undivided (see **Figure 2**). This group is comprised of the Calvert Bluff, Simsboro, and Hooper Formations, and is generally characterized as consisting of mostly cross bedded and occasionally indurated sand, mudstone, and clay (BEG 1974). The north and west portions of the creek are flanked by Quaternary-age terraces of the Leona Formation. These deposits consist of fine calcareous silt grading down into coarse gravels.

Soils within the narrow channel portion of the study area consist of Tinn clay, 0 to 1 percent slopes, frequently flooded (Ts). These moderately well drained, very slowly permeable soils are on floodplains on the dissected Blackland Prairies and formed in calcareous clayey alluvium. Within the upland portions of the LOC immediately above and below the dam, and to the west, the soils are comprised of Fett gravelly soils, 1 to 12 percent slopes (FeE). These soils are described as deep, poorly drained and very slowly permeable soils that formed in gravelly sediments on sloping uplands (NRCS 2017). On the east flank of the dam structure and underlying the auxiliary spillway portion of the LOC, soils are mapped as Crockett soils, 2 to 5 percent slopes, eroded (CrC2). These soils are on broad ridges on dissected plains underlain by Cretaceous shale. A small section of the LOC to the southeast of the auxiliary spillway is mapped as Crockett fine sandy loam, 1 to 3 percent slopes (CfB). These are well drained soils on broad ridges of dissected plains and formed from residuum, from interbedded shale and clay. The Crockett soils in the LOC occur on nearly level to gently sloping terraces or remnants of terraces (NRCS 2017). Each of these soils has shallow (<1 m thick) sandy mantles, which tend to be highly bioturbated. The mapping extent of these soils and their relation to the field survey and potential for archaeological resources is presented in Section 5.

## **FRS 28**

FRS 28 is located along Tenney Creek, which flows southwest for approximately six miles before joining Plum Creek. FRS 28 is located approximately 10 miles southeast of Lockhart, in Caldwell County. Basal geology at FRS 28 is the Eocene-age Wilcox Group, undivided (see **Figure 2**). This group is comprised of the Calvert Bluff, Simsboro, and Hooper Formations and consists of cross bedded and occasionally indurated sand, mudstone, and clay (BEG 1974). Inset into these older

Eocene formations are Holocene-age alluvium floodplain deposits consisting of clay, silt, sand and gravel (BEG 1974). The valley width containing these younger deposits is about 400 meters (m).

Soils within the narrow channel portion of the study area consist of Gowen clay loam, occasionally flooded (Go) and Gowen frequently flooded (Gs). These cumelic soils are very deep, well drained, and moderately permeable. They occur on nearly level floodplains that formed in non-calcareous loamy alluvium of Holocene age and are typically flooded one or more times a year (NRCS 2017). Upland edges and terraces on the southeast and northwest sides of the dam are made up primarily of Crockett soils, 2 to 5 percent slopes, eroded (CrC2), and Crockett fine sandy loam, 1 to 3 percent slopes (CfB). These soils are on broad ridges on dissected plains underlain by Cretaceous shale. These are well drained soils on broad ridges of dissected plains and formed from residuum, from interbedded shale and clay. The Crockett soils in the LOC occur on nearly level to gently sloping terraces or remnants of terraces (NRCS 2017). Each of these soils has shallow (<1 m thick) sandy mantles, which tend to be highly bioturbated. A small area mapped as Mabank loam, 0 to 1 percent slopes (MaA), is present at the northwest corner of the LOC, adjacent to the existing dam footprint. These soils formed on sloping terraces and terrace remnants within very clayey parent materials that are seasonally saturated, as evidenced by low-chroma, gleyed horizons (NRCS 2017). The mapping extent of these soils and their relation to the field survey and potential for archaeological resources is presented in Section 5.

## **3.0 CULTURAL BACKGROUND AND PREVIOUS INVESTIGATIONS**

### **Cultural Background**

#### **Paleoindian Period (11,500 – 8800 years Before Present [B.P.]**

The traditional view of the Paleoindian Period is one that is characterized by small groups of highly mobile hunter-gatherers who hunted mega-fauna such as mammoth, bison, and horse. A more recent interpretation of this period, however, suggests that diverse resources were exploited, including smaller animals, such as turtle, alligator, raccoon, and waterfowl, and a diverse range of plants (Collins 1995, 2002, 2004). The defining characteristics of Paleoindian lithic assemblages include lanceolate points with straight or concave bases, scrapers, and notched tools. The earliest part of the Paleoindian Period is represented by Clovis and Folsom cultures, which are identifiable by diagnostic projectile points bearing the same names.

Evidence of big game hunting (e.g., mammoth and bison) is represented by a number of sites containing Clovis and Folsom spear points (Black 1989; Hester 1995). Few deeply buried and preserved sites from this period have been intensively investigated in south Texas. One notable example includes the Richard Beene Site, located in south San Antonio (Thoms and Mandel 1992; 2007).

#### **Archaic Period (8800 – 1200 B.P.)**

During the Archaic Period, plant food gathering became an increasingly important part of the overall subsistence in response to increasingly arid climate conditions. This shift is represented archaeologically by a wide array of stone tools geared toward plant processing (e.g., grinding implements), and varied projectile point styles. Three subperiods are recognized in south Texas, including the Early Archaic, Middle Archaic, and Late Archaic Periods (Black 1989).

The Early Archaic Period (8800 – 6000 B.P.) is characterized by greater emphasis on exploitation of riverine settings. This period is recognized archaeologically by the presence of corner- and basal- notched projectile points (Hester 1995). Early Archaic sites are relatively rare in south Texas, which may be attributed to warmer and drier climates that had been seen previously (Black 1989; Collins 1995). Commonly exploited biomass during this period include freshwater mussel, deer, rabbit, and antelope (Thoms and Mandel 1992, 2007).

The Middle Archaic Period (6000 – 4000 B.P.) saw a population increase (Hall et al. 1986), with a subsistence focused on locally available plants and roots, such as mesquite beans and acacias (Hester 1995). Tortugas, Abasolo, and Carrizo points are diagnostic artifacts for this period (Hester 1995; Turner and Hester 1993). Evidence of prehistoric cemeteries was found at the Bering Sink Hole in Central Texas (Bement 1994) and the Loma Sandia Site in Live Oak County (Taylor and Highley 1995).

The Late Archaic Period (4000 – 1200 B.P.) witnessed continued reliance on hunting along with an increase in gathering. Evidence suggests that cemeteries continued to be used during this time. Bison hunting also took place (Hester 1995), and a wider variety of smaller mammals such



as rabbits and rodents may have been exploited with greater intensity, as well as the use of mesquite and acacia. Numerous sites from this period contain large fire-cracked rock features, and include seed processing implements such as manos and metates.

### **Late Prehistoric Period (1200 – 350 B.P.)**

The Late Prehistoric Period is divided into Austin and Toyah phases. During the Austin Phase, the bow and arrow was introduced (Black 1989; Hester 1995; Prewitt 1981). Scallorn arrow points are diagnostic of this period, as well as other side-notched varieties. Use of Clear Fork gouges and bifaces is also common, as well as grinding stones and scrapers, which represents a diverse range of subsistence activities. Deer, freshwater mussels, and snails have been suggested as important food resources during the Austin Phase (Prewitt 1981). The subsequent Toyah Phase is represented by distinct Perdiz arrow points and other contracting stem varieties. Also commonly found in Toyah sites are bone-tempered pottery, beveled-edge bifacial knives, perforators, and end-scrapers. This artifact assemblage is attributed to widespread deer and bison exploitation (Black 1989; Creel 1991; Dillehay 1974; Hester 1995; Huebner 1991; Johnson 1994; Prewitt 1981). Although Toyah lifeways likely persisted into the earliest historic times, sites from this period are difficult to distinguish from pre-contact sites. Furthermore, ceramics such as Leon Plain were used extensively throughout the Toyah Phase and are similar to historic period Goliad wares (Black 1986, 1989; Hester 1995).

### **Historic Development (350 B.P. – present)**

Contact began with the arrival of European and later European-American immigrants in this region. That was the time of the early Spanish missions and French explorations. The earliest historical accounts for the Central Texas region mention numerous displaced cultural groups. The Native American populations moved from Spanish oppression in the southwest or from the mounted Apache encroaching on territory from the northeast. Local groups had been significantly reduced with the spread of European-introduced diseases. The introduction of the horse in Central Texas also increased the range of local populations. Collins (2004) describes how small band-sized camps were in the area but covered a large geographical region due to their adoption of the horse. The groups in the area were often comprised of multiple social groups forced together by loss as the new migrant populations took land and resources from the Native Americans.

Early Spanish and French documents discuss the Native American population's reliance on hunting bison, deer, and antelope; as well as the trade of bison products. Native American groups became more transient moving with the local bison populations. The Hasinai Caddo population travelled into Central Texas during the early Historic period to hunt bison and camped with the indigenous populations when bison migrated to the area. The presence of Caddoan ceramics on Toyah sites in Central Texas suggest that this pattern of Caddoan occupation had continued from the late Prehistoric period (Perttula et al. 1995). By 1800 the Shoshonian speaking Comanche had moved into northwest Texas before reaching the Central Texas region. The European American historical accounts document their arrival in the region with hostility. By the mid to late nineteenth century, the Native American population in Central Texas had waned.

## ***Hays County***

Hays County was established in 1848 from the southwestern portion of Travis County. Early settlers had moved to the area, establishing settlements along Onion Creek, the San Marcos River, and the Blanco River. At this time, a stagecoach route from Austin to San Antonio crossed Hays County, encouraging the establishment of lumber, cotton, and cattle industries along the route, thereby establishing San Marcos as the county seat. During the Civil War, the county's cattle industry was used to support Confederate forces. Hays County prospered post-Civil War and the construction of the railroad in 1881 further boosted the economy by creating a transportation network to larger trade centers (Hays County Historical Commission 2016). The International Great Northern Railroad was completed to San Marcos from Austin and was later extended to San Antonio.

Hays County continued to be largely agricultural until the 1960s, with the livestock industry being a large contributor to the economy. After the 1960s, the growth of San Marcos University and Gary Job Corps Training Center bolstered the economy and eventually contributed more to the economy than the agricultural sector. The 1970s and 1980s saw large areas of the county being impacted by the expanding Austin Metropolitan area with additional development along the Interstate Highway 35 corridor (Cecil and Green 2017).

## ***Caldwell County***

Caldwell County was part of Green DeWitt's colony that was established in 1825 by the Mexican government. Early settlements and communities in the 1820s and 1830s were located along the San Marcos River, Plum Creek, and Tinney Creek (Smyrl 2017). Due to increasing populations, in 1848, Caldwell County was created out of portions of Bastrop and Gonzales Counties, with Lockhart named as the county seat. By 1850, the census indicated that the county had 1,055 free residents and 247 slaves, the latter of which increased by five-fold by 1860 (Smyrl 2017). The county economy during this time was livestock based rather than crops. On the eve of the Civil War, county residents voted overwhelmingly for secession, and subsequently provided hundreds of men to serve in the Confederate Army. After the war, federal troops were stationed in Lockhart to quell incidents of racial violence.

Like most surround areas, economic recovery after the war was slow. By 1880, the economic situation improved, due to a growth in the cattle industry and an improved transportation system that included the Galveston, Harrisburg, and San Antonio Railway (Smyrl 2017). Populations continued to increase during this time, and the cattle industry peaked. After this, the importance of cotton took hold, and by 1900, farmers were planting more than 90,000 acres in the crop. The discovery of oil in the 1920 resulted in a more diversified and increased economic activity. By the 1980s, about half of the workforce were engaged in professional services, manufacturing, and wholesale and retail trade. This trend continues to this day, as well as increasing populations (Smyrl 2017).

## **Previous Investigations**

Prior to fieldwork, URS conducted a cultural resources background review of the Texas Archeological Sites Atlas (TASA 2017) and Texas Historic Sites Atlas (THSA 2017) in order to identify previously recorded cultural resources sites and previous surveys within 1,000 m of the LOC at each FRS. The search included historic properties (properties that are listed in, or have

been determined eligible for listing in, the NRHP), State Antiquities Landmarks (SALs), Official Texas Historical Markers, Recorded Texas Historic Landmarks, and previously recorded archaeological sites and cemeteries (including Historic Texas Cemeteries). The background review also utilized historic aerials, topographic maps, and the NRHP online database. The results of the background research for each FRS are presented below.

A search of the Native American Consultation Database was also conducted to determine if there were any Indian tribes that might attach religious or cultural significance to historic properties that could be located in the proposed project areas of Hays and Caldwell Counties. This was done in accordance with 36 CFR 800.2 (c)(i) of the Advisory Council on Historic Preservation Regulations. No Native American tribes are listed as having claims to land areas that include Hays or Caldwell Counties (National Park Service 2016).

### **FRS 10**

A search of the TASA (2017) indicates that one archaeological site (41HY493) is recorded within 1,000 m of the LOC at FRS 10 (**Figure 3**). Site 41HY493 is situated approximately 800 m south of the dam and was recorded during a cultural resources survey for proposed improvements to FM 2001 between I-35 and SH 21, which was performed under Texas Antiquities Permit No. 6936 (Rush and Green 2014). This site was recorded as a historic farmstead/home site with only the occurrence of a historic artifact scatter and possible backfilled well. No structural features were identified, and artifacts suggest the site are indicative of a late nineteenth to early twentieth century homestead or house site in a disturbed setting. Due to modern farming and ranching activities, including terracing, significant impacts from farming and grazing were noted, and the site was deemed not eligible. Therefore, no further work was recommended (Rush and Green 2014). Based on the background research, no other cultural resources investigations have occurred within 1,000 m of the FRS 10 LOC. The current dam area does not appear to have been previously surveyed for cultural resources.

Sensitive Site Location Information

Map Removed

**Figure 3. Topographic map of previously recorded cultural resource sites and surveys within 1,000 m of the LOC at FRS 10.**

## FRS 12

A search of the TASA (2017) indicates that no archaeological sites are currently recorded within 1,000 m of the LOC at FRS 12 (**Figure 4**). However, one cemetery, the Martin Cemetery, and a historical marker are located approximately 250 m southwest of the dam, on the southwest side of FM 2001. The historical marker commemorates the “Martin Church of Goforth,” which was started in 1874. Neither cultural resource would be affected by the proposed rehabilitation project. Two previous surveys were identified within 1,000 m of the LOC. The first is the cultural resources survey for proposed improvements to FM 2001 (Rush and Green 2014). This survey does not intersect the current LOC. One additional survey was conducted in 1983 by the Soil Conservation Service (TASA 2017). The southwest corner of this survey is adjacent to the current LOC, but most of the surveyed area extends to the east of the LOC. No cultural resources are reported within this surveyed area. No prior cultural resources identification activities appear to have taken place in association with the original FRS 12 project.

## FRS 21

A search of the TASA (2017) indicates that three archaeological sites are recorded within 1,000 m of the LOC at FRS 21 (**Figure 5**). According to the TASA site form, site 41CW36 was recorded in 1985 by the Cultural Resource Management Division at New Mexico State University, in connection with a survey for the All American Pipeline. The site was found to consist of the remains of an early twentieth century farmhouse, including a chimney. It is located approximately 150 m south of the dam. Artifacts reported at this site include various unidentified ceramics estimated to date to the early twentieth century. However, no integrity or historic significance is reported for this site. Site 41CW159 is situated on an upland/terrace edge approximately 880 m north of the LOC. This site was recorded in 2013 by AR Consultants, Inc. According to the TASA site form, the site consists of a prehistoric campsite containing up to 100 pieces of lithic debitage, bifaces, fire-cracked rock, and Bulverde and Gower dart point preforms (Early to Middle Archaic). The abundant lithic debitage indicated that the site was primarily used for lithic tool production, and possible procurement of the area's lithic resources. No integrity or significance is reported for this site, and it was recommended as not eligible for the NRHP (TASA 2017). Site 41CW47 is located on uplands approximately 950 m west of the LOC. No site information is currently available on the TASA. The TASA also indicates that three previous surveys have been conducted within 1,000 m of the LOC, including surveys for the United States Army Corp of Engineers, Fort Worth District (1999) and Galveston District (2013), and one survey for the Lower Colorado River Authority, dated 2000 (see **Figure 5**). None of these previous investigations intersect the current LOC. No prior cultural resources identification activities appear to have taken place in association with the original FRS 21 project.

## FRS 28

A search of the TASA (2017) indicates that no previous archaeological sites have been recorded within 1,000 m of the LOC at FRS 28 (**Figure 6**). The TASA indicates that one previous survey has been conducted within 1,000 m of the LOC. This survey was carried out by the Soil Conservation Service (now NRCS), in 1983. No sites appear to have been identified as a result of this survey. This previous investigation does not intersect the current LOC. No prior cultural resources identification activities appear to have taken place in association with the original FRS 28 project.

Sensitive Site Location Information

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**Figure 4. Topographic map of previously recorded cultural resource sites and surveys within 1,000 m of the LOC at FRS 12.**

Sensitive Site Location Information

Map Removed

**Figure 5. Topographic map of previously recorded cultural resource sites and surveys within 1,000 m of the LOC at FRS 21.**

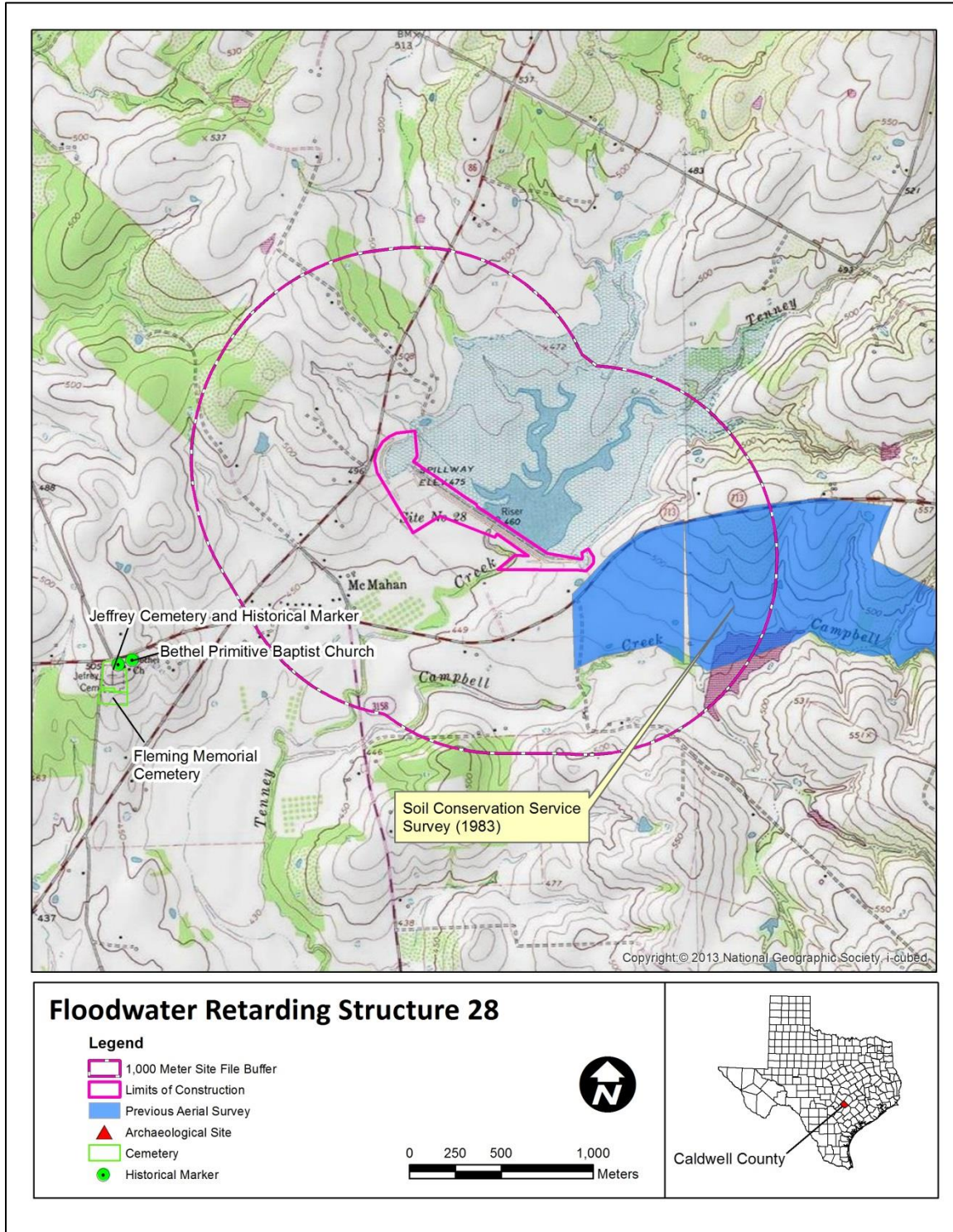


Figure 6. Topographic map of previously recorded cultural resource sites and surveys within 1,000 m of the LOC at FRS 28.



## **Archaeological Potential**

Based upon review of aerial photographs, much of the APE appears to consist of disturbed agricultural uplands, and areas that have been impacted by the original dam and spillway construction activities. These disturbances have most likely adversely affected the archaeological integrity potential of any sites that may be present. Based on the observed increased frequency of prehistoric sites near water sources, the portion of the APEs located below the dam and spillway, within the floodplain deposits adjacent to the draw, were presumed to exhibit the highest archaeological probability. As such, these areas were the focus of the most intensive level pedestrian investigations and cutbank examinations. Areas of lower archaeological probability (e.g., previously disturbed uplands and areas disturbed by the original dam construction), were subjected to less intensive scrutiny. These reduced probability areas were nonetheless inspected for possible cultural materials.

## 4.0 METHODS

### Antiquities Permit

Since the project falls within the purview of the Antiquities Code of Texas, a Texas Antiquities Permit application and research design were prepared and submitted to THC prior to fieldwork. The THC approved the application and issued Antiquities Permit No. 7469 on November 13, 2015. Steven Ahr served as Principal Investigator.

### Field Survey

Fieldwork was conducted from November 17-18, 2015 and included a 100 percent pedestrian survey at each LOC. All work was carried out by an archaeological professional meeting the U.S. Secretary of the Interior's *Professional Qualification Standards for Archaeology and Historic Preservation*. The objective of the archaeological survey was to identify and inventory any archaeological sites within the LOCs at each of the FRS localities, make eligibility recommendations for inclusion in the NRHP and/or for formal designate as a SAL, and to assess the potential for the presence of significant cultural resources relative to the previous disturbances and anticipated future impacts.

During the field investigations, all exposed ground surfaces within each of the LOCs were intensively examined for evidence of archaeological resources. Pedestrian survey typically entailed walking the centerlines of proposed access roads and the tops of each earthen dam, visual inspection of exposed surfaces within any drawdown zones, and careful examination of cleared areas within and adjacent to spillways, eroded plunge basins and outlet pipe areas, and exposed stream banks below the outlet pipes. Based on the ground surface visibility within each LOC, which typically exceeded 30 percent, and given the degree of prior disturbances that have compromised the integrity potential for buried and intact cultural deposits, no shovel tests were deemed necessary.

During the pedestrian survey, each FRS location was also assessed for the need for deep mechanical prospection (e.g., backhoe trenching) in order to locate deeply buried cultural materials. This assessment was based on local soil-geomorphic conditions, natural stream cutbank examinations, and the extent of prior disturbances relative to the anticipated aerial and vertical extent of project impacts.

In the event any archaeological sites were identified during the survey, site boundaries would be defined on the basis of artifact distributions, either on the surface or identified from shovel tests. The location and extent of all identified sites would be mapped with a handheld GPS, and an inventory and provenance of artifacts and/or features would be documented. A temporary field designation would be assigned to each site, and a TexSite form would be completed and submitted to the Texas Archeological Research Laboratory for assignment of a permanent trinomial designation. Additional archival research was conducted for any historic archaeological sites or structures found within the LOC, and all newly identified cultural resource sites were assessed to determine if they may be eligible for listing in the NRHP or merit designation as a SAL.

## **Curation**

No artifacts were collected during the survey. Pursuant to 13 TAC 26.17, all project notes, maps, photographs, and other documentary records will be permanently curated at the Center for Archaeological Studies, Texas State University, San Marcos.

## 5.0 RESULTS

Cultural resources investigations for FRSs 10, 12, 21, and 28 in Hays and Caldwell Counties were performed from November 17-18, 2015. The survey results at each FRS are presented below.

### FRS 10

The rehabilitation actions at FRS 10 would entail upgrading the existing principal spillway system, which is illustrated in the as-built dam complex in **Figure 7**. Rehabilitation efforts would also include replacing the existing inlet tower with a standard inlet tower and adding an impact basin at the outlet of the existing 24-inch conduit; lowering the principal spillway crest 1.23 feet to elevation 671.0 feet; lowering the earthen auxiliary spillway crest 2.33 feet to elevation 679.0 feet; widening the auxiliary spillway to 130 feet; regrading the inlet and outlet channels; raising the dam crest to elevation 685.6 feet (as-built adjusted effective top of dam elevation is 685.93 feet, but the top of dam elevation per the NRCS survey data is 685.11 feet); flattening the upstream and downstream embankment slopes to 3:1; and reconstructing an upstream wave berm and adding rock riprap for wave protection. Rehabilitation activities would occur within a LOC that encompasses approximately 28 acres (**Figure 8**).

URS performed a pedestrian survey within areas of potential new disturbance associated with the rehabilitation alternative at FRS 10. The LOC has been subjected to extensive prior disturbances from original dam construction (**Figures 9-14**). The earthen dam, auxiliary spillway, and intervening areas have been excavated and re-contoured to the current dam configuration, and pedestrian walkover of the proposed access road revealed disturbances from on-going farming and ranching in the uplands, two-track roads, reservoir drawdown and surface lags, and artificial berms. Soils in these locations consist of the Houston Black and Heiden soils, which formed in residuum from the underlying Cretaceous formations. Thus, no potential exists for intact and buried cultural materials. The Altoga soils on the terrace riser in the northeast corner of the LOC are described as eroded and sloping, and exhibit minimal cultural preservation potential. Within the plunge basin below the dam outlet, the area is highly eroded. Tinn clay soils flank the narrow outlet channel. Cutbank inspection revealed these to be shallow, eroded, and gravelly soils over weathered bedrock.

No cultural materials were found in the areas of potential new disturbance associated with rehabilitation measures at FRS 10. Numerous disturbances were observed within the LOC, which would preclude the presence of intact cultural materials with reasonable integrity potential, and overall there appears to be low potential for intact subsurface cultural deposits. Based on the results of the background review and survey, it is recommended that the rehabilitation at FRS 10 should have **No Effect** on properties included in, or eligible for inclusion in, the NRHP, or that merit designation as SALs. In the event that previously undiscovered sites are found during construction, appropriate actions should be taken in accordance with the State Level Agreement among NRCS and the Texas SHPO, the National Programmatic Agreement among NRCS, the National Conference of State Historic Preservation Officers, and the ACHP, and NRCS General Manual 420, Part 401 guidance.



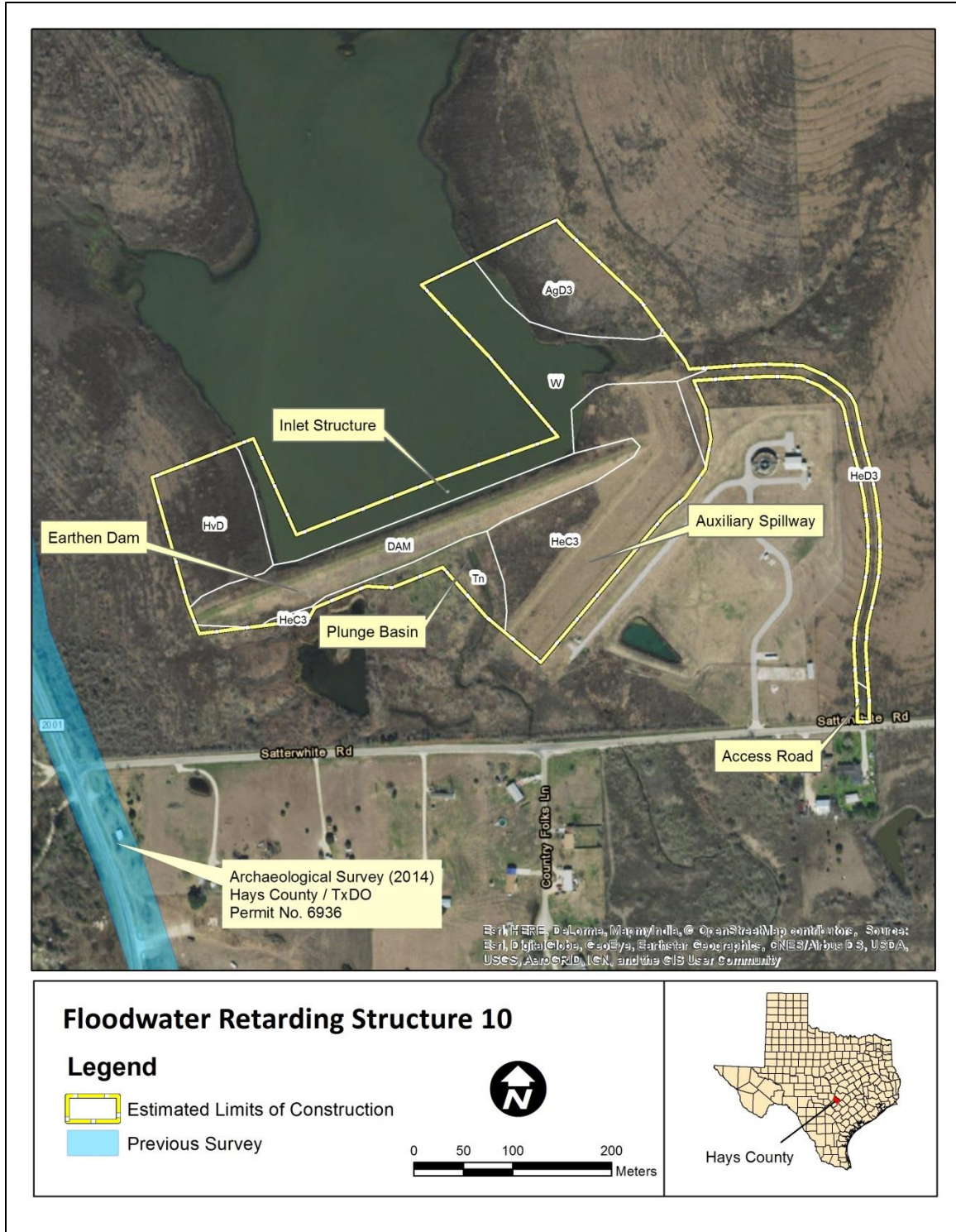


Figure 8. Aerial map showing dam components and LOC at FRS 10.





**Figure 9. View of disturbed auxiliary spillway area in foreground, and earthen dam in background. Facing southwest.**



**Figure 10. Disturbed zone between auxiliary spillway (on left) and earthen dam (on right). Facing southwest, toward dam outlet.**





**Figure 11. View of outlet pipe and plunge basin below dam. Facing south.**



**Figure 12. Valley margin along northwest corner of LOC. Facing northwest. Area is underlain by Houston Black soils.**





**Figure 13. North end of auxiliary spillway. Facing north.**



**Figure 14. Earthen dam structure (FRS 10). Facing southwest.**

## FRS 12

The rehabilitation actions at FRS 12 would entail removing the existing principal spillway system, which is illustrated in the as-built dam complex in **Figure 15**. Rehabilitation efforts would also include installing a new principal spillway system consisting of a standard inlet tower, crest at elevation 606.2 feet (1.53 feet lower than as-built); a 42-inch diameter conduit discharging into the stilling basin of a new spillway; raising the earthen auxiliary spillway crest 0.27 feet to elevation 615.6 feet and regrading the inlet and outlet channels; adding a secondary 200-foot wide RCC-step auxiliary spillway through the main embankment 6 inches below the earthen auxiliary spillway crest at elevation 615.1 feet; raising the dam crest approximately 2.77 feet to elevation 622.9 feet; flattening the upstream and downstream embankment slopes to 3:1; and reconstructing an upstream wave berm and adding rock riprap for wave protection. Additional land rights may be needed for the extension of the downstream toe from regarding the crest and flattening the slope. Rehabilitation activities would occur within a LOC that encompasses approximately 53 acres (**Figure 16**).

URS performed a pedestrian survey within areas of potential new disturbance associated with the rehabilitation alternative at FRS 12. The LOC has been subjected to extensive prior disturbances from original dam construction (**Figures 17-20**). The earthen dam, auxiliary spillway, and intervening areas have been excavated and re-contoured to the current dam configuration, and disturbances within adjacent areas include on-going farming and ranching such as contour plowing, two-track roads, and artificial berms. The majority of the LOC is underlain by Houston Black, Heiden, Ferris, and Branyon soils, which formed in residuum from the underlying Cretaceous formations. Based on prior disturbances and the low potential for the deep burial and preservation in these soils, there is little likelihood that intact archaeological materials are present in the LOC. Within the plunge basin below the dam outlet, the area is eroded. Tinn clay soils flank the narrow outlet channel, though cutbank inspection revealed these to be shallow, eroded, and gravelly, with little potential to contain deeply buried and intact archaeological materials.

A single tested cobble and a lithic flake made from local chert were observed in the center of the narrow unimproved access road leading up the valley wall to the dam (**Figure 21**). This access road is extensively gullied, with some of the erosional rills extending as much as 40 centimeters (cm) deep into gravelly subsoil (**Figure 22**). The surrounding area exhibited excellent surface visibility and was carefully inspected for additional materials; however, none were found. Based on the lack of additional artifacts, and given their location on a previously disturbed roadway, it is unclear whether these materials were created as a result of vehicular traffic, or if they represent tested and discarded lithic materials in an area containing numerous gravel deposits (e.g., lithic quarry). In either instance, due to the presence of only two ostensible artifacts within a questionable context, no official state trinomial was requested, and the find was designated as an isolated find (see **Figure 16**).

Field survey revealed that the area of potential new disturbance associated with rehabilitation measures at FRS 12 exhibits low potential for containing intact subsurface cultural deposits. Two possible lithic artifacts were found within an existing two-track road within the LOC. However, the area of the find is highly eroded, and soil-geomorphic data indicate that there is no potential for additional deeply buried deposits. No additional materials were found. Overall, numerous

disturbances were documented within the LOC, and these disturbances preclude the presence of intact cultural materials with reasonable integrity potential. Based on soil-geomorphic conditions, the LOC exhibits low potential for the presence of deeply buried and intact subsurface cultural deposits. Based on the results of the background review and survey, it is recommended that the rehabilitation at FRS 12 should have **No Effect** on properties included in, or eligible for inclusion in, the NRHP, or that merit designation as SALs. In the event that previously undiscovered sites are found during construction, appropriate actions should be taken in accordance with the State Level Agreement among NRCS and the Texas SHPO, the National Programmatic Agreement among NRCS, the National Conference of State Historic Preservation Officers, and the ACHP, and NRCS General Manual 420, Part 401 guidance.





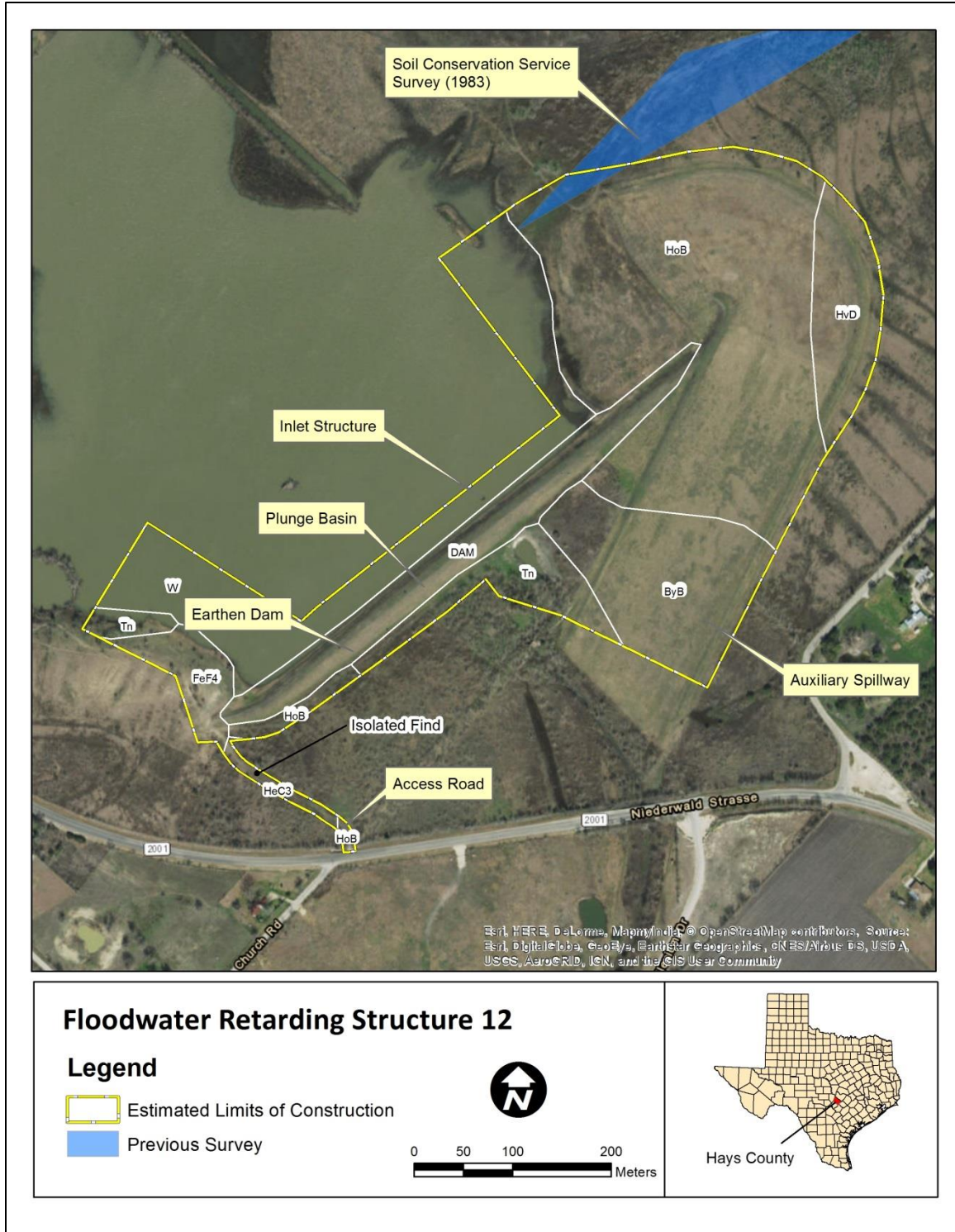


Figure 16. Aerial map showing dam components and LOC at FRS 12.



**Figure 17. Disturbed zone between auxiliary spillway (on left) and earthen dam (on right). Facing southwest, toward dam outlet.**



**Figure 18. Eroded and devegetated drawdown area at north end of LOC within the auxiliary spillway. Facing north.**





**Figure 19. Overview of auxiliary spillway depression. Facing north.**



**Figure 20. View of outlet pipe and plunge basin below dam. Facing southeast.**





**Figure 21. Possible tested cobble and lithic flake identified within eroded access road.**



**Figure 22. View of eroded and gullied access road leading up to dam where two artifacts were identified. Facing northwest.**



## FRS 21

The rehabilitation actions at FRS 21 would entail removing the existing principal spillway system, which is illustrated in the as-built dam complex in **Figure 23**. Rehabilitation efforts would also include installing a new principal spillway system consisting of a standard inlet tower, crest at elevation 500 feet (5.58 ft lower than as-built); a 42-inch diameter conduit discharging into the stilling basin of a new RCC spillway; adding a 300-foot wide RCC-step auxiliary spillway through the main embankment at elevation 517.4 ft (0.12 feet higher than the as-built earthen auxiliary spillway crest elevation but 0.65 ft lower than the NRCS survey elevation) and closing off the original auxiliary spillway channel; raising the dam crest approximately 3.9 feet to elevation 526.5 feet; flattening the upstream and downstream embankment slopes to 3:1; and reconstructing an upstream wave berm and adding rock riprap for wave protection. Additional land rights may be needed for the extension of the downstream toe from regrading the crest and flattening the slope. Rehabilitation activities would occur within a LOC that encompasses approximately 38 acres (**Figure 24**).

URS performed a pedestrian survey within areas of potential new disturbance associated with the rehabilitation alternative at FRS 21. The LOC has been subjected to extensive prior disturbances from original dam construction (**Figures 25-28**). The earthen dam, auxiliary spillway, and intervening areas have been excavated and re-contoured to the current dam configuration, and disturbances within adjacent areas include on-going farming and ranching, two-track roads, and artificial berms, as well as soil erosion below the dam outlet.

The majority of the LOC consists of Fett gravelly soils around the existing dam footprint, which are on uplands, and Crockett soils, which are found under the auxiliary spillway and adjoining east upland edge near the proposed access road. Based on prior disturbances and the low potential for the deep burial and preservation in these upland soils, there is little likelihood that intact archaeological materials are present. Within the plunge basin below the dam outlet, the area is eroded, and the outlet channel has incised into the surrounding landscape. A thin zone of Tinn clay soils are present on either side of the narrow outlet channel, and was observed overlying weathered limestone residuum. A 30-cm thick layer of fill overlies the Tinn soils adjacent to the creek. Cutbank inspection revealed these to be shallow, with imbricated gravels in the lower horizons (**Figure 29**). Based on the shallow and gravelly nature of these soils within the LOC, there is low potential for the presence of deeply buried and intact archaeological materials.

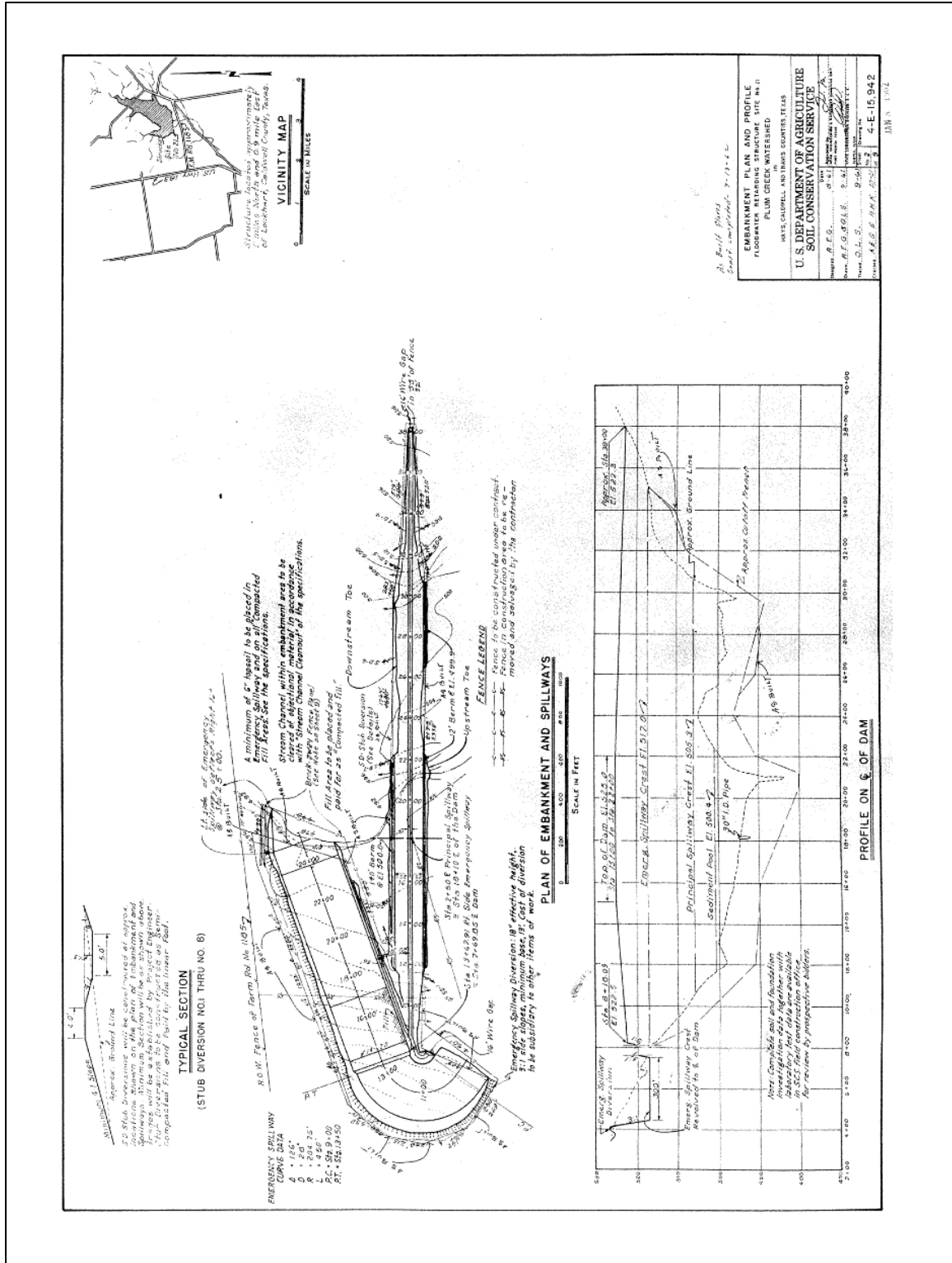


Figure 23. As-built plan of dam complex at FRS 21.

Sensitive Site Location Information

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**Figure 24. Aerial map showing dam components and LOC at FRS 21.**



**Figure 25. Earthen dam at FRS 21. Facing southwest.**



**Figure 26. Inlet at FRS 21. Facing north.**





**Figure 27. Devegetated area behind dam at east end, just above auxiliary spillway. Facing northeast.**



**Figure 28. View of outlet pipe and plunge basin below dam. Facing south.**





**Figure 29. Cutbank exposure along channel below dam outlet. Facing south.**

Field survey resulted in the identification of two agricultural outbuildings (designated as Resource 001 and Resource 002), located south of the earthen dam (**Figure 30**). A URS architectural historian conducted further analysis of historic aerials, topographic maps, and the Caldwell County Appraisal District. The results of these additional investigations determined that Resource 001, which is situated within the LOC approximately 10 m south of the foot of the dam, was built in ca. 1968. Resource 002, located approximately 30 m south of the foot of the dam, and 15 m south of the LOC, was built in ca. 1998.

### **Resource 001**

Resource 001 is a one-story, three bay barn with a corrugated metal shed roof (**Figure 31**). The central bay extends above the north and south bays, which also exhibit corrugated metal shed roofs. The exterior walls of the building are sheathed with corrugated metal sheets. The building's east and west elevations exhibit centrally located wood plank doors. Through review of the 1963 and 1973 aerial photographs it was determined that the barn was constructed in ca. 1968. No other buildings or structures are present near Resource 001 by 1973. Given the age of the structure, Resource 001 meets the age requirement for NRHP eligibility consideration, and was therefore evaluated based on the four NRHP criteria presented in 36 CFR Part 63 [a–d]. Resource 001 does not possess any known significant historical association (Criterion A), it does not represent a pattern of events or historic trends in a significant manner (Criterion B), nor does it demonstrate a high level of architectural merit or design (Criterion C). Finally, the resource is not likely to yield information important to history or prehistory (Criterion D). Therefore, Resource 001 does not meet the requirements for Criterion A, B, C, or D, and is recommended *not eligible* for listing in the NRHP. Furthermore, the structure does not merit SAL designation.



**Figure 30. Resources 001 in foreground, and Resource 002 in background, facing southeast.**



**Figure 31. Oblique view of Resource 001. Facing southwest.**



## Resource 002

A second barn (Resource 002) was constructed south of Resource 001 in ca. 1998, but the general area surrounding the resource has remained undeveloped (**Figure 32**). Resource 002 is a one-story, two bay barn with a corrugated metal gable roof. The west elevation exhibits a centrally located metal double sliding door. The design and form of the building appear to be unaltered, and modifications likely consist of the replacement of the corrugated metal sheathing. Overall, Resource 002 has retained integrity of location, design, setting, materials, workmanship, feeling, and association. However, Resource 002 was constructed in ca. 1998, and does not meet the age requirement for NRHP eligibility consideration. Therefore, Resource 002 is currently recommended as *not eligible* for listing in the NRHP. Furthermore, the structure does not merit SAL designation.



**Figure 32. Oblique view of Resources 002. Facing southeast.**

Field survey revealed that the area of potential new disturbance associated with rehabilitation measures at FRS 21 exhibits low potential for containing intact subsurface cultural deposits. Two barn structures were observed south of the dam. Based on field observations and archival background research, neither resource is considered eligible for the NRHP listing or SAL designation. Overall, numerous disturbances were documented within the LOC, and these disturbances preclude the presence of intact cultural materials with reasonable integrity potential. Based on soil-geomorphic conditions, the LOC exhibits low potential for the presence of deeply buried and intact subsurface cultural deposits, and given the results of the background review and survey, it is recommended that the rehabilitation at FRS 21 should have **No Effect** on properties included in, or eligible for inclusion in, the NRHP, or that merit designation as SALs. In the event that previously undiscovered sites are found during construction, appropriate actions should be taken in accordance with the State Level Agreement among NRCS and the Texas SHPO, the National Programmatic Agreement among NRCS, the National Conference of State Historic Preservation Officers, and the ACHP, and NRCS General Manual 420, Part 401 guidance.



## FRS 28

Several rehabilitation alternatives are currently under consideration for FRS 28, so specific details are not yet available. However, the anticipated rehabilitation actions at the existing FRS 28 complex (**Figure 33**) would generally entail removing and/or modifying the existing spillway system and constructing an impact basin; adding a new inlet principal spillway with an impact basin; lowering and/or widening the auxiliary spillway crest between 0.4 and 1.9 feet and regrading the inlet and outlet channels; raising the top of the dam between 0.2 to 1.1 feet; flattening the upstream and downstream slopes to 3:1; and reconstructing an upstream wave berm and adding rock riprap for wave protection. Additional land rights may be needed for the extension of the downstream toe from raising the embankment crest and flattening the slope. Rehabilitation activities would occur within a LOC that encompasses approximately 56 acres (**Figure 34**).

URS performed a pedestrian survey within areas of potential new disturbance associated with the rehabilitation alternative at FRS 28. The LOC has been subjected to extensive prior disturbances from the original dam construction, including construction of the earthen dam, the auxiliary spillways, access roads, and berms (**Figures 35-39**). These areas have been excavated and re-contoured to the current dam configuration. Additional disturbances within and adjacent to the LOC include on-going farming and ranching activities, two-track roads, and artificial berms, as well as soil erosion below the dam outlet.

The majority of the LOC is mapped as Crockett soils, which are found on broad ridges of dissected plains and formed from residuum from interbedded shale and clay. These soils tend to exhibit shallow sandy mantles that are typically bioturbated. Based on prior disturbances and the low potential for the deep burial and preservation in the upland soils, there is little likelihood that intact archaeological materials are present within the LOC. Within the plunge basin below the dam outlet, the area is eroded, and the outlet channel has incised into the surrounding landscape. Gowen clay loam cumulic soils are mapped along the narrow channel. These soils have developed within the alluvium along level floodplains. Field inspection of this small area revealed that the soils along the channel have been previously impacted from erosion, and the emplacement of rip rap along the plunge basin edges (see **Figure 37**). Based on field observations, there is low potential for the presence of deeply buried and intact archaeological materials within the area of potential new disturbance associated with rehabilitation measures at FRS 28.

No cultural materials were found in the areas of potential new disturbance associated with rehabilitation measures at FRS 28. Numerous disturbances were observed within the LOC, which would preclude the presence of intact cultural materials with reasonable integrity potential, and overall there appears to be low potential for intact subsurface cultural deposits. Based on the results of the background review and survey, it is recommended that the rehabilitation at FRS 28 should have **No Effect** on properties included in, or eligible for inclusion in, the NRHP, or that merit designation as SALs. In the event that previously undiscovered sites are found during construction, appropriate actions should be taken in accordance with the State Level Agreement among NRCS and the Texas SHPO, the National Programmatic Agreement among NRCS, the National Conference of State Historic Preservation Officers, and the ACHP, and NRCS General Manual 420, Part 401 guidance.



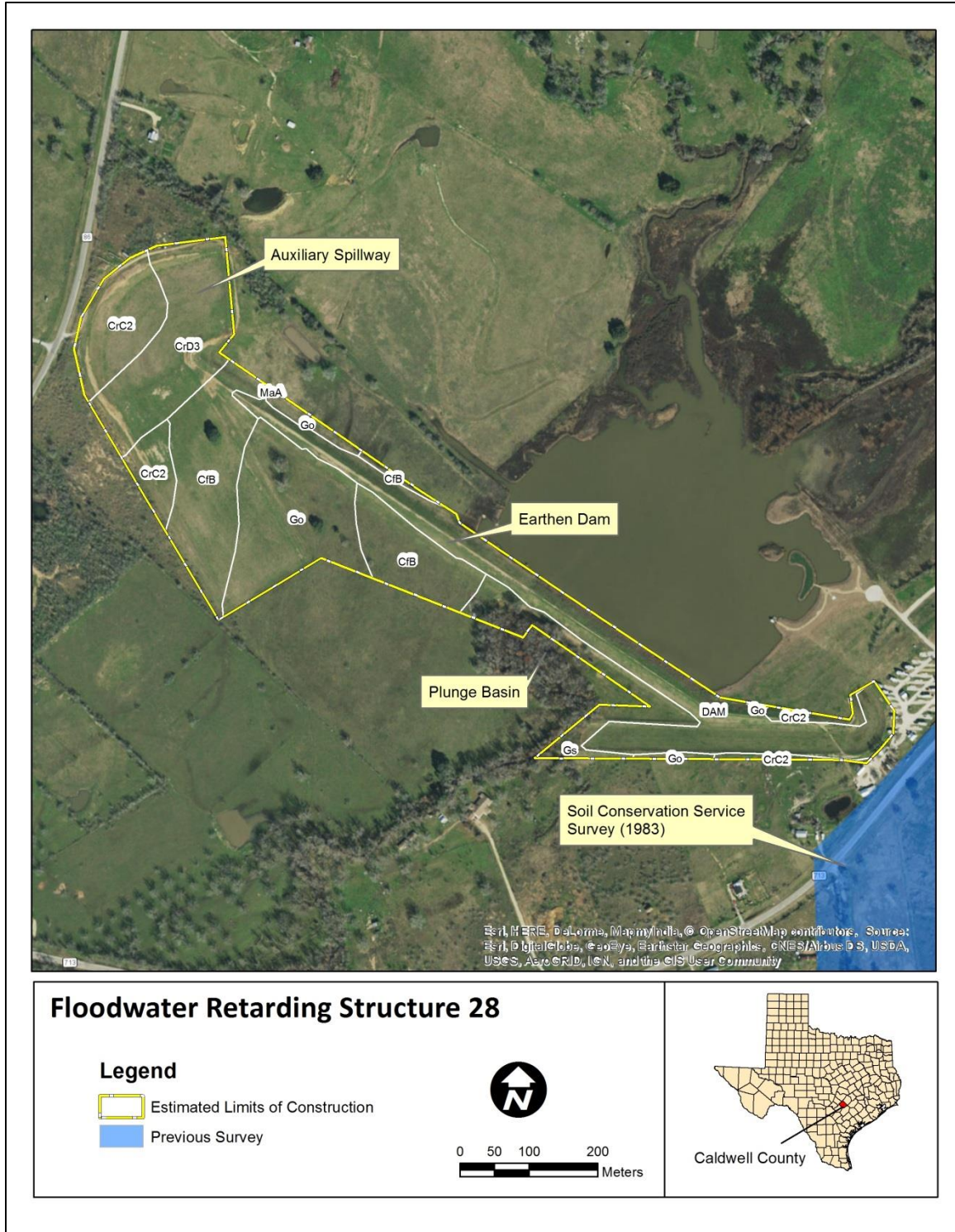


Figure 34. Aerial map showing dam components and LOC at FRS 28.





**Figure 35. Earthen dam at FRS 28. Facing southeast.**



**Figure 36. Inlet at FRS 28. Facing northeast.**



**Figure 37. View of outlet pipe and plunge basin below dam. Facing southwest.**



**Figure 38. Earthen dam overview and periodically submerged areas next to existing pool. Facing northwest.**





**Figure 39. Disturbed area below dam and artificial berm. Facing southeast.**



## 6.0 SUMMARY AND RECOMMENDATIONS

URS performed a cultural resources survey in support of plans to rehabilitate FRSs 10, 12, 21, and 28, located in Hays and Caldwell Counties, Texas. FRS 10 and FRS 12 are located in Hays County, while FRS 21 and FRS 28 are in Caldwell County. The survey was carried out within the LOC at each FRS, from November 17-18, 2015, under Texas Antiquities Permit No. 7469. For purposes of these investigations, the LOC is considered to be equivalent to the APE for cultural resources compliance with the NHPA of 1966, as amended, and the Antiquities Code of Texas.

The survey included a 100 percent pedestrian survey in all areas of potential new disturbance associated with rehabilitation measures at each FRS. Field investigations also included an assessment of the soils and geomorphic setting of the project relative to archaeological integrity potential and extant project impacts. Because the proposed rehabilitation efforts will be largely confined to previously disturbed areas within each dam complex, and due to the soil-geomorphic conditions which indicate an overall low probability for deep site burial, the LOC at each FRS locality does not exhibit the necessary integrity conditions to contain intact archaeological sites that would be eligible for listing in the NRHP or merit SAL designation. As such, no shovel tests or deep mechanic trenching was warranted. Previous investigations by NRCS at other rehab project locations often found that the areas are extensively disturbed, and rarely are there sufficiently preserved and intact soils with buried cultural remains (Calvin Sanders, personal communication 2015).

During the survey, one prehistoric isolated find was identified within the LOC at FRS 12, and two barn structures were found adjacent to the LOC at FRS 21. Further inspection at each of these cultural sites revealed that none should be considered eligible for listing in the NRHP or to merit SAL designation. No artifacts were collected during the survey. Pursuant to 13 TAC 26.17, all project notes, maps, photographs, and other documentary records will be permanently curated at the Center for Archaeological Studies, Texas State University, San Marcos.

Based on the results of the background review and survey, it is recommended that the proposed rehabilitation efforts for FRS 10, 12, 21, and 28 in Hays and Caldwell Counties should have **No Effect** on properties included in, or eligible for inclusion in, the NRHP, or that merit designation as SALs. In the event that previously undiscovered sites are found during construction, appropriate actions should be taken in accordance with the State Level Agreement among NRCS and the Texas SHPO, the National Programmatic Agreement among NRCS, the National Conference of State Historic Preservation Officers, and the ACHP, and NRCS General Manual 420, Part 401 guidance. Finally, in the event that any unmarked prehistoric or historic human remains or burials are encountered during construction, the area of the remains is considered a cemetery under current Texas law and all construction activities must cease immediately so as to avoid impacting the remains. The THC must be notified immediately by contacting the History Programs Division at (512) 463-5853 and the Archeology Division at (512) 463-6096. All cemeteries are protected under State law and cannot be disturbed. Further protection is provided in Section 28.03(f) of the Texas Penal Code, which provides that intentional damage or destruction inflicted on a human burial site is a state jail felony.

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