

WORK AUTHORIZATION NO. 4

PROJECT: Engineering Design Services for Cross Culvert Replacements

This Work Authorization is made pursuant to the terms and conditions of the Williamson County Contract for Engineering Services, being dated **March 24, 2020** and entered into by and between Williamson County, Texas, a political subdivision of the State of Texas, (the "County") and **K.C. Engineering, Inc.** (the "Engineer").

Part 1. The Engineer will provide the following Engineering Services set forth in Attachment "B" of this Work Authorization. The cross culvert locations shall be as indicated on Exhibit A.

Part 2. The maximum amount payable for services under this Work Authorization without modification is **\$111,480.00.**

Part 3. Payment to the Engineer for the services established under this Work Authorization shall be made in accordance with the Contract.

Part 4. This Work Authorization shall become effective on the date of final acceptance and full execution of the parties hereto and shall terminate on **September 1, 2023**. The Engineering Services set forth in Attachment "B" of this Work Authorization shall be fully completed on or before said date unless extended by a Supplemental Work Authorization.

Part 5. This Work Authorization does not waive the parties' responsibilities and obligations provided under the Contract.

Part 6. County believes it has sufficient funds currently available and authorized for expenditure to finance the costs of this Work Authorization. Engineer understands and agrees that County's payment of amounts under this Work Authorization is contingent on the County receiving appropriations or other expenditure authority sufficient to allow the County, in the exercise of reasonable administrative discretion, to continue to make payments under this Contract. It is further understood and agreed by Engineer that County shall have the right to terminate this Contract at the end of any County fiscal year if the governing body of County does not appropriate sufficient funds as determined by County's budget for the fiscal year in question. County may effect such termination by giving written notice of termination to Engineer.

Part 7. This Work Authorization is hereby accepted and acknowledged below.

EXECUTED this ____ day of _____, 20____.

ENGINEER:

K.C. Engineering, Inc.

By:

Greg Haley, P.E.
Signature

Greg Haley, P.E.

Printed Name

President

Title

COUNTY:

Williamson County, Texas

By:

Signature

Printed Name

Title

LIST OF ATTACHMENTS

Attachment A - Services to be Provided by County

Attachment B - Services to be Provided by Engineer

Attachment C - Work Schedule

Attachment D - Fee Schedule

Attachment A - Services to be Provided by County
Services to be Provided by County

Williamson County Road & Bridge Division personnel will provide:

- Project direction, review and oversight
- Topographic and R.O.W. Surveys.
- Geotechnical Investigations; data and reports.
- ROW Documents and Drainage Reports
- Conducting pre-bid meeting, responding to contractor questions during bidding, tabulating and evaluating bids after bid opening, and providing recommendation of award of contract.
- Construction oversight, administration and management.

Attachment B – Services to be Provided by Engineer

Services to be Provided by Engineer

Project Locations

1. Name of Roadways – Termini

Task 1: Project Management

Attend Progress Review Meetings with County Road and Bridge Department at 50%, 90%, and Final. Prepare monthly progress reports and invoices. Maintain project schedule and perform CQ/QC.

Task 2: Topographic Surveys and R.O.W. Surveys

To be provided by the County

Task 3: Preliminary Engineering

Conduct Site Visit and Field Reconnaissance to document existing conditions. Data collection including available as-builts. Develop conceptual geometric layout on scroll plot (1" = 20' H, 1" = 2' V) showing roadway horizontal and vertical geometry and proposed typical section. Prepare preliminary cross sections (50' interval and driveways). Develop preliminary drainage analysis including delineation of drainage areas, calculation of peak stormwater runoff rates for 10-yr, 25-yr, and 100-yr.

Task 4: Geotechnical Investigations

To be provided by the County

Task 5: Environmental Studies

N/A

Task 6: Utility Coordination

To be provided by the County

Task 7: FEMA Coordination

N/A

Task 8: Final Engineering

Prepare final detailed design and PS&E for proposed improvements. Calculate ditch capacity and size driveway and cross culvert pipes.

Plan Sheets:

- Title Sheet
- Estimate and Quantity Sheet
- Typical Sections
- Horizontal Alignment Data Sheet
- Drainage Area Map

- Erosion Control Plan
- Traffic Control Plan
- Driveway Details
- Driveway Summary
- Roadway Plan & Profile Sheets
- Miscellaneous Roadway Details
- Cross Sections (50' Interval and Driveways)
- Standards

Specifications

Cost Estimate

General Notes

Task 9: Bidding Phase Services

Prepare Bid Tabs for processing by Purchasing Department

Task 10: Construction Phase Services

Review shop drawings and respond to contractor RFIs. Prepare electronic as-built final drawings for the County based on construction red-lines provided by the County.

Deliverables:

50% Submittal:

- 2 paper copies of 11" x 17" Plan Sheets
- Specifications
- Estimate of Construction Cost
- General Notes
- Engineer's Internal QA/QC marked up set

90% Submittal

- 2 paper copies of 11" x 17" Plan Sheets
- Specifications
- Estimate of Construction Cost
- General Notes
- Engineer's Internal QA/QC marked up set

100% Submittal

- 2 paper copies of 11" x 17" Plan Sheets
- Specifications
- Estimate of Construction Cost
- General Notes
- Engineer's Internal QA/QC marked up set
- Electronic copy of submittal documents in PDF format on CD

ATTACHMENT C

Task No.	Task Name	Duration	Time	Start	Finish
1	WA #4 - Notice to Proceed	0	Days	8/10/2020	8/10/2020
2	Survey Limits Definition	5	Days	8/10/2020	8/15/2020
3	Survey (by Others)	60	Days	8/15/2020	10/14/2020
4	Design	35	Days	10/14/2020	11/18/2020
5	50% PS&E	25	Days	11/18/2020	12/13/2020
6	QA/QC	5	Days	12/13/2020	12/18/2020
7	Submit 50% PS&E	0	Days	12/18/2020	12/18/2020
8	County Review	15	Days	12/18/2020	1/2/2021
9	90% PS&E	35	Days	1/2/2021	2/6/2021
10	QA/QC	5	Days	2/6/2021	2/11/2021
11	Submit 90% PS&E	0	Days	2/11/2021	2/11/2021
12	County Review	15	Days	2/11/2021	2/26/2021
13	Address 90% Comments	10	Days	2/26/2021	3/8/2021
14	Final Quantities	5	Days	3/8/2021	3/13/2021
15	Final Estimate	5	Days	3/13/2021	3/18/2021
16	Assemble Final PS&E	5	Days	3/18/2021	3/23/2021
17	Submit Final PS&E	0	Days	3/23/2021	3/23/2021
18	County Review	5	Days	3/23/2021	3/28/2021
19	Submit Signed and Sealed PS&E	5	Days	3/28/2021	4/2/2021
20	Bid Advertisement	35	Days	4/2/2021	5/7/2021
21	Letting	1	Days	5/7/2021	5/8/2021
22	Award and Bonds	30	Days	5/8/2021	6/7/2021
23	Construction	90	Days	6/7/2021	9/5/2021
24	Complete Project	0	Days	9/5/2021	9/5/2021

ATTACHMENT D - FEE SCHEDULE
WORK AUTHORIZATION #4
CULVERT REPLACEMENT PROJECT

K.C. ENGINEERING, INC.											
TASK NO.	TASK DESCRIPTION	PRINCIPAL ENGINEER	SENIOR PROJECT MANAGER	PROJECT MANAGER	SENIOR PROJECT ENGINEER	PROJECT ENGINEER	ENGINEER-IN-TRAINING	ENGINEERING ASSISTANT	CAD TECHNICIAN	CLERICAL	TOTAL
	Labor Rates	250.00	215.00	200.00	195.00	165.00	125.00	110.00	95.00	80.00	
1	PS&E Development										
1.1	Roadway Design										
1.1.1	Horizontal Alignment				2	4					\$ 1,050.00
1.1.2	Vertical Alignment				2	4					\$ 1,050.00
1.1.3	Site Visits				12						\$ 2,340.00
1.1.4	Existing Conditions and Demo Plan					1	4				\$ 665.00
1.1.5	Superelevation Table										\$ -
1.1.6	Roadway Cross Sections										\$ -
1.1.7	Earthwork Calculations										\$ -
1.1.8	Roadway Plan Profile Sheets (CR 401)				1	2	8				\$ 1,525.00
1.1.9	Driveway Profiles / Details / Summaries										\$ -
1.1.10	Side Road Profiles / Details / Summaries										\$ -
1.1.11	Miscellaneous Roadway Details				1	2	4				\$ 1,025.00
1.1.12	Alignment Data Table					1	2				\$ 415.00
1.1.13	Sequence of Construction										\$ -
1.1.14	Intersection Layouts (CR 401)				1	2	4				\$ 1,025.00
1.1.15	Project Layout/Location Map					2	6				\$ 1,080.00
1.1.16	Title Sheet				1	1	4				\$ 860.00
1.1.17	Define Survey Topo Limits				2	10	8				\$ 3,040.00
1.1.18	Prepare Survey Data				2	4	8				\$ 2,050.00
1.1.19	Roadway Typical Sections (CR 401)				1	1	4				\$ 860.00
1.1.20	Index of Sheets				1	2	4				\$ 1,025.00
1.1.21	Summary of Roadway Quantities	1			2	4	8				\$ 2,300.00
1.1.22	Construction Estimate	1			1	2	4				\$ 1,275.00
1.1.23	Assemble Applicable Standards				1	1	2				\$ 610.00
	Task 2.1 Total	2	0	0	30	43	70	0	0	0	\$ 22,195.00
1.2	Hydrology & Hydraulics										
1.2.1	Assemble Contour Maps				1	2	8				\$ 1,525.00
1.2.2	Drainage Area Mapping	1			4	10	24				\$ 5,680.00
1.2.3	Roadway Hydrology	1			6	12	16				\$ 5,400.00
1.2.4	Roadway Hydraulics	1			4	10	16				\$ 4,680.00
1.2.5	Roadway Culvert Sizing	1			4	10	8				\$ 3,680.00
1.2.6	Roadway H&H Summary Sheet & Tables	1			1	2	6				\$ 1,525.00
1.2.7	Driveway Hydrology										\$ -
1.2.8	Driveway Hydraulics										\$ -
1.2.9	Driveway Culvert Sizing										\$ -
1.2.10	Driveway H&H Summary Sheet & Tables										\$ -
1.2.11	Culvert Layouts & Culvert Details	2			8	16	40				\$ 9,700.00
1.2.12	Miscellaneous Drainage Details	1			1	4	8				\$ 2,105.00
1.2.13	Summary of Drainage Quantities	1			1	2	4				\$ 1,275.00
1.2.14	Assemble Applicable Standards				1	2	2				\$ 775.00
	Task 2.2 Total	9	0	0	31	70	132	0	0	0	\$ 36,345.00
1.3	Signing & Pavement Marking										
1.3.1	Sign Layouts										\$ -
1.3.2	Pavement Marking Layouts										\$ -
1.3.3	Pavement Marking Details										\$ -
1.3.4	Summary of Pavement Markings										\$ -
1.3.5	Small Sign Summary										\$ -
1.3.6	Assemble Applicable Standards										\$ -
	Task 2.3 Total	0	0	0	0	0	0	0	0	0	\$ -
1.4	Traffic Control Plans / SW3P										
1.4.1	Traffic Control Detour Layouts				8	16	30				\$ 7,950.00
1.4.2	Traffic Control Typical Sections (CR 401)					2	4				\$ 830.00
1.4.3	Intersection Design (CR 401)				1	2	4				\$ 1,025.00

ATTACHMENT D - FEE SCHEDULE
WORK AUTHORIZATION #4
CULVERT REPLACEMENT PROJECT

K.C. ENGINEERING, INC.											
TASK NO.	TASK DESCRIPTION	PRINCIPAL ENGINEER	SENIOR PROJECT MANAGER	PROJECT MANAGER	SENIOR PROJECT ENGINEER	PROJECT ENGINEER	ENGINEER-IN-TRAINING	ENGINEERING ASSISTANT	CAD TECHNICIAN	CLERICAL	TOTAL
	Labor Rates	250.00	215.00	200.00	195.00	165.00	125.00	110.00	95.00	80.00	
1.4.4	Driveway Design										\$ -
1.4.5	Storm Water Pollution Prevention Plan (SW3P)	1			1	2	6				\$ 1,525.00
1.4.6	Prepare Env. Permits, Issues & Commitments				1	1	2				\$ 610.00
1.4.7	Erosion Control Plan	1			4	10	24				\$ 5,680.00
1.4.8	Miscellaneous TCP and Erosion Details	1			1	1	2				\$ 860.00
1.4.9	Assemble Applicable Standards				1	1	2				\$ 610.00
	Task 2.4 Total	3	0	0	17	35	74	0	0	0	\$ 19,090.00
1.5	PS&E Documents										
1.5.1	Summary of Quantities	1			4	8	16				\$ 4,350.00
1.5.2	Basis of Estimate	1			1	2	4				\$ 1,275.00
1.5.3	Construction Cost Estimate	1			2	4	8				\$ 2,300.00
1.5.4	Construction Duration Estimate	1			1	1	2				\$ 860.00
1.5.5	General Notes & Specifications	1			2	4	2				\$ 1,550.00
1.5.6	Supporting Contract Documentation	1			1	4	4				\$ 1,605.00
	Task 2.5 Total	6	0	0	11	23	36	0	0	0	\$ 11,940.00
1.6	Project Management										
1.6.1	Project Administration	8								8	\$ 2,640.00
1.6.2	Maintain Project Records	2			4					8	\$ 1,920.00
1.6.3	Periodic Progress Meetings (County)	2			4						\$ 1,280.00
1.6.4	Periodic Progress Meetings (Subconsultants)										\$ -
1.6.5	QA/QC	4			8	8	12			8	\$ 6,020.00
1.6.6	Invoice Preparation	4								8	\$ 1,640.00
1.6.7	Progress Reports	4			4					8	\$ 2,420.00
1.6.8	Plans Preparation for Submittal	1			4	8	24			8	\$ 5,990.00
	Task 2.6 Total	25	0	0	24	16	36	0	0	48	\$ 21,910.00
	Task 1 - PS&E Total	45	0		113	187	348	0	0	48	\$ 111,480.00
2	Project Bidding										
2.1	Project Bidding										
2.1.1	Prepare Addenda										\$ -
2.1.2	Contractor Questions (RFI)										\$ -
2.1.3	Attend Pre-Bid Conference										\$ -
2.1.4	Tabulate Bids										\$ -
2.1.5	Prepare Recommendation Letter										\$ -
	Task 2 Project Bidding Total	0	0	0	0	0	0	0	0	0	\$ -
3	Construction Support										
3.1	Construction Support (If Required)										
3.1.1	Preconstruction Meeting										\$ -
3.1.2	Review Shop Drawings										\$ -
3.1.3	General Construction Support										\$ -
3.1.4	Prepare Change Orders as Necessary										\$ -
	Task 3 Construction Support Total	0	0	0	0	0	0			0	\$ -
	Total Tasks 1, 2, & 3	45	0		113	187	348	0	0	48	\$ 111,480.00

EXHIBIT A
CROSS CULVERT REPLACEMENTS
FY 2021

Legend

Cross Culverts Replacement

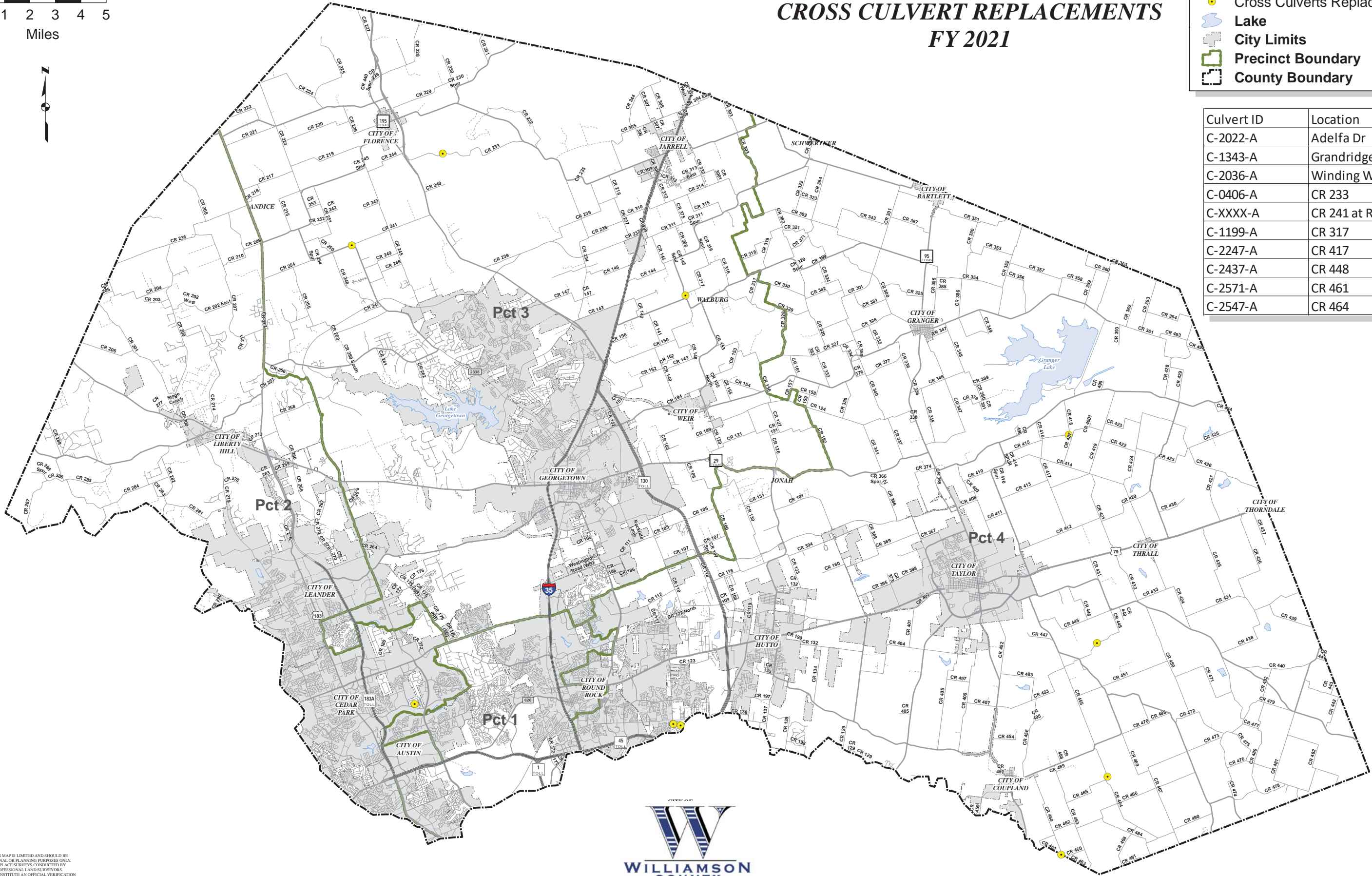
Lake

City Limits

Precinct Boundary

County Boundary

Culvert ID	Location
C-2022-A	Adelfa Dr
C-1343-A	Grandridge Trl
C-2036-A	Winding Way
C-0406-A	CR 233
C-XXXX-A	CR 241 at RM 2338
C-1199-A	CR 317
C-2247-A	CR 417
C-2437-A	CR 448
C-2571-A	CR 461
C-2547-A	CR 464



THE ACCURACY OF THIS MAP IS LIMITED AND SHOULD BE USED FOR INFORMATIONAL OR PLANNING PURPOSES ONLY. THIS MAP DOES NOT REPLACE SURVEYS CONDUCTED BY TEXAS REGISTERED PROFESSIONAL LAND SURVEYORS. THIS MAP DOES NOT CONSTITUTE AN OFFICIAL VERIFICATION OF ZONING OR ANY OTHER CLASSIFICATION AS SET FORTH IN LOCAL, STATE OR FEDERAL REGULATORY PROCESSES. WILLIAMSON COUNTY AND ITS EMPLOYEES MAKE NO REPRESENTATION OR WARRANTY, EXPRESS OR IMPLIED, INCLUDING ANY WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, AND DOES NOT ASSUME ANY LEGAL LIABILITY OR RESPONSIBILITY FOR ACCURACY, COMPLETENESS, TIMELINESS OR USEFULNESS OF ANY SUCH INFORMATION.

