US Army Corps of Engineers ®
Fort Worth District

Public Notice

Applicant:	Bexar County Flood Control CIP
Project No.:	SWF-2014-00131
Date:	November 3, 2016

Purpose

The purpose of this public notice is to inform you of a proposal for work in which you might be interested. It is also to solicit your comments and information to better enable us to make a reasonable decision on factors affecting the public interest. We hope you will participate in this process.

Regulatory Program

Since its early history, the U.S. Army Corps of Engineers has played an important role in the development of the nation's water resources. Originally, this involved construction of harbor fortifications and coastal defenses. Later duties included the improvement of waterways to provide avenues of commerce. An important part of our mission today is the protection of the nation's waterways through the administration of the U.S. Army Corps of Engineers Regulatory Program.

Section 10

The U.S. Army Corps of Engineers is directed by Congress under Section 10 of the Rivers and Harbors Act of 1899 (33 USC 403) to regulate *all work or structures in or affecting the course, condition or capacity of navigable waters of the United States.* The intent of this law is to protect the navigable capacity of waters important to interstate commerce.

Section 404

The U.S. Army Corps of Engineers is directed by Congress under Section 404 of the Clean Water Act (33 USC 1344) to regulate the *discharge of dredged and fill material into all waters of the United States, including wetlands*. The intent of the law is to protect the nation's waters from the indiscriminate discharge of material capable of causing pollution and to restore and maintain their chemical, physical, and biological integrity.

Contact

Name:	Mr. Frederick Land
Phone Number:	(817) 886-1731

JOINT PUBLIC NOTICE

U.S. ARMY CORPS OF ENGINEERS, FORT WORTH DISTRICT

AND

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

SUBJECT: Application for a Department of the Army Permit under Section 404 of the Clean Water Act (CWA) and for water quality certification under Section 401 of the CWA to discharge dredged and fill material into waters of the United States for proposed drainage improvements for flood control within Sixmile Creek (an intermittent stream) and within an unnamed, ephemeral tributary to Sixmile Creek. Proposed construction would occur within and along Sixmile Creek extending east and west of Roosevelt Avenue (Ave.) in San Antonio, Bexar County, Texas, within the southern boundary of the Stinson Municipal Airport property.

APPLICANT: Bexar County Public Works Department
Flood Control CIP Office
c/o David Wegmann, PE
233 N. Pecos Street, Ste. 480
San Antonio, Texas 78207-3188

APPLICATION NUMBER: SWF-2014-00131

DATE ISSUED: November 3, 2016

LOCATION: The Sixmile Creek Drainage Improvement Project (SA-43A) is located along Sixmile Creek approximately six miles south of downtown San Antonio and approximately four miles west-northwest of the Interstate Highway 37 (I-37)/I-410 intersection. The project is partially located within the Stinson Municipal Airport property, in San Antonio, Bexar County, Texas (Figure 1). The proposed project is located at approximately 29.33759 North latitude and -98.48319 West longitude and is mapped on the Southton, Texas 7.5-minute U.S. Geological Survey (USGS) topographic quadrangle map (Figure 2). The project area is located in the San Antonio River Basin, Hydrologic Unit Code (HUC) 12100301. Sixmile Creek has historically been known as Piedras Creek in the vicinity of the San Antonio River.

OTHER AGENCY AUTHORIZATIONS: State Water Quality Certification

PROJECT DESCRIPTION: The applicant proposes to discharge approximately 1,377 cubic yards of dredged and fill material into approximately 6,289 linear feet (1.89 acres) of waters of the United States, including 6,154 linear feet (1.88 acre) of intermittent stream and 135 linear feet (0.01 acre) of ephemeral stream in conjunction with the construction of The Sixmile Creek Drainage Improvement Project (SA-43A). The applicant's proposed project purpose is to alleviate flooding in the project area.

The project area is defined by the applicant into stream segments known as Channel Construction Reach (CCR) 3 and CCR4 (Figures 1 and 2). CCR3 is an existing concrete-lined reach of Sixmile Creek that extends from Bascum Boulevard (Blvd.) to the east past S. Flores Street Bridge and remains concrete-lined to 80 feet past Roosevelt Avenue Bridge. CCR3 is located in a highly urbanized environment and is a concrete-lined trapezoidal channel that is part of a large-scale flood control system (Figure 3). CCR3 would be widened and the existing concrete-lined channel from Bascum Blvd. to S. Flores Street Bridge would be replaced with concrete for a distance of 3,686 linear feet (LF). Within CCR3, 910 cubic yards or 0.74 acres of concrete fill material would be discharged into waters of the United States as the existing channel bottom would be widened to 105 feet with 3:1 sloped channel banks. Figure 4 provides an overall plan and site layout, plan and profile, and typical cross sections to describe proposed construction within CCR3.

CCR4 begins at the end of CCR3, approximately 80 feet east of Roosevelt Avenue Bridge and extends 2,468 linear feet downstream within the boundaries of Stinson Municipal Airport (Figure 5). Sixmile Creek is an engineered, concrete-lined channel at an existing utility line crossings and at the confluence of Harlandale Creek and Sixmile Creek with South Flores Street and Roosevelt Avenue (Spur 536). Further downstream of Roosevelt Avenue, Sixmile Creek is an incised earthen channel with a sediment bottom, although some areas of Sixmile Creek have been engineered and realigned in support of historic operations at Stinson Municipal Airport. As a result, 181 linear feet of CCR4 is concrete-lined or contains a constructed concrete bottom. The proposed design entails the installation of concrete-lining and free-standing rock riprap for stabilization and erosion control along 2,468 LF of the existing engineered and non-engineered channels of Sixmile Creek. Free-standing rock riprap would be installed in the channel to prevent erosion and scour at the downstream transition zone and for stability at the Roosevelt Avenue Bridge. After construction, CCR4 would consist of a channel with a 120-foot bottom width and 3:1 sloped channel banks. Approximately 364 cubic yards (0.92 acres) of concrete and approximately 103 cubic yards (0.23 acres) of free-standing rock riprap would be discharged into waters of the United States within CCR4 for flood control and channel stabilization. Figure 6 provides an overall plan and site layout, plan and profile, and typical cross sections to describe proposed construction within CCR4.

For CCR3 and CCR4, impacts to waters of the United States would be direct and permanent to 6,154 LF of the intermittent Sixmile Creek (encompassing 1.88 acres) and 135 LF (0.01 acre) of an ephemeral tributary to Sixmile Creek. These impacts would be associated with placement of fill material (concrete and riprap) to stablize the deepened and widened Sixmile Creek flood control channel. Impacts to an existing ephemeral channel would occur due to the widening of the Sixmile Creek channel as well as stabilization of the outfall into the main channel. No wetlands or other special aquatic sites would be impacted by the proposed project. Figure 7 is the existing floodplain map of the project area.

EXISTING CONDITIONS

VEGETATION: Vegetation within Sixmile Creek consists of herbaceous and shrub species typical of the local urban riparian environment. Common plant species in the project area include retama (*Parkinsonia aculeata*), huisache (*Acacia farnesiana*), black willow (*Salix nigra*), hackberry (*Celtis sp*), Chinese privet (*Ligustrum lucidum*), Chinaberry (*Melia azedarach*), giant ragweed (*Ambrosia trifida*), Johnsongrass (*Sorghum halepense*), and Bermudagrass (*Cynodon dactylon*).

SOILS: The United States Department of Agriculture (USDA) Soil Conservation Service Soil Survey for Bexar County was used to determine the soil types in the project review area. Six soil mapping units were identified in the project area: Branyon clay (HtB), 1 to 3 percent slopes; Lewisville silty clay (LvA), 0 to 1 percent slopes; Lewisville silty clay (LvB), 1 to 3 percent slopes; Patrick soils (PaC), 3 to 5 percent slopes; Pits and quarries (Pt); and, Tinn and Frio soils (Tf), 0 to 1 percent slopes. Two of these soil types contain minor hydric components in depressional features: HtB, 1 to 3 percent slopes and Tf soils, 0 to 1 percent slopes.

HYDROLOGY: The Sixmile Creek project area is located in the geographic boundary between the Gulf Coastal Plains and the Edwards Plateau, defined by the Balcones Fault System located northwest of the headwaters of Sixmile Creek, south of downtown San Antonio. Sixmile Creek is about 6.85 miles long, flows from northwest to southeast with an average slope of 0.33 percent, and outfalls to the San Antonio River east of the Stinson Municipal Airport. The watershed has an area of about 15 square miles with an average valley slope of 0.35 percent. Sixmile Creek has experienced severe flooding along its main channel that has impacted many residential properties in this south San Antonio area. The Sixmile Creek hydraulic and hydrological study quantified the areas that are most prone to flooding with subsequent impact to human health and property.

ALTERNATIVE SITES AND ALTERNATIVE LAYOUTS: During the preliminary engineering analysis for the Sixmile Creek Drainage Improvement Project (SA-43A), Bexar County Flood Control evaluated four primary alternatives to meet the need for the proposed project. These alternatives were developed to provide flood control and flood management for almost 100 residences along Sixmile Creek; provide safe travel for the public and emergency responders during flood events at bridges crossing Sixmile Creek, including the S. Flores Street bridge; conform to Federal Aviation Administration (FAA) requirements regulating wildlife attractants near Stinson Airport that cause hazardous flight conditions; and improve stormwater conveyance so that flood waters remain within the existing Sixmile Creek channel. Hydraulic modeling indicates that the Roosevelt Avenue Bridge is a constriction point for flood flows, causing flooding in Sixmile Creek that extends upstream of Bascum Blvd into residential neighborhoods and over roads and bridges.

The preliminary engineering alternatives developed by Bexar County for further evaluation included:

1. Off-line and in-line flood storage
2. Flood storage combined with channel deepening and widening
3. Channel improvements combined with bridge replacements
4. Buyout of affected property owners

The applicant's preliminary alternative that met the applicant's project purpose, need for action, and engineering constraints was Alternative 3 and was carried forward to Preliminary Engineering Design phase. Alternative 3 was evaluated by the applicant in more detail to develop a design that would further minimize environmental impacts, reduce flooding caused by the hydraulic pinch-point formed by the Roosevelt Avenue Bridge, and to control downstream flow velocities. The Preliminary Engineering Report (PER) evaluated the downstream transition of the proposed concrete-lined channel to the earthen channel of Sixmile Creek to determine the best design to minimize environmental impacts and control or minimize the potential for channel scour. Hydrology and hydraulic (H&H) modeling was performed by the applicant for various scenarios to refine the recommendations for optimum project design. High-resolution topographic data was incorporated into the H&H model and showed a reduction in the floodplain footprint, decreasing the number of flood-risk structures from 154 to 91. Refinement of the design was influenced by channel improvements needed between the S. Flores Street and Roosevelt Avenue bridges. It was determined by the applicant that Sixmile Creek would need to be concrete-lined along CCR3 and CCR4 to meet the required Manning's roughness coefficient and to remove bridges and the greatest number of primary structures from the 100-year floodplain. Along CCR4, there would be a permanent change to 22 acres of land from undeveloped to public use (flood control channel) as a result of the proposed project.

The applicant has determined that the preferred build alternative would result in:

- Permanent impact, with no loss of waters of the United States and no loss of function, of approximately 3,867 LF (0.74 acre) of an existing concrete-lined flood control channel (CCR3);
- Permanent impact with loss of approximately 2,422 LF (1.05 acres) (2,286 LF intermittent and 135 LF ephemeral) of waters of the United States and loss of function within CCR4, along the existing earthen channel of Sixmile Creek; and,
- Permanent impact, with no loss of waters of the United States and no loss of function, of approximately 181 LF (0.10 acre) of CCR4, an existing concrete-lined constructed channel

H&H studies were performed by the applicant. The pre-project and post-project water surface elevations for the 100-year existing, and ultimate development flows and channel velocities, were calculated while water surface elevation profiles were computed using HEC-RAS in an unsteady flow model. The results indicated that the downstream surface water elevations and the post-construction 100-year floodplain would not affect the historic Espada Acequia, a.k.a., the Piedras Creek Aqueduct. In addition, after the identification of archeological resources within

the area of potential effect, an approximate 500 LF reduction occurred in the proposed downstream extent of channel improvements to avoid encroachment of archeological site 41BX2010 by restricting the channel construction zone.

COMPENSATORY MITIGATION: To compensate for permanent impact to and loss of function of waters of the United States, the applicant would provide compensatory mitigation through a combination of mitigation bank credit purchase and on-site permittee-responsible mitigation. The acquisition of stream credits from the Straus Medina Mitigation Bank (SMMB), an approved mitigation bank with a service area in Bexar County, and on-site permittee-responsible mitigation involving riparian enhancement along Sixmile Creek for a distance of 2,419 LF downstream of the proposed project area, are described by the Conceptual Mitigation Plan provided as Attachment J of the Department of the Army Section 404 Standard Individual Permit application dated July 2015.

Onsite permittee-responsible mitigation is proposed by the applicant to fully offset unavoidable loss of function and improve the value of aquatic resources and water quality in the San Antonio River watershed. The applicant believes that proposed on-site riparian enhancements are environmentally preferable compared with off-site or out-of-watershed mitigation and, would establish and maintain habitat connectivity and improve water quality along Sixmile Creek and are the best use of public funds in the public interest. According to the applicant, the proposed onsite permittee-responsible mitigation for the Sixmile Creek project was designed to improve and protect ecological functions of the existing stream, and has a high likelihood of achieving ecological uplift in the watershed less than one mile upstream of its discharge to the San Antonio River. The compensatory mitigation credits associated with the proposed onsite permittee-responsible mitigation would be generated by activities undertaken in conjunction with, but supplemental to, habitat enhancement requirements implemented for compliance with the City of San Antonio Tree Ordinance at the controlled-access Stinson Airport property. According to the applicant, the on-site habitat improvements proposed, combined with Tree Ordinance improvements, would effectively maximize the ecological functions of Sixmile Creek and reducing resource loss while providing on-site stream water quality enhancements. The amount of compensatory mitigation was developed in accordance with the Texas Rapid Assessment Method (TXRAM) model in accordance with the Fort Worth District Stream Mitigation Method (SMM) and would be 46.04 TXRAM in-channel, ephemeral stream credits and 1,738.50 TXRAM in-channel, intermittent stream credits.

PUBLIC INTEREST REVIEW FACTORS: This application will be reviewed in accordance with 33 CFR 320-332, the Regulatory Program of the U.S. Army Corps of Engineers (USACE), and other pertinent laws, regulations, and executive orders. Our evaluation will also follow the guidelines published by the U.S. Environmental Protection Agency pursuant to Section 404(b)(1) of the CWA. The decision whether to issue a permit will be based on an evaluation of the probable impact, including cumulative impact, of the proposed activity on the public interest. That decision will reflect the national concerns for both protection and use of important resources. The benefits that reasonably may be expected to accrue from the proposal must be balanced against its reasonably foreseeable detriments. All factors that may be relevant to the proposal will be considered, including its cumulative effects. Among the factors addressed are

conservation, economics, aesthetics, general environmental concerns, wetlands, historic properties, fish and wildlife values, flood hazards, floodplain values, land use, navigation, shore erosion and accretion, recreation, water supply and conservation, water quality, energy needs, safety, food and fiber production, mineral needs, considerations of property ownership, and, in general, the needs and welfare of the people.

The USACE is soliciting comments from the public; federal, state, and local agencies and officials; Indian Tribes; and other interested parties in order to consider and evaluate the impacts of this proposed activity. Any comments received will be considered by the USACE in determining whether to issue, issue with modifications or conditions, or deny a permit for this proposal. To make this decision, comments are used to assess impacts on endangered species, historic properties, water quality, general environmental effects, and the other public interest factors listed above. Comments are used in the preparation of an Environmental Assessment and/or an Environmental Impact Statement pursuant to the National Environmental Policy Act. Comments are also used to determine the need for a public hearing and to determine the overall public interest of the proposed activity.

STATE WATER QUALITY CERTIFICATION: This project would result in a direct impact of greater than 1,500 LF of streams and would not meet Tier I criteria for the project. Therefore, Texas Commission on Environmental Quality (TCEQ) Individual Water Quality Certification is required. Concurrent with USACE processing of this Department of the Army application, the TCEQ is reviewing this application under Section 401 of the CWA, and Title 30, Texas Administrative Code Section 279.1-13 to determine if the work would comply with state water quality standards. By virtue of an agreement between the USACE and the TCEQ, this public notice is also issued for the purpose of advising all known interested persons that there is pending before the TCEQ a decision on water quality certification under such act. **Any comments concerning this application may be submitted to the Texas Commission on Environmental Quality, 401 Coordinator, MSC-150, P.O. Box 13087, Austin, Texas 78711-3087.** The public comment period extends 30 days from the date of publication of this notice. A copy of the public notice with a description of the work is made available for review in the TCEQ's Austin Office. The TCEQ may conduct a public meeting to consider all comments concerning water quality if requested in writing. A request for a public meeting must contain the following information: the name, mailing address, application number, or other recognizable reference to the application; a brief description of the interest of the requestor, or of persons represented by the requestor; and a brief description of how the application, if granted, would adversely affect such interest.

ENDANGERED AND THREATENED SPECIES: The USACE has reviewed the U.S. Fish and Wildlife Service's (USFWS) latest published version of endangered and threatened species to determine if any may occur in the project area. The proposed project would be located in Bexar County, Texas. The proposed project would be located in Bexar County where several cave dwelling invertebrates are known to occur as listed endangered species under the authority of the Endangered Species Act of 1973, as amended. These species include the ground beetle (*Rhadine exilis*), the ground beetle (*Rhadine infernalis*), Helotes mold beetle (*Batrisodes venyivi*), Cokendolpher Cave harvestman (*Texella cokendolpheri*), Robber Baron Cave spider (*Cicurina*

baronia), Madla's Cave spider (*Cicurina madla*), Braken Bat Cave meshweaver (*Cicurina venii*), Government Canyon Bat Cave spider (*Neoleptoneta microps*), Government Canyon Bat Cave meshweaver (*Cicurina vespera*), and Peck's Cave amphipod (*Stygobromus pecki*). In addition to cave dwelling invertebrates, other listed endangered species are known to occur or may occur as migrants. These species include the black-capped Vireo (*Vireo atricapilla*), golden-cheeked warbler (*Dendroica chrysoparia*), whooping crane (*Grus americana*), Comal Springs dryopid beetle (*Stygoparnus comalensis*), Comal Springs riffle beetle (*Heterelmis comalensis*), the fountain darter (*Etheostoma fonticola*), Texas blind salamander (*Typhlomolge rathbuni*), and Texas wild-rice (*Zizania texana*). The San Marcos salamander (*Eurycea nana*), a listed threatened species, is also known to occur in Bexar County. The USFWS has issued a "No Action Required" letter dated May 6, 2014. Our initial review indicates that the proposed work would have no effect on federally-listed endangered or threatened species.

NATIONAL REGISTER OF HISTORIC PLACES: The USACE has reviewed the latest complete published version of the National Register of Historic Places and found no listed properties to be in the project area. However, the project area includes the Stinson Municipal Airport which is associated with early aviation and women's history, and despite modern additions, airport resources such as the former Commander's House may be eligible for listing on the National Register. In addition, the former Commander's House is included in the boundaries of the Mission Parkway National Register Historic District, although it is not a contributing District element. A cultural resources survey has been conducted for this project resulting in the recording of site 41BX2010. As the project is currently proposed 41BX2010 will not be effected. National Register of Historic Places eligibility determination for 41BX2010 will be coordinated with the Texas Historical Commission.

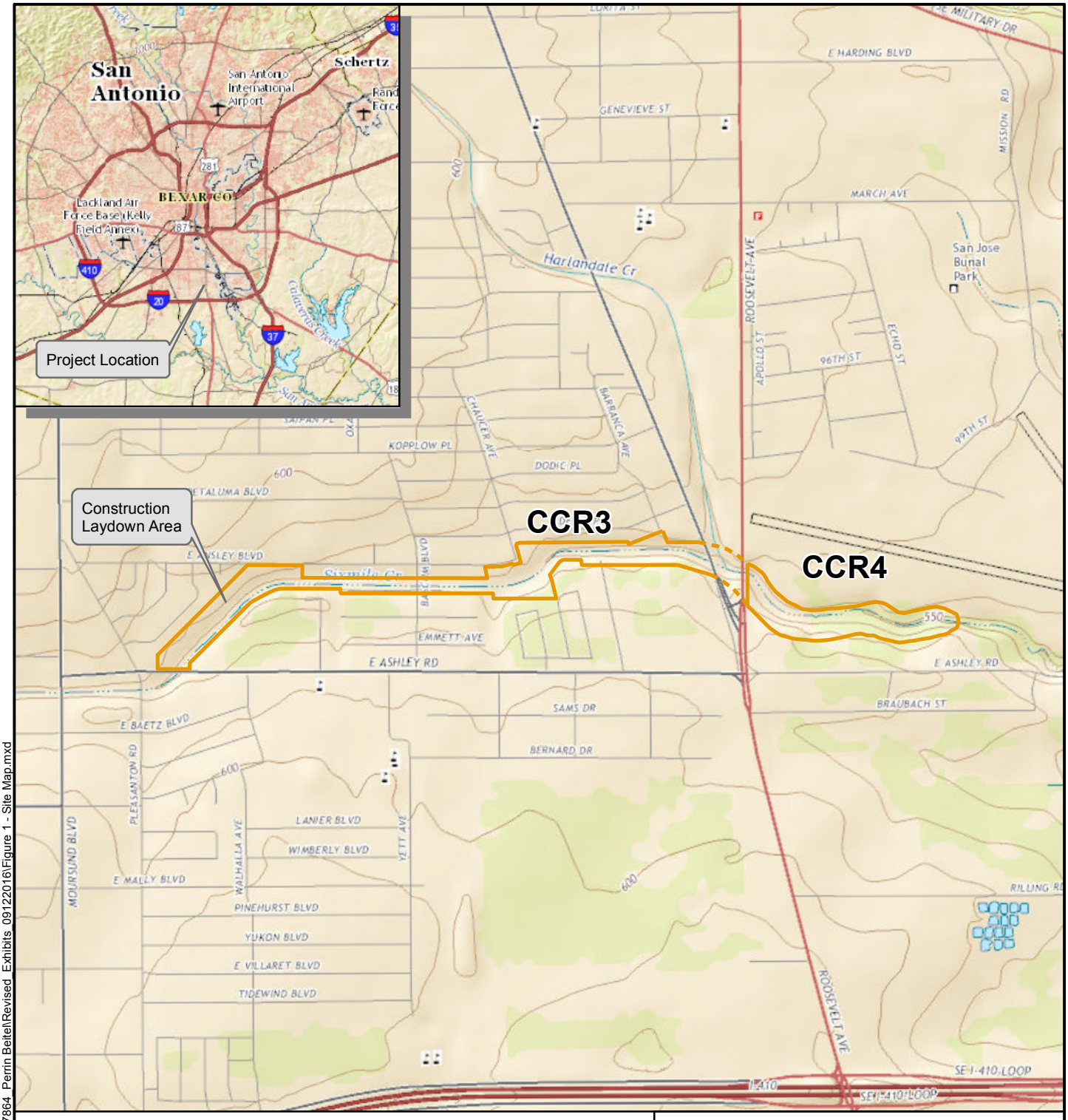
FLOODPLAIN MANAGEMENT: The USACE is sending a copy of this public notice to the Bexar County floodplain administrator. In accordance with 44 CFR part 60 (Floodplain Management Regulations Criteria for Land Management and Use), the floodplain administrators of participating communities are required to review all proposed development to determine if a floodplain development permit is required and maintain records of such review.

SOLICITATION OF COMMENTS: The public notice is being distributed to all known interested persons in order to assist in developing facts upon which a decision by the USACE may be based. For accuracy and completeness of the record, all data in support of or in opposition to the proposed work should be submitted in writing setting forth sufficient detail to furnish a clear understanding of the reasons for support or opposition.

PUBLIC HEARING: Prior to the close of the comment period any person may make a written request for a public hearing setting forth the particular reasons for the request. The District Engineer will determine whether the issues raised are substantial and should be considered in his permit decision. If a public hearing is warranted, all known interested persons will be notified of the time, date, and location.

CLOSE OF COMMENT PERIOD: All comments pertaining to this Public Notice must reach this office on or before December 5, 2016, which is the close of the comment period. Extensions of the comment period may be granted for valid reasons provided a written request is received by the limiting date. If no comments are received by that date, it will be considered that there are no objections. Comments and requests for additional information should be submitted to: U.S. Army Corps of Engineers, Regulatory Division, CESWF-DE-R; Post Office Box 17300; Fort Worth, Texas 76102-0300. You may visit the Regulatory Branch in Room 3A37 of the Federal Building at 819 Taylor Street in Fort Worth between 8:00 A.M. and 3:30 P.M., Monday through Friday. Telephone inquiries should be directed to (817) 886-1731. Please note that names and addresses of those who submit comments in response to this public notice may be made publicly available.

DISTRICT ENGINEER
FORT WORTH DISTRICT
CORPS OF ENGINEERS



Legend

- Previously Permitted Nationwide 14
- Sixmile Creek Drainage Improvement Project Area

N W E S

0 1,500 Feet

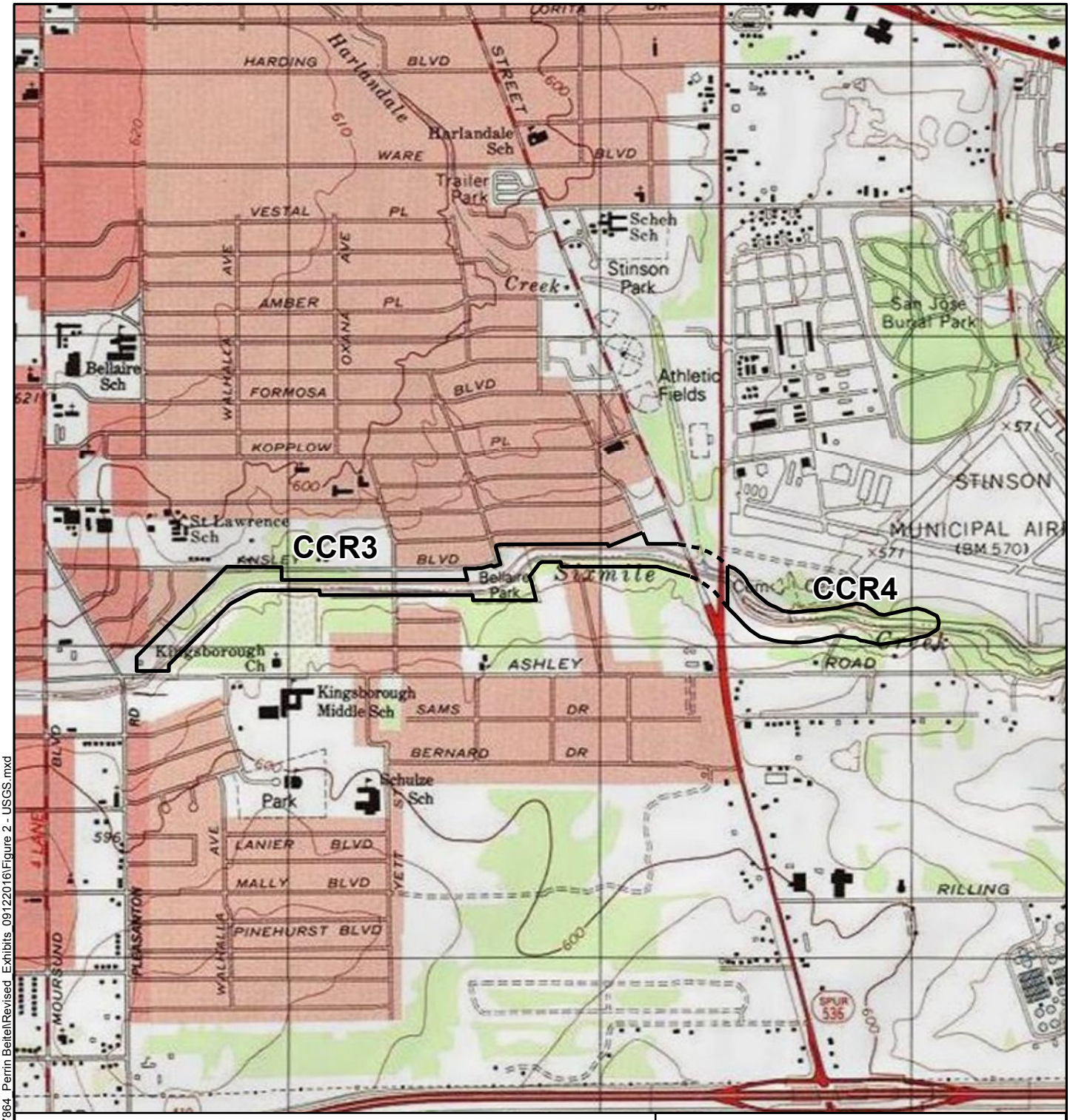
FIGURE 1 - SITE MAP

Sixmile Creek Drainage Improvement Project, SA-43A
SWF-2014-00131

County: Bexar
State: Texas
Date: September 2016
Source: ESRI 10 Base Map
North America

Flood Control

Document Path: \\ushou1fs001\prod\Projects_TRANS\60277864_Perrin Beitel\Revised_Exhibits_09122016\Figure 1 - Site Map.mxd



Legend

- Previously Permitted Nationwide 14
- Sixmile Creek Drainage Improvement Project Area

0 1,250 Feet

N W E S

FIGURE 2 - TOPOGRAPHIC MAP

Sixmile Creek Drainage Improvement Project, SA-43A
SWF-2014-00131

County: Bexar
State: Texas
Date: September 2016
Source: USGS Southton and Terrell Wells Quadrangles, 1992

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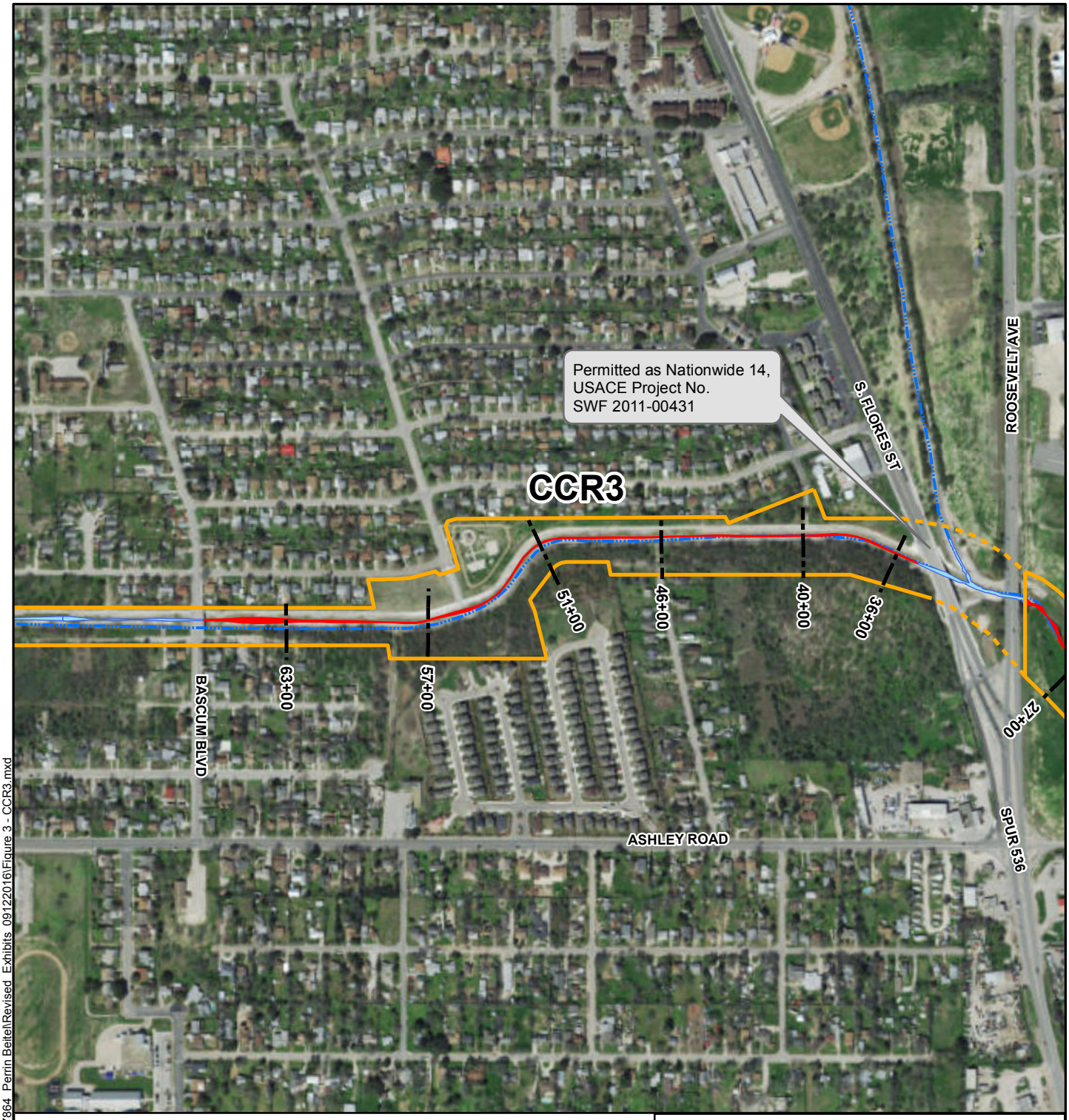

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Legend

- Previously Permitted Nationwide 14
- Sixmile Creek Drainage Improvement Project Area

Delineated Waters of the U.S.

- No Impacts
- Impacted
- Streams (USGS National Hydrography Dataset)
- Typical Cross Section

N W E S

0 600 Feet

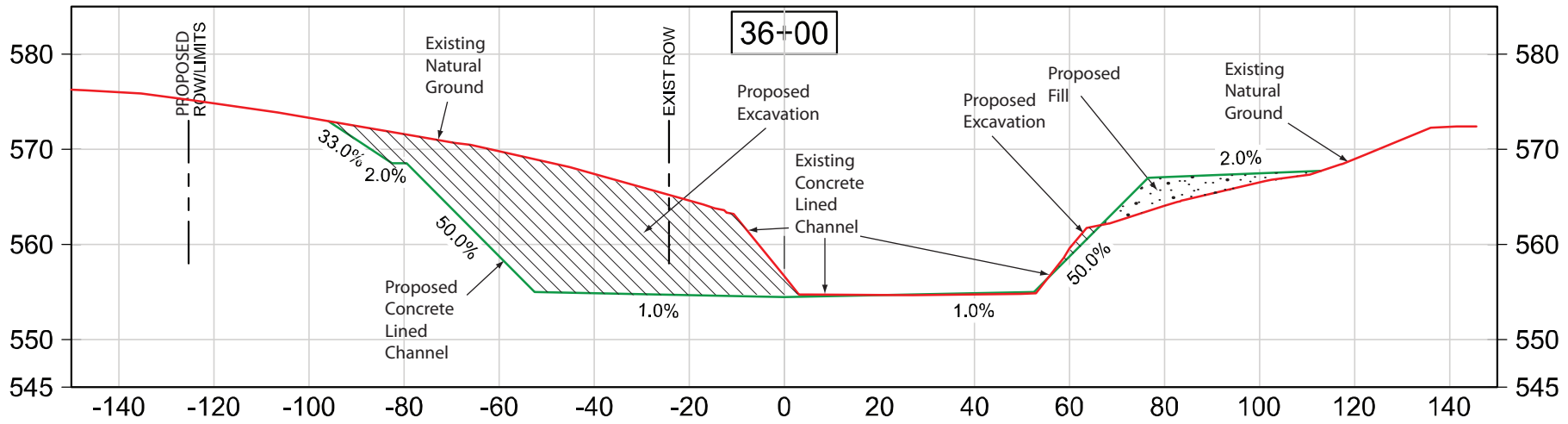
Note - CCR3 is an engineered concrete-lined channel

FIGURE 3 - CCR3

Sixmile Creek Drainage Improvement Project, SA-43A
SWF-2014-00131

County: Bexar
State: Texas
Date: September 2016
Source: ESRI Basemaps, 2016

Flood Control



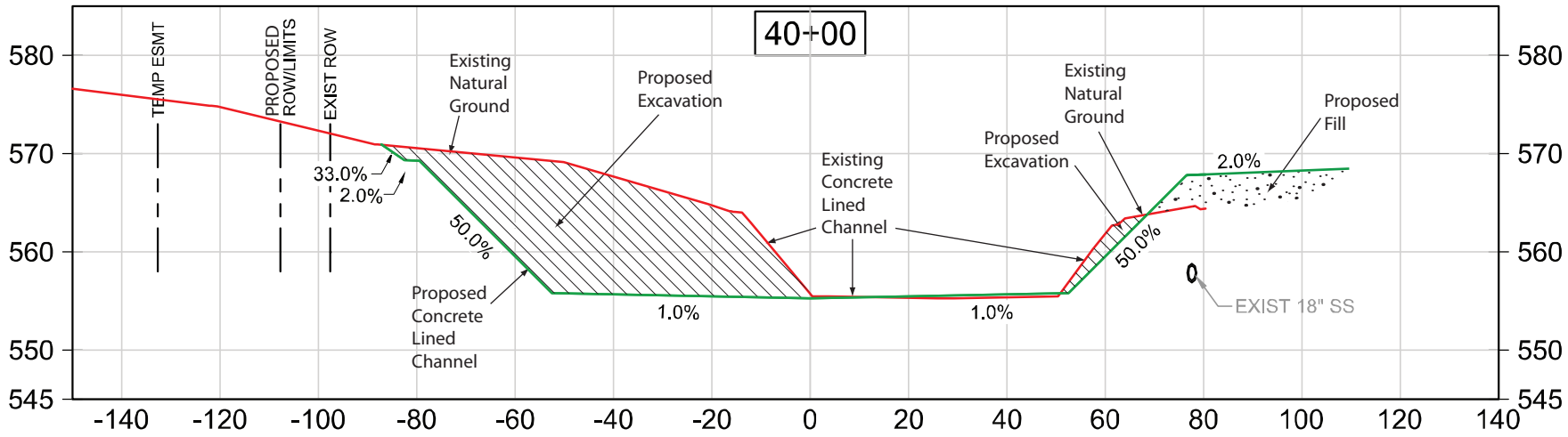


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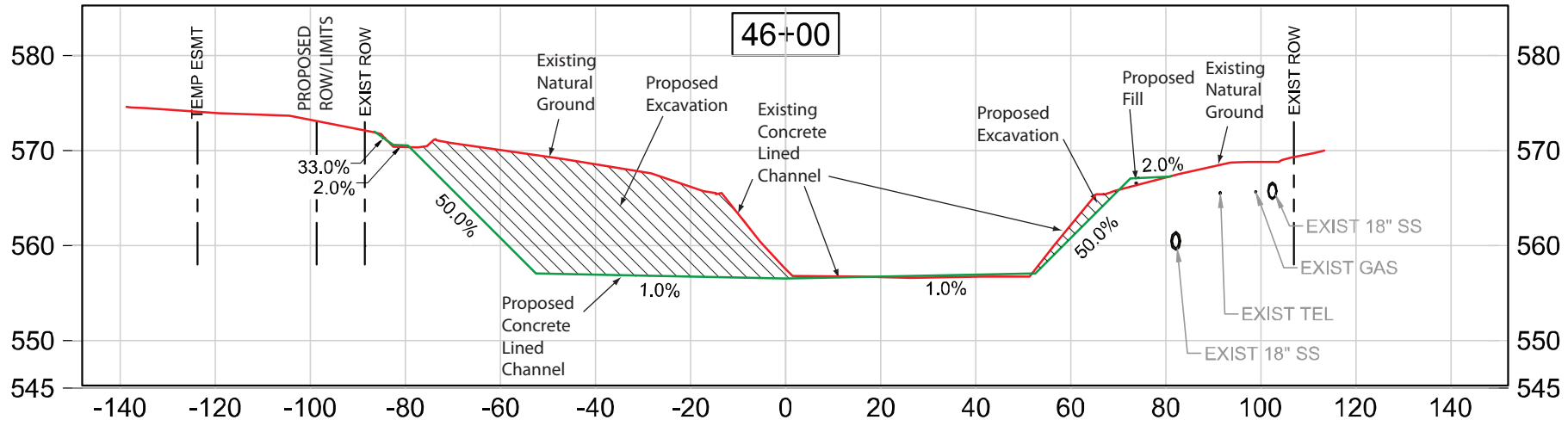
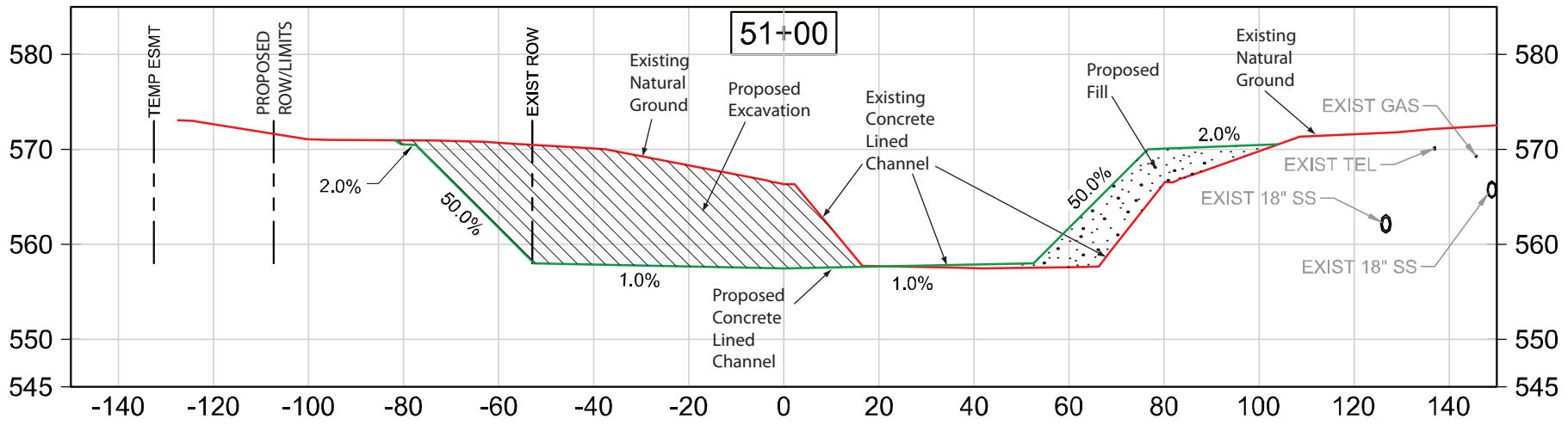
FIGURE 4A - CROSS SECTIONS STATIONS 36+00 AND 40+00

Sixmile Creek Drainage Improvement Project, SA-43A

SWF-2014-00131



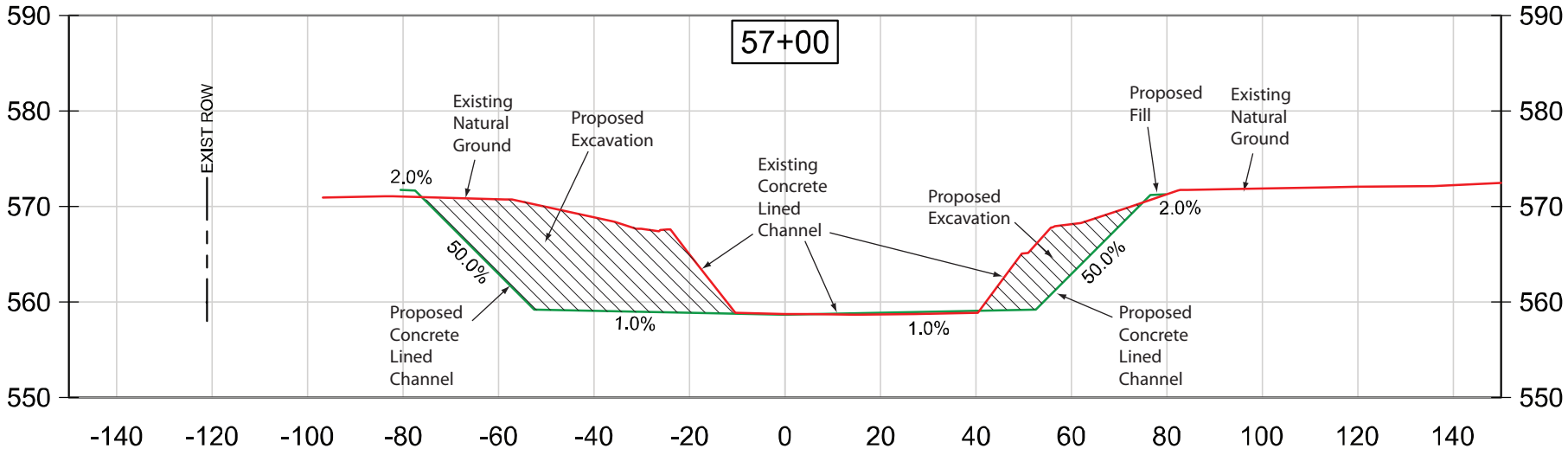


Flood Control

FIGURE 4B - CROSS SECTIONS STATIONS 46+00 AND 51+00

Sixmile Creek Drainage Improvement Project, SA-43A

SWF-2014-00131



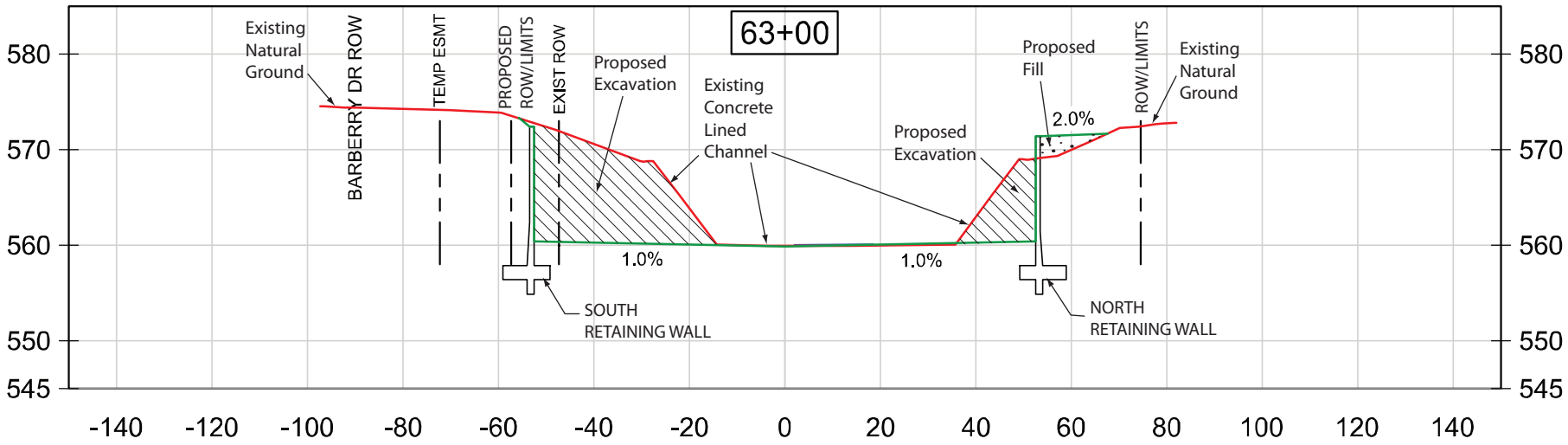
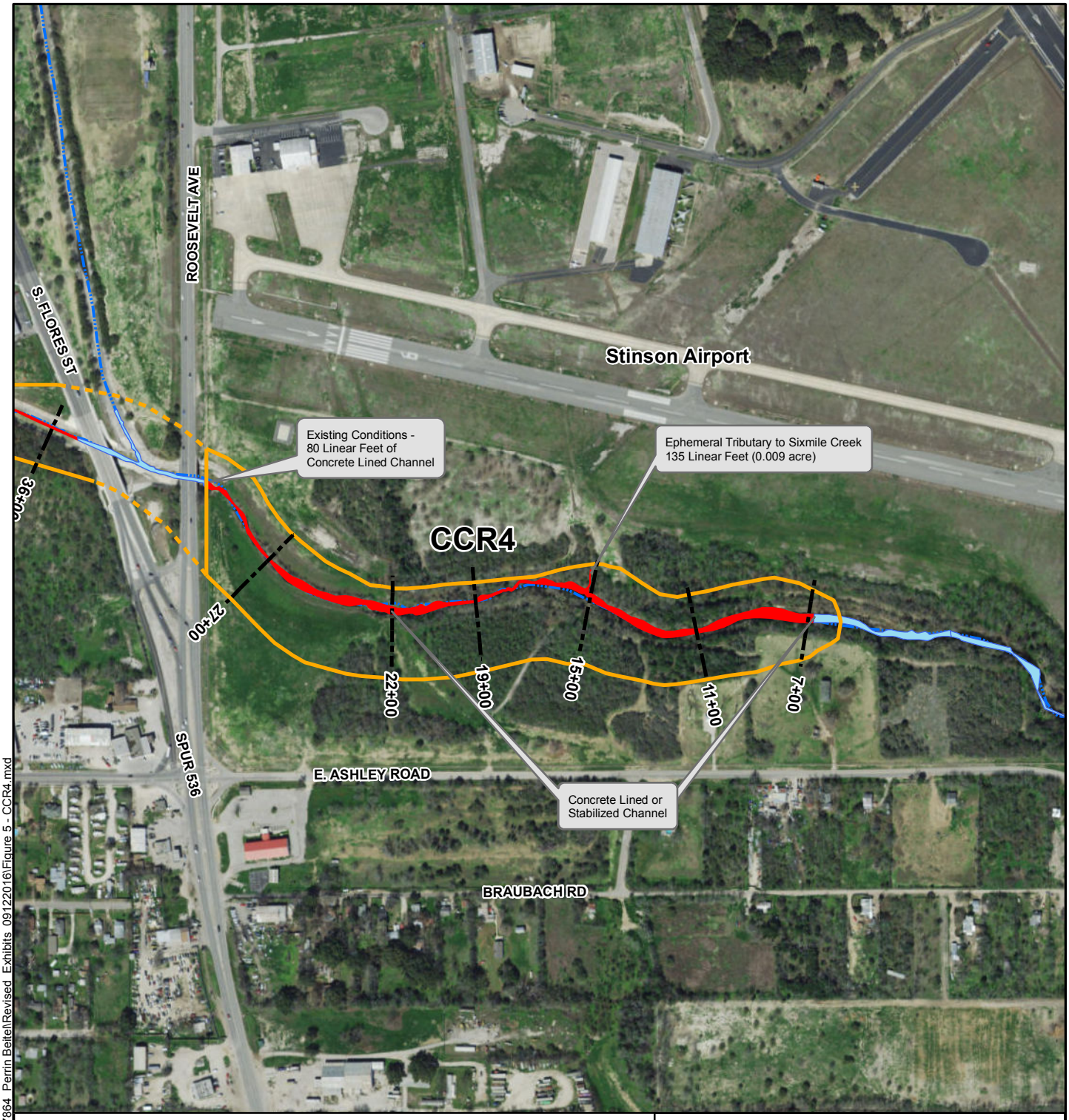


FIGURE 4C - CROSS SECTIONS STATIONS 57+00 AND 63+00

Sixmile Creek Drainage Improvement Project, SA-43A

SWF-2014-00131



Legend

- Previously Permitted Nationwide 14
- Sixmile Creek Drainage Improvement Project Area
- No Impacts
- Impacted
- Streams (USGS National Hydrography Dataset)
- Typical Cross Section

N W E S

0 500 Feet

FIGURE 5 - CCR4

Sixmile Creek Drainage Improvement Project, SA-43A
SWF-2014-00131

County: Bexar
State: Texas
Date: September 2016
Source: ESRI Basemaps, 2016

Flood Control

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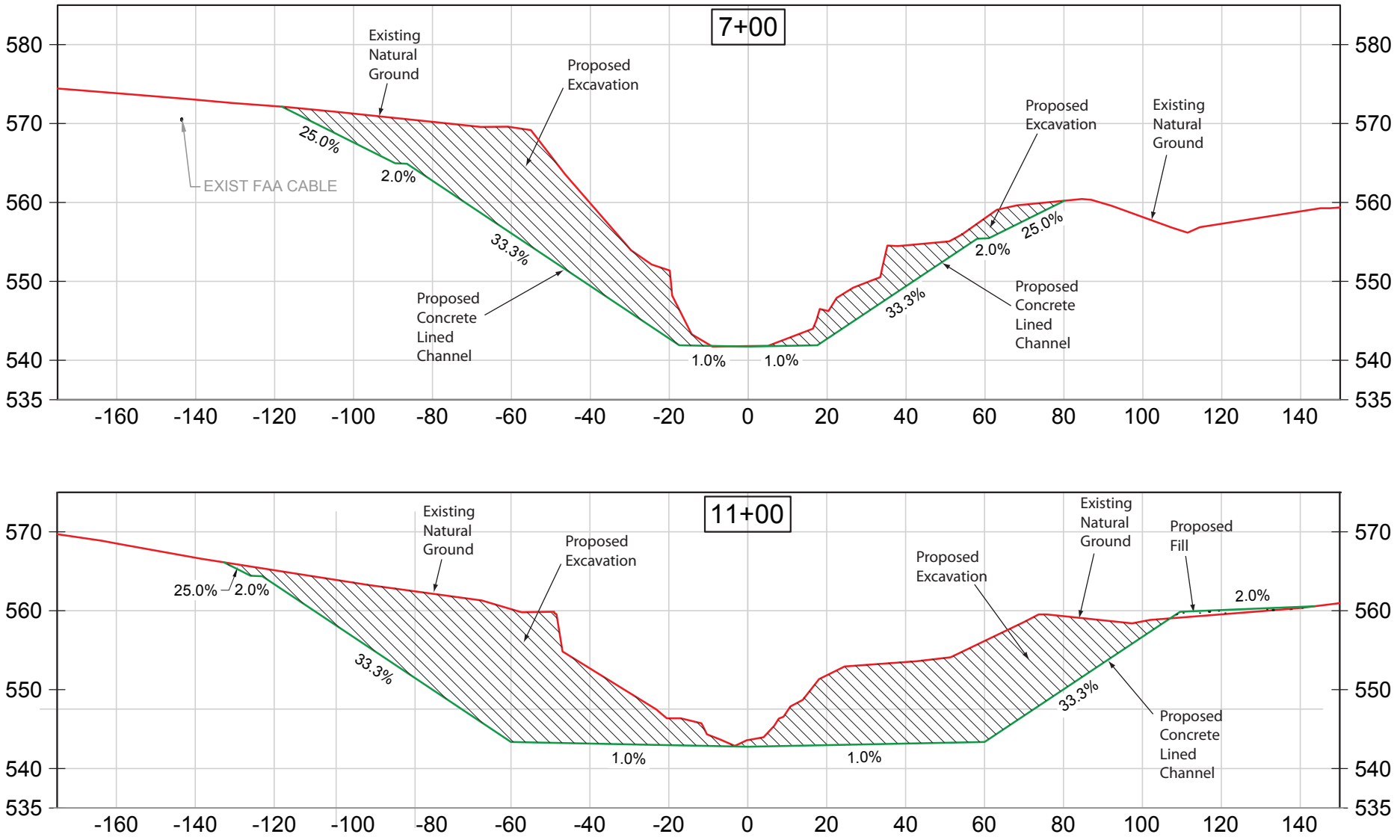
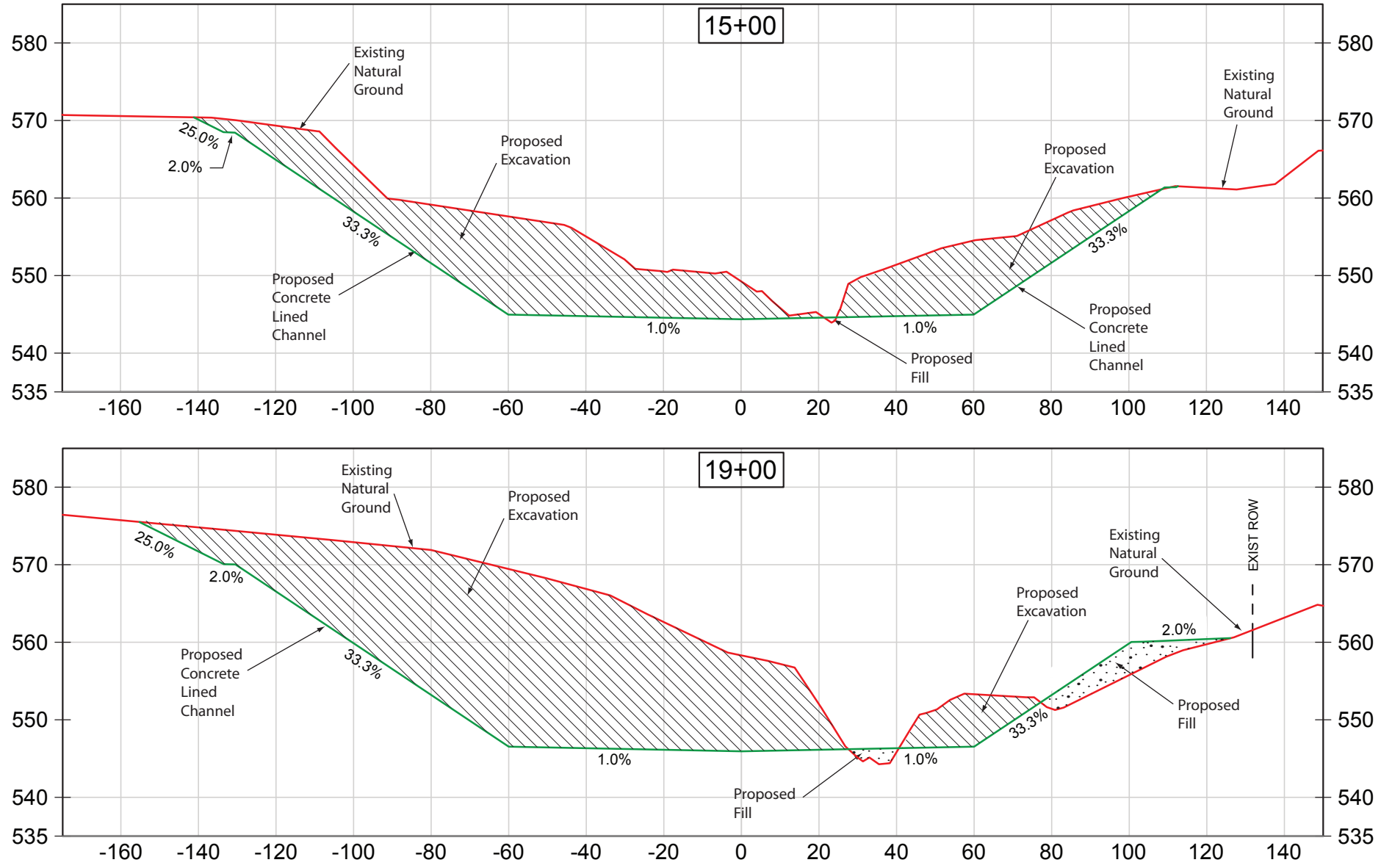


Flood Control

FIGURE 6A - CROSS SECTIONS STATIONS 7+00 AND 11+00

Sixmile Creek Drainage Improvement Project, SA-43A

SWF-2014-00131

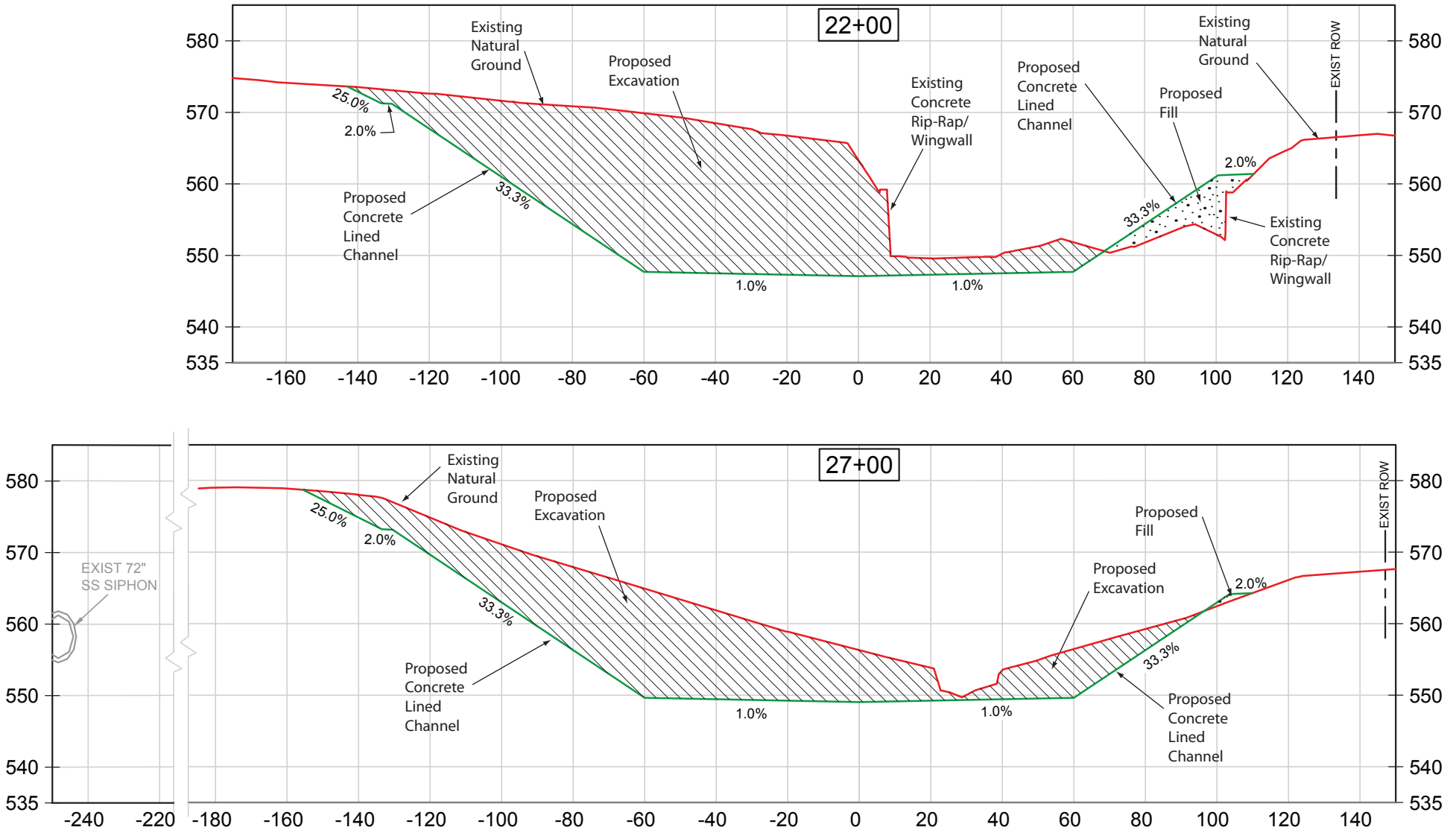


Flood Control

FIGURE 6B - CROSS SECTIONS STATIONS 15+00 AND 19+00

Sixmile Creek Drainage Improvement Project, SA-43A

SWF-2014-00131



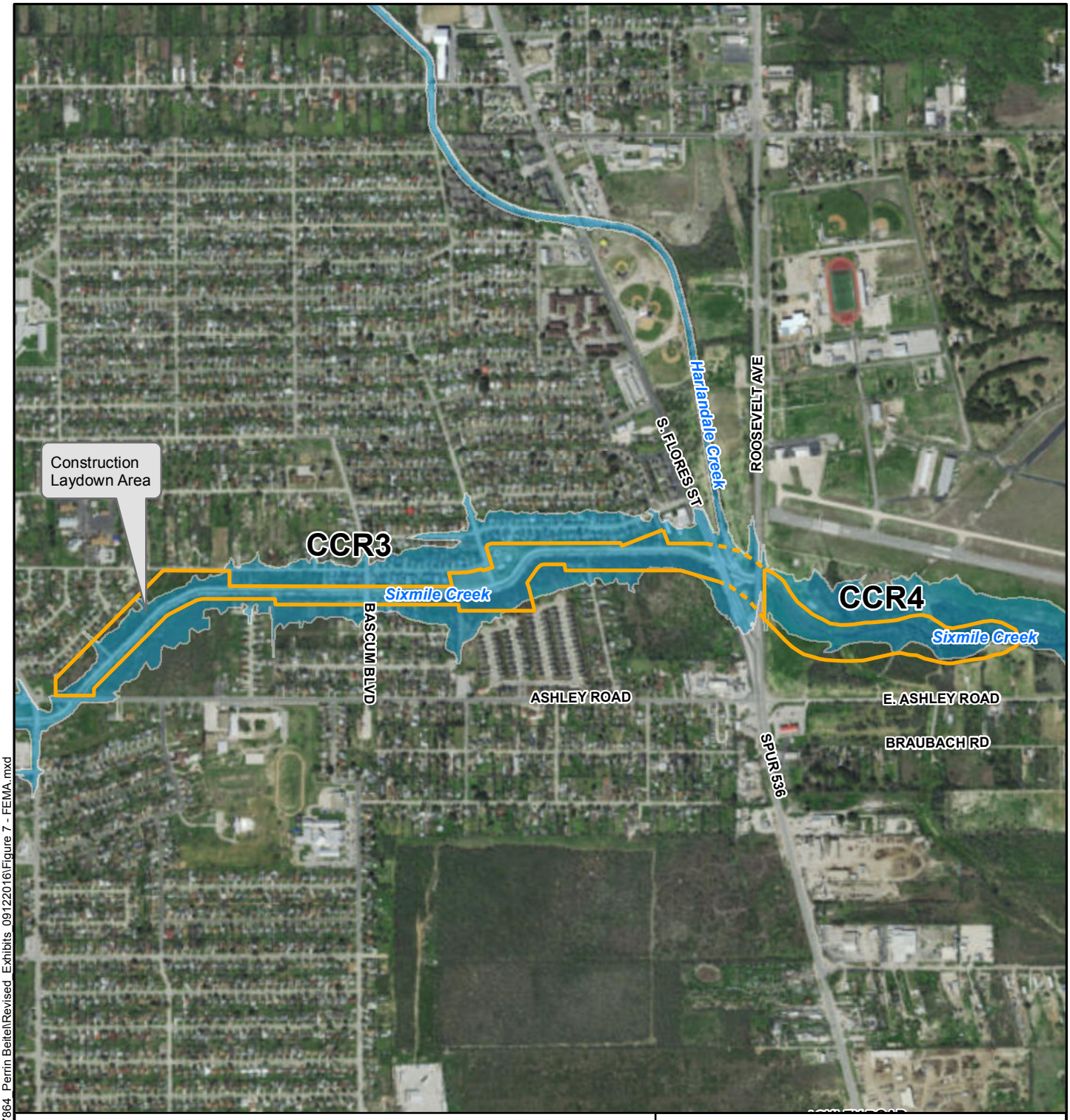
THE STATE OF TEXAS · COUNTY OF BEXAR ·

Flood Control

FIGURE 6C - CROSS SECTIONS STATIONS 22+00 AND 27+00

Sixmile Creek Drainage Improvement Project, SA-43A

SWF-2014-00131



Legend

- Previously Permitted Nationwide 14
- Sixmile Creek Drainage Improvement Project Area

FEMA Flood Hazard Zones

- 1% Annual Chance Flood Hazard
- Streams (USGS NHD)

N W E S

0 1,250 Feet

FIGURE 7 - FEMA FLOOD INSURANCE RATE MAP

Sixmile Creek Drainage Improvement Project, SA-43A
SWF-2014-00131

County: Bexar
State: Texas
Date: September 2016
Source: ESRI Basemap, FEMA

Flood Control

Document Path: \\ushou1fs001\prod\Projects_TRANS\60277864_Perrin Beitel\Revised_Exhibits_09122016\Figure 7 - FEMA.mxd

Sixmile Creek Drainage Improvement Project

SWF-2014-00131

Explanation

- Limits of Concrete - 95% Plans
- Limits of Riprap - 95% Plans
- Limits of Concrete - 90% Plans
- 41BX2010 Boundary

N

0 200 400 800 Feet

Figure 8

Deely Pl
S Flores St
Harlandale Creek South Flores Tributary
Cadmus
Driveway
Stinson #2
Stinson #1
Six Mile Creek
Sixmile Creek
Sixmile Creek
Commander's House
E Ashley Rd
Ramp
State Hwy 536
Braubach
Unnamed Street
Sams Dr

Source: Esri, DigitalGlobe, GeoEye, i-cubed, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community