

WORK AUTHORIZATION NO. 1

PROJECT: River Ranch Park Phase I Improvements

This Work Authorization is made pursuant to the terms and conditions of the Williamson County Contract for Engineering Services, being dated **December 01, 2016** and entered into by and between Williamson County, Texas, a political subdivision of the State of Texas, (the "County") and **Raba Kistner Consultants, 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 **\$16,681.00.**

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 30, 2017.** 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:

Raba Kistner Consultants, Inc.

By: 
Signature

Gabriel Ornelas, Jr., P.E.

Printed Name

Vice 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

1. County will direct type of services to be provided.
2. County will provide timely reviews and decisions necessary to enable Raba Kistner to maintain an agreed upon project schedule as developed in attached Attachment C.
3. County will provide points of contact, to be identified upon Notice to Proceed.
4. County will provide project management.

Attachment B - Services to be Provided by Engineer

Project Description

The project being considered is the development of a county park located off of County Road 279 in Williamson County, Texas. The project will consist of roadways comprised of asphaltic paving and all-weather, "caliche"-type roads. We understand that there may be other low volume pedestrian and vehicle pathways that could also be comprised of asphalt pavement. Guest parking and overnight RV parking is also planned for the project.

In addition, the park will have other structures and amenities, including a residence structure with a maintenance building, several bathrooms, a pre-manufactured engineered metal pavilion at the equestrian center, a children's play court, an RV dump site, and a gate/entrance house. We also understand that the bathrooms will require an on-site sewage system that may include septic drain fields.

Field Study

We recommend drilling a total of eighteen (18) borings to a depth of 10 ft below the existing ground surface. The borings have been placed along the alignment of the roadway and at building site locations. The borings are spaced at roughly 1,000 linear ft across the project alignment. The borings will be drilled to a depth of 15 ft at the structure sites (6 each) and 10 ft below the ground surface, or to auger refusal, whichever occurs first at the roadways and parking lots.

Samples will be taken using conventional split-spoon/Shelby-tube sampling techniques. Borings will be located in the field utilizing a recreation grade hand-held GPS device and/or tape and right angle measurements from existing benchmarks. Our scope of service does not include surveying in the boring locations.

The borings will be backfilled utilizing auger cuttings and bentonite hole plug. If the borings are drilled through existing asphalt or concrete pavements, the bore holes extending through the pavement materials will be backfilled with either cold-mix patching compound or concrete.

Infiltration Testing

Based on conversations with Design Work Shop, we understand an on-site sewer system consisting of septic drain fields will be required to support the new bathrooms. It is possible that the Landscape Architect will need testing to evaluate the infiltration rate of the existing subgrade soils. The exact number and location of the infiltration testing is unknown at this time. For the purpose of this proposal, we have assumed that a minimum of four (4) infiltration tests will be performed.

The infiltration testing will be performed with an Amoozometer in accordance with the City of Austin Environmental Criteria Manual for infiltration testing of the in-situ soils.

Engineering Report

The field and laboratory phases of the study will be reviewed by our staff of engineers and geologists. The results of our review, together with the supporting field and laboratory data, will be presented in a written, engineering report. Included therein will be recommendations concerning the design and construction of foundations for the proposed structures and pavement design. RKCI will require ongoing interaction with the project landscape architect to obtain pertinent data necessary to complete the engineering report. The Geotechnical Engineering Report may include the following information and recommendations, if applicable:

- A summary of the field and laboratory sampling and testing program,
- Boring logs and laboratory testing results;
- A review of general site conditions including descriptions of the site, the subsurface stratigraphy, groundwater conditions, and the presence and condition of fill materials, if encountered.
- Foundation design considerations and recommendations, including:
 - expansive, soil-related movements using an empirical method for predicting Potential Vertical Rise (PVR) developed by the Texas Department of Transportation;
 - methods for reducing expansive, soil-related movements;
 - types of shallow foundations;
 - estimates of foundation settlements;
 - allowable bearing capacities; and
 - Retaining wall recommendations, if required.
- Foundation construction considerations, including:
 - site preparation;
 - select fill materials; if required;
 - criteria for foundation construction;
 - potential reuse of on-site materials as select fill materials and fill placement compaction; and
 - shallow excavation considerations.
- Pavement Design Recommendations to include pavement thickness for flexible, rigid, and "caliche" paving.

Since site grading plans can result in changes in the foundation subgrade conditions, final site grading plans will be helpful information in the preparation of engineering recommendations. In the absence of site grading information, we will prepare recommendations based on the existing topography.

The final report will be reproduced in 1, spirally-bound copy and an electronic PDF will be delivered via email.

Attachment C - Work Schedule

Raba Kistner Consultants, Inc. shall provide a work schedule for the assigned tasks. Work shall begin immediately upon receipt of agreement between County and Raba Kistner Consultants, Inc. on the work schedule and authorization to proceed on assigned services.

Attachment D - Fee Schedule

See Attached

Infiltration

ESTIMATE WORKSHEET FOR:

River Ranch County Park Phase I

Notes:

Geologic Formation: Fred

PROPOSAL NO: PAA16-095-00

CLIENT:

Dale Butler
Williamson County
3101 SE Inner Loop
Georgetown, Texas 78626

	Number	Depth	Soil	Rock	Soil	Rock
Struc					0	0
Roads					0	0
					0	0
					0	0
					0	0
Totals	0	0			0	0

Drilling Operations

	QUANTITY	UNIT PRICE	TOTAL	
Mobilization of Drill Rig (Min Charge)	_____ mile	\$4.00	\$0.00	
Rock Augering (soil)	0 l.f.	\$16.00	\$0.00	
Rock Augering (soft rock)	0 l.f.	\$19.00	\$0.00	
Nx Core Drilling - (Soft Rock)	0 l.f.	\$32.00	\$0.00	
Nx Core Drilling - (Hard Rock)	0 l.f.	\$42.00	\$0.00	
Wet Rotary	0 l.f.	\$21.00	\$0.00	
Field Penetrations	SPT 0 ea.	\$22.00	\$0.00	
	THD 0 ea.	\$26.00	\$0.00	
Shelby Tubes	0 units	\$22.00	\$0.00	
Grout Backfill	0 ft	\$3.25	\$0.00	
Driller Standby	0 hrs.	\$225.00	\$0.00	
	Total		\$0.00	Percent of
	10% Markup		\$0.00	Total
	Drilling Subtotal:		\$0.00	0.0%

STAKING/LOGGING/COORDINATION/Measuring

Staking (EIT)	_____ hrs.	\$90.00	\$0.00	
Logging (Geologist)	_____ hrs.	\$110.00	\$0.00	
Logging (Engineering Tech)	_____ hrs.	\$60.00	\$0.00	
Engineer in Training	16 hrs.	\$90.00	\$1,440.00	
CMT Technician	_____ hrs.	\$50.00	\$0.00	Technician to collect
Vehicle Truck Charge	2 day	\$57.20	\$114.40	
	Logging Subtotal:		\$1,554.40	74%

LABORATORY TESTS

	QUANTITY	UNIT PRICE	TOTAL	
Atterberg Limits	0 ea.	\$83.00	\$0.00	
Moisture Content (at 5 ft intervals)	0 ea.	\$13.00	\$0.00	
Minus 200-mesh Sieve	0 ea.	\$56.00	\$0.00	
Unconfined Compression (Soil)	0 ea.	\$43.00	\$0.00	
Unconfined Compression (Rock)	0 ea.	\$51.00	\$0.00	
Hydrometer	0 ea.	\$273.00	\$0.00	
Sieve Analysis washed through No. 40	0 ea.	\$56.00	\$0.00	
Sieve Analysis washed through No. 200	0 ea.	\$83.00	\$0.00	
Moisture/Density Test Only	0 ea.	\$254.80	\$0.00	
CBR(M/D with 3 Specimen)	0 ea.	\$791.00	\$0.00	
Permeability + Remolding	_____ ea.	\$0.00	\$0.00	
In-Place Nuclear Density Testing	0 ea.	\$25.00	\$0.00	
Asphaltic Concrete Extraction, Bitument, Aggregates, Sieve Analysi of Asphaltic Concrete, Molding Specimens,	0 ea.	\$459.00	\$0.00	
Laboratyr Density of Molded Speciment, & Rice Gravity	_____ ea.			
Laboratory Density Test - Asphalt Sample	0 ea.	\$51.00	\$0.00	
	Testing Subtotal:		\$0.00	0.00%

ENGINEERING AND REPORT	QUANTITY	UNIT PRICE	TOTAL
Principal	hrs.	\$200.00	\$0.00
Senior Engineer/Consultant	hrs.	\$200.00	\$0.00
Project Manager	hrs.	\$175.00	\$0.00
Project Engineer	2 hrs.	\$135.00	\$270.00
Engineer	hrs.	\$100.00	\$0.00
Engineer in Training	3 hrs.	\$90.00	\$269.60
Geotechnical Technician	hrs.	\$60.00	\$0.00
CADD Operator	hrs.	\$80.00	\$0.00
Clerical	hrs.	\$55.00	\$0.00
Geologist	hrs.	\$110.00	\$0.00
Environmental Scientist	hrs.	\$105.00	\$0.00
Lead Technician	hrs.	\$60.00	\$0.00
CMT Technician	hrs.	\$50.00	\$0.00
Archaeologist	hrs.	\$110.00	\$0.00
GIS	hrs.	\$90.00	\$0.00
			\$0.00
		Engineering Subtotal:	\$539.60 25.77%

Date Proposal Prepared: 9/19/2016

TOTAL: \$2,094.00

Form Revised by GO 1/11/2016

Williamson County 2015 Proposal

#DIV/0! per foot

Base Study

ESTIMATE WORKSHEET FOR:

River Ranch County Park Phase I

Notes:

Geologic Formation: Fred

PROPOSAL NO: PAA16-095-00

CLIENT:

Dale Butler
Williamson County
3101 SE Inner Loop
Georgetown, Texas 78626

	Number	Depth	Soil	Rock	Soil	Rock
Struc	6	15	5	10	30	60
Roads	12	10	10		120	0
					0	0
					0	0
					0	0
					0	0
Totals	18	25			150	60

Drilling Operations

	QUANTITY	UNIT PRICE	TOTAL	
Mobilization of Drill Rig (Min Charge)	60 mile	\$4.00	\$240.00	
Rock Augering (soil)	0 l.f.	\$16.00	\$0.00	
Rock Augering (soft rock)	150 l.f.	\$19.00	\$2,850.00	
Nx Core Drilling - (Soft Rock)	60 l.f.	\$32.00	\$1,920.00	
Nx Core Drilling - (Hard Rock)	0 l.f.	\$42.00	\$0.00	
Wet Rotary	0 l.f.	\$21.00	\$0.00	
Field Penetrations	SPT 0 ea.	\$22.00	\$0.00	
	THD 0 ea.	\$26.00	\$0.00	
Shelby Tubes	0 units	\$22.00	\$0.00	
Grout Backfill	0 ft	\$3.25	\$0.00	
Driller Standby	0 hrs.	\$225.00	\$0.00	
		Total	\$5,010.00	<i>Percent of</i>
		10% Markup	\$501.00	<i>Total</i>
		Drilling Subtotal:	\$5,511.00	37.8%

STAKING/LOGGING/COORDINATION/Measuring

Staking (EIT)	6 hrs.	\$90.00	\$540.00	
Logging (Geologist)	22 hrs.	\$110.00	\$2,420.00	
Logging (Engineering Tech)	0 hrs.	\$60.00	\$0.00	
Engineer in Training	hrs.	\$90.00	\$0.00	
CMT Technician	0 hrs.	\$50.00	\$0.00	
Vehicle Truck Charge	3 day	\$57.20	\$171.60	
		Logging Subtotal:	\$3,131.60	21%

LABORATORY TESTS

	QUANTITY	UNIT PRICE	TOTAL	
Atterberg Limits	10 ea.	\$83.00	\$830.00	
Moisture Content (at 5 ft intervals)	60 ea.	\$13.00	\$780.00	
Minus 200-mesh Sieve	10 ea.	\$56.00	\$560.00	
Unconfined Compression (Soil)	0 ea.	\$43.00	\$0.00	
Unconfined Compression (Rock)	0 ea.	\$51.00	\$0.00	
Hydrometer	0 ea.	\$273.00	\$0.00	
Sieve Analysis washed through No. 40	0 ea.	\$56.00	\$0.00	
Sieve Analysis washed through No. 200	0 ea.	\$83.00	\$0.00	
Moisture/Density Test Only	0 ea.	\$254.80	\$0.00	
CBR(M/D with 3 Specimen)	0 ea.	\$791.00	\$0.00	
Permeability + Remolding	ea.	\$0.00	\$0.00	
In-Place Nuclear Density Testing	0 ea.	\$25.00	\$0.00	
Asphaltic Concrete Extraction, Bitument, Aggregates, Sieve Analysis of Asphaltic Concrete, Molding Specimens, Laboratory Density of Molded Speciment, & Rice Gravity	0 ea.	\$459.00	\$0.00	
Laboratory Density Test - Asphalt Sample	0 ea.	\$51.00	\$0.00	
		Testing Subtotal:	\$2,170.00	14.88%

ENGINEERING AND REPORT

	QUANTITY	UNIT PRICE	TOTAL
Principal	hrs.	\$200.00	\$0.00
Senior Engineer/Consultant	0 hrs.	\$200.00	\$0.00
Project Manager	5 hrs.	\$175.00	\$875.00
Project Engineer	8 hrs.	\$135.00	\$1,080.00
Engineer	hrs.	\$100.00	\$0.00
Engineer in Training	16 hrs.	\$90.00	\$1,440.00
Geotechnical Technician	hrs.	\$60.00	\$0.00
CADD Operator	2 hrs.	\$80.00	\$160.00
Clerical	4 hrs.	\$55.00	\$219.40
Geologist	hrs.	\$110.00	\$0.00
Environmental Scientist	hrs.	\$105.00	\$0.00
Lead Technician	hrs.	\$60.00	\$0.00
CMT Technician	hrs.	\$50.00	\$0.00
Archaeologist	hrs.	\$110.00	\$0.00
GIS	hrs.	\$90.00	\$0.00
			\$0.00

Engineering Subtotal: \$3,774.40 25.88%

Date Proposal Prepared: 9/19/2016

TOTAL: \$14,587.00

Form Revised by GO 1/11/2016

Williamson County 2015 Proposal

\$69.46 per foot