

WORK AUTHORIZATION NO. 1
PROJECT: County Road 119
Drainage Improvements



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

Part 1. The Engineer will provide the following Engineering Services set forth in Attachment "B" of this Work Authorization.

Part 2. The maximum amount payable for services under this Work Authorization without modification is \$104,988.

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 December 31, 2018. 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. This Work Authorization is hereby accepted and acknowledged below.

EXECUTED this ____ day of _____, 20__.

ENGINEER:

COUNTY:

By: Colleen D. D.
Signature
Stantec Consulting Services, Inc.

By: _____
Signature
Williamson County, Texas

Arnold Gonzales, Jr., PE
Printed Name

Printed Name

Senior PM/Senior Associate
Title

Title

OK 11/11/2016
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LIST OF ATTACHMENTS

Attachment B - Services to be Provided by Engineer

Attachment C - Work Schedule

Attachment D - Rate Schedule

ATTACHMENT B
SERVICES TO BE PROVIDED BY THE ENGINEER
DESIGN SERVICES FOR COUNTY ROAD 119

PROJECT DESCRIPTION

Existing Facility

From Limmer Loop, County Road 119 is a two-lane asphalt concrete pavement roadway with turn lanes, four foot shoulders and open ditches within a typical 120-foot right-of-way for approximately 0.20 mile then transitions to a two-lane gravel roadway with open ditches within 120-foot right-of-way for approximately 0.65 mile, leading to an existing private driveway. The facility contains two cross-drainage pipe structures and is mainly surrounded by agricultural field property.

Proposed Facility

County Road 119 will be expanded to a two-lane asphalt concrete pavement roadway with a continuous left turn lane, eight-foot shoulders, storm sewer, and open ditches within varying 120'-189' right-of-way from Limmer Loop to Chandler Road for approximately 2.354 miles. The proposed pavement structure will consist of widening and new pavement with the following strata: 2" HMA, Seal Coat, 3" HMA, Prime Coat, 10" Flexible Base, Geogrid, and 8" Lime Treated Subgrade. The proposed facility will contain six cross-drainage structures, including a new 120-foot span bridge across Cottonwood Creek.

1. DESIGN SERVICES

A. Drainage Study

Based on updated drainage/floodplain models provided by FEMA, an evaluation of the current bridge design and associated modelling will be performed to ensure adequate sizing and configuration.

1. Review update FEMA HEC-RAS models for Cottonwood Creek
2. Update current proposed HEC-RAS models for bridge design
3. Update drainage report reflecting findings from updated FEMA models and proposed conditions

B. Public Paving and Drainage Construction Documents

Based on the results of the updated drainage study, prepare construction design documents reflecting changes to current plan.

1. Final Design Plan, 100%++++) – Stantec will submit plans, specifications, and estimates with information outlined and required by the Williamson County Criteria Manual. In particular, updated drainage plan, bridge layout, calculations, cross-sections, details and quantities.

C. CLOMR Preparation & Processing

A. Conditional Letter of Map Revision (CLOMR)
Federal Emergency Management Agency Map Revision

In 1968, Congress created the National Flood Insurance Program (NFIP). The NFIP was designed to reduce future flood losses through local floodplain management. The NFIP requires the participating community to adopt floodplain management ordinances containing certain minimum requirements intended to reduce future flood losses. The community is also responsible for submitting data to the Federal Emergency Management Agency (FEMA) reflecting revised flood hazard information so that NFIP maps can be revised as appropriate. Submissions to FEMA for revisions provide FEMA with assurance that all pertinent data relating to the revision is included in the submittal. They will also assure that: (a) the data and methodology are based on current conditions; (b) qualified professionals have assembled data and performed all necessary computations; and (c) all individuals and organizations impacted by proposed changes are aware of the changes and will have an opportunity to comment on them.

Based upon information previously developed, Cottonwood Creek located within a FEMA defined flood zone. In order to proceed with improvements, a submittal to FEMA is required. We will prepare the required information, coordinate with your office to obtain the required submittal fees, submit it to the appropriate local floodplain management agency and directly to FEMA, and seek approval of the submittal for the following:

Conditional Letter of Map Revision (CLOMR):

A letter from FEMA commenting on whether a proposed project, if built as proposed, would justify a map revision (LOMR or PMR) for the proposed hydrology changes.

Some of the proposed improvements (bridge) are shown to encroach into the existing FEMA floodplain, in order for these to be finalized as developable, a drainage study is required. This study must utilize the currently acceptable hydrologic and hydraulic techniques and computer programs. The design, analysis and findings of the drainage study must be submitted in a written report format for review and approval by FEMA and the City. The purpose of the drainage study is to evaluate the upstream, adjacent and downstream properties to confirm if they are or are not adversely impacted by the proposed improvements. Once the study is finalized to show the proposed improvements will not adversely impact the floodplain per FEMA requirements for upstream, adjacent and downstream properties, this study will become part of the supporting documents included in the FEMA submittal described in Section B.

1. Utilize a HEC-HMS hydrologic model to develop the required stormwater hydrograph(s) to be routed using the HEC-RAS model. Existing and proposed conditions models for both HEC-HMA and HEC-RAS will be required to confirm the impact of proposed development on the existing FEMA floodplain.
2. Utilize existing Williamson County topographic maps or client furnished topographic information to develop channel cross-section information needed for input to run the existing HEC-RAS model. Fill assumptions or grading that modify property within the FEMA floodplain may be used to create proposed channel cross-section information for the proposed HEC-RAS model as needed. These modifications will be based on the current proposed creek improvements and will be used as the basis for the CLOMR request for FEMA modification.
3. We will prepare a preliminary HEC-RAS hydraulic analysis of this tributary and downstream conveyances to determine the availability of conveyance and to determine the floodplain limits on this tract and any adverse flooding impacts on nearby tracts.
4. We will also determine the 100-year Floodway within the studied area and incorporate the data into our HEC-RAS model in order to determine limits of possible fill. Floodway analysis is required when the current Map shows it
5. Submit this preliminary study to Williamson County for review and comment with our draft recommendations for the FEMA report.
6. Incorporate the client's comments into the final HEC-RAS study.
7. Prepare FEMA engineering report
8. Prepare Exhibits and Work Maps for floodplain delineation
9. Submit the Report to Williamson County and or City of Hutto for consideration and approval in order to submit to FEMA.
10. Submit report to FEMA for review
11. Coordinate with FEMA and other reviewing agencies in addressing comments and obtaining approval

Note: CLOMR requests need to include documented compliance with the Endangered Species Act (ESA) from the National Marine Fisheries Service or the United States Fish and Wildlife Service (this may require the involvement of an environmental specialist, not included in scope).

Estimated FEMA Review fee for CLOMR based on new hydrology, bridge, culvert, channel, or combination thereof = \$4,400

D. LOMR Preparation & Processing

A Letter of Map Revision (LOMR) is the Federal Emergency Management Agency's (FEMA's) official modification to an effective Flood Insurance Rate Map (FIRM). LOMRs can result in a physical change to the existing regulatory floodway, the effective Base Flood Elevations (BFEs), or the Special Flood Hazard Area (SFHA). LOMR reviews take up to 90 days to process, are subject to an appeal period, and usually become effective within six months after they are

issued. Because a LOMR officially revises the effective FIRM, the flood hazard updates shown are used to rate flood insurance policies and enforce flood insurance and development requirements.

Data Required by FEMA for LOMR is as follows:

1. Application/certification forms
2. Community acknowledgment (from each impacted community)
3. Hydrologic computations (if applicable) along with digital files of computer models used
4. Hydraulic analysis (if applicable) along with digital files of computer models used
5. Certified topographic workmap with SFHA and floodway (if applicable) delineations
6. Annotated FIRM
7. Annotated FIS report
8. Project narrative and site photographs (optional but recommended)

Note: If there are proposed changes to a regulatory floodway, public notice will be required when requesting a LOMR based on as-built conditions.

Estimated FEMA Review fee for LOMR based on new hydrology, bridge, culvert, channel, or combination thereof = \$4,400

2. BID DOCUMENTS

Stantec will provide updated documentation needed for project bidding phase including general notes, bid forms, specifications, and assist with project manual development.

3. DELIVERABLES

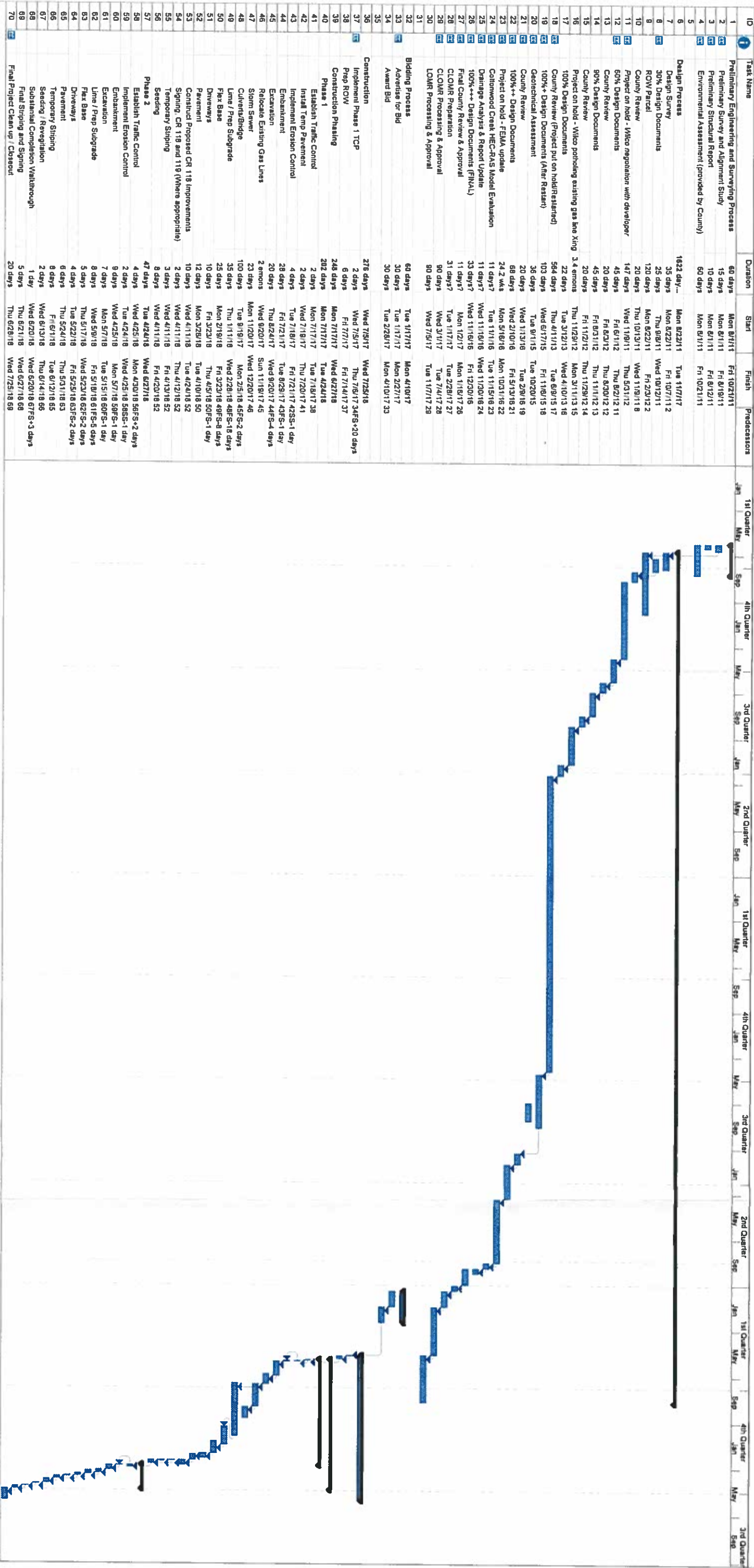
- a. All contract documents, including hard copies and electronic files, shall be turned over to the County at each milestone and at the completion of the project. Documents shall be posted to the County's project management database as requested. Anticipated deliverables include:

- Revised 100% Plans
- Revised Final Construction Plans
- Revised Bidding Documents
- Draft Drainage Report/CLOMR/LOMR
- Final Drainage Report/CLOMR/LOMR

4. Reimbursables/Reproduction

Reproduction, courier, and delivery services will be provided for this project and billed in accordance to our expenses will be reimbursed at actual cost. All fees required for FEMA or regulatory reviews will be paid by County.

WILLIAMSON COUNTY - COUNTY ROAD 119 PROJECT SCHEDULE



FEE ESTIMATE
STANTEC CONSULTING SERVICES, Inc.

ATTACHMENT D - RATE SCHEDULE

PROJECT: Williamson County - County Road 119	PROJECT NO.: 222010286
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			EMPLOYEES							
			SENIOR PRINCIPAL	PRINCIPAL	SENIOR PROJECT MANAGER	PROJECT MANAGER	SENIOR CIVIL ENGINEER	CONSTRUCTION OBSERVATION	SENIOR CADD TECHNICIAN	SENIOR ADMINISTRATIVE ASSISTANT
TASK	DESCRIPTION	TASK COST	\$278.00	\$207.00	\$179.00	\$161.00	\$140.00	\$131.00	\$131.00	\$105.00
A.1	Drainage Evaluation & Report Update	\$13,966.00		2	20	40	8		12	8
A.2	Revise Final Construction Plans (100+++)	\$24,880.00			20	40	50		60	
A.3	Revise Final Bid Documents	\$4,832.00			4	16	8			4
A.4	CLOMR Preparation & Processing	\$34,384.00		2	20	50	60		100	8
A.5	LOMR Preparation & Processing	\$14,484.00		2	10	20	40		20	8
A.6	Deliverables	\$3,642.00			2	4	8		10	2
A.7	FEMA Fees	\$8,800.00								
	TOTAL	\$104,988.00	0	6	76	170	174	0	202	30
	TOTAL HOURS	658								
	DISTRIBUTION		0%	1%	12%	26%	26%	0%	31%	5%
	INDIVIDUAL COSTS		\$0	\$1,242	\$13,604	\$27,370	\$24,360	\$0	\$26,462	\$3,150

Total Current Fee \$104,988.00

Williamson County

WA#1