Draft Environmental Assessment

Loop 1604 Expansion

From SH 16 to I-35

Bexar County, Texas

CSJs: 0072-08-144, 2452-02-083, 2452-02-128, 2452-03-087, 2452-03-113

August 2020

The environmental review, consultation, and other actions required by applicable Federal environmental laws for this project are being, or have been, carried-out by TxDOT pursuant to 23 U.S.C. 327 and a Memorandum of Understanding dated December 9, 2019, and executed by FHWA and TxDOT.

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List of Acronyms

A list of common acronyms used throughout this document and their definitions is provided below.

AADT	average annual daily traffic
AAMPO	Alamo Area Metropolitan Planning Organization
ACHP	Advisory Council on Historic Preservation
ACS	American Community Survey
AOI	area of influence
APE	area of potential effects
ARMA	Alamo Regional Mobility Authority
BMP	best management practices
CBRA	Coastal Barrier Resources Act
CBRS	Coastal Barrier Resource System
CFR	Code of Federal Regulations
CHU	Critical Habitat Unit
CMAQ	Congestion Mitigation and Air Quality Improvement Program
CMP	Congestion Management Process
CO	carbon monoxide
CWMMP	Contractor Waste and Materials Management Plan
dB	decibels
dB(A)	decibels (A-weighted)
EA	Environmental Assessment
EAA	Edwards Aquifer Authority
EAPP	Edwards Aquifer Protection Program
EAPZ	Edwards Aquifer Protection Zone
EFH	Essential Fish Habitat
EIS	Environmental Impact Statement
EMST	Ecological Mapping System of Texas
EO	Executive Order
ESA	Endangered Species Act
ETC	estimated time of completion
FEMA	Federal Emergency Management Agency
FHWA	Federal Highway Administration
FIRM	Flood Insurance Rate Map
FONSI	Finding of No Significant Impact
FPPA	Farmland Protection Policy Act
HBI	Historic Bridge Inventory
HOV	high-occupancy vehicle
IBWC	International Boundary Water Commission
IRIS	Integrated Risk Information System
ISA	Initial Site Assessment
KFR	Karst Faunal Regions
LEP	limited English proficiency
LPST	leaking petroleum storage tanks
MBTA	Migratory Bird Treaty Act
MDP	master development plans
MOU	Memorandum of Understanding
MPH	mile per hour
MSA	Magnuson-Stevens Fishery Conservation and Management Act
MSAT	mobile source air toxics

MTP	Metropolitan Transportation Plan
NAAQS	National Ambient Air Quality Standards
NATA	National Air Toxics Assessment
NEPA	National Environmental Policy Act
NOI	Notice of Intent
NRHP	National Register of Historic Places
NWP	Nationwide Permit
PA	Programmatic Agreement
PCB	polychlorinated biphenyls
PCN	Pre-construction Notification
PS&E	Plans, Specifications, and Estimates
ROW	right-of-way
RSA	Resource Study Area
SAL	State Antiquities Landmark
SAWS	San Antonio Water System
SCS	sewage collection systems
SGCN	species of greatest conservation need
SH	State Highway
SHPO	State Historic Preservation Officer
SOV	Single Occupancy Vehicle
SRP	Spill Response Plan
SW3P	storm water pollution prevention plan
TAQA	traffic air quality analysis
TCEQ	Texas Commission on Environmental Quality
TIP	Transportation Improvement Program
THC	Texas Historical Commission
TMA	Transportation Management Area
TPDES	Texas Pollutant Discharge Elimination System
TPWD	Texas Parks and Wildlife Department
TPB	Transportation Policy Board
TSS	total suspended solids
TWDB	Texas Water Development Board
TxDOT	Texas Department of Transportation
U.S.	United States of America
USACE	U.S. Army Corps of Engineers
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
UTSA	University of Texas San Antonio
vpd	vehicles per day
VMT	vehicle-miles traveled
WOUS	waters of the U.S.
WPAP	Water Pollution Abatement Plan
%	percent

1.0 Introduction

The Texas Department of Transportation (TxDOT) proposes to expand Loop 1604 from SH 16 (Bandera Rd) to I-35 in Bexar County, Texas. To accommodate transitions, the construction limits on Loop 1604 would begin approximately 1 mile west of SH 16 and end at I-35; approximately 24 miles. The project includes work on I-10. The construction limits on I-10 would begin at Camp Bullis Road and end at De Zavala Road; approximately 4.5 miles (See Project Location Map in **Appendix A**).

The project would be constructed within existing right of way (ROW) and existing channel easements. The ROW width varies from 300 to 530 feet wide. The project area is comprised of the existing ROW and existing TxDOT easements within the project construction limits and is approximately 1,535 acres.

The proposed project would be funded with state and federal funds. Pursuant to the 2019 Memorandum of Understanding (MOU) between the Federal Highway Administration (FHWA) and TxDOT, TxDOT has approval authority for this project. Therefore, environmental documentation is being prepared to federal standards. This draft Environmental Assessment (EA) will evaluate the social, economic, and environmental impacts of the proposed project and determine whether such impacts warrant preparation of an Environmental Impact Statement (EIS). The planning process for this project follows TxDOT and FHWA environmental policies and procedures in compliance with the National Environmental Policy Act (NEPA). The EA will be made available for public review during a public comment period; subsequently, TxDOT will consider any comments submitted. Once the comment period is over, TxDOT will prepare a final EA. If TxDOT determines there are no significant adverse effects, it will prepare and sign a Finding of No Significant Impact (FONSI), which will be made available to the public.

2.0 Project Description

2.1 Existing Facility

TxDOT has active construction contracts and other approved projects that overlap the project area and are considered the existing condition. The impacts of these projects have been individually evaluated. They include intersection improvements on Loop 1604 at Bitters Rd, Huebner Rd and FM 2252; ramp and intersection improvements between SH 16 and FM 1560; and between Redland Rd and Bulverde Rd; Loop 1604/US 281 interchange related work; and traffic management systems cameras at various locations. There is also ongoing construction on I-10 from FM 3351 to La Cantera Blvd. Other approved projects that overlap the project area but have not commenced construction include intersection improvements at Loop 1604 at FM 2696 (CSJ 2452-02-117) and at IH 35 (0016-07-113, etc.).

Loop 1604 is a controlled-access freeway with continuous frontage roads, except at the railroad crossing north of FM 2252 where the frontage roads end in turnarounds. The Loop 1604 median between opposing main lanes ranges from a 2-foot-wide concrete barrier to a 64-foot-wide grass ditch. There are typically two to three 12-foot-wide main lanes in each direction. The main lanes are general-purpose lanes which have no restrictions or tolls. Inside shoulders are typically 4-12-feet wide; and outside shoulders are typically 6-10-feet wide. Loop 1604 has typically two to three lane frontage roads with lanes that are 11-17-feet wide. Inside shoulders are typically 2-4-feet wide and outside shoulders range from 0-14-feet wide (See **Appendix B** for Project Photos).

I-10 is a controlled-access freeway with continuous frontage roads. A 2-foot-wide concrete barrier divides the opposing lanes. There are typically three 11.5-12-foot-wide general purpose main lanes in each direction except north of La Cantera Blvd where a fourth lane, a 12-foot-wide HOV lane. Inside shoulders are typically 10-feet wide and outside shoulders are typically 12-feet wide. I-10 has typically two to three lane frontage roads with lanes that are 12-feet wide, with no shoulders.

I-10 intersects with Loop 1604 at a three level interchange. At ground level, the I-10 and Loop 1604 frontage roads meet at signalized intersections and form a box that surrounds a VIA park and ride facility and a TxDOT maintenance material yard. Collector-distributor roads and loop connectors link the main lanes of I-10 and Loop 1604 and form a cloverleaf interchange.

The roadways are drained by ditches and underground storm sewers. There are water quality controls within the project area, including vegetated filter strips, vegetated swales, computer-controlled cartridge filtration systems, and hazardous material traps.

There are numerous underground utilities such as gas, water, and sanitary sewer in the ROW in accordance with TxDOT's Utility Accommodation policy. These are typically located along the perimeter of the ROW, although some cross the ROW under the frontage roads and main lanes. Sanitary sewer trunk lines are located along several creeks.

Less than 36 percent (%) of the Loop 1604 and I-10 corridors have sidewalks. Bicycles are accommodated throughout most of the 1604 corridor by paved shoulders but not along I-10 due to the limited presence of paved shoulders.

2.2 Proposed Facility

TxDOT proposes to expand Loop 1604 to a ten-lane expressway. The layout of auxiliary lanes, and entrance and exit ramps would be reconfigured. The interchange at I-10 would be modernized by removing the cloverleaf connectors, adding direct connectors, and replacing the signalized frontage road intersections with a continuous flow configuration. The project would include accommodations for bicyclists and pedestrians, water quality protection, and other highway features. All improvements would be located within the existing right of way and easements.

The Loop 1604 main lanes would include one 11-12-foot-wide high occupancy vehicle (HOV) lane and four general purpose lanes in each direction. A 0-4-foot-wide striped buffer would be placed between the HOV and general purpose lanes. Shoulders would be typically 4-10-feet wide on the inside and 10-feet wide on the outside. Exit and entrance ramps would be relocated, and auxiliary lanes would be added on the main lanes and frontage roads. Bridges would be widened to carry additional lanes across intersecting roads and creeks. The frontage roads would typically have two 11-14-foot-wide lanes, 4-foot-wide inside shoulders, 5-8-foot-wide outside shoulders, and continuous bicycle and pedestrian accommodations in both directions. Bicycle and pedestrian accommodations would be provided through a combination of minimum 5-foot-wide outside shoulders on frontage roads and 6-foot-wide sidewalks. In areas where no shoulders are present, a 10-foot wide sidewalk would be provided. See **Appendix C** for the Project Schematic and **Appendix D** for existing and proposed typical sections.

The three level cloverleaf I-10/Loop 1604 interchange would be reconstructed to accommodate a five level interchange with the higher speed direct connection between Loop 1604 and I-10. The signalized frontage road intersections would be replaced with a continuous flow partial roundabout surrounding a renovated VIA park and ride facility. Turnarounds would be added for the I-10 frontage road at the intersection. New I-10 and Loop 1604 main lane bridges would accommodate additional lanes.

Along I-10, exit and entrance ramps would be relocated, and auxiliary lanes would be added on the main lanes and frontage roads. Bridges would be widened to carry additional lanes across roads and creeks. The frontage roads would typically have 12-foot-wide lanes and no shoulders.

Collector-distributor roads and bridges typically with two 12-foot-wide wide lanes, 4-foot-wide inside shoulders and 8-foot-wide outside shoulders, would be located between the main lanes and frontage roads within the interchange. Flyover direct connector ramps, typically with two 12-foot-wide lanes, 4-foot-wide inside shoulders and 8-foot-wide outside shoulders, will connect both freeways. The

design of the new interchange would account for 18.5 feet vertical clearance requirement for freight traffic.

I-10 bridges over the Marquis Trailhead crossing of Leon Creek would be replaced with higher bridges to reduce the frequency of overtopping. The Loop 1604 bridge class culvert at French creek would be replaced with higher span bridges to reduce overtopping. Since the elevations of the frontage roads at these locations would be increased, portions of the driveways located outside the ROW at these locations may require reconstruction to provide desirable driveway profiles. Storm drainage would be conveyed by roadside ditches and an expanded underground storm sewer system. The storm drainage system would include controls to treat runoff that drains to the Edwards Aquifer Recharge Zone (RZ). A variety of retaining wall types and new and expanded signs, signals, illumination, and traffic management systems would be constructed throughout the project limits. Vegetation would be removed from channel easements as needed to accomplish hydraulic and maintenance needs.

Federal regulations require that federally funded transportation projects have logical termini (23 Code of Federal Regulations [CFR] 771.111(f)(1)). Simply stated, this means that a project must have rational beginning and end points. Those end points may not be created simply to avoid proper analysis of environmental impacts. The logical termini for the project are SH 16 and I-35.

Federal regulations require that a project have independent utility and be a reasonable expenditure even if no other transportation improvements are made in the area (23 CFR 771.111 (f)(2)). This means a project must be able to provide benefit by itself, and that the project does not compel further expenditures to make the project useful. Stated another way, a project must be able to satisfy its purpose and need with no other projects being built. The proposed project has independent utility and would not preclude other foreseeable transportation improvements within the project area. Because the project stands alone, it cannot and does not irretrievably commit future federal funds.

Federal law prohibits a project from restricting consideration of alternatives for other reasonably foreseeable transportation improvements (23 CFR 771.111(f)(3)). This means that a project must not dictate or restrict any future roadway alternatives. While other transportation improvements are proposed on Loop 1604, this project has independent utility and would not restrict the consideration of alternatives for other foreseeable transportation improvements.

The proposed project is anticipated to require approximately $1.36 billion of federal and state funds. The project is listed in *Mobility 2045* and a portion of the project is currently listed in the *2019–2022 Statewide Transportation Improvement Program* (STIP) (**Appendix E**). Additional portions of the project would be added to later STIPs as funding becomes available.

3.0 Purpose and Need

3.1 Need

The proposed project is needed because the capacity of Loop 1604 from SH 16 to I-35 is inadequate to meet current and future traffic volumes, resulting in congestion, reduced mobility, and longer delays.

3.2 Supporting Facts and/or Data

Congestion is caused when traffic demand approaches or exceeds the available capacity of the highway system. In general, traffic demand is equivalent to the number of vehicles traveling on the roadway, while capacity is the number of lanes.

The number of vehicles (i.e., volume or demand) traveling on Loop 1604 has increased substantially since it was constructed, and it is predicted to increase in the future (**Table 1**). Transportation needs are based on existing (2018) and future design year (2045) traffic conditions. Loop 1604 is an important part of the local, regional, and state transportation system. The Loop 1604 project corridor is located within Bexar County and provides access to the cities of Helotes, Hill Country Village, Live Oak, San Antonio, Selma, Shavano Park, Universal City, and the Town of Hollywood Park. At the local level, Loop 1604 functions as a major arterial that provides access to employment centers, schools, recreational facilities, shopping venues, and medical facilities. Regionally, Loop 1604 serves as an important route for commuters by connecting radial highways that carry traffic into San Antonio and connecting various destination points within the metropolitan area.

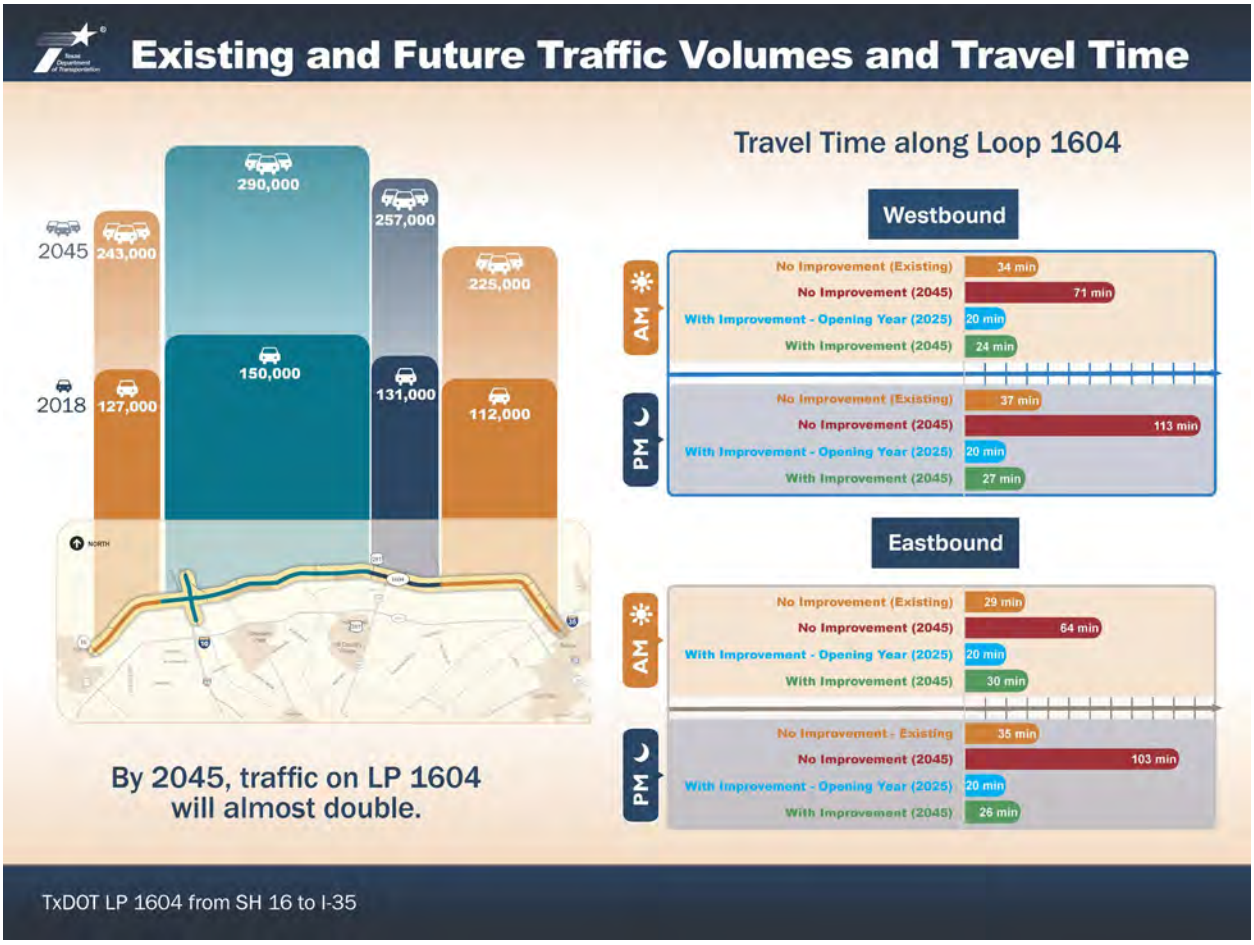
Table 1: Loop 1604 Average Annual Daily Traffic by Year

From	To	1970	1980	1990	2000	2010	2018	2045 No-Build	2045 Build
SH 16	La Cantera Parkway	1,300	11,000	13,000	50,000	95,000	127,000	243,000	243,000
La Cantera Parkway	US 281	1,500	9,000	26,000	83,000	108,000	150,000	287,000	290,000
US 281	Bulverde Road	1,500	6,000	19,800	63,000	78,000	131,000	257,000	257,000
Bulverde Road	I-35	1,400	8,000	20,000	61,000	81,000	112,000	220,000	225,000

Source: TxDOT 1970; TxDOT 1980; TxDOT 2019a

Table 1 presents traffic data by decade from 1970 to 2010 plus 2018 and the highest projected average annual daily traffic (AADT) traffic volumes on Loop 1604 for the 2045 No-Build Alternative and the 2045 Build Alternative (see Section 4.1). **Exhibit 1** shows the existing and future traffic volumes and travel times along Loop 1604 for the "No Improvement" and the "With Improvement" conditions, which correlate to the No-Build Alternative and Build Alternative, respectively.

Exhibit 1: Existing and Future Traffic Volumes and Travel Times



Source: TxDOT 2019a

The Loop 1604 corridor is congested throughout the day and especially during peak hours (7–9 a.m. and 3–7 p.m.). As shown in **Exhibit 1**, traffic volumes in the corridor will almost double by 2045, and the travel times will increase in the future if there are no improvements to Loop 1604. Travel times are related to vehicle speed. The speed limit on Loop 1604 is 70 mile per hour (MPH). Existing travel times along Loop 1604 range from 34 minutes in the westbound direction to 29 minutes in the eastbound direction. If there are no improvements, by the year 2045 the travel times would range from 64 minutes to 113 minutes, with the PM travel times being the longest. With improvements, Loop 1604 travel times in the anticipated opening year of 2025 would average around 20 minutes and by 2045 would range from 24 minutes to 27 minutes.

Future peak period travel times for the No-Build Alternative (No Improvement) are equivalent to speeds between approximately 12 to 22 MPH. The slow speeds result from congestion due to inadequate capacity for the projected traffic volumes. To improve mobility and operations, congestion must be relieved.

The population in the project area has also increased with time and is projected to increase in the future. Rapid population growth in the Loop 1604 corridor area and in surrounding areas in recent years (which is expected to further increase well into the foreseeable future) drives the need for improvements to Loop 1604. According to American Community Survey (ACS) 2016–2017 population estimates, Bexar County had the seventh-largest population growth in the U.S. **Table 2** shows the county's population and employment statistics for 2015 and 2045.

Table 2: Bexar County Population and Employment Projections (2015–2045)

Metric	2015	2045	Growth	Percent Projected Growth (2015–2045)
Population	1,898,173	3,004,011	1,105,838	58.3%
Employment	893,782	1,571,410	677,628	75.8%

Source: *Mobility 2045*, Alamo Area Metropolitan Planning Organization (AAMPO) 2019a

The Alamo Area Metropolitan Planning Organization (AAMPO) develops transportation plans and programs to address the needs of the greater San Antonio area. The Transportation Policy Board leads the AAMPO and decides how federal and state transportation funds will be allocated for the region. The Transportation Policy Board (TPB) adopts a Metropolitan Transportation Plan (MTP) every five years. The TPB is currently comprised of 21 elected and appointed officials representing the following entities: Bexar, Comal and Guadalupe counties and a portion of Kendall County; Cities of New Braunfels, San Antonio and Seguin; the Advanced Transportation District, the Alamo Regional Mobility Authority, Greater Bexar County Council of Cities, Northeast Partnership, the Texas Department of Transportation, and VIA Metropolitan Transit.

In the 2045 MTP, AAMPO states: "As population and employment continue to grow in the San Antonio metropolitan area, a greater burden will be placed on the transportation system. To accommodate traffic increases on the roadway system, additional travel lanes, including HOV lanes, and operational improvements will be needed." The 2045 MTP and previous MTPs developed by AAMPO identified the need for expanded roadway capacity (additional lanes) on Loop 1604 within the proposed project limits (AAMPO 2004; AAMPO 2009; AAMPO 2014; AAMPO 2019a).

3.3 Purpose

The purpose of the proposed project is to accommodate current and future traffic volumes on Loop 1604 between SH 16 and I-35 with peak period speeds closer to the posted speed limit.

4.0 Alternatives

4.1 Build Alternative

The proposed project involves expanding Loop 1604. The Build Alternative includes:

- Adding six lanes to Loop 1604 including two general-purpose lanes and one HOV lane in each direction.
- Reconstructing the Loop 1604/I-10 interchange including eight direct connectors and collector-distributor roads along both LP 1604 and I-10.
- Adding continuous sidewalks and bicycle accommodations along the entire length of the project.

The travel times in the corridor shown in **Exhibit 1** for the Build Alternative (With Improvement) would be equivalent to approximately 46 to 58 MPH, which is closer to the posted speed limit of 70 MPH. Loop 1604 travel times in the anticipated opening year of 2025 would average around 20 minutes and by 2045 would range from 24 minutes to 27 minutes.

The proposed Build Alternative meets the purpose and need for the project by expanding the capacity of Loop 1604 and improving peak period speeds. Congestion relief would occur under the Build Alternative throughout the project corridor since additional travel lanes and improved frontage roads would be provided. The Build Alternative is the Preferred Alternative.

As a result of comments received during the September 2019 public meetings, approximately 18 design changes were implemented to address concerns from the public, which primarily included access and ramp changes. Additional modifications to the Build Alternative were implemented to avoid and minimize impacts to known karst invertebrate species in or adjacent to the proposed project. Those revisions included a ramp revision, frontage road relocation to minimize potential impacts near the Green Mountain Cave, and storm water drainage overtreatment near Critical Habitat Unit (CHU) 9. These changes are discussed in more detail in **Section 5.13.11**. In many areas of the proposed project, reducing the number of bridge support columns to be placed within waters of the U.S, including wetlands, resulted in minimization and avoidance of impacts.

4.2 No-Build Alternative

Under the No-Build Alternative, the proposed project would not be constructed. This alternative would not add capacity to Loop 1604 and reconstruct the Loop 1604/I-10 interchange to accommodate existing and future traffic volumes within the study area; therefore, it would not satisfy the need and purpose of the project. The No-Build Alternative will be carried forward as a baseline for comparison with the Build Alternative throughout this document. The No-Build Alternative assumes that other planned projects within the study area would be constructed.

As previously presented, **Exhibit 1** shows the travel times along Loop 1604 under the No-Build and Build Alternatives. Future peak period travel times in the corridor for the No-Build Alternative (No Improvement) are equivalent to speeds between approximately 12 to 22 MPH.

4.3 Preliminary Alternatives Considered but Eliminated from Further Consideration

In 2014, the Loop 1604 project proposed by ARMA included the addition of two managed lanes from SH 16 (Bandera Road) to I-35 and ramp modifications. A preliminary schematic design and a Draft EA were prepared by ARMA but not finalized or approved by TxDOT.

In 2019, TxDOT initiated the current study of proposed improvements for Loop 1604 from SH 16 to I-35, including the Loop 1604/I-10 interchange. The managed lanes were eliminated from consideration after the MPO changed its regional plan vision from an interconnected system of managed lanes to a system that included HOV lanes.

5.0 Affected Environment and Environmental Consequences

In support of this EA, the following technical reports were prepared:

- *Community Impacts Assessment Technical Report* (TxDOT 2020a)
- *Archeological Background Report* (TxDOT 2019b)
- *Report for Archeological Survey* (TxDOT 2020b)
- *Historical Studies Project Coordination Request* (TxDOT 2019c)
- *Surface Water Resources Technical Report* (TxDOT 2020c)
- *Tier 1 Site Assessment Form* (TxDOT 2020d)
- *Biological Evaluation Form* (TxDOT 2020e)
- *Carbon Monoxide Technical Report* (TxDOT 2020f)
- *Mobile Source Air Toxics Quantitative Analysis Technical Report* (TxDOT 2020g)
- *Air Quality Transportation Conformity Form* (TxDOT 2020q)
- *Hazardous Materials Initial Site Assessment* (TxDOT 2020g)
- *Traffic Noise Technical Report* (TxDOT 2020h)
- *Indirect Impacts Technical Report* (TxDOT 2020i)
- *Cumulative Impacts Technical Report* (TxDOT 2020j)
- *Documentation of Public Meeting* (TxDOT 2020k)
- *Final Golden-Cheeked Warbler Presence/Absence Survey* (TxDOT 2019f)
- *Geologic Assessment* (TxDOT 2020n)
- *Groundwater Resources Technical Report (*TxDOT 2020o)
- *Occupied Karst Habitat Avoidance and Minimization Technical Memorandum* (TxDOT 2020l)

- *Biological Assessment* (TxDOT 2020m)
- *Karst Technical Report* (TxDOT 2020p)
- *Marquis Trailhead Section 4(f) Evaluation Memo to File* (TxDOT 2020r)
- *Water Quality Analysis* (TxDOT 2020s)
- *Excavation Memo* (TxDOT 2020t)
- *CHU 9 Drainage and Water Pollution Abatement Approach* (TxDOT 2020u)
- *CMP Disclosure Memo* (TxDOT 2020v)

The technical reports may be inspected and copied upon request at the TxDOT San Antonio District office.

5.1 Right-of-Way/Displacements

The proposed Build Alternative would not require additional ROW. Approximately 50.92 acres of existing drainage easements are within the project limits. All of the easements are located outside of the existing ROW and adjacent to Loop 1604. There are no potential residential or commercial displacements. See **Appendix C** for the Project Schematic and **Appendix D** for existing and proposed typical sections.

Under the No-Build Alternative, the existing Loop 1604 would remain as is, and normal, routine maintenance would be conducted.

5.2 Land Use

The proposed Loop 1604 project is primarily located within the city of San Antonio, but also traverses the cities of Universal City, Shavano Park, Selma, and Live Oak and the Town of Hollywood Park in northern Bexar County, Texas. Surrounding land uses include a mix of vacant/undeveloped, residential, commercial, industrial, and agricultural land. Please refer to the *Community Impacts Assessment Technical Report* for additional information regarding existing land uses within the project area (TxDOT 2020a).

The expansion of Loop 1604 to a 10-lane expressway and the reconstruction of the Loop 1604/I-10 interchange would improve mobility for emergency vehicles and reduce delays. Emergency response times would increase to the extent that responders may have to enter or exit at different points to or from the Loop 1604 mainlanes, possibly increasing time spent on frontage roads. However, the proposed roadway improvements are intended to enhance the operational efficiency along Loop 1604, thus improving emergency response times. Notification of local officials and emergency response organizations would be conducted prior to construction.

The Build Alternative would not require any additional ROW or permanent easements; therefore, the proposed project would not substantially alter the existing land use in the area.

Under the No-Build Alternative, no impacts to land use would occur.

5.3 Farmlands

The Farmland Protection Policy Act (FPPA), as detailed in Subtitle I of Title XV of the Agricultural and Food Act of 1981, provides protection to the following: (1) prime farmland, (2) unique farmland, and (3) farmland of local or statewide importance. Transportation projects conducted by a federal agency or with federal agency assistance that irreversibly convert protected farmland (directly or indirectly) to non-agricultural use are required to coordinate with the Natural Resources Conservation Service under the FPPA.

The Build Alternative would require no new ROW or permanent easements. The FPPA does not apply to this project. Under the Build and No-Build Alternatives, no impacts to farmland would occur.

5.4 Utility Relocation

It is reasonably foreseeable that utilities will have to be relocated as a result of this project. The impacts resulting from removal of any utilities from within existing highway ROW have been considered as part of the project impacts under each of the resource area subheadings within this EA. Additionally, if utilities will be relocated within highway ROW, then the impacts resulting from re-installation of the utilities within highway ROW has also been considered as part of the project impacts under each of the resource area subheadings within this EA. To the extent that the owner of any displaced utility determines to re-install the displaced utility at a location outside of highway ROW, such location will be determined by the owner of the utility subject to the rules and policies governing the utility relocation process.

The No-Build Alternative would have no impacts to existing utilities within the project limits.

5.5 Bicycle and Pedestrian Facilities

Existing sidewalks are discontinuous in nature and are only located along approximately 36% of Loop 1604 within the project limits; the remaining approximately 64% of Loop 1604 does not contain sidewalks. Existing sidewalks are discontinuous in nature and are only located along approximately 30% of I-10 within the project limits; the remaining approximately 70% do not contain sidewalks.

The Build Alternative proposes continuous sidewalks and bicycle accommodations along the entire length of the project that can accommodate pedestrians and bicyclists traveling throughout the project limits. See **Appendix C** for the Project Schematic.

Under the No-Build Alternative, pedestrians and bicyclists would continue to use the existing transportation network.

5.6 Community Impacts

A *Community Impact Assessment Technical Report* (TxDOT 2020a) was completed in accordance with TxDOT's *Community Impacts, Environmental Justice, Limited English Proficiency, and Title VI Compliance* guidance (TxDOT 2018a).

As previously described in **Section 5.2,** the communities surrounding the project area include a mix of vacant/undeveloped, residential, commercial, industrial, and agricultural land. The general land use pattern consists of retail and/or commercial uses at the major intersections of Loop 1604 with I-35, US 281, I-10, and SH 16, and a mixture of retail, commercial, industrial, residential, and undeveloped land uses between major intersections. Multiple types of community facilities are in the area, including medical facilities, churches, elementary schools, a middle school, other private educational facilities, assisted living centers, parks, a theme park, and funeral homes. See the *Community Impacts Assessment Technical Report* (TxDOT 2020a) for additional information. **Figure 1** in **Appendix F** illustrates the locations of the community facilities adjacent to the project limits.

The overall impact of the Build Alternative is expected to result in beneficial impacts to access and travel patterns for the communities directly adjacent to the Loop 1604 corridor. The proposed reconstruction of the Loop 1604/I-10 interchange, consisting of direct connectors and collector-distributor roads along Loop 1604 and I-10, would provide a more efficient route for travelers to transition between Loop 1604 and I-10. The proposed repositioning of on- and off-ramps throughout the project area would result in slight changes to access and travel patterns throughout the corridor. Drivers who commonly use access ramps within this section of Loop 1604 would have to familiarize themselves with the new entrance and exit points, and this might change the length of some trips. Mobility would be enhanced for all users of the Loop 1604 roadway, including passenger vehicles, emergency vehicles, bicycles, and pedestrians, due to the increased capacity, which consists of two HOV special purpose lanes (one in each direction), eight general-purpose lanes (four in each direction), improvements to the Loop 1604/I-10 interchange, the addition of continuous and connected sidewalks, and the construction of wide shoulders for bicyclists. The Build Alternative would not compromise the existing general access to and from Loop 1604 mainlanes.

An additional permanent change to access and travel patterns due to the proposed project is the closure of the Tradesman overpass located to the east of Van Jackson Road. The existing facility allows traffic to cross over the Loop 1604 mainlanes from both the eastbound and the westbound Loop 1604 frontage roads, enabling the commercial parcels located on either side of the existing overpass to be accessed by travelers headed east and west along the frontage roads. The closure of this overpass would require travelers headed east on the eastbound Loop 1604 frontage road to make a legal U-turn at Lockhill Selma Road, located approximately 0.5 miles to the east, in order to reach the commercial parcels located to the north of the existing Tradesman overpass. Likewise, travelers headed west on the westbound Loop 1604 frontage road would be required to make a

legal U-turn at the Vance Jackson Road overpass, located approximately 0.2 miles to the west, in order to reach the commercial parcels located to the south of the existing Tradesman overpass.

The Build Alternative would improve mobility for emergency vehicles and reduce delays. Emergency response times may increase to the extent that responders may have to enter or exit at different points to or from the Loop 1604 mainlanes, possibly increasing time spent on frontage roads. However, the proposed roadway improvements are intended to enhance the operational efficiency along Loop 1604, thus generally improving emergency response times.

Loop 1604 is an existing roadway, and the improvements to the roadway would not substantially change the degree of separation in the surrounding community. The addition of HOV and general-purpose lanes (totaling two HOV and eight general-purpose lanes) to the Loop 1604 mainlanes would allow the local community to access businesses, schools, and residential neighborhoods more efficiently. Furthermore, the proposed sidewalk facilities and widened shoulders within the project area would allow for increased mobility of pedestrians and bicyclists within and between communities. Overall, community cohesion would be improved by the Build Alternative as a result of improved mobility along Loop 1604 and pedestrian and bicycle infrastructure that would facilitate travel between communities along and on either side of the highway.

With respect to encroachment-alteration effects to socio-economic resources, indirect impacts would be driven by changes in travel patterns and access associated with the proposed project. The potential indirect impacts would include improved vehicular access to employment opportunities, markets, goods, services, residential uses, and public facilities due to increased vehicular mobility.

The No-Build Alternative would not result in any improvements to congestion, mobility, or efficiency of access and would not provide enhanced bicycle and pedestrian movements within the project area.

5.7 Environmental Justice

The Build Alternative is expected to increase mobility for existing and future residences, businesses, and public facilities within the project vicinity. Environmental justice populations are present in the area. According to data from the 2010 Decennial Census, 42 of the 81 populated census blocks adjacent to the proposed project have a population of 50% or more minority persons. The largest minority population is Hispanic. No low-income census block groups are adjacent to the proposed project. **Figure 2** in **Appendix F** shows the census geographies adjacent to the proposed project and the location of the predominantly minority census blocks. Areas where permanent changes in access and travel patterns are expected occur equally across census blocks that do and do not contain more than 50% minority populations. Pedestrian access would be improved with the proposed connected and continuous sidewalk network in the project area. Bicycle access would be improved by the proposed addition of continuous widened shoulders along the Loop 1604 frontage roads. No existing neighborhoods would be divided. No disproportionately high and adverse impacts on minority or low-income populations are anticipated as a result of the Build Alternative. The

requirements of Executive Order (EO) 12898, Federal Actions to Address Environmental Justice in Minority Populations, are satisfied. Please refer to the *Community Impacts Assessment Technical Report* for additional information regarding minority and low-income populations within the project area (TxDOT 2020a).

The No-Build Alternative would not result in any adverse or beneficial impacts to low-income or minority populations. Increased congestion and reduced mobility are expected to occur under the No-Build Alternative.

5.8 Limited English Proficiency

People with limited English proficiency (LEP), who speak English "less than very well," live within the project area. The LEP populations present within the 48 census block groups adjacent to the proposed project represent approximately 6.2% of the total population five years old and over. The LEP population predominantly speaks Spanish, with smaller percentages speaking Asian and Pacific Islander languages, Indo-European languages, and other languages. Please refer to the *Community Impacts Assessment Technical Report* for additional information regarding LEP populations within the project area (TxDOT 2020a).

Two open house public meetings were held on September 24, 2019, and September 25, 2019. A public hearing is expected to be scheduled in the fall of 2020 (see **Section 7.0**). Both public meetings were conducted in English, but persons requiring special communication or accommodation needs were asked to contact the appropriate TxDOT staff prior to the meeting. LEP populations were afforded the opportunity to participate in the decision-making process (see **Section 7.2.1**).

Attempts were made to contact the Hindu and Sikh temples in the community study area in June 2020 to inquire if accommodations in other languages were needed, but representatives from these organizations declined to respond. Efforts will continue to be made to determine if information is needed in languages other than English for future public involvement efforts.

Reasonable steps will continue to be taken to ensure all persons have meaningful access to the programs, services, and information TxDOT provides. Any public involvement information and/or materials would continue to afford the opportunity for special communication or accommodation requests, and translation services would be provided upon request. Therefore, the requirements of EO 13166, pertaining to LEP, would be satisfied.

The No-Build Alternative would have no impacts to LEP populations. Increased congestion and reduced mobility are anticipated as a result of not implementing the Build Alternative and may result in adverse effects to the communities of the project area, including LEP populations. Beneficial impacts from the Build Alternative, including improving mobility, reducing congestion, and enhancing

pedestrian and bicyclist usage, would not be attained under the No-Build Alternative and would be unavailable to all communities, including LEP populations.

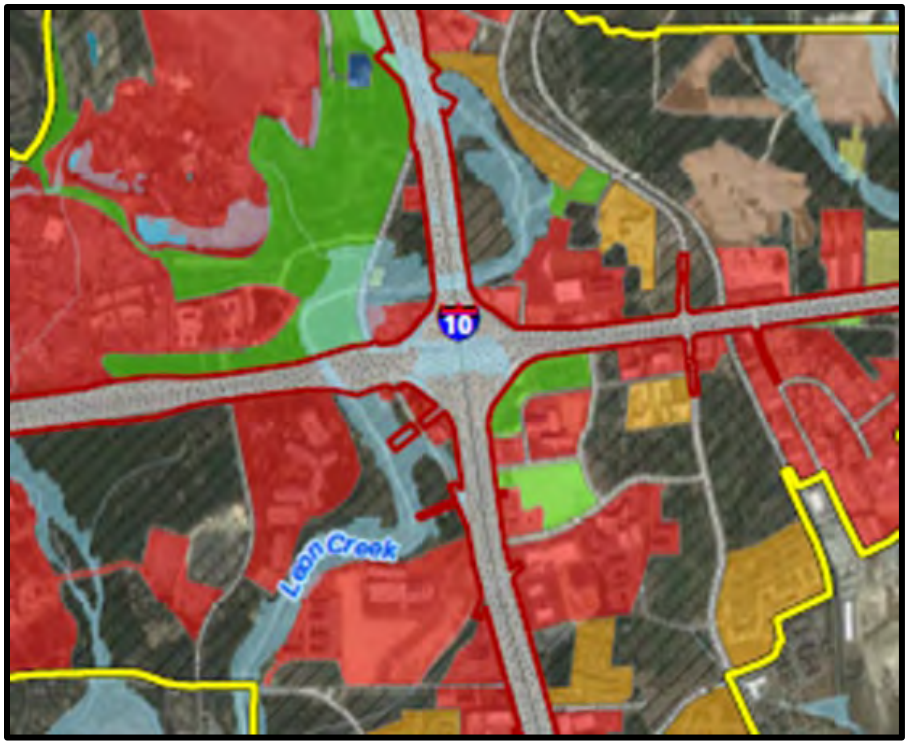
5.9 Visual/Aesthetics Impacts

The visual quality assessment is used to determine whether the proposed project would be compatible with the visual character of the setting into which it would be introduced. The visual impact assessment also takes into consideration that existing transportation uses traverse the project area. Visual impacts are discussed in terms of the effect that the new physical elements associated with the proposed project would have on landform quality (i.e., the existing natural or man-made landform) and visual resources (i.e., the physical resources, including native vegetation, introduced landscaping, and the built environment that make up the character of the area).

The visual landscape near the project area is characterized by a mix of vacant/undeveloped land, residential, commercial, industrial, and agricultural land. Within the majority of the project area, there would be little to no visible vertical change. Minimal visual impacts would occur for the majority of the project because construction consists primarily of additional roadway lanes to the inside of existing travel lanes. Ninety percent of the bridges that would be affected would only be widened for capacity; other bridges would be raised more than 3-4 feet. Visual impacts from sidewalks would be minimal and would not be adverse.

At major interchanges, vertical changes to the visual landscape would occur. The most substantial change that would affect the visual environment would be the reconstruction of Loop 1604 at I-10. Based on the land uses at this intersection (Exhibit 2), the orange indicates multi-family residential. Red indicates commercial land uses, green indicates open space, blue shows floodplains, and hashed indicates undeveloped.

Exhibit 2: Land Use at Loop 1604 and I-10 Interchange

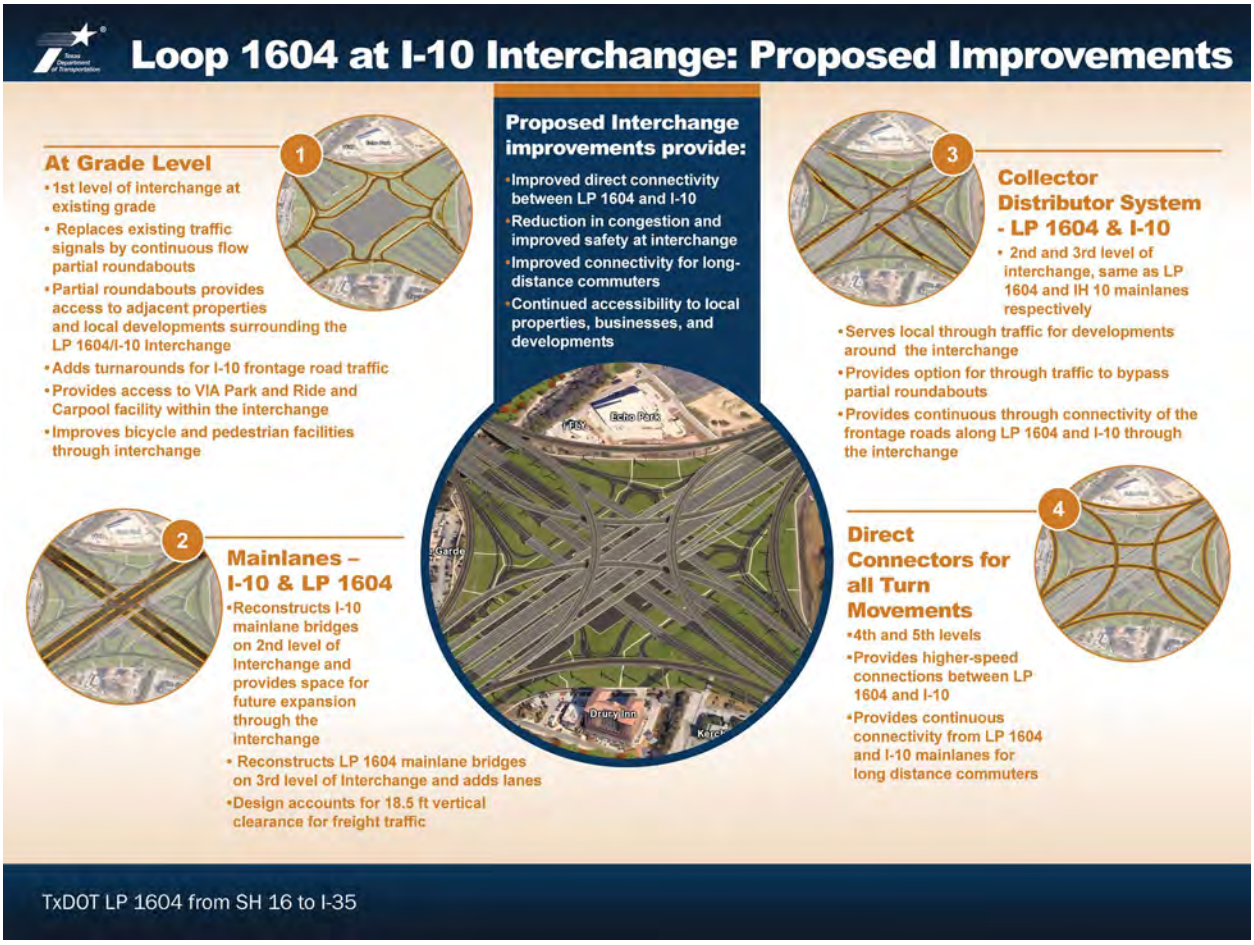


Source: TxDOT 2020i

There are not sensitive land uses immediately adjacent to where the increased visibility of the highest direct connector (Loop 1604 westbound to southbound at I-10) would occur. In general, this intersection already exists and is already developed according to typical land uses in a growing urban city.

Exhibit 3 shows the specific types of proposed improvements that would occur at Loop 1604 and I-10. This graphic has been part of public involvement information to inform stakeholders what would take place in this area. The improvements include work at the ground level and 2nd, 3rd, 4th, and 5th levels. The 2nd level improvements include the Loop 1604 mainlanes and portions of the collector-distributor system. The 3rd level improvements include the remaining portions of the collector-distributor system and the 4th and 5th levels includes the direct connectors to I-10.

Exhibit 3: Loop 1604 at I-10 Interchange Proposed Improvements



Source: TxDOT 2020k

Table 3 below shows existing and proposed elevations at the various components of the interchange.

Table 3: Loop 1604 at I-10 Reconstructed Interchange

Intersection Ramp	Existing elevation above mean sea level (feet)	Proposed elevation above mean sea level (feet)	Increase from existing (feet)
Direct Connector West-South	1,027.4	1,113.5	86.1
Direct Connector East-North	1,028.2	1,105.4	77.2
Direct Connector West-North	1,020.8	1,099.2	78.4
Direct Connector East-South	1,017.4	1,084.2	66.8
Direct Connector South-East	1,028.0	1,079.1	51.1
Direct Connector North-West	1,028.2	1,075.5	47.3
Direct Connector North-East	1,019.8	1,059.0	39.2
Direct Connector South-West	1,019.6	1,055.5	35.9
LP1604 Eastbound Collector Distributor	1,031.4	1,039.8	8.4
LP1604 Westbound Mainlanes	1,032.2	1,037.7	5.5
LP1604 Eastbound Mainlanes	1,032.2	1,037.7	5.5
LP1604 Westbound Collector Distributor	1,031.0	1,037.5	6.5
IH10 Southbound Mainlane	1,009.8	1,012.0	2.2
IH10 Northbound Mainlane	1,009.8	1,011.9	2.1
IH10 Southbound Collector Distributor	1,008.6	1,009.9	1.3
IH10 Northbound Collector Distributor	1,008.6	1,009.8	1.2

Source: AECOM Project Schematic 2020

Designers would comply with aesthetic guidelines that are consistent with other areas along Loop 1604. An example is shown in the photo below (**Exhibit 4**).

Exhibit 4: Loop 1604 at I-10 Interchange Proposed Aesthetics

The aesthetics proposed are called "Hill Country Aesthetics". These would match what has recently been constructed at Loop 1604/US 281 interchange.

Changes in visual aesthetics (seeing additional elevated highway lanes to the extent that the interchange is visible from residential areas) are anticipated for the stakeholders who utilize this intersection. However, because the Build Alternative consists of improvements to an existing facility, and an intersection currently exists at Loop 1604 and I-10, the aesthetic character of the overall project area is not anticipated to be significantly adversely impacted. There would be no adverse impacts to historic properties including indirect visual impacts.

The No-Build Alternative would not result in visual or aesthetic impacts as no changes to the visual character along the project limits would occur.

5.10 Cultural Resources

5.10.1 Archeology

An archeological background report was prepared for the entire area of potential effects (APE) (TxDOT 2019b); this study noted that approximately 98.6% of the APE (1,594 acres) had been assessed by Blanton and Associates for TxDOT in 2011 (TxDOT 2011b). The background report then

recommended that a total of 20.4 acres of previously unsurveyed easement locations with at least moderate potential for buried cultural resources be evaluated via intensive survey.

Subsequently, Raba Kistner, Inc. conducted an archeological assessment of the entire APE, including an intensive survey of 14 easements along Loop 1604 and a single easement along I-10 in March 2020 (TxDOT 2020b). The intensive portion of the survey consisted of the excavation of 44 shovel test units within existing easements that had the potential to contain subsurface cultural materials. No cultural resources were identified, and the APE appears to have been heavily disturbed by roadway and utility installation and maintenance. As a result, no further archeological investigations are recommended.

On May 24, 2017, TxDOT initiated consultation under Section 106 of the National Historic Preservation Act; the Programmatic Agreement (PA) among TxDOT, the Texas State Historic Preservation Officer (SHPO), FHWA, and the Advisory Council on Historic Preservation (ACHP); and the Antiquities Code of Texas MOU between the Texas Historical Commission (THC) and TxDOT. TxDOT recommended that the project be allowed to proceed with construction.

For the background study, consultation with federally recognized Native American tribes with demonstrated interest in the area was initiated February 13, 2020 and concluded March 13, 2020 with no objections. For the survey, consultation with federally recognized Native American tribes with demonstrated interest in the area was initiated April 6, 2020. Consultation concluded May 7, 2020 with no objections. Consultation with the SHPO for the survey results and findings was initiated April 28, 2020 and concluded May 19, 2020, with no objections (**Appendix G**).

Under the Build Alternative, no impacts to significant resources or resources that are potentially eligible for listing on the National Register of Historic Places (NRHP) or as a State Antiquities Landmark (SAL) would occur. Thus, no further coordination would be required with the THC.

No historic properties are present or affected. However, if buried cultural materials are encountered during construction or disturbance activities, work should cease in the immediate area; work can continue where no cultural materials are present. Please contact the THC's Archeology Division to consult on further actions that may be necessary to protect the cultural remains.

The No-Build Alternative is not anticipated to result in impacts to archeological resources.

5.10.2 Historic Properties

The proposed undertaking would take place within existing ROW and easements. Based on the PA among TxDOT, THC, the ACHP, and FHWA, the APE for the project is the existing ROW and existing easements. TxDOT historians reviewed the NRHP, the list of SALs, the list of Recorded Texas Historic Landmarks, and TxDOT files and found no historically significant resources previously documented within the APE. TxDOT also looked beyond the APE at the intersection of Loop 1604 at I-10, which

would be converted from a three-level interchange to a five-level interchange. Based on historic aerials, there are no historic properties within the study area around the intersection (TxDOT 2019c).

The project area was previously surveyed in 2007 and 2015 for historic-age properties constructed prior to 1969. Bridges constructed between 1945 and 1965 within the project APE have been previously reviewed for NRHP-eligibility as part of the Statewide Historic Bridge Inventory (HBI). All bridges were either evaluated and determined not eligible in the HBI, included in the ACHP Exemption Regarding Historic Preservation Review Process for Effects to the Interstate Highway System, or are excluded from Section 106 review in the ACHP's Program Comment for common post-1945 concrete and steel bridges.

TxDOT staff determined that no historic properties will be affected by the project. Therefore, pursuant to Stipulation IX, Appendix 6 "Undertakings with the Potential to Cause Effects per 36 CFR 800.16(i)" of the Section 106 PA and the MOU, TxDOT historians determined that there are no historic properties in the APE affected by the project. In compliance with the Antiquities Code of Texas and the MOU, TxDOT historians determined January 9, 2020 that project activities have no potential for adverse effects. Individual project coordination with SHPO is not required (**Appendix G**).

Under the Build and No-Build Alternatives, no effects to historic resources would occur, and no coordination with SHPO/THC would be required.

5.11 Protected Lands

The Howard W. Peak Greenway Trail System (Greenway) is a growing network of approximately 69 miles of developed multi-use and accessible trails. The Greenway trails wind through natural landscapes along many of San Antonio's waterways including Salado Creek, Leon Creek, Medina River, Westside Creeks (Apache, Alazan, Martinez, San Pedro, and Zarzamora), and Tributary Creeks (Huesta Creek and Culebra Creek).

The Marquis Trailhead abuts the I-10 ROW adjacent to Leon Creek, approximately 0.7 mile north of Loop 1604 on the north side of the City of San Antonio, Bexar County, Texas. The I-10 frontage road would be raised approximately 5 feet to reduce the frequency of overtopping of the frontage road at Leon Creek. This would require the reconstruction of the driveway along a revised elevation profile through the placement of fill and paving. There would be negligible change to the driveway and improvements in plan view; however, the elevation profiles would change. The change would primarily affect the driveway although two parking spots would also require slight adjustments.

The project would not involve the use of a Section 4(f) resource because the trail on the easement would not be directly affected by the construction. Use and access to the trail would be maintained. Therefore, Section 4(f) does not apply (TxDOT 2020r)

No Section 6(f) or Chapter 26 properties are present along the project corridor.

Under the No-Build Alternative, there would be no impacts to Section 4(f), Section 6(f), or Chapter 26 properties.

5.12 Water Resources

5.12.1 Clean Water Act Section 404

This project will involve regulated activities in jurisdictional waters and therefore will require authorization under Section 404 of the Clean Water Act. The following table (**Table 4**) and **Figure 3** in **Appendix F** show the waters that are anticipated to be jurisdictional waters in which regulated activities are anticipated to take place. It also indicates whether the impacts are anticipated to be authorized under Section 404 by a non-reporting nationwide permit (NWP) (i.e., no pre-construction notification [PCN] required), or if it is anticipated that a nationwide permit with PCN, individual permit, letter of permission, or regional general permit will be required.

Table 4: USACE Section 404 Permitting Requirements

Name of Waterbody	Location of Waterbody	Type of Waterbody	Covered by non-reporting NWP under Section 404?	NWP with PCN*, Individual permit, letter of permission, or regional general permit required under Section 404?
Crossing 1/ Water 1—Tributary to French Creek	Figure 3a, Appendix F	Intermittent stream	Yes	None
Crossing 2/ French Creek	Figure 3a, Appendix F	Intermittent stream	Yes	None
Crossing 3/ Water 2—Tributary to French Creek	Figure 3a, Appendix F	Ephemeral stream	Yes	None
Crossing 4/ Water 3—Tributary to French Creek	Figure 3a, Appendix F	Ephemeral stream	Yes	None
Crossing 4/ Water 4—Tributary to French Creek	Figure 3a, Appendix F	Ephemeral stream	Yes	None
Crossing 5/ Huesta Creek	Figure 3a, Appendix F	Ephemeral stream	Yes	None
Crossing 6/ Water 5—Tributary to Huesta Creek	Figure 3a, Appendix F	Ephemeral stream	Yes	None
Crossing 7/ Water 6—Tributary to Huesta Creek	Figure 3a, Appendix F	Ephemeral stream	Yes	None
Crossing 8/ Water 7—Tributary to Huesta Creek	Figure 3a, Appendix F	Ephemeral stream	Yes	None

Name of Waterbody	Location of Waterbody	Type of Waterbody	Covered by non-reporting NWP under Section 404?	NWP with PCN*, Individual permit, letter of permission, or regional general permit required under Section 404?
Crossing 8/ Water 8—Tributary to Huesta Creek	Figure 3a, Appendix F	Ephemeral stream	Yes	None
Crossing 9/ Water 9—Tributary to Huesta Creek	Figures 3a and 3b, Appendix F	Intermittent stream	Yes	None
Crossing 10/ Water 10—Tributary to Leon Creek	Figure 3b, Appendix F	Ephemeral stream	No	None
Crossing 11/ Water 11—Tributary to Leon Creek	Figure 3b, Appendix F	Ephemeral stream	No	None
Crossing 12/ Leon Creek	Figure 3b, Appendix F	Ephemeral stream	Yes	None
Crossing 13/ Leon Creek	Figure 3b, Appendix F	Ephemeral stream	Yes	None
Crossing 14/ Leon Creek	Figure 3b, Appendix F	Ephemeral stream	Yes	None
Crossing 15/ Leon Creek	Figures 3a and 3b, Appendix F	Ephemeral stream	Yes	None
Crossing 15/ Wetland 1	Figures 3a and 3b, Appendix F	Emergent wetland	No	None
Crossing 16/ Water 12—Tributary to Leon Creek	Figures 3a and 3b, Appendix F	Ephemeral stream	No	None
Crossing 16/ Wetland 2	Figures 3a and 3b, Appendix F	Emergent wetland	No	None
Crossing 17/ Salado Creek	Figure 3b, Appendix F	Ephemeral stream	Yes	None
Crossing 17/ Water 13—Tributary to Salado Creek	Figure 3b, Appendix F	Ephemeral stream	Yes	None
Crossing 17/ Water 14—Tributary to Salado Creek	Figure 3b, Appendix F	Ephemeral stream	Yes	None

Name of Waterbody	Location of Waterbody	Type of Waterbody	Covered by non-reporting NWP under Section 404?	NWP with PCN*, Individual permit, letter of permission, or regional general permit required under Section 404?
Crossing 18/ Water 15—Tributary to Panther Springs Creek	Figure 3c, Appendix F	Ephemeral stream	Yes	None
Crossing 19/ Water 16—Tributary to Panther Springs Creek	Figure 3c, Appendix F	Ephemeral stream	Yes	None
Crossing 20/ Panther Springs Creek	Figure 3c, Appendix F	Ephemeral stream	Yes	None
Crossing 21/ Lorence Creek	Figure 3c, Appendix F	Ephemeral stream	Yes	None
Crossing 22/ Mud Creek	Figure 3c, Appendix F	Ephemeral stream	Yes	None
Crossing 23/ Water 17—Tributary to Elm Creek	Figure 3c, Appendix F	Ephemeral stream	Yes	None
Crossing 24/ Elm Creek	Figure 3c, Appendix F	Ephemeral stream	Yes	None
Crossing 25/ Elm Waterhole Creek	Figure 3d, Appendix F	Ephemeral stream	Yes	None
Crossing 26/ Water 18—Tributary to Elm Waterhole Creek	Figure 3d, Appendix F	Ephemeral stream	Yes	None
Crossing 27/ Water 19—Tributary to Elm Waterhole Creek	Figure 3d, Appendix F	Ephemeral stream	Yes	None
Crossing 28/ Water 20—Tributary to Cibolo Creek	Figure 3d, Appendix F	Intermittent stream	Yes	None
Crossing 29/ Water 21—Tributary to Cibolo Creek	Figure 3d, Appendix F	Ephemeral stream	Yes	None
Crossing 30/ Water 22—Tributary to Cibolo Creek	Figure 3d, Appendix F	Ephemeral stream	Yes	None

	Name of Waterbody	Location of Waterbody	Type of Waterbody	Covered by non-reporting NWP under Section 404?	NWP with PCN*, Individual permit, letter of permission, or regional general permit required under Section 404?
	Crossing 31/ Water 23—Tributary to Cibolo Creek	Figure 3d, Appendix F	Intermittent stream	Yes	None

*NWP=Nationwide Permit; PCN=Pre-construction Notification

A PCN would not be required under General Condition 18 to comply with section 7 of the Endangered Species Act (ESA). TxDOT will retain documentation that shows ESA section 7 compliance for impacts to federally listed species.

Impacts to WOUS are expected to be authorized through NWP #14 without PCN. The need for an individual permit under Section 404 is not anticipated. If it is later determined that an individual permit under Section 404 is needed, compliance with EPA's Section 404(b)(1) Guidelines will be confirmed prior to submittal of the individual permit application. Impacts to WOUS would be minimized to the extent practicable under the Build Alternative. Additional information regarding the wetlands and waters of the U.S. delineation completed for the project are included in the Surface Water Resources Technical Report, which is available for review at the TxDOT San Antonio District Office (TxDOT 2020c).

Encroachment-alteration effects to water quality occur primarily due to an increase in impervious surface area that could result in increased runoff and decreased water quality downstream. Construction of the proposed improvements would directly contribute to increases in impervious cover. Effects would also occur in areas where vegetation in the proposed project area is cleared during construction, which could accelerate off-site erosion due to runoff. Use of best management practices (BMPs) within the proposed project area would minimize water quality effects downstream.

Under the No-Build Alternative, no impacts to waters of the U.S. would occur and, as a result, no permitting would be required with the USACE.

5.12.2 Clean Water Act Section 401

For a project that will use a NWP under Section 404 or Section 10, regardless of whether the NWP is non-reporting (i.e., assumed) or reporting (i.e., requires submittal of a PCN), TxDOT complies with Section 401 of the Clean Water Act by implementing Texas Commission on Environmental Quality (TCEQ) conditions for NWPs. For projects that require authorization under Section 404 or Section 10 beyond a NWP, TxDOT complies with Section 401 of the Clean Water Act by including a Tier I or Tier II checklist (depending upon the amount of disturbance/impact) in the individual permit, letter of permission, or regional general permit application that is submitted to the USACE, and then complying with the conditions of the Tier I or Tier II checklist.

Under the No-Build Alternative, no impacts to WOUS would occur and, as a result, no 401 Certification would be required.

5.12.3 Executive Order 11990 Wetlands

EO 11990 Protection of Wetlands (issued in 1977) requires federal agencies to minimize the destruction or modification of wetlands. EO 11990 prohibits new construction in wetlands unless (1) there is no practicable alternative to such construction, and (2) the project includes all practicable measures to minimize harm to wetlands. Two wetlands were identified within the proposed project area. Neither would be permanently impacted by the proposed project.

Under the No-Build Alternative, no impacts to wetlands would occur; therefore, EO 11990 would not apply.

5.12.4 Rivers and Harbors Act

No navigable waters occur within the project corridor, and neither the Build nor the No-Build Alternative would have an impact on this resource category.

5.12.5 Clean Water Act Section 303(d)

The project area is located within Leon Creek, San Antonio River, Salado Creek, and Upper Cibolo Creek watersheds within the San Antonio River Basin (HUC# 1210030204, 1210030102, 1210030101, and 1210030402). For the purposes of monitoring water quality, the TCEQ has divided the major water bodies within the San Antonio River Basin into 13 discrete segments. Water runoff from the project area is within five stream miles of and drains to two impaired stream segments, see **Table 5** below.

Table 5: Section 303(d) Regulated Waters within the Project Area

	Watershed	Segment Name	Segment Number	Assessment Unit Number
	Upper Cibolo Creek	Upper Cibolo Creek	Segment 1908	1908_03
	Leon Creek	Lower Leon Creek	Segment 1906	1906_06

Source: TCEQ 2020

Segment 1908_03 is listed as impaired for chloride, and Segment 1906_06 is listed as impaired due to polychlorinated biphenyls (PCBs) in edible tissue. The PCBs are associated with land use around the former Kelly Air Force Base, approximately 13 miles downstream of the project.

To date, TCEQ has not identified (through either a total maximum daily load [TMDL] or the review of projects under the TCEQ MOU) a need to implement control measures beyond those required by the construction general permit (CGP) on road construction projects. Therefore, compliance with the project's CGP, along with coordination under the TCEQ MOU for certain transportation projects, collectively meets the need to address impaired waters during the environmental review process. As required by the CGP, the project and associated activities will be implemented, operated, and

maintained using BMPs to control the discharge of pollutants from the project site. The proposed project is not expected to contribute to the constituents of concern for these impaired waters. The TCEQ 2020 303(d) list, approved on May 12, 2020, was utilized in this assessment (TCEQ 2020). Coordination with the TCEQ would be required for this project.

Under the No-Build Alternative, no impacts to impaired water segments would occur, and coordination with the TCEQ would not be required. Compliance with a Texas Pollutant Discharge Elimination System (TPDES) permit would not be required.

5.12.6 Clean Water Act Section 402

Since TPDES CGP authorization and compliance (and the associated documentation) occur outside of the environmental clearance process, compliance is ensured by the policies and procedures that govern the design and construction phases of the project. The Project Development Process Manual and the Plans, Specifications, and Estimates (PS&E) Preparation Manual require a storm water pollution prevention plan (SWP3) be included in the plans of all projects that disturb one or more acres. The Construction Contract Administration Manual requires that the appropriate CGP authorization documents (notice of intent or site notice) be completed, posted, and submitted, when required by the CGP, to TCEQ and the municipal separate storm sewer system (MS4) operator. It also requires that projects be inspected to ensure compliance with the CGP.

The PS&E Preparation Manual requires that all projects include Standard Specification Item 506 (Temporary Erosion, Sedimentation, and Environmental Controls), and the "Required Specification Checklists" require the current version of Special Provision 506 on all projects that need authorization under the CGP. These documents require the project contractor to comply with the CGP and SWP3, and to complete the appropriate authorization documents.

Under the No-Build Alternative, there would be no earth disturbance, and compliance with the TPDES CGP would not be required.

5.12.7 Floodplains

EO 11988, Floodplain Management, requires federal agencies to avoid activities that directly or indirectly result in the development of floodplain areas. Bexar County and the City of San Antonio participate in the Federal Emergency Management Agency (FEMA) National Flood Insurance Program. According to the FEMA Flood Insurance Rate Map (FIRM) Community Panel Numbers 48029C0220G, 48029C0210G, 48029C0230G, 48029C0235G, 48029C0255G, 48029C0260G, and 48029C0280F, the project intersects the FEMA-designated 100-year floodplains associated with French Creek, Huesta Creek, Leon Creek, Salado Creek, Panther Springs Creek, Lorence Creek, Mud Creek, Elm Creek, Elm Waterhole Creek, and unnamed tributaries to these creeks, as well as with unnamed tributaries to Cibolo Creek (FEMA 2019). The project would require the placement of fill in some portions of the floodplain and the removal of earth materials from the floodplain in other areas. At Loop 1604 and French Creek (Crossing 2) and at I-10 and Leon Creek (Crossing 13)

portions of the roadways overtop during some storm events (**Figure 3** in **Appendix F**). Replacement bridges would be constructed in these areas accompanied by the removal of fill from the floodplain.

This project is subject to and will comply with federal EO 11988 on Floodplain Management. The department implements this EO on a programmatic basis through its Hydraulic Design Manual. Design of this project will be conducted in accordance with the department's Hydraulic Design Manual. Adherence to the TxDOT Hydraulic Design Manual ensures that this project will not result in a "significant encroachment" as defined by FHWA's rules implementing EO 11988 at 23 CFR 650.105(q).

Under the No-Build Alternative, no impacts to floodplains would occur.

5.12.8 Wild and Scenic Rivers

This project would not involve work within a segment of any river designated as a Wild and Scenic River, and it would not harm the free-flowing condition, water quality, or outstanding resource values of any designated Wild and Scenic Rivers.

5.12.9 Coastal Barrier Resources

The proposed project is located within Bexar County and is not located within a Coastal Barrier Resources System (CBRS) unit or otherwise protected area; therefore, the Coastal Barrier Resources Act (CBRA) is not applicable.

5.12.10 Coastal Zone Management

The project is not located within the Texas Coastal Management Plan (TCMP) boundary. Therefore, a consistency determination is not required.

Based on a project scoping analysis, it was determined that neither the Build nor the No-Build Alternative would have an impact on this resource category or subject matter.

5.12.11 Edwards Aquifer

The San Antonio segment of the Edwards Aquifer extends 180 miles from Brackettville in Kinney County to a groundwater divide near Kyle in Hays County, which separates the San Antonio segment of the Edwards Aquifer from the Barton Springs segment (**Figure 4— San Antonio Segment of the Edwards Aquifer**). It is unique in its attributes and regulatory protection. Its karstic nature characterized by solution cavities and caves allows water levels to recover quickly with rainfall and makes the aquifer vulnerable to pollution. It is the principal source of water for the region.

There have been issues regarding the Edwards Aquifer that have been contentious and litigious due to the diverse users and interests in this resource. The issues often involve the quantity or quality of the water. This summary is derived from the Ground Water Resources Technical Report (TxDOT 2020o).

Existing Quality

The TCEQ is the State agency responsible for water quality in Texas. The TCEQ adopted increasingly strict regulations (30 TAC 213) specifically to protect the quality of the Edwards Aquifer in 1985, 1989 and 1999. Maps of the Edwards Aquifer typically illustrate the following geographic areas relevant to the Edwards Aquifer:

1. Contributing Zone. The TCEQ designated 5,400 square miles of regulatory Edwards Aquifer Contributing Zone (CZ) on June 1, 1999. The CZ is a portion of a much larger drainage area upstream of the Recharge Zone (RZ). Land use activities in the CZ affects the quality of runoff that flows downstream to the RZ.
2. Recharge Zone. The TCEQ has designated 1,250 square miles of regulatory Edwards Aquifer RZ as depicted on official maps. The RZ is the area where Edwards limestones are exposed at the surface and surface water can infiltrate to an unconfined water table that rises when it rains and falls as the aquifer is drained by wells or springs. It is the zone most vulnerable to contamination and TCEQs regulations are stricter in the RZ than the other regulatory zones.
3. Transition Zone. The TCEQ designated a regulatory Edwards Aquifer Transition Zone (TZ) downstream of the RZ on May 21, 1985. It typically includes outcrops of the Austin Chalk, Eagle Ford Shale, Buda Limestone and Del Rio Clay. In some areas of the TZ, it is possible that surface water may recharge the underlying Edwards Aquifer.
4. Artesian Zone. The Artesian Zone is not a TCEQ regulatory zone. It is the confined portion of the aquifer, which contains fresh water stored under pressure. The Artesian Zone is approximately 5,009 square miles.

The TCEQ protects the water quality with land use restrictions, requirements to remove total suspended solids (TSS) pollutants from storm water, special design and inspection of sewage collection systems (SCS), and special regulations for underground storage tanks (USTs). These regulations provide substantial water quality protection, although there are critics in witness of ongoing development who believe that TCEQs regulations are inadequate. The TCEQ adopted its regulations as a proactive step towards the protection of the resource and has the authority to revise these regulations as they have done in the past.

The identification and management of sensitive features is an important aspect of the TCEQ's regulations and guidance. The TCEQ defines a sensitive feature as a "permeable geologic or manmade feature located on the RZ or TZ where a potential for hydraulic interconnectedness between the surface and the Edwards Aquifer exists, and rapid infiltration to the subsurface may occur." A Geological Assessment conducted according to 30 TAC §213 identified 18 sensitive features in the project area that would be subject to the potential effects of the proposed project. Nine of these features are located along streams; seven features are in road cuts adjacent to the Loop 1604 main lanes and two features are located in grassy areas between the main lanes and frontage roads.

The Edwards Aquifer Authority (EAA) and other agencies have been monitoring Edwards Aquifer water quality for decades. With the exception of sampling points close to known contaminant sources, historical data are characterized by occasional detections (1.2% of water samples) of a small number of organic compounds, a small fraction of which occur in concentrations that exceed protective concentration levels. Although data are insufficient to confirm whether concentrations are increasing or decreasing, detections indicate that a variety of organic compounds have reached the aquifer from multiple sources. The EAA's 2019 water quality summary concluded that overall, the aquifer produces some of the highest quality groundwater in the State of Texas and is suitable for almost any purpose.

Existing Quantity

The volume of fresh water in the aquifer is estimated between 45 million acre-feet to 173 million acre-feet. Water levels are used as an indicator of storage and management of the aquifer. They are measured continuously by the EAA to ensure Comal Springs and San Marcos Spring flows are maintained as required by a federal court mandate. The amount of water in the aquifer is the balance between recharge and discharge. Most recharge results from rainfall and infiltration on the RZ and most discharge is from wells and springs.

The U.S. Geological Survey (USGS) calculates recharge from stream flow and precipitation measurements. From 1934 to 2019, the annual recharge ranged from 43,700 acre-feet to 2,485,700 acre-feet and the average was 706,000 acre-feet. The wide range reflects variations in annual rainfall. Most recharge to the aquifer occurs in the western counties and the groundwater flows to the east toward springs in Comal and Hays Counties. Approximately 69% of the recharge occurs west of Bexar County. Approximately 10% of the average annual recharge (69,200 acre-feet) occurs in Bexar County where the project area is located.

In 1991 the Sierra Club filed a lawsuit against the U.S. Fish and Wildlife Service (USFWS), citing negligence to provide the necessary protection required by the Endangered Species Act. The lawsuit sought to require the USFWS to ensure minimum spring flows from the Edwards Aquifer at Comal and San Marcos springs to protect endangered species.

In 1993, U.S. District Court ruled in favor of the Sierra Club, ordered that spring flow be maintained, and that the Texas State Legislature must put into place a regulatory system to limit withdrawals from the Edwards Aquifer. The legislature created the EAA to oversee management of the aquifer. In 2007 the Texas Legislature set the region's pumping cap at 572,000 acre-feet per year.

The water rights to the allowable pumping have been established and are enforced by the EAA. Cities that have depended upon the aquifer in the past now have to consider alternatives to serve growing needs. Since these regulations went into effect the San Antonio Water System (SAWS), has diversified its water sources for the future. As a result of legislation, a long and sustained growth

trend in pumping from the aquifer that tracks back to the 1940s suddenly began to flatten in 1997 and has remained flat since. In other words, pumping growth was stopped.

Direct and Indirect Effects of the Proposed Project

The project involves the redevelopment of State ROW to expand an existing highway. Direct effects of project involve construction within a 1,535-acre project area which would disturb up to 570 acres of land, excavate 1.1 million cubic yards of fill, soil and rock including nine sensitive features, and ultimately add 198 acres of impervious cover to the RZ, three acres to the CZ and 35 acres to the portions of the TZ that drain to the RZ.

Project Quality Effects

The project would not directly affect groundwater because it is located 140 to 225 feet below ground and the deepest excavation would be 80 feet deep. However, the near surface impacts enumerated above may indirectly affect underlying groundwater quality during construction through the erosion of disturbed soils and spills of construction related materials. After construction, the additional impervious cover would accumulate pollutants which may infiltrate to the underlying groundwater if the runoff is not treated.

The EAA has identified threats to Edwards Aquifer water quality. An evaluation of each threat as it pertains to the proposed project is summarized in **Table 6**.

Table 6: Threats to Edwards Aquifer Water Quality

Threat	Evaluation of Threat for Proposed Project
Transport and use of hazardous materials and other chemicals in the RZ	A Contractor Waste and Materials Management Plan (CWMMP) would be voluntarily implemented to prevent spills of sanitary waste and hazardous materials during construction. Nine sensitive features, primarily solution cavities located at the base of roadcuts adjacent to the main lanes would be removed by the project. This would prevent any spills from entering them. The project would include the installation of 81 BMPs that use media filtration or detention, and these would voluntarily be outfitted with valves which would substantially increase the post construction spill control capacity of the facility. TxDOT would prepare a Spill Response Plan (SRP) and submit it to the TCEQ as a component of the WPAP. It would explain how the new BMPs may be operated to contain spills after the BMPs are placed into operation.
Abandoned or poorly completed water wells	The EAA owns a monitoring well in the State ROW and it would be properly plugged.
Improperly installed or maintained septic systems and sewer lines	The SAWS has sanitary sewer lines in the ROW. A CWWMP would be voluntarily implemented to prevent spills of sanitary waste and hazardous materials during construction.

Urban nonpoint source runoff	The project would include appropriate BMPs required by the TCEQ to control pollutants during and after construction. 80% of the net increase in TSS that drain to the RZ would be removed by BMPs in accordance with 30 TAC §213. Removing TSS may not remove dissolved constituents and the project may result in an increase in dissolved constituents, such as nitrogen. TCEQ's regulations acknowledge this limitation and their methods to calculate pollutant loads do not present results in terms of the dissolved phase. The project would include the installation of 81 BMPs that use media filtration or detention to filter runoff before it is released to receiving streams where recharge may occur.

Source: TxDOT 2020o

The project is subject to TCEQ rules for the CZ, RZ and TZ. The project would be implemented, operated, and maintained in a manner that complies with the Edwards Aquifer rules and any applicable TCEQ guidance documents in effect to implement the rules. TxDOT would obtain coverage under all applicable environmental permits for construction based on the final design including a Water Pollution Abatement Plan (WPAP), under authority of the TCEQ pursuant to 30 TAC §213 (TCEQ's Edwards Aquifer Rules).

There is a Memorandum of Understanding between TxDOT and the Environmental Protection Agency (EPA) Region 6 regarding EPA review of projects potentially affecting the Edwards Aquifer. The project is not one of the four types of projects listed for EPA review.

Due to the required mitigation and voluntary conservation measures the project would not be expected to adversely impact groundwater quality.

Project Quantity Effects

The project would have no adverse effect to the quantity of water in the aquifer. The amount of water in the aquifer depends primarily upon the balance of recharge and discharge.

Recharge

The project would have negligible impacts to recharge. Recharge is controlled primarily by rainfall and infiltration of runoff into the RZ. Rainfall is the dominant variable controlling the amount of annual recharge. The project would have negligible effect on rainfall which is the result of regional and global conditions.

Although runoff increases due to impervious cover, the recharge water is not lost, because it may be redistributed to other areas where it can recharge. Adding 198 acres of impervious cover may divert 109 acre-feet of potential recharge water as runoff each year, which is insignificant (0.16% of Bexar County area average recharge). Notably, the impervious cover may reduce direct recharge and increase localized and indirect recharge. The runoff from new impervious cover would be carried by

roadside ditches and storm sewers and treated to remove TSS before being released to pervious portions of the RZ, primarily streambeds, where recharge may occur. The USGS reported no-net-loss recharge observations in their modeling of recharge in Bexar County due to addition of impervious cover. A similar redistribution may result from the removal of nine sensitive features adjacent to main lane ditches.

Discharge

The project would have negligible effect on groundwater pumping from the aquifer. The project would not install any wells or otherwise involve groundwater pumping. The construction phase of the project would consume water for various needs such as dust control, soil compaction, and the establishment of vegetation, but this demand would be temporary for the duration of construction. Pumping from the aquifer is legally capped at 572,000 acre-feet per year regardless of any short-term or long-term changes in water demand. There would be no long-term demand for water created by the project. TxDOT does not irrigate grassy rights of way.

In summary, the project would have no adverse effect on quantity of water in Edwards Aquifer because the projects effects on recharge and discharge are negligible.

The no build alternative would not be expected to adversely impact the quality or quantity of water in the Edwards Aquifer. Although the short-term threat of a spill during construction would be avoided, the long-term benefit of increased spill control capacity on the corridor would not be established.

5.12.12 International Boundary and Water Commission

This project does not cross or encroach upon the floodway of the International Boundary Water Commission (IBWC) ROW or an IBWC flood control project.

5.12.13 Drinking Water Systems

The project area is located over the Edwards Aquifer and the Trinity Aquifer underlays the Edwards Aquifer in the project area. A review of the Texas Water Development Board (TWDB) Groundwater Database and Submitted Driller's Reports Database GIS files indicates the following within 0.25 mile of the project area: three public supply wells, one irrigation well, two industrial wells, five domestic wells, three unknown use wells, and 58 wells used for the withdrawal of water (TWDB 2020). In accordance with TxDOT's Standard Specifications for Construction and Maintenance of Highways, Streets, and Bridges (Item 103, Disposal of Wells), wells within the project ROW would need to be properly removed, sealed, and plugged during construction of the proposed project (TxDOT 2014).

No public or other private water supply wells are expected to be impacted by the proposed improvements.

The No-Build Alternative would have no impacts to drinking water systems.

5.13 Biological Resources

5.13.1 Texas Parks and Wildlife Coordination

A Tier 1 Site Assessment was completed for the proposed project to determine whether coordination with the Texas Parks and Wildlife Department (TPWD) would be required (TxDOT 2020d). Potential impacts to Disturbed Prairie; Riparian; and Edwards Plateau Savanna, Woodland, and Shrubland MOU habitat types would exceed the threshold for coordination with TPWD, though impacts to vegetation proposed by the Build Alternative would be minimized to the greatest extent practicable. The proposed project is within range of and within suitable habitat for several species of greatest conservation need (SGCNs) that do not have designated BMPs (see **Section 8.2**). Coordination with TPWD was completed July 14, 2020 (**Appendix G**).

Under the No-Build Alternative, no coordination with TPWD would be required.

5.13.2 Impacts to Vegetation

The project area is located within the Edwards Plateau ecoregion of Texas, as described by Griffith and colleagues (2007), and mapped by the Ecological Mapping Systems of Texas (EMST) (Missouri Resource Assessment Partnership 2013). The EMST identified several vegetation types within the project area, which were field verified by qualified biologists in July and August 2019. Five general categories of vegetation were observed within the project area during field investigations; refer to **Table 7** for total acres of vegetation impacts and **Appendix F, Figure 5—Observed Vegetation Types**. Refer to the *Tier 1 Site Assessment Form* (TxDOT 2020d) for additional information.

Table 7: Impacts on Observed Vegetation within the Project Area

MOU Habitat Type	Vegetation (acres)	MOU Threshold (acres)	Threshold Exceeded?
Urban	ROW: 523.5	None	No
	Easements: 7.87		
Disturbed Prairie	ROW: 0	3.0	Yes
	Easements: 7.14		
Riparian	ROW: 6.78	0.1	Yes
	Easements: 5.26		
Tallgrass Prairie, Grassland	ROW: 0	2.0	No
	Easements: 0.65		
Edwards Plateau Savanna, Woodland, and Shrubland	ROW: 9.24	3.0	Yes
	Easements: 15.82		
Totals:	ROW: 539.54		
	Easements: 36.74		

Source: TxDOT 2020d

EMST vegetation types have been grouped into generalized classification types identified in the 2013 TxDOT-TPWD MOU and Threshold PA (TxDOT and TPWD 2013). The Urban habitat type dominated the project area. The MOU vegetation types have been assigned acreage thresholds which, if exceeded, would require coordination under the TxDOT-TPWD MOU.

The proposed project area is composed of the following habitat types: Urban; Disturbed Prairie; Riparian; Tallgrass Prairie, Grassland; and Edwards Plateau Savanna, Woodland, and Shrubland. These habitat types are not considered rare or important remnant vegetation as mapped by the Texas Conservation Action Plan. The project area was investigated for the presence of unusual vegetation features as identified by the TxDOT-TPWD MOU. Riparian vegetation is the only unusual vegetation feature identified within the project area. Standard vegetation BMPs would be implemented. The project area was also investigated for the presence of special habitat features as identified by the TxDOT-TPWD MOU, and bridges with bird and bat colonies were observed. For more information, refer to the *Tier 1 Site Assessment Form* (TxDOT 2020d), available in TxDOT's project files and located in TxDOT's Environmental Compliance Oversight System.

The No-Build Alternative would not result in impacts to vegetation communities within the existing ROW, except for routine maintenance activities to maintain roadway safety. The No-Build Alternative would not require any conversion of vegetation to transportation facility or impact unusual vegetation or special habitat features.

5.13.3 Executive Order 13112 on Invasive Species

This project is subject to and will comply with federal EO 13112 on Invasive Species. The department implements this EO on a programmatic basis through its *Roadside Vegetation Management Manual* (TxDOT 2018b) and *Landscape and Aesthetics Design Manual* (TxDOT 2017).

The No-Build Alternative would not be subject to EO 13112 on Invasive Species.

5.13.4 Executive Memorandum on Environmentally and Economically Beneficial Landscaping

This project is subject to and would comply with the federal Executive Memorandum on Environmentally and Economically Beneficial Landscaping, effective April 26, 1994. TxDOT implements this Executive Memorandum on a programmatic basis through its Roadside Vegetation Management Manual and Landscape and Aesthetics Design Manual.

The No-Build Alternative would not be subject to the Executive Memorandum on Environmentally and Economically Beneficial Landscaping.

5.13.5 Impacts to Wildlife

The vegetation of the Edwards Plateau ecoregion provides habitat for a wide range of reptilian, avian, and mammalian species that are common to the environment. Some wildlife species could occur

within undeveloped portions of the existing ROW. Required clearing or other construction-related activities may directly or indirectly affect animals that reside on or adjacent to the project area ROW. Heavy machinery could kill small, low-mobility animals or could cause soil compaction, impacting animals that live underground. Larger, more mobile species will typically avoid construction activities and move into adjacent areas.

With regard to encroachment-alteration effects under the Build Alternative, the effects of removing important wildlife habitat areas would largely be limited to the unmaintained vegetation and the water features present within the project construction limits. Accordingly, impacts to non-listed species habitat would be limited to the area of direct impacts, and no encroachment impacts are expected. Furthermore, the existing habitats are already fragmented by the original construction of Loop 1604, as well as construction of surrounding commercial and residential properties. Indirect effects to non-listed wildlife habitat as a result of the proposed improvements are expected to be minimal.

Under the No-Build Alternative, no impacts to wildlife species or their habitats would occur.

5.13.6 Migratory Bird Protections

The project area was investigated for any structures containing migratory birds or indications of nesting migratory birds. Active swallow (*Hirundinidae*) nests were observed under bridges throughout the project area during site visits. This project will comply with applicable provisions of the Migratory Bird Treaty Act (MBTA) and Texas Parks and Wildlife Code Title 5, Subtitle B, Chapter 64, Birds. It is the department's policy, Preparing an Environmental Assessment TxDOT Environmental Affairs Division Page 24 of 36, to avoid removal and destruction of active bird nests except through federal or state approved options. In addition, it is the department's policy to, where appropriate and practicable:

1. use measures to prevent or discourage birds from building nests on man-made structures within portions of the project area planned for construction, and
2. schedule construction activities outside the typical nesting season.

The No-Build Alternative would not require any removal or disturbance of migratory birds, their nests, or their young, and there would be no impacts to migratory birds.

5.13.7 Fish and Wildlife Coordination Act

The proposed project would not require an Individual Permit issued by the USACE; therefore, the Fish and Wildlife Coordination Act does not apply.

The No-Build Alternative would not be required to comply with the Fish and Wildlife Coordination Act.

5.13.8 Bald and Golden Eagle Protection Act of 2007

Bald and Golden Eagles are protected by the Bald and Golden Eagle Protection Act of 2007. No Bald or Golden Eagle habitat was observed within the proposed project area. This project is not within 660 feet of an active or inactive Bald or Golden Eagle nest. Therefore, no coordination with USFWS is required.

The No-Build Alternative would have no impact on Bald or Golden Eagles.

5.13.9 Magnuson-Stevens Fishery Conservation Management Act

The Essential Fish Habitat (EFH)/Magnuson-Stevens Fishery Conservation and Management Act (MSA) does not apply.

5.13.10 Marine Mammal Protection Act

The project area does not contain suitable habitat for marine mammals; therefore, this regulation would not apply.

5.13.11 Threatened, Endangered, Rare, and Candidate Species

TxDOT has determined that the proposed project may affect, and is likely to adversely affect the federally listed *Rhadine exilis*, *R. infernalis*, *Cicurina madla*, *C. baronia*, and *Batrisodes venyivi* (TxDOT 2020m). In addition, TxDOT expects the project may affect, but is not likely to adversely affect, designated CHU 9, which is associated with federally listed karst species. The project area is located within USFWS Karst Zone 1, 2, 3, and 5, the Stone Oak and UTSA Karst Fauna Regions (KFRs), and crosses part of CHU 9 (**Figure 6— Project Area Karst Zones**). Karst Zone 1 includes areas that are known to contain endangered karst invertebrate species. Karst Zone 2 includes areas having a high probability of containing habitat suitable for endangered karst invertebrate species. Karst Zone 3 includes areas that probably do not contain endangered karst invertebrate species. Karst Zone 5 is defined as areas that do not contain endangered karst invertebrate habitat. CHU 9 is located south of Loop 1604 partially on the University of Texas at San Antonio (UTSA) property and private property. A small portion of CHU 9 is within the Loop 1604 ROW, and a TxDOT drainage easement extends into the northwestern corner of CHU 9 (TxDOT 2020p).

Occupied caves in action area include Mastodon Pit and Feature No. 50 in CHU 9 that contain *C. madla and R. exilis*; and La Cantera Cave No. 1 and La Cantera Cave No. 2 that contain *C. madla* and *R. exilis*. The only known occupied cave within the project area is Green Mountain Road Cave, that contains a species assumed to be *C. baronia*. The project may impact federally listed karst invertebrates by destruction of karst features or through degradation of karst invertebrate habitat due to impacts caused by degradation, fragmentation or destruction of surface plant and animal communities and through changes to the quantity and quality of stormwater runoff.

TxDOT has determined the proposed project may affect but is not likely to adversely affect the Golden-cheeked Warbler (*Setophaga chrysoparia*). Habitat for the warbler occurs in juniper-oak

woodlands in the project area (**Figure 7— Golden-cheeked Warbler Habitat**). Presence/absence surveys were conducted in spring 2019 in which three observations were noted outside of the project area. The proposed project may remove up to 7.0 acres of potential Golden-cheeked Warbler habitat, primarily within the easements. Impacts to this species will be avoided by removing vegetation outside of the breeding season, when the birds are located in wintering grounds (TxDOT 2019f).

Formal consultation with the USFWS under section 7 of the ESA will be completed prior to environmental clearance for this project for the above-listed species. Voluntary conservation measures will be determined during consultation and design/construction commitments that are intended to protect listed species and their habitat are described in **Section 8.0.** No other federally listed species would be affected. Refer to the *Biological Evaluation Form* for additional information (TxDOT 2020e).

The proposed project area is also within range of and contains suitable habitat for one candidate species for federal listing, the bracted twistflower (*Streptanthus bracteatus*). This species may occur in oak-juniper woodlands within the project area, and additional coordination with the USFWS would be required if the species becomes federally listed following environmental clearance.

The project is located within range of and contains suitable habitat for the state-listed threatened or endangered species and SGCNs listed below (TxDOT 2020d).

State-listed species include the following:

- Threatened: Cascade Caverns salamander (*Eurycea latitans*), Comal blind salamander (*E. tridentifera*), Wood Stork (*Mycteria americana*), and white-nosed coati (*Nasua narica*)
- Endangered: Golden-cheeked Warbler

SGCNs include the following:

Plants (21):
Bigflower cornsalad (*Valerianella stenocarpa*), bracted twistflower, Buckley tridens (*Tridens buckleyanus*), Correll's false dragon-head (*Physostegia correllii*), Glass Mountains coral-root (*Hexalectris nitida*), gravelbar brickellbush (*Brickellia dentata*), Heller's beardtongue (*Penstemon triflorus* ssp. *integrifolius*), Heller's marbleseed (*Onosmodium helleri*), Hill Country wild-mercury (*Argythamnia aphoroides*), low spurge (*Euphorbia peplidion*), narrowleaf brickellbush (*Brickellia epatorioides* var. *gracillima*), Osage Plains false foxglove (*Agalinis densiflora*), plateau milkvine (*Matelea edwardsensis*), Siler's huaco (*Manfreda sileri*), spreading leastdaisy (*Chaetopappa effusa*), sycamore-leaf snowbell (*Styrax platanifolius* ssp. *platanifolius*), Texas almond (*Prunus minutiflora*), Texas amorpha (*Amorpha roemeriana*), Texas fescue (*Festuca versuta*), Texas seymeria (*Seymeria texana*), tree dodder (*Cuscuta exaltata*), turnip-root scurfpea (*Pediomelum cyphocalyx*)

Mollusks (1):
Mimic cavesnail (*Phreatodrobia imitate*)

Crustaceans (3):
A cave-obligate crustacean (*Monodella texana*), Cascade Cave amphipod (*Stygobromus dejectus*), Ezell's Cave amphipod (*S. flagellatus)*

Insects (4):
Ground beetles (*R. exilis* and *R. infernalis*), Madla Cave meshweaver, Robber Baron Cave meshweaver

Amphibians (3):
Strecker's chorus frog (*Pseudacris streckeri*), Texas salamander (*Eurycea neotene*s), Woodhouse's toad (*Anaxyrus woodhousii*)

Reptiles (6):
Eastern box turtle (*Terrapene carolina*), slender glass lizard (*Ophisaurus attenuatus*), Texas garter snake (*Thamnophis sirtalis annectens*), western box turtle (*Terrapene ornata*), western hognose snake (*Heterodon nasicus*), western rattlesnake (*Crotalus viridis*)

Birds (1):
Western Burrowing Owl (*Athene cunicularia hypugea*)

Mammals (11):
Big brown bat (*Eptesicus fuscus*), cave myotis bat (*Myotis velifer*), eastern red bat (*Lasiurus borealis*), eastern spotted skunk (*Spilogale putorius*), hoary bat (*Lasiurus cinereus*), long-tailed weasel (*Mustela frenata*), Mexican free-tailed bat (*Tadarida brasiliensis*), thirteen-lined ground squirrel (*Ictidomys tridecemlineatus*), tricolored bat (*Perimyotis subflavus*), western hog-nosed skunk (*Conepatus leuconotus*), and western spotted skunk (*Spilogale gracilis*)

Although the proposed project may result in the removal of potentially suitable habitat or the temporary disturbance of individuals of these species, the project is not expected to cause a substantial impact to any state-listed species or SGCNs. Any impact to individuals would be incidental in nature. BMPs for the avoidance and minimization of impact to state-listed species and SGCNs will be applied as practicable across the project area. These BMPs have been coordinated with TPWD and are further described in Section 8.

With regard to encroachment alteration effects under the Build Alternative, other than potential impacts to the species listed above, the proposed project would have no adverse effects on any of the remaining listed species that may occur in Bexar County, their habitats, or designated critical habitats. The proposed project would not alter the hydric regime or reduce diversity within the ecosystem.

Under the No-Build Alternative, no impacts to SGCNs or threatened or endangered species or their habitats would occur and, as a result, no coordination would be required with USFWS or TPWD.

5.14 Air Quality

The proposed project is located in Bexar County, which is in an area that has been designated by the EPA as a marginal nonattainment area for the 2015 ozone National Ambient Air Quality Standards (NAAQS); therefore, the transportation conformity rules apply. The area is currently designated as attainment or unclassifiable for all other NAAQS.

Controlling air toxic emissions became a national priority with the passage of the Clean Air Act Amendments (CAAA) of 1990, whereby Congress mandated that the EPA regulate 188 air toxics, also known as hazardous air pollutants. The EPA has assessed this expansive list in their latest rule on the Control of Hazardous Air Pollutants from Mobile Sources (Federal Register, Vol. 72, No. 37, page 8430, February 26, 2007) and identified a group of 93 compounds emitted from mobile sources that are listed in their Integrated Risk Information System (IRIS). In addition, EPA identified nine compounds with significant contributions from mobile sources that are among the national and regional-scale cancer risk drivers from the 2011 National Air Toxics Assessment (NATA). These are 1,3-butadiene, acetaldehyde, acrolein, benzene, diesel particulate matter (diesel PM), ethylbenzene, formaldehyde, naphthalene, and polycyclic organic matter. While the FHWA considers these the priority mobile source air toxics, the list is subject to change and may be adjusted in consideration of future EPA rules.

5.14.1 Transportation Conformity

The proposed action is consistent with the AAMPO's financially constrained *Mobility 2045 Metropolitan Transportation Plan* (AAMPO 2019a) and the Fiscal Year (FY) 2019–2022 *Transportation Improvement Program* (AAMPO 2019b). A project-level conformity determination is being reviewed by FHWA. See **Appendix E** for copies of Plan and Program Excerpts.

5.14.2 Carbon Monoxide (CO) Traffic Air Quality Analysis

Traffic projections for the estimated time of completion (ETC) year (2025) and design year (2045) are shown in **Table 1 in Section 3.2**. Projected traffic volumes for the proposed project exceed 140,000 vehicles per day; therefore, a CO traffic air quality analysis (TAQA) is required. Refer to the *Carbon Monoxide Traffic Air Quality Analysis Technical Report* for a detailed analysis of CO emissions (TxDOT 2020f).

5.14.3 CO Analysis Results

CO concentrations for the Build Alternative were modeled using the CAL3QHC model and factored in adverse meteorological conditions and sensitive receptors at the ROW line in accordance with the Standard Operating Procedure for Complying with CO TAQA Requirements.

Modeling results indicate that local concentrations of CO are not expected to exceed national standards at any time along any segment of the project; furthermore, CO concentrations are expected to remain relatively consistent from the ETC year to the design year. Segments 2 and 4 are projected to have the highest CO concentration along the project due to higher traffic volumes. Specifically, the portion of Segment 2 along Loop 1604 from Voight Drive to US 281 and Segment 4 along I-10 south of Loop 1604 have the highest projected CO concentrations. Overall, there is not an appreciable change in CO emissions from 2025 to 2045 because, although projected traffic volumes increase by more than 40% during this period, CO emission rates are predicted to decrease by about the same percentage during the 20-year period.

A summary of the maximum predicted CO concentrations anywhere within the Loop 1604 project limits is shown in **Table 8**.

Table 8: Project Maximum CO Concentrations

Year	1-hour CO Concentration (ppm)	1-Hour % NAAQS	8-hour CO Concentration (ppm)	8-Hour % NAAQS
2025	6.7	19%	2.3	26%
2045	6.5	19%	2.1	23%

Note: Analysis includes a one-hour San Antonio area background concentration of 6.1 ppm and an 8-hour background concentration of 1.9 ppm.
*The NAAQS for CO is 35 ppm for one hour and 9 ppm for eight hours.

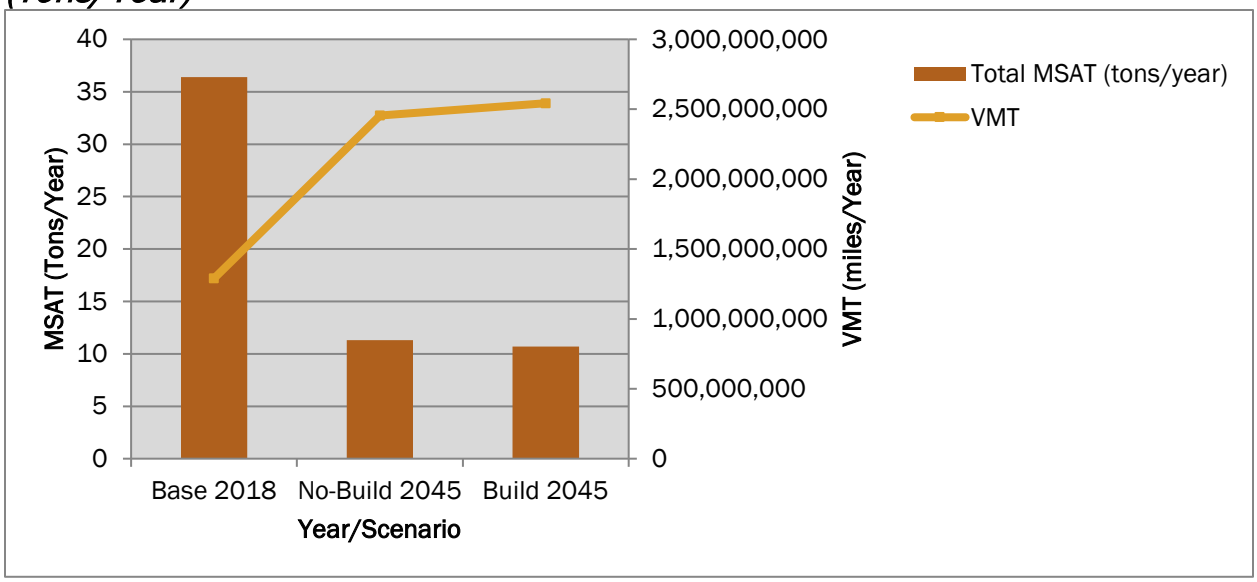
The CAL3QHC model input and output files for the Loop 1604 TAQA have been submitted to the TxDOT San Antonio District for inclusion in the project files.

5.14.4 Mobile Source Air Toxics

A quantitative assessment of mobile source air toxics (MSAT) emission levels was completed for the project's No-Build and Build Alternatives. Between the baseline year (2018) and the design year (2045), annual vehicle-miles traveled (VMT) in the affected transportation network were estimated to increase by over 91% for the No-Build Alternative, and by 97% for the Build Alternative. Total annual priority MSAT emissions in 2045 were estimated to decrease by approximately 69% for the No-Build Alternative and 71% for the Build Alternative, as compared to baseline levels (2018) (see Graph 1 and **Table 9**). In the design year (2045), MSAT emissions were estimated to decrease by 0.61 tons per year (approximately 5.4%) for the Build Alternative compared to the No-Build Alternative. Refer to the *MSAT Quantitative Analysis Technical Report* for a detailed analysis of MSAT emissions (TxDOT 2020g). Even though VMT is highest under the Build 2045 scenario, total MSAT emissions are lower

because the additional capacity would allow for higher vehicle speeds and thus, lower emissions for most MSAT pollutants.

Graph 1: Total MSAT Emissions and Vehicle Miles Traveled by Alternative (Tons/Year)



Source: *MSAT Quantitative Analysis Technical Report, TxDOT 2020g*

Table 9: MSAT Emissions by Alternative (Tons/Year)

Pollutant/VMT	Year/Scenario			% Change from 2018	
	2018 Base Year	2045 Design Year		No-Build	Build
		No-Build	Build		
Diesel Particulate Matter	21.28	4.56	4.12	-78.6	-80.6
Benzene	5.14	1.75	1.82	-66.0	-64.6
Formaldehyde	4.61	2.55	2.40	-44.7	-47.9
Ethylbenzene	2.15	1.18	1.16	-45.1	-46.0
Acetaldehyde	1.80	0.84	0.80	-53.3	-55.6
Butadiene	0.41	0.02	0.01	-95.1	-97.6
Acrolein	0.29	0.12	0.11	-58.6	-62.1
Polycyclic Organic Matter	0.20	0.05	0.05	-75.0	-75.0
Naphthalene	0.52	0.22	0.21	-57.7	-59.6
Total MSAT (Tons)	36.4	11.29	10.68	-69.0	-70.7
Total VMT (Miles/Year)	1,289,389,378	2,455,715,441	2,542,748,645	+90.5	+97.2

Source: TxDOT 2020f. Note: VMT is based on weekday average daily traffic.

The Build Alternative may result in increased exposure to MSAT emissions in certain locations. The concentrations and durations of exposures are uncertain, and because of this uncertainty, the health effects from these emissions cannot be estimated. Regardless of whether the No-Build Alternative or the Build Alternative is selected from the proposed project, total MSAT emissions are expected to be lower in 2045 versus 2018. In addition, even under the No-Build Alternative, the trend of improving air quality would continue over time due to EPA regulations.

The No-Build Alternative would not conform to local transportation plans and programs. The proposed project would be inconsistent with the financially constrained *Mobility 2045*, which contains specific projects, programs, and policies intended to improve mobility, access, and air quality in the AAMPO region.

5.14.5 Congestion Management Process

This proposed project is located within an ozone nonattainment area, adding single occupancy vehicle (SOV) capacity, and is located within a Transportation Management Area (TMA); therefore, a CMP analysis is required. The congestion management process is a systematic process for managing congestion that provides information on transportation system performance and on alternative strategies for alleviating congestion and enhancing the mobility of persons and goods to levels that meet state and local needs. The proposed project was developed from the AAMPO's CMP, which meets all requirements of 23 CFR 450.320 and 500.109, as applicable. The CMP was adopted by AAMPO on September 24, 2018 and most recently amended on August 26, 2019. The region commits to operational improvements and travel demand reduction strategies at two levels of implementation: program level and project level. Program level commitments are inventoried in the regional CMP, which was adopted by the AAMPO; they are included in the financially constrained MTP, and future resources are reserved for their implementation.

The CMP element of the plan carries an inventory of all project commitments (including those resulting from major investment studies) that details type of strategy, implementing responsibilities, schedules, and expected costs. At the project's programming stage, travel demand reduction strategies and commitments will be added to the regional TIP or included in the construction plans. The regional TIP provides for programming of these projects at the appropriate time with respect to the SOV facility implementation and project-specific elements.

Committed congestion reduction strategies and operational improvements within the study boundary consist of incentives to use alternative modes by including HOV lanes throughout a majority of the project limits and includes roadway infrastructure improvements including I-10 interchange direct connection improvements and frontage road and ramp access management improvements. Individual CMP and SOV relief projects located near the project corridor that were completed in recent years, are ongoing, or are planned are listed in Table 10.

Table 10: Congestion Management Process Strategies

Operational Improvement Projects Near the Proposed Project Area		
Location	Type	Implementation Date
IH 35N from IH 410N to Guadalupe County Line	Reconstruct main lanes and frontage roads, Construct concurrent HOV / managed lanes, new connections with LP 1604	2019 - 2023
FM 1535 from Shavano Ranch Road to LP 1604	Roadway expansion, bike lanes, and sidewalks	2019 - 2021
SH 151 from LP 1604 to IH410	Mainlane roadway expansion and new direct connect with northbound 1604	2019 - 2022
FM 1535 from LP 1604 to Huebner Road	Construct 2-Way left turn Lanes, bike lanes, and sidewalks	2021
LP 1604 at Blanco Road	Intersection operational improvements	2021
SH 16 from FM 1560/Leslie Road to LP 1604	Intersection operational improvements	2022

Source: Mobility 2045 and 2019-2022 TIP, AAMPO

In an effort to reduce congestion and the need for SOV lanes in the region, TxDOT and AAMPO will continue to promote appropriate congestion reduction strategies through the Congestion Mitigation and Air Quality Improvement (CMAQ) program, the CMP and the MTP. The congestion reduction strategies considered for this project would help alleviate congestion in the SOV study boundary but would not eliminate it. Therefore, construction of the proposed project is justified in terms of its integration with other planned or completed CMP projects. The CMP analysis for added SOV capacity projects in the TMA is on file and available for review at the AAMPO.

5.14.6 Construction Emissions

During the construction phase of this project, temporary increases in PM and MSAT emissions may occur from construction activities. The primary construction-related emissions of PM are fugitive dust from site preparation, and the primary construction-related emissions of MSAT are diesel particulate matter from diesel powered construction equipment and vehicles.

The potential impacts of particulate matter emissions would be minimized by using fugitive dust control measures contained in standard specifications, as appropriate. The Texas Emissions Reduction Plan (TERP) provides financial incentives to reduce emissions from vehicles and equipment. TxDOT encourages construction contractors to use this and other local and federal incentive programs to the fullest extent possible to minimize diesel emissions. Information about the TERP program can be found at: https://www.tceq.texas.gov/airquality/terp/index.html.

However, considering the temporary and transient nature of construction-related emissions, the use of fugitive dust control measures, the encouragement of the use of TERP, and compliance with applicable regulatory requirements; it is not anticipated that emissions from construction of this project will have any significant impact on air quality in the area.

5.15 Hazardous Materials

A Hazardous Materials Initial Site Assessment (ISA) was completed for the proposed project to identify known and possibly unknown hazardous material contamination within the proposed project limits. The field assessment was conducted along the proposed project area from publicly accessible locations on existing ROW. Site numbers referenced below correspond to the sites in the Hazardous Materials ISA available for review at the TxDOT San Antonio District office.

The GeoSearch Database Report identified a total of 771 locatable records within the database search area and 11 unlocatable records that are likely not within the database search area. Of those locatable sites, 4 were listed on federal action lists, the National Priorities List, or the Resource Conservation and Recovery Act Corrective Action Facilities list. Multiple sites are included on state lists including, petroleum storage tank (PST) sites, leaking petroleum storage tanks (LPSTs), closed and abandoned landfills, spills listings, and industrial hazardous waste corrective action sites. The majority of the records were determined to be of no concern to the proposed project.

Due to the history of land use in the project area (i.e., ranching, agricultural, and residential) and the low potential to encounter shallow groundwater, the potential for contaminated groundwater plumes to migrate into the project area at the depths of proposed excavation is very low. For these reasons, only records from within or adjacent to the ROW or easements, or within 100 feet of the ROW or easements were considered.

One site, Map ID 119, Cox Manufacturing, located at 5500 North Loop 1604 East in San Antonio, Texas 78247, is listed on the TCEQ Industrial Hazardous Waste Corrective Action database for multiple hazardous waste management violations including the improper disposal of solid hazardous waste and the unauthorized use of an injection disposal well. An Affected Property Assessment Report (APAR) was approved for the property in 2016, and a groundwater monitoring report was issued to TCEQ in 2018. Due to regulatory violations, an agreed/enforcement order was issued to this facility. A TCEQ file review and discussions with TCEQ staff was initiated. The Project Manager with the TCEQ's Underground Injection Control Program stated that the septic system was closed in compliance with the enforcement order in 2013 and that no further enforcement or proposed enforcement actions are pending for the facility. Other directives from the TCEQ Enforcement Division included the submittal of an APAR for the septic system and surrounding area. Keith Frank with the TCEQ's Enforcement Division confirmed that all past violations have been resolved, corrective actions have been achieved, and no further enforcement or proposed enforcement actions are pending for the facility. He indicated that the APAR was submitted and closure approved by the TCEQ in 2016 and that no other investigations or assessments are pending. Review of

available information indicates that the site is not subject to groundwater monitoring as of February 1, 2018. The past violation also included the failure to update the facility's Notice of Registration (NOR) regarding all waste streams and associated Solid Waste Management Units. The facility's NOR was updated in 2013 and is in compliance with the enforcement order.

One Closed and Abandoned Landfill site (ID# U1261) also known as Stone Oak is mapped within 100 feet of the ROW and is located near a drainage easement owned by La Arcata LLC property owners association. According to available records, this site represents a potential environmental concern due to historical disposal/contamination and records that indicate PCBs were disposed of at this location. Due to right of entry/access constraints, additional information, such as the location/extent of the former landfill and planned construction or earthmoving activities in the vicinity of this site, may need further investigation to resolve this concern.

In all, 46 petroleum storage tank sites and 28 LPST sites were identified within 0.5 miles of the proposed project ROW. Of these, 11 identified LPST sites are within 0.02 miles of the project ROW, 5 LPST sites are within 0.125 miles of the project ROW, and 12 LPST sites are within 0.5 miles of the project limits. Four LPST listed sites are within 100 feet of the project ROW. All four LPST sites are listed as inactive. Review of internal TCEQ files confirms all cases are closed, impacts were limited to soil contamination (no impacts to groundwater), contamination is below action levels, and no further action letters were issued. None of the PST sites or LPST sites is believed to represent an environmental concern.

Field investigations revealed one unregulated facility called Hank Storbeck Garage Inc. located at 15699 Tradesman Road, San Antonio, Texas 78249. The facility is an operating vehicle repair shop that services large vehicles such as busses, tow trucks, and 18 wheelers. It does not appear in any TCEQ records search for the business or address. The facility has the potential to generate hazardous waste related to vehicle maintenance. This site is believed to represent an environmental concern. However, no ROW and minimal construction is required adjacent to this facility.

Oil and gas pipelines, railroad tracks, and other industrial features were identified in the ISA. Depending on the type and location of construction near these facilities, testing may be necessary to determine whether spills or releases have occurred in the proposed construction areas.

The Build Alternative would include the demolition or renovation of bridges or structures. Asbestos and lead-based paint inspections, specification, license, accreditation, abatement, and disposal, as applicable, would comply with federal and state regulations. Asbestos and lead-based paint issues would be addressed before or during construction.

Under the No-Build Alternative, no impacts or disturbance to any potentially contaminated sites would occur. The No-Build Alternative would not require any actions concerning hazardous materials.

5.16 Traffic Noise

A traffic noise analysis was conducted for the proposed project in accordance with TxDOT's FHWA-approved *Guidelines for Analysis and Abatement of Roadway Traffic Noise* (TxDOT 2011a, 2020h). Refer to the *Traffic Noise Analysis Technical Report* for additional information (TxDOT 2020h).

Existing and predicted traffic noise levels were modeled at 117 receiver locations (**Appendix F, Figure 5—Location of Noise Receivers**) that represent the land-use activity areas adjacent to the proposed project that might be impacted by traffic noise and potentially benefit from feasible and reasonable noise abatement.

The proposed project would result in traffic noise impacts at some of the receiver locations (see **Figure 8**); therefore, the construction of noise barriers was considered.

Before any abatement measure can be proposed for incorporation into the project, it must be both feasible and reasonable. In order to be "feasible," the abatement measure must be able to reduce the noise level at greater than 50% of impacted first-row receivers by at least 5 decibels (A-weighted) [dB(A)]; and to be "reasonable," it must not exceed the cost-effectiveness criterion of $25,000 for each receiver that would benefit by a reduction of at least 5 dB(A), and the abatement measure must be able to reduce the noise level for at least one impacted first-row receiver by at least 7 dB(A).

Noise walls are the most commonly used noise abatement measure. Noise walls were evaluated for each of the impacted receiver locations (**Appendix F, Figure 8—Location of Noise Receivers**). Noise walls that would achieve the minimum feasible reduction of 5 dB(A) while achieving a 7 dB(A) noise reduction design goal and not exceed the reasonable, cost-effectiveness criterion of $25,000 at each benefited receiver location include the following:

- Barrier 1 = R5–R7 (Marquis Bandera Apartments, App F- Figure 8: Map 3 of 46)
- Barrier 2 = R47–R49 (Ridgeline at Rogers Ranch Apartments, App F- Figure 8: Map 23 of 46)
- Barrier 3 = R98–R100 (Emerald Village Apartments, App F- Figure 8: Map 37 of 46)
- Barrier 4 = R108–R110 (Judson Pointe Apartments, App F- Figure 8: Map 41 of 46)
- Barrier 5 = R112–R113 (Vista subdivision, App F- Figure 8: Map 43 of 46)

Any subsequent project design changes may require a reevaluation of this preliminary noise barrier proposal. The final decision to construct the proposed noise barrier will not be made until completion of the project design, utility evaluation, and polling of all benefited and adjacent property owners and residents.

To avoid noise impacts that may result from future development of properties adjacent to the project, local officials responsible for land-use control programs must ensure, to the maximum extent possible, that no new activities are planned or constructed along or within the following predicted

(2045) noise impact contours. **Table 11** provides predicted distances to noise contours for roadway segments of the project.

Table 11: Predicted Noise Impact Contours

Roadway Segment	71 dB(A) Impact Contour Description1	66 dB(A) Impact Contour Description2
Loop 1604 East of Kyle Seale Parkway	45 feet from ROW	220 feet from ROW
Loop 1604 East of NW Military Highway	115 feet from ROW	310 feet from ROW
Loop 1604 West of Judson Rd	90 feet from ROW	270 feet from ROW
Loop 1604 East of Nacogdoches Rd	Within ROW	170 feet from ROW
I-10 North between Loop 1604 and La Cantera Parkway	90 feet from ROW	250 feet from ROW
I-10 South between Loop 1604 and UTSA Blvd	90 feet from ROW	260 feet from ROW

Source: TxDOT 2020h
[1] Noise abatement criteria Category E
[2] Noise abatement criteria Categories B and C

During the construction phase of this project, temporary increases in noise may result from construction activities. Noise associated with the construction of the project is difficult to predict. Heavy machinery, the major source of noise in construction, is constantly moving in unpredictable patterns. However, construction normally occurs during daylight hours when occasional loud noises are tolerable. None of the receivers are expected to be exposed to construction noise for a long duration; therefore, any extended disruption of normal activities is not expected. Provisions would be included in the construction plans and specifications that require the contractor to make every reasonable effort to minimize construction noise through abatement measures such as work-hour controls and proper maintenance of muffler systems. On the date of NEPA approval (Date of Public Knowledge), FHWA and TxDOT are no longer responsible for providing noise abatement for new development adjacent to the project.

The No-Build Alternative may maintain existing noise levels, or noise levels may change as traffic volumes increase with time.

5.17 Induced Growth

An *Indirect Impacts Technical Report* (TxDOT 2020i) was prepared for the proposed project in accordance with TxDOT's *Indirect Impacts Analysis Guidance* (TxDOT 2019d).

The analysis presented in the technical report determined that construction of the Build Alternative could contribute to induced growth within a small portion of the indirect impacts area of influence (AOI), or study area. The AOI encompasses approximately 31,782 acres. Input obtained from interviews with local officials resulted in the AOI boundary that is illustrated on **Figure 9** in **Appendix F.** The AOI boundary encompasses adjacent and adjoining parcels that contain developable land, major roadways, and residential and commercial areas. The high growth potential of the area in

combination with the improved mobility resulting from the proposed project indicate that the AOI could experience induced growth.

A planning judgment approach, supported by the planning assumptions and land-use predictions communicated by local representatives during an interview process, was utilized to identify anticipated development trends and assess the probability that the Build Alternative would influence local land-use decisions within the AOI. During the interview process, several sites were identified for development and redevelopment potential. Interview participants believed the increased mobility from the proposed project, as well as the increasing growth and economic development in the region, could influence and further increase development and/or redevelopment to a limited extent in the AOI. For more information on the analysis, see the *Indirect Impacts Technical Report* (TxDOT 2020i).

Based on this information, as well as local and regional population and employment trends and other planning documents, approximately 36 total acres are identified as induced growth areas within the AOI. Additionally, approximately 416 acres are identified as areas of potential redevelopment. For the purposes of this analysis, the term 'redevelopment' represents the replacement, rehabilitation, enhancement, or repurposing of existing structures on developed parcels. Redevelopment could involve a change in business activity or evolution of land uses (including densification or addition of land use elements such as drive through retail or commercial within an existing parking lot) and is not limited to razing existing structures for complete reconstruction. These areas are approximately 0.1% and 1.3%, respectively, of the AOI. The areas of potential induced growth and redevelopment can be seen on **Figure 10** in **Appendix F.** It is assumed that this future development would be expected to comply with appropriate local land-development regulations, ordinances, and other environmental regulations.

Because the proposed project is not expected to conflict with local development goals or cause substantial negative indirect induced-growth impacts, the requirement for mitigation of environmental impacts would be limited to mitigating only the direct impacts associated with this proposed project. Any mitigation for project-induced land development impacts that may arise after construction of the proposed project would be overseen by local entities and would be the responsibility of the land developer. Mitigation for indirect induced-growth impacts would not be required of the proposed project sponsors based on the analysis presented here.

5.18 Cumulative Impacts

A *Cumulative Impacts Technical Report* (TxDOT 2020j) was prepared for the proposed project in accordance with TxDOT's *Cumulative Impacts Analysis Guidance* (TxDOT 2019e). Based on the results of TxDOT's cumulative impacts risk assessment, supported by the information presented in the *Cumulative Impacts Technical Report* and in the technical reports prepared for the proposed project, a cumulative impacts analysis is required for the proposed project. The proposed project may potentially have cumulative impacts on federally listed karst species. Additionally, groundwater

is also included in the cumulative analysis as it is a unique resource and there is concern about potential long-term vulnerability to pollution.

5.18.1 Resource Study Areas

Resource Study Areas (RSAs) were chosen based on characteristics of the resources and the context and scale of the proposed project. Geographically, the RSA for each resource was chosen to allow for meaningful data collection and analysis of the current health and historic context of each resource.

Federally Listed Species

The geographic boundary of the RSA for cumulative impacts to federally listed endangered species is a combination of the 345-foot buffer of the project area to account for impacts to the trogloxene foraging areas of nearby caves, and the Stone Oak and UTSA Karst Faunal Regions (KFRs), which the project traverses. Trogloxene species include cave crickets, small mammals such as raccoons, and reptiles such as snakes that use the cave for portions of their lifecycles and are significant sources of nutrients to cave ecosystems. The RSA for federally listed species encompasses approximately 77,167 acres (see **Figure 11** in **Appendix F**). This area is in Bexar County and includes areas of Karst Zones 1, 2, 3, and 5, CHU 9, as well as areas of the Edwards Aquifer RZ, CZ, and TZ.

The temporal RSA for cumulative impacts to these species is 2000 through 2045. In 2000, nine karst invertebrates, including the five species analyzed in this report, were listed as endangered in Bexar County. 2045 is the horizon year of the Alamo Area Metropolitan Planning Organization's (AAMPO) current long-range transportation plan.

Groundwater

The project overlaps with the RZ in the Leon, Olmos, and Salado watersheds and the approximately 169,851-acre RSA for groundwater includes the extents of the RZ, CZ, and Transition Zone within these watersheds (see **Figure 12** in **Appendix F**).

The timeframe for the cumulative analysis of groundwater begins at the onset of urban growth over the RZ in the RSA in the 1960s to the year 2045, which is the AAMPO's current planning horizon.

5.18.2 Other Actions—Past, Present, and Reasonably Foreseeable—and Their Effect on Each Resource

Several actions have occurred or are planned within the RSA that could contribute to cumulative impacts. As described in the *Cumulative Impacts Technical Report* (TxDOT 2020j), such actions include residential and commercial development, along with transportation and other capital improvements. The City of San Antonio tracks master development plans (MDPs) and plats in the City and the extra-territorial jurisdiction. Many MDPS and plats are recorded in both RSAs. Representatives from the City of San Antonio and the City of Live Oak also provided insight into reasonably foreseeable projected development in the RSAs. Future actions would involve activities

and attributes similar to existing developments with regard to construction phase disturbances (soil disturbance, excavation, construction-related spills), operation and maintenance (water, wastewater, landscaping) depending upon the specific land use. A notable difference between existing and future development is that all of the future development would be subject to the current TCEQ regulations, including requirements for TSS removal and SCS. Future actions are not expected to significantly adversely impact the quality of the groundwater, nor the federally listed karst species.

5.18.3 Overall Effects of the Proposed Project Combined with Other Actions

Federally Listed Species

The proposed project may affect and is likely to adversely affect *R. exilis, R. Infernalis*, *B. venyivi*, *C. baronia*, and *C. madla* due to their high likelihood of occurrence in the surrounding project area. Effects associated with roadway and development projects could take the form of direct mortality or harm to individuals resulting from the disturbance, destruction, and removal of subsurface habitat by geotechnical borehole drilling, pier drilling, surface milling, grading, and excavation. Any of these activities may entirely or partially remove a subsurface void in bedrock that contains habitat for the species. In cases where voids are mostly intact, exposure of subsurface habitat can cause climate alteration such as temperature swings, desiccation, or flooding. Additionally, any surface disturbance of karst habitat, such as vegetation removal, may result in fragmentation of invertebrate foraging areas, alterations in nutrient input and outflow, reduction in the carrying capacity of karst habitat, and the introduction of invasive species. Urbanization and the addition of impervious cover resulting from development within the RSA could alter the surface and subsurface drainage regimes in karst habitat. Additionally, the increase in impervious cover creates the potential for the introduction of surface contaminants, including storm water runoff, into caves and other connected features. Reasonably foreseeable projects undertaken within the RSA would be subject to regulation under the ESA if it is anticipated that they would impact any federally listed species or their habitat.

Groundwater

No adverse cumulative effects to the quantity of water in the Edwards Aquifer are expected due to the substantial regulations that are in place to manage it. Actions in the RSA would have negligible effects on rainfall and Edwards Aquifer pumping, which are the dominant factors affecting the volume of water in the aquifer. Although it is commonly stated that groundwater recharge is reduced with urbanization because of the increase in impervious cover, the reverse is the more common condition - urbanization increases groundwater recharge. This effect is partially due to increased runoff from impervious cover flowing into losing streams where recharge occurs. For more information, see the *Cumulative Impacts Technical Report* (TxDOT 2020j).

No adverse cumulative effects to the quality of water in the Edwards Aquifer are expected. The development that existed in the RSA before 1999 was not subject to many of the protection regulations that exist today, including the TCEQ's requirements for TSS removal, SCS, and EAA's

prohibitions on USTs in the RZ. Despite the existing level of development that covers approximately 57% of the RSA, some of which dates to the 1960's, the aquifer produces high quality water.

5.18.4 Mitigation of Cumulative Effects

Federally Listed Threatened/Endangered Species

Formal consultation will be completed with the USFWS to develop minimization and mitigation strategies to offset any potential effects to the federally listed karst species. Voluntary conservation measures are often agreed upon as part of the consultation process and typically include storm water BMPs to protect water quality, void encounter mitigation measures, and other similar measures. Voluntary conservation measures and any other USFWS requirements will be detailed in the Biological Opinion issued by USFWS at the end of the consultation process.

Projects moving forward as a result of induced growth from the proposed project, and present or reasonably foreseeable projects, would be subject to regulation under the ESA if it is anticipated that they would impact federally listed species, or their habitats significantly enough to be qualified as a *take* of the species. The ESA defines *take* as "to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or attempt to engage in any such conduct".

In 1997, the City of San Antonio initiated a Land Acquisition Program to protect and preserve the quality and quantity of water entering into the Edwards Aquifer. To date, 9,140 acres of land have been preserved for this purpose, which includes land in the RSA such as the Government Canyon State Natural Area and surrounding properties (SAWS 2020). Land set aside in northern Bexar County for the protection of groundwater quality and federally listed karst invertebrates will indirectly benefit the species impacted by the proposed project and its cumulative effects. Water quality protections for the Edwards Aquifer will further benefit the species as they call for natural buffers around sensitive karst features and for water quality BMPs that improve the quality of water discharging from projects within the regulated zones. These existing protections would help to mitigate for future effects to the listed species.

Groundwater Resources

Mitigation activities for direct impacts would be implemented with the proposed action. These include voluntary measures and regulatory requirements.

The regulations of several agencies protect and maintain water resources in the project area including the EAA, TCEQ, EPA, and USACE. Compliance with these regulations would minimize the cumulative effects of the proposed project and future actions. The degree of protection afforded is dependent upon the degree of compliance with these regulatory programs. Actions that promote compliance with these regulations would help minimize cumulative impacts. Continued water quality monitoring by agencies such as the EAA is important to recognize trends and inform water quality

regulators of the status of the resource and identify the need, if any, for revisions to environmental protection requirements.

Under the No-Build Alternative, the project would not contribute to cumulative impacts.

5.19 Construction-Phase Impacts

Although temporary congestion may occur as a result of project construction, access to parcels in the project vicinity would be maintained during all phases of construction. All practicable steps would be taken to minimize the inconvenience to drivers using the intersecting roadways during the construction phase. People living and working in the immediate area of the proposed project may experience an increase in noise and dust due to the construction activities. Temporary detours would also be required in the project area to assist with diverting traffic through surrounding areas while certain areas are under construction. Refer to Section 5.14 for the discussion of construction-related air emissions. The following construction-phase BMPs would be utilized:

- Vegetation BMPs
  - Minimize the amount of vegetation cleared. Removal of native vegetation, particularly mature native trees and shrubs, should be avoided to the greatest extent practicable.
  - The use of any non-native vegetation in landscaping and revegetation is discouraged. Locally adapted native species should be used.
- Water Quality BMPs
  - Once construction is complete and disturbed areas have been revegetated, remove silt fence and accumulated sediment to reduce wildlife barriers and hazards.

Under the No-Build Alternative, construction activities would not occur, and temporary increases in traffic congestion, air pollution, and MSAT emissions would not occur.

6.0 Agency Coordination

For archeological resources, TxDOT initiated consultation under Section 106 of the National Historic Preservation Act; the PA among TxDOT, the SHPO, FHWA, and the ACHP; and the Antiquities Code of Texas MOU between THC and TxDOT on April 28, 2020. TxDOT recommended that the project be allowed to proceed with construction. The THC/SHPO concurred with this recommendation on May 19, 2020. Tribal consultation with federally recognized Native American tribes with demonstrated historic interest in the area was initiated on April 6, 2020. Consultation concluded May 7, 2020 with no objections.

For historic resources TxDOT staff determined that no historic properties will be affected by the project. Therefore, pursuant to Stipulation IX, Appendix 6 "Undertakings with the Potential to Cause Effects per 36 CFR 800.16(i)" of the Section 106 PA and the MOU, TxDOT historians determined that there are no historic properties in the APE affected by the project. In compliance with the Antiquities Code of Texas and the MOU, TxDOT historians determined January 9, 2020 that project activities have no potential for adverse effects. Individual project coordination with SHPO is not required The proposed project would disturb several habitat types in an area equal to or greater than the area of disturbance indicated in the Threshold Table PA (Edwards Plateau Savanna, Woodland, and Shrubland; Disturbed Prairie; and Riparian). TPWD coordination is required because the threshold for impacts to the above-listed habitat types would be exceeded. In addition, habitat occurs in the project area for several species that do not have designated BMPs. Coordination with TPWD was completed on July 14, 2020. TxDOT agreed to implement various recommendations by TPWD and these commitments are included in **Section 8.0.**

Formal consultation with the USFWS under section 7 of the ESA will be completed prior to environmental clearance for this project for potentials effects to the *R. exilis*, *R. infernalis*, *C. madla*, *C. baronia*, *B. venyivi*, CHU 9, and the Golden-cheeked Warbler.

Any impacts to WOUS are expected to be authorized through NWP #14 without a PCN. Coordination with the USACE is not anticipated at this time; however, if an NWP #14 with PCN or Individual Permit is required, this EA will be updated accordingly.

The proposed project includes work within a FEMA-designated 100-year floodplain; therefore, coordination with the local floodplain administrator would be required.

Coordination with TCEQ is ongoing.

The resource agency coordination documentation is included in **Appendix G**.

7.0 Public Involvement

TxDOT conducted public outreach activities for the proposed project that included several stakeholder meetings, an open house public meeting held in two locations, and a public hearing (pending) as part of ongoing public involvement activities.

Because the project involves construction of a highway, a notice of impending construction will be provided to owners of adjoining property and affected local governments and public officials. The notice may be provided via a sign or signs posted in the ROW, mailed notice, printed notice distributed by hand, or notice via website when the recipient has previously been informed of the relevant website address. This notice must be provided after the environmental decision (i.e., FONSI or recommendation to prepare an EIS), but before earthmoving or other activities requiring the use of heavy equipment begin.

7.1 Stakeholder Outreach

TxDOT held a stakeholder meeting on June 24, 2019 at the TxDOT San Antonio District Office. Twenty stakeholders representing the City of San Antonio, City of Live Oak, Bexar County, Alamo Area MPO, VIA Metropolitan Transit, Northside Independent School District (ISD), and Judson ISD attended this meeting to learn about the proposed project and to provide feedback. TxDOT gave a PowerPoint presentation and asked stakeholders to complete a survey.

TxDOT also met with the following additional stakeholders during 2019:

- City of San Antonio Parks and Recreation Department
- City of San Antonio Councilman Manny Pelaez
- Hines Management Corporation
- Eilan Hotel
- Fiesta Texas Six Flag
- Fulcrum, Landmark Development
- Shavano Park
- State Representative Philip Cortez
- State Representative Leo Pacheco
- The RIM
- The Shop at La Cantera
- Union Pacific Railroad
- UTSA
- USAA Real Estate
- Valero

- Visit San Antonio

7.2 Public Meetings

Two public meetings were held in different geographic areas of the project area. The first took place at the Redland Oaks Community Church, San Antonio, Texas, on September 24, 2019 and the second at Brandeis High School, San Antonio, Texas, on September 25, 2019. Both meetings, which took place from 5 – 7 p.m., were conducted in an open house format that included animated visualizations of the proposed improvements, display boards, and an opportunity for the public to ask questions and provide comments on any issues in the project area. A court reporter was available to transcribe comments for those who wished to submit a comment in this way. A total of 359 people attended the two meetings and 172 people submitted comments during the comment period that extended until October 10, 2019.

The Public Meeting Documentation may be inspected and copied upon request at the TxDOT San Antonio District office and is also located in TxDOT's Environmental Compliance Oversight System.

7.2.1 Limited English Proficiency Accommodations

English and Spanish public meeting notices were mailed to adjacent property owners and were published in English and Spanish in the San Antonio Express News and Conexion. Comment cards were available in English and Spanish for attendees to submit written comments regarding the proposed project. As stated in the meeting notices, TxDOT would provide an interpreter at the meetings if requested in advance. No requests for an interpreter were received but an interpreter did attend.

7.3 Public Hearing

A public hearing is planned for this project and will be held in the summer of 2020.

8.0 Environmental Permits, Issues, and Commitments

8.1 Post-Environmental Clearance Activities

Post environmental clearance activities related to federally listed species may include monitoring of locations within the action area that are known to contain endangered karst invertebrates or Golden-cheeked Warbler habitat. Monitoring may include the documentation of changes to endangered species habitat quality through time, or surveys for endangered species to assess population changes over time. Activities conducted for other roadway projects in San Antonio have included the remapping of karst faunal areas and karst zones, mapping of caves within CHUs, presence absence surveys within karst features located in CHUs, and delineation of the subsurface drainage basin of caves located in CHUs.

8.2 Design/Construction Commitments

All project-specific commitments and conditions of approval, including resource agency permitting compliance and monitoring requirements, would be incorporated into the project plan for the proposed project. These commitments and conditions of approval may vary depending on the project's final design and construction. Mitigation monitoring would be conducted by TxDOT and other federal, state, and local agencies to ensure compliance.

This section lists the elements that constitute the Environmental Permits, Issues, and Commitments sheet. The permits, impacts, and commitments relevant to the proposed project are as follows:

1. Section 404 Permit, pursuant to Section 404 of the Clean Water Act. - USACE NWP #14 without PCN
2. EAPP, under authority of the TCEQ pursuant to 30 TAC 213 (TCEQ's Edwards Aquifer Rules)
3. TPDES, including:
    a. Construction General Permit TXR150000, under authority of the TCEQ pursuant to Section 402 of the Clean Water Act.
    b. SW3P
    c. Site Notice
    d. NOI
    e. Implementation of erosion control, sedimentation control, and post-construction TSS control BMPs for the TCEQ's 401 Water Quality Certification Conditions for NWPs to prevent water quality impacts from occurring during and after construction.
4. The contractor would be required to prepare and implement a CWMP to prevent, avoid, minimize, and clean up any spills associated with materials, waste, and equipment that the contractor either brings onto the project area or generates within the project area. It would also address measures to prevent damage to portable toilets and all sanitary sewer facilities

including, but not limited to, sanitary sewer lines, manholes, lift stations and power supply, force mains, valves, and related appurtenances.

a. The CWMP is specific to the contractor and the construction phase and is distinctly different in purpose from the SRP.

b. TxDOT would not permit storage of any quantity of hazardous materials, such as a one-quart container of oil, in state ROW in the CZ, RZ, or TZ during construction. TxDOT's expectation of the contractor is that no containers of non-potable liquids other than non-potable clean water, would be left outside the confines of a vehicle unattended.

c. The CWMP would include requirements for training all site personnel for the duration of the project, inclusive of new employees. The CWMP avoid any impacts to all facilities within the project area that pertain to the management of sanitary waste.

d. TxDOT would prepare an SRP and submit it to the TCEQ as a component of the EAPP. It would explain how the new BMPs may be operated to contain spills after the BMPs are placed into operation. The SRP is specific to TxDOT and the operation of the highway facility and is distinctly different in purpose from the CWMP.

5. Water Quality BMPs:

a. Minimize the use of equipment in streams and riparian areas during construction. When possible, equipment access should be from banks, bridge decks, or barges.

b. When temporary stream crossings are unavoidable, remove stream crossings once they are no longer needed and stabilize banks and soils around the crossing.

c. Based on preliminary engineering, it is anticipated that 81 hard-structure BMPs consisting of 47 underground wet basins (such as StormFilter™ or BaySaver™) and 27 on-ground sand filters basins would be required in addition to the areas that would meet the geometric requirements for vegetated filter strips. Pollutants that accumulate on the paved surfaces would be picked up by stormwater runoff and directed through BMPs before being released to creeks where the water may be subject to infiltration and recharge.

d. The detailed design would include a comprehensive review of all existing EAPPs applicable to the project area to ensure that any existing mitigation, such as vegetated filter strips, impacted by the project is compensated by the new design.

e. All new permanent BMPs for water treatment or detention that can accommodate an outfall pipe would include outfall shut-off valves or equivalent functionality to facilitate their use as hazardous material traps. Ground boxes for valves would have a minimum 2×2-foot concrete pad surrounding the valve cover or equivalent measures to ensure their visibility. The pad or cover would include a permanent name plate stating "emergency shutoff valve" or similar content. Preferably, any valve covers and valves would be designed so that no tools are required to access and operate the valves.

f. Any existing hazmat traps that need to be displaced by the project would have their functionality replaced by new BMPs.

g. Maintenance of the permanent BMPs would be required.

6. Voluntary Conservation Measures to mitigate impacts to sensitive karst features, such as:

   a. Vegetation clearing activities in or adjacent to Golden-cheeked Warbler habitat to be conducted outside of breeding season, will be implemented in accordance with the USFWS consultation agreement.

   b. Impacts to sensitive karst features would be avoided and minimized through design, construction, and operation to the extent practicable in compliance with 30 TAC 213.

   c. Sensitive features would be protected from pollutants during construction.

   d. If a potentially sensitive feature is encountered during construction, work in the vicinity would cease, the feature would be protected and evaluated by a Professional Geoscientist in accordance with TCEQ regulations, and the TCEQ would be notified as required. Construction would not continue in the vicinity of the feature until a plan to address the feature has been approved by the TCEQ and the feature treatment has been completed.

   e. TxDOT would coordinate with the EAA regarding their monitoring well located in the Loop 1604 ROW near Judson Road and would ensure it is properly plugged.

   f. The contractor would be required to prepare and implement a CWMP to prevent, avoid, minimize, and clean up any spills associated with materials, waste, and equipment that the contractor either brings onto the project area or generates within the project area.

   g. TxDOT would prepare an SRP and submit it to the TCEQ as a component of the EAPP. It would explain how the new BMPs may be operated to contain spills after the BMPs are placed into operation. The SRP is specific to TxDOT and the operation of the highway facility and is distinctly different in purpose from the CWMP.

7. Implementation of BMPs for state-listed species and SGCNs. The following BMPs would be implemented in an effort to avoid impacts to the state-listed species and SGCNs:

   a. Amphibian BMPs (Cascade Caverns salamander, Comal blind Salamander, Strecker's chorus frog, Texas salamander, Woodhouse's Toad):

      - For projects within one mile of a known occupied location or observation of the species recorded from 1980 until the current year and suitable habitat is present, coordinate with TPWD.
      - For new location roadway projects, coordinate with TPWD.
      - For projects within existing right-of-way (ROW) when work is in water or will permanently impact a water feature and potential habitat exists for the target species complete the following:

- Contractors will be advised of potential occurrence in the project area, and to avoid harming the species if encountered.
- Minimize impacts to wetland, temporary and permanent open water features, including depressions, and riverine habitats.
- Maintain hydrologic regime and connections between wetlands and other aquatic features.
- Use barrier fencing to direct animal movements away from construction activities and areas of potential wildlife-vehicle collisions in construction areas directly adjacent, or that may directly impact, potential habitat for the target species.
- Apply hydromulching and/or hydroseeding in areas for soil stabilization and/or revegetation of disturbed areas where feasible. If hydromulching and/or hydroseeding are not feasible due to site conditions, using erosion control blankets or mats that contain no netting, or only contain loosely woven natural fiber netting is preferred. Plastic netting should be avoided to the extent practicable.
- Project specific locations (PSLs) proposed within state-owned ROW should be located in uplands away from aquatic features.
- When work is directly adjacent to the water, minimize impacts to shoreline basking sites (e.g., downed trees, sand bars, exposed bedrock) and overwinter sites (e.g., brush and debris piles, crayfish burrows) where feasible.
- Avoid or minimize disturbing or removing downed trees, rotting stumps, and leaf litter, which may be refugia for terrestrial amphibians, where feasible.
- If gutters and curbs are part of the roadway design, where feasible install gutters that do not include the side box inlet and include sloped (i.e. mountable) curbs to allow small animals to leave roadway. If this modification to the entire curb system is not possible, install sections of sloped curb on either side of the storm water drain for several feet to allow small animals to leave the roadway. Priority areas for these design recommendations are those with nearby wetlands or other aquatic features.

- For projects that require acquisition of additional ROW and work within that new ROW is in water or will permanently impact a water feature, implement bullets above below, where applicable:
  - For sections of roadway adjacent to wetlands or other aquatic features, install wildlife barriers that prevent climbing. Barriers should terminate at culvert openings in order to funnel animals under the road. The barriers should be of the same length as the adjacent feature or 80 feet long in each direction, or whichever is the lesser of the two.

- For culvert extensions and culvert replacement/installation, incorporate measures to funnel animals toward culverts such as concrete wingwalls and barrier walls with overhangs.
- When riprap or other bank stabilization devices are necessary, their placement should not impede the movement of terrestrial or aquatic wildlife through the water feature. Where feasible, biotechnical streambank stabilization methods using live native vegetation or a combination of vegetative and structural materials should be used.

b. Terrestrial Reptile BMPs (Texas garter snake and Tamaulipan spot-tailed earless lizard, the latter of which was added to the Bexar County TPWD List subsequent to submittal of the Tier 1 Site Assessment Form [6/26/2020]):

- Apply hydromulching and/or hydroseeding in areas for soil stabilization and/or revegetation of disturbed areas where feasible. If hydromulching and/or hydroseeding are not feasible due to site conditions, utilize erosion control blankets or mats that contain no netting or contain loosely woven, natural fiber netting. Erosion controls with plastic netting should not be used on the project.
- For open trenches and excavated pits, install escape ramps at an angle of less than 45 degrees (1:1) in areas left uncovered. Visually inspect excavation areas for trapped wildlife prior to backfilling.
- Inform contractors that if reptiles are found on the project site allow species to safely leave the project area.
- Avoid or minimize disturbing or removing downed trees, rotting stumps, and leaf litter where feasible.
- Contractors will be advised of potential occurrence in the project area, and to avoid harming the species if encountered.
- Due to increased activity (mating) of reptiles during the spring, construction activities like clearing or grading should attempt to be scheduled outside of the spring (April–May) season. Also, timing conducting ground-disturbing activities before October, when reptiles become less active and may be using burrows in the project area, is also encouraged.

c. Bird BMPs—In addition to complying with the MBTA, perform the following BMPs (Western Burrowing Owl and Wood Stork):

- Prior to construction, perform daytime surveys for nests, including under bridges and in culverts, to determine they are active before removal. Nests that are active should not be disturbed.
- Do not disturb, destroy, or remove active nests, including ground-nesting birds, during the nesting season. Nesting season is recognized at the TxDOT San Antonio District as: From February 15th to October 1st.

- Avoid the removal of unoccupied, inactive nests, as practicable.
- Prevent the establishment of active nests during the nesting season on TxDOT owned and operated facilities and structures proposed for replacement or repair.
- Do not collect, capture, relocate, or transport birds, eggs, young, or active nests without a permit.

d. Bat BMPs (big brown bat, cave myotis, eastern red bat, hoary bat, Mexican free-tailed bat, tricolored bat) —To determine the appropriate BMPs to avoid or minimize impacts to bats, review the habitat description for the species of interest on the TPWD Rare, Threatened, and Endangered Species of Texas by County List or other trusted resources. All bat surveys and other activities that include direct contact with bats shall comply with TPWD-recommended white-nose syndrome protocols located on the TPWD Wildlife Habitat Assessment Program website under "Project Design and Construction." The following survey and exclusion protocols should be followed prior to commencement of construction activities. For the purposes of this document, structures are defined as bridges, culverts (concrete or metal), wells, and buildings.

- For activities that have the potential to impact structures, cliffs or caves, or trees, a qualified biologist will perform a habitat assessment and occupancy survey of the feature(s) with roost potential as early in the planning process as possible or within one year before project letting.
- For roosts where occupancy is strongly suspected but unconfirmed during the initial survey, revisit feature(s) at most four weeks prior to scheduled disturbance to confirm absence of bats.
- If bats are present or recent signs of occupation (i.e., piles of guano, distinct musky odor, or staining and rub marks at potential entry points) are observed, take appropriate measures to ensure that bats are not harmed, such as implementing non-lethal exclusion activities or timing or phasing of construction.
- Exclusion devices can be installed by a qualified individual between September 1 and March 31. Exclusion devices should be used for a minimum of seven days when minimum nighttime temperatures are above 50°F and minimum daytime temperatures are above 70°F. Prior to exclusion, ensure that alternate roosting habitat is available in the immediate area. If no suitable roosting habitat is available, installation of alternate roosts is recommended to replace the loss of an occupied roost. If alternate roost sites are not provided, bats may seek shelter in other inappropriate sites, such as buildings, in the surrounding area. See Section 2: Standard Recommendations for recommended acceptable methods for excluding bats from structures.
- If feature(s) used by bats are removed as a result of construction, replacement structures should incorporate bat-friendly design or artificial roosts should be constructed to replace these features, as practicable.

- Conversion of property containing cave or cliff features to transportation purposes should be avoided where feasible.
- Avoid unnecessary removal of dead fronds on native and ornamental palm trees in south Texas (Cameron, Hidalgo, Willacy, Kenedy, Brooks, Kleberg, Nueces, and San Patricio Counties) from April 1 through October 31. If removal of dead fronds is necessary at other times of the year, limit frond removal to extended warm periods (nighttime temperatures ≥ 55 °F for at least two consecutive nights), so bats can move away from the disturbance and find new roosts.
- Large hollow trees, snags (dead standing trees), and trees with shaggy bark should be surveyed for colonies and, if found, should not be disturbed until the bats are no longer occupying these features. Post-occupancy surveys should be conducted by a qualified biologist prior to tree removal from the landscape.
- Retain mature, large-diameter hardwood forest species and native/ornamental palm trees where feasible.
- In all instances, avoid harm or death to bats. Bats should only be handled as a last resort and after communication with TPWD.

e. BMPs for plains spotted skunk, western hog-nosed snake, western spotted skunk: Contractors will be advised of potential occurrence in the project area, and to avoid harming the species if encountered, and to avoid unnecessary impacts to dens.

8. Active bat colonies were identified at a large atypical arch culvert (anticipated to remain) and a retaining wall cap within an on-ramp of Loop 1604 (may require removal) (see the Tier 1 Site Assessment and BEF Supplemental Attachments for more information [TxDOT 2020d, 2020e]). TPWD recommends that any work at either location be performed outside of the young rearing period between May to October to avoid impacts to bats, particularly when young bats are non-volant.
9. EO 13112 on Invasive Species: In accordance with EO 13112 on Invasive Species, the Executive Memorandum on Beneficial Landscaping, and the 1999 FHWA guidance on invasive species, all revegetation would, to the extent practicable, use only native species. Upon completion of earthwork activities, disturbed areas would be reseeded according to TxDOT specifications and in compliance with EO 13112, where applicable.
10. Executive Memorandum on Beneficial Landscaping: The Executive Memorandum directs that where cost-effective and to the extent practicable, agencies would:
    a. use regionally native plants for landscaping
    b. design, use, or promote construction practices that minimize adverse effects on the natural habitat
    c. seed to prevent pollution by, among other things, reducing fertilizer and pesticide use
    d. implement water-efficient and runoff reduction practices
    e. create demonstration projects employing these practices

11. MBTA: Measures would be taken to avoid the take of migratory birds, their occupied nests, eggs, or young, in accordance with the Migratory Bird Treaty Act, through phasing of work or preventative measures.
12. Surveys for Texas seymeria (*Seymeria texana*): TxDOT will survey for this plant species in potential habitat within the easements to confirm presence or absence prior to disturbance or construction.
13. In the event that unanticipated archeological deposits are encountered during construction, work in the immediate area will cease, and TxDOT archeological staff will be contacted to initiate post-review discovery procedures.
14. Any unanticipated hazardous materials and/or petroleum contamination encountered during construction would be handled according to applicable federal and state regulations per TxDOT Standard Specifications.
15. Implementation of fugitive dust control measures.
16. The traffic noise analysis will be made available to local officials. Further evaluation of feasible and reasonable noise barriers would be performed in accordance with TxDOT policy.
17. TxDOT environmental personnel would coordinate with the engineers preparing the detailed plans, specifications and estimates (PSE) to ensure that all environmental issues, permits, and commitments are incorporated into the project.
18. TxDOT would provide written directions and training to the contractor on mitigation requirements applicable to the contractor, including compliance with applicable permits and requirements of the USFWS. There are numerous requirements particularly regarding the discovery of manmade or geologic features that may be sensitive under 30 TAC 213.

All project environmental studies would be reviewed during detailed design to ensure that commitments made by these studies are incorporated into the project.

9.0 Conclusion

The engineering, social, economic, and environmental investigations conducted thus far indicate that implementation of the proposed project would result in no significant impacts on the human or natural environment. A FONSI is recommended.

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———. 2020l. *Occupied Karst Habitat Avoidance and Minimization Technical Memorandum: Loop 1604 from SH 16 to I-35, Bexar County, Texas*. Prepared for the TxDOT Environmental Affairs Division. Prepared by AECOM. June 2020.

———. 2020m. *Biological Assessment: Loop 1604 from SH 16 to I-35, Bexar County, Texas*. Prepared for the TxDOT Environmental Affairs Division. Prepared by AECOM. June 2020.

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Appendix A: Project Location Map

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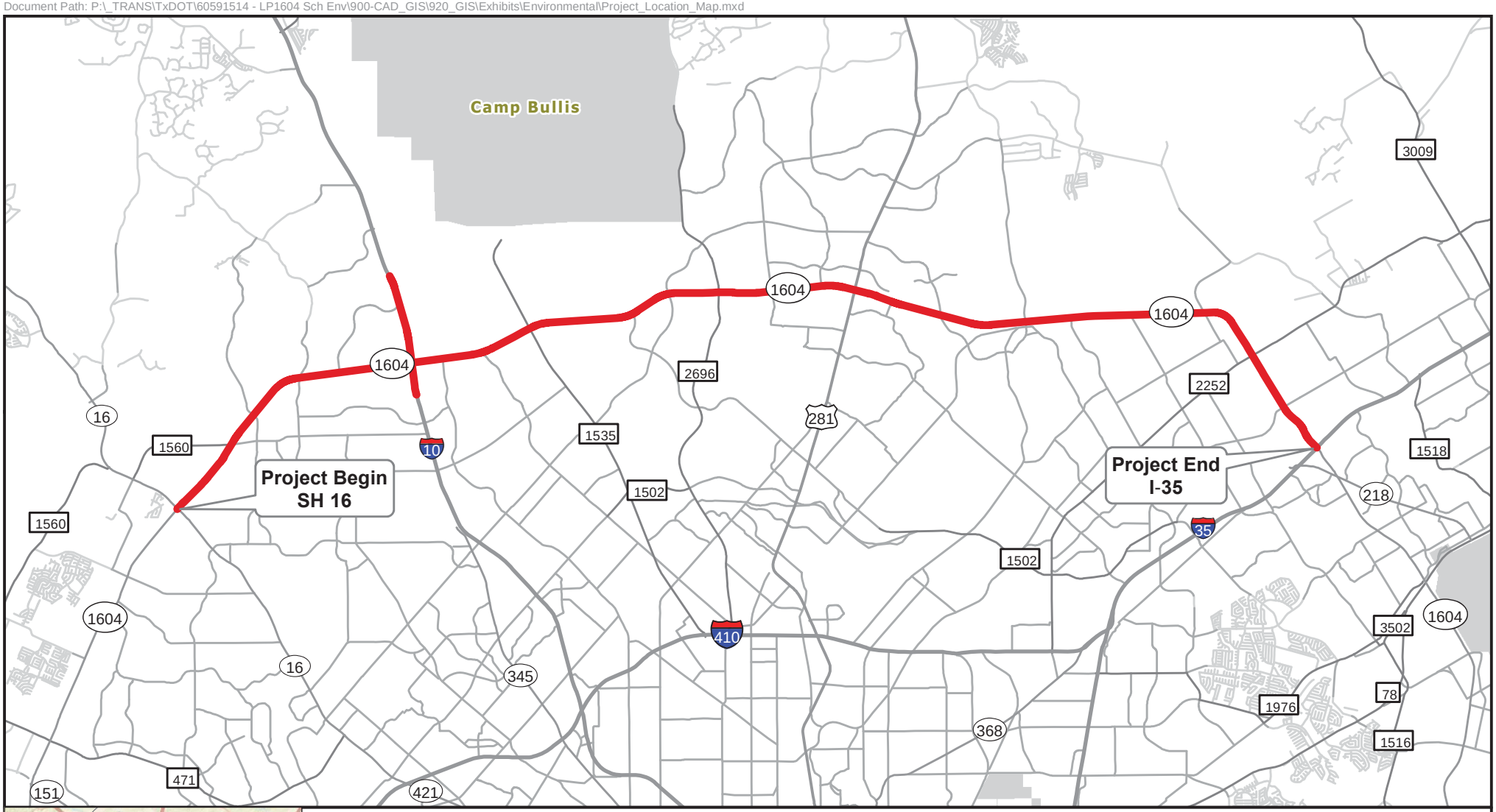
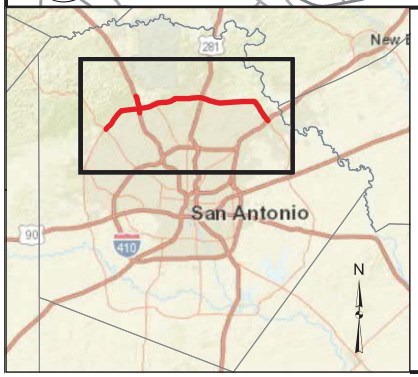




Legend

Project Location

Appendix A
Project Location Map
Loop 1604 from SH 16 to I-35

N

0 1.25 2.5 Miles

Texas Department of Transportation

Appendix B: Project Photos

Photo 1: Western terminus of the project area at the Loop 1604 eastbound frontage road, facing southwest.

Photo 2: Western terminus of the project area at the Loop 1604 eastbound frontage road, facing northeast.

Photo 3: View of the I-10/De Zavala Road intersection from the I-10 southbound frontage road, facing south.

Photo 4: Eastern terminus of the project area along Loop 1604 eastbound frontage road, facing east.

Photo 5: Example of discontinuous nature of sidewalks along Loop 1604, located west of intersection with Bulverde Boulevard, view facing west.

Photo 6: The UTSA campus from the intersection of Brenan Avenue and Tobin Avenue, facing south.

Photo 7: Six Flags Fiesta Texas from Fiesta Texas Drive, facing west. A major theme park located within the community study area. Located north of Loop 1604 immediately west of I-10.

Appendix C: Project Schematic

Texas Department of Transportation
© 2019 TxDOT

AECOM
AECOM Technical Services Inc.-3580
19219 KATY FREEWAY
SUITE 100
HOUSTON, TX 77094

FROM:
TO:

SCHEMATIC

LOOP 1604

SCALE: 1" = 100 FT HOR

1 / 22

FILE NAME:

TEXAS DEPARTMENT OF TRANSPORTATION

SCHEMATIC LAYOUT
LOOP 1604
BEXAR COUNTY

OFFICE OF THE DISTRICT ENGINEER
SAN ANTONIO, TEXAS

CONTROL: 2452 SECTION: 02 JOB: 083
CONTROL: 2452 SECTION: 03 JOB: 113
CONTROL: 2452 SECTION: 03 JOB: 087

LOOP 1604:

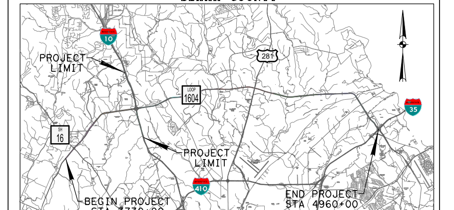
LIMITS: FROM SH 16 TO I-35
LENGTH: 22 MILES
FUNCTIONAL CLASS: FREEWAY
E_{max} = 6%
DESIGN SPEEDS:
MAINLANES - 60 MPH
DIRECT CONNECTORS - 45 MPH
COLLECTOR-DISTRIBUTOR ROADS - 45 MPH
RAMPS - 45 MPH
FRONTAGE ROADS - 40 MPH

IH 10:

LIMITS: FROM CAMP BULLIS BLVD TO DE ZAVALA RD
LENGTH: 4.4 MILES
FUNCTIONAL CLASS: INTERSTATE

PRELIMINARY
DOCUMENT IS FOR INTERIM REVIEW AND NOT INTENDED FOR CONSTRUCTION BIDDING, OR PERMIT PURPOSES.
ENGINEER: INAS AWEIDAH
P.E. SERIAL No.: 69086
DATE: 2/28/2020

LP1604 SAN ANTONIO, TEXAS
BEXAR COUNTY



PROJECT LOCATION MAP
NTS

CONCURRENCE: ____________________, 2020

APPROVED: TXDOT DESIGN DIVISION LETTER

APPROVED: FHWA LETTER DATED

SUBMITTED FOR APPROVAL: ____________________, 2020

TRANSPORTATION PLANNING DIRECTOR

APPROVED: ____________________, 2020

DIRECTOR OF TRANSPORTATION PLANNING AND DEVELOPMENT

APPROVED: ____________________, 2020

DISTRICT ENGINEER

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TEXAS DEPARTMENT OF TRANSPORTATION

SCHEMATIC LAYOUT

LOOP 1604

BEXAR COUNTY

OFFICE OF THE DISTRICT ENGINEER

SAN ANTONIO, TEXAS

CONTROL: 2452 SECTION: 02 JOB: 083
CONTROL: 2452 SECTION: 03 JOB: 113
CONTROL: 2452 SECTION: 03 JOB: 087

LOOP 1604:

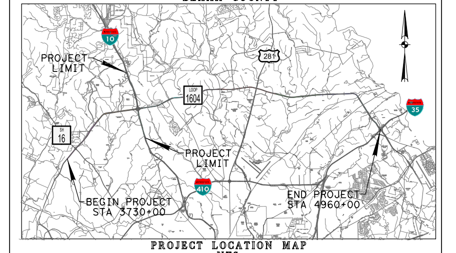
LIMITS: FROM SH 16 TO I-35
LENGTH: 22 MILES
FUNCTIONAL CLASS: FREEWAY
E_{max} = 6%
DESIGN SPEEDS:
MAINLANES - 60 MPH
DIRECT CONNECTORS - 45 MPH
COLLECTOR-DISTRIBUTOR ROADS - 45 MPH
RAMPS - 45 MPH
FRONTAGE ROADS - 40 MPH

IH 10:

LIMITS: FROM CAMP BULLIS BLVD TO DE ZAVALA RD
LENGTH: 4.4 MILES
FUNCTIONAL CLASS: INTERSTATE

PRELIMINARY
DOCUMENT IS FOR INTERIM REVIEW AND NOT INTENDED FOR CONSTRUCTION BIDDING, OR PERMIT PURPOSES.
ENGINEER: INAS AWEIDAH
P.E. SERIAL No.: 69086
DATE: 2/28/2020

LP1604 SAN ANTONIO, TEXAS
BEXAR COUNTY



PROJECT LOCATION MAP
NTS

CONCURRENCE: ______________________, 2020

APPROVED: TXDOT DESIGN DIVISION LETTER

APPROVED: FHWA LETTER DATED

SUBMITTED FOR APPROVAL: ______________________, 2020

TRANSPORTATION PLANNING DIRECTOR

APPROVED: ______________________, 2020

DIRECTOR OF TRANSPORTATION PLANNING AND DEVELOPMENT

APPROVED: ______________________, 2020

DISTRICT ENGINEER

Texas Department of Transportation ©2019 TxDOT

AECOM Technical Services Inc.- 3580
19219 KATY FREEWAY
SUITE 100
HOUSTON, TX 77094

FROM:
TO:

SCHEMATIC

LOOP 1604

SCALE: 1" = 100 FT HOR

2 / 22

FILE NAME:

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TEXAS DEPARTMENT OF TRANSPORTATION

SCHEMATIC LAYOUT

LOOP 1604

BEXAR COUNTY

OFFICE OF THE DISTRICT ENGINEER

SAN ANTONIO, TEXAS

CONTROL: 2452 SECTION: 02 JOB: 083
CONTROL: 2452 SECTION: 03 JOB: 113
CONTROL: 2452 SECTION: 03 JOB: 087

LOOP 1604:

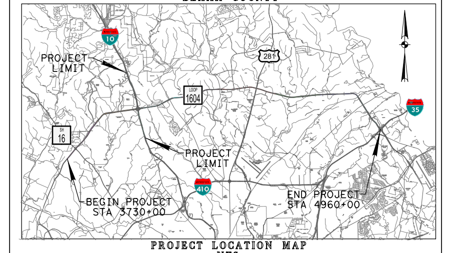
LIMITS: FROM SH 16 TO I-35
LENGTH: 22 MILES
FUNCTIONAL CLASS: FREEWAY
E_{max} = 6%
DESIGN SPEEDS:
MAINLANES - 60 MPH
DIRECT CONNECTORS - 45 MPH
COLLECTOR-DISTRIBUTOR ROADS - 45 MPH
RAMPS - 45 MPH
FRONTAGE ROADS - 40 MPH

IH 10:

LIMITS: FROM CAMP BULLIS BLVD TO DE ZAVALA RD
LENGTH: 4.4 MILES
FUNCTIONAL CLASS: INTERSTATE

PRELIMINARY
DOCUMENT IS FOR INTERIM REVIEW AND NOT INTENDED FOR CONSTRUCTION BIDDING, OR PERMIT PURPOSES.
ENGINEER: INAS AWEIDAH
P.E. SERIAL No.: 69086
DATE: 2/28/2020

LP1604 SAN ANTONIO, TEXAS
BEXAR COUNTY



PROJECT LOCATION MAP
NTS

CONCURRENCE: ______________________, 2020

APPROVED: TXDOT DESIGN DIVISION LETTER

APPROVED: FHWA LETTER DATED

SUBMITTED FOR APPROVAL: ______________, 2020

TRANSPORTATION PLANNING DIRECTOR

APPROVED: ______________________, 2020

DIRECTOR OF TRANSPORTATION PLANNING AND DEVELOPMENT

APPROVED: ______________________, 2020

DISTRICT ENGINEER

Texas Department of Transportation
© 2019 TxDOT

AECOM
AECOM Technical Services Inc.- 3580
19219 KATY FREEWAY
SUITE 100
HOUSTON, TX 77094

FROM:
TO:

SCHEMATIC

LOOP 1604

SCALE: 1" = 100 FT HOR

3 / 22

FILE NAME:

TEXAS DEPARTMENT OF TRANSPORTATION

SCHEMATIC LAYOUT

LOOP 1604

BEXAR COUNTY

OFFICE OF THE DISTRICT ENGINEER

SAN ANTONIO, TEXAS

CENTERLINE BEG	SECTION 01	JOB 500
CENTERLINE END	SECTION 01	JOB 500
CENTERLINE BEG	SECTION 02	JOB 501
CENTERLINE END	SECTION 02	JOB 501

LOOP 1604

LENGTH PROJ ON ALL 0.00 (MI)

LENGTH ON BRIDGE

PROTECTIVELY FLOOD PROOFED

BRIDGE

BRIDGE LENGTH 0.00

BRIDGE CONSTRUCTION 0.00

DIRECT CONSTRUCTION 0.00

DIRECT CONSTRUCTION BRIDGE 0.00

BRIDGE 0.00

PRESTRESS BRIDGE 0.00

DR 16

LENGTH PROJ (LOOP ROLLS BACK TO DR EXTRA) 00

BRIDGE 0.00

HISTORICAL FLOOD OCCURRENCE

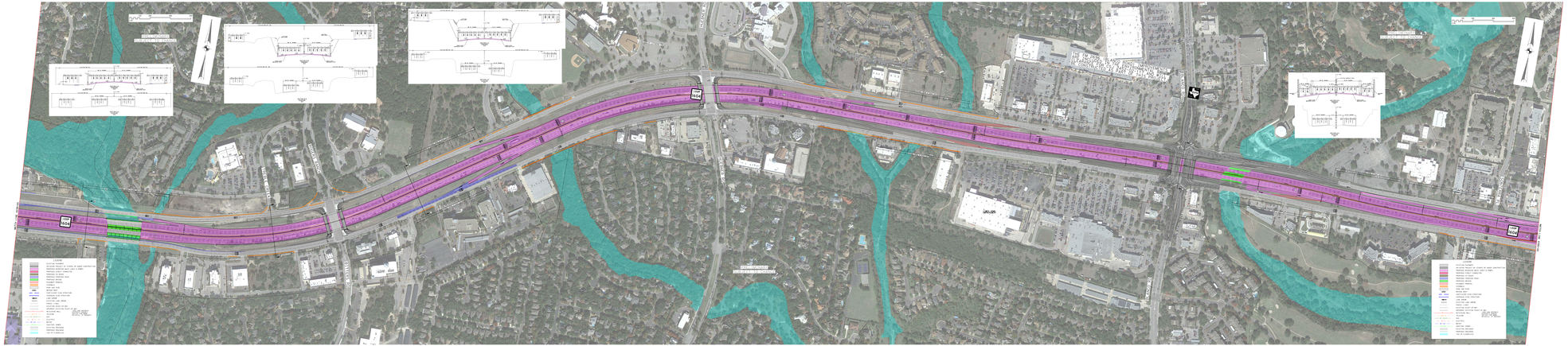
PRELIMINARY

DOCUMENT IS FOR INTERIM REVIEW AND COORDINATION PURPOSES ONLY. NOT FOR BIDDING OR RIGHT-OF-WAY PURPOSES.

ENGINEER: JAMES AMESCUA

P.E. SERIAL NO.: 108086

DATE: 2/26/2020



CHALKBOARD: _____, 2020

APPROVED "FAST DESIGN DIVISION LETTER

APPROVED FHWA LETTER DATED

SUBMITTED FOR APPROVAL: _____, 2020

TRANSPORTATION PLANNING DIRECTOR

APPROVAL: _____, 2020

DIRECTOR OF TRANSPORTATION PLANNING AND DEVELOPMENT

APPROVAL: _____, 2020

DISTRICT ENGINEER

SCHEMATIC

LOOP 1604

SCHEMATIC

LOOP 1604

AECOM

Texas Department of Transportation

AECOM

Texas Department of Transportation

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AECOM
AECOM Technical Services Inc.- 3580
19219 KATY FREEWAY
SUITE 100
HOUSTON, TX 77094

FROM:
TO:

SCHEMATIC

LOOP 1604

SCALE: 1" = 100 FT HOR

5 / 22

FILE NAME:

TEXAS DEPARTMENT OF TRANSPORTATION

SCHEMATIC LAYOUT
LOOP 1604
BEXAR COUNTY

OFFICE OF THE DISTRICT ENGINEER
SAN ANTONIO, TEXAS

CONTROL: 2452 SECTION: 02 JOB: 083
CONTROL: 2452 SECTION: 03 JOB: 113
CONTROL: 2452 SECTION: 03 JOB: 087

LOOP 1604:

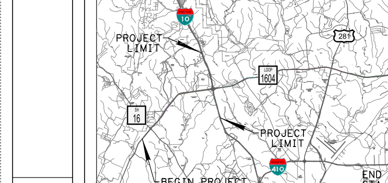
LIMITS: FROM SH 16 TO I-35
LENGTH: 22 MILES
FUNCTIONAL CLASS: FREEWAY
E_{max} = 6%
DESIGN SPEEDS:
MAINLANES - 60 MPH
DIRECT CONNECTORS - 45 MPH
COLLECTOR-DISTRIBUTOR ROADS - 45 MPH
RAMPS - 45 MPH
FRONTAGE ROADS - 40 MPH

IH 10:

LIMITS: FROM CAMP BULLIS BLVD TO DE ZAVALA RD
LENGTH: 4.4 MILES
FUNCTIONAL CLASS: INTERSTATE

PRELIMINARY
DOCUMENT IS FOR INTERIM REVIEW AND NOT INTENDED FOR CONSTRUCTION BIDDING, OR PERMIT PURPOSES.
ENGINEER: INAS AWEIDAH
P.E. SERIAL No.: 69086
DATE: 2/28/2020

LP1604 SAN ANTONIO, TEXAS
BEXAR COUNTY



PROJECT LOCATION MAP
NTS

CONCURRENCE: ____________________, 2020

APPROVED: TXDOT DESIGN DIVISION LETTER

APPROVED: FHWA LETTER DATED

SUBMITTED FOR APPROVAL: ____________________, 2020

TRANSPORTATION PLANNING DIRECTOR

APPROVED: ____________________, 2020

DIRECTOR OF TRANSPORTATION PLANNING AND DEVELOPMENT

APPROVED: ____________________, 2020

DISTRICT ENGINEER

c:\pwworking\aecom*ds16*na\joe.gillis@aecom.com\d0460663\Pub 2/28/2020 .dgn 1:50:21 PM

TEXAS DEPARTMENT OF TRANSPORTATION

SCHEMATIC LAYOUT
LOOP 1604
BEXAR COUNTY

OFFICE OF THE DISTRICT ENGINEER
SAN ANTONIO, TEXAS

CONTROL: 2452	SECTION: 02	JOB: 083
CONTROL: 2452	SECTION: 03	JOB: 113
CONTROL: 2452	SECTION: 03	JOB: 087

LOOP 1604:

LIMITS: FROM SH 16 TO I-35
LENGTH: 22 MILES
FUNCTIONAL CLASS: FREEWAY
E_{max} = 6%
DESIGN SPEEDS:
MAINLANES - 60 MPH
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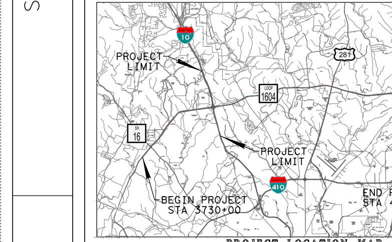
FRONTAGE ROADS - 40 MPH

IH 10:

LIMITS: FROM CAMP BULLIS BLVD TO DE ZAVALA RD
LENGTH: 4.4 MILES
FUNCTIONAL CLASS: INTERSTATE

PRELIMINARY
DOCUMENT IS FOR INTERIM REVIEW AND NOT INTENDED FOR CONSTRUCTION BIDDING, OR PERMIT PURPOSES.
ENGINEER: INAS AWEIDAH
P.E. SERIAL No.: 69086
DATE: 2/28/2020

LP1604 SAN ANTONIO, TEXAS
BEXAR COUNTY



PROJECT LOCATION MAP
NTS

CONCURRENCE: ____________________, 2020

APPROVED: TXDOT DESIGN DIVISION LETTER

APPROVED: FHWA LETTER DATED

SUBMITTED FOR APPROVAL: ____________________, 2020

TRANSPORTATION PLANNING DIRECTOR

APPROVED: ____________________, 2020

DIRECTOR OF TRANSPORTATION PLANNING AND DEVELOPMENT

APPROVED: ____________________, 2020

DISTRICT ENGINEER

Texas Department of Transportation © 2019 TxDOT

AECOM
AECOM Technical Services Inc.-3580
19219 KATY FREEWAY
SUITE 100
HOUSTON, TX 77094

FROM:
TO:

SCHEMATIC

LOOP 1604

SCALE: 1" = 100 FT HOR

FILE NAME: c:\pwworking\aecom*ds16*na\joe.gillis@aecom.com\d0460663\PLB6.2020...06.dgn 2:42:11 PM

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AECOM Technical Services Inc.- 3580
19219 KATY FREEWAY
SUITE 100
HOUSTON, TX 77094

TEXAS DEPARTMENT OF TRANSPORTATION

SCHEMATIC LAYOUT

LOOP 1604

BEXAR COUNTY

OFFICE OF THE DISTRICT ENGINEER

SAN ANTONIO, TEXAS

CONTROL: 2452 SECTION: 02 JOB: 083
CONTROL: 2452 SECTION: 03 JOB: 113
CONTROL: 2452 SECTION: 03 JOB: 087

LOOP 1604:

LIMITS: FROM SH 16 TO I-35
LENGTH: 22 MILES
FUNCTIONAL CLASS: FREEWAY
E_{max} = 6%
DESIGN SPEEDS:
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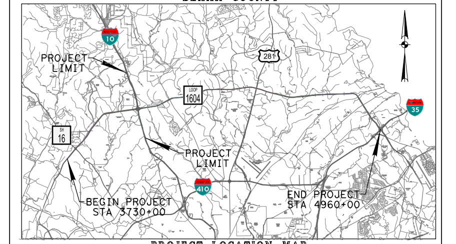
COLLECTOR-DISTRIBUTOR ROADS - 45 MPH
RAMPS - 45 MPH
FRONTAGE ROADS - 40 MPH

IH 10:

LIMITS: FROM CAMP BULLIS BLVD TO DE ZAVALA RD
LENGTH: 4.4 MILES
FUNCTIONAL CLASS: INTERSTATE

PRELIMINARY
DOCUMENT IS FOR INTERIM REVIEW AND NOT INTENDED FOR CONSTRUCTION BIDDING, OR PERMIT PURPOSES.
ENGINEER: INAS AWEIDAH
P.E. SERIAL No.: 69086
DATE: 2/28/2020

LP1604 SAN ANTONIO, TEXAS
BEXAR COUNTY



PROJECT LOCATION MAP
NTS

CONCURRENCE: ____________________, 2020

APPROVED: TXDOT DESIGN DIVISION LETTER

APPROVED: FHWA LETTER DATED

SUBMITTED FOR APPROVAL: ____________________, 2020

TRANSPORTATION PLANNING DIRECTOR

APPROVED: ____________________, 2020

DIRECTOR OF TRANSPORTATION PLANNING AND DEVELOPMENT

APPROVED: ____________________, 2020

DISTRICT ENGINEER

FROM:
TO:

SCHEMATIC

LOOP 1604

SCALE: 1" = 100 FT HOR

7 / 22

FILE NAME:

c:\pwworking\aecom*ds16*na\joe.gillis@aecom.com\d0460663\

Texas Department of Transportation

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AECOM
AECOM Technical Services Inc.- 3580
19219 KATY FREEWAY
SUITE 100
HOUSTON, TX 77094

FROM:
TO:

TEXAS DEPARTMENT OF TRANSPORTATION

SCHEMATIC LAYOUT
LOOP 1604
BEXAR COUNTY

OFFICE OF THE DISTRICT ENGINEER
SAN ANTONIO, TEXAS

CONTROL: 2452 SECTION: 02 JOB: 083
CONTROL: 2452 SECTION: 03 JOB: 113
CONTROL: 2452 SECTION: 03 JOB: 087

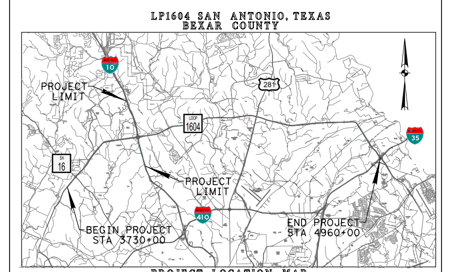
LOOP 1604:

LIMITS: FROM SH 16 TO I-35
LENGTH: 22 MILES
FUNCTIONAL CLASS: FREEWAY
E_{max} = 6%
DESIGN SPEEDS:
MAINLANES - 60 MPH
DIRECT CONNECTORS - 45 MPH
COLLECTOR-DISTRIBUTOR ROADS - 45 MPH
RAMPS - 45 MPH
FRONTAGE ROADS - 40 MPH

IH 10:

LIMITS: FROM CAMP BULLIS BLVD TO DE ZAVALA RD
LENGTH: 4.4 MILES
FUNCTIONAL CLASS: INTERSTATE

PRELIMINARY
DOCUMENT IS FOR INTERIM REVIEW AND NOT INTENDED FOR CONSTRUCTION BIDDING, OR PERMIT PURPOSES.
ENGINEER: INAS AWEIDAH
P.E. SERIAL No.: 69086
DATE: 2/28/2020



PROJECT LOCATION MAP
NTS

CONCURRENCE: ________________, 2020

APPROVED: TXDOT DESIGN DIVISION LETTER

APPROVED: FHWA LETTER DATED

SUBMITTED FOR APPROVAL: ________________, 2020

TRANSPORTATION PLANNING DIRECTOR

APPROVED: ________________, 2020

DIRECTOR OF TRANSPORTATION PLANNING AND DEVELOPMENT

APPROVED: ________________, 2020

DISTRICT ENGINEER

SCHEMATIC

LOOP 1604

SCALE: 1" = 100 FT HOR

8 / 22

FILE NAME:

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TEXAS DEPARTMENT OF TRANSPORTATION

SCHEMATIC LAYOUT

LOOP 1604

BEXAR COUNTY

OFFICE OF THE DISTRICT ENGINEER

SAN ANTONIO, TEXAS

CONTROL-SEC SECTION-01 JOB-00
CONTROL-SEC SECTION-02 JOB-00
CONTROL-SEC SECTION-03 JOB-00

LOOP 1604

LENGTH FROM BEG TO END
LENGTH OF BRIDGE
PROTOTYPICAL FLOOR PROPERTY
NO. OF LANES
RADIUS MINIMUM
DESIGN SPEED 70 MPH
GRADE CONSTRUCTED: 0 MPH
GRADE PRESENT CONSTRUCTION BASIS: 0 MPH
SLOPE: 0 MPH
PRESENT BASIS: 0 MPH

DR 15

LENGTH FROM LIMIT BEGIN PATH TO DR EXTLS: 00
DR EXTLS: 00
PROTOTYPICAL FLOOR DIMENSIONS

PRELIMINARY

DOCUMENT IS FOR INTERIM REVIEW AND COORDINATION PURPOSES ONLY. NOT FOR BIDDING OR PERMIT PURPOSES.

ENGINEER: JOHN AMERSON
P.E. NUMBER: 99996
DATE: 2/26/2020

LEGEND FOR SCHEMATIC TEXAS
DEPARTMENT OF TRANSPORTATION

CHALLENGING _____, 2020

APPROVED "DRAFT" DESIGN DIVISION LETTER

APPROVED FHWA LETTER DATED

SUBMITTED FOR APPROVAL: _____, 2020

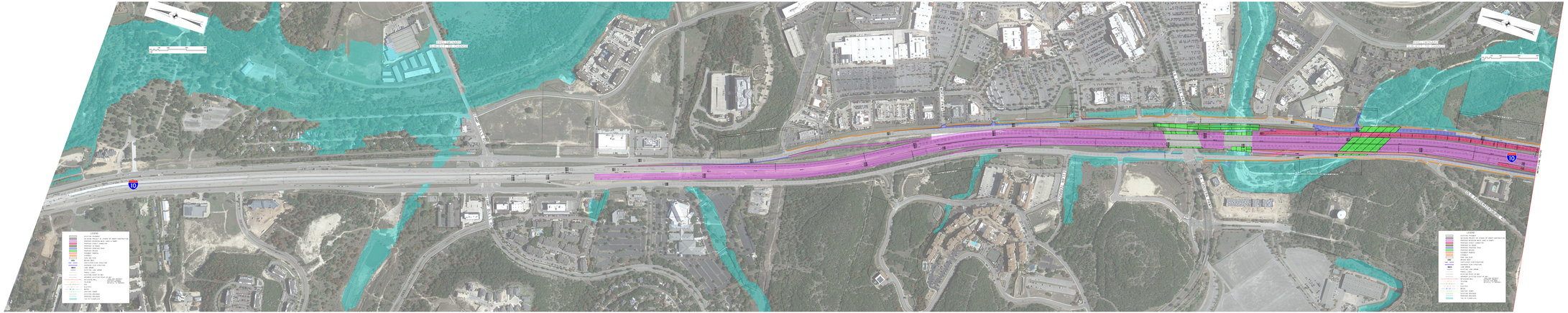
TRANSPORTATION PLANNING DIRECTOR

APPROVAL: _____, 2020

DIRECTOR OF TRANSPORTATION PLANNING AND DEVELOPMENT

APPROVAL _____, 2020

DISTRICT ENGINEER



AECOM

TxDOT Standard Sheet Number
Sheet Number
Total Sheets in Set
Sheet Number
Total Sheets in Set
SCHEMATIC
LOOP 1604

TEXAS DEPARTMENT OF TRANSPORTATION

SCHEMATIC LAYOUT

LOOP 1604

BEXAR COUNTY

OFFICE OF THE DISTRICT ENGINEER

SAN ANTONIO, TEXAS

CONTROL-SEC SECTION-01 LOOP-1604
CONTROL-SEC SECTION-02 LOOP-1604
CONTROL-SEC SECTION-03 LOOP-1604

LOOP 1604

LENGTH FROM BEG TO END = 0.000
LENGTH IN MILES = 0.000
HISTORICAL FLOW PROHIBIT
NONE
MAXIMUM GRADE = 0.000
MINIMUM GRADE = 0.000
GRADE CHECKPOINTS: 0 NEG
MINIMUM VERTICAL CLEARANCE = NONE
SLOPE = 0.000
PROFILE GRADE = 0.000

DC 15

LENGTH FROM LOOP BEGIN MATH TO DC LATLG. DC
LENGTH = 0.000
HISTORICAL FLOW STRENGTH

PRELIMINARY

DOCUMENT IS FOR INTERIM REVIEW AND COMMENT ONLY. NOT FOR BIDDING OR ISSUANCE FOR PERMIT PURPOSES.

ENGINEER: JOHN ANDERSON
P.E. SERIAL No.: 105081
DATE: 2/26/2020

CALCULATED: _____ 2020

APPROVED "FIRST" DESIGN DIVISION LETTER

APPROVED "FINAL LETTER DATED

SUBMITTED FOR APPROVAL: _____ , 2020

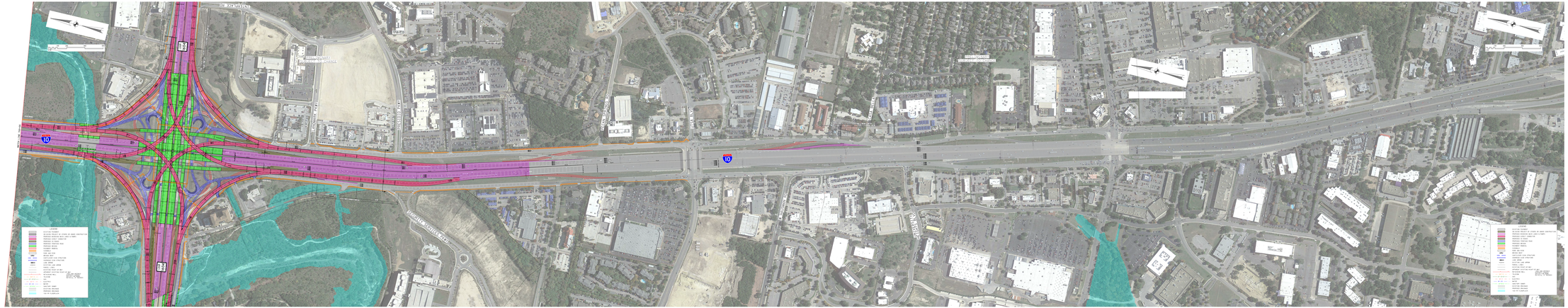
TRANSPORTATION PLANNING DIRECTOR

APPROVAL: _____ 2020

DIRECTOR OF TRANSPORTATION PLANNING AND DEVELOPMENT

APPROVAL: _____ , 2020

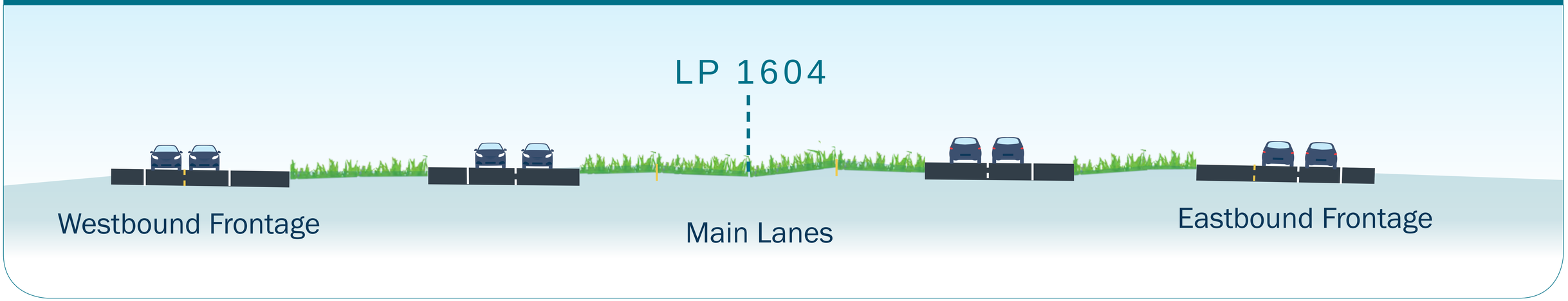
DISTRICT ENGINEER



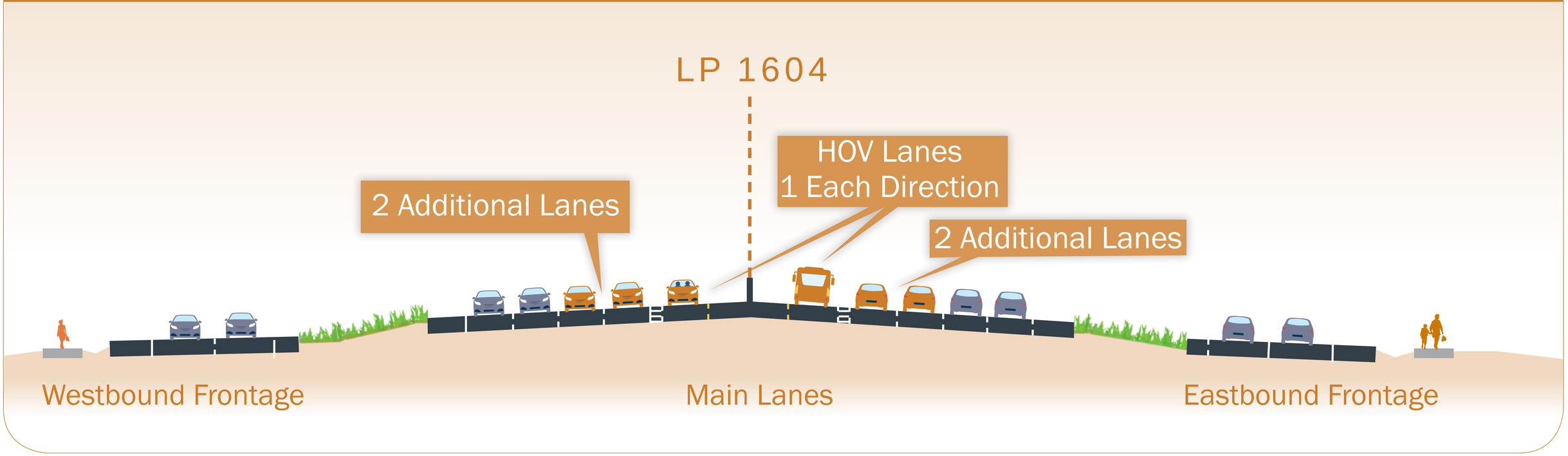
Appendix D: Existing and Proposed Typical Sections

Loop 1604 Typical Sections

Existing Typical Section



Proposed Typical Section



Appendix E: Plan and Program Excerpts

MTP

Regionally Significant Project List
January 27, 2020

MPO Number	Roadway Name	Limit From	Limit To	Project Description	2017 Main Lanes	2024 Main Lanes	2025 Main Lanes	2035 Main Lanes	2045 Main Lanes	2017 FR Lanes	2024 FR Lanes	2025 FR Lanes	2035 FR Lanes	2045 FR Lanes	Phase	Network Years
61.2	IH 35 North	IH 410 S	IH 410 N	Expand from 8 ln to 14 ln expy - add 6 new express lanes incl 2 HOV-special use lns, & from 4/6 to 4/6 FR lanes & DCs at IH 410 S & IH 410 N; 1 lane DC: NB 35 to WB 410N; 2 lane DC: NB 410S to NB 35; SB 35 to SB 410S; EB 410N to SB 35	8	8	8	14	14	4/6	4/6	4/6	4/6	4/6	C	2035,2045
2020	Loop 1604	US 90	West Military Dr.	Expand 4 to 6 lane expressway & from 4 to 4 FR lanes	4	4	4	6	6	4	4	4	4	4	C	2035,2045
3153	SH 211 (TX Research Pkwy)	FM 1957 (Potranco Rd), N 2.9 Mi	Medina County Line	Construct two lane rural highway on new location	0	0	2	2	2	0	0	0	0	0	C	2025,2035,2045
3154	SH 211 (TX Research Pkwy)	Medina Co. Line, 4.5 Mi N of FM 1957, N	Medina Co. Line, 2.0 Mi S of FM 471	Construct two lane rural highway on new location	0	0	2	2	2	0	0	0	0	0	C	2025,2035,2045
3477	IH 35	IH 410 N	Guadalupe/Bexar County Line	Expand from 8 ln to 14 ln expy - add 6 new express lanes - incl 2 HOV-special use lns, & from 4/6 to 4/6 FR lanes & DCs @ IH 410N & LP 1604; 1 lane DC: NB 35 to WB 1604; EB 1604 to SB 35;2 lane DC: SB 35 to WB 1604; EB 1604 to NB 35; EB 410N to NB 35;SB 35 to WB 410N	8	14	14	14	14	4/6	4/6	4/6	4/6	4/6	C	2024,2025,2035,2045
3514	IH 35 North	US 281/IH 37, East	IH 410 S	Expand from 6 lane to 10 lane expy - add 4 new express lanes including 2 HOV - special use lanes & from 6 to 6 FR lanes	6	6	6	6	10	6	6	6	6	6	C	2045
3530	Loop 1604	Redland Road	IH 35 North	Expand from 4 to 10 lane expressway - including 4 General Purpose and 2 HOV - special use lanes & from 4 to 4 FR lanes;	4	4	4	10	10	4	4	4	4	4	E,C	2035,2045
3786	Loop 1604	US 281	Redland Road	Expand from 4 to 10 lane expressway - including 2 HOV-special use lanes & from 4 to 4 FR lanes	4	10	10	10	10	4	4	4	4	4	C	2024,2025,2035,2045
3911	Loop 1604	West Military Drive	Braun Rd	Expand 4 to 6 lane expressway & from 4/6 to 4/6 FR lanes, including direct connectors at SH 151 - NB 1604 to EB 151; WB 151 to SB 1604	4	4	4	6	6	4/6	4/6	4/6	4/6	4/6	C	2035,2045
3912	Loop 1604	Braun Rd	SH 16	Expand 4 to 8 lane expressway and from 6 to 6 FR lanes	4	4	4	8	8	6	6	6	6	6	C	2035,2045
3913	Loop 1604	SH 16	IH 10	Expand from 4 to 10 lane expressway - including 2 HOV-special use lanes, & from 4 to 4 FR lanes; Reference #4049 and #5556 (in TIP/MTP)	4	4	10	10	10	4	4	4	4	4	C	2025,2035,2045
3988	Bulverde Road	Marshall Road	Wilderness Oak	Reconstruct and expand from 2 to 4 lanes with shoulder, pedestrian ramps, curb, bridge construction and drainage improvements	2	4	4	4	4	0	0	0	0	0	C	2024,2025,2035,2045
4049	SL 1604	IH 10	US 281	Expand from 4 to 10 lane expy - including 2 HOV special use lanes; from 4 to 4 frontage roads; 10/19 - add project; spin off of 2452-02-083 (MPO #3913); no impact to conformity	4	4	10	10	10	4	4	4	4	4	C	2025,2035,2045
5309	FM 1518	FM 78	IH 10 E	Expand from 2 to 4 lanes with raised median or center turn lane, bike lanes and sidewalks	2	2	2	4	4	0	0	0	0	0	C	2035,2045
5310	NW Military Highway	Shavano Ranch Road	Lp 1604	Expand from 2 to 4 lanes with raised median, or center turn lane, bike lanes and sidewalks	2	4	4	4	4	0	0	0	0	0	C	2024,2025,2035,2045
5315	Wurzbach Parkway	Lockhill Selma Road	FM 1535-NW Military	Expand 4 to 6 lanes divided & intersection operational improvements including new turn lanes and improved signal operation at FM 1535	4	6	6	6	6	0	0	0	0	0	C	2024,2025,2035,2045
5317	Blanco Road	West Oak Estates	Borgfeld Rd	Expand from a 2 to 4 lane divided roadway with raised median, bike lanes, sidewalks, curbs and drainage	2	4	4	4	4	0	0	0	0	0	C	2024,2025,2035,2045
5329	FM 2252	Evans Road	Comal/Bexar County Line	Expand from 2 lanes to 4 lanes with raised median or continuous left turn lane, bike lanes and sidewalk	2	4	4	4	4	0	0	0	0	0	C	2024,2025,2035,2045
5330.2	FM 3351	Comal/Bexar County Line	IH 10	Expand 2 to 4 lanes with turn lanes, bike lanes & sidewalks	2	2	4	4	4	0	0	0	0	0	C	2025,2035,2045
5372	Loop 410	Ingram Rd	US 90	Expand from 8 to 10 lanes from Ingram to 151 & 6 to 8 lanes from 151 to 90 - add 2 new lanes, & from 6 to 6 FR lanes; reconstruct SH 151 interchange - NB 410 to WB 151 & EB 151 to SB 410	6/8	8/10	8/10	8/10	8/10	6	6	6	6	6	C	2024,2025,2035,2045
5377	FM 471	Old FM 471	Medina County Line	Expand 2 to 4 lane divided with bike lanes and sidewalks	2	4	4	4	4	0	0	0	0	0	C	2024,2025,2035,2045
5379	FM 1516	FM 78	IH 10	Expand 2 to 4 lane divided with bike lanes and sidewalks	2	2	4	4	4	0	0	0	0	0	C	2025,2035,2045
5380	US 90	SH 211	0.8 Miles W of IH 410	Expand from 4 lane divided to 6 lane expressway and 4 FR lanes (LP 1604 to SH 211) - 1 lane DC - SB 1604 to WB 90; NB 1604 to EB 90; NB 1604 to WB 90; EB 90 to NB 1604 & EB 90 to SB 1604; 2 lane DC: WB 90 to NB 1604 & WB 90 to SB 1604	4	4	4	6	6	0	0	0	4	4	C	2035,2045
5381	US 90	0.8 Miles W of IH 410	IH 410	Expand from 4 lane divided to 6 lane expressway and from 4 to 4 FR lanes	4	4	4	6	6	4	4	4	4	4	C	2035,2045
5382	SH 151	LP 1604	IH 410	Expand from 4 lane to 6 lane expressway and from 4/6 to 4/6 FR lanes, with WB 151 to NB 1604 2 lane DC	4	4	6	6	6	4/6	4/6	4/6	4/6	4/6	C	2025,2035,2045
5386	SL 1604	0.38 Mi North of FM 1303	FM 1303	Expand from 2 lanes to 4 lanes divided	2	2	2	4	4	0	0	0	0	0	C	2035,2045
5387	SL 1604	US 87	US 181	Expand from 2 lanes to 4 lanes divided	2	2	2	4	4	0	0	0	0	0	C	2035,2045
5388	SL 1604	US 181	0.8 Mi North of FM 1303	Expand from 2 lanes to 4 lanes divided	2	2	2	4	4	0	0	0	0	0	C	2035,2045
5389	SL 1604	FM 1346- Houston Street	US 87	Expand from 2 lanes to 4 lanes divided	2	2	2	4	4	0	0	0	0	0	C	2035,2045
5396	IH 10	Graytown Rd	Guadalupe/Bexar County Line	Expand from 4 lane to 6 lane expressway and from 4 to 4 FR lanes	4	4	6	6	6	4	4	4	4	4	C	2025,2035,2045
5401	IH 10	Kendall/Bexar County Line	FM 3351	Expand from 4 to 8 lane expressway - 2 new general purpose, 2 new HOV lanes & from 4 to 4 FR lanes	4	4	4	8	8	4	4	4	4	4	C	2035,2045
5402	IH 410	US 90	IH 35 S	Exp fr 6 to 8 lns btwn US 90 & Valley Hi; frm 4 to 6 lns btwn Valley Hi & IH 35 S; frm 4/6 to 4/6 FR ln; construct all DCs at IH 35 S; all DCs are 1 lane; cloverleaf remains for FR connectivity	4/6	4/6	4/6	6/8	6/8	4/6	4/6	4/6	4/6	4/6	C	2035,2045
5408.1	Bulverde Road	Briar Crest	North of Quiet Meadow Street	Expand from 2 travel lanes and CTL to 4 travel lanes and CTL	2	4	4	4	4	0	0	0	0	0	C	2024,2025,2035,2045
5433	Evans Road	TPC Parkway/Dusty Canyon	Hanging Oak	Expand from 2 to 4 lanes with operational and drainage improvements	2	2	4	4	4	0	0	0	0	0	C	2025,2035,2045
5532	FM 2696 (Blanco Road)	Borgfeld	Bexar/Comal County Line	Expand from 2 to 4 lane divided roadway with a raised median, bike lanes, sidewalk, curbs and drainage	2	4	4	4	4	0	0	0	0	0	C	2024,2025,2035,2045
5549	SL 1604	IH 10 E.	Martinez Creek	Expand from 2 lanes to 4 lanes divided	2	4	4	4	4	0	0	0	0	0	C	2024,2025,2035,2045
5552	IH 10	Loop 1604	Graytown Rd	Expand from 4 lane to 6 lane expressway and from 4 to 4 FR lanes	4	6	6	6	6	4	4	4	4	4	C	2024,2025,2035,2045
5554	SL 1604	Martinez Creek	FM 1346 - Houston Street	Expand from 2 lanes to 4 lane divided	2	2	4	4	4	0	0	0	0	0	C	2025,2035,2045
5557	SL 1604	0.7 Mi North of FM 2536	Macdona-Lacoste Rd	Expand from 2 lanes to 4 lane divided	2	2	2	4	4	0	0	0	0	0	C	2035,2045
9107	SL 1604	FM 78	IH 10 East	Expand from 4 lane divided to 4 lane expressway	4	4	4	4	4	0	0	0	0	0	C	2035,2045
9110.1	Loop 1604	IH 35 S	0.7 Mi North of FM 2536	Expand from 2 lanes to 4 lane divided	2	2	2	4	4	0	0	0	0	0	C	2035,2045
9110.2	Loop 1604	Macdona-Lacoste Rd	US 90 W	Expand from 2 lanes to 4 lane divided	2	2	4	4	4	0	0	0	0	0	C	2025,2035,2045

TxDOT District	County	CSJ	Hwy	Phase	City	Project Sponsor	MPO Proj ID No.	Year of Expenditure Cost
15 - San Antonio	Bexar	2452-02-083	SL 1604	E	San Antonio	TxDOT	3913.2	$18,500,000

Limits From: SH 16
Limits To: IH 10
Last Revision Date: 11/2019
Description: Expand from 4 to 10 lane expressway - including 2 HOV-special use lanes, & from 4 to 4 FR lanes
Remarks: Reference #4049 and #5556

Total Project Cost Information (TxDOT %):

Preliminary Engineering:	$18,500,000
ROW Purchase:	$0
Construction Cost:	$185,500,000
Construction Engineering	$8,200,000
Contingencies:	$14,400,000
Indirect Costs:	$4,100,000
Other Field	$8,200,000
Total Project Cost:	$238,900,000

Cost of Approved Phases: $18,500,000
NOX lbs/day N/A
VOC lbs/day N/A
CMP Score N/A

Type of Work: Added Capacity: Non Toll Status: Add Cap

Authorized Funding by Category/Share

Funding Categories	Federal	State	Local	Local Contrib	Total
SBPE	$14,800,000	$3,700,000	$0	$0	$18,500,000
Other	$0	$0	$0	$0	$0
Other	$0	$0	$0	$0	$0
Other	$0	$0	$0	$0	$0
Totals	$14,800,000	$3,700,000	$0	$0	$18,500,000

15 - San Antonio	Medina	3544-03-002	SH 211	C	Other	BxCo	3152.0	$4,400,000

Limits From: Bexar C/L, 2.0 Mi S of FM 471, N
Limits To: FM 471 (Culebra Rd)
Last Revision Date: 11/2019
Description: Construct two lane rural highway on new location
Remarks:

Total Project Cost Information (TxDOT %):

Preliminary Engineering:	$233,193
ROW Purchase:	$1,100,000
Construction Cost:	$4,400,000
Construction Engineering	$214,157
Contingencies:	$309,338
Indirect Costs:	$241,283
Other Field	$0
Total Project Cost:	$6,497,971

Cost of Approved Phases: $4,400,000
NOX lbs/day N/A
VOC lbs/day N/A
CMP Score N/A

Type of Work: Added Capacity: Non Toll Status: Add Cap

Authorized Funding by Category/Share

Funding Categories	Federal	State	Local	Local Contrib	Total
3 - PTF	$0	$0	$0	$4,400,000	$4,400,000
Other	$0	$0	$0	$0	$0
Other	$0	$0	$0	$0	$0
Other	$0	$0	$0	$0	$0
Totals	$0	$0	$0	$4,400,000	$4,400,000

15 - San Antonio	Bexar	3544-04-002	SH 211	C	Other	BxCo	3153.0	$7,000,000

Limits From: FM 1957 (Potranco Rd), N 2.9 MI
Limits To: Medina County Line
Last Revision Date: 11/2019
Description: Construct two lane rural highway on new location
Remarks:

Total Project Cost Information (TxDOT %):

Preliminary Engineering:	$840,000
ROW Purchase:	$1,780,000
Construction Cost:	$7,000,000
Construction Engineering	$340,704
Contingencies:	$492,128
Indirect Costs:	$383,860
Other Field	$0
Total Project Cost:	$10,836,692

Cost of Approved Phases: $7,000,000
NOX lbs/day N/A
VOC lbs/day N/A
CMP Score N/A

Type of Work: Added Capacity: Non Toll Status: Add Cap

Authorized Funding by Category/Share

Funding Categories	Federal	State	Local	Local Contrib	Total
3 - PTF	$0	$0	$0	$7,000,000	$7,000,000
Other	$0	$0	$0	$0	$0
Other	$0	$0	$0	$0	$0
Other	$0	$0	$0	$0	$0
Totals	$0	$0	$0	$7,000,000	$7,000,000

TxDOT District	County	CSJ	Hwy	Phase	City	Project Sponsor	MPO Proj ID No.	Year of Expenditure Cost
15 - San Antonio	Bexar	2452-02-128	SL 1604	E	San Antonio	TxDOT	4049.2	$18,800,000

Limits From: IH 10
Limits To: US 281
Last Revision Date: 11/2019
Description: Expand from 4 to 10 lane expy - including 2 HOV special use lanes; from 4 to 4 frontage roads
Remarks: 10/19 - add project (E); spin off of 2452-02-083 (MPO #3913); no impact to conformity

Total Project Cost Information (TxDOT %):

Preliminary Engineering:	$18,800,000
ROW Purchase:	$0
Construction Cost:	$187,800,000
Construction Engineering	$8,300,000
Contingencies:	$14,600,000
Indirect Costs:	$4,100,000
Other Field	$8,300,000
Total Project Cost:	$241,900,000

Cost of Approved Phases: $18,800,000
NOX lbs/day N/A
VOC lbs/day N/A
CMP Score N/A

Type of Work: Added Capacity: Non - Toll Status:

Authorized Funding by Category/Share

Funding Categories	Federal	State	Local	Local Contrib	Total
SBPE	$15,040,000	$3,760,000	$0	$0	$18,800,000
Other	$0	$0	$0	$0	$0
Other	$0	$0	$0	$0	$0
Other	$0	$0	$0	$0	$0
Totals	$15,040,000	$3,760,000	$0	$0	$18,800,000

15 - San Antonio	Bexar	0000-00-000	CS	C	San Antonio	CoSA	5423.0	$2,000,000

Limits From: In San Antonio on Alamo/Commerce/Losoya Intersection
Limits To: from Commerce to Market
Last Revision Date: 2/2019
Description: Close Alamo Street to vehicle traffic
Remarks:

Total Project Cost Information (TxDOT %):

Preliminary Engineering:	$98,000
ROW Purchase:	$0
Construction Cost:	$2,000,000
Construction Engineering	$128,000
Contingencies:	$100,000
Indirect Costs:	$115,000
Other Field	$116,000
Total Project Cost:	$2,557,000

Cost of Approved Phases: $2,000,000
NOX lbs/day N/A
VOC lbs/day N/A
CMP Score N/A

Type of Work: Operational Status: Exempt

Authorized Funding by Category/Share

Funding Categories	Federal	State	Local	Local Contrib	Total
3 - LC	$0	$0	$0	$2,000,000	$2,000,000
Other	$0	$0	$0	$0	$0
Other	$0	$0	$0	$0	$0
Other	$0	$0	$0	$0	$0
Totals	$0	$0	$0	$2,000,000	$2,000,000

15 - San Antonio	Comal	0016-05-120	IH 35	C	Other	TxDOT	5553.0	$6,000,000

Limits From: at FM 725
Limits To: -
Last Revision Date: 11/2018
Description: Intersection operational improvements
Remarks:

Total Project Cost Information (TxDOT %):

Preliminary Engineering:	$294,000
ROW Purchase:	$0
Construction Cost:	$6,000,000
Construction Engineering	$383,000
Contingencies:	$78,000
Indirect Costs:	$344,000
Other Field	$347,000
Total Project Cost:	$7,446,000

Cost of Approved Phases: $6,000,000
NOX lbs/day N/A
VOC lbs/day N/A
CMP Score N/A

Type of Work: Operational Status: Exempt

Authorized Funding by Category/Share

Funding Categories	Federal	State	Local	Local Contrib	Total
4 - Connectivity	$4,800,000	$1,200,000	$0	$0	$6,000,000
Other	$0	$0	$0	$0	$0
Other	$0	$0	$0	$0	$0
Other	$0	$0	$0	$0	$0
Totals	$4,800,000	$1,200,000	$0	$0	$6,000,000

TxDOT District	County	CSJ	Hwy	Phase	City	Project Sponsor	MPO Proj ID No.	Year of Expenditure Cost
15 - San Antonio	Bexar	2452-02-083	SL 1604	C	San Antonio	TxDOT	3913.0	$185,500,000

Limits From: SH 16
Limits To: IH 10
Last Revision Date: 11/2019
Description: Expand from 4 to 10 lane expressway - including 2 HOV-special use lanes, & from 4 to 4 FR lanes
Remarks: Reference #4049 and #5556

Total Project Cost Information (TxDOT %):

Preliminary Engineering:	$18,500,000
ROW Purchase:	$0
Construction Cost:	$185,500,000
Construction Engineering	$8,200,000
Contingencies:	$14,400,000
Indirect Costs:	$4,100,000
Other Field	$8,200,000
Total Project Cost:	$238,900,000

Cost of Approved Phases: $185,500,000
NOX lbs/day N/A
VOC lbs/day N/A
CMP Score 42

Type of Work: Added Capacity: Non Toll Status: Add Cap

Authorized Funding by Category/Share

Funding Categories	Federal	State	Local	Local Contrib	Total
2 - Metro Corridor	$148,400,000	$37,100,000	$0	$0	$185,500,000
Other	$0	$0	$0	$0	$0
Other	$0	$0	$0	$0	$0
Other	$0	$0	$0	$0	$0
Totals	$148,400,000	$37,100,000	$0	$0	$185,500,000

15 - San Antonio	Bexar	2452-02-117	SL 1604	C	San Antonio	TxDOT	5332.0	$40,600,000

Limits From: at FM 2696 - Blanco Road
Limits To: .
Last Revision Date: 11/2019
Description: Intersection operational improvements
Remarks:

Total Project Cost Information (TxDOT %):

Preliminary Engineering:	$4,100,000
ROW Purchase:	$0
Construction Cost:	$40,600,000
Construction Engineering	$1,800,000
Contingencies:	$3,100,000
Indirect Costs:	$900,000
Other Field	$1,800,000
Total Project Cost:	$52,300,000

Cost of Approved Phases: $40,600,000
NOX lbs/day N/A
VOC lbs/day N/A
CMP Score N/A

Type of Work: Operational Status: Exempt

Authorized Funding by Category/Share

Funding Categories	Federal	State	Local	Local Contrib	Total
2 - Metro Corridor	$32,480,000	$8,120,000	$0	$0	$40,600,000
Other	$0	$0	$0	$0	$0
Other	$0	$0	$0	$0	$0
Other	$0	$0	$0	$0	$0
Totals	$32,480,000	$8,120,000	$0	$0	$40,600,000

15 - San Antonio	Bexar	2452-02-128	SL 1604	C	San Antonio	TxDOT	4049.0	$187,800,000

Limits From: IH 10
Limits To: US 281
Last Revision Date: 11/2019
Description: Expand from 4 to 10 lane expy - including 2 HOV special use lanes; from 4 to 4 frontage roads
Remarks: 10/19 - add project; spin off of 2452-02-083 (MPO #3913); no impact to conformity

Total Project Cost Information (TxDOT %):

Preliminary Engineering:	$18,800,000
ROW Purchase:	$0
Construction Cost:	$187,800,000
Construction Engineering	$8,300,000
Contingencies:	$14,600,000
Indirect Costs:	$4,100,000
Other Field	$8,300,000
Total Project Cost:	$241,900,000

Cost of Approved Phases: $187,800,000
NOX lbs/day N/A
VOC lbs/day N/A
CMP Score 42

Type of Work: Added Capacity: Non - Toll Status:

Authorized Funding by Category/Share

Funding Categories	Federal	State	Local	Local Contrib	Total
2 - Metro Corridor	$150,240,000	$37,560,000	$0	$0	$187,800,000
Other	$0	$0	$0	$0	$0
Other	$0	$0	$0	$0	$0
Other	$0	$0	$0	$0	$0
Totals	$150,240,000	$37,560,000	$0	$0	$187,800,000

TxDOT District	County	CSJ	Hwy	Phase	City	Project Sponsor	MPO Proj ID No.	Year of Expenditure Cost
15 - San Antonio	Bexar	0072-08-144	IH 10	C	San Antonio	TxDOT	5556.0	$279,400,000

Limits From: at Loop 1604
Limits To: -
Last Revision Date: 11/2019
Description: Construct Direct Connectors - 1 lane - NB 10 to EB 1604; EB 1604 to NB 10; SB 10 to WB 1604; WB 1604 to SB 10;
Remarks: 2 lane - NB 10 to WB 1604; EB 1604 to SB 10; SB 10 to EB 1604 & WB 1604 to NB 10

Total Project Cost Information (TxDOT %):

Preliminary Engineering:	$27,900,000
ROW Purchase:	$0
Construction Cost:	$279,400,000
Construction Engineering	$12,400,000
Contingencies:	$21,700,000
Indirect Costs:	$6,200,000
Other Field	$12,400,000
Total Project Cost:	$360,000,000

Cost of Approved Phases: $279,400,000
NOX lbs/day N/A
VOC lbs/day N/A
CMP Score N/A

Type of Work: Operational Status: Exempt

Authorized Funding by Category/Share

Funding Categories	Federal	State	Local	Local Contrib	Total
2 - Metro Corridor	$196,320,000	$49,080,000	$0	$0	$245,400,000
4 - Connectivity	$13,600,000	$3,400,000	$0	$0	$17,000,000
12 - CL	$13,600,000	$3,400,000	$0	$0	$17,000,000
Other	$0	$0	$0	$0	$0
Totals	$223,520,000	$55,580,000	$0	$0	$279,400,000

15 - San Antonio	Comal	0215-01-044	SH 46	C	Other	TxDOT	9114.2	$14,000,000

Limits From: US 281
Limits To: Bentwood Dr
Last Revision Date: 7/2018
Description: Expand from 2 lanes to 6 lanes with raised median or CLTL
Remarks:

Total Project Cost Information (TxDOT %):

Preliminary Engineering:	$686,000
ROW Purchase:	$0
Construction Cost:	$14,000,000
Construction Engineering	$560,000
Contingencies:	$980,000
Indirect Costs:	$280,000
Other Field	$560,000
Total Project Cost:	$17,066,000

Cost of Approved Phases: $14,000,000
NOX lbs/day N/A
VOC lbs/day N/A
CMP Score 27

Type of Work: Added Capacity: Non Toll Status: Add Cap

Authorized Funding by Category/Share

Funding Categories	Federal	State	Local	Local Contrib	Total
4 - Connectivity	$11,200,000	$2,800,000	$0	$0	$14,000,000
Other	$0	$0	$0	$0	$0
Other	$0	$0	$0	$0	$0
Other	$0	$0	$0	$0	$0
Totals	$11,200,000	$2,800,000	$0	$0	$14,000,000

15 - San Antonio	Comal	0215-07-027	SH 46	C	Other	TxDOT	9114.1	$26,000,000

Limits From: Farhills Dr
Limits To: US 281
Last Revision Date: 7/2018
Description: Expand from 2 lanes to 6 lanes with raised median or CLTL
Remarks:

Total Project Cost Information (TxDOT %):

Preliminary Engineering:	$1,274,000
ROW Purchase:	$0
Construction Cost:	$26,000,000
Construction Engineering	$1,040,000
Contingencies:	$1,820,000
Indirect Costs:	$520,000
Other Field	$1,040,000
Total Project Cost:	$31,694,000

Cost of Approved Phases: $26,000,000
NOX lbs/day N/A
VOC lbs/day N/A
CMP Score 26

Type of Work: Added Capacity: Non Toll Status: Add Cap

Authorized Funding by Category/Share

Funding Categories	Federal	State	Local	Local Contrib	Total
4 - Connectivity	$20,800,000	$5,200,000	$0	$0	$26,000,000
Other	$0	$0	$0	$0	$0
Other	$0	$0	$0	$0	$0
Other	$0	$0	$0	$0	$0
Totals	$20,800,000	$5,200,000	$0	$0	$26,000,000

TxDOT District	County	CSJ	Hwy	Phase	City	Project Sponsor	MPO Proj ID No.	Year of Expenditure Cost
15 - San Antonio	Bexar	2230-01-020	FM 1560	C	Other	TxDOT	5311.0	$12,100,000

Limits From: Galm/Schaenfield
Limits To: FM 471
Last Revision Date: 11/2018
Description: Expand from 2 to 4 lanes with raised median, or center turn lane, bike lanes and sidewalks
Remarks:

Total Project Cost Information (TxDOT %):

Preliminary Engineering:	$1,210,000
ROW Purchase:	$12,257,333
Construction Cost:	$12,100,000
Construction Engineering	$600,160
Contingencies:	$240,790
Indirect Costs:	$694,540
Other Field	$452,540
Total Project Cost:	$27,555,363

Cost of Approved Phases: $12,100,000
NOX lbs/day N/A
VOC lbs/day N/A
CMP Score 31

Type of Work: Added Capacity: Non Toll Status: Add Cap

Authorized Funding by Category/Share

Funding Categories	Federal	State	Local	Local Contrib	Total
7 - STP-MM	$8,464,000	$2,116,000	$0	$0	$10,580,000
3 - LC	$0	$0	$0	$1,520,000	$1,520,000
Other	$0	$0	$0	$0	$0
Other	$0	$0	$0	$0	$0
Totals	$8,464,000	$2,116,000	$0	$1,520,000	$12,100,000

15 - San Antonio	Bexar	2452-01-066	SL 1604	C	Other	TxDOT	9110.2	$40,000,000

Limits From: Macdona-Lacoste Rd
Limits To: US 90 W
Last Revision Date: 11/2018
Description: Expand from 2 lanes to 4 lane divided
Remarks:

Total Project Cost Information (TxDOT %):

Preliminary Engineering:	$4,000,000
ROW Purchase:	$4,800,000
Construction Cost:	$40,000,000
Construction Engineering	$2,552,000
Contingencies:	$516,000
Indirect Costs:	$2,296,000
Other Field	$2,312,000
Total Project Cost:	$56,476,000

Cost of Approved Phases: $40,000,000
NOX lbs/day N/A
VOC lbs/day N/A
CMP Score 47

Type of Work: Added Capacity: Non Toll Status: Add Cap

Authorized Funding by Category/Share

Funding Categories	Federal	State	Local	Local Contrib	Total
2 - Metro Corridor	$32,000,000	$8,000,000	$0	$0	$40,000,000
Other	$0	$0	$0	$0	$0
Other	$0	$0	$0	$0	$0
Other	$0	$0	$0	$0	$0
Totals	$32,000,000	$8,000,000	$0	$0	$40,000,000

15 - San Antonio	Bexar	2452-03-113	SL 1604	E,R	San Antonio	TxDOT	3786.2	$9,400,000

Limits From: US 281
Limits To: Redland Road
Last Revision Date: 11/2019
Description: Expand from 4 to 10 lane expressway - including 2 HOV-special use lanes & from 4 to 4 FR lanes
Remarks:

Total Project Cost Information (TxDOT %):

Preliminary Engineering:	$5,800,000
ROW Purchase:	$3,600,000
Construction Cost:	$58,000,000
Construction Engineering	$2,600,000
Contingencies:	$4,500,000
Indirect Costs:	$1,300,000
Other Field	$2,600,000
Total Project Cost:	$78,400,000

Cost of Approved Phases: $9,400,000
NOX lbs/day N/A
VOC lbs/day N/A
CMP Score N/A

Type of Work: Added Capacity: Non Toll Status: Add Cap

Authorized Funding by Category/Share

Funding Categories	Federal	State	Local	Local Contrib	Total
SBPE	$4,640,000	$1,160,000	$0	$0	$5,800,000
S102	$2,880,000	$720,000	$0	$0	$3,600,000
Other	$0	$0	$0	$0	$0
Other	$0	$0	$0	$0	$0
Totals	$7,520,000	$1,880,000	$0	$0	$9,400,000

TxDOT District	County	CSJ	Hwy	Phase	City	Project Sponsor	MPO Proj ID No.	Year of Expenditure Cost
15 - San Antonio	Bexar	2452-03-111	SL 1604	C	Other	TxDOT	9107.0	$215,000,000

Limits From: FM 78
Limits To: IH 10 East
Last Revision Date: 2/2019
Description: Expand from 4 lane divided to 4 lane expressway
Remarks:

Total Project Cost Information (TxDOT %):

Preliminary Engineering:	$10,535,000
ROW Purchase:	$0
Construction Cost:	$215,000,000
Construction Engineering	$13,717,000
Contingencies:	$10,750,000
Indirect Costs:	$12,341,000
Other Field	$12,427,000
Total Project Cost:	$274,770,000

Cost of Approved Phases: $215,000,000
NOX lbs/day N/A
VOC lbs/day N/A
CMP Score 35

Type of Work: Added Capacity: Non Toll Status: Add Cap

Authorized Funding by Category/Share

Funding Categories	Federal	State	Local	Local Contrib	Total
Prop 1/Prop 7	$172,000,000	$43,000,000	$0	$0	$215,000,000
Other	$0	$0	$0	$0	$0
Other	$0	$0	$0	$0	$0
Other	$0	$0	$0	$0	$0
Totals	$172,000,000	$43,000,000	$0	$0	$215,000,000

15 - San Antonio	Bexar	2452-03-113	SL 1604	C	San Antonio	TxDOT	3786.0	$58,000,000

Limits From: US 281
Limits To: Redland Road
Last Revision Date: 11/2019
Description: Expand from 4 to 10 lane expressway - including 2 HOV-special use lanes & from 4 to 4 FR lanes
Remarks:

Total Project Cost Information (TxDOT %):

Preliminary Engineering:	$5,800,000
ROW Purchase:	$3,600,000
Construction Cost:	$58,000,000
Construction Engineering	$2,600,000
Contingencies:	$4,500,000
Indirect Costs:	$1,300,000
Other Field	$2,600,000
Total Project Cost:	$78,400,000

Cost of Approved Phases: $58,000,000
NOX lbs/day N/A
VOC lbs/day N/A
CMP Score 47

Type of Work: Added Capacity: Non Toll Status: Add Cap

Authorized Funding by Category/Share

Funding Categories	Federal	State	Local	Local Contrib	Total
Prop 1/Prop 7	$46,400,000	$11,600,000	$0	$0	$58,000,000
Other	$0	$0	$0	$0	$0
Other	$0	$0	$0	$0	$0
Other	$0	$0	$0	$0	$0
Totals	$46,400,000	$11,600,000	$0	$0	$58,000,000

15 - San Antonio	Bexar,Comal	3212-05-013	FM 3351	C	Fair Oaks Ranch	TxDOT	5541.0	$11,900,000

Limits From: at Cibolo Creek
Limits To: .
Last Revision Date: 7/2018
Description: Reconstruct existing bridge and expand from 2 to 6 lanes
Remarks:

Total Project Cost Information (TxDOT %):

Preliminary Engineering:	$583,000
ROW Purchase:	$0
Construction Cost:	$11,900,000
Construction Engineering	$714,000
Contingencies:	$833,000
Indirect Costs:	$595,000
Other Field	$476,000
Total Project Cost:	$15,101,000

Cost of Approved Phases: $11,900,000
NOX lbs/day
VOC lbs/day
CMP Score N/A

Type of Work: Operational Status: Exempt

Authorized Funding by Category/Share

Funding Categories	Federal	State	Local	Local Contrib	Total
7 - STP-MM	$9,520,000	$2,380,000	$0	$0	$11,900,000
Other	$0	$0	$0	$0	$0
Other	$0	$0	$0	$0	$0
Other	$0	$0	$0	$0	$0
Totals	$9,520,000	$2,380,000	$0	$0	$11,900,000

METROPOLITAN TRANSPORTATION PLAN "Mobility 2045"

ALAMO AREA METROPOLITAN PLANNING ORGANIZATION

FY 2025

Updated: October 28, 2019

TxDOT District	County	CSJ	Hwy	Phase	City	Project Sponsor	MPO Proj ID No.	Year of Expenditure Cost
15 - San Antonio	Bexar	0915-12-618	CR	C	Other	BC	5532.0	$16,791,743

Limits From: In Bexar County, on Blanco Road
Limits To: Borgfeld to Bexar/Comal County Line
Last Revision Date: 7/2018
Description: Expand from 2 to 4 lane divided roadway with a raised median, bike lanes, sidewalk, curbs and drainage
Remarks:

Total Project Cost Information (TxDOT %):

Preliminary Engineering:	$823,000
ROW Purchase:	$0
Construction Cost:	$16,791,743
Construction Engineering	$1,007,000
Contingencies:	$1,175,000
Indirect Costs:	$840,000
Other Field	$672,000
Total Project Cost:	$21,308,743

Cost of Approved Phases: $16,791,743
NOX lbs/day
VOC lbs/day
CMP Score 18

Type of Work: Added Capacity: Non Toll Status: Add Cap

Authorized Funding by Category/Share

Funding Categories	Federal	State	Local	Local Contrib	Total
7 - STP-MM	$13,433,394	$0	$3,358,349	$0	$16,791,743
Other	$0	$0	$0	$0	$0
Other	$0	$0	$0	$0	$0
Other	$0	$0	$0	$0	$0
Totals	$13,433,394	$0	$3,358,349	$0	$16,791,743

15 - San Antonio	Guadalupe	0915-46-049	CS	C	Seguin	Seguin	5533.0	$12,000,000

Limits From: In Seguin, on Rudeloff Road
Limits To: From Huber Road to SH 123 (at FM 20)
Last Revision Date: 7/2018
Description: Construct new alignment 4 lane roadway (zero to 4 lanes) with center left turn lane, bicycle and pedestrian facilities
Remarks:

Total Project Cost Information (TxDOT %):

Preliminary Engineering:	$588,000
ROW Purchase:	$0
Construction Cost:	$12,000,000
Construction Engineering	$720,000
Contingencies:	$840,000
Indirect Costs:	$600,000
Other Field	$480,000
Total Project Cost:	$15,228,000

Cost of Approved Phases: $12,000,000
NOX lbs/day
VOC lbs/day
CMP Score 44

Type of Work: Added Capacity: Non Toll Status: Add Cap

Authorized Funding by Category/Share

Funding Categories	Federal	State	Local	Local Contrib	Total
7 - STP-MM	$9,600,000	$0	$2,400,000	$0	$12,000,000
Other	$0	$0	$0	$0	$0
Other	$0	$0	$0	$0	$0
Other	$0	$0	$0	$0	$0
Totals	$9,600,000	$0	$2,400,000	$0	$12,000,000

15 - San Antonio	Bexar	2452-03-087	Loop 1604	E,C	Other	TxDOT	3530.0	$230,000,000

Limits From: Redland Road
Limits To: IH 35 North
Last Revision Date: 2/2019
Description: Expand from 4 to 10 lane expressway - including 4 General Purpose and 2 HOV - special use lanes & from 4 to 4 FR lanes
Remarks:

Total Project Cost Information (TxDOT %):

Preliminary Engineering:	$11,270,000
ROW Purchase:	$0
Construction Cost:	$230,000,000
Construction Engineering	$22,458,000
Contingencies:	$17,600,000
Indirect Costs:	$20,205,000
Other Field	$20,346,000
Total Project Cost:	$443,879,000

Cost of Approved Phases: $230,000,000
NOX lbs/day
VOC lbs/day
CMP Score 47

Type of Work: Added Capacity: NonToll Status: Add Cap

Authorized Funding by Category/Share

Funding Categories	Federal	State	Local	Local Contrib	Total
Prop 1/Prop 7	$193,016,000	$48,254,000	$0	$0	$230,000,000
Other	$0	$0	$0	$0	$0
Other	$0	$0	$0	$0	$0
Other	$0	$0	$0	$0	$0
Totals	$193,016,000	$48,254,000	$0	$0	$230,000,000

TIP

Transportation Improvement Program
Appendix D: Environmental Clearance Project Listing

Hwy	CSJ	MPO Proj ID No.	Project Sponsor	Year
SL 1604	2255-02-028	5388.0	TxDOT	2026
Limits From:	US 181			
Limits To:	0.38 Mi North of FM 1303			
Description:	Expand from 2 lanes to 4 lanes divided			
Remarks:	None			
Travel Demand Model Network Years:		2035,2045		
SL 1604	2452-01-070	5557.0	TxDOT	2031
Limits From:	0.7 Mi North of FM 2536			
Limits To:	Macdona-Lacoste Rd			
Description:	Expand from 2 lanes to 4 lanes divided			
Remarks:	None			
Travel Demand Model Network Years:		2035,2045		
SL 1604	2452-03-087	3530.0	TxDOT	2025
Limits From:	Redland Road			
Limits To:	IH 35 North			
Description:	Expand from 4 to 10 lane expressway - including 2 HOV - special use lanes & from 4 to 4 FR lanes			
Remarks:	None			
Travel Demand Model Network Years:		2035,2045		
SL 1604	2452-03-111	9107.0	TxDOT	2025
Limits From:	FM 78			
Limits To:	IH 10 East			
Description:	Expand from 4 lane divided to 4 lane expressway and from 0 to 4 FR lanes			
Remarks:	None			
Travel Demand Model Network Years:		2035,2045		
SL 1604	2452-04-015	5389.0	TxDOT	2026
Limits From:	FM 1346 - Houston Street			
Limits To:	US 87			
Description:	Expand from 2 lanes to 4 lanes divided			
Remarks:	None			
Travel Demand Model Network Years:		2035,2045		
SL 1604	2452-04-017	5554.0	TxDOT	2025
Limits From:	Martinez Creek			
Limits To:	FM 1346 - Houston Street			
Description:	Expand from 2 lanes to 4 lanes divided			
Remarks:	None			
Travel Demand Model Network Years:		2025,2035,2045 **		
US 90	0024-07-064	5561.0	TxDOT	2030
Limits From:	at Lp 1604 W			
Limits To:	-			
Description:	Construct direct connectors: 1 lane DC - SB 1604 to WB 90; NB 1604 to EB 90; NB 1604 to WB 90; EB 90 to NB 1604 & EB 90 to SB 1604; 2 l			
Remarks:	None			
Travel Demand Model Network Years:		2035,2045		
US 90	0024-08-143	5562.0	TxDOT	2030
Limits From:	IH 410			
Limits To:	Lp 13			
Description:	Ramp revisions and rehabilitate mainlanes			
Remarks:	None			
Travel Demand Model Network Years:		N/A		

STIP

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Data

Statewide	☐
TIP Revision	None
District	SAN ANTONIO
County	BEXAR
MPO	ALAMO AREA
Highway	IH 10
CSJ	0072 - 08 - 144
TIP FY	2022
Revision Date	11/2019
Project Sponsor	TxDOT
MPO Proj Number	5556
MTP Reference	5556
City	SAN ANTONIO
Limits From	at Loop 1604
Limits To	-
Project Description	Construct Direct Connectors - 1 lane - NB 10 to EB 1604; EB 1604 to NB 10; SB 10 to WB 1604; WB 1604 to SB 10;
P7 Remarks	2 lane - NB 10 to WB 1604; EB 1604 to SB 10; SB 10 to EB 1604 & WB 1604 to NB 10

Phase

- ☑ Construction
- ☐ Engineering
  - ☐ Environmental
  - ☐ Engineering
- ☐ Right-of-Way
  - ☐ Acquisition
  - ☐ Utilities
- ☐ Transfer

NOX	Kg/D	0.0000
VOC	Kg/D	0.0000
PM10	Kg/D	0.0000
PM2.5	Kg/D	0.0000
CO	Lbs/D	

Total Project Cost Information

Prelim Engineering	$27,900,000
ROW Purchase	$0
Construction Cost	$279,400,000
Const Engineering	$12,400,000
Contingencies	$21,700,000
Indirect Costs	$6,200,000
Bond Financing	$0
Potential Chg Ord	$12,400,000
Total Project Cost	$360,000,000
YOE Cost	
Toll	☐
TCM	☐

2 lane - NB 10 to WB 1604; EB 1604 to SB 10; SB 10 to EB 1604 & WB 1604 to NB 10

Project History 10/19 - move from FY 2026 to FY 2022, revise funding, revise CSJ from 2452-02-127; 9/19 - ADM clarify description; 1/19 - update cost; 10/18 - add project

Authorized Funding by Category/Share

Category	Federal	State	Regional	Local	Local Contributions	Total
2M	$196,320,000	$49,080,000	$0	$0	$0	$245,400,000
4	$13,600,000	$3,400,000	$0	$0	$0	$17,000,000
12C	$13,600,000	$3,400,000	$0	$0	$0	$17,000,000
Total	$223,520,000	$55,880,000	$0.00	$0.00	$0.00	$279,400,000

DISTRICT	MPO	COUNTY	CSJ	TIP FY	HWY	PHASE	CITY	YOE COST
SAN ANTONIO	ALAMO AREA	BEXAR	0072-08-144	2022	IH 10	C	SAN ANTONIO	$ 279,400,000

LIMITS FROM: at Loop 1604
LIMITS TO: -
PROJECT SPONSOR: TxDOT
REVISION DATE: 11/2019
MPO PROJ NUM: 5556
FUNDING CAT(S): 12C,2M,4

PROJECT DESCR: Construct Direct Connectors - 1 lane - NB 10 to EB 1604; EB 1604 to NB 10; SB 10 to WB 1604; WB 1604 to SB 10;

REMARKS P7: 2 lane - NB 10 to WB 1604; EB 1604 to SB 10; SB 10 to EB 1604 & WB 1604 to NB 10

PROJECT HISTORY: 10/19 - move from FY 2026 to FY 2022, revise funding, revise CSJ from 2452-02-127; 9/19 - ADM clarify description; 1/19 - update cost; 10/18 - add project

TOTAL PROJECT COST INFORMATION

PRELIM ENG:	$ 27,900,000
ROW PURCH:	$ 0
CONST COST:	$ 279,400,000
CONST ENG:	$ 12,400,000
CONTING:	$ 21,700,000
INDIRECT:	$ 6,200,000
BOND FIN:	$ 0
POT CHG ORD:	$ 12,400,000
TOTAL COST:	$ 360,000,000

COST OF APPROVED PHASES $ 279,400,000

AUTHORIZED FUNDING BY CATEGORY/SHARE

CATEGORY	FEDERAL	STATE	REGIONAL	LOCAL	LC	TOTAL
4	$ 13,600,000	$ 3,400,000	$ 0	$ 0	$ 0	$ 17,000,000
2M	$ 196,320,000	$ 49,080,000	$ 0	$ 0	$ 0	$ 245,400,000
12C	$ 13,600,000	$ 3,400,000	$ 0	$ 0	$ 0	$ 17,000,000
TOTAL	$ 223,520,000	$ 55,880,000	$ 0	$ 0	$ 0	$ 279,400,000

TIP History

2019-2022 STIP **11/2019 Revision: Approved 01/29/2020**

DISTRICT	MPO	COUNTY	CSJ	TIP FY	HWY	PHASE	CITY	YOE COST
SAN ANTONIO	ALAMO AREA	BEXAR	0072-08-144	2022	IH 10	C	SAN ANTONIO	$ 279,400,000

LIMITS FROM: at Loop 1604
LIMITS TO: -
PROJECT SPONSOR: TxDOT
REVISION DATE: 11/2019
MPO PROJ NUM: 5556
FUNDING CAT(S): 12C,2M,4

PROJECT DESCR: Construct Direct Connectors - 1 lane - NB 10 to EB 1604; EB 1604 to NB 10; SB 10 to WB 1604; WB 1604 to SB 10;

REMARKS P7: 2 lane - NB 10 to WB 1604; EB 1604 to SB 10; SB 10 to EB 1604 & WB 1604 to NB 10

PROJECT HISTORY: 10/19 - move from FY 2026 to FY 2022, revise funding, revise CSJ from 2452-02-127; 9/19 - ADM clarify description; 1/19 - update cost; 10/18 - add project

TOTAL PROJECT COST INFORMATION **AUTHORIZED FUNDING BY CATEGORY/SHARE**

PRELIM ENG:	$	27,900,000
ROW PURCH:	$	0
CONST COST:	$	279,400,000
CONST ENG:	$	12,400,000
CONTING:	$	21,700,000
INDIRECT:	$	6,200,000
BOND FIN:	$	0
POT CHG ORD:	$	12,400,000
TOTAL COST:	$	360,000,000

COST OF APPROVED PHASES
$ 279,400,000

CATEGORY	FEDERAL	STATE	REGIONAL	LOCAL	LC	TOTAL
2M	$ 196,320,000	$ 49,080,000	$ 0	$ 0	$ 0	$ 245,400,000
4	$ 13,600,000	$ 3,400,000	$ 0	$ 0	$ 0	$ 17,000,000
12C	$ 13,600,000	$ 3,400,000	$ 0	$ 0	$ 0	$ 17,000,000
TOTAL	$ 223,520,000	$ 55,880,000	$ 0	$ 0	$ 0	$ 279,400,000

Comment History

Time	User	Comment	Related Approval
2019/11/25 13:32:41	**Greg Wood**		**11/2019: Approved**

STIP Portal

Texas Department of Transportation

Mon, Apr 20, 2020 2:20:25 PM

STIP Portal

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Project Management > Area List > STIPs (M-ALAMO AREA) > Revisions () > TIP Instances (Unassigned) > Highway Projects (Unassigned) > Project Details

Color Key: - Business rule violation - Value changed in current session - Different from DCIS or latest approved copy

Data

Statewide	☐
TIP Revision	None
District	SAN ANTONIO
County	BEXAR
MPO	ALAMO AREA
Highway	SL 1604
CSJ	2452 - 02 - 083
TIP FY	2021

Phase
- ☑ Construction
- ☐ Engineering
  - ☐ Environmental
  - ☐ Engineering
- ☐ Right-of-Way
  - ☐ Acquisition
  - ☐ Utilities
- ☐ Transfer

Total Project Cost Information

Prelim Engineering	$18,500,000	☑
ROW Purchase	$0	☑
Construction Cost	$185,500,000	☑
Const Engineering	$8,200,000	☑
Contingencies	$14,400,000	☑
Indirect Costs	$4,100,000	☑
Bond Financing	$0	☑
Potential Chg Ord	$8,200,000	☑
Total Project Cost	$238,900,000	
YOE Cost		
Toll	☐	
TCM	☐	

Revision Date	11/2019	NOX (Kg /D):	0.0000
Project Sponsor	TxDOT	VOC (Kg /D):	0.0000
MPO Proj Number	3913	PM10 (Kg /D):	0.0000
MTP Reference	3913	PM2.5 (Kg /D):	0.0000
City	SAN ANTONIO	CO (Lbs /D):	0.0000

Limits From: SH 16

Limits To: IH 10

Project Description: Expand from 4 to 10 lane expressway - including 2 HOV-special use lanes, & from 4 to 4 FR lanes

P7 Remarks: Reference #4049 and #5556

Reference #4049 and #5556

Project History

10/19 - move from 19 to 21 and revise cost, limits and description; see #4049 and #5556; 1/19 - rev descr to incl FR lanes; 10/18 - 20 to 21, rev descr & fund, move to TxDOT; 4/17 - rev limits, descr, cost (has $398.3M in Cat 2: "17-"24)

Authorized Funding by Category/Share

Category	Federal	State	Regional	Local	Local Contributions	Total
2M	$148,400,000	$37,100,000	$0	$0	$0	$185,500,000
Total	$148,400,000	$37,100,000	$0.00	$0.00	$0.00	$185,500,000

DISTRICT	MPO	COUNTY	CSJ	TIP FY	HWY	PHASE	CITY	YOE COST
SAN ANTONIO	ALAMO AREA	BEXAR	2452-02-083	2021	SL 1604	C	SAN ANTONIO	$ 185,500,000

LIMITS FROM: SH 16
LIMITS TO: IH 10
PROJECT SPONSOR: TxDOT
REVISION DATE: 11/2019
PROJECT DESCR: Expand from 4 to 10 lane expressway - including 2 HOV-special use lanes, & from 4 to 4 FR lanes
MPO PROJ NUM: 3913
FUNDING CAT(S): 2M
REMARKS P7: Reference #4049 and #5556
PROJECT HISTORY: 10/19 - move from 19 to 21 and revise cost, limits and description; see #4049 and #5556; 1/19 - rev descr to incl FR lanes; 10/18 - 20 to 21, rev descr & fund, move to TxDOT; 4/17 - rev limits, descr, cost (has $398.3M in Cat 2: "17-"24)

TOTAL PROJECT COST INFORMATION

PRELIM ENG:	$ 18,500,000
ROW PURCH:	$ 0
CONST COST:	$ 185,500,000
CONST ENG:	$ 8,200,000
CONTING:	$ 14,400,000
INDIRECT:	$ 4,100,000
BOND FIN:	$ 0
POT CHG ORD:	$ 8,200,000
TOTAL COST:	$ 238,900,000

COST OF APPROVED PHASES
$ 185,500,000

AUTHORIZED FUNDING BY CATEGORY/SHARE

CATEGORY	FEDERAL	STATE	REGIONAL	LOCAL	LC	TOTAL
2M	$ 148,400,000	$ 37,100,000	$ 0	$ 0	$ 0	$ 185,500,000
TOTAL	$ 148,400,000	$ 37,100,000	$ 0	$ 0	$ 0	$ 185,500,000

TIP History

2019-2022 STIP **11/2019 Revision: Approved 01/29/2020**

DISTRICT	MPO	COUNTY	CSJ	TIP FY	HWY	PHASE	CITY	YOE COST
SAN ANTONIO	ALAMO AREA	BEXAR	2452-02-083	2021	SL 1604	C	SAN ANTONIO	$ 185,500,000

LIMITS FROM: SH 16
LIMITS TO: IH 10
PROJECT SPONSOR: TxDOT
REVISION DATE: 11/2019
PROJECT DESCR: Expand from 4 to 10 lane expressway - including 2 HOV-special use lanes, & from 4 to 4 FR lanes
MPO PROJ NUM: 3913
FUNDING CAT(S): 2M
REMARKS P7: Reference #4049 and #5556
PROJECT HISTORY: 10/19 - move from 19 to 21 and revise cost, limits and description; see #4049 and #5556; 1/19 - rev descr to incl FR lanes; 10/18 - 20 to 21, rev descr & fund, move to TxDOT; 4/17 - rev limits, descr, cost (has $398.3M in Cat 2: "17-"24)

TOTAL PROJECT COST INFORMATION

PRELIM ENG:	$ 18,500,000
ROW PURCH:	$ 0
CONST COST:	$ 185,500,000
CONST ENG:	$ 8,200,000

COST OF APPROVED PHASES

AUTHORIZED FUNDING BY CATEGORY/SHARE

CATEGORY	FEDERAL	STATE	REGIONAL	LOCAL	LC	TOTAL
2M	$ 148,400,000	$ 37,100,000	$ 0	$ 0	$ 0	$ 185,500,000
TOTAL	$ 148,400,000	$ 37,100,000	$ 0	$ 0	$ 0	$ 185,500,000

CONST ENG:	$ [illegible]	$ 185,500,000
CONTING:	$ 14,400,000	
INDIRECT:	$ 4,100,000	
BOND FIN:	$ 0	
POT CHG ORD:	$ 8,200,000	
TOTAL COST:	$ 238,900,000	

2019-2022 STIP — **02/2019 Revision: Approved 04/04/2019**

DISTRICT	MPO	COUNTY	CSJ	TIP FY	HWY	PHASE	CITY	YOE COST
SAN ANTONIO	ALAMO AREA	BEXAR	2452-02-083	2021	SL 1604	C	SAN ANTONIO	$ 368,300,000

LIMITS FROM: SH 16
LIMITS TO: US 281
PROJECT SPONSOR: TxDOT
REVISION DATE: 02/2019
MPO PROJ NUM: 3913
FUNDING CAT(S): 2M

PROJECT DESCR: Expand from 4 to 10 lane expressway - including 2 HOV-special use lanes, & from 4 to 4 FR lanes & Phase I Direct Connectors at IH 10 W

REMARKS P7: 2nd Qtr 19 - revise description to include number of FR lanes

PROJECT HISTORY: 1/19 - rev descr to incl FR lanes; 10/18 - move fr 20 to 21, rev descr & funf, move to TxDOT; 4/17 - rev limits, descr, cost (has $398.3M in Cat 2: "17-"24); 4/14 - move 15 to 20, descr and fund distrib; 7/13 - proj had $53M in Category 2 (yrs 2016-2020)

TOTAL PROJECT COST INFORMATION

PRELIM ENG:	$ 36,830,000	COST OF APPROVED PHASES $ 368,300,000
ROW PURCH:	$ 44,196,000	
CONST COST:	$ 368,300,000	
CONST ENG:	$ 12,692,644	
CONTING:	$ 17,769,702	
INDIRECT:	$ 5,077,058	
BOND FIN:	$ 0	
POT CHG ORD:	$ 50,770,577	
TOTAL COST:	$ 535,635,981	

AUTHORIZED FUNDING BY CATEGORY/SHARE

CATEGORY	FEDERAL	STATE	REGIONAL	LOCAL	LC	TOTAL
2M	$ 294,640,000	$ 73,660,000	$ 0	$ 0	$ 0	$ 368,300,000
TOTAL	$ 294,640,000	$ 73,660,000	$ 0	$ 0	$ 0	$ 368,300,000

2019-2022 STIP — **11/2018 Revision: Approved 12/19/2018**

DISTRICT	MPO	COUNTY	CSJ	TIP FY	HWY	PHASE	CITY	YOE COST
SAN ANTONIO	ALAMO AREA	BEXAR	2452-02-083	2021	SL 1604	C	SAN ANTONIO	$ 368,300,000

LIMITS FROM: SH 16
LIMITS TO: US 281
PROJECT SPONSOR: TxDOT
REVISION DATE: 11/2018
MPO PROJ NUM: 3913
FUNDING CAT(S): 2M

PROJECT DESCR: Expand from 4 to 10 lane expressway - including 2 HOV-special purpose lanes & Phase I Direct Connectors at IH 10 W

REMARKS P7: 1st Qtr 19 - move from FY 20 to FY 21, rev descr, funding & TPC, move to TxDOT

PROJECT HISTORY: 10/18 - move from FY 20 to FY 21, rev descr and funding, move to TxDOT; 4/17 - rev limits, descr, cost (has $398.3M in Cat 2: "17-"24); 4/14 - rev year ("15 to "20), descr and funding distrib; 7/13 - project had $53M in Category 2 funding (yrs 2016-2020)

TOTAL PROJECT COST INFORMATION

PRELIM ENG:	$ 36,830,000	COST OF APPROVED PHASES $ 368,300,000
ROW PURCH:	$ 44,196,000	
CONST COST:	$ 368,300,000	
CONST ENG:	$ 12,692,644	
CONTING:	$ 17,769,702	
INDIRECT:	$ 5,077,058	
BOND FIN:	$ 0	
POT CHG ORD:	$ 50,770,577	
TOTAL COST:	$ 535,635,981	

AUTHORIZED FUNDING BY CATEGORY/SHARE

CATEGORY	FEDERAL	STATE	REGIONAL	LOCAL	LC	TOTAL
2M	$ 294,640,000	$ 73,660,000	$ 0	$ 0	$ 0	$ 368,300,000
TOTAL	$ 294,640,000	$ 73,660,000	$ 0	$ 0	$ 0	$ 368,300,000

2019-2022 STIP — **07/2018 Revision: Approved 09/28/2018**

DISTRICT	MPO	COUNTY	CSJ	TIP FY	HWY	PHASE	CITY	YOE COST
SAN ANTONIO	ALAMO AREA	BEXAR	2452-02-083	2020	SL 1604	C,E,R	SAN ANTONIO	$ 507,705,768

LIMITS FROM: SH 16
LIMITS TO: US 281
PROJECT SPONSOR: ARMA
REVISION DATE: 07/2018
MPO PROJ NUM: 3913
FUNDING CAT(S): 2M,3LC

PROJECT DESCR: Expand to 8 lane expressway - construct 4 new managed lanes; including managed lane direct connectors at IH 10

REMARKS P7: 3rd Qtr 17 - revise limits, description and cost

PROJECT HISTORY: 4/17 - revise limits, descr, cost (has $398.3M in Cat 2: "17-"24); 4/14 - rev year ("15 to "20), description and funding distribution;

HISTORY: 4/17 - rev year ("15 to "20), description and funding distribution; 7/13 - project had $53M in Category 2 funding (yrs 2016-2020)

TOTAL PROJECT COST INFORMATION

PRELIM ENG:	$ 15,231,173
ROW PURCH:	$ 0
CONST COST:	$ 507,705,768
CONST ENG:	$ 12,692,644
CONTING:	$ 17,769,702
INDIRECT:	$ 5,077,058
BOND FIN:	$ 0
POT CHG ORD:	$ 50,770,577
TOTAL COST:	$ 609,246,922

COST OF APPROVED PHASES $ 507,705,768

AUTHORIZED FUNDING BY CATEGORY/SHARE

CATEGORY	FEDERAL	STATE	REGIONAL	LOCAL	LC	TOTAL
2M	$ 102,311,515	$ 25,577,879	$ 0	$ 0	$ 0	$ 127,889,394
3LC	$ 0	$ 0	$ 0	$ 0	$ 379,816,374	$ 379,816,374
TOTAL	$ 102,311,515	$ 25,577,879	$ 0	$ 0	$ 379,816,374	$ 507,705,768

2017-2020 STIP — **05/2017 Revision: Approved 08/22/2017**

DISTRICT	MPO	COUNTY	CSJ	TIP FY	HWY	PHASE	CITY	YOE COST
SAN ANTONIO	ALAMO AREA	BEXAR	2452-02-083	2020	SL 1604	C,E,R	SAN ANTONIO	$ 507,705,768

LIMITS FROM: SH 16
LIMITS TO: US 281
PROJECT SPONSOR: ARMA
REVISION DATE: 05/2017
PROJECT DESCR: Expand to 8 lane expressway - construct 4 new managed lanes; including managed lane direct connectors at IH 10
MPO PROJ NUM: 3913
FUNDING CAT(S): 2M,3LC

REMARKS P7: 3rd Qtr 17 - revise limits,description and cost

PROJECT HISTORY: 4/17 - revise limits, descr, cost (has $398.3M in Cat 2: "17-"24); 4/14 - rev year ("15 to "20), description and funding distribution; 7/13 - project had $53M in Category 2 funding (yrs 2016-2020)

TOTAL PROJECT COST INFORMATION

PRELIM ENG:	$ 15,231,173
ROW PURCH:	$ 0
CONST COST:	$ 507,705,768
CONST ENG:	$ 12,692,644
CONTING:	$ 17,769,702
INDIRECT:	$ 5,077,058
BOND FIN:	$ 0
POT CHG ORD:	$ 50,770,577
TOTAL COST:	$ 609,246,922

COST OF APPROVED PHASES $ 507,705,768

AUTHORIZED FUNDING BY CATEGORY/SHARE

CATEGORY	FEDERAL	STATE	REGIONAL	LOCAL	LC	TOTAL
2M	$ 102,311,515	$ 25,577,879	$ 0	$ 0	$ 0	$ 127,889,394
3LC	$ 0	$ 0	$ 0	$ 0	$ 379,816,374	$ 379,816,374
TOTAL	$ 102,311,515	$ 25,577,879	$ 0	$ 0	$ 379,816,374	$ 507,705,768

2017-2020 STIP — **07/2016 Revision: Approved 12/19/2016**

DISTRICT	MPO	COUNTY	CSJ	TIP FY	HWY	PHASE	CITY	YOE COST
SAN ANTONIO	ALAMO AREA	BEXAR	2452-02-083	2020	Loop 1604	C,E,R	SAN ANTONIO	$ 398,898,000

LIMITS FROM: SH 16
LIMITS TO: FM 1535
PROJECT SPONSOR: ARMA
REVISION DATE: 07/2016
PROJECT DESCR: Expand to 8 lane expressway - construct 4 new managed lanes; including managed lane direct connectors at IH 10
MPO PROJ NUM: 3913
FUNDING CAT(S): 3LC

REMARKS P7: None

PROJECT HISTORY: 4/14 - rev year, description and funding distribution; 7/2013 - project had $53M in Category 2 funding (years 2016-2020)

TOTAL PROJECT COST INFORMATION

PRELIM ENG:	$ 9,764,617
ROW PURCH:	$ 18,437,106
CONST COST:	$ 332,415,000
CONST ENG:	$ 9,465,698
CONTING:	$ 18,652,408
INDIRECT:	$ 10,163,171
BOND FIN:	$ 0
POT CHG ORD:	$ 0
TOTAL COST:	$ 398,898,000

COST OF APPROVED PHASES $ 398,898,000

AUTHORIZED FUNDING BY CATEGORY/SHARE

CATEGORY	FEDERAL	STATE	REGIONAL	LOCAL	LC	TOTAL
3LC	$ 0	$ 0	$ 0	$ 0	$ 398,898,000	$ 398,898,000
TOTAL	$ 0	$ 0	$ 0	$ 0	$ 398,898,000	$ 398,898,000

2013-2016 STIP — **08/2013 Revision: Approved 01/30/2014**

DISTRICT	MPO	COUNTY	CSJ	TIP FY	HWY	PHASE	CITY	YOE COST
SAN ANTONIO	ALAMO AREA	BEXAR	2452-02-083	2015	LP 1604	C,E,R	SAN ANTONIO	$ 308,784,186

LIMITS FROM: SH 16
LIMITS TO: N W Military Highway
PROJECT SPONSOR: ARMA
REVISION DATE: 08/2013

PROJECT DESCR: Expand to 8 lane expy (4 non-toll & 4 managed lanes) including 2 toll direct connectors at IH 10

MPO PROJ NUM: 3913.0
FUNDING CAT(S): 3LC

REMARKS P7: 4th Qtr 13 - move from FY 2013 to FY 2015 and revise funding distribution

PROJECT HISTORY: 7/2013 - project has $53M in Category 2 funding (years 2016-2020)

TOTAL PROJECT COST INFORMATION

PRELIM ENG:	$ 11,463,225
ROW PURCH:	$ 18,437,106
CONST COST:	$ 233,943,341
CONST ENG:	$ 11,112,308
CONTING:	$ 21,897,096
INDIRECT:	$ 11,931,110
BOND FIN:	$ 0
POT CHG ORD:	$ 0
TOTAL COST:	$ 308,784,186

COST OF APPROVED PHASES $ 308,784,186

AUTHORIZED FUNDING BY CATEGORY/SHARE

CATEGORY	FEDERAL	STATE	REGIONAL	LOCAL	LC	TOTAL
3LC	$ 0	$ 0	$ 0	$ 0	$ 308,784,186	$ 308,784,186
TOTAL	$ 0	$ 0	$ 0	$ 0	$ 308,784,186	$ 308,784,186

2013-2016 STIP **11/2012 Revision: Approved 12/28/2012**

DISTRICT	MPO	COUNTY	CSJ	TIP FY	HWY	PHASE	CITY	YOE COST
SAN ANTONIO	ALAMO AREA	BEXAR	2452-02-083	2013	LP 1604	C,E,R	SAN ANTONIO	$ 308,784,186

LIMITS FROM: SH 16
LIMITS TO: N.W. Military Highway
PROJECT SPONSOR: ARMA
REVISION DATE: 11/2012

PROJECT DESCR: Expand to 8 lane expy (4 non-toll and 4 managed lanes) including 2 toll direct connectors at IH 10

MPO PROJ NUM: 3913
FUNDING CAT(S): 2M,3LC

REMARKS P7: 1st Qtr 13 - revise description

PROJECT HISTORY: Project receives Cat 2 allocation beginning in FY 2013 through FY 2020

TOTAL PROJECT COST INFORMATION

PRELIM ENG:	$ 11,463,225
ROW PURCH:	$ 18,437,106
CONST COST:	$ 233,943,341
CONST ENG:	$ 11,112,308
CONTING:	$ 21,897,096
INDIRECT:	$ 11,931,110
BOND FIN:	$ 0
POT CHG ORD:	$ 0
TOTAL COST:	$ 308,784,186

COST OF APPROVED PHASES $ 308,784,186

AUTHORIZED FUNDING BY CATEGORY/SHARE

CATEGORY	FEDERAL	STATE	REGIONAL	LOCAL	LC	TOTAL
2M	$ 14,122,257	$ 3,530,564	$ 0	$ 0	$ 0	$ 17,652,821
3LC	$ 0	$ 0	$ 0	$ 0	$ 291,131,365	$ 291,131,365
TOTAL	$ 14,122,257	$ 3,530,564	$ 0	$ 0	$ 291,131,365	$ 308,784,186

2013-2016 STIP **07/2012 Revision: Approved 11/01/2012**

DISTRICT	MPO	COUNTY	CSJ	TIP FY	HWY	PHASE	CITY	YOE COST
SAN ANTONIO	ALAMO AREA	BEXAR	2452-02-083	2013	LP 1604	C,E,R	SAN ANTONIO	$ 308,784,186

LIMITS FROM: SH 16
LIMITS TO: N.W. Military Highway
PROJECT SPONSOR: ARMA
REVISION DATE: 07/2012

PROJECT DESCR: Expand 4 to 8 lane expy (toll 4 new MLs) and non toll outer lanes including 2 toll direct connectors at IH 10

MPO PROJ NUM: 3913
FUNDING CAT(S): 2M,3LC

REMARKS P7:

PROJECT HISTORY: Project receives Cat 2 allocation beginning in FY 2013 through FY 2020

TOTAL PROJECT COST INFORMATION

PRELIM ENG:	$ 11,716,221
ROW PURCH:	$ 18,437,106
CONST COST:	$ 239,106,547
CONST ENG:	$ 17,311,314
CONTING:	$ 10,090,296
INDIRECT:	$ 12,122,702
BOND FIN:	$ 0
POT CHG ORD:	$ 0
TOTAL COST:	$ 308,784,186

COST OF APPROVED PHASES $ 308,784,186

AUTHORIZED FUNDING BY CATEGORY/SHARE

CATEGORY	FEDERAL	STATE	REGIONAL	LOCAL	LC	TOTAL
2M	$ 4,172,622	$ 1,043,155	$ 0	$ 0	$ 0	$ 5,215,777
3LC	$ 0	$ 0	$ 0	$ 0	$ 303,568,409	$ 303,568,409
TOTAL	$ 4,172,622	$ 1,043,155	$ 0	$ 0	$ 303,568,409	$ 308,784,186

Comment History

Time	User	Comment	Related Approval
2019/11/25 13:32:41	**Greg Wood**		**11/2019: Approved**
2019/02/11 13:49:02	**Greg Wood**		**02/2019: Approved**
2018/11/29 11:07:17	**Greg Wood**		**11/2018: Approved**
2018/09/17 16:15:07	**Greg Wood**		**07/2018: Approved**
2017/08/14 13:31:33	**Greg Wood**		**05/2017: Approved**
2016/09/13 14:43:33	**Greg Wood**		**07/2016: Approved**
2014/01/30 16:25:44	**Lori Morel**	FHWA approval 09/19/2013	**08/2013: Approved**
2014/01/29 14:59:58	**Lori Morel**	Added Highway Number, Changed YOE and deleted one funding line (duplicate) to match .pdf TIP page. All other project information consistent w/ .pdf submittal.	
2013/03/25 15:23:51	**Lori Morel**	TPP approval for FHWA (12/28/12).	**11/2012: Approved**
2013/03/13 13:34:13	**Lori Morel**	All other project information consistent w/ .pdf submittal.	

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STIP Portal

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Project Management > Area List > STIPs (M-ALAMO AREA) > Revisions () > TIP Instances (Unassigned) > Highway Projects (Unassigned) > Project Details

Color Key: - Business rule violation - Value changed in current session - Different from DCIS or latest approved copy

Data

Statewide	☐
TIP Revision	None
District	SAN ANTONIO
County	BEXAR
MPO	ALAMO AREA
Highway	SL 1604
CSJ	2452 - 02 - 083
TIP FY	2020
Revision Date	11/2019
Project Sponsor	TxDOT
MPO Proj Number	3913.2
MTP Reference	3913.2
City	SAN ANTONIO
Limits From	SH 16
Limits To	IH 10
Project Description	Expand from 4 to 10 lane expressway - including 2 HOV-special use lanes, & from 4 to 4 FR lanes
P7 Remarks	Reference #4049 and #5556

Phase

- ☐ Construction
- ☑ Engineering
  - ☐ Environmental
  - ☐ Engineering
- ☐ Right-of-Way
  - ☐ Acquisition
  - ☐ Utilities
- ☐ Transfer

NOX (Kg/D):	0.0000	
VOC (Kg/D):	0.0000	
PM10 (Kg/D):	0.0000	
PM2.5 (Kg/D):	0.0000	
CO (Lbs/D):		

Total Project Cost Information

Prelim Engineering	$18,500,000	☑
ROW Purchase	$0	☐
Construction Cost	$185,500,000	☐
Const Engineering	$8,200,000	☑
Contingencies	$14,400,000	☐
Indirect Costs	$4,100,000	☐
Bond Financing	$0	☐
Potential Chg Ord	$8,200,000	☐
Total Project Cost	$238,900,000	
YOE Cost		
Toll	☐	
TCM	☐	

Reference #4049 and #5556

Project History 10/19 - revise cost, limits, description and move from FY 2019 to FY 2020; reference #4049 and #5556; 1/19 - rev descr to incl FR lanes; 10/18 - add phases (Engr, ROW)

Authorized Funding by Category/Share

Category	Federal	State	Regional	Local	Local Contributions	Total
SW PE	$14,800,000	$3,700,000	$0	$0	$0	$18,500,000
Total	$14,800,000	$3,700,000	$0.00	$0.00	$0.00	$18,500,000

DISTRICT	MPO	COUNTY	CSJ	TIP FY	HWY	PHASE	CITY	YOE COST
SAN ANTONIO	ALAMO AREA	BEXAR	2452-02-083	2020	SL 1604	E	SAN ANTONIO	$ 18,500,000

LIMITS FROM: SH 16
LIMITS TO: IH 10
PROJECT SPONSOR: TxDOT
REVISION DATE: 11/2019
PROJECT DESCR: Expand from 4 to 10 lane expressway - including 2 HOV-special use lanes, & from 4 to 4 FR lanes
MPO PROJ NUM: 3913.2
FUNDING CAT(S): SW PE,SW ROW
REMARKS P7: Reference #4049 and #5556
PROJECT HISTORY: 10/19 - revise cost, limits, description and move from FY 2019 to FY 2020; reference #4049 and #5556; 1/19 - rev descr to incl FR lanes; 10/18 - add phases (Engr, ROW)

TOTAL PROJECT COST INFORMATION

PRELIM ENG:	$ 18,500,000
ROW PURCH:	$ 0
CONST COST:	$ 185,500,000
CONST ENG:	$ 8,200,000
CONTING:	$ 14,400,000
INDIRECT:	$ 4,100,000
BOND FIN:	$ 0
POT CHG ORD:	$ 8,200,000
TOTAL COST:	$ 238,900,000

COST OF APPROVED PHASES $ 18,500,000

AUTHORIZED FUNDING BY CATEGORY/SHARE

CATEGORY	FEDERAL	STATE	REGIONAL	LOCAL	LC	TOTAL
SW PE	$ 14,800,000	$ 3,700,000	$ 0	$ 0	$ 0	$ 18,500,000
TOTAL	$ 14,800,000	$ 3,700,000	$ 0	$ 0	$ 0	$ 18,500,000

TIP History

2019-2022 STIP **11/2019 Revision: Approved 01/29/2020**

DISTRICT	MPO	COUNTY	CSJ	TIP FY	HWY	PHASE	CITY	YOE COST
SAN ANTONIO	ALAMO AREA	BEXAR	2452-02-083	2020	SL 1604	E	SAN ANTONIO	$ 18,500,000

LIMITS FROM: SH 16
LIMITS TO: IH 10
PROJECT SPONSOR: TxDOT
REVISION DATE: 11/2019
PROJECT DESCR: Expand from 4 to 10 lane expressway - including 2 HOV-special use lanes, & from 4 to 4 FR lanes
MPO PROJ NUM: 3913.2
FUNDING CAT(S): SW PE,SW ROW
REMARKS P7: Reference #4049 and #5556
PROJECT HISTORY: 10/19 - revise cost, limits, description and move from FY 2019 to FY 2020; reference #4049 and #5556; 1/19 - rev descr to incl FR lanes; 10/18 - add phases (Engr, ROW)

TOTAL PROJECT COST INFORMATION

PRELIM ENG:	$ 18,500,000
ROW PURCH:	$ 0
CONST COST:	$ 185,500,000
CONST ENG:	$ 8,200,000
CONTING:	$ 14,400,000
INDIRECT:	$ 4,100,000

COST OF APPROVED PHASES $ 18,500,000

AUTHORIZED FUNDING BY CATEGORY/SHARE

CATEGORY	FEDERAL	STATE	REGIONAL	LOCAL	LC	TOTAL
SW PE	$ 14,800,000	$ 3,700,000	$ 0	$ 0	$ 0	$ 18,500,000
TOTAL	$ 14,800,000	$ 3,700,000	$ 0	$ 0	$ 0	$ 18,500,000

INDIRECT:	$	4,100,000
BOND FIN:	$	0
POT CHG ORD:	$	8,200,000
TOTAL COST:	$	238,900,000

2019-2022 STIP — **02/2019 Revision: Approved 04/04/2019**

DISTRICT	MPO	COUNTY	CSJ	TIP FY	HWY	PHASE	CITY	YOE COST
SAN ANTONIO	ALAMO AREA	BEXAR	2452-02-083	2019	SL 1604	E,R	SAN ANTONIO	$ 81,026,000

LIMITS FROM: SH 16
LIMITS TO: US 281
PROJECT SPONSOR: TxDOT
REVISION DATE: 02/2019
MPO PROJ NUM: 3913.2
FUNDING CAT(S): S102,SBPE

PROJECT DESCR: Expand from 4 to 10 lane expressway - including 2 HOV-special use lanes, & from 4 to 4 FR lanes & Phase I Direct Connectors at IH 10 W

REMARKS P7: 2nd Qtr 19 - revise description to include number of FR lanes

PROJECT HISTORY: 1/19 - rev descr to incl FR lanes; 10/18 - add phases (Engr, ROW)

TOTAL PROJECT COST INFORMATION

PRELIM ENG:	$	36,830,000
ROW PURCH:	$	44,196,000
CONST COST:	$	368,300,000
CONST ENG:	$	12,692,644
CONTING:	$	17,769,702
INDIRECT:	$	5,077,058
BOND FIN:	$	0
POT CHG ORD:	$	50,770,577
TOTAL COST:	$	535,635,981

COST OF APPROVED PHASES $ 81,026,000

AUTHORIZED FUNDING BY CATEGORY/SHARE

CATEGORY	FEDERAL	STATE	REGIONAL	LOCAL	LC	TOTAL
SW PE	$ 29,464,000	$ 7,366,000	$ 0	$ 0	$ 0	$ 36,830,000
SW ROW	$ 35,356,800	$ 8,839,200	$ 0	$ 0	$ 0	$ 44,196,000
TOTAL	$ 64,820,800	$ 16,205,200	$ 0	$ 0	$ 0	$ 81,026,000

2019-2022 STIP — **11/2018 Revision: Approved 12/19/2018**

DISTRICT	MPO	COUNTY	CSJ	TIP FY	HWY	PHASE	CITY	YOE COST
SAN ANTONIO	ALAMO AREA	BEXAR	2452-02-083	2019	SL 1604	E,R	SAN ANTONIO	$ 81,026,000

LIMITS FROM: SH 16
LIMITS TO: US 281
PROJECT SPONSOR: TxDOT
REVISION DATE: 11/2018
MPO PROJ NUM: 3913.2
FUNDING CAT(S): SBPE

PROJECT DESCR: Expand from 4 to 10 lane expressway - including 2 HOV-special purpose lanes & Phase I Direct Connectors at IH 10 W

REMARKS P7: 1st Qtr 19 - add phases (Engr, ROW)

PROJECT HISTORY: 10/18 - add phases (Engr, ROW)

TOTAL PROJECT COST INFORMATION

PRELIM ENG:	$	36,830,000
ROW PURCH:	$	44,196,000
CONST COST:	$	368,300,000
CONST ENG:	$	12,692,644
CONTING:	$	17,769,702
INDIRECT:	$	5,077,058
BOND FIN:	$	0
POT CHG ORD:	$	50,770,577
TOTAL COST:	$	535,635,981

COST OF APPROVED PHASES $ 81,026,000

AUTHORIZED FUNDING BY CATEGORY/SHARE

CATEGORY	FEDERAL	STATE	REGIONAL	LOCAL	LC	TOTAL
SW PE	$ 29,464,000	$ 7,366,000	$ 0	$ 0	$ 0	$ 36,830,000
SW ROW	$ 35,356,800	$ 8,839,200	$ 0	$ 0	$ 0	$ 44,196,000
TOTAL	$ 64,820,800	$ 16,205,200	$ 0	$ 0	$ 0	$ 81,026,000

Comment History

Time	User	Comment	Related Approval
2019/11/25 13:30:49	**Greg Wood**		**11/2019: Approved**
2019/02/11 13:49:01	**Greg Wood**		**02/2019: Approved**
2018/11/29 10:56:42	**Greg Wood**		**11/2018: Approved**

STIP Portal

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Mon, Apr 20, 2020 2:15:14 PM

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Project Management > Area List > STIPs (M-ALAMO AREA) > Revisions () > TIP Instances (Unassigned) > Highway Projects (Unassigned) > Project Details

Color Key: - Business rule violation - Value changed in current session - Different from DCIS or latest approved copy

Data

Statewide		TIP Revision	None
District	SAN ANTONIO	County	BEXAR
MPO	ALAMO AREA	Highway	SL 1604
CSJ	2452 - 02 - 128	TIP FY	2021

Phase
- [x] Construction
- [ ] Engineering
  - [ ] Environmental
  - [ ] Engineering
- [ ] Right-of-Way
  - [ ] Acquisition
  - [ ] Utilities
- [ ] Transfer

Total Project Cost Information

Prelim Engineering	$18,800,000	
ROW Purchase	$0	
Construction Cost	$187,800,000	
Const Engineering	$8,300,000	
Contingencies	$14,600,000	
Indirect Costs	$4,100,000	
Bond Financing	$0	
Potential Chg Ord	$8,300,000	
Total Project Cost	$241,900,000	
YOE Cost		
Toll		
TCM		

Revision Date	11/2019	NOX (Kg /D):	0.0000
Project Sponsor	TxDOT	VOC (Kg /D):	0.0000
MPO Proj Number	4049	PM10 (Kg /D):	0.0000
MTP Reference	4049	PM2.5 (Kg /D):	0.0000
City	SAN ANTONIO	CO (Lbs /D):	

Limits From: IH 10

Limits To: US 281

Project Description: Expand from 4 to 10 lane expy - including 2 HOV special use lanes; from 4 to 4 frontage roads

P7 Remarks: 10/19 - add project; spin off of 2452-02-083 (MPO #3913); no impact to conformity

Project History

10/19 - add project; spin off of 2452-02-083 (MPO #3913); no impact to conformity

Authorized Funding by Category/Share

Category	Federal	State	Regional	Local	Local Contributions	Total
2M	$150,240,000	$37,560,000	$0	$0	$0	$187,800,000
Total	$150,240,000	$37,560,000	$0.00	$0.00	$0.00	$187,800,000

DISTRICT	MPO	COUNTY	CSJ	TIP FY	HWY	PHASE	CITY	YOE COST
SAN ANTONIO	ALAMO AREA	BEXAR	2452-02-128	2021	SL 1604	C	SAN ANTONIO	$ 187,800,000

LIMITS FROM: IH 10
LIMITS TO: US 281
PROJECT SPONSOR: TxDOT
REVISION DATE: 11/2019
PROJECT DESCR: Expand from 4 to 10 lane expy - including 2 HOV special use lanes; from 4 to 4 frontage roads
MPO PROJ NUM: 4049
FUNDING CAT(S): 2M
REMARKS P7: 10/19 - add project; spin off of 2452-02-083 (MPO #3913); no impact to conformity
PROJECT HISTORY: 10/19 - add project; spin off of 2452-02-083 (MPO #3913); no impact to conformity

TOTAL PROJECT COST INFORMATION

PRELIM ENG:	$ 18,800,000
ROW PURCH:	$ 0
CONST COST:	$ 187,800,000
CONST ENG:	$ 8,300,000
CONTING:	$ 14,600,000
INDIRECT:	$ 4,100,000
BOND FIN:	$ 0
POT CHG ORD:	$ 8,300,000
TOTAL COST:	$ 241,900,000

COST OF APPROVED PHASES $ 187,800,000

AUTHORIZED FUNDING BY CATEGORY/SHARE

CATEGORY	FEDERAL	STATE	REGIONAL	LOCAL	LC	TOTAL
2M	$ 150,240,000	$ 37,560,000	$ 0	$ 0	$ 0	$ 187,800,000
TOTAL	$ 150,240,000	$ 37,560,000	$ 0	$ 0	$ 0	$ 187,800,000

TIP History

2019-2022 STIP **11/2019 Revision: Approved 01/29/2020**

DISTRICT	MPO	COUNTY	CSJ	TIP FY	HWY	PHASE	CITY	YOE COST
SAN ANTONIO	ALAMO AREA	BEXAR	2452-02-128	2021	SL 1604	C	SAN ANTONIO	$ 187,800,000

LIMITS FROM: IH 10
LIMITS TO: US 281
PROJECT SPONSOR: TxDOT
REVISION DATE: 11/2019
PROJECT DESCR: Expand from 4 to 10 lane expy - including 2 HOV special use lanes; from 4 to 4 frontage roads
MPO PROJ NUM: 4049
FUNDING CAT(S): 2M
REMARKS P7: 10/19 - add project; spin off of 2452-02-083 (MPO #3913); no impact to conformity
PROJECT HISTORY: 10/19 - add project; spin off of 2452-02-083 (MPO #3913); no impact to conformity

TOTAL PROJECT COST INFORMATION

PRELIM ENG:	$ 18,800,000
ROW PURCH:	$ 0
CONST COST:	$ 187,800,000
CONST ENG:	$ 8,300,000
CONTING:	$ 14,600,000
INDIRECT:	$ 4,100,000
BOND FIN:	$ 0

COST OF APPROVED PHASES $ 187,800,000

AUTHORIZED FUNDING BY CATEGORY/SHARE

CATEGORY	FEDERAL	STATE	REGIONAL	LOCAL	LC	TOTAL
2M	$ 150,240,000	$ 37,560,000	$ 0	$ 0	$ 0	$ 187,800,000
TOTAL	$ 150,240,000	$ 37,560,000	$ 0	$ 0	$ 0	$ 187,800,000

POT CHG ORD:	$	8,300,000
TOTAL COST:	$	241,900,000

Comment History

Time	User	Comment	Related Approval
2019/11/25 13:32:41	**Greg Wood**		**11/2019: Approved**

STIP Portal

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Project Management > Area List > STIPs (M-ALAMO AREA) > Revisions () > TIP Instances (Unassigned) > Highway Projects (Unassigned) > Project Details

Color Key: - Business rule violation - Value changed in current session - Different from DCIS or latest approved copy

Data

Statewide	
TIP Revision	None
District	SAN ANTONIO
County	BEXAR
MPO	ALAMO AREA
Highway	SL 1604
CSJ	2452 - 02 - 128
TIP FY	2021
Revision Date	11/2019
Project Sponsor	TxDOT
MPO Proj Number	4049.2
MTP Reference	4049.2
City	SAN ANTONIO
Limits From	IH 10
Limits To	US 281
Project Description	Expand from 4 to 10 lane expy - including 2 HOV special use lanes; from 4 to 4 frontage roads
P7 Remarks	10/19 - add project (E); spin off of 2452-02-083 (MPO #3913); no impact to conformity

Phase
- [ ] Construction
- [x] Engineering
  - [ ] Environmental
  - [ ] Engineering
- [ ] Right-of-Way
  - [ ] Acquisition
  - [ ] Utilities
- [ ] Transfer

NOX	Kg/D	0.0000
VOC	Kg/D	0.0000
PM10	Kg/D	0.0000
PM2.5	Kg/D	0.0000
CO	Lbs/D	

Total Project Cost Information

Prelim Engineering	$18,800,000
ROW Purchase	$0
Construction Cost	$187,800,000
Const Engineering	$8,300,000
Contingencies	$14,600,000
Indirect Costs	$4,100,000
Bond Financing	$0
Potential Chg Ord	$8,300,000
Total Project Cost	$241,900,000
YOE Cost	
Toll	
TCM	

10/19 - add project (E); spin off of 2452-02-083 (MPO #3913); no impact to conformity

Project History 10/19 - add project (E); spin off of 2452-02-083 (MPO #3913); no impact to conformity

Authorized Funding by Category/Share

Category	Federal	State	Regional	Local	Local Contributions	Total
SW PE	$15,040,000	$3,760,000	$0	$0	$0	$18,800,000
Total	$15,040,000	$3,760,000	$0.00	$0.00	$0.00	$18,800,000

DISTRICT	MPO	COUNTY	CSJ	TIP FY	HWY	PHASE	CITY	YOE COST
SAN ANTONIO	ALAMO AREA	BEXAR	2452-02-128	2021	SL 1604	E	SAN ANTONIO	$ 18,800,000

LIMITS FROM: IH 10
LIMITS TO: US 281
PROJECT SPONSOR: TxDOT
REVISION DATE: 11/2019
PROJECT DESCR: Expand from 4 to 10 lane expy - including 2 HOV special use lanes; from 4 to 4 frontage roads
MPO PROJ NUM: 4049.2
FUNDING CAT(S):
REMARKS P7: 10/19 - add project (E); spin off of 2452-02-083 (MPO #3913); no impact to conformity
PROJECT HISTORY: 10/19 - add project (E); spin off of 2452-02-083 (MPO #3913); no impact to conformity

TOTAL PROJECT COST INFORMATION

PRELIM ENG:	$ 18,800,000
ROW PURCH:	$ 0
CONST COST:	$ 187,800,000
CONST ENG:	$ 8,300,000
CONTING:	$ 14,600,000
INDIRECT:	$ 4,100,000
BOND FIN:	$ 0
POT CHG ORD:	$ 8,300,000
TOTAL COST:	$ 241,900,000

COST OF APPROVED PHASES $ 18,800,000

AUTHORIZED FUNDING BY CATEGORY/SHARE

CATEGORY	FEDERAL	STATE	REGIONAL	LOCAL	LC	TOTAL
SW PE	$ 15,040,000	$ 3,760,000	$ 0	$ 0	$ 0	$ 18,800,000
TOTAL	$ 15,040,000	$ 3,760,000	$ 0	$ 0	$ 0	$ 18,800,000

TIP History

2019-2022 STIP **11/2019 Revision: Approved 01/29/2020**

DISTRICT	MPO	COUNTY	CSJ	TIP FY	HWY	PHASE	CITY	YOE COST
SAN ANTONIO	ALAMO AREA	BEXAR	2452-02-128	2021	SL 1604	E	SAN ANTONIO	$ 18,800,000

LIMITS FROM: IH 10
LIMITS TO: US 281
PROJECT SPONSOR: TxDOT
REVISION DATE: 11/2019
PROJECT DESCR: Expand from 4 to 10 lane expy - including 2 HOV special use lanes; from 4 to 4 frontage roads
MPO PROJ NUM: 4049.2
FUNDING CAT(S):
REMARKS P7: 10/19 - add project (E); spin off of 2452-02-083 (MPO #3913); no impact to conformity
PROJECT HISTORY: 10/19 - add project (E); spin off of 2452-02-083 (MPO #3913); no impact to conformity

TOTAL PROJECT COST INFORMATION

PRELIM ENG:	$ 18,800,000
ROW PURCH:	$ 0
CONST COST:	$ 187,800,000
CONST ENG:	$ 8,300,000
CONTING:	$ 14,600,000
INDIRECT:	$ 4,100,000
BOND FIN:	$ 0

COST OF APPROVED PHASES $ 18,800,000

AUTHORIZED FUNDING BY CATEGORY/SHARE

CATEGORY	FEDERAL	STATE	REGIONAL	LOCAL	LC	TOTAL
SW PE	$ 15,040,000	$ 3,760,000	$ 0	$ 0	$ 0	$ 18,800,000
TOTAL	$ 15,040,000	$ 3,760,000	$ 0	$ 0	$ 0	$ 18,800,000

POT CHG ORD:	$	8,300,000
TOTAL COST:	$	241,900,000

Comment History

Time	User	Comment	Related Approval
2019/11/25 13:32:41	**Greg Wood**		**11/2019: Approved**

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Mon, Apr 20, 2020 2:23:39 PM

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Color Key: - Business rule violation - Value changed in current session - Different from DCIS or latest approved copy

Data

Statewide	☐
TIP Revision	None
District	SAN ANTONIO
County	BEXAR
MPO	ALAMO AREA
Highway	SL 1604
CSJ	2452 - 03 - 113
TIP FY	2024
Revision Date	11/2019
Project Sponsor	TxDOT
MPO Proj Number	3786
MTP Reference	3786
City	SAN ANTONIO
Limits From	US 281
Limits To	Redland Road
Project Description	Expand from 4 to 10 lane expressway - including 2 HOV-special use lanes & from 4 to 4 FR lanes
P7 Remarks	

Phase

- ☑ Construction
- ☐ Engineering
  - ☐ Environmental
  - ☐ Engineering
- ☐ Right-of-Way
  - ☐ Acquisition
  - ☐ Utilities
- ☐ Transfer

NOX (Kg /D):	0.0000	
VOC (Kg /D):	0.0000	
PM10 (Kg /D):	0.0000	
PM2.5 (Kg /D):	0.0000	
CO (Lbs /D):		

Total Project Cost Information

Prelim Engineering	$5,800,000	☐
ROW Purchase	$3,600,000	☐
Construction Cost	$58,000,000	☐
Const Engineering	$2,600,000	☐
Contingencies	$4,500,000	☐
Indirect Costs	$1,300,000	☐
Bond Financing	$0	☐
Potential Chg Ord	$2,600,000	☐
Total Project Cost	$78,400,000	
YOE Cost		
Toll	☐	
TCM	☐	

Project History

10/19- move from 21 to 24 and rev funding/cost; 1/19 - rev descr to incl FR lns; 10/18 - move from FY 20 to FY 21, rev descr, TPC & funding, move to TxDOT; 4/17 - rev cost; 4/14 - rev limits, year ("15 to "20), descr and funding distribution

Authorized Funding by Category/Share

Category	Federal	State	Regional	Local	Local Contributions	Total
Other	$46,400,000	$11,600,000	$0	$0	$0	$58,000,000
Total	$46,400,000	$11,600,000	$0.00	$0.00	$0.00	$58,000,000

DISTRICT	MPO	COUNTY	CSJ	TIP FY	HWY	PHASE	CITY	YOE COST
SAN ANTONIO	ALAMO AREA	BEXAR	2452-03-113	2024	SL 1604	C	SAN ANTONIO	$ 58,000,000

LIMITS FROM: US 281
LIMITS TO: Redland Road
PROJECT SPONSOR: TxDOT
REVISION DATE: 11/2019
PROJECT DESCR: Expand from 4 to 10 lane expressway - including 2 HOV-special use lanes & from 4 to 4 FR lanes
MPO PROJ NUM: 3786
FUNDING CAT(S): Other
REMARKS P7:
PROJECT HISTORY: 10/19- move from 21 to 24 and rev funding/cost; 1/19 - rev descr to incl FR lns; 10/18 - move from FY 20 to FY 21, rev descr, TPC & funding, move to TxDOT; 4/17 - rev cost; 4/14 - rev limits, year ("15 to "20), descr and funding distribution

TOTAL PROJECT COST INFORMATION

PRELIM ENG:	$ 5,800,000
ROW PURCH:	$ 3,600,000
CONST COST:	$ 58,000,000
CONST ENG:	$ 2,600,000
CONTING:	$ 4,500,000
INDIRECT:	$ 1,300,000
BOND FIN:	$ 0
POT CHG ORD:	$ 2,600,000
TOTAL COST:	$ 78,400,000

COST OF APPROVED PHASES $ 58,000,000

AUTHORIZED FUNDING BY CATEGORY/SHARE

CATEGORY	FEDERAL	STATE	REGIONAL	LOCAL	LC	TOTAL
Other	$ 46,400,000	$ 11,600,000	$ 0	$ 0	$ 0	$ 58,000,000
TOTAL	$ 46,400,000	$ 11,600,000	$ 0	$ 0	$ 0	$ 58,000,000

TIP History

2019-2022 STIP **11/2019 Revision: Approved 01/29/2020**

DISTRICT	MPO	COUNTY	CSJ	TIP FY	HWY	PHASE	CITY	YOE COST
SAN ANTONIO	ALAMO AREA	BEXAR	2452-03-113	2024	SL 1604	C	SAN ANTONIO	$ 58,000,000

LIMITS FROM: US 281
LIMITS TO: Redland Road
PROJECT SPONSOR: TxDOT
REVISION DATE: 11/2019
PROJECT DESCR: Expand from 4 to 10 lane expressway - including 2 HOV-special use lanes & from 4 to 4 FR lanes
MPO PROJ NUM: 3786
FUNDING CAT(S): Other
REMARKS P7:
PROJECT HISTORY: 10/19- move from 21 to 24 and rev funding/cost; 1/19 - rev descr to incl FR lns; 10/18 - move from FY 20 to FY 21, rev descr, TPC & funding, move to TxDOT; 4/17 - rev cost; 4/14 - rev limits, year ("15 to "20), descr and funding distribution

TOTAL PROJECT COST INFORMATION

PRELIM ENG:	$ 5,800,000
ROW PURCH:	$ 3,600,000
CONST COST:	$ 58,000,000
CONST ENG:	$ 2,600,000

COST OF APPROVED PHASES

AUTHORIZED FUNDING BY CATEGORY/SHARE

CATEGORY	FEDERAL	STATE	REGIONAL	LOCAL	LC	TOTAL
Other	$ 46,400,000	$ 11,600,000	$ 0	$ 0	$ 0	$ 58,000,000
TOTAL	$ 46,400,000	$ 11,600,000	$ 0	$ 0	$ 0	$ 58,000,000

CONST ENG:	$ 2,[illegible]	$ 58,000,000
CONTING:	$ 4,500,000	
INDIRECT:	$ 1,300,000	
BOND FIN:	$ 0	
POT CHG ORD:	$ 2,600,000	
TOTAL COST:	$ 78,400,000	

2019-2022 STIP — **02/2019 Revision: Approved 04/04/2019**

DISTRICT	MPO	COUNTY	CSJ	TIP FY	HWY	PHASE	CITY	YOE COST
SAN ANTONIO	ALAMO AREA	BEXAR	2452-03-113	2021	SL 1604	C	SAN ANTONIO	$ 30,000,000

LIMITS FROM: US 281
LIMITS TO: Redland Road
PROJECT SPONSOR: TxDOT
REVISION DATE: 02/2019
PROJECT DESCR: Expand from 4 to 10 lane expressway - including 2 HOV-special use lanes & from 4 to 4 FR lanes
MPO PROJ NUM: 3786
FUNDING CAT(S): 2M

REMARKS P7: 2nd Qtr 19 - revise description to include number of FR lanes
PROJECT HISTORY: 1/19 - rev descr to incl FR lanes; 10/18 - move from FY 20 to FY 21, rev descr, TPC & funding, move to TxDOT; 4/17 - rev cost; 4/14 - rev limits, year ("15 to "20), descr and funding distribution

TOTAL PROJECT COST INFORMATION

PRELIM ENG:	$ 3,000,000	COST OF APPROVED PHASES $ 30,000,000
ROW PURCH:	$ 3,600,000	
CONST COST:	$ 30,000,000	
CONST ENG:	$ 1,195,221	
CONTING:	$ 1,673,310	
INDIRECT:	$ 478,088	
BOND FIN:	$ 0	
POT CHG ORD:	$ 4,780,884	
TOTAL COST:	$ 44,727,503	

AUTHORIZED FUNDING BY CATEGORY/SHARE

CATEGORY	FEDERAL	STATE	REGIONAL	LOCAL	LC	TOTAL
2M	$ 24,000,000	$ 6,000,000	$ 0	$ 0	$ 0	$ 30,000,000
TOTAL	$ 24,000,000	$ 6,000,000	$ 0	$ 0	$ 0	$ 30,000,000

2019-2022 STIP — **07/2018 Revision: Approved 09/28/2018**

DISTRICT	MPO	COUNTY	CSJ	TIP FY	HWY	PHASE	CITY	YOE COST
SAN ANTONIO	ALAMO AREA	BEXAR	2452-03-113	2020	SL 1604	C,E,R	SAN ANTONIO	$ 47,808,839

LIMITS FROM: US 281
LIMITS TO: Redland Road
PROJECT SPONSOR: TxDOT
REVISION DATE: 07/2018
PROJECT DESCR: Expand to 8 lane expressway - construct 4 new managed lanes
MPO PROJ NUM: 3786
FUNDING CAT(S): 3LC

REMARKS P7: 3rd Qtr 17 - revise cost
PROJECT HISTORY: 4/17 - revise cost; 4/14 - rev limits, year ("15 to "20), description and funding distribution

TOTAL PROJECT COST INFORMATION

PRELIM ENG:	$ 1,434,266	COST OF APPROVED PHASES $ 47,808,839
ROW PURCH:	$ 0	
CONST COST:	$ 47,808,839	
CONST ENG:	$ 1,195,221	
CONTING:	$ 1,673,310	
INDIRECT:	$ 478,088	
BOND FIN:	$ 0	
POT CHG ORD:	$ 4,780,884	
TOTAL COST:	$ 57,370,608	

AUTHORIZED FUNDING BY CATEGORY/SHARE

CATEGORY	FEDERAL	STATE	REGIONAL	LOCAL	LC	TOTAL
3LC	$ 0	$ 0	$ 0	$ 0	$ 47,808,839	$ 47,808,839
TOTAL	$ 0	$ 0	$ 0	$ 0	$ 47,808,839	$ 47,808,839

2017-2020 STIP — **05/2017 Revision: Approved 08/22/2017**

DISTRICT	MPO	COUNTY	CSJ	TIP FY	HWY	PHASE	CITY	YOE COST
SAN ANTONIO	ALAMO AREA	BEXAR	2452-03-113	2020	SL 1604	C,E,R	SAN ANTONIO	$ 47,808,839

LIMITS FROM: US 281
LIMITS TO: Redland Road
PROJECT SPONSOR: TxDOT
REVISION DATE: 05/2017
PROJECT DESCR: Expand to 8 lane expressway - construct 4 new managed lanes
MPO PROJ NUM: 3786
FUNDING CAT(S): 3LC

REMARKS P7: 3rd Qtr 17 - revise cost
PROJECT HISTORY: 4/17 - revise cost; 4/14 - rev limits, year ("15 to "20), description and funding distribution

TOTAL PROJECT COST INFORMATION

PRELIM ENG:	$ 1,434,266

AUTHORIZED FUNDING BY CATEGORY/SHARE

CATEGORY	FEDERAL	STATE	REGIONAL	LOCAL	LC	TOTAL

ROW PURCH:	$ 0	COST OF APPROVED PHASES $ 47,808,839	3LC	$ 0	$ 0	$ 0	$ 0	$ 47,808,839	$ 47,808,839
CONST COST:	$ 47,808,839		TOTAL	$ 0	$ 0	$ 0	$ 0	$ 47,808,839	$ 47,808,839
CONST ENG:	$ 1,195,221								
CONTING:	$ 1,673,310								
INDIRECT:	$ 478,088								
BOND FIN:	$ 0								
POT CHG ORD:	$ 4,780,884								
TOTAL COST:	$ 57,370,608								

2017-2020 STIP **07/2016 Revision: Approved 12/19/2016**

DISTRICT	MPO	COUNTY	CSJ	TIP FY	HWY	PHASE	CITY	YOE COST
SAN ANTONIO	ALAMO AREA	BEXAR	2452-03-113	2020	Loop 1604	C,E,R	SAN ANTONIO	$ 94,614,000

LIMITS FROM: US 281
LIMITS TO: Redland Road
PROJECT SPONSOR: TxDOT
REVISION DATE: 07/2016
PROJECT DESCR: Expand to 8 lane expy - construct 4 new managed lanes
MPO PROJ NUM: 3786
FUNDING CAT(S): 3LC
REMARKS P7: None
PROJECT HISTORY: 4/14 - rev limits, year, description and funding distribution

TOTAL PROJECT COST INFORMATION

PRELIM ENG:	$ 4,083,937	COST OF APPROVED PHASES $ 94,614,000	CATEGORY	FEDERAL	STATE	REGIONAL	LOCAL	LC	TOTAL
ROW PURCH:	$ 0		3LC	$ 0	$ 0	$ 0	$ 0	$ 94,614,000	$ 94,614,000
CONST COST:	$ 78,845,000		TOTAL	$ 0	$ 0	$ 0	$ 0	$ 94,614,000	$ 94,614,000
CONST ENG:	$ 3,583,864								
CONTING:	$ 150,022								
INDIRECT:	$ 4,025,596								
BOND FIN:	$ 0								
POT CHG ORD:	$ 3,925,581								
TOTAL COST:	$ 94,614,000								

AUTHORIZED FUNDING BY CATEGORY/SHARE

Comment History

Time	User	Comment	Related Approval
2019/11/25 13:32:41	**Greg Wood**		**11/2019: Approved**
2019/02/11 13:49:02	**Greg Wood**		**02/2019: Approved**
2018/09/17 16:15:08	**Greg Wood**		**07/2018: Approved**
2017/08/14 13:31:33	**Greg Wood**		**05/2017: Approved**
2016/09/13 14:43:33	**Greg Wood**		**07/2016: Approved**

STIP Portal

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Project Management | Reports | Support

Project Management > Area List > STIPs (M-ALAMO AREA) > Revisions () > TIP Instances (Unassigned) > Highway Projects (Unassigned) > Project Details

Color Key: - Business rule violation - Value changed in current session - Different from DCIS or latest approved copy

Data

Statewide	☐
TIP Revision	None
District	SAN ANTONIO
County	BEXAR
MPO	ALAMO AREA
Highway	SL 1604
CSJ	2452 - 03 - 113
TIP FY	2022
Revision Date	11/2019
Project Sponsor	TxDOT
MPO Proj Number	3786.2
MTP Reference	3786.2
City	SAN ANTONIO
Limits From	US 281
Limits To	Redland Road
Project Description	Expand from 4 to 10 lane expressway - including 2 HOV-special use lanes & from 4 to 4 FR lanes
P7 Remarks	

Phase

- ☐ Construction
- ☑ Engineering
  - ☐ Environmental
  - ☐ Engineering
- ☑ Right-of-Way
  - ☐ Acquisition
  - ☐ Utilities
- ☐ Transfer

NOX (Kg /D):	0.0000	
VOC (Kg /D):	0.0000	
PM10 (Kg /D):	0.0000	
PM2.5 (Kg /D):	0.0000	
CO (Lbs /D):		

Total Project Cost Information

Prelim Engineering	$5,800,000	☑
ROW Purchase	$3,600,000	☑
Construction Cost	$58,000,000	☐
Const Engineering	$2,600,000	☑
Contingencies	$4,500,000	☐
Indirect Costs	$1,300,000	☐
Bond Financing	$0	☐
Potential Chg Ord	$2,600,000	☐
Total Project Cost	$78,400,000	
YOE Cost		
Toll	☐	
TCM	☐	

Project History 10/19 - move from FY 2021 to FY 2024 and revise funding; 1/19 - rev descr to incl FR lanes; 10/18 - add phases (Engr, ROW)

Authorized Funding by Category/Share

Category	Federal	State	Regional	Local	Local Contributions	Total
SW PE	$4,640,000	$1,160,000	$0	$0	$0	$5,800,000
SW ROW	$2,880,000	$720,000	$0	$0	$0	$3,600,000
Total	$7,520,000	$1,880,000	$0.00	$0.00	$0.00	$9,400,000

DISTRICT	MPO	COUNTY	CSJ	TIP FY	HWY	PHASE	CITY	YOE COST
SAN ANTONIO	ALAMO AREA	BEXAR	2452-03-113	2022	SL 1604	E,R	SAN ANTONIO	$ 9,400,000

LIMITS FROM: US 281
LIMITS TO: Redland Road
PROJECT SPONSOR: TxDOT
REVISION DATE: 11/2019
PROJECT DESCR: Expand from 4 to 10 lane expressway - including 2 HOV-special use lanes & from 4 to 4 FR lanes
MPO PROJ NUM: 3786.2
FUNDING CAT(S): SW PE,SW ROW
REMARKS P7:
PROJECT HISTORY: 10/19 - move from FY 2021 to FY 2024 and revise funding; 1/19 - rev descr to incl FR lanes; 10/18 - add phases (Engr, ROW)

TOTAL PROJECT COST INFORMATION

PRELIM ENG:	$ 5,800,000
ROW PURCH:	$ 3,600,000
CONST COST:	$ 58,000,000
CONST ENG:	$ 2,600,000
CONTING:	$ 4,500,000
INDIRECT:	$ 1,300,000
BOND FIN:	$ 0
POT CHG ORD:	$ 2,600,000
TOTAL COST:	$ 78,400,000

COST OF APPROVED PHASES $ 9,400,000

AUTHORIZED FUNDING BY CATEGORY/SHARE

CATEGORY	FEDERAL	STATE	REGIONAL	LOCAL	LC	TOTAL
SW PE	$ 4,640,000	$ 1,160,000	$ 0	$ 0	$ 0	$ 5,800,000
SW ROW	$ 2,880,000	$ 720,000	$ 0	$ 0	$ 0	$ 3,600,000
TOTAL	$ 7,520,000	$ 1,880,000	$ 0	$ 0	$ 0	$ 9,400,000

TIP History

2019-2022 STIP **11/2019 Revision: Approved 01/29/2020**

DISTRICT	MPO	COUNTY	CSJ	TIP FY	HWY	PHASE	CITY	YOE COST
SAN ANTONIO	ALAMO AREA	BEXAR	2452-03-113	2022	SL 1604	E,R	SAN ANTONIO	$ 9,400,000

LIMITS FROM: US 281
LIMITS TO: Redland Road
PROJECT SPONSOR: TxDOT
REVISION DATE: 11/2019
PROJECT DESCR: Expand from 4 to 10 lane expressway - including 2 HOV-special use lanes & from 4 to 4 FR lanes
MPO PROJ NUM: 3786.2
FUNDING CAT(S): SW PE,SW ROW
REMARKS P7:
PROJECT HISTORY: 10/19 - move from FY 2021 to FY 2024 and revise funding; 1/19 - rev descr to incl FR lanes; 10/18 - add phases (Engr, ROW)

TOTAL PROJECT COST INFORMATION

PRELIM ENG:	$ 5,800,000
ROW PURCH:	$ 3,600,000
CONST COST:	$ 58,000,000
CONST ENG:	$ 2,600,000
CONTING:	$ 4,500,000

COST OF APPROVED PHASES $ 9,400,000

AUTHORIZED FUNDING BY CATEGORY/SHARE

CATEGORY	FEDERAL	STATE	REGIONAL	LOCAL	LC	TOTAL
SW PE	$ 4,640,000	$ 1,160,000	$ 0	$ 0	$ 0	$ 5,800,000
SW ROW	$ 2,880,000	$ 720,000	$ 0	$ 0	$ 0	$ 3,600,000

CONTING:	$ 4,000,000	TOTAL	$ 7,520,000	$ 1,880,000	$ 0	$ 0	$ 0	$ 9,400,000
INDIRECT:	$ 1,300,000						
BOND FIN:	$ 0						
POT CHG ORD:	$ 2,600,000						
TOTAL COST:	$ 78,400,000						

2019-2022 STIP **02/2019 Revision: Approved 04/04/2019**

DISTRICT	MPO	COUNTY	CSJ	TIP FY	HWY	PHASE	CITY	YOE COST
SAN ANTONIO	ALAMO AREA	BEXAR	2452-03-113	2019	SL 1604	E,R	SAN ANTONIO	$ 6,600,000

LIMITS FROM: US 281
LIMITS TO: Redland Road
PROJECT SPONSOR: TxDOT
REVISION DATE: 02/2019
PROJECT DESCR: Expand from 4 to 10 lane expressway - including 2 HOV-special use lanes & from 4 to 4 FR lanes
MPO PROJ NUM: 3786.2
FUNDING CAT(S): S102,SBPE
REMARKS P7: 2nd Qtr 19 - revise description to include number of FR lanes
PROJECT HISTORY: 1/19 - rev descr to incl FR lanes; 10/18 - add phases (Engr, ROW)

TOTAL PROJECT COST INFORMATION

PRELIM ENG:	$ 3,000,000
ROW PURCH:	$ 3,600,000
CONST COST:	$ 30,000,000
CONST ENG:	$ 1,195,221
CONTING:	$ 1,673,310
INDIRECT:	$ 478,088
BOND FIN:	$ 0
POT CHG ORD:	$ 4,780,884
TOTAL COST:	$ 44,727,503

COST OF APPROVED PHASES $ 6,600,000

AUTHORIZED FUNDING BY CATEGORY/SHARE

CATEGORY	FEDERAL	STATE	REGIONAL	LOCAL	LC	TOTAL
SW PE	$ 2,400,000	$ 600,000	$ 0	$ 0	$ 0	$ 3,000,000
SW ROW	$ 2,880,000	$ 720,000	$ 0	$ 0	$ 0	$ 3,600,000
TOTAL	$ 5,280,000	$ 1,320,000	$ 0	$ 0	$ 0	$ 6,600,000

2019-2022 STIP **11/2018 Revision: Approved 12/19/2018**

DISTRICT	MPO	COUNTY	CSJ	TIP FY	HWY	PHASE	CITY	YOE COST
SAN ANTONIO	ALAMO AREA	BEXAR	2452-03-113	2019	SL 1604	E,R	SAN ANTONIO	$ 6,600,000

LIMITS FROM: US 281
LIMITS TO: Redland Road
PROJECT SPONSOR: TxDOT
REVISION DATE: 11/2018
PROJECT DESCR: Expand from 4 to 10 lane expressway - including 2 HOV-special purpose lanes
MPO PROJ NUM: 3786.2
FUNDING CAT(S): SBPE
REMARKS P7: 1st Qtr 19 - add phases (Engr, ROW)
PROJECT HISTORY: 10/18 - add phases (Engr, ROW)

TOTAL PROJECT COST INFORMATION

PRELIM ENG:	$ 3,000,000
ROW PURCH:	$ 3,600,000
CONST COST:	$ 30,000,000
CONST ENG:	$ 1,195,221
CONTING:	$ 1,673,310
INDIRECT:	$ 478,088
BOND FIN:	$ 0
POT CHG ORD:	$ 4,780,884
TOTAL COST:	$ 44,727,503

COST OF APPROVED PHASES $ 6,600,000

AUTHORIZED FUNDING BY CATEGORY/SHARE

CATEGORY	FEDERAL	STATE	REGIONAL	LOCAL	LC	TOTAL
SW PE	$ 2,400,000	$ 600,000	$ 0	$ 0	$ 0	$ 3,000,000
SW ROW	$ 2,880,000	$ 720,000	$ 0	$ 0	$ 0	$ 3,600,000
TOTAL	$ 5,280,000	$ 1,320,000	$ 0	$ 0	$ 0	$ 6,600,000

Comment History

Time	User	Comment	Related Approval
2019/11/25 13:32:41	**Greg Wood**		**11/2019: Approved**
2019/02/11 13:49:01	**Greg Wood**		**02/2019: Approved**
2018/11/29 10:56:42	**Greg Wood**		**11/2018: Approved**

STIP Portal

Texas Department of Transportation

Mon, Apr 20, 2020 2:18:17 PM

Appendix F: Resource-Specific Maps

Figure 1— Community Facilities

Figure 2— Census Geographies

Figure 3— Potential Waters of the U.S.

Figure 4— San Antonio Segment of the Edwards Aquifer

Figure 5— Observed Vegetation Types

Figure 6— Project Area Karst Zones.

Figure 7— Golden-cheeked Warbler Habitat

Figure 8— Location of Noise Receivers

Figure 9— Area of Influence

Figure 10— Area of Induced Growth

Figure 11— Resource Study Area (RSA) for Federally Listed Species

Figure 12--Resource Study Area (RSA) for Groundwater

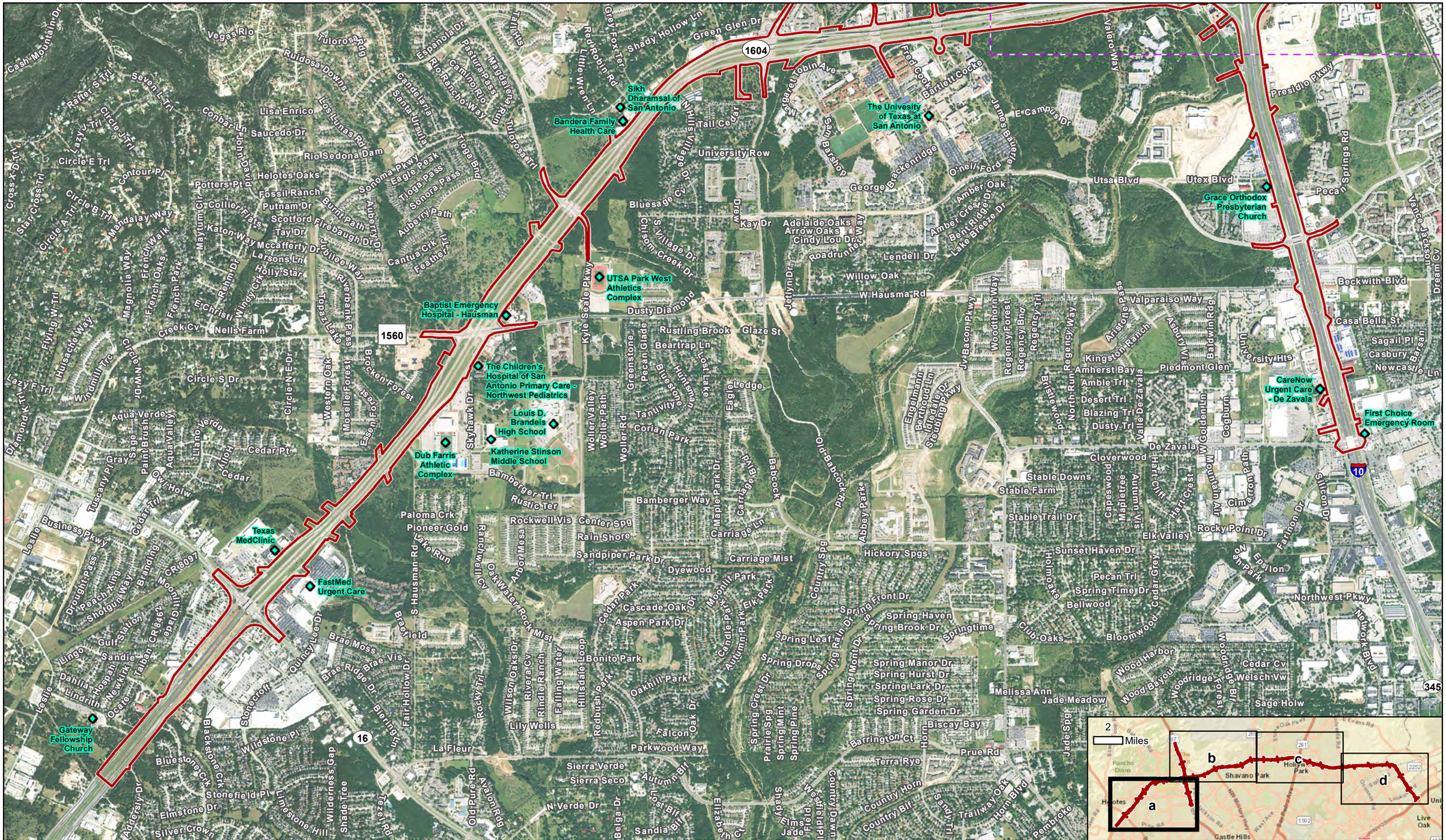

Figure 1a

Community Facilities

Loop 1604: SH 16 to I-35N

Project Location
Community Facility
Sheet limits

Data Source: CMEC (2019), TxDOT (2019)
Basemap Source: NAIP (2016)

CSJs: 2452-02-083, 2452-03-113, 2452-03-087

0 2,000 Feet
0 600 Meters

1 in = 2,000 feet
Scale: 1:24,000
Date: 6/2/2020

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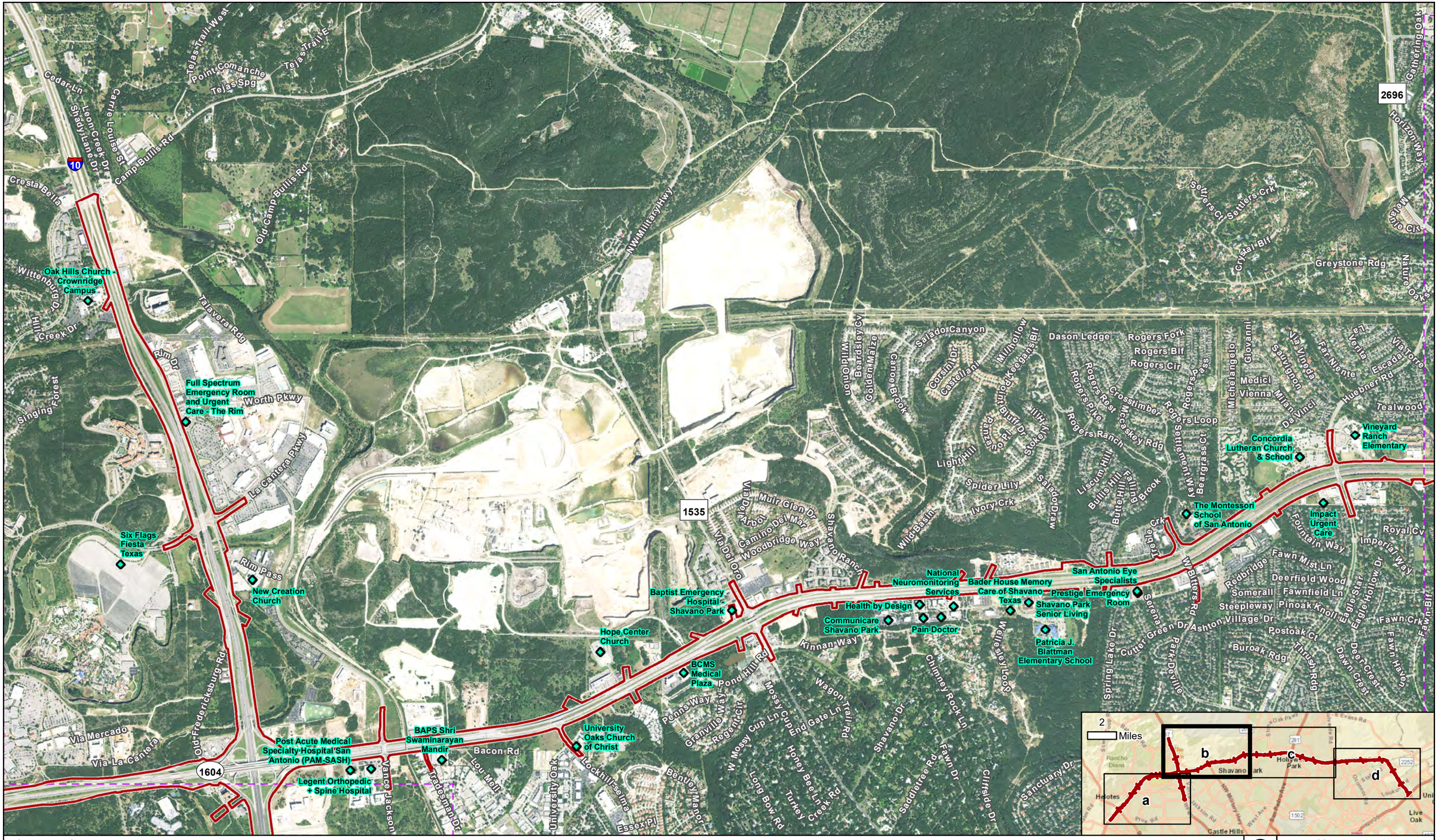

Figure 1b

Community Facilities

Loop 1604: SH 16 to I-35N

Project Location
Community Facility
Sheet limits

Data Source: CMEC (2019), TxDOT (2019)
Basemap Source: NAIP (2016)

CSJs: 2452-02-083, 2452-03-113, 2452-03-087

0 — 2,000 Feet
0 — 600 Meters

1 in = 2,000 feet
Scale: 1:24,000
Date: 6/2/2020

G:\Projects\TXDOT\LP1604_SH16_I35N\EA_Figure 1_Community Facilities_20200602.mxd

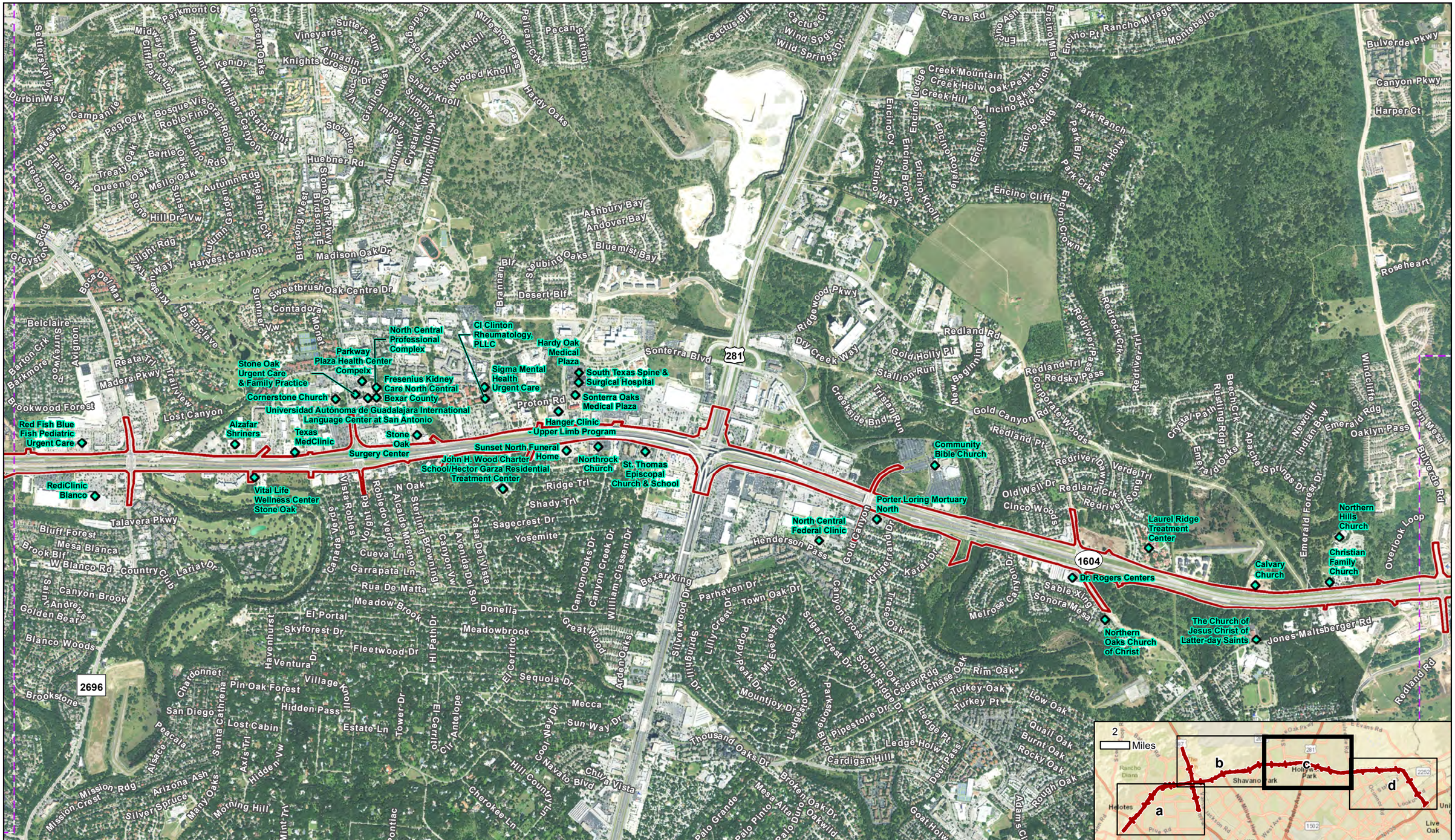

Figure 1c

Community Facilities

Loop 1604: SH 16 to I-35N

Project Location
Community Facility
Sheet limits

Data Source: CMEC (2019), TxDOT (2019)
Basemap Source: NAIP (2016)

CSJs: 2452-02-083, 2452-03-113, 2452-03-087

0 2,000 Feet — 1 in = 2,000 feet
0 600 Meters — Scale: 1:24,000
Date: 6/2/2020

G:\Projects\TXDOT\LP1604_SH16_I35N\EA_Figure 1_Community Facilities_20200602.mxd

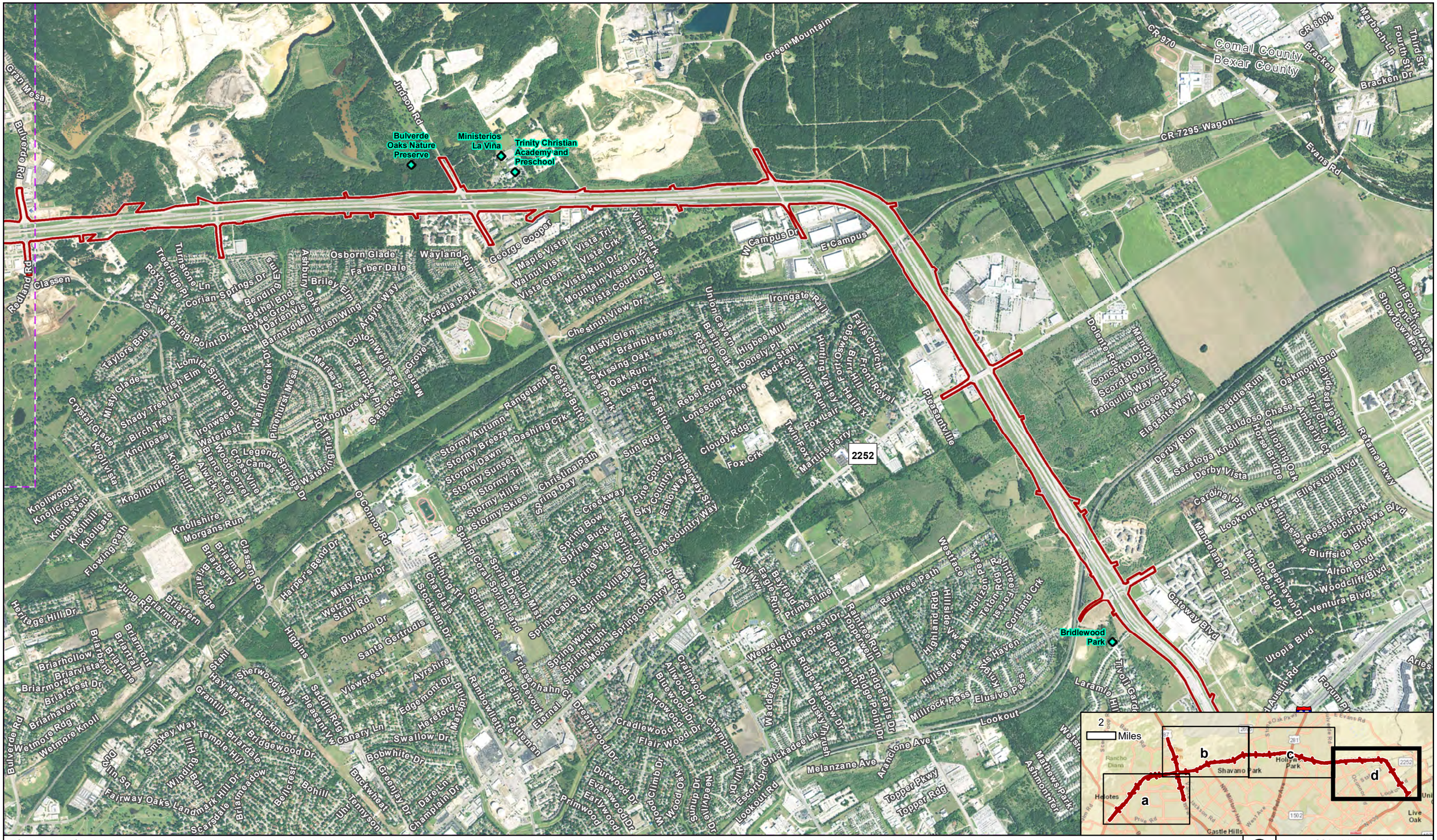

Figure 1d

Community Facilities

Loop 1604: SH 16 to I-35N

Project Location
Community Facility
Sheet limits

Data Source: CMEC (2019), TxDOT (2019)
Basemap Source: NAIP (2016)

CSJs: 2452-02-083, 2452-03-113, 2452-03-087

0 2,000 Feet
0 600 Meters

1 in = 2,000 feet
Scale: 1:24,000
Date: 6/2/2020

G:\Projects\TXDOT\LP1604_SH16_I35N\EA_Figure 1_Community Facilities_20200602.mxd

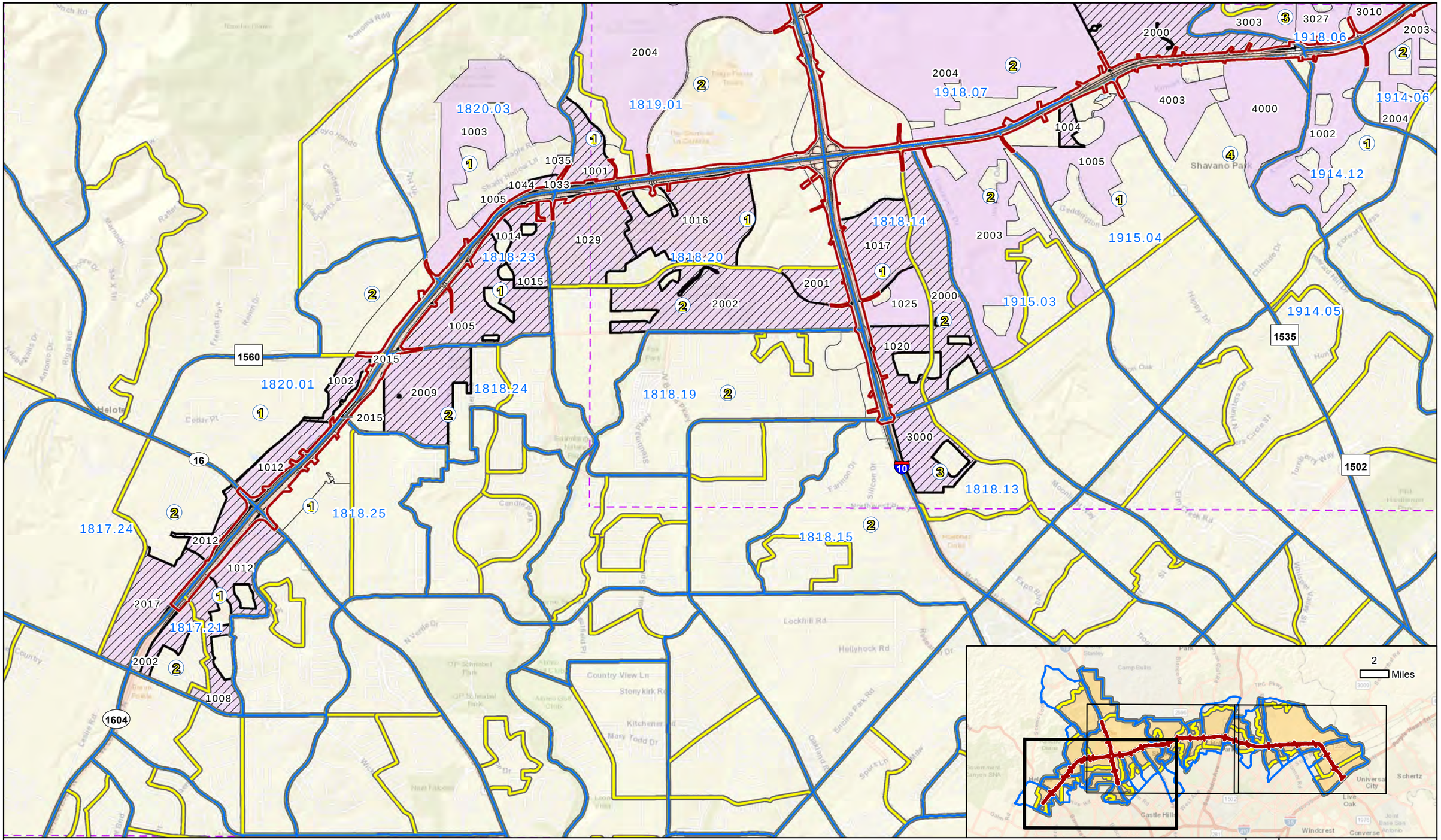

Figure 2a

Census Geographies

Loop 1604: SH 16 to I-35

Project Location
Sheet limits
2010 Census Tract
2010 Census Block Group
Adjacent 2010 Census Block
Populated Adjacent 2010 Census Block
Minority Population >50%

Data Source: US Census Bureau (2010)
Basemap Source: ESRI (2019)

CSJs: 2452-02-083, etc.

0 3,500 Feet
0 1,000 Meters

1 in = 3,500 feet
Scale: 1:42,000
Date: 1/16/2020

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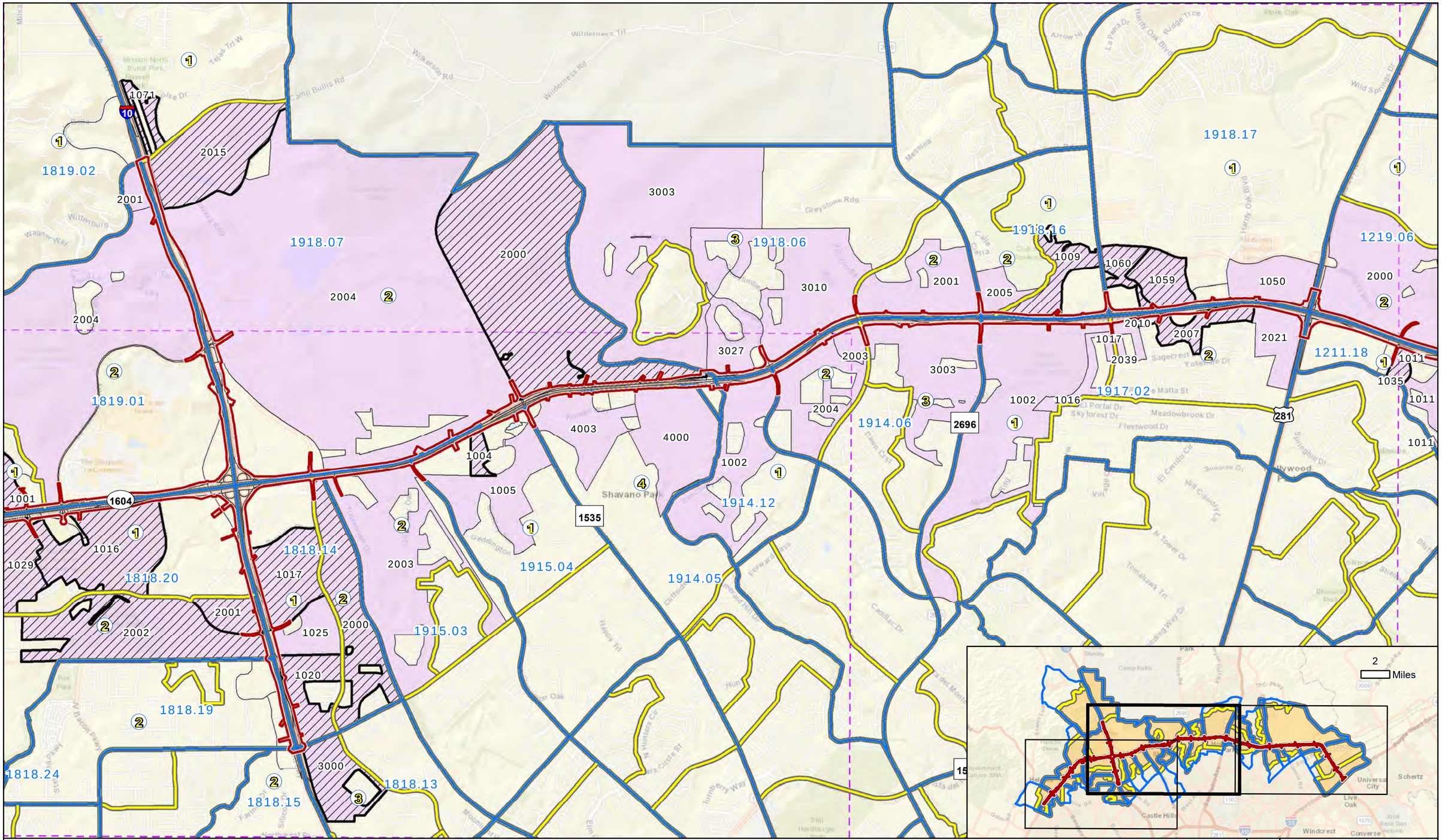

Figure 2b

Census Geographies

Loop 1604: SH 16 to I-35

Project Location
Sheet limits
2010 Census Tract
2010 Census Block Group
Adjacent 2010 Census Block
Populated Adjacent 2010 Census Block
Minority Population >50%

Data Source: US Census Bureau (2010)
Basemap Source: ESRI (2019)

CSJs: 2452-02-083, etc.

0 3,500 Feet
0 1,000 Meters

1 in = 3,500 feet
Scale: 1:42,000
Date: 1/16/2020

G:\Projects\TXDOT\LP1604_SH16_I35N\CIA_Figure 3_Census Geographies_20200116.mxd

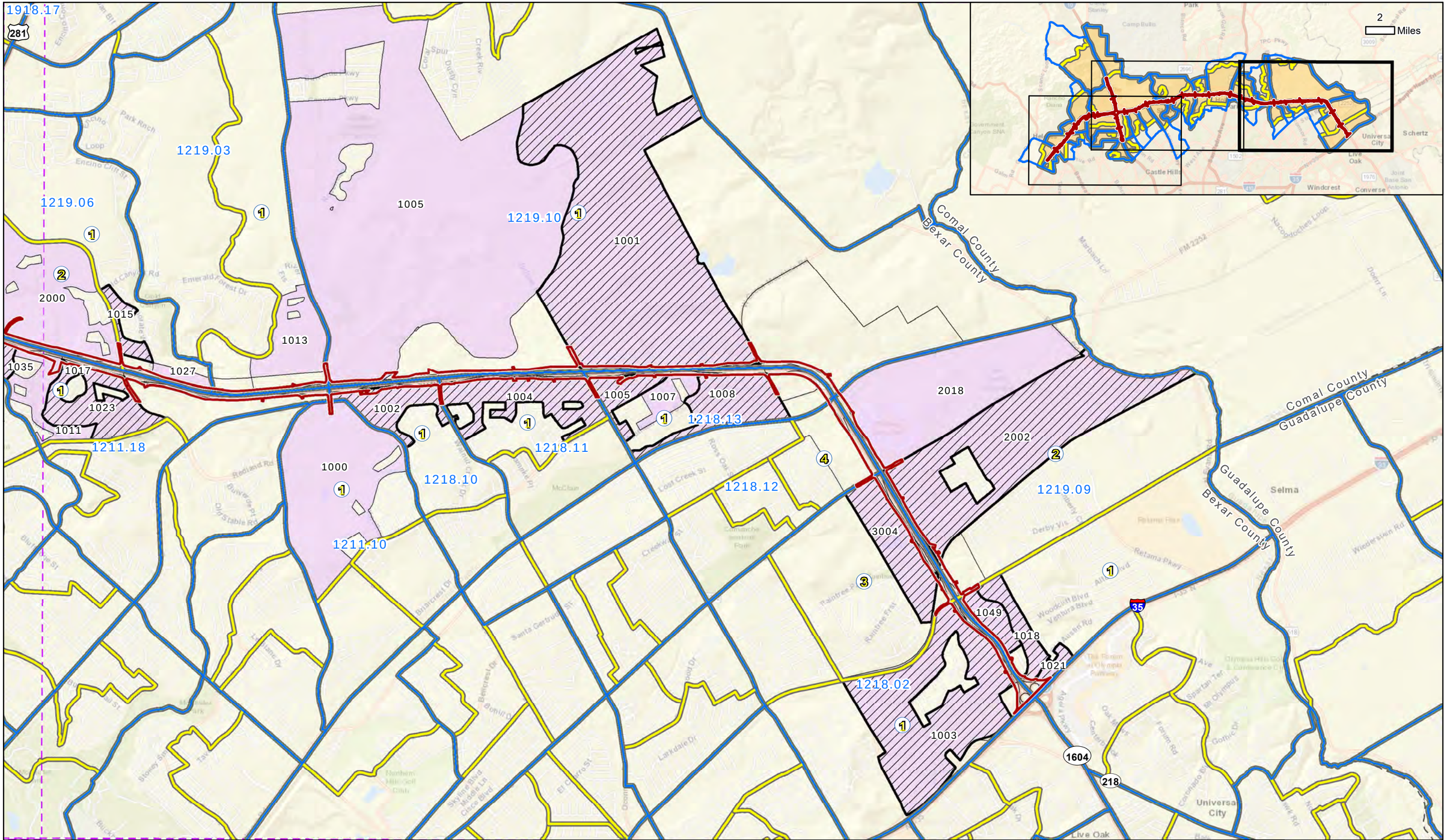

Figure 2c

Census Geographies

Loop 1604: SH 16 to I-35

Project Location
Sheet limits
2010 Census Tract
2010 Census Block Group
Adjacent 2010 Census Block
Populated Adjacent 2010 Census Block
Minority Population >50%

Data Source: US Census Bureau (2010)
Basemap Source: ESRI (2019)

CSJs: 2452-02-083, etc.

0 3,500 Feet
0 1,000 Meters

1 in = 3,500 feet
Scale: 1:42,000
Date: 1/16/2020

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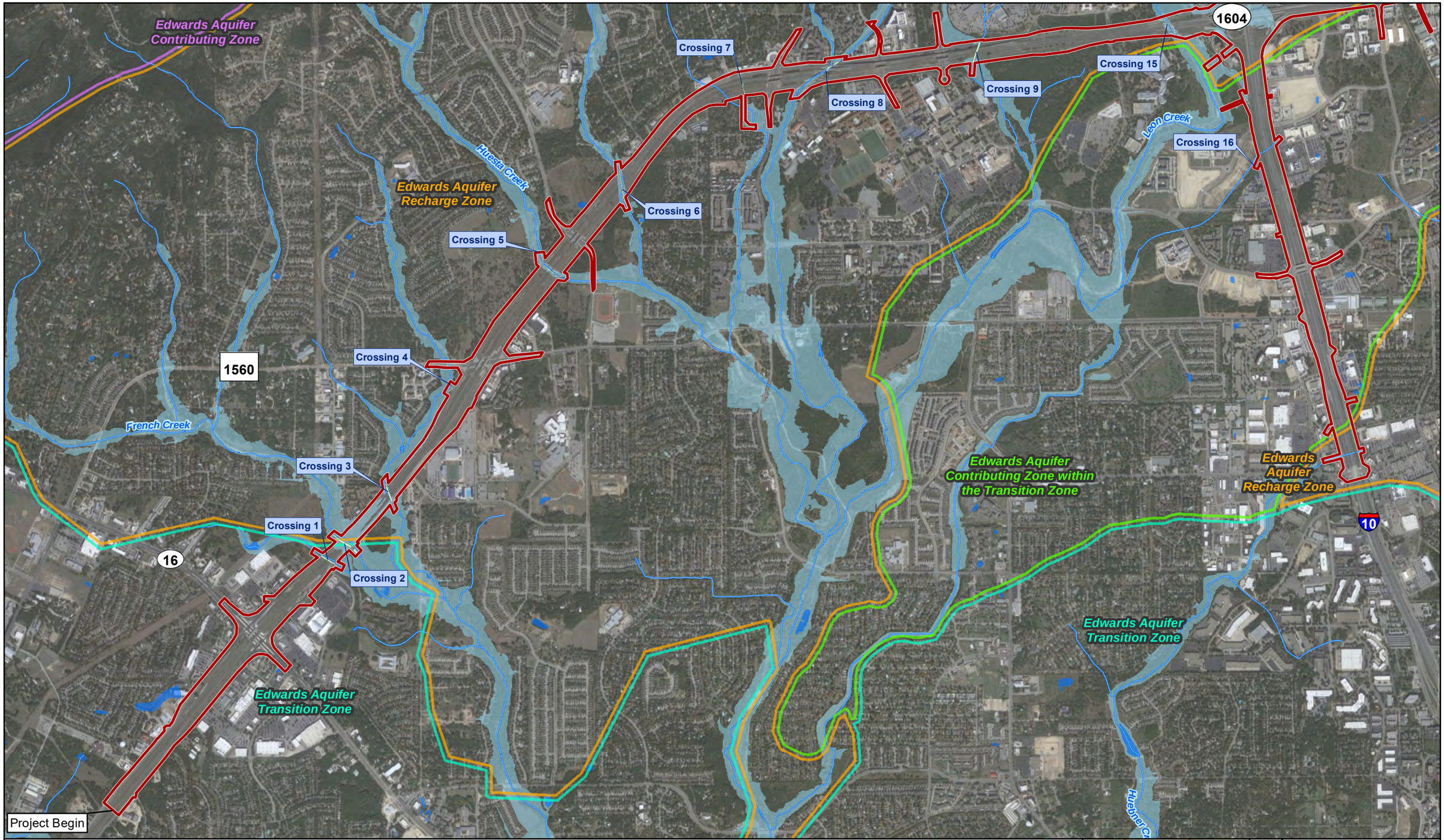


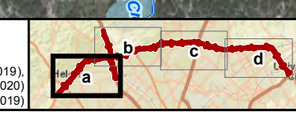
Figure 3a

Water Resources

Loop 1604: SH 16 to I-35

Project Location
NHD Stream
NHD Water
100-Year Flood Zone
Edwards Aquifer Contributing Zone
Edwards Aquifer Contributing Zone within the Transition Zone
Edwards Aquifer Recharge Zone
Edwards Aquifer Transition Zone
Water Crossing

Data Sources: NHD (2019), FEMA NFHL (2018), CMEC (2019, 2020)
Aerial Source: Google (2019)



CSJ: 2452-02-083, 2452-03-087, 2452-03-113, 2452-02-128

0 2,000 Feet
0 600 Meters

1 in = 2,000 feet
Scale: 1:24,000
Date: 5/28/2020

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Figure 3b

Water Resources

Loop 1604: SH 16 to I-35

Project Location
NHD Stream
NHD Water
100-Year Flood Zone
Designated Floodway
Edwards Aquifer Contributing Zone
Edwards Aquifer Contributing Zone within the Transition Zone
Edwards Aquifer Recharge Zone
Edwards Aquifer Transition Zone
Water Crossing

Data Sources: NHD (2019), FEMA NFHL (2018), CMEC (2019, 2020)
Aerial Source: Google (2019)

CSJ: 2452-02-083, 2452-03-087, 2452-03-113, 2452-02-128

0 2,000 Feet
0 600 Meters

1 in = 2,000 feet
Scale: 1:24,000
Date: 5/28/2020

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Figure 3c

Water Resources

Loop 1604: SH 16 to I-35

Project Location
NHD Stream
NHD Water
100-Year Flood Zone
Designated Floodway
Edwards Aquifer Recharge Zone
Edwards Aquifer Transition Zone
Water Crossing

Data Sources: NHD (2019), FEMA NFHL (2018), CMEC (2019, 2020)
Aerial Source: Google (2019)

CSJ: 2452-02-083, 2452-03-087, 2452-03-113, 2452-02-128

0 2,000 Feet
0 600 Meters

1 in = 2,000 feet
Scale: 1:24,000
Date: 5/28/2020

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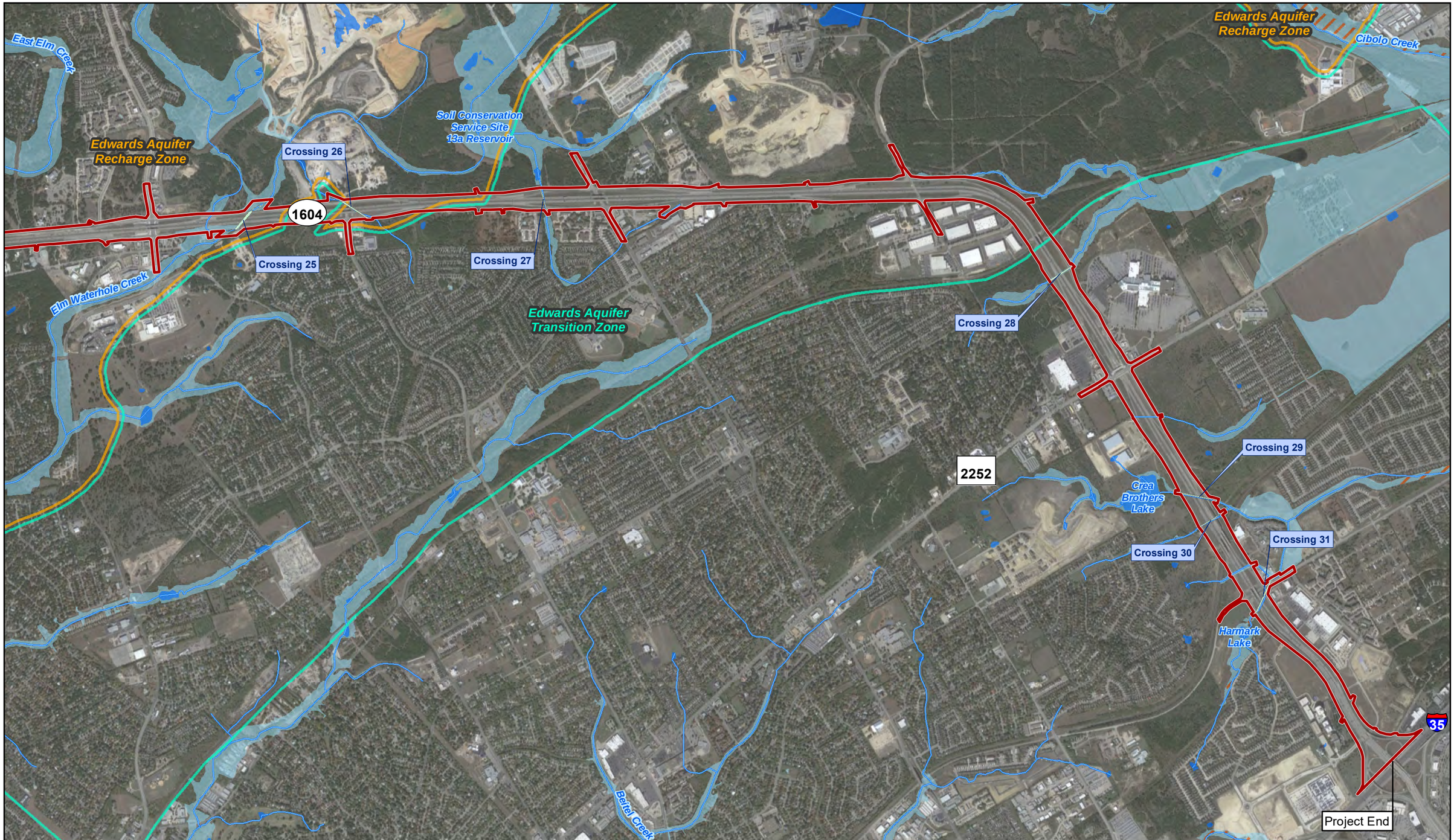

Figure 3d

Water Resources

Loop 1604: SH 16 to I-35

Project Location
NHD Stream
NHD Water
100-Year Flood Zone
Designated Floodway
Edwards Aquifer Recharge Zone
Edwards Aquifer Transition Zone
Water Crossing

Data Sources: NHD (2019), FEMA NFHL (2018), CMEC (2019, 2020)
Aerial Source: Google (2019)

CSJ: 2452-02-083, 2452-03-087, 2452-03-113, 2452-02-128

0 2,000 Feet
0 600 Meters

1 in = 2,000 feet
Scale: 1:24,000
Date: 5/28/2020

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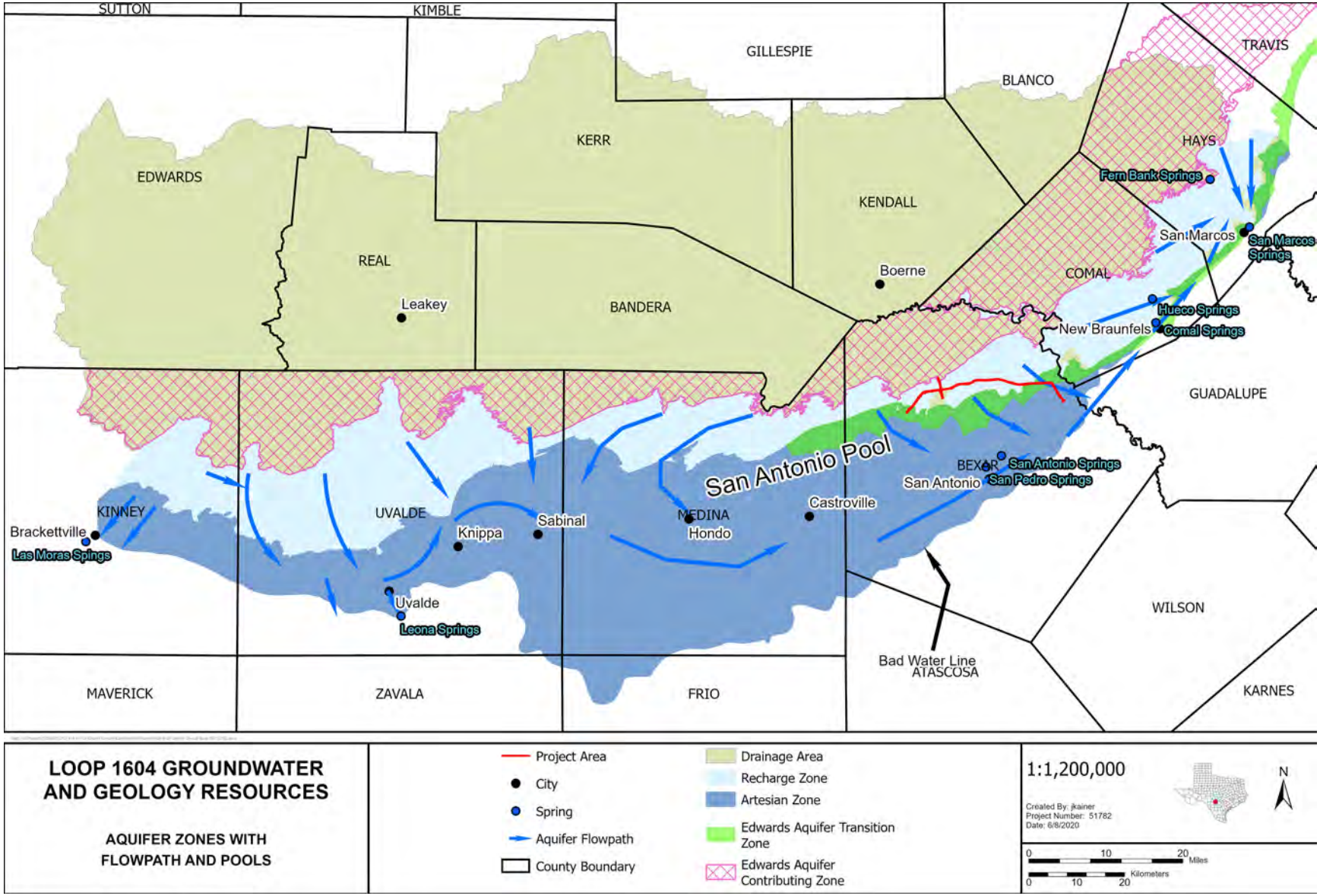

Figure 4: San Antonio Segment of the Edwards Aquifer (EAA 2019c).

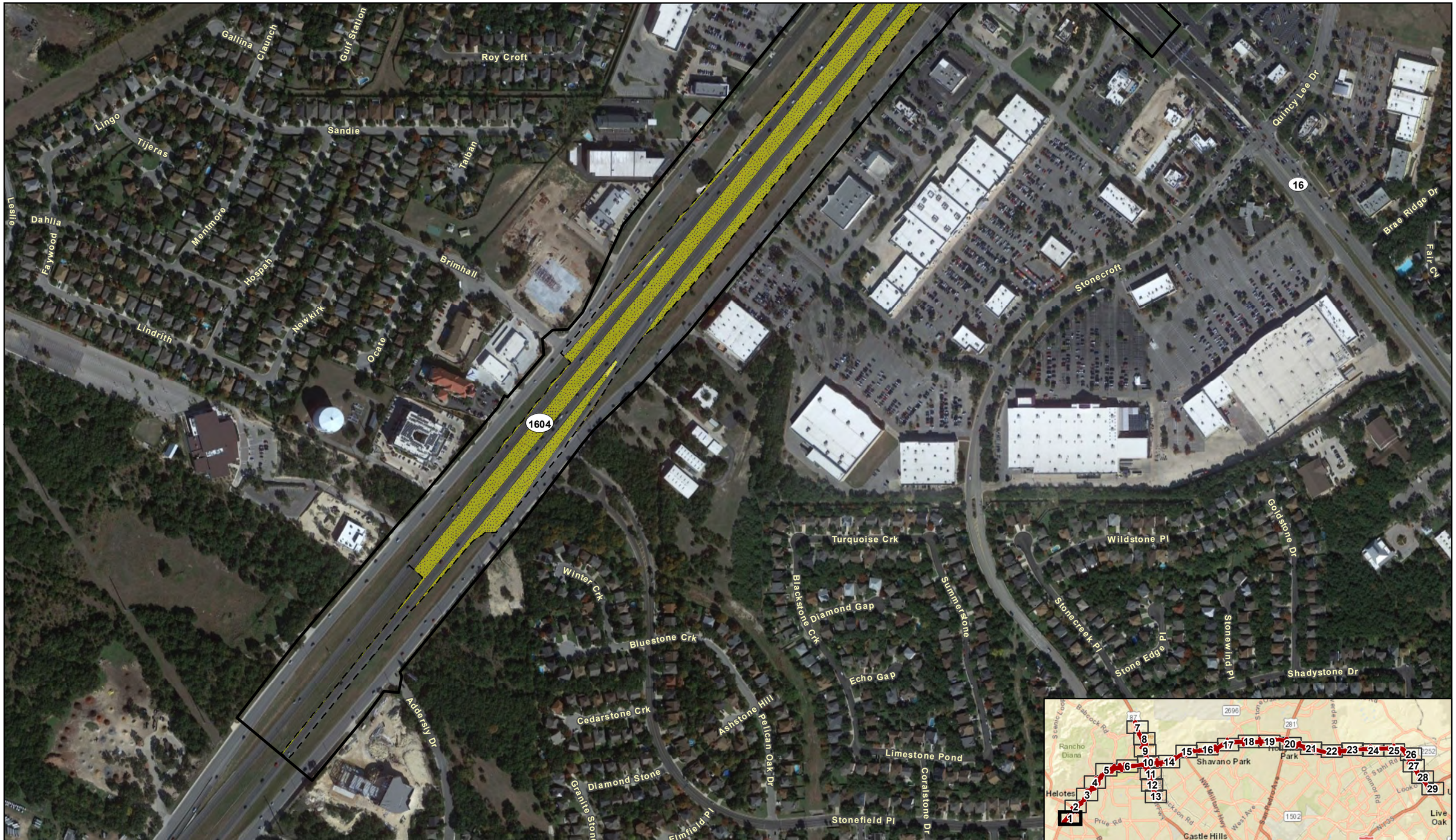

Figure 5 - Observed Vegetation Types

Sheet 1 of 29

Loop 1604: SH 16 to I-35

Existing Right-of-Way
Limits of Construction
Urban

Data Source: CMEC (2018)
Aerial Source: Google (2019)

CSJ: 2452-02-083, 2452-03-087, 2452-03-113, 2452-02-128

0 400 Feet
0 120 Meters

1 in = 400 feet
Scale: 1:4,800
Date: 5/10/2020

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Figure 5 - Observed Vegetation Types

Sheet 2 of 29

Loop 1604: SH 16 to I-35

Existing Right-of-Way
Existing Easement
Limits of Construction
Disturbed Prairie
Edwards Plateau Savanna, Woodland and Shrubland
Riparian
Urban

Data Source: CMEC (2018)
Aerial Source: Google (2019)

CSJ: 2452-02-083, 2452-03-087, 2452-03-113, 2452-02-128

0 400 Feet
0 120 Meters

1 in = 400 feet
Scale: 1:4,800
Date: 5/10/2020

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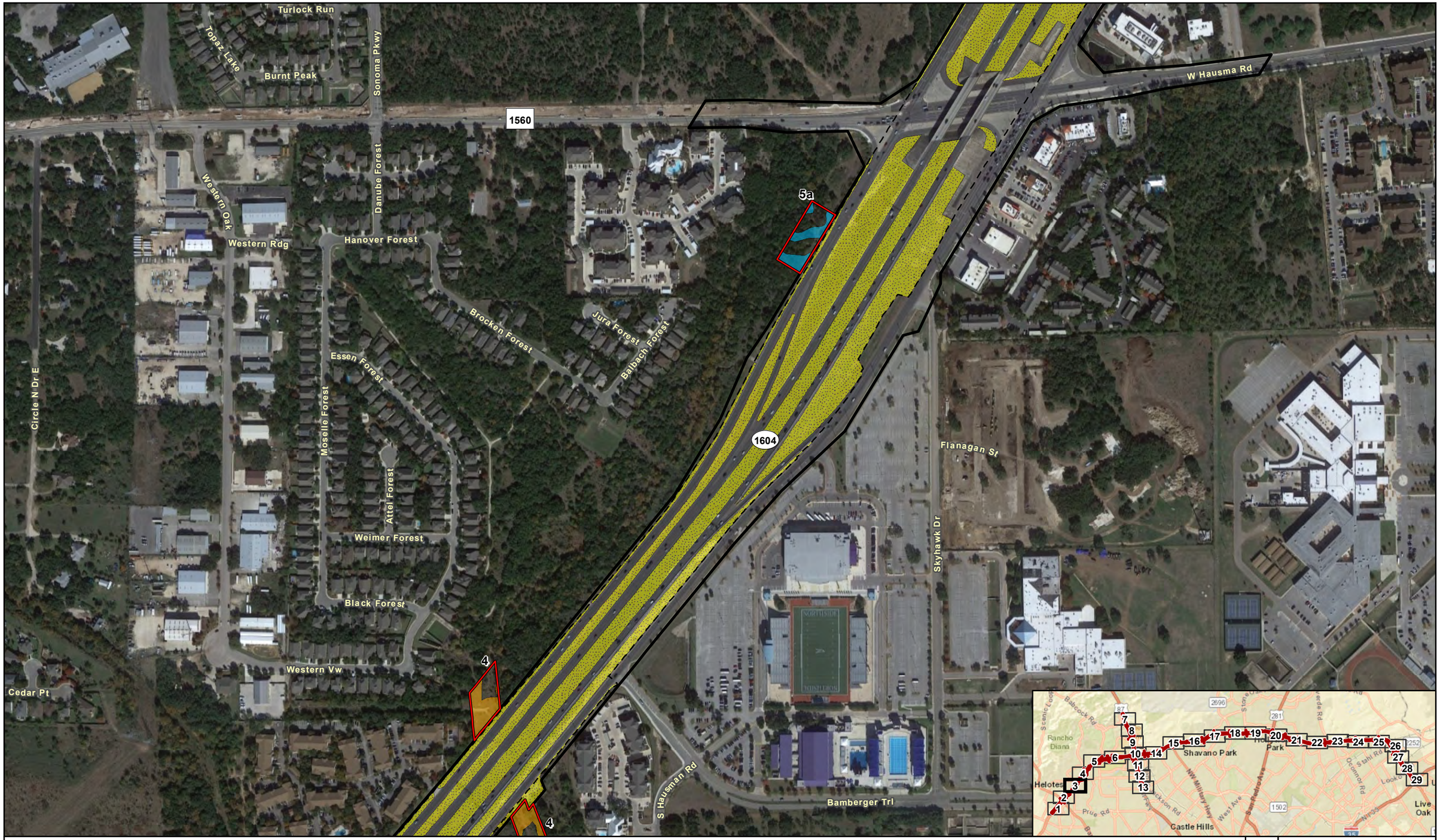

Figure 5 - Observed Vegetation Types

Sheet 3 of 29

Loop 1604: SH 16 to I-35

Existing Right-of-Way
Existing Easement
Limits of Construction
Disturbed Prairie
Edwards Plateau Savanna, Woodland and Shrubland
Urban

Data Source: CMEC (2018)
Aerial Source: Google (2019)

CSJ: 2452-02-083, 2452-03-087, 2452-03-113, 2452-02-128

0 400 Feet
0 120 Meters

1 in = 400 feet
Scale: 1:4,800
Date: 5/10/2020

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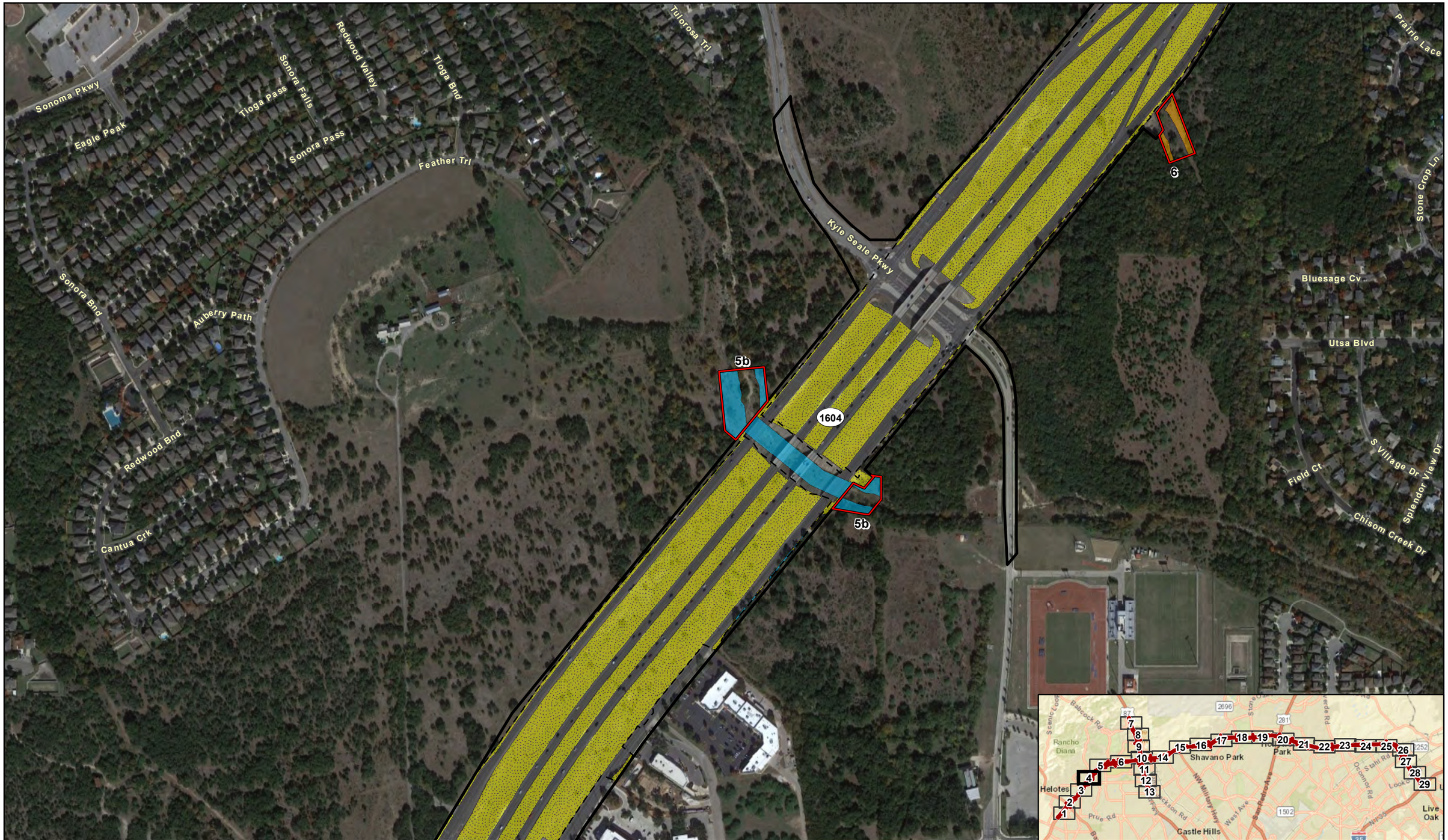

Figure 5 - Observed Vegetation Types

Sheet 4 of 29

Loop 1604: SH 16 to I-35

Existing Right-of-Way
Existing Easement
Limits of Construction
Disturbed Prairie
Edwards Plateau Savanna, Woodland and Shrubland
Urban

Data Source: CMEC (2018)
Aerial Source: Google (2019)

CSJ: 2452-02-083, 2452-03-087, 2452-03-113, 2452-02-128

0 400 Feet
0 120 Meters

1 in = 400 feet
Scale: 1:4,800
Date: 5/10/2020

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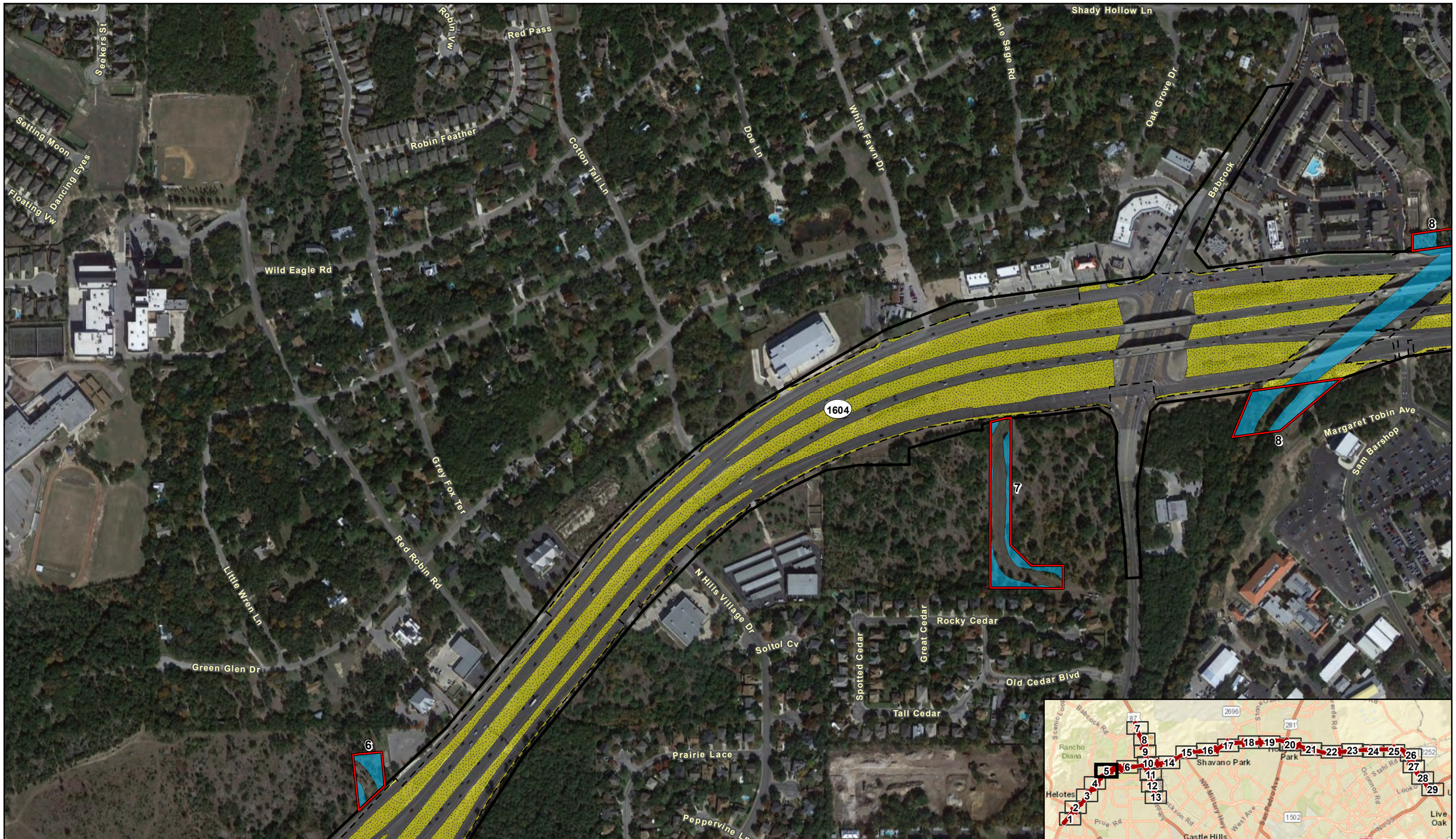

Figure 5 - Observed Vegetation Types

Sheet 5 of 29

Loop 1604: SH 16 to I-35

Existing Right-of-Way
Existing Easement
Limits of Construction
Edwards Plateau Savanna, Woodland and Shrubland
Urban

Data Source: CMEC (2018)
Aerial Source: Google (2019)

CSJ: 2452-02-083, 2452-03-087, 2452-03-113, 2452-02-128

0 400 Feet
0 120 Meters

1 in = 400 feet
Scale: 1:4,800
Date: 5/10/2020

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Figure 5 - Observed Vegetation Types

Sheet 6 of 29

Loop 1604: SH 16 to I-35

Existing Right-of-Way
Existing Easement
Limits of Construction
Edwards Plateau Savanna, Woodland and Shrubland
Urban

Data Source: CMEC (2018)
Aerial Source: Google (2019)

CSJ: 2452-02-083, 2452-03-087, 2452-03-113, 2452-02-128

0 400 Feet
0 120 Meters

1 in = 400 feet
Scale: 1:4,800
Date: 5/10/2020

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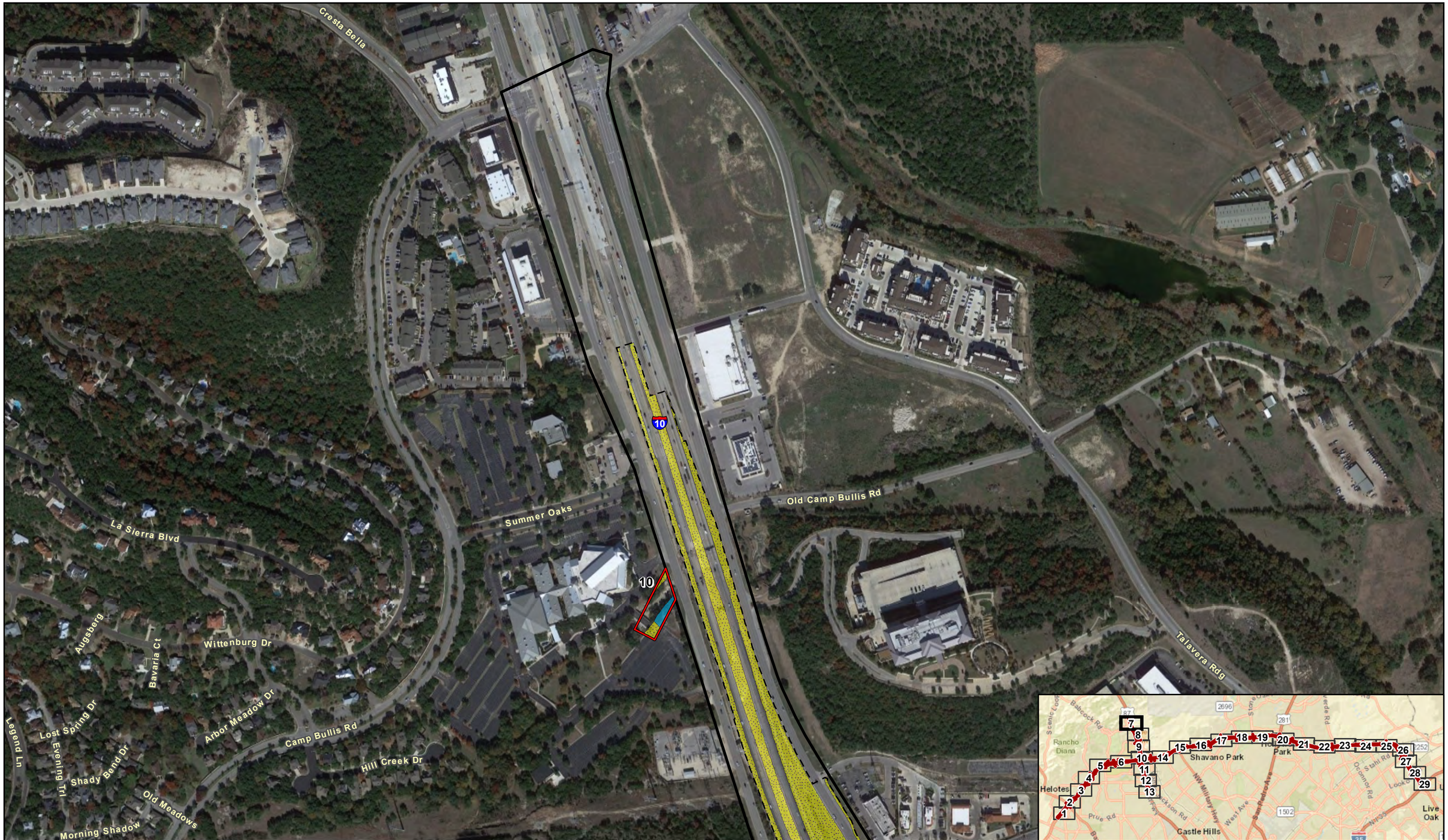

Figure 5 - Observed Vegetation Types

Sheet 7 of 29

Loop 1604: SH 16 to I-35

Existing Right-of-Way
Existing Easement
Limits of Construction
Edwards Plateau Savanna, Woodland and Shrubland
Urban

Data Source: CMEC (2018)
Aerial Source: Google (2019)

CSJ: 2452-02-083, 2452-03-087, 2452-03-113, 2452-02-128

0 400 Feet
0 120 Meters

1 in = 400 feet
Scale: 1:4,800
Date: 5/10/2020

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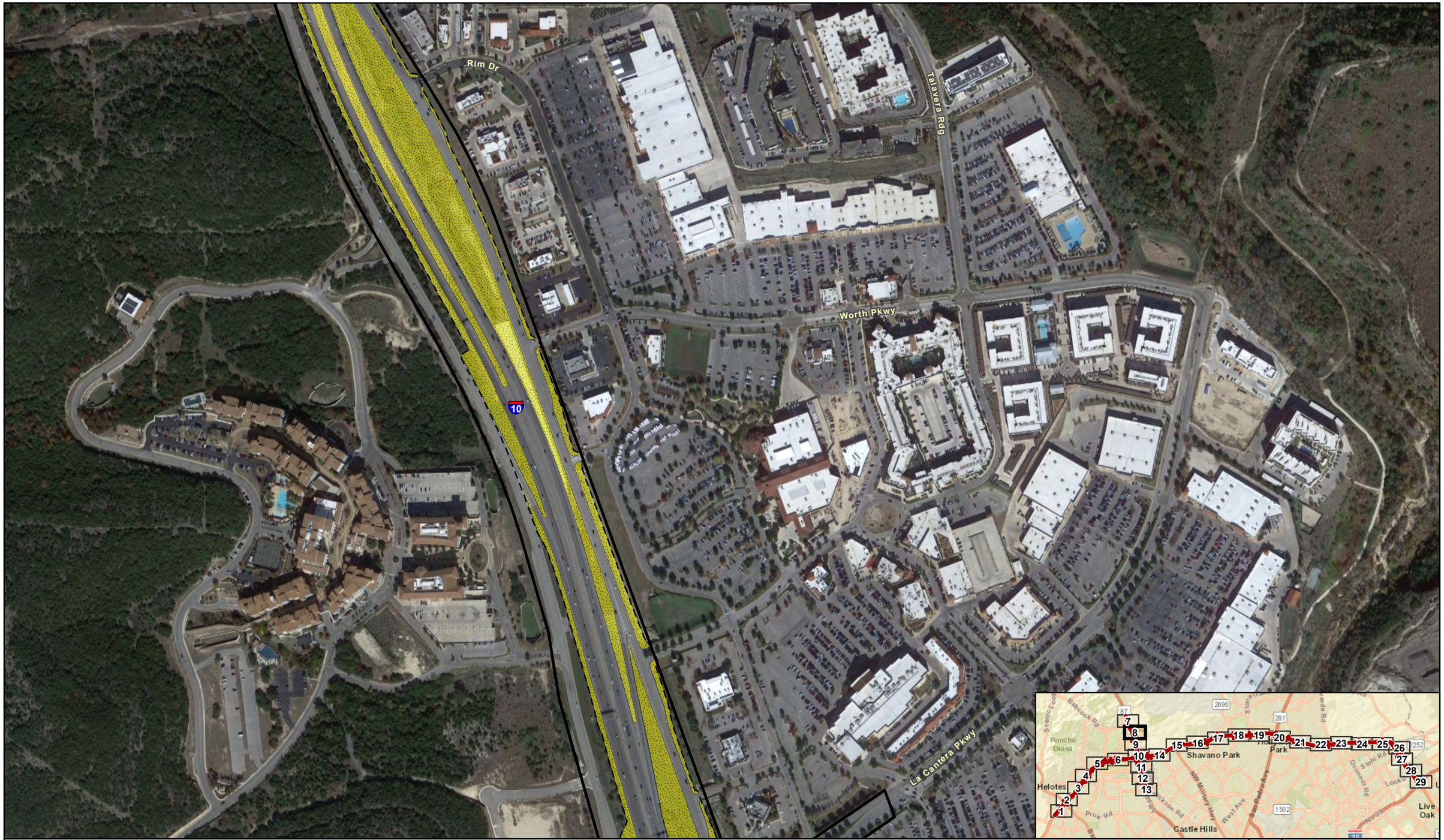

Figure 5 - Observed Vegetation Types

Sheet 8 of 29

Loop 1604: SH 16 to I-35

Existing Right-of-Way
Limits of Construction
Urban

Data Source: CMEC (2018)
Aerial Source: Google (2019)

CSJ: 2452-02-083, 2452-03-087, 2452-03-113, 2452-02-128

0 400 Feet
0 120 Meters

1 in = 400 feet
Scale: 1:4,800
Date: 5/10/2020

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Figure 5 - Observed Vegetation Types

Sheet 9 of 29

Loop 1604: SH 16 to I-35

Existing Right-of-Way
Existing Easement
Limits of Construction
Edwards Plateau Savanna, Woodland and Shrubland
Riparian
Urban

Data Source: CMEC (2018)
Aerial Source: Google (2019)

CSJ: 2452-02-083, 2452-03-087, 2452-03-113, 2452-02-128

0 400 Feet
0 120 Meters

1 in = 400 feet
Scale: 1:4,800
Date: 5/10/2020

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Figure 5 - Observed Vegetation Types

Sheet 10 of 29

Loop 1604: SH 16 to I-35

Existing Right-of-Way
Existing Easement
Limits of Construction
Disturbed Prairie
Riparian
Urban

Data Source: CMEC (2018)
Aerial Source: Google (2019)

CSJ: 2452-02-083, 2452-03-087, 2452-03-113, 2452-02-128

0 400 Feet
0 120 Meters

1 in = 400 feet
Scale: 1:4,800
Date: 5/10/2020

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Figure 5 - Observed Vegetation Types

Sheet 11 of 29

Loop 1604: SH 16 to I-35

Existing Right-of-Way
Existing Easement
Limits of Construction
Disturbed Prairie
Urban

Data Source: CMEC (2018)
Aerial Source: Google (2019)

CSJ: 2452-02-083, 2452-03-087, 2452-03-113, 2452-02-128

0 400 Feet
0 120 Meters

1 in = 400 feet
Scale: 1:4,800
Date: 5/10/2020

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Figure 5 - Observed Vegetation Types

Sheet 12 of 29

Loop 1604: SH 16 to I-35

Existing Right-of-Way
Existing Easement
Limits of Construction
Urban

Data Source: CMEC (2018)
Aerial Source: Google (2019)

CSJ: 2452-02-083, 2452-03-087, 2452-03-113, 2452-02-128

0 400 Feet
0 120 Meters

1 in = 400 feet
Scale: 1:4,800
Date: 5/10/2020

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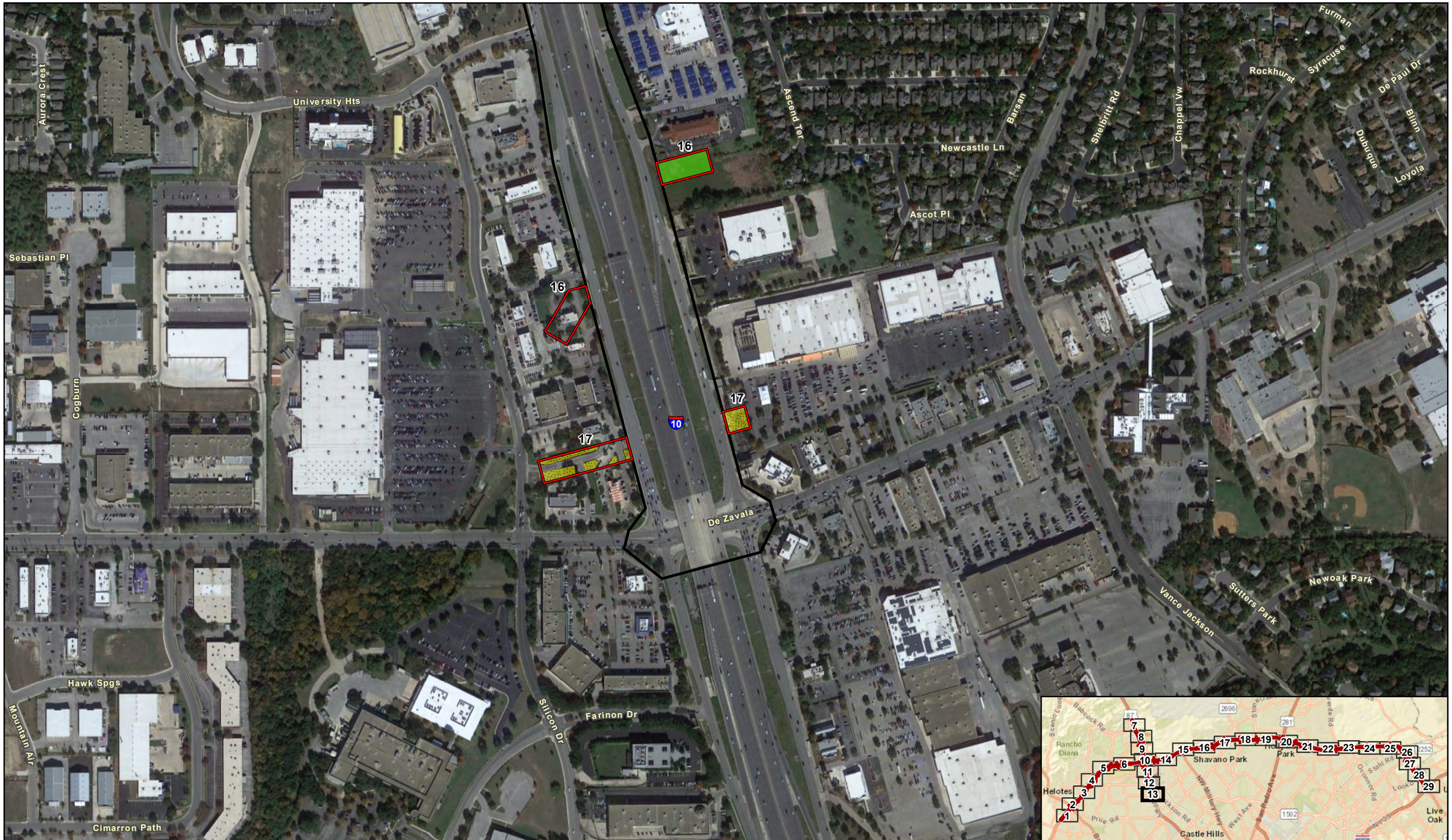

Figure 5 - Observed Vegetation Types

Sheet 13 of 29

Loop 1604: SH 16 to I-35

Existing Right-of-Way
Existing Easement
Riparian
Urban

Data Source: CMEC (2018)
Aerial Source: Google (2019)

CSJ: 2452-02-083, 2452-03-087, 2452-03-113, 2452-02-128

0 400 Feet
0 120 Meters

1 in = 400 feet
Scale: 1:4,800
Date: 5/10/2020

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Figure 5 - Observed Vegetation Types

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Loop 1604: SH 16 to I-35

Existing Right-of-Way
Existing Easement
Limits of Construction
Edwards Plateau Savanna, Woodland and Shrubland
Urban

Data Source: CMEC (2018)
Aerial Source: Google (2019)

CSJ: 2452-02-083, 2452-03-087, 2452-03-113, 2452-02-128

0 400 Feet
0 120 Meters

1 in = 400 feet
Scale: 1:4,800
Date: 5/10/2020

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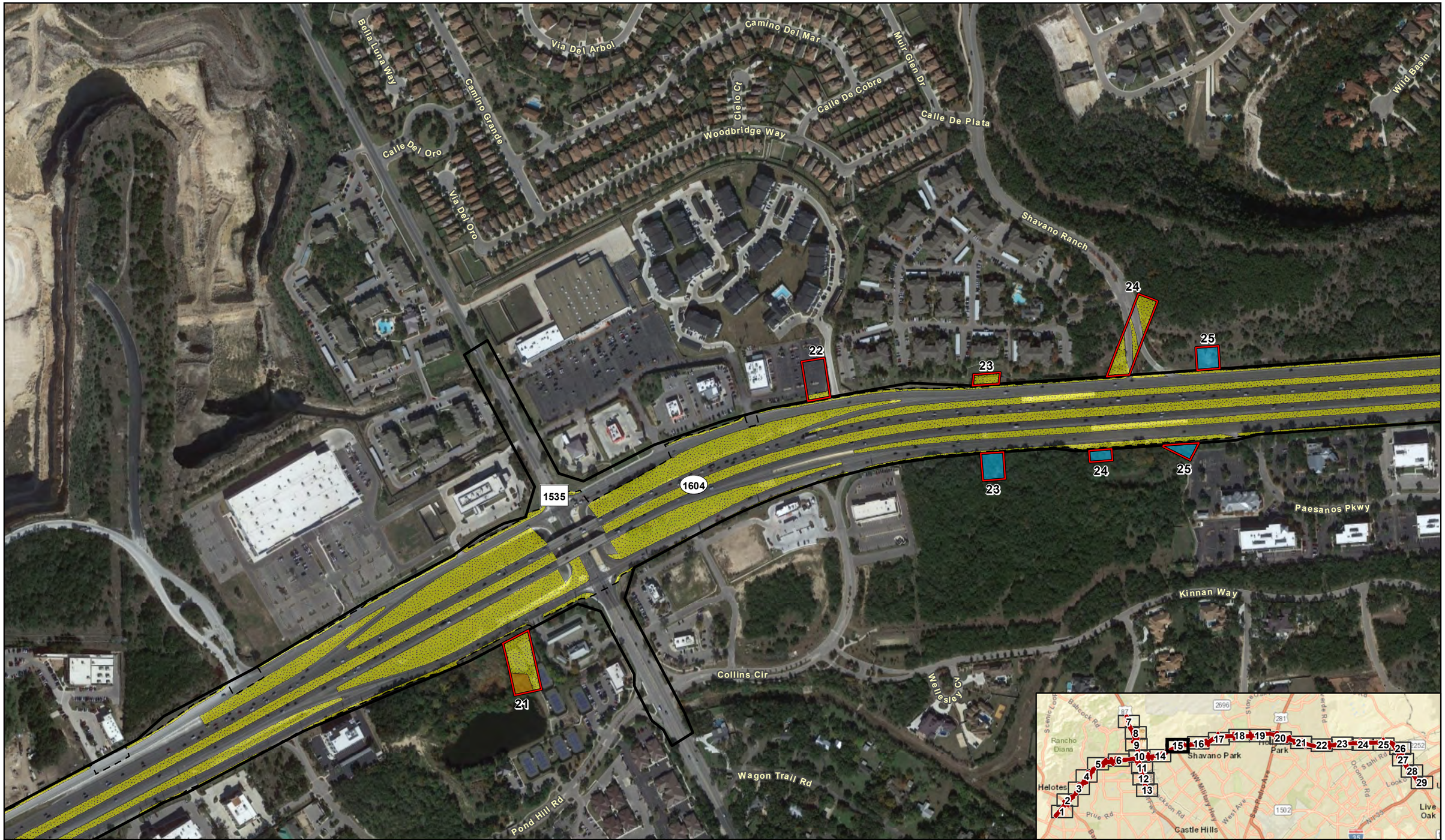

Figure 5 - Observed Vegetation Types

Sheet 15 of 29

Loop 1604: SH 16 to I-35

Existing Right-of-Way
Existing Easement
Limits of Construction
Disturbed Prairie
Edwards Plateau Savanna, Woodland and Shrubland
Urban

Data Source: CMEC (2018)
Aerial Source: Google (2019)

CSJ: 2452-02-083, 2452-03-087, 2452-03-113, 2452-02-128

0 400 Feet
0 120 Meters

1 in = 400 feet
Scale: 1:4,800
Date: 5/10/2020

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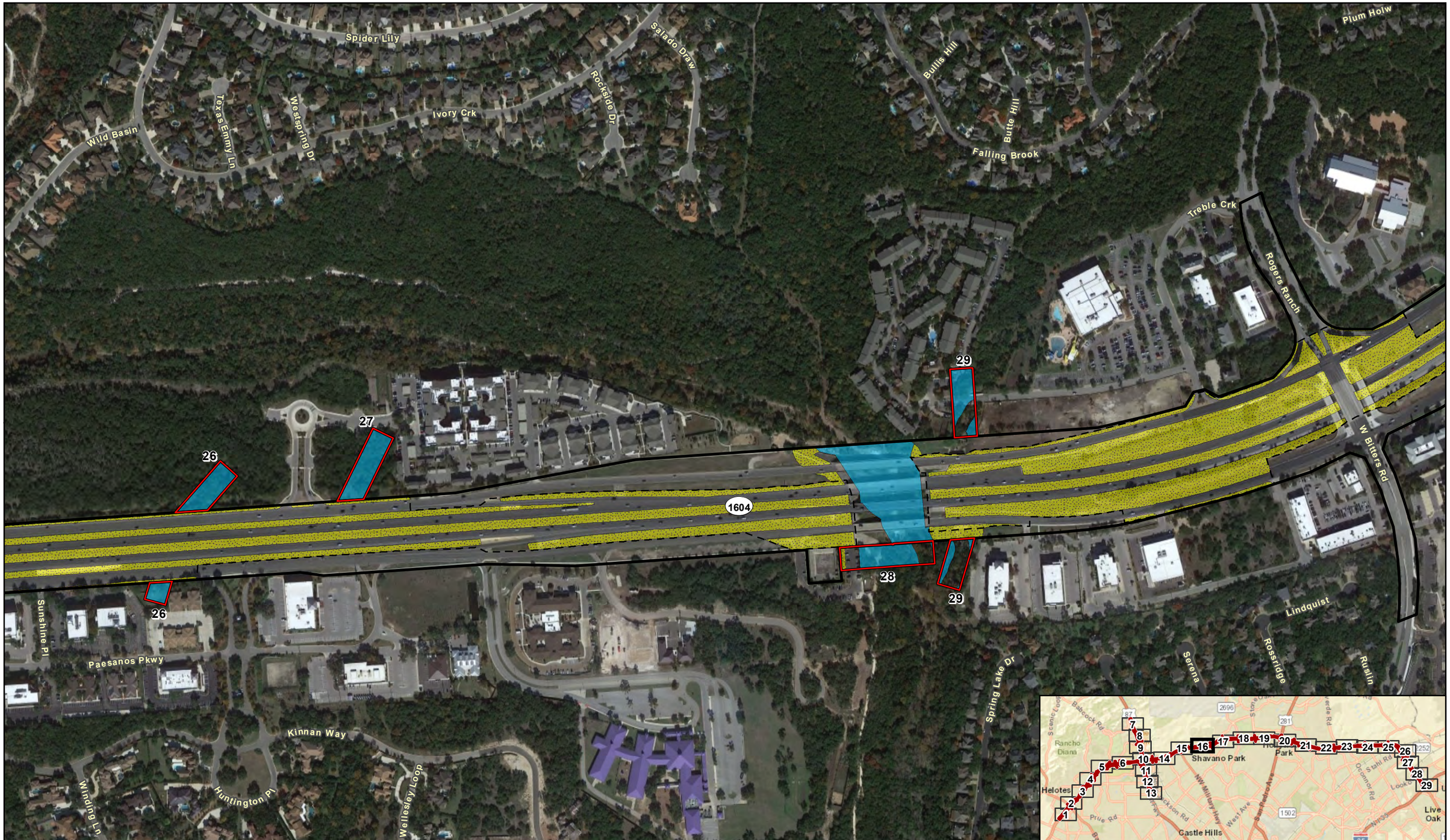

Figure 5 - Observed Vegetation Types

Sheet 16 of 29

Loop 1604: SH 16 to I-35

Existing Right-of-Way
Existing Easement
Limits of Construction
Edwards Plateau Savanna, Woodland and Shrubland
Urban

Data Source: CMEC (2018)
Aerial Source: Google (2019)

CSJ: 2452-02-083, 2452-03-087, 2452-03-113, 2452-02-128

0 400 Feet
0 120 Meters

1 in = 400 feet
Scale: 1:4,800
Date: 5/10/2020

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Figure 5 - Observed Vegetation Types

Sheet 17 of 29

Loop 1604: SH 16 to I-35

- Existing Right-of-Way
- Existing Easement
- Limits of Construction
- Disturbed Prairie
- Edwards Plateau Savanna, Woodland and Shrubland
- Riparian
- Urban

Data Source: CMEC (2018)
Aerial Source: Google (2019)

CSJ: 2452-02-083, 2452-03-087, 2452-03-113, 2452-02-128

0 400 Feet
0 120 Meters

1 in = 400 feet
Scale: 1:4,800
Date: 5/10/2020

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Figure 5 - Observed Vegetation Types

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Loop 1604: SH 16 to I-35

Existing Right-of-Way
Existing Easement
Limits of Construction
Edwards Plateau Savanna, Woodland and Shrubland
Urban

Data Source: CMEC (2018)
Aerial Source: Google (2019)

CSJ: 2452-02-083, 2452-03-087, 2452-03-113, 2452-02-128

0 400 Feet
0 120 Meters

1 in = 400 feet
Scale: 1:4,800
Date: 5/10/2020

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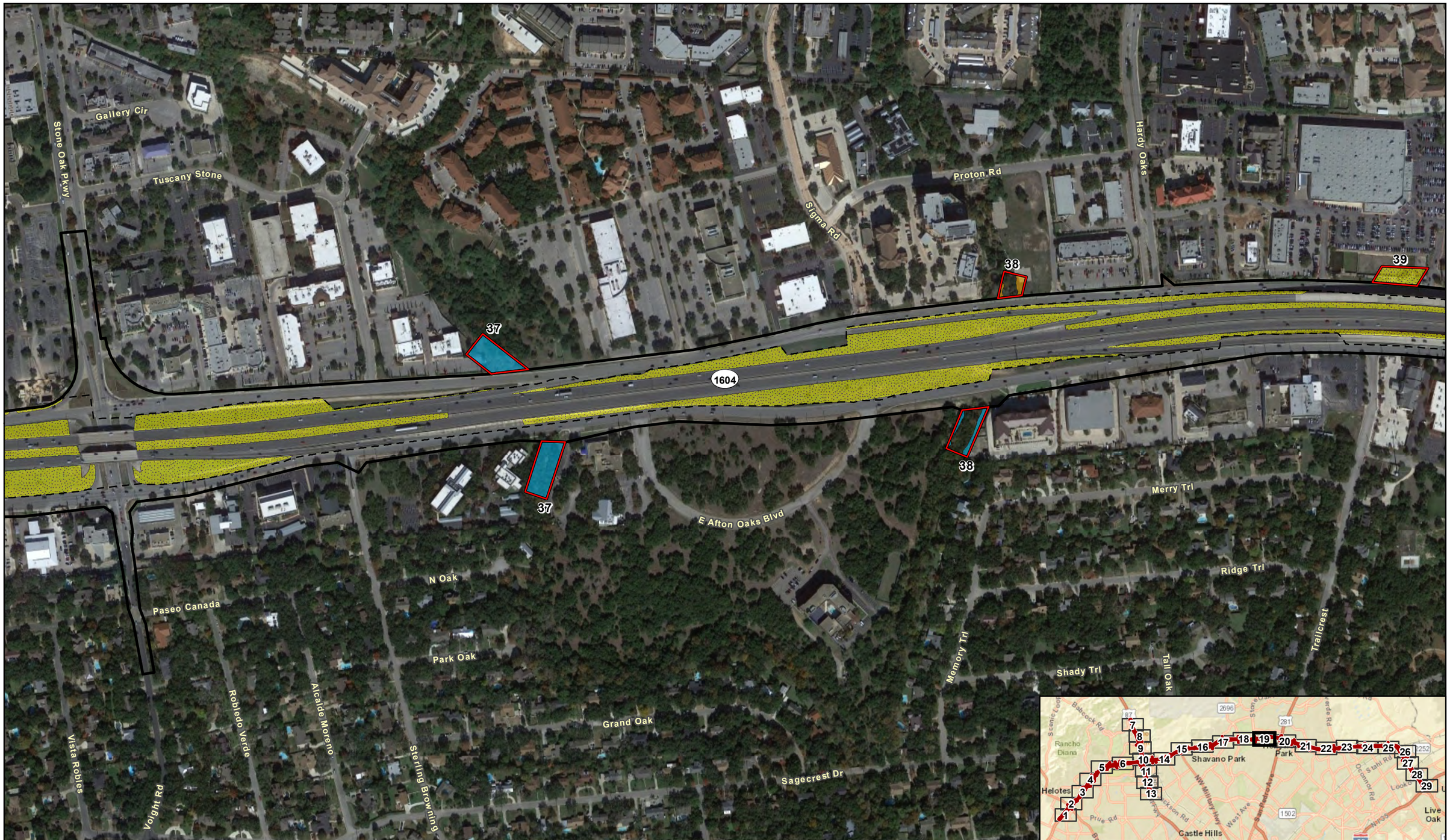

Figure 5 - Observed Vegetation Types

Sheet 19 of 29

Loop 1604: SH 16 to I-35

Existing Right-of-Way
Existing Easement
Limits of Construction
Disturbed Prairie
Edwards Plateau Savanna, Woodland and Shrubland
Urban

Data Source: CMEC (2018)
Aerial Source: Google (2019)

CSJ: 2452-02-083, 2452-03-087, 2452-03-113, 2452-02-128

0 400 Feet
0 120 Meters

1 in = 400 feet
Scale: 1:4,800
Date: 5/10/2020

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Figure 5 - Observed Vegetation Types

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Loop 1604: SH 16 to I-35

Existing Right-of-Way
Existing Easement
Limits of Construction
Urban

Data Source: CMEC (2018)
Aerial Source: Google (2019)

CSJ: 2452-02-083, 2452-03-087, 2452-03-113, 2452-02-128

0 400 Feet
0 120 Meters

1 in = 400 feet
Scale: 1:4,800
Date: 5/10/2020

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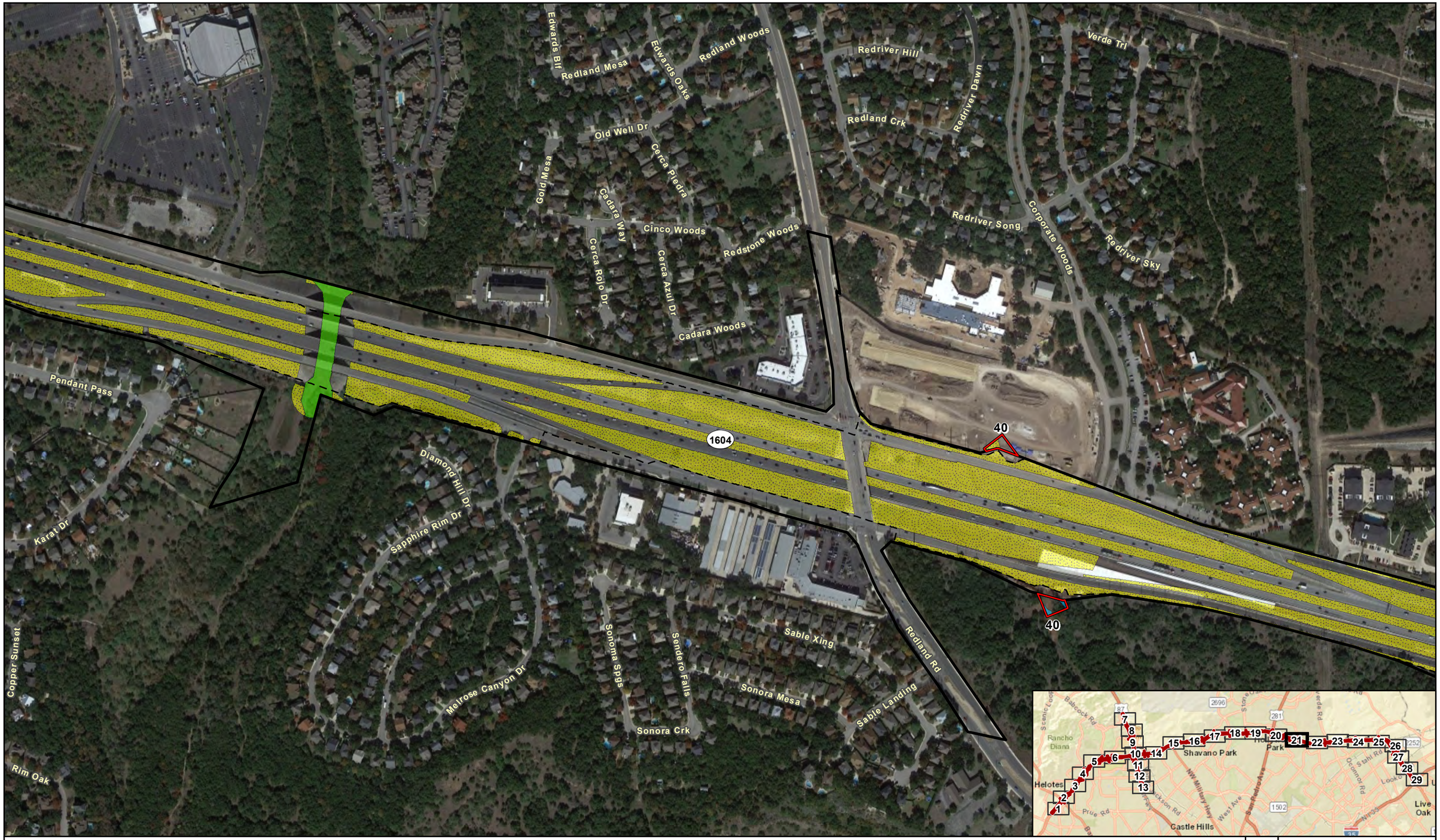

Figure 5 - Observed Vegetation Types

Sheet 21 of 29

Loop 1604: SH 16 to I-35

Existing Right-of-Way
Existing Easement
Limits of Construction
Edwards Plateau Savanna, Woodland and Shrubland
Riparian
Urban

Data Source: CMEC (2018)
Aerial Source: Google (2019)

CSJ: 2452-02-083, 2452-03-087, 2452-03-113, 2452-02-128

0 400 Feet
0 120 Meters

1 in = 400 feet
Scale: 1:4,800
Date: 5/10/2020

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Figure 5 - Observed Vegetation Types

Sheet 22 of 29

Loop 1604: SH 16 to I-35

Existing Right-of-Way
Existing Easement
Limits of Construction
Disturbed Prairie
Riparian
Urban

Data Source: CMEC (2018)
Aerial Source: Google (2019)

CSJ: 2452-02-083, 2452-03-087, 2452-03-113, 2452-02-128

0 400 Feet
0 120 Meters

1 in = 400 feet
Scale: 1:4,800
Date: 5/10/2020

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Figure 5 - Observed Vegetation Types

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Loop 1604: SH 16 to I-35

Existing Right-of-Way
Existing Easement
Limits of Construction
Disturbed Prairie
Edwards Plateau Savanna, Woodland and Shrubland
Riparian
Urban

Data Source: CMEC (2018)
Aerial Source: Google (2019)

CSJ: 2452-02-083, 2452-03-087, 2452-03-113, 2452-02-128

0 400 Feet
0 120 Meters

1 in = 400 feet
Scale: 1:4,800
Date: 5/10/2020

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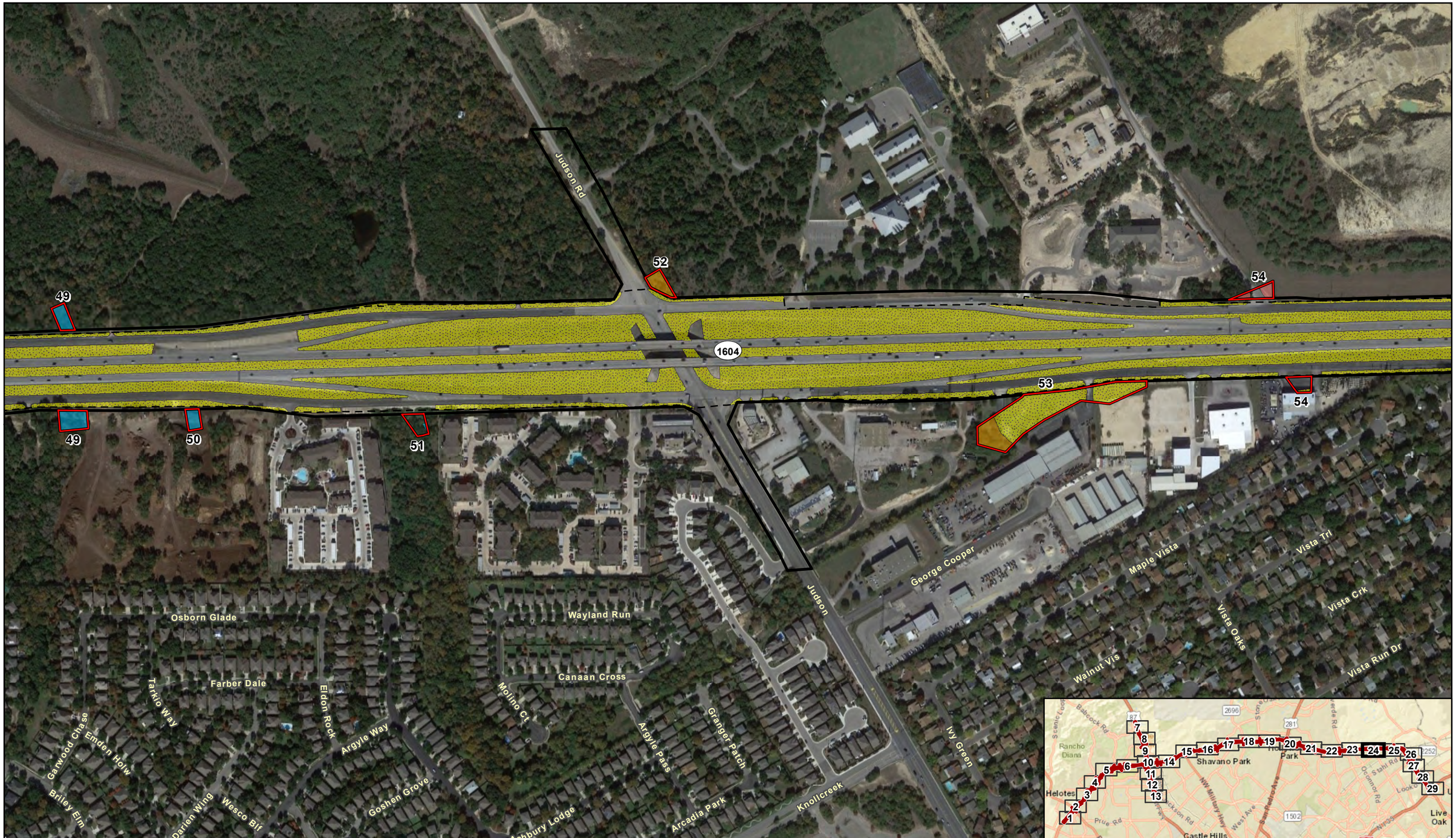

Figure 5 - Observed Vegetation Types

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Loop 1604: SH 16 to I-35

Existing Right-of-Way
Existing Easement
Limits of Construction
Disturbed Prairie
Edwards Plateau Savanna, Woodland and Shrubland
Tallgrass Prairie, Grassland
Urban

Data Source: CMEC (2018)
Aerial Source: Google (2019)

CSJ: 2452-02-083, 2452-03-087, 2452-03-113, 2452-02-128

0 400 Feet
0 120 Meters

1 in = 400 feet
Scale: 1:4,800
Date: 5/10/2020

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Figure 5 - Observed Vegetation Types

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Loop 1604: SH 16 to I-35

Existing Right-of-Way
Existing Easement
Limits of Construction
Riparian
Tallgrass Prairie, Grassland
Urban

Data Source: CMEC (2018)
Aerial Source: Google (2019)

CSJ: 2452-02-083, 2452-03-087, 2452-03-113, 2452-02-128

0 400 Feet
0 120 Meters

1 in = 400 feet
Scale: 1:4,800
Date: 5/10/2020

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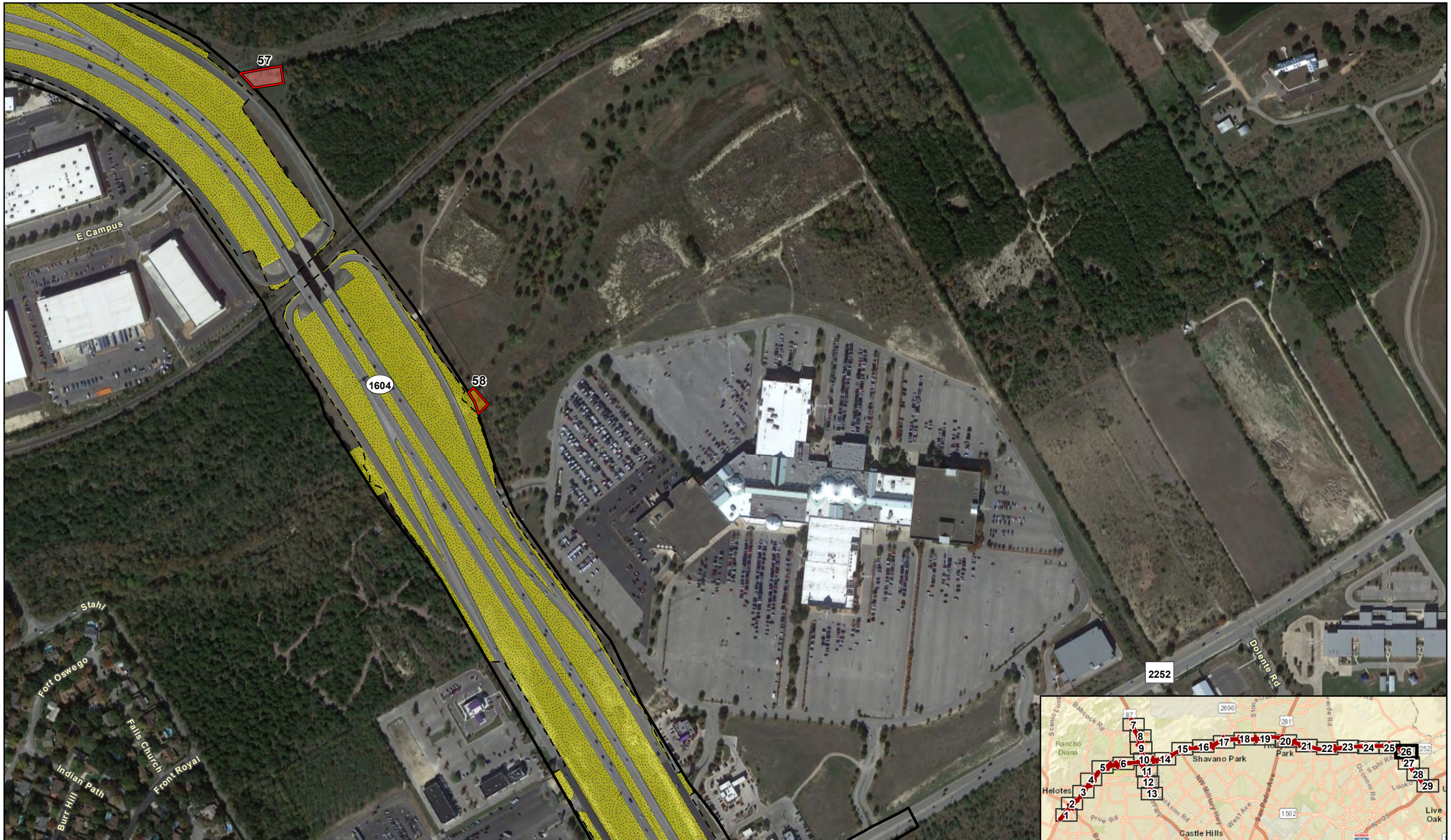

Figure 5 - Observed Vegetation Types

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Loop 1604: SH 16 to I-35

Existing Right-of-Way
Existing Easement
Limits of Construction
Disturbed Prairie
Tallgrass Prairie, Grassland
Urban

Data Source: CMEC (2018)
Aerial Source: Google (2019)

CSJ: 2452-02-083, 2452-03-087, 2452-03-113, 2452-02-128

0 400 Feet
0 120 Meters

1 in = 400 feet
Scale: 1:4,800
Date: 5/10/2020

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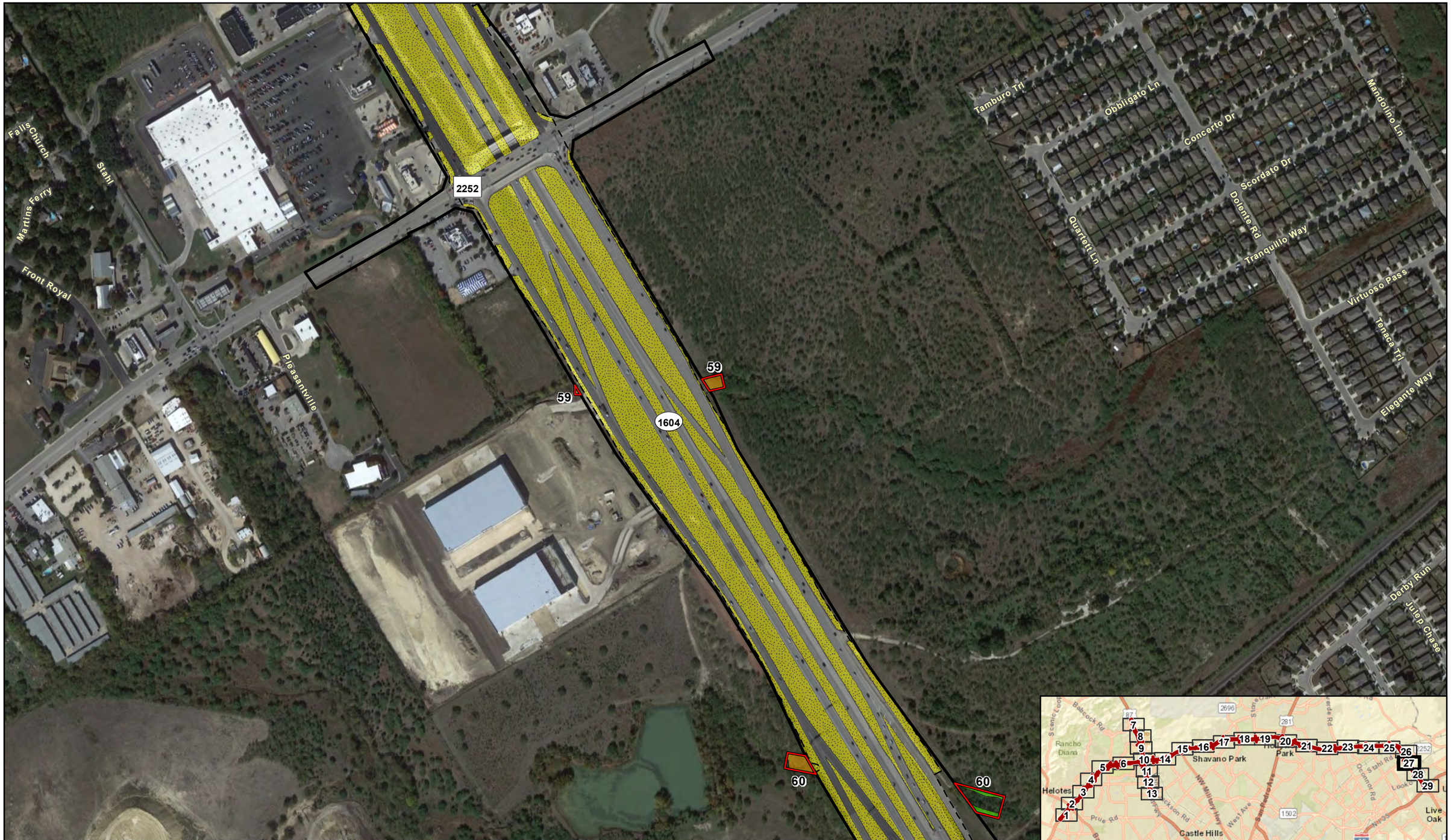

Figure 5 - Observed Vegetation Types

Sheet 27 of 29

Loop 1604: SH 16 to I-35

Existing Right-of-Way
Existing Easement
Limits of Construction
Disturbed Prairie
Riparian
Urban

Data Source: CMEC (2018)
Aerial Source: Google (2019)

CSJ: 2452-02-083, 2452-03-087, 2452-03-113, 2452-02-128

0 400 Feet
0 120 Meters

1 in = 400 feet
Scale: 1:4,800
Date: 5/10/2020

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Figure 5 - Observed Vegetation Types

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Loop 1604: SH 16 to I-35

Existing Right-of-Way
Existing Easement
Limits of Construction
Disturbed Prairie
Riparian
Urban

Data Source: CMEC (2018)
Aerial Source: Google (2019)

CSJ: 2452-02-083, 2452-03-087, 2452-03-113, 2452-02-128

0 400 Feet
0 120 Meters

1 in = 400 feet
Scale: 1:4,800
Date: 5/10/2020

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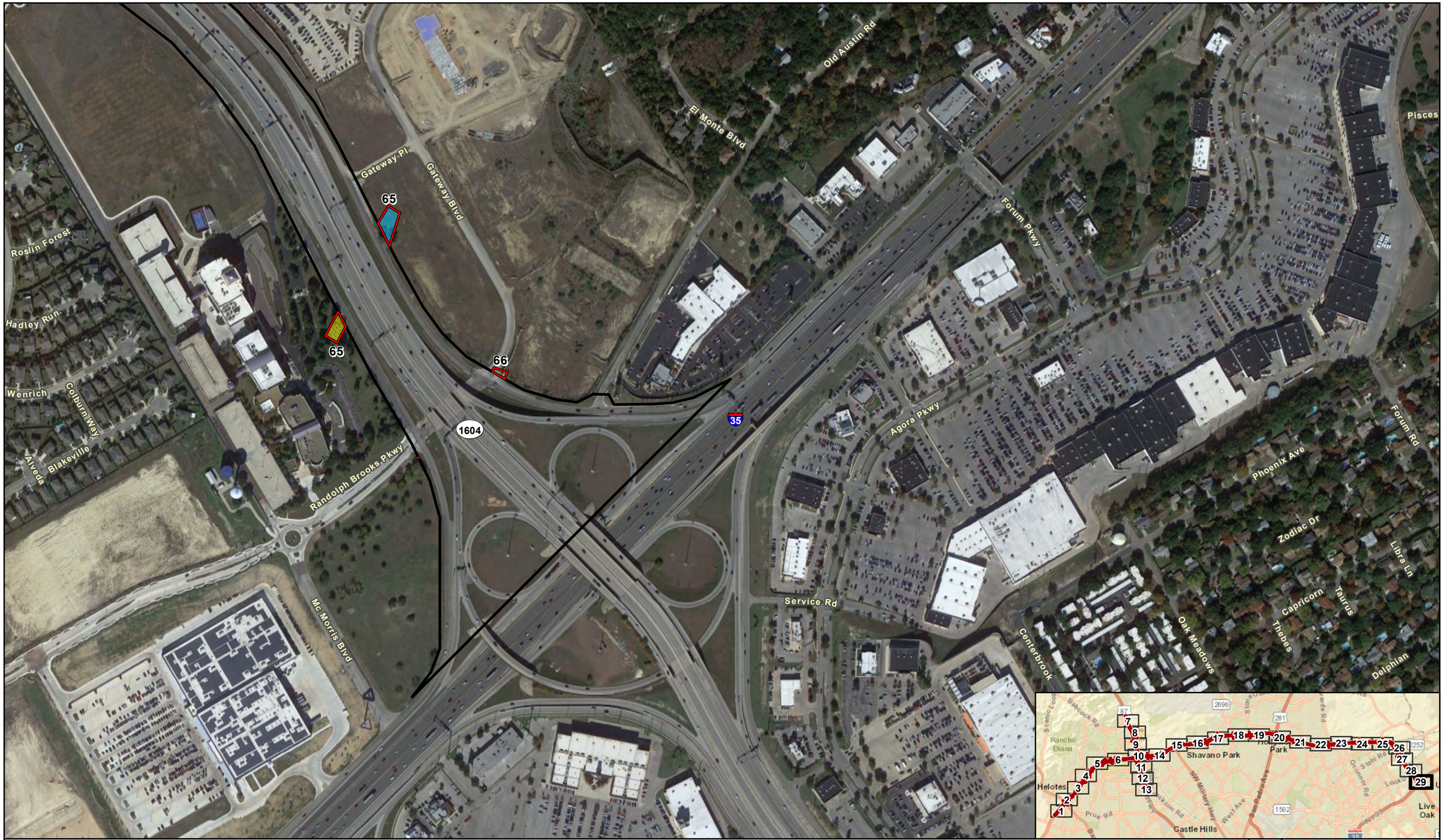

Figure 5 - Observed Vegetation Types

Sheet 29 of 29

Loop 1604: SH 16 to I-35

Existing Right-of-Way
Existing Easement
Edwards Plateau Savanna, Woodland and Shrubland
Urban

Data Source: CMEC (2018)
Aerial Source: Google (2019)

CSJ: 2452-02-083, 2452-03-087, 2452-03-113, 2452-02-128

0 400 Feet
0 120 Meters

1 in = 400 feet
Scale: 1:4,800
Date: 5/10/2020

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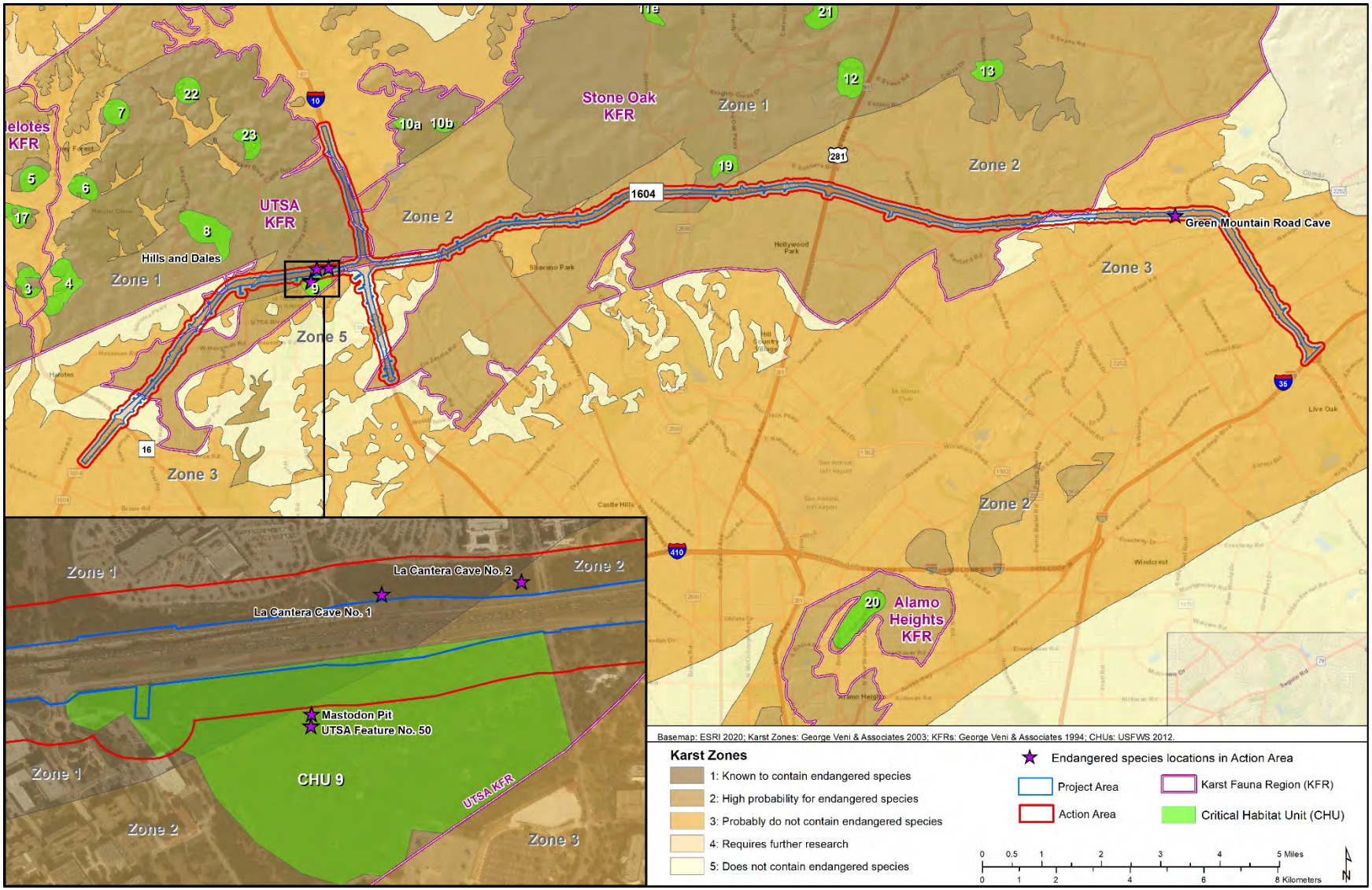


Figure 6. The Loop 1604 project area and action area include areas mapped as karst zones 1, 2, 3, and 5.

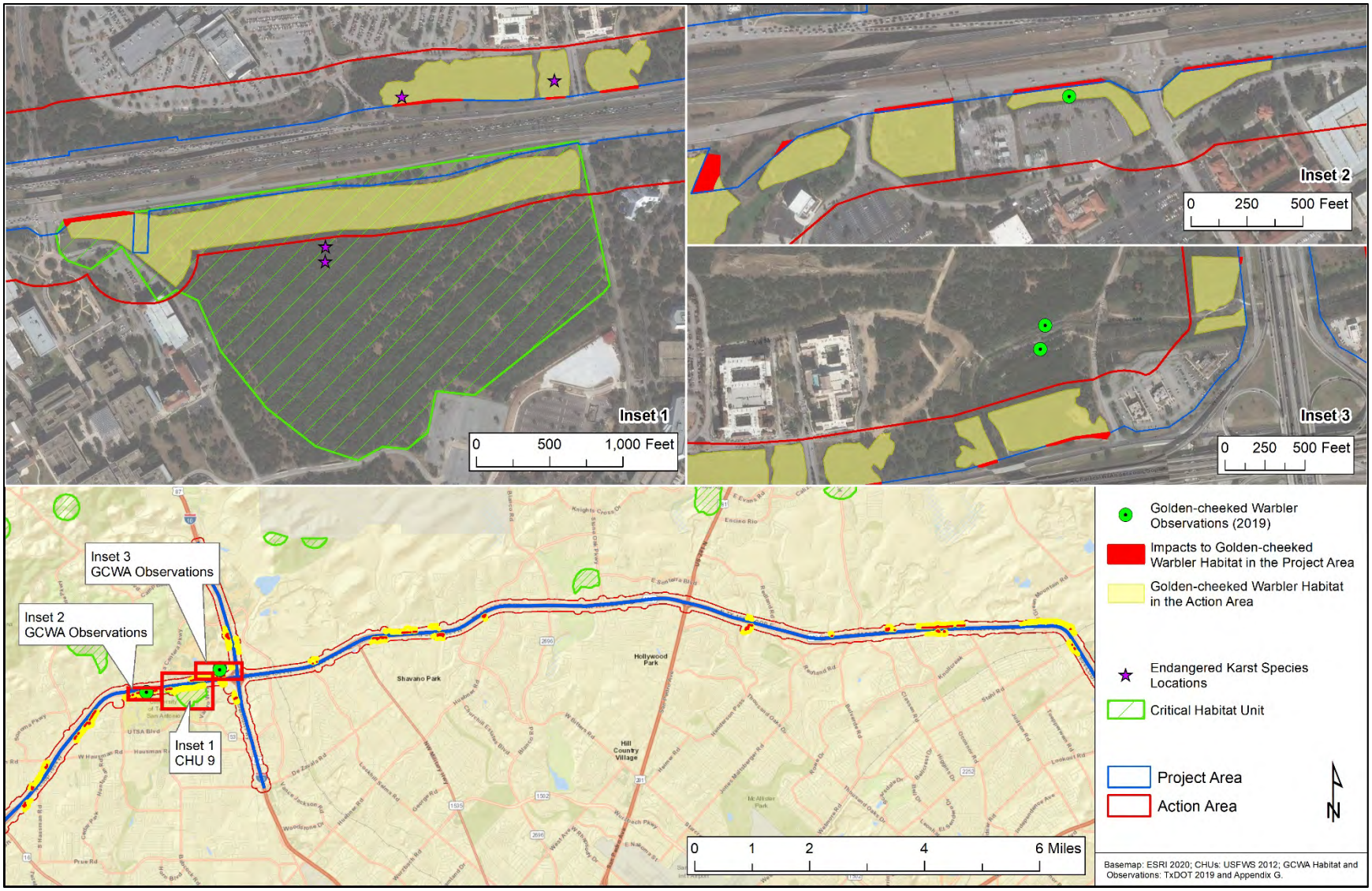
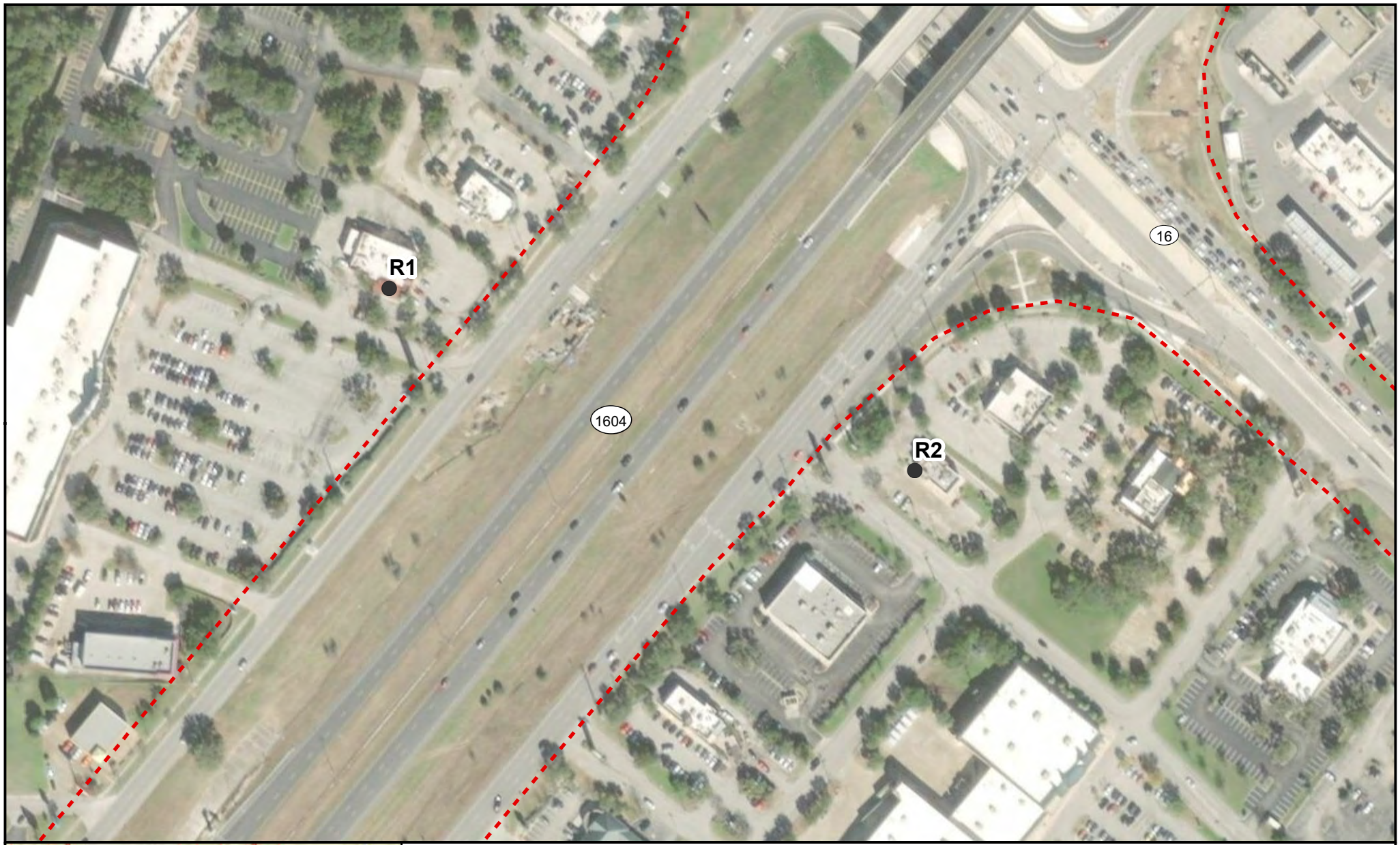


Figure 7. Golden-cheeked Warbler habitat and observations within the action area, and proposed habitat impacts from the Loop 1604 project



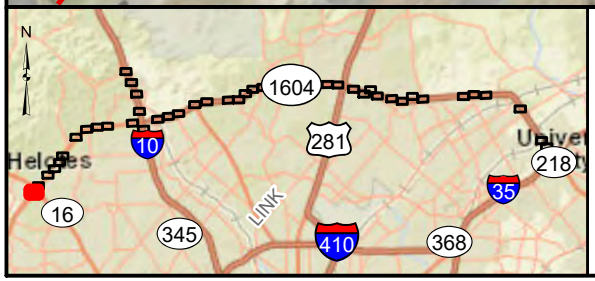


Figure 8

Noise Receiver and Proposed Barrier Locations

Loop 1604 from SH 16 to I-35

Map 1 of 46

Legend

- Benefited Receiver
- Impacted Receiver
- No Impact Receiver
- Proposed Noise Barrier
- Existing Right-of-Way

N

0 100 200

Feet

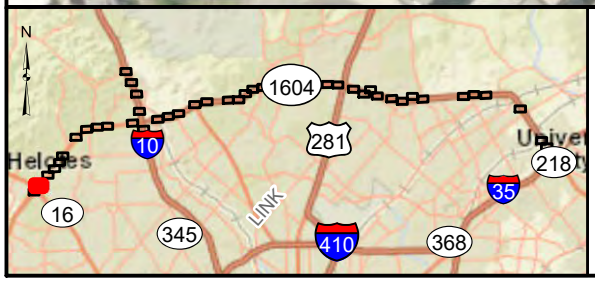


Figure 8

Noise Receiver and Proposed Barrier Locations

Loop 1604 from SH 16 to I-35

Map 2 of 46

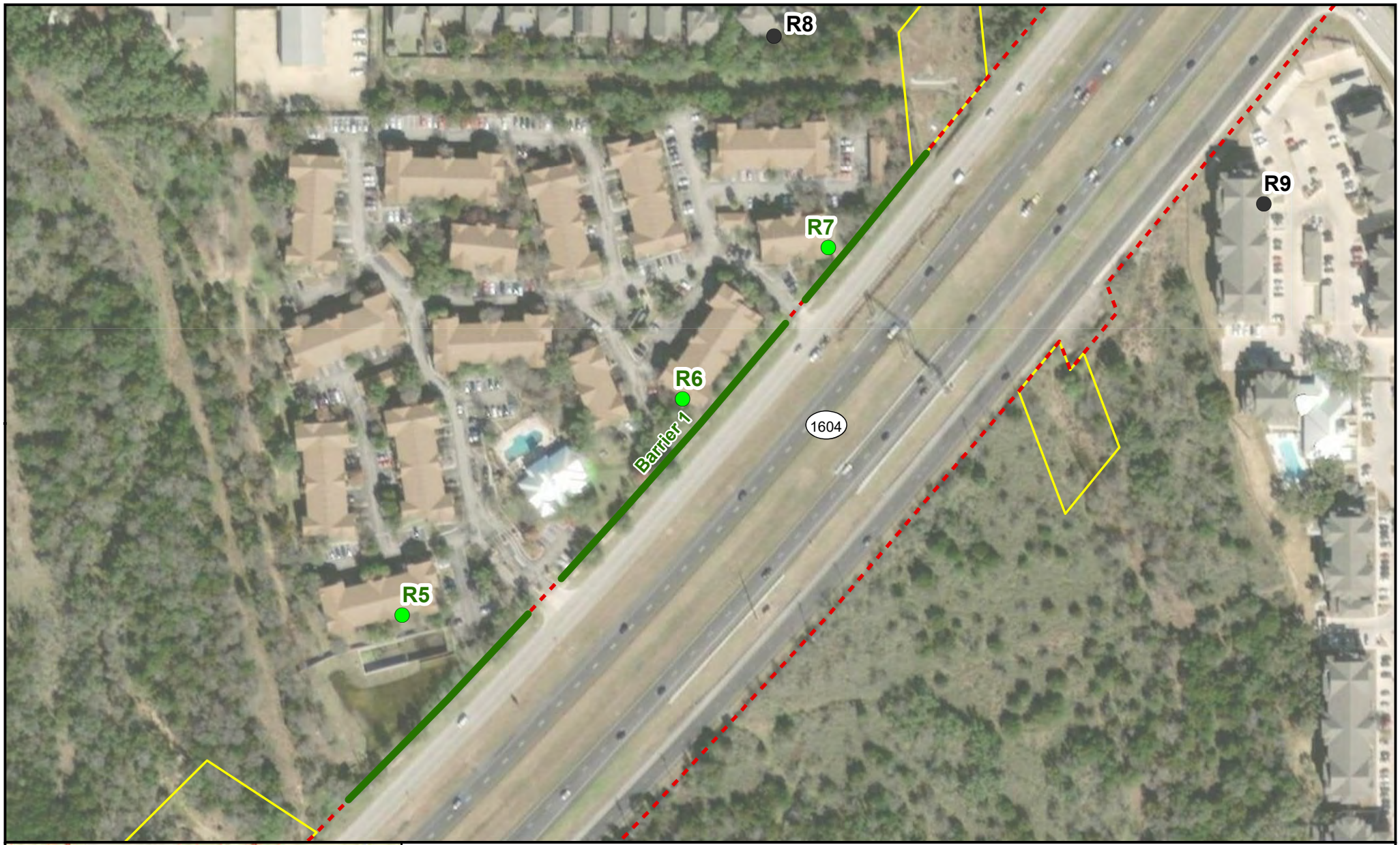
Legend

- Benefited Receiver
- Impacted Receiver
- No Impact Receiver
- Proposed Noise Barrier
- Existing Right-of-Way
- Drainage Easement

N

0 100 200

Feet



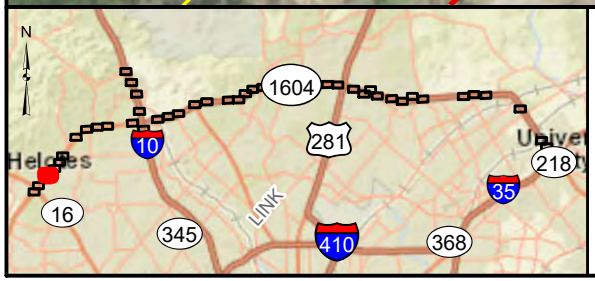


Figure 8

Noise Receiver and Proposed Barrier Locations

Loop 1604 from SH 16 to I-35

Map 3 of 46

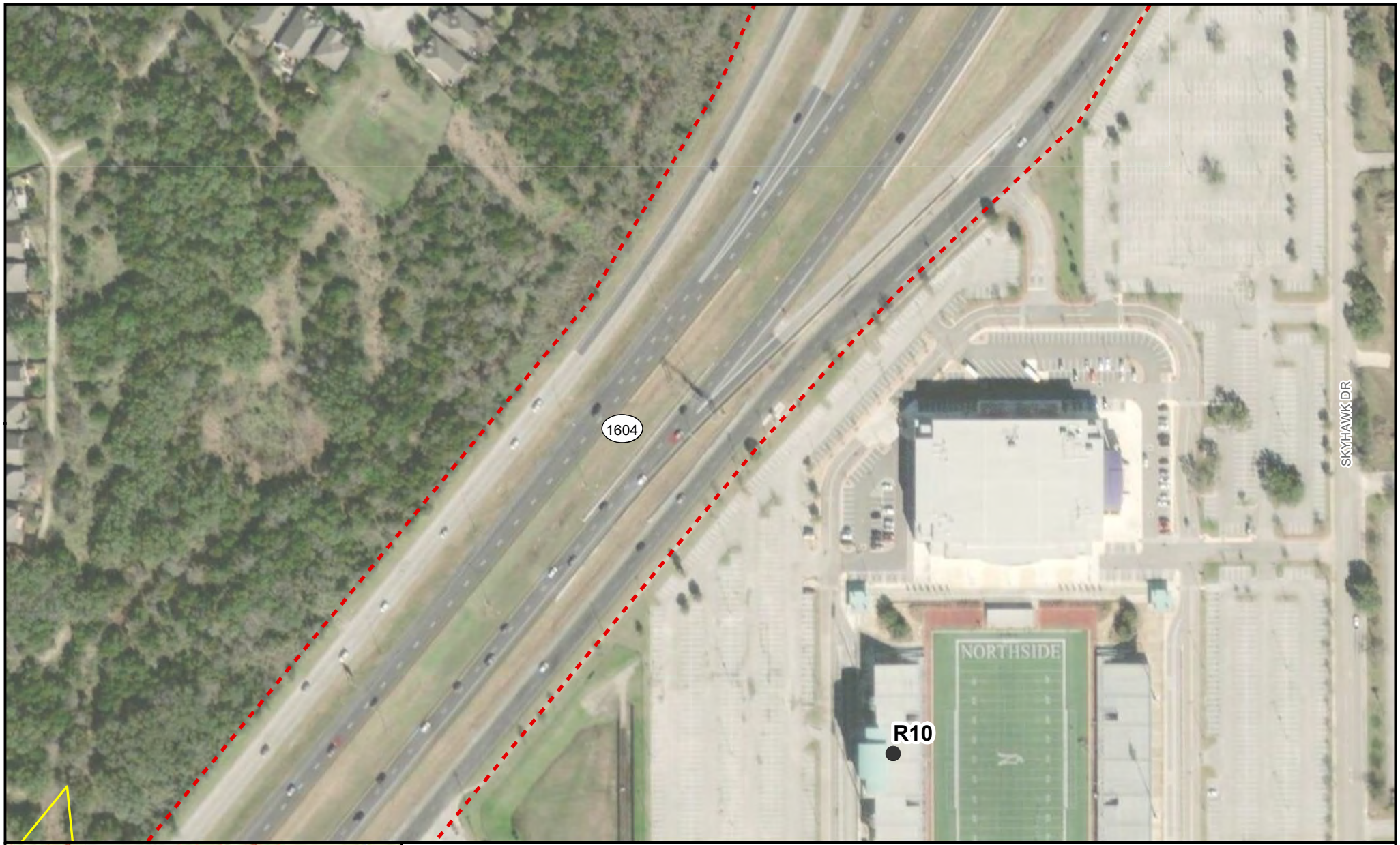
Legend

- Benefited Receiver
- Impacted Receiver
- No Impact Receiver
- Proposed Noise Barrier
- Existing Right-of-Way
- Drainage Easement

N

0 100 200

Feet



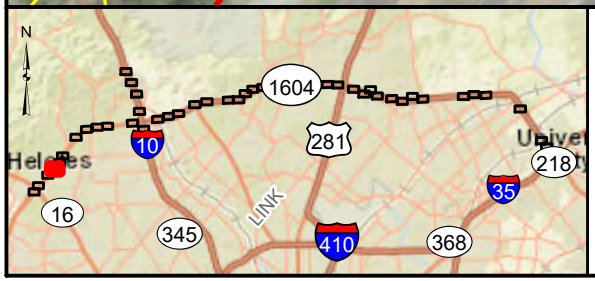


Figure 8

Noise Receiver and Proposed Barrier Locations

Loop 1604 from SH 16 to I-35

Map 4 of 46

Legend

- Benefited Receiver
- Impacted Receiver
- No Impact Receiver
- Proposed Noise Barrier
- Existing Right-of-Way
- Drainage Easement

N

0 100 200

Feet

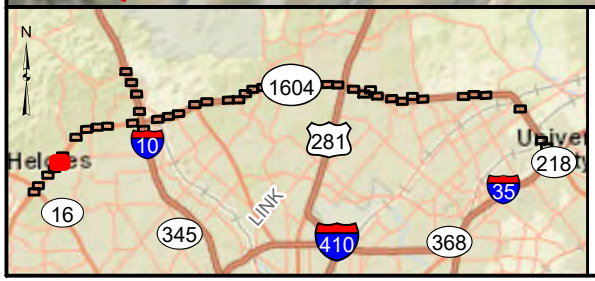


Figure 8

Noise Receiver and Proposed Barrier Locations

Loop 1604 from SH 16 to I-35

Map 5 of 46

Legend

- Benefited Receiver
- Impacted Receiver
- No Impact Receiver
- Proposed Noise Barrier
- Existing Right-of-Way
- Drainage Easement

N

0 100 200

Feet

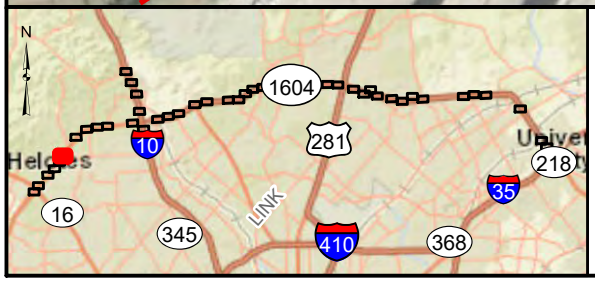


Figure 8

Noise Receiver and Proposed Barrier Locations

Loop 1604 from SH 16 to I-35

Map 6 of 46

Legend

- Benefited Receiver
- Impacted Receiver
- No Impact Receiver
- Proposed Noise Barrier
- Existing Right-of-Way

N

0 100 200

Feet

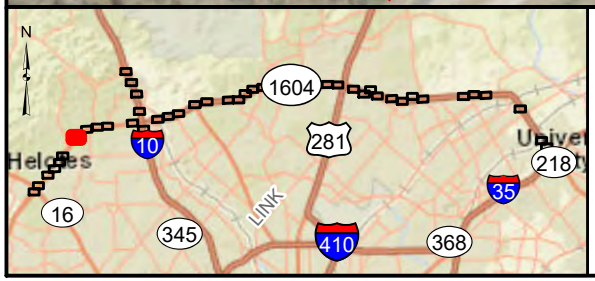


Figure 8

Noise Receiver and Proposed Barrier Locations

Loop 1604 from SH 16 to I-35

Map 7 of 46

Legend

- Benefited Receiver
- Impacted Receiver
- No Impact Receiver
- Proposed Noise Barrier
- Existing Right-of-Way
- Drainage Easement

N

0 100 200

Feet

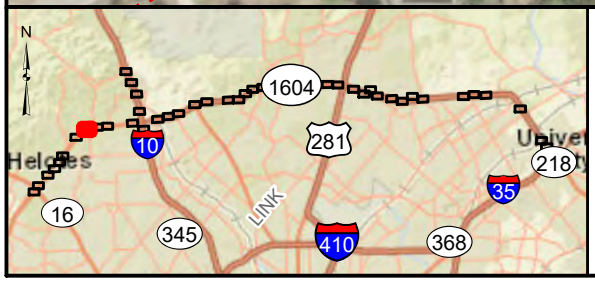


Figure 8

Noise Receiver and Proposed Barrier Locations

Loop 1604 from SH 16 to I-35

Map 8 of 46

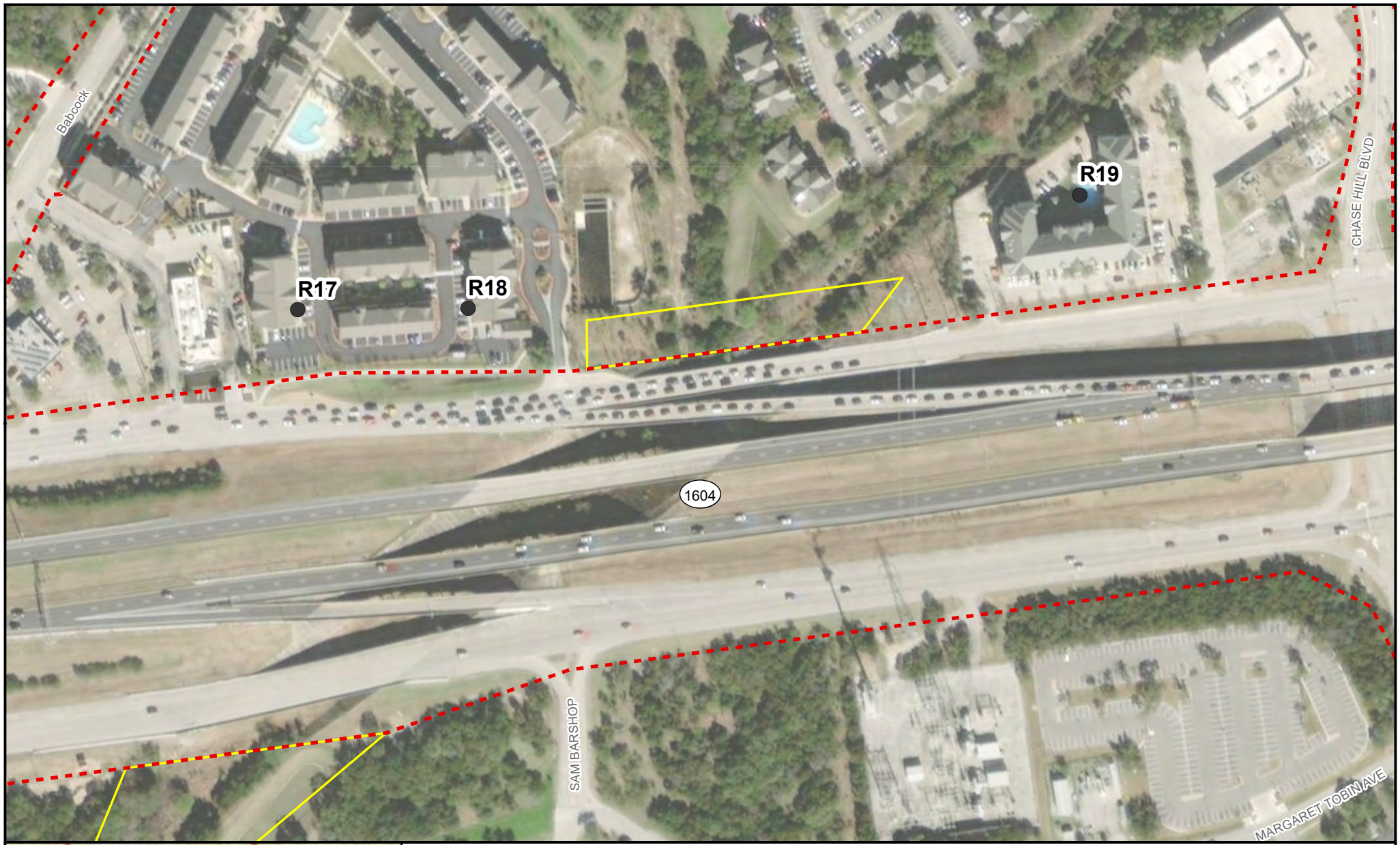
Legend

- Benefited Receiver
- Impacted Receiver
- No Impact Receiver
- Proposed Noise Barrier
- Existing Right-of-Way
- Drainage Easement

N

0 100 200

Feet



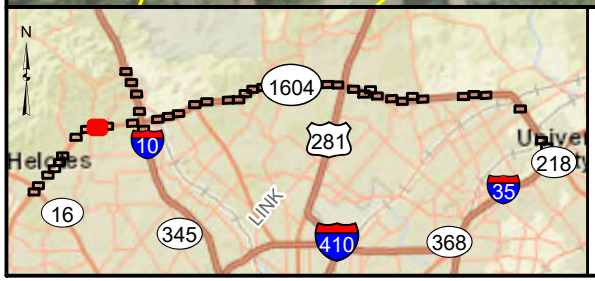


Figure 8

Noise Receiver and Proposed Barrier Locations

Loop 1604 from SH 16 to I-35

Map 9 of 46

Legend

- Benefited Receiver
- Impacted Receiver
- No Impact Receiver
- Proposed Noise Barrier
- Existing Right-of-Way
- Drainage Easement

N

0 100 200

Feet

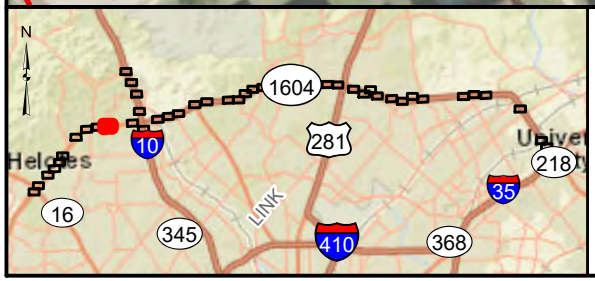


Figure 8

Noise Receiver and Proposed Barrier Locations

Loop 1604 from SH 16 to I-35

Map 10 of 46

Legend

- Benefited Receiver
- Impacted Receiver
- No Impact Receiver
- Proposed Noise Barrier
- Existing Right-of-Way
- Drainage Easement

N

0 100 200

Feet

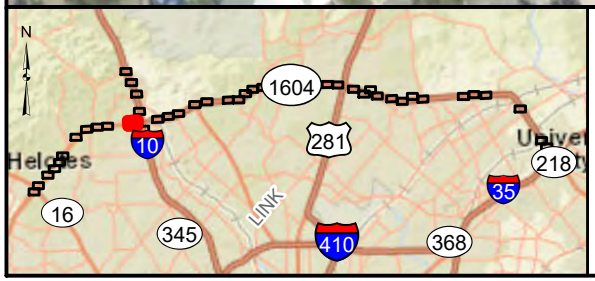


Figure 8

Noise Receiver and Proposed Barrier Locations

Loop 1604 from SH 16 to I-35

Map 11 of 46

Legend

- Benefited Receiver
- Impacted Receiver
- No Impact Receiver
- Proposed Noise Barrier
- Existing Right-of-Way
- Drainage Easement

N

0 100 200

Feet

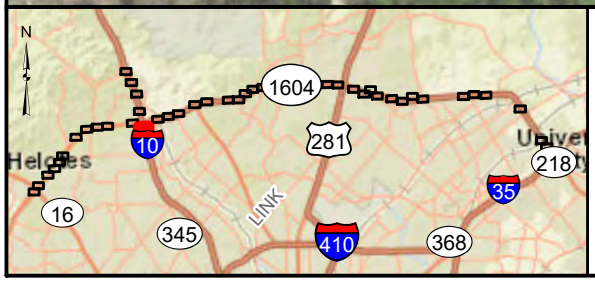


Figure 8

Noise Receiver and Proposed Barrier Locations

Loop 1604 from SH 16 to I-35

Map 12 of 46

Legend

- Benefited Receiver
- Impacted Receiver
- No Impact Receiver
- Proposed Noise Barrier
- Existing Right-of-Way
- Drainage Easement

N

0 100 200

Feet

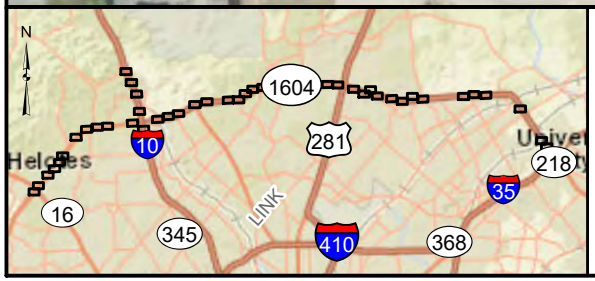


Figure 8

Noise Receiver and Proposed Barrier Locations

Loop 1604 from SH 16 to I-35

Map 13 of 46

Legend

- Benefited Receiver
- Impacted Receiver
- No Impact Receiver
- Proposed Noise Barrier
- Existing Right-of-Way
- Drainage Easement

N

0 100 200

Feet

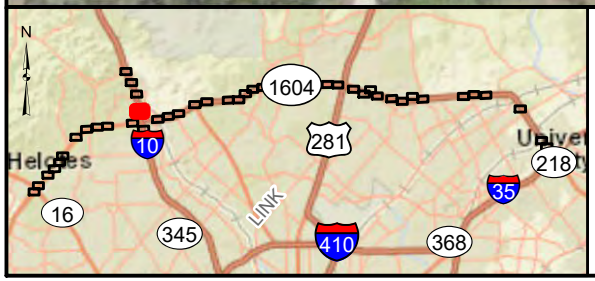


Figure 8

Noise Receiver and Proposed Barrier Locations

Loop 1604 from SH 16 to I-35

Map 14 of 46

Legend

- Benefited Receiver
- Impacted Receiver
- No Impact Receiver
- Proposed Noise Barrier
- Existing Right-of-Way

N

0 100 200

Feet

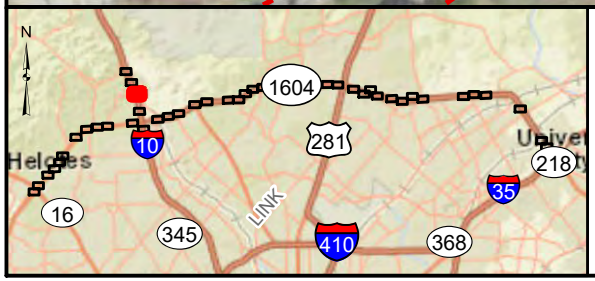


Figure 8

Noise Receiver and Proposed Barrier Locations

Loop 1604 from SH 16 to I-35

Map 15 of 46

Legend

- Benefited Receiver
- Impacted Receiver
- No Impact Receiver
- Proposed Noise Barrier
- Existing Right-of-Way

N

0 100 200

Feet

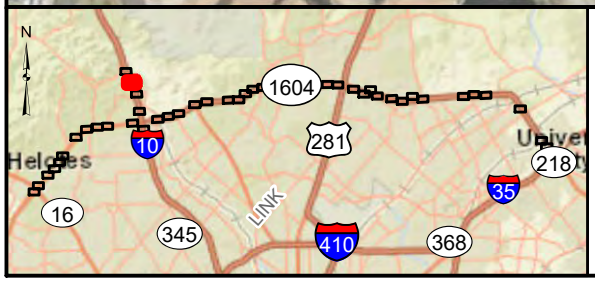


Figure 8

Noise Receiver and Proposed Barrier Locations

Loop 1604 from SH 16 to I-35

Map 16 of 46

Legend

- Benefited Receiver
- Impacted Receiver
- No Impact Receiver
- Proposed Noise Barrier
- Existing Right-of-Way

N

0 100 200

Feet

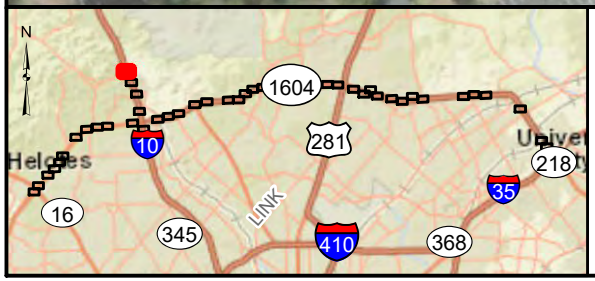


Figure 8

Noise Receiver and Proposed Barrier Locations

Loop 1604 from SH 16 to I-35

Map 17 of 46

Legend

- Benefited Receiver
- Impacted Receiver
- No Impact Receiver
- Proposed Noise Barrier
- Existing Right-of-Way
- Drainage Easement

N

0 100 200

Feet

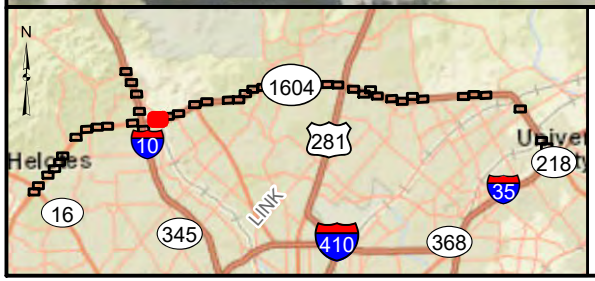


Figure 8

Noise Receiver and Proposed Barrier Locations

Loop 1604 from SH 16 to I-35

Map 18 of 46

Legend

- Benefited Receiver
- Impacted Receiver
- No Impact Receiver
- Proposed Noise Barrier
- Existing Right-of-Way

N

0 100 200

Feet

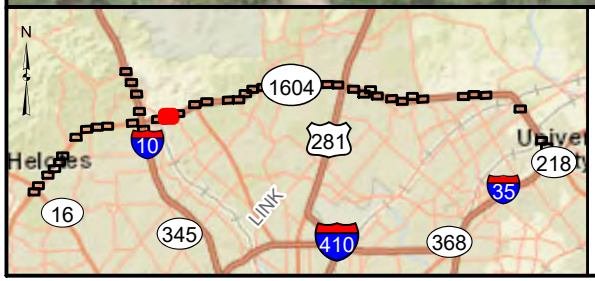


Figure 8

Noise Receiver and Proposed Barrier Locations

Loop 1604 from SH 16 to I-35

Map 19 of 46

Legend

- Benefited Receiver
- Impacted Receiver
- No Impact Receiver
- Proposed Noise Barrier
- Existing Right-of-Way

N

0 100 200

Feet

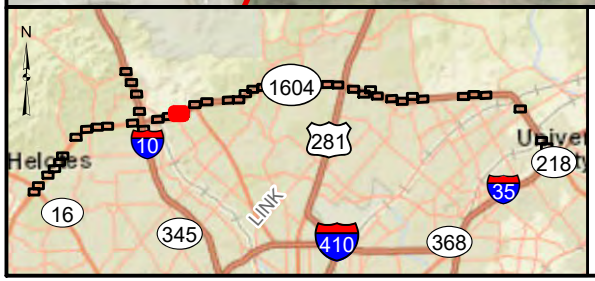


Figure 8

Noise Receiver and Proposed Barrier Locations

Loop 1604 from SH 16 to I-35

Map 20 of 46

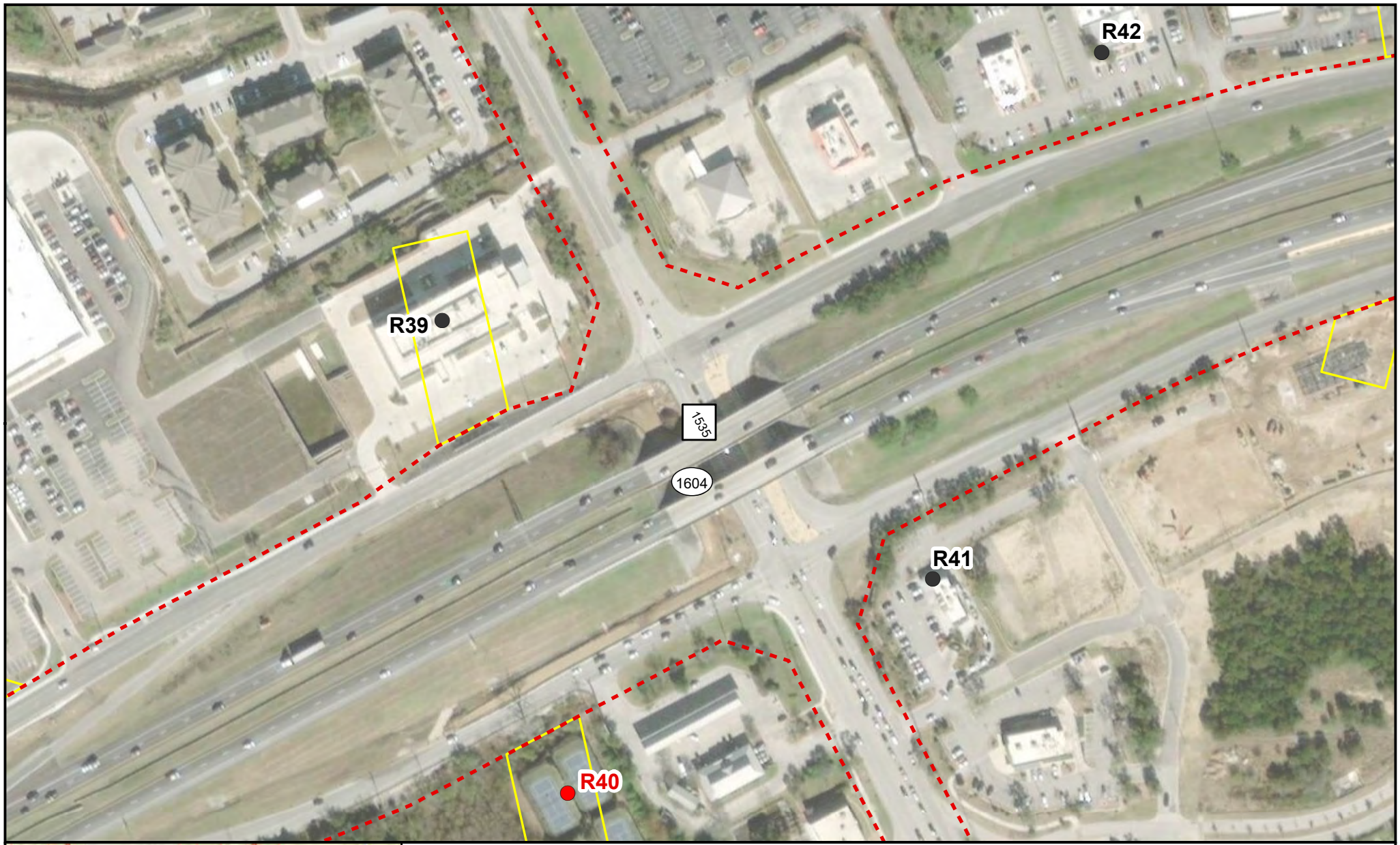
Legend

- Benefited Receiver
- Impacted Receiver
- No Impact Receiver
- Proposed Noise Barrier
- Existing Right-of-Way
- Drainage Easement

N

0 100 200

Feet



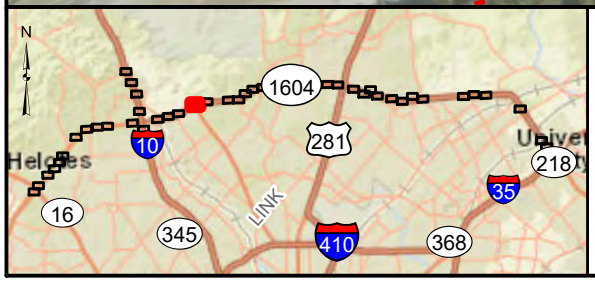


Figure 8

Noise Receiver and Proposed Barrier Locations

Loop 1604 from SH 16 to I-35

Map 21 of 46

Legend

- Benefited Receiver
- Impacted Receiver
- No Impact Receiver
- Proposed Noise Barrier
- Existing Right-of-Way
- Drainage Easement

N

0 100 200

Feet

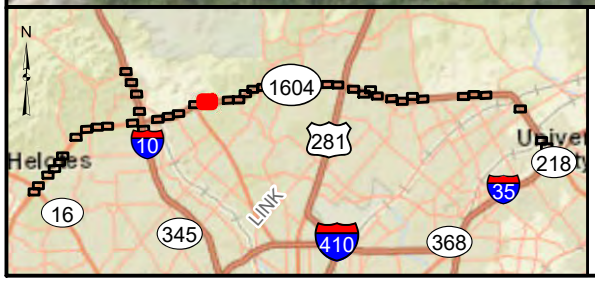


Figure 8

Noise Receiver and Proposed Barrier Locations

Loop 1604 from SH 16 to I-35

Map 22 of 46

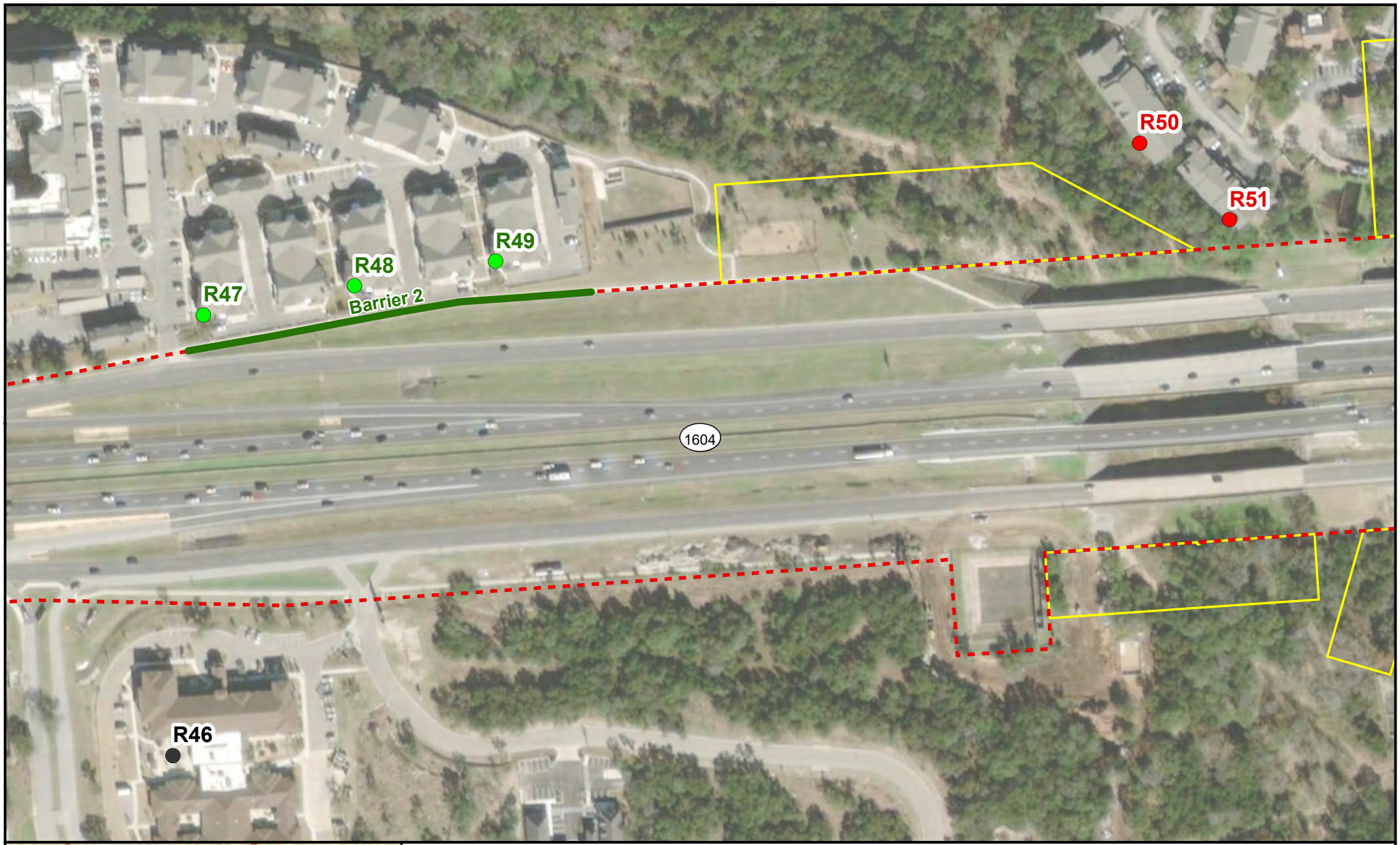
Legend

- Benefited Receiver
- Impacted Receiver
- No Impact Receiver
- Proposed Noise Barrier
- Existing Right-of-Way
- Drainage Easement

N

0 100 200

Feet



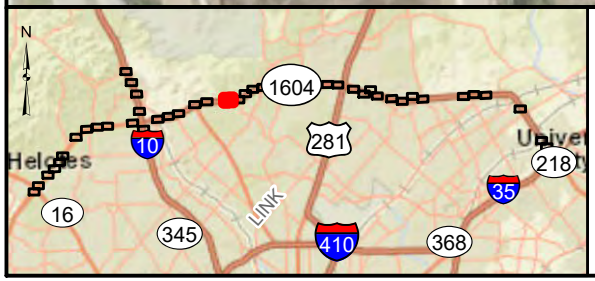


Figure 8

Noise Receiver and Proposed Barrier Locations

Loop 1604 from SH 16 to I-35

Map 23 of 46

Legend

- Benefited Receiver
- Impacted Receiver
- No Impact Receiver
- Proposed Noise Barrier
- Existing Right-of-Way
- Drainage Easement

N

0 100 200

Feet

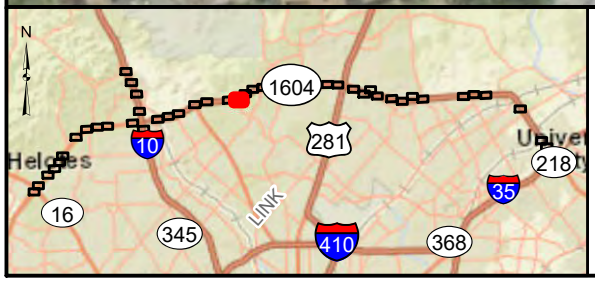


Figure 8

Noise Receiver and Proposed Barrier Locations

Loop 1604 from SH 16 to I-35

Map 24 of 46

Legend

- Benefited Receiver
- Impacted Receiver
- No Impact Receiver
- Proposed Noise Barrier
- Existing Right-of-Way
- Drainage Easement

N

0 100 200

Feet

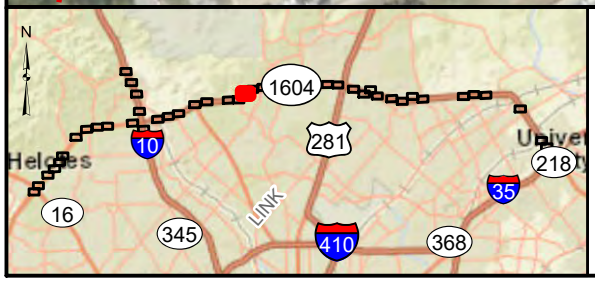


Figure 8

Noise Receiver and Proposed Barrier Locations

Loop 1604 from SH 16 to I-35

Map 25 of 46

Legend

- Benefited Receiver
- Impacted Receiver
- No Impact Receiver
- Proposed Noise Barrier
- Existing Right-of-Way
- Drainage Easement

N

0 100 200

Feet

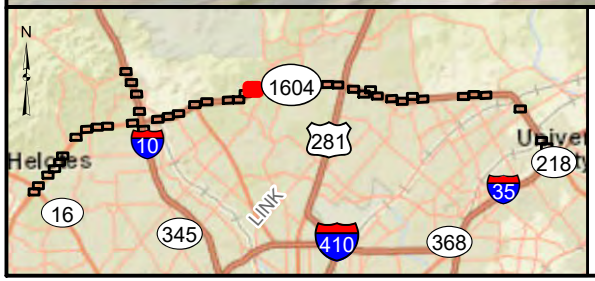


Figure 8

Noise Receiver and Proposed Barrier Locations

Loop 1604 from SH 16 to I-35

Map 26 of 46

Legend

- Benefited Receiver
- Impacted Receiver
- No Impact Receiver
- Proposed Noise Barrier
- Existing Right-of-Way
- Drainage Easement

N

0 100 200

Feet

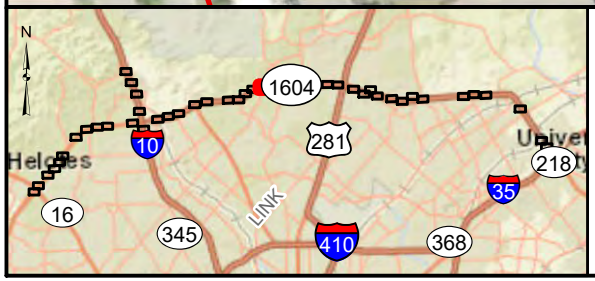


Figure 8

Noise Receiver and Proposed Barrier Locations

Loop 1604 from SH 16 to I-35

Map 27 of 46

Legend

- Benefited Receiver
- Impacted Receiver
- No Impact Receiver
- Proposed Noise Barrier
- Existing Right-of-Way
- Drainage Easement

N

0 100 200

Feet

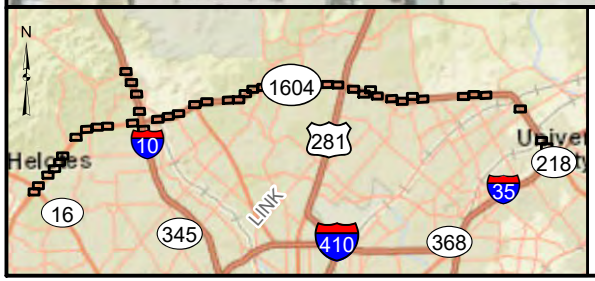


Figure 8

Noise Receiver and Proposed Barrier Locations

Loop 1604 from SH 16 to I-35

Map 28 of 46

Legend

- Benefited Receiver
- Impacted Receiver
- No Impact Receiver
- Proposed Noise Barrier
- Existing Right-of-Way

N

0 100 200

Feet

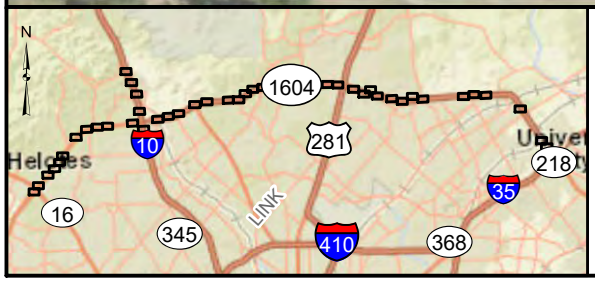


Figure 8

Noise Receiver and Proposed Barrier Locations

Loop 1604 from SH 16 to I-35

Map 29 of 46

Legend

- Benefited Receiver
- Impacted Receiver
- No Impact Receiver
- Proposed Noise Barrier
- Existing Right-of-Way
- Drainage Easement

N

0 100 200

Feet

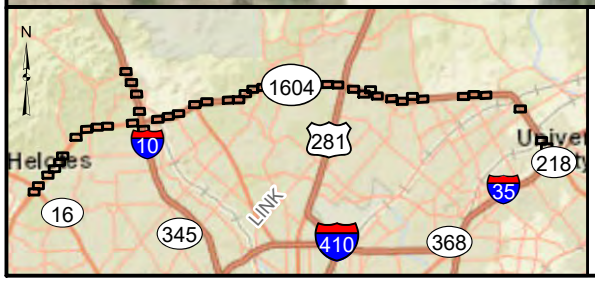


Figure 8

Noise Receiver and Proposed Barrier Locations

Loop 1604 from SH 16 to I-35

Map 30 of 46

Legend

- Benefited Receiver
- Impacted Receiver
- No Impact Receiver
- Proposed Noise Barrier
- Existing Right-of-Way
- Drainage Easement

N

0 100 200

Feet

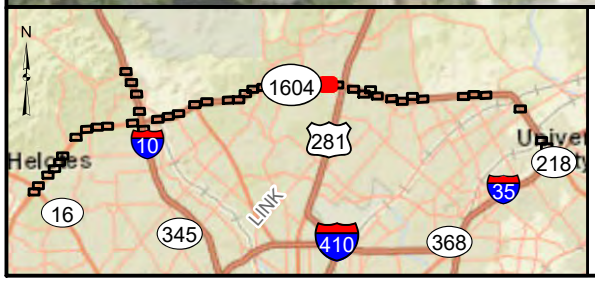


Figure 8

Noise Receiver and Proposed Barrier Locations

Loop 1604 from SH 16 to I-35

Map 31 of 46

Legend

- Benefited Receiver
- Impacted Receiver
- No Impact Receiver
- Proposed Noise Barrier
- Existing Right-of-Way
- Drainage Easement

N

0 100 200

Feet

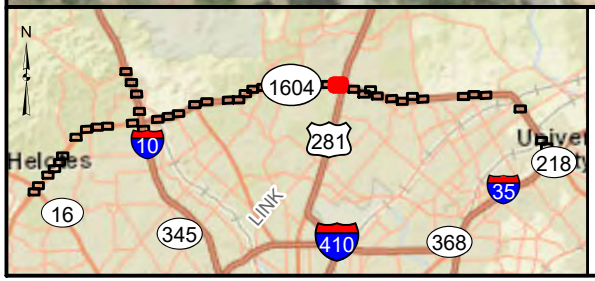


Figure 8

Noise Receiver and Proposed Barrier Locations

Loop 1604 from SH 16 to I-35

Map 32 of 46

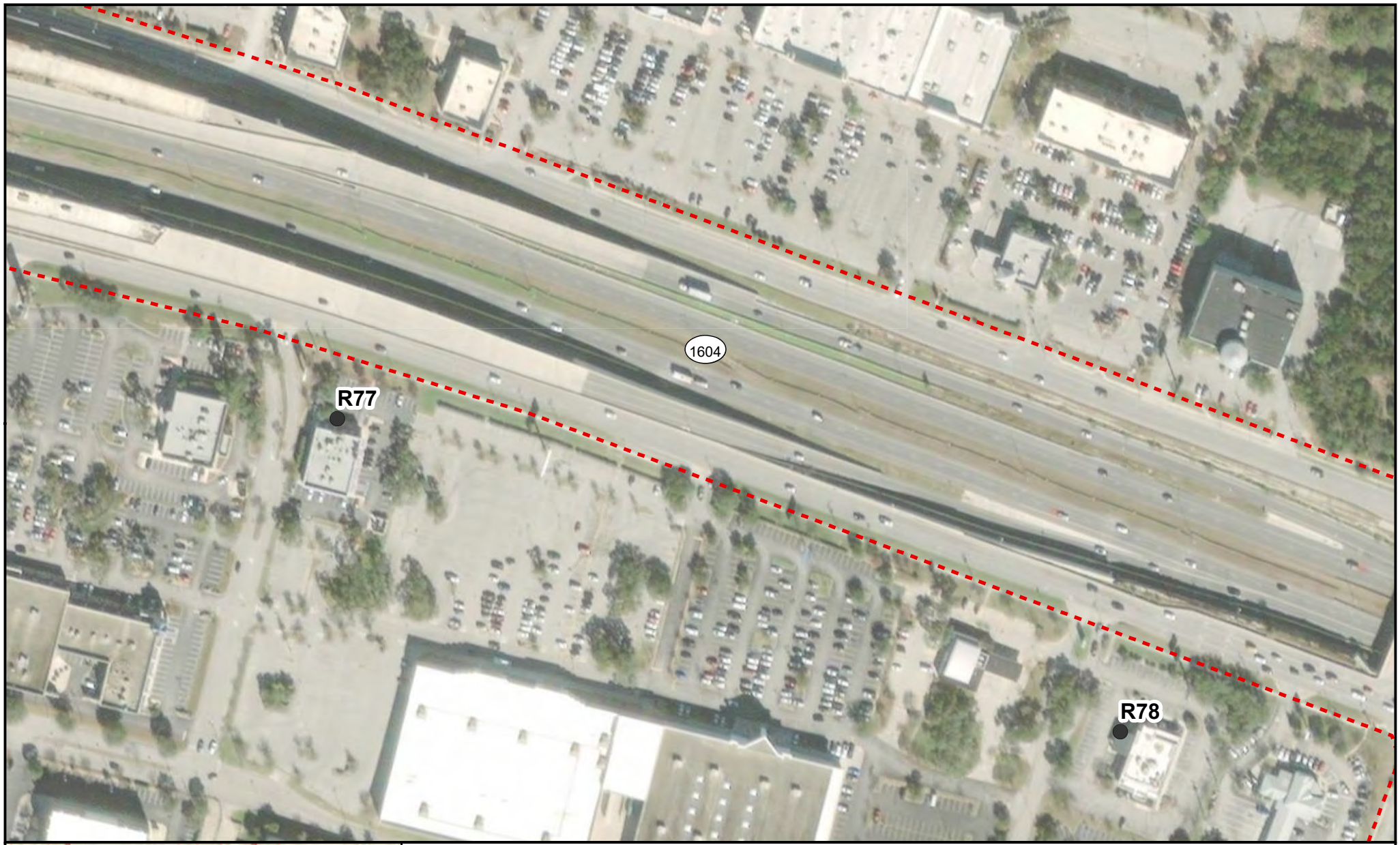
Legend

- Benefited Receiver
- Impacted Receiver
- No Impact Receiver
- Proposed Noise Barrier
- Existing Right-of-Way
- Drainage Easement

N

0 100 200

Feet



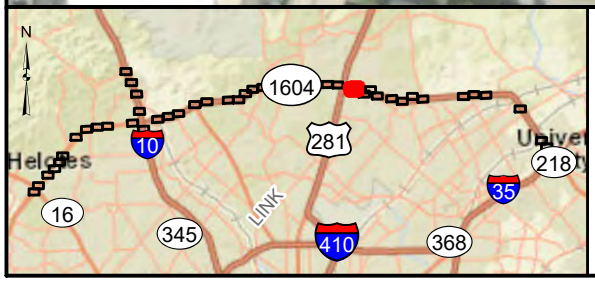


Figure 8

Noise Receiver and Proposed Barrier Locations

Loop 1604 from SH 16 to I-35

Map 33 of 46

Legend

- Benefited Receiver
- Impacted Receiver
- No Impact Receiver
- Proposed Noise Barrier
- Existing Right-of-Way

N

0 100 200

Feet

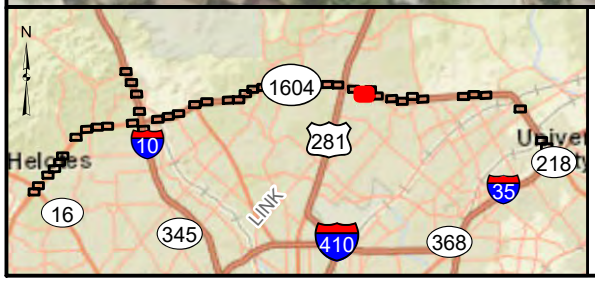


Figure 8

Noise Receiver and Proposed Barrier Locations

Loop 1604 from SH 16 to I-35

Map 34 of 46

Legend

- Benefited Receiver
- Impacted Receiver
- No Impact Receiver
- Proposed Noise Barrier
- Existing Right-of-Way

N

0 100 200

Feet

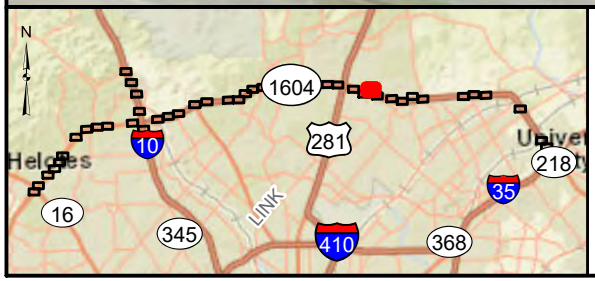


Figure 8

Noise Receiver and Proposed Barrier Locations

Loop 1604 from SH 16 to I-35

Map 35 of 46

Legend

- Benefited Receiver
- Impacted Receiver
- No Impact Receiver
- Proposed Noise Barrier
- Existing Right-of-Way

N

0 100 200

Feet

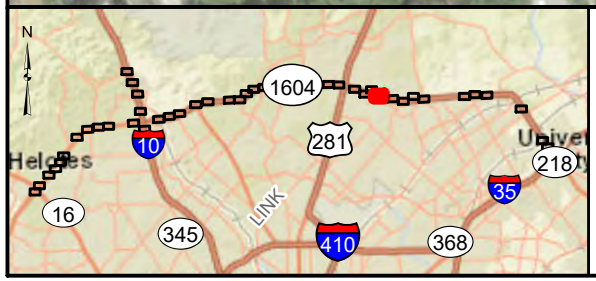


Figure 8

Noise Receiver and Proposed Barrier Locations

Loop 1604 from SH 16 to I-35

Map 36 of 46

Legend

- Benefited Receiver
- Impacted Receiver
- No Impact Receiver
- Proposed Noise Barrier
- Existing Right-of-Way

N

0 100 200

Feet

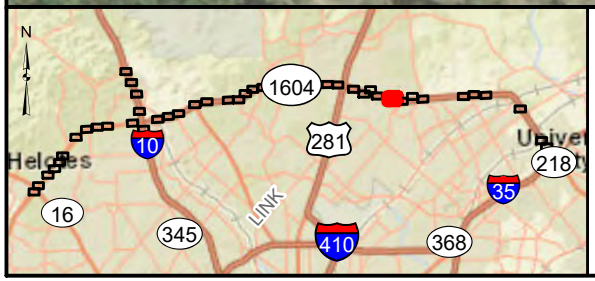


Figure 8

Noise Receiver and Proposed Barrier Locations

Loop 1604 from SH 16 to I-35

Map 37 of 46

Legend

- Benefited Receiver
- Impacted Receiver
- No Impact Receiver
- Proposed Noise Barrier
- Existing Right-of-Way

N

0 100 200

Feet

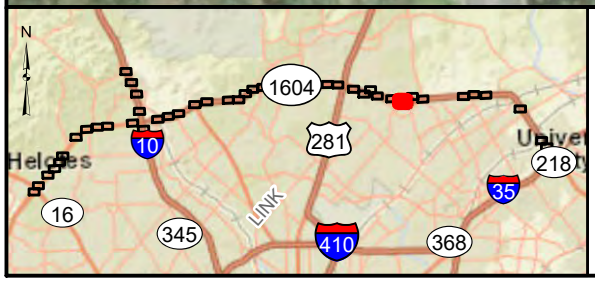


Figure 8

Noise Receiver and Proposed Barrier Locations

Loop 1604 from SH 16 to I-35

Map 38 of 46

Legend

- Benefited Receiver
- Impacted Receiver
- No Impact Receiver
- Proposed Noise Barrier
- Existing Right-of-Way
- Drainage Easement

N

0 100 200

Feet

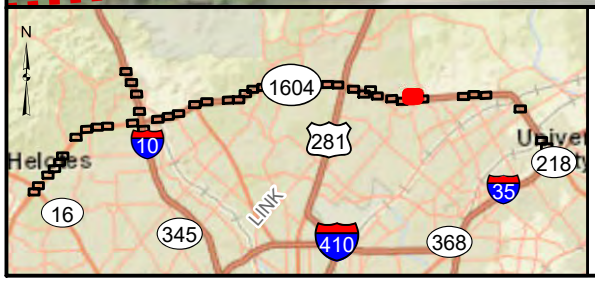


Figure 8

Noise Receiver and Proposed Barrier Locations

Loop 1604 from SH 16 to I-35

Map 39 of 46

Legend

- Benefited Receiver
- Impacted Receiver
- No Impact Receiver
- Proposed Noise Barrier
- Existing Right-of-Way
- Drainage Easement

N

0 100 200

Feet

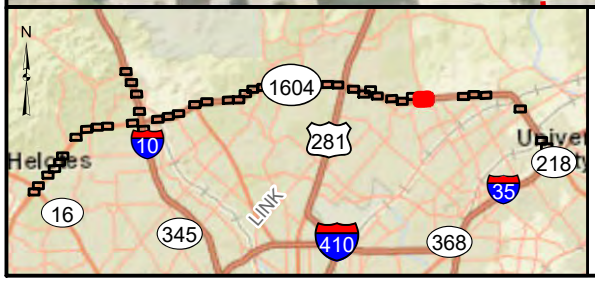


Figure 8

Noise Receiver and Proposed Barrier Locations

Loop 1604 from SH 16 to I-35

Map 40 of 46

Legend

- Benefited Receiver
- Impacted Receiver
- No Impact Receiver
- Proposed Noise Barrier
- Existing Right-of-Way
- Drainage Easement

N

0 100 200

Feet

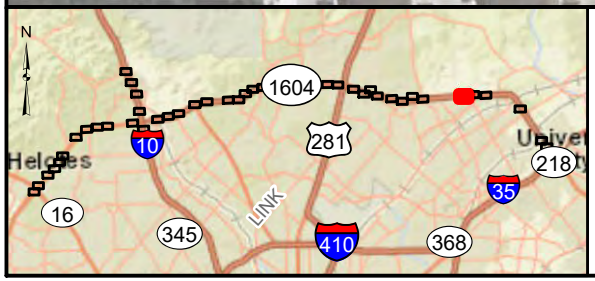


Figure 8

Noise Receiver and Proposed Barrier Locations

Loop 1604 from SH 16 to I-35

Map 41 of 46

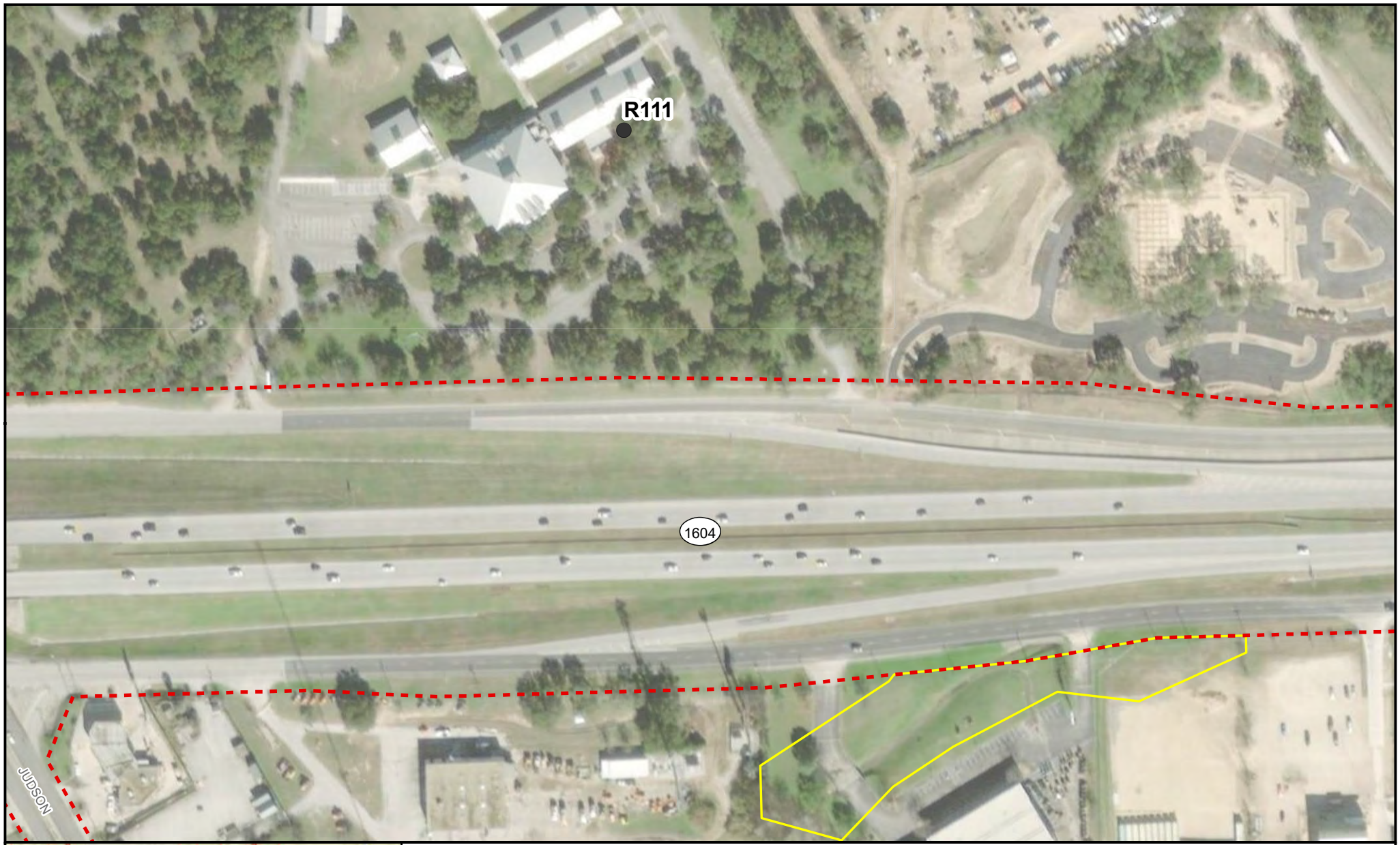
Legend

- Benefited Receiver
- Impacted Receiver
- No Impact Receiver
- Proposed Noise Barrier
- Existing Right-of-Way
- Drainage Easement

N

0 100 200

Feet



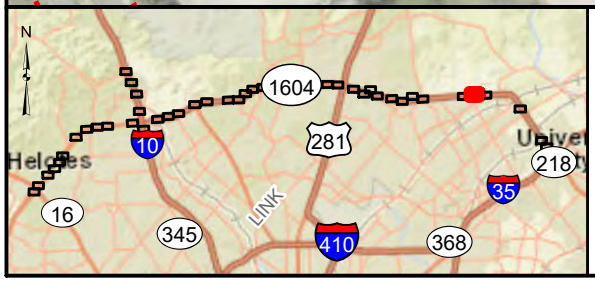


Figure 8

Noise Receiver and Proposed Barrier Locations

Loop 1604 from SH 16 to I-35

Map 42 of 46

Legend

- Benefited Receiver
- Impacted Receiver
- No Impact Receiver
- Proposed Noise Barrier
- Existing Right-of-Way
- Drainage Easement

N

0 100 200

Feet

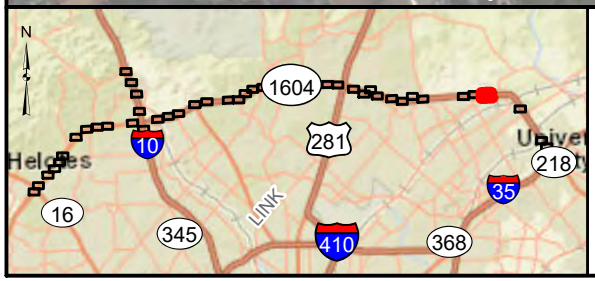


Figure 8

Noise Receiver and Proposed Barrier Locations

Loop 1604 from SH 16 to I-35

Map 43 of 46

Legend

- Benefited Receiver
- Impacted Receiver
- No Impact Receiver
- Proposed Noise Barrier
- Existing Right-of-Way
- Drainage Easement

N

0 100 200

Feet

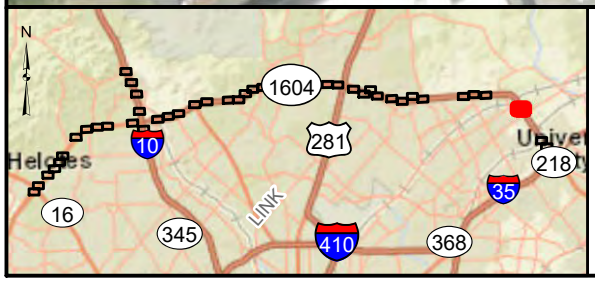


Figure 8

Noise Receiver and Proposed Barrier Locations

Loop 1604 from SH 16 to I-35

Map 44 of 46

Legend

- Benefited Receiver
- Impacted Receiver
- No Impact Receiver
- Proposed Noise Barrier
- Existing Right-of-Way

N

0 100 200

Feet

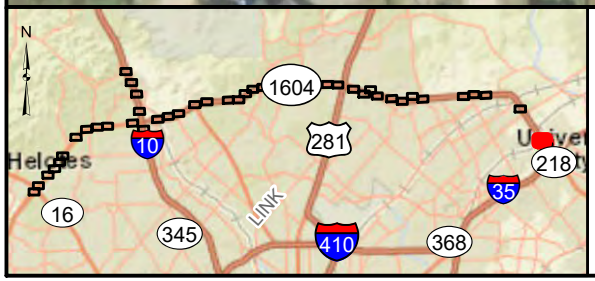


Figure 8

Noise Receiver and Proposed Barrier Locations

Loop 1604 from SH 16 to I-35

Map 45 of 46

Legend

- Benefited Receiver
- Impacted Receiver
- No Impact Receiver
- Proposed Noise Barrier
- Existing Right-of-Way
- Drainage Easement

N

0 100 200

Feet

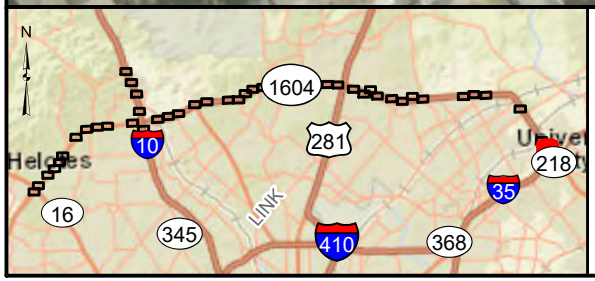


Figure 8

Noise Receiver and Proposed Barrier Locations

Loop 1604 from SH 16 to I-35

Map 46 of 46

Legend

- Benefited Receiver
- Impacted Receiver
- No Impact Receiver
- Proposed Noise Barrier
- Existing Right-of-Way
- Drainage Easement

N

0 100 200

Feet

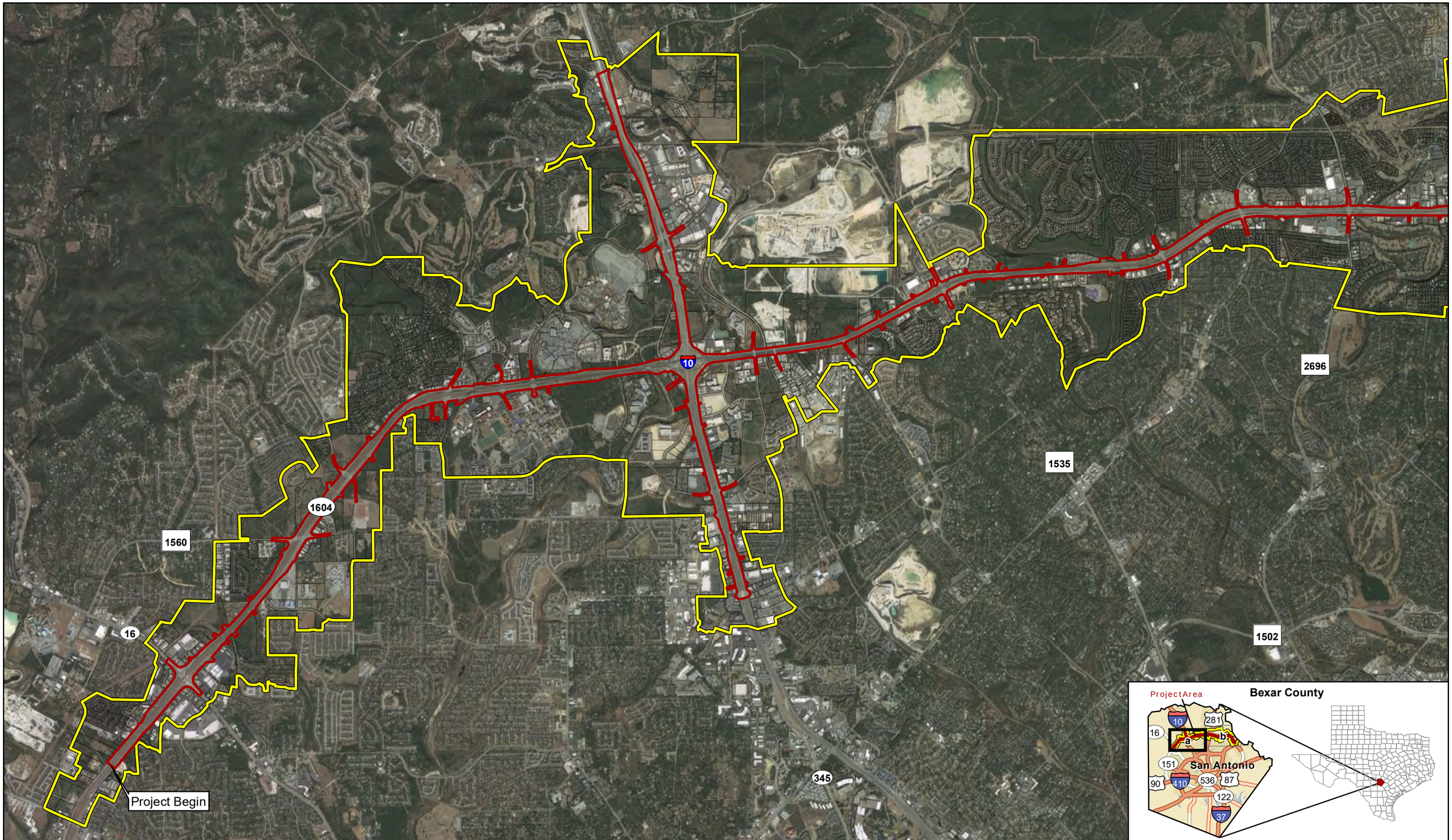


Figure 9a

Project Location and the Area of Influence (AOI)

Loop 1604: SH 16 to I-35

Project Location
Area of Influence (AOI)
BCAD Parcel

Data Source: BCAD (2018), TxDOT (2018)
Aerial Source: Google (2018)

CSJs:2452-02-083, 2452-03-113, 2452-03-087

0 0.75 Miles
0 1 Kilometer

1 in = 0.75 miles
Scale: 1:47,520
Date: 1/28/2020

G:\Projects\TXDOT\LP1604_SH16_I35N\Indirect_Figure 1_Project Location_AOI_20191212.mxd

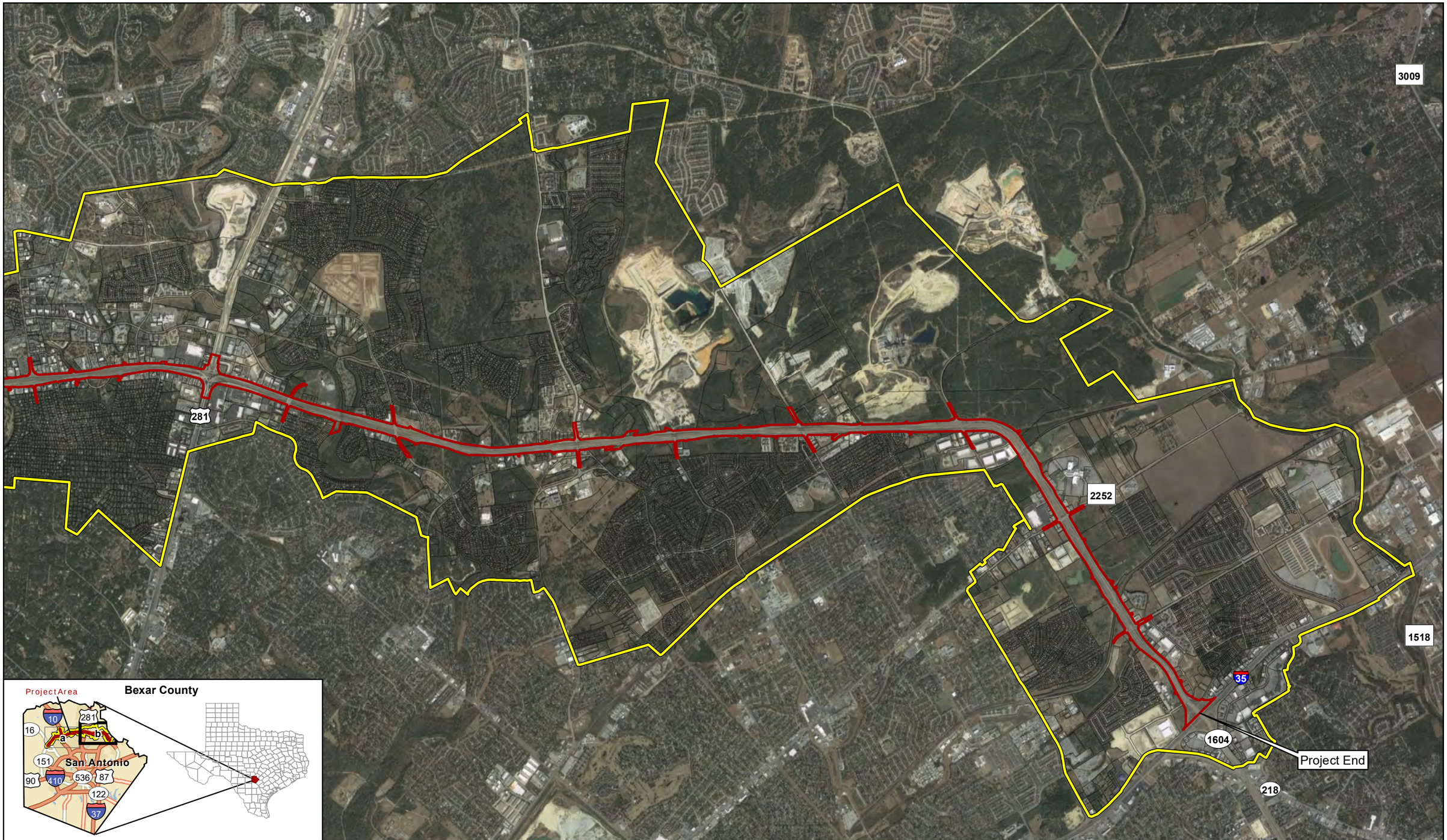


Figure 9b

Project Location and the Area of Influence (AOI)

Loop 1604: SH 16 to I-35

Project Location
Area of Influence (AOI)
BCAD Parcel

Data Source: BCAD (2018), TxDOT (2018)
Aerial Source: Google (2018)

CSJs:2452-02-083, 2452-03-113, 2452-03-087

0 0.75 Miles
0 1 Kilometer

1 in = 0.75 miles
Scale: 1:47,520
Date: 1/28/2020

G:\Projects\TXDOT\LP1604_SH16_I35N\Indirect_Figure 1b_Project Location_AOI_20191212.mxd

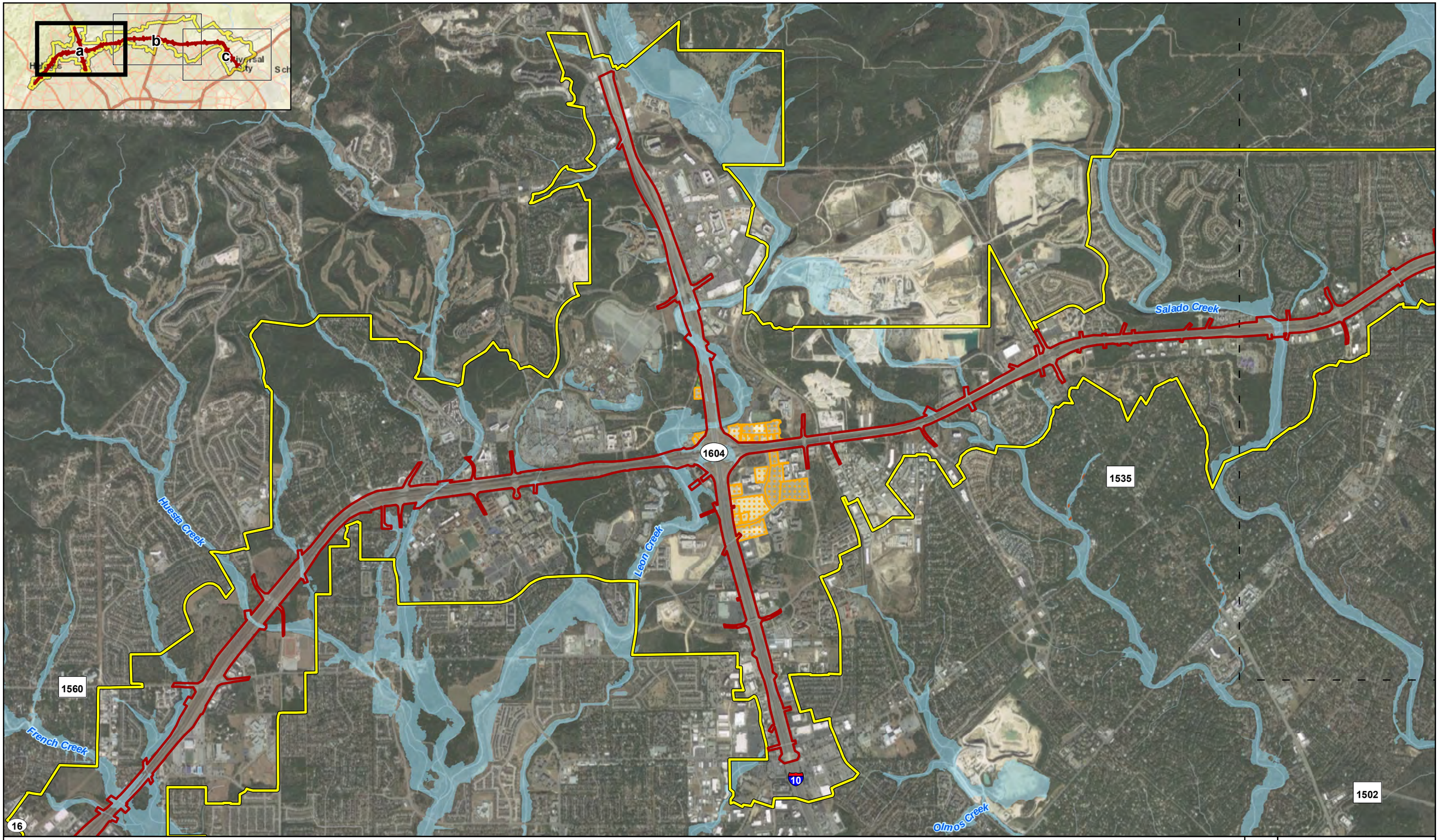


Figure **10**a

Areas of Induced Growth and Potential Redevelopment in the AOI

Loop 1604: SH 16 to I-35

Project Location
Area of Influence (AOI)
Sheet limits
100-Year Flood Zone
Floodway
Potential Redevelopment Areas (COSA)
Area of Induced Growth (COSA)

Data Sources:
COSA (2019), Live Oak (2019)
FEMA (2018), TxDOT (2018)
Aerial Source: Google (2018)

0 3,000 Feet
0 900 Meters

CSJs: 2452-02-083, 2452-03-113, 2452-03-087

1 in = 3,000 feet
Scale: 1:36,000
Date: 2/3/2020

G:\Projects\TXDOT\LP1604_SH16_I35N\Indirect_Figure 5_Induced Growth_20200128.mxd

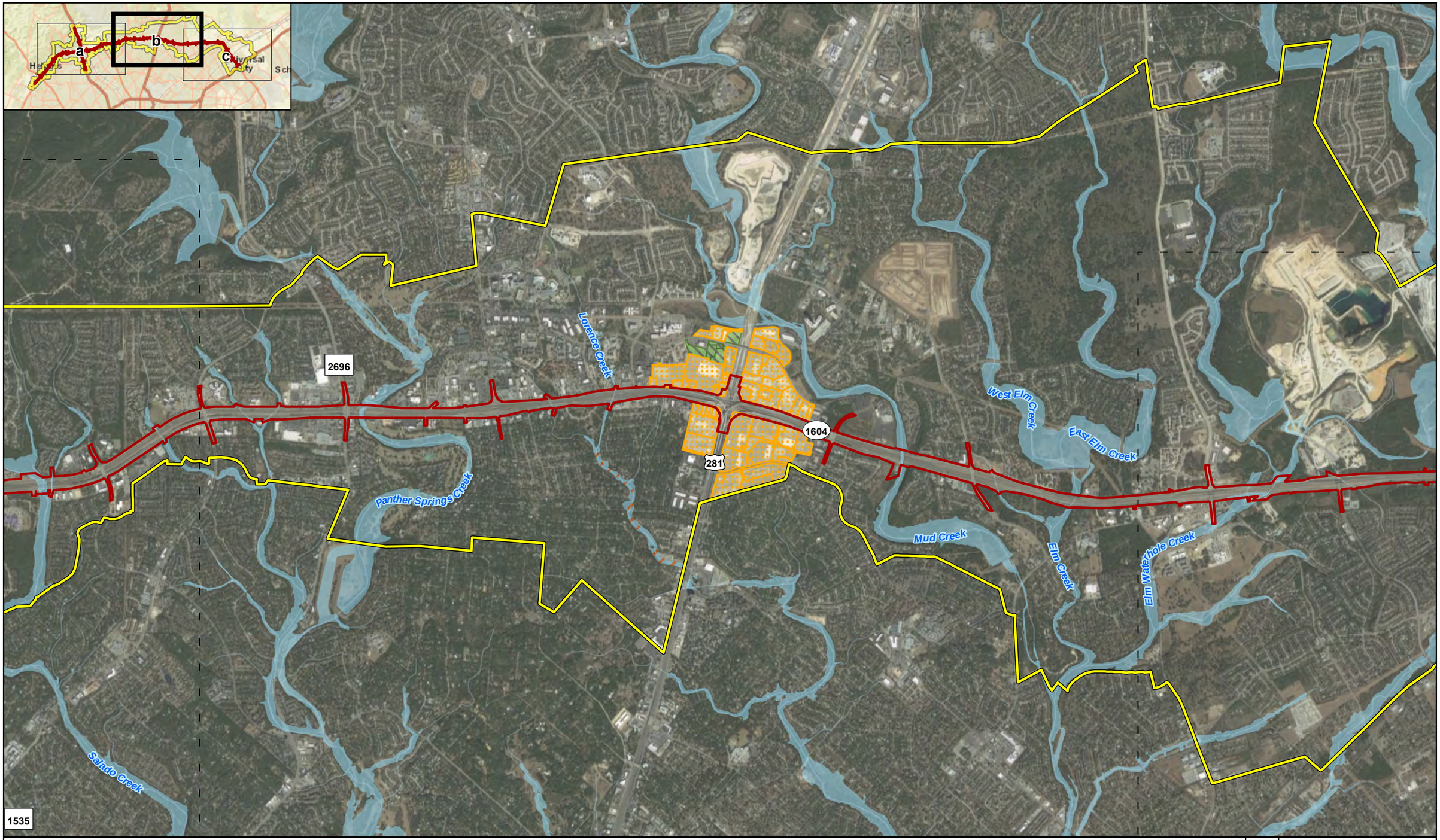


Figure 10b

Areas of Induced Growth and Potential Redevelopment in the AOI

Loop 1604: SH 16 to I-35

Project Location
Area of Influence (AOI)
Sheet limits
100-Year Flood Zone
Floodway
Potential Redevelopment Areas (COSA)
Area of Induced Growth (COSA)

Data Sources:
COSA (2019), Live Oak (2019)
FEMA (2018), TxDOT (2018)
Aerial Source: Google (2018)

CSJs: 2452-02-083, 2452-03-113, 2452-03-087

0 3,000 Feet
0 900 Meters

1 in = 3,000 feet
Scale: 1:36,000
Date: 2/3/2020

G:\Projects\TXDOT\LP1604_SH16_I35N\Indirect_Figure 5_Induced Growth_20200128.mxd

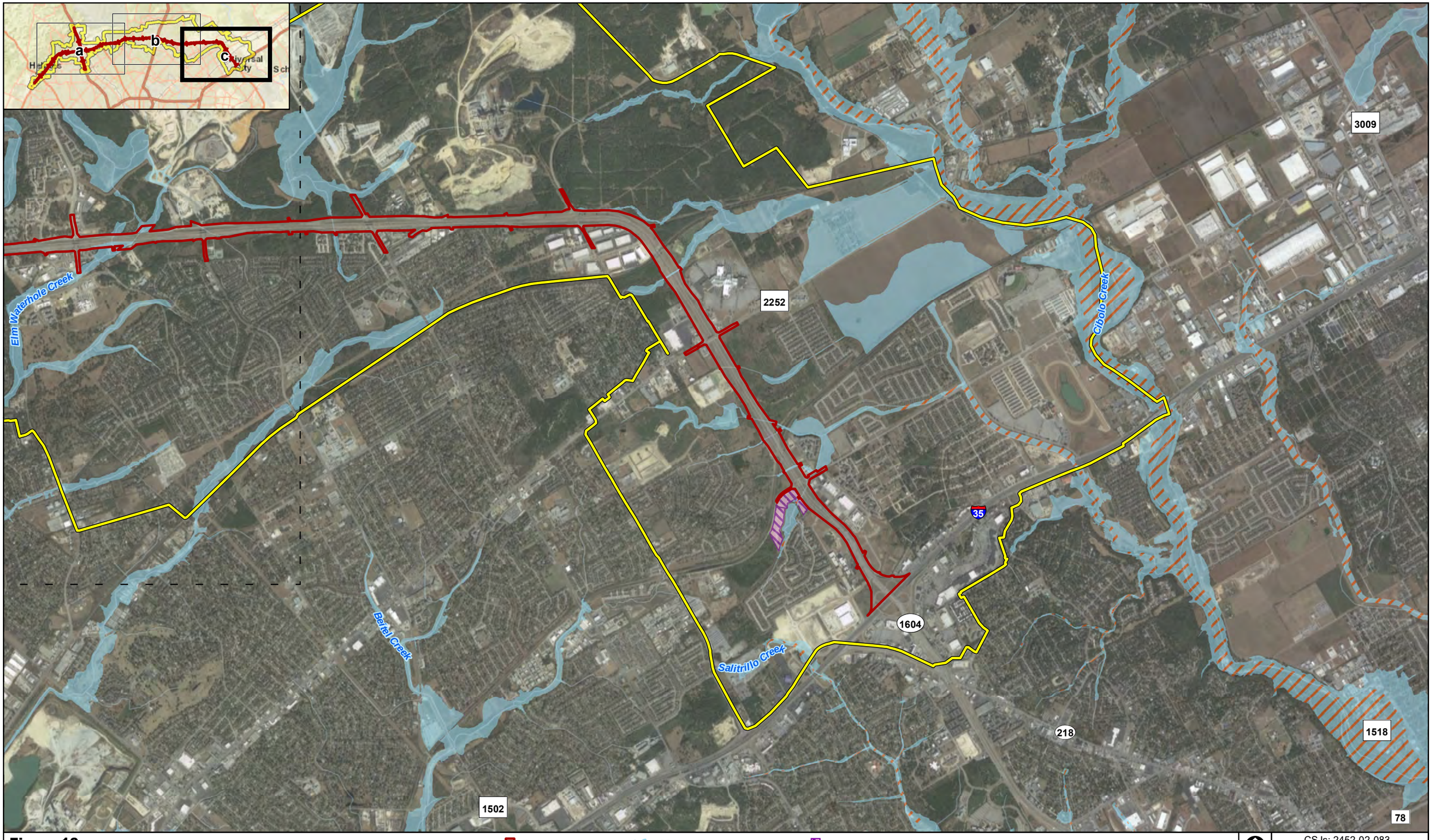


Figure 10c

Areas of Induced Growth and Potential Redevelopment in the AOI

Loop 1604: SH 16 to I-35

Project Location
Area of Influence (AOI)
Sheet limits
100-Year Flood Zone
Floodway
Area of Induced Growth (COSA)
Areas of Induced Growth (Live Oak)

Data Sources:
COSA (2019), Live Oak (2019)
FEMA (2018), TxDOT (2018)
Aerial Source: Google (2018)

CSJs: 2452-02-083, 2452-03-113, 2452-03-087

0 3,000 Feet
0 900 Meters

1 in = 3,000 feet
Scale: 1:36,000
Date: 2/3/2020

G:\Projects\TXDOT\LP1604_SH16_I35N\Indirect_Figure 5_Induced Growth_20200128.mxd

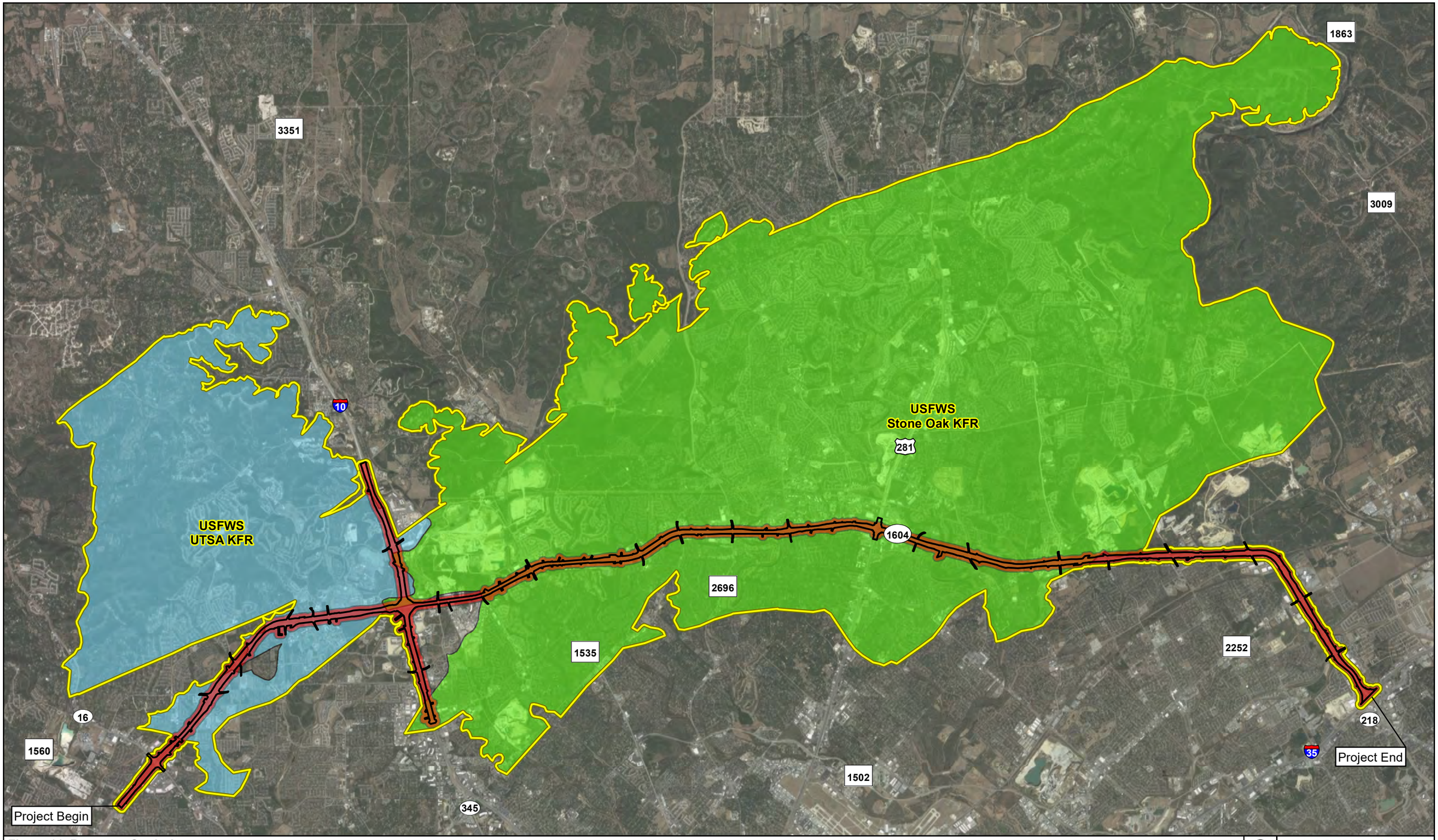


Figure 11. Resource Study Area (RSA) for Federally Listed Species

Loop 1604: SH 16 to I-35

Project Location
RSA for Federally Listed Species

RSA Components
Biological Assessment Action Area
USFWS Stone Oak Karst Fauna Region (KFR)
USFWS UTSA Karst Fauna Region (KFR)

Data Sources:
USFWS (2019), Zara (2019)
Aerial Source: Google (2018)

CSJs: 2452-02-083, 2452-03-113, 2452-03-087, 2452-02-127

0 1.5 Miles
0 2 Kilometers

1 in = 1.5 miles
Scale: 1:95,040
Date: 5/29/2020

G:\Projects\TXDOT\LP1604_SH16_I35N\Cumulative_Figure 1_RSA_Fed Species_20200330_kc.mxd

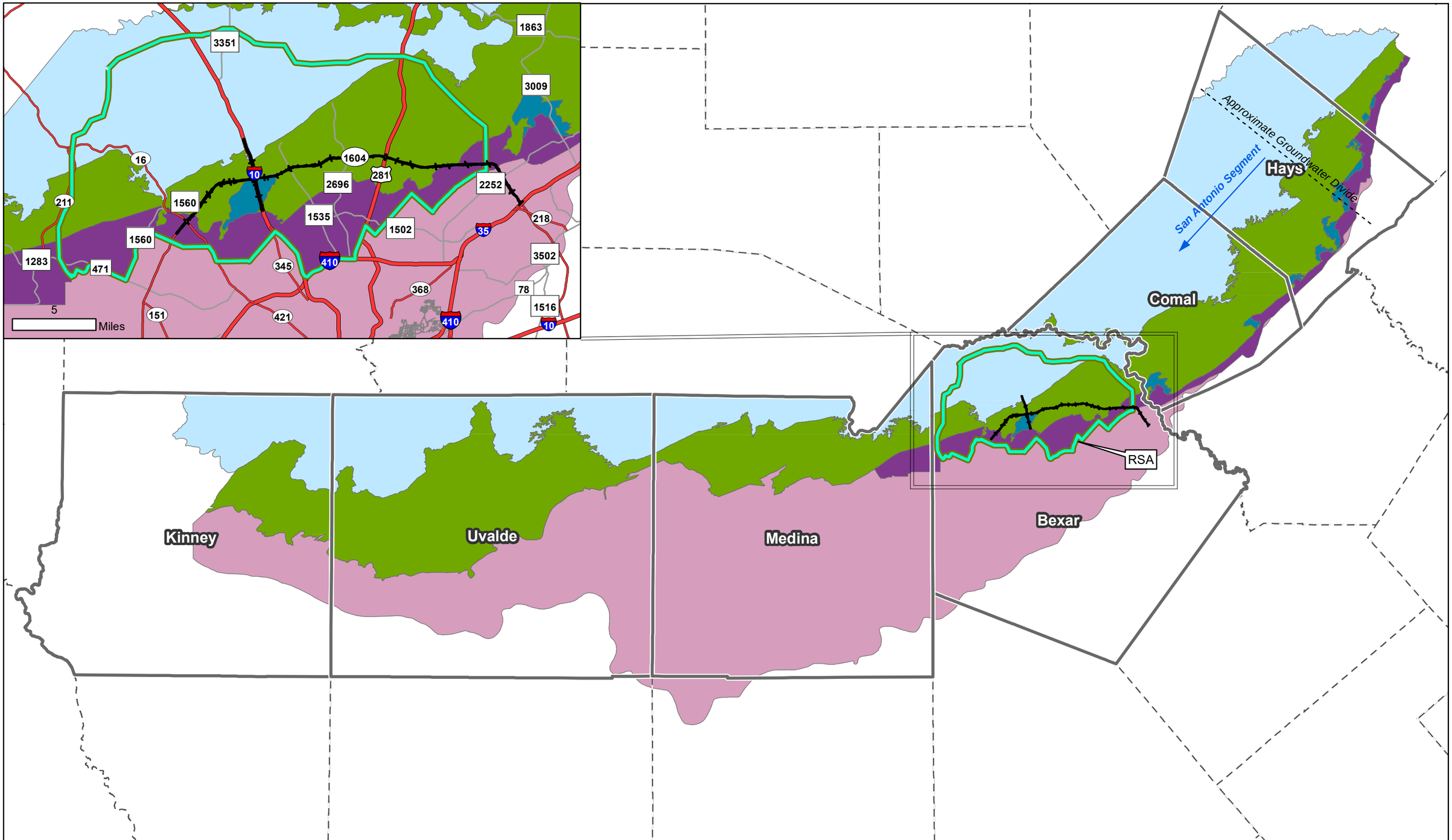


Figure 12. Resource Study Area (RSA) for Groundwater

Loop 1604: SH 16 to I-35

Project Location
RSA for Groundwater
Counties
Edwards Aquifer Contributing
Edwards Aquifer Contributing Zone within the Transition Zone
Edwards Aquifer Recharge
Edwards Aquifer Transition
Edwards Aquifer Artesian

Data Sources: SWCA (2020), TCEQ (2005)

CSJs: 2452-02-083, 2452-03-113, 2452-03-087, 2452-02-127

0 12 Miles
0 15 Kilometers

1 in = 12 miles
Scale1:760,320
Date: 5/29/2020

G:\Projects\TXDOT\LP1604_SH16_I35N\Cumulative_Figure 3_RSA_Groundwater_20200519_kc.mxd

Appendix G: Resource Agency Coordination

From: Maldonado, Miranda
To: Susan Patterson
Subject: FW: Project Review: 202011266
Date: Tuesday, May 19, 2020 10:12:58 AM

FYI.

From: John Bryant <John.Bryant@txdot.gov>
Sent: Tuesday, May 19, 2020 9:51 AM
To: Maldonado, Miranda <Miranda.Maldonado@aecom.com>
Cc: Squire, Rich <Rich.Squire@aecom.com>; Liang Ding <Liang.Ding@txdot.gov>
Subject: [EXTERNAL] FW: Project Review: 202011266

Our THC coordination for archeology is now complete.

From: Eric Oksanen
Sent: Tuesday, May 19, 2020 9:46 AM
To: Scott Pletka <Scott.Pletka@txdot.gov>
Cc: John Bryant <John.Bryant@txdot.gov>
Subject: RE: Project Review: 202011266

Thanks for clearing it up.

At home
6:30-4 pm
Lunch 12-12:30 pm

Eric R. Oksanen
District Archeologist
Texas Department of Transportation
Environmental Affairs
Archeological Studies Branch
125 E. 11th Street
Austin, TX 78701
512-416-2505
eric.oksanen@txdot.gov

From: Scott Pletka
Sent: Tuesday, May 19, 2020 9:44 AM
To: Eric Oksanen <Eric.Oksanen@txdot.gov>
Subject: FW: Project Review: 202011266

FYI. I will upload a copy of this email and update ECOS when network access has been restored.

From: noreply@thc.state.tx.us [mailto:noreply@thc.state.tx.us]

Sent: Tuesday, May 19, 2020 9:42 AM
To: Scott Pletka <Scott.Pletka@txdot.gov>; reviews@thc.state.tx.us
Subject: Project Review: 202011266

Re: Project Review under Section 106 of the National Historic Preservation Act and/or the Antiquities Code of Texas
Permit 9294
THC Tracking #202011266
2452-02-083, SL 1604
SL 1604 at SH 16
San Antonio,TX 78023

Dear TxDOT Staff:
Thank you for your submittal regarding the above-referenced project. This response represents the comments of the State Historic Preservation Officer, the Executive Director of the Texas Historical Commission (THC), pursuant to review under Section 106 of the National Historic Preservation Act and the Antiquities Code of Texas.

The review staff led by Bill Martin has completed its review and has made the following determinations based on the information submitted for review:

Archeology Comments

- No historic properties present or affected. However, if buried cultural materials are encountered during construction or disturbance activities, work should cease in the immediate area; work can continue where no cultural materials are present. Please contact the THC's Archeology Division at 512-463-6096 to consult on further actions that may be necessary to protect the cultural remains.
- THC/SHPO concurs with information provided.
- Draft report acceptable. Please submit another copy as a final report along with shapefiles showing the area where the archeological work was conducted. Shapefiles should be submitted electronically to Archeological_projects@thc.texas.gov.

We have the following comments: As per THC agreements with TxDOT, this report is accepted as a draft and final. No other copies of the report are required.

We look forward to further consultation with your office and hope to maintain a partnership that will foster effective historic preservation. Thank you for your cooperation in this review process, and for your efforts to preserve the irreplaceable heritage of Texas. If you have any questions concerning our review or if we can be of further assistance, please email the following reviewers:

bill.martin@thc.texas.gov

This response has been sent through the electronic THC review and compliance system (eTRAC). Submitting your project via eTRAC eliminates mailing delays and allows you to check the status of the review, receive an electronic response, and generate reports on your submissions. For more information, visit http://thc.texas.gov/etrac-system.

Sincerely,

For Mark Wolfe, State Historic Preservation Officer
Executive Director, Texas Historical Commission

Please do not respond to this email.

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MEMO

January 8, 2020

TO: Administrative File
From: Linda Henderson

DS LCH 1/8/2020

District: San Antonio
County: Bexar
CSJ#: 2452-02-083, etc.
Highway: Loop 1604
Project Limits: SH 16 to IH-35
Let Date: September 2020

SUBJECT: Internal review under the Section 106 Programmatic Agreement (Section 106 PA) among the Texas Department of Transportation, Texas State Historic Preservation Officer, Advisory Council on Historic Preservation, and Federal Highway Administration; and the Memorandum of Understanding (MOU) between the Texas Historical Commission and the Texas Department of Transportation

The environmental review, consultation, and other actions required by applicable Federal environmental laws for this project are being, or have been, carried-out by TxDOT pursuant to 23 U.S.C. 327 and a Memorandum of Understanding dated December 9, 2019, and executed by FHWA and TxDOT.

Project Description
See the attachment from TxDOT's Environmental Compliance Oversight System (ECOS) that describes the project, setting, and amount of right-of-way (ROW) and easements necessary for the project.

Determination of Eligibility:
TxDOT historians reviewed the National Register of Historic Places (NRHP), the list of State Antiquities Landmarks (SAL), the list of Recorded Texas Historic Landmarks (RTHL), and TxDOT files and found no historically significant resources previously documented within the area of potential effects (APE). The TxDOT Section 106 Programmatic Agreement defines the APE for this project as the existing ROW, but TxDOT looked beyond that at the intersection of Loop 1604 at IH-10, which will be converted from a three-level interchange to a five-level. This is the only component of the project that would not fall under Appendix 4 of the PA and is the component requiring documentation.

To account for potential concerns about changes in the height of that intersection, TxDOT reviewed historic aerials for properties using a standard 1,300-foot study area, which is illustrated in the HIST PCR 2452-02-083 file in ECOS. Based on historic aerials, there are no historic properties within the study area around the intersection. Within the vicinity of it, but well outside what we might use as a larger APE, is the main University of Texas San Antonio (UTSA) campus. UTSA began developing its Loop 1604 campus in 1970, with construction well underway in the 1973 aerial; the school held its first classes at the campus in summer of 1973. The edge of the campus, which was designed by

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Ford, Powell & Carson Architects and Cocke, Bartlett & Associates, is approximately 4,500 feet from the current intersection (see Figures).

Most of the land around Loop 1604 throughout the project area—even beyond the work occurring at the IH-10 intersection—was undeveloped and has changed dramatically since the 1973 aerials. Subdivisions south of the intersection with US 281, on both the east and west sides, were in development at that time, but none will be affected by the project, and they do not warrant evaluation at this time.

Determination of Effects:
TxDOT staff determined that no historic properties will be affected by the project.

Therefore, pursuant to Stipulation IX, Appendix 6 "Undertakings with the Potential to Cause Effects per 36 CFR 800.16(i)" of the Section 106 PA and the MOU, TxDOT historians determined that there are no historic properties in the APE affected by the project. In compliance with the Antiquities Code of Texas and the MOU, TxDOT historians determined project activities have no potential for adverse effects. Individual project coordination with SHPO is not required.

Lead Reviewer DocuSigned by: Rebekah Dobrasko 0F414A49C0E44B3... for TxDOT 1/9/2020

Rebekah Dobrasko Date

Approved by DocuSigned by: Bruce Jensen 7EBA09BEBA8043B... for TxDOT 1/9/2020

Bruce Jensen Date

DocuSign Envelope ID: B69AB2A9-A45F-471B-B29F-F28117F6BBC4

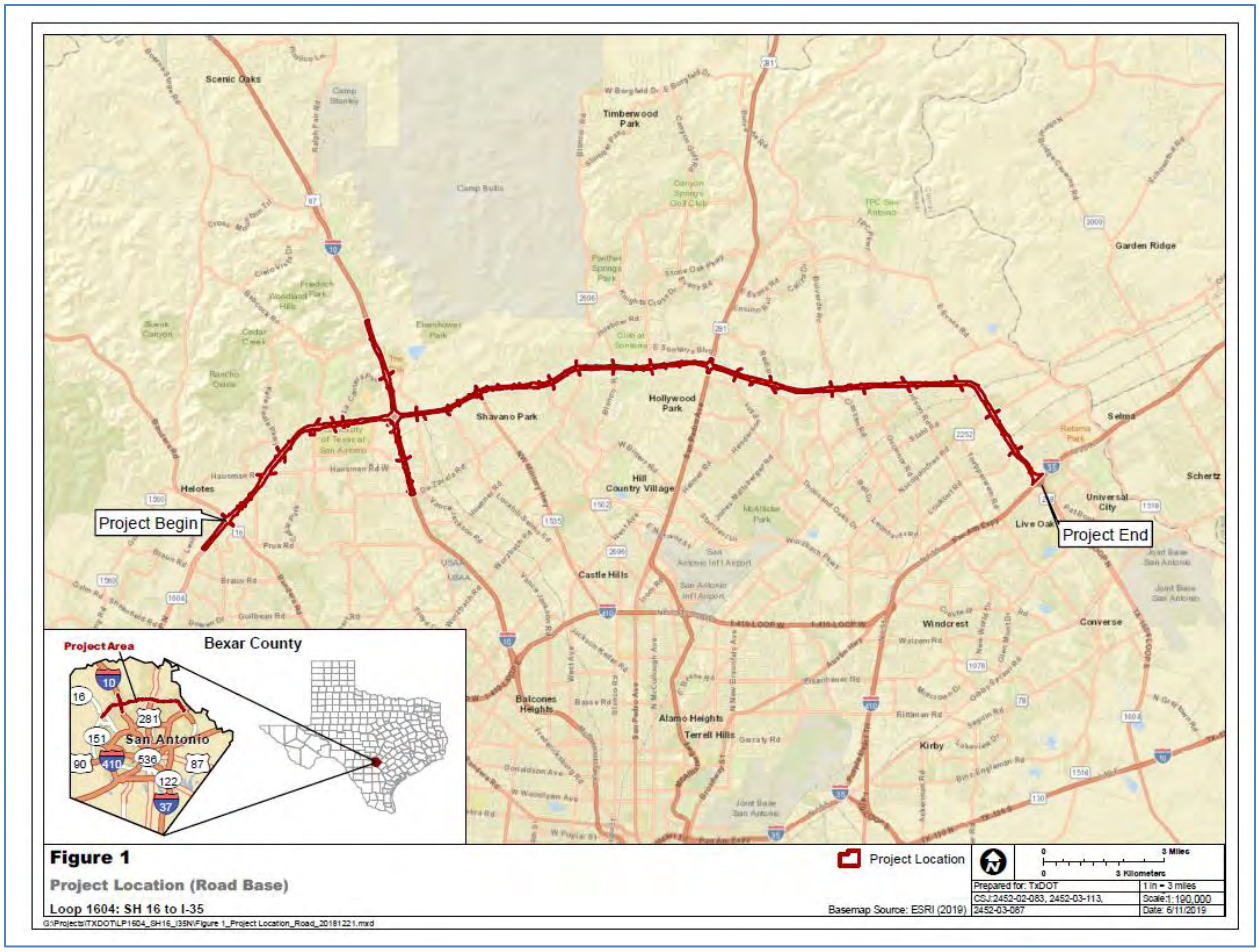

Figure 1: Project location taken from PCR Attachments file. All work will be within current ROW.

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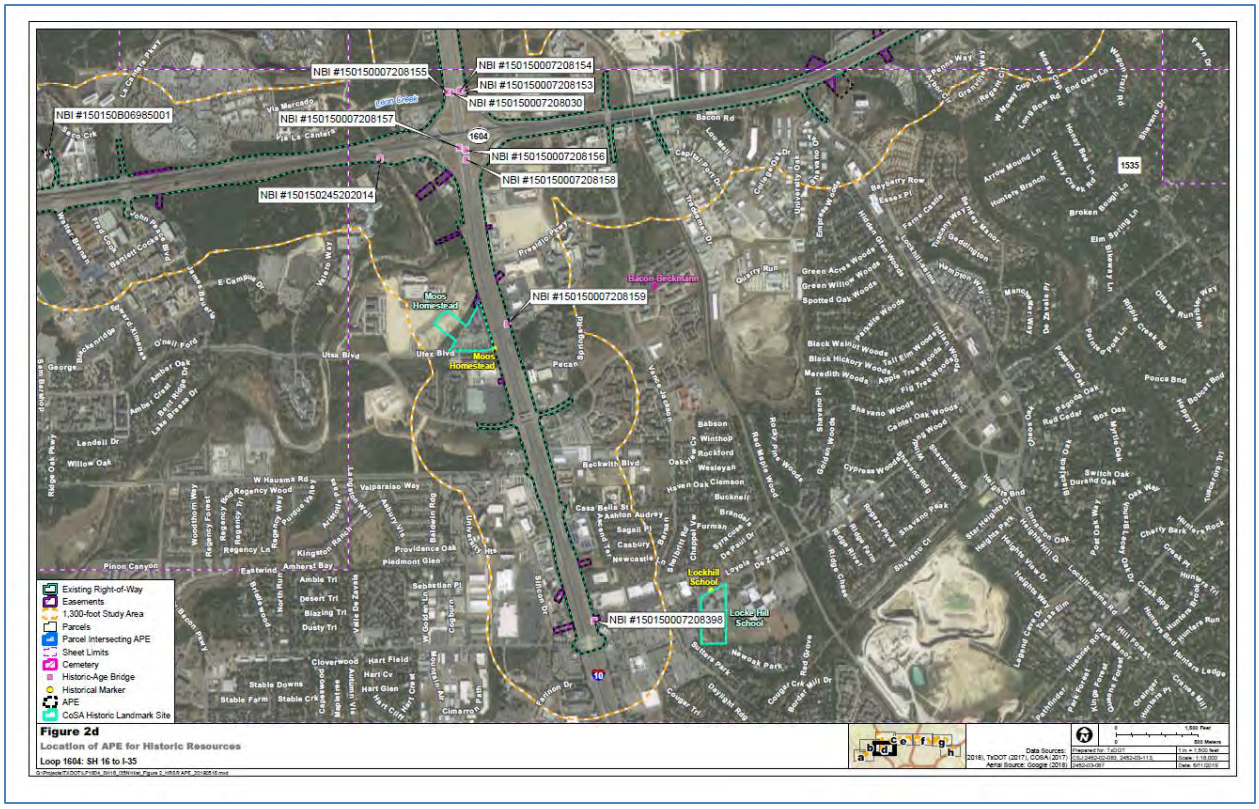

Figure 2, taken from PCR Attachments document showing 1,300-foot study area around intersection. The UTSA campus is on the far left of the image and does not fall within the project APE (current ROW based on no new ROW needed), even if we went out beyond the ROW at the intersection for a larger APE.

DocuSign Envelope ID: B69AB2A9-A45F-471B-B29F-F28117F6BBC4

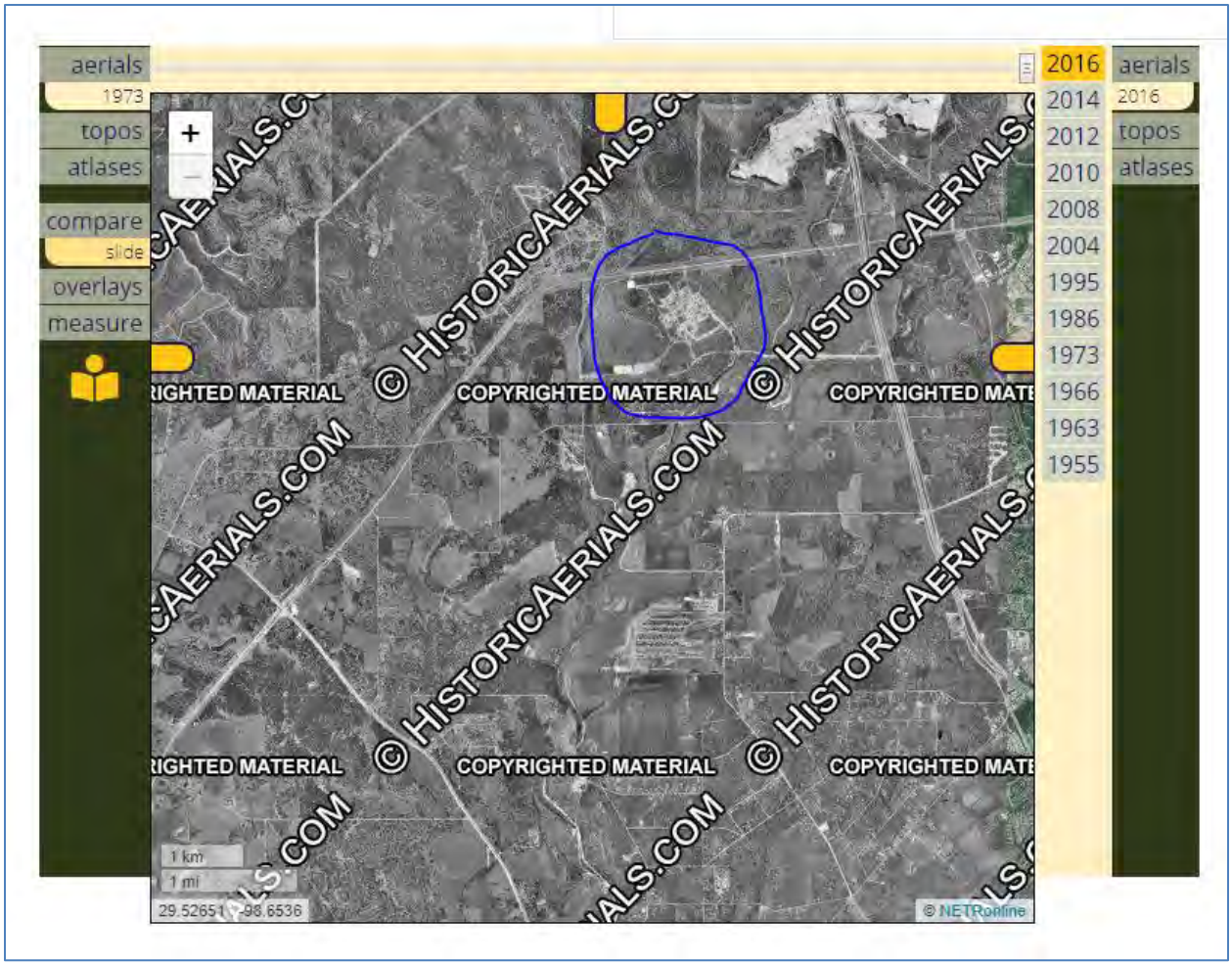

Figure 3. Historic aerial from 1973 showing Loop 1604 from SH 16 to the intersection with IH-10, with the developing UTSA campus circled.

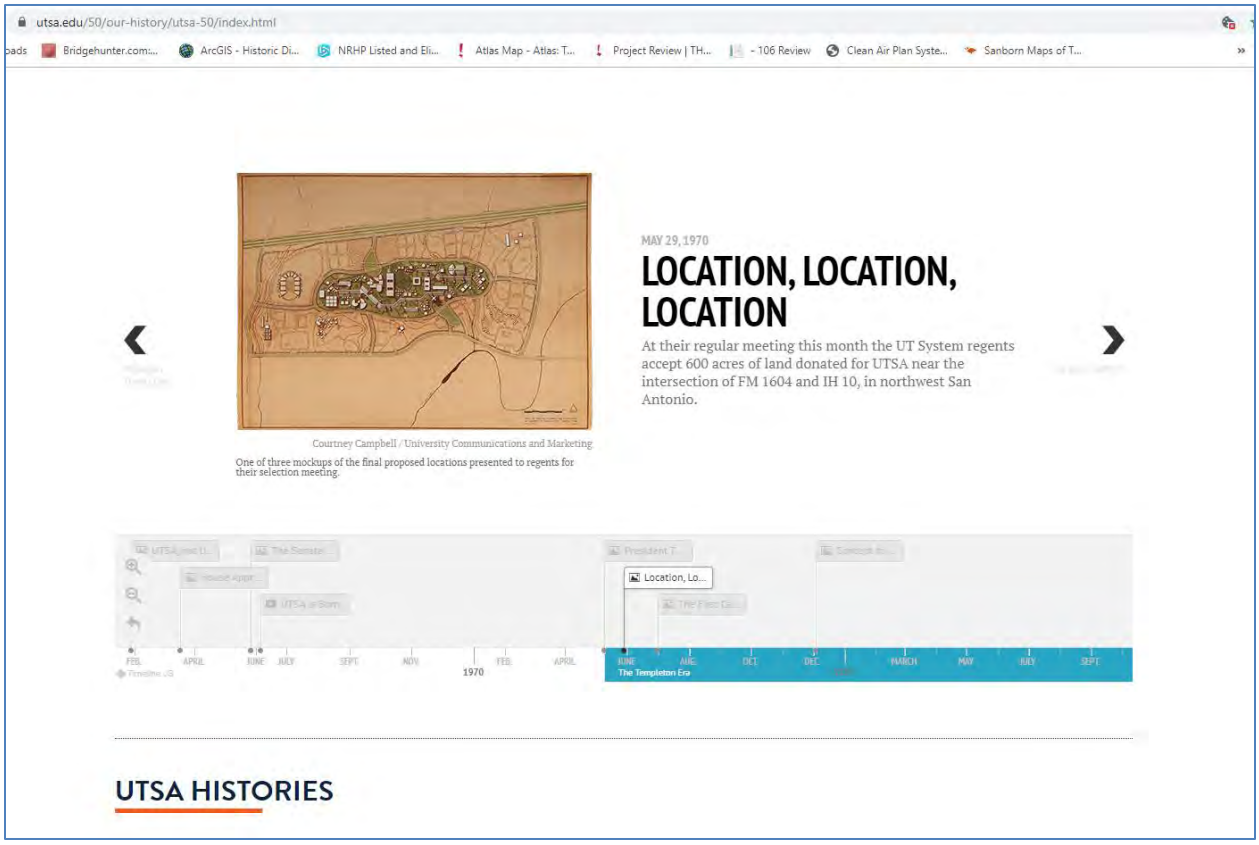

Figure 4, from https://www.utsa.edu/50/our-history/utsa-50/index.html. Based on a timeline of its history presented online, UTSA accepted land donation in 1970 and hired the joint teams of Ford, Powell & Carson Architects and Cocke, Bartlett & Associates to design the campus, which held its first class on June 5, 1973.

From: Suzanne Walsh
To: John Bryant
Cc: John Maresh
Subject: RE: early coordination Loop 1604 from SH 16 to IH 35, Bexar County
Date: Tuesday, July 14, 2020 12:46:38 PM

This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Hi John,

Thank you for considering my comments and including the additional BMPs to the project. Please feel free to reach out if you need any further assistance.

Thank you for submitting the following project for early coordination: Loop 1604 from SH 16 to IH 35 (CSJ: 2452-03-083). TPWD appreciates TxDOT's commitment to implement the practices listed in the Tier I Site Assessment form submitted on May 22, 2020 and in the emails below. Based on a review of the documentation, the avoidance and mitigation efforts described, and provided that project plans do not change, TPWD considers coordination to be complete. However, please note it is the responsibility of the project proponent to comply with all federal, state, and local laws that protect plants, fish, and wildlife.

According to §2.204(g) of the 2013 TxDOT-TPWD MOU, TxDOT agreed to provide TXNDD reporting forms for observations of tracked SGCN (which includes federal- and state-listed species) occurrences within TxDOT project areas. Please keep this mind when completing project due diligence tasks. For TXNDD submission guidelines, please visit the following link: http://tpwd.texas.gov/huntwild/wild/wildlife_diversity/txndd/submit.phtml

Sincerely,

Suzanne Walsh
Transportation Conservation Coordinator
(512) 389-4579

From: John Bryant <John.Bryant@txdot.gov>
Sent: Tuesday, July 14, 2020 7:43 AM
To: Suzanne Walsh <Suzanne.Walsh@tpwd.texas.gov>
Cc: John Maresh <John.Maresh@txdot.gov>
Subject: RE: early coordination Loop 1604 from SH 16 to IH 35, Bexar County

ALERT: This email came from an external source. Do not open attachments or click on links in unknown or unexpected emails.

Good Morning

John Maresh compared current (6/26/2020) Bexar Co. RTEST list to the one included in coordination. There is only one sp. on the new list that is not on the old list – Tamaulipan spot-tailed earless lizard. This would be covered terrestrial reptile BMP. – Thank you JM !

We can implement your recommendations and the BMPs. JM – I may need some assistance on the amphibian BMPs.

We'll also survey for T seymeria in potential habitat in easements prior to disturbance.

Thanks

JB

From: Suzanne Walsh [mailto:Suzanne.Walsh@tpwd.texas.gov]
Sent: Thursday, July 02, 2020 5:30 PM
To: John Bryant <John.Bryant@txdot.gov>
Cc: John Maresh <John.Maresh@txdot.gov>
Subject: RE: early coordination Loop 1604 from SH 16 to IH 35, Bexar County

This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Hi John,

Thank you for your patience as I finalized my review and letting me know that the district will consult with FWS for GCWA/karst species. Please see my comments and recommendations below and let me know if you have any questions.

Thanks,
Suzanne

- Please note that TPWD RTEST has undergone a update since TxDOT accessed it on July 18, 2019. TPWD has recently updated RTEST on April 14, 2020, to reflect the changes to the state threatened and endangered species lists, which became effective on March 30, 2020. TPWD notes that NDD was accessed on May 11, 2020.

- TPWD recommends implementing the Amphibian BMPs for amphibian species that have potential suitable habitat and may be impacted by the project, but no approved BMPs exist within the 2017 BMP PA.

- TPWD recommends that TxDOT implement the Water Quality BMPs as written in Section 1 of the 2017 BMP PA:
    - Minimize the use of equipment in streams and riparian areas during construction. When possible, equipment access should be from banks, bridge decks, or barges.
    - When temporary stream crossings are unavoidable, remove stream crossings once

they are no longer needed and stabilize banks and soils around the crossing.

- TPWD recommends implementing the plains spotted skunk BMPs as written in the 2017 BMP PA to the following additional species: Eastern spotted skunk, western hog-nosed snake, western spotted skunk

- TPWD recommends implementing the Bat BMPs as written in the 2017 BMP PA to the following additional species:
  Big brown bat, Eastern red bat, hoary bat, Mexican free-tailed bat, tricolored bat
- The Tier I Site Assessment and BEF Supplemental Attachments for this Loop 1604 project indicate evidence of an active bat colony under the retaining wall cap by overhead sign within an on-ramp of Loop 1604 (Attachment 7, photo 13, page 156) and that portions of the retaining wall may require removal. Additionally, the supporting attachments indicate bats are present at a large atypical arch culvert near easement 58 and that the culvert is anticipated to remain. TPWD recommends that any work at either location be performed outside of the young rearing period between May to October to avoid impacts to bats, particularly when young bats are non-volant.

- There is a NDD record for Texas Seymeria (EOID 10516) within the project area. Did the district survey for this species? If not, would the district be willing to survey to confirm presence/absence?

From: John Bryant <John.Bryant@txdot.gov>
Sent: Tuesday, June 23, 2020 12:36 PM
To: Suzanne Walsh <Suzanne.Walsh@tpwd.texas.gov>
Cc: John Maresh <John.Maresh@txdot.gov>
Subject: RE: early coordination Loop 1604 from SH 16 to IH 35, Bexar County

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Good Afternoon

Yes I do. We have a 90% schematic and I just completed uploading it into ECOS. It is divided into 10 parts. Numbers 1 thru 8 begin at SH 16 and proceed east toward IH 35.

Numbers 9 and 10 are along IH 10, as a major feature of the project is the upgraded 1604-10 interchange and there is considerable work on IH 10 as a result.

Sincerely,

JB

From: Suzanne Walsh [mailto:Suzanne.Walsh@tpwd.texas.gov]
Sent: Monday, June 22, 2020 4:56 PM
To: John Bryant <John.Bryant@txdot.gov>
Cc: John Maresh <John.Maresh@txdot.gov>
Subject: RE: early coordination Loop 1604 from SH 16 to IH 35, Bexar County

This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Hi John,

Do you have a schematic available to review for the project? Or is there a file in ECOS that you1 could direct me to?

Thanks,
Suzanne

From: John Bryant <John.Bryant@txdot.gov>
Sent: Friday, May 29, 2020 5:26 AM
To: Suzanne Walsh <Suzanne.Walsh@tpwd.texas.gov>
Cc: John Maresh <John.Maresh@txdot.gov>
Subject: RE: early coordination Loop 1604 from SH 16 to IH 35, Bexar County

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I managed to shrink this down from 80 MB to 13 !

From: Suzanne Walsh [mailto:Suzanne.Walsh@tpwd.texas.gov]
Sent: Thursday, May 28, 2020 3:38 PM
To: John Bryant <John.Bryant@txdot.gov>
Cc: John Maresh <John.Maresh@txdot.gov>
Subject: RE: early coordination Loop 1604 from SH 16 to IH 35, Bexar County

This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Hi John,

Thanks for the email. I appreciate your efforts to get the project documents to me. I think that it

would be easier if you had the consultant send the project file on your behalf. If you could just ask them to keep the correspondence in this email string to capture all the dialogue for the project that would be appreciated.

Thanks again,
Suzanne

Suzanne Walsh
Transportation Conservation Coordinator
Phone: (512) 389-4579

From: John Bryant <John.Bryant@txdot.gov>
Sent: Thursday, May 28, 2020 12:46 PM
To: Suzanne Walsh <Suzanne.Walsh@tpwd.texas.gov>
Cc: John Maresh <John.Maresh@txdot.gov>
Subject: RE: early coordination Loop 1604 from SH 16 to IH 35, Bexar County

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Suzanne

I finally got my box.com account to the most basic of functionality…….and tried to share something with you. You may receive an email from box.com inviting you to collaborate.

Please disregard this. It seems like you must also have a box.com account even be able to access the file, and I think that is unreasonable. Im disappointed our mgmt. didn't give us something easier to use to share outside the agency in the interim, but I understand they are dealing with an emergency situation with their system being hacked.

I only see two options to get you this file;

1. I can cut the file down into several email-size files and email each to you
2. I can ask a consultant, such as CMEC, to send you the file on my behalf.

Do you have any preference?

I apologize for this inconvenience.

Sincerely,

John Bryant

From: John Bryant
Sent: Friday, May 22, 2020 1:04 PM
To: WHAB_TxDOT <WHAB_TxDOT@tpwd.texas.gov>; John Maresh <John.Maresh@txdot.gov>
Cc: Suzanne Walsh <Suzanne.Walsh@tpwd.texas.gov>
Subject: RE: early coordination Loop 1604 from SH 16 to IH 35, Bexar County

Suzanne

I just got a "Box.com" account today.....my first attempt to use it will be to send to you the large file of Tier 1 attachments (species tables, emst maps,etc).....I'll do so after hours so there is no pressure to look at any of this over a holiday weekend!

Enjoy the long weekend.

Thanks
Jbryant

From: WHAB_TxDOT [mailto:WHAB_TxDOT@tpwd.texas.gov]
Sent: Friday, May 22, 2020 12:56 PM
To: John Bryant <John.Bryant@txdot.gov>; WHAB_TxDOT <WHAB_TxDOT@tpwd.texas.gov>; John Maresh <John.Maresh@txdot.gov>
Cc: Suzanne Walsh <Suzanne.Walsh@tpwd.texas.gov>
Subject: RE: early coordination Loop 1604 from SH 16 to IH 35, Bexar County

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The TPWD Wildlife Habitat Assessment Program has received your request and has assigned it project ID # 43961. The Habitat Assessment Biologist who will complete your project review is copied on this email.

Thank you,

John Ney
Administrative Assistant
Texas Parks & Wildlife Department
Wildlife Diversity Program – Habitat Assessment Program
4200 Smith School Road

Austin, TX 78744
Office: (512) 389-4571

From: John Bryant <John.Bryant@txdot.gov>
Sent: Thursday, May 21, 2020 6:29 PM
To: WHAB_TxDOT <WHAB_TxDOT@tpwd.texas.gov>
Cc: John Bryant <John.Bryant@txdot.gov>; John Maresh <John.Maresh@txdot.gov>
Subject: early coordination Loop 1604 from SH 16 to IH 35, Bexar County

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Dear TPWD

I am initiating early coordination for this project.

It is similar to a project with the same limits, that was coordinated about 5 years ago when it was planned as a toll project. It was coordinated under CSJ: 2452-03-087.

Our ECOS system is currently down (TxDOT got hacked)…when it is restored you will find these attached files, and new reports about these project limits in CSJ: 2452-03-083.

TxDOT consulted with the USFWS regarding the toll project, with a Biological Opinion issued in 2016. TxDOT is once again consulting with the Service regarding this non-toll project; in part because we have changed effect calls for two species, the Golden-cheeked warbler (may affect, not adverse) and the Helotes mold beetle (may affect, adverse).

I have attached the following files for your use:

1. Our standard Tier 1 form for early coordination (only form is attached to email).
2. A memo I prepared that provides more information about the Golden-cheeked warbler and karst invertebrate species. The standard species table does not provide much information and I figured this would be material you would find of interest.
3. Maps from our draft BA that show more information about the potential GCW habitat, impacts and karst invertebrate locations.

The Attachments to the Tier 1 form (species list, tables and maps) is a very large file, too big to email, that I will have to find a file transfer service to get to you (since ECOS and TxDOT's dropbox are currently down).

Sincerely

John Bryant, P.G.