



# Draft Indirect Impacts Technical Report

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U.S. Highway 79 (US 79) from Interstate Highway 35  
(I-35) to East of Farm-to-Market Road 1460 (FM 1460)

Williamson County, Texas

TxDOT Austin District

CSJ: 0204-01-063

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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 16, 2014, and executed by FHWA and TxDOT.

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## 1.0 INTRODUCTION

### 1.1 PURPOSE OF THE TECHNICAL REPORT

This document summarizes the analysis conducted to assess the potential for indirect impacts associated with the U.S. Highway 79 (US 79) project in Williamson County, Texas. It provides definitions of direct and indirect impacts and summarizes the Texas Department of Transportation (TxDOT) guidance utilized to determine the magnitude of potential indirect impacts.

### 1.2 PROJECT OVERVIEW

The TxDOT Austin District proposes improvements to US 79 between Interstate Highway 35 (I-35) and east of Farm-to-Market Road 1460 (FM 1460). The proposed project includes widening the existing US 79 roadway to add a third travel lane in each direction and installing a raised median for safety. Improvements to intersections would include potential overpasses at US 79/Mays Street and US 79/FM 1460, and altering the US 79/I-35 intersection.

The intersection at US 79 and Mays Street would be completely reconfigured with an addition of a partial cloverleaf interchange to replace the existing four-way traffic light in order to improve safety and enhance the flow of traffic from one corridor to the other. Two traffic lights would facilitate the left and right hand turns on and off Mays Street. The addition of an overpass would direct Mays Street traffic over US 79, thus avoiding the potential danger and congestion associated with the intersection.

Additionally, the proposed overpass at FM 1460 would allow vehicles traveling in the left lanes along US 79 to go over FM 1460 without stopping, thus bypassing the intersection. The right lanes (both eastbound and westbound on US 79) would direct traffic to the 4-way traffic light at the intersection of US 79 and FM 1460, below the overpass bridge. This intersection would include turnaround lanes, protected left turn lanes, and pedestrian crosswalks, and would facilitate the transfer of vehicles onto and off of US 79 and FM 1460.

Proposed changes along US 79 at I-35 include the reroute of traffic lanes to promote smoother, safer travel on and off US 79 and I-35. US 79 would still traverse below the I-35 overpass.

A raised median is proposed along the center of US 79 throughout the majority of the project area. The addition of this median would limit access points on and off US 79 to five cross-street intersections, the interchange at Mays Street, and three designated turn lanes at

breaks in the median. The five cross-street intersections are: (1) FM 1460; (2) Sunrise Road; (3) Georgetown Street; (4) Egger Avenue; and (5) Heritage Center.

Driveways and access points would also be modified to improve safety and traffic flow. The proposed improvements also include installing shared-use paths on both sides of US 79 to improve pedestrian and bicycle accommodations. The proposed project would require approximately 8.97 acres of new right-of-way.

Overall, the project would add capacity to the existing roadway, improve traffic flow, and increase safety for the traveling public. Right-of-way acquisition required for the reconstruction of the US 79/I-35 intersection would result in one potential commercial displacement. **Appendix A: Figure 1** shows the project location and limits and **Figure 2** includes the schematic design.

The environmental impacts of the proposed improvements to US 79 are being analyzed in technical reports. The project will be processed as an Environmental Assessment (EA).

## 2.0 DEFINITIONS AND GUIDANCE

### 2.1 DEFINITIONS OF DIRECT AND INDIRECT IMPACTS

The Council on Environmental Quality (CEQ) defines direct effects as those effects that are “caused by the action and occur at the same time and place” (40 Code of Federal Regulations [CFR] § 1508.8). Direct effects are predictable and are a direct result of the project.

In addition to direct effects, major transportation projects may also have indirect effects on land use and the environment. As defined by the CEQ, indirect effects are “caused by an action and occur later in time or farther removed in distance, but are still reasonably foreseeable. Indirect effects may include growth-inducing effects and other effects related to induced changes in the pattern of land use, population density or growth rate, and related effects on air and water and other natural systems, including ecosystems” (40 CFR § 1508.8).

The analyses presented in this technical report are focused on induced growth indirect impacts.

### 2.2 GUIDANCE

The approach for conducting indirect impacts analysis is ultimately guided by the following TxDOT publication, which is available online in the TxDOT Indirect and Cumulative Impacts Toolkit: *Indirect Impacts Analysis Guidance* (TxDOT, 2016).

### 3.0 INDIRECT IMPACTS

This section describes the potential indirect induced growth caused by the proposed project, utilizing guidance from TxDOT's *Indirect Impacts Analysis Guidance* (TxDOT, 2016). The following six steps are addressed in the induced growth impact analysis:

- 1) Define the methodology.
- 2) Define the Area of Influence (AOI) and study timeframe.
- 3) Identify areas subject to induced growth in the AOI.
- 4) Determine if growth is likely to occur in the induced growth areas.
- 5) Identify resources subject to induced growth impacts.
- 6) Identify mitigation, if applicable.

Additional guidance utilized throughout the analysis includes the 2002 National Cooperative Highway Research Program (NCHRP) report entitled *NCHRP Report 466: Desk Reference for Estimating the Indirect Effects of Proposed Transportation Projects* (NCHRP, 2002), and the NCHRP Project 25-25 Task 22 report entitled *Forecasting Indirect Land Use Effects of Transportation Projects* (NCHRP, 2007).

#### 3.1 STEP 1 – DEFINE THE METHODOLOGY

The risk assessment checklist for indirect impacts provided in TxDOT's Environmental Compliance Toolkit was used to determine whether indirect impacts analysis is required for the proposed project. **Table 1** summarizes the steps in the risk assessment checklist and confirms the need to conduct the indirect impacts analysis.

Table 1: Risk Assessment for Indirect Impacts		
Question	Answer	Explanation
Does the Purpose and Need include economic development, or is the project proposed to serve a specific development?	No	The purpose of the proposed project is to improve safety and accommodate future population growth and land use in the area. The purpose and need does not explicitly cite economic development, nor is it posed to serve any specific development. The area is rapidly growing and urbanizing, and there are numerous existing and planned developments within and near the project limits.
Are economic development or new opportunities for growth/development cited as benefits of the project?	No	Economic development or new opportunities for growth/development are not cited as benefits of the proposed project. Although, helping to direct future growth and development is cited as a goal of the proposed project.
Is land in the project area available for development and/or redevelopment?	Yes	Several areas adjacent to US 79 within the project limits and along arterials connected to the proposed project corridor are available for development. Large parcels of developable land exist along US 79 to the east of the project area.
Does the project add capacity?	Yes	The project proposes to widen the existing US 79 roadway to add a third travel lane in each direction.
Is the project located in a rural area outside of the MPO boundary?	No	The project area is urbanized and is contained within the Capital Area Metropolitan Planning Organization (CAMPO) boundary.
Does the project substantially increase access or mobility in the project area?	Yes	The project would substantially increase mobility in the project area. The proposed project includes the widening of the existing US 79 roadway to add a third travel lane in each direction to accommodate the rapid population growth in the area. Improvements to intersections would include potential overpasses at US 79/Mays Street and US 79/FM 1460, and altering the US 79/I-35 intersection to allow for increased traffic flow.
Is the project area experiencing population and/or economic growth?	Yes	The project area is experiencing population growth. According to the Williamson County Long Range Transportation Plan's population forecast, growth in Williamson County is expected to increase by 134.6 percent between 2008 and 2035. According to population projections from the Texas Water Development Board (TWDB), the population of Williamson County is expected to increase 133.6 percent by 2040, and the population for the city of Round Rock is expected to increase by 139.8 percent.

Sources: TxDOT, *Risk Assessment for Indirect Impacts*, April 2014. With added explanations from CMEC, 2018; Williamson County, 2016; TWDB, 2016.

A planning judgement approach, supported by the planning assumptions and land use predictions made by the City of Round Rock staff, was utilized to identify anticipated development trends and the probability of the proposed project to influence local land use decisions within the AOI. An essential aspect of scoping the proposed project for potential indirect induced growth is coordination with local government staff who are intimately

acquainted with the characteristics of the community and plans for addressing socioeconomic issues. Accordingly, the City of Round Rock Interim Assistant Director of Planning & Development Services and the Capital Improvement Projects Program Manager were consulted in September 2018 to obtain input relevant to defining the AOI. The City of Round Rock Interim Assistant Director of Planning & Development also provided information about current planning documents and processes, proposed development projects, and other development data relevant to the analysis of the proposed project's indirect and cumulative impacts.

Information from the local government interviews, planning documents, and various maps publicly available by the City of Round Rock and the Capital Area Metropolitan Planning Organization (CAMPO) is provided in the discussion of indirect induced growth impacts. Information from the local government interviews also guided the exercise of planning judgment, which necessarily extends throughout the analysis of indirect impacts.

This analysis provides quantified acreages of land uses within the AOI when appropriate; however, given the uncertainty inherent in predicting induced growth, some qualitative assumptions and assessments are necessary.

### **3.2 STEP 2 – DEFINE THE AREA OF INFLUENCE AND STUDY TIMEFRAME**

The analysis assesses the potential indirect induced growth impacts and the possible geographic range of those impacts. This is done by considering the attributes and context of the proposed project, which leads to a general assessment of the level of impacts anticipated. In addition, the assessment considers the distance from the project construction footprint where those impacts attenuate to a negligible level. This approach helps determine the level of effort and approach needed to complete the analysis and is also vital in achieving the second objective of determining the geographic extent of the indirect impacts study area or AOI.

The proposed project footprint falls within the jurisdiction of the City of Round Rock, as well as Williamson County. Information from the interviews held with the City of Round Rock representatives guided the exercise of planning judgement.

#### **3.2.1 Project Attributes and Context**

US 79 is an east-west transportation corridor that begins at I-35 in Round Rock, Williamson County, Texas. The corridor serves as an integral connection between the suburban community of Round Rock to the urban community of Austin.

The area around the proposed project is rapidly growing and contains many low-to-medium density residential neighborhoods to accommodate its ever-growing population. In addition to low-to-medium density residential neighborhoods, the project area contains a multitude of commercial businesses, many of which are located directly adjacent to the US 79 corridor. There are some undeveloped parcels of land interspersed among the various commercial developments, with the largest undeveloped parcels located to the east. US 79 provides access to and from the business and residential areas within the project area as well as access to and through the project area from surrounding communities. The proposed project has been planned to improve mobility and enhance safety along the US 79 corridor.

### 3.2.2 Geographic Boundary of the Area of Influence

The basic objective in creating an AOI is to delineate a study area within which all substantial project-related impacts are expected to occur. As the assessment of direct project impacts generally stops at the limits of the construction area within existing and proposed right-of-way/easements (i.e., the project footprint), establishing an AOI extends the area of consideration to the point where all impacts are expected to attenuate to a negligible level, or where other infrastructure constitutes a greater impact on development as compared with the proposed project.

The AOI encompasses an area of approximately 3,152 acres. Input obtained from the interviews with local City officials resulted in the AOI boundary that is illustrated on **Figures 1, 3, and 4**. The AOI is generally defined as (clockwise) Bowman Road, Tiger Trail, Agarita Trail, Chandler Branch Creek, Brushy Creek, Lake Creek, and I-35. As confirmed during the interviews, the parcels bounded by the AOI are considered likely to contain potential induced growth resulting from the proposed project.

### 3.2.3 Time Frame for Assessing Indirect Impacts

A temporal frame of reference is necessary in addressing the range of impacts that may be caused by the proposed project in the future. The discussion below considers indirect induced growth impacts that may occur between the present time (2018) and 2040, the planning horizon for the CAMPO Regional Transportation Plan (CAMPO, 2015).

## 3.3 STEP 3 – IDENTIFY AREAS SUBJECT TO INDUCED GROWTH IN THE AOI

Undeveloped land and potential sites for redevelopment are present within the AOI. Estimates of current land use by parcel is presented below in **Table 2**. These categorizations were developed using data from the City of Round Rock and field verification. Approximately 518 acres are estimated to be developable, representing approximately 16 percent of the land within the AOI.

In **Table 2** below, “Undeveloped” land represents the third largest land use category, just behind “Single Family” residential land and “Existing Right-of-Way” acreage. **Appendix A: Figure 3** illustrates land uses within the AOI based on current land use classifications from the City of Round Rock and field verification. As seen in **Figure 3**, many of the largest parcels of “Undeveloped” land occur just to the east of the proposed project. Based on interviews with the City of Round Rock staff, this land has some of the highest potential for development.

Table 2: Current Land Uses within the Area of Influence		
Land Use Category	Acres	Percent of AOI
Agricultural	68.2	2.2%
Commercial	247.3	7.8%
Drainage	206.3	6.5%
Educational Facility	135.2	4.3%
Government/Institutional	228.8	7.3%
Industrial	17.3	0.6%
Multi Family	184.8	5.9%
Office	52.9	1.7%
Open Space	7.9	0.3%
Recreational	139.6	4.4%
Single Family	693.3	22.0%
Two Family	30.4	1.0%
Undeveloped	518.4	16.4%
Utilities	96.7	3.1%
Existing Right-of-Way	524.6	16.6%
<b>Total</b>	<b>3,151.7</b>	<b>100%</b>

Source: City of Round Rock, 2014; CMEC, 2018.

### 3.4 STEP 4 – DETERMINE IF GROWTH IS LIKELY TO OCCUR IN THE INDUCED GROWTH AREAS

This step presents information on development trends and community goals within the AOI. Following this discussion, areas of potential future development are identified and quantitatively evaluated. As noted in NCHRP Report 466, “[i]ndirect effects can be linked to direct effects in a causal chain” (NCHRP, 2002). Reasonably foreseeable effects are “sufficiently likely to occur that a person of ordinary prudence would take them into account

in making a decision” (NCHRP, 2002). Reasonably foreseeable events must be probable, not just possible. Probability also helps distinguish indirect effects from direct effects: direct effects are often inevitable, while indirect effects are simply probable. The NCHRP Report 466 states “[e]ffects that can be classified as possible but not probable may be excluded from consideration” (NCHRP, 2002). Therefore, this section seeks to determine whether development in the AOI induced by the project is probable.

### 3.4.1 Regional and Local Trend Data

According to the decennial census, the population of the City of Round Rock increased approximately 63.4 percent between 2000 and 2010. Similarly, the population of Williamson County increased approximately 69.1 percent between 2000 and 2010 (U.S. Census Bureau, 2000 and 2010). CAMPO develops future population and employment projections for a six-county area (Bastrop, Burnet, Caldwell, Hays, Travis, and Williamson Counties). According to CAMPO, projections for population and employment in Williamson County is anticipated to see continued growth of a high degree between 2010 and 2040 (see **Table 3**).

Table 3: 2010-2040 Projected Population and Employment Growth for Williamson County					
Williamson County	2010	2020	2030	2040	Percent Growth (2010-2040)
Population	422,605	640,699	956,459	1,406,994	<b>233%</b>
Employment	126,808	241,351	433,563	745,707	<b>488%</b>

Source: CAMPO, 2015.

Given this information, Williamson County is expected to see a high rate of growth for both people and jobs coming to the area. Based on discussions with the City of Round Rock staff, continued residential and commercial development is anticipated within the city, as well as just outside the city limits in the extra-territorial jurisdiction (ETJ).

Based on these demographic and land use trends, it can be concluded that there is a high potential for continued and future growth in the AOI.

### 3.4.2 Local Plans

A variety of local plans exist to promote, guide, and monitor various development activity in Round Rock. The proposed project area is also within the jurisdiction of CAMPO’s Regional

Transportation Plan. A brief description of the most influential aspects of local and regional plans in relation to the proposed project and surrounding AOI is presented below.

### *City of Round Rock*

The City of Round Rock's comprehensive plan *Places & Spaces: General Plan 2020* was adopted by City Council in 2010 (City of Round Rock, 2010). This planning document is used by City staff to guide future growth and development in an appropriate and desired manner and to improve the quality of life for its residents. The plan provides a policy framework for decisions related to the physical growth and economic development within Round Rock, and articulates a vision and provides goals through the year 2020.

The comprehensive plan identifies existing land uses within the AOI as single-family, two-family, multifamily, commercial, industrial, government/institutional, education facilities, recreation & open space, office, utilities, drainage, agriculture, and vacant undeveloped. The City's future land uses within the AOI include residential, commercial, commercial/multifamily, public facilities, open space, downtown mixed-use, and business park. The portion of the AOI that extends along Mays Street north of Brushy Creek to just north of US 79 is identified in the Future Land Use Map (FLUM) as transitioning from older residential neighborhoods to mixed-use development. However, the plan does state that the level of mixed-use development anticipated in this area is the least intense of the three areas identified for mixed-use development suitability. The plan goes on to declare that the area north of US 79 and west of Mays Street is suited for higher intensity development in the future. **Appendix B** contains the future land use map from the comprehensive plan.

In addition, the City maintains a Transportation Master Plan (adopted October 12, 2017), which encompasses the transportation system within the city limits as well as the ETJ, and reflects various transportation improvement needs. The plan identifies US 79 (Palm Valley Boulevard) as the top ranked corridor for crash frequency and the intersection at US 79 and FM 1460 (Palm Valley Boulevard & A.W. Grimes Boulevard) as the fifth highest intersection for crash frequency (City of Round Rock, 2017). The recommended thoroughfare plan for the City's transportation network identifies roads where future improvements will be needed to enhance mobility or multimodal safety. Within the AOI, such roadway improvements include enhancing US 79 (Palm Valley Boulevard) and FM 1460 (A.W. Grimes Boulevard) to six-lane facilities and enhancing Mays Street, Sunrise Road, and Tiger Trail to four-lane facilities. **Appendix B** contains the ultimate roadway network map from the thoroughfare plan of the Transportation Master Plan.

The City of Round Rock also relies on municipal code to guide overall city management of development. The Round Rock City Code includes ordinances related to zoning, subdivision platting, and development standards. These rules and regulations, along with future land

use plans, are key components to ensuring sustainable land use practices within the city. **Appendix B** contains the zoning map for the City of Round Rock.

### ***Capital Area Metropolitan Planning Organization (CAMPO)***

CAMPO's 2040 Regional Transportation Plan (RTP) guides transportation planning projects in the six-county region. Two of the goals in the RTP that are relevant to the proposed project are "Increase the safety and security of the transportation system" and "Maintain and enhance the mobility and access of goods and people within the region" (CAMPO, 2015). The proposed project would help achieve both of those goals, as adding a median reduces the potential for head-on collisions and improves safety, and the additional capacity is expected to improve mobility. The proposed project is included in the 2040 RTP as ID number 89 in *Table 32: Road Projects* in the Action Plan and Projects section.

### **3.4.3 Potential for Induced Development**

The preceding sections have demonstrated the high potential for growth in the AOI during the analysis period of 2018–2040. This section will evaluate the nature of this growth and attempt to determine whether it can be causally linked to the proposed project. The evaluation of whether the proposed project is likely to result in project-induced land use change is patterned after the procedures in the NCHRP Project 25-25, Task 22 (NCHRP, 2007). Project-induced land use change can include project-induced development, the redevelopment of previously developed land, or a change in the rate of development/redevelopment. Of the six land use forecasting tools introduced in the report, the "planning judgment" forecasting tool was used as the framework for the analysis. The planning judgment method seeks to make reasonable judgments about potential project-induced impacts based on information gleaned from the opinions and experience of professionals, through literature review, and through an assessment of existing and forecasted local conditions. To this end, input from the City of Round Rock staff was obtained to assess the potential for project-induced land use impacts.

The proposed improvements would accommodate future anticipated traffic demand and growth in the region, and improve safety by providing raised medians with dedicated median breaks at select locations and intersections within the proposed project limits. Literature reviewed for this project, including NCHRP Report 466 (NCHRP, 2002), NCHRP Project 25-25 Task 22, *Forecasting Indirect Land Use Effects of Transportation Projects* (NCHRP, 2007), and a Center for Transportation Research study by Kockelman et al., suggest that transportation improvements are a factor in land development decisions, but usually not the most important factor (Kockelman et al., 2001). Specifically, Kockelman et al. (2001) report that "[c]hanges in the transportation network only serve to redirect and redistribute growth rather than attract entirely new growth to a region that would not otherwise have occurred."

Representatives from the City of Round Rock were consulted in September 2018. The interview participants were asked where development is expected to occur and whether the proposed improvements would induce growth. Specifically, they were asked the following questions:

- Are there new developments within this area that are planned or platted? Platted but not yet developed?
- How would the proposed mobility improvements to US 79 affect existing development and future growth in the project study area?
- Which areas do you think would likely be developed (or redeveloped) between the present and 2040 as a result of the proposed improvements to US 79?
- Would the proposed construction of these improvements affect the rate of land use development in your jurisdiction?
- If development does occur, would it be consistent with local development codes?

During the interview, the City of Round Rock representatives provided commentary regarding general growth trends within the AOI (Dushkin and Pohlmayor, 2018). Overall, the interviewees believe the proposed improvements would have a positive impact on mobility within the AOI because traffic demand along US 79 has steadily increased during the past decade and is expected to continue.

The Interim Assistant Director of Planning & Development Services and the Capital Improvement Projects Program Manager for the City of Round Rock commented on general growth trends within the city's limits and ETJ along the limits of the proposed US 79 project (Dushkin and Pohlmayor, 2018). Residential growth has been the predominant trend for many years and is expected to continue. Economic growth is a newly emerging trend that is also expected to continue. The Interim Assistant Director of Planning & Development Services suggested expanding the AOI boundary to the east to capture the parcels that comprise the future Kalahari Resort and Convention Center development that will be located at the southeast corner of US 79 and Kenney Fort Boulevard across from the Dell Diamond and Old Settlers Park. The AOI boundary, as presented in this report, was enlarged to capture the future Kalahari Resort and Convention Center development because of this suggestion.

The City of Round Rock staff explained that the Kalahari development plans for approximately 350 acres at the southeast corner of US 79 and Kenney Fort Boulevard across from the Dell Diamond and Old Settlers Park. The development will include a 975-room hotel, an indoor water park, a "Main Event/Dave & Buster's"-style entertainment venue, restaurants, retail shops, and an approximate 4.6-acre convention center, with more

features yet to come (Dushkin and Pohlmayor, 2018; Salazar, 2018). The City Council approved the rezoning of the area to Planned Unit Development (PUD) for the Kalahari development this year (Blien, 2018). City staff explained that the other nearby undeveloped parcels might be stimulated by the Kalahari development, and the proposed improvements to US 79 might also hasten this development.

City staff also explained that redevelopment of the Henna tract, a single-family, large lot, older residential development located at the southeast corner of Mays Street and US 79, should also be considered for this analysis. City staff explained that the heirs to this property are moving and the area has redevelopment potential that could transition to higher density development. Other areas mentioned for their potential for redevelopment were the commercial tract between I-35 and Mays Street, the Egger Acres single-family neighborhood on the north side of US 79 between Egger Avenue and the Texas Baptist Children's Home, and the southern tract of offices near Heritage Center Circle. **Appendix A: Figure 4** illustrates the areas of potential development and redevelopment within the AOI.

The combined areas of potential development and redevelopment total approximately 600 acres, which is approximately 19 percent of the approximate 3,152-acre AOI. From this point forward, the approximate 600 acres of potential development and redevelopment will be considered commensurate to areas subject to induced growth potential within the AOI. The exact type, location, timing, and density of future developments within the "potential development and redevelopment" areas are unknown at the time of this report preparation. However, it is assumed that all future development would comply with the City of Round Rock's land development regulations and ordinances, as long as the location of land improvements resided within the City's jurisdiction.

The interview with City staff concluded that the proposed improvements to US 79 are expected to accelerate the rate of land development that is already planned within the AOI – specifically for the Kalhari development and potential redevelopment of the Henna tract. City staff emphasized that development would happen regardless due to the increasing growth of the region; however, the proposed improvements to US 79 could spur some of the development and redevelopment of the area.

### 3.5 STEP 5—IDENTIFY RESOURCES SUBJECT TO INDUCED GROWTH IMPACTS

Based on the interview with City staff, along with cartographic assessment, approximately 600 acres of land have indirect induced growth potential within the AOI. The Ecological Mapping Systems of Texas (EMST) was used to determine which resources are present in the multiple areas identified for potential development; **Table 4** summarizes the

characteristics of resources present. It is assumed that the provision of increased capacity and mobility would enhance development potential within specific undeveloped areas within the AOI as illustrated in **Appendix A: Figures 3 and 4.**

<b>Table 4: Resource Characteristics in Areas of Potential Development and Redevelopment</b>	
<b>EMST Vegetation Type</b>	<b>Acres</b>
<b>Area of Potential Development (Undeveloped Tracts)</b>	
Blackland Prairie: Disturbance or Tame Grassland	270.5
Central Texas: Floodplain Deciduous Shrubland	1.6
Central Texas: Floodplain Hardwood Forest	29.5
Central Texas: Floodplain Herbaceous Vegetation	3.4
Central Texas: Riparian Hardwood Forest	0.4
Edwards Plateau: Floodplain Hardwood Forest	0.1
Edwards Plateau: Oak / Hardwood Motte and Woodland	8.8
Edwards Plateau: Oak / Hardwood Slope Forest	0.1
Edwards Plateau: Savanna Grassland	14.3
Native Invasive: Deciduous Woodland	37.6
Native Invasive: Mesquite Shrubland	19.2
Row Crops	101.0
Urban High Intensity	0.7
Urban Low Intensity	31.2
<b>Subtotal</b>	<b>518.4 acres</b>
<b>Areas of Potential Redevelopment (Henna Tract, I-35 to Mays Street Commercial Tract, Egger Acres Tract, and the Heritage Center Circle Office Tract)</b>	
Blackland Prairie: Disturbance or Tame Grassland	4.4
Edwards Plateau: Deciduous Oak / Evergreen Motte and Woodland	0.5
Edwards Plateau: Floodplain Hardwood Forest	3.1
Edwards Plateau: Oak / Hardwood Motte and Woodland	12.0
Edwards Plateau: Savanna Grassland	10.5
Native Invasive: Mesquite Shrubland	3.7
Open Water	0.1
Urban High Intensity	7.9
Urban Low Intensity	39.8
<b>Subtotal</b>	<b>82.0 acres</b>
<b>TOTAL</b>	<b>600.4 acres</b>

Source: MoRAP 2013.

**Table 5** includes a description of resources present in the areas of potential development and redevelopment within the AOI. No formal surveys have been conducted throughout the areas of potential development at the time of this report preparation for historic-age properties and archeological resources. However, preliminary consultation with TxDOT-developed potential archeological liability maps (PALM) indicates varying potential for archeological impacts within the areas of potential development and redevelopment.

Table 5: Resources Analyzed for Induced Growth Impacts

Resource	Could the resource be indirectly impacted by potential induced growth?	Could the potential indirect impacts to this resource be considered substantial?*
Waters of the U.S., including Wetlands	<p>Formal wetland delineations have not been conducted within the areas of potential development and redevelopment; however, if it was verified that the wetlands and waters were Waters of the U.S., then they would be protected by Section 404 of the Clean Water Act (CWA).</p> <p>Approximate acreages of National Wetland Inventory (NWI) wetlands within the areas of potential development and redevelopment areas are 0.3 and 3.3 acres, respectively.</p> <p>Approximately 1,284 feet of National Hydrography Dataset (NHD) stream lengths are located within the areas of potential redevelopment. There are no approximate NHD stream lengths located within the areas of potential development.</p>	No. The U.S. Army Corps of Engineers (USACE) regulates the discharge of dredged and fill material into waters of the U.S., including wetlands, under Section 404 of the CWA.
Floodplains	Yes. Approximately 38.4 acres of the 100-year floodplain are located within the area of potential development. Approximately 13.5 acres of the 100-year floodplain are located within the area of potential redevelopment.	No. Future construction within the 100-year floodplain would be in compliance with appropriate City of Round Rock permitting and general land use policies.

Table 5: Resources Analyzed for Induced Growth Impacts

Resource	Could the resource be indirectly impacted by potential induced growth?	Could the potential indirect impacts to this resource be considered substantial?*
Federally Listed Threatened and Endangered Species	<p>Yes. The AOI intersects a critical habitat polygon and known, occupied habitat for the Jollyville Plateau salamander (<i>Eurycea tonkawae</i>), a federally listed threatened species. Additionally, the areas of potential development include approximately 1.4 acres of Karst Zone 1 and 4.6 acres of Karst Zone 3 and the areas of potential redevelopment include an additional approximate 9.0 acres of Karst Zone 3, which may provide potentially suitable geologic substrates for several federally listed karst invertebrates, such as the Bone Cave harvestman (<i>Texella reyesi</i>).</p> <p>Potential impacts to federally listed species would be possible, but the potential for encountering these species during construction is low due to the best management practices and the voluntary conservations measures proposed for this project. Any impacts to species would be limited to individuals within the construction area and would not expect to affect the species as a whole. Formal consultation with the U.S. Fish and Wildlife Service (USFWS) would occur for the federally listed salamander and Bone Cave harvestman prior to construction of the proposed project.</p>	<p>Maybe. The Endangered Species Act affords protection for federally-listed threatened and endangered species and their habitats. The USFWS maintains lists of potential occurrence for listed species in each Texas county. All development, whether public or privately funded, is subject to federal regulations.</p> <p>Coordination with the USFWS regarding federally listed threatened and endangered species is ongoing.</p>
Vegetation and Wildlife Habitat (Including Habitat for State-Listed Species)	<p>Yes. The areas of potential development and redevelopment are vegetated to varying degrees and provide wildlife habitat. The EMST identified (<b>Table 4</b>) several native vegetation communities within the AOI; however, these areas have not been field verified and are likely an over estimate of potentially suitable wildlife habitat communities and/or intact vegetation assemblages.</p> <p>Additionally, the project is within range of suitable habitat for several Species of Greatest Conservation Need (SGCNs) and for the state-threatened timber rattlesnake (<i>Crotalus horridus</i>).</p> <p>The Texas Parks and Wildlife Department (TPWD) maintains lists of potential occurrence for listed species in each Texas county. The TPWD annotated list identifies a number of state-listed species that could potentially be present within the AOI.</p>	<p>No. Public and private development would be regulated by the City Code, which include ordinances related to land development regulations, site development, and tree protection/preservation.</p> <p>Additionally, state regulations prohibit harm to individuals of state-listed species.</p> <p>All development, whether public or privately funded, is subject to state regulations.</p>

Table 5: Resources Analyzed for Induced Growth Impacts

Resource	Could the resource be indirectly impacted by potential induced growth?	Could the potential indirect impacts to this resource be considered substantial?*
Topography and Soils	Yes. Approximately 427.8 acres of prime farmland soils and 7.8 acres of farmland soils of statewide importance are documented within the area of potential development. Approximately 30.3 acres prime farmland soils and 5.6 acres of farmland soils of statewide importance are present within the potential redevelopment areas.	No. Conversion or development of prime farmland would be in compliance with the appropriate City of Round Rock permitting and local development codes. Projects completed by a federal agency would be subject to Farmland Protection Policy Act (FPPA) requirements.
Community Resources (includes businesses and residences)	Yes. Property values could be influenced by future development. Additional tax revenue would be generated by potential induced development.	No. Based on the analysis of impacts and benefits, the proposed project would provide overall benefits to the socioeconomic resources in the project area. There are commercial activity centers, residential neighborhoods, and community facilities, such as medical facilities, schools, places of worship and parklands within the corridor. The project would not significantly impact access to these resources; rather, it would generally reduce congestion and improve mobility and safety such that these resources are more easily accessible.
Historic-Age Properties	<p>There is one listed property and two properties that are potentially eligible to be listed on the National Register of Historic Places (NRHP) on parcels within the area of potential effect (APE) for the proposed project. One of these potentially eligible properties is the Henna House, which was identified as an area for potential redevelopment in the future.</p> <p>There are several parcels identified as areas for potential growth that were outside of the APE for the historic resources survey. There appear to be some historic-age standing structures on these parcels, based on a review of aerial imagery. There are at least eight parcels with historic-age buildings along W. Oak Drive and four elsewhere in the AOI that have been identified as areas of potential redevelopment. These properties have not been evaluated for NRHP eligibility.</p>	<p>Maybe. Resources that are 50 years of age are potentially historic. NRHP-listed or eligible historic resources are protected by state and federal regulations for publicly funded projects. However, no state or federal regulations protect cultural resources for privately funded projects.</p> <p>Coordination for Section 4(f) and Section 106 compliance is ongoing.</p>

Table 5: Resources Analyzed for Induced Growth Impacts

Resource	Could the resource be indirectly impacted by potential induced growth?	Could the potential indirect impacts to this resource be considered substantial?*
Archeological Resources	No formal surveys have been conducted to date throughout the full extent of the areas of potential development and redevelopment. Preliminary consultation of TxDOT-developed PALM data indicates there is a moderate to high potential for impacts to unknown archeological deposits in areas of potential development and redevelopment, particularly in the areas nearest to Brushy Creek and the areas that have undergone the least disturbance from nearby development.	Maybe. The Antiquities Code of Texas requires notification (to the Texas Historical Commission) if public agencies sponsor ground-disturbing activity on public land. NRHP-listed or -eligible archeological resources are protected by state and federal regulations for publicly funded projects. However, these state and federal regulations do not apply to privately funded projects.

\*Substantial impacts are determined due to context, likelihood of occurring, and/or due to resource's ability to cover from the impact.

Source: CMEC, 2018.

Note – Separate technical reports documenting the direct impacts of the proposed project have been or are being prepared for the resources listed in this table. Best available information was used at the time of this report preparation to assess the impacts associated with potential induced growth.

### 3.5.1 Resources Analyzed for Induced Growth Impacts

Within the approximate 600 acres subject to development and redevelopment in the AOI, various resources could potentially be affected should development be proposed in the future by others. Based on the cartographic analysis and the information presented in **Table 5**, the following resources will be further analyzed for potential substantial indirect impacts from project-related induced development: **federally listed threatened and endangered species, historic-age properties, and archeological resources.**

Because the exact type, location, timing, and density of future developments within the approximate 600 acres identified as having development and redevelopment potential are mostly unknown at this stage of project development, the following resource discussions are broad and are focused on potential construction impacts within regulation parameters.

#### ***Federally Listed Threatened and Endangered Species—Jollyville Plateau Salamander and Bone Cave Harvestman***

##### *Jollyville Plateau Salamander*

The proposed US 79 project is primarily located over the Recharge and Transition Zones of the Edwards Aquifer, with the eastern terminus located outside of a mapped aquifer zone. The AOI for the proposed project is similarly located over the Recharge and Transition Zones

of the Edwards Aquifer with portions of the AOI extending outside of mapped areas east of FM 1460. **Figure 5 in Attachment A** shows the extent of the Edwards Aquifer Recharge and Transition Zones within the AOI. The Jollyville Plateau salamander relies on the Edwards Aquifer, its spring outlets, and spring runs for habitat and water quality degradation resulting from existing and future development is identified as a threat to this species (USFWS, 2013). Due to the nature of water and the way it travels, the indirect impacts analysis must consider whether the project could cause indirect impacts to water quality in areas some distance away from the project area, and whether effects to this species could occur later in time than accounted for in the direct impacts analysis.

A single critical habitat unit ([CHU] 2) is located within the US 79 project area. CHU 2 is the only CHU and known occurrence for this species within the AOI. Direct effects to this species and CHU are expected to be mitigated by project Best Management Practices (BMPs) and will be coordinated with the USFWS during formal consultation. Indirect effects to this species may occur based on the project-related increase in impervious cover, the project's location over the Recharge Zone of the Edwards Aquifer, and the unknown aquifer flow paths that may occur beneath the surface of the project area. Although one of the proposed BMPs would be to divert stormwater flow around the CHU, this project may impact water quality through increased stormwater contribution along the length of the project. Therefore, this project may contribute to the downstream degradation of water quality parameters that are essential to the Jollyville Plateau salamander.

Within the project area, BMPs would be used during the construction and operation of the US 79 project to minimize and avoid direct and indirect impacts to water quality, and thus avoid impacts to the salamander species that rely on the quantity and quality of groundwater in the aquifer. Engineered water quality protection features would be designed in accordance with the Edwards Aquifer Rules to offset the increase in impervious cover and any potential increase of roadway contaminants.

Once stormwater leaves the project area and infiltrates into the subsurface environment (e.g. groundwater), the flow path and amount of mixing with other subsurface waters are unknown. In the event of a BMP failure within the project area, any change in runoff water quality would be temporary and immeasurable due to the effects of dilution within the aquifer. Therefore, effects to the Jollyville Plateau salamander as a result of indirect water quality impacts are likely to be insignificant or discountable. Formal consultation with the USFWS is underway to determine the appropriate BMPs required to mitigate for any potential effects to this species prior to construction.

The proposed project would improve mobility which could in turn result in new development. Based on the analysis discussed in **Section 3.4.3**, the combined areas of potential

development and redevelopment total approximately 600 acres, which is approximately 19 percent of the approximate 3,152-acre AOI, and these areas are assumed to be subject to induced growth potential within the AOI.

Land disturbing activities such as grading, construction of bridges and culverts, drainage easement grading and shaping, and other construction activities for a project of this size would require coordination with the TCEQ. A Water Pollution Abatement Plan (WPAP) in compliance with the Edwards Aquifer Rules and a Stormwater Pollution Prevention Plan (SW3P) in compliance with Texas Pollutant Discharge Elimination System (TPDES) would be submitted for TCEQ review and approval. These documents specify the BMPs to be used to prevent erosion and sedimentation during construction, as well as post-construction Total Suspended Solids (TSS) controls. TCEQ's Edwards Aquifer Rules provide that affected cities, counties, and groundwater conservation districts may review and comment on the WPAP application when it is filed; thus, there will be a public participation opportunity at that time (30 TAC 213.4 (a) (2)).

All development within the Edwards Aquifer in the AOI is subject to the State's Edwards Aquifer Rules, the goal of which is non-degradation of existing groundwater quality (30 TAC 213.1). Construction projects in the Edwards Aquifer Recharge Zone within the AOI would be subject to the Edwards Aquifer Rules and TPDES regulations. Assuming appropriate implementation of applicable land use planning regulations and local development ordinances and compliance with local, state, and federal laws and regulations, any substantial impacts to the quality and quantity of Edwards Aquifer recharge from development within the AOI would be avoided or minimized.

#### *Bone Cave Harvestman*

The western terminus of the US 79 project intersects Karst Zone 1 (areas known to contain endangered cave fauna) and Karst Zone 3 (areas that probably do not contain endangered karst fauna). As mentioned in **Table 5** above, the areas of potential development and redevelopment include approximately 1.4 acres of Karst Zone 1 and 13.6 acres of Karst Zone 3. The project is located partially within the Georgetown Karst Fauna Region, which has known occurrences for the Bone Cave harvestman. According to the USFWS, no listed karst invertebrates have been recorded within the project area or AOI. The nearest occupied caves occur approximately 1.5 miles northwest and southwest of the project area.

Due to the minimal excavation within Karst Zones 1 and 3 and the distance to known, occupied caves for this species, direct and indirect effects to the Bone Cave harvestman are likely to be insignificant or discountable. TxDOT would complete consultation with the USFWS to determine if additional conservation measures for this species are required prior to construction.

### *Historic-Age Properties– Henna House*

The Henna House property extends across two parcels and totals approximately 29.23 acres. (See **Figure 4** in **Appendix A**.) It was built for prominent Round Rock citizen Louis Henna Sr. (1914-1990) and his wife, Billie Sue Henna (1922-2016), and family. The property is anchored by its main house, built in 1951. Additional resources include a c.1951 guest house, c.1955 swimming pool with cabana, c.1975 greenhouse, and three non-historic age ancillary buildings situated on native pastureland with mature oak trees, designed hardscape and landscape elements, and a pond. The house is set back from the road by approximately 650 feet and two sets of statues mark the entry to an elongated circular driveway. The two houses and cabana are late examples of the Classical Revival style (also called "Neoclassical"), popular from 1895-1955 (McAlester, 2015). Collectively the property has the appearance of a high style estate.

Henna Sr. was a local business owner, large land holder, community leader, and philanthropist. He got his start in Round Rock's car culture during the Depression where he worked at a filling station. Henna would go on to have three car dealerships, a chain of gas stations, and a trucking company (TxDOT, 2018). He was successful at an early age as demonstrated by the construction of his estate when he was 36 years old.

Henna Sr. was community-minded and as a wealthy business owner in a small town, he was able to identify community needs and pay for them. One of Henna Sr.'s most charitable contributions was the donation of the land and initial buildings for the Texas Baptist Children's Home (TBCH). Henna Sr. became actively involved in children's and family services in Texas after founding the TBCH. In 1952, he was appointed by the governor to the Texas State Youth Development Council, a position to which he would be reappointed by subsequent governors for at least 16 years (Williamson County Sun, 1968). In this role he helped provide oversight to state supported homes and facilities for 5,000 dependent and delinquent children in Texas. He was considered to be one of the state's foremost experts in children's and family services and in 1968 Henna Sr. was awarded an honorary doctorate from Baylor University for this work and leadership (Williamson County Sun, 1968).

Henna Sr. ran for mayor of Round Rock in 1952 and served a four-year term. His most lasting contribution as mayor was as the leader behind the effort to secure the location of I-35 through Round Rock, forever altering the character and development of the city (TxDOT, 2018). Today, one of Round Rock's main thoroughfares, Louis Henna Boulevard, bears Henna Sr.'s name.

The Henna House property was evaluated for significance for the National Register of Historic Places (NRHP) as a district. Regarding Criterion A, the property is not known to be associated with events that have made a significant contribution to the broad patterns of

our history. Criterion B states that properties may be eligible for the NRHP if they are associated with the lives of persons significant in our past. National Register Bulletin 15 states that it must be shown that a person gained importance within his or her profession or group, not just that they were a member of a particular profession or group. Furthermore, it states that properties eligible under Criterion B are usually associated with a person's productive life. The Bulletin also says that a property associated with an important individual should be compared to other associated properties to identify those that best represent the person's historic contributions.

It is well documented that Henna Sr. had a demonstrably significant impact on the community. He lived in the Henna House from 1951 until his death in 1990. Henna Sr. established his businesses prior to living in the Henna House. While living on the property he continued to build his automobile empire and he became a civic and state leader known for his philanthropic efforts.

Other properties associated with Henna Sr. include the TBCH and his automobile-related businesses. Whereas these illustrate one aspect of his life and career, the Henna House estate is illustrative of Henna Sr.'s success and wealth as a business owner, prominent status in Round Rock, and varied contributions to the community as a civic leader and it is also the longest representation of his life and career. The TBCH is a good representation of Henna Sr.'s work in children and family services; however, Henna Sr.'s role in the community extended beyond his involvement in child and family welfare. Likewise, though some of Henna's automobile related buildings may be intact, they only represent his status as a prominent businessman. Furthermore, it appears the Henna Chevrolet building in Round Rock, the main business Henna Sr. was known for, is no longer intact. The dealership relocated from Round Rock to Austin in 1966 (The Austin Statesman, 1966).

The Henna House is associated with Louis Henna Sr., a person significant in our past, and the property is associated with his productive life as a successful business owner, community leader, and philanthropist. The resources on the Henna House property retain integrity and a comparison of current aerials with historic aerials reveals that the parcel is largely unchanged since 1974. Therefore, the Henna House property is recommended eligible as a district under Criterion B at the local level for its association with Louis Henna Sr.

The property is also recommended eligible under Criterion C at the local level for Architecture. The main buildings on the property possess the distinctive characteristics of the Classical Revival style. Per McAlester, these buildings are late examples of the style. The Classical Revival buildings, coupled with the contemporaneous ancillary resources, landscaped elements, and expansive lawn give the property the appearance of a cohesive

post-World War II estate designed in a high style, an uncommon property type in Round Rock.

The proposed period of significance is 1951 to 1975 reflecting the property's main period of development and the construction dates of the property's main resources. Contributing resources include the main house, guest house, cabana, greenhouse, and brick entry piers. The property's designed landscape elements and surrounding pastureland are contributing elements. The proposed boundary for the district is the parcel boundary. The land associated with the Henna House is an important feature that contributes to its feeling as an estate and it has historically buffered the property from surrounding development, giving the home a sense of seclusion.

In an interview with City staff, these local planning experts explained that redevelopment of the Henna tract should be considered for this analysis. City staff indicated that the heirs to this property may be looking to sell the property soon and the area has redevelopment potential that could transition to higher density development.

However, while City staff have identified the Henna tract for its redevelopment potential, there are measures and policies in place to preserve this historic-age property. The City of Round Rock Planning & Development Services (PDS) Department and the Historic Preservation Commission (HPC) foster historic preservation through historic designation of properties and areas. Round Rock designates both individual historic landmarks and historic districts in order to preserve its architectural and cultural history. Additionally, the HPC and PDS conduct projects to build awareness and understanding of the city's historic properties and historic preservation programs, including surveys and inventories of historic resources. The council-appointed, citizen-led HPC can also evaluate and recommend properties and districts for historic designation. One of the goals of the HPC is to "continue efforts to increase the number of historic designations within the community and assist in maintaining the integrity of designated historic properties" (City of Round Rock PDS, 2014).

The HPC, City Council, Planning and Zoning Commission, zoning administrator, or owners of one or more parcels of land within an area may propose the designation of an H (Historic Overlay) district. Once proposed, the City would not issue building permits for alteration, construction, demolition, or removal of any property or structure within the proposed area for a period up to 120 days. If approved and designated an H district, a "certificate of appropriateness" would be required to develop in the area (City of Round Rock, 2018). The HPC only considers alternation, construction, demolition, or removal of properties within an H district. A permit is required for properties that are not in an H district, which is reviewed by the PDS Department (City of Round Rock, n.d.).

### *Archeological Resources*

While, no formal surveys have been conducted throughout the areas of potential development at the time of this report preparation for archeological resources, preliminary consultation with TxDOT-developed PALM data indicates varying potential for archeological impacts within the areas of potential development and redevelopment.

In general, the areas of potential development can be grouped into two main distributions: the sparse array of areas of potential development that are scattered throughout the urban center of Round Rock, and the larger, more continuous areas within a more rural setting near the intersection of US 79 and Kenney Fort Boulevard. The smaller, disconnected areas within the more-developed portion of Round Rock generally represent low potential for encountering intact archeological deposits, as they have likely undergone some form of disturbance not evident on aerial imagery. The main exception to this comes in the undeveloped parcels nearest Brushy Creek, owing to the Brushy Creek area's known likelihood for containing both prehistoric- and historic-age archeological sites. The agricultural fields located south of US 79 represent the area with the highest potential for intact archeological deposits, as this area appears largely undisturbed, is located along Brushy Creek (within the creek's floodplain), and is mostly mapped as HPALM Map Units 8 and 9, which are considered to have high potential to contain intact surficial or sub-surface archeological deposits.

The areas of potential redevelopment are concentrated around the intersection of US 79 and Mays Street, east of I-35. The large residential parcel located southeast of the intersection of US 79 and Mays Street appears to be largely undisturbed outside of the residence, outbuilding, stock pond, and roadway that are evident on aerial imagery, and much of this parcel contains areas mapped as HPALM Map Units 5 and 6, for which are considered to possess at least moderate potential for surficial or sub-surface archeological deposits. The area immediately southeast of the intersection of I-35 and US 79 is susceptible to redevelopment, but the vast majority of this area has been heavily disturbed by commercial development, and the likelihood of encountering intact archeological deposits in this area is very low. The area west and northwest of the intersection of Egger Avenue and US 79 is also susceptible to redevelopment, but has been disturbed by residential development; this area represents a low potential for encountering intact archeological deposits as well.

Overall, there is a moderate to high potential for impacts to unknown archeological deposits in areas of potential development and redevelopment, particularly in the areas nearest to Brushy Creek and the areas that have undergone the least disturbance from nearby development.

### 3.6 STEP 6—IDENTIFY MITIGATION, IF APPLICABLE

In summary, the overall consensus is that the proposed project would influence future land use within the AOI by accelerating the rate of development. However, such project-induced land use change is not only accounted for in the City of Round Rock's future planning documents and corresponding objectives, but is also considered positive for the future of Round Rock.

This step of the indirect impacts analysis assesses the consequences of the expected induced growth impacts and considers/develops strategies or mitigation measures available as part of the existing regulation regimes that would apply to potential development projects. Virtually all of the readily identifiable indirect induced growth impacts would result from improvements to mobility as a result of the proposed widening of US 79 and project-induced land use change within the AOI. The potential areas of indirect induced growth (approximately 600 acres) account for approximately 19 percent of the AOI (approximately 3,152 acres).

Future land development activities would generally be private ventures regulated by the City of Round Rock. The regulations in the City Code address environmental and social impacts by requiring mitigation as part of site design and construction such that development is in accordance with overall City objectives. In addition, the agencies and programs that would guide any development of a potential project would be similar to the typical mitigation and permitting measures required of TxDOT. For example, all development (public or private developers) must comply with flood control regulations under Federal Emergency Management Agency (FEMA) and the local floodplain administration, the Endangered Species Act, the CWA, CWA Section 401 Water Quality Certification requirements, CWA Section 404 permits for projects impacting waters of the U.S., and other regulations requiring mitigation if there are effects on species habitat.

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

## 4.0 CONCLUSION

This analysis consisted of a discussion regarding regulations and guidance, description of the scoping process and definition of the AOI, identification of areas subject to induced growth, identification of resources subject to induced growth impacts, and detailed analysis of those resources that are potentially at risk of being affected by induced-growth related impacts. The goals of the community in the AOI were discussed and trend data for population and housing development were provided. The detailed technical analysis of potential effects resulting from induced growth were presented based on cartographic analysis, technical analysis, and the results of an interview with City officials. Minimization and mitigation measures were discussed as they pertain to the resources at risk in the AOI, including environmental regulations, land use development regulations, and municipal policies in place throughout the AOI.

Based on the amount of developable land available in the AOI, the pace of development being documented in Williamson County, and the responses of local planning experts, the proposed project is not anticipated to generate substantial induced development. Moreover, the local planning experts maintained that development would continue to occur in the area regardless of whether the proposed project is constructed.

Approximately 518 acres of undeveloped land and approximately 82 acres of currently developed land within the AOI could be subject to development and redevelopment in the foreseeable future. Development projects that do occur within the planning horizon (through 2040) would have to comply with the relevant land development code for projects within city limits and ETJ boundaries, where applicable. Areas outside municipal limits would be subject to state and federal laws.

Existing regulatory processes would provide controls to avoid potential adverse impacts to threatened or endangered species. Impacts to individuals or habitat of federally listed species are subject to federal regulations under the ESA of 1973. Additionally, various other regulations exist to protect water quality for these species. These include TCEQ regulations requiring preparation of SW3Ps and WPAPs, including use of BMPs in addition to the City of Round Rock drainage/water quality requirements. USACE Section 404 provisions of the CWA govern activities that would affect waters of the U.S. and wetlands, regardless of who proposes the development activity. Individual developers would be responsible for complying with these regulations.

Potential indirect effects on historic resources from potential development by others in the AOI is possible. However, regulations are in place and applicable to proposed developments

to minimize impacts to the resource. Round Rock designates both individual historic landmarks and historic districts in order to preserve its architectural and cultural history.

The indirect effects that have been described in this section do not conflict with the various goals of planning and conservation entities in the AOI; are not expected to substantially worsen the condition of a sensitive resource; would not delay or interfere with habitat conservation planning efforts or species recovery efforts for sensitive species; would not eliminate a valued, unique, or vulnerable feature; and are not inconsistent with applicable laws. Therefore, additional mitigation is not proposed for the anticipated indirect induced-growth effects potentially caused by construction of the proposed improvements to US 79.

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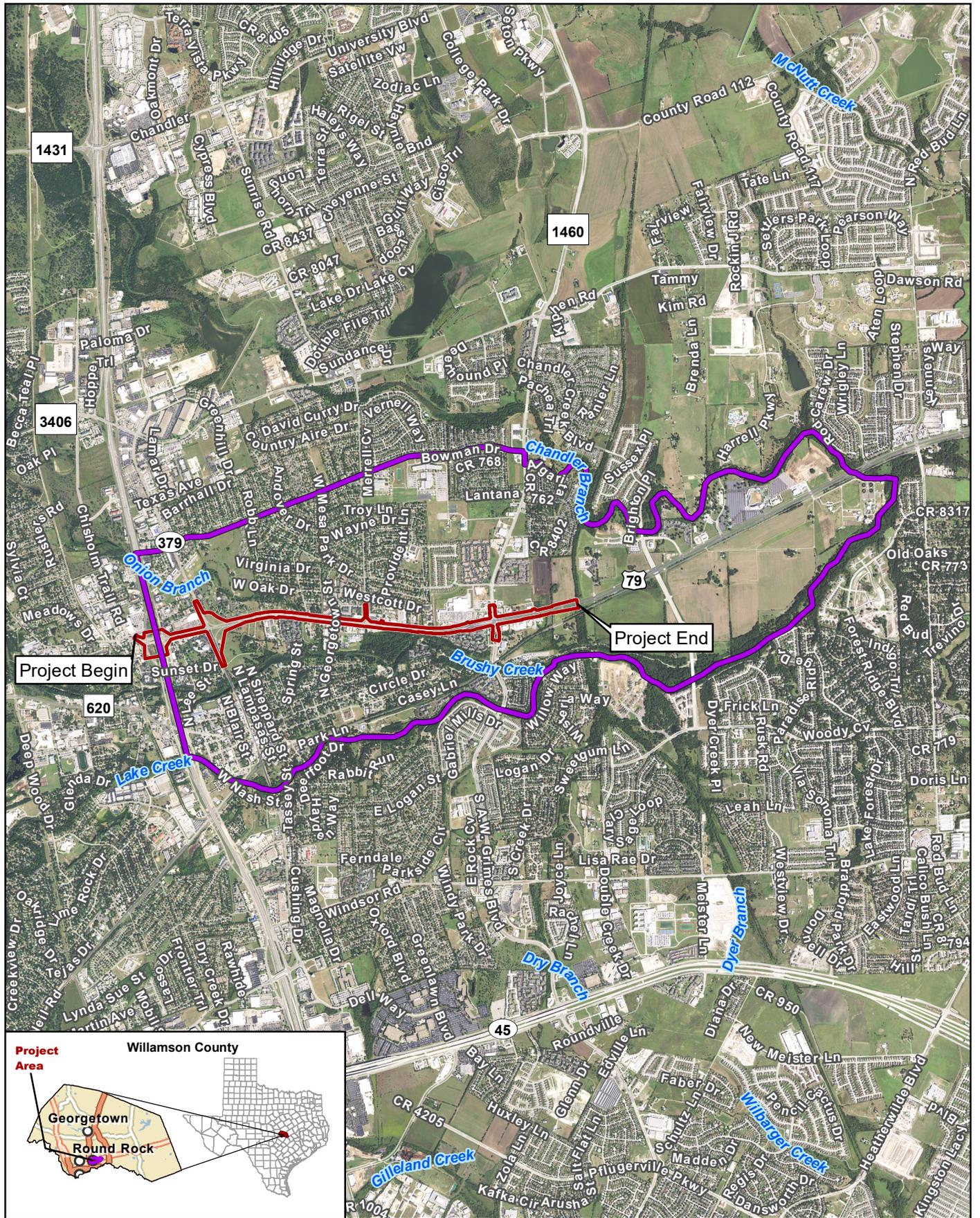
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Williamson County Sun. 1968, June 20. Louis Henna Given Honor.

## Appendix A: Figures



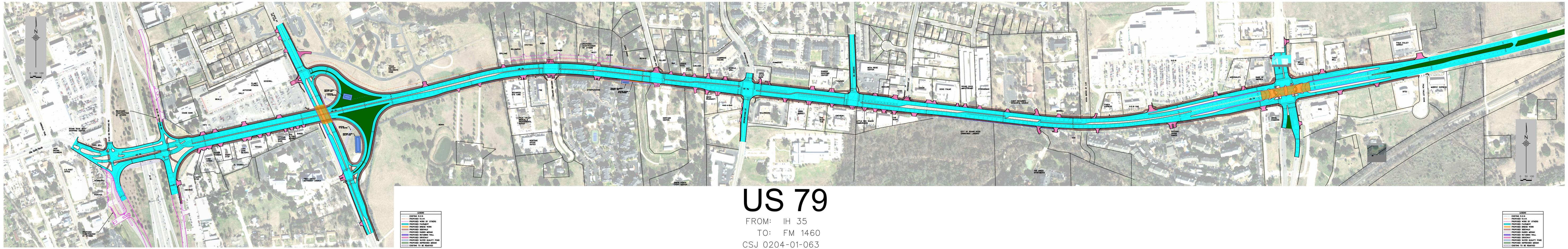


**Figure 1**  
**Project Location (Aerial Base)**  
**US 79 from I-35 to East of FM 1460**

 Project Location  
 Indirect Impacts Area of Influence (AOI)  
 Data Source: CMEC (2018), TxDOT (2018), NHD (2013)  
 Aerial Source: NAIP (2016)

	0	4,000 Feet
	0	1,200 Meters
Prepared for: TxDOT		
Scale: 1:48,000		
Date: 11/20/2018		
CSJ: 0204-01-063		

## Figure 2: Project Design Documents

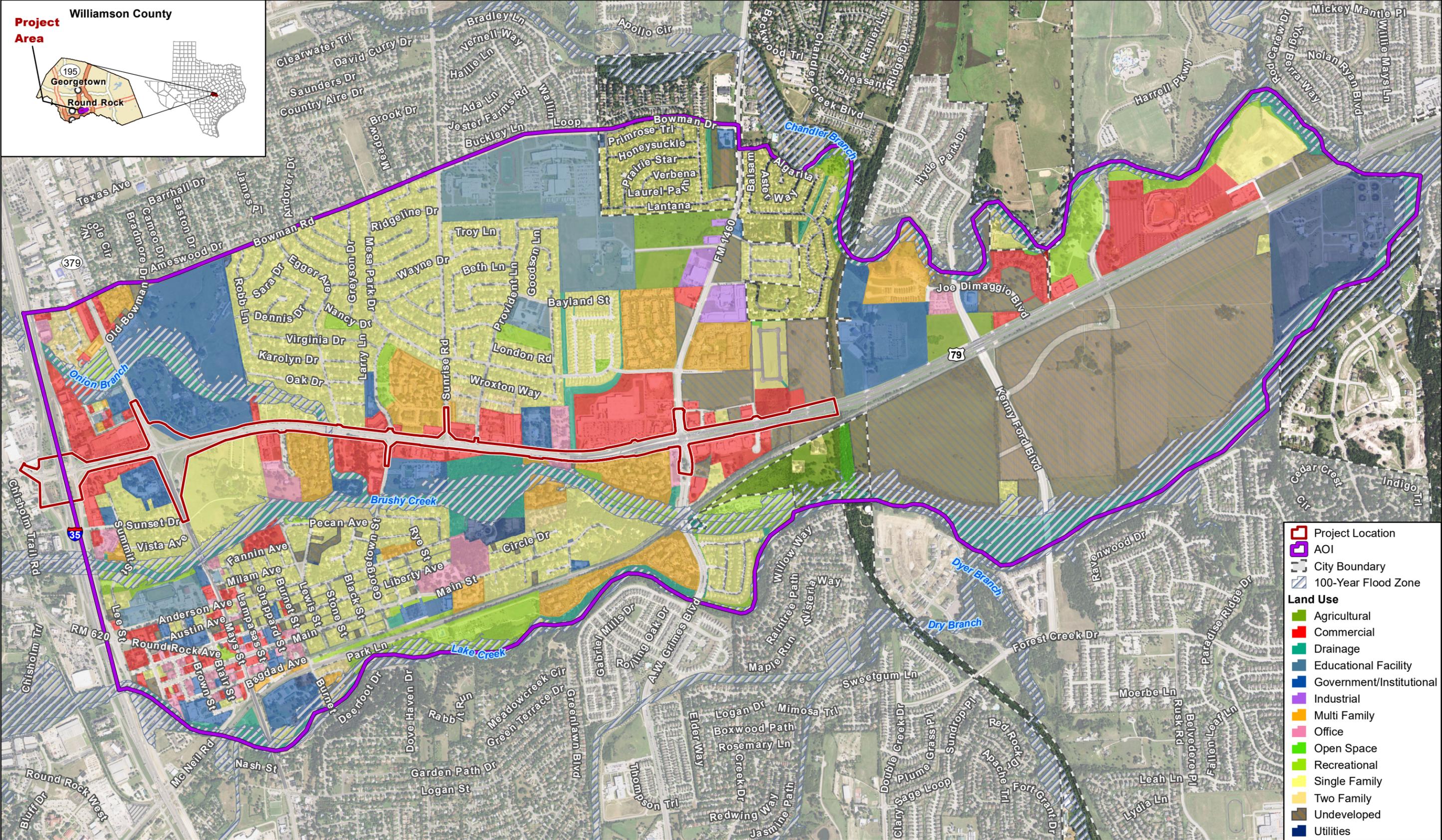
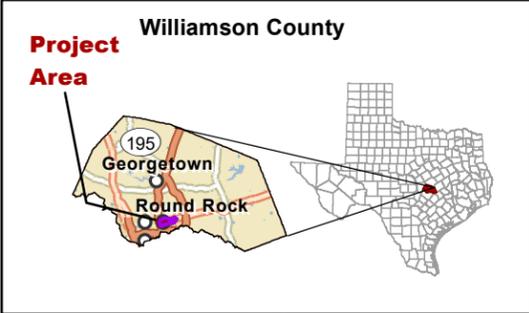


# US 79

FROM: IH 35  
 TO: FM 1460  
 CSJ 0204-01-063

- LEGEND**
- EXISTING R.O.W.
  - PROPOSED R.O.W.
  - PROPOSED WORK BY OTHERS
  - PROPOSED PAVEMENT
  - PROPOSED BRIDGE WORK
  - PROPOSED SIDEWALK
  - PROPOSED RAISED MEDIAN
  - PROPOSED RETAINING WALL
  - PROPOSED DIKE/DITCH
  - PROPOSED WATER QUALITY POND
  - PROPOSED DEPRESSED MEDIAN
  - EXISTING TO BE REMOVED

- LEGEND**
- EXISTING R.O.W.
  - PROPOSED R.O.W.
  - PROPOSED WORK BY OTHERS
  - PROPOSED PAVEMENT
  - PROPOSED BRIDGE WORK
  - PROPOSED SIDEWALK
  - PROPOSED RAISED MEDIAN
  - PROPOSED RETAINING WALL
  - PROPOSED DIKE/DITCH
  - PROPOSED WATER QUALITY POND
  - PROPOSED DEPRESSED MEDIAN
  - EXISTING TO BE REMOVED



**Legend**

- Project Location
- AOI
- City Boundary
- 100-Year Flood Zone

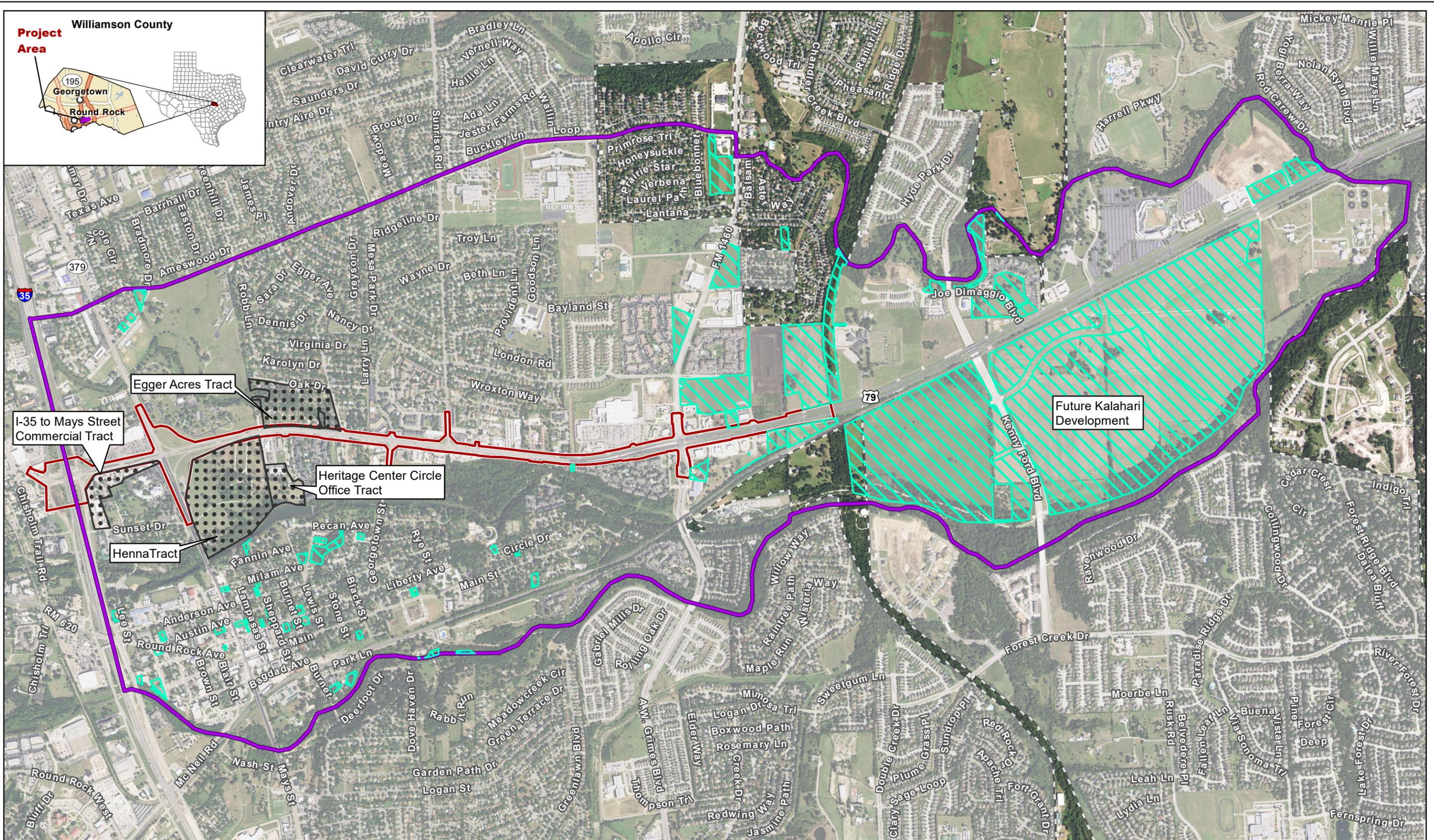
**Land Use**

- Agricultural
- Commercial
- Drainage
- Educational Facility
- Government/Institutional
- Industrial
- Multi Family
- Office
- Open Space
- Recreational
- Single Family
- Two Family
- Undeveloped
- Utilities

**Figure 3**  
**Land Use within the AOI**  
**US 79 from I-35 to East of FM 1460**

Data Sources: City of Round Rock (2018), CMEC (2018), FEMA NFHL (2018), TxDOT (2018), NHD (2013)  
 Prepared for: TxDOT  
 Scale: 1:18,000  
 Date: 11/20/2018

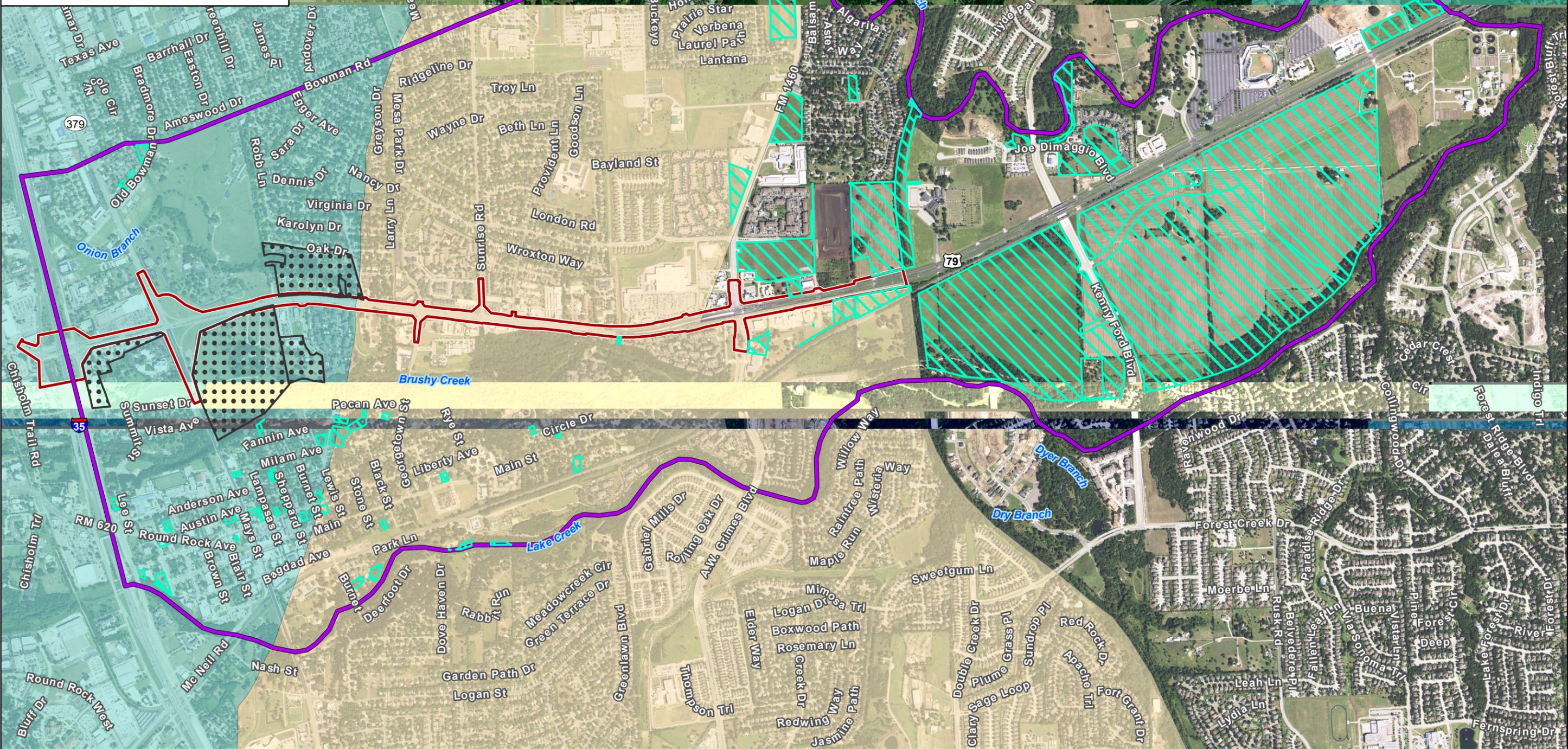
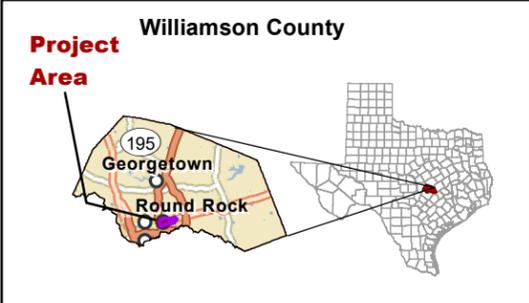
G:\Projects\TXDOT\US79\_I35\_FM1460\Indirect\_Figure 3\_Land Use within the AOI\_20181004.mxd



**Figure 4**  
**Areas of Potential Development and Redevelopment within the AOI**  
**US 79 from I-35 to East of FM 1460**

- ▭ Project Location
- ▭ AOI
- ▨ Potential Development
- ▭ Potential Redevelopment
- ▭ City Boundary

 0 1,500 Feet 0 500 Meters	Prepared for: TxDOT	1 in = 1,500 feet
	Data Sources: CMEC (2018), TxDOT (2018)	Scale: 1:18,000
	Aerial Source: NAIP (2016)	Date: 11/29/2018
	CSJ: 0204-01-063	



**Figure 5**  
**Edwards Aquifer Zones within the AOI**  
**US 79 from I-35 to East of FM 1460**

- ▭ Project Location
- ▭ AOI
- ▭ Potential Development
- ▭ Potential Redevelopment
- ▭ Edwards Aquifer Recharge Zone
- ▭ Edwards Aquifer Transition Zone

0 1,500 Feet  
0 500 Meters

North Arrow

Data Sources: City of Round Rock (2018), CMEC (2018), TxDOT (2018), NHD (2013), TCEQ (2005)	Prepared for: TxDOT	1 in = 1,500 feet
Aerial Source: NAIP (2016)	CSJ: 0204-01-063	Scale: 1:18,000
		Date: 11/20/2018

G:\Projects\CityofAustin\E\_Riverside\_CLMPL\Indirect\_Figure 5\_Aquifer Zones within the AOI\_20181120.mxd

## Appendix B: Planning Documents



# ROUND ROCK, TEXAS

## FUTURE LAND USE (2020)

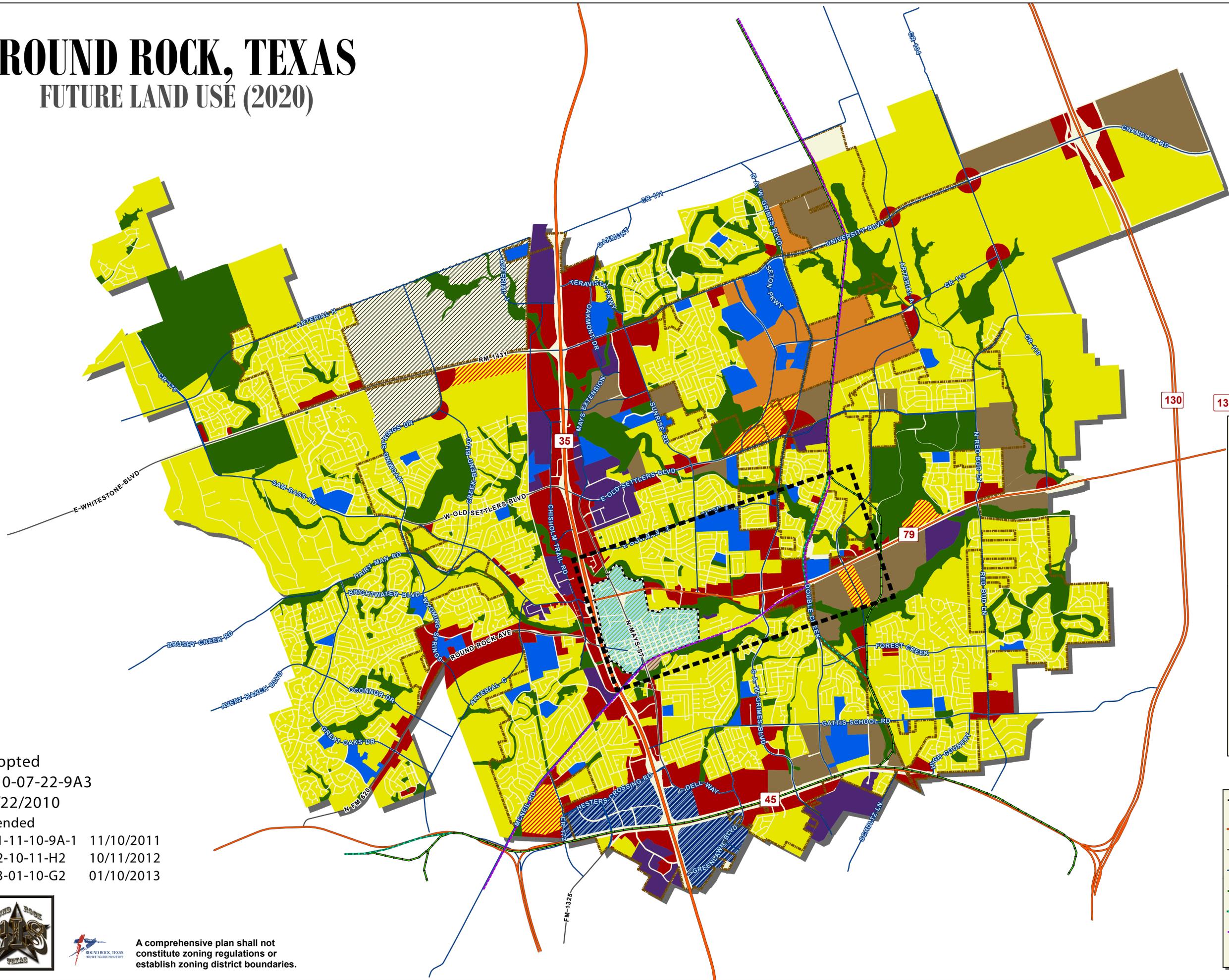
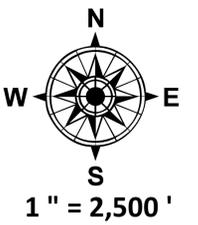


Figure 6.2  
Future Land Use Map

### FUTURE LAND USE (2020)

- OPEN SPACE
- COMMERCIAL
- RESIDENTIAL
- BUSINESS PARK
- INDUSTRIAL
- PUBLIC FACILITIES
- MINING
- TO BE DETERMINED
- COMMERCIAL/ MULTI-FAMILY
- DELL MIXED USE
- AVERY CENTRE MIXED USE
- DOWNTOWN MIXED USE
- CITY LIMITS
- DOWNTOWN STUDY AREA  
\* Regulated by the DT.M.P.

### TRANSPORTATION

- FREEWAY/TOLLWAY
- FM/RM/STATE
- ARTERIAL
- ROUTE ALIGNMENT
- ROUTE ALTERNATIVE
- PROPOSED LONE STAR RAIL
- POTENTIAL STATION

Adopted  
G-10-07-22-9A3  
07/22/2010  
Amended  
G-11-11-10-9A-1 11/10/2011  
G-12-10-11-H2 10/11/2012  
G-13-01-10-G2 01/10/2013

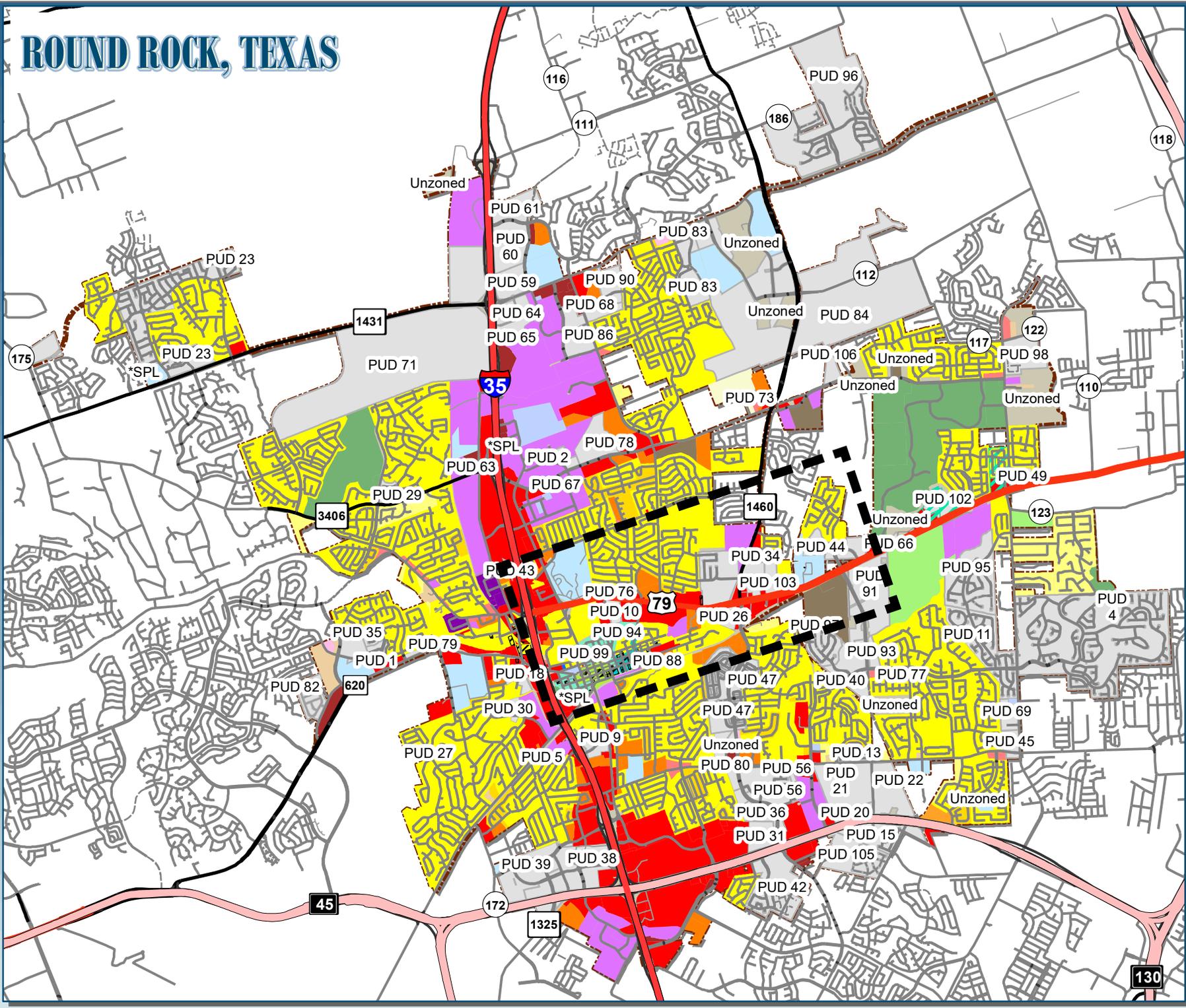


A comprehensive plan shall not constitute zoning regulations or establish zoning district boundaries.

# ROUND ROCK, TEXAS



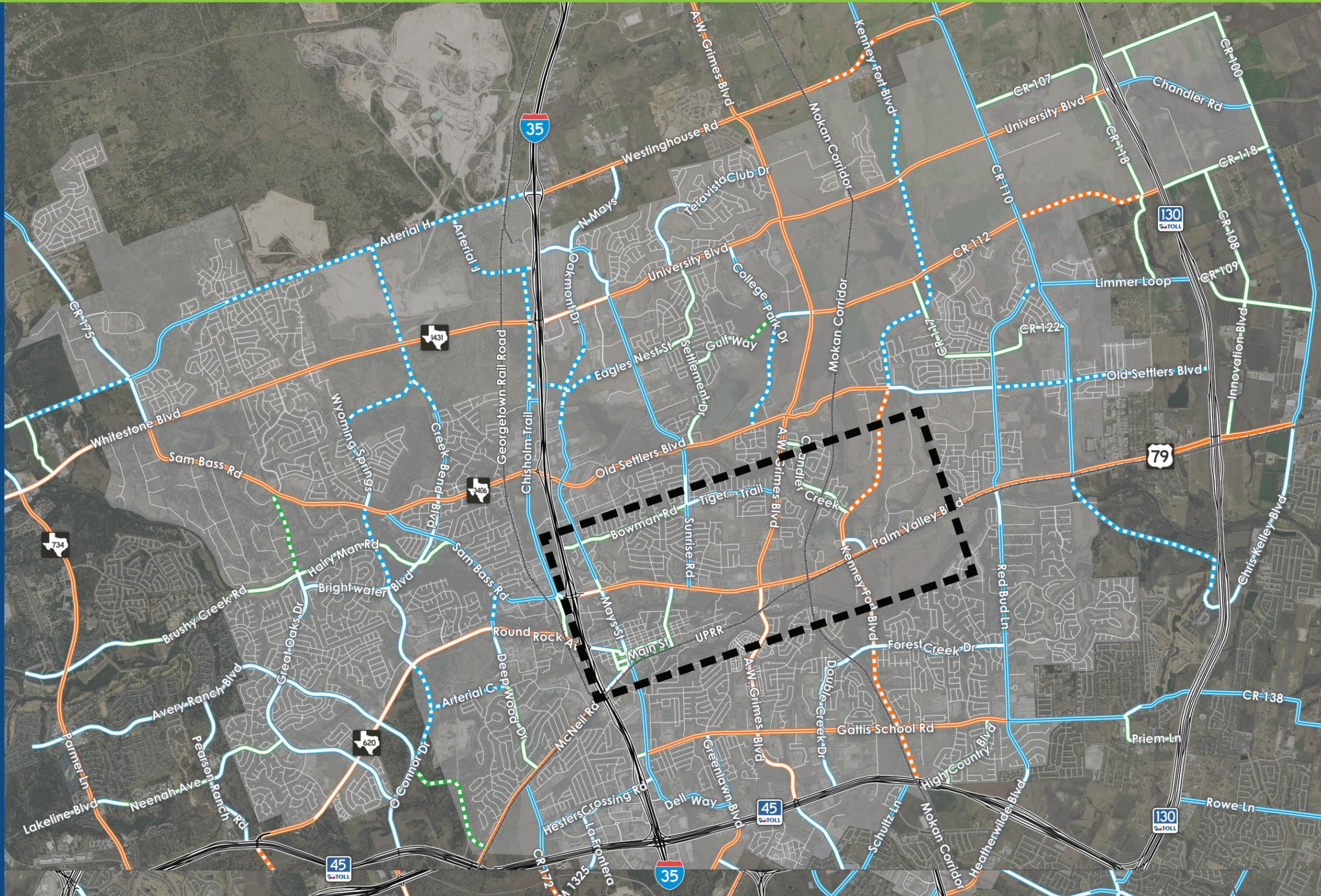
## Zoning



ZONING OVERLAYS	
<b>Overlay Districts</b>	
	Chisholm Trail - CT
	Historic - H
	Palm Valley - PV
	National Register Historic - NRH
<b>ZONING DISTRICTS</b>	
<b>Residential Districts</b>	
	Single Family Rural - SF-R
	Single Family Large Lot - SF-1
	Single Family Standard Lot - SF-2
	Two Family - TF
	Townhouse - TH
	Multi-Family - MF2
<b>Commercial Districts</b>	
	General Commercial - C-1
	General Commercial Limited - C-1a
	Local Commercial - C-2
<b>Employment Districts</b>	
	Office - OF
	Business Park - BP
	Light Industrial - LI
	Industrial - I
<b>Special Purpose Districts</b>	
	Public Facility - PF1
	Public Facility - PF2
	Public Facility - PF3
	Senior - SR
	Mining - MI
	Open Space - OS
	Agricultural
	MU-1
	MU-2
	MU-L
	Planned Unit Development - PUD
	CITY LIMITS



# Ultimate Roadway Network



## Transportation Master Plan

[www.roundrocktexas.gov/planupdate](http://www.roundrocktexas.gov/planupdate)

### LEGEND

- Freeway Facility
- 6 Lane Facility**
  - Existing
  - Enhanced
  - Proposed
- 4 Lane Facility**
  - Existing
  - Enhanced
  - Proposed
- 2 Lane Facility**
  - Existing
  - Proposed
- MoKan Corridor**
  - To be developed by others
- City Features**
  - Extraterritorial Jurisdiction (ETJ)



### 2017 UPDATE

This Thoroughfare Master Plan depicts existing roadways, proposed enhancements to existing roadways, and proposed roadways.

Final alignments of proposed roadways will be determined in cooperation with Williamson County and its Long Range Transportation Plan, and the subdivision platting process.



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