Draft
Environmental Assessment

MoPac South – State Highway Loop 1, Austin District

From Cesar Chavez Street to Slaughter Lane

CSJ Number 3136-01-176

Travis County, Texas

February 2026

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 July 17, 2025, and executed by FHWA and TxDOT.

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Acronyms

ABS	Archeological Background Study
ACT	Antiquities Code of Texas
ACHP	Advisory Council on Historic Preservation
ADA	American Disabilities Act
Agreement	Nationwide Candidate Conservation Agreement with Assurances/Candidate Conservation Agreement for Monarch Butterfly on Energy and Transportation Lands
AOI	Area of Influence
ASTM	American Society of Testing and Materials
APD	Austin Police Department
APE	area of potential effects
BA	Biological Assessment
BSEACD	Barton Springs Edwards Aquifer Conservation District
BMP	Best Management Practice
BSS	Barton Springs Segment
CAMPO	Capital Area Metropolitan Planning Organization
Capital Metro	Capital Metro Transportation Authority
CBRA	Coastal Barrier Resources Act
CEQ	Council on Environmental Quality
CFR	Code of Federal Regulations
CGP	Construction General Permit
CHU	Critical Habitat Unit
CM	Conservation Measures
CNG	compressed natural gas
CO	carbon monoxide
COA	City of Austin
CRK	Creek
CSS	Context Sensitive Solutions
MA	Central Texas Regional Mobility Authority
CWA	Clean Water Act
dB(A)	A-weighted decibel level
Decree	Consent Decree
diesel PM	diesel particulate matter
EA	Environmental Assessment
EAPP	Edwards Aquifer Protection Program
ECM	Environmental Compliance Manager
ECMP	Environmental Compliance Management Plan
ECOS	Environmental Compliance Oversight System
EFH	Essential Fish Habitat
EMST	Ecological Mapping Systems of Texas
ENV	TxDOT Environmental Affairs
EO	Executive Order
EPA	U.S. Environmental Protection Agency
EPIC	Environmental Permits, Issues, and Commitments
ERLT	Emission Rate Lookup Table
ESA	Endangered Species Act
ETC	estimated time of completion
FEMA	Federal Emergency Management Agency
FPPA	Farmland Protection Policy Act

FIRM	Fire Insurance Rate Map
FHWA	Federal Highway Administration
FM	Farm-to-Market Road
FONSI	Finding of No Significant Impact
FPPA	Farmland Protection Policy Act
FTA	Federal Transit Administration
GDI	Gasoline Direct Injection
GHG	greenhouse gas
HC	Hydrocarbon
HD	heavy-duty diesel
HEI	Health Effects Institute
HMT	Hazardous Material Trap
HOV	High Occupancy Vehicle
HUC	Hydrologic Unit Code
IBWC	International Boundary Water Commission
IIR	Issues, Identification, and Resolution
IPaC	Information for Planning and Consultation
IRIS	Integrated Risk Information System
ISA	Initial Site Assessment
LD	light-duty
LEP	Limited English Proficiency
LWCF	Land and Water Conservation Fund
MBTA	Migratory Bird Treaty Act
MIP	MoPac Improvement Project
MOU	Memorandum of Understanding
MOVES	Motor Vehicle Emissions Simulator
MPO	Metropolitan Planning Organization
MPS	MoPac South
MS4	Municipal Separate Storm Sewer System
MSA	Magnuson-Stevens Fishery Conservation and Management Act
MSAT	Mobile Source Air Toxics
NAAQS	National Ambient Air Quality Standard
NAC	Noise Abatement Criteria
NATA	National Air Toxics Assessment
NEPA	National Environmental Policy Act
NHD	National Hydrography Dataset
NHPA	National Historic Preservation Act
NOI	Notice of Intent
NOx	nitrogen oxide
NRCS	Natural Resources Conservation Service
NRHP	National Register of Historic Places
NWI	National Wetland Inventory
NWP	Nationwide Permit
NWPR	Navigable Waters Protection Rule
OHWM	Ordinary High-water Mark
OWJ	Official with Jurisdiction
PA-TU	Programmatic Agreement Regarding the Implementation of Transportation Undertakings
PARD	Parks and Recreation Department
PBOCO	Programmatic Biological Opinion/Conference Opinion
PCE	Primary Constituent Elements

PCN	Pre-construction Notification
PCR	Project Coordination Request
PFC	Permeable Friction Course
PM	Particulate Matter
POI	Point of Interest
Project	MoPac South
PS&E	Plans, Specifications, and Estimates
RG	Regulatory Guidance
RG-348	Regulatory Guidance 348
ROW	right of way
RTEST	Rare, Threatened, and Endangered Species of Texas
RTP	Regional Transportation Plan
SAL	State Antiquities Landmark
SGCN	Species of Greatest Conservation Need
SH	State Highway
SHPO	State Historic Preservation Officer
SIP	State Implementation Plan
SOV	Single Occupancy Vehicle
SUP	shared use path
SW3P	Storm Water Pollution Prevention Plan
T&E	Threatened and Endangered
TAC	Texas Administrative Code
TAQA	Traffic Air Quality Analysis
TCEQ	Texas Commission on Environmental Quality
TCEQ MOU	TxDOT Memorandum of Understanding with TCEQ
TCMP	Texas Coastal Management Plan
TDM	Transportation Demand Management
TERP	Texas Emissions Reduction Plan
THC	Texas Historical Commission
TIP	Transportation Improvement Program
TMUTCD	Texas Manual on Uniform Traffic Control Devices
TNM	Traffic Noise Model
TPDES	Texas Pollutant Discharge Elimination System
TPP	Transportation Planning and Programming
TPWD	Texas Parks and Wildlife Department
TRRC	Texas Railroad Commission
TSM	Transportation Systems Management
TSS	Total Suspended Solid
TWDB	Texas Water Development Board
TWG	Technical Working Group
TxDOT	Texas Department of Transportation
US/U.S.	United States
US 290	US Highway 290
USACE	United States Army Corps of Engineers
USC	United States Code
USCB	United States Census Bureau
USCG	United States Coast Guard
USDA	United States Department of Agriculture
USDOT	U.S. Department of Transportation
USFWS	United States Fish and Wildlife Service

USGS	United States Geological Survey
US Highway	US
VMT	vehicle miles traveled
WOTUS	Waters of the U.S.
WPAP	Water Pollution Abatement Plan

1.0 Introduction

The Texas Department of Transportation (TxDOT) and the Central Texas Regional Mobility Authority (MA) propose improving transit reliability and reducing traffic congestion for an 8.77-mile segment of State Highway (SH) Loop 1 (also known as MoPac, MoPac Expressway, or MoPac South) from Cesar Chavez Street to Slaughter Lane in Travis County, Texas (the "Project") (see **Appendix A**, **Exhibit 1**). This environmental assessment (EA) has been prepared in accordance with the procedural provision of the National Environmental Policy Act (NEPA); the US Department of Transportation's (USDOT) Procedures for Considering Environmental Impacts (Order 5610.1D) and Federal Highway Administration (FHWA) Environmental Impact and Related Procedures (23 Code of Federal Regulations [CFR] Part 771); and Texas Administrative Code (TAC) Title 43, Part 1, Chapter 2, Environmental Review of Transportation Projects. 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. Code (USC) 327 and a Memorandum of Understanding (MOU), dated July 17, 2025, and executed by FHWA and TxDOT.

The purpose of this EA is to study the potential for significant environmental impacts of the proposed Project and to determine whether such impacts warrant the preparation of an Environmental Impact Statement; or if not, TxDOT will prepare and sign a Finding of No Significant Impact (FONSI), which would be made available to the public.

This EA will be made available for public review and comment. MA will consider all comments made during the comment period.

2.0 Project Description

2.1 Existing Facility

The existing MoPac Expressway (see **Appendix B**, **Exhibit 1**) is a controlled-access facility with three southbound and three northbound travel lanes a 35-foot grassy median. There are nine grade-separated interchanges, eight overpasses, two underpasses, and 36 ramps (28 at-grade and eight elevated ramps). The existing grade separations are concrete I girder and steel girder bridges. The existing drainage is an open ditch and storm sewer with detention water quality ponds and hazardous material traps (HMT). The existing right of way (ROW) width varies from approximately 200 feet (by its narrowest) at Lady Bird Lake to approximately 1,550 feet (by its widest) at the Loop 360 intersection. Typical sections for the existing facilities are included in **Appendix C**.

Loop 1 (MoPac) extending from SH 45 South to SH 45 North was constructed over a 33-year period between 1973 and 2006. This expansion of MoPac aligned with rapid growth in population and employment in the Austin metropolitan area over the several last decades. Construction began in late 2013 on an added-capacity, design-build project (the MoPac Improvement Project [MIP]) that added one express lane in each direction from the Cesar Chavez Street/5th Street interchange north to Parmer Lane (Farm-to-Market Road [FM] 734). The MIP was completed in 2016. No other major added-capacity improvements have been constructed for other segments of MoPac.

In 2017, the MoPac Intersection Project was completed, which removed the last remaining at-grade intersection in the MoPac corridor. This project constructed two new bridges over MoPac at intersections with Slaughter Lane and La Crosse Avenue to allow continuous flow of traffic on the expressway.

Within the Project limits, MoPac is a four- to eight-lane expressway facility originally constructed between 1973 and 1990. The typical section consists of two to four 11- to 12-foot lanes, a 2- to 22-foot inside shoulder, and a 2- to 15-foot outside shoulder in each direction. The corridor contains two to three 11- to 12-foot frontage road lanes in each direction from Barton Springs Road to Convict Hill Road, except for the bridge over Barton Creek, which does not have frontage roads. The typical median width varies from 40 to 75 feet. Curbs and gutters are typical along the frontage roads, except between Loop 360 and US Highway 290 (US 290), where the facility contains some shoulder sections. Within the Project limits, MoPac currently has the following water quality treatment measures: sedimentation/filtration basins, vertical sand filters, and vegetative filter strips. In addition, MoPac contains several HMT structures.

2.2 Proposed Facility

The proposed facility (Option 2C in **Section 4.3**) would be controlled access with 12-foot-wide express and general purpose lanes, where the roadway is widened or reconstructed, and with 11-foot-wide lanes on existing bridges which remain. Outside shoulder widths would be 10 feet; inside shoulder widths vary from 4 to 10 feet in both directions. Drainage would be a combination of closed storm sewers and open ditches with water quality ponds. There would be nine grade-separated interchanges, eight overpasses, two underpasses; and 39 ramps: 24 at-grade ramps and 15 elevated ramps. The proposed grade separations would be concrete I girder and steel girder bridges.

The Project would include a shared use path (SUP) connecting from the Roberta Crenshaw Bridge over the Colorado River (Lady Bird Lake) south to Slaughter Lane approximately 7.8 miles for cyclists and pedestrians. Facilities would include American Disabilities Act (ADA) compliant and pedestrian safety elements at sidewalks and cross streets. The average width of the proposed SUP is 10 feet. Most of the SUP would be along the east side of the corridor. More SUP and/or sidewalk construction is planned along the west side of MoPac, depending on ROW and other constraints.

Temporary construction easements would be necessary throughout the corridor to accommodate construction of the SUP, retaining walls, and bridges. A crossing occurs over the Colorado River Federal Emergency Management Agency (FEMA) dedicated floodplain at Lady Bird Lake. This crossing includes widenings to both existing northbound and southbound bridges. New piers would align with existing piers. Barges on Lady Bird Lake will be used to support bridge construction over the Colorado River. Other bridge crossings occur at Barton Creek, Williamson Creek, Gaines Creek Tributary, and two crossings over Kincheon Branch. These bridge crossings are also to be widened in both northbound and southbound directions. There will be a new bridge at the Gaines Creek Tributary crossing, adjacent to the existing one, in both directions. New piers would align with existing piers at these crossings. There is one culvert crossing at Johnson Creek that has a culvert replacement due to construction conflicts. Two cross culverts would be extended: at Sunset Valley tributary and Skunk Hollow. Water quality treatment ponds and other drainage infrastructure are also proposed. Any HMT structures disturbed by the proposed improvements would be replaced and may be combined with other water quality facilities.

This Project description is consistent with the Project description within TxDOT's Environmental Compliance Oversight System (ECOS).

2.3 Logical Termini and Independent Utility

Federal regulations require that federally funded transportation projects have logical termini (23 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 of this Project (see Schematic in **Appendix B**) are Cesar Chavez Street and Slaughter Lane, with transitions on both ends to tie back into the existing facility. To the north, the Project would connect to the existing MoPac Express Lane that was opened to traffic in 2017. The southern end of the Project would include appropriate transitions to match existing MoPac near Slaughter Lane. The Project would extend a total of 8.77 miles along MoPac South, with intersection improvements at William Cannon Drive approximately 350 feet east and west of MoPac, ramp improvements along US 290 approximately 4,000 feet west of MoPac, and improvements along State Loop 360 approximately 700 feet east of MoPac. The proposed Project would require no additional ROWs, no new permanent easements, and approximately 8.51 acres of temporary construction easements. The current engineering schematics are included in **Appendix B**.

The limits for the proposed improvements to MoPac South are from Cesar Chavez Street (on the north) to Slaughter Lane (on the south). The northern limits of the Project transition to existing express lanes constructed on MoPac north of Cesar Chavez Street. The southern limits end at the Slaughter Lane intersection where grade-separated improvements have already been constructed. These termini allow for consideration of potential alternatives, including a no build alternative.

Federal regulations require that a project has 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 must 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. Additional express lanes on MoPac between Cesar Chavez Street and Slaughter Lane will function as a complete project that provides needed improvements to MoPac—without the need to build or program any other improvements. Because the proposed Project stands alone, it does not irretrievably commit federal funds for other transportation projects.

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. The Project would function as a usable roadway, not require implementation of any other projects to operate, and not restrict consideration of alternatives for other foreseeable transportation improvements. For these reasons, the Project has independent utility and logical termini.

2.4 Planning Consistency

The 2025–2028 Transportation Improvement Program (TIP), as amended, was found to conform to the Texas Commission on Environmental Quality (TCEQ) State Implementation Plan (SIP) by FHWA and the Federal Transit Authority (FTA) on December 15, 2022. As of February 20, 2025, this Project is listed in the TIP.

The proposed Project is anticipated to cost approximately $825 million and is consistent with the Capital Area Metropolitan Planning Organization (CAMPO) 2050 Regional Transportation Plan (RTP), which was revised in May 2025. The decisions to fund design and construction would follow the environmental

finding. The proposed Project, if funded, is anticipated to be primarily funded by MA through federal loan programs and toll revenue.

3.0 Purpose and Need

Environmental documents prepared under NEPA begin with a discussion of the purpose and need of a proposed action. The need (i.e., problems) and purpose (i.e., goals and objectives) sections explain why the proposed action is being considered and provide the basis for identification and development of a reasonable range of alternatives meeting the purpose and need that have been analyzed, ultimately leading to the selection of the Build Alternative. For additional information, please see the *Purpose and Need Technical Memorandum* (TxDOT 2025i) available at the TxDOT Austin District office.

3.1 Need

The Project is needed because the existing capacity of MoPac South from Cesar Chavez Street to Slaughter Lane creates unreliable travel times and delays, currently and in the future. The increase in travel times and delays in the future result from projected population and employment growth in the region. The current and projected delays would also create unreliable travel times for all transit vehicles. The adverse effect of traffic congestion would also worsen emergency response times for first responders in the South Austin area.

3.2 Supporting Facts and/or Data

3.2.1 Population and Employment

CAMPO, as the Metropolitan Planning Organization (MPO) for Central Texas, is responsible for conducting the urban transportation planning process for the Austin metropolitan area. As part of this mission, CAMPO constantly monitors regional growth trends and provides forecasts for population and employment for short-term and long-term planning.

The Project traffic analysis was performed in 2023 and relied upon the CAMPO 2045 RTP and Model, which was effective at that time. According to the U.S. Census Bureau (USCB) population data from 1990 to 2020 and the CAMPO 2045 Forecast, the populations of Travis and Hays Counties have increased 139 percent, and employment has grown 132 percent. These growth trends are expected to continue. Between 2020 and 2045, the population is projected to grow by 85 percent, and employment is projected to increase by 88 percent. This continued growth would exacerbate the travel time and delay problems on the MoPac South corridor that exist today. **Table 3-1** illustrates the historic and projected population growth, and **Table 3-2** shows the historic and projected employment growth for Travis and Hays Counties. These trends would contribute to increased travel along MoPac South. Although the Project is entirely within Travis County, the increase in population of Hays County has contributed to an increase in traffic along the MoPac South corridor.

Table 3-1: Historic and Projected Population for Hays and Travis Counties

County	1990[1]	2020[1]	2045[2]	Growth (1990-2020)		Growth (2020-2045)	
				Number	Percent	Number	Percent
Travis	576,407	1,290,188	2,196,582	713,781	124%	906,394	70%
Hays	65,614	241,067	632,937	175,453	267%	391,870	163%
Total	642,021	1,531,255	2,829,519	889,234	139%	1,298,264	85%

Source: TxDOT 2025i

Table 3-2: Historic and Projected Employment for Hays and Travis Counties

County	1990[1]	2020[1]	2045[2]	Growth (1990-2020)		Growth (2020-2045)	
				Number	Percent	Number	Percent
Travis	335,000	704,618	1,243,916	369,618	110%	539,298	77%
Hays	18,000	114,022	299,050	96,022	533%	185,028	162%
Total	353,000	818,640	1,542,966	465,640	132%	724,326	88%

Source: TxDOT 2025i

3.2.2 Traffic

Additional traffic on MoPac South would worsen travel time and traffic delays, making travel time within the corridor increasingly unreliable. This reflects conditions that are expected if no improvements are made to the corridor (No Build Alternative). **Exhibit 3-1** includes a comparison of 2018 and 2045 No Build travel times. The AM peak period travel delays increase from 3.2 to 12.2 minutes in the northbound direction and 0.2 to 1.3 minutes in the southbound direction. The PM peak period delays increase from 5 to 9 minutes in the northbound direction and 8.7 to 28.6 minutes in the southbound direction. These represent an approximate 9- to 20-minute increase in travel time during AM and PM peak periods in the peak direction.

After project delays, the updated traffic projections for the Project ensured that information was still forecasting the prolonged delays and a breakdown in travel time reliability. The *MoPac South Travel Demand Forecast* report reviewed traffic information using procedures by the Transportation Planning and Programming (TPP) Division of TxDOT and by using the 2018 and 2045 calibrated travel demand volumes for both Build and No Build scenarios (CDM 2023). **Figure 3-1** depicts the projected 2045 travel times and delays by section for the MoPac South corridor for the AM and PM peak periods if no improvements are made (No Build Alternative).

Figure 3-1: Travel Times Between Cesar Chavez and Slaughter Lane

Note: Travel times are from the MoPac South Travel Demand Model based on the CAMPO 2045 RTP model.

3.2.3 Transit

Single occupancy vehicles (SOV) are common for commuting to work for over 70 percent of workers in Travis and Hays counties. MoPac South is currently used by three weekday commuter bus routes and 27 registered vanpools, provided by the Capital Metropolitan Transportation Authority (Capital Metro). Part of the challenge in attracting more commuters to ride buses and participate in vanpools is ensuring consistent and dependable trips that are convenient and timely. Capital Metro has added extra running time to routes (subject to traffic congestion) to improve on-time performance in this congested corridor, but this has not been enough to significantly increase transit use. The current and projected delays discussed above create unreliable travel times for all vehicles traveling on MoPac South, including transit vehicles. The adverse effect of traffic congestion on transit on-time performance would intensify, as traffic congestion on MoPac South worsens due to population and employment growth. For additional information, please see the *Purpose and Need Technical Memorandum* (TxDOT 2025l) available at the TxDOT Austin District office.

3.2.4 Emergency Response Times

The MoPac South corridor is a critical route for first responders in South Austin. It is one of only three north-south oriented, controlled-access facilities in the entire Austin metropolitan area: the others being I-35, approximately four miles to the east, and SH 130 approximately 12 miles to the east. US 183, from US 290 to SH 45 SE, runs in-between and parallel to I-35 and SH 130, also providing a north-south route for emergency response vehicles. For areas to the west of the Project corridor, MoPac South is the only

controlled-access, north-south facility. According to the Austin Police Department (APD), shoulder widths on MoPac South are a critical factor affecting response time, and the widths are currently too narrow (north of Loop 360) to accommodate an adequate response speed for emergency vehicles responding to incidents in the corridor. APD also perceives that on MoPac South, north of Loop 360, higher traffic congestion levels are adversely affecting response times. The adverse effect of traffic congestion on emergency response times would intensify, as traffic congestion on MoPac South worsens due to population and employment growth.

3.3 Purpose

The purpose of this Project is to provide reliable travel times, improve operational efficiency by reducing delays and maximizing utilization of available capacity, create a dependable and consistent route for transit, and facilitate reliable emergency response times on MoPac South from Cesar Chavez Street to Slaughter Lane. For additional information, please see the *Purpose and Need Technical Memorandum* (TxDOT 2025l) available at the TxDOT Austin District office.

The Project's other goals and objectives, identified in the *Purpose and Need Technical Memorandum* (TxDOT 2025l), include the following:

- Provide consistency with local and regional plans
- Reduce congestion delay and provide travel time savings for all roadway users
- Be constructible while minimizing impacts on the natural and human environment
- Avoid and minimize impacts on water quality
- Deliver relief in a timely manner
- Facilitate congestion management
- Increase opportunities for transit and ridesharing
- Increase opportunities for pedestrians and bicyclists

4.0 Alternatives

Preliminary Alternatives were developed to provide a broad range of multi-modal options and strategies for addressing the Purpose and Need for the Project. The process for developing and evaluating alternatives is described in *Alternatives Analysis Technical Memorandum* (TxDOT 2025h), prepared for the Project. These alternatives were evaluated based on their ability to meet the Purpose and Need. The criteria for the evaluation are shown in **Table 4-1**.

Table 4-1: Evaluation Criteria for Project Alternatives

Purpose Statement	Description of Criteria
Provide an opportunity for reliable travel times	Reliable travel time means consistency or dependability in travel times, as measured from day to day and/or across different times of the day. The higher the difference between the free flow travel time and peak travel time, the lower the reliability.
Improve operational efficiency	Improving operational efficiency is defined as the ability to reduce delays and maximize utilization of available capacity. Two criteria must be met: reduce delays and maximize use of capacity during peak periods.
Create a dependable and consistent route for transit	A dependable, consistent transit route would increase reliability of travel using transit during peak periods by providing a higher speed travel option for transit.
Facilitate reliable emergency response	The ability to provide reliable emergency response routes and times is important to the health, safety, and welfare of the community.

Six Preliminary Alternatives were developed and evaluated with public involvement, including six open houses, 11 technical work group meetings, and numerous other meetings with individual stakeholders. The six Preliminary Alternatives were the following:

- No Build;
- Transportation Systems Management/Travel Demand Management (TSM/TDM);
- Add General Purpose Lane(s);
- Add High Occupancy Vehicle (HOV) Lane(s);
- Add Transit Only Lane(s); and
- Add Express Lane(s)

The following sections describe the reasons the five Preliminary Alternatives and the No Build Alternative were or were not feasible for detailed evaluation as the Build Alternative.

4.1 Build Alternative

The Build Alternative under consideration (Option 2C) (and described in **Section 2.2**) includes adding one to two 12-foot express lanes in each direction on MoPac South from Cesar Chavez Street to Slaughter Lane with a 4-foot buffer between the express lanes and the existing general purpose lanes and a 10-foot inside shoulder. The Add Express Lane(s) Alternative is recommended as the Build Alternative for the following reasons:

- It offers reliable travel times for SOVs, HOVs, vanpools, buses, and emergency vehicles.
- It provides the shortest peak period travel time for all vehicles, including those using the general purpose lanes.
- It provides over 1 million hours of annual travel time savings for all users compared to the No Build Alternative, which is approximately 1.6 times more savings than Add HOV Lane(s) and 14.9 times more savings than Add Transit Only Lane(s).
- It minimizes impacts on the natural and human environments and avoids and minimizes impacts on water quality.

- It can deliver relief in a timely manner.
- It increases opportunities for transit and ridesharing and includes new bicycle and pedestrian facilities.

4.2 No Build Alternative

The No Build Alternative would result in TxDOT and MA taking none of the actions (described in **Section 2.0**), and consequently, there would be no improvements to regional mobility. Therefore, it does not meet the Purpose and Need for the Project. The No Build Alternative would result in impacts on the natural and human environments, as described in the following sections. Despite not meeting the purpose and need for the proposed Project, the No Build Alternative is carried forward for comparison purposes as required by NEPA.

4.3 Preliminary Alternatives Considered But Eliminated from Further Consideration

Table 4-2 summarizes the evaluation of the No Build and five Preliminary Alternatives. More details concerning that evaluation are described in the *Alternatives Analysis Technical Memorandum* (TxDOT 2025h).

Table 4-2: Preliminary Build Alternatives Evaluation Table

Preliminary Alternative	Does the Alternative Meet the Purpose and Need for the Project?			
	Provide Opportunity for Reliable Travel Times	Improve Operational Efficiency	Create a Dependable and Consistent Route for Transit	Facilitate Reliable Emergency Response
No Build	No	No	No	No
TSM/TDM	No	No	No	No
Add General Purpose Lane(s)	No	Yes	No	No
Add HOV Lane(s)	No	Yes	Yes	Yes
Add Transit Only Lane(s)	No	No	Yes	Yes
Add Express Lane(s)	Yes	Yes	Yes	Yes

Source: Alternatives Analysis Technical Memorandum (TxDOT 2025h)

The No Build Alternative meets none of the goals and objectives. Add HOV Lane(s) and Add Transit Only Lane(s) address some goals, but these do not compare favorably with the objectives of reducing

congestion delay and optimizing capacity use, maximizing travel time savings, and serving all roadway users. They also would not meet the goal of delivering relief in a timely manner.

The TSM/TDM and Add General Purpose Lanes Alternatives were eliminated because they do not meet the purpose and need for the following reasons.

TSM/TDM:

- Since the decrease in the number of trips is very low, there would not be much reduction in congestion.
- This alternative would not provide an opportunity for reliable travel times during peak period.
- It is not feasible to install ramp-metering either due to restricted ROW or insufficient storage length to hold the expected number of queueing vehicles; therefore, it cannot be considered a sole solution for the corridor.
- It would not deliver travel time savings or reliability.
- By 2045, the forecasted increase in traffic will push capacity beyond its maximum potential, leading to additional congestion and delays.

General Purpose Lanes:

- Provides only a short-term optimization of corridor, then deteriorates as congestion returns to current levels, and would not provide reliable travel times during peak periods very shortly after construction.
- Since traffic is expected to grow much higher by 2045, this alternative would use all existing and additional capacity to its maximum potential.
- Considering the increase in total traffic between now and 2045, these lanes would get congested relatively quickly, and there would not be consistently dependable transit service with this alternative.

The Add HOV Lane(s) meets three criteria, the Add Transit Only Lane(s) meets two criteria, and the Add Express Lane(s) Alternatives met all four criteria for the purpose and need of the proposed Project. They were carried forward for testing against the Project's other goals and objectives, in addition to the Purpose and Need. The No Build Alternative was also carried forward, as required by NEPA, for further evaluation to provide a benchmark to evaluate the merits and environmental effects of the Project. The Project's other goals and objectives, identified in the *Purpose and Need Technical Memorandum* (TxDOT 2025i), include the following:

- Provide consistency with local and regional plans
- Reduce congestion delay and provide travel time savings for all roadway users
- Be constructible while minimizing impacts on the natural and human environments
- Avoid and minimize impacts on water quality
- Deliver relief in a timely manner
- Facilitate congestion management:
  - Increase opportunities for transit and ridesharing
  - Increase opportunities for pedestrians and bicyclists

Table 4-3 summarizes the evaluation of the No Build and three remaining Reasonable Alternatives. The No Build Alternative fails to meet most of the goals and objectives. Add HOV Lane(s) and Add Transit

Only Lane(s) address some goals, but these do not meet the objectives of reducing congestion delay and optimizing capacity use, maximizing travel time savings, and serving all roadway users. They also would not meet the goal of delivering relief in a timely manner. The Add Express Lane(s) Alternative is the alternative that best meets all the Project's goals and objectives.

Table 4-3: Evaluation of Reasonable Alternatives

Other Goals and Objectives	No Build and Reasonable Alternatives			
	No Build	Add HOV Lane(s)	Add Transit Only Lane(s)	Add Express Lane(s)
Provide consistency with local/regional transportation and land use plans	X	✓	✓	✓
Reduce congestion delays and optimize capacity utilization, maximize travel time savings, and serve all roadway users	X	✓ **(Better)**	✓ **(Good)**	✓ **(Best)**
Be constructible without unnecessary impacts to the natural and human environment	N/A	✓	✓	✓
Avoid and minimize impacts on water quality	X	✓	✓	✓
Deliver relief in a timely manner	X	X	X	✓
Facilitate congestion management by increasing opportunities for transit and ridesharing	X	✓	✓	✓
Facilitate congestion management by increasing opportunities for pedestrians and bicyclists	X	✓	✓	✓

5.0 Affected Environment and Environmental Consequences

The planning, design, and environmental analysis for the Project focused primarily on potential environmental consequences. In support of this EA, the following technical reports were prepared and may be inspected and copied upon request at the TxDOT Austin District office:

- Public Meeting #1 Documentation (November 7, 2013)
- Public Meeting #2 Documentation (April 29, 2014)
- Public Meeting #3 Documentation (February 26, 2015)
- Public Meeting #4 Documentation (November 20, 2015)
- Historic Resources Project Coordination Request
- Public Meeting #5 Documentation (November 22, 2021)
- Archeology Background Study (ABS)
- Water Features Delineation Report, Section 404/10 Impacts Table, and Surface Water Analysis Form
- Quantitative Mobile Source Air Toxics (MSAT) Analysis
- Hazardous Materials Initial Site Assessment
- Traffic Noise Analysis Report

- Public Meeting #6 Documentation (November 12, 2024)
- Geological Assessment
- Karst Invertebrates Report
- Groundwater Technical Report
- Community Impact Assessment Technical Report Form
- Species Analysis Form and Species Analysis Spreadsheet
- Carbon Monoxide Traffic Air Quality Analysis (TAQA)
- Preliminary Water Quality Analysis and Design
- Ecological Mapping Systems of Texas (EMST) and Observed Vegetation
- Historical Studies Research Design
- Texas Parks and Wildlife Department (TPWD) Best Management Practice Form
- Alternative Analysis Technical Memorandum
- Purpose and Need Technical Memorandum
- Statewide Climate Change and Greenhouse Gas Technical Report
- Induced Growth Analysis Technical Memorandum
- Salamander Impacts Report
- Historical Resources Survey Report (Under review)

Since the publication of some of the reports (listed above), there have been refinements to the Project. This EA is current, where relevant.

The Project Area established for the EA includes the existing ROW and temporary construction easements, where direct impacts will occur. A larger environmental study area was developed for each resource to investigate potential indirect impacts from the Project. The technical reports (listed above) include documentation of potential Project impacts based on the defined environmental study area for each resource. The actual proposed ROW footprint associated with the schematic design is shown in **Appendix B**. Resources that could be affected by the implementation of the Project are summarized in the following sections.

All technical documents prepared for this EA are available for public review at the TxDOT Austin District, located at this address: 7901 N. I-35, Austin, Texas 78753.

5.1 Right of Way Property Acquisition

The Build Alternative would not require any new permanent ROW. Approximately 8.51 acres of temporary construction easements would be required for construction (see **Appendix B**). The Project would not result in residential or commercial displacements and would not separate or divide neighborhoods.

Under the No Build Alternative, no ROW or easements would be acquired, and no residential or commercial displacements would occur. Additionally, no temporary construction easements would be required or needed.

For these reasons, reviewing the data from the technical study and following mitigation (as outlined), no significant impacts are reasonably foreseeable.

5.2 Land Use

The Project Area occurs within the City of Austin (COA) in Travis County, which has experienced high rates of commercial, business, and residential growth in recent years. Austin is one of the fastest growing cities in Texas—with a population greater than 1,025,000, according to the COA (COA 2023). The land surrounding the Project Area consists primarily of commercial, municipal, single-family residential, and multi-family residential areas. There are also open space/recreational areas, parks/greenbelts, and wildlife/nature preserves that constitute a large portion of the land use surrounding the Project. These areas occur in the northern portion of the Project Area near Lady Bird Lake (the Zilker Park and Nature Center area), in the central and southern portions at the Barton Creek and Gaines Creek Greenbelts, and in the riparian areas that intersect the roadway.

The primary land uses along the MoPac South corridor are park, commercial, office, and residential. Parks and open space (including Zilker Park, Dick Nichols District Park, and the Barton Creek Greenbelt and Wilderness Park) are located throughout the area. Additionally, the commercial and multi-family residential areas are located throughout the area. There is undeveloped land in the southern portion of the Project Area.

According to historical and current aerial imagery, most of the residential subdivisions in the surrounding area were built in the 1980s, as the COA expanded west and southwest. The areas have slowly filled in with similar development to the present. Prior to this growth, the study area primarily consisted of farmland with low-density residential uses (TxDOT 2025n).

Substantial traffic generators in the vicinity include the existing facility, which is a main thoroughfare to Downtown Austin, Austin High School, daycares, retail establishments, and residential neighborhoods along the MoPac South corridor.

The area of influence (AOI) includes approximately 18,828 acres surrounding and including the Project Area where land use affects could potentially occur. Approximately 548 acres of land are considered available for new development within the AOI (3 percent). Topography, availability of infrastructure, and watershed protection regulations established for the Barton Springs Zone (density and impervious surface cover) constrain these areas. Although developers have preserved these lands for many years and are likely to develop in the future, the proposed Project's limited changes in access and travel patterns compared to current conditions would not facilitate or expedite their development. Factors (such as the large amount of land protected from development, comprehensive planning and development regulations, environmental constraints, and limits to impervious cover) are the primary influence over development within the AOI. Several local planning experts confirm these influences and are of the opinion that the AOI is mostly developed, well established, and unlikely to undergo induced land use changes (TxDOT 2025n).

While capacity and mobility improvements included in the proposed Project would support existing plans for redevelopment within Activity Centers already targeted for infill and redevelopment throughout the AOI, they would not result in redevelopment that would not otherwise occur. Redevelopment within these areas has consistently occurred over the past decade, in alignment with the COA's long-range planning goals and priorities. Several redevelopments are approved or are in the process of being constructed (TxDOT 2025n). Consistent with past and present trends, the type and rate of any future redevelopment within the AOI would primarily be determined by availability of infrastructure, environmental requirements, and local approvals.

Given population and employment trends, the limited amount of land available for development, planning and development restrictions, environmental constraints, and the responses of local planning experts, this analysis finds that the proposed Project would not be expected to induce growth within the AOI. Therefore, environmental resources would not be subject to induced growth impacts, and mitigation is not required.

The Project is not anticipated to change the overall appearance in land use of the MoPac South corridor, and the proposed improvements would not conflict with current or future land use.

Under the No Build Alternative, additional ROW or easements would not be acquired, and no land uses would be converted to transportation use.

For these reasons, and in reliance on the data from the technical study (See TxDOT 2025n), no significant impacts are expected.

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 (NRCS) under the FPPA. The FPPA does not apply because this Project is within a designated Urban Area. A letter confirming this is available in **Appendix E**.

Under the Build and No Build Alternatives, coordination with the NRCS for the FPPA would not be required because the Project is not located in areas mapped as prime, unique, statewide, or locally important; nor, is it located in an “non-urbanized” area identified by the NRCS Web Soil Survey or Census Bureau.

5.4 Utility Relocation

It is reasonably foreseeable that utilities would have to be relocated as a result of this Project. For utilities relocated within existing highway ROW (e.g., construction noise, potential disturbance to archeological resources, and potential impacts to species habitat), they have been considered as part of the Project impacts under each of the resource area subheadings within this EA.

Additionally, the impacts resulting from removal of any utilities from within existing highway ROW have also been considered as part of the overall Project footprint impacts 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, the owner of the utility would determine such a location, subject to the rules and policies governing the utility relocation process (see 43 TAC 21.37(a)(9), (g)(1)), and (g)(4); 43 TAC 21.38(e)(2)).

Under the No Build Alternative, no utility relocations or adjustments would be required.

Accordingly, based on the environmental schematic (see **Appendix B**) and the implementation of the utility relocation process, there are no significant impacts.

5.5 Community Impacts

5.5.1 Community Study Area

The community study area has 31 designated USCB block groups that intersect MoPac South between Cesar Chavez Street to Slaughter Lane. These boundaries were selected for this analysis, because the area incorporates all potential locations where work could happen or experience an environmental impact. The proposed work is not anticipated to directly impact any properties outside of this community study area boundary.

The proposed study area is in the COA, City of Rollingwood, and Travis County. There are several major roadways in the study area, including West Slaughter Lane, West William Cannon Drive, SH 71, SH 360, and West Cesar Chavez Street. There are intermittent sidewalk, bicycle, and public transportation facilities located throughout the community study area.

The community study area is primarily characterized by park, commercial, office, and multi-family residential land uses. There are also parks and open space, including Zilker Park and Barton Creek Greenbelt and Wilderness Park. There are commercial and multi-family residential areas and undeveloped land in the southern portion of the community study area. Refer to the *Community Impacts Assessment Technical Report Form* (TxDOT 2025a) for additional information.

5.5.2 Displacements

The proposed Project would not result in residential or commercial displacements, and it would not separate or divide neighborhoods.

No displacements would occur under the No Build Alternative as well.

5.5.3 Access and Travel Patterns

The proposed Project would reduce congestion, maintain connectivity, improve regional mobility, and provide continuous flow on MoPac South for existing and future residences, businesses, and community facilities within the Project's vicinity. Improved mobility and enhanced safety in the Project Area would benefit all residents and roadway users.

As the proposed Project does not propose substantive changes to access to and from MoPac South in the community study area, there would not be any specific neighborhoods or residences that would be negatively affected by the Project. Any minor changes to on- and off-ramps, additional turn-abouts, and non-managed toll lanes would be beneficial, as the Project is being designed to improve the mobility of those traveling through the study area. Emergency response times are anticipated to improve due to added vehicle capacity and express lanes associated with the proposed Project.

The proposed Project would also improve mobility for pedestrians and cyclists, with the construction of the proposed SUP between the Roberta Crenshaw Bridge over Lady Bird Lake south to Slaughter Lane. The proposed SUP, designed in accordance with TxDOT's Bicycle Accommodation Design Guidance, would also improve safety for pedestrians and cyclists and improve connections to transit stops and corridors within the Project's vicinity.

The No Build Alternative would have no direct impacts related to access and travel patterns, and traffic conditions would continually deteriorate on MoPac South and surrounding roadway networks. Beneficial

impacts from the Build Alternative, including improving mobility and enhanced pedestrian and bicyclist access, would not be attained under the No Build Alternative and be unavailable to all communities.

Under the No Build Alternative, there would be no changes to access or travel patterns, and traffic conditions would continually deteriorate on MoPac South and surrounding roadway networks.

5.5.4 Community Cohesion

No impacts to community cohesion are anticipated, and no existing neighborhoods would be divided because MoPac South is an existing roadway. These improvements would not substantially change the degree of separation between existing residential and commercial uses. Roadway improvements would not shift the roadway closer to existing residential neighborhoods and commercial businesses at various locations. The proposed Project would not affect, separate, or isolate any distinct neighborhoods, ethnic groups, or other specific groups, as MoPac South is an existing roadway. Overall, these improvements offer mobility benefits for all members of the public and would not affect the frequency with which people access other parts of the community.

The No Build Alternative would lead to increased traffic congestion and decreased mobility by making it more difficult for communities near MoPac South to connect with other parts of the city over time. The No Build Alternative would not provide an alternative mode of transportation for non-drivers.

5.5.5 Limited English Proficiency

Limited English Proficiency (LEP) is defined as persons who speak English “less than very well.” LEP Census data is provided at the block group level. Out of the 31 block groups in the community study area, 24 block groups contain residents that self-identify as being able to speak English "less then very well." Of the total 41,765 residents in these block groups over the years of five years of age, approximately 4.2 percent speak English “less than very well.” In eight of these block groups, the LEP population is more than 5 percent of the total population. The largest LEP population in the study area are Asian/Pacific Islander speakers (2 percent). The next largest LEP population are Spanish speakers (1.7 percent). Please refer to the *Community Impacts Assessment Technical Report Form* for additional information regarding LEP populations within the Project Area (TxDOT 2025a).

Six public meetings have been held in November 2013, April 2014, February 2015, November 2015, November 2021, and November 2024 (see **Section 7.0**). People with LEP were able to participate in the decision-making process. Notices for public meetings were published in English and Spanish, printed in local newspapers, and mailed to adjacent property owners. Translation services were made available at all six public meetings.

Reasonable steps will continue to be taken to ensure all people have meaningful access to programs, services, and information provided by MA and TxDOT. If a request is received, MA will make every reasonable effort to accommodate people with special communication or mobility needs. Any public involvement information and/or materials would be available in English and Spanish, and translation services would be provided upon request. Please refer to **Section 7.0** below for more information about public involvement conducted for the Project.

The No Build Alternative would not directly affect LEP populations. However, increased congestion and reduced mobility are anticipated by not implementing the Build Alternative—which may result in indirect adverse effects on communities in the Project Area, including LEP populations. Beneficial impacts from

the Build Alternative, including improving mobility and enhanced pedestrian and bicyclist access, would not be attained under the No Build Alternative and be unavailable to all communities, including LEP populations.

Accordingly, based on the findings of the technical study (see TxDOT 2025a), no significant impacts are anticipated.

5.6 Visual/Aesthetic Impacts

Highways and major transit facilities can affect the visual and aesthetic character of surrounding landscapes and perceptions of the individuals who live within and visit these environments. MoPac South is a well-established interstate highway located within a developed area of the COA. The existing ROW consists of mainly urbanized land and paved roadways.

The FHWA Guidelines for the Visual Impact Assessment of Highway Projects (FHWA 2015) provides a framework for evaluating impacts on visual and aesthetic resources for vehicular highway projects. Following the guidance established by FHWA, this section discusses potential visual impacts associated with the Build Alternative and No Build Alternative.

Aerial imagery and field visits were used to assess visual and aesthetic impacts within the Project Area. The information collected was analyzed to determine the existing visual character.

The general landscape can be characterized as urban (consisting of numerous small, medium, and large retail, commercial, office, and residential land uses), parks, and open space. Generally, the existing viewshed includes wooded areas, commercial development, residential housing, the COA, and highway ROW. Primary viewers would include motorists, recreationists, residents, and people visiting commercial developments in the Project Area. The visual effects assessment is based on two factors:

- Evaluating the visual effect of the proposed Project and how it relates to the surrounding environment (view of the road); and
- Evaluating the potential visual effect viewers would experience while traveling along the proposed Project (view from the road).

Representative viewpoints were selected and analyzed to determine the visual effects, resulting from implementing the proposed Project. Next, the analysis considers the visual compatibility of the proposed Project within the existing area; by determining whether the Project will complement or contrast with the existing visual character of the area. The analysis then evaluates the relative degree of potential visual effect based on the viewpoint. These qualitative effects are beneficial changes, adverse changes, or neutral changes (no changes). In this case, a beneficial change would be defined by enhancing visual resources or creating a better view of existing resources and improving the visual experience of the viewer. An adverse change would be defined as degrading the visual resource or obstructing or altering a desired view. A neutral change would be defined as there being no substantial change from the current viewshed.

5.6.1 Build Alternative

Representative viewpoints were selected and analyzed to determine the visual effects, resulting from implementing the proposed Project. To facilitate this discussion, the Project was evaluated in three segments:

- Segment 1: From Cesar Chavez Street, the northern Project terminus, to Barton Skyway, representing the new elevated ramps;
- Segment 2: From Barton Skyway to William Cannon, representing the new southbound collector-distributor road and two new bridge structures at Barton Creek; and
- Segment 3: From William Cannon to Slaughter Lane, representing the new general purpose southbound lane and the remaining Project corridor.

Segment 1: Cesar Chavez Street to Barton Skyway

The northern Project terminus is characterized by residential structures, Lady Bird Lake, Zilker Park, commercial buildings, and MoPac South. There are several types of viewers in this segment. Motorists traveling on MoPac South have views from the roadway of surrounding areas, recreationists, students and staff from Austin High School, and residents.

In this segment, the Build Alternative would result in elevated ramps at Barton Skyway and Bee Cave Road and a southbound U-turn lane at Barton Skyway. Motorists traveling on MoPac South in this segment currently have views from the roadway, primarily of the COA, wooded areas, MoPac South, and surrounding commercial structures. During the construction period, temporary Project activities could impede some views from the roadway of the surrounding areas. However, these visual disruptions would be short-term in nature. During the Project's operation, the improvements would be consistent and visually compatible with the existing viewshed and represent a neutral change.

Views of MoPac South from surrounding areas also have the potential to be changed by the proposed Project. From Viewpoint 1 on the hike and bike trails near the bridge, there are currently unobstructed views of MoPac South over Lady Bird Lake. During construction, temporary activities may be visible to individuals frequenting along the trail and Lady Bird Lake. However, construction activities would be short-term and would not obstruct views of Lady Bird Lake or the other surrounding areas. Following the construction period, the Build Alternative would result in a similar visual scale, form, and materials as under existing conditions.

From Viewpoint 2 at the Zilker Botanical Garden, Viewpoint 3 at Austin High School, and Viewpoint 4 at the residential buildings near Cesar Chavez, trees and other landscaping currently limit views of MoPac South in the middle distance. Activities associated with the Build Alternative would not be highly visible from these viewpoints and represent a neutral visual change. As such, the proposed Project would be consistent and visually compatible with the existing viewshed in each viewpoint.

Segment 2: Barton Skyway to William Cannon Drive

The viewshed in the central portion of the Project corridor is characterized by office buildings, multi-family residential structures, Barton Creek Square Mall, and greenbelts. There are several types of viewers in this segment, including motorists traveling on MoPac, residents of multi-family structures and office buildings located near MoPac, and recreationists at the greenbelts.

In this segment, the Build Alternative would result in a new southbound collector-distributor road between Barton Skyway and Loop 360, new direct connector ramps to and from US 290, and two new bridge structures at Barton Creek. Motorists traveling on MoPac in this segment currently have views from the roadway, primarily of wooded areas, MoPac, and surrounding residential, office, and commercial structures. During the construction period, temporary Project activities could impede some views from the roadway of surrounding areas. However, these visual disruptions would be temporary. During the

Project's operation, these improvements would be consistent and visually compatible with the existing viewshed and represent a neutral change.

Views of MoPac from surrounding areas also have the potential to be changed by the proposed Project. From Viewpoint 5 (located at the Cliffs at Barton Creek Apartments), residents of the upper floors in the structure have a view of MoPac, while views of the roadway from lower floors are somewhat obstructed by trees. During construction, views of MoPac would be altered by temporary fencing and other construction equipment. Following construction, Project improvements would be consistent and visually compatible with the existing viewshed and represent a neutral change.

From Viewpoint 6 (located at Barton Creek Greenbelt Trailhead), recreationists hiking on this portion of the trail currently have views of the bridge over Barton Creek. During the construction of two new bridge structures over Barton Creek, views of the area under the bridge and creek would be impeded. However, this would be temporary, and following construction, these new bridge structures would be similar to the existing bridge. As a result, the visual effect from the proposed Project would not be considered substantial, and by this viewpoint, the visual effect would be a neutral change, as the proposed Project would not substantially obstruct or alter the existing viewshed.

Segment 3: William Cannon to Slaughter Lane

The viewshed in Segment 3 is characterized by low commercial and residential buildings, undeveloped woodlands, and MoPac. Viewers in this segment include motorists traveling on MoPac, recreationists, and residents of adjacent housing developments.

In this segment, the Build Alternative proposes a new general purpose southbound lane. Motorists traveling on MoPac in this segment mostly see wooded areas, MoPac, and surrounding residential, office, and commercial structures. During the construction period, temporary Project activities could impede some views from the roadway of surrounding areas. However, these visual disruptions would be temporary. During the Project's operation, these improvements would be consistent and visually compatible with the existing viewshed and represent a neutral change.

Views of MoPac from surrounding areas also have the potential to be changed by the proposed Project. Viewpoint 7 is along the portion of the Violet Crown Trail, located between MoPac and Nichols Park Apartment Homes. Portions of the elevated MoPac general purpose lanes are visible from the trail through surrounding trees and landscaping. Residents of the adjacent apartment buildings have a similar view, with less obstructed views of MoPac from the upper floors. During construction, temporary activities would be visible to individuals frequenting on the trail and to residents of the apartment complex. Following the construction period, the Build Alternative would result in a similar visual form and view as under existing conditions and represent a neutral visual change. Based on this conclusion, no significant impacts are anticipated.

Under the No Build Alternative, there would be no visual or aesthetic changes along the existing corridor, as the proposed improvements would not be constructed.

5.7 Cultural Resources

Evaluation of impacts to cultural resources has been conducted under Section 106 of the National Historic Preservation Act (NHPA) in accordance with the First Amended Programmatic Agreement among

FHWA, TxDOT, the State Historic Preservation Officer (SHPO), and the Advisory Council on Historic Preservation (ACHP) Regarding the Implementation of Transportation Undertakings.

5.7.1 Archeology

The purpose of the archeological investigation is to ensure compliance with Section 106 of the NHPA, as amended, and the Antiquities Code of Texas (ACT). An inventory of archeological resources (as defined by 36 CFR 800.4) was conducted within the proposed Project study area, defined for archaeological resources and the archeological area of potential effects (APE), to identify and evaluate any identified resources for their eligibility to include in the National Register of Historic Places (NRHP), as per Section 106 (36 CFR Part 800), or for designation as State Antiquities Landmarks (SAL) under the ACT and TAC, Title 13, Chapter 26 (13 TAC 26).

Project archeologists evaluated the potential for the Build Alternative to effect significant archeological resources within the APE. A review of the Texas Historical Commission's (THC) Historic Sites Atlas was conducted to identify previous cultural resources surveys that have been performed within the APE and to locate known cultural resources that have been recorded within the APE.

An ABS was prepared, and a finding on no archeological historic properties and a recommendation for no further work were approved (TxDOT 2024a). Most of the APE has been previously disturbed by construction of MoPac, and because of the nature of highly disturbed soils within the Project Area, there is a low potential for intact, significant archeological deposits. The TxDOT Environmental Affairs (ENV) Division determined that an intensive archeological survey was not warranted, and it is unlikely that intact archeological deposits would occur within the APE.

Section 106 review and consultation was completed on January 31, 2025, for the proposed Project in accordance with the First Amended Programmatic Agreement among TxDOT, THC, FHWA, and the ACHP, as well as the MOU between THC and TxDOT (THC 2021).

TxDOT consulted with representatives of federally recognized tribes with interest in the Project Area. No issues or objections were received. Consultation with all tribes concluded on March 14, 2025 (**Appendix E**).

In the unlikely event that unanticipated archeological deposits are encountered during any stage of clearing, preparation, or construction, work in the immediate area of the discovery shall cease, and TxDOT archeological staff shall be contacted to initiate post-review discovery procedures under provisions of the Programmatic Agreement Regarding the Implementation of Transportation Undertakings (PA-TU) and MOU. This shall not affect ongoing work in other parts of the Project corridor.

The Build Alternative would not impact significant archeological resources due to the extent of previous disturbances from development, including MoPac.

As construction of the proposed MoPac South Project would not occur, there would be no project-related impacts on archeological resources associated with the No Build Alternative.

5.7.2 Historic Properties

In compliance with Section 106 of the NHPA, Project historians surveyed the historic resources APE and documented 43 historic age (built in or before 1983) resources, including 23 resources individually NRHP-listed, contributing to NRHP-listed districts, previously determined NRHP-eligible, and newly determined

NRHP-eligible resources as a result of the current survey. TxDOT consulted with THC and other consulting parties regarding NRHP eligibility and determination of the Project's effects to historic properties.

In compliance with the PA-TU, as executed among FHWA, TxDOT, THC, and the ACHP, historic resources surveys and focused public involvement activities were conducted for the Project. The reconnaissance-level, custom, historic resources APE was developed in consultation with THC and ENV, and it is defined as follows:

North of Lady Bird Lake (the Colorado River):

- 150 feet from the existing ROW on the west side of MoPac, from Johnson Street to Lady Bird Lake to 150 feet east of the barge access easement at Austin High boat launch east of MoPac.
- A segment of the Town Lake Park System/Butler Hike and Bike Trail, from Eilers (Deep Eddy Neighborhood) Park to 150 feet of barge access within Volma Overton, Sr. Beach (formerly Lamar Beach).
- In all other areas, the APE is limited to the existing ROW.

South of Lady Bird Lake:

- 150 feet from the easements and existing ROW along either side of MoPac, for the length of Zilker Park.
- A segment of the Town Lake Park System/Butler Hike and Bike Trail, from MoPac to approximately 800 feet to the east.
- For the remainder of the Project, the APE is limited to the existing ROW and 150 feet from easements.

The APE was determined by the ENV and THC and is based upon the types of project activities: prior TxDOT experience with effects to historic properties from this project type; the Project location along an existing limited-access urban freeway; and parameters for historic resources APE delineation, specified in the PA-TU.

To represent an anticipated 2028 construction letting date, TxDOT determined that historic age resources are those resources built in or before 1983. This date includes a five-year buffer to account for delays in letting. Following approval of the *Historic Studies Project Coordination Request (PCR) and Historic Resources Research Design*, historians documented resources within the APE constructed in 1983 or earlier (TxDOT 2020a; TxDOT 2025f). The summary below includes the results of the MoPac South Reconnaissance Survey, which resulted in documentation of a total of 24 properties containing 41 resources within the *Historic Resources Survey Report* (TxDOT 2026a). Of these, 23 historic properties are individually NRHP listed, contributing resources to NRHP-listed historic districts, previously determined NRHP-eligible, or recommended NRHP-eligible as a result of the current survey. These historic properties are listed below by resource number and address, with resources contributing to historic districts grouped by district:

- Resource 2: 2200 Lake Austin Boulevard
- Resource 3: 2202 Lake Austin Boulevard
- Resource 4: 2204 Lake Austin Boulevard
- Resource 5: 2206 Lake Austin Boulevard

- Resources 9A-9D: Charles Johnson Home Historic District (four contributing resources within the APE)
- Resources 13A-13H: Segment of Town Lake Park System section from Eilers Park to Volma Overton, Sr. Beach, and south shore of Lady Bird Lake east of MoPac (eight contributing resources within the APE)
- Resource 14: Clay Pit Bucket Tower
- Resource 15: Travis County Centennial Marker under West Cesar Chavez and MoPac Bridge over Lady Bird Lake
- Resources 16A-16E: Zilker Park Historic District (five contributing resources within the APE)

Determination of Effects

Direct Effects

As the Project does not include any ROW acquisition or permanent easements from the Charles Johnson Home (Resources 9A-9D) and the Travis County Centennial Marker (Resource 15), the Project would result in *no direct effects* from physical impacts to these Historic Properties.

The Project also includes the widening of an existing non-historic age sidewalk via replacement or upgrading to an SUP within the Zilker Park Historic District (Resources 16A-16B) between the east side of the northbound lane of MoPac and Zilker Botanical Gardens. The SUP is not fully designed at this time; however, it may result in the temporary removal of the non-historic age western perimeter fencing of Zilker Botanical Gardens. Fencing would be replaced or replaced in kind when completing the SUP. Because the fencing is not contributing to Zilker Botanical Gardens and the larger Zilker Park Historic District (Resource 16), it would result in *no adverse effects*.

Indirect Effects

Indirect Audible Effects

Audible effects based upon the results of the *Traffic Noise Analysis Report* (TxDOT 2024e) were assessed for historic properties within the historic resources APE. The Charles Johnson Home (Resources 9A-9D) and the Butler Hike and Bike Trail (Resource 13) are currently impacted by noise from MoPac and would have increased noise levels as a result of the Project. However, increases in traffic noise levels within the APE would not diminish the ability of these historic properties in the APE, including districts and contributing resources, to convey historic significance.

The Zilker Clubhouse (Resource 16A) and the Zilker Park Trail House (Resource 16B) are currently impacted by noise from MoPac and would have increased noise levels as a result of the Project.

Indirect Visual Effects

Indirect visual effects were assessed for the Charles Johnson Home (Resources 9A-9D), the Zilker Clubhouse (Resource 16A), and the Zilker Park Trail House (Resource 16B). The Project does not include increasing the height of any existing bridges (only widening) or adding additional bridges above the existing height of MoPac within the viewshed of these resources, including those over Lady Bird Lake. Therefore, the Project is not anticipated to pose significant *adverse visual effects* to the resources (listed above).

The revised MoPac South *Historic Resources Survey Report* (TxDOT 2026a) was submitted to TxDOT on September 8, 2025, and was approved on September 30, 2025. TxDOT submitted the report to

consulting parties and THC, with a finding of *no adverse effects* to historic properties. After addressing minor THC comments, the report was resubmitted on December 10, 2025. It is assumed that THC will concur with the finding under Section 106 of the NHPA in accordance with the First Amended Programmatic Agreement among FHWA, TxDOT, the SHPO, and the ACHP Regarding the Implementation of Transportation Undertakings. Consultation efforts are ongoing.

The No Build Alternative would not result in impacts to historic properties.

Accordingly, because the survey report (see TxDOT 2026a) found that there would be no direct or adverse effect to eligible properties, no significant impacts are anticipated.

5.8 Protected Lands

5.8.1 Section 4(f) of the Department of Transportation Act

Section 4(f) of the Department of Transportation Act of 1966 (now codified at 23 USC § 138 and 49 USC § 303) and with implementing regulations at 23 CFR 774 requires special consideration to preserve publicly owned parks, recreation lands, wildlife and waterfowl refuges, and historic sites when developing a transportation project.

Historic

The Roy and Ann Butler Hike and Bike Trail is an NRHP-eligible segment of the larger NRHP-eligible Butler Hike and Bike Trail/Town Lake Park System. The trail segment includes the following resources that are eligible as contributing resources, labeled 13A through 13H in the Historical Resources Survey Report: Ann and Roy Butler Hike and Bike Trail (Resource 13A), Eilers (Deep Eddy) Neighborhood Park (Resource 13B), Deep Eddy Bathing Beach Historic District (Resources 13C-13E), Lamar Beach at Town Lake Metro Park (also known as Volma Overton Sr Shores at Town Lake Metropolitan Park) (Resource 13F), the Austin High Boat Launch (Resource 13G), and the Roberta Crenshaw Pedestrian Bridge (Resource 13H). These resources are located within the Project corridor and were evaluated for potential Section 4(f) use. It was determined that historical resources 13A, 13F, 13G, and 13H are needed for temporary use, while 13B-13E were evaluated but will not be impacted for this Project.

TxDOT has agreed that the Project will have “no adverse effect” to historic properties, and MA intends to pursue a Section 4(f) clearance for the temporary impacts on the properties in question. The Section 106 consulting parties have received the Historical Resources Survey Report to get their concurrence with the “no adverse effect” determination under 36 CFR Part 800. The Project is waiting for concurrence from THC on the finding as well. Consultation efforts are ongoing.

Recreation

Thirty-six parks and trails that are considered Section 4(f) resources have been identified near the MoPac South Project corridor. Only 11 of these resources will have temporary use as they are only needed for temporary construction impacts; three of these resources are also eligible historic resources (as described above).

Table 5-1 lists each Section 4(f) park resources in the Project limits that may be impacted by temporary easements and other minor impacts. This table displays each Section 4(f) facility located in the overall park system listed by the respective parcel number. This table also describes why the temporary easement is necessary, along with acreage and a description of the use of each Section 4(f) facility.

Table 5-1: Section 4(f) Resources

Property Name	Section 4(f) Resource Type	Parcel Number(s)	Acreage of Temporary Occupancy	Need for Temporary Occupancy
Volma Overton Sr. Shores at Town Lake Metropolitan Park	Park / Historic site	105457, 105454	0.20 Acre	Temporary closure for barge launch access.
Austin High Boat Launch	Recreational / Historic site	105457, 105454	N/A*	Temporary closure for barge launch access.
Ann and Roy Butler Hike and Bike Trail	Trail / Historic Site	105457, 105454, 105144	N/A**	Temporary closure for construction on overhead bridges, Temporary closure for barge launch access.
Roberta Crenshaw Pedestrian Bridge	Trail / Historic Site	N/A	N/A	Temporary closure for construction on overhead bridges.
Zilker Park	Park / Historic District	105144, 105471, 104393	3.84 Acres	Temporary occupancy needed for construction of noise barriers, construction grading needed to reconstruct SUP alignment in Zilker Park, temporary closure and occupancy of Lady Bird Lake Parking Lot for construction on overhead bridges, and removal and replacing park fence.
Barton Corridor Trail	Trail	105144	N/A***	Temporary closure for construction on overhead bridges, upgrade SUP and relocate portion of trail under the bridge, for noise barrier construction, and removal and replacing park fence.
Williamson Creek West Greenbelt	Park	372190	0.13 Acre	Temporary occupancy to reconstruct existing drainage facilities along northbound side MoPac Service Rd.
Dick Nichols District Park	Park	326850, 324380	0.63 Acre	Temporary occupancy around dirt path for construction of SUP by Water Leaf Office Park and to reconstruct existing drainage facilities.
Violet Crown Trail North	Trail	326850	N/A****	Temporary closure for construction on overhead bridges.

** This property is located within Volma Overton Sr. Shores*
*** This property is located within Volma Overton Sr. Shores and Zilker Park*
**** This property is located within Zilker Park*
***** This property is located within Dick Nichols District Park*

Use of Each Section 4(f) Facility

Improvements to MoPac South will not involve any permanent easements or additional ROW from these recreational resources; however, the highway Project will require temporary occupancy of these facilities for construction actions and/or temporary easements for the following activities:

- Provide temporary construction grading near the highway.
- Construct recommended noise barriers to mitigate noise impacts to the park.
- Reconstruct existing drainage facilities.
- Reconstruct existing and construct new overhead bridges.
- Provide temporary river access for barges near the existing boat launch located at Volma Overton Sr Shores at Town Lake Metropolitan Park. The barge launch access would be used intermittently.
- Require temporary closures of the Lady Bird Lake parking lot underneath the freeway that provides parking for the nearby daycare, Austin High School, and Austin Nature & Science Center.
- Require temporary removal and replacement of park fence.
- Reconstruction of overhead bridges will require temporary closures of the Ann and Roy Butler Hike and Bike trail, the Roberta Crenshaw Pedestrian Bridge, and the Barton Corridor Trail.

Planned Mitigation Measures

The MA is coordinating with the COA Parks and Recreation Department (PARD), to review these planned mitigation measures:

- Including temporary BMPs to control erosion during construction and delineating areas not to be disturbed.
- Preparing and executing public involvement communication plan for closures and detour routes for trail and park users during construction.
- Limiting closures to nighttime construction (10pm to 5am).
- Providing detours when full closures are required for longer than one night-time period to ensure continuous public access.
- Replacing and reconstruction of the park fence, with replica materials and patterns. MA will coordinate with the COA PARD to ensure the appropriate type of fence is provided as replacement.
- Providing the replacement of the fence where temporary relocation or removal is required for construction.
- Limiting clearing and grubbing activities to occur only after surveys for migratory bird nesting and bat habitat areas have been performed.
- Restoring and revegetating all areas disturbed by construction activities.
- Lighting for night work would be downward shielded, low temperature, and use amber-colored lights, to the greatest extent possible, while maintaining safety for construction workers.
- For all locations where temporary construction easements would occur, MA will perform a tree survey to identify trees larger than 4 inches in diameter. MA will share the tree survey with the COA PARD and collaborate on how to protect and preserve protected trees (defined by COA) that are larger than 19 inches in diameter, as appropriate. As MA implements tree plantings during the construction phase, MA commits to coordinate with the COA PARD on tree mitigation within the parks.

Detailed use and mitigation measures for each Section 4(f) facility will be provided in the Section 4(f) documentation for the Project when it is complete.

Due to the temporary nature of the above activities and easements for construction, there will be no activities that will have a permanent use or adverse effect on Section 4(f) properties.

MA intends to pursue a Section 4(f) clearance for the temporary impacts on the properties in question. This evaluation will be completed prior to the final EA.

5.8.2 Section 6(f) of the Land and Water Conservation Fund (LWCF) Act

Section 6(f) property is land that was purchased or developed with funding from the LWCF Act of 1965. Of the 36 Section 4(f) resources that have been identified, three resources are also Section 6(f) properties. These resources include the following:

- Dick Nichols District Park;
- Volma Overton Sr Shores at Town Lake Metropolitan Park; and
- Zilker Park and Ann and Roy Butler Hike and Bike Trail.

In consultation with TPWD, construction activities of the Project have been determined to only constitute temporary use as the temporary easements will not exceed six months of use, and that none of the Section 6(f) properties would be permanently converted to other uses. TPWD will notify the National Park Service of temporary use prior to construction by issuing the temporary non-conforming use permit prior to construction.

5.8.3 Chapter 26 of the Texas Parks and Wildlife Code

Texas state law includes Chapter 26 of the Parks and Wildlife Code. Chapter 26 applies to any project that requires the use or taking of any public land designated and used prior to the arrangement of the project as a park, recreation area, scientific area, wildlife refuge, or historic site. There are eight Chapter 26 properties present in the Project Area that will be affected by temporary construction easements. A public hearing will be held for public review of the temporary impacts.

- Zilker Park Parcel #105444
- Zilker Park Parcel #105471 (East)
- Zilker Park Parcel #105471 (West)
- Zilker Park Parcel #104393
- Volma Overton Sr Shores at Town Lake Metropolitan Park Parcel #105457
- Volma Overton Sr Shores at Town Lake Metropolitan Park Parcel #105454
- Dick Nichols District Park Parcel #326850 (North and South)
- Dick Nichols District Park Parcel #324380
- Williamson Creek West Greenbelt Parcel #372190

5.9 Water Resources

5.9.1 Clean Water Act Section 404

This Project will involve regulated activity in jurisdictional waters; therefore, it will require authorization under Section 404 of the Clean Water Act (CWA), as required by the United States Army Corps of Engineers (USACE). The following table (**Table 5-2**) shows the waters that are anticipated to be

jurisdictional waters in which regulated activity will take place. It also indicates whether these impacts will be authorized under Section 404 by a non-reporting nationwide permit (NWP) (i.e., no pre-construction notification [PCN] required), under an NWP with PCN, an individual standard permit, a letter of permission, or a regional general permit.

Twenty-two water features were identified within the proposed Project Area. Wetland boundaries and stream ordinary high-water marks (OHWM) were determined in the field, according to the USACE 1987 Wetlands Delineation Manual and 2010 Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Great Plains Region (Version 2). A map and additional information on these water features are in the *Water Features Delineation Report* (TxDOT 2024b).

Of the 22 identified water features, this EA identifies possible impacts at five potentially jurisdictional water features consisting of relatively permanent, standing, or continuously flowing bodies of waters with a continuous surface connection to Lady Bird Lake. The five aquatic features are preliminarily categorized as ephemeral, perennial, and intermittent streams, and these features are included in **Table 5-2**. The ephemeral stream is not jurisdictional. The other four intermittent and perennial features are potentially jurisdictional.

Table 5-2: Impacted Potentially Jurisdictional Waterbodies and Wetlands within the Project Area

Name of water feature	Type of water feature	Location of water feature	Covered by non-reporting nationwide permit under Section 404?	Nationwide permit with pre-construction notification, Individual standard permit, letter of permission, or regional permit required under Section 404?
CRK 02 (Johnson Creek)	Intermittent Stream	Appendix D, Exhibit 1, Sheet 2–3	Yes	No
CRK 03 (Lady Brid Lake)	Perennial Stream	Appendix D, Exhibit 1, Sheet 3–5	Yes	No
CRK 04 (Eanes Creek)	Perennial Stream	Appendix D, Exhibit 1, Sheet 5	No	Yes
CRK 14 (Williamson Creek)	Intermittent Stream	Appendix D, Exhibit 1, Sheet 11	No	Yes
CRK 16 (Unnamed tributary)	Ephemeral Stream	Appendix D, Exhibit 1, Sheet 13–15	Yes	No

The Project conducted a review of the National Wetland Inventory (NWI) and the National Hydrography Dataset (NHD) maps, the Web Soil Survey (United States Department of Agriculture [USDA] 2022), and United States Geological Survey (USGS 2019) 7.5-minute quadrangle sheets for Signal Hill, Oak Hill, and Austin West, Texas. A review of recent aerial photography determined that several water features exist within the proposed Project. Field reconnaissance conducted between August 26 to August 30, 2019, and

October 28 to October 30, 2019, confirmed this determination. The Project verified field data again on October 15, 2024.

Presently, the USACE verification of jurisdictional status for these areas has not been requested. MA will comply with the CWA requirements in accordance with all rules and regulations in place at the time of permit issuance from the USACE.

Complete avoidance of Waters of the U.S. (WOTUS) is not feasible for the proposed project due to cost limitations, current technology, and logistical challenges, as the identified water features are located within the planned roadway alignment. The Project would implement all necessary best management practices (BMP) as required by the NWP to minimize any impacts to WOTUS. According to the NWP, coordination with the USACE would be required for this Project. The maximum limit of impacts to non-tidal jurisdictional WOTUS that would be covered under the NWP 14 per single and complete crossing is 0.5 acres. A PCN would be required for impacts that are larger than 0.1 acres, if there is any proposed discharge within special aquatic sites, or “may affect” determinations are made for threatened and endangered (T&E) species, or any other general conditions of the NWP 14. The PCN must include a compensatory mitigation proposal to offset permanent losses of WOTUS by ensuring that those losses result only in minimal adverse effects to the aquatic environment and a statement to describe how temporary losses of WOTUS would be minimized, to the maximum extent practicable.

For this Project, an NWP 14 (with a PCN) is anticipated because there are several crossings of potentially jurisdictional waters, each with impacts greater than 0.1 acres but less than 0.5 acres. These criteria mean that the entire Project is subject to a PCN, despite some crossings not individually triggering a PCN due to impact thresholds. The total impacted acreage for stream crossings in the Project Area is 0.6 acres. Additionally, the Project will require PCN notification due to the portion of the Project (north of Barton Creek) that is within Karst Zone 2, according to the 2022 NWP regional conditions for Forth Worth District.

The need for an individual standard permit under Section 404 is not anticipated. If it is later determined that an individual standard permit under Section 404 is needed, compliance with the U.S. Environmental Protection Agency’s (EPA) Section 404(b)(1) Guidelines would be confirmed prior to submitting the individual standard permit application. Coordination efforts are ongoing.

Under the No Build Alternative, no impacts to WOTUS (including jurisdictional wetlands) would occur. As a result, no Section 404 permits would be required. Existing drainage structures and bridge crossings would remain, and normal maintenance would be performed.

Because the PCN and NWP include compensatory mitigation for wetland impacts to ensure there are only minimal adverse effects, no significant impacts to WOTUS and the aquatic environment are anticipated.

5.9.2 Clean Water Act Section 401

For projects that require an NWP under Section 404 that is covered by TCEQ’s blanket 401 water quality certification, regardless of whether the NWP is non-reporting or requires the submission of a PCN, MA complies with Section 401 of the CWA by implementing TCEQ conditions for NWPs. For projects that require authorization by an NWP under Section 404 that is not covered by TCEQ’s blanket 401 water quality certification or under an Individual Standard Permit, Letter of Permission, or Regional General Permit under Section 404, MA will coordinate the Section 401 water quality certification with TCEQ.

TCEQ would either approve or deny the Section 401 water quality certification or issue a waiver. The TCEQ Section 401 water quality certification decision must be submitted to the USACE before a decision on whether to use the NWP, an Individual Standard Permit, Letter of Permission, or a Regional General Permit decision can be made.

Under the Build and No Build Alternatives, no Section 401 water quality certification would be required because they are covered by TCEQ's blanket water quality certification.

5.9.3 Executive Order 11990 Wetlands

Executive Order (EO) 11990, Protection of Wetlands (issued in 1977) requires federal agencies to provide leadership and take action to minimize the destruction, loss, degradation, or modification of wetlands, and preserve and enhance the natural and beneficial values of wetlands. Based on the field investigation, no wetland impacts would occur. Therefore, EO 11990 would not apply.

Under the No Build Alternative, no wetland impacts would occur. Therefore, EO 11990 would not apply.

5.9.4 Rivers and Harbors Act

Section 9 of the Rivers and Harbors Act of 1899 prohibits construction of a bridge or causeway over or in navigable waterways of the U.S. without congressional consent and approval through the Secretary of Transportation. Under Section 10 of the Act, the building of any wharfs, piers, jetties, and other structures is prohibited without congressional approval, and excavation or fill within navigable waters requires USACE approval. The typical permitting process was modified for bridges and causeways by the General Bridge Act of 1946, which granted Congress consent over construction, maintenance, and operation of bridges and approaches over navigable WOTUS that are approved by the U.S. Coast Guard (USCG). Lady Bird Lake is not considered a navigable water under the Rivers and Harbors Act, as determined by Texas statute. This proposed Project would not involve work in or over a navigable WOTUS. Therefore, Sections 9 and 10 of the Rivers and Harbors Act and the General Bridge Act of 1946 do not apply. Under the Build and No Build Alternatives, no impacts to navigable waters would occur. Therefore, the Rivers and Harbor Act would not apply.

5.9.5 Clean Water Act Section 303(d)

Under Sections 305(b) and 303(d) of the CWA, the State of Texas is required to prepare biennial statewide water quality assessments that identify the status of use attainment for water bodies and to identify water bodies, for which effluent limitations are not stringent enough to implement water quality standards. The Project Area is located within the Colorado River basin (Hydrologic Unit Code [HUC] 12# 120902050305, 120902050407, and 120902050408). This Project is located within 5 linear miles (not stream miles) of, is within the watershed of, and drains to an impaired assessment unit under Section 303(d) of the federal CWA. The two segments include Waller Creek (1429, 1429C) and Taylor Slough South (1403,1403K), both within the Colorado River watershed. Although within the Colorado River watershed, these impaired segments are not adjacent to the Project. Other streams that cross the Project are not on the 303(d) list according to the TCEQ Surface Water Quality Viewer website. Coordination with TCEQ is required by the TCEQ MOU.

Table 5-3: Impaired Assessments within Five Linear Miles of Project

Watershed	Segment name	Segment number	Assessment unit number
Colorado River	Waller Creek	1429	1429C
Colorado River	Taylor Slough South	1403	1403K

Under the Build and No Build Alternatives, no impacts to impaired water segments would occur, and coordination with TCEQ would not be required.

5.9.6 Clean Water Act Section 402

Since Texas Pollutant Discharge Elimination System (TPDES) Construction General Permit (CGP) authorization and compliance (and the associated documentation) occur outside of the environmental clearance process, policies and procedures ensure compliance and 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 (SW3P) to be included in the plans of all projects that disturb 1 or more acres. The Construction Contract Administration Manual requires that 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 (506-003) on all projects that need authorization under the CGP. These documents will require the contractor for the Project to comply with the CGP and SW3P and 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.

5.9.7 Floodplains

Segments of the Project fall within a FEMA 100-year floodplain or floodway. A review was conducted of FEMA flood insurance rate map (FIRM) panels: 48453C0580H and 48453C0585H (effective September 26, 2008) and 48453C0445K (effective January 22, 2020). Further information is in the *Preliminary Drainage Analysis* within the *Water Quality Report* (K Freise & Associates, LLC 2025b). The Project has a nexus with federal funding and is therefore subject to EO 11988, Floodplain Management. However, the Project would not involve a significant encroachment into the floodplain. The COA is conducting a citywide update of floodplain models and mapping. Should the Project progress to final design, coordination with the local floodplain administrators would occur to identify the best available models for the final Drainage Impact Analysis and to share the Project's final models with the local floodplain administrators.

This Project has a federal nexus through funding by federal loans and therefore is subject to EO 11988, Floodplain Management. MA implements this EO on a programmatic basis through its Hydraulic Design Manual. Design of this Project will be conducted in accordance with the TxDOT's Hydraulic Design

Manual. Adherence to the TxDOT Hydraulic Design Manual ensures this Project will not result in a significant encroachment in the floodplain.

Under the No Build Alternative, no impact on floodplains would occur, and coordination with the local floodplain administrators would not be required.

5.9.8 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 designed Wild and Scenic Rivers. The Wild and Scenic Rivers Act does not apply.

5.9.9 Coastal Barrier Resources

The Coastal Barrier Resources Act (CBRA) does not apply.

5.9.10 Coastal Zone Management

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

5.9.11 Edwards Aquifer

The Edwards Aquifer provides water to numerous communities within the greater Austin area and provides habitat for federally listed species. All areas of the Project south of the south shore of Lady Bird Lake are located within the Edwards Aquifer Recharge Zone, as mapped by TCEQ. All portions of the Project located within the Edwards Aquifer Recharge Zone are required to be constructed and operated in compliance with TCEQ's rules protecting the Edwards Aquifer: 30TAC Chapter 213 (Edwards Aquifer Rules).

In addition, there is a Consent Decree (Decree) between Barton Springs Edwards Aquifer Conservation District (BSEACD) and TxDOT signed on January 23, 1990, by Judge Walter Smith of the U.S. District Court serves as a general frame for coordination with the BSEACD and TxDOT's responsibility for designing and building the roadway with environmental protection. References for schematic and environmental study level compliance are provided below and within the water quality technical report (K Friese & Associates 2025b). Detailed coordination with BSEACD and design document reviews by BSCEAD will occur during the design phase of the Project.

TCEQ has developed a technical guidance manual, *Complying with the Edwards Aquifer Rules – Technical Guidance on Best Management Practices, Regulatory Guidance-348* (RG-348), to ensure that regulated activities provide stormwater mitigation measures comply with Edwards Aquifer rules and regulations outlined in Title 30 Chapter 213 of the TAC (TCEQ 2007). RG-348 describes guidelines for selecting and designing temporary, permanent structural, and non-structural BMPs for use in mitigating the increase in Total Suspended Solid (TSS) pollutant loads caused by development. Additional BMPs and descriptions are provided within the RG-348 Addendum Sheet(s). Selected BMPs must reduce the increase in the TSS load, associated with development, by 80 percent to meet requirements.

RG-348 Appendix A Optional Enhanced Water Quality Measures includes methods that address known threats to the identified species (TCEQ 2007). Optional water quality measures and BMPs contained in Appendix A have been reviewed by the United States Fish and Wildlife Service (USFWS), which has

issued a concurrence that these voluntary enhanced water quality measures will protect endangered and candidate species from impacts due to water quality degradation.

The Project has incorporated the following components of the Optional Enhanced Measures by:

- Identifying sensitive features during environmental study and committing to maintaining drainage areas and providing buffers around them in design and construction.
- Committing to protocols for feature discovery and void mitigation during construction.
    - TxDOT void mitigation protocols comply with the Optional Enhanced Measures.
    - During construction, project activities will be guided by an Environmental Compliance Management Plan (ECMP), which would include protocols designed to avoid environmental impacts. As part of the ECMP, an Environmental Compliance Manager (ECM) will be on site to monitor construction activities and BMP performance. The ECM will have the authority to stop work and call for a trained hydrogeologist to review voids and provide direction in compliance with the Optional Enhanced Measures; and enact adaptive management actions, including work stoppage and BMP maintenance and repair, as situations warrant.
- Implementing stream buffers, with the exception of columns for bridge crossings to span the waterways.
- Committing to construction sediment traps that comply with Optional Enhanced Measures.
- Committing to permanent HMTs and TSS removal that exceed Optional Enhanced Measures.
- Committing to maintenance standards within RG-348 and addenda.

Optional Enhanced Water Quality Measures Appendix B (TCEQ 2007) is not relevant, as it only applies to known features occupied by karst invertebrate within the Project ROW or easements. The Project and proposed associated activities undertaken will be implemented, operated, and maintained in compliance with Edwards Aquifer Rules and any applicable TCEQ guidance documents in effect to implement these rules.

Based on the implementation of measures to avoid, minimize, and offset impacts, no significant impacts are anticipated.

5.9.11.1 Sensitive Recharge Features

A site-specific Geologic Assessment investigation was conducted of the Project Area (for temporary easements that were accessible) by licensed geoscientists per requirements of the TCEQ Edwards Aquifer Protection Program. This study included both a literature review of recorded karst features within a half mile of the Project Area and an on-the-ground pedestrian survey (TxDOT 2024g). Through this process, there are five sensitive recharge features identified within the Project Area.

Features MPS-1 (MoPac South 1) and MPS-5 are solution enlarged fractures, which scored as sensitive because of their location within a drainage way, although the fractured rock outcrops consist of tight fractures with compact infill material that do not rapidly transmit water. MPS-1 is located on Kincheon Branch in Dick Nichols District Park. MPS-5 is located on Gaines Creek in Gaines Creek Greenbelt. Both features are near the east side of the ROW, and while they are within the Project boundary, these drainage areas and patterns would not be altered. Creek bottoms would not be disturbed as drilled shafts for bridge widenings would span the creek bottom. Runoff, which discharges from the ROW to these

creek crossings, would be treated in accordance with TCEQ Edwards Aquifer standards or better. Please see **Appendix D, Exhibit 2** for the location of MPS-1 and MPS-5.

MPS-4 (Gaines Sink) is the most sensitive feature in the Project Area. Gaines Sink drains approximately 1.1 acres within the highway median and is surrounded by curb and gutter roadways on the north, east, and south sides. There is no significant adjustment to the drainage area; however, the new bridge columns and SUP would reduce the drainage area. There is an existing sidewalk on the south side of the sink drainage area adjacent to the roadway. An SUP is proposed to be construction on the north side adjacent to the roadway. Through the drainage area, the path would be narrowed to an 8-foot SUP. A protective handrail would be mounted on the SUP to discourage access to the sink drainage area. Bridge columns for the proposed overpass would be placed adjacent to the SUP/sidewalk on both the north and south sides. The median and adjacent roadways are too wide to span making construction not reasonable or feasible without smaller spans and columns within the MPS-4 drainage area. On the west side, there is a partially vegetated berm, under the overpass, which is intended to direct untreated runoff from the highway overpasses west and away from the MPS-4 drainage area. If the Project moves to design and construction, all drainage from existing and proposed overpasses will be directed to drain west and away from the sink, whether through surface grading or sub surface storm drainage connections. New overpass bridges are anticipated to increase the shadows within the MPS-4 drainage area. A shade tolerant grass seed mix will be used in combination with standard seed mixes to establish and maintain vegetation. As part of the TCEQ Water Pollution Abatement Program (WPAP) permit, the vegetation establishment and maintenance will be monitored and special consideration will be given to the seed mix to maintain vegetative cover within the drainage area. Please see **Appendix D, Exhibit 2** for the location of MPS-4.

MPS-7 (solution cavity) has a drainage basin of approximately 0.09 acres based on 2017 survey. MPS-7 is located along a steep hillside near the northbound roadway, where the slope could be a limiting factor in feature detection (Veni 1997). Currently runoff from the roadway and embankment side slope is intercepted by a roadside ditch system that drains runoff south to a cross culvert. The northbound and southbound express lane configuration is anticipated to extend west into the MPS-7 drainage area. The proposed roadway runoff would be intercepted and routed south to the existing cross culvert. The MPS-7 drainage area would be maintained by grading a diversion berm to the north. The approximate berm length required to equalize the MPS-7 drainage area is 55 feet long. A berm width of 2 feet and a height of 1.5 feet are recommended to ensure long-term maintenance of the drainage area. MPS-7 is the only sensitive feature with surface drainage area that will be modified by the Project. Please see **Appendix D, Exhibit 2** for the location of MPS-7 sensitive feature and drainage area.

MPS-19 (solution enlarged fractures) drains less than 1 acre. The drainage area and pattern for MPS-19 would not be altered by the Project. It is located within an isolated pinnacle, and while within the Project's footprint, it is not within the construction footprint or at risk of receiving construction-related runoff. Please see **Appendix D, Exhibit 2** for the location of MPS-19.

Temporary erosion and sedimentation control plan in accordance with TPDES SW3P would be implemented to protect the features by protecting water quality during construction. Orange construction fence would be placed around features with signage to define a buffer of 150 feet or the ROW, whichever is closer. This practice helps create awareness for the construction staff to protect the features. The MPS-7 fence would be near the edge of the drainage area or adjacent construction limits, whichever is closer. Once construction is completed on the west side of MPS-7 to correct the permanent drainage of

the existing overpasses, the orange construction fence would be set to the drainage area boundary. No part of this MPS-7 drainage area would be used as construction staging or storage area. Through these practices, the existing volume and quality of the runoff reaching these features would be preserved with construction of the Project; therefore, there will be no significant effects to sensitive recharge features.

Edwards Aquifer Rules do not apply to the No Build Alternative. The No Build Alternative would not result in Project-related impacts to the Edwards Aquifer, because the proposed improvements would not be constructed under this alternative. Accordingly, the Build Alternative will have no significant impact to the Edwards Aquifer based on the implementation of measures to avoid, minimize, and offset impacts.

5.9.12 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.

5.9.13 Drinking Water Systems

In accordance with TxDOT's Standard Specifications for Construction and Maintenance of Highways, Streets, and Bridges (Item 103, Disposal of Wells), any drinking water wells would need to be properly removed and disposed of during construction of the Project. No drinking water systems are located within the Project Area.

The No Build Alternative would have no effect on drinking water systems.

5.9.14 Water Quality

Referring to **Section 5.9.11**, the Project is located within the Edwards Aquifer Recharge Zone and subject to TCEQ regulations for the treatment of stormwater runoff. TCEQ uses TSS as a water quality design constituent. TCEQ provides a spreadsheet to assist in calculating TSS annual loads generated and necessary for removal to comply with regulations, as well as calculating the required size of a proposed permanent BMP. This spreadsheet was developed for the purpose of standardizing the TCEQ permit review process and was used to evaluate the Project for TCEQ Edwards Aquifer Protection Program (EAPP) compliance.

Currently, the proposed water quality treatment meets or exceeds TCEQ EAPP requirements for each Project outfall or point of interest (POI), watershed, and the Project limits within the recharge zone and remove 80 percent of the incremental increase in TSS load from the baseline (1987) conditions to post-Project conditions. The baseline approach would be used for the TCEQ EAPP permitting, if the Project advances to future design phases and is an approach that has been previously coordinated with TCEQ EAPP staff and implemented on other complex TxDOT corridors with multiple overlapping permits. The baseline approach allows permits to be superseded by one comprehensive plan, rather than modifying many past plans. Prior to construction, during water quality design, a WPAP permit application must be submitted to TCEQ for review and approval. Although no water quality treatment is required north of Lady Bird Lake or north of the Edwards Aquifer Recharge Zone, Permeable Friction Course (PFC) would be placed on the main lanes through the Project limits to support local water quality. This area would not be part of the WPAP permit.

The Project also achieves the project commitment to remove 100 percent of the incremental increase in the TSS load from the existing (2024) conditions to post-project conditions for each Project outfall or POI, watershed, and the Project limits within the recharge zone, following TCEQ RG-348 calculation guidance.

The Project complies with the 1990 Decree by providing BMPs at each drainage MoPac South crosses that are capable of functioning as HMTs, as well as treating the first half inch of rainfall. BSEACD's current standing on the requirement of impermeable liners for all untreated stormwater would be confirmed and implemented in the design phase, if this remains as a requirement. Through coordination during the SH 45 SW design phase, BSEACD did not request these impermeable liners in drainage conveyance paths.

Prior to construction, a SW3P will be developed, and a notice of intent (NOI) will be submitted to TCEQ to obtain a TPDES General Permit for the discharge of stormwater associated with construction activities.

During the design phase, permanent velocity controls and erosion protections would be designed at all existing and proposed storm sewer and deck drain outlets and bridge crossings, where necessary. Existing erosion issues have been identified at the Williamson Creek bridge crossing, and those would be remediated. These permanent controls would remain with water quality treatment facilities—designed to remove 100 percent of the incremental increase in TSS loads. During the operation and maintenance phase of this Project, it also includes the use of permanent BMPs designed to remain after construction for the protection of infrastructure from erosion and scouring and to protect the waterway from receiving eroded sediment (K Friese & Associates 2025a; K Friese & Associates 2025b).

Accordingly, based on the findings of the technical study (K Friese & Associates 2025b) and the implementation of the proposed measures to avoid and minimize impacts to water quality outlined in this section, no significant impacts are anticipated.

5.10 Biological Resources

5.10.1 Impacts to Vegetation

The Project Area is located on the boundary between the Edwards Plateau and the Texas Blackland Prairie Ecoregions of Texas in Travis County, as described by Griffith et al. (Griffith et al. 2007) and mapped by the EMST (TPWD 2025a). The EMST identified several vegetation types within the Project Area, which were field verified by a qualified biologist in August and October 2019.

The proposed Project Area is composed of the following habitat types: Urban High Intensity and Urban Low Intensity with noted Edwards Plateau, Central Texas, Native Invasive, Open Water, and Post Oak Savanna (**Table 5-4**; TPWD 2025). These habitat types are not considered rare or important remnant vegetation as mapped by the Texas Conservation Action Plan.

Table 5-4: EMST Vegetation Types Potentially Impacted by the Proposed Project

EMST Habitat Type	Area (acres)
Blackland Prairie: Disturbance	0.008 (0.001%)
Central Texas	0.950 (0.140%)
Edwards Plateau	74.542 (10.959%)
Native Invasive	3.658 (0.538%)
Open Water	0.862 (0.127%)
Post Oak Savanna	0.009 (0.001%)
Urban High Intensity	104.392 (15.384%)
Urban Low Intensity	495.738 (72.886%)
Total	**680.159**

Impacts to vegetation would be restricted to the existing ROW and would be avoided/minimized by limiting disturbance to areas necessary to construct the Project. The removal of native vegetation and woody vegetation would be avoided as much as practicable. Revegetation of disturbed areas would use TxDOT-approved seed mixes containing native species. Accordingly, no significant impacts are expected.

Under the No Build Alternative, impacts to vegetation from proposed construction would not occur—although the existing ROW would continue to be mowed and maintained.

5.10.2 Executive Orders 13112 and 13751 on Invasive Species

The Build and No Build Alternatives for this Project are subject to and will comply with federal EO 13112 on Invasive Species, as amended by EO 13751 on Safeguarding the Nation from the Impacts of Invasive Species. The department implements this EO on a programmatic basis through its Roadside Vegetation Management Manual and Landscape and Aesthetics Design Manual.

5.10.3 Executive Memorandum on Environmentally and Economically Beneficial Landscaping

The Build and No Build Alternatives for this Project are subject to and will comply with the federal Executive Memorandum on Environmentally and Economically Beneficial Landscaping (effective April 26, 1994). The department implements this Executive Memorandum on a programmatic basis through its Roadside Vegetation Management Manual and Landscape and Aesthetics Design Manual.

5.10.4 Impacts to Wildlife

Vegetation of the Edwards Plateau and Texas Blackland Prairie ecoregions provide habitat for a wide range of reptilian, avian, and mammalian species that are common in this environment.

Due to the urban nature of the Project Area, native habitat and vegetation are minimal and highly fragmented. It is anticipated that some wildlife species occur within portions of the existing ROW and adjacent land. For example, wooded areas provide cover, food, and habitat for native birds, mammals, and reptilian species; trees within maintained landscape areas provide nesting habitat for birds; and flowering plants along the ROW provide food for native pollinator species.

Required clearing and other construction-related activities are reasonably expected to directly or indirectly affect animals that use habitat in or adjacent to the Project Area ROW. Land clearing will directly eliminate or further fragment habitat for wildlife species. Larger, more mobile species will typically avoid construction activities and move into adjacent areas.

Heavy machinery could kill small, low-mobility animals or could cause soil compaction, impacting subterranean habitats. This area may also experience increased noise from traffic and increased nighttime lighting. Both may directly affect the behaviors of local wildlife by either attracting or repelling species from the area. Indirect impacts could occur if the Project causes a degradation of habitat quality that develops over time. This may include soil erosion causing an increase in stream sedimentation and vegetation removal. To avoid and minimize impacts to local wildlife, wildlife and vegetation BMPs included in **Section 8** of this EA, along with additional, species-specific conservation measures (CM) will be developed in consultation with the USFWS will be implemented.

Under the No Build Alternative, there would be no additional impacts to wildlife and wildlife habitat, and the existing ROW would continue to be mowed and maintained.

5.10.5 Migratory Bird Protections

This Project will comply with applicable provisions of the Migratory Bird Treaty Act (MBTA) and TPWD Code Title 5, Subtitle B, Chapter 64, Birds. It is the department's policy 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:

- Use measures to prevent or discourage birds from building nests on man-made structures within portions of the Project Area planned for construction; and
- Schedule construction activities outside the typical nesting season.

Additional preemptive and preventative measures that MA will apply to the Project, where appropriate and practicable, are described in TxDOT's Guidance – Avoiding Migratory Birds and Handling Potential Violations. Accordingly, based on the implementation of these measures, no significant impacts to migratory birds are anticipated.

The No Build Alternative would not require any removal or disturbance of migratory birds, their nests, or their young; therefore, there would be no impacts on migratory birds.

5.10.6 Fish and Wildlife Coordination Act

The Project is anticipated to require an NWP with a PCN issued by the USACE. The Project does not include any construction that alters, diverts, or impounds any streams or bodies of water. Compliance with the Fish and Wildlife Coordination Act would be accomplished by complying with terms and conditions of the NWP.

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

5.10.7 Bald and Golden Eagle Protection Act of 2007

This Project is not within 660 feet of an active or inactive Bald or Golden Eagle nest. Therefore, no coordination with the USFWS is required.

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

5.10.8 Magnuson-Stevens Fishery Conservation Management Act

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

5.10.9 Marine Mammal Protection Act

The Project Area does not contain suitable habitat for marine mammals.

5.10.10 Threatened, Endangered, and Candidate Species

An initial analysis of the Project's potential impacts on state and federally listed threatened, endangered, and candidate species was performed. A Species Analysis Form and a Species Analysis Spreadsheet were prepared for the Project. This section summarizes the assessments performed to date, indicates the federally listed and proposed species and federally designated critical habitat located in or in the vicinity of the Project Area, and references the ESA Section 7 consultation that will be completed in connection with the Project. The USFWS Information for Planning and Consultation (IPaC) and TPWD Rare,

Threatened, and Endangered Species of Texas (RTEST) lists of endangered and threatened species were used for this analysis (USFWS 2025; TPWD 2025b). Coordination with TPWD under the 2021 MOU is underway and will be completed prior to finalizing the EA. Consultation with the USFWS will conclude prior to finalizing the EA.

Federally Listed Species and Critical Habitat

An official species list from USFWS obtained through an IPaC query identified the following federally listed or proposed species and designated or proposed critical habitat: endangered Austin blind salamander (*Eurycea waterlooensis*), endangered Barton Springs salamander (*Eurycea sosorum*), endangered Bee Creek Cave harvestman (*Texella reddelli),* endangered Bone Cave harvestman (*Texella reyesi),* endangered Tooth Cave spider (*Tayshaneta myopica),* endangered Golden-cheeked Warbler (*Setophaga chrysoparia),* threatened Piping Plover (*Charadrius melodus*), threatened Rufa Red Knot (*Calidris canutus rufa*), endangered Whooping Crane (*Grus americana*), endangered Texas fatmucket (*Lampsilis bracteata*), proposed threatened monarch butterfly (*Danaus plexippus*), endangered Tooth Cave ground beetle (*Rhadine persephone*), proposed endangered tricolored bat (*Perimyotis subflavus*), and threatened bracted twistflower (*Streptanthus bracteatus*).

Based on data from recent surveys, aerial imagery, and site visits, a Species Analysis Spreadsheet and Form were completed for the Project Area to assess potential impacts of the proposed Project on federally and state-listed threatened, endangered, and candidate species (Species Analysis Form and Species Analysis Spreadsheet, TxDOT 2025b). “No effect” determinations were reached for Texas fatmucket, Tooth Cave ground beetle, Bone Cave harvestman, Piping Plover, Rufa Red Knot, and Whooping Crane. “May affect” determinations were reached for the Austin blind salamander, Barton Springs salamander, Bee Creek Cave harvestman, Tooth Cave spider, Golden-cheeked Warbler, monarch butterfly, tricolored bat, and bracted twistflower.

Pending the ESA Section 7 consultation concerning the proposed Project’s potential effects on listed and proposed species and designated and proposed critical habitat, it is anticipated that the USFWS will conclude that the Project may affect but is not likely to adversely affect the Golden-cheeked Warbler, monarch butterfly, tricolored bat, and bracted twistflower. The Project will implement the range-wide USFWS Programmatic Biological Opinion/Conference Opinion (PBOCO) for tricolored bat, jointly developed by Federal Highway Administration, Federal Railroad Administration, and Federal Transit Administration (USFWS et al. 2025). The PBOCO provides incidental take coverage for relevant activities included in the Project should the tricolored bat be listed as endangered or threatened prior to or during project construction. MA and TxDOT have determined that the Project is eligible, as the structural assessment detected no bats or signs of bats, and will implement all required minimization measures detailed in the programmatic agreement. MA will incorporate CMs for tricolored bat to conform with the PBOCO.

The Project will use the Nationwide Candidate Conservation Agreement with Assurances/Candidate Conservation Agreement for Monarch Butterfly on Energy and Transportation Lands (Agreement). TxDOT is a partner in this Agreement, which provides ESA coverage for all activities included in the Project should the monarch butterfly be listed as endangered or threatened before construction is completed.

The Project will require removal of potential suitable Golden-cheeked Warbler habitat. These areas are located primarily around Barton Creek and the MoPac South/Loop 360 interchange. Ongoing presence/absence surveys have been completed for the Project since 2014 (Hicks (2014–2016, 2018–

2022, 2024–2025). During that time, no Golden-cheeked Warblers were detected within the Project Area. Additionally, migratory bird and vegetation CMs will be implemented to minimize any direct and indirect effects to the species. For example, daytime surveys for nests will be performed prior to construction during nesting season, and removal or disturbance of both inactive and active nests will be avoided. Vegetation clearing activities will also be avoided during the bird's nesting season.

No individuals of bracted twistflower were observed within the Project Area during a plant survey conducted in April 2025—although this may not necessarily indicate species' absence, because bracted twistflower seeds can remain dormant and viable for at least seven years. However, overall direct and indirect effects to the species are anticipated to be insignificant. Effects to this species should be limited to within the Project Area and are not likely to extend into the greater Action Area. Effects on the bracted twistflower may occur as a result of vegetation removal and soil disturbance; however, the likelihood of physical destruction of the species will be minimized through implementation of pre-construction plant survey, minimization of herbicide use, and installation of temporary barrier fencing if bracted twistflower is found.

Pending the ESA Section 7 consultation concerning the proposed Project's potential impacts on listed and proposed species and designated and proposed critical habitat, it is anticipated that the USFWS will conclude that the Project may affect and is likely to adversely affect the Austin blind salamander, Barton Springs salamander, Bee Creek Cave harvestman, and Tooth Cave spider. Because formal consultation has not yet been initiated at the time of preparation of this Draft EA, it is possible that the agencies will reach another conclusion with respect to any of the species under consideration. It is also anticipated that adverse effects to the species will be limited in duration and scale and will be addressed through voluntarily adopted, but binding avoidance, minimization, and mitigation (offset) measures. Thus, it is expected that the adverse effects of the Project will not appreciably diminish the likelihood of the survival and recovery of any listed or proposed to be listed species or designated critical habitat. During the course of ESA consultation, it is possible, however, that a different conclusion will be reached. Based on coordination with USFWS to date, MA and TxDOT expect to submit a Biological Assessment (BA) to USFWS and a request that USFWS initiate ESA section 7 formal consultation. MA plans to incorporate significant measures to avoid and minimize adverse effects to listed species into the Project, including void discovery oversight and reporting, and water quality protection measures. MA is also considering mitigation measures to offset potential adverse effects to the extent not completely avoided and minimized.

Critical habitat for Austin blind salamander and bracted twistflower occurs within the preliminary Action Area, which is defined as the Project Area, plus an additional area extending approximately 345 feet outside of the Project Area boundary, and portions of the floodplains downstream of the Project Area, as well as the area encompassing the Barton Springs Complex. The critical habitat unit (CHU) for the Austin blind salamander at Barton Springs is known as the Barton Springs Unit and encompasses surface and subsurface critical habitat components (USFWS 2013; 2019). The Barton Springs Unit intersects with the Action Area because it may receive downstream surface and subsurface flows from streams and karst features that occur within and adjacent to the Project Area (USFWS 2019a). Some portion of the Project Area may actually occur in the identified Cold Springs subunit of the aquifer that does not provide flows to the Barton Springs complex. The Project is not expected to result in impacts that create a substantial change in the function on any of the Primary Constituent Elements (PCE) of the Austin blind salamander CHU. No adverse effects are expected as the CHU occurs wholly outside of the Project Area, and effects

within the Action Area are not likely to occur as impacts will be minimized or avoided through implementation of water quality measures, as required under the approved WPAP, and by water quality CMs (e.g., adding permeable friction course pavement, Jellyfish filtration units, water quality ponds). Therefore, it is anticipated that the Project will not appreciably diminish the conservation value of the CHU.

The USFWS designated critical habitat for the bracted twistflower intersects the Project Area at several locations: near the southbound frontage road by the Barton Creek greenbelt, at the MoPac South Barton Creek crossing, and at the Loop 360 Barton Creek crossing (USFWS 2023). The Project will not result in the modification or removal of the approximately 1.37 acres of habitat within Subunit 1A of the Northeast CHU. In addition, implementation of Rare Plant CMs located in **Section 8** (e.g., pre-construction plant survey, minimize herbicide use, install temporary barrier fencing if bracted twistflower is found, maintenance outside of the growing season, etc.) have avoided any anticipated effects to the CHU. Therefore, it is anticipated that the Project is not likely to adversely affect bracted twistflower critical habitat.

State-listed Species

The Project Area is also within range of the state-threatened Swallow-tailed Kite (*Elanoides forficatus*), white-faced ibis (*Plegadis chihi)*, Wood Stork (*Mycteria americana)*, and Texas Horned Lizard (*Phrynosoma cornutum)*. The Project will have no impact on these species as no suitable habitat is present within the Project Area. Refer to the Species Analysis Spreadsheet for additional information (TxDOT 2025b).

Species of Greatest Conservation Need

Species of Greatest Conservation Need (SGCN) are generally native plants or animals that are declining or rare and in need of attention to recover or to prevent the need to list under state or federal protection (TPWD 2025). As detailed in the Species Analysis Form and Species Analysis Spreadsheet (TxDOT 2025b), the proposed Project reviewed a total of 63 SGCNs: 40 wildlife species and 23 plant species. The Project will implement avoidance, minimization, mitigation measures, and CMs.

No Build Alternative

Under the No Build Alternative, there would be no additional impacts on wildlife and wildlife habitat (including impacts on federally or state-listed threatened or endangered species) from construction activities.

5.10.11 Geologic Assessment

Soil units in the Project Area are shallow (undulating to steep) and predominantly occur over limestone. Lithology in the Project Area are Cretaceous age sedimentary rocks (such as limestone and marl) that were deposited in a marine shelf or shelf-margin environment. Bedrock units underlying the Project Area consist of the lower Cretaceous age Edwards Group, containing Kainer and Person Formations and the Georgetown Formation as well as upper Cretaceous Del Rio Clay and Buda Limestone Formations. Lady Bird Lake is a hydrologic divide that separates the Barton Springs Segment (BSS) from the northern segment of the Edwards Aquifer, and the river is a boundary in published geologic maps. Therefore, geologic mapping for the Project consists of a combination of map sources. See Appendix E of the Geological Assessment (GA) for a distribution of geologic units north of Lady Bird Lake based on Garner

and Young (Garner and Young 1976) and south of Lady Bird Lake based on Blome et al. (Blome et al. 2005). Outcrops of Glen Rose Limestone occur west of the Project Area. Regulatory boundaries on the maps are according to TCEQ (TCEQ 2005).

Lithologic descriptions for outcropping units originate primarily from Small et al. (Small et al. 1996), Blome et al. (Blome et al. 2005), and Hauwert (Hauwert 2009) who use the Dunham carbonate rock classification system. Field identification is hampered by previous land disturbance with the ROW. The Edwards Group is divided into Kainer and Person Formations. Kainer Formation contains limestone, dolomitic limestone, and chert occur throughout the formation. The thickness ranges from 270 to 335 feet (Hunt et al. 2019; Blome 2005). Kainer is divided into hydrostratigraphic units (Basal Nodular, Dolomitic, Kirschberg Evaporite, and Grainstone members). Walnut Formation is equivalent to or indistinguishable from the Basal Nodular member in Travis County. There are few caves developed in the massively-bedded Basal Nodular. The Dolomitic member consists of a resistant wackestone with isolated chert nodules. Caves developed in the Dolomitic typically are formed along bedding planes. Caves are extensively developed in the Kirschberg Evaporite member. Kirschberg consists of an evaporitic limestone, pulverulite, and either chert beds or nodules. Few caves are developed in the Grainstone member, which consists of light-colored miliolid grainstone and chert beds.

5.11 Air Quality

5.11.1 Project Level Transportation Conformity

This Project is located in an area in attainment or unclassifiable for all National Ambient Air Quality Standards (NAAQS); therefore, transportation conformity rules do not apply.

5.11.2 Carbon Monoxide Traffic Air Quality Analysis (CO TAQA)

Traffic for the estimated time of completion (ETC) year (2029) and design year (2049) is estimated between 206,250 and 261,250 vehicles per day, respectively, triggering the need for a traffic air quality analysis. Presumably, topography and meteorology of the area in which the Project is located would not seriously restrict dispersion of the air pollutants. Traffic data used in the analysis was obtained from CAMPO Traffic Demand Modeling outputs for 2045.

CO concentrations for the proposed action were modeled using CAL3QHC and TxDOT's Emission Rate Lookup Tables (ERLT) for CO within the Austin area, factoring in adverse meteorological conditions and sensitive receptors at the ROW line and at three meters from the roadway for the intersection analysis. Local concentrations of CO are not expected to exceed national standards at any time (see **Table 5-4**).

Table 5-5: Project CO Concentrations

Year	1-hour CO Concentration Parts Per Million (ppm)	1-HR % NAAQS	8-hour CO Concentration (ppm)	8-HR % NAAQS
2029	3.3	9.4%	2.5	27.7%
2049	3.0	8.6%	2.3	25.3%

NAAQS for CO is 35 ppm for 1 hour and 9 ppm for 8 hours. Analysis includes a 1-hour background concentration of 1.6 ppm and an 8-hour background concentration 1.3 ppm.

5.11.3 MSAT Analyses

5.11.3.1 Qualitative MSAT Analysis

Background

Controlling air toxic emissions became a national priority with the passage of the Clean Air Act Amendments 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) (EPA 2025). In addition, the EPA identified nine compounds with significant contributions from mobile sources that are among the national and regional-scale cancer risk drivers or contributors and non-cancer hazard contributors from the 2011 National Air Toxics Assessment (NATA) (EPA 2018). 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 as priority mobile source air toxics, the list is subject to change and may be adjusted in consideration of future EPA rules.

Motor Vehicle Emissions Simulator (MOVES)

According to the EPA, MOVES3 is a major revision to MOVES2014 and improves upon it, in many respects. MOVES3 includes new data, new emissions standards, and new functional improvements and features. It incorporates substantial new data for emissions, fleet, and activity developed since the release of MOVES2014. These new emissions data are for light- and heavy-duty vehicles, exhaust and evaporative emissions, and fuel effects. MOVES3 also adds updated vehicle sales, population, age distribution, and vehicle miles traveled (VMT) data. In the November 2020 EPA issued MOVES3 Mobile Source Emissions Model Questions and Answers, the EPA states that for on-road emissions, MOVES3 updated heavy-duty diesel (HD) and compressed natural gas (CNG) emission running rates and updated HD gasoline emission rates (EPA 2020). They updated light-duty (LD) emission rates for hydrocarbon (HC), CO, and nitrogen oxide (NOx) and updated LD particulate matter rates, incorporating new data on Gasoline Direct Injection (GDI) vehicles.

Using EPA's MOVES3 model, as shown on page 4 of the MSAT report (TxDOT 2024c), FHWA estimates that even if VMT increases by 31 percent from 2020 to 2060 as forecast, a combined reduction of 76 percent in the total annual emissions for the priority MSAT is projected for the same time period.

Diesel PM is the dominant component of MSAT emissions, containing 36 to 56 percent of all priority MSAT pollutants by mass, depending on the calendar year. Users of MOVES3 will notice some differences in emissions compared to MOVES2014. MOVES3 is based on updated data on some emissions and pollutant processes compared to MOVES2014, and it also reflects the latest Federal emissions standards in place at the time of its release. In addition, MOVES3 emissions forecasts are based on slightly higher VMT projections than MOVES2014, consistent with nationwide VMT trends.

MSAT Research

Air toxics analysis is a continuing area of research. While much work has been done to assess overall health risk of air toxics, many questions remain unanswered. In particular, tools and techniques for assessing Project-specific health outcomes as a result of lifetime MSAT exposure remain limited. These

limitations impede the ability to evaluate how potential public health risks posed by MSAT exposure should be factored into project-level decision making within the context of NEPA.

Nonetheless, air toxics concerns continue to arise on highway projects during the NEPA process. Even as science emerges, the public and other agencies expect the FHWA to address MSAT impacts in its environmental documents. The FHWA, EPA, Health Effects Institute (HEI), and others have funded and conducted research studies to clearly define potential risks from MSAT emissions associated with highway projects. The FHWA will continue to monitor the evolving research in this field.

Project-Specific MSAT Information

A qualitative analysis provides a basis for identifying and comparing potential differences among MSAT emissions, if any, from the various alternatives. The qualitative assessment presented below is derived in part from a study conducted by the FHWA, entitled *A Methodology for Evaluating Mobile Source Air Toxic Emissions Among Transportation Project Alternatives* (FHWA 2017).

For the Preferred Alternative, the amount of MSAT emitted would be proportional to VMT, assuming that other variables (such as fleet mix) are the same for each scenario. VMT estimated for each of the Build Alternatives is slightly higher than that for the No Build Alternative, because the additional capacity increases the efficiency of the roadway and attracts rerouted trips from elsewhere in the transportation network. Emissions increase from additional VMT is somewhat offset by lower MSAT emission rates due to increased speeds. According to the EPA's MOVES3 model, emissions of all of the priority MSAT decrease as speed increases. Under each alternative, there may be localized areas where VMT would increase, and other areas where VMT would decrease. Therefore, it is possible that localized increases and decreases in MSAT emissions may occur. Localized increases in MSAT emissions would likely be most pronounced along MoPac South between Cesar Chavez and Loop 360 based on the high VMT in the area. However, the magnitude and the duration of these potential increases compared to the No Build Alternative cannot be reliably quantified due to incomplete or unavailable information in forecasting project-specific MSAT health impacts. Also, regardless of the alternative chosen, emissions would likely be lower than present levels in the design year as a result of EPA's national control programs that are projected to reduce annual MSAT emissions by over 76 percent from 2020 to 2060. Local conditions may differ from these national projections, in terms of fleet mix and turnover, VMT growth rates, and local control measures. However, the magnitude of EPA-projected reductions is so great (even after accounting for VMT growth) that MSAT emissions in the study area are likely to be lower in the future, in virtually all locations.

Incomplete or Unavailable Information for Project-Specific MSAT Health Impacts Analysis

In FHWA's view, information is incomplete or unavailable to credibly predict the project-specific health impacts because of changes in MSAT emissions associated with a proposed set of highway alternatives. The outcome of such an assessment (adverse or not) would be influenced more by the uncertainty introduced into the process through assumption and speculation, rather than any genuine insight into the actual health impacts directly attributable to MSAT exposure associated with a proposed action.

The EPA is responsible for protecting the public health and welfare from any known or anticipated effects of an air pollutant. They are the lead authority for administering the Clean Air Act and its amendments and have specific statutory obligations, with respect to hazardous air pollutants and MSAT. The EPA is in the continual process of assessing human health effects, exposures, and risks posed by air pollutants. They maintain the IRIS, which is "a compilation of electronic reports on specific substances found in the

environment and their potential to cause human health effects" (EPA 2025). Each report contains assessments of non-cancerous and cancerous effects for individual compounds and quantitative estimates of risk levels from lifetime oral and inhalation exposures, with uncertainty spanning perhaps an order of magnitude.

Other organizations are also active in the research and analyses of human health effects of MSATs, including the HEI. A number of HEI studies are summarized in Appendix D of FHWA's *Updated Interim Guidance on Mobile Source Air Toxic Analysis in NEPA Documents* (FHWA 2023). Among adverse health effects linked to MSAT compounds at high exposures are cancer in humans in occupational settings; cancer in animals; and irritation to the respiratory tract, including the exacerbation of asthma. Less obvious is the adverse human health effects of MSAT compounds at current environmental concentrations (HEI 2007) or in the future as vehicle emissions substantially decrease.

Methodologies for forecasting health impacts include emissions modeling; dispersion modeling; exposure modeling; and then final determination of health impacts—each step in the process building on the model predictions obtained in the previous step. All are encumbered by technical shortcomings or uncertain science that prevents a complete differentiation of the MSAT health impacts among a set of project alternatives. These difficulties are magnified for lifetime (i.e., 70 year) assessments, particularly because unsupportable assumptions have to be made regarding changes in travel patterns and vehicle technology (which affects emissions rates) over that time frame, since such information is unavailable.

It is particularly difficult to reliably forecast 70-year lifetime MSAT concentrations and exposure near roadways; to determine the portion of time that people are actually exposed near a specific location; and to establish the extent attributable to a proposed action, especially given that some of the information needed is unavailable. There are considerable uncertainties associated with existing estimates of toxicity of various MSATs because of factors (such as low-dose extrapolation and translation of occupational exposure data) to the general population, a concern expressed by HEI (HEI 2007). As a result, there is no national consensus on air dose-response values assumed to protect the public health and welfare for MSAT compounds, and in particular for diesel PM. The EPA states that with respect to diesel engine exhaust, "[t]he absence of adequate data to develop a sufficiently confident dose-response relationship from the epidemiologic studies has prevented the estimation of inhalation carcinogenic risk" (EPA 2003).

There is also the lack of a national consensus on an acceptable level of risk. The current context is the process used by the EPA, as provided by the Clean Air Act, to determine whether more stringent controls are required to provide an ample margin of safety to protect public health or to prevent an adverse environmental effect for industrial sources subject to the maximum achievable control technology standards, such as benzene emissions from refineries. The decision framework is a two-step process. The first step requires the EPA to determine an "acceptable" level of risk due to emissions from a source, which is generally no greater than approximately 100 in 1 million. Additional factors are considered in the second step, the goal of which is to maximize the number of people with risks of less than 1 in 1 million due to emissions from a source. Results of this statutory two-step process do not guarantee that cancer risks from exposure to air toxics are less than 1 in 1 million; in some cases, the residual risk determination could result in maximum individual cancer risks that are as high as approximately 100 in 1 million. In a June 2008 decision, the U.S. Court of Appeals for the District of Columbia Circuit upheld the EPA's approach to addressing risk in its two-step decision framework. Information is incomplete or unavailable to establish that even the largest of highway projects would result in levels of risk greater than deemed acceptable (U.S. Court of Appeals, D.C. Circuit 2008).

Because of limitations in methodologies for forecasting health impacts described, any predicted difference in health impacts between alternatives is likely to be much smaller than uncertainties associated with predicting impacts. Consequently, results of such assessments would not be useful to decision makers who would need to weigh this information against Project benefits (such as reducing traffic congestion, accident rates, and fatalities, plus improved access for emergency response) that are better suited for quantitative analysis.

5.11.3.2 Quantitative MSAT Analysis

The Project Traffic Model was used as the basis for assessment of MSAT emissions for the affected network links. The Project Traffic Model was extrapolated from CAMPO Traffic Demand Modeling outputs for 2045. The study area for quantitative analysis is the same as the Project study limits. Only the Project links were included in the MSAT analysis. These links include all roadways within the Project study limits along MoPac South and a section of US 290 from Brodie Lane to Monterrey Oaks Boulevard, including general purpose lanes, express lanes, frontage roads, direct connectors, and ramps.

Emission factors from TxDOT's Running ERLTs for MSAT (TxDOT 2023a) were used for this analysis. These tables provide emission rates in grams/VMT from 2011 to 2060 for several areas in Texas, including the Austin area. Separate emission factors were used for each analysis year and build scenario.

For this Project, a base year (2018), interim year (2029), and design year (2049) were studied, and a quantitative MSAT analysis was conducted on five separate scenarios: 2018 Existing, 2029 No Build, 2029 Build, 2049 No Build, and 2049 Build. Emission results from the Build condition were compared to the No Build Condition in the same year to determine the emission impacts due to the Project. In addition, the Build condition emission results for each year were also compared to the base year emissions to understand an overall trend in MSAT emissions over time. **Table 5-5** summarizes MSAT emissions by pollutant and total MSAT emissions in each modeled year and scenario. These differences are shown in **Figure 5-1** and **Figure 5-2**.

Table 5-6: Annual MSAT Emissions by Year, Scenario, and Pollutant

	Emissions (tons/year)				
MSATs	**2018**	**2029**		**2049**	
	Existing	**No Build**	**Build**	**No Build**	**Build**
Benzene	1.13	0.41	0.41	0.40	0.36
Naphthalene	0.14	0.03	0.02	0.02	0.01
1,3-Butadiene	0.10	0.01	0.01	0.00	0.00
Formaldehyde	1.24	0.29	0.28	0.23	0.19
Acrolein	0.09	0.02	0.02	0.02	0.02
Diesel PM	7.59	1.82	1.70	1.55	1.30
POM	0.06	0.01	0.01	0.01	0.01
Acetaldehyde	0.70	0.23	0.22	0.25	0.19
Ethylbenzene	0.66	0.32	0.31	0.38	0.31
Total MSAT Emissions	**11.72**	**3.14**	**2.97**	**2.87**	**2.39**
Annual VMT (million miles)	**518**	**603**	**652**	**753**	**849**

Figure 5-1: Primary MSAT Emissions by Year and Scenario Versus VMT

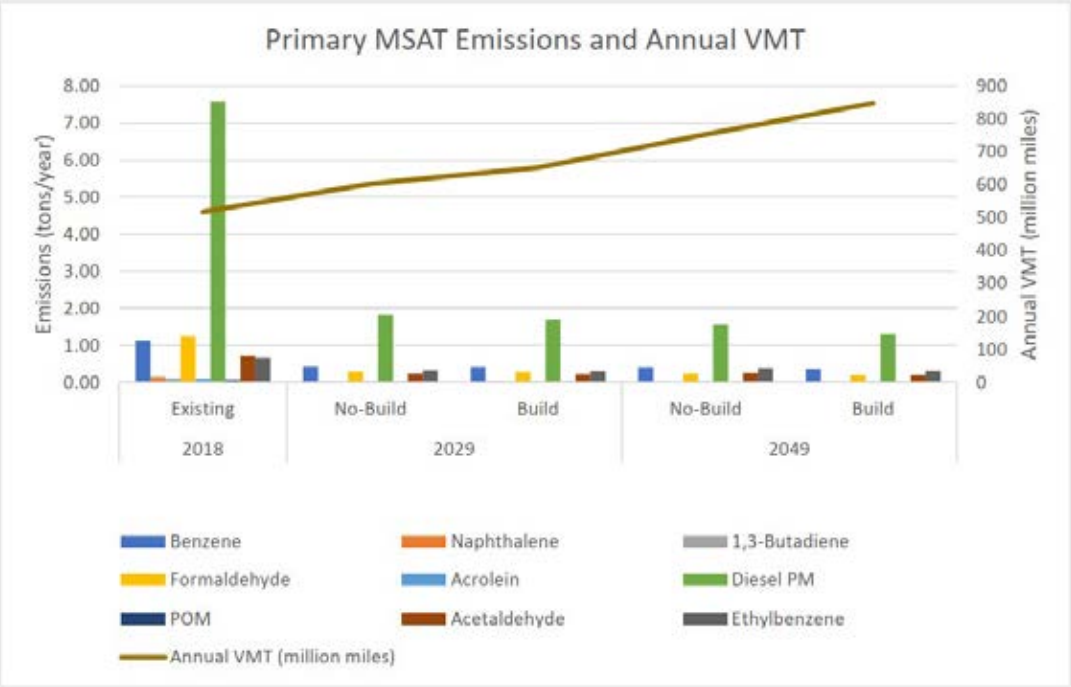
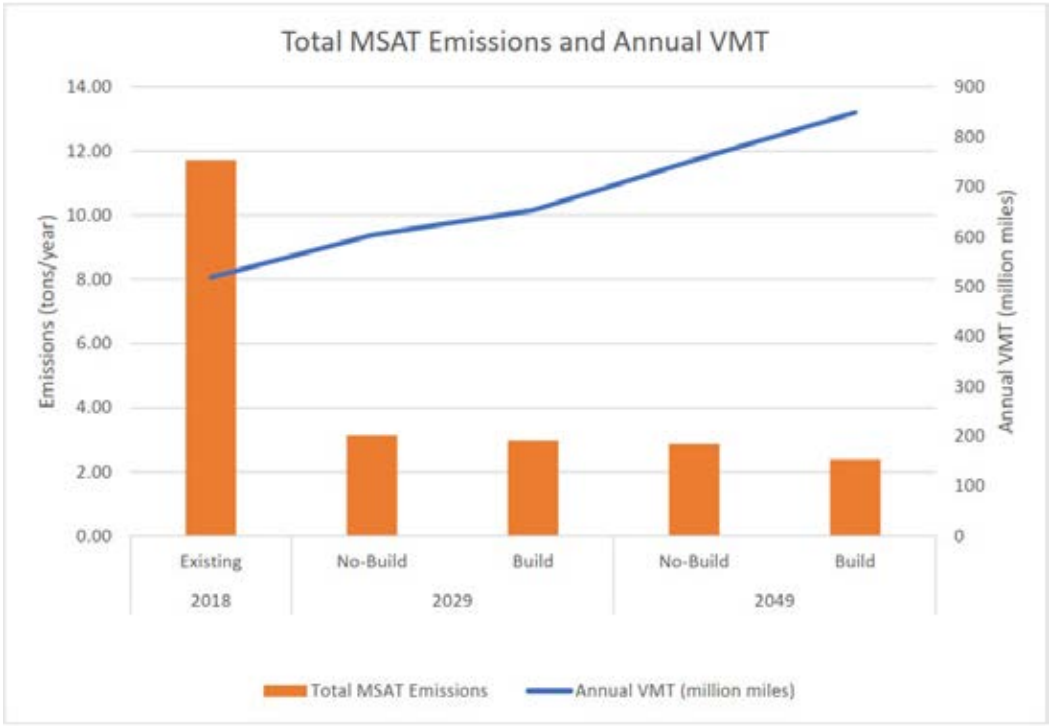


Figure 5-2: Total MSAT Emissions by Year and Scenario Versus VMT



MSAT emissions evaluated all decrease when comparing the Build scenario with the No Build scenario in the same year. When compared to the No Build scenarios, total emissions from the Build scenarios show a decrease of 5.50 percent in the interim year (2029) and a decrease of 16.70 percent in the design year (2049). When compared to the existing conditions of 2018, total MSAT emissions are estimated to decline by about 74.7 percent from the 2018 Existing to the 2029 Build scenario and by 79.6 percent from the 2018 Existing to the 2049 Build scenario. These reductions occur despite projected increases in VMT from 2018 to the 2029 Build scenario of about 21 percent and an increase in VMT from 2018 to the 2049 Build scenario of about 64 percent.

The understanding of MSATs is an area of continued study. Information is currently incomplete or unavailable to credibly predict project-specific health impacts due to changes in MSAT emissions associated with each of the Build scenarios. This analysis shows an emissions reduction from the No Build to the Build scenarios in 2029 and 2049. In addition, when compared to existing conditions, total emissions of MSAT pollutants under the 2029 and 2049 Build scenarios are projected to be substantially lower than exist today, even as vehicle activity increases during this time period. The EPA's vehicle and fuel regulations are expected to result in substantially lower MSAT levels in the future than exist today because of cleaner engine standards coupled with fleet turnover. The magnitude of the EPA-projected reductions is so great (even after accounting for VMT growth) that MSAT emissions in the study area would be substantially lower in the future than they are today, regardless of the scenario (No Build or Build) chosen.

5.11.4 Construction Emissions

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

Potential impacts of PM 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 plan and other local and federal incentive programs, to the fullest extent possible, to minimize diesel emissions. Information about the TERP program is on TCEQ’s TERP website (TCEQ 2025).

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

5.11.5 Air Quality Conclusions

Under the No Build Alternative, emissions related to construction would not occur, and MSAT emissions would be expected to decrease overtime (as noted above). However, the No Build Alternative would not result in mobility improvements and congestion reduction anticipated with the Build Alternative.

Accordingly, based on the findings of the technical study and the implementation of the proposed mitigation measures, no significant impacts to air quality are anticipated.

5.12 Hazardous Materials

The presence of hazardous materials within a project study area can create issues affecting ROW acquisition, project development, and construction. The Hazardous Materials Initial Site Assessment (ISA) identifies potential hazardous materials concerns, as they relate to project construction and/or ROW acquisition for concerns identified.

An ISA, including a visual survey of the Project limits and surrounding area and research of existing and previous land use, was prepared (TxDOT 2024d) to identify sites of potential hazardous materials concerns within the Project limits. Additional components of the ISA included reviewing Project design and ROW requirements and reviewing federal and state regulatory databases and files. Documentation of the ISA is available at the TxDOT Austin District office.

Existing and previous land use of the Project limits and surrounding area is a combination of undeveloped agricultural fields and commercial and residential development. As part of the ISA, a review of selected environmental regulatory databases published by federal and state agencies was conducted to determine potential for hazardous material issues within and near the Project study area. A review of the regulatory database report (dated July 22, 2024) was performed in general accordance with the American Society of Testing and Materials (ASTM) Standard E1527-21 and TxDOT guidelines, which defines the environmental record sources to be reviewed and their minimum search distances from the proposed Project.

The federal and state database searches identified 283 located sites based on facility addresses. Based on distance, topographic gradient, historical information, database information, and/or Project design information, all sites but three are considered low environmental risks or no environmental concerns to the Project.

The Longhorn MoPac Site (pipeline spill location) is within the MoPac South ROW, immediately north of Slaughter Lane. Documentation from the Texas Railroad Commission (TRRC) indicates that the spill occurred in 1987. It was reportedly cleaned up but, based on information from a recent TxDOT project in the area, petroleum impacts remain in the soil, which may require remediation or special handling of any impacted soil should the contamination reach actionable levels within the Project Area. Additional investigation will be required to confirm if contamination has reached actionable levels. If actionable level contamination were confirmed, then MA will develop appropriate soils and/or groundwater management plans for activities within these areas.

A Phase II was completed for the former firing range in 2019 that indicated elevated metals at 2305 Rollingwood Drive and recommended additional testing to determine the extent of contamination, specifically lead. The EPA admitted the former firing range to its Brownfield site program in 2020. No further investigation has occurred. Therefore, it is possible that heavy metals could have migrated offsite, reaching the Project ROW. This migration may require remediation or special handling of any impacted soil or groundwater should the contamination reach actionable levels within the Project Area. Additional investigation will be required to confirm if contamination has reached actionable levels. However, due to the distance of the firing range from the Project, it is not anticipated that contaminated soil or groundwater would be encountered during construction. No further investigation is proposed at this time.

The Butler landfill site, bound by Lady Bird Lake to the north, Eanes Creek to the west, Lou Neff Road to the east, and Stratford Drive to the south, has had multiple investigations performed by the COA between

1984 and 2018. The landfill is currently in post closure care by COA PARD and is governed by the requirements in 30 TAC, Chapter 330, Subchapter T (Use of Land Over Closed Municipal Solid Waste Landfills). Projects affecting the landfill may also be subject to TCEQ Edwards Aquifer Protection Rules (30 TAC, Chapter 213). Butler landfill is encroaching under Lady Bird Lake bridges and the Project will likely encounter contamination. It is anticipated that contaminated soil and/or groundwater will be encountered during construction. Special provisions will be included in the project's plans, specifications and estimates (PS&E) to handle hazardous materials and/or petroleum contamination according to applicable federal and state regulations.

Precautionary measures should be taken to minimize the potential for construction worker exposure to contamination in this area. MA and TxDOT will also monitor carbon monoxide when conducting excavation activities within the boundaries of the landfill, especially in areas where vapors could accumulate. If contaminated soil is encountered during construction, the Project engineer will be notified immediately, all work would cease in the area of suspected contamination, and all applicable rules and regulations will be followed for the appropriate handling of the contaminated media.

A map of the relevant sites is depicted in **Appendix D, Exhibit 3**.

Any unanticipated hazardous materials and/or petroleum contamination encountered during construction will be handled in accordance with applicable federal and state regulations per TxDOT Standard Specifications. Section 6.10 of the General Provisions of the Standard Specifications for Construction and Maintenance of Highways, Streets and Bridges, which applies to all TxDOT highway projects, includes guidelines addressing the contractor's responsibilities regarding the discovery of hazardous materials during construction.

Possible Asbestos-Containing Materials and Lead-Based Paint

The proposed Project includes the demolition and/or relocation of structures. Structures may involve asbestos-containing materials or lead-based paint. Asbestos and lead-based paint inspections, specification, notification, license, accreditation, abatement and disposal (as applicable) would comply with federal and state regulations. Asbestos and lead-based paint issues would be addressed during the ROW process and prior to construction. Removal/disturbance of asbestos containing materials will be accomplished in accordance with Occupational Safety and Health Administration and applicable asbestos-related *National Emissions Standards for Hazardous Air Pollutants* standards, including the use of trained personnel working under the supervision of an asbestos competent person.

Active Pipelines

One natural gas pipeline, one highly volatile liquid pipeline, and one crude oil pipeline have been identified as crossing the proposed Project. Two are located approximately 850 feet south of Slaughter Lane and one is approximately 185 feet north of Slaughter Lane. Any excavations near these pipelines could cause a rupture. Formal utilities' location and advance planning would be required to facilitate pipeline and utilities adjustments and to otherwise avoid associated impacts.

Storm Water Drainage Structures in Contamination

The proposed Project requires the installation of storm sewers. All the adjacent properties evaluated in the ISA and Project Impact Evaluation Report are considered to have low environmental risks or no environmental concerns to the Project, except for two known sites: the Longhorn Pipeline Spill and the Butler Landfill. Should the installation of stormwater drains be in, or near, known contamination, special

provisions will be included in the project's plans, specifications and estimates (PS&E) to handle hazardous materials and/or petroleum contamination according to applicable federal and state regulations.

Well Plugging (Water Quality)

If encountered, proper plugging of wells would be addressed during the ROW negotiation and acquisition process. If these are not plugged prior to construction, wells encountered during construction would be addressed, per TxDOT Standard Specification Item 103 Disposal of Wells. Should unanticipated hazardous materials/substances be encountered during construction, TxDOT and/or the contractor would be notified and steps would be taken to protect personnel and the environment. Any unanticipated hazardous materials encountered during construction would be handled, according to applicable federal, state, and local regulations, per TxDOT Standard Specifications. The contractor would act to prevent, minimize, and control the spill of hazardous materials in construction staging areas. All construction materials used for the proposed Project would be removed as soon as the work schedules permit. The contractor would initiate early regulatory agency coordination during Project development.

Under the No Build Alternative, the potential for impacts related to construction of the proposed improvements would not exist. Facilities listed in the ISA would continue to operate, and presumably, additional records associated with contamination would be generated over time. These issues would be addressed by the appropriate regulatory agency or program.

Accordingly, based on the findings of the technical study and the implementation of the proposed mitigation measures, no significant impacts are anticipated.

5.13 Traffic Noise

The proposed Project increases the number of through traffic lanes; therefore, a traffic noise analysis is required by the FHWA Regulation 23 CFR 772 (2010) and TxDOT's (FHWA approved) Traffic Noise Policy (2024). The Traffic Noise Report for the Project was approved in September 2025 and is available for public review at the TxDOT Austin District office and included as reference TxDOT 2024e. A map showing the impacts is included in **Appendix D, Exhibit 4**.

Existing and predicted traffic noise levels were modeled at representative land use activity areas (receptors) adjacent to the Project that might be impacted by traffic noise and would potentially benefit from reasonable and feasible noise abatement.

Modeled noise-sensitive locations were primarily residential, but also included medical facilities, places of worship, hotels, offices, parks, restaurants, trails, playgrounds, schools, day cares, and community pools. The traffic noise analysis determined that of the 2,602 modeled receptors evaluated, 864 residences, and 22 non-residential land uses will be impacted (absolute criterion), and no receptors will have a substantial increase (relative criterion); therefore, the proposed Project would result in traffic noise impacts. **Table 5-6** shows the summary of the noise analysis results.

Table 5-7: Summary of Noise Analysis Results

Metric	Number
Total Noise Sensitive Sites Identified	2,690
Total Representative Receptors Reported	125
Total Residences	2,638
Impacted	864
Not Impacted	1,774
Total Non-Residential Land Uses	50
Impacted	22
Not Impacted	28
Total TNM-modeled Receptors	2,602
Impacted (Absolute)	910
Impacted (Relative)	0
Not Impacted	1,692
Total Locations Where Noise Barriers Were Considered	40
Locations of Noise Barriers NOT Evaluated in TNM	12
Locations of Noise Barriers Evaluated in TNM	28
Total Locations where Noise Barriers Recommended	5
Locations of Noise Barriers not reasonable/feasible	35

Noise abatement measures were considered and analyzed for each impacted receptor location. Abatement measures, typically noise barriers, must provide a minimum noise reduction, or benefit, at or above the threshold of 5 A-weighted decibel level [dB(A)]. A barrier is not acoustically feasible, unless it reduces noise levels by at least 5 dB(A) at greater than 50 percent of first-row impacted receptors and benefits a minimum of two impacted receptors. To be reasonable, the barrier must not exceed the cost reasonableness allowance of 1,500 square feet per benefited receptor and must meet the noise reduction design goal of 7 dB(A) for at least one receptor.

Noise barriers would be feasible and reasonable for the following impacted receptors; therefore, these barriers are proposed for incorporation into the Project (shown in **Table 5-7**).

Barrier for Legacy at Western Oaks: R10, R62, R94, R101, R119, and R145 – These receivers represent 98 impacted residences (classified under Noise Abatement Criteria [NAC] Activity Category B) in Legacy at Western Oaks, 59 of which are first-row. Based on preliminary calculations performed in the Traffic Noise Model (TNM), a noise barrier located along the ROW of 2,934 feet in length and 20 feet in height would reduce noise levels by at least 5 dB(A) for 42 first-row impacted receptors and meet the noise reduction design goal of 7 dB(A) for at least one of those receptors. With a total surface area of abatement of 58,680 feet, or 345 square feet per benefited receptor, the barrier would be cost-reasonable. Therefore, this barrier is proposed for incorporation into the Project and is depicted in **Appendix D, Exhibit 4, Sheets 2** and **3**.

Barrier for Sedona Springs Apartments R319 – This receiver represents 54 impacted residences (classified under NAC Activity Category B) in Sedona Springs Apartments, 20 of which are first-row. Based on preliminary calculations performed in TNM, a noise barrier located along the ROW of 726 feet in length and 18 feet in height would reduce noise levels by at least 5 dB(A) for 15 first-row impacted receptors and meet the noise reduction design goal of 7 dB(A) for at least one of those receptors. With a total surface area of 13,068 feet, or 622 square feet per benefited receptor, the

barrier would be cost-reasonable. Therefore, this barrier is proposed for incorporation into the Project and is depicted in **Appendix D, Exhibit 4, Sheet 7**.

Barrier for Northland River Stone Ranch Community: R407 – This receiver represents 130 impacted residences (classified under NAC Activity Category B) in Northland River Stone Ranch Community, 51 of which are first-row (**Appendix D, Exhibit 4, Sheets 7 and 8**). Based on preliminary calculations performed in TNM, a noise barrier located along the ROW, with gaps to accommodate apartment/condo complex entrances, of 1,611 feet in length and 20 feet in height would reduce noise levels by at least 5 dB(A) for 43 first-row impacted receptors and meet the noise reduction design goal of 7 dB(A) for at least one of those receptors. With a total surface area of 32,220 square feet, or 358 square feet per benefited receptor, the barrier would be cost-reasonable. Therefore, this barrier is proposed for incorporation into the Project and is depicted in **Appendix D, Exhibit 4, Sheets 7** and **8**.

Barrier for MAA Barton Creek/Post Barton Creek: R628-11 – This receiver represents 52 impacted residences (classified under NAC Activity Category B) in MAA Barton Creek/Post Barton Creek Community. Based on preliminary calculations performed in TNM, a noise barrier located along the ROW of 746 feet in length and 16 feet in height would reduce noise levels by at least 5 dB(A) for 15 first-row impacted receptors and meet the noise reduction design goal of 7 dB(A) for at least one of those receptors. With a total area of abatement of 11,936 feet, or 568 square feet per benefited receptor, the barrier would be cost-reasonable. Therefore, this barrier is proposed for incorporation into the Project and is depicted in **Appendix D, Exhibit 4, Sheet 15**.

Barrier for Zilker Park, MacBeth Recreation Center, Hike and Bike Trail, and Nature's Way Preschool R749, R759, R761, R765, R767, R771, and R772 – These impacted receivers represent a park, trail, recreational center, and preschool, classified under NAC Activity Categories C and D (**Appendix D, Exhibit 5, Sheets 17 and 18**). The impacted areas of the park, trail, recreational center, and preschool are predicted to be approximately 756,144 square feet and is equivalent to 84 residential receptors, based on the 9,003 square feet average residential lot size in the Project Area. Based on preliminary calculations performed in TNM, an overlapping noise barrier located along the ROW and the shoulders of both northbound and southbound MoPac for a total of 6,919 feet in length and approximately 20 feet in height at the ROW and 14 feet in height at the shoulder (except where limited to 8 feet on structure) would reduce noise levels by at least 5 dB(A) and meet the noise reduction design goal of 7 dB(A) for the receptors representing the park, trail, and recreational center. With a total surface area of abatement of 89,954 feet, or 1,067 square feet per benefited receptor, the barrier would be cost-reasonable. Therefore, this barrier is proposed for incorporation into the Project and is depicted in **Appendix D, Exhibit 4, Sheets 17** and **18**.

Temporary easements will be required to construct barriers along Zilker Park. However, the noise barrier will be constructed within the existing ROW.

Table 5-8: Noise Barrier Proposal (Preliminary)

Barrier ID	Impacted Representative Receivers	Total # Benefited	Length (feet)	Height (feet)	Total Sq. Ft.	Sq. Ft. per Benefited Receptor
1	Legacy at Western Oaks	170	2,934	20	58,680	345
2	Sedona Springs Apartments	21	726	18	13,068	622
3	Northland River Stone Ranch and Marquis Barton Trail Community 2	90	1,611	20	32,220	358
4	MAA Barton Creek (Post Barton Creek) Community	21	746	16	11,936	568
5	Zilker Park	84*	6,919	20, 14, and 8	89,594	1,067

**Zilker Park was evaluated as a non-residential land use using residential equivalents. The number shown represents the equivalent number of residences for the park.*

Additional details regarding the barrier analysis are in the *Traffic Noise Analysis Report* (TxDOT 2025e).

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, no new activities are planned or constructed along or within the following predicted (2050) noise impact contours.

Table 5-9: Noise Contours

Roadway Segment	Land Use	Impact Contour (dB[A])	Distance from the ROW (feet)
Northbound MoPac from Slaughter Lane to Davis Lane	NAC B & C	66	160
	NAC E	71	40
Southbound MoPac from Davis Lane to Slaughter Lane	NAC B & C	66	40
	NAC E	71	Within ROW
Northbound MoPac from Davis Lane to Convict Hill Road	NAC B & C	66	230
	NAC E	71	100
Southbound MoPac from Convict Hill Road to Davis Lane	NAC B & C	66	320
	NAC E	71	160

Roadway Segment	Land Use	Impact Contour (dB[A])	Distance from the ROW (feet)
Northbound MoPac from Convict Hill Road to William Cannon Drive	NAC B & C	66	230
	NAC E	71	80
Southbound MoPac from William Cannon Drive to Convict Hill Road	NAC B & C	66	170
	NAC E	71	50
Northbound MoPac from William Cannon Drive to US 290	NAC B & C	66	320
	NAC E	71	100
Southbound MoPac from US 290 to William Cannon Drive	NAC B & C	66	290
	NAC E	71	120
Northbound MoPac from US 290 to SR 360	NAC B & C	66	250
	NAC E	71	Within ROW
Southbound MoPac from SR 360 to US 290	NAC B & C	66	Within ROW
	NAC E	71	Within ROW
Northbound MoPac from SR 360 to Barton Skyway	NAC B & C	66	180
	NAC E	71	90
Southbound MoPac from Barton Skyway to SR 360	NAC B & C	66	260
	NAC E	71	80
Northbound MoPac from Barton Skyway to RM 2244	NAC B & C	66	190
	NAC E	71	110
Southbound MoPac from RM 2244 to Barton Skyway	NAC B & C	66	210
	NAC E	71	90
Northbound MoPac from RM 2244 to Barton Springs Road	NAC B & C	66	440
	NAC E	71	190
Southbound MoPac from Rollingwood Drive to RM 2244	NAC B & C	66	70
	NAC E	71	60
Northbound MoPac from Barton Springs Road to Cesar Chavez Boulevard	NAC B & C	66	470
	NAC E	71	230
Southbound MoPac from Cesar	NAC B & C	66	520

Roadway Segment	Land Use	Impact Contour (dB[A])	Distance from the ROW (feet)
Chavez Boulevard to Rollingwood Drive	NAC E	71	180
Northbound MoPac from Cesar Chavez Boulevard to Windsor Road	NAC B & C	66	70
	NAC E	71	Within ROW
Southbound MoPac from Windsor Road to Cesar Chavez Boulevard	NAC B & C	66	170
	NAC E	71	40

A copy of this traffic noise analysis would be available to local officials to assist in future land use planning. On the date of approval of the document (Date of Public Knowledge), FHWA and TxDOT are no longer responsible for providing noise abatement for new developments adjacent to the Project.

Under the No Build Alternative, the proposed Project would not be constructed. If the No Build Alternative were implemented, traffic noise levels would be expected to increase with an associated future increase in traffic volumes.

5.14 Construction Phase Impacts

Although temporary congestion may occur as a result of Project construction, access to parcels in the Project's vicinity would be maintained during all phases of construction. Construction of the proposed Project may require temporary lane closures. However, these lane closures are expected to be of short duration with no substantial effect on traffic flow on the existing roadways. The expected duration of any construction impacts would be different for each phase of the proposed Project. Any construction impacts would be minimized (as feasible) using Traffic Control Plans that meet the Texas Manual on Uniform Traffic Control Devices (TMUTCD) standards. All necessary steps would be taken to minimize the inconvenience to drivers using the intersecting roadways during the construction phase. The Project sponsor would work with community members to notify them of closures and limited access.

During the construction phase of this Project, temporary increases in PM and MSAT emissions may occur from construction activities. Primary construction-related emissions of PM are fugitive dust from site preparation, and the primary construction-related emissions of MSAT are diesel PM from diesel-powered construction equipment and vehicles. Potential impacts of PM emissions would be minimized by using fugitive dust control measures contained in standard specifications, as appropriate. Considering the temporary and transient nature of construction-related emissions (as well as the mitigation actions to be utilized, including compliance with applicable regulatory requirements), it is not anticipated that emissions from construction of this Project would have a significant impact on air quality in the area. Refer to **Section 5.12** for the discussion of construction-related air emissions.

Noise associated with the construction of the proposed Project is difficult to predict. Heavy machinery (the major source of noise in construction) is constantly moving. While construction normally occurs during daylight hours when occasional loud noises are more tolerable, night construction is also planned to reduce impacts on vehicle congestion and bicycle/pedestrian usages. None of the noise receptors 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 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.

Other temporary impacts associated with construction activities may include light pollution when construction activities occur at night, impacts associated with physical construction activity, and other traffic disruptions. Temporary impacts due to construction are anticipated to be of short duration but may re-occur for the entire duration of construction. Lighting for night work would be downward shielded, low temperature, and use amber-colored lights, to the greatest extent possible, while maintaining safety for construction workers. Impacts to protected species discussed in **Section 5.10.10** of this EA, may occur during the construction phase of the proposed Project. TPWD and USFWS approved BMPs and CMs, respectively, would be implemented to minimize potential impacts to these species. TPWD BMPs to be implemented are included in **Section 8.2**.

Under the No Build Alternative, construction activities would not occur and temporary increases in traffic congestion, air pollution, and MSAT emissions would not occur. It should be noted that these would increase more in the “do nothing” alternative in the future year.

Accordingly, based on the findings of the technical study and the implementation of the proposed mitigation measures, no significant noise impacts are anticipated.

5.15 Greenhouse Gas Emissions and Climate Change

The information below is included for public information purposes, and it is not required by the FHWA to be included in NEPA documents.

For a discussion of on-road greenhouse gas (GHG) emissions analyses for Texas, an assessment of future Texas climate scenarios or projections and how that might impact the on-road transportation system, and summary of TxDOT strategies and programs that result in GHG reduction and transportation system resiliency and preservation, please refer to TxDOT’s *Technical Report: Statewide On-Road Greenhouse and Climate Change* (TxDOT 2025m).

6.0 Agency Coordination

MA has coordinated with the agencies below. Documentation is included in **Appendix E.**

COA

The Project team met with the COA PARD multiple times in 2024 and 2025 to coordinate on potential impacts to city parklands as part of the Section 4(f) consultation. The Project team met with the COA Watershed Protection Department multiple times in 2025 to coordinate on potential mitigation for salamanders.

THC

An ABS was submitted, and a finding on no archeological historic properties and a recommendation for no further work were approved. Section 106 review and consultation for archeology was completed on January 31, 2025, for the proposed Project in accordance with the First Amended Programmatic Agreement among TxDOT, THC, FHWA, and the ACHP, as well as the MOU between THC and TxDOT.

Following approval of the Historic Studies Research Design on January 15, 2025, the revised Historic Resources Survey Report was submitted to TxDOT on September 8, 2025, and was approved by TxDOT on September 30, 2025. TxDOT submitted the report to THC with a finding of *no adverse effects* to historic properties on September 30, 2025, and it is anticipated that THC will concur with the finding under Section 106 of the NHPA in accordance with the First Amended Programmatic Agreement among FHWA, TxDOT, the SHPO, and the ACHP Regarding the Implementation of Transportation Undertakings. Coordination efforts are ongoing.

Federally Recognized Tribes

TxDOT consulted with representatives of federally recognized tribes with interest in the Project Area. No issues or objections were received. Consultation with all tribes concluded on March 14, 2025 (**Appendix E**).

TCEQ

In accordance with the MOU between TxDOT and TCEQ, the Draft EA will be transmitted to TCEQ in January 2026. A WPAP would be developed and permitted prior to project construction. Coordination efforts are ongoing.

TPWD

In accordance with the MOU between TxDOT and TPWD, TPWD has provided a set of recommended BMPs in a document titled, "Beneficial Management Practices – Avoiding, Minimizing, and Mitigating Impacts of Transportation Projects on State Natural Resources," which is available on TxDOT's Natural Resources Toolkit at https://www.txdot.gov/inside-txdot/division/environmental/compliance-toolkits/natural-resources.html.

The MOU provides that application of specific BMPs to individual projects would be determined by TxDOT according to what is feasible and prudent for the Project and species present. TPWD-recommended BMPs that would be applied to this Project are indicated in the Form – Documentation of TPWD Best Management Practices prepared for the Project, which is included in **Appendix E**.

The Project was submitted to TPWD for early coordination and acknowledged on June 4, 2020. Early coordination efforts that included updated Project info were submitted on October 16, 2025. On December 22, 2025, TPWD provided a list of BMPs from the TPWD list that are relevant to the Project. They are listed in **Section 8.2**, numbers 10–15. In accordance with the TxDOT-TPWD MOU, the Draft EA will be transmitted to TPWD following publication. **Appendix E** includes written correspondence from TPWD.

The Project team is also coordinating with TPWD on potential impacts to city parklands as part of the Section 6(f) consultation requirements. Consultation efforts are ongoing.

USACE

Coordination with the USACE would be conducted (if necessary) depending on the Section 404 permitting requirements for the proposed Project, which would be determined following completion of future field investigations. It is anticipated that any impacts to WOTUS would be authorized through NWP 14 with a PCN. Coordination with the USACE will be completed prior to construction. Coordination efforts are ongoing.

USFWS

Preliminary discussions with the USFWS were initiated in December 2024. Correspondence with the USFWS is ongoing and the consultation will be completed prior to the final EA. **Appendix E** includes notes from meetings with MA, TxDOT, and USFWS.

7.0 Public Involvement

Public involvement for the MoPac South Project included six public meetings with extended opportunities to comment, Technical Working Groups (TWG) meetings, and over 100 meetings, presentations, and workshops with stakeholders and partners, including the COA, City of Rollingwood, Travis County, Austin Independent School District, and adjacent neighborhood groups. Meeting materials are published at https://www.mopacsouth.com/environmental/.

Public Meeting #1

MA and TxDOT held the first public scoping meeting and open house on November 7, 2013, at James Bowie High School in Austin. The open house was a come-and-go event between 5:00 PM and 8:00 PM, with staffed exhibit stations to guide participants through the materials.

Five alternatives under consideration were presented: the “no build” option, TSM and TDM, express lanes with variable tolls, HOV lanes, and general purpose lanes. Exhibits also addressed potential environmental considerations, Project timeline, study location, and opportunities for public feedback. Attendees were encouraged to share their feedback through comment forms, sticky notes, green dots on exhibits, and verbal comments to a court reporter. Handouts (such as fact sheets, comment and survey forms, and a flyer) were distributed about the Virtual Open House. The Virtual Open House was open live from November 8 to November 13, 2013.

One hundred and twenty people attended the event, and the Virtual Open House received 288 unique views. Seventy comments were received during the 42-day comment period between October 8 and November 18, 2013. As a result of the input received during this open house and comment period, transit lanes were added to the alternatives being evaluated.

Public Meeting #2

The second MoPac South Open House took place on April 29, 2014, at Barton Creek Mall. The Virtual Open House was live from April 29 to May 9, 2014. The open house allowed the community to review and comment on the draft purpose and need for improvements, build alternatives, and draft evaluation criteria.

Displays provided at the open house included topics (such as study goals, Project timeline, potential alternatives, environmental considerations, and interactive exhibits) that encouraged attendees to offer feedback using sticky notes and color-coded dots. Handouts available at the registration tables included a fact sheet, a comment form, a community survey, a sign-up sheet for updates, and a flyer promoting the virtual open house. Study team members were available to answer questions along with representatives from key agency partners, including TxDOT, Capital Metro, and CAMPO.

One hundred and twenty-five people attended the in-person meeting and the Virtual Open House received approximately 414 unique webpage views. During the 41-day official comment period, which ran from March 30 to May 9, 2014, 64 comments were received.

Following the second meeting, the Express Lane(s) Alternative was selected as the Reasonable Build Alternative to be advanced for further evaluation.

Public Meeting #3

Open House #3 was held on February 26, 2015, at Hill Country Middle School. To accommodate broader participation, a virtual open house was launched on February 27, 2015, and remained open through April 2, 2015, several weeks beyond the originally planned March 9, 2015, close date. Attendees were invited to review and comment on results of these alternatives evaluation process, the recommended reasonable alternative, and initial Context Sensitive Solutions (CSS) concepts. The open house took place from 4:30 PM to 7:30 PM and followed a come-and-go format, allowing the public to view exhibits, ask questions, and provide input.

One hundred and twenty people attended the in-person event, and the Virtual Open House received about 4,599 unique webpage views and 1,811 users. During the 40-day public comment period from January 29 to March 9, 2015, 253 individuals submitted comments and 330 community surveys were completed.

Following the third meeting, operational configuration options for downtown access to the Express Lane(s) Alternative were developed.

Public Meeting #4

Open House #4 was held on November 10, 2015, at the Palmer Events Center. To provide broader access, a virtual open house was available on www.MoPacSouth.com from October 21 to November 20, 2015. Six operational configuration options to downtown of the Express Lane(s) Alternative were presented for feedback.

One hundred and eighty people attended the event, and the Virtual Open House received approximately 10,323 webpage views and 1,820 users. During the 41-day comment period from October 11 to November 20, 2015, the Project received 1,535 comments and 78 completed surveys.

The Project was put on hold shortly after Public Meeting #4.

Public Meeting #5

Open House #5 occurred virtually, from Monday, November 22, 2021, to Friday, January 7, 2022. The virtual public meeting materials re-introduced Project information, environmental study information, and the Express Lanes(s) Alternative Operational Configuration Option connections to downtown. Approximately 3,834 unique visitors accessed the site during the meeting period, and 540 individuals submitted comments during the 47-day comment period.

Traffic Forecast Update

Following Open House #5, updated data from CAMPO's 2045 RTP was incorporated into the traffic forecast. Updated data was published on the MoPac South website and shared with stakeholders for review.

Public Meeting #6

Open House #6 was held both in-person and virtually. The in-person event happened on November 12, 2024, at the Austin High School Cafeteria House. Attendees were invited to view exhibit boards about the

environmental study, environmental constraints maps, draft schematic of the Recommended Build Alternative, and a video flythrough.

Approximately 100 people attended the in-person meeting. The virtual meeting and 78-day comment period were open from November 12, 2024, to January 28, 2025. A total of 1,770 comments were received from 1,592 individuals.

Technical Work Groups

Four rounds of TWG meetings were held. These meetings were held to engage resource and regulatory agencies in a collaborative, interactive, and constructive manner.

On April 16, 2014, a TWG met to discuss purpose, need, goals and objectives, preliminary alternatives, and draft evaluation criteria. The Project Team shared information on the Project schedule, planned public and agency involvement, including Public Meeting #2. Seven agencies and organizations were in attendance.

On December 3, 2014, a TWG met to discuss public input received and evaluation and conclusions of the alternatives to date. Attendees were encouraged to attend Public Meeting #3. Nine agencies were in attendance.

On October 16, 2015, a TWG met to discuss the downtown Operational Configuration Options of the Express Lane(s) Alternative. An update on the environmental studies and Public Meeting #4 was provided. Nine agencies attended this meeting.

Between May and June 2024, the MoPac South Project Team held a series of eight TWG meetings. Meetings covered the schematic, air quality, utilities, parkland and bike/pedestrian access, water quality, cultural and historic resources, safety and operations, and a recap of considerations received along the process. A total of 16 agencies, stakeholders, and interest groups attended these eight TWG meetings.

8.0 Post-Environmental Clearance Activities and Design/ Construction Commitments

All Project-specific commitments and conditions of approval, including resource agency permitting compliance and monitoring requirements, would be incorporated in 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.

8.1 Post-Environmental Clearance Activities

This section lists unresolved environmental activities that could not be done prior to the issuance of a FONSI, for which the Project sponsor would be responsible.

1. Coordination with the USACE will be conducted at a later date when Project impacts to WOTUS have been determined. At this time, a NWP 14 with a PCN is anticipated (timeframe: prior to construction).
2. Coordination with local floodplain administrators will be required prior to construction.

3. Butler Landfill will be further evaluated for Project impacts and applicable permits will be obtained by MA prior to construction within the limits of Butler Landfill. Other identified hazardous materials sites will be further evaluated for Project impacts and remediated, as necessary, prior to construction.

4. Coordination of the approved Traffic Noise Analysis with local officials responsible for land use control programs to ensure that no new activities are planned or constructed along or within the predicted impact contours.

5. Noise barriers are proposed for this project, based on a preliminary analysis. Please see the noise analysis in **Section 5.13.** Pending evaluation of the noise barrier proposal(s) by the design engineer in a constructability assessment, a noise workshop will be held before project letting. The noise workshop will solicit votes from all benefiting and adjacent property owners and residents to decide if the noise barrier(s) will be constructed.

6. Development and coordination of the WPAP with TCEQ.

8.2 Design/Construction Commitments

This section lists Project-specific avoidance measures or special instructions that will be conveyed to the design or construction contractor as a result of the department's environmental review of the Project.

1. MA and TxDOT will incorporate BMPs developed by TPWD as indicated in the Form – Documentation of TPWD BMPs prepared for the Project, which is included in **Appendix E**.

2. MA will acquire temporary construction easements from property owners prior to construction, according to the Uniform Relocation Act and TxDOT policies.

3. Temporary construction detours and disruptions will be communicated to affected business owners prior to the disruption.

4. In the unlikely event that significant cultural resources are discovered during construction of the proposed Project, MA would immediately initiate cultural resource discovery procedures. All work in the vicinity would cease until a specialist from MA and/or THC could arrive on site and assess the discovery's significance and the potential need for an additional investigation (if necessary).

5. Section 4(f) mitigation will include:

    a. Temporary BMPs to control erosion during construction, and these will delineate areas not to be disturbed.

    b. Preparing and executing public involvement communication plan for closures and detour routes for trail and park users during construction.

    c. Limiting closures to nighttime construction (10 PM to 5 AM).

    d. Providing detours when full closures are required for longer than one night-time period to ensure continuous public access.

    e. Replacing and reconstruction of park fence, with replica materials and patterns. MA will coordinate with COA PARD to provide the appropriate type of replacement fence.

f. Providing replacement fence where temporary relocation and/or removal is required for construction.

g. Limiting clearing and grubbing activities to only occur after surveys for migratory bird nesting and bat habitat areas have been performed.

h. Restoring and revegetating all areas disturbed by construction activities.

i. Lighting for night work would be downward shielded, low temperature, and use amber-colored lights, to the greatest extent possible, while maintaining safety for construction workers.

j. For all locations where temporary construction easements would occur, MA will perform a tree survey to identify trees larger than 4 inches in diameter. MA will share the tree survey with the COA PARD and collaborate on ways to protect and preserve protected trees (defined by COA) that are larger than 19 inches in diameter, as appropriate. As MA implements tree plantings during the construction phase, MA commits to coordinate with the COA PARD on tree mitigation within the parks.

6. Remediation and mitigation requirements related to construction within hazardous materials sites will be included in the design plans and implemented during construction. Hazardous materials sites will be evaluated and remediated, as necessary, prior to construction. Construction within the limits of Butler Landfill will not occur until the approval of all required permits and conditions from the COA, TCEQ, or other regulatory agencies.

7. Any unanticipated hazardous materials and/or petroleum encountered during construction would be handled according to applicable federal, state, and local regulations per TxDOT Standard Specifications. Section 6.10 of the General Provisions of the Standard Specifications for Construction and Maintenance of Highways, Streets and Bridges, which applies to all TxDOT highway projects, includes guidelines addressing the contractor's responsibilities regarding the discovery of hazardous materials during construction.

8. Existing bridges and bridge-class culverts within the Project limits and footprint would be tested and remediated, as necessary, for asbestos and lead-based paint prior to construction activities.

9. Prior to construction, a SW3P will be developed and an NOI will be submitted to TCEQ to obtain a TPDES General Permit for the discharge of stormwater associated with construction activities.

10. Maintenance will be limited to outside of the growing season or after the bracted twistflower has produced mature fruit (from April to June).

11. A Section 404 Permit shall be obtained through USACE prior to construction, if required, pending a final assessment of Project impacts to WOTUS. All applicable general and regional conditions shall be included in the plans. All proposed BMPs shall be incorporated into the design and implemented and maintained during construction.

12. Employees and contractors would be provided with information prior to start of construction to educate personnel of the potential for all state-listed threatened species or other SGCNs to

occur within the Project Area and would be advised of relevant rules and regulations to protect plants, fish, and wildlife.

13. MA would take all appropriate actions to prevent the take of migratory birds, their active nests, eggs, or young should they be discovered on the Project site. Direction to contractors would be provided on the standard Environmental Permits, Issues, and Commitments (EPIC) construction plan sheet. Appropriate measures to avoid adverse impacts to migratory birds would include the following:

    a. Prior to construction, perform daytime surveys for nests, including under bridges and in culverts to determine if nests are active before removal. Nests that are active should not be disturbed;

    b. Do not disturb, destroy, or remove active nests, including ground nesting birds, during the nesting season (from March 1 to September 15);

    c. Avoid the removal of unoccupied, inactive nests, as practicable;

    d. Prevent the establishment of active nests during the nesting season on applicable facilities and structures proposed for replacement or repair; and

    e. Do not collect, capture, relocate, or transport birds, eggs, young, or active nests without a permit.

14. Potential impacts of PM emissions would be minimized using fugitive dust CMs contained in standard specifications, as appropriate. The 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 is at: https://www.tceq.texas.gov/airquality/terp.

15. Air Quality during construction:

    a. Cover wet, compact, or use chemical stabilization binding agent to control dust and excavated materials at construction sites.

    b. Use wind barriers and wind screens to prevent spreading of dust from the site.

    c. Have a wheel wash station and/or crushed stone apron at egress/ingress areas to prevent dirt being tracked onto public streets.

    d. Use vacuum-powered street sweepers to remove dirt tracked onto streets.

    e. Cover all dump trucks leaving sites to prevent dirt and dust from spilling onto streets.

    f. Minimize disturbed areas.

16. Perform routine street sweeping to reduce fugitive particulate dust emissions during facility operations.

17. Noise barriers are proposed for this project (listed below), based on a preliminary analysis. As part of project design, the design engineer will prepare a constructability assessment to determine whether noise barriers can be constructed based on site constraints or other

factors. If determined constructable, a noise workshop will occur. If approved during the noise workshop, noise barrier(s) will be incorporated into the construction plans for project letting.

a. Legacy at Western Oaks

b. Sedona Springs Apartments

c. Northland River Stone Ranch

d. MAA Barton Creek Community

e. Zilker Park/MacBeth Recreation Center/Hike and Bike Trail/Nature's Way Preschool

18. Gains Sink: During design and construction, all drains from overpasses will be directed to drain away from the sink, whether through surface berms or subsurface storm drain connections.

19. Avoidance, minimization, and mitigation measures developed and committed to through consultation with the USFWS will be included in the Final EA.

20. Commitments to TxDOT's karst conservation measures, void discovery oversight protocols and reporting for terrestrial karst invertebrates; and groundwater flow mitigation and protection measures for salamanders and aquatic invertebrates.

21. TCEQ WPAP commitments, as permitted, will be implemented during construction, operation, and maintenance phases.

22. The Project will include applicable commitments contained within the Consent Decree between BSEACD and TxDOT (signed on January 23, 1990) and as agreed to with BSEACD during required design coordination.

9.0 Conclusion

Based on the information included in the Draft EA, it is anticipated that the implementation of the proposed Project would not result in significant impacts on the human or natural environment. Therefore, it is anticipated that a FONSI will be recommended with the final EA.

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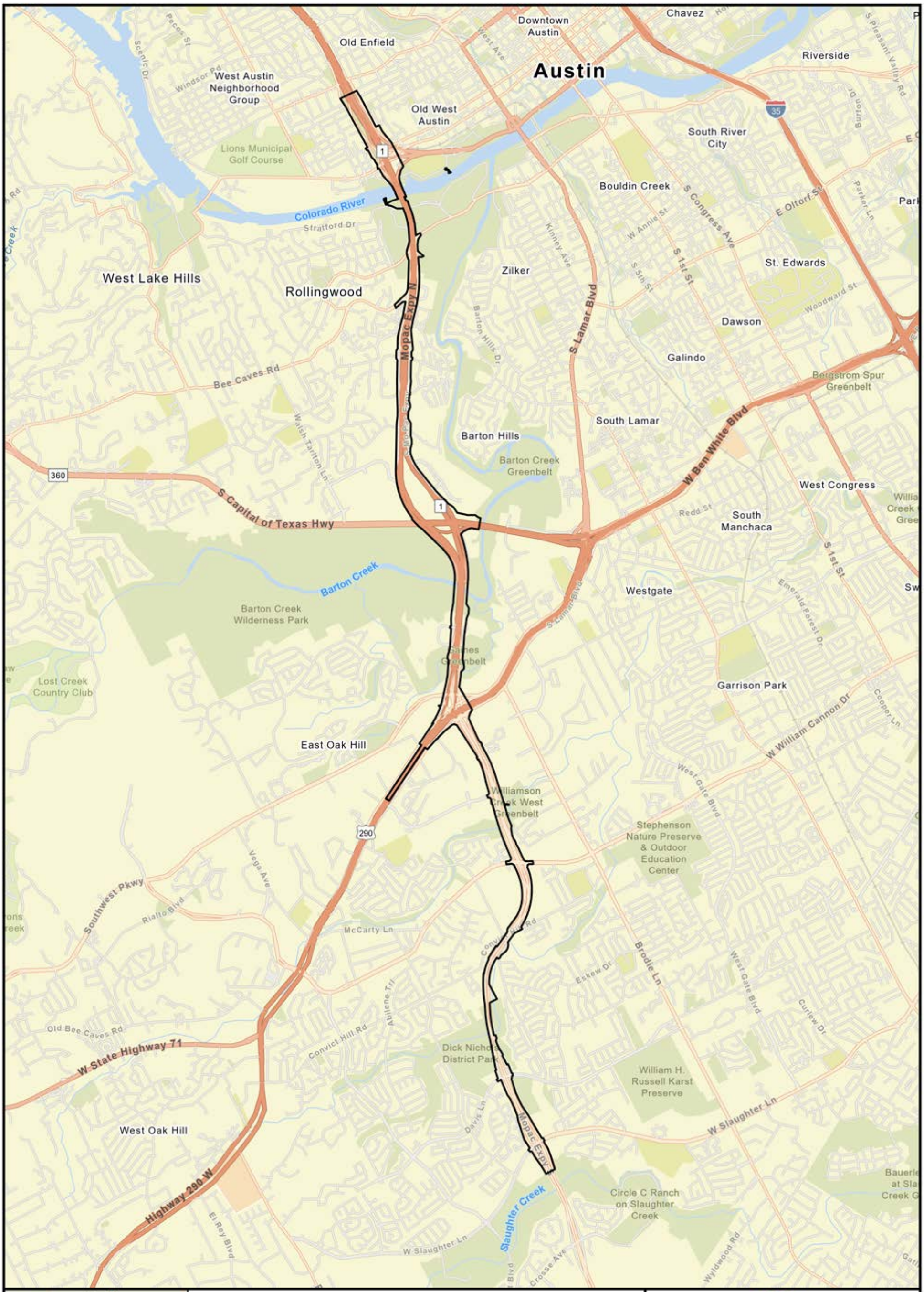
11.0 Appendices

Appendix A – Project Location Map



MoPac South

Exhibit 1
Project Location Map
Appendix A

MoPac South
Central Texas Regional Mobility Authority
Travis County, Texas

Date: Aug 15, 2025	Scale: 1 in = 3,800 feet

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Esri, DeLorme, HERE, USGS, Intermap, iPC, NRCAN, METI, TomTom. World Street Map. Sept. 2024.
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Appendix B – Schematics

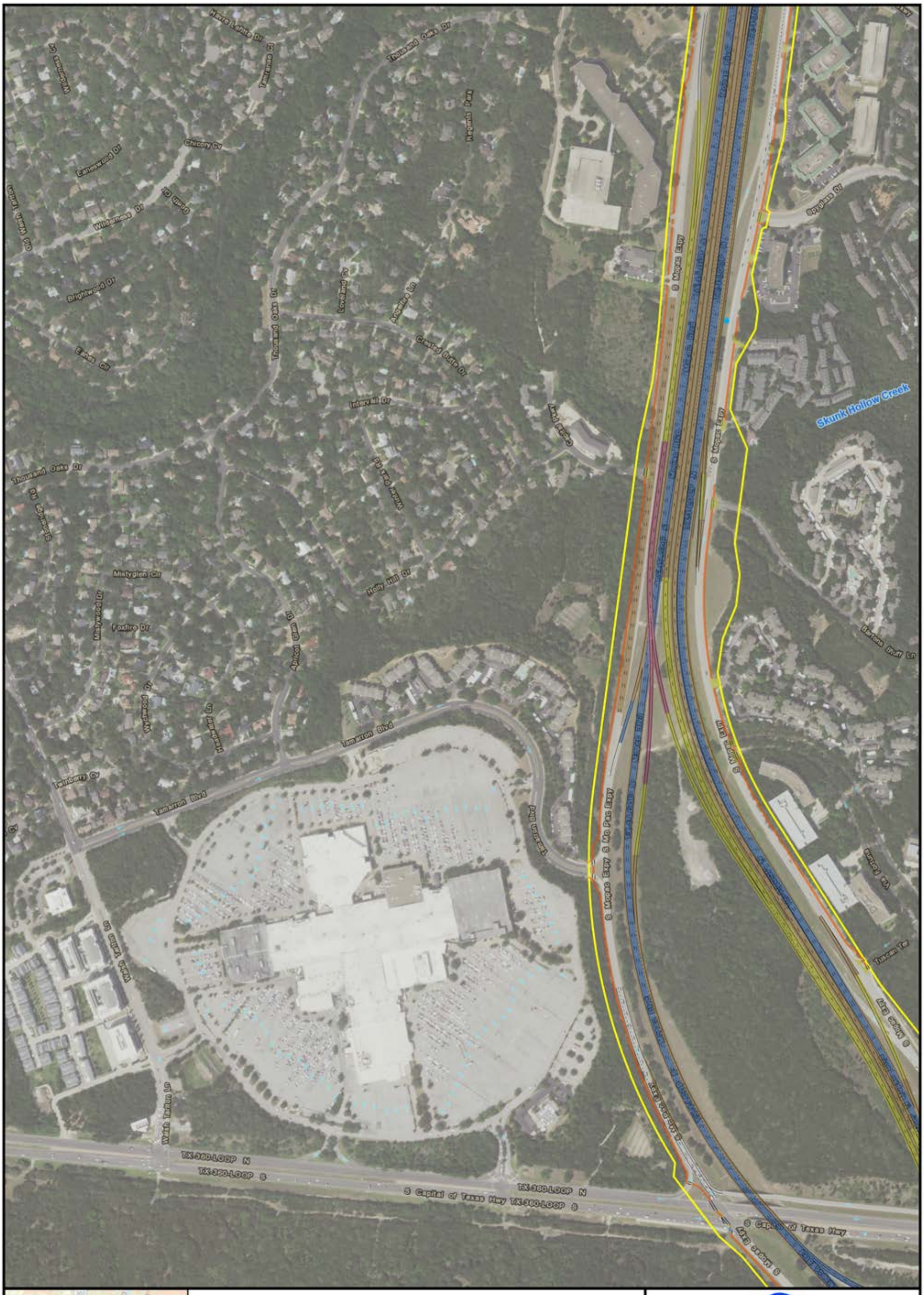
Aerials: NAIP/NRCS/USDA. Ortho Mosaic, 2022. 1:6,000; generated by AtkinsRéalis; using ArcGIS Pro. (03 February 2026).

MoPac South

Exhibit 1
Proposed Schematics Map
Appendix B
MoPac South
Central Texas Regional Mobility Authority
Travis County, Texas
Sheet 2 of 9

Date: Feb 03, 2026	Scale: 1 in = 500 feet

Aerials: NAIP/NRCS/USDA. Ortho Mosaic, 2022. 1:6,000; generated by AtkinsRéalis; using ArcGIS Pro. (03 February 2026).



MoPac South

Exhibit 1
Proposed Schematics Map
Appendix B
MoPac South
Central Texas Regional Mobility Authority
Travis County, Texas
Sheet 3 of 9

Date: Feb 03, 2026	Scale: 1 in = 500 feet

Aerials: NAIP/NRCS/USDA. Ortho Mosaic, 2022. 1:6,000; generated by AtkinsRéalis; using ArcGIS Pro. (03 February 2026).

MoPac South

Exhibit 1
Proposed Schematics Map
Appendix B
MoPac South
Central Texas Regional Mobility Authority
Travis County, Texas
Sheet 4 of 9

Date: Feb 03, 2026	Scale: 1 in = 500 feet

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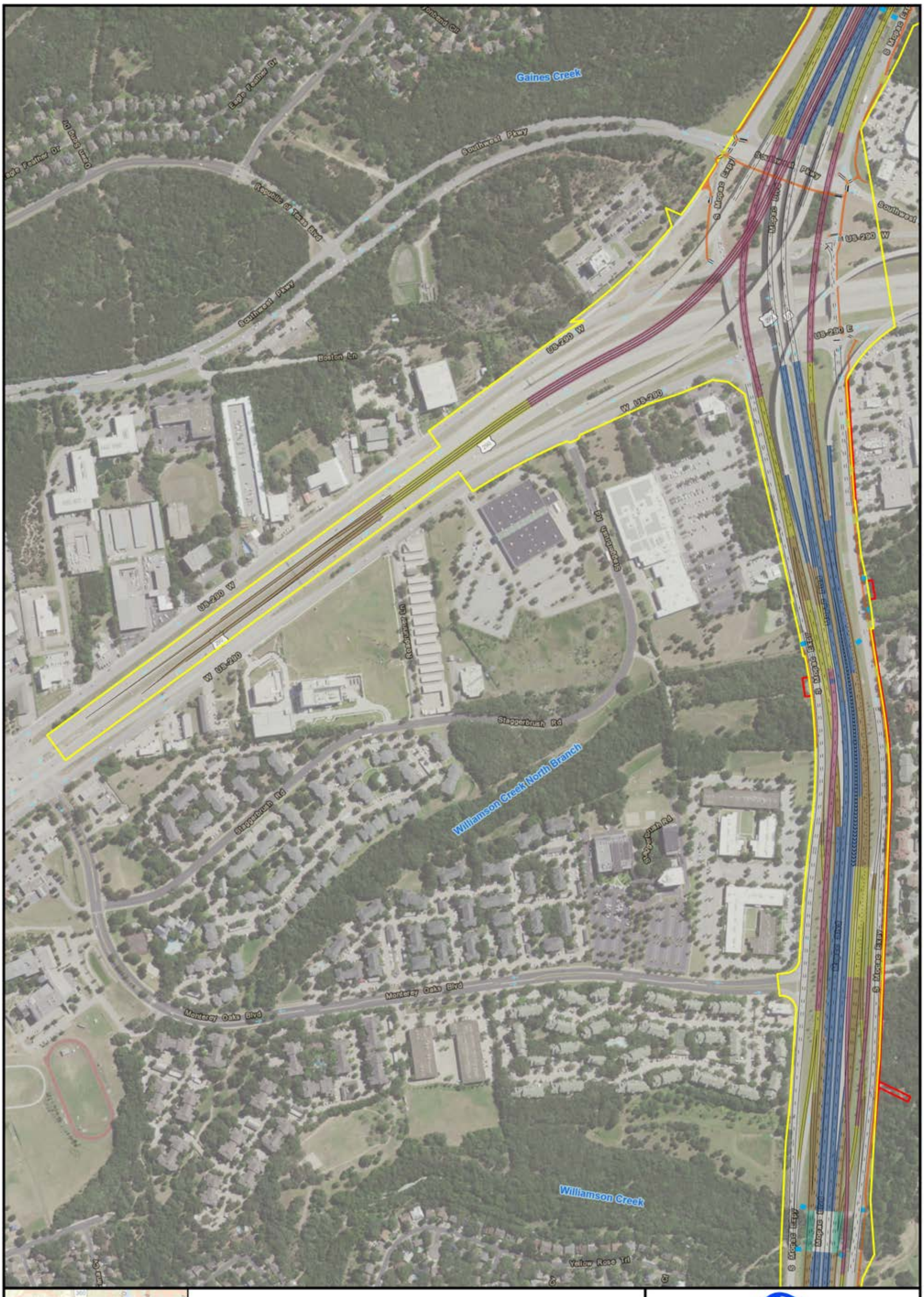

MoPac South

Exhibit 1
Proposed Schematics Map
Appendix B
MoPac South
Central Texas Regional Mobility Authority
Travis County, Texas
Sheet 5 of 9

Date: Feb 03, 2026	Scale: 1 in = 500 feet

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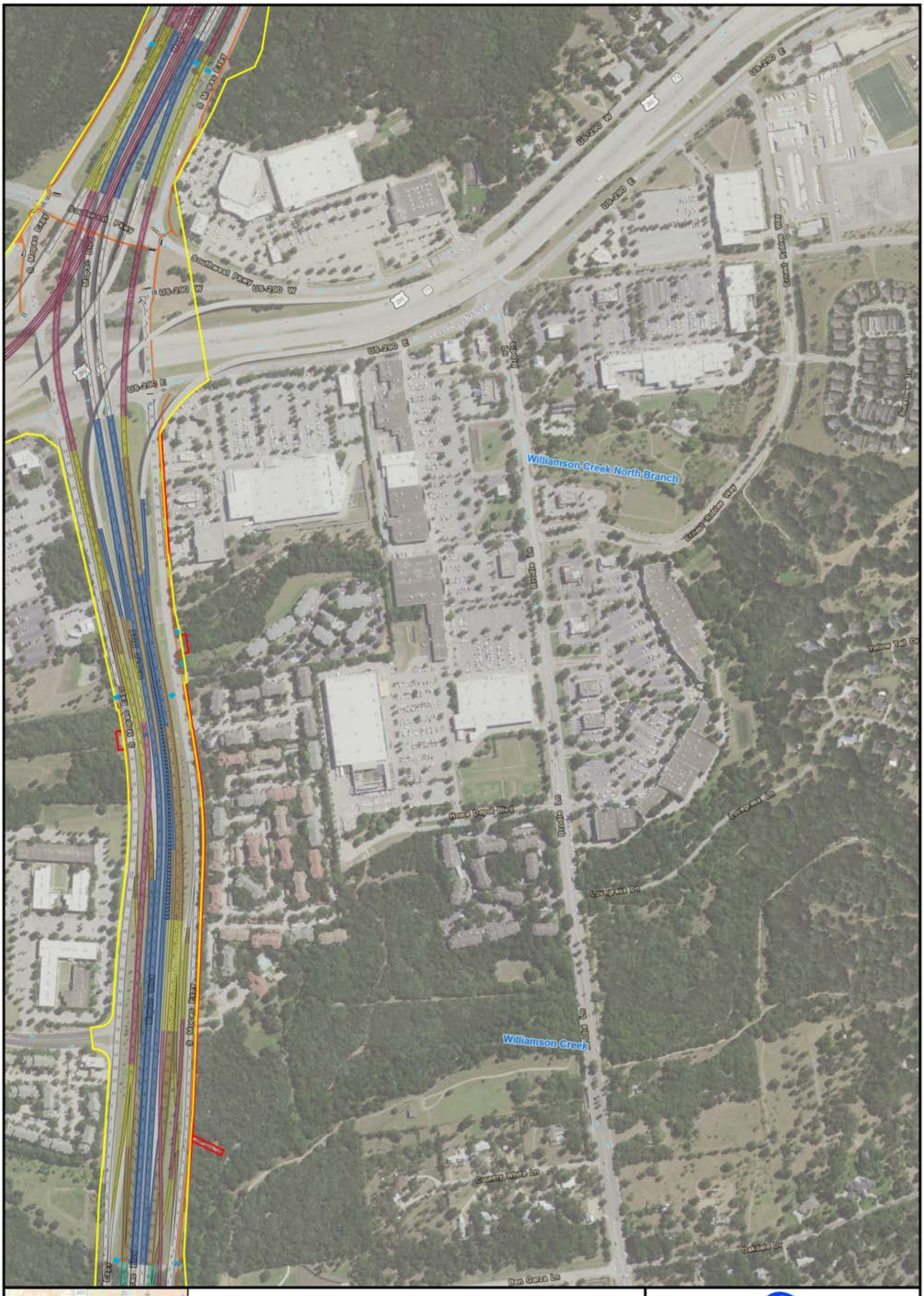

MoPac South

Exhibit 1
Proposed Schematics Map
Appendix B
MoPac South
Central Texas Regional Mobility Authority
Travis County, Texas
Sheet 6 of 9

Date: Feb 03, 2026	Scale: 1 in = 500 feet

Aerials: NAIP/NRCS/USDA. Ortho Mosaic, 2022. 1:6,000; generated by AtkinsRéalis; using ArcGIS Pro. (03 February 2026).

MoPac South

Exhibit 1
Proposed Schematics Map
Appendix B
MoPac South
Central Texas Regional Mobility Authority
Travis County, Texas
Sheet 7 of 9

Date: Feb 03, 2026	Scale: 1 in = 500 feet

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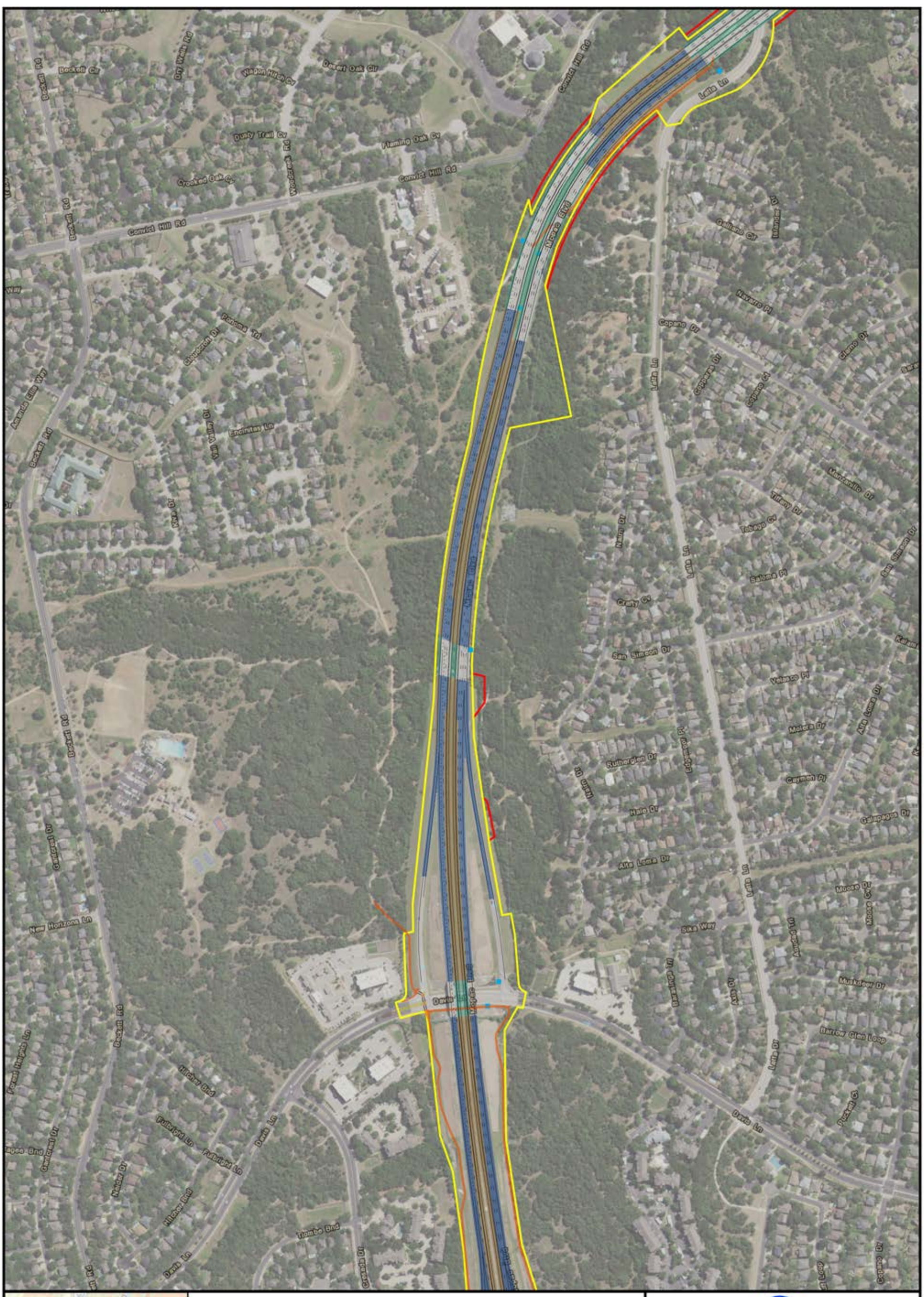

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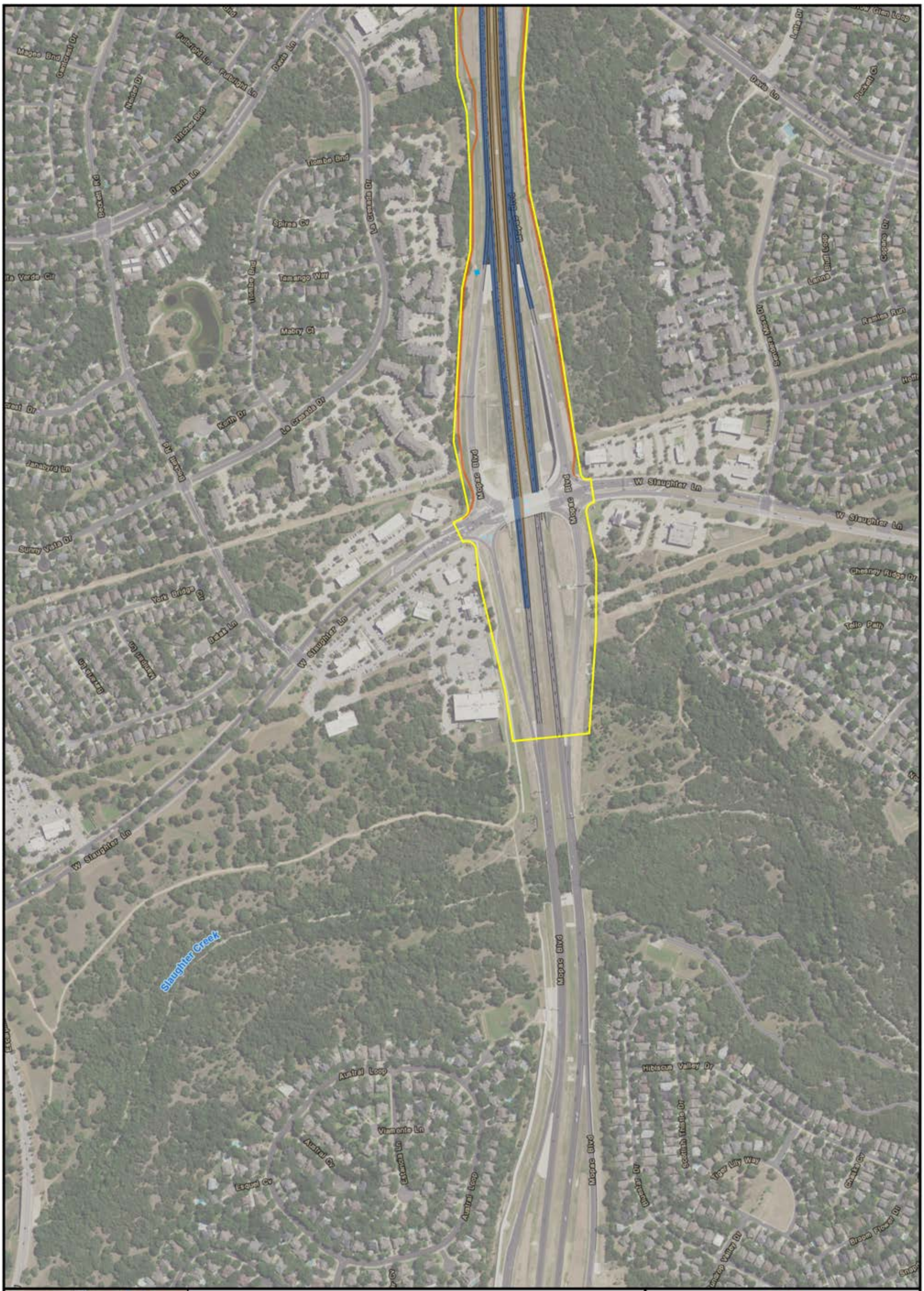

MoPac South

Exhibit 1
Proposed Schematics Map
Appendix B
MoPac South
Central Texas Regional Mobility Authority
Travis County, Texas
Sheet 9 of 9

Date: Feb 03, 2026	Scale: 1 in = 500 feet

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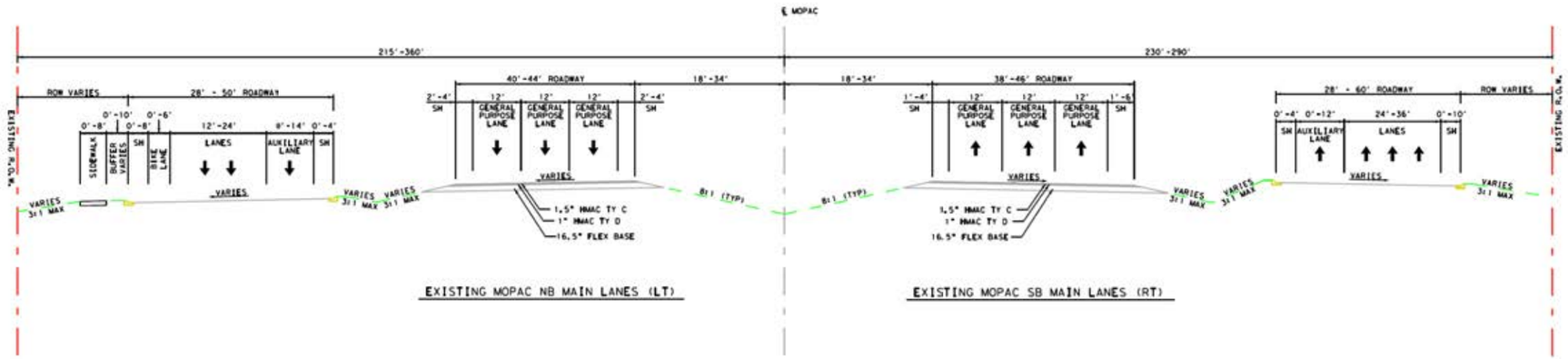
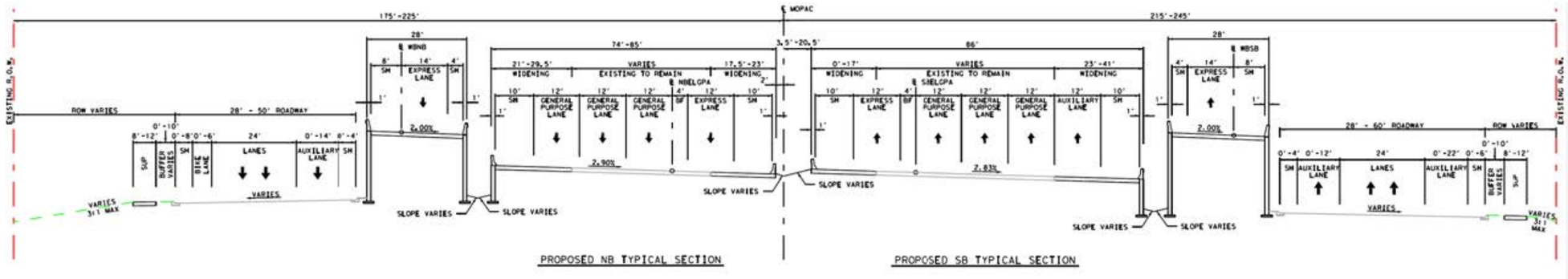
Appendix C – Typical Sections



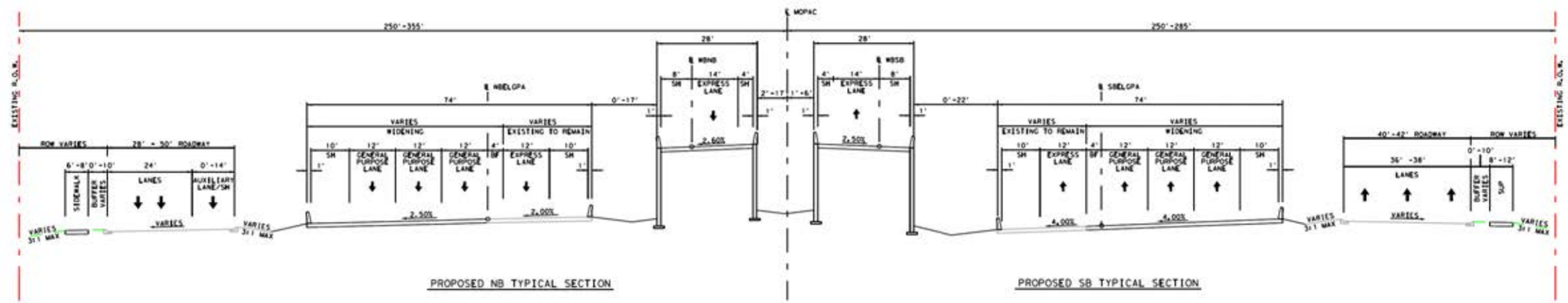
EXISTING MOPAC NB MAIN LANES (LT)

EXISTING MOPAC SB MAIN LANES (RT)



PROPOSED NB TYPICAL SECTION

PROPOSED SB TYPICAL SECTION



PROPOSED NB TYPICAL SECTION

PROPOSED SB TYPICAL SECTION

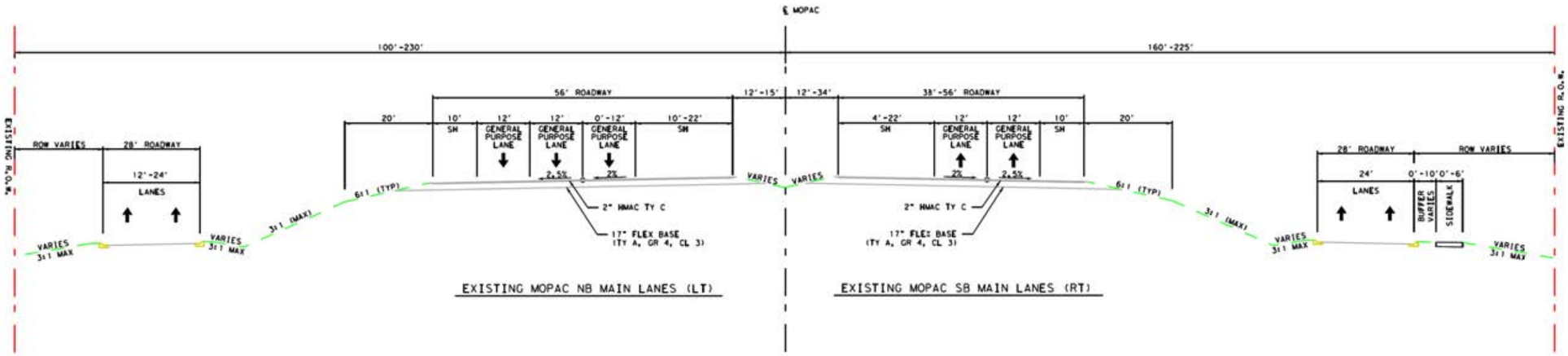
MoPac South

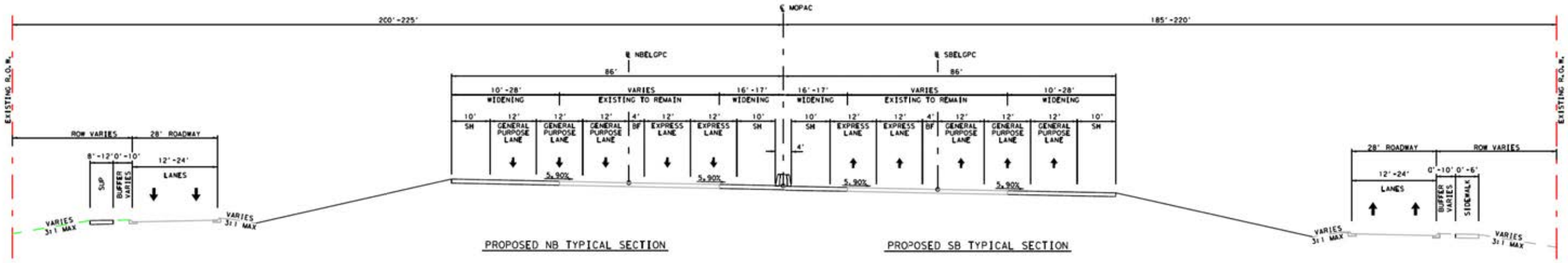
Exhibit 1
Typical Sections
Appendix C
North End

MoPac South
Central Texas Regional Mobility Authority
Travis County, Texas

Date: Aug 15, 2025	Scale: 1 in = Not to Scale

I:\Clients\C_DOT\RMA\Mopac_South\geo\figures\EA\Appx_C\MopacSouth_EA_AppxC_TypSects_North_landscape.aprx





MoPac South

Exhibit 2
Typical Sections
Appendix C
South End

MoPac South
Central Texas Regional Mobility Authority
Travis County, Texas

Date: Aug 15, 2025 | Scale: 1 in = Not to Scale

N:\Clients\C_DICTRMA\Mopac_South\geo\figures\EA\Appx_C\MopacSouth_EA_AppxC_TypSects_South_landscape.aprx

Appendix D – Resource-specific Maps

Appendix D Exhibit 1: Water Features

Proposed Shared Use Path
Proposed Easement
Existing ROW
Survey Area

Upland Data Point
Wetland Data Point

Drainage Ditch
Intermittent
Perennial
Ephemeral
Culvert
Stream
PEM Wetland

0 75 150 Feet

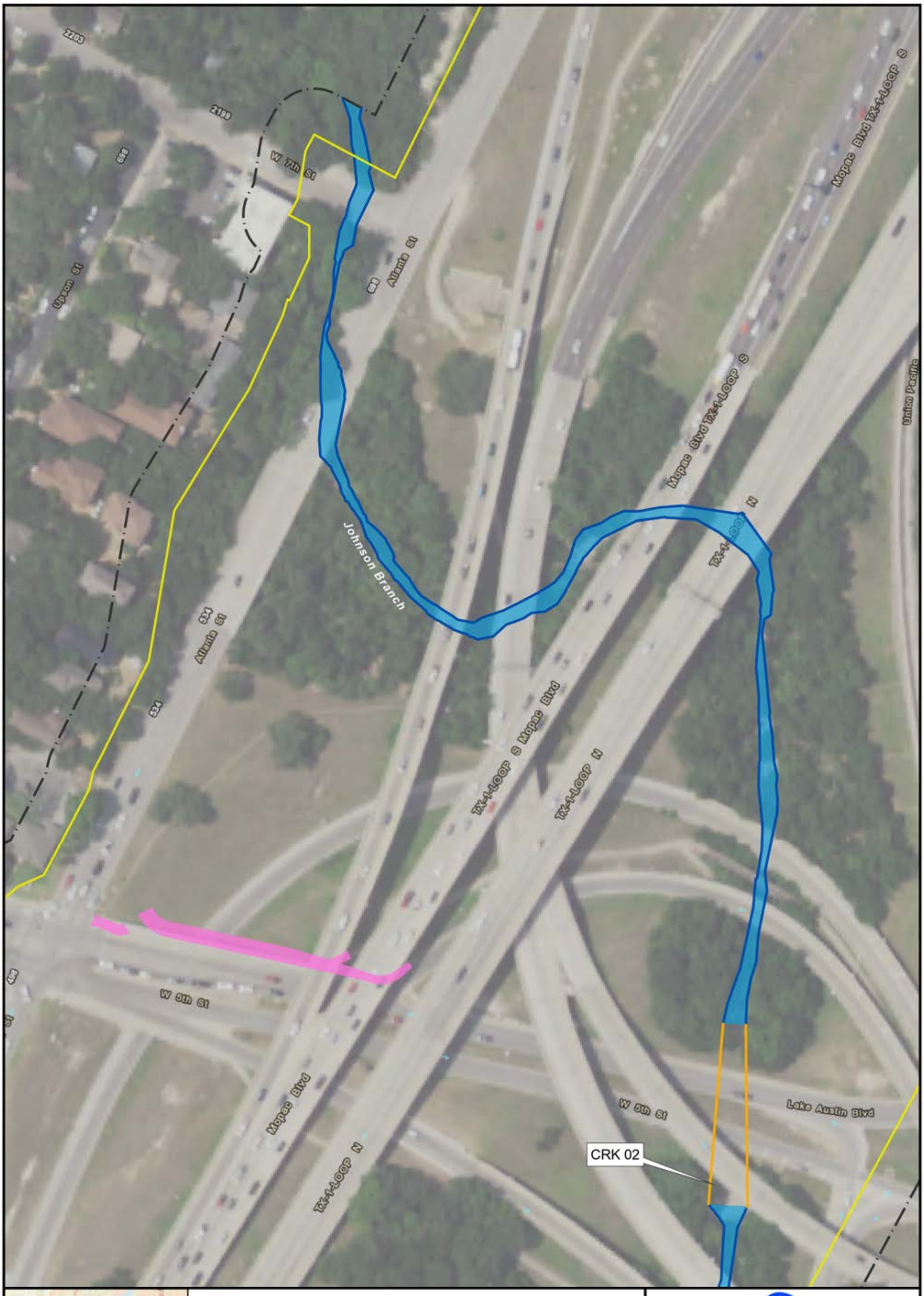
MoPac South

Exhibit 1
Water Features
Appendix D
MoPac South
Central Texas Regional Mobility Authority
Travis County, Texas
Sheet 1 of 18

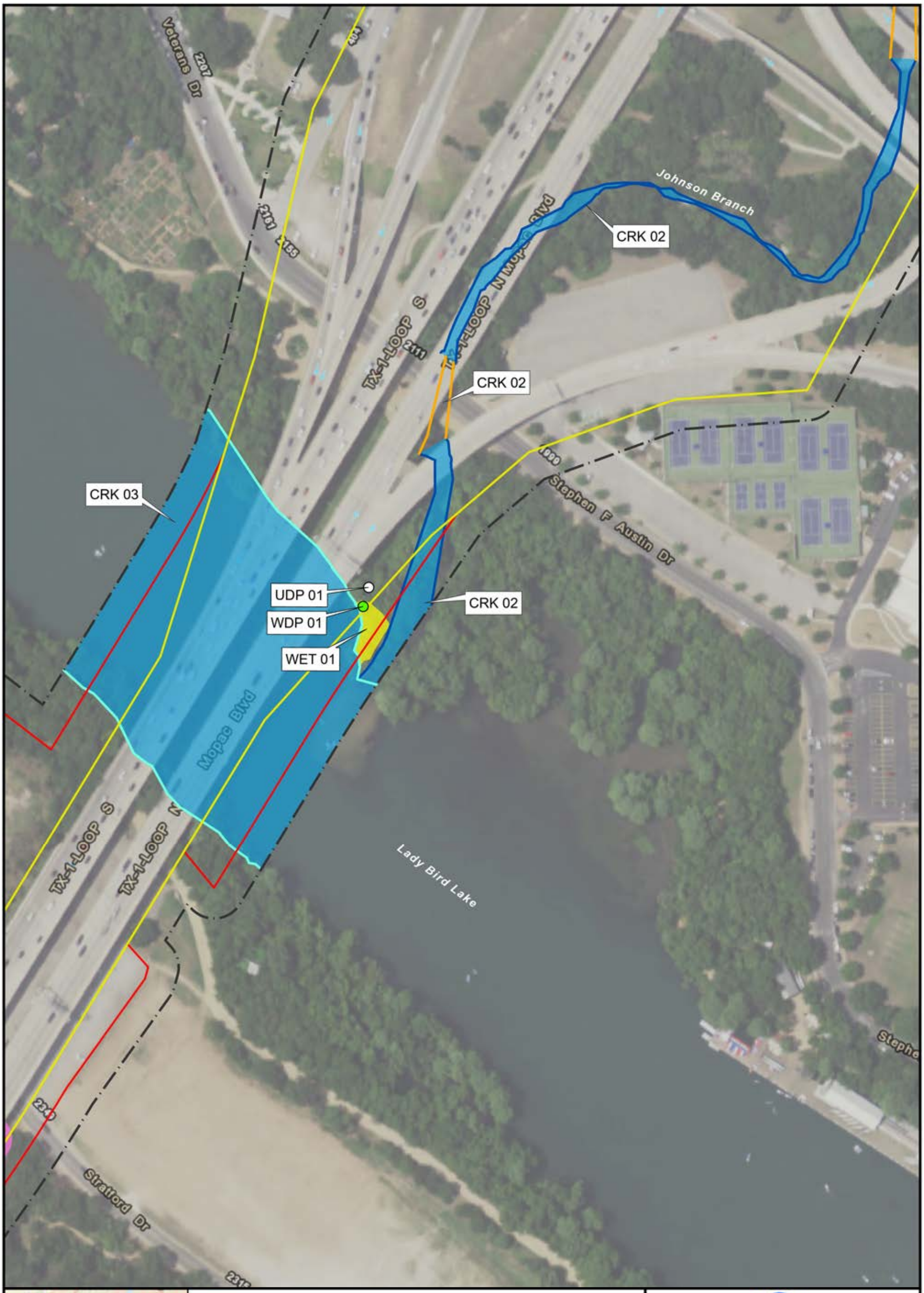
Date: Aug 15, 2025	Scale: 1 in = 150 feet

N:\Clients\C_DCTRMA\Mopac_South\gen\figures\EA\Appx_D\MopacSouth_EA_AppxD_Waters_v1.aprx

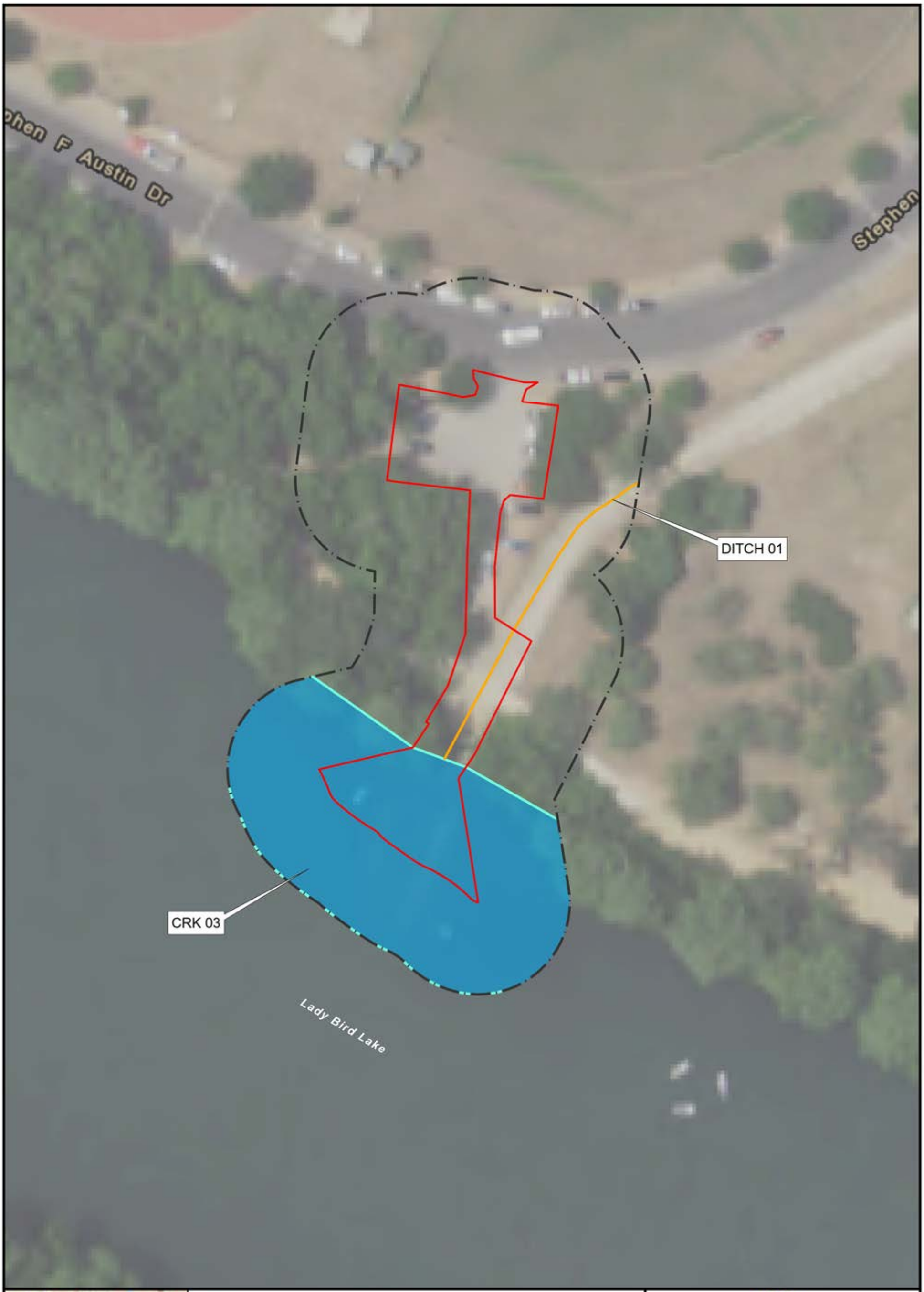
Aerials: NAIP\NRCS/USDA. Ortho Mosaic. 2022. 1:1,800; generated by AtkinsRéalis; using ArcGIS Pro. (15 August 2025).



Aerials: NAIP/NRCS/USDA. Ortho Mosaic. 2022. 1:1,200; generated by AtkinsRéalis; using ArcGIS Pro. (15 August 2025).



Aerials: NAIP\NRCS/USDA. Ortho Mosaic. 2022. 1:1,800; generated by AtkinsRéalis; using ArcGIS Pro. (15 August 2025).



Proposed Shared Use Path
Proposed Easement
Existing ROW
Survey Area

Upland Data Point
Wetland Data Point

Drainage Ditch
Intermittent
Perennial
Ephemeral
Culvert
Stream
PEM Wetland

0 25 50 Feet

MoPac South

Exhibit 1
Water Features
Appendix D
MoPac South
Central Texas Regional Mobility Authority
Travis County, Texas
Sheet 4 of 18

Date: Aug 15, 2025 | Scale: 1 in = 50 feet

N:\Client\C_DCTRMA\Mopac_South\gen\figures\EA\Appx_D\MopacSouth_EA_AppxD_Waters_v1.aprx

Aerials: NAIP\NRCS/USDA. Ortho Mosaic. 2022. 1:600; generated by AtkinsRéalis; using ArcGIS Pro. (15 August 2025).

Lady Bird Lake

CRK 03

CRK 04

DITCH 02

Stratford Dr

Nature Center Dr

Stratford Dr

TX-1-LOOP S Mopac Blvd

Proposed Shared Use Path
Proposed Easement
Existing ROW
Survey Area

Upland Data Point
Wetland Data Point

Drainage Ditch
Intermittent
Perennial
Ephemeral
Culvert
Stream
PEM Wetland

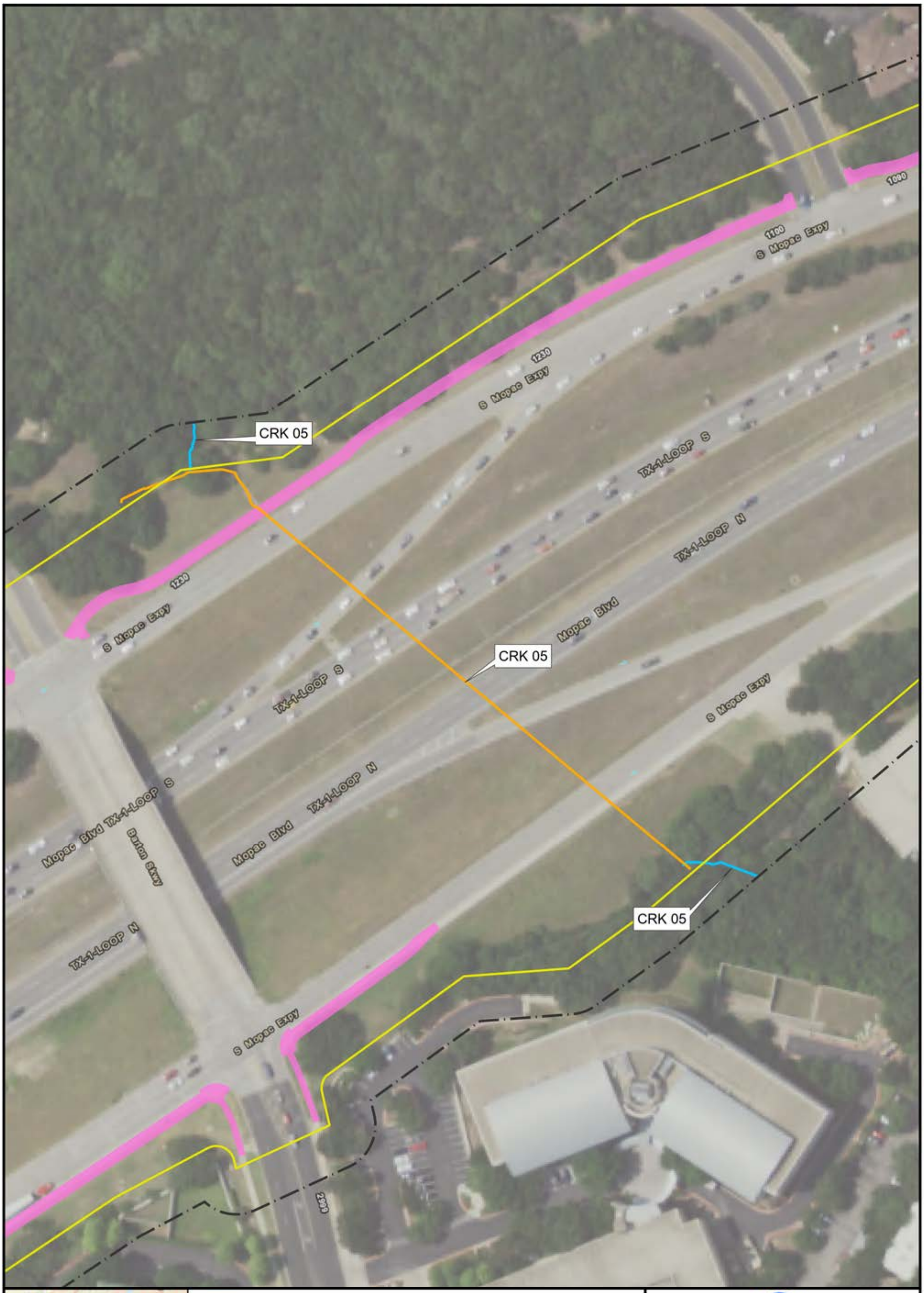
0 50 100 Feet

MoPac South

Exhibit 1
Water Features
Appendix D
MoPac South
Central Texas Regional Mobility Authority
Travis County, Texas
Sheet 5 of 18

Date: Aug 15, 2025 | Scale: 1 in = 100 feet

Aerials: NAIP\NRCS/USDA. Ortho Mosaic. 2022. 1:1,200; generated by AtkinsRéalis; using ArcGIS Pro. (15 August 2025).



Proposed Shared Use Path
Proposed Easement
Existing ROW
Survey Area

Upland Data Point
Wetland Data Point

Drainage Ditch
Intermittent
Perennial
Ephemeral
Culvert
Stream
PEM Wetland

0 50 100 Feet

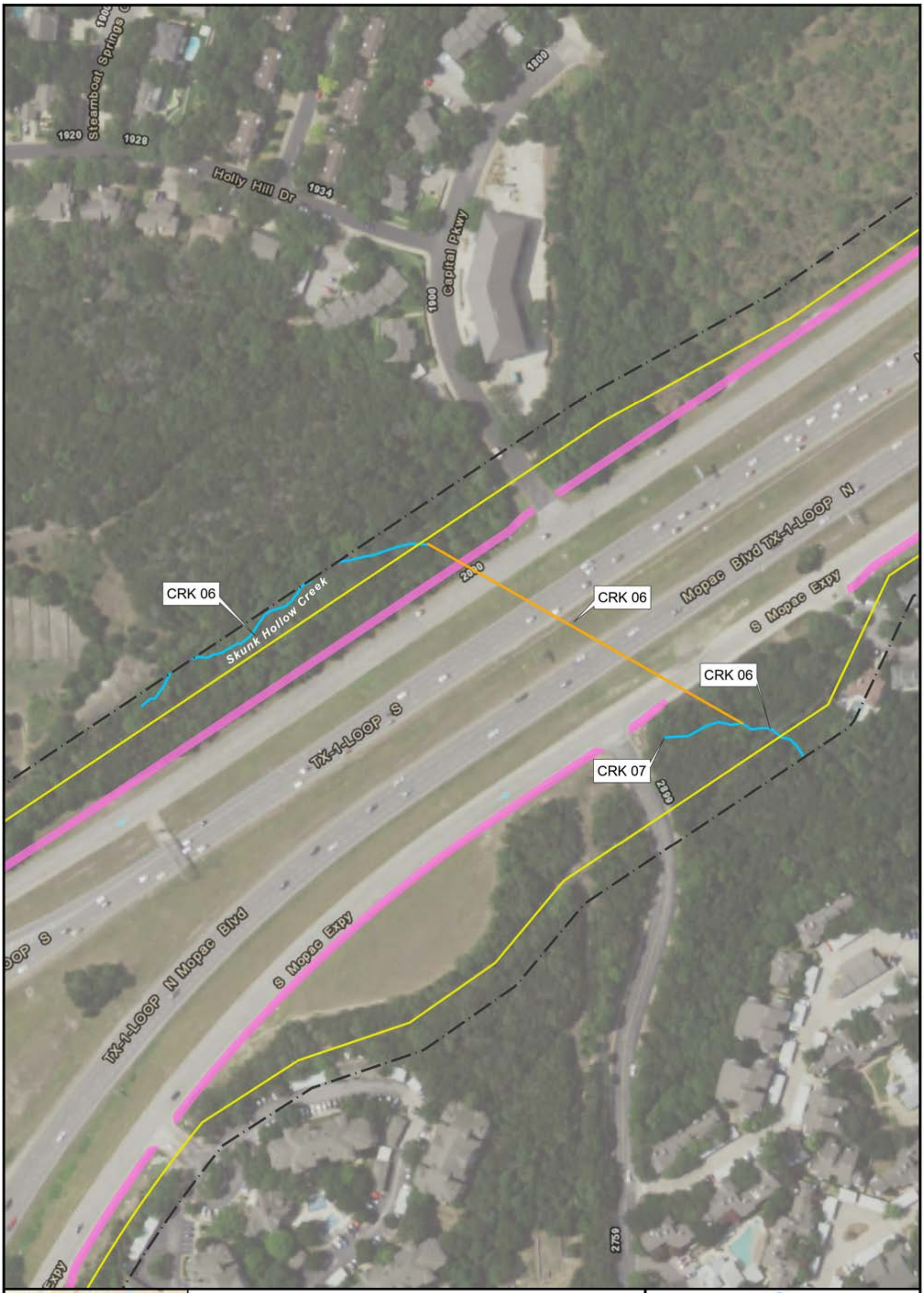
MoPac South

Exhibit 1
Water Features
Appendix D
MoPac South
Central Texas Regional Mobility Authority
Travis County, Texas
Sheet 6 of 18

Date: Aug 15, 2025 | Scale: 1 in = 100 feet

N:\Clients\C_DCTRMA\Mopac_South\gen\figures\EA\Appx_D\MopacSouth_EA_AppxD_Waters_v3.aprx

Aerials: NAIP\NRCS/USDA. Ortho Mosaic. 2022. 1:1,200; generated by AtkinsRéalis; using ArcGIS Pro. (15 August 2025).



MoPac South

Exhibit 1
Water Features
Appendix D
MoPac South
Central Texas Regional Mobility Authority
Travis County, Texas
Sheet 7 of 18

Date: Aug 15, 2025	Scale: 1 in = 150 feet

N:\Clients\C_DCTRMA\Mopac_South\gen\figures\EA\Appx_D\MopacSouth_EA_AppxD_Waters_v3.aprx

Aerials: NAIP\NRCS/USDA. Ortho Mosaic. 2022. 1:1,800; generated by AtkinsRéalis; using ArcGIS Pro. (15 August 2025).

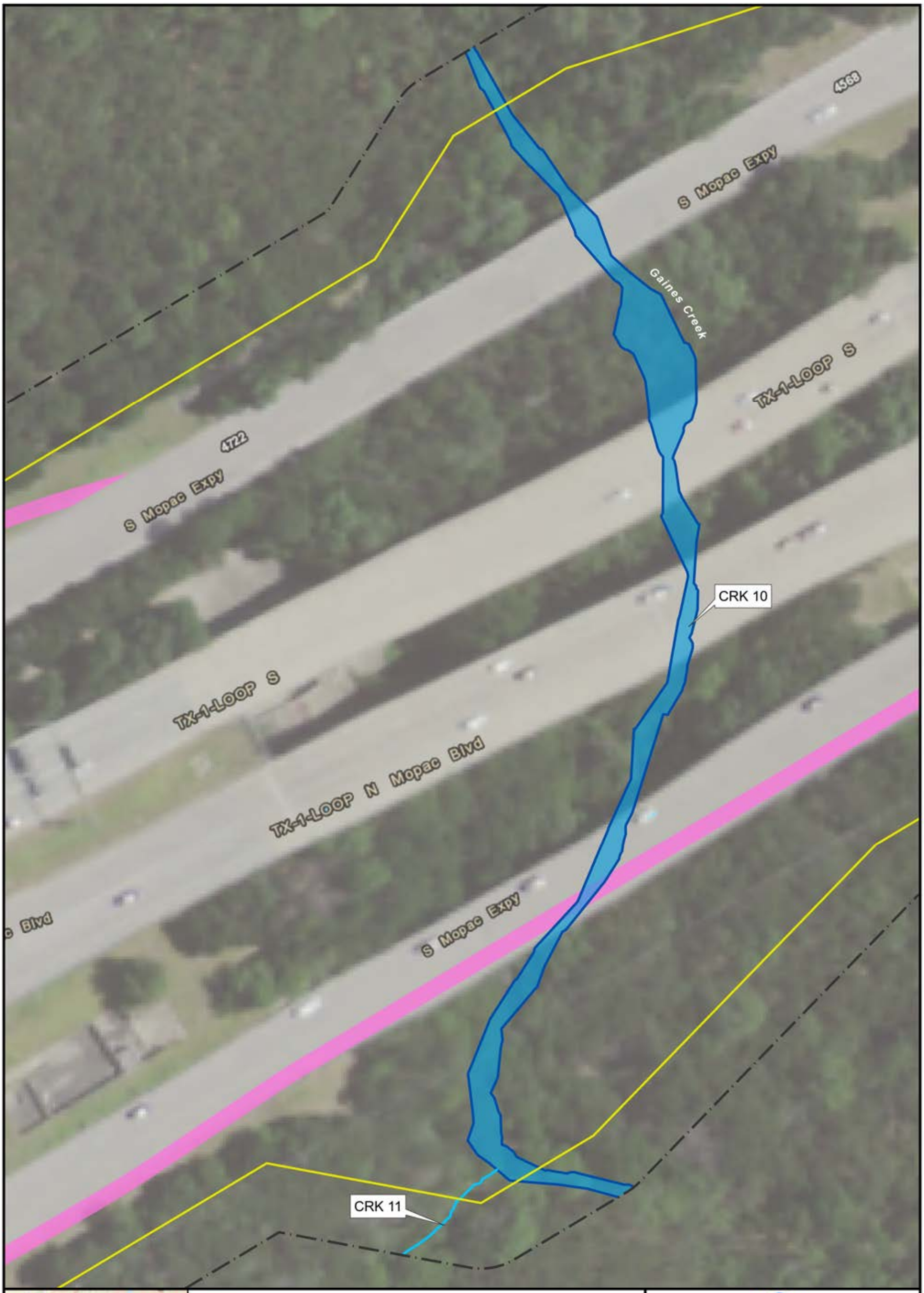
MoPac South

Exhibit 1
Water Features
Appendix D
MoPac South
Central Texas Regional Mobility Authority
Travis County, Texas
Sheet 8 of 18

Date: Aug 15, 2025	Scale: 1 in = 350 feet

N:\Clients\C_DICTRMA\Mopac_South\gen\figures\EA\Appx_D\MopacSouth_EA_AppxD_Waters_v1.aprx

Aerials: NAIP/NRCS/USDA. Ortho Mosaic. 2022. 1:4,200; generated by AtkinsRéalis; using ArcGIS Pro. (15 August 2025).



Aerials: NAIP/NRCS/USDA. Ortho Mosaic. 2022. 1:840; generated by AtkinsRéalis; using ArcGIS Pro. (15 August 2025).

CRK 12

CRK 12

CRK 12

CRK 13

S Mopac Expy

Mopac Blvd

3M2

Proposed Shared Use Path
Proposed Easement
Existing ROW
Survey Area

Upland Data Point
Wetland Data Point

Drainage Ditch
Intermittent
Perennial
Ephemeral
Culvert
Stream
PEM Wetland

0 50 100 Feet

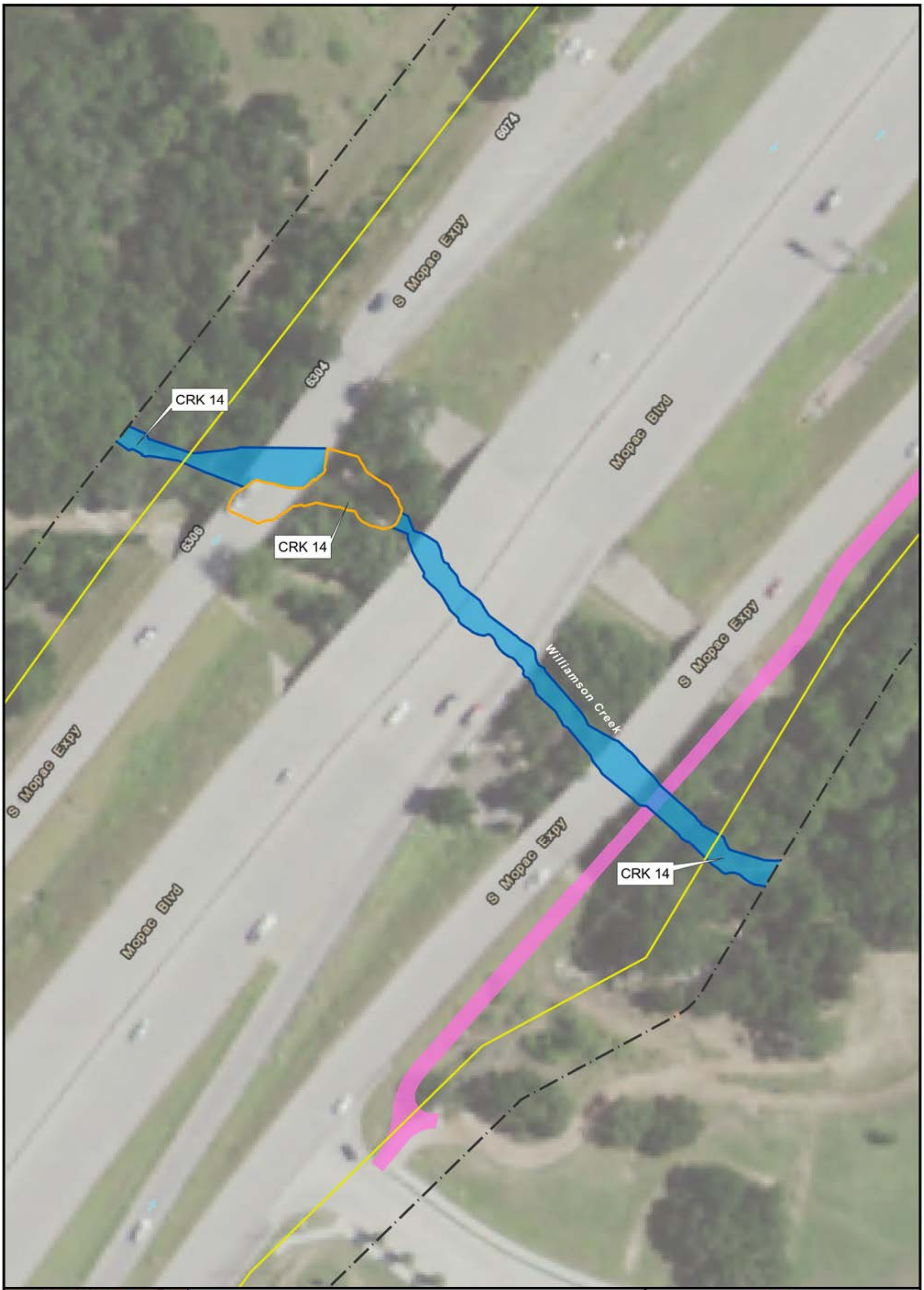
MoPac South

Exhibit 1
Water Features
Appendix D
MoPac South
Central Texas Regional Mobility Authority
Travis County, Texas
Sheet 10 of 18

Date: Aug 15, 2025 | Scale: 1 in = 100 feet

N:\Client\C_DCTRMA\Mopac_South\gen\figures\EA\Appx_D\MopacSouth_EA_AppxD_Waters_v1.aprx

Aerials: NAIP\NRCS/USDA. Ortho Mosaic. 2022. 1:1,200; generated by AtkinsRéalis; using ArcGIS Pro. (15 August 2025).



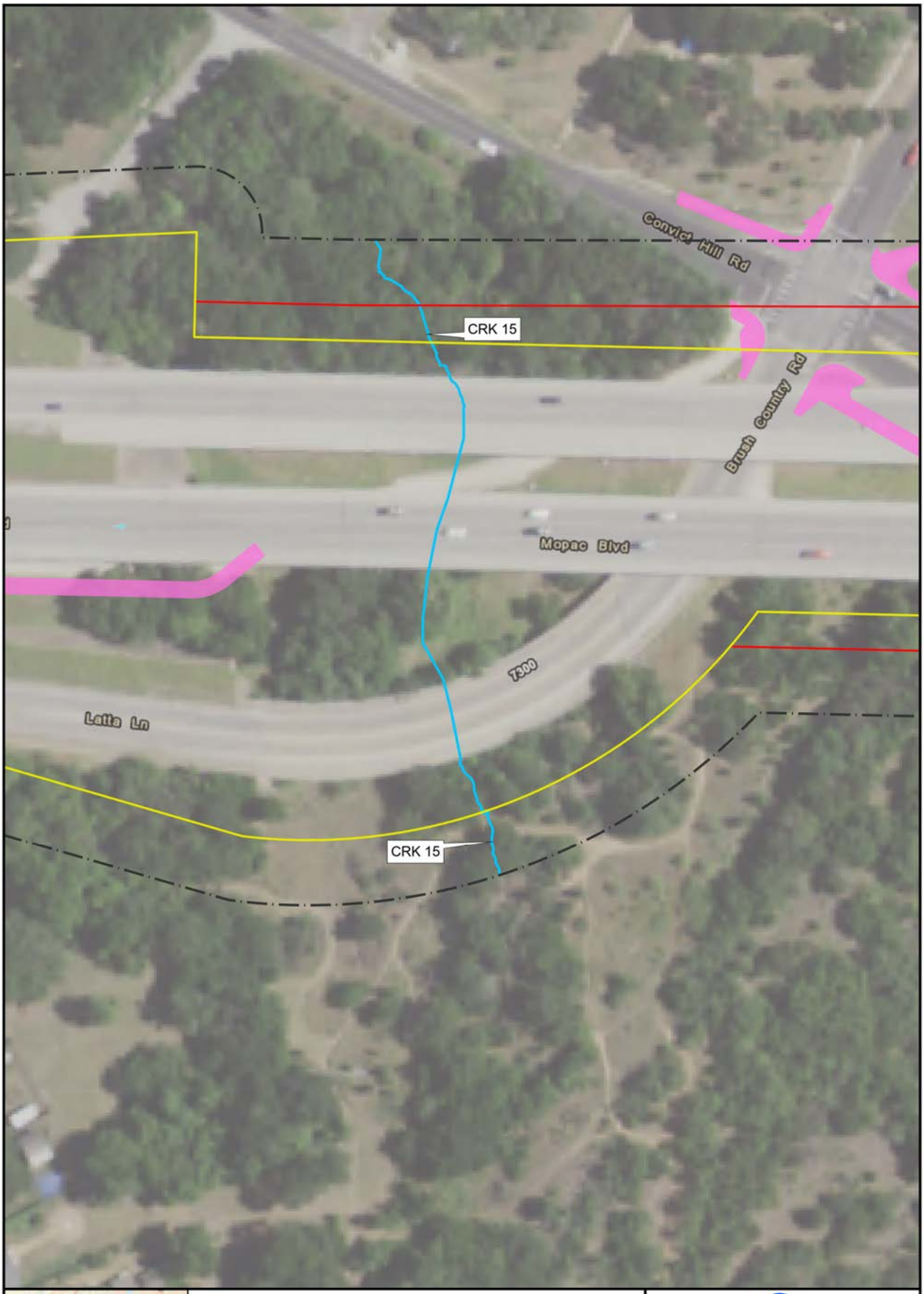
MoPac South

Exhibit 1
Water Features
Appendix D
MoPac South
Central Texas Regional Mobility Authority
Travis County, Texas
Sheet 11 of 18

Date: Aug 15, 2025	Scale: 1 in = 70 feet

N:\Clients\C_D\CTRMA\Mopac_South\gen\figures\EA\Appx_D\MopacSouth_EA_AppxD_Waters_v1.aprx

Aerials: NAIP/NRCS/USDA. Ortho Mosaic. 2022. 1:840; generated by AtkinsRéalis; using ArcGIS Pro. (15 August 2025).



Proposed Shared Use Path
Proposed Easement
Existing ROW
Survey Area

Upland Data Point
Wetland Data Point

Drainage Ditch
Intermittent
Perennial
Ephemeral
Culvert
Stream
PEM Wetland

0 35 70 Feet

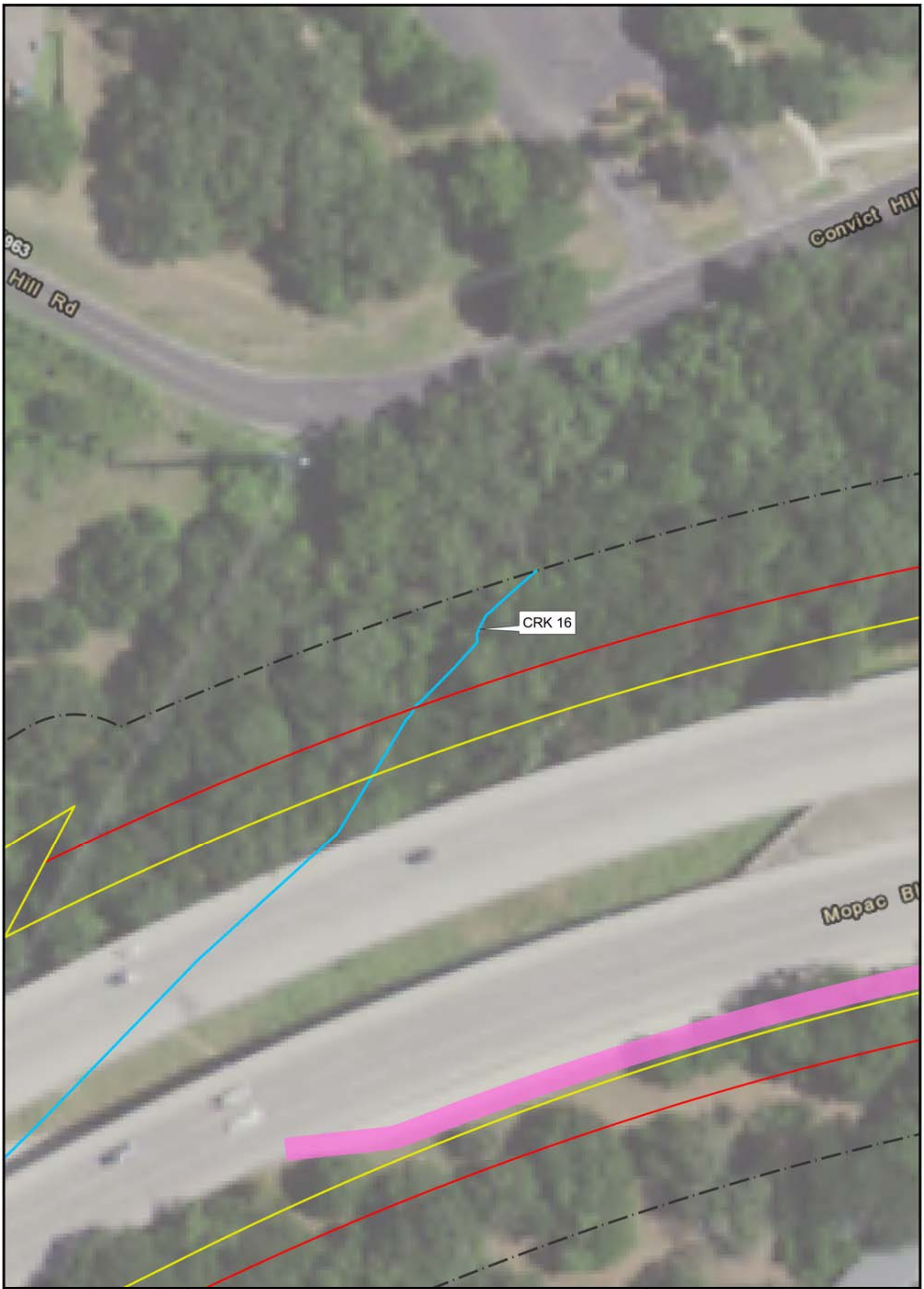
MoPac South

Exhibit 1
Water Features
Appendix D
MoPac South
Central Texas Regional Mobility Authority
Travis County, Texas
Sheet 12 of 18

Date: Aug 15, 2025 | Scale: 1 in = 70 feet

N:\Clients\C_DCTRMA\Mopac_South\gen\figures\EA\Appx_D\MopacSouth_EA_AppxD_Waters_v3.aprx

Aerials: NAIP\NRCS/USDA, Ortho Mosaic, 2022, 1:840; generated by AtkinsRéalis; using ArcGIS Pro. (15 August 2025).



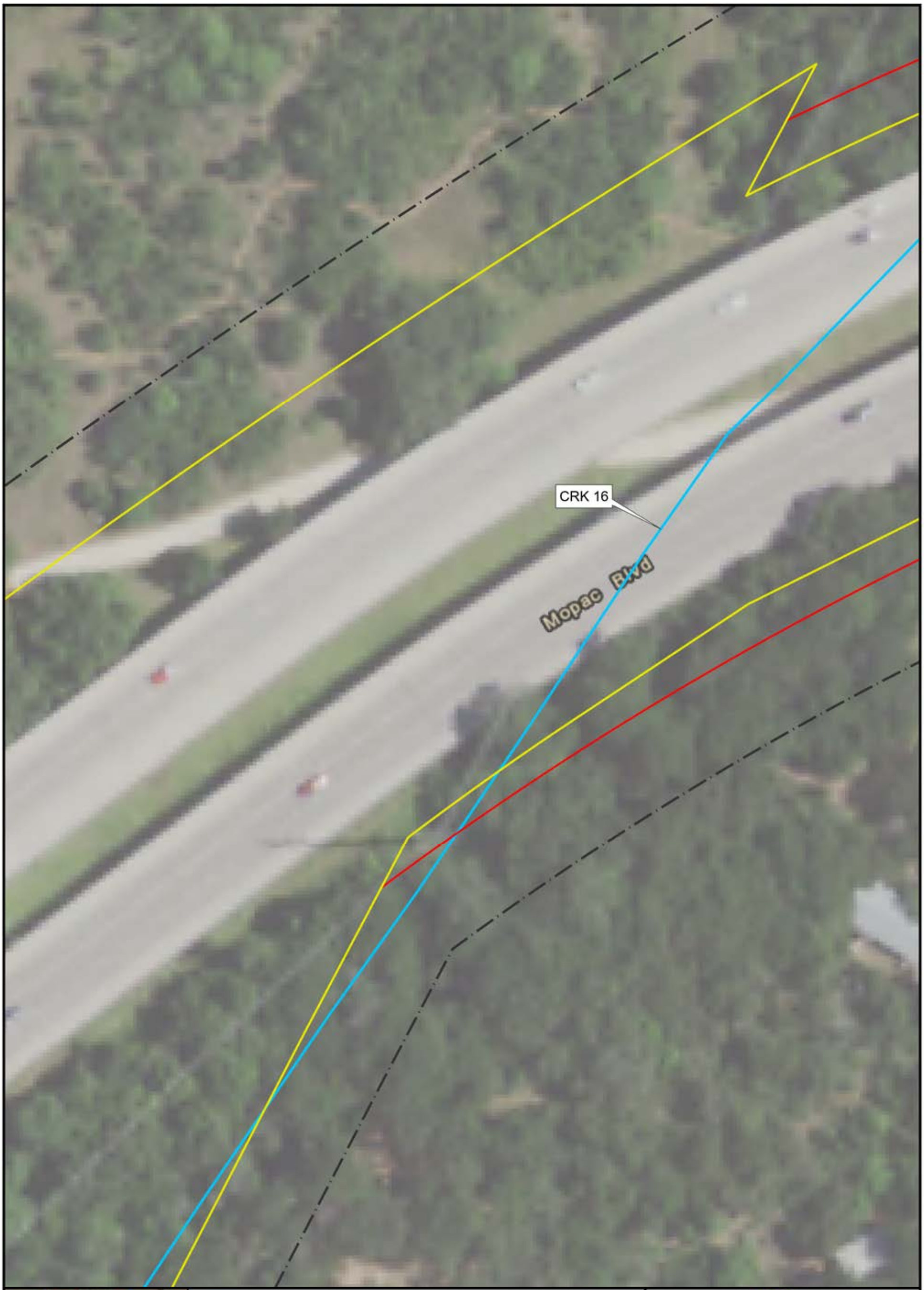
MoPac South

Exhibit 1
Water Features
Appendix D
MoPac South
Central Texas Regional Mobility Authority
Travis County, Texas
Sheet 13 of 18

Date: Aug 15, 2025	Scale: 1 in = 50 feet

N:\Clients\C_DCTRMA\Mopac_South\gis\Figures\EA\Appx_D\MopacSouth_EA_AppxD_Waters_v3.aprx

Aerials: NAIP\NRCS/USDA. Ortho Mosaic. 2022. 1:600; generated by AtkinsRéalis; using ArcGIS Pro. (15 August 2025).



MoPac South

Exhibit 1
Water Features
Appendix D
MoPac South
Central Texas Regional Mobility Authority
Travis County, Texas
Sheet 14 of 18

Date: Aug 15, 2025	Scale: 1 in = 50 feet

N:\Clients\C_DCTRMA\Mopac_South\gis\figures\EA\Appx_D\MopacSouth_EA_AppxD_Waters_v1.aprx

Aerials: NAIP/NRCS/USDA. Ortho Mosaic. 2022. 1:600; generated by AtkinsRéalis; using ArcGIS Pro. (15 August 2025).

Mopac Blvd

CRK 16

Proposed Shared Use Path
Proposed Easement
Existing ROW
Survey Area

Upland Data Point
Wetland Data Point

Drainage Ditch
Intermittent
Perennial
Ephemeral
Culvert
Stream
PEM Wetland

0 25 50 Feet

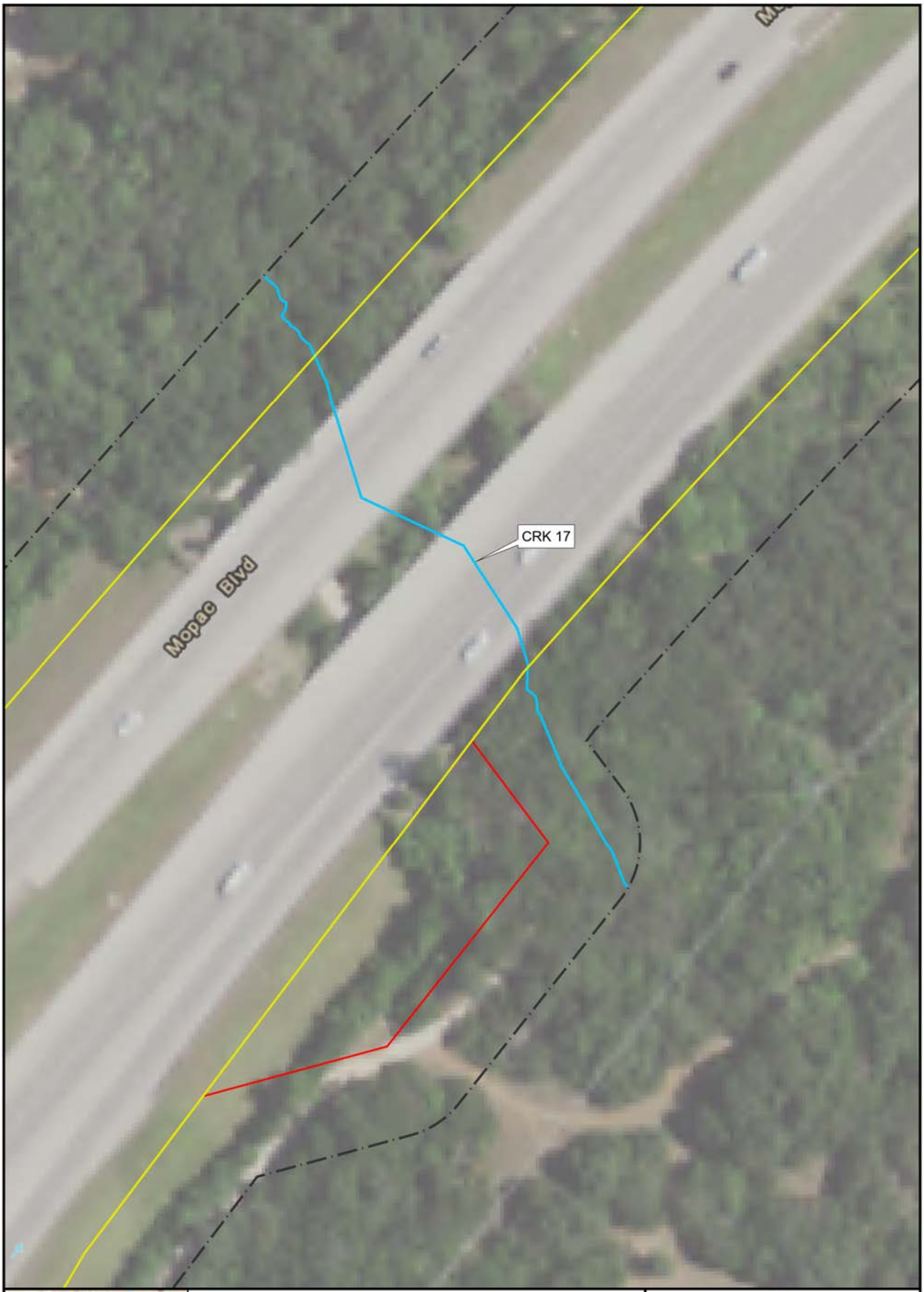
MoPac South

Exhibit 1
Water Features
Appendix D
MoPac South
Central Texas Regional Mobility Authority
Travis County, Texas
Sheet 15 of 18

Date: Aug 15, 2025	Scale: 1 in = 50 feet

N:\Clients\C_DCTRMA\Mopac_South\gen\figures\EA\Appx_D\MopacSouth_EA_AppxD_Waters_v1.aprx

Aerials: NAIP\NRCS/USDA. Ortho Mosaic. 2022. 1:600; generated by AtkinsRéalis; using ArcGIS Pro. (15 August 2025).



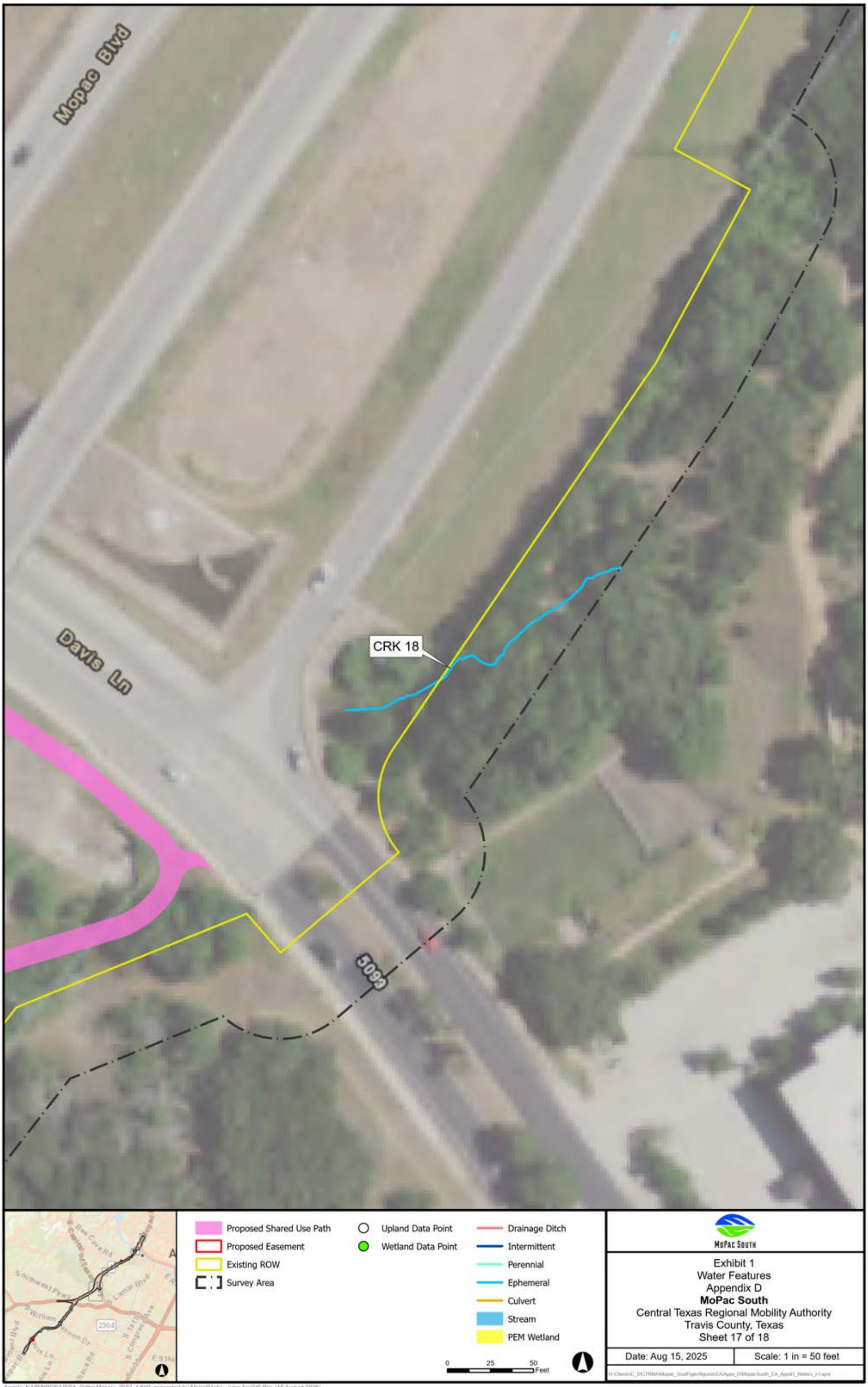
MoPac South

Exhibit 1
Water Features
Appendix D
MoPac South
Central Texas Regional Mobility Authority
Travis County, Texas
Sheet 16 of 18

Date: Aug 15, 2025 | Scale: 1 in = 50 feet

N:\Clients\C_DCTRMA\Mopac_South\gis\Figures\EA\Appx_D\MopacSouth_EA_AppxD_Waters_v1.aprx

Aerials: NAIP/NRCS/USDA. Ortho Mosaic. 2022. 1:600; generated by AtkinsRéalis; using ArcGIS Pro. (15 August 2025).



Proposed Shared Use Path
Proposed Easement
Existing ROW
Survey Area

Upland Data Point
Wetland Data Point

Drainage Ditch
Intermittent
Perennial
Ephemeral
Culvert
Stream
PEM Wetland

0 25 50 Feet

MoPac South

Exhibit 1
Water Features
Appendix D
MoPac South
Central Texas Regional Mobility Authority
Travis County, Texas
Sheet 17 of 18

Date: Aug 15, 2025 | Scale: 1 in = 50 feet

N:\Clients\C_DCTRMA\Mopac_South\gen\figures\EA\Appx_D\MopacSouth_EA_AppxD_Waters_v3.aprx

Aerials: NAIP\NRCS/USDA. Ortho Mosaic. 2022. 1:600; generated by AtkinsRéalis; using ArcGIS Pro. (15 August 2025).

Mopac Blvd

CRK 19

Proposed Shared Use Path
Proposed Easement
Existing ROW
Survey Area

Upland Data Point
Wetland Data Point

Drainage Ditch
Intermittent
Perennial
Ephemeral
Culvert
Stream
PEM Wetland

0 25 50 Feet

MoPac South

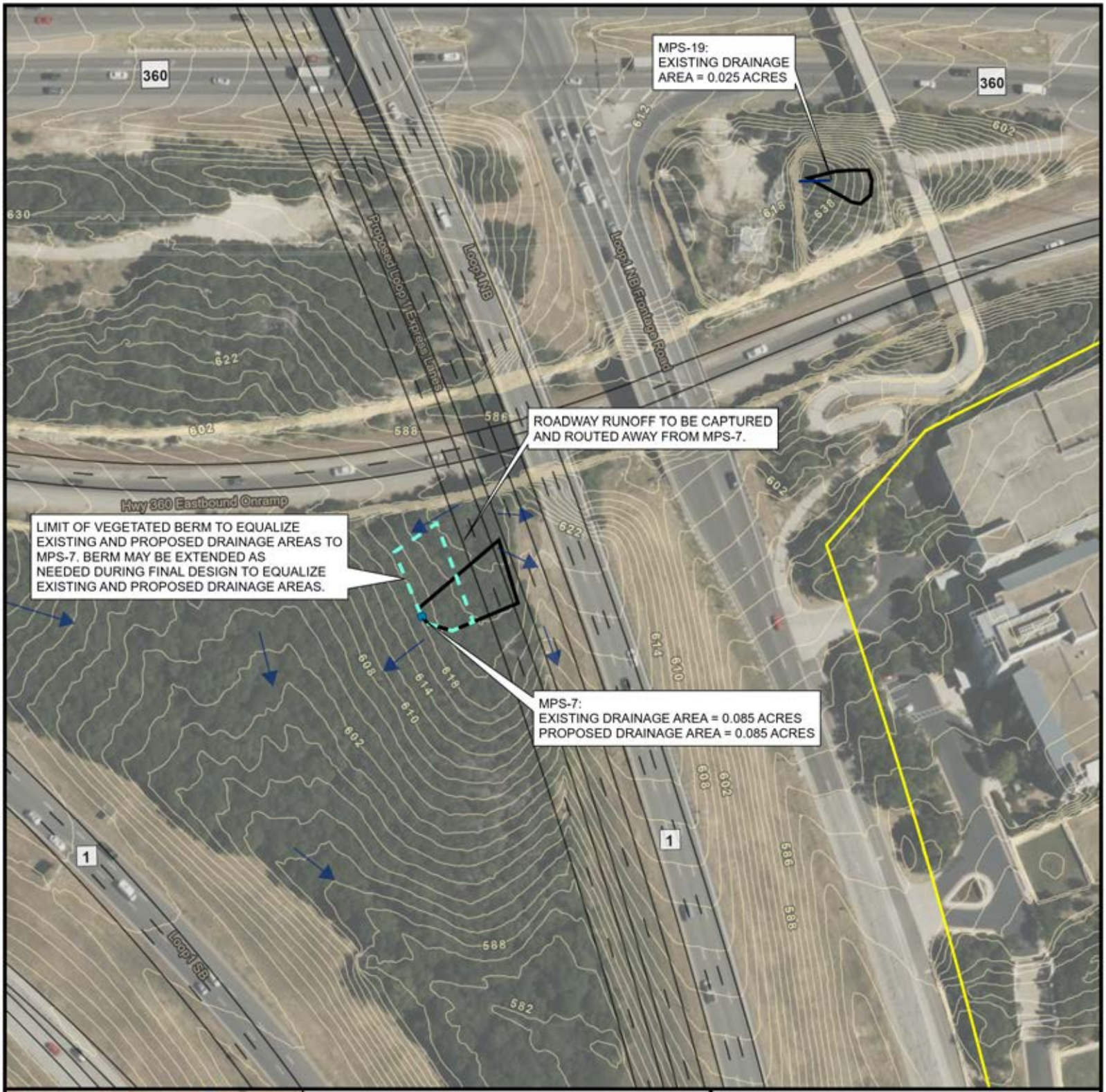
Exhibit 1
Water Features
Appendix D
MoPac South
Central Texas Regional Mobility Authority
Travis County, Texas
Sheet 18 of 18

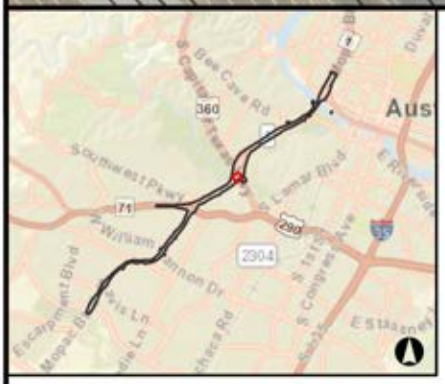
Date: Aug 15, 2025 | Scale: 1 in = 50 feet

N:\Client\C_D\CTRMA\Mopac_South\gen\figures\EA\Appx_D\MopacSouth_EA_AppxD_Waters_v1.aprx

Aerials: NAIP/NRCS/USDA. Ortho Mosaic. 2022. 1:600; generated by AtkinsRéalis; using ArcGIS Pro. (15 August 2025).

Appendix D Exhibit 2a: MPS-7 and MPS-19 with Drainage Areas





Existing ROW
Sensitive Feature
Existing Drainage Area
Proposed Drainage Area
Flow Direction

CONTOUR/TOPO DATA: INLAND GEODETICS, LLC. MAY 6, 2021.
HORIZONTAL DATUM: STATE PLANE COORDINATE SYSTEM NAD-83 (2002),
TEXAS CENTRAL ZONE (4203). VERTICAL DATUM: NAVD-88.
COORDINATES AND DISTANCES ARE US SURVEY FEET.
COMBINED SURFACE ADJUSTMENT FACTOR: 1.00011.

0 60 120 US Feet

MoPac South

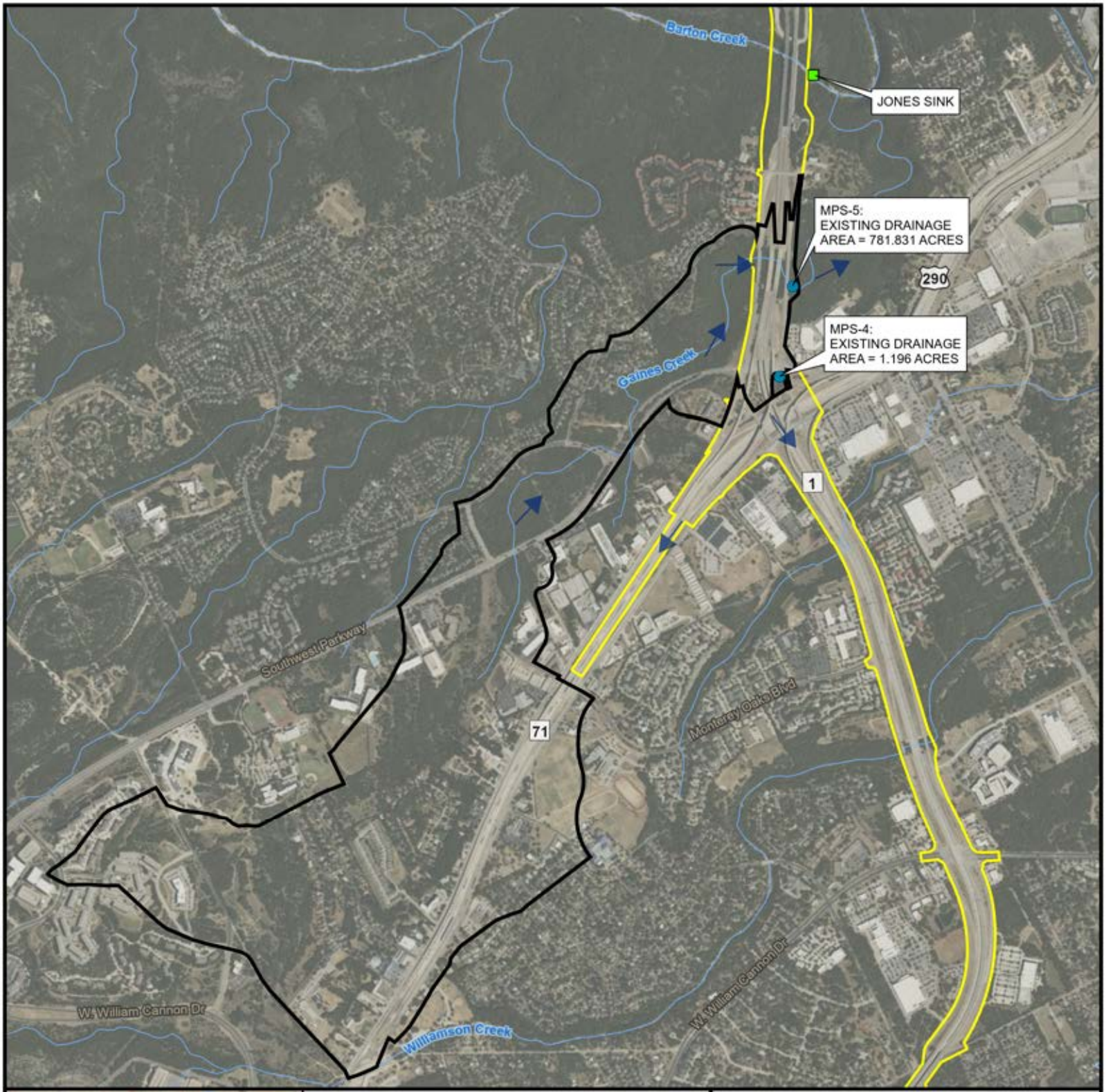
Exhibit 2a
MPS-7 and MPS-19 with Drainage Areas
Appendix D

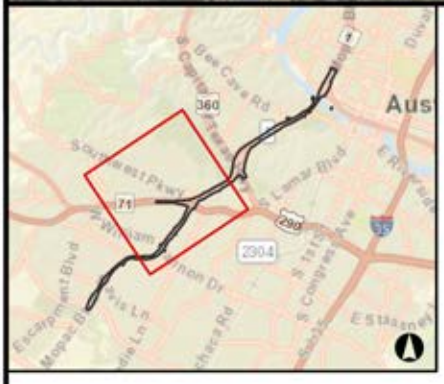
MoPac South
Central Texas Regional Mobility Authority
Travis County, Texas

Date: Sep 30, 2025	Scale: 1 in = 120 ft

I:\Clients\C_D\CTRMA\Mopac_South\gis\figures\EA\Appx_D\MopacSouth_EA_AppxD_MPS7_19_v5.aprx

Appendix D Exhibit 2b: MPS-4 and MPS-5 with Drainage Areas and Jones Sink Location





- Existing ROW
- Jones Sink
- Sensitive Feature
- Existing Drainage Area
- Flow Direction

0 950 1,900 US Feet

MoPac South

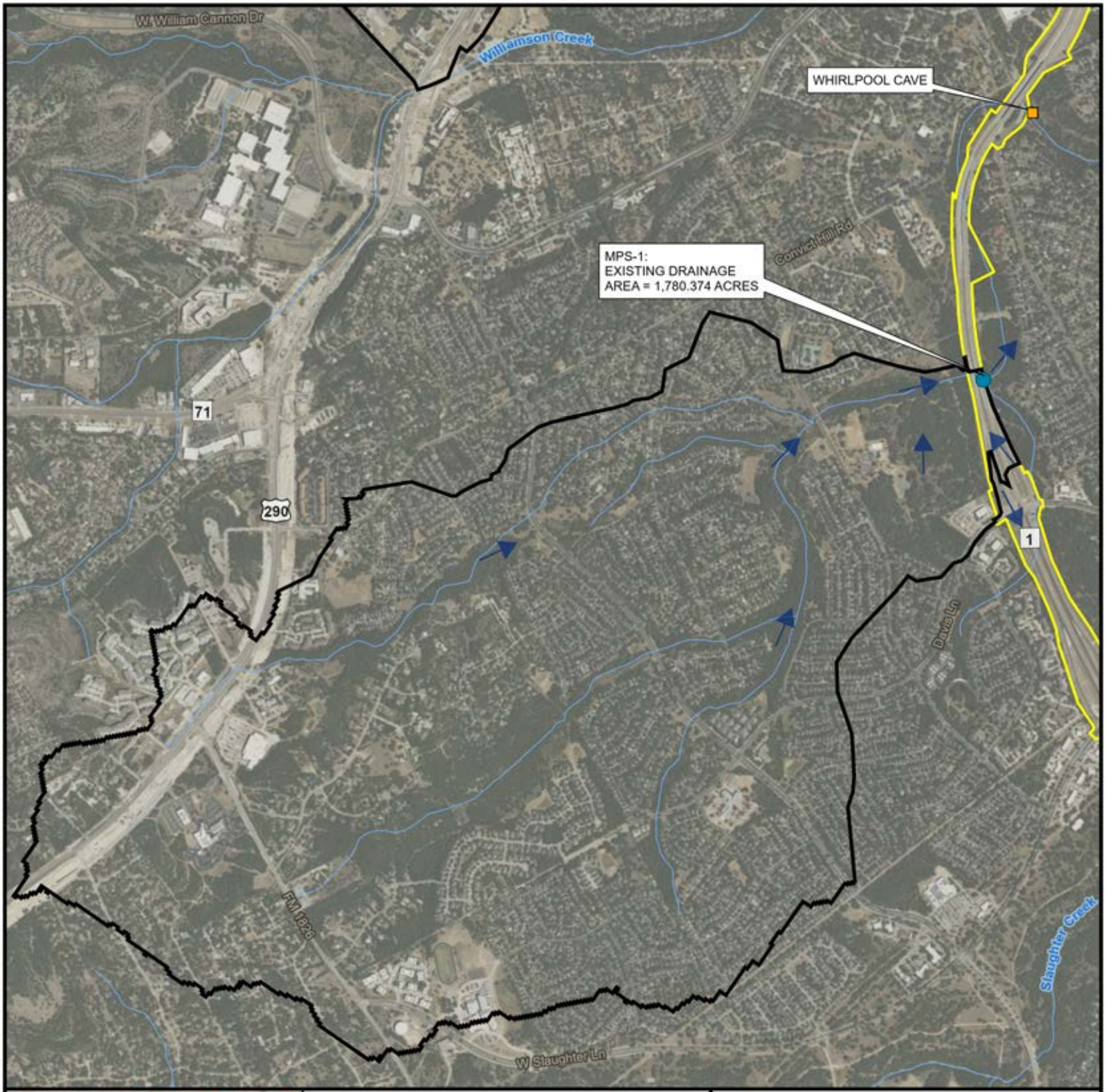
Exhibit 2b
MPS-4 and MPS-5 with Drainage Areas
and Jones Sink Location
Appendix D

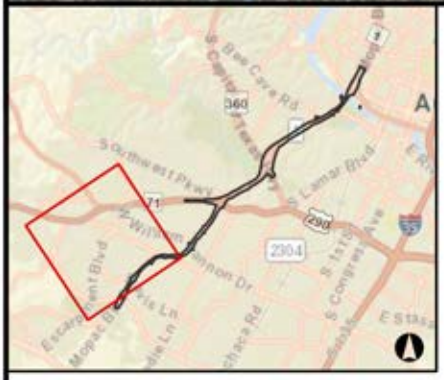
MoPac South
Central Texas Regional Mobility Authority
Travis County, Texas

Date: Oct 02, 2025	Scale: 1 in = 1,900 ft

I:\Clients\C_D\CTRMA\Mopac_South\gis\figures\EA\Appx_D\MopacSouth_EA_AppxD_MPS4_5_v2.aprx

Appendix D Exhibit 2c: MPS-1 with Drainage Areas and Whirlpool Cave Location





Existing ROW
Whirlpool Cave
Sensitive Feature
Existing Drainage Area
Flow Direction

0 900 1,800 US Feet

MoPac South

Exhibit 2c
MPS-1 with Drainage Area and
Whirlpool Cave Location
Appendix D

MoPac South
Central Texas Regional Mobility Authority
Travis County, Texas

Date: Oct 02, 2025	Scale: 1 in = 1,800 ft

I:\Clients\C_D\CTRMA\Mopac_South\gis\figures\EA\Appx_D\MopacSouth_EA_AppxD_MPS1_v2.aprx

Appendix D Exhibit 3: Hazmat ISA Sites of Concern

PROJECT BEGIN

27
UST AUSTIN

66
UST AUSTIN

76
HIST RCRA NONRCRA
IHW GENERATOR

54, 55
UST AUSTIN

22
CLI

26
ERNS

50
BROWNFIELDS

65
HIST RCRA NONRCRA
IHW GENERATOR
RCRA NON GEN

36
PRP

11
ICIS

8
ICIS

10
PFAS IND

2
ICIS

63
RCRA VSQG
TIER 2
IHW GENERATOR
SPILLS
UST

57
UST AUSTIN
TIER 2

44
UST AUSTIN

3
UST

70
RCRA VSQG
HIST RCRA NONRCRA
IHW GENERATOR
ORD
UST

56
UST AUSTIN
UST
LPST

58
RCRA VSQG
TIER 2
HIST TANK
AST
LPST
UST

72
IHW GENERATOR
RCRA SQG
NOV
ORD

74
UST

40
ORD
NOE

41
AST

73
UST AUSTIN
LPST

100
AST

48
DRYCLEANERS

52
DRYCLEANERS
RCRA VSQG

35
IHW GENERATOR
HIST RCRA NONRCRA
RCRA NON GEN

19
SPILLS

21
SPILLS

29
NOV

61
UST AUSTIN

31
OP CLEANUP

33
ICIS

67
DRYCLEANERS

45
DRYCLEANERS

PROJECT END

Project Location

ERIS Reported Hazardous Materials Site*

ERIS Reported Hazardous Materials Site - Site of Concern*

*ONLY PERTINENT SITES ARE SHOWN. PLEASE REFER TO ERIS DATABASE REPORT FOR ADDITIONAL LISTINGS.

0 1,900 3,800 Feet

MoPac South

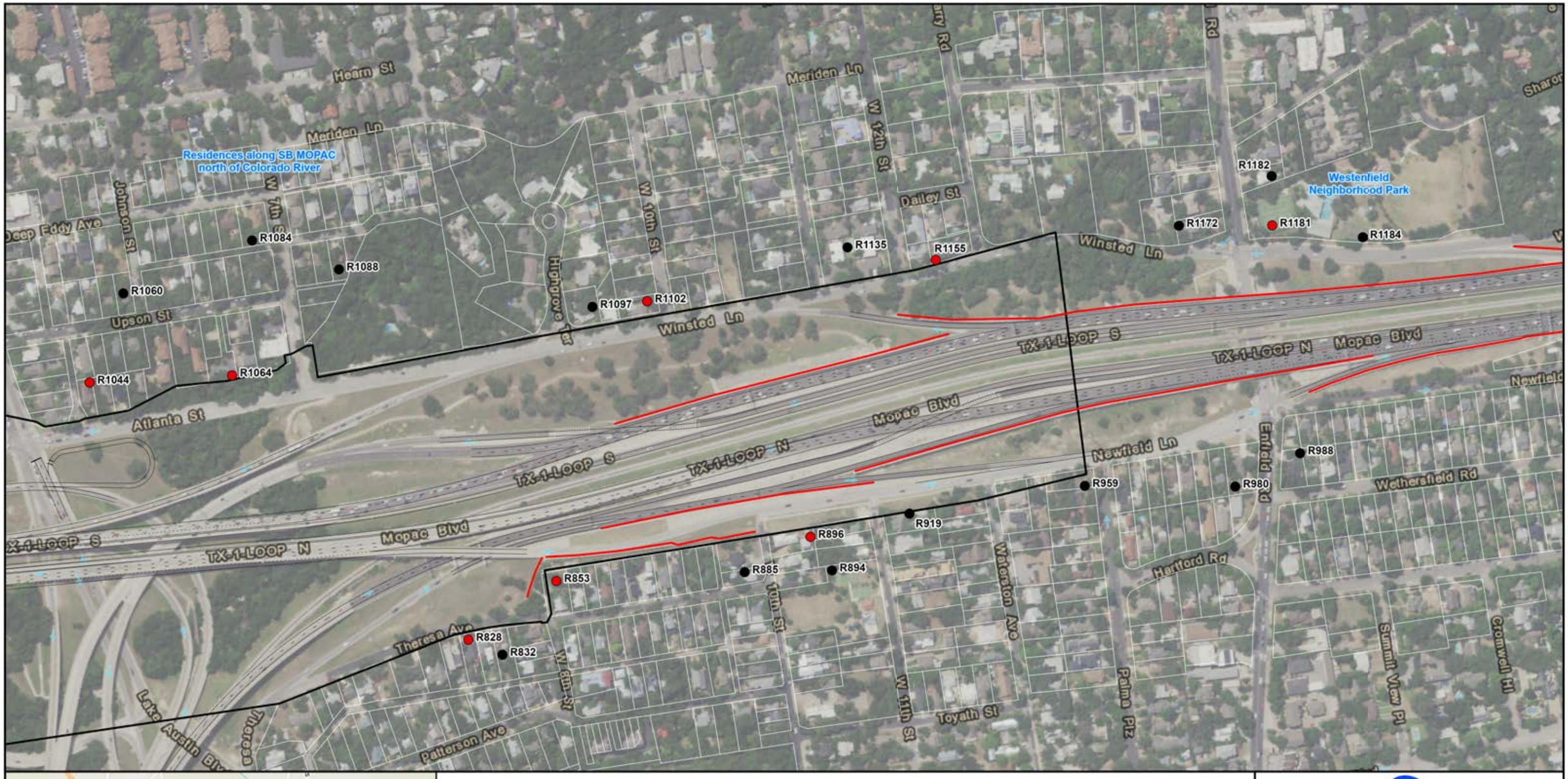
Exhibit 3
Hazmat ISA Sites of Concern
Appendix D

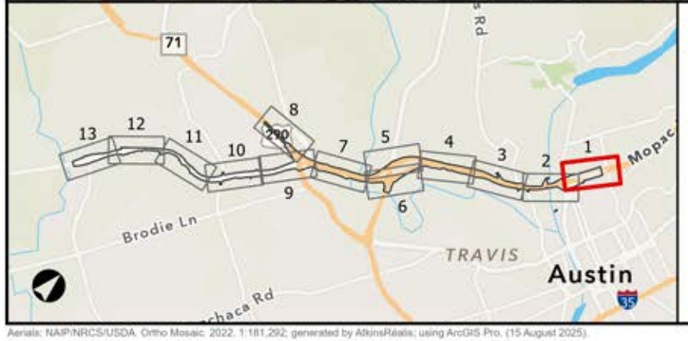
MoPac South
Central Texas Regional Mobility Authority
Travis County, Texas

Date: Aug 15, 2025 | Scale: 1 in = 3,800 feet

Aerials: NAIP\NRCS/USDA. Ortho Mosaic. 2022. 1:45,600; generated by AtkinsRéalis; using ArcGIS Pro. (15 August 2025).

Appendix D Exhibit 4: Traffic Noise Analysis





- Project Location
- Validation Site

Noise Sensitive Sites

- Benefited
- Impacted
- Not Impacted

- Existing Noise Barrier
- Proposed Noise Barrier
- Neighborhood Wall

MULTI-STORY UNITS ARE NOT REPRESENTED GRAPHICALLY, BUT WERE EVALUATED. FOR MORE DETAILS ON IMPACTS AND/OR BENEFITS AT EACH HEIGHT (5 FT./15 FT./25 FT./35 FT./45 FT. REPRESENTED BY THE ALPHANUMERIC SUFFIX A/B.C/D/E, RESPECTIVELY) SEE APPENDIX E IN NOISE ANALYSIS REPORT.

0 150 300 Feet

MoPac South

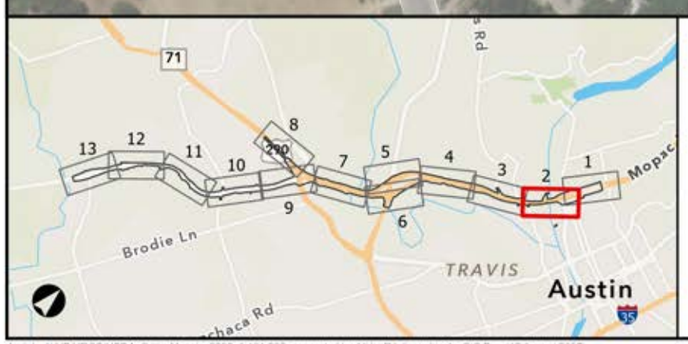
Exhibit 4
Traffic Noise Analysis
Appendix D

MoPac South
Central Texas Regional Mobility Authority
Travis County, Texas
Sheet 1 of 13

Date: Aug 15, 2025	Scale: 1 in = 300 feet

N:\Clients\C_D\CTRMA\Mopac_South\geo\figures\EA\Appx_D\MopacSouth_EA_AppxD_Noise.aprx

Aerials: NAIP/NRCS/USDA. Ortho Mosaic. 2022. 1:181,292; generated by AtkinsRéalis; using ArcGIS Pro. (15 August 2025).



- Project Location
- Validation Site

Noise Sensitive Sites

- Benefited
- Impacted
- Not Impacted

- Existing Noise Barrier
- Proposed Noise Barrier
- Neighborhood Wall

MULTI-STORY UNITS ARE NOT REPRESENTED GRAPHICALLY, BUT WERE EVALUATED. FOR MORE DETAILS ON IMPACTS AND/OR BENEFITS AT EACH HEIGHT (5 FT./15 FT./25 FT./35 FT./45 FT. REPRESENTED BY THE ALPHANUMERIC SUFFIX A/B.C/D/E, RESPECTIVELY) SEE APPENDIX E IN NOISE ANALYSIS REPORT.

0 150 300 Feet

MoPac South

Exhibit 4
Traffic Noise Analysis
Appendix D

MoPac South
Central Texas Regional Mobility Authority
Travis County, Texas
Sheet 2 of 13

Date: Aug 15, 2025	Scale: 1 in = 300 feet

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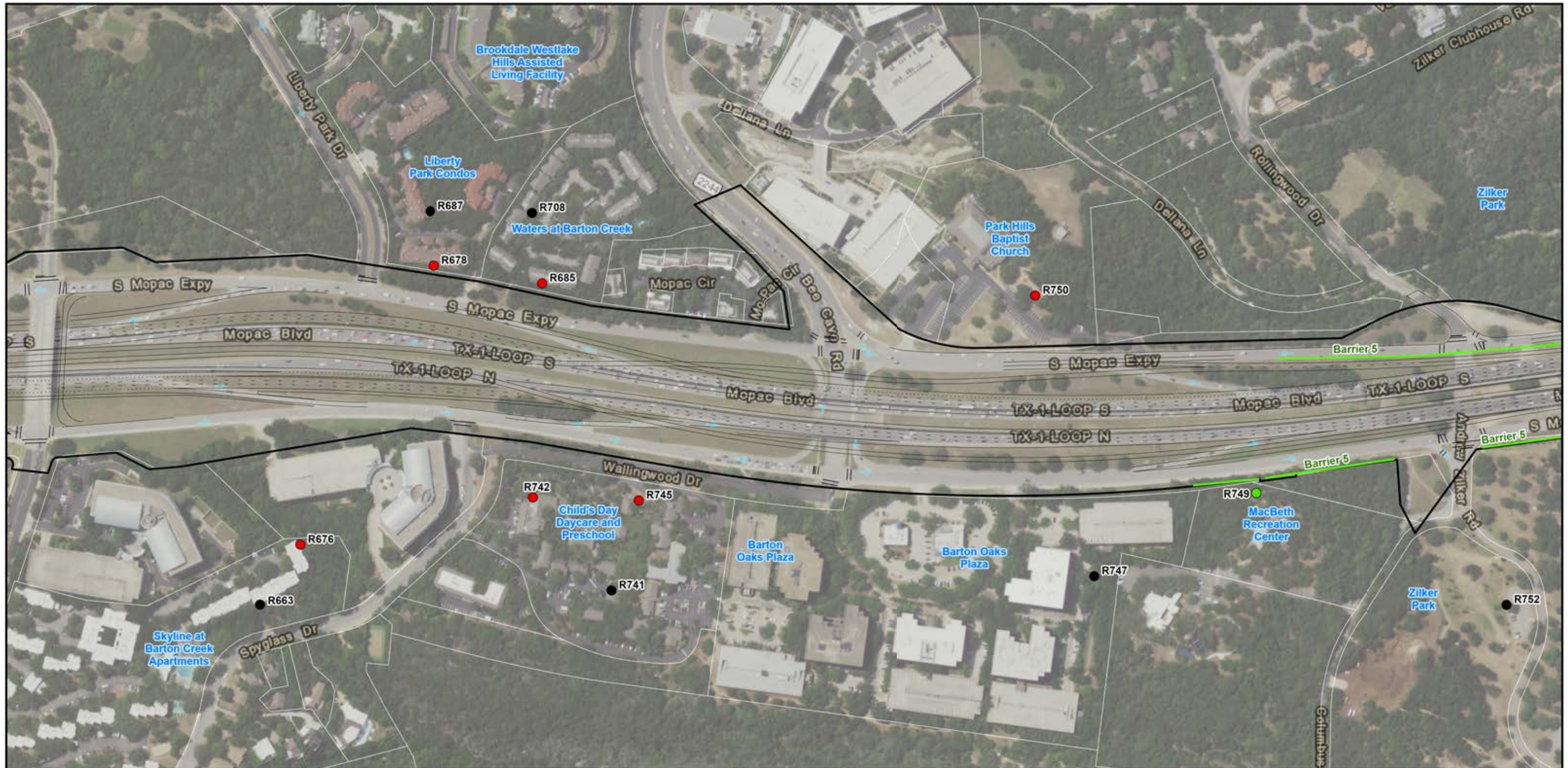

MoPac South

Exhibit 4
Traffic Noise Analysis
Appendix D

MoPac South
Central Texas Regional Mobility Authority
Travis County, Texas
Sheet 3 of 13

Date: Aug 15, 2025	Scale: 1 in = 300 feet

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MoPac South

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Travis County, Texas
Sheet 4 of 13

Date: Aug 15, 2025	Scale: 1 in = 300 feet

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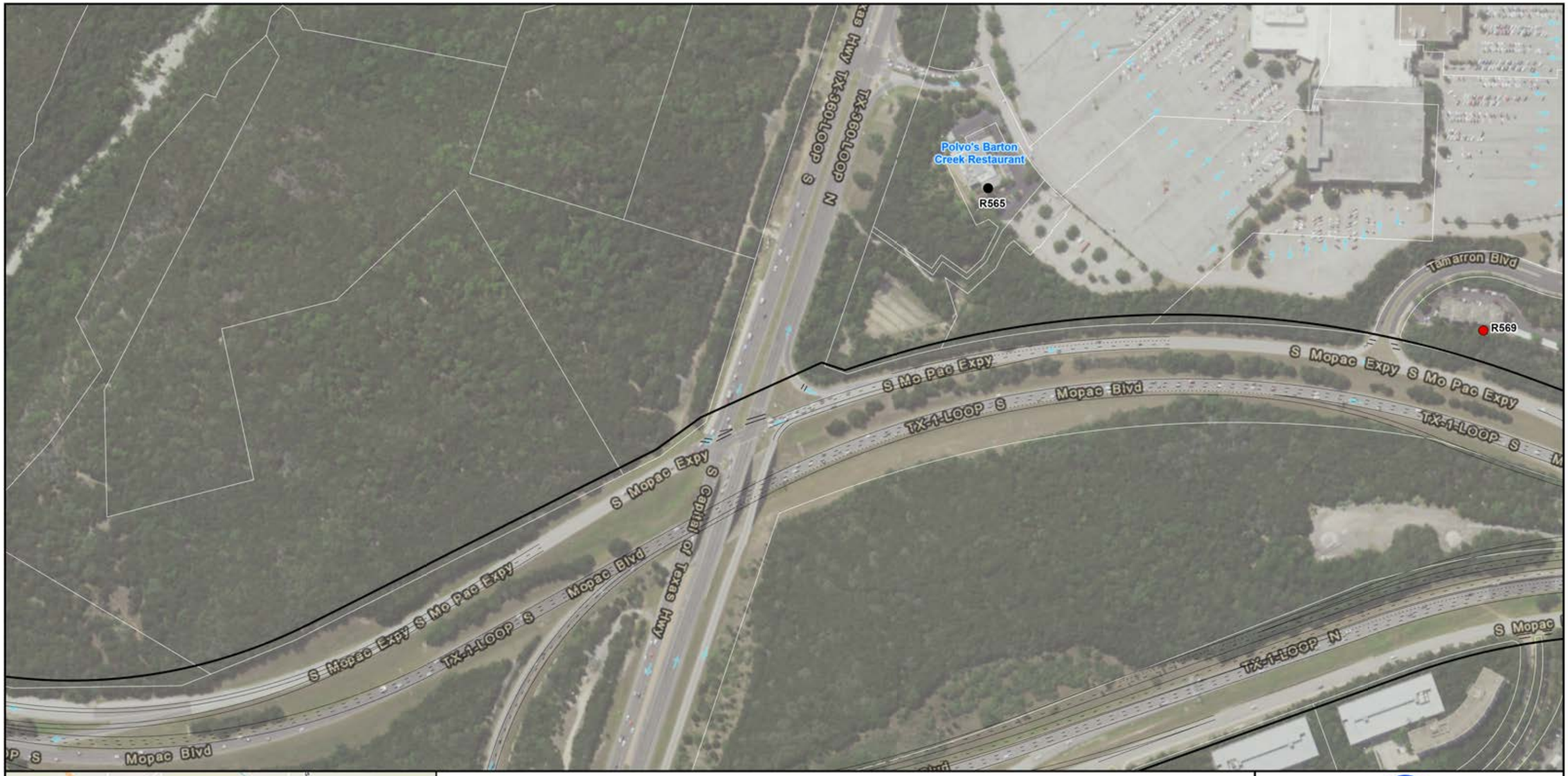

Project Location
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Existing Noise Barrier
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MoPac South

Exhibit 4
Traffic Noise Analysis
Appendix D

MoPac South
Central Texas Regional Mobility Authority
Travis County, Texas
Sheet 5 of 13

Date: Aug 15, 2025	Scale: 1 in = 300 feet

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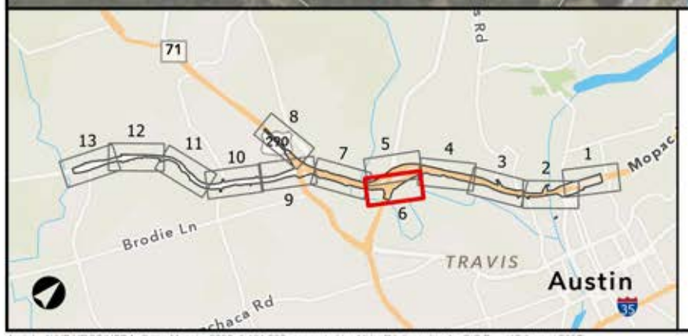

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MoPac South

Exhibit 4
Traffic Noise Analysis
Appendix D

MoPac South
Central Texas Regional Mobility Authority
Travis County, Texas
Sheet 6 of 13

Date: Aug 15, 2025	Scale: 1 in = 300 feet

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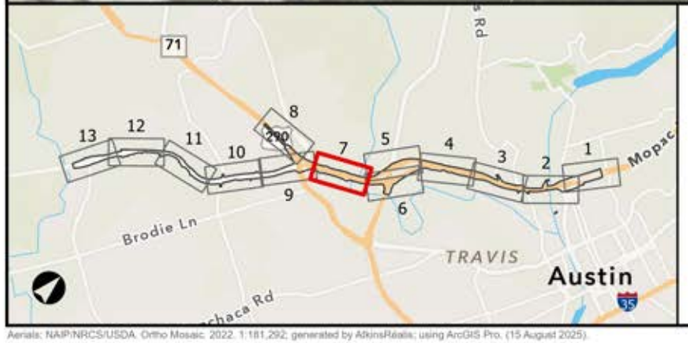

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MoPac South

Exhibit 4
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Appendix D

MoPac South
Central Texas Regional Mobility Authority
Travis County, Texas
Sheet 7 of 13

Date: Aug 15, 2025	Scale: 1 in = 300 feet

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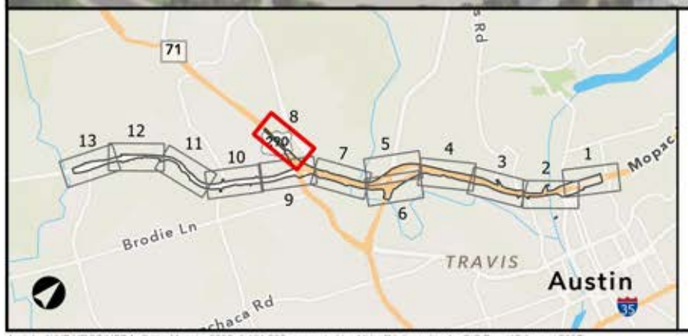

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MoPac South

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Appendix D

MoPac South
Central Texas Regional Mobility Authority
Travis County, Texas
Sheet 8 of 13

Date: Aug 15, 2025 | Scale: 1 in = 300 feet

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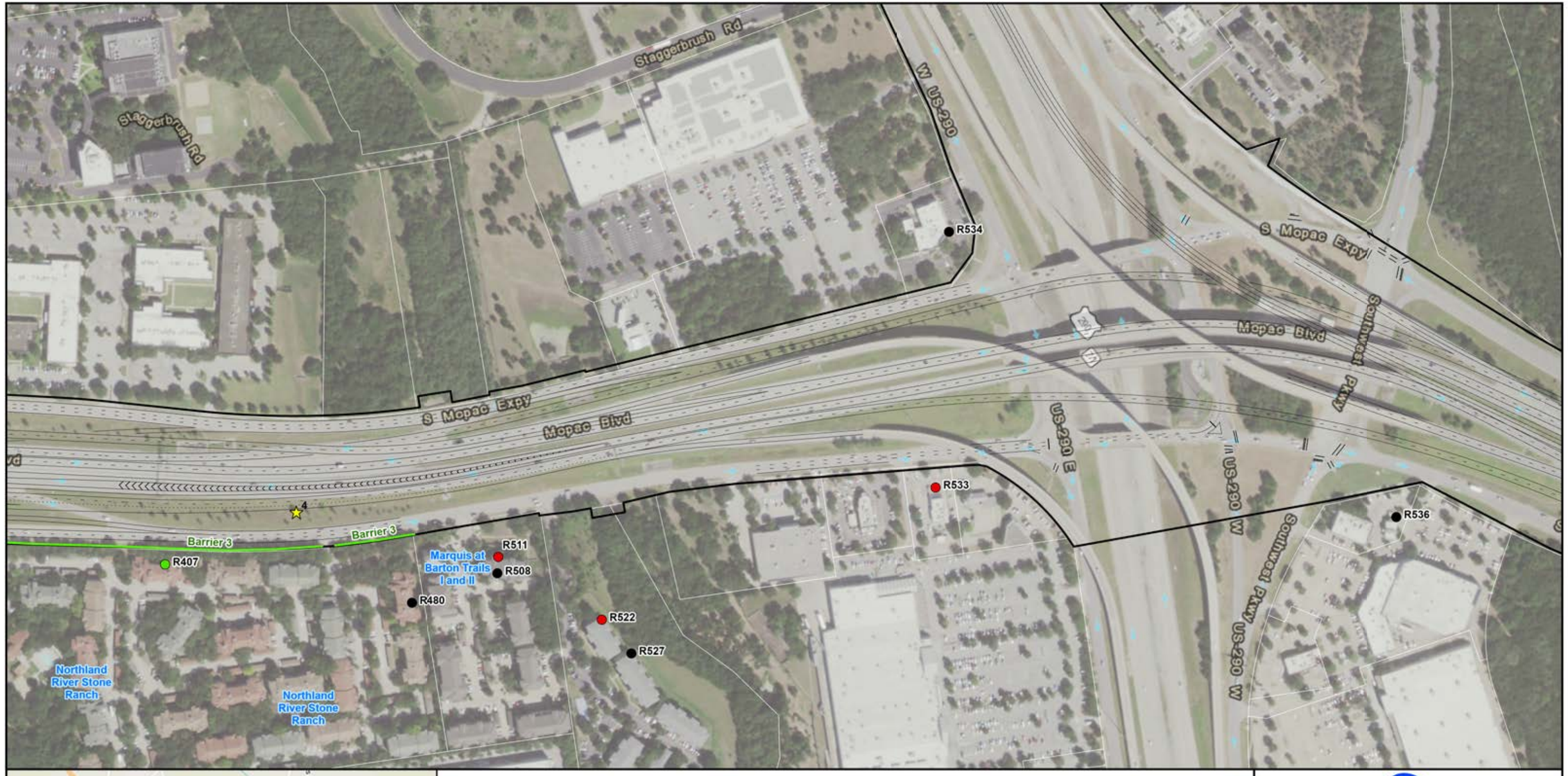

MoPac South

Exhibit 4
Traffic Noise Analysis
Appendix D

MoPac South
Central Texas Regional Mobility Authority
Travis County, Texas
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Date: Aug 15, 2025	Scale: 1 in = 300 feet

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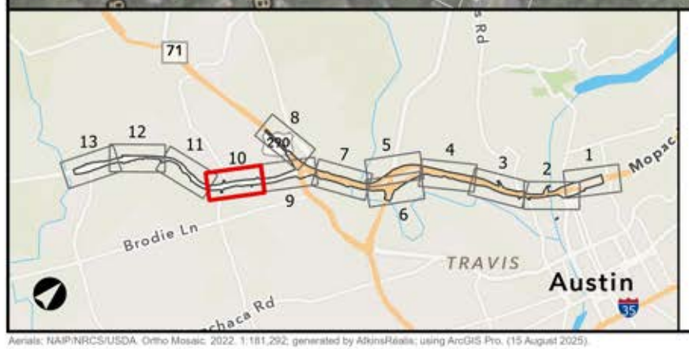

Project Location
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Existing Noise Barrier
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MoPac South

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Appendix D

MoPac South
Central Texas Regional Mobility Authority
Travis County, Texas
Sheet 10 of 13

Date: Aug 15, 2025	Scale: 1 in = 300 feet

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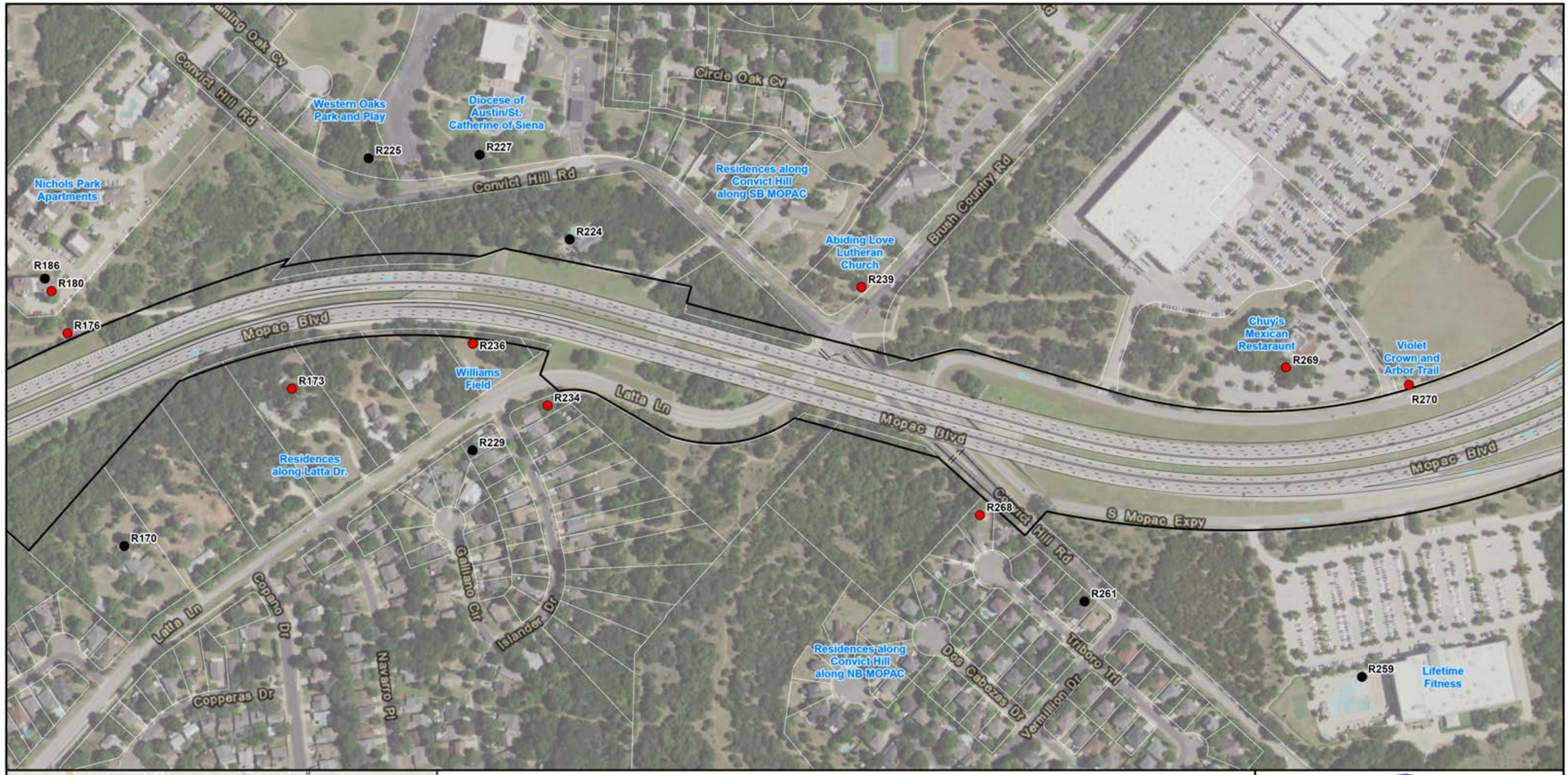

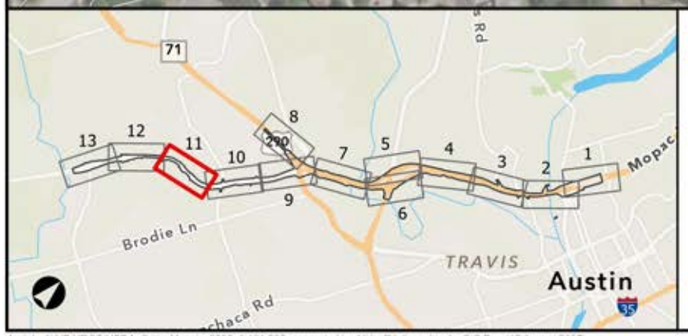

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MoPac South

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Appendix D

MoPac South
Central Texas Regional Mobility Authority
Travis County, Texas
Sheet 11 of 13

Date: Aug 15, 2025	Scale: 1 in = 300 feet

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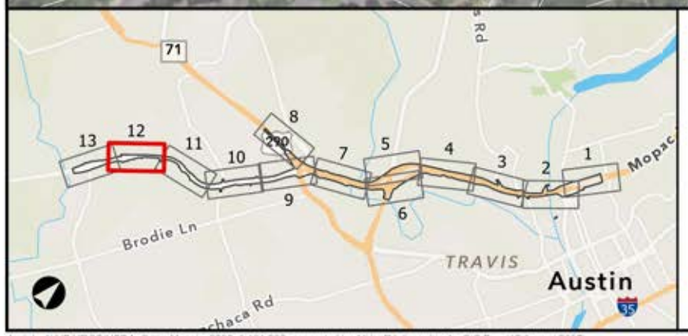

Project Location
Validation Site

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Existing Noise Barrier
Proposed Noise Barrier
Neighborhood Wall

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0 150 300 Feet

MoPac South

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Traffic Noise Analysis
Appendix D

MoPac South
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Travis County, Texas
Sheet 12 of 13

Date: Aug 15, 2025 | Scale: 1 in = 300 feet

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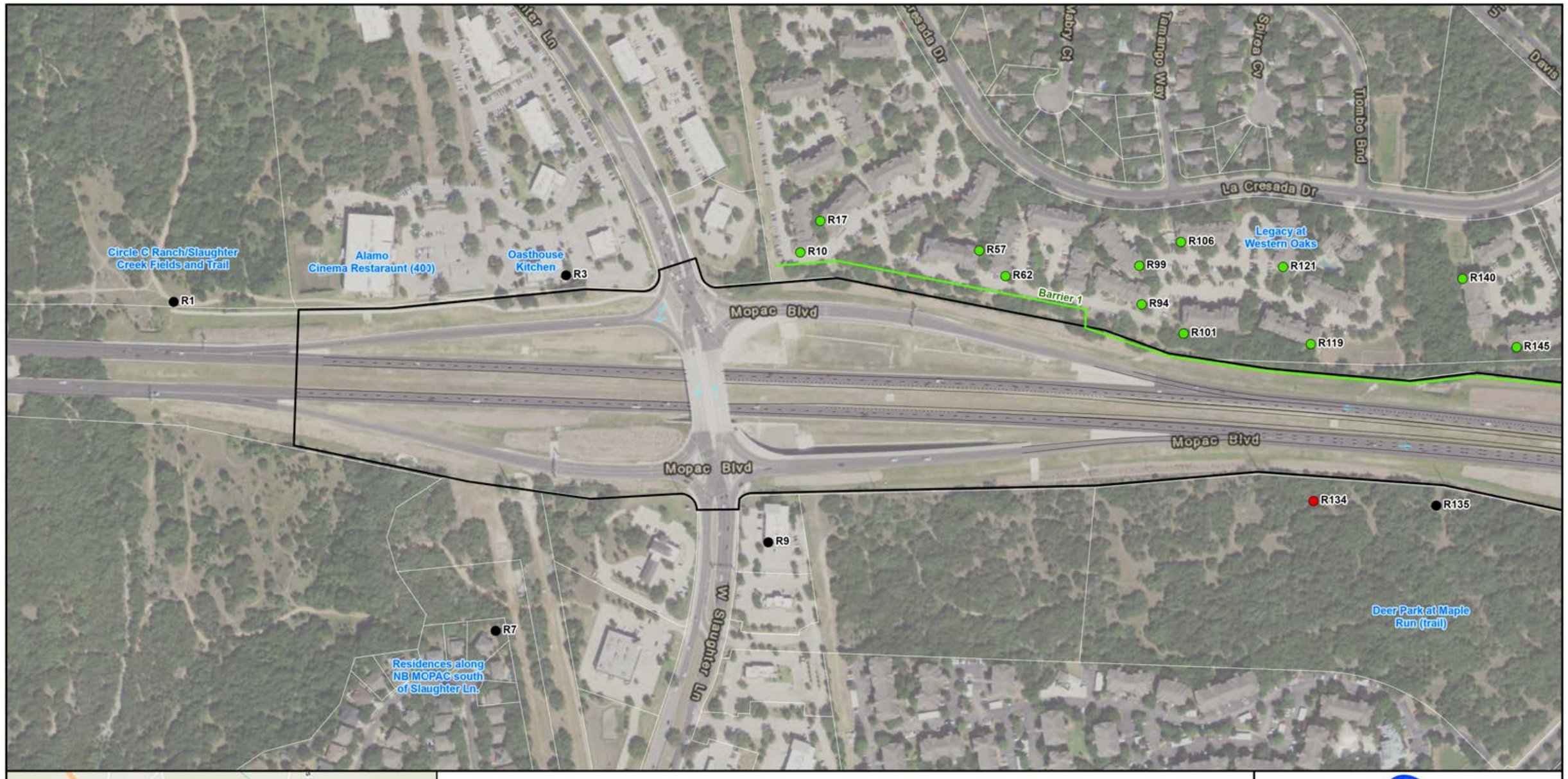

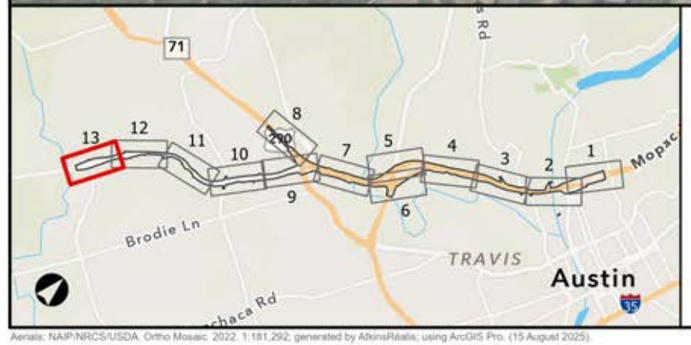

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MoPac South

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Appendix D

MoPac South
Central Texas Regional Mobility Authority
Travis County, Texas
Sheet 13 of 13

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Appendix E – Resource Agency Coordination

Appendix E: TPWD Initial Collaboration, Comments and Responses

Outlook

RE: MoPac South | 3136-0-176 TPWD Initial Collaboration

From Brandon Hobbs <Brandon.Hobbs@txdot.gov>
Date Tue 1/20/2026 7:17 AM
To Suzanne Walsh <Suzanne.Walsh@tpwd.texas.gov>
Cc Tracy White <Tracy.White@txdot.gov>; Charlotte Gilpin <charlotte@gilpinengineering.com>; Webb, Kirk S <Kirk.Webb@atkinsrealis.com>

1 attachment (942 KB)
3136-0-176_TPWD Responses_Initial Collaboration.docx;

Hi Suzanne,

Thank you for your comments on this project. Please find responses to your comments in the attached document. Please feel free to reach out with any further comments/questions. Thank you, Suzanne.

Regards,

Texas Department of Transportation

Brandon Hobbs | Environmental Project Planner
Austin District
7901 N. I-35, Austin, TX 78753
(512) 832-7001
brandon.hobbs@txdot.gov

From: Suzanne Walsh <Suzanne.Walsh@tpwd.texas.gov>
Sent: Wednesday, January 7, 2026 9:54 AM
To: Brandon Hobbs <Brandon.Hobbs@txdot.gov>
Cc: Tracy White <Tracy.White@txdot.gov>
Subject: RE: MoPac South | 3136-0-176 TPWD Initial Collaboration

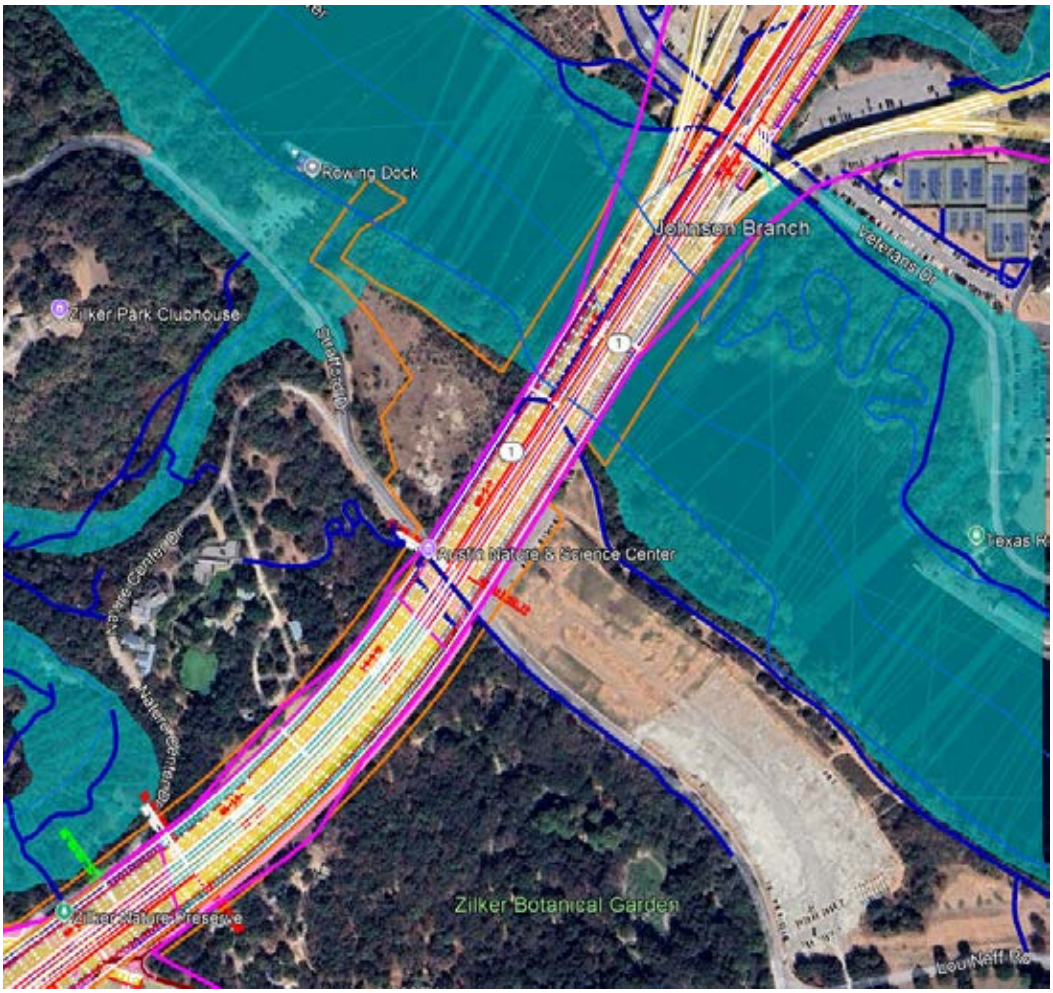
Good morning,

Additional questions for the above-referenced project.

Could you provide additional information about the PSL in Zilker Park that includes the mouth of Eanes Creek and portion of Lady Bird Lake (see picture below). TPWD recommends minimizing impacts to the

riparian vegetation and shoreline habitat at this location.

Could you provide additional information on the drainage infrastructure plan, including if there will be tunneling at this location.



Thanks,
Suzanne

From: Suzanne Walsh
Sent: Monday, December 22, 2025 4:53 PM
To: Brandon Hobbs <brandon.hobbs@txdot.gov>
Cc: Tracy White <tracy.white@txdot.gov>
Subject: RE: MoPac South | 3136-0-176 TPWD Initial Collaboration

Brandon,

Please see project guidance below and let me know if you have any questions.

Thanks, Suzanne

TPWD recommends the following Stream Crossings and Aquatic Connectivity BMP:

- Use spanning bridges rather than culverts.
- Culverts that concentrate low flows but provide conveyance of higher flows through staggered culverts placed at higher elevations are recommended. Evaluate incorporating modeled depths

and current velocities to ensure passage for the majority of species or congeners that occur within the project area. Consult with the TPWD Transportation Liaison to gain access to a fish species passage tool developed from this work. Refer to Emadi et al. 2024 *in* Fishes "*Swimming Performance Assessments of Fish Species of Greatest Conservation Need to Inform Future Stream Crossing Designs in Texas"* available online at: https://doi.org/10.3390/fishes9060234.

- Avoid placing riprap across stream channels and instead use alternative stabilization such as biotechnical stream bank stabilization methods including live native vegetation or a combination of vegetative and structural materials. When riprap or other bank stabilization devices are necessary, their placement should not impede the movement of aquatic and terrestrial wildlife underneath the bridge. In some instances, riprap may be buried, back-filled with topsoil and planted with native vegetation.
- Following instream disturbance, stream substrates should be replaced with similar-sized substrate found within the system to provide proper habitat for aquatic taxa.
- Minimize the disturbance and/or removal of aquatic vegetation and woody debris from the stream channel during construction.
- Incorporate bat-friendly design into bridges and culverts.
- Design bridges for adequate vertical and horizontal clearances under the roadway to allow for terrestrial wildlife to safely pass under the road.
- A span wide enough to cross the stream and allow for dry ground and a natural surface path under the roadway is encouraged. For culverts, incorporation of an artificial ledge inside the culvert on one or both sides for use by terrestrial wildlife is recommended.
- Riparian buffer zones should remain undisturbed.

Wildlife crossings should be considered in locations near parks and greenbelts to minimize wildlife-vehicle conflict. These structures can include either a bridge or culvert that enable wildlife to safely cross over or under the roadway. Existing bridges and culverts can be retrofitted or modified to facilitate the passage of wildlife by the addition of fencing to direct wildlife to bridge or culverts, creating pathway or installing passage benches for wildlife movement, cleaning out debris material that impedes movement, or incorporating vegetative cover.

Project lighting should incorporate dark-sky lighting practices to minimize light pollution while maintaining the lighting needed for driver safety. Lighting should be focused downward with shields or cutoff luminaires, be illuminated only when needed, be as bright as needed, and minimize blue light emissions. Light sources should have a maximum Correlated Color Temperature of 3,000-Kelvin (i.e., warm-toned light). Appropriate lighting technologies, BMP, and other dark sky resources can be found at the International Dark-Sky Association and McDonald Observatory websites.

The amount of native vegetation proposed for clearing or trimming in lieu of removal, particularly mature native trees, and shrubs, in locations adjacent to parks and greenbelts and within potential suitable habitat for the golden-cheeked warbler, should be minimized for the proposed project. Impacted vegetation should be replaced with in-kind onsite replacement and restoration of the native vegetation. Landscaping and revegetation should use locally adapted native species and seed mix that contains seeds from regional ecotype species.

Detention ponds should be situated in previously disturbed upland areas to avoid or minimize impacts on intact native vegetation, riparian corridors, and wetlands. A vegetated buffer of native, locally adapted plants along with tiered planting can promote natural landscapes, filter pollutants and control erosion, reduce maintenance, and enhance aesthetics.

Chapter 26 of the Parks and Wildlife Code requires that before a state agency can approve any project that will result in the use or taking of public land designated and used as a park, public recreation area, scientific area, wildlife refuge, or historic site, that state agency must provide certain notices to the public, conduct a hearing, and render a finding that there is no feasible and prudent alternative and that the project includes all reasonable planning to minimize harm to the property. TPWD maintains a

statewide inventory of Land and Water Resources Conservation and Recreation Plan (LWRCRP) data depicting conservation and recreation lands in Texas, which can be found as an interactive web map at: LWRCRP--Statewide_Inventory_2012_(arcgis.com). TPWD recommends avoiding lands owned or managed for conservation or recreation by city, county, state, and federal entities. Such entities should be contacted early in the planning process to determine if the project may impact their property. In cases where a park or similar recreation facility has received grants from TPWD, replacement of any land converted from recreational use is required.

Will there be any impacts to city parks from the proposed project? Has there been coordination with the City of Austin for parks/greenbelts? Will the proposed project require an NWP or IP? Will the proposed project require USACE mitigation?

From: WHAB_TxDOT <WHAB_TxDOT@tpwd.texas.gov>
Sent: Tuesday, October 21, 2025 3:03 PM
To: Brandon Hobbs <Brandon.Hobbs@txdot.gov>
Cc: Tracy White <Tracy.White@txdot.gov>; Suzanne Walsh <Suzanne.Walsh@tpwd.texas.gov>
Subject: RE: MoPac South | 3136-0-176 TPWD Initial Collaboration

The TPWD Wildlife Ecological & Environmental Planning Program has received your request and has assigned it project ID # **57107**. The Ecological & Environmental Planning Program Biologist who will complete your project review is copied on this email.

From: Brandon Hobbs <Brandon.Hobbs@txdot.gov>
Sent: Thursday, October 16, 2025 1:09 PM
To: WHAB_TxDOT <WHAB_TxDOT@tpwd.texas.gov>
Cc: Tracy White <Tracy.White@txdot.gov>
Subject: MoPac South | 3136-0-176 TPWD Initial Collaboration

Hello,

Attached are documents for your initial collaborative review regarding the MoPac South Project in Travis County. A description of the proposed project is below. Documents attached include:

- Species Analysis Form
- Species Analysis Spreadsheet
- Project Layout .kmz
- Species BMPs

Please feel free to reach out with any questions or comments. Thank you

Proposed Project Description
The logical termini of this Project are Cesar Chavez Street and Slaughter Lane with transitions on both ends to tie back into the existing facility. To the north, the Project would tie into the existing MoPac Express Lane that was opened to traffic in 2017. The southern end of the Project would include appropriate transitions to match existing MoPac near Slaughter Lane. The Project will extend a total of 8.77 miles along MoPac South with intersection improvements at

William Cannon Drive 350-feet east and west of MoPac, ramp improvements along US 290 4,000-feet west of MoPac, and ramp Improvements along SL 360 700-feet east of MoPac. The proposed Project will require no additional right-of-way (ROW) , no new permanent easements, and 12.52 acres of temporary construction easements.

The project is proposed to include the construction of a shared use path connecting from the Roberta Crenshaw Bridge over Lady Bird Lake south to Slaughter Lane, approximately 7.8 miles for cyclists and pedestrians. Facilities will include American Disabilities Act (ADA) compliant and pedestrian safety elements at sidewalks and cross streets. The average width of the shared use path is 10 feet. The majority of the shared use path is along the east side of the corridor; additional shared use path and/or sidewalk construction is planned along the west side of MoPac, depending upon ROW and other constraints.

The preliminary build alternatives considered transportation system/demand management, adding one or more lanes in each direction: non-tolled general-purpose lanes, high occupancy vehicle (HOV) lanes, transit-only lanes, and express lanes that utilize variable toll rates, along with a no build alternative. The express lane(s) alternative was determined to be the Reasonable Build Alterative in 2015 based on the 2035 traffic evaluation. This recommendation has since been affirmed by the updated 2045 traffic evaluation completed in 2024. The no build alternative will be carried forward along with the express lane(s) alternative into the Environmental Assessment.

Six operational configurations of the express lane(s) alternative continue to be assessed; these include:

- 1A – One express lane with downtown direct connection
- 1B – One express lane without downtown direct connection
- 2A – Two express lanes with downtown direct connection
- 2B – two express lanes without downtown direct connection
- 2C – two express lanes with elevated ramps near Barton Skyway
- 3 – City of Austin Proposal – Separate two-lane collector distributor road connection to downtown

All operational configurations are controlled access, with 12’ wide express and general-purpose lanes where the roadway is widened or reconstruction, and 11’ wide lanes on existing bridges to remain. Outside shoulder widths are 10’, inside shoulder widths vary from 4’ to 10’ in both directions. Drainage is a combination of closed pipe and open ditch with water quality detention ponds. There are nine grade separated interchanges, eight overpasses, two underpasses, 39 ramps, 24 at-grade ramps, and 15 elevated ramps.
Temporary construction easements will be needed throughout the corridor to support construction of the shared use path, retaining walls, and bridges. Major crossings will occur over the Colorado River floodplain at Lady Bird Lake and across Barton Creek. New piers are anticipated to align with existing piers at these crossings. Temporary construction easements will be required for barges to be launched to support bridge construction over the Colorado River. Other bridges, such as Williamson Creek Bridge, would also be widened by adding piers along the east and/or west side. Water quality treatment ponds and other drainage infrastructure are also proposed. Any impacted hazardous materials traps will be replaced and may be combined with other water quality facilities. Noise barriers will be constructed where reasonable and feasible at impacted receptors.

Regards,

Texas Department of Transportation

Brandon Hobbs | Environmental Project Planner
Austin District
7901 N. I-35, Austin, TX 78753
(512) 832-7001
brandon.hobbs@txdot.gov

A Texas Department of Transportation (TxDOT) message

Every mile matters. Learn more at DriveLikeATexan.com.

Technical Review
Comment Response Matrix

Project Name:			MoPac South – State Highway Loop 1	**CSJ:**	3136-01-176
Document Name:			MoPac South | 3136-0-176 TPWD Initial Collaboration Email to B. Hobbs, January 7, 2025	Preparer:	Suzanne Walsh, TPWD
Document Date:				**Date:**	January 2026
Item	**Page**	**Section**	**Comment/Recommended Solution**	**Commenter**	**How Addressed (or why not addressed)**
1	*N/A*	*N/A*	Use spanning bridges rather than culverts.	*Walsh*	*There will be no new stream crossings as part of the Project; most of the existing crossings are via bridges. Existing bridges and culverts will remain in current locations. The existing bridges span the ordinary highwater mark of the crossings and the proposed bridges will also span the crossings, except for the Colorado River.*
2			Culverts that concentrate low flows but provide conveyance of higher flows through staggered culverts placed at higher elevations are recommended. Evaluate incorporating modeled depths and current velocities to ensure passage for the majority of species or congeners that occur within the project area. Consult with the TPWD Transportation Liaison to gain access to a fish species passage tool developed from this work. Refer to Emadi et al. 2024 in Fishes "Swimming Performance Assessments of Fish Species of Greatest Conservation Need to Inform Future Stream Crossing Designs in Texas" available online at: https://doi.org/10.3390/fishes9060234.	*Walsh*	*There will be no new culverts as part of the Project. Existing culverts will remain in current locations. The culvert that carries Johnson Creek under the freeway will need to be reconstructed due to conflicts with bridge piers. The reconstructed culvert will be built to maintain current flows and velocities.*

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Item	**Page**	**Section**	**Comment/Recommended Solution**	**Commenter**	**How Addressed (or why not addressed)**
3			Avoid placing riprap across stream channels and instead use alternative stabilization such as biotechnical stream bank stabilization methods including live native vegetation or a combination of vegetative and structural materials. When riprap or other bank stabilization devices are necessary, their placement should not impede the movement of aquatic and terrestrial wildlife underneath the bridge. In some instances, riprap may be buried, backfilled with topsoil and planted with native vegetation.	*Walsh*	*Generally, the riparian corridors will not be affected by the bridge widenings included as part of the Project. The bridge abutments will not encroach into the riparian corridors they span any further than they already do. At Williamson Creek, appropriate bank stabilization measures that conform to the guidance provided will be included in the Project to fix existing erosion issues. At Williamson Creek, there is also an identified hazardous material trap that is not functional. The removal of this structural and restoration of the creek will be evaluated during design phase.*
4			Following instream disturbance, stream substrates should be replaced with similar-sized substrates found within the system to provide proper habitat for aquatic taxa.	*Walsh*	*Erosion stabilization measures will be included as part of the Project at Williamson Creek and any locations where disturbance occurs, and will include use of appropriate stabilization as outlined in the comment. The Project is not expected to disturb substrates at locations other than the Johnson Creek culvert reconstruction and at the Williamson Creek crossing.*
5			Minimize the disturbance and/or removal of aquatic vegetation and woody debris from the stream channel during construction.	*Walsh*	*Disturbance and clearing of vegetation will be kept to a minimum during construction, according to TPWD standard BMP's and any required permits.*
6			Incorporate bat-friendly design into bridges and culverts.	*Walsh*	*Existing bridges and culverts will remain in place. Bridge widening locations will be built to match existing bridges.*

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7			Design bridges for adequate vertical and horizontal clearances under the roadway to allow for terrestrial wildlife to safely pass under the road.	*Walsh*	*Existing bridges and culverts will remain in place. Bridge widenings and proposed adjacent bridge locations will be built to match existing bridges and have similar vertical profiles.*
8			A span wide enough to cross the stream and allow for dry ground and a natural surface path under the roadway is encouraged. For culverts, incorporation of an artificial ledge inside the culvert on one or both sides for use by terrestrial wildlife is recommended.	*Walsh*	*Existing bridges and culverts will remain in place. These existing crossings are wide enough to cross the stream and allow for dry ground and a natural surface path under the roadway. Bridge widenings and proposed adjacent bridge locations will be built to match existing bridges and have similar spans.*
9			Riparian buffer zones should remain undisturbed.	*Walsh*	*Existing bridges and culverts will remain in place. Bridge widenings and proposed adjacent bridge locations will be built to match existing bridges and have similar spans. There will be no change to riparian buffer zones.*
10			Wildlife crossings should be considered in locations near parks and greenbelts to minimize wildlife-vehicle conflict. These structures can include either a bridge or culvert that enable wildlife to safely cross over or under the roadway. Existing bridges and culverts can be retrofitted or modified to facilitate the passage of wildlife by the addition of fencing to direct wildlife to bridge or culverts, creating pathways or installing passage benches for wildlife movement, cleaning out debris material that impedes movement, or incorporating vegetative cover.	*Walsh*	*Wildlife crossings, which generally occur along the riparian corridors, will not be affected by any bridge widening included as part of the Project. No new crossings are planned.*

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11			Project lighting should incorporate dark-sky lighting practices to minimize light pollution while maintaining the lighting needed for driver safety. Lighting should be focused downward with shields or cutoff luminaires, be illuminated only when needed, be as bright as needed, and minimize blue light emissions. Light sources should have a maximum Correlated Color Temperature of 3,000-Kelvin (i.e., warm-toned light). Appropriate lighting technologies, BMP, and other dark sky resources can be found at the International Dark-Sky Association and McDonald Observatory websites.	*Walsh*	*When temporary nighttime lighting is used during construction, when possible, lighting will be directed away from areas where potential tricolored bat, golden-cheeked warbler, or other wildlife habitats exist. When installing new/additional permanent lighting or replacing existing permanent lights, the Project will install downward-facing, full cut-off lens lights, with warm-tones and the same intensity or less for replacement lighting, while maintaining safety.*

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12			The amount of native vegetation proposed for clearing or trimming in lieu of removal, particularly mature native trees, and shrubs, in locations adjacent to parks and greenbelts and within potential suitable habitat for the golden-cheeked warbler, should be minimized for the proposed project. Impacted vegetation should be replaced with in-kind onsite replacement and restoration of the native vegetation. Landscaping and revegetation should use locally adapted native species and seed mix that contains seeds from regional ecotype species.	*Walsh*	*The Project will minimize and avoid tree removal in excess of what is required to implement the proposed Project safely and limit the clearing of vegetation and topsoil to only the areas needed to accomplish the proposed Project or activity. Clearing limits will be clearly marked in the field (e.g., install bright colored flagging/fencing prior to any tree removal/trimming to ensure contractors stay within clearing limits). Suitable habitat for protected species will be surveyed and delineated prior to clearing and grubbing activities. All temporary BMPs will be installed prior to cutting, filling, or any other ground disturbing activity. All disturbed areas will be re-vegetated according to TxDOT's standard practices for urban areas and the TCEQ CGP, in compliance with Executive Order 13112 on Invasive Species and the Executive Memorandum on Beneficial Landscaping. Revegetation efforts will provide appropriate and sustainable cover to prevent erosion and siltation and reseeded with wildflower mix and monarch butterfly foraging habitat.*

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			Detention ponds should be situated in previously disturbed upland areas to avoid or minimize impacts on intact native vegetation, riparian corridors, and wetlands. A vegetated buffer of native, locally adapted plants along with tiered planting can promote natural landscapes, filter pollutants and control erosion, reduce maintenance, and enhance aesthetics.		*The Project does not include any new detention ponds but will achieve water quality control through the use of existing ponds, proposed ponds located in previously disturbed roadway corridors, and proprietary features integrated with the storm drain system. During the design phase, permanent velocity controls and erosion protections will be designed at all existing and proposed storm drain and deck drain outlets, as well as bridge crossings where necessary. These permanent controls would remain in place with the water quality treatment facilities, designed to remove 100 percent of the incremental increase in TSS loads.*

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			Chapter 26 of the Parks and Wildlife Code requires that before a state agency can approve any project that will result in the use or taking of public land designated and used as a park, public recreation area, scientific area, wildlife refuge, or historic site, that state agency must provide certain notices to the public, conduct a hearing, and render a finding that there is no feasible and prudent alternative and that the project includes all reasonable planning to minimize harm to the property. TPWD maintains a statewide inventory of Land and Water Resources Conservation and Recreation Plan (LWRCRP) data depicting conservation and recreation lands in Texas, which can be found as an interactive web map at: LWRCRP--Statewide Inventory 2012 (arcgis.com). TPWD recommends avoiding lands owned or managed for conservation or recreation by city, county, state, and federal entities. Such entities should be contacted early in the planning process to determine if the project may impact their property. In cases where a park or similar recreation facility has received grants from TPWD, replacement of any land converted from recreational use is required. Will there be any impacts to city parks from the proposed project? Has there been coordination with the City of Austin for parks/greenbelts? Will the proposed project require an NWP or IP? Will the proposed project require USACE mitigation?		*The Project has made every effort to minimize and avoid impacts to protected parkland adjacent to the project. The Project will require temporary construction easements only. The CTRMA has been coordinating with Dan Reece at TPWD on LWRCRP, and with numerous staff at the City of Austin Parks and Recreation Department, to satisfy the Texas Chapter 26 and federal Section 4(f) and LWRCRP requirements.*

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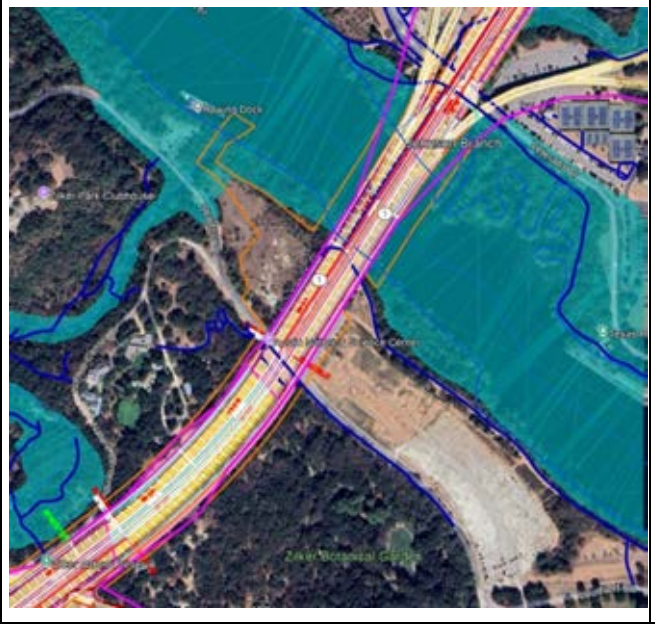
Item	**Page**	**Section**	**Comment/Recommended Solution**	**Commenter**	**How Addressed (or why not addressed)**
			Could you provide additional information about the PSL in Zilker Park that includes the mouth of Eanes Creek and portion of Lady Bird Lake (see picture below). TPWD recommends minimizing impacts to the riparian vegetation and shoreline habitat at this location. Could you provide additional information on the drainage infrastructure plan, including if there will be tunneling at this location. 		*The Project has made every effort to minimize and avoid impacts to protected parkland adjacent to the project. Since this map was created, the Project has decided not to limit the temporary easement west of MoPac to a narrow strip directly adjacent to the right of way, similar to the rest of the corridor. Please see the graphic below that shows the new areas where temporary construction easements will be located. The Project will minimize and avoid removal of riparian and shoreline habitat in excess of what is required to implement the proposed Project safely and limit the clearing of vegetation to only the areas needed to accomplish the proposed Project or activity and contractors shall establish clearing limits and how they are marked in the field. It is anticipated that shoreline disturbance will not occur as barge access it proposed east of the project at an existing concrete boat ramp.* 

From: WHAB_TxDOT
To: Brandon Hobbs
Cc: Tracy White; Suzanne Walsh
Subject: RE: MoPac South | 3136-0-176 TPWD Initial Collaboration
Date: Tuesday, October 21, 2025 3:02:44 PM
Attachments: image001.png

The TPWD Wildlife Ecological & Environmental Planning Program has received your request and has assigned it project ID # **57107**. The Ecological & Environmental Planning Program Biologist who will complete your project review is copied on this email.

From: Brandon Hobbs <Brandon.Hobbs@txdot.gov>
Sent: Thursday, October 16, 2025 1:09 PM
To: WHAB_TxDOT <WHAB_TxDOT@tpwd.texas.gov>
Cc: Tracy White <Tracy.White@txdot.gov>
Subject: MoPac South | 3136-0-176 TPWD Initial Collaboration

Hello,

Attached are documents for your initial collaborative review regarding the MoPac South Project in Travis County. A description of the proposed project is below. Documents attached include:

- Species Analysis Form
- Species Analysis Spreadsheet
- Project Layout .kmz
- Species BMPs

Please feel free to reach out with any questions or comments. Thank you

Proposed Project Description

The logical termini of this Project are Cesar Chavez Street and Slaughter Lane with transitions on both ends to tie back into the existing facility. To the north, the Project

would tie into the existing MoPac Express Lane that was opened to traffic in 2017. The southern end of the Project would include appropriate transitions to match existing MoPac near Slaughter Lane. The Project will extend a total of 8.77 miles along MoPac South with intersection improvements at William Cannon Drive 350-feet east and west of MoPac, ramp improvements along US 290 4,000-feet west of MoPac, and ramp Improvements along SL 360 700-feet east of MoPac. The proposed Project will require no additional right-of-way (ROW) , no new permanent easements, and 12.52 acres of temporary construction easements.

The project is proposed to include the construction of a shared use path connecting from the Roberta Crenshaw Bridge over Lady Bird Lake south to Slaughter Lane, approximately 7.8 miles for cyclists and pedestrians. Facilities will include American Disabilities Act (ADA) compliant and pedestrian safety elements at sidewalks and cross streets. The average width of the shared use path is 10 feet. The majority of the shared use path is along the east side of the corridor; additional shared use path and/or sidewalk construction is planned along the west side of MoPac, depending upon ROW and other constraints.

The preliminary build alternatives considered transportation system/demand management, adding one or more lanes in each direction: non-tolled general-purpose lanes, high occupancy vehicle (HOV) lanes, transit-only lanes, and express lanes that utilize variable toll rates, along with a no build alternative. The express lane(s) alternative was determined to be the Reasonable Build Alterative in 2015 based on the 2035 traffic evaluation. This recommendation has since been affirmed by the updated 2045 traffic evaluation completed in 2024. The no build alternative will be carried forward along with the express lane(s) alternative into the Environmental Assessment.

Six operational configurations of the express lane(s) alternative continue to be assessed; these include:

- 1A – One express lane with downtown direct connection
- 1B – One express lane without downtown direct connection
- 2A – Two express lanes with downtown direct connection
- 2B – two express lanes without downtown direct connection
- 2C – two express lanes with elevated ramps near Barton Skyway
- 3 – City of Austin Proposal – Separate two-lane collector distributor road connection to downtown

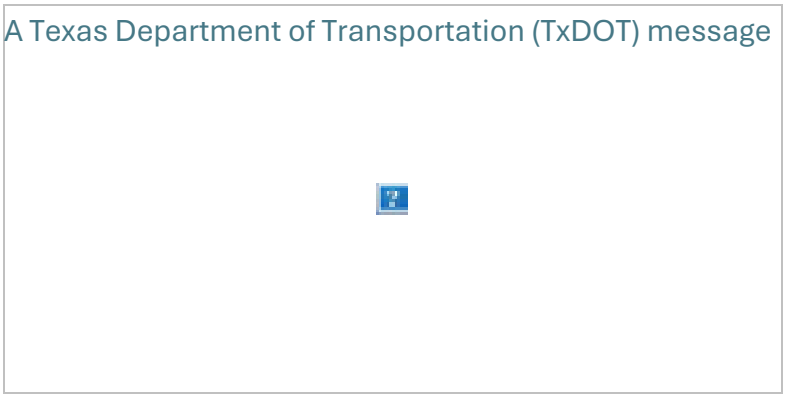
All operational configurations are controlled access, with 12’ wide express and general-purpose lanes where the roadway is widened or reconstruction, and 11’ wide lanes on

existing bridges to remain. Outside shoulder widths are 10', inside shoulder widths vary from 4' to 10' in both directions. Drainage is a combination of closed pipe and open ditch with water quality detention ponds. There are nine grade separated interchanges, eight overpasses, two underpasses, 39 ramps, 24 at-grade ramps, and 15 elevated ramps.

Temporary construction easements will be needed throughout the corridor to support construction of the shared use path, retaining walls, and bridges. Major crossings will occur over the Colorado River floodplain at Lady Bird Lake and across Barton Creek. New piers are anticipated to align with existing piers at these crossings. Temporary construction easements will be required for barges to be launched to support bridge construction over the Colorado River. Other bridges, such as Williamson Creek Bridge, would also be widened by adding piers along the east and/or west side. Water quality treatment ponds and other drainage infrastructure are also proposed. Any impacted hazardous materials traps will be replaced and may be combined with other water quality facilities. Noise barriers will be constructed where reasonable and feasible at impacted receptors.

Regards,

Brandon Hobbs | Environmental Project Planner
Austin District
7901 N. I-35, Austin, TX 78753
(512) 832-7001
brandon.hobbs@txdot.gov



From: WHAB_TxDOT
To: Jon Geiselbrecht; WHAB_TxDOT
Cc: Jessica Schmerler
Subject: RE: TPWD has received your request for early coordination
Date: Thursday, June 4, 2020 1:02:49 PM

The TPWD Wildlife Habitat Assessment Program has received your request and has assigned it project ID # 44028. 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: Jon Geiselbrecht <Jon.Geiselbrecht@txdot.gov>
Sent: Thursday, June 4, 2020 10:44 AM
To: WHAB_TxDOT <WHAB_TxDOT@tpwd.texas.gov>
Subject: RE: TPWD has received your request for early coordination

The file is 144M. Attached is just the Tier I form.

TxDOT had a ransomware attack over the last few weeks and things have been jacked up. ECOS was supposedly fixed for outside users but apparently there are still issues. I'm having trouble uploading the materials to ECOS as well. Hopefully, this will get up started….

From: WHAB_TxDOT [mailto:WHAB_TxDOT@tpwd.texas.gov]
Sent: Thursday, June 04, 2020 10:29 AM

To: Jon Geiselbrecht <Jon.Geiselbrecht@txdot.gov>; WHAB_TxDOT <WHAB_TxDOT@tpwd.texas.gov>
Subject: RE: TPWD has received your request for early coordination

We should, but now when I try to log into ECOS it just gives me a blank screen. No error or notice about the password, just a solid white screen.

How large is the file you're trying to send?

For my purposes, to just get the project entered and assigned, all I need is the Tier 1 form.

Thank you,

John Ney
Administrative Assistant
Texas Parks & Wildlife Department
Wildlife Diversity Program – Habitat Assessment Program
4200 Smith School Road
Austin, TX 78744
Cell: (512)567-5282
Office: (512) 389-4571

From: Jon Geiselbrecht <Jon.Geiselbrecht@txdot.gov>
Sent: Thursday, June 4, 2020 10:13 AM
To: WHAB_TxDOT <WHAB_TxDOT@tpwd.texas.gov>
Subject: RE: TPWD has received your request for early coordination

It appears our Dropbox service is out of order. Y'all have access to ECOS correct?

From: WHAB_TxDOT [mailto:WHAB_TxDOT@tpwd.texas.gov]
Sent: Thursday, June 04, 2020 9:27 AM
To: Jon Geiselbrecht <Jon.Geiselbrecht@txdot.gov>
Cc: WHAB_TxDOT <WHAB_TxDOT@tpwd.texas.gov>

Subject: TPWD has received your request for early coordination

This notification was automatically generated to indicate TPWD has received your Early Coordination request. You will soon be contacted by the biologist assigned to review your project.

If the request you submitted was for Administrated Coordination, please follow the process described in the Memorandum of Understanding between TxDOT and TPWD regarding Administrated Project Coordination (see Texas Administrative Code Title 43 Part 1 Chapter 2 Subchapter G Rule §2.208).

Appendix E: TPWD BMP Form

Form

Documentation of Texas Parks and Wildlife Department Best Management Practices

Project Name: **Loop 1 South – Central Texas Regional Mobility Authority (CTRMA)**

CSJ(s): **3136-01-176**

County(ies): **Travis**

Date Form Completed: **May 7, 2025**

Prepared by: **Nathaniel Yost**

Information on state-listed species, Species of Greatest Conservation Need (SGCN), water resources, and other natural resources can be found in the ECOS documents tab under the filenames specified in the e-mail sent to WHAB_TXDOT@tpwd.texas.gov.

1. Does the project impact any state parks, wildlife management areas, wildlife refuges, or other designated protected areas?

   ☒ No

   ☐ Yes

   <if yes, describe>

2. Does TxDOT need TPWD assistance in identifying and locating Section 404 mitigation opportunities for this project?

   ☒ No / N/A / Not yet determined

   ☐ Yes

   <if yes, describe>

3. Is there a species or resource challenge that TPWD can assist with additional guidance? If so, describe below:

   <describe assistance requested>

4. List all Best Management Practices (BMP) that will be applied to this project per the document *Beneficial Management Practices: Avoiding, Minimizing, and Mitigating Impacts of Transportation Projects on State Natural Resources*.

   ***Note, these are BMP that TxDOT and CTRMA commits to implement at the time this form is completed. This list may change prior to or during construction based on changes to project impacts, design, etc.**

BMP to be Implemented:

1. General Design and Construction BMP

- Contractors and their employees will be provided with information prior to the start of construction to educate personnel of the potential for all state-listed threatened species or other SGCN to occur within the project area and should be advised of relevant rules and regulations to protect plants, fish, and wildlife.
- Contractors will be directed to avoid harming all wildlife species if encountered and allow them to safely leave the project site. Due diligence should be used to avoid killing or harming any wildlife species in the implementation of transportation projects.
- Contractors will direct animals away from the construction area with the judicious use and placement of sediment control fencing to exclude wildlife. Exclusion fences should be buried at least 6 inches and be at least 24 inches high, maintained for the life of the project, and removed after construction is completed. Contractors should examine the inside of the exclusion area daily to determine if any wildlife species have been trapped inside the area of impact and provide safe egress opportunities prior to initiation of construction activities.
- Contractors will apply hydromulching and/or hydroseeding in areas for soil stabilization and/or revegetation of disturbed areas around wetlands and in riparian areas. Hydromulch that contains microplastics should be avoided.
- If erosion control blankets or mats will be used, the product should not contain netting but should only contain loosely woven natural fiber netting in which the mesh design allows the threads to move, therefore allowing expansion of the mesh openings. Plastic netting should not be used.
- Project staging areas, stockpiles, temporary construction easements, and other project related sites should be situated in previously disturbed areas to avoid or minimize impacts to sensitive or unique habitats including intact native vegetation, floodplains, riparian corridors, wetlands, playa lakes, and habitat for wildlife species.
- When lighting is added, consider wildlife impacts from light pollution and incorporating dark-sky practices into design strategies. Minimize sky glow by focusing light downward, with full cutoff luminaries to avoid light emitting above the horizontal. The minimum amount of night-time lighting needed for safety and security should be used. Light sources should have a maximum Correlated Color Temperature of 3,000-Kelvin (i.e., warm-toned light).

2. Vegetation BMP

2.1 Terrestrial Vegetation

- Minimize the amount of vegetation cleared. Removal of native vegetation, particularly mature native trees and shrubs should be avoided. Impacted vegetation should be replaced with in-kind on-site replacement/restoration of native vegetation.
- To minimize adverse effects, activities should be planned to preserve mature trees, particularly acorn, nut, or berry producing varieties. These types of vegetation have high value to wildlife as food and cover.
- It is strongly recommended that trees greater than 12 inches in diameter at breast height (DBH) that are removed be replaced at a ratio of three trees for every one (3:1) lost should be provided to either on-site or off-site. Trees less than 12 inches DBH should be replaced at a 1:1 ratio.
- Replacement trees should be of equal or better wildlife quality than those removed and be regionally adapted native species.
- When trees are planted, a maintenance plan that ensures at least an 85 percent survival rate after three years should be developed for the replacement trees.
- The use of any non-native vegetation in landscaping and revegetation is discouraged. Locally adapted native species should be used.
- The use of seed mix that contains seeds from only regional ecotype native species is recommended.

2.2 Submerged Aquatic Vegetation

- Site and configure access routes, staging areas, work areas, and other project components to avoid and minimize impacts to submerged aquatic vegetation during all stages of the project.
- Use existing channels for access. Where existing channels are unavailable, use shallow draft or air propelled boats/barges where appropriate water levels are available to accommodate vessel drafts under load and use floating construction mats to minimize compaction and physical damage where appropriate water levels are unavailable.
- Do not use marsh buggies or tracked vehicles in mudflats, or unvegetated shallows to avoid direct impacts from physical damage and indirect impacts from sediment disturbance.
- Use turbidity curtains, hay bales, vegetated swales, or other appropriate means to reduce suspended solids in stormwater runoff and elevated turbidity levels associated with dredge/fill activities.

3. Invasive Species BMP

- For all work in water bodies designated as 'infested' or 'positive' for invasive zebra (*Dreissena polymorpha*) or quagga mussels (*Dreissena bugensis*) on https://tpwd.texas.gov/zebramusselsmap as well as waters downstream of these lakes, all machinery, equipment, vessels, or vehicles coming in contact with such waters should be cleaned prior to leaving the site to remove any mud, plants, organisms, or debris; water drained (if applicable); and dried completely before use in another water body to prevent the potential spread of invasive mussels. If barges and other equipment is stored in the water on a lake with zebra mussels for more than a few days, invasive mussels are likely attached. TPWD should be contacted for guidance at ZMboats@tpwd.texas.gov a week or more prior to moving equipment from the lake. This equipment must be decontaminated with a high-pressure washer, heated (140° F) if possible, to remove and/or kill all mussels, and quarantined and dried for up to 2 weeks before launching in another water body. TPWD will provide specific guidance on the process on a case-specific basis.
- Barges and other equipment stored in the water may be inadvertently sourced from a water body with invasive mussels and could be carrying thousands to millions of attached mussels illegally, with potential to cause a new infestation in the water body where work will occur. Contractors should be made aware of this risk and provided with https://tpwd.texas.gov/zebramusselsmap as a resource for determining if the water body where sourced equipment was last used or stored in the water has invasive mussels. If yes, TPWD should be contacted at ZMboats@tpwd.texas.gov for guidance a week or more prior to moving equipment and the equipment must be decontaminated as described above prior to launch on the water body where the project will occur. Transport of live or dead zebra mussels is illegal, and such equipment is extremely high risk for causing a new infestation.
- Care should be taken to prevent the spread of aquatic and terrestrial invasive plants during construction activities. Educate contractors on how to identify common invasive plants and the importance of proper equipment cleaning, transport, and disposal of invasive plants in a manner and location that prevents spread when invasive plants are removed during construction.
- Care should be taken to avoid the spread of aquatic invasive plants such as giant Salvinia (*Salvinia molesta*), common salvinia (*Salvinia minima*), hydrilla (*Hydrilla verticillata*), water hyacinth (*Eichhornia* spp.), Eurasian watermilfoil (*Myriophyllum spicatum*), water lettuce (*Pistia stratiotes*), and alligatorweed (*Alternanthera philoxeroides*) from infested water bodies into areas not currently infested. All machinery, equipment, vessels, boat trailers, or vehicles coming in contact with waters containing aquatic invasive plant species should be cleaned prior to leaving the site to remove all aquatic plant material and dried completely before use on another water body to prevent the potential spread of invasive plants. Removed plants should be transported for disposal in a secure manner to prevent dispersal.
- Colonization by invasive plants should be actively prevented on disturbed sites in terrestrial habitats. Vegetation management should include removing or chemically treating invasive species as soon as practical while allowing the existing native plants to revegetate the

disturbed areas; repeated removal or treatment efforts may be needed. Only native or non-invasive plants should be planted. Care should be taken to avoid mowing invasive giant reed (*Arundo donax*), which spreads by fragmentation, and to clean equipment if inadvertently mowed to prevent spread. If using hay bales for sediment control, use locally grown weed-free hay to prevent the spread of invasive species. Leave the hay bales in place and allow them to break down, as this acts as mulch assisting in revegetation.

- Aquatic invasive species (e.g., tilapias (*Oreochromis* spp., *Tilapia zillii*), suckermouth armored catfish (*Hypostomus plecostomus*, *Pterigoplichthys* spp.), Asian clams (*Corbicula fluminea*), zebra mussels (*Dreissena polymorpha*)) or those not native to the subwatershed should not be relocated but rather should be dispatched. Invasive mussels attached to native mussels should be removed and destroyed or disposed prior to relocation of the native mussels. Prohibited aquatic invasive species, designated as such in 31 TAC §57.112, should be killed upon possession. Refer to TPWD's list of Prohibited/Controlled Exotic Species available online at: Exotic Fish, Shellfish and Invasive Aquatic Plants (texas.gov).

4. Water Quality BMP

In addition to BMP required for a Texas Commission on Environmental Quality (TCEQ) Stormwater Pollution Prevention Plan (SWP3) and/or 401 Water Quality Certification:

- 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. Avoid using hard features such as riprap, articulated concrete blocks, and gabion baskets for bank stabilization.
- Wet-bottomed detention ponds are recommended to benefit wildlife and downstream water quality. Consider potential wildlife-vehicle interactions when siting detention ponds.
- Rubbish found near bridges on TxDOT right-of-way (ROW) should be removed and disposed of properly to minimize the risk of pollution. Rubbish does not include brush piles or snags.

5. Dewatering BMP

- Follow the most recent TPWD Aquatic Resources Relocation Plan Guidelines (PWD LF T3200-1956).
- Impact avoidance measures for aquatic organisms, including all native fish and freshwater mussel species, regardless of state-listing status, should be considered during project planning and construction activities.
- Contractors should be aware Section 12.0011 (b)(1) of PWC, authorizes the department to investigate fish kills and any type of pollution that may cause loss of fish or wildlife resources, take necessary action to identify the cause and party responsible for the fish kill or pollution, estimate the monetary value of lost resources, and seek restoration. In addition, Section 12.301 of the PWC establishes liability to the state for any person who kills, catches, takes, possesses or injures any fish, shellfish, reptile, amphibian, bird or animal in violation of the PWC or of a rule adopted under the PWC.

5. List all TxDOT species protection specifications that will be applied to this project (e.g., Amphibian and Reptile Exclusion Fence, Bat Houses, etc.)

Species protection specifications to be Implemented:

1. Rare Plant BMP

The following plant BMP apply to projects within range of and in suitable habitat for all plant SGCN that are listed on TPWD's RTEST online application.

- Survey project area during appropriate seasons to allow for correct species identification. Habitat and survey seasons are usually during the flowering and/or fruiting period listed on the RTEST website, if available. Surveys should be performed within suitable habitat for the species. Survey effort is project-, species- and habitat-dependent. Botanical field surveys should be conducted by qualified individual(s) with botanical experience and according to

commonly accepted survey protocols. Ensure that any equipment, tools, footwear and clothing are clean prior to entering the project site area to avoid introducing invasive species. Prior to surveying, TPWD is available to provide assistance with species identification and appropriate survey effort.

- If SGCN plants are located, the surveyor should attempt to determine the complete extent of the occurrence and the approximate number of individuals within the occurrence. Suitable GPS equipment should be used to map the boundaries of the population. Photographs should be taken and/or voucher specimens should be collected (if sufficient plants are present, i.e., more than 10 reproductive plants). Please note that a state collection permit is required from TPWD to collect voucher specimens of state-listed species and a federal collection permit is required from U.S. Fish and Wildlife Service (USFWS) to collect federally listed species. Photographs should capture diagnostic characters of the species for verification and should be discussed with TPWD prior to surveys if surveyors are unfamiliar with the species. Vouchers should be deposited with TPWD or in one of Texas' major herbaria (e.g., University of Texas at Austin, Botanical Research Institute of Texas, Texas A&M University, Sul Ross State University, etc.).
- If there is a known TXNDD SGCN plant population within the project area and project timing or other constraints do not allow for surveys, contact TPWD Transportation Liaison as soon as possible to discuss other options.
- If an SGCN plant species is located during surveys of the project area, then complete the following during the construction phase:
    - Avoid impacts and minimize unavoidable impacts. Plant locations should be protected with temporary barrier fencing and contractors should be instructed to avoid protected areas. Conducting construction outside of the growing season or after a plant has produced mature fruit is the preferred way to avoid/minimize impacts to SGCN plant populations. Staging areas, stockpiles, and other project related sites on TxDOT ROW should not impact SGCN plant populations. After construction begins, minimize herbicide use near SGCN plant populations (if possible, use hand-held spot sprayers, several meters from rare plants, on still or days with little wind).
    - If there are unintended impacts to SGCN populations, these impacts should be reported to TPWD Transportation Liaison.
    - If the project footprint is finalized or is subject to change AND impacts to SGCN plants cannot be avoided, notify TPWD Transportation Liaison as soon as possible. Early notification will allow adequate time and opportunity to seed bank or otherwise conserve populations prior to construction.
- Submit observation(s) of SGCN plant populations and associated data to the TXNDD and WHAB_TxDOT@tpwd.texas.gov. A TXNDD Reporting Form with shapefiles delineating the outer boundary of the population are preferable. Include detailed information on who identified and how a species was identified (resources/references used; diagnostic characters observed). If an SGCN plant population is located near non-native invasive plants, this should be recorded and reported in TXNDD Reporting Form.
- Although these BMP do not apply to federally listed species, the observation of federally listed species should also be submitted to TPWD.
- During project period, conduct work during times of the year when plants are dormant and/or conditions minimize disturbance of the habitat.
- Develop a plan based on growing season, mower height/season, etc. for protecting sites into the future. Maps should also be developed for rare plant areas, which include no mow areas. Known rare plant sites on ROWs and/or new sites found in future projects can be added to this map/plan.
- Conducting maintenance outside of the growing season or after a plant has produced mature fruit is the preferred way to avoid/minimize impacts to habitat.

2. Bird BMP

The following Bird BMP apply to projects within the range and in suitable habitat for all bird SGCN listed on TPWD's RTEST application. Please note that projects within the range and in suitable habitat for the bald eagle (Haliaeetus leucocephalus) and golden eagle (Aquila chrysaetos) are required to

comply with the Bald and Golden Eagle Protection Act (BGEPA). In addition to complying with the Migratory Bird Treaty Act (MBTA) and Chapter 64 of the PWC regarding nongame bird protections, perform the following BMP:

- Avoid vegetation clearing activities during the general bird nesting season, March through August, to minimize adverse impacts to birds. Note that some birds, especially birds of prey, may begin nesting as early as October (i.e., bald eagles) or December (i.e., great horned owls (*Bubo virginianus*)).
- Prior to construction, the project will perform daytime surveys for nests including under bridges and in culverts to determine if they are active before removal. Nests that are active should not be disturbed. An active nest is a nest that contains an egg, nestling, or is being used by a nestling or fledgling. If active nests are observed during surveys, TPWD recommends a 150-foot buffer of vegetation remain around the nests until the young have fledged or the nest is no longer active.
- Do not disturb, destroy, or remove active nests, including those of ground nesting birds, during the nesting season.
- If unoccupied, inactive nests will be removed, ensure that nests are not protected under the Endangered Species Act (ESA), MBTA, or BGEPA.
- 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.
- Minimize extended human presence near nesting birds during construction and maintenance activities. Protect sensitive habitat areas with temporary barriers or fencing to limit human foot-traffic and off-road vehicle use to alert and discourage contractors from causing any unintentional impacts.
- Minimize construction noise above ambient levels during general bird nesting season to minimize adverse impacts on birds.
- Minimize construction lighting during the general bird nesting season by scheduling work activities between dawn and dusk.

3. Bat BMP

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. Surveys should also be conducted at the time of year at which planned activities will take place (i.e., if construction activities are scheduled to take place in winter, then a qualified biologist should perform occupancy surveys at the site during winter and not during the summer).
- 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.
- Bat surveys of structures should include visual inspections of structural fissures (cracked or spalled concrete, damaged or split beams, split or damaged timber railings), crevices (expansion joints, space between parallel beams, spaces above supports piers), and alternative structures (drainage pipes, bolt cavities, open sections between support beams, swallow nests) for the presence 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.
- 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.
- 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.
- In all instances, avoid harm or death to bats. Bats should only be handled as a last resort and after communication with TPWD.

4. Terrestrial Amphibian and Reptile BMP
- 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.
- Avoid or minimize disturbing or removing cover objects, such as downed trees, rotting stumps, brush piles, and leaf litter. If avoidance or minimization is not practicable, consider removing cover objects prior to the start of the project and replace them at project completion.
- Examine heavy equipment stored on site before use, particularly after rain events when reptile and amphibian movements occur more often, to ensure use will not harm individuals that might be seeking temporary refuge.
- Due to increased activity (mating) of reptiles and amphibian during the spring, construction activities like clearing or grading should be scheduled outside of the spring (March-May) season. Also, timing ground disturbing activities before October when reptiles and amphibians become less active and may be using burrows in the project area is also encouraged.
- When designing roads with curbs, consider using Type I or Type III curbs to provide a gentle slope to enable turtles and small animals to get out of roadways.

5. Aquatic Amphibian and Reptile BMP
- Minimize impacts to wetlands, temporary and permanent open water features, including depressions and riverine habitats.
- Maintain the existing hydrologic regime and any 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 around wetlands and in riparian areas. If erosion control blankets or mats will be used, select wildlife-friendly products from TxDOT's Approved Products List. Products should contain no netting or contain loosely woven natural fiber netting in which the mesh design allows the threads to move, therefore allowing expansion of the mesh openings to prevent wildlife entanglements. Hydromulch that contains microplastics and plastic netting should be avoided.
- Project specific locations (PSLs) proposed within state-owned ROW should be located in uplands away from aquatic features.
- Limit use of herbicides for vegetation management around aquatic habitat to minimize impacts to aquatic species.
- When work is directly adjacent to the water, minimize impacts to shoreline basking sites (e.g., downed trees, sand bars, exposed bedrock) and refugia/overwinter sites (e.g., brush and debris piles, crayfish burrows, aquatic logjams, and leaf packs).
- If gutters and curbs are part of the roadway design, 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

Appendix E: ESA Section 7 Coordination

MoPac South Mitigation Meeting

9/24/25

Attendees: TxDOT - Clover Clamons, Andrea Montalvo, Andy Blair, Tracy White

USFWS: Dawn Gardiner

CTRMA: Charlotte Gilpin, Heather Beatty, Kemble White, Kirk Webb

- Dawn Gardiner - Service wants a map of the springs discussed provided with the BA including any baseline species information available for the springs
- Genetics variability work (Chris Nice) instead of mark recapture for BSS/ABS and study of constituents/contaminants in salamander tissue (Pete Diaz)
    - Kemble White – some difficulty in getting ABS samples for use – only come out during high flow events. Perhaps fund COA studies to carry out this work
    - Charlotte Gilpin – need to set clear expectations as to when these measures would be considered complete/obligations met
    - Andy Blair – agree to clear expectations and need to work with City of Austin on what they are planning/doing. Also need to acknowledge that contaminant tissue studies require taking/destroying whole animal. (Dawn – oh we don't want to do that). Genetics can be done with tail clippings and not taking a whole animal.
    - Kemble – if we do gather salamander tail clippings, it will primarily support BSS, not ABS due to their rarity in sampling.
    - Dawn – comment was aimed at ABS, not BSS, but it sounds like the availability of samples may be problematic.
    - Charlotte Gilpin – sounds like we need a meeting with City of Austin and the CTRMA team. Service does not need to be included. Should include someone with ENV. May also need to include university researchers.
    - Andy Blair – need to understand needs/objectives from USFWS
    - Dawn – definitely gene flow across the species.
    - Andy – need to be thoughtful when choosing specific researchers.

Dawn – Karst

- Segue into Onion Creek area and associated recharge projects
- also COA Wildland caves
- If there is something good that can be done for Whirlpool and other caves on/in the ROW, that would also be helpful.

- If UT collection needs help digitizing karst samples
    - Kemble – Nick Gladstone is involved in the UT collection
    - Dawn – will check with Nick
- If there are opportunities for land acquisition to support KIS,

  Kemble/Andy – discussion of ownership/management of *Texella reddelli* caves in Rollingwood. COA? Some by Water Treatment plant – may be willing to work with us on conservation measures – enhance surrounding surface/recharge enhancement around those features

Dawn – educational signage?

- Andy – Whirlpool cave, Austin Nature and Science Center off MoPaC.
- Charlotte Gilpin – educational signage on SH 45.
- Kemble – space next to Austin Nature and Science Center – Austin HS population park there and walks across the bridge. High impact area for educational signage.

Tracy – We do need to get everything captured and decided upon before we can put them in the BA. Don't want to slow that process down

Andy – may need to keep measures that rely on other parties generic in the BA we can be flexible until things are decided. The COA will need to have a say in what gets done and how it gets done on lands that they manage.

MoPac South Environmental Study

Meeting Notes

Date: Friday, January 24, 2024
Time: 10 am
Location: Teams call
Purpose: Updates to the BA and mitigation measures

ATTENDEES

Brandon Hobbs, Texas Department of Transportation
Andrew Blair, Texas Department of Transportation
Clover Clemmons, Texas Department of Transportation
Scott Ford, Texas, Texas Department of Transportation
Andrea Montalvo, Texas Department of Transportation
Lindsey Kimmitt, Texas Department of Transportation
Lorena Martinez, Texas Department of Transportation
Oscar Solis, Central Texas Mobility Authority
Charlotte Gilpin, MoPac South GEC team
Kirk Webb, MoPac South GEC team
Nathaniel Yost, MoPac South GEC team
Kemble White, MoPac South GEC team
Heather Beatty, MoPac South GEC team

MEETING SUMMARY

- Intros
- Agenda items
- Brief recap and meeting purpose, executive summary supplied to participants prior to meeting.
- Heather gave an update on reporting around karst habitat and expected impacts with ground disturbance.
- Andy believes we are using the right approach to protect salamanders. LAA = may affect, likely to adversely affect is appropriate as there is a chance for a take and will identify measures in the BA to offset potential impacts from excavation.
- For monarch butterfly, project team should use the CCAA agreement and include in the BA to provide take coverage should monarch butterfly become listed.
- Federal nexus is funding, with CapMetro and TIFIA funding; same as with need for Section 7 consultation. Should be covered by CCAA, and there is guidance in Env toolkit.
- Design and construction avoidance measures to be implemented in the BA; excavation is associated with structure foundations in certain parts. Most of the project is on fill, but mitigation will include heavy monitoring during construction in the northern areas of the project where karst features are located. Need to develop mitigation details, including void mitigation, highlight measures with water quality for aquifer protection, above TCEQ requirements, from WQ tech reports. WQ TR has been submitted to TxDOT as part of schematic submittal. TCEQ requires 80% capture of runoff for new impervious, but our goal is 100% for project. Now, looking at pond locations to improve those to remove difficult areas using treatment BMPs that are less disruptive.
- Avoid and minimize with design, construction, and then include some sort of compensation for potential takes. We should look at scale of impacts, with acknowledgement there will be minor impacts that may be unavoidable. The project will then need to find some restoration work. Look at options on karst invertebrates; not much to do for karst amphibians. We have a menu of measures from other projects

with RMA. Send list of measures to TxDOT for review early, then coordinate with FWS before submitting BA. Will add to executive summary as well for review.

- TxDOT will review BA draft and send out for early review when ready. TxDOT will send over the draft template for use that is not on the Toolkit site.
- If there are any additional constituents that we are treating for WQ, highlight those that may have effect on salamanders or other species in BA. Project team will provide information we have, but some constituents may not be able to provide agreed upon amounts to be reduced; but can provide some measure of removals even if not quantifiable. Project will strive to identify constituents that are relevant to highway projects, and which ones are not; and document how we are working to lessen the potential for minor takes.
- Mussel survey, that followed protocols, showed no detection of listed mussel species so can list in analysis spreadsheet and not discuss in the BA. Will be in line with expectations.
- Project will look at potential habitat, culverts and tree cover for Tricolored bats. Keep species in its own box and be nimble about changes to listing of species. Appendix K of FWS document on NE long-eared bats survey guidance, for TCB protocols to use. Will roost in caves in TX. Add known caves as well, and what will be their potential for impacted bat habitat. Link to guidance provided during the meeting by TxDOT.
- Important to get project liaison as well as species lead from FWS at meeting once mitigation measures are finalized with TxDOT. Deliver agreed upon options to FWS a week prior to meeting for review.
- Provide a draft BO to FWS, if they agree to what we've included in BA, then that will help quicken the process. Need to check scope so that is included to speed the process. BO accompany or shortly after BA submittal, no more than a month later.

- Actions:
    - Provide updated executive summary with mitigation measures to TxDOT for review
    - TxDOT to provide BA and BO templates (complete)
    - Continue updating draft BA for review to TxDOT
    - Follow-up meeting with TxDOT to discuss and agree upon mitigation measures for the BA

MoPac South Environmental Study

Meeting Notes

Date: Tuesday, February 18, 2024
Time: 10 am
Location: Teams call
Purpose: Updates to the BA and mitigation measures

ATTENDEES

Brandon Hobbs, Texas Department of Transportation
Andrew Blair, Texas Department of Transportation
Tracy White, Texas Department of Transportation
Scott Ford, Texas, Texas Department of Transportation
Andrea Montalvo, Texas Department of Transportation
Lindsey Kimmitt, Texas Department of Transportation
Lorena Martinez, Texas Department of Transportation
Shane Rotter, Texas Department of Transportation
Oscar Solis, Central Texas Mobility Authority
Mike Sexton, Central Texas Mobility Authority
Charlotte Gilpin, MoPac South GEC team
Kirk Webb, MoPac South GEC team
Nathaniel Yost, MoPac South GEC team
Kemble White, MoPac South GEC team
Heather Beatty, MoPac South GEC team

MEETING SUMMARY

- Intros
- Agenda items
- Brief recap and meeting purpose, executive summary supplied to participants prior to meeting that now included mitigation measures.
- Once TxDOT approves final mitigation measures, a meeting with the liaisons and leads for each listed species at FWS will need to be scheduled. Currently FWS is dealing with staffing changes, so it is imperative that we provide specific mitigation measures and give ample reasons to support our decisions for FWS approval.
- A figure that would be included in the BA to show structural controls up gradient of known recharge features (creek beds are generally assumed to be recharge features) would be beneficial for FWS to visualize the project and where the water quality controls will be placed for groundwater mitigation.
- Add additional language to void discoveries to any potential construction contracts as presence absence surveys when karst voids are encountered could take up to a month of stoppage. We want the contractors to be aware of this process so that they do not potentially sue for liquidated damages if the stoppage language is not written in our mitigation measures.
- Of note, the language in this executive summary for mitigation measures will be more detailed when provided to the contractors so that there are no loophole language/generic statements.
- If any geotechnical work is needed within Karst Zones 1 or 2, there is a programmatic coverage document that can be used. Clover noted that this has limitations. It cannot be used within the surface or subsurface drainage basin of any known occupied feature (cave/spring), or within 750 feet of the feature if the surface/subsurface drainage

basins are not known. Drilling within proximity to occupied features must be assessed under individual project consultation.

- Actions:
  - Provide updated executive summary based on TxDOT's comments for review back to TxDOT
  - Include a figure in the BA that would show design features for drainage structures to maximize water quality coverage
  - Follow-up meeting with TxDOT and FWS to discuss and agree upon mitigation measures for the BA

MoPac South Environmental Study

Meeting Notes

Date: Monday, Sept. 16, 2024
Time: 10am
Location: Teams Meeting
Purpose: MoPac South EA; Pre-USFWS Consultation Meeting

ATTENDEES

- Brandon Hobbs, Texas Department of Transportation
- Scott Ford, Texas Department of Transportation
- Tracy White, Texas Department of Transportation
- Andrew Blair, Texas Department of Transportation
- Mike Sexton, Central Texas Regional Mobility Authority
- Oscar Solis, Central Texas Regional Mobility Authority
- Charlotte Gilpin, MoPac South GEC team Project Manager
- Kirk Webb, MoPac South GEC team, Environmental Lead
- Nathaniel Yost, MoPac South GEC team, Biological Assessment author
- Heather Beatty, MoPac South GEC team karst and geology lead Kemble White, MoPac South GEC team, karst and TSE lead

MEETING SUMMARY

- MoPac South (MPS) project team surveyed for salamanders 3 years ago and we are wondering if we can extend the shelf life of the surveys as the protocol is only valid for 3 years.
    - TxDOT believes that it might be best to wait and see when construction starts instead of having to maybe survey again if construction doesn't start in 3 years.
    - We can discuss with USWFS at the initial kick-off meeting so that we have in writing what their response would be for the 2021 salamander survey shelf life.
    - If conditions change enough or enough time passes, the MPS Project can do the surveys again.
    - We may want to survey again based on drilling schematics and if there would be an impact to the groundwater flow.
    - A potential conservation measures is additional salamander surveys

- Since the tricolored bat is a proposed federally endangered species, what measures should be taken?
    - TxDOT is waiting on these expectations from USFWS as it is still a new proposed species.
    - Habitat survey protocols have not been standardized yet.
    - Tricolored bats would use hardwood vegetation most likely during summer pupping season.

        - If our project has any hardwood vegetation for tricolored bats, it would likely impact the species so a take coverage should be requested.
    - During the winter, tricolored bats will roost in culverts.
        - They mostly will use long-boxed cave like culverts.
            - An informal winter survey can be done to see if our project meets these culvert types as suitable habitat and if any bats are winter roosting in them.
    - We should wait to do any additional work.
        - USWFWS may want to have an audio survey in the future.
        - Tree canopy survey is trickier to survey for as we do not know the current percent tree cover needed for the tricolored bats based on USFWS protocol.
    - Georgia DOT and FHWA have implemented a programmatic agreement on tricolored bat protocols and TxDOT encourages the MPS project team look at replicating it once USFWS has required surveys for the species.

- Mussel surveys for the federally endangered Texas fatmucket will need to be conducted this winter before the survey season ends in November or if the water temperature drops below 50 degrees.
    - The barge access points in the Colorado river will be in a group 5 waterbody category which would likely not have the Texas fatmucket.
    - Mussel survey has a 3 year lifespan so it would be best to survey this fall given our timeline for submittal.

- Based on all environmental surveys, reviews by TxDOT and USFWS, the goal is to have the FONSI ready by the end of 2025.
    - TxDOT is estimated to take about 3 months to review while USFWS review is estimated to take 6-10 months for a total of a year review process.
    - To complete this goal on time, we should be submitting the BA to TxDOT by Nov 2024 and have a preliminary meeting with USFWS so that we have enough time before starting the formal process in early spring.
    - Biological Opinion (BO) from USFWS is required before the FONSI.

- For next steps, TxDOT requested a walkthrough with the water quality and environmental teams to review conservation measures (salamanders and aquifer water quality).

Appendix E: USDA NRCS

USDA Natural Resources Conservation Service
U.S. DEPARTMENT OF AGRICULTURE

Texas State Office
101 S. Main Street
Temple, TX, 76501

June 3, 2025

Atkins Realis
11801 Domain Blvd
Austin, TX, 78758

Attention: John Huter, Sr Scientist II

Subject: Proposed Mopac South Project in Travis County, Texas

We have reviewed the information provided in your correspondence dated May 29, 2025 concerning the Proposed Mopac South Project in Travis County, Texas. This review is part of the National Environmental Policy Act (NEPA) evaluation for the United States Department of Transportation. We have evaluated the proposed site as required by the Farmland Protection Policy Act (FPPA).

The proposed site may involve areas of Prime Farmland; however, we consider the location to be "land already in urban development" due to the existence of the site within a designated Urban Area. Due to this reason, this project is exempt from provisions of FPPA and no further consideration from protection is necessary. We strongly encourage the use of acceptable erosion control methods during the construction of this project.

If you have further questions, please contact me at (254) 742-9951 or by email at chris.holle@usda.gov.

Sincerely,

Chris Holle

Chris Holle
USDA/NRCS

Appendix E: Air Quality Analysis Coordination

Empleo, Michelle

From: Tim Wood <Tim.Wood@txdot.gov>
Sent: Wednesday, November 13, 2024 11:42 AM
To: Empleo, Michelle; Brandon Hobbs; Glendora Lopez
Cc: Gilpin, Charlotte; Webb, Kirk S; Oscar Solis
Subject: RE: CSJ 3136-01-176 MoPac South CO TAQA Approach

I concur that these appear to be worst case scenario locations appropriate for the CO TAQA.

Tim Wood
TxDOT ENV
512-416-2659
Pronouns (he/him)

From: Empleo, Michelle <Michelle.Empleo@atkinsrealis.com>
Sent: Friday, November 8, 2024 2:17 PM
To: Brandon Hobbs <Brandon.Hobbs@txdot.gov>; Glendora Lopez <Glendora.Lopez@txdot.gov>; Tim Wood <Tim.Wood@txdot.gov>
Cc: Gilpin, Charlotte <cgilpin@hwlochner.com>; Webb, Kirk S <Kirk.Webb@atkinsrealis.com>; Oscar Solis <osolis@ctrma.org>
Subject: CSJ 3136-01-176 MoPac South CO TAQA Approach

Good afternoon Brandon, Glendora, and Tim,

I wanted to ask for feedback on our approach for the CO TAQA for MoPac South. We plan to model 3 intersections and 1 free-flow area along MoPac South.

Based on the EPA's CO Intersection Modeling 1992 document, we will model the top 3 worst LOS intersections and top 3 highest traffic volume intersections, which include:

- Loop 360/ North Bound Mopac S
- Loop 360/ South Bound Mopac S
- William Cannon/ South Bound Mopac S

Worst LOS	Volume (vph)	LOS
Loop 360/ NB MPS: PM	10250	F
Loop 360/ SB MPS: PM	10120	F
Loop 360/ NB MPS: AM	8310	F
William Cannon/ SB MPS: PM	6840	F
William Cannon/ NB MPS: PM	6740	F
William Cannon/ NB MPS: AM	5890	F
Bee Caves/ SB MPS: AM	5040	F
Bee Caves/ NB MPS: AM	3850	F
Southwest Hwy/ NB MPS: PM	3510	F
Barton Skyway/ SB MPS: PM	3500	F
Southwest Hwy/ NB MPS: AM	3400	F
Bee Caves/ NB MPS: PM	2910	F
Barton Skyway/ NB MPS: PM	2710	F
Loop 360/ SB MPS: AM	6490	E
Southwest Hwy/ SB MPS: PM	6330	F
US Hwy 290/ SB MPS: PM	3930	E
Barton Skyway/ NB MPS: AM	3080	E
Bee Caves/ SB MPS: PM	4490	D
William Cannon/ SB MPS: AM	3990	D
US Hwy 290/ NB MPS: PM	3400	D
Barton Skyway/ SB MPS: AM	1640	D
La Crosse/ SB MPS: PM	1550	D

Top Traffic Volumes	Volume (vph)	LOS
Loop 360/ NB MPS: PM	10250	F
Loop 360/ SB MPS: PM	10120	F
Loop 360/ NB MPS: AM	8310	F
William Cannon/ SB MPS: PM	6840	F
William Cannon/ NB MPS: PM	6740	F
Loop 360/ SB MPS: AM	6490	E
Southwest Hwy/ SB MPS: PM	6330	E
William Cannon/ NB MPS: AM	5890	F
Bee Caves/ SB MPS: AM	5040	F
Bee Caves/ SB MPS: PM	4490	D
William Cannon/ SB MPS: AM	3990	D
US Hwy 290/ SB MPS: PM	3930	E
Bee Caves/ NB MPS: AM	3850	F
Southwest Hwy/ NB MPS: PM	3510	F
Barton Skyway/ SB MPS: PM	3500	F
Southwest Hwy/ NB MPS: AM	3400	F
US Hwy 290/ NB MPS: PM	3400	D
Barton Skyway/ NB MPS: AM	3080	E
Bee Caves/ NB MPS: PM	2910	F
Barton Skyway/ NB MPS: PM	2710	F
Barton Skyway/ SB MPS: AM	1640	D
La Crosse/ SB MPS: PM	1550	D

In addition, we plan to model the free-flow section of MoPac South between Cesar Chavez and Bee Caves Road at the narrowest right-of-way. This was chosen as the worst-case free flow scenario as this area has the narrowest right-of-way within the high AADT stretch of MoPac South between Enfield to 360.

Total AADT			
Locations	2029 Build	2049 Build	ROW (ft)
Enfield to West 6th	210,550	268,000	728.41
Cesar Chavez to Bee Caves Road	206,250	261,250	201.15
Bee Caves Road to Barton Skyway	199,800	251,800	450.81
Barton Skyway to 360	199,500	253,500	450.94
360 to 290	168,600	224,600	567.9
290 to West William Cannon	123,050	160,050	375.22
West William Cannon to Davis Lane	97,350	128,350	200.11
Davis Lane to West Slaughter Lane	63,150	86,150	320.69
West Slaughter Lane to La Crosse Ave	47,550	74,550	299

If you believe there is a worst-case scenario that we are overlooking in our analysis or an alternate approach we should consider, could you please let us know?

Thank you,

Michelle

Michelle Empleo

Engineer III
Air Quality
AtkinsRéalis
Tel: 5123401135
11801 Domain Boulevard Suite 500
Austin, Texas, 78758, United States

AtkinsRéalis

From: Brandon Hobbs <Brandon.Hobbs@txdot.gov>
Sent: Wednesday, September 18, 2024 7:41 AM
To: Empleo, Michelle <Michelle.Empleo@atkinsrealis.com>; Scott Ford <Scott.Ford@txdot.gov>; Cory Jucius <Cory.Jucius@txdot.gov>; Glendora Lopez <Glendora.Lopez@txdot.gov>; Hector Tamez <Hector.Tamez@txdot.gov>; Oscar Solis <osolis@ctrma.org>; Gilpin, Charlotte (K-Friese) <CGilpin@KFriese.com>; Webb, Kirk S <Kirk.Webb@atkinsrealis.com>; Agredo, Douglas <Douglas.Agredo@atkinsrealis.com>; Hill, Ryan B <Ryan.Hill@atkinsrealis.com>; Patel, Kuldip <Kuldip.Patel@atkinsrealis.com>
Subject: RE: CSJ 3136-01-176 MoPac South MSAT Coordination Meeting Minutes

Morning Glendora, Tim, just following up to see if you have any comments to the MSAT meeting notes that Michelle sent out. Thanks

Regards,

Texas Department of Transportation

Brandon Hobbs | Environmental Specialist
Austin District
7901 N. I-35, Austin, TX 78753
(512) 832-7001
brandon.hobbs@txdot.gov

From: Brandon Hobbs
Sent: Wednesday, September 11, 2024 12:59 PM
To: Empleo, Michelle <Michelle.Empleo@atkinsrealis.com>; Scott Ford <Scott.Ford@txdot.gov>; Cory Jucius <Cory.Jucius@txdot.gov>; Glendora Lopez <Glendora.Lopez@txdot.gov>; Hector Tamez <Hector.Tamez@txdot.gov>; Oscar Solis <osolis@ctrma.org>; Gilpin, Charlotte (K-Friese) <CGilpin@KFriese.com>; Webb, Kirk S <Kirk.Webb@atkinsrealis.com>; Agredo, Douglas <Douglas.Agredo@atkinsrealis.com>; Hill, Ryan B <Ryan.Hill@atkinsrealis.com>; Patel, Kuldip <Kuldip.Patel@atkinsrealis.com>
Subject: RE: CSJ 3136-01-176 MoPac South MSAT Coordination Meeting Minutes

Thank you Michelle, I do not have any comments to the notes.

Glendora, Tim, do either of you have any comments to these notes…If not, we can finalize them. Thank you

Regards,

Texas Department of Transportation
Brandon Hobbs | Environmental Specialist
Austin District
7901 N. I-35, Austin, TX 78753
(512) 832-7001
brandon.hobbs@txdot.gov

From: Empleo, Michelle <Michelle.Empleo@atkinsrealis.com>
Sent: Friday, September 6, 2024 10:19 AM
To: Brandon Hobbs <Brandon.Hobbs@txdot.gov>; Scott Ford <Scott.Ford@txdot.gov>; Cory Jucius <Cory.Jucius@txdot.gov>; Glendora Lopez <Glendora.Lopez@txdot.gov>; Hector Tamez <Hector.Tamez@txdot.gov>; Oscar Solis <osolis@ctrma.org>; Gilpin, Charlotte (K-Friese) <CGilpin@KFriese.com>; Webb, Kirk S <Kirk.Webb@atkinsrealis.com>; Agredo, Douglas <Douglas.Agredo@atkinsrealis.com>; Empleo, Michelle <Michelle.Empleo@atkinsrealis.com>; Hill, Ryan B <Ryan.Hill@atkinsrealis.com>; Patel, Kuldip <Kuldip.Patel@atkinsrealis.com>
Subject: CSJ 3136-01-176 MoPac South MSAT Coordination Meeting Minutes

Hi All,

Attached is a copy of the meeting minutes for the MSAT Analysis call for the MoPac South Project, CSJ 3136-01-176. Please let me know if there are any changes that need to be incorporated.

Thank you!
Michelle

Michelle Empleo
Engineer III
Air Quality
AtkinsRéalis
Tel: 5123401135

AtkinsRéalis

Empleo, Michelle

From: Glendora Lopez <Glendora.Lopez@txdot.gov>
Sent: Wednesday, September 18, 2024 8:22 AM
To: Brandon Hobbs; Empleo, Michelle; Scott Ford; Cory Jucius; Hector Tamez; Oscar Solis; Gilpin, Charlotte; Webb, Kirk S; Agredo, Douglas; Hill, Ryan B; Patel, Kuldip
Subject: Re: CSJ 3136-01-176 MoPac South MSAT Coordination Meeting Minutes

Good morning Brandon,

I do not have any additional comments on the MSAT conference call meeting minutes.

Thank you,

Glendora Lopez
TxDOT ENV
512-840-9720
Pronouns (she/her)

From: Brandon Hobbs <Brandon.Hobbs@txdot.gov>
Sent: Wednesday, September 18, 2024 7:41 AM
To: Empleo, Michelle <Michelle.Empleo@atkinsrealis.com>; Scott Ford <Scott.Ford@txdot.gov>; Cory Jucius <Cory.Jucius@txdot.gov>; Glendora Lopez <Glendora.Lopez@txdot.gov>; Hector Tamez <Hector.Tamez@txdot.gov>; Oscar Solis <osolis@ctrma.org>; Gilpin, Charlotte (K-Friese) <CGilpin@KFriese.com>; Webb, Kirk S <Kirk.Webb@atkinsrealis.com>; Agredo, Douglas <Douglas.Agredo@atkinsrealis.com>; Hill, Ryan B <Ryan.Hill@atkinsrealis.com>; Patel, Kuldip <Kuldip.Patel@atkinsrealis.com>
Subject: RE: CSJ 3136-01-176 MoPac South MSAT Coordination Meeting Minutes

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7901 N. I-35, Austin, TX 78753
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Subject: RE: CSJ 3136-01-176 MoPac South MSAT Coordination Meeting Minutes

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Glendora, Tim, do either of you have any comments to these notes…If not, we can finalize them. Thank you

Regards,

Texas Department of Transportation
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Sent: Friday, September 6, 2024 10:19 AM
To: Brandon Hobbs <Brandon.Hobbs@txdot.gov>; Scott Ford <Scott.Ford@txdot.gov>; Cory Jucius <Cory.Jucius@txdot.gov>; Glendora Lopez <Glendora.Lopez@txdot.gov>; Hector Tamez <Hector.Tamez@txdot.gov>; Oscar Solis <osolis@ctrma.org>; Gilpin, Charlotte (K-Friese) <CGilpin@KFriese.com>; Webb, Kirk S <Kirk.Webb@atkinsrealis.com>; Agredo, Douglas <Douglas.Agredo@atkinsrealis.com>; Empleo, Michelle <Michelle.Empleo@atkinsrealis.com>; Hill, Ryan B <Ryan.Hill@atkinsrealis.com>; Patel, Kuldip <Kuldip.Patel@atkinsrealis.com>
Subject: CSJ 3136-01-176 MoPac South MSAT Coordination Meeting Minutes

Hi All,

Attached is a copy of the meeting minutes for the MSAT Analysis call for the MoPac South Project, CSJ 3136-01-176. Please let me know if there are any changes that need to be incorporated.

Thank you!
Michelle

Michelle Empleo

Engineer III
Air Quality
AtkinsRéalis
Tel: 5123401135
11801 Domain Boulevard Suite 500
Austin, Texas, 78758, United States

AtkinsRéalis

Appendix E: Section 106 Consultation

Texas Department of Transportation

125 EAST 11TH STREET, AUSTIN, TEXAS 78701-2483 | 512.463.8588 | WWW.TXDOT.GOV

October 22, 2025

RE: CSJ: 3136-01-176; Loop 1, Feasibility Study, Section 106 Consultation; Travis County, Austin District

Mr. Jonathan M. Rohrer, THPO
Caddo Nation
P.O. Box 487
Binger, OK 73009

Dear Mr. Rohrer:

The above referenced transportation project is being considered for construction by the Federal Highway Administration (FHWA) and the Texas Department of Transportation (TxDOT). Environmental studies are in the process of being conducted for this project. 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.

The purpose of this letter is to contact you in order to consult with your Tribe pursuant to stipulations of the Programmatic Agreement among the Federal Highway Administration, the Texas Department of Transportation, the Texas State Historic Preservation Officer, and the Advisory Council on Historic Preservation Regarding the Implementation of Transportation Undertakings (PA-TU). The project is located in an area that is of interest to your Tribe.

Undertaking Description

The Central Texas Regional Mobility Authority (CTRMA) is proposing to widen and improve Loop 1 in Travis County, Texas. To the north, the project would tie into the existing MoPac Express Lane that was opened to traffic in 2017. The southern end of the project would include appropriate transitions to match existing MoPac (Loop 1) near Slaughter Lane. The project will extend a total of 8.77 miles (mi) along MoPac (Loop 1) South with intersection improvements at William Cannon Drive 350 ft east and west of MoPac (Loop 1), ramp improvements along United States (US) 290 4,000 ft west of MoPac (Loop 1), and ramp improvements along Loop 360 700 ft east of MoPac (Loop 1). The proposed project will require no additional right-of-way (ROW), no new permanent easements, and 12.52 acres (ac) of temporary construction easements. The project is proposed to include the construction of a shared use path (SUP) connecting from the Roberta Crenshaw Bridge over Lady Bird Lake south to Slaughter Lane, approximately 7.8 mi for cyclists and pedestrians. Facilities will include American Disabilities Act (ADA) compliant and pedestrian safety elements at sidewalks and cross streets.

The preliminary build alternatives considered transportation system/demand management, adding one or more lanes in each direction: non-tolled general-purpose lanes, high occupancy vehicle (HOV)

lanes, transit-only lanes, and express lanes that utilize variable toll rates, along with a no build alternative. Six operational configurations of the express lane(s) alternative continue to be assessed; these include:

- 1A – One express lane with downtown direct connection
- 1B – One express lane without downtown direct connection
- 2A – Two express lanes with downtown direct connection
- 2B – Two express lanes without downtown direct connection
- 2C – Two express lanes with elevated ramps near Barton Skyway
- 3 – City of Austin Proposal – Separate two-lane collector distributor road connection to

Downtown All operational configurations are controlled access, with 12' wide express and general-purpose lanes where the roadway is widened or reconstructed, and 11' wide lanes on existing bridges to remain. Outside shoulder widths are 10', inside shoulder widths vary from 4' to 10' in both directions. Drainage is a combination of closed pipe and open ditch with water quality detention ponds. There are nine grade separated interchanges, eight overpasses, two underpasses, 39 ramps, 24 at-grade ramps, and 15 elevated ramps.

Temporary construction easements will be needed throughout the corridor to support construction of the shared use path, retaining walls, and bridges. Major crossings will occur over the Colorado River floodplain at Lady Bird Lake and across Barton Creek. New piers are anticipated to align with existing piers at these crossings. Temporary construction easements will be required for barges to be launched to support bridge construction over the Colorado River. Other bridges, such as Williamson Creek Bridge, would also be widened by adding piers along the east and/or west side. Water quality treatment ponds and other drainage infrastructure are also proposed. Any Hazardous Materials Traps structures disturbed by the proposed improvements will be replaced and may be combined with other water quality facilities. Noise barriers will be constructed where reasonable and feasible at the location of potentially impacted receptors.

This project will utilize funding and/or require approval from the Federal Highway Administration.

Area of Potential Effects

The project's area of potential effects (APE) comprises the following area.

- The project limits extend from the Cesar Chavez Street to Slaughter Lane along MoPac (Loop 1). The total project length is thus 8.77 miles.
- The existing right of way within these limits comprises an area estimated at 671.93 acres.
- No new ROW or easements are required.
- Temporary construction easements include an estimated 12.52 acres.
- The estimated depth of impacts is typically 1 foot with a maximum depth of impacts of 50 feet.

- See the attached technical report for additional details regarding the Area of Potential Effects.

Identification Efforts

For this project, TxDOT has conducted a desktop-based background study. This work covers newly proposed drainage detention ponds and temporary construction easements.

Findings and Recommendations

Based on the above, TxDOT proposes the following findings and recommendations: the project will have no effect on archeological historic properties as it does not contain archeological historic properties. According to our procedures and agreements currently in place regarding consultation under Section 106 of the National Historic Preservation Act, we are writing to request your comments on historic properties of cultural or religious significance to your Tribe that may be affected by the proposed project APE and the area within the above defined buffer. Any comments you may have on the TxDOT findings and recommendations should also be provided. Please provide your comments within 30 days of receipt of this letter. TxDOT will address any comments provided after that time to the fullest extent possible. If you do not object that the proposed findings and recommendations are appropriate, please sign below to indicate your concurrence. In the event that further work discloses the presence of archeological deposits, we will contact your Tribe to continue consultation.

Thank you for your attention to this matter. If you have questions, please contact Jen Anderson (TxDOT Archeologist) at 512/924-7418 (email: Jen.Anderson@txdot.gov). When replying to this correspondence by US Mail, please ensure that the envelope address includes reference to the Archeological Studies Branch, Environmental Affairs Division.

Sincerely,

Jennifer B. Anderson

Jennifer B. Anderson, Project Planner
Archeological Studies Branch
Environmental Affairs Division

Enclosure

cc w/o enclosure: ECOS

COMANCHE NATION

Texas Transportation Department
Attn: Ms. Jennifer Anderson
1601 Southwest Pkwy
Texas 76302

January 27, 2025

Re: TxDOT Request for Section 106 consultation for Loop 1 (MoPac) (CSJ-3136-01-1760)
Austin District, Travis County

Dear Ms. Anderson:

In response to your request, the above reference project has been reviewed by staff of this office to identify areas that may potentially contain prehistoric or historic archeological materials. The location of your project has been cross referenced with the Comanche Nation site files, where an indication of ***"No Properties"*** have been identified. (IAW 36 CFR 800.4(d)(1)).

Please contact this office at (580) 492-1153) if you require additional information on this project.

This review is performed in order to identify and preserve the Comanche Nation and State cultural heritage, in conjunction with the State Historic Preservation Office.

Regards

Comanche Nation Historic Preservation Office
Theodore E. Villicana , Technician
#6 SW "D" Avenue, Suite C
Lawton, OK. 73502

From: Jen Anderson
To: "johnson.delvin@actribe.org"; "darrin.cisco@apachetribe.org"; "apacheculture510@yahoo.com"; "mbear@cheyenneandarapaho-nsn.gov"; "Theodore.Villicana@comanchenation.com"; "THPO@kiowatribe.org"; "Ahill@kiowatribe.org"; "holly@mathpo.org"; "tiger.jake@sno-nsn.gov"; "mallen@tonkawatribe.com"
Subject: TxDOT Section 106 Consultation for Loop 1 (MoPac) Expansion (CSJ: 3136-01-176); Austin District/Travis County
Date: Sunday, January 26, 2025 12:58:00 PM

Sec. 106 Consultation

JANUARY 26, 2025

We kindly request your comments on historic properties of cultural or religious significance to your Tribe that may be affected by the proposed project. Please see the following summary for project details and information. The associated reports, which include a detailed project description, APE definition and identification efforts are available upon request. This project will also be included during our monthly Sec. 106 conference call every third Wednesday of the month at 2 p.m.

Contacts:

Scott Pletka

512-865-8694

Notice:

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

Summary:

Project ID (CSJ), Roadway, Limits, County and TxDOT District	*3136-01-176, Loop 1, Travis County, Austin District*
Project Sponsor:	*CTRMA*
Consultation Status:	☐*Initial Consultation* ☒*Continuation of Consultation* *Reason(s):Design change*
Short Description:	The existing MoPac (Loop 1) is a controlled-access facility with three southbound and three northbound 11-foot-wide travel lanes, 0-foot to 4-foot-wide inside shoulders, and 0 foot to 10-foot-wide outside shoulders in each direction, acceleration and deceleration lanes at ramp terminals, and a 35-foot grassy median. There are nine grade-separated interchanges, seven overpasses, two underpasses, and 36 ramps—28 at-grade and eight elevated ramps. The existing grade separations are concrete I girder and steel girder bridges. Existing drainage is an open ditch with water quality ponds and hazardous material traps. The existing right-of-way (ROW) width varies from approximately 200 feet (ft) at its narrowest at Lady Bird Lake to approximately 1,550 ft at its widest at the Loop 360 intersection. The logical termini of this project are Cesar Chavez Street and Slaughter Lane with transitions on both ends to tie back into the existing facility. To the north, the project would tie into the existing MoPac Express Lane that was opened to traffic in 2017.

Memorandum of Understanding dated December 9, 2019, and executed by FHWA and TxDOT.		The southern end of the project would include appropriate transitions to match existing MoPac (Loop 1) near Slaughter Lane. The project will extend a total of 8.77 miles (mi) along MoPac (Loop 1) South with intersection improvements at William Cannon Drive 350 ft east and west of MoPac (Loop 1), ramp improvements along United States (US) 290 4,000 ft west of MoPac (Loop 1), and ramp improvements along Loop 360 700 ft east of MoPac (Loop 1). The proposed project will require no additional right-of-way (ROW), no new permanent easements, and 12.52 acres (ac) of temporary construction easements. The project is proposed to include the construction of a shared use path (SUP) connecting from the Roberta Crenshaw Bridge over Lady Bird Lake south to Slaughter Lane, approximately 7.8 mi for cyclists and pedestrians. Facilities will include American Disabilities Act (ADA) compliant and pedestrian safety elements at sidewalks and cross streets. The average width of the SUP is 10 ft. The majority of the SUP is along the east side of the corridor; additional SUP and/or sidewalk construction is planned along the west side of MoPac (Loop 1), depending upon ROW and other constraints. The preliminary build alternatives considered transportation system/demand management, adding one or more lanes in each direction: non-tolled general-purpose lanes, high occupancy vehicle (HOV) lanes, transit-only lanes, and express lanes that utilize variable toll rates, along with a no build alternative. The express lane(s) alternative was determined to be the Reasonable Build Alterative in 2015 based on the 2035 traffic evaluation. This recommendation has since been affirmed by the updated 2045 traffic evaluation completed in 2024. The no build alternative will be carried forward along with the express lane(s) alternative into the Environmental Assessment. Six operational configurations of the express lane(s) alternative continue to be assessed; these include: • 1A – One express lane with downtown direct connection • 1B – One express lane without downtown direct connection • 2A – Two express lanes with downtown direct connection • 2B – Two express lanes without downtown direct connection • 2C – Two express lanes with elevated ramps near Barton Skyway • 3 – City of Austin Proposal – Separate two-lane

	collector distributor road connection to Downtown All operational configurations are controlled access, with 12' wide express and general-purpose lanes where the roadway is widened or reconstructed, and 11' wide lanes on existing bridges to remain. Outside shoulder widths are 10', inside shoulder widths vary from 4' to 10' in both directions. Drainage is a combination of closed pipe and open ditch with water quality detention ponds. There are nine grade separated interchanges, eight overpasses, two underpasses, 39 ramps, 24 at-grade ramps, and 15 elevated ramps. The proposed grade separations are concrete I girder and steel girder bridges. Temporary construction easements will be needed throughout the corridor to support construction of the shared use path, retaining walls, and bridges. Major crossings will occur over the Colorado River floodplain at Lady Bird Lake and across Barton Creek. New piers are anticipated to align with existing piers at these crossings. Temporary construction easements will be required for barges to be launched to support bridge construction over the Colorado River. Other bridges, such as Williamson Creek Bridge, would also be widened by adding piers along the east and/or west side. Water quality treatment ponds and other drainage infrastructure are also proposed. Any Hazardous Materials Traps structures disturbed by the proposed improvements will be replaced and may be combined with other water quality facilities. Noise barriers will be constructed where reasonable and feasible at the location of potentially impacted receptors. See Figure 1 for a topographic map of the APE, which includes the existing MoPac (Loop 1) ROW (671.93 ac) and temporary easements (12.52 ac) totaling 684.45 acres. Note: approximately 3.34 ac of the APE are over the Colorado River. The vertical APE is defined by the maximum anticipated depths of excavations required to create the SUP, install utilities, ponds, and bridge columns, anticipated to be approximately 1 ft deep to 20-50 ft deep.
Lat/Longs:	
New Right of Way:	*12.52 acres*
Depth of Impacts:	*Typical: 1 foot* *Maximum: 50 feet*
Known Archeological Sites or Properties in project area:	*41TV2398*
Identification Efforts:	*Desktop Background Review*
Recommendations:	*No further work recommended*

Link to Detailed Report:	*https://txdot.box.com/s/qv6o8d2pva31zeclhs1ua8qa7t7294q3*

Please provide any comments that you may have on the TxDOT findings and recommendations. Please provide your comments within 30 days of receipt of this letter. Any comments provided after that time will be addressed to the fullest extent possible.

JEN ANDERSON
Archeologist/Project Planner
TEXAS DEPARTMENT OF TRANSPORTATION
Environmental Affairs Division
jen.anderson@txdot.gov | 512-924-7418 | TxDOT.gov

Outlook

TxDOT Project: Mopac South

From Julie McGilvray <Julie.McGilvray@txdot.gov>
Date Fri 9/26/2025 9:29 AM
To sarah.marshall@austintexas.gov <sarah.marshall@austintexas.gov>; kalan.contreras@austintexas.gov <kalan.contreras@austintexas.gov>

Sarah and Kalan:

I'm a new historian at TxDOT and am working with the TxDOT Austin District on the Mopac South Project. Because the project is receiving federal funding, it is subject to review under Section 106 of the National Historic Preservation Act. You can find more information about this process on our website (Getting involved in historic preservation at TxDOT). You are receiving this email because of your interest and work with the historic resources in Travis County and the City of Austin.

Project Overview:
The purpose of the proposed MoPac South Project is to improve an approximate 8.5-mile segment of MoPac (Loop 1) from Cesar Chavez Street (St) to Slaughter Lane (Ln). On behalf of the Texas Department of Transportation (TxDOT) and the Central Texas Regional Mobility Authority (CTRMA), a consulting historian performed a historic resources reconnaissance survey of properties within the MoPac South Project Area of Potential Effects (APE) in February and March of 2025. The reconnaissance-level custom APE was developed in consultation with the Texas Historical Commission (THC) and TxDOT ENV, and is defined as follows:

North of Lady Bird Lake (the Colorado River):

- 150 feet from the existing right-of-way (ROW) on the west side of MoPac from Johnson Street to Lady Bird Lake to 150 feet east of the barge access easement at Austin High boat launch east of MoPac.
- A segment of the Town Lake Park System/Butler Hike and Bike Trail, from Eilers (Deep Eddy Neighborhood) Park to 150 feet from the barge access within Volma Overton, Sr. Beach (formerly Lamar Beach).
- In all other areas, the APE is limited to the existing ROW.

South of Lady Bird Lake:

- 150 feet from the easements and existing ROW along either side of MoPac, for the length of Zilker Park.
- A segment of the Town Lake Park System/Butler Hike and Bike Trail, from MoPac to approximately 800 feet to the east.
- For the remainder of the project, the APE is limited to the existing ROW and 150 feet from easements.

The project does not include proposed ROW and will not result in any displacements.

Identified Historic Resources:
Thank you for assisting TxDOT's historic resources survey consultant with information about significant resources in Travis County and the City of Austin. The survey report is now available for you to review: https://txdot.box.com/s/hxdro88ea4ke30bgr6aitr96jqejkhq9. Note: This link expires on October 9, 2025.

Consulting historians documented resources within the APE constructed in 1983 or earlier (45 years before the proposed construction letting date of 2028). The summary below includes the results of the MoPac South historic resources reconnaissance survey. Twenty-four properties containing 41 resources were documented as part of MoPac South historic resources reconnaissance survey. Of these, 23 resources are individually National Register of Historic Place (NRHP)-listed, contributing resources to NRHP-listed historic districts, previously determined NRHP-eligible, or recommended NRHP-eligible as a result of the current survey. These historic properties are listed below by resource number and address, with resources contributing to historic districts grouped by district. ·

• Resource 2: 2200 Lake Austin Boulevard

• Resource 3: 2202 Lake Austin Boulevard

• Resource 4: 2204 Lake Austin Boulevard

• Resource 5: 2206 Lake Austin Boulevard

• Resources 9A-D: Charles Johnson Home Historic District (4 contributing resources within the APE)

• Resources 13A-H: Segment of Town Lake Park System section from Eilers Park to Volma Overton, Sr. Beach and south shore of Lady Bird Lake east of MoPac (8 contributing resources within the APE)

• Resource 14: Clay Pit Bucket Tower

• Resource 15: Travis County Centennial Marker, under West Cesar Chavez and MoPac Bridge over Lady Bird Lake

• Resources 16A-E: Zilker Park Historic District (5 contributing resources within the APE)

Section 4(f) regulatory requirements (23 CFR 774) apply to the following historic properties:

• Resource 13: Segment of Town Lake Park System from Eilers Park to Volma Overton, Sr. Beach and south shore of Lady Bird Lake east of MoPac

• Resource 16: Zilker Park Historic District

Project Effects
TxDOT has preliminarily determined that the project would have no adverse effect to the to the properties listed above.

We are also consulting with federally recognized Native American Tribes with interest in Travis County. Our Archeological Studies Branch is reviewing any potential impacts to archeological sites in area. If you would like more information on this, please let me know.

Next Steps

As you review the HRSR and the project information:

· Do you have any other information to add to our identification efforts?

· Is there someone TxDOT should reach out to about this project?

· Do you have any questions about the project?

I would appreciate your feedback by October 24, 2025. Thank you for your participation in the historic preservation process!

Getting Involved

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· Check out TxDOT's Project Tracker to learn more about this project. It can give you specific timing and locational information.

· Learn about TxDOT's history and archeology work. Additionally, TxDOT's Beyond the Road campaign highlights the stories of the people and places uncovered as we complete our environmental responsibilities throughout the state.

Thank you,

Julie

Julie D. McGilvray MLA, MSHP
Historical Studies Project Planner
Texas Department of Transportation
Environmental Affairs Division
julie.mcgilvray@txdot.gov
512.870.7795
TxDOT.gov

Outlook

Re: TxDOT Project: Mopac South

From Julie McGilvray <Julie.McGilvray@txdot.gov>
Date Thu 10/16/2025 11:03 AM
To Meghan King <meghan@preservationaustin.org>

Meghan,

I just resent.

Thanks,

Julie D. McGilvray
Historical Studies Project Planner
Texas Department of Transportation
Environmental Affairs Division
julie.mcgilvray@txdot.gov
512.870.7795
TxDOT.gov

From: Meghan King <meghan@preservationaustin.org>
Sent: Thursday, October 16, 2025 10:57 AM
To: Julie McGilvray <Julie.McGilvray@txdot.gov>
Subject: Re: TxDOT Project: Mopac South

Thanks, Julie. I didn't see the link come through yet - would you mind sending it again?

Meghan King Namour
Policy & Outreach Planner - Preservation Austin
www.preservationaustin.org | Support Our Mission

PRESERVATION AUSTIN

On Thu, Oct 16, 2025 at 10:02 AM Julie McGilvray <Julie.McGilvray@txdot.gov> wrote:

> Megan,
>
> I just resent - let me know if you can access it ok and if you need an extension on the review.

Thanks,

Julie D. McGilvray
Historical Studies Project Planner
Texas Department of Transportation
Environmental Affairs Division
julie.mcgilvray@txdot.gov
512.870.7795
TxDOT.gov

From: Meghan King <meghan@preservationaustin.org>
Sent: Wednesday, October 15, 2025 11:11 AM
To: Julie McGilvray <Julie.McGilvray@txdot.gov>
Subject: Re: TxDOT Project: Mopac South

Hi Julie,

Thank you very much for reaching out, and I'm sorry for my delayed response. Would you be able to share an updated link with me to the survey report? I'll be sure to review it.

Talk soon,

Meghan King Namour
Policy & Outreach Planner - Preservation Austin
www.preservationaustin.org | Support Our Mission

On Fri, Sep 26, 2025 at 9:23 AM Julie McGilvray <Julie.McGilvray@txdot.gov> wrote:

> Meghan,
>
> I'm a new historian and TxDOT and am working with the TxDOT Austin District on the Mopac South Project. Because the project is receiving federal funding, it is subject to review under Section 106 of the National Historic Preservation Act. You can find more information about this process on our website (Getting involved in historic preservation at TxDOT). You are receiving this email because of your interest and work with the historic resources in Travis County and the City of Austin.
>
> **Project Overview:**
> The purpose of the proposed MoPac South Project is to improve an approximate 8.5-mile segment of MoPac (Loop 1) from Cesar Chavez Street (St) to Slaughter Lane (Ln). On behalf of the Texas Department of Transportation (TxDOT) and the Central Texas Regional Mobility Authority (CTRMA), a consulting historian performed a historic resources reconnaissance survey of properties within the MoPac South Project Area of Potential Effects (APE) in February and March of 2025. The

reconnaissance-level custom APE was developed in consultation with the Texas Historical Commission (THC) and TxDOT ENV, and is defined as follows:

North of Lady Bird Lake (the Colorado River):

- 150 feet from the existing right-of-way (ROW) on the west side of MoPac from Johnson Street to Lady Bird Lake to 150 feet east of the barge access easement at Austin High boat launch east of MoPac.
- A segment of the Town Lake Park System/Butler Hike and Bike Trail, from Eilers (Deep Eddy Neighborhood) Park to 150 feet from the barge access within Volma Overton, Sr. Beach (formerly Lamar Beach).
- In all other areas, the APE is limited to the existing ROW.

South of Lady Bird Lake:

- 150 feet from the easements and existing ROW along either side of MoPac, for the length of Zilker Park.
- A segment of the Town Lake Park System/Butler Hike and Bike Trail, from MoPac to approximately 800 feet to the east.
- For the remainder of the project, the APE is limited to the existing ROW and 150 feet from easements.

The project does not include proposed ROW and will not result in any displacements.

Identified Historic Resources:
Thank you for assisting TxDOT's historic resources survey consultant with information about significant resources in Travis County and the City of Austin. The survey report is now available for you to review: https://txdot.box.com/s/hxdro88ea4ke30bgr6aitr96jqejkhq9. Note: This link expires on October 9, 2025.

Consulting historians documented resources within the APE constructed in 1983 or earlier (45 years before the proposed construction letting date of 2028). The summary below includes the results of the MoPac South historic resources reconnaissance survey. Twenty-four properties containing 41 resources were documented as part of MoPac South historic resources reconnaissance survey. Of these, 23 resources are individually National Register of Historic Place (NRHP)-listed, contributing resources to NRHP-listed historic districts, previously determined NRHP-eligible, or recommended NRHP-eligible as a result of the current survey. These historic properties are listed below by resource number and address, with resources contributing to historic districts grouped by district. ·

• Resource 2: 2200 Lake Austin Boulevard

• Resource 3: 2202 Lake Austin Boulevard

• Resource 4: 2204 Lake Austin Boulevard

• Resource 5: 2206 Lake Austin Boulevard

• Resources 9A-D: Charles Johnson Home Historic District (4 contributing resources within the APE)

• Resources 13A-H: Segment of Town Lake Park System section from Eilers Park to Volma Overton, Sr. Beach and south shore of Lady Bird Lake east of MoPac (8 contributing resources within the APE)

• Resource 14: Clay Pit Bucket Tower

• Resource 15: Travis County Centennial Marker, under West Cesar Chavez and MoPac Bridge over Lady Bird Lake

• Resources 16A-E: Zilker Park Historic District (5 contributing resources within the APE)

Section 4(f) regulatory requirements (23 CFR 774) apply to the following historic properties:

• Resource 13: Segment of Town Lake Park System from Eilers Park to Volma Overton, Sr. Beach and south shore of Lady Bird Lake east of MoPac

• Resource 16: Zilker Park Historic District

Project Effects
TxDOT has preliminarily determined that the project would have no adverse effect to the to the properties listed above.

We are also consulting with federally recognized Native American Tribes with interest in Travis County. Our Archeological Studies Branch is reviewing any potential impacts to archeological sites in area. If you would like more information on this, please let me know.

Next Steps

As you review the HRSR and the project information:

· Do you have any other information to add to our identification efforts?

· Is there someone TxDOT should reach out to about this project?

· Do you have any questions about the project?

I would appreciate your feedback by October 24, 2025. Thank you for your participation in the historic preservation process!

Getting Involved
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· Check out TxDOT's Project Tracker to learn more about this project. It can give you specific timing and locational information.

· Learn about TxDOT's history and archeology work. Additionally, TxDOT's Beyond the Road campaign highlights the stories of the people and places uncovered as we complete our environmental responsibilities throughout the state.

Thank you,

Julie

Julie D. McGilvray
Historical Studies Project Planner
Texas Department of Transportation
Environmental Affairs Division
julie.mcgilvray@txdot.gov
512.870.7795
TxDOT.gov

Outlook

Re: TxDOT Project: Mopac South

From Jesús Najar <jesus@preservationtexas.org>
Date Thu 9/25/2025 2:08 PM
To Julie McGilvray <Julie.McGilvray@txdot.gov>

Perfect. Thank you so much, Julie.

Jesús Najar

Central Texas Program Officer &
Architectural Programs Manager
Preservation Texas

P.O. Box 3514
San Marcos TX 78667
512-667-6500 (office)

On Thu, Sep 25, 2025 at 2:34 PM Julie McGilvray <Julie.McGilvray@txdot.gov> wrote:

> Jesus,
>
> I am working with the TxDOT Austin District on the Mopac South Project. Because the project is receiving federal funding, it is subject to review under Section 106 of the National Historic Preservation Act. You can find more information about this process on our website (Getting involved in historic preservation at TxDOT). You are receiving this email because of your interest and work with the historic resources in Travis County and the City of Austin.
>
> **Project Overview:**
> The purpose of the proposed MoPac South Project is to improve an approximate 8.5-mile segment of MoPac (Loop 1) from Cesar Chavez Street (St) to Slaughter Lane (Ln). On behalf of the Texas Department of Transportation (TxDOT) and the Central Texas Regional Mobility Authority (CTRMA), a consulting historian performed a historic resources reconnaissance survey of properties within the MoPac South Project Area of Potential Effects (APE) in February and March of 2025. The reconnaissance-level custom APE was developed in consultation with the Texas Historical Commission (THC) and TxDOT ENV, and is defined as follows:
>
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Lamar Beach).
- In all other areas, the APE is limited to the existing ROW.

South of Lady Bird Lake:
- 150 feet from the easements and existing ROW along either side of MoPac, for the length of Zilker Park.
- A segment of the Town Lake Park System/Butler Hike and Bike Trail, from MoPac to approximately 800 feet to the east.
- For the remainder of the project, the APE is limited to the existing ROW and 150 feet from easements.

The project does not include proposed ROW and will not result in any displacements.

Identified Historic Resources:
Thank you for assisting TxDOT's historic resources survey consultant with information about significant resources in Travis County and the City of Austin. The survey report is now available for you to review: https://txdot.box.com/s/hxdro88ea4ke30bgr6aitr96jqejkhq9. Note: This link expires on October 9, 2025.

Consulting historians documented resources within the APE constructed in 1983 or earlier (45 years before the proposed construction letting date of 2028). The summary below includes the results of the MoPac South historic resources reconnaissance survey. Twenty-four properties containing 41 resources were documented as part of MoPac South historic resources reconnaissance survey. Of these, 23 resources are individually National Register of Historic Place (NRHP)-listed, contributing resources to NRHP-listed historic districts, previously determined NRHP-eligible, or recommended NRHP-eligible as a result of the current survey. These historic properties are listed below by resource number and address, with resources contributing to historic districts grouped by district. ·

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• Resource 13: Segment of Town Lake Park System from Eilers Park to Volma Overton, Sr. Beach and south shore of Lady Bird Lake east of MoPac

• Resource 16: Zilker Park Historic District

Project Effects
TxDOT has preliminarily determined that the project would have no adverse effect to the to the properties listed above.

We are also consulting with federally recognized Native American Tribes with interest in Travis County. Our Archeological Studies Branch is reviewing any potential impacts to archeological sites in area. If you would like more information on this, please let me know.

Next Steps

As you review the HRSR and the project information:

· Do you have any other information to add to our identification efforts?

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I would appreciate your feedback by October 24, 2025. Thank you for your participation in the historic preservation process!

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Thank you,

Julie

Julie D. McGilvray
Historical Studies Project Planner MLA, MSHP
Texas Department of Transportation
Environmental Affairs Division
julie.mcgilvray@txdot.gov
512.870.7795
TxDOT.gov

Outlook

TxDOT Project: Mopac South

From Julie McGilvray <Julie.McGilvray@txdot.gov>
Date Fri 10/24/2025 9:02 AM
To Justin Kockritz <justin.kockritz@thc.texas.gov>

Justin:

I am working with the TxDOT Austin District on the Mopac South Project. Because the project is receiving federal funding, it is subject to review under Section 106 of the National Historic Preservation Act. You are receiving this email because of your interest and work with the historic resources in the State of Texas, Travis County, and the City of Austin.

Project Overview:
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The project does not include proposed ROW and will not result in any displacements.

Identified Historic Resources:
Thank you for assisting TxDOT's historic resources survey consultant with information about significant resources in Travis County and the City of Austin. The survey report is now available for you to review: https://txdot.box.com/s/vyydjxo1rbspj4242ai8654fv0tv54s2

Consulting historians documented resources within the APE constructed in 1983 or earlier (45 years before the proposed construction letting date of 2028). The summary below includes the results of the MoPac South historic resources reconnaissance survey. Twenty-four properties containing 41 resources were documented as part of MoPac South historic resources reconnaissance survey. Of these, 23 resources are individually National Register of Historic Place (NRHP)-listed, contributing resources to NRHP-listed historic districts, previously determined NRHP-eligible, or recommended NRHP-eligible as a result of the current survey. These historic properties are listed below by resource number and address, with resources contributing to historic districts grouped by district. ·

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Next Steps

As you review the HRSR and the project information:

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· Is there someone TxDOT should reach out to about this project?

· Do you have any questions about the project?

I would appreciate your feedback by November 24, 2025.

Thank you,

Julie D. McGilvray
Historical Studies Project Planner
Texas Department of Transportation
Environmental Affairs Division
julie.mcgilvray@txdot.gov
512.870.7795
TxDOT.gov

From: Renee Benn-Lee
To: Russell, Kelley
Subject: RE: Mopac South Historic Resources -3136-01-176
Date: Thursday, November 7, 2024 4:37:01 PM
Attachments: image013.png
image014.png
image018.png
image019.png
image020.png

Ok so the Zilker APE, I confirmed 150' is fine. As for the trail- it can be a linear APE (ie the Trail itself, not 150' from the Trail) with the limits from Deep Eddy on the west end of the Trail to 150' east of the boat ramp easement by the high school. On the south side, just end the east limit for the Trail APE at the end of the dirt parking area shown below by the red line. We don't think there are going to be any old enough "C" elements in the Trail APE in these limits, though we do know of a marker for Travis County (which you have mapped). Do you know if the new Zilker nomination includes the Trail as contributing? I have yet to read what you sent.

From: Russell, Kelley <M.K.Russell@atkinsrealis.com>
Sent: Wednesday, November 6, 2024 2:43 PM
To: Renee Benn-Lee <Renee.Benn@txdot.gov>
Subject: RE: Mopac South Historic Resources -3136-01-176

Thanks, sounds good!

M. Kelley Russell (she/her) MSHP

Architectural Historian and Archeologist
Texas Cultural Resources Group Manager
AtkinsRéalis
Tel: 512-342-3357 **Mob:** 512-917-8866
11801 Domain Blvd, Ste 500
Austin, Texas, 78758, USA

From: Renee Benn-Lee <Renee.Benn@txdot.gov>
Sent: Wednesday, November 6, 2024 11:45 AM
To: Russell, Kelley <M.K.Russell@atkinsrealis.com>
Subject: RE: Mopac South Historic Resources -3136-01-176

Let me talk to SHPO about the extent of that trail survey, not sure need to go so far east on the south side.

From: Russell, Kelley <M.K.Russell@atkinsrealis.com>
Sent: Wednesday, November 6, 2024 9:17 AM

To: Renee Benn-Lee <Renee.Benn@txdot.gov>
Subject: RE: Mopac South Historic Resources -3136-01-176

Hi Renee,

Thanks so much for meeting with me earlier this week.

- To recap, we'll only record historic-age resources within Zilker Park located with the 150 ft APE as the Zilker Park Historic District NRHP nomination has been updated (draft form) by the City and includes recent documentation of historic-age resources.
- Regarding the stone house (circled several messages below). It is no longer within the APE as the project design no longer includes an easement in that area and the APE in that vicinity will be limited to the existing ROW.

Regarding the Butler Hike and Bike Trail (map from the City attached), I reviewed the reconnaissance survey report for the I-35 Capital Express Central and the intensive survey report of the Butler Hike and Bike trail/ Town Lake Park System segment. The Reconnaissance Survey evaluated a one-mile section of the Town Lake Park System between Waller Creek and Fiesta Gardens and recommended the overall Town Lake Park System significant under A in the area of Entertainment/Recreation at the local level and under A for Community Planning and Development. The segment evaluated in the Intensive Survey from Waller Creek to Fiesta Gardens was determined as a contributing segment to the Town Lake Park System under A in the areas of Entertainment/Recreation, Community Planning and Development, and Social History and under C in the area of Landscape Architecture, all at the local level of significance.

- Proposed documentation of Butler Hike and Bike Trail/ Town Lake Park System segment: The project APE on the North side of Town Lake spans from just east of Deep Eddy Pool and extends east to Lamar Blvd. It includes the long parcel along Town Lake to Lamar because of the 150 ft APE around the proposed barge access location. I am proposing to begin the trail segment documentation beginning at the western trailhead at the western edge of Deep Eddy Bathing Beach and span east to include Lamar Beach to Lamar Blvd. South of Town Lake (and including the Roberta Crenshaw pedestrian bridge under Mopac), I propose the segment to span to the eastern edge of Zilker Park.

Thanks,
Kelley

M. Kelley Russell (she/her) MSHP

Architectural Historian and Archeologist
Texas Cultural Resources Group Manager
AtkinsRéalis
Tel: 512-342-3357 **Mob:** 512-917-8866
11801 Domain Blvd, Ste 500
Austin, Texas, 78758, USA

From: Renee Benn-Lee <Renee.Benn@txdot.gov>
Sent: Thursday, October 31, 2024 3:31 PM
To: Russell, Kelley <M.K.Russell@atkinsrealis.com>
Subject: RE: Mopac South Historic Resources -3136-01-176

Please stick with 150' in Zilker Park as SHPO said, glad we will have a new nomination to work from. I think I found a correction for the revised APE map but maybe the design changed again. I am free tomorrow except 11-1 and all day Monday to discuss.

From: Russell, Kelley <M.K.Russell@atkinsrealis.com>
Sent: Wednesday, October 30, 2024 2:54 PM
To: Renee Benn-Lee <Renee.Benn@txdot.gov>
Cc: Rebekah Dobrasko <Rebekah.Dobrasko@txdot.gov>
Subject: RE: Mopac South Historic Resources -3136-01-176

Hi Renee,

It's been quite some time since we discussed the Mopac South APE and Research Design! After we last spoke in May, I paused work on the Research Design while the engineers were making some minor tweaks to the project design and I'm picking it back up now. I'd couldn't find my response to your email, so there's a chance I never sent it! I apologize. I responded to your questions below.

Would you have time to discuss the methodology for documenting Zilker Park? Since we last worked on the research design in 2020, the City of Austin began updating the Zilker Park Historic District nomination (attached without photos to reduce file size). It's not finalized, but the current version includes 81 contributing resources within Zilker Park. I might be overthinking it, but I don't want to overdo things or under do things knowing that this project has a high likelihood of litigation.

Attached also is the draft Historic Resources APE map revised to reflect the current design and the APE as discussed in our phone call meeting back in May and your email below.

Thank you,
Kelley

M. Kelley Russell (she/her) MSHP

Architectural Historian and Archeologist
Texas Cultural Resources Group Manager
AtkinsRéalis

Tel: 512-342-3357 **Mob:** 512-917-8866

11801 Domain Blvd, Ste 500
Austin, Texas, 78758, USA
Podcasts Beyond Engineering Careers

At AtkinsRéalis, we work flexible hours around the world. Although I have sent this email at a time convenient for me, I don't expect you to respond until it works for you.

From: Renee Benn-Lee <Renee.Benn@txdot.gov>
Sent: Friday, May 24, 2024 3:50 PM
To: Russell, Kelley <M.K.Russell@atkinsrealis.com>; Rebekah Dobrasko <Rebekah.Dobrasko@txdot.gov>
Subject: RE: Mopac South Historic Resources -3136-01-176

I just met with Justin using this KMZ and the page from the maps you sent showing no higher elevation at Town Lake. He is happy to see it has been scaled back (he did review some of this when Linda was still at THC) and fine with 150' at Zilker and with using the usual noise receivers for a regular noise study (ie no extra noise studies needed at this time).

He was interested in the viewshed/visual impacts from the Zilker Clubhouse as that is elevated.

We are also wondering whether the new lanes are going inside or outside the existing bridges (maybe combo of both?) It will be a combo of both. New lanes will be in center inside and the existing bridges and lanes will be widened on the outside, all within existing ROW.

We did notice a new on-ramp configuration (?) near 6th st/Lake Austin at S Atlanta St. Photo-

He would like the 150' APE to come up to Johnson St. on the west side due to possible visual impacts, although I think the prior mopac study found no historic properties between Johnson St. and Lake Austin Blvd (neither of us reviewed that project and nothing is shown on the aggregator here). That 150' is going to capture the Charles Johnson/Veterans home but likely not Deep Eddy etc. Will do

We did note the new status of Town Lake trail (eligible). Wondering also about contributing/ non-contributing status of bridge under mopac for the trail if that would be altered at all? The trail under/Roberta Crenshaw Bridge Mopac will not be altered.

He also pointed out a couple of truss bridges under the mopac/6th/5th/Lake Austin interchange, and would like those surveyed. Will do. Hopefully the parks dept has a date for them. We may do a site visit for those, and also for Zilker Park Refectory RTHL Ashford McGill House.

That is all for the downtown area.

There is a old stone house on the east side, in an office complex near the turnaround north of Best Buy- circled on map below- so that needs survey due to the easement there. Will do

Other than that, do the usual 150' at new ROW or easements, and current ROW elsewhere for your APE.

From: Russell, Kelley <M.K.Russell@atkinsrealis.com>
Sent: Thursday, May 23, 2024 9:29 AM
To: Renee Benn-Lee <Renee.Benn@txdot.gov>; Rebekah Dobrasko <Rebekah.Dobrasko@txdot.gov>
Subject: RE: Mopac South Historic Resources -3136-01-176

Hi Renee and Rebekah,

Attached are:

- KMZ of the project area. Everything should be self-explanatory except for the EROW Poly which is existing ROW
- Emails with ENV and THC discussing the Historic Resources APE subsequent to the initial project kickoff meeting in December 2019.

I'll send the schematic in a follow up email.

Thank you,
Kelley

M. Kelley Russell (she/her) MSHP

Texas Cultural Resources Group Manager
AtkinsRéalis

512-342-3357, 512-917-8866,
11801 Domain Blvd, Ste 500
Austin, Texas, 78752, USA

From: Russell, Kelley
Sent: Tuesday, May 21, 2024 11:34 AM
To: Renee Benn-Lee <Renee.Benn@txdot.gov>; Rebekah Dobrasko <Rebekah.Dobrasko@txdot.gov>
Subject: RE: Mopac South Historic Resources -3136-01-176

Hi Renee and Rebekah,

Thanks so much for the meeting and discussion yesterday!

Attached are few the items I owe you and I'll send the rest in a separate email when I get them.

- 2019 Public Involvement Plan (no update since then)
- Link to Open Houses #1-#5 an other past project info : https://www.mopacsouth.com/news/past-events.php
- 2020 Research Design with all attachments
- 2016 ENV comments (Mark Brown) on Jacob's draft HRSR
- 2020 ENV comments (Mark Brown) on Atkins's HRRD

I will send the schematic's, KMZ, and emails from Mark regarding the APE in a follow up email(s) once I get the KMZ (in progress) from our GIS folks.

Thank you,
Kelley

M. Kelley Russell (she/her) MSHP
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From: Renee Benn-Lee <Renee.Benn@txdot.gov>
Sent: Monday, May 20, 2024 2:32 PM
To: Russell, Kelley <M.K.Russell@atkinsrealis.com>; Rebekah Dobrasko <Rebekah.Dobrasko@txdot.gov>
Subject: RE: Mopac South Historic Resources -3136-01-176

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Subject: RE: Mopac South Historic Resources -3136-01-176

Just realized the research design I sent last week did not include the APE map! Might be helpful! See attached.

M. Kelley Russell (she/her) MSHP

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Sent: Tuesday, May 14, 2024 10:39 AM
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Teams please and I will read the approved RD by then. If anything after browsing through it, it's more than needed!

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Cc: Renee Benn-Lee <Renee.Benn@txdot.gov>
Subject: RE: Mopac South Historic Resources -3136-01-176

Hi Rebekah and Renee,

Yep, I'm free all afternoon on May 20th. Are y'all doing in person meetings or on Teams? Either way works for me.

Thank you!

M. Kelley Russell (she/her) MSHP

Texas Cultural Resources Group Manager
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Cc: Renee Benn-Lee <Renee.Benn@txdot.gov>
Subject: RE: Mopac South Historic Resources -3136-01-176

Hi Kelley! It looks like Renee Benn and I will be working on this project with you! Are you available to meet with us the afternoon on Monday, May 20? If not, can you let me know some of your availability the week of Memorial Day?

Thank you!

Rebekah

Texas Department of Transportation

REBEKAH DOBRASKO
Environmental Affairs
Section Director, Cultural Resources

O: 512-416-2570
M: 512-431-3422

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Hi Rebekah,

So, I have a project that has been on hold for a while and is now been resurrected by CTRMA. Atkins last left off in 2020 with an approved Research Design (see attached). Then the project had a series of holds and design changes. It appears that the CTRMA is ready for the project to take off again!

Quick recap:

- Jacobs began the project sometime in 2016ish and completed/almost completed the survey. I believe they had determination of eligibility of recorded resources and submitted the survey report but the project was put on hold prior to clearance.
- Atkins subsequently took over the EA and cultural resources. We completed a revised Research Design in 2020 and began the survey for a bit in 2022, but it was put on hold several times until now
- Previous letting date was 2022, current is supposedly 2027

I'd like to set up a meeting with ENV regarding picking the project back up and moving forward especially concerning the survey methodology, noise and vibration effects, consulting parties, revision of research design (if necessary), etc.

Thank you,
Kelley

M. Kelley Russell (she/her) MSHP

Texas Cultural Resources Group Manager
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From:	Renee Benn-Lee
To:	Russell, Kelley
Subject:	RE: Mopac South Historic Resources -3136-01-176
Date:	Tuesday, November 12, 2024 8:35:28 AM
Attachments:	image016.png image017.png image018.png image022.png image023.png image024.png

---

Yes that is about right, though not sure what is there now on the ground quite matches, just went there Saturday!

From: Russell, Kelley <M.K.Russell@atkinsrealis.com>
Sent: Monday, November 11, 2024 2:40 PM
To: Renee Benn-Lee <Renee.Benn@txdot.gov>
Subject: RE: Mopac South Historic Resources -3136-01-176

Thanks so much Renee! I reviewed the original and updated Zilker Park nominations, and the Butler/Town Lake Hike and Bike Trail was not documented in either. Also, would you mind clarifying the eastern limit for the trail APE on the south side? The red line may have shifted off of the photo on my end. Are we looking at about where the line of cars is within the parking lot next to the Botanical Gates of Paradise purple photo icon? See yellow line.

Thank you,
Kelley

M. Kelley Russell (she/her) MSHP

Architectural Historian and Archeologist
Texas Cultural Resources Group Manager
AtkinsRéalis
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From: Renee Benn-Lee <Renee.Benn@txdot.gov>
Sent: Thursday, November 7, 2024 4:37 PM
To: Russell, Kelley <M.K.Russell@atkinsrealis.com>
Subject: RE: Mopac South Historic Resources -3136-01-176

Ok so the Zilker APE, I confirmed 150' is fine. As for the trail- it can be a linear APE (ie the Trail itself, not 150' from the Trail) with the limits from Deep Eddy on the west end of the Trail to 150' east of the boat ramp easement by the high school. On the south side, just end the east limit for the Trail APE at the end of the dirt parking area shown below by the red line. We don't think there are going to be any old enough "C" elements in the Trail APE in these limits, though we do know of a marker for Travis County (which you have mapped). Do you know if the new Zilker nomination includes the Trail as contributing? I have yet to read what you sent.

From: Russell, Kelley <M.K.Russell@atkinsrealis.com>
Sent: Wednesday, November 6, 2024 2:43 PM
To: Renee Benn-Lee <Renee.Benn@txdot.gov>
Subject: RE: Mopac South Historic Resources -3136-01-176

Thanks, sounds good!

M. Kelley Russell (she/her) MSHP
Architectural Historian and Archeologist
Texas Cultural Resources Group Manager
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From: Renee Benn-Lee <Renee.Benn@txdot.gov>
Sent: Wednesday, November 6, 2024 11:45 AM
To: Russell, Kelley <M.K.Russell@atkinsrealis.com>
Subject: RE: Mopac South Historic Resources -3136-01-176

Let me talk to SHPO about the extent of that trail survey, not sure need to go so far east on the south side.

From: Russell, Kelley <M.K.Russell@atkinsrealis.com>
Sent: Wednesday, November 6, 2024 9:17 AM
To: Renee Benn-Lee <Renee.Benn@txdot.gov>
Subject: RE: Mopac South Historic Resources -3136-01-176

Hi Renee,

Thanks so much for meeting with me earlier this week.

- To recap, we'll only record historic-age resources within Zilker Park located with the 150 ft APE as the Zilker Park Historic District NRHP nomination has been updated (draft form) by the City and includes recent documentation of historic-age resources.
- Regarding the stone house (circled several messages below). It is no longer within the APE as the project design no longer includes an

easement in that area and the APE in that vicinity will be limited to the existing ROW.

Regarding the Butler Hike and Bike Trail (map from the City attached), I reviewed the reconnaissance survey report for the I-35 Capital Express Central and the intensive survey report of the Butler Hike and Bike trail/ Town Lake Park System segment. The Reconnaissance Survey evaluated a one-mile section of the Town Lake Park System between Waller Creek and Fiesta Gardens and recommended the overall Town Lake Park System significant under A in the area of Entertainment/Recreation at the local level and under A for Community Planning and Development. The segment evaluated in the Intensive Survey from Waller Creek to Fiesta Gardens was determined as a contributing segment to the Town Lake Park System under A in the areas of Entertainment/Recreation, Community Planning and Development, and Social History and under C in the area of Landscape Architecture, all at the local level of significance.

- Proposed documentation of Butler Hike and Bike Trail/ Town Lake Park System segment: The project APE on the North side of Town Lake spans from just east of Deep Eddy Pool and extends east to Lamar Blvd. It includes the long parcel along Town Lake to Lamar because of the 150 ft APE around the proposed barge access location. I am proposing to begin the trail segment documentation beginning at the western trailhead at the western edge of Deep Eddy Bathing Beach and span east to include Lamar Beach to Lamar Blvd. South of Town Lake (and including the Roberta Crenshaw pedestrian bridge under Mopac), I propose the segment to span to the eastern edge of Zilker Park.

Thanks,
Kelley

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From: Renee Benn-Lee <Renee.Benn@txdot.gov>
Sent: Thursday, October 31, 2024 3:31 PM
To: Russell, Kelley <M.K.Russell@atkinsrealis.com>
Subject: RE: Mopac South Historic Resources -3136-01-176

Please stick with 150' in Zilker Park as SHPO said, glad we will have a new nomination to work from. I think I found a correction for the revised APE map but maybe the design changed again. I am free tomorrow except 11-1 and all day Monday to discuss.

From: Russell, Kelley <M.K.Russell@atkinsrealis.com>
Sent: Wednesday, October 30, 2024 2:54 PM
To: Renee Benn-Lee <Renee.Benn@txdot.gov>
Cc: Rebekah Dobrasko <Rebekah.Dobrasko@txdot.gov>
Subject: RE: Mopac South Historic Resources -3136-01-176

Hi Renee,

It's been quite some time since we discussed the Mopac South APE and Research Design! After we last spoke in May, I paused work on the Research Design while the engineers were making some minor tweaks to the project design and I'm picking it back up now. I'd couldn't find my response to your email, so there's a chance I never sent it! I apologize. I responded to your questions below.

Would you have time to discuss the methodology for documenting Zilker Park? Since we last worked on the research design in 2020, the City of Austin began updating the Zilker Park Historic District nomination (attached without photos to reduce file size). It's not finalized, but the current version includes 81 contributing resources within Zilker Park. I might be overthinking it, but I don't want to overdo things or under do things knowing that this project has a high likelihood of litigation.

Attached also is the draft Historic Resources APE map revised to reflect the current design and the APE as discussed in our phone call meeting back in May and your email below.

Thank you,
Kelley

M. Kelley Russell (she/her) MSHP

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Podcasts Beyond Engineering Careers

At AtkinsRéalis, we work flexible hours around the world. Although I have sent this email at a time convenient for me, I don't expect you to respond until it works for you.

From: Renee Benn-Lee <Renee.Benn@txdot.gov>
Sent: Friday, May 24, 2024 3:50 PM
To: Russell, Kelley <M.K.Russell@atkinsrealis.com>; Rebekah Dobrasko <Rebekah.Dobrasko@txdot.gov>
Subject: RE: Mopac South Historic Resources -3136-01-176

I just met with Justin using this KMZ and the page from the maps you sent showing no higher elevation at Town Lake. He is happy to see it has been scaled back (he did review some of this when Linda was still at THC) and fine with 150' at Zilker and with using the usual noise receivers for a regular noise study (ie no extra noise studies needed at this time).

He was interested in the viewshed/visual impacts from the Zilker Clubhouse as that is elevated.

We are also wondering whether the new lanes are going inside or outside the existing bridges (maybe combo of both?) It will be a combo of both. New lanes will be in center inside and the existing bridges and lanes will be widened on the outside, all within existing ROW.

We did notice a new on-ramp configuration (?) near 6th st/Lake Austin at S Atlanta St. Photo-

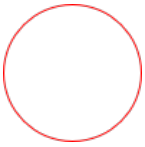
He would like the 150' APE to come up to Johnson St. on the west side due to possible visual impacts, although I think the prior mopac study found no historic properties between Johnson St. and Lake Austin Blvd (neither of us reviewed that project and nothing is shown on the aggregator here). That 150' is going to capture the Charles Johnson/Veterans home but likely not Deep Eddy etc. Will do

We did note the new status of Town Lake trail (eligible). Wondering also about contributing/ non-contributing status of bridge under mopac for the trail if that would be altered at all? The trail under/Roberta Crenshaw Bridge Mopac will not be altered.

He also pointed out a couple of truss bridges under the mopac/6th/5th/Lake Austin interchange, and would like those surveyed. Will do. Hopefully the parks dept has a date for them. We may do a site visit for those, and also for Zilker Park Refectory RTHL Ashford McGill House.

That is all for the downtown area.

There is a old stone house on the east side, in an office complex near the turnaround north of Best Buy- circled on map below- so that needs survey due to the easement there. Will do



Other than that, do the usual 150' at new ROW or easements, and current ROW elsewhere for your APE.

From: Russell, Kelley <M.K.Russell@atkinsrealis.com>
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Hi Renee and Rebekah,

Attached are:

- KMZ of the project area. Everything should be self-explanatory except for the EROW Poly which is existing ROW
- Emails with ENV and THC discussing the Historic Resources APE subsequent to the initial project kickoff meeting in December 2019.

I'll send the schematic in a follow up email.

Thank you,
Kelley

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Hi Rebekah and Renee,

Yep, I'm free all afternoon on May 20th. Are y'all doing in person meetings or on Teams? Either way works for me.

Thank you!

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Appendix F – Comment and Response Matrix from the Notice of Availability of Draft EA/Public Hearing or Notice of Availability of Draft EA/Opportunity for Public Hearing

Public Comment Response Matrix

Comment Number	Commenter Name	Date Received	Source	Comment Topic
1				
2				
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